South Broadway
CORRIDOR PLAN

FEBRUARY 2012

A PROJECT OF

HAYSVILLE
KANSAS

AND

WAMPO
Wichita Area Metropolitan Planning Organzation

(First published in the Haysville Sun-Times, February 17, 2012)

RESOLUTION NO. 12-01

A RESOLUTION OF THE GOVERNING BODY OF HAYSVILLE, KANSAS, APPROVING OF THE SOUTH BROADWAY CORRIDOR PLAN.

WHEREAS, the Governing Body of the City of Haysville, Kansas is empowered and authorized to plan for the development of Haysville and any unincorporated territory lying outside of the City but within the same county in which such city is located, which in the opinion of the Planning Commission, forms the total community of which the City is a part;

WHEREAS, the City of Haysville has worked with the Kansas Department of Transportation, Sedgwick County, and the Wichita Area Metropolitan Planning Organization to develop a long term vision for the development of the area described as the South Broadway Corridor.

NOW, THEREFORE, BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF HAYSVILLE, KANSAS that;

SECTION 1. ENDORSEMENT. The South Broadway Corridor Plan is hereby endorsed as an effective vision for the long term development of the area described as the South Broadway Corridor.

SECTION 2. PUBLICATION. This resolution shall be published once in the official City newspaper.

ADOPTED AND PASSED by the Governing Body of the City of Haysville, Kansas, this 13th Day of February, 2012.

CITY OF HAYSVILLE OFFICIAL SEAL SEDGWICK COUNTY, KANSAS

Ken Hampton, Mayor

ATTEST:

Janie Cox, City Clerk

ACKNOWLEDGEMENTS

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MAYOR

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LIST OF ACRONYMS AND ABBREVIATIONS

ADT ..... Average Daily Traffic
CLTL ..... Center Left Turn Lanes
CMAQ ..... Congestion Mitigation and Air Quality Program
DIO/GIS ..... Sedgwick County Division of Information and Operations/Geographic Information Services
ESRI ..... Environmental Systems Research Institute
FHWA ..... Federal Highway Administration
FTA ..... Federal Transportation Administration
GIS ..... Geographic Information Systems
HFI ..... Haysville Forward Inc.
HRRR ..... High Risk Rural Roads Program
HSIP ..... Highway Safety Improvement Program
KDOT ..... Kansas Department of Transportation
KLINK ..... KDOT City Connecting Link
KTA ..... Kansas Turnpike Authority
LOS ..... Level of Service

LRTP ..... Long Range Transportation Plan
MAPD ..... Wichita-Sedgwick County Metropolitan Area Planning Department
MPH ..... Miles per Hour
MPO ..... Metropolitan Planning Organization
MVM ..... Million Vehicle Miles
MTP ..... Metropolitan Transportation Plan
NHS ..... National Highway System
OneDOT ..... U.S. Department of Transportation
PDO ..... Property Damage Only
PSC ..... Project Selection Criteria
REAP ..... Regional Economic Area Partnership
ROW ..... Right(s)-of-way
SCAC ..... Sedgwick County Association of Cities
SRTS ..... Safe Routes to School Program
STP ..... Surface Transportation Program
TAC ..... Technical Advisory Committee
TDFM ..... Travel Demand Forecasting Model
TE ..... Transportation Enhancement Program
TIP ..... Transportation Improvement Program
TMEV ..... Ten Million Entering Vehicles
TPB ..... Transportation Policy Body
TRB ..... Transportation Research Board
TWLTL ..... Two-Way Left Turn Lanes
WAMPO ..... Wichita Area Metropolitan Planning Organization

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CHAPTER 1
SUMMARY OF PLAN RECOMMENDATIONS

THE IMPORTANT QUESTIONS

The ultimate purpose of any plan is to develop solutions that address future circumstances for a specific location, area or organization. In the case of this South Broadway Corridor Plan, the solutions come in the form of recommendations. These recommendations seek to remedy transportation, land use and development issue found along South Broadway from 87th St. South to 63rd St. South in unincorporated Sedgwick County and the City of Haysville, Kansas.

For many readers, it is useful to begin with the recommendations. They are the heart of the matter. They answer the questions:

- What are we going to do?
- How much will it cost?
- When will we do it?

These questions are often the most important and most frequently asked about any plan. For this reason, the South Broadway Corridor Plan begins with this Summary of Plan Recommendations.

Specific details are found throughout the remaining chapters. Those who want to know more about the plan, process, issues, methods and findings are encouraged to read the entire plan or just the sections they find most interesting.

TRANSPORTATION RECOMMENDATIONS

The plan contains recommendations for both specific improvements within the corridor study area and actions or policies that will affect the corridor. Each of these recommendations was conceived to enhance travel safety, increase operational efficiency or improve transportation mobility.

Recommended Improvements

Road, intersection and sidewalk improvements are the three types of improvement projects recommended in the plan. **Table 1.A** on the next page lists the $7 - $9 million improvement package, shown in order of priority by each project type. Estimated costs are subtotaled in three columns. One column shows full project implementation as recommended. The other two cost columns show the projects with interim or alternate implementation options. Cost estimates for those improvements are subtotaled to include the full implementation costs for other aspects of the project.

Project			Estimated Costs (in 2011 $)			Anticipated Project Timeframe
Type	Priority	Location	Full Improvements	Interim Improvements	Alternate Improvements	
Road	1	79th St. to Grand Ave./71st St.	$2,784,000	None	None	By 2015
	2	87th St. to 79th St.	$1,797,000	None	None	By 2020
	3	Grand Ave./71st St. to floodway	$604,000	None	None	By 2035
	4	Floodway to 63rd St.	$363,000	None	None	After 2035
Project Type Subtotals			$5,548,000	-	-	-
Intersection	1	79th St.	$492,000	$288,000	None	By 2015
	2	87th St	$492,000	$288,000	$2,000,000	By 2020
	3	63rd St.	$224,000	None	None	By 2020
	4	Grand Ave./71st St.	$10,000	None	None	By 2035
Project Type Subtotals			$1,218,000	$810,000	$2,726,000	-
Sidewalk	1	Grand Ave./71st St. to floodway	$130,700	$119,300	None	Coincide with either development or with road projects
	2	Floodway to 63rd St.	$38,300	None	None	
	3	79th St. to Grand Ave./71st St.	$234,000	None	None	
	4	87th St. to 79th St.	$234,000	None	None	
Project Type Subtotals			$637,000	$625,600	-	-
Total Estimated Costs			$7,403,000	$6,995,000	$8,911,000	-

Table 1.A: Summary of Recommended Improvements

The following is a brief description of each of these projects containing key information for each.

Road Improvement Projects

Road Improvement Project Priority #1
South Broadway Location: 79th St. South to Grand Ave./71st St. South
Description: Improve to five lanes including center left turn lane
Cost Estimate: $2,784,000
Project Timing: Anticipated need by 2015

Road Improvement Project Priority #2
South Broadway Location: 87th St. South to 79th St. South
Description: Improve to three lanes including center left turn lane
Cost Estimate: $1,797,000
Project Timing: Anticipated need by 2020

Road Improvement Project Priority #3
South Broadway Location: Grand Ave./71st St. South to Floodway Bridge
Description: Improve to five lanes including center left turn lane
Cost Estimate: $604,000
Project Timing: Anticipated need by 2035

Road Improvement Project Priority #4
South Broadway Location: Floodway Bridge to 63rd St. South
Description: Improve to five lanes including center left turn lane
Cost Estimate: $363,000
Project Timing: Anticipated need after 2035

Intersection Improvement Projects

Intersection Improvement Project Priority #1
South Broadway Location: 79th St. South
Description: Add left turn lanes and traffic control improvements
Cost Estimate: Full Improvements (signalized): $492,000
Interim Improvements (stop sign controlled): $288,000
Project Timing: Anticipated need by 2015, perhaps as early as 2012

Intersection Improvement Project Priority #2
South Broadway Location: South Broadway and 87th St. South
Description: Add left turn lanes and traffic control improvements
Cost Estimate: Full Improvements (signalized): $492,000
Interim Improvements (stop controlled): $288,000
Alternate Improvements (roundabout): $2,000,000
Project Timing: Anticipated need by 2020, perhaps as early as 2015

Intersection Improvement Project Priority #3
South Broadway Location: 63rd St. South
Description: Add turn lanes and modify signal timing/phasing
Cost Estimate: $224,000
Project Timing: Anticipated by 2020

Intersection Improvement Project Priority #4
South Broadway Location: Grand Ave./71st St. South
Description: Modify signal timing/phasing
Cost Estimate: Under $10,000
Project Timing: Anticipated by 2035

Sidewalk Improvement Projects

Sidewalk Improvement Project Priority #1
South Broadway Location: Grand Ave./71st St. South to Floodway Bridge
Description: Add six-foot sidewalks to both sides; with option to install crosswalk south of bridge
Cost Estimate: Sidewalks only: $119,300
Crosswalk: $11,400
Total: $130,700
Project Timing: Per demand and/or construct with adjacent development or road improvement

Sidewalk Improvement Project Priority #2
South Broadway Location: Floodway Bridge to 63rd St. South
Description: Add six-foot sidewalks to west side only
Cost Estimate: $38,300
Project Timing: Per demand and/or construct with adjacent development or road improvement

Sidewalk Improvement Project Priority #3
South Broadway Location: 79th St. South to Grand Ave./71st St. South
Description: Add six-foot sidewalks to both sides
Cost Estimate: $234,000
Project Timing: Per demand and/or construct with adjacent development or road improvement

Sidewalk Improvement Project Priority #4
South Broadway Location: 87th St. South to 79th St. South
Description: Add six-foot sidewalks to both sides
Cost Estimate: $234,000
Project Timing: Per demand and/or construct with adjacent development or road improvement

Recommended Transportation Policies or Actions

1. Carefully monitor roadway and intersection traffic volumes to determine the impacts of traffic generated by the Kansas Star Casino. Pursue improvements as soon as they are justified to preserve safety and minimize congestion.
2. Study the feasibility and identify implications of transferring jurisdiction of South Broadway (US-81) from KDOT to local control.
3. Promote and maintain KDOT access spacing standards along South Broadway to preserve operations and enhance safety.
4. Coordinate with WAMPO and other agencies to improve bicycle and pedestrian connectivity as deemed feasible.
5. Coordinate with WAMPO, KDOT and other agencies to leverage opportunities for transit service to the Haysville area community.

LAND USE AND DEVELOPMENT RECOMMENDATIONS

In addition to transportation, the South Broadway Corridor Plan has included recommendations to improve the land use development pattern and the quality of development within the corridor. As additional traffic passes through the community and the population grows, the high-traffic South Broadway Corridor will increase in development potential. The intent is to provide an environment that supports and enhances opportunities for economic development. To accomplish these objectives, the following recommendations are being made.

1. Adopt a development pattern for future land uses that:
    a. Promotes safe, efficient travel by focusing major commercial developments to arterial intersections with good access.
    b. Encourages compact development that is attractive and walkable.
    c. Promotes the development housing choices.
    d. Encourages walking and bicycling by promoting neighborhood-friendly services in close proximity to residences.
    e. Preserves existing residential neighborhoods.
    f. Can be served efficiently with public services.
2. Encourage flexibility in development standards that allows a healthy mix of land use types.
3. Implement architectural standards for property adjacent to higher-volume roadways to improve the character of corridor development. These should require certain percentages of masonry siding, consistent with the preferences of many area residents and property owners.
4. Implement sign design standards that promote attractive commercial signage with consistent design elements through the corridor.
5. Integrate pedestrian amenities into the corridor streetscape to provide enhanced walkability.
6. Implement a gateway signage program that welcomes visitors into the corridor and captures the essence of the community.

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CHAPTER 2
PROJECT BACKGROUND

INTRODUCTION

Why a Corridor Plan?

This project was conceived by the City of Haysville to address the abundant issues along the corridor. Some of the reasons for conducting the plan at this time are:

- Area population is increasing and future corridor growth is anticipated.
- In addition to being important to regional and local travel, South Broadway is designated as US-81, which crosses several states.
- South Broadway connects to Wichita, where many people work and must travel daily.
- The Kansas Star Casino is about four miles south of the study area at K-53. The casino is expected to add traffic on Broadway.

The final Corridor Plan provides potential options to improve traffic safety and efficiency, increase accessibility, and enhance pedestrian mobility. The Corridor Plan also provides tools for controlling the type and quality of land development and certain redevelopment in this regionally significant corridor, which should increase long-term economic viability.

Study Area

The project study area is shown in **Figure 2.1** on the next page. The project boundaries are defined as the area within 1,000 feet of the South Broadway centerline between 87th St. South (south boundary) and 63rd St. South (north boundary) through Haysville. The route is designated as US-81.

The study area contains diverse land uses that have developed over the years. The development has occurred in an inconsistent, uncoordinated manner with varying degrees of quality and aesthetics. Travel along the corridor is hampered by numerous poorly-spaced curb cuts and the lack of pedestrian facilities.

Project Partners

The City of Haysville and the Wichita Area Metropolitan Planning Organization (WAMPO) are joint sponsors of the project. Portions of the corridor lie within unincorporated Sedgwick County. Also, South Broadway within the study area is a Kansas Department of Transportation (KDOT) facility, which is designated as US-81. Therefore, KDOT and Sedgwick County are partners in this South Broadway Corridor Plan.

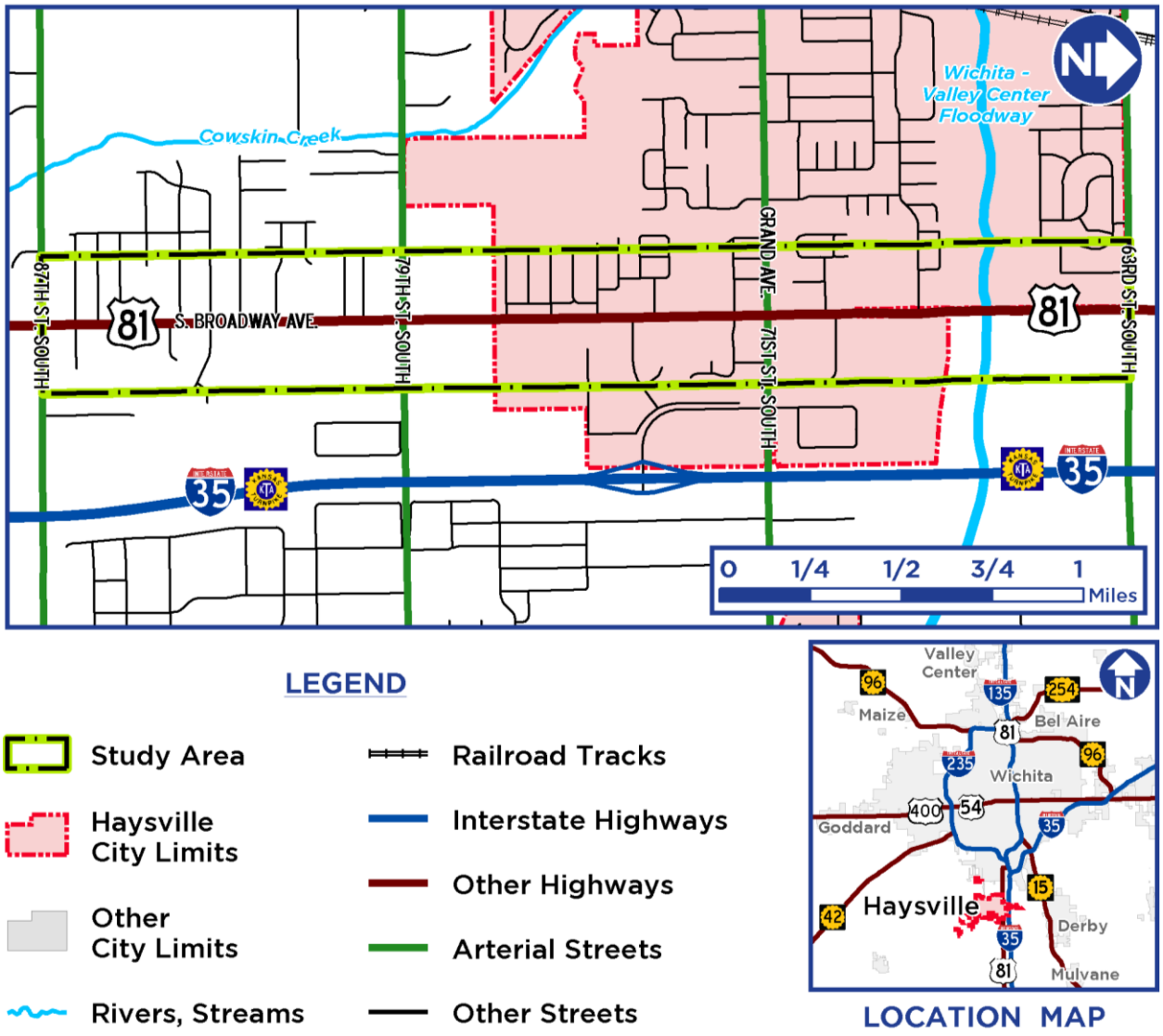

Figure 2.1: Project Study Area Map

Coordination should continue as each of the partner agencies move forward with plans, regulations and projects that may impact the study area. This will help enable meeting the plan vision and will minimize negative development impacts to transportation and the local economy along South Broadway.

Throughout the development of the South Broadway Corridor Plan the planning partners have invested time and resources to:

- Collect and analyze all available, relevant background information regarding the study area to fully understand current conditions.

- Develop Vision Principles that will guide future decisions regarding transportation, land use, corridor aesthetics and economic development within the study area.
- Study growth trends and forecast data that may impact future transportation along South Broadway.
- Engage interested stakeholders, property owners and area residents to obtain guidance and feedback on the process, corridor conditions and the future vision for transportation and development of the South Broadway corridor.
- Reach a consensus among the partner agencies and interested stakeholders on this shared vision for South Broadway, the adjacent local street network and intersections between the two. This includes the type and location of access points within the study area.

PURPOSE AND NEED

Project Purpose

The purpose of the South Broadway Corridor Plan is to address critical development and transportation issues that will enhance the future of this regionally significant corridor. The preferred future is captured in a set of Vision Principles, which is outlined later in this chapter. Policy and design recommendations have been developed that will help achieve the corridor's future vision as they are implemented.

In meeting the project's purpose, the South Broadway Corridor Plan envisions a future corridor that:

- Recognizes the relationship between transportation, land use and economic development.
- Promotes safe and functional transportation.
- Is attractive, orderly and ready for economic opportunities.
- Is achievable.

Project Need

There are several regionally significant issues driving the need for the South Broadway Corridor Plan. These are explained beginning below.

Transportation and Traffic
As a result of the Kansas Star Casino, the Haysville South Broadway Corridor will see more traffic and additional pressure on the existing transportation infrastructure. The introduction of more regional traffic through the corridor will undoubtedly increase the possibility for more congestion and traffic accidents. Traffic issues for the existing corridor are addressed in this plan through analysis of intersections and existing roadway segments. To minimize future accidents and increase travel efficiency through the corridor, this plan identifies areas of highest concern and provides potential future solutions. Additionally, access management practices are examined.

Lack of Multimodal Accommodation
Adequate facilities for alternative transportation modes (i.e. transit, pedestrians and bicycles) are largely absent from the study area, which also creates a lack of accessibility for the disabled. The environment is not very walkable and is unappealing to move through. Also, there are currently no fixed transit routes serving the corridor. Local and regional transportation goals suggest the need for a higher degree of multimodal mobility.

Inconsistent Land Uses and Development Quality
Development in the corridor is made up of inconsistent land uses and densities. This pattern causes inefficiencies in the delivery of services and provision of infrastructure. As development density decreases, public utilities and roads must spread further making it less cost-effective to serve those land uses.

Many of the existing homes, businesses and institutions along South Broadway were built years ago prior to current development standards. Portions of the corridor may also have been located outside of Haysville's planning jurisdiction where the City had less influence over the development process. As Haysville has grown, newer higher quality development has inched toward and mingled with the older development. This inconsistent character has hampered economic development potential and diminished the community's image and self-perception.

THE PLANNING PROCESS

The various phases of a planning process do not necessarily occur sequentially. Aspects sometimes overlap and new issues may be identified as information is analyzed, which may impact overall project goals and recommendations. So, adjustments and revisions may occur throughout the development of a plan. With this in mind, **Figure 2.2** below illustrates the basic planning process used to develop the South Broadway Corridor Plan.

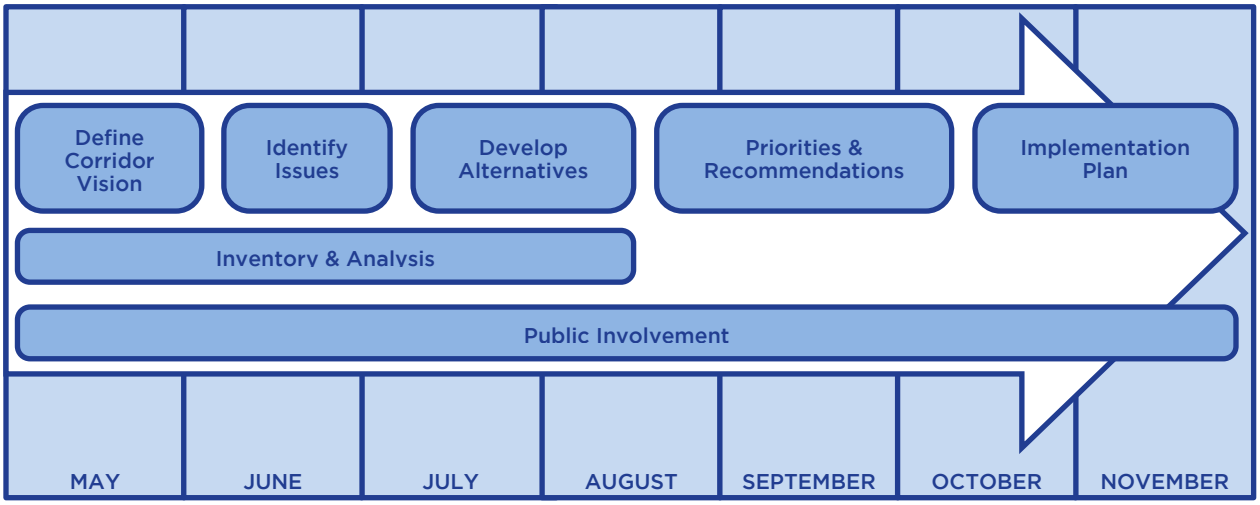

Figure 2.2: Planning Process and Timeline

Inventory and Analysis

Plans, in their broadest sense, are meant to facilitate the decision-making process. Good decisions can only be made after a careful analysis of accurate information. The gathering and analysis of a vast amount of information was the foundation of this corridor plan and its recommendations. This project phase began immediately, even before the first coordination meetings with the project team. An immense amount of data and information was accumulated from various resources and agencies. Inventories of existing conditions were compiled and used to develop forecasts and projections.

The transportation and traffic information was analyzed at three levels to provide a clear understanding of how the corridor functions:

- Highway System Level – This is the broadest level of analysis, which included examining how South Broadway impacts travel on other state and national highways and vice versa.
- Regional Level – This level examined how South Broadway impacts travel between facilities and other communities within the WAMPO region and vice versa.
- Corridor Level – This level of analysis examined South Broadway's transportation role within the local Haysville area community.

Economic and demographic data for Haysville and the surrounding area was analyzed. This analysis helped provide an understanding how the corridor serves the local and regional population and business community. It also took into account recent and upcoming factors that may have an impact on the corridor, such as Kansas Star Casino development.

The land use analysis examined existing and future land uses in and around the corridor. Current development policies and regulations were investigated to determine how they impact the type and quality of development that occurs in the corridor.

Define the Corridor Vision

As the planning process uncovered the main study area concerns, the project partners and community stakeholders began voicing their preferred future for the South Broadway Corridor. The community involvement effort helped shape these ideas into a set of Corridor Vision Principles, which is explained in the "Corridor Vision" section of this chapter and depicted in **Figure 2.4**.

Public Involvement

Public or community involvement is one of the most critical aspects of the planning process. It is a term that refers to the way the project team communicates with area residents, business owners and other stakeholders. Public involvement is a two-way flow of communication intended to give and receive information regarding a project. Without this component, a plan cannot truly reflect the vision of the community, nor can there be any consensus built around the plan recommendations.

This project was conducted around a robust, comprehensive community involvement approach. **Chapter 3** is dedicated solely to this approach and that chapter can be reviewed for specific details of the public involvement piece of the planning process.

Identify the Issues

The identification of existing issues helps to determine what data and information is needed for the development of a plan. It helps to focus data gathering efforts on pertinent data. Issue identification also serves as a building block for the formulation of a plan's recommendations. As such, the corridor issues identified within the study area were a driving factor behind the plan recommendations. The primary issues of the plan are discussed fully in the chapters that analyze economic, transportation, land use and design/aesthetics.

Develop Alternatives

Following a thorough analysis of existing conditions, data trends and projections a set of alternatives were developed to address identified issues. These alternatives took community input into consideration. Further analysis was then conducted to ascertain the effectiveness of the various alternatives and the degree to which they were consistent with the Corridor Vision Principles. After a full set of alternatives was prepared, they were then presented to the community.

Priorities and Recommendations

The community was asked to indicate their preferred alternatives out of those developed. This information was considered in conjunction with the analysis results. Policy and design recommendations were then formulated. At that point, the Core Project Team and Project Advisory Committee weighed all the available information and feedback against project needs and impacts to develop a prioritized list of corridor transportation projects.

Implementation Plan

The prioritized list represents the general order in which the preferred alternatives will be implemented. For each preferred alternative on the final prioritized list, the following items have been identified to facilitate implementation of the corridor plan.

- Cost estimate for construction projects.
- Potential funding sources, methods or programs.
- Coordinating or regulatory agencies and necessary action steps.
- Possible implementation tools.

CORRIDOR VISION

As previously mentioned, the Corridor Vision Principles leveraged community values and aspirations to guide the development of alternatives and recommendations for the South Broadway

Corridor. Combined, these considerations establish a corridor planning framework for providing improved transportation, an efficient development pattern and an attractive environment – all of which will help improve the economic potential of the corridor.

The transportation oriented Vision Principles were also structured to reflect WAMPO's vision of a safe, efficient, accessible, affordable and multimodal regional transportation system. **Figure 2.3** below is WAMPO's depiction of their vision and goals as contained in their 2035 Metropolitan Transportation Plan (MTP).

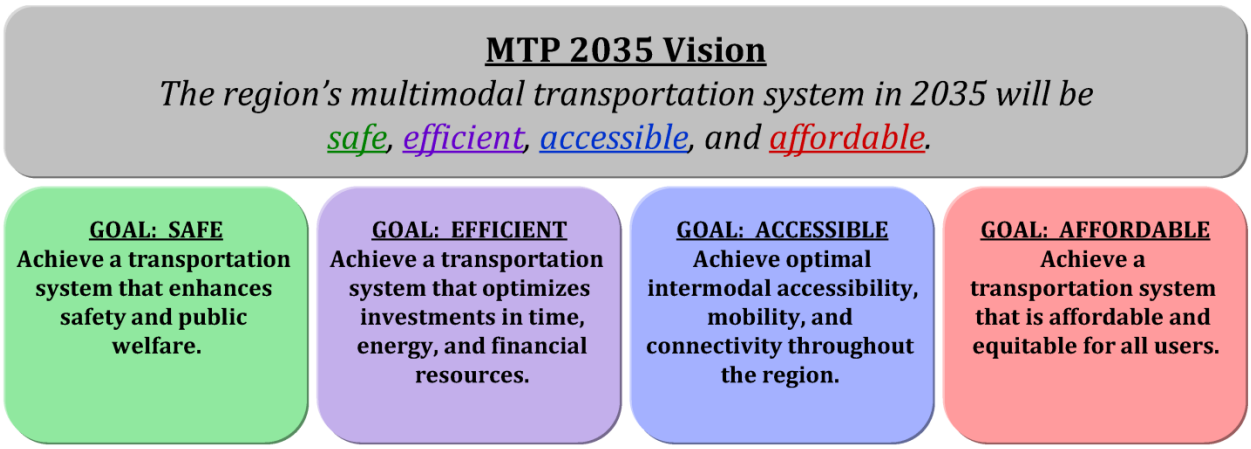

Figure 2.3: WAMPO's 2035 MTP Vision and Goals

Furthermore, the Vision Principles will play a role in future planning initiatives and actions. They represent a preferred future for the South Broadway Corridor that was developed with consensus of the partner agencies. As such, the Vision Principles should be a primary consideration in the review of development applications and programming of transportation projects within the Corridor.

Figure 2.4 on the next page illustrates the Corridor Vision Principles.

Identify & Improve	•**IDENTIFY** safety and operational issues and develop solutions to •**IMPROVE** those conditions.
Provide & Leverage	•**PROVIDE** an accessible walkable environment and •**LEVERAGE** improved walkability for economic development.
Manage & Preserve	•**MANAGE** driveway spacing and direct property access, but •**PRESERVE** business opportunities along the corridor.
Cooperate & Implement	•**COOPERATE** with partners such as KDOT, WAMPO and Sedgwick County to •**IMPLEMENT** a road design that meets long-term corridor needs.
Focus & Integrate	•**FOCUS** major commercial land uses to arterial intersections and •**INTEGRATE** quality mixed use development along the corridor.
Protect & Maximize	•**PROTECT** the integrity of single-family residential neighborhoods in the corridor, but •**MAXIMIZE** development flexibility so owners can react to market opportunities adjacent to South Broadway.
Anchor & Introduce	•**ANCHOR** the corridor with strong visual gateway elements that •**INTRODUCE** motorists to the Haysville community.
Enhance & Encourage	•**ENHANCE** corridor aesthetics with quality site design and •**ENCOURAGE** investment in developed properties.

Figure 2.4: Corridor Vision Principles

CHAPTER 3
COMMUNITY INVOLVEMENT

PURPOSE OF COMMUNITY INVOLVEMENT

The community involvement component is critical to the success of any planning initiative. It is not only important for conveying project information to area residents, but for gathering input from the public regarding a project and building an understanding of local issues. Successful public involvement begins with a true commitment to such an interactive communication process.

Some of the main objectives of community involvement are:

- Reassuring people that their opinions are of value to the planning process.
- Learning public perceptions and local knowledge of a project.
- Educating citizens on project alternatives and options.
- Gauging local response to potential alternatives and developing acceptable solutions.
- Identifying changes in public opinion and perceptions.
- Building consensus and local buy-in.

COMMUNITY INVOLVEMENT APPROACH

The project's community involvement philosophy was centered on achieving meaningful public and stakeholder participation. The input would need to identify corridor issues, build consensus, learn community preferences and create innovative solutions to a variety of concerns. Throughout the process, the Haysville community was viewed as a collaborative project partner. In other words, it was a qualitative approach, not a quantitative approach.

The community involvement approach used several methods to engage the community in the planning process:

- Project Meetings.
- Community Outreach.
- Meetings with Officials and Organizations.
- Community Meetings.
- Polls and Surveys.

The remaining sections of this chapter summarize the community involvement approach and the results of each engagement method used in conducting the planning process.

PROJECT MEETINGS

Core Project Team

The Core Project Team served a critical role in project management. Their primary purpose was to help keep the project on track and assist with project management decisions. The team consisted of staff representatives from the project sponsors and partner agencies. Represented agencies were:

- City of Haysville.
- Wichita Area Metropolitan Planning Organization (WAMPO).
- Wichita-Sedgwick County Metropolitan Area Planning Department (MAPD).
- Sedgwick County Public Works.
- Kansas Department of Transportation (KDOT) Bureau of Transportation Planning.
- Project consultant team.

A Kickoff Meeting was held with the Core Project Team on May 26, 2011. At this meeting, key aspects of the project were clarified and discussed. This included a review of project goals, scope, stakeholders and the public involvement approach. Milestone and meeting dates were targeted to finalize the project schedule. The meeting also included a cursory review of corridor issues.

Monthly Core Project Team meetings were held on the fourth Thursday of each month between June and October 2011. The consultant gave project status updates, distributed information, reviewed concepts, gathered technical information and received input from the Core Project Team. Team members also provided guidance regarding the process, project and plan contents.

Project Advisory Committee

The main role of the Project Advisory Committee was to serve the interests of each partner agency, the broader community and the region in project decision making. This required a membership with some degree of authority and accountability. Members needed to be in touch with the values, goals and concerns of those whom they represented. Subsequently, the group was primarily made up of sponsor and stakeholder agency officials, several who held elected positions. This included participants from:

- Haysville Elected Officials.
- Haysville Planning Commission.
- Haysville Public School District (USD 261) School Board.
- Haysville business and economic development community.
- Sedgwick County Commission.
- WAMPO Transportation Policy Body (TPB).
- KDOT Wichita Metro Engineer.

The Project Advisory Committee met three times during the planning process. They provided valuable guidance serving as a sounding board for project issues, goals and alternatives. Their feedback was crucial in the development of recommendations that addressed stakeholder needs while reflecting general community consensus.

COMMUNITY OUTREACH

It is impractical to think everyone can attend every project meeting. Taking this into account, multiple formats were implemented for exchanging information with the community. A robust outreach and notification plan was conducted to keep the public well-informed of key findings, recommendations, general project status and upcoming events/meetings. Furthermore, several forums were available to receive questions, comments and other input.

Save the Date Notification for Meeting #3

Meeting Notifications and Information Sharing

Meeting notifications were prepared for print, email and utility bill distribution. Outreach efforts specifically targeted corridor business and property owners. A contact database of interested parties and organizations was maintained for the distribution of meeting notifications.

Hard copies were also available for those without internet access. Electronic copies were sent to Haysville staff so they could be posted at City Hall and distributed upon request.

Information was shared with the local press regarding community meetings, input opportunities and project progress. Also, area broadcast media ran at least two stories on the plan. Messages and presentations regarding the project were programmed on the local government cable outlet, Channel 7.

Online Project Resources

A project website was developed and periodically updated throughout the course of the project. The website was a venue that provided links to important project information and documents. It also contained a comment form tool for receiving input from the public, project contact information and links to the project's Facebook page.

Facebook (Haysville Corridor Plan) and Twitter (@haysvilleplan) social media forums were utilized as public outreach tools. These internet-based tools are free and easy to use. They also proved quite effective. For example, the Haysville Corridor Plan Facebook page had 168 "friends" keeping track of the project as of October 2011.

The outreach strategy for online communications provided a means for not only giving information, but receiving input. The project website stored information, such as PDF format notifications, updates, documents and graphics. Facebook was used to receive feedback, get out the word, post survey hyperlinks and link to the more substantive content of the project website. The Twitter account was mainly utilized for meeting announcements, notification of website updates or new information availability and sending survey links.

OFFICIALS AND ORGANIZATIONS

Haysville Planning Commission

Effective implementation of the South Broadway Corridor Plan necessitates its adoption as a component of Haysville's Comprehensive Plan, which requires Planning Commission endorsement. Therefore, it was critical that the project team understand their concerns and receive their feedback. Additionally, Haysville Planning Commission will be ruling on development and zoning applications within the corridor. The commission was represented by its Chairperson on the Project Advisory Committee for these reasons. The process included presentations to Haysville Planning Commission on two occasions.

The first of these two presentations took place on November 10, 2011 when the draft plan was presented. The presentation included a summary of the draft plan, identified issues and recommended solutions. The Planning Commission asked questions regarding the transportation analysis and recommendations, but suggested no revisions during the meeting.

The second presentation occurred at the January 26, 2012 Planning Commission meeting. They were asked to provide comments and make a recommendation to City Council. The Planning Commission recommended approval of the South Broadway Corridor and it was then submitted to the City Council for their consideration.

Haysville City Council

The project was initially introduced to the community at the June 13, 2011 Haysville City Council meeting. An overview was presented of the project purpose, planning process, schedule and approach. There were several general comments made in support of the initiative. The meeting was also shown on the local government cable channel.

The initial draft plan was presented on November 14, 2011. City Council reviewed a summary of the planning process, corridor issues and major plan recommendations. The plan was well received with only a few general questions. They were also invited to review the final draft upon completion and provide feedback to city staff or the consultant.

The final plan was presented during the February 13, 2012 City Council meeting. City Council took action to formally approve the South Broadway Corridor Plan. This endorsement authorized plan recommendations to be implemented through future planning actions as deemed appropriate.

Haysville Forward, Inc.

Haysville Forward, Inc. (HFI) is a nonprofit economic development organization that serves the Haysville community and represents many businesses within the South Broadway corridor. The project team attended the June 17, 2011 HFI meeting, presented the planning objectives and engaged in a discussion about the corridor. This provided excellent insight into corridor issues and opportunities from the perspective of the business community. It also gave an indication of the types of planning solutions and implementation mechanisms that might be acceptable to stakeholders.

WAMPO Committees

WAMPO's Technical Advisory Committee (TAC) is made up of regional representatives from transportation agencies, local governments and individuals with expertise in specific transportation subject areas, such as freight. They are charged with the technical review of regionally significant transportation projects and making recommendations to the WAMPO Transportation Policy Body (TPB).

A summary of the draft plan contents was presented to the TAC on October 24, 2011. The project was reviewed and several technical questions were answered. However, TAC members requested no plan revisions at the time. TAC was presented the final plan on February 27, 2012 and unanimously recommended TPB endorsement of the plan.

The TPB is tasked with regional transportation planning and implementation of those plans. This group includes local elected officials, regional and state agency representatives. The regional transportation vision is established in the Metropolitan Transportation Plan (MTP) and other documents such as this corridor plan. Project funding is then authorized in WAMPO's Transportation Improvement Program (TIP). The TPB has approval authority over these transportation plans, project programming and expenditures.

The draft plan summary was presented to the TPB on November 8, 2011. There were several general comments and questions, but no comments requiring plan revisions. The final South Broadway Corridor Plan was presented to the TPB on March 13, 2012, who endorsed it unanimously.

COMMUNITY MEETINGS

Meeting #1

The first community meeting was held on June 28, 2011 at Haysville City Hall with 47 individuals in attendance. The meeting format began with a brief project overview presentation followed by a one-hour breakout session. The participants rotated between three stations at 20-minute intervals. Each station was hosted by a Core Project Team member and presented information about a different topic area related to the project: transportation, land use and architecture/site design. At the conclusion of the breakout session, the attendees reconvened and participated in a keypad polling exercise. The poll gathered input about corridor issues and options.

Meeting #2

The second meeting took place on September 8, 2011 at the Haysville Activity Center. There were 42 people in attendance. This meeting began with a 45-minute open house. Display boards presented corridor information, key findings and the alternatives developed to address corridor issues. The project team was also available to answer questions and give explanations. Following the open house, a keypad poll was administered to determine which alternatives were preferred by attendees.

Photo from Meeting #2

Meeting #3

The draft plan was presented to the community at an open house on November 3, 2011 held at Haysville Activity Center. The meeting had 12 people in attendance. Plan recommendations were depicted on a series of display boards and project team members were on hand to answer questions. Following the open house, a presentation about the recommendations was made, detailed explanations were given and questions were answered.

There was no keypad poll conducted at this meeting, but a comment survey was provided. There were only six forms returned, but responses indicated relatively strong support for the plan and its recommendations.

POLLS AND SURVEYS

The previously mentioned keypad and comment polls administered at the public meetings were converted to online surveys using the Survey Monkey internet tool. The results were combined for analysis. Full combined results for first two polls/surveys are contained in **Appendix A**. Full combined results of the third survey are included in **Table 3.A** of this section.

Issues and Options

The keypad polling exercise on Corridor Issues and Community Options was conducted during Public Meeting #1 with 47 participants. The online survey garnered responses from 81 people. A combined total of 128 responses were submitted.

Summary of Key Responses

- Majority of respondents were Haysville residents, with over 33% being South Broadway property owners.
- Majority perception that South Broadway is a regional commuter route that is the first impression most visitors have of Haysville.
- Strong support for addition of a continuous center left turn lane.
- Strong support for improved pedestrian accommodations, with 67% supporting a multi-use path to also enhance bicycling.
- Mixed land uses are preferred with a strong majority (56%) in favor of special mixed use zoning.
- Respondents prefer that future major commercial development be focused around arterial intersections.
- Over 80% believe the quality of existing South Broadway development presents a negative image of Haysville.
- Strong support for architectural and landscaping standards to improve the appearance of South Broadway, including among property owners.

Community Preferences

The keypad polling exercise on preferred alternatives was conducted during Public Meeting #2 with 42 participants. The online survey garnered responses from 48 people. A combined total of 90 responses were submitted.

Summary of Key Responses

- Majority of respondents were Haysville residents, with over 31% being South Broadway property owners.
- The top response (33%) for preferred bicycle/pedestrian accommodation was to add sidewalks to both sides of South Broadway. However, 53% support the addition of some type of bicycle facility. Although, no individual bicycle alternative garnered more than a 28% response.
- Strong support among respondents for addition of a continuous center left turn lane.
- Across several visual preference questions there is strong majority support for new urbanist design concepts.

- Nearly 73% prefer a prohibition on metal siding for new commercial buildings in the corridor.
- Almost 56% support a requirement in excess of 50% masonry coverage on new commercial buildings.

Plan Recommendations and Feedback

The comment survey on plan recommendations was conducted during Public Meeting #3 with six participants. The online survey garnered responses from four more people. A combined total of 10 responses were submitted. Respondents were asked to indicate their level of agreement with six statements about the plan recommendations and process in general. Responses were provided by marking circles numbered from -5 (strongly disagree) to +5 (strongly agree). Combined responses for each question indicated strong support for the plan among respondents. The full set of responses is included below in **Table 3.A**.

Questions		Responses												
		Meeting #3						Online				Average Scores		
#	Text	1	2	3	4	5	6	1	2	3	4	Meeting	Online	Combined
1	The transportation recommendations contained in the draft plan will make South Broadway a safe, uncongested road through the year 2035.	3	5	5	3	5	3	4	4	3	3	4.00	3.50	3.80
2	The land use recommendations contained in the draft plan will provide the right mix of residential, commercial and industrial development within the corridor.	5	3	5	3	4	5	5	0	3	3	4.17	2.75	3.60
3	The architectural and design recommendations in the draft plan will make the South Broadway corridor a more attractive place.	5	4	4	4	5	3	5	4	2	3	4.17	3.50	3.90
4	Implementing the plan will be good for local economic development.	5	5	4	3	5	3	3	5	3	3	4.17	3.50	3.90
5	I support the overall vision and recommendations of the draft plan.	4	5	4	4	5	5	4	5	2	3	4.50	3.50	4.10
6	The meetings, project website, surveys and social networking (Facebook, Twitter) used throughout the process provided ample opportunities for community input.	1	3	4	-1	4	5	3	5	1	2	2.67	2.75	2.70

Table 3.A: Combined Responses to Survey #3

CHAPTER 4
POPULATION AND ECONOMIC CHARACTERISTICS

AREA OF ANALYSIS

Figure 4.1 depicts the geographic analysis area for this chapter. The colored rings represent various distances from Haysville's corporate limits (shown in red on map), extending to a 10-mile perimeter. This is the area most likely to influence the population and economy of Haysville and the corridor study area (bright green). The pink 0- to ½-mile buffer intersects south Wichita. The lavender ½- to 1-mile ring covers mostly rural, unincorporated Sedgwick County. Portions of Derby and Mulvane lie within the blue 1- to 3-mile buffer. The sage colored ring extends out to five miles and takes in most of Derby. Andover, Rose Hill, Mulvane and Clearwater are touched by the yellow 5- to 10-mile buffer. This extent also reaches into north Wichita and covers much of the metropolitan area.

HAYSVILLE VICINITY CHARACTERISTICS

Demographics

According to 2010 U.S. Census data, Haysville's population is 10,826. This represents over 27% growth from the 2000 population of 8,502. In that same timeframe, the entire WAMPO region grew by about 11%. Current population density is 2,390 persons per square mile (see **Table 4.A** next page). Population density declines moving away from Haysville until Wichita and Derby begin to impact the total population. This is indicated by a population under 5,000 within one mile, yet nearly 31,000 within three miles. Density nearly doubles in that distance. As Haysville grows, development is likely to expand into adjacent unincorporated areas with lower population densities.

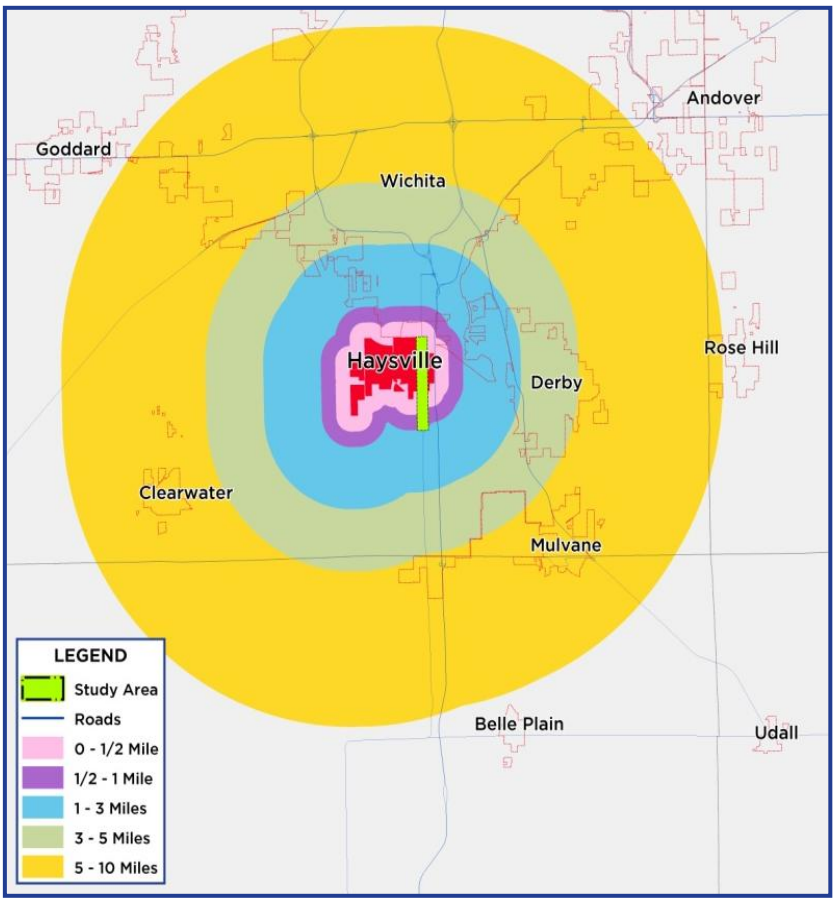

Figure 4.1: Area of Analysis

	Study Area Only*	Haysville City	0 - 0.5 mile	0 – 1 mile	0 – 3 miles	0 – 5 miles	0 – 10 miles
2010 Population	3,400	10,826	2,417	4,986	30,946	89,998	335,824
2015 Population Projection	3,745	11,332	2,468	5,207	32,317	93,031	340,492
2025 Population Projection	4,678	13,746	2,652	5,595	37,505	100,348	367,273
2035 Population Projection	5,988	16,674	2,849	6,011	43,526	108,241	396,159
2010 Population Density (pop./sq. mi.)	2,982	2,390	238	246	438	606	753

SOURCES: 2010 U.S. Census data; WAMPO 2011 Development and Transportation Trends Report
* Based on estimated 2010 population

Table 4.A: Population Table

The racial composition of Haysville is predominately white at 93% of the total population. However, within 10 miles this figure drops to 74%. Individuals self-identified as two or more races make up Haysville's next most populated racial group, at about 3.5% of the population. Hispanics and Latinos account for less than 5% of the Haysville population, yet nearly 15% of the population within 10 miles claim this ethnicity.

Haysville's median age is 32.8, which is relatively young in comparison to Sedgwick County's median age of 34.2. This median age is affected by over 45% of the population being under 30 years of age.

Area Income and Employment

Haysville's median household income has grown over 10% since 2000. **Table 4.B** on the next page shows that the current median income of $51,414 compares favorably to that of the 10-mile analysis area, which is $43,527. Nearly 41% of households have an annual income between $50,000 and $100,000. Meanwhile, only 6.2% of families live below poverty. This is roughly half of the 12% living in poverty within 10 miles.

The majority of workers in Haysville are part of the for-profit private workforce. The group reflects 77% of the population or 3,681 residents. The second highest group of employment is the local government workers, which accounts for 7% of the population.

CORRIDOR PROFILE

Market Segmentation

The corridor profile was developed using ESRI's Community Tapestry™ neighborhood market segmentation. This system uses U.S. Census data and research to classify areas into 65 different segments that describe market potential and consumer preferences. The segments are broad

	Haysville City		0 - 0.5 mile		0 - 1 mile		0 - 3 miles		0 - 5 miles		0 - 10 miles	
2010 Households	3,641		859		1,819		10,770		31,442		120,992	
Less than $15,000	269	7.40%	96	11.18%	134	7.36%	746	6.93%	2,814	8.95%	15,693	12.97%
$15,000 to $24,999	300	8.25%	80	9.28%	148	8.14%	889	8.25%	3,393	10.79%	15,160	12.53%
$25,000 to $34,999	407	11.19%	100	11.65%	205	11.25%	1,139	10.58%	3,811	12.12%	16,951	14.01%
$35,000 to $49,999	789	21.68%	186	21.65%	388	21.32%	2,041	18.95%	5,927	18.85%	22,335	18.46%
$50,000 to $74,999	957	26.28%	213	24.76%	490	26.93%	2,849	26.45%	7,923	25.20%	26,183	21.64%
$75,000 to $99,999	527	14.48%	105	12.21%	261	14.37%	1,621	15.05%	4,097	13.03%	12,777	10.56%
$100,000 to $124,999	224	6.15%	46	5.40%	111	6.09%	910	8.45%	2,176	6.92%	6,715	5.55%
$125,000 to $149,999	94	2.59%	20	2.31%	46	2.55%	336	3.12%	767	2.44%	2,710	2.24%
$150,000 to $199,999	52	1.43%	10	1.13%	26	1.43%	155	1.44%	321	1.02%	1,428	1.18%
$200,000 to $499,999	19	0.52%	4	0.42%	10	0.54%	73	0.68%	192	0.61%	907	0.75%
$500,000 or more	1	0.03%	0	0.02%	1	0.03%	10	0.09%	25	0.08%	121	0.10%
Median Household Income	$51,414		$47,404		$51,797		$54,991		$49,433		$43,527	

2010 Census data unavailable for household income. Figures extrapolated from 2010 Census population and Neilsen 2010 Population estimates.

Table 4.B: Household Income

characterizations of the residents living in these areas. This profile is only meant to convey a general sense of residential characteristics within the corridor and may potentially be useful for economic development. There are three Community Tapestry™ market segments found in the study area:

- Segment 25 "Salt of the Earth."
- Segment 26 "Midland Crowd."
- Segment 32 "Rustbelt Traditions."

General Characteristics

South Broadway Corridor population characteristics and market preferences based on Community Tapestry™ market segments are detailed in **Table 4.C** on the next page. Some common characteristics within the study area include:

Demographics

- Mostly married couple and single parent households.
- Average household size near the U.S. figure of ≈2.6.
- Median age near the U.S. figure of ≈37.2.
- Little racial/ethnic diversity.

Economics

- Median income slightly lower than the U.S. median.
- Unemployment is below national average.
- About half are white collar (professional and managerial) workers.
- Over 75% have graduated high school; over 40% have some college.

Residential

- Home ownership rate about 80%.
- Mostly single-family housing.
- Relatively low median home value compared to U.S.

Preferences/Behaviors

- Conservative.
- Home improvements and gardening.
- Shop at discount stores.
- Own two or more domestic vehicles; one of which is a truck.
- Own pets.
- Own satellite dish; watch CMT, HGTV, Speed Channel, Disney Channel.
- Watch NASCAR, rodeo, fishing programs, weekly sitcoms.
- Hunt, fish, etc.

CHARACTERISTIC	COMMUNITY TAPESTRY™ SEGMENT		
	25 Salt of the Earth	26 Midland Crowd	32 Rustbelt Traditions
Household Type	Married-Couple Families	Married-Couple Families	Mixed
Median Age	41.8	37.2	36.7
Income	Middle	Middle	Middle
Employment	Skilled/Prof/Mgmt	Skilled/Prof/Mgmt	Skilled/Prof/Mgmt/Srvc
Education	HS Grad; Some College	HS Grad; Some College	HS Grad; Some College
Residential	Single Family	Single Family; Mobile Home	Single Family
Race/Ethnicity	White	White	White
Financial	Own CD 6 months +	Personal line of credit	Use credit union
Media	Watch CMT	Hunting/fishing magazines	Watch cable TV
Vehicle	Own motorcycle	Own/lease truck	Own/lease domestic vehicle
General Activity	Gardening; outdoor projects	Own pets	Buy child/baby products
General Activity	Hunting; target shooting	Hunting; fishing	Painting; drawing
Segment Location (relative to S. Broadway)	East side: 87th St. to 79th St.	Grand Ave. to floodway	Floodway to 63rd St.
		West side: 87th St. to 79th St.	79th St. to Grand Ave.

Table 4.C: Corridor Market Segments

CORRIDOR DEVELOPMENT POTENTIAL

The estimated development potential within the study area was analyzed based on vacant developable land, current land values and real estate values. The appraised values were obtained from the Sedgwick County Appraiser's office.

GIS analysis was used to determine the acreage of each lot, the lot's use, and the land and building values to indicate future economic growth potential. The South Broadway Corridor is largely surrounded by residential uses. The analysis assumed the bulk of future development would be commercial or industrial in nature, with some residential uses interspersed. It was found that 41 vacant lots were located in the corridor with an average lot size of 5.3 acres. The current appraised value of developed industrial and commercial properties averages $142,370 per acre. Extrapolating this value across the vacant land reflects $8.54 million in appraised value potential. This figure is in 2010 dollars. This estimate does not account for a potential major commercial development or a national discount chain, which would provide for greater economic potential.

POTENTIAL CASINO IMPACTS

With its central location along a primary route, Haysville has an excellent opportunity to become a hub for those visiting the Kansas Star Casino. Traffic forecasts indicate Haysville will see more commuters, hence the possibility for more revenue into the local economy. Haysville's current focus on the South Broadway Corridor is likely to maximize potential economic gains by exploiting its location as a through point to the casino. The revitalized corridor will provide for a unique experience that could increase business profits and improve property values along South Broadway.

The inclusion of new employment opportunities as a result Kansas Star Casino will provide area residents with a greater chance for to find work. The casino was projected to provide work for at least 400-500 people in the first phase, which opened for business in December 2011. By 2015, the company is expected to employ nearly 1,000 with 90% of workers being from Kansas. The average wage will be approximately $38,000 annually. Haysville is likely to provide many of those employees given the community's location relative to the casino. This should in turn provide bottom line increases to per capita annual income, which is currently around $25,000.

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CHAPTER 5
CORRIDOR TRANSPORTATION

EXISTING CONDITIONS

Roadway Characteristics

South Broadway/US-81 is a primary north-south route connecting the Haysville area community with Wichita to the north and Mulvane and Wellington to the south. **Figures 5.1 – 5.6** beginning on page 31 depict the existing configuration South Broadway through the study area. This includes the location of existing access points and KDOT access controls. The facility has the current lane configurations through the study area as follows:

- South project limit to south of 71st St. South – Two lanes with non-paved shoulders.
- South of 71st St. South to north project limit – Four lanes with curb and gutter. At the two major arterial intersections, the roadway widens to accommodate left-turn lanes.

There are four arterial intersections along South Broadway within the study area: 87th St. South, 79th St. South, Grand Ave./71st St. South and 63rd St. South. Currently, the intersections at 87th St. South and 79th St. South are two-way stop-controlled, with South Broadway being the through movement. The intersections at Grand Ave./71st St. South and 63rd St. South are signalized. The Grand Ave./71st St. South intersection includes pedestrian crosswalks. The only sidewalk adjacent to South Broadway in the study area connects the northeast quadrant of this intersection to the Haysville Activity Center, about 200 feet to the north.

The KDOT Access Management Policy considers areas to be developed if:

1. Located within the corporate limits of a municipality; or,
2. The highway abutting the area has a speed limit at least 40 miles per hour (mph); or,
3. At least 50% of the frontages abutting the highway have been developed with residences, businesses and or industry for a distance of one-quarter (¼) mile.

By virtue of posted speed limits, the entire study area is considered developed under the above criteria. Speed limits are highest outside of the Haysville city limits at the south end of the study area, which is posted at 50 mph. It decreases to 45 mph at the south city limits and remains posted as such through the north study area boundary. This is one factor in KDOT's Access Spacing Criteria.

Functional Analysis

The National Highway System (NHS) is a federal designation for interconnected principal arterials and highways, including toll facilities, which is reserved for high-functioning roadways. NHS criteria include the following:

- Carry interstate and interregional travel.
- Meet national defense requirements.
- Connect with:
- Major population centers.
- International border crossings.
- Ports.
- Airports.
- Public transportation facilities.
- Intermodal transportation facilities.
- Major travel destinations.

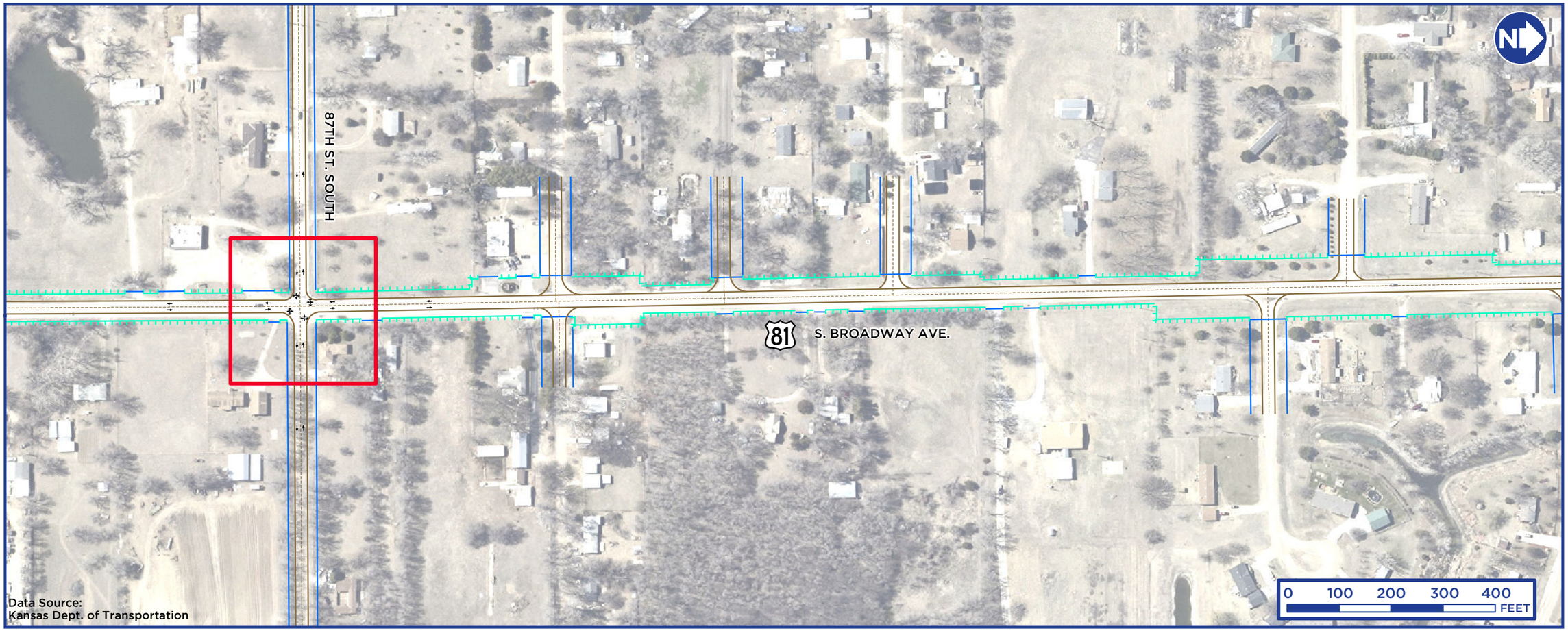
All Interstate Highway System routes are a part of the NHS. While South Broadway is designated US-81, it is not a National Highway System (NHS) facility. I-35 is the only NHS facility in the vicinity of South Broadway. This interstate highway running parallel to US-81 about ½-mile to the east is a toll facility operated by the Kansas Turnpike Authority (KTA).

South Broadway/US-81 is classified as a minor arterial through the study area. Trip lengths on these facilities do not typically accommodate interstate vehicular traffic. Minor arterials primarily connect local and collector roadways with principal arterials. They generally carry low to moderate traffic volumes at low to moderate speeds. Some access is normally provided to adjacent land uses.

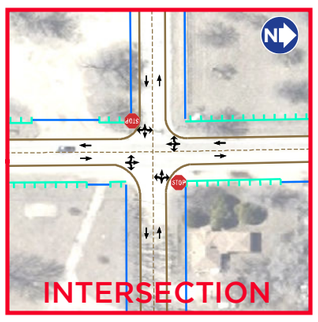
Land along the South Broadway Corridor has developed in a manner that relies on South Broadway for local access connections. Land uses along South Broadway include a wide mix of uses, from single-family residential to office and retail to light industrial. These uses are envisioned regionally to be complemented with a corridor that is multimodal and accessible.

Future land uses are planned to include a mix of residential, commercial and light industrial uses. Many buildings will likely be oriented with South Broadway frontage. Also, Haysville's Comprehensive Plan sets a goal for the City's transportation system to classify and delineate the function, location, standards and methods of financing an efficient community road network. This goal is supported by four objectives:

1. Maintain an efficient and safe transportation system accessible to all community residents.
2. Maintain Haysville representation on WAMPO activities and updates to the Metropolitan Transportation Plan.
3. Coordinate with WAMPO and Wichita Transit for transit route service to Haysville with connections to major employers and the main Wichita system.
4. Design improvements where appropriate for major roadways to include paved shoulders or bike lanes to accommodate bicycling where nearby hike & bike paths are not available.



Data Source:
Kansas Dept. of Transportation



LEGEND

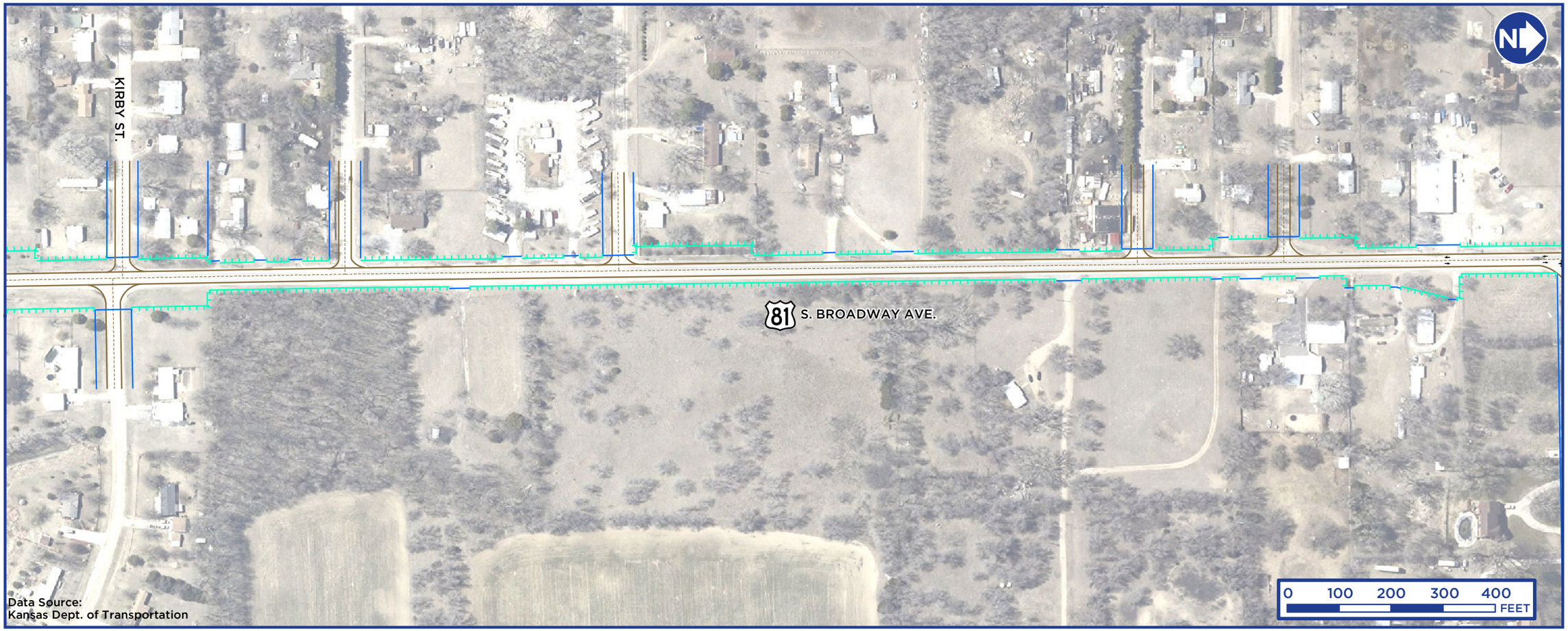
- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Right-of-Way
- Access Control
- Road Edge
- Road Centerline
- Pavement Marking

SHEET LOCATION MAP

SOUTH BROADWAY EXISTING CONFIGURATION SHEET 1

FIGURE 5.1

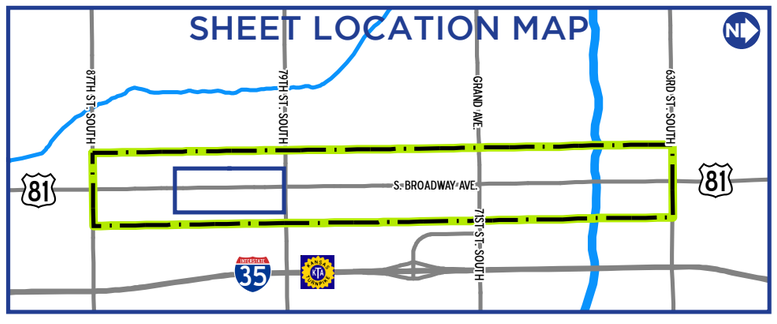
South Broadway CORRIDOR PLAN



Data Source:
Kansas Dept. of Transportation

LEGEND

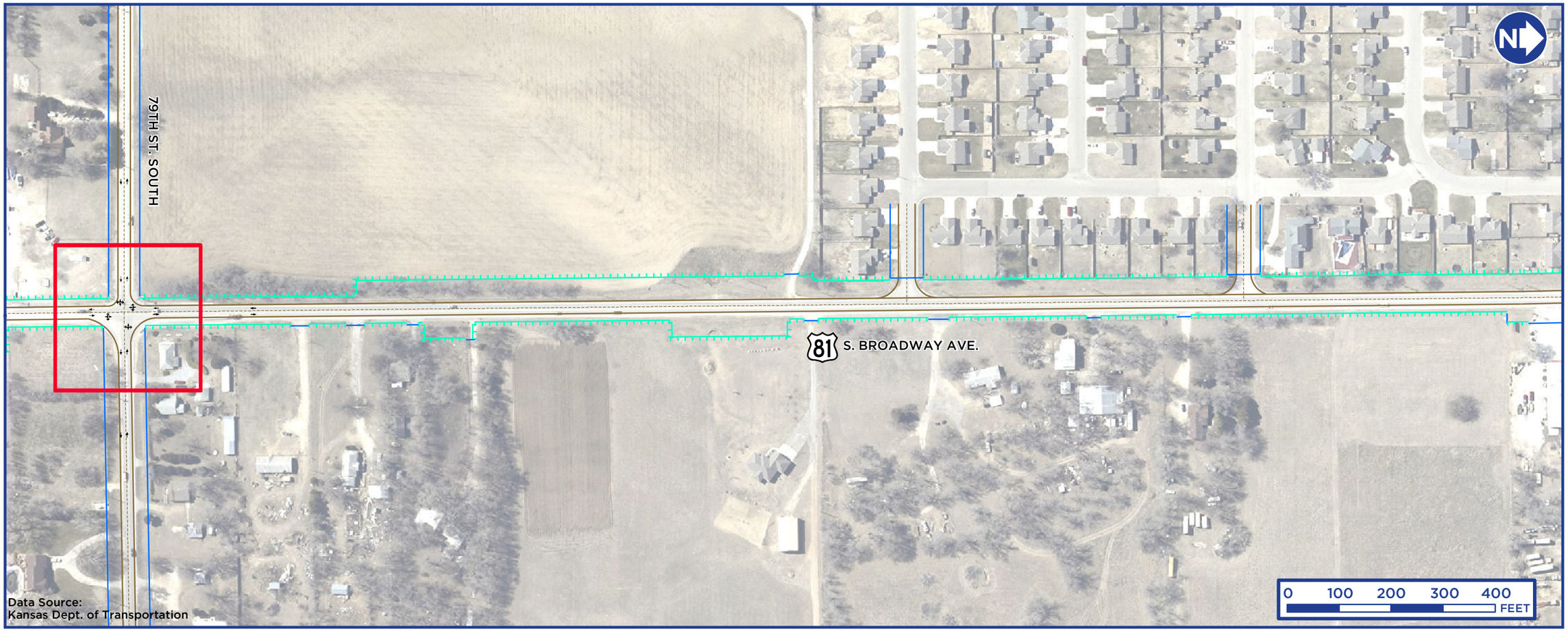
- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Right-of-Way
- Access Control
- Road Edge
- Road Centerline
- Pavement Marking



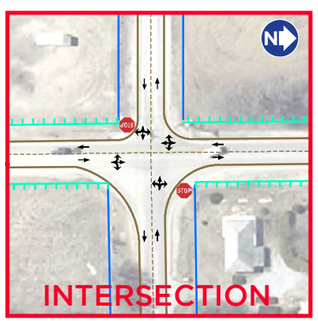
SOUTH BROADWAY EXISTING CONFIGURATION SHEET 2

FIGURE 5.2

South Broadway CORRIDOR PLAN



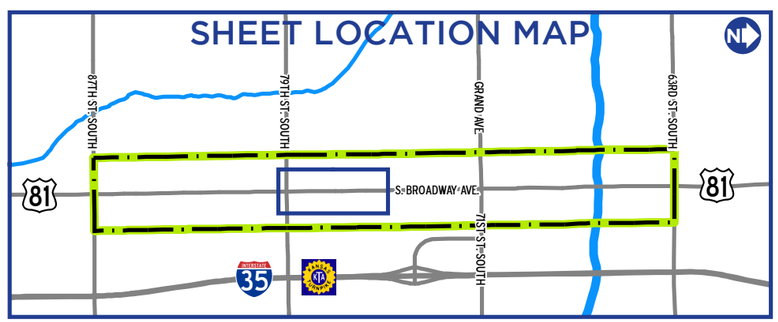
Data Source:
Kansas Dept. of Transportation



LEGEND

- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Right-of-Way
- Access Control
- Road Edge
- Road Centerline
- Pavement Marking

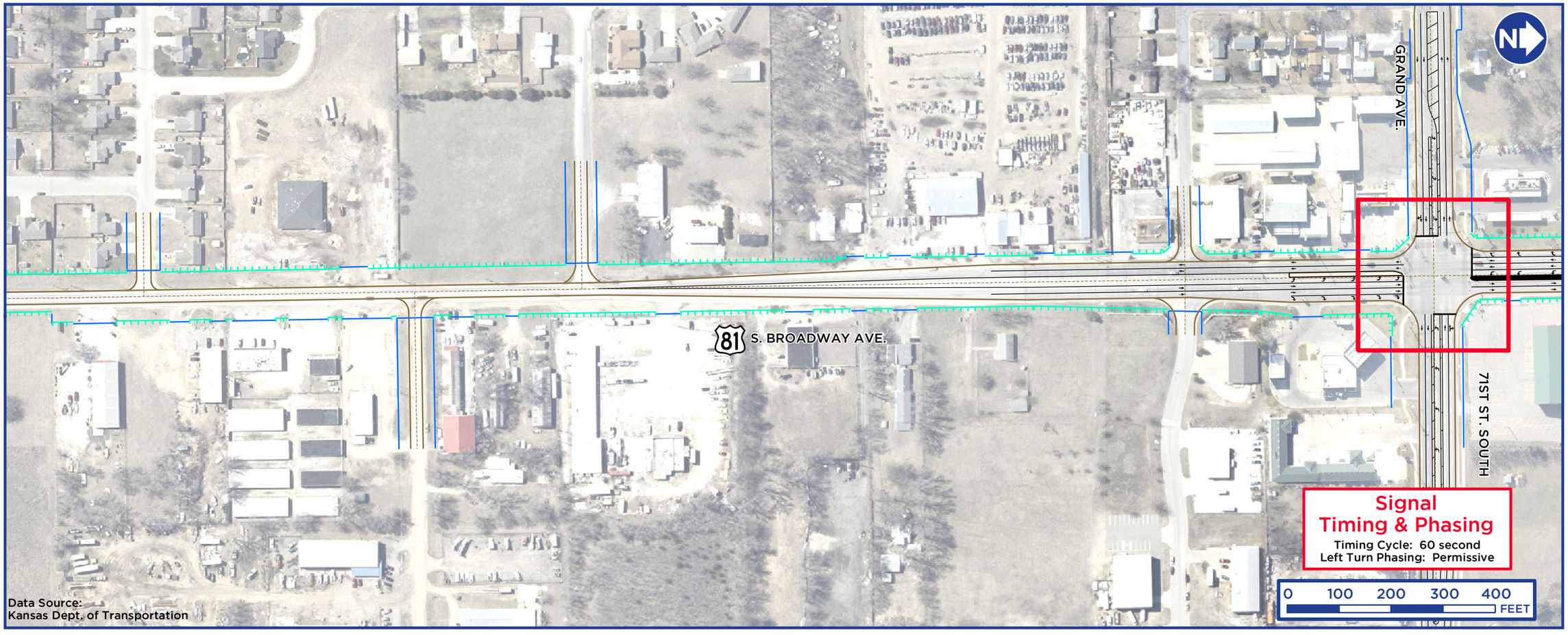
SHEET LOCATION MAP

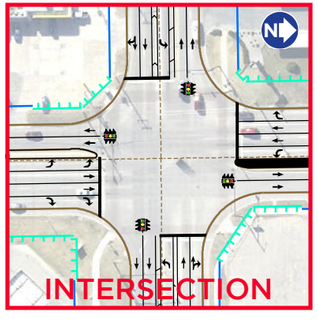


SOUTH BROADWAY EXISTING CONFIGURATION SHEET 3

FIGURE 5.3

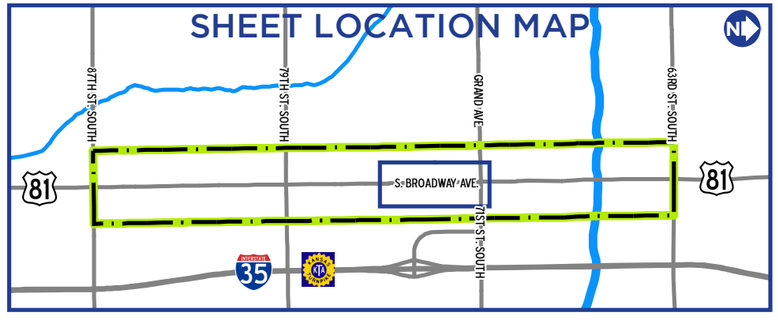
South Broadway CORRIDOR PLAN





LEGEND

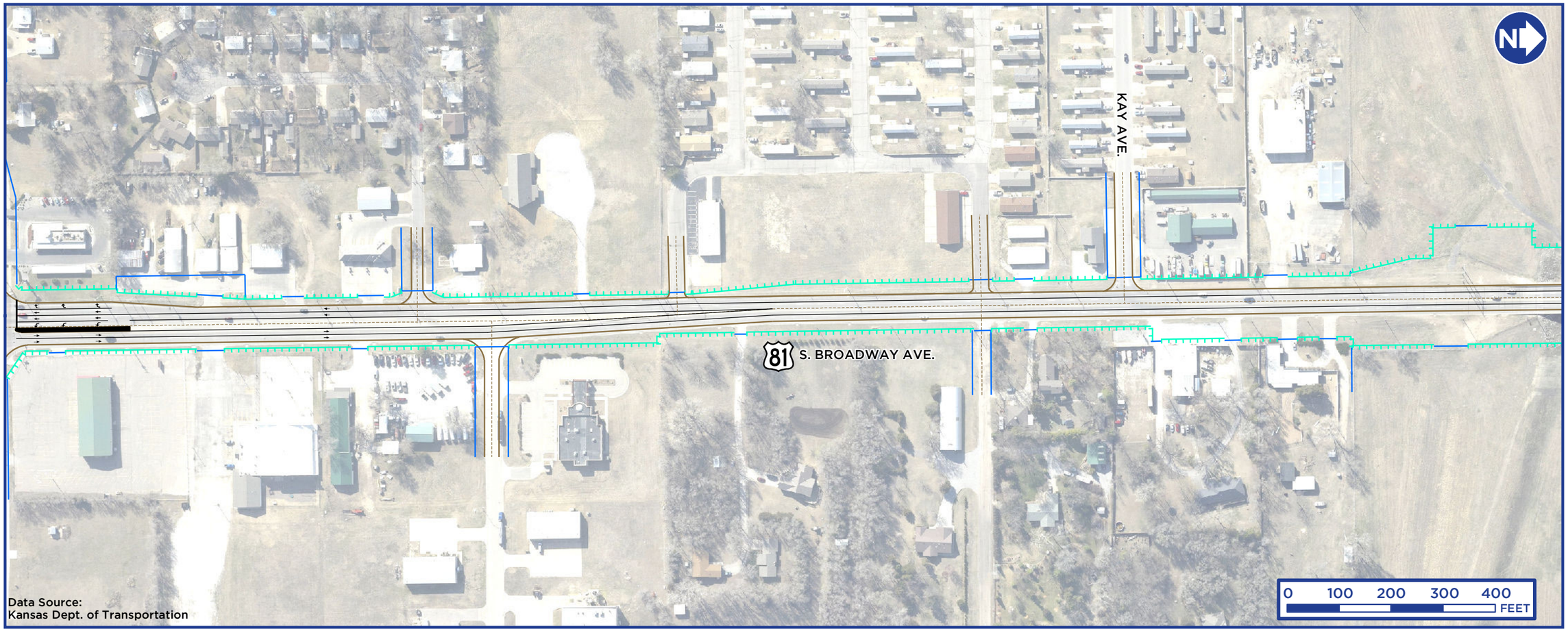
- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Right-of-Way
- Access Control
- Road Edge
- Road Centerline
- Pavement Marking



SOUTH BROADWAY EXISTING CONFIGURATION SHEET 4

FIGURE 5.4

South Broadway CORRIDOR PLAN

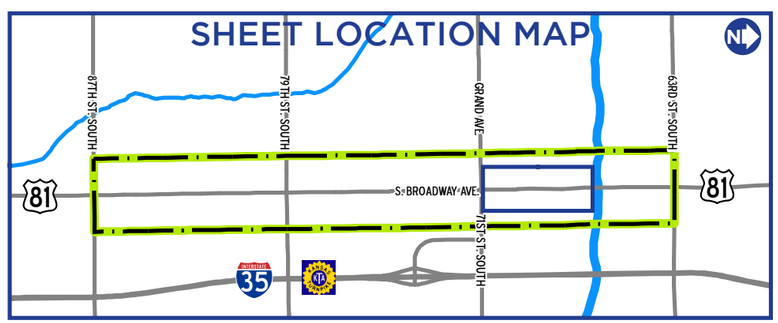


Data Source:
Kansas Dept. of Transportation

LEGEND

- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Right-of-Way
- Access Control
- Road Edge
- Road Centerline
- Pavement Marking

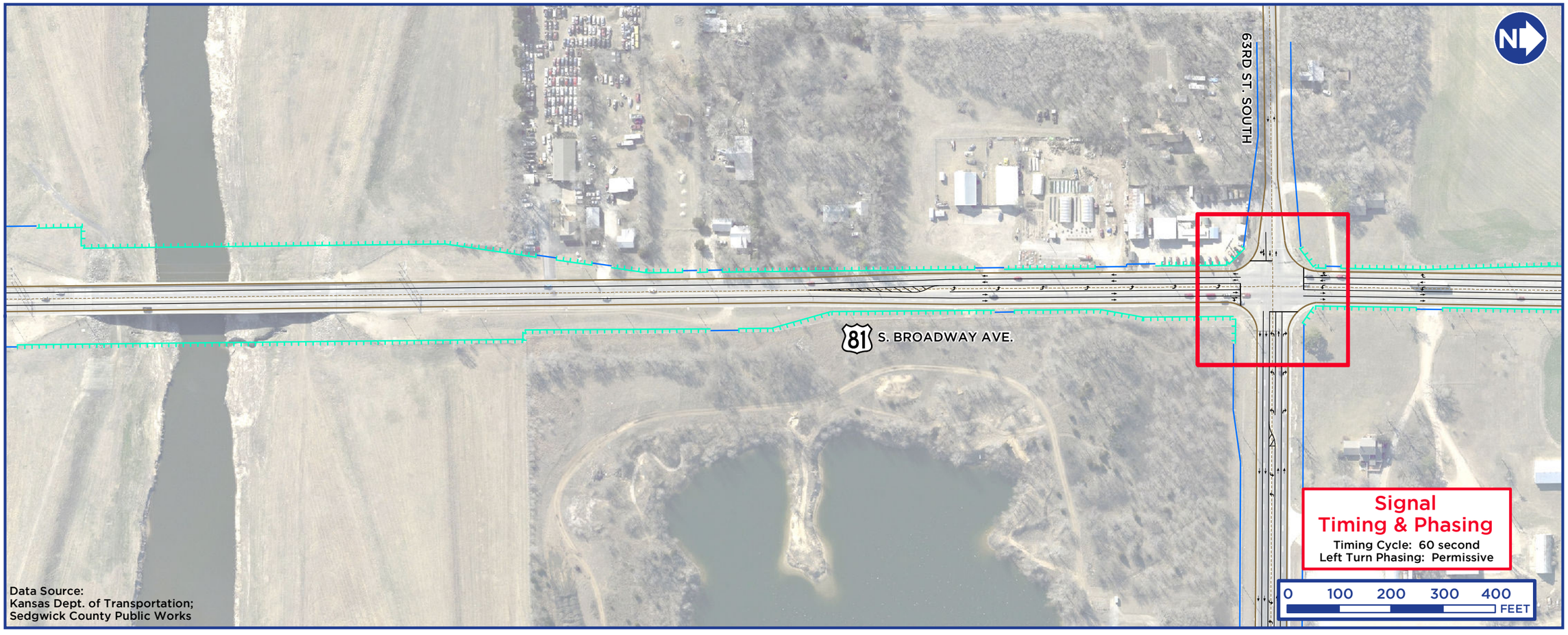
SHEET LOCATION MAP

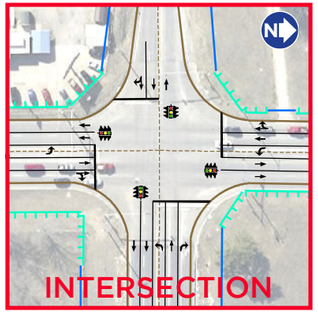


SOUTH BROADWAY EXISTING CONFIGURATION SHEET 5

FIGURE 5.5

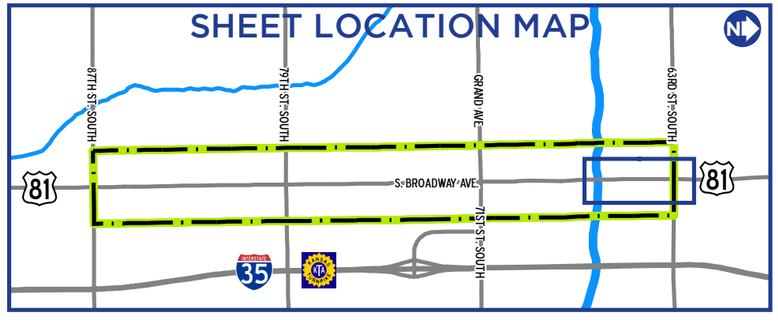
South Broadway CORRIDOR PLAN





LEGEND

- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Right-of-Way
- Access Control
- Road Edge
- Road Centerline
- Pavement Marking



SOUTH BROADWAY EXISTING CONFIGURATION SHEET 6

FIGURE 5.6

South Broadway CORRIDOR PLAN

These objectives support a multimodal transportation network that provides numerous travel choices. This can be achieved with land use and roadway design standards that balance access and mobility, encourage lower speeds on surface streets through the City, and move interregional and interstate trips to appropriate facilities, such as I-35.

Since US-81 and I-35 provide similar connections south of Wichita, motorists can choose to use either for most north-south trips in the area. But, the majority of travelers choose I-35 due to its limited-access and high-speed travel. In fact, traffic volumes on I-35 represent over 80% of vehicles on the two facilities combined. Heavy truck traffic also overwhelmingly chooses to use I-35, which carries over 90% of the combined heavy vehicle traffic from the two facilities. Moreover, KDOT forecasts heavy vehicle traffic to grow almost exclusively on the KTA.

These points suggest that US-81 serves a primarily local or regional role in the transportation network, rather than an interregional or interstate function. Public perception reinforces this notion. The majority of respondents to the Corridor Issues and Options survey indicated that they see the facility as a route for regional commuters and travelers, not an interstate travel corridor.

ANALYSIS METHODS AND MEASURES

Transportation and traffic analysis is very technical in nature. Interpreting this analysis will require a basic understanding of several concepts. For this reason, **Appendix B: Fundamental Transportation Concepts** is included for reference. Readers who may not be familiar with the terms and techniques used for transportation analysis are encouraged to browse **Appendix B** before reading the remainder of this chapter. Also, the following three subsections provide a brief description of the methods and measures used to conduct the analysis contained in this section.

Crash Analysis

Various factors were considered in the corridor crash analysis. These include roadway conditions, crash location, crash severity and the number/rate of crashes. Crash rates for road segments are expressed in terms of crashes per million vehicle miles (mvm). Meanwhile, intersection crash rates are expressed in terms of crashes per ten million entering vehicles (tmev). These rates were then evaluated against statewide average crash rates and critical crash rates for comparison. This helps to identify corridor locations where roadway or environmental improvements might improve safety.

Traffic Forecasting

Three methods of projecting future traffic volumes and operations of roadways and intersections were used in this analysis.

- Travel Demand Forecasting Modeling (TDFM) – Software that projects future travel demand and traffic volumes.
- Mathematic Formulas – Equations that quantify future traffic volumes.
- Traffic Simulation Modeling – Software that mimics existing and future traffic operations.

The process of analyzing traffic for this corridor plan used all three of these forecasting tools. Baseline traffic volumes and forecasts were obtained from WAMPO's TDFM. These were then supplemented with current ADT counts. WAMPO's growth rate was then adjusted to account for additional traffic generated by the Kansas Star Casino, which had not been planned when the regional TDFM was last updated. A model of the existing configuration was then built in the simulation software. Current and forecasted traffic volumes were then simulated to see how South Broadway will operate as growth occurs. Finally, a series of alternative improvements was modeled to determine which will provide the greatest benefits.

Level of Service (LOS)

Level of service (LOS) is a common operational performance measure for roadway segments and intersections and is used in this analysis. It is also one measure that is frequently used to select projects for funding. LOS measures traffic flow for roadway segments and traffic delay for intersections according to **Table 5.A** below. It is included here to provide a quick reference for readers.

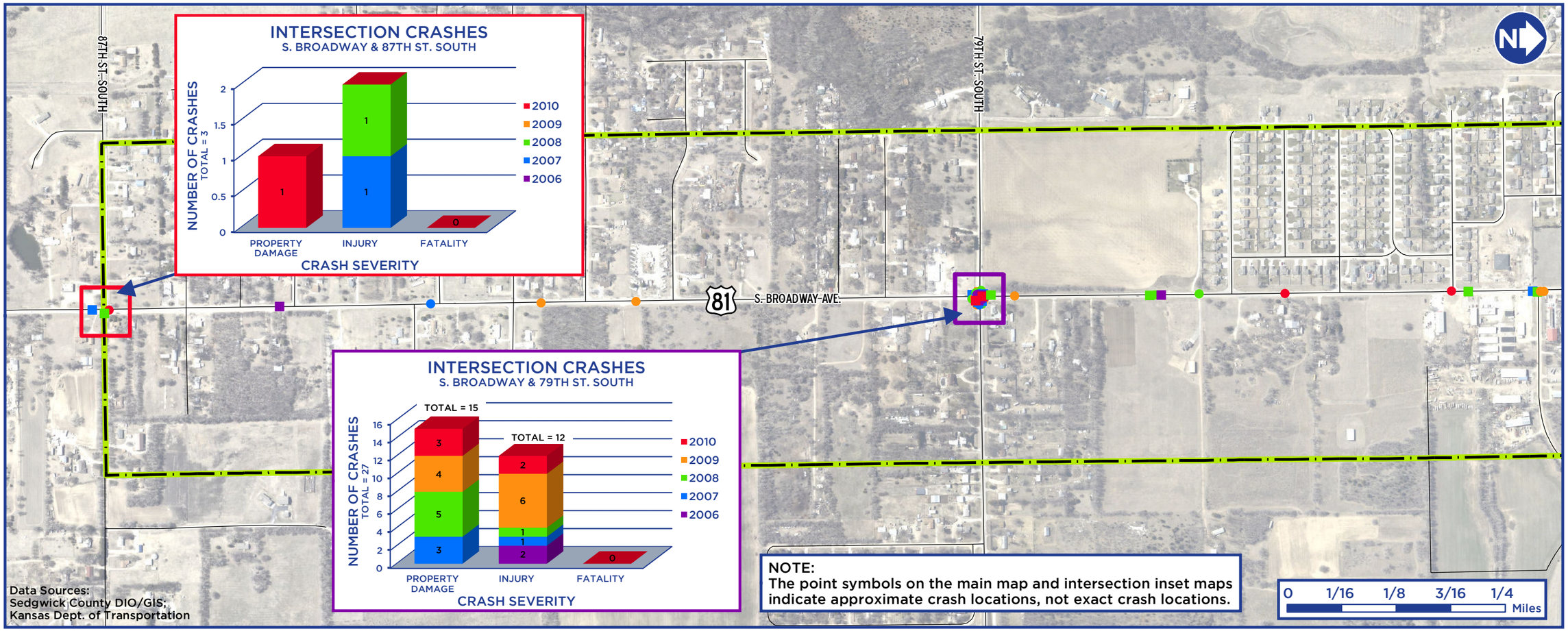
Level of Service	Road Segments (degree of traffic flow)	Intersections (amount of delay in seconds)	
		Two-way Stop Control	Signalized
A	Free Flow	0 – 10	≤10
B	Reasonably Free Flow	>10 ≤15	>10 ≤20
C	Stable Flow	>15 ≤25	>20 ≤35
D	Approaching Unstable Flow	>25 ≤35	>35 ≤55
E	Unstable Flow	>35 ≤50	>55 ≤80
F	Forced or Breakdown Flow	>50	>80
Source: Transportation Research Board, 2010 Highway Capacity Manual			

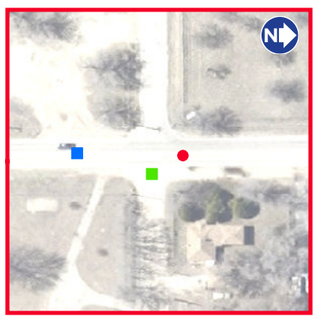
Table 5.A: Level of Service Definitions

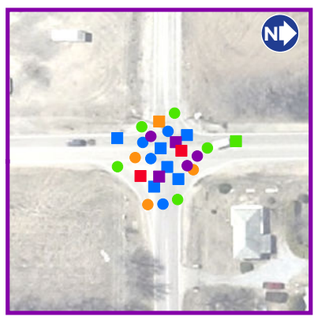
CRASH HISTORY AND ANALYSIS

Crash analysis for the study segments of US-81 reviewed all of the accident reports for the five year period from 2006 to 2010 provided by KDOT. **Figures 5.7 – 5.8** on the following pages illustrate approximate crash locations along South Broadway within the study area. **Figure 5.7** shows the south half of the study area and **Figure 5.8** shows the north half. As can be seen in these two maps, crashes occur less frequently along the road segments than at the arterial intersections. This is fairly typical since there are more traffic conflict points at intersections.

Roadway segment crashes for the study area are summarized in **Table 5.B** on page 41. The study area was analyzed using the three road segments located between the four arterial intersections.



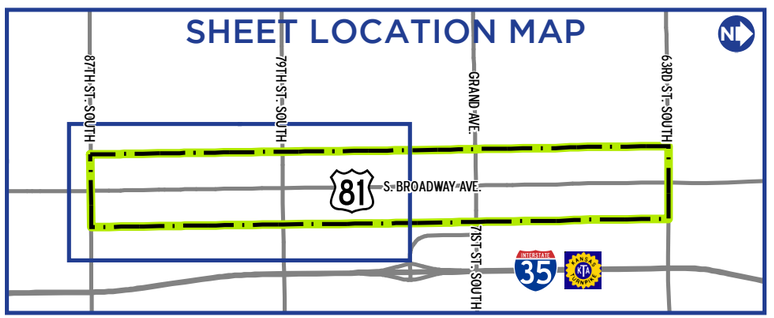




LEGEND

	Property Damage	Injury	Fatality
2006	●	■	◆
2007	●	■	◆
2008	●	■	◆
2009	●	■	◆
2010*	●	■	◆

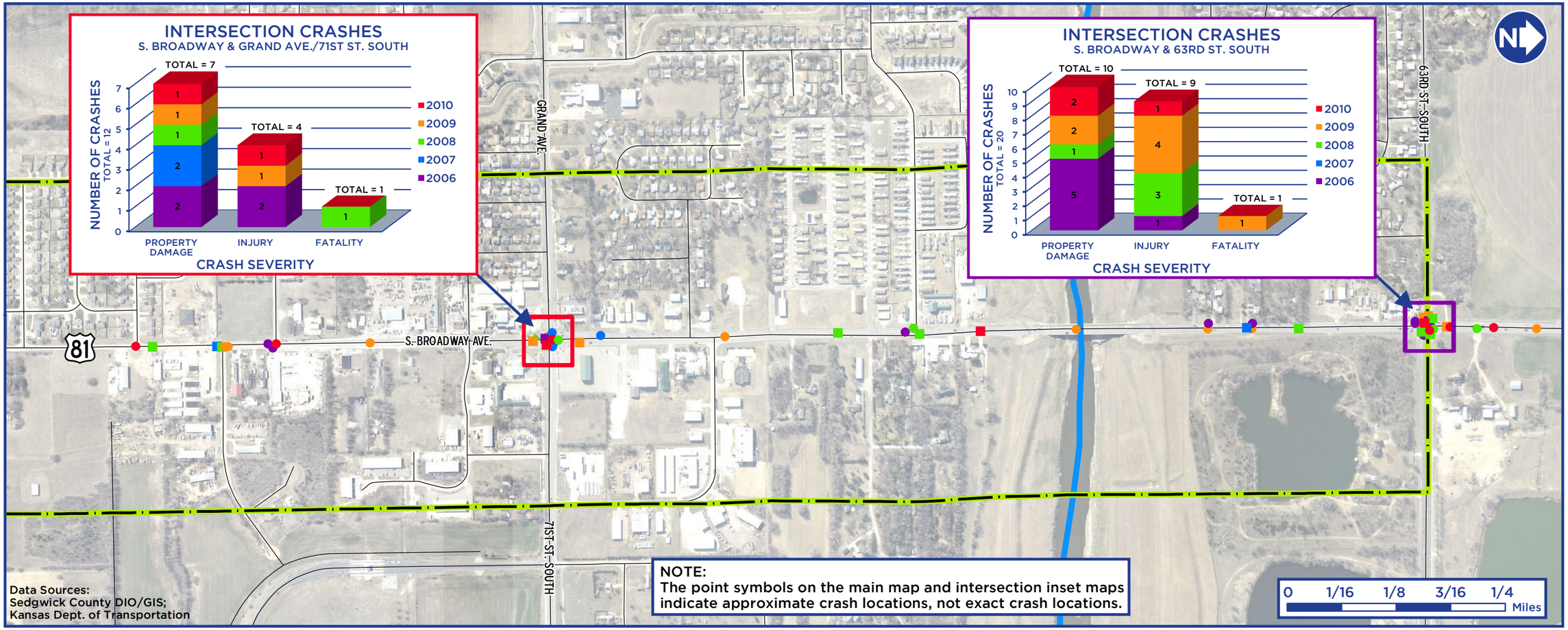
* Incomplete Data (partial year only)

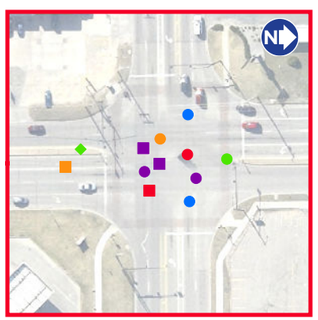


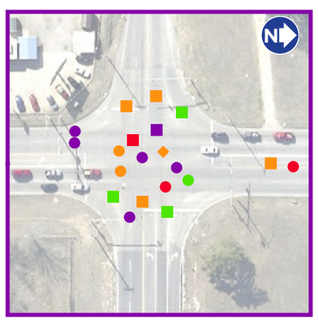
CRASH ANALYSIS SHEET 1

FIGURE 5.7

South Broadway CORRIDOR PLAN



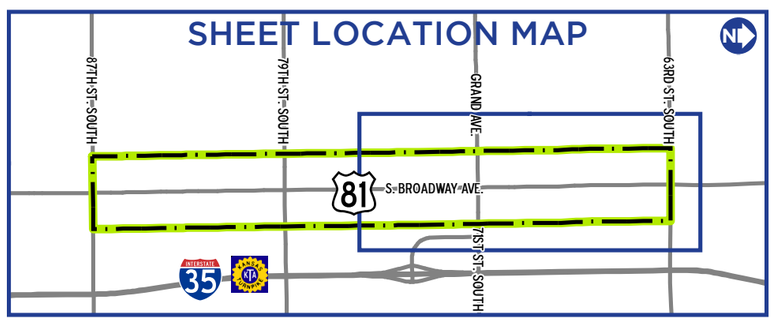




LEGEND

	Property Damage	Injury	Fatality
2006	●	■	◆
2007	●	■	◆
2008	●	■	◆
2009	●	■	◆
2010*	●	■	◆

* Incomplete Data (partial year only)



CRASH ANALYSIS SHEET 2

FIGURE 5.8

South Broadway CORRIDOR PLAN

For the purposes of this analysis the segment extents were as follows:

- Segment A – US-81 Hwy. from 87th St. South to 79th St. South.
- Segment B – US-81 Hwy. from 79th St. South to Grand Ave./71st St. South.
- Segment C – US-81 Hwy. from Grand Ave./71st St. South to 63rd St. South.

ROADWAY SEGMENT			CRASH TOTALS					STATEWIDE*	
Segment	Length (miles)	ADT	PDO	Injury	Fatal	Total	Average Rate (mvm)	Average Rate (mvm)	Critical Rate (mvm)
A	1.0	6,840	3	1	0	4	0.320	1.248	1.042
B	1.0	11,841	10	5	0	15	0.694	1.627	1.026
C	1.0	13,085	9	6	0	15	0.628	3.912	1.043
* From 2004 – 2008 KDOT Statewide Accident Data									

Table 5.B: Road Segment Crashes 2006 – 2010

Compared to statewide average and critical crash rates, all three road segment have a low number of traffic accidents. Segment A has the lowest number of crashes and the lowest rate. While this segment has the highest posted speed limits, there is less traffic volume and fewer driveways. Segments B and C each had 15 crashes during the analysis period. However, Segment B has a higher crash rate due to lower traffic volume. The higher rate is likely explained by the denser development pattern, which means more driveways and conflict points. Also, development within Segment C is concentrated on the west side of South Broadway. This limits the amount of turning conflicts.

Intersection accidents are summarized in **Table 5.C** below. Three of the four intersections have crash rates significantly lower than the statewide rates. The data for these three arterial intersections indicate no abnormally high accident types. The 87th St. South intersection carries the lowest South Broadway traffic volumes in the study area and 87th St. South has significantly lower ADT than the other three intersecting arterials. Grand Ave./71st St. South and 63rd St. South are both signalized, which helps explain lower crash rates at those intersections. The 63rd St. South intersection was under construction in 2009, which may have caused a slight increase in crashes during that year.

INTERSECTION		CRASH TOTALS				CRASH RATES	
Location	ADT	PDO	Injury	Fatal	Total	Intersection Average Rate (tmev)	Statewide Critical Rate (tmev)
87th St. South	11,765	1	2	0	3	1.397	10.258
79th St. South	13,460	15	12	0	27	10.991	10.230
Grand Ave./71st St. South	21,690	7	4	1	12	3.032	10.160
63rd St. South	17,360	10	9	1	20	5.997	10.188

Table 5.C: Arterial Intersection Crashes 2006 – 2010

The 79th St. South intersection, on the other hand, had a relatively high concentration of crashes. The average crash rate is slightly over the statewide average crash rate and critical crash rate for intersections with equivalent entering volumes. A review of the accident reports for the intersection shows a high proportion of turning-vehicle related accidents, with the majority being right angle. This rate may be due to a combination of higher speeds on South Broadway and higher traffic volumes on the intersecting roadway (79th St. South). The posted speed limit increases about ½-mile north of the intersection, which gives time for South Broadway motorists to build speed. Crash and related safety concerns at this location may be indicators that justify intersection improvements or signalization in the near future.

During the study period, there were two fatal accidents within the study area. In 2008, a right-angle accident occurred at the intersection of Grand Ave./71st St. South in which a westbound vehicle struck a northbound vehicle. In 2009, a left-turn accident occurred at the intersection of 63rd St. South in which a northbound vehicle turning to westbound was struck by a southbound vehicle.

TRAFFIC INFORMATION AND ANALYSIS

Existing and Future Traffic Volumes

Table 5.D below shows the current and projected US-81(South Broadway) traffic volumes for the study area. The projected 2035 traffic volumes on US-81 through Haysville were determined by KDOT's Bureau of Transportation Planning after a review of WAMPO's TDFM data, existing traffic counts, the Kansas Star Casino Traffic Impact Analysis (TranSystems Corporation, 2010) and the January 2011 Sensitivity Analysis (TranSystems Corporation).

Based on these data, traffic forecasts assume a moderate background growth rate of 1.5% per year from the 2010 existing volumes to the 2035 projected volumes. The Sensitivity Analysis also indicated that 10% of traffic generated by the casino and adjacent development (2,529 ADT) would travel via US-81 from the north. With these considerations, the analysis indicates that traffic volumes will nearly double throughout the study area by 2035.

Location	2010 Existing ADT	2015 Projected ADT	2025 Projected ADT	2035 Projected ADT
South of 63rd St. South	13,835	17,433	19,826	22,603
North of 71st St. South	12,335	15,817	17,951	20,426
South of 71st St. South	11,347	14,753	16,715	18,993
South of 79th St. South	6,840	9,898	11,081	12,453
Source: KDOT Bureau of Transportation Planning				

Table 5.D: Existing and Projected Traffic Volumes

Existing peak hour and 2035 LOS for unimproved study area road segments were determined using the traffic simulation model. Overall, the corridor operates at LOS D during both peak hours and is projected to operate at LOS E in 2035. The segment between 79th St. South and Grand Ave./71st St. South is the most critical currently (LOS E) and in 2035 will operate at a projected LOS F. By 2035, none of the road segments will operate better than LOS D. These factors indicate that the study area segments are nearing their peak hour operational capacity.

Intersection Analysis

Existing and projected intersection levels of service were calculated using the traffic simulation model developed for the study area. Intersection turning movement percentages were based on manual counts collected at each of the four arterial intersections. The analysis began by running a simulation of baseline corridor conditions. Projected traffic volumes were then applied to the current roadway configuration to assess the future no-build operating conditions. The results of this simulation are shown in **Table 5.E** below.

Location	2010 Existing		2015 Projected		2025 Projected		2035 Projected	
	AM	PM	AM	PM	AM	PM	AM	PM
63rd St. South	A	B	B	B	B	C	B	D
Grand Ave./71st St. South	B	B	B	B	B	B	B	B
79th St. South	A	A	A	D	B	F	B	F
87th St. South	A	A	A	A	A	A	A	A

Table 5.E: Overall Arterial Intersection LOS

As can be seen, three of the four intersections appear to remain uncongested through 2025. The 87th St. South and Grand Ave./71st St. South intersections operate at LOS A and LOS B respectively throughout the study horizon. The 63rd St. South intersection begins degrading during the PM peak at 2025 and becomes fairly congested in 2035. The AM peak operates at LOS B through 2035. The 79th St. South intersection begins operating quite poorly in the PM peak by 2015 while the AM peak degrades no lower than LOS B.

Table 5.E only tells part of the story though. As noted, these are the overall levels of service. This means the amount of delay is averaged across all traffic moving through the intersection. It does not accurately portray how well any one particular leg of the intersection operates under peak conditions, which may be a critical analysis factor. South Broadway carries much higher traffic volumes than any of the intersecting arterials in the study area. So, those volumes outweigh the lower cross-traffic volumes in calculating overall LOS.

Specifically, the arterial approaches for 87th St. South and 79th St. South are more congested at peak hours than their corresponding US-81 approaches. This difference is of particular concern at the 79th St. South intersection. **Table 5.F** on the next page shows the results of the LOS analysis for the 79th St. South legs of the intersection under several improved and unimproved scenarios. Both South

Broadway approaches operate at LOS A or B under each of the scenarios, so they are not shown in the table.

As can be seen, the west approach PM peak is projected to become completely congested by 2015. Even adding stop sign control fails to improve the congestion. Demonstrable benefits are not realized until turn lanes and traffic signals are added. These results combined with the previously discussed safety concerns at this intersection indicate that improvements may be needed soon.

Year/Condition	AM PEAK HOUR		PM PEAK HOUR	
	Eastbound	Westbound	Eastbound	Westbound
2010/Unimproved	C	B	C	C
2015/Unimproved	C	C	F	F
2015/Add stop signs	C	C	F	F
2035/Turn lanes, signalized	B	B	B	C

Table 5.F: 79th St. South Intersection LOS Analysis

OTHER TRANSPORTATION CONSIDERATIONS

Access Management

As a U.S. highway and a City Connecting Link (KLINK), KDOT's Access Management Policy applies to the location, spacing, design, layout, construction and removal of all points of access to South Broadway. A driveway access permit must be submitted and approved prior to its construction. However, the policy does not necessarily supersede local regulations or authority. In fact, permits will not be approved unless the applicant meets all local development regulations. Furthermore, as a KLINK route, driveways within Haysville city limits are required to be approved by the City before the permit will be accepted by the KDOT District Engineer. So, KDOT's access permit decisions are made in cooperation with community partners.

The primary factor in determining appropriate driveway spacing under the policy is the roadway's route classification, which is KDOT's functional classification system. All roads in the NHS and State Highway System are designated as with the letters A through E. For example, interstate highways are considered A Routes, which is the highest functioning category. Therefore, access is strictly controlled. E Routes are lower-volume state highways and are protected with minimal access management.

South Broadway is identified as a D Route and is considered developed through the study area. The minimum access spacing for 45 mph speed zones (north half of the study area) is 160 feet for low volume driveways and 250 feet for higher volume commercial and industrial driveways. For the south half with a posted speed of 50 mph, minimum spacing for the same driveway types is 175 feet and 275 feet respectively.

Windshield surveys conducted during several site visits throughout the planning process have identified a number of access management issues. These areas have been identified and are addressed in the recommended improvements contained in **Chapter 6**. In the most densely developed portions of the corridor near the Grand Ave./71st St. South intersection, driveway spacing and design are a concern in several locations. There are also issues with driveway location along the length of the corridor. In particular, the safety and operational efficiency of South Broadway are affected by driveways located within the functional area of several intersections.

Bicycles and Pedestrians

Cyclists currently use 79th St. South as part of the "Oz Loop," a 100-mile route around the Wichita metro area. Furthermore, South Broadway is indicated as a possible regional bicycle link in WAMPO's Regional Pathway System Plan. The rural portions of South Broadway will and do provide some accommodation for bicycles in the form of ample paved shoulders. But, the urban section built with curbs and gutters leaves no room for bicycles outside of the vehicle travel lanes.

South Broadway has only one short stretch of paved sidewalk within the study area, which connects the Haysville Activity Center to Grand Ave./71st St. South. However, the west side of the floodway bridge is equipped with a sidewalk. There are also no designated bicycle facilities along South Broadway. Yet, there is some indication of demand for bicycle and pedestrian facilities evidenced by observation and the existence of well-worn dirt pathways along both sides of South Broadway through portions of the study area.

Crossing South Broadway safely is a pedestrian concern through the corridor. Only the signalized intersection at Grand Ave./71st St. South is designated with crosswalks. While this is the most likely location to see pedestrian cross-traffic, one other location currently presents crossing hazards. The floodway bridge is only equipped with a sidewalk on the west side. Pedestrians walking on the east side of South Broadway must cross before reaching the bridge. Given the rate of speed and road width at either end of the bridge, this is less than ideal.

Possible remedies include adding a sidewalk or building a pedestrian bridge on the east side. Each of these options would be extremely expensive and lack current demand. Demand is unlikely to grow until a major pedestrian destination or a connection to a high-volume bicycle/pedestrian route is built. So, it is unlikely that such a crossing will be built before the bridge is replaced. The useful life of the bridge extends through at least 2050, which exceeds the planning horizon. An alternate solution may be a pedestrian crosswalk on either end of the bridge.

Access management provides safety benefits to pedestrians and bicyclists. The number of vehicle-to-pedestrian conflict points increases with each driveway and intersection that crosses a sidewalk or path. The number of conflicts decreases as access is properly managed. Therefore, stronger access management would encourage a wider range of travel options through the corridor. Due to the number of driveways along the corridor, it might be appropriate for pedestrian improvements to be done in conjunction with access management techniques.

Right-of-Way Needs

Right-of-way (ROW) as related to South Broadway is the property owned by a government agency (KDOT, Sedgwick County or City of Haysville) upon which the roadway and supporting infrastructure is built. South Broadway property owners expressed concerns during the planning process that future road widening or bicycle/pedestrian projects will impact their properties. Several owners had made recent property improvements near the roadway, such as signage, landscaping and parking. Future road improvements that increase the width of the South Broadway ROW might eliminate those improvements. Additionally, several businesses are situated fairly close to South Broadway. Future ROW needs could potentially even impact their buildings.

Sedgwick County and Haysville generally acquire property for ROW proactively via dedication through the development process. Dedication is the process whereby property owners offset the traffic impacts their development will have on the roadway by transferring ownership of a portion of their property to the government agency controlling the ROW.

The standard policy along South Broadway has been to acquire ROW of 120 feet (60 feet to centerline) and 150 feet (75 feet to centerline) at intersections. Indeed, research indicates that this width has already been acquired in portions of the corridor. KDOT, Sedgwick County and the City of Haysville have all indicated a preference to maintain this policy. This allows ample space for drainage infrastructure, pedestrian facilities and future roadway expansion if needed.

Transit

The corridor is not currently served by a fixed route transit provider. Given current economic realities and the considerable startup expenses for new routes, this is likely to remain the case for a number of years. The current facility and the recommended future improvements would adequately handle transit vehicles and provide sufficient ROW for development of bus stop locations. Therefore, transit service has not been a design consideration. However, **Chapter 6** does include policy recommendations that might facilitate future transit service to the corridor.

CHAPTER 6
TRANSPORTATION ALTERNATIVES AND RECOMMENDATIONS

TRANSPORTATION ALTERNATIVES

There were several combinations of transportation alternatives developed after consideration of the Corridor Vision Principles, regional goals, transportation analysis results, community input and feedback from the Core Project Team and Project Advisory Committee. Transportation improvements that address roadway capacity and intersection design normally must be justified by engineering standards. However, community preferences were factored into decisions regarding road segment left turn lane treatments and pedestrian/bicycle facilities. The alternatives presented for public consideration are illustrated on page 49 in **Figures 6.1 and 6.2.** These graphics indicate no order of priority ranking.

Left Turn Lane Alternatives

The need for left turn lanes in some locations became obvious early in the planning process. Traffic volumes and driveway spacing, particularly just south of Grand Ave./71st St. South, were the primary indicators of this need. Left turn lanes preserve traffic flow and reduce conflict points by removing turning traffic from travel lanes. **Appendix B** contains more details about turn lanes.

The three alternatives shown in **Figure 6.1** were investigated for integrating left turn lanes through the corridor. They are described below in no particular order.

Alternative A: Existing Configuration
A no-build (unimproved) scenario is typically examined as one alternative to provide a baseline of comparison. This alternative found to be viable only if it adequately serves future conditions.

Alternative B: Continuous Center Left Turn Lane
Community input indicated strong support for this type of left turn treatment from the beginning of the process. This was seen as a viable option because it would address the future safety and operational efficiency of South Broadway. However, it is not necessarily the safest left turn option. These are designed to handle the turning movements of two opposing directions of traffic flow. Hence, they are normally wider than a standard travel lane to allow room for evasive action. They are sometimes referred to as "chicken lanes."

Alternative C: Spot Left Turn Lanes
This option was presented as an alternative to continuous center left turn lanes. Generally, they are considered to be a safer, more efficient option. But, they are more restrictive and can be more expensive. Other than at arterial intersections, they would be placed only at streets and driveways with high turn volumes.

These treatments normally work best when they are channelized, or separated from opposing traffic by a physical barrier. Therefore, they are frequently implemented in conjunction with a median treatment, especially a non-transversable option such as a curb. This feature restricts their use as a merge lane for traffic turning from a driveway into the mainline road. It also means that drivers destined for locations not accommodated by a turn lane must proceed past their destination and make a U-turn at a downstream turn lane or intersection.

Left Turn Lane Recommendation

The primary roadway design recommendation for South Broadway is the addition of a continuous center left turn lane through most of the project extent. The corridor currently lacks dedicated left turn lanes except near the signalized intersections of 63rd St. South and Grand Ave./71st St. South. With numerous driveways and increasing traffic volumes, this feature will enhance safety and decrease congestion through the plan horizon of 2035.

Vision and Goal Impacts of this Recommendation

Corridor Vision Principles:

- Identify and Improve
- Manage and Preserve
- Cooperate and Implement

WAMPO MTP Goals:

- Safe
- Efficient

Facility Capacity Alternatives

The number of lanes is the main factor that determines the traffic capacity of a roadway. In light of the current lane configuration, traffic volume forecasts and road segment LOS analysis, three alternatives were examined for addressing roadway capacity. As examined, the two new alternatives included a center left turn lane and assumed fully improved and signalized intersections. Each option is described below in no particular order.

Alternative A: Existing Configuration
This is the no-build alternative or the current configuration. This option would add no roadway capacity. This alternative will not adequately serve future projected conditions. In fact, the facility is currently approaching its peak hour operational capacity south of Grand Ave./71st St. South. The future LOS analysis indicates conditions will only worsen as the planning horizon approaches.

Alternative B: Four Through Lanes in Entire Study Area
This option extends four through lanes from the south project limits to just south of Grand Ave./71st St. South, which currently has four through lanes. This option significantly improves the 2035 projected LOS over the no-build alternative, with no segment operating worse than LOS D in 2035. North of 87th St. South would improve from LOS D to LOS A and the segment immediately north of 79th St. South (currently two-lanes) would improve from LOS F to LOS C.

Figure 6.1: Left Turn Lane Options

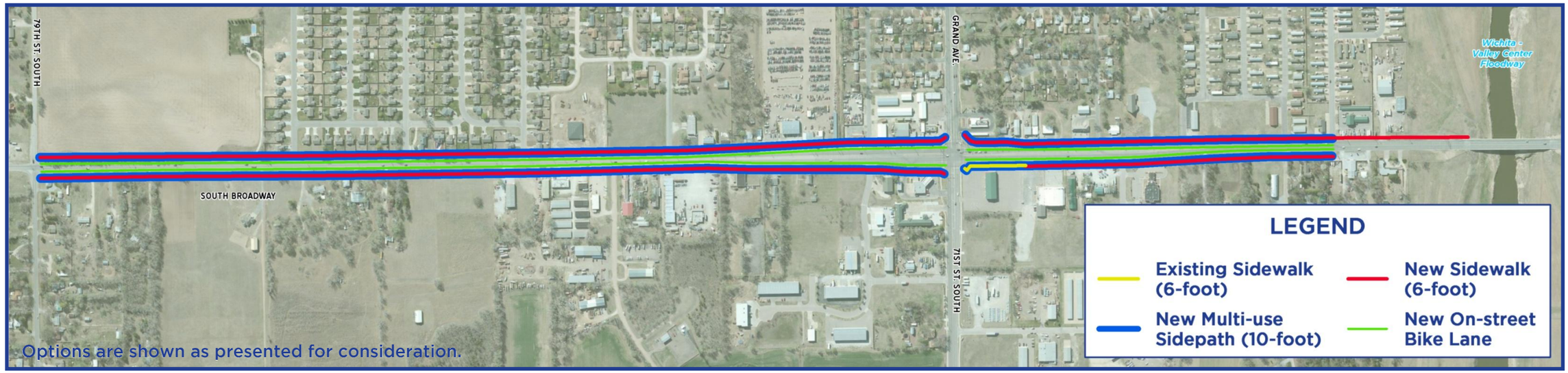


Figure 6.2: Pedestrian and Bicycle Options

ALTERNATIVE A:	ALTERNATIVE B:	ALTERNATIVE C:	ALTERNATIVE D:	ALTERNATIVE E:
Keep only existing sidewalk.	Add new sidewalks on both sides.	Add new multi-use sidepath on one side AND add new sidewalks on other side.	Add new multi-use sidepaths on both sides.	Add new sidewalks on both sides AND add new on-street bike lanes.

Alternative C: Four Through Lanes North of 79th St. South Only
This option extends four through lanes only from the 79th St. South intersection to Grand Ave./71st St. South. The portion between 87th St. South and 79th St. South would continue to have two through lanes. Improvements to LOS are equal to those seen in Alternative B for current and forecasted conditions.

Facility Capacity Recommendation

Alternative C is the recommendation for facility capacity improvements. This option achieves the same operational improvements as the more expensive Alternative B. These improvements are assumed to be done in conjunction with the other facility design recommendations, such as intersection improvements and turn lanes, in order to achieve the maximum benefits.

Vision and Goal Impacts of this Recommendation

Corridor Vision Principles:

- Identify and Improve
- Cooperate and Implement

WAMPO MTP Goals:

- Safe
- Efficient

Intersection Alternatives

Descriptions of the intersection alternatives examined for the study area are provided below. The descriptions are listed from south to north, not in order of priority.

87th St. South
Three alternatives were examined for this intersection:

- No-build alternative.
- Add stop control and dedicated left turn lanes with a shared through/right turn lane in all directions.
- Signalize and add dedicated left turn lanes, with a shared through/right turn lane in all directions.

Another possible solution for the 87th St. South intersection is a roundabout. This option was suggested at the final Core Project Team meeting, but timing prohibited detailed analysis. Roundabouts are effective at maintaining traffic flow while improving safety. A roundabout at this location would avoid an additional signal and provide a distinctive gateway into the Haysville community from the south. However, further study and analysis prior to recommendation.

KDOT prefers roundabouts over signalization in some situations, particularly where they provide additional operational and/or safety benefits. Generally, these situations occur at the intersection of two U.S. highways, two state (K route) highways or a combination of the two. It is at intersections such as these where the majority of KDOT roundabouts can be found. It must be considered that

roundabouts normally require much more ROW than a signalized intersection and construction costs are normally significantly higher.
One KDOT roundabout with similar operating conditions is located at US-400 and K-66 in Crawford County. One leg of the intersection (Beasley Rd.) is a county road. This roundabout required 350 – 400 feet of ROW with construction costs of approximately $1.5 million in 2007 dollars, not including property acquisition.

79th St. South
Three alternatives were examined for this intersection:

- No-build alternative.
- Add stop control and dedicated left turn lanes with a shared through/right turn lane in all directions.
- Signalize and add dedicated left turn lanes, with a shared through/right turn lane in all directions.

Grand Ave./71st St. South
The traffic simulation model indicated that the current geometric configuration of the Grand Ave./71st St. South intersection will operate at LOS C or better into the foreseeable future. Therefore, no design modifications are recommended prior to 2035.

63rd St. South
The 63rd St. South intersection was improved in 2009 – 2010. The intersection design should operate adequately through most of the planning horizon. However, level of service decreases to LOS D approaching 2035. The only design modifications considered were adding dedicated left turn lanes on the 63rd St. South legs and dedicated right turn lanes on the South Broadway legs.

Intersection Recommendations

87th St. South
The current design recommendation for 87th St. South is to add turn signals and dedicated left turn lanes with shared through/right turn lanes in all directions. By 2015, the east and westbound movements are projected reach LOS D and C respectively, but South Broadway traffic will still flow freely. So, these improvements may not be justified until the latter years of the planning horizon. The traffic simulation model indicated that a 90 sec. cycle with permissive left turns should operate efficiently. Signal timing and phasing should be optimized based on signal study results. Four-way stop control plus the turn land improvements may be viable in the interim.

This intersection should be monitored closely as indicated in the Other Transportation Recommendations section. At the point intersection improvements would be considered, the roundabout option should be studied for feasibility. Alternatively, KDOT is preparing to begin the US-81/K-53 Casino Area Transportation Plan at the time of this writing. The study area will begin immediately south of the South Broadway Corridor Plan project limits at 87th St. South. KDOT could possibly study the roundabout option in more detail during their planning process.

79th St. South
Current data indicate the 79th St. South intersection is approaching warrant criteria for signalization and dedicated turn lanes on all four approaches. The intersection should be monitored closely as indicated in the Other Transportation Recommendations section. The recommendation is that signal and geometric improvements be made as soon as feasible upon meeting warrants. Four-way stop control in conjunction with the new turn lane configuration may be a viable interim improvement.

Grand Ave./71st St. South
The traffic simulation model indicated that the current geometric configuration of the Grand Ave./71st St. South intersection will operate at LOS C or better into the foreseeable future. Therefore, no alternative design modifications were studied during this analysis.

63rd St. South
The 63rd St. South intersection was improved in 2009 – 2010. The intersection design should operate adequately through most of the planning horizon. However, level of service decreases to LOS D approaching 2035. The addition of dedicated left turn lanes is recommended on the 63rd St. South approaches and dedicated right turn lanes on the South Broadway approaches.

Traffic Signal Timing
When/if signals are added to the 79th St. South and 87th St. South intersections, signal timing and phasing should be optimized based on a signal timing study. The traffic simulation model indicated a 90 second timing cycle should operate efficiently, but permissive left turns should be adequate.

It is also recommended that a combination of signal timing and turn phases modifications occur at the Grand Ave./71st St. South and 63rd St. South intersections. Signal timing and phasing should be evaluated as needed to maintain optimal traffic flow. The traffic simulation model indicated the following modifications would improve operations and safety at those locations.

- Switch from 60 second to 90 second timing cycle to maintain LOS B (anticipated to occur around 2020).
- Evaluate left turn phasing when cycle timing changes. Safety improvements were noted in the model when changed from permissive to protected/permissive.

Vision and Goal Impacts of these Recommendations

Corridor Vision Principles:

- Identify and Improve
- Cooperate and Implement

WAMPO MTP Goals:

- Safe
- Efficient

Pedestrian and Bicycle Facility Alternatives

As previously described, South Broadway is served by only one segment of sidewalk that connects the Grand Ave./71st St. South intersection to Haysville Activity Center. This segment is less than 200 feet in length. There is demand for additional pedestrian and/or bicycle accommodations.

Adding these facilities to South Broadway will enhance transportation mobility, which will improve access to goods and services. This in turn can enhance opportunities for economic growth.

With these things in mind, the following alternatives were developed to address the lack of pedestrian and bicycle access to South Broadway. These alternatives were originally presented only for the area between 79th St. South and the floodway bridge, as previously shown in **Figure 6.2**. However, they were subsequently revised to extend through most of the corridor.

Alternative A: Existing Sidewalk Only
A no-build scenario is typically presented as an alternative. It is the baseline of comparison. This alternative is usually only seen to be viable if it adequately serves existing and future conditions.

Alternative B: Add Sidewalks on Both Sides
This option improves pedestrian mobility along the corridor, while minimizing property acquisition. It does not address bicycle connectivity.

Alternative C: Add a Sidewalk on One Side; Add a Sidepath on Other Side
The sidepath would be a multi-use path designed to handle both pedestrian and bicycle traffic. This option addresses pedestrian demand, while partially improving bicycle access to the corridor. However, sidepaths are not generally considered the ideal bicycle facility type for commercial corridors. The abundance of high volume driveways creates conflicts with bicyclists using the sidepath. This concern is not as prevalent for pedestrians because bicycles travel at a faster speed.

Alternative D: Add Multi-use Sidepaths on Both Sides
Alternative D would provide enhanced access for pedestrians and bicyclists throughout the corridor. The safety considerations discussed with Alternative C would also apply to this option. This option would require the greatest width, which might require additional ROW acquisition and impacts to adjacent properties.

Alternative E: Add Sidewalks on Both Sides; On-street Bike Lanes
This option would provide enhanced pedestrian and bicycle mobility along the corridor's extent. While on-street bike lanes are generally safer than sidepaths within a commercial corridor, there would be additional considerations. Designation as US-81 and the need for KDOT design approval might play a factor in this option's viability. Bicycle turning movements would need to be accounted for in intersection design. Driver and bicyclist education would be recommended in conjunction with this alternative.

Pedestrian and Bicycle Facility Recommendations

The analysis in **Chapter 5** identifies the need to accommodate alternative transportation modes along South Broadway. The recommendation is to construct 6-foot sidewalks on both sides of South Broadway through most of the study area. Also, all intersection improvements should include pedestrian crosswalks. These improvements will provide pedestrian connections where none currently exist. The issues and input considered in making these recommendations include:

- This was the most preferred option chosen by respondents to Survey #2.
- The recommendation would improve the local pedestrian network and enhance connectivity that supports corridor economic development.
- WAMPO's Regional Pathway Plan prefers South Seneca over South Broadway as Haysville connection in the regional pathway network.
- Several roadway characteristics are incompatible with a high degree of bicycle accommodation:
    - Designation of South Broadway as US-81.
    - Current and forecasted traffic volumes.
    - Posted speed limits.
    - Adjacent property owner preferences to minimize future South Broadway property acquisition impacts.

There does not appear to be enough demand to construct the entire length in the immediate future. However, as development and redevelopment occurs, that demand will grow. These amenities should be planned and programmed to correspond with adjacent development projects or improvements to South Broadway.

At this time, no sidewalk is being recommended on the east side of South Broadway north of the floodway bridge. The bridge has no sidewalk on the east side. Also, it is unlikely the properties in that location will develop within the plan horizon due to environmental and drainage constraints. Therefore, there will need to be some means for pedestrians to cross safely over South Broadway from east to west at a point south of the bridge.

No other bicycle or pedestrian design improvements are being recommended. But, additional recommendations are included in the Other Transportation Recommendations section.

Vision and Goal Impacts of these Recommendations

Corridor Vision Principles:

- Identify and Improve
- Provide and Leverage
- Cooperate and Implement

WAMPO MTP Goals:

- Safe
- Efficient
- Accessible
- Affordable

SOUTH BROADWAY RECOMMENDED IMPROVEMENTS

Based on the recommended transportation improvements, a design concept has been developed and included for illustrative purposes. The concept is based on a 120-foot ROW with two typical road sections. Typical section diagrams are shown below in **Figure 6.3**.

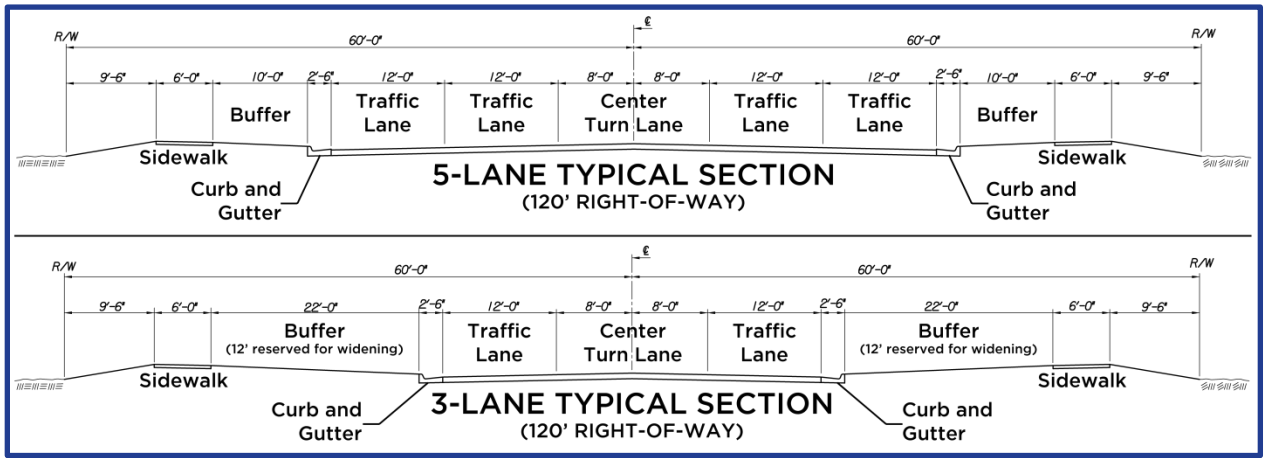
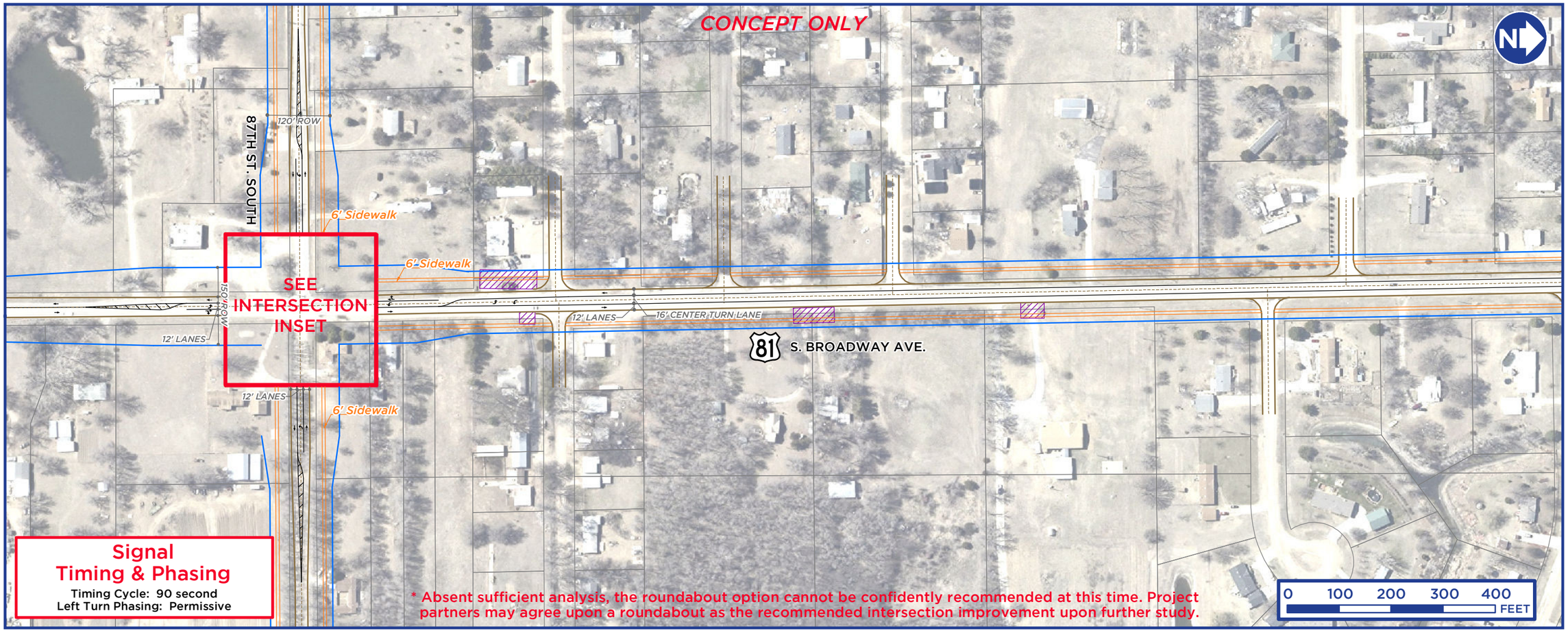


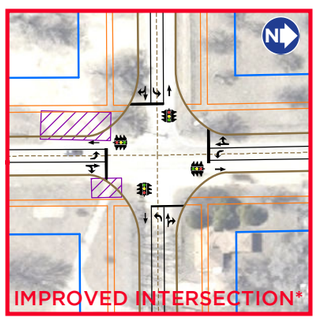
Figure 6.3: Recommended Typical Road Sections

The 5-lane typical section easily accommodates a 16-foot center turn lane and (4) 12-foot traffic lanes with curb and gutter. A 10-foot buffer area separates a 6-foot sidewalk from the traffic lanes on each side. This leaves 9 ½ feet on each side to account for drainage structures, utilities and future expansion.

The 3-lane typical section mirrors the 5-lane typical section, with the exception of a 12-foot traffic lane on each side. This leaves a 22-foot buffer between the back-of-curb and sidewalk on each side. This area can be used for the future addition of a traffic lane when it is needed.

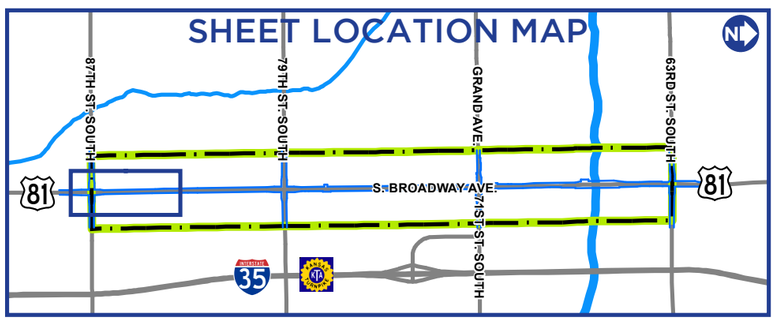
The full design concept for future South Broadway recommended improvements are depicted in **Figures 6.4 – 6.9** starting on the next page. These graphics illustrate the recommended turn lane, traffic lane, intersection and sidewalk improvements. Recommendations for traffic signal timing and phasing based on results generated by the traffic simulation model are included for reference. The figures also indicate areas where the location or design of driveways and access points should be addressed as projects proceed to the design phases.





LEGEND

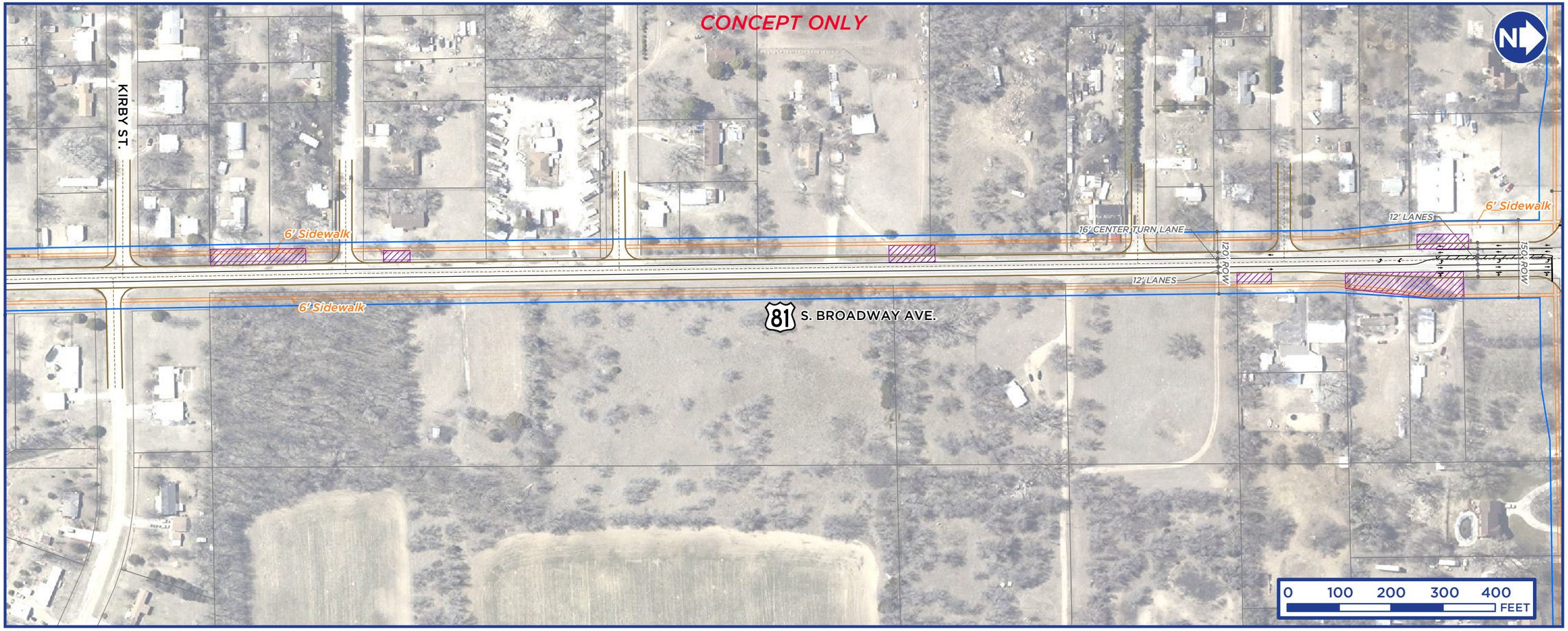
- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Pavement Marking
- Right-of-Way
- Road Edge
- Road Centerline
- Sidewalk Edge
- Access Relocation or Consolidation
- Parcel Boundaries



SOUTH BROADWAY RECOMMENDED IMPROVEMENTS SHEET 1

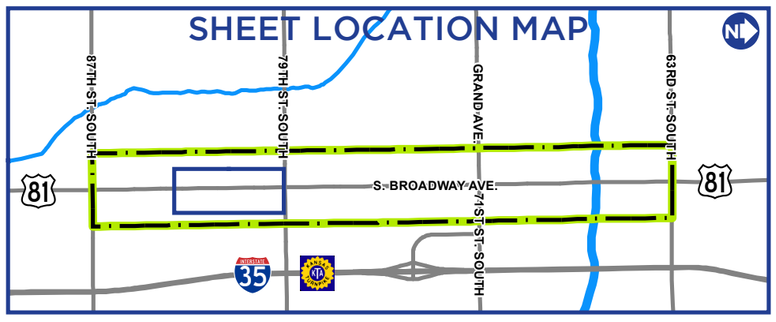
FIGURE 6.4

South Broadway CORRIDOR PLAN



LEGEND

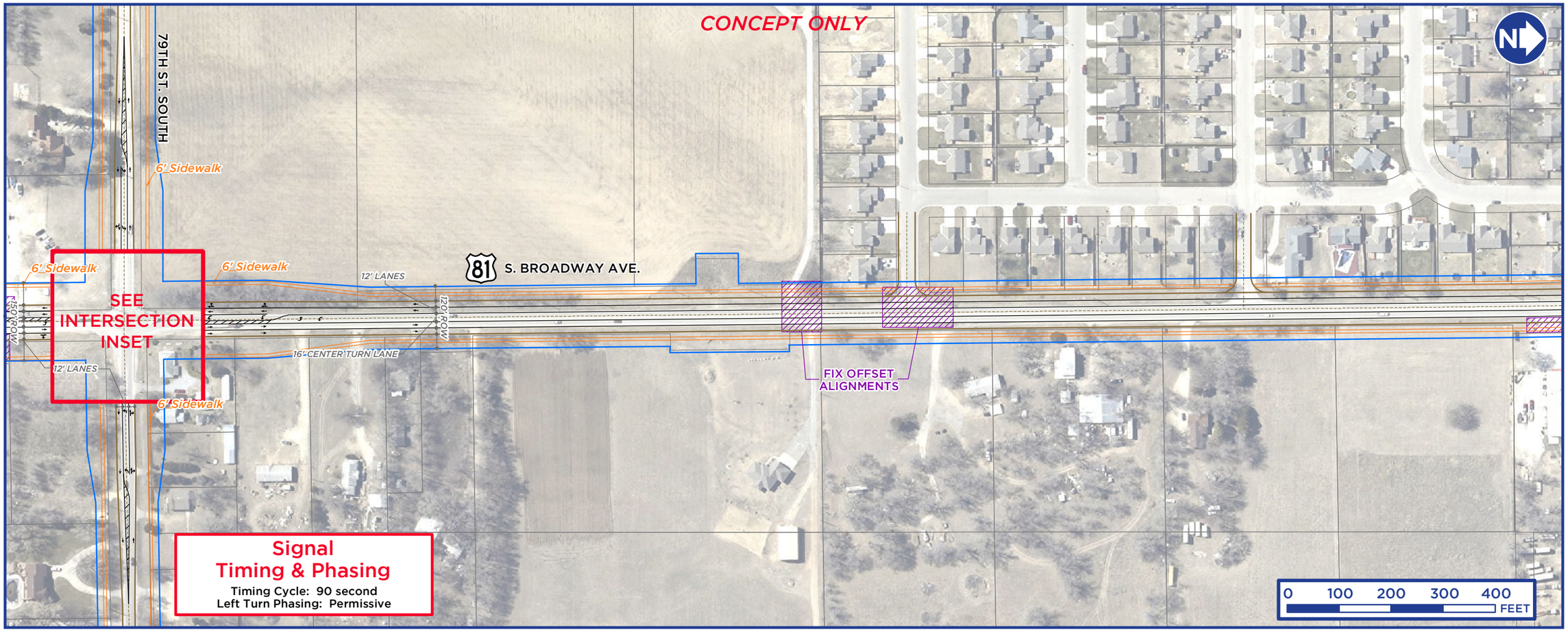
- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Pavement Marking
- Right-of-Way
- Road Edge
- Road Centerline
- Sidewalk Edge
- Access Relocation or Consolidation
- Parcel Boundaries

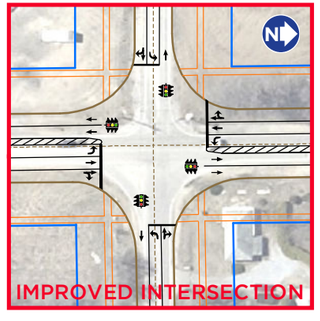


SOUTH BROADWAY RECOMMENDED IMPROVEMENTS SHEET 2

FIGURE 6.5

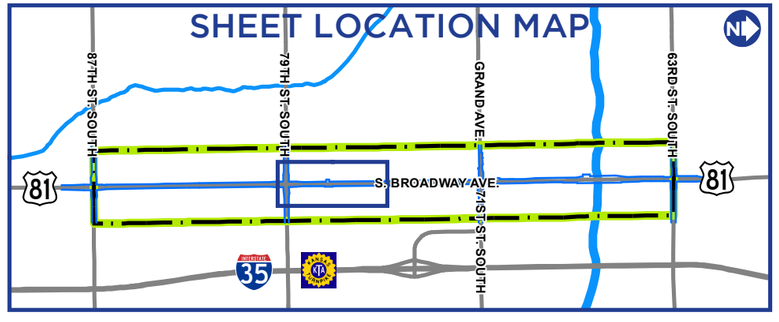
South Broadway CORRIDOR PLAN





LEGEND

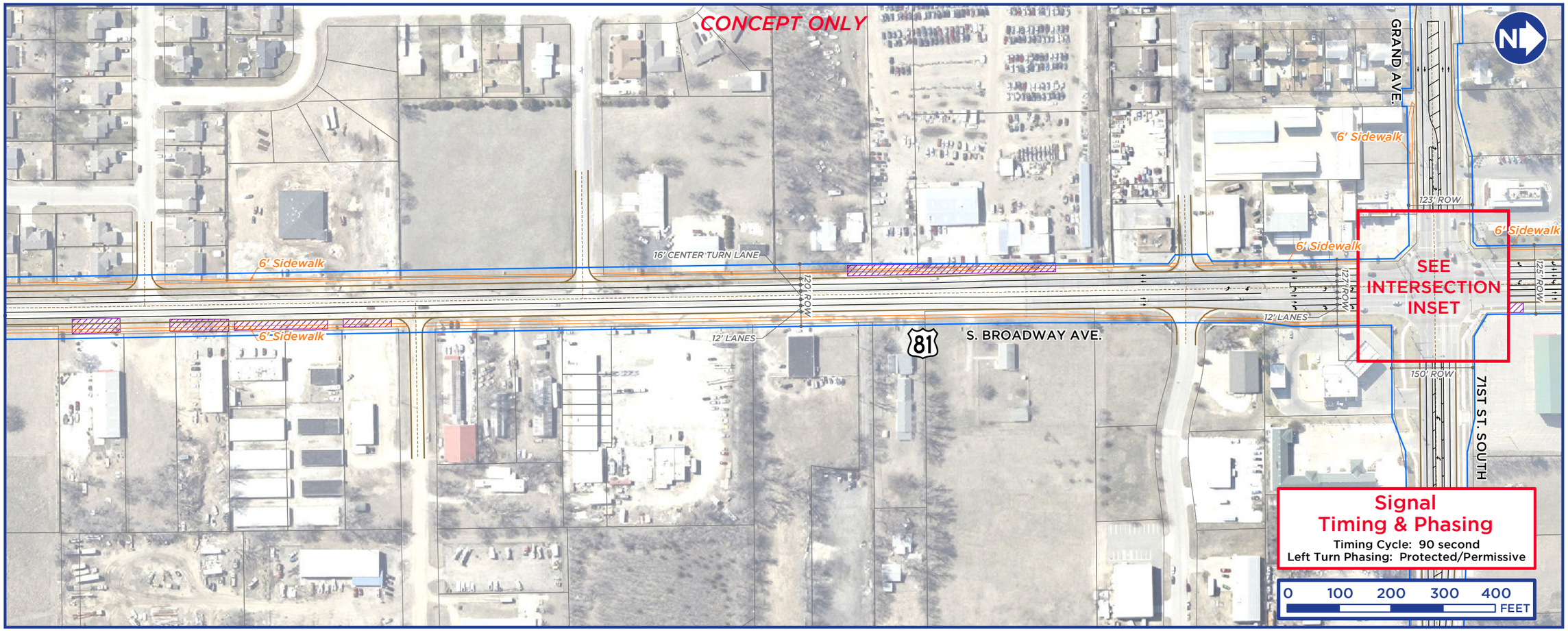
- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Pavement Marking
- Right-of-Way
- Road Edge
- Road Centerline
- Sidewalk Edge
- Access Relocation or Consolidation
- Parcel Boundaries

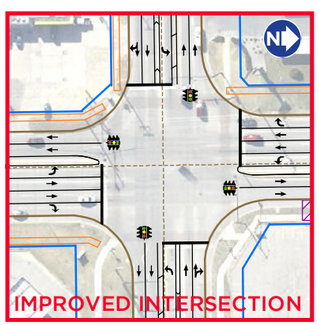


SOUTH BROADWAY RECOMMENDED IMPROVEMENTS SHEET 3

FIGURE 6.6

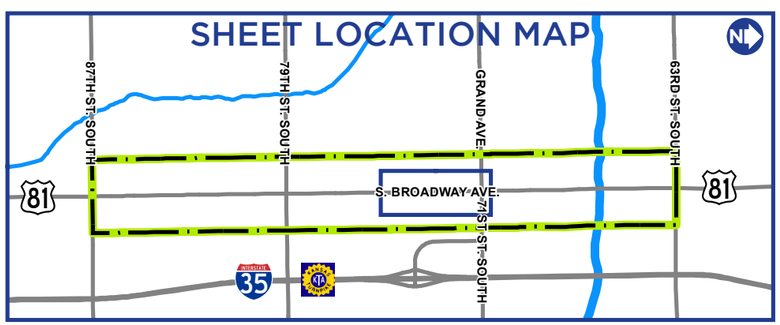
South Broadway CORRIDOR PLAN





LEGEND

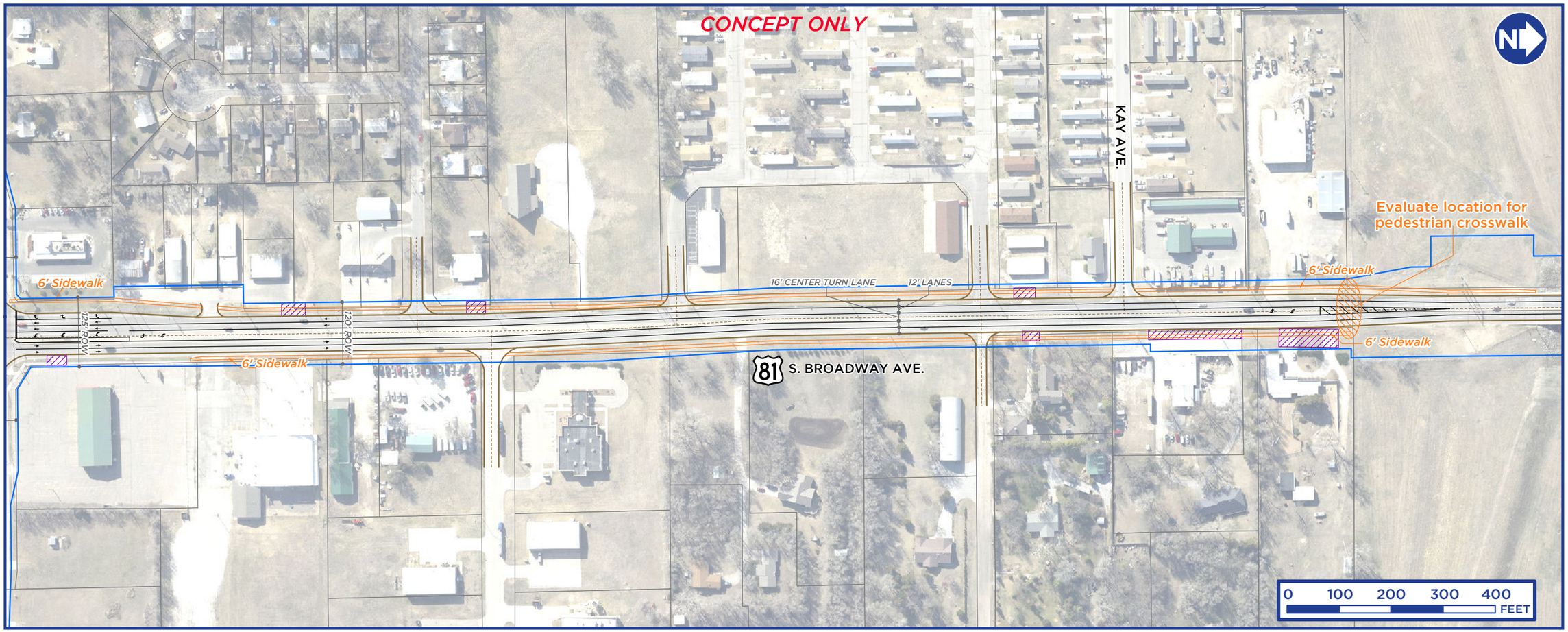
- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Pavement Marking
- Right-of-Way
- Road Edge
- Road Centerline
- Sidewalk Edge
- Access Relocation or Consolidation
- Parcel Boundaries



SOUTH BROADWAY RECOMMENDED IMPROVEMENTS SHEET 4

FIGURE 6.7

South Broadway CORRIDOR PLAN



LEGEND

- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Pavement Marking
- Right-of-Way
- Road Edge
- Road Centerline
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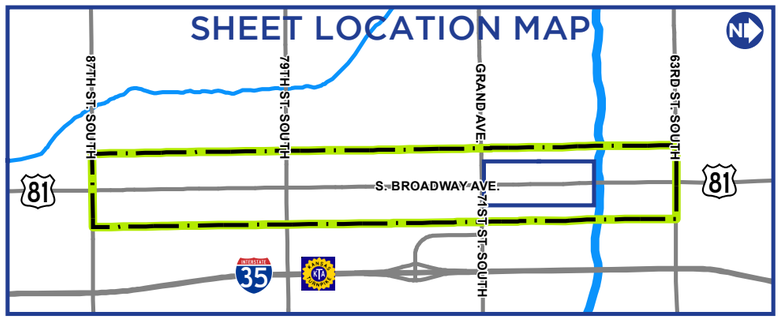
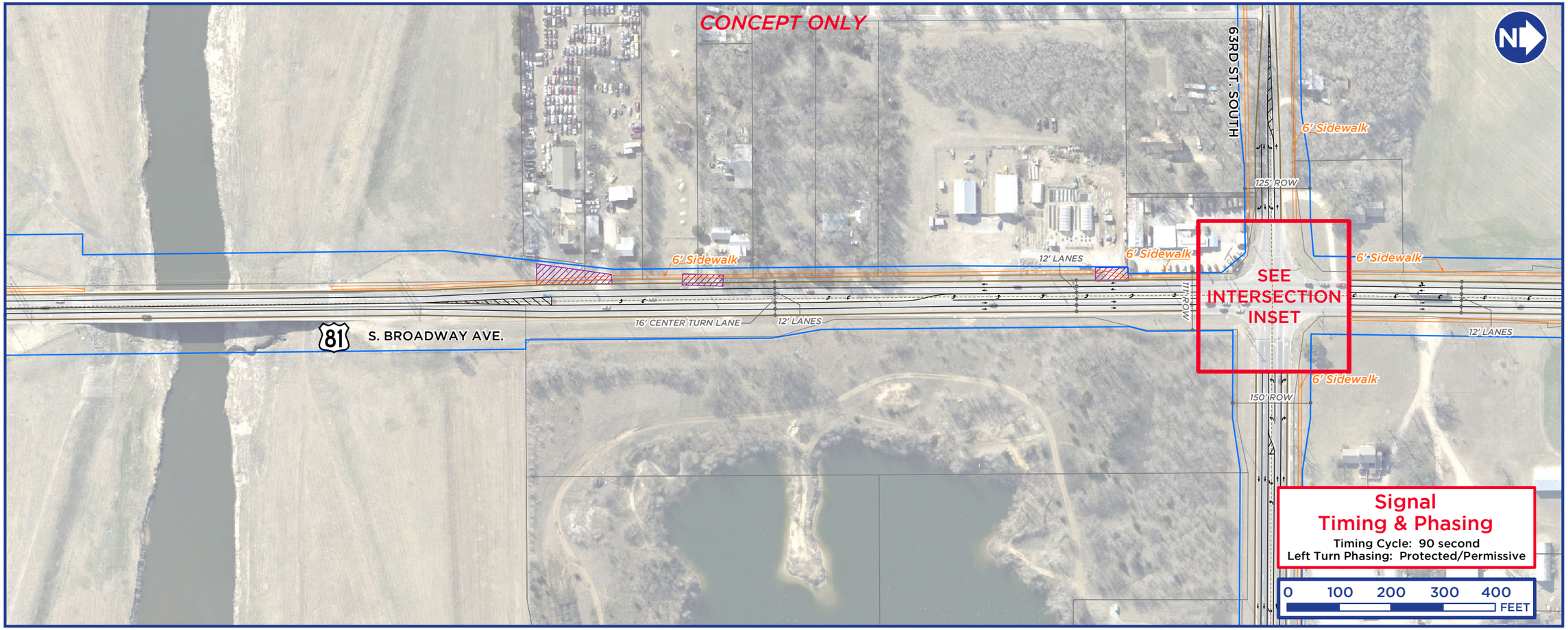
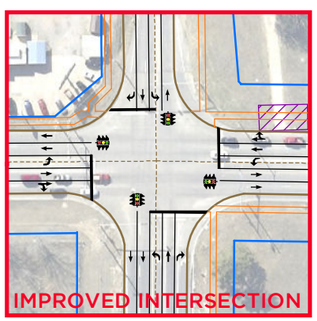


SOUTH BROADWAY RECOMMENDED IMPROVEMENTS SHEET 5

FIGURE 6.8

South Broadway CORRIDOR PLAN





LEGEND

- Stop Sign
- Traffic Signal
- Traffic/Turn Direction
- Pavement Marking
- Right-of-Way
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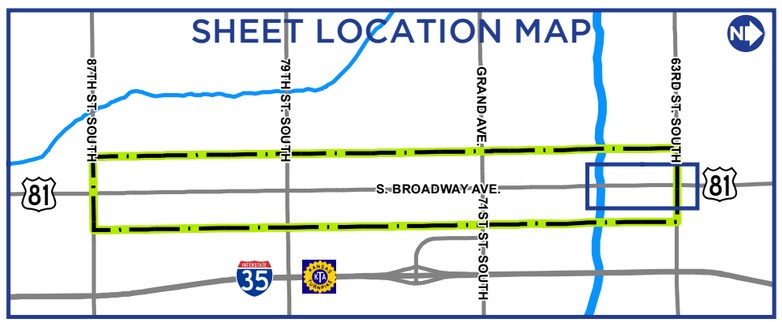


SOUTH BROADWAY RECOMMENDED IMPROVEMENTS SHEET 6

FIGURE 6.9

South Broadway CORRIDOR PLAN

OTHER TRANSPORTATION RECOMMENDATIONS

Monitor Traffic Volumes and Levels of Service

Traffic volumes should be collected on South Broadway at three to six month intervals for the first year Kansas Star Casino is in operation. Comparing those volumes to the current counts will provide a reasonable estimate of casino traffic impacts to the corridor. The results will also indicate the accuracy of the traffic forecasts and can be used in planning the proposed improvements. The count locations should be consistent with those used in the traffic analysis. Specifically:

- South of 79th St. South.
- South of Grand Ave./71st St. South.
- North of Grand Ave./71st St. South.
- South of 63rd St. South.

The arterial intersection levels of service should also be monitored frequently for the next several years. This will help identify congestion attributable to casino traffic. In particular, the 79th St. South intersection should be evaluated and a signal warrant analysis conducted in the near term. The combination of increasing traffic volumes and a relatively high number of crashes may justify intersection improvements within the next few years. It is most likely that the jurisdiction where the point of evaluation is located, whether Sedgwick County or Haysville, would take responsibility for these counts. However, they should be coordinated with the KDOT Metro Engineer who can be made aware of any related concerns.

Vision and Goal Impacts of these Recommendations

Corridor Vision Principles:

- Identify and Improve
- Manage and Preserve

WAMPO MTP Goals:

- Safe
- Efficient

US-81 Designation

Based on the functional analysis of **Chapter 5**, South Broadway exhibits characteristics consistent with its functional classification as a minor arterial street. Haysville and WAMPO envision the corridor as a multimodal facility at some point in the future. Interregional and interstate through trips along the corridor are generally inconsistent with a walkable, transit-supportive street. Designation as a U.S. highway seems inconsistent with the local vision and communicates incompatibility between land development and roadway requirements. This tends to frustrate both the planning authorities and potential developers.

I-35, on the other hand, provides a good option for through trips that might otherwise use the South Broadway Corridor. The interstate, which is a high-speed, limited access facility, offers superior travel time and direct connections compared to South Broadway. Also, I-135 is designated as US-81 within and north of Wichita, before it diverts onto South Broadway via 47th St. South.

Continuing the designation of I-135/US-81 past 47th St. South and onto I-35 through Sedgwick County would be a more direct, intuitive route through the Wichita Metropolitan Area.

With this in mind, transferring jurisdiction of South Broadway from KDOT to Haysville and Sedgwick County would not significantly alter the envisioned role and development of South Broadway. Such a transfer of authority should be studied for feasibility. All three parties have expressed some level of interest in this action. However, appropriate and amenable terms would need to be negotiated.

Jurisdictional transfer could also help streamline land development, facilitate job creation and encourage economic growth in Haysville. This is because land development review and road authority would be consolidated at the local level.

Consideration would need to be given to maintaining South Broadway as an alternative travel route for incident management purposes when I-35 must be closed for a crash or construction. If KDOT, Haysville and Sedgwick County decide to transfer ownership of South Broadway to local control in the future, they should agree to cooperate for incident management.

Vision and Goal Impacts of these Recommendations

Corridor Vision Principles:

- Cooperate and Implement

WAMPO MTP Goals:

- Efficient
- Accessible

Access Management

As indicated in the **Chapter 5** transportation analysis, many driveways along South Broadway are spaced too closely, aligned improperly or located within an intersection's functional area. Some are also of substandard design. Areas of specific concern are identified on **Figures 6.4 to 6.9**. It is recommended that access relocation, consolidation or redesign be addressed where indicated during the design phases of future improvements.

Being designated as US-81 through the study area, development and redevelopment along South Broadway requires an access permit from KDOT before a new driveway can be built. This may seem like unnecessary bureaucracy to some, but maintaining proper driveway spacing and design is critical to preserving safety and operational efficiency. This fact will remain true even if ownership is transferred to local control in the future.

It is recommended that Haysville and Sedgwick County planning staff educate development applicants about KDOT access design and spacing standards. KDOT is in the process of revising their Access Management Policy at the time of this writing, so specific details are not included in this plan. Reference copies of current and updated versions when available should be obtained by City and County staff to provide guidance.

KDOT's access permitting is more closely aligned with the construction of development rather than zoning and platting. In fact, KDOT policy states access permits will not be approved unless the development conforms to local development regulations. Upon approval of the updated KDOT standards, current local standards for access management and driveway design should be reviewed for consistency. Clear and concise local standards that are at a minimum consistent with the new KDOT requirements should be codified for future South Broadway Corridor development. This will ensure future development is consistent with KDOT access spacing and design expectations, thereby minimizing developer permitting issues.

A policy should also be crafted that goes hand-in-hand with the future land use recommendations. Major commercial developments are recommended to be steered toward the arterial intersections where they will have good access. Direct access to South Broadway should be discouraged, or at least minimized. Primary access should be located on the arterial streets to the greatest possible extent. Additionally, commercial development out-lots should be prohibited direct access to South Broadway. Rather, site design for this type of development should be reviewed for good onsite circulation. This will help prevent vehicles from queuing onto South Broadway and disrupting traffic flow. Alternatively, frontage roads or reverse frontage roads could be promoted to provide direct access to major commercial development nodes.

Vision and Goal Impacts of these Recommendations

Corridor Vision Principles:

- Identify and Improve
- Manage and Preserve
- Cooperate and Implement
- Focus and Integrate

WAMPO MTP Goals:

- Safe
- Efficient
- Accessible

Bicycle and Pedestrian Transportation

Due to the issues discussed in **Chapter 5**, bicycle facilities are not being recommended along South Broadway through the corridor. However, as the corridor continues to develop Haysville should identify and pursue opportunities to enhance local bicycle connectivity to South Broadway destinations. Haysville's Old Oaks/Pear Tree Trail is located about ½-mile west of South Broadway north of 71st St. South. Extending this route to the south would be an excellent option. Cyclists could then easily access corridor destinations using an east-west collector or arterial.

Ongoing regional coordination for bicycle and pedestrian connectivity is also recommended. WAMPO's Regional Pathway System Plan identifies Broadway as a possible regional pathway link, but also indicates Seneca St. as the preferred route connecting the Haysville community to a regional pathway network. Coordination should continue to determine the role of the South Broadway Corridor in providing regional bicycle and pedestrian connectivity.

In planning pedestrian connectivity, consideration should also be given to the floodway bridge. The existing bridge is equipped with a sidewalk only on the west side. The anticipated bridge life extends beyond the 2035 planning horizon. However, a sidewalk should be added to the east side at the time of bridge replacement or major rehabilitation.

Vision and Goal Impacts of these Recommendations

Corridor Vision Principles:

- Provide and Leverage
- Cooperate and Implement

WAMPO MTP Goals:

- Safe
- Accessible
- Affordable

Transit

The corridor is not currently served by a fixed route transit provider. Given current economic realities and startup costs for new routes, this is likely to remain the case for the foreseeable future. Therefore, transit service has not been a design consideration. However, the proposed future improvements would adequately handle transit vehicles and provide sufficient ROW for bus stops.

Transit service has been stated as a community goal in their current Comprehensive Plan. It is recommended, that Haysville remain aware of opportunities for expanded transit services into the community. Haysville should be prepared to facilitate an expansion. This would be an economic benefit to the community that would also serve to reduce travel demand along South Broadway.

Transit service is sometimes offered to casino locations to provide an alternative to traveling by automobile. Constituents include both casino patrons and employees. These services may be provided by either a public or private transit agency. Demand for such services should be determined in coordination with regional transit providers, Kansas Star Casino, local governments, KDOT and WAMPO. If there is demand and such a route is established, this may be leveraged to "piggyback" general transit service with one or more stops located in the corridor.

Vision and Goal Impacts of this Recommendation

Corridor Vision Principles:

- Cooperate and Implement

WAMPO MTP Goals:

- Efficient
- Accessible
- Affordable

CHAPTER 7
CORRIDOR LAND USES AND DEVELOPMENT

EXISTING LAND USES

Figure 7.1 on page 68 is the study area existing land use map. There are approximately 729.5 total acres within the study area. The predominant existing land use in the corridor is residential, comprising about 323.5 acres between three categories. **Table 7.A** below shows the area of each land use category depicted in the existing land use map for the study area. The land use categories are ordered by the general intensity level of each use, from lowest to highest. However, the three main public land use types are listed at the bottom.

Land Use Category	Area (Acres)	Percent of Total
Vacant	42.74	5.9%
Agriculture	108.81	14.9%
Residential (Single Family Suburban)	210.17	28.8%
Residential (Single Family Urban)	89.89	12.3%
Residential (Medium Density)	23.41	3.2%
Commercial Service (Offices)	2.56	0.3%
Commercial Retail	30.24	4.1%
Commercial Service (Warehouse/Storage)	46.14	6.3%
Industrial	15.96	2.2%
Transportation, Communications, Utilities	0.14	0.01%
Public, Semi-Public, Institutional	12.12	1.7%
Public Park, Open Space, Golf Course (includes drainage)	54.81	7.5%
Right-of-Way	92.50	12.7%
TOTALS	729.49	100.0%

Table 7.A: Existing Land Uses Table (2011)

It would be difficult to illustrate or define every single possible land use. So, land use categories are fairly broad. They are based on similar characteristics between the kinds of development and activities that occur on individual lots. However, existing land use categories are reasonably specific to paint an accurate picture of conditions. As can be seen in **Table 7.A**, the broad categories like "residential" or "commercial" can easily be broken down into smaller groupings based on density or intensity of use.

EXISTING DEVELOPMENT CHARACTER

Figure 7.2 on page 69 is a snapshot of corridor development, as it existed while the study was ongoing. The photo location numbers represented in the graphic are used below to describe existing development characteristics in the study area. The locations and corresponding descriptions begin at the south end of the corridor near 87th St. South and proceed north through 63rd St. South.

Locations 1 and 2

Approaching 87th St. South on South Broadway, the corridor can generally be described as rural or exurban. Land uses are primarily agricultural and low density single-family residential. Clustered around the intersection are several commercial structures built in the late 1950s to early 1970s. They appear to have housed various commercial businesses through the years that served motorists travelling on US-81. At least one of these is currently unoccupied.

Moving toward 79th St. South, development density increases and can be described as suburban with some agricultural uses interspersed. Most residences are located on relatively large lots and set back from the roadway over 100 feet. There is a mix of manufactured housing and frame homes, some of which are converted commercial buildings built prior to 1970.

Locations 3 and 4

Another cluster of commercial uses is located near the 79th St. South intersection. The structures vary in age and are in moderate condition. Otherwise, development consists mainly of large residential lots interspersed with several agricultural or vacant tracts. This pattern is evident through ¼-mile north of the intersection near the Haysville city limits.

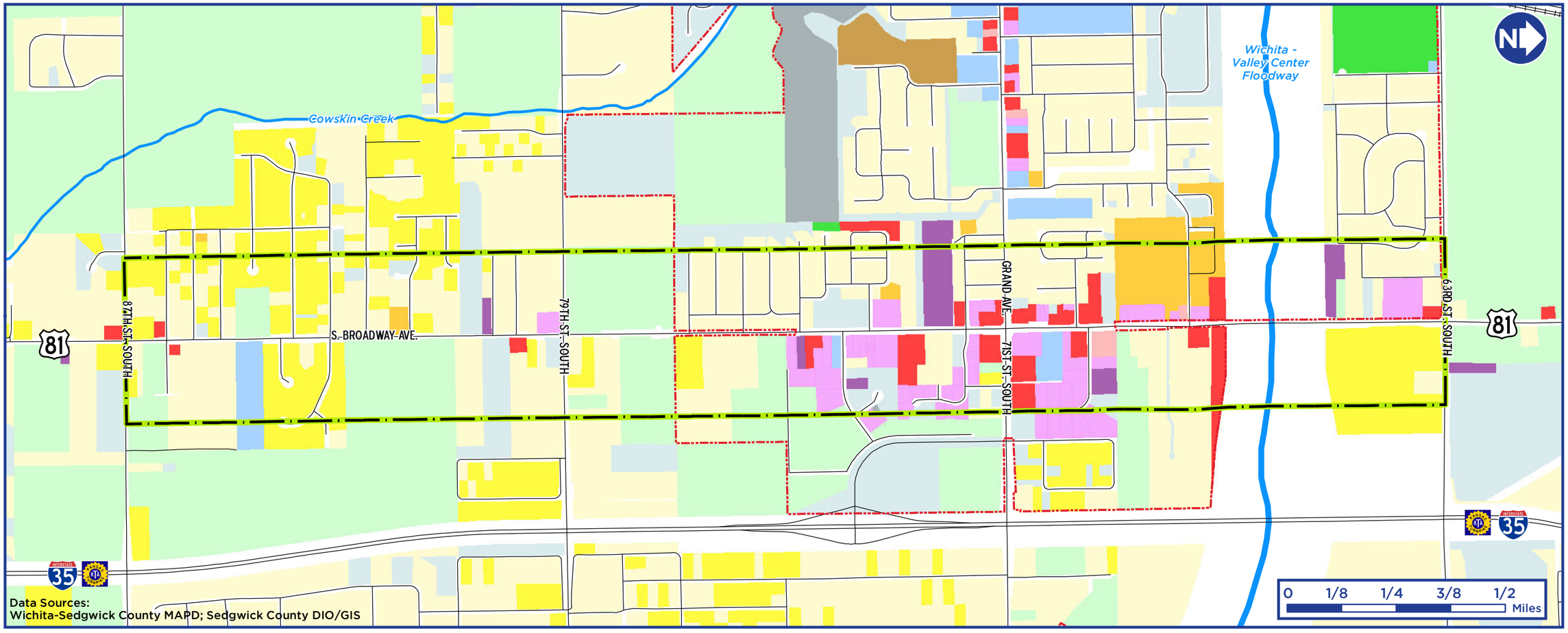
Locations 5 and 6

Entering Haysville, the character of the corridor becomes suburban and development density increases. The South Brooke residential subdivision is located on the west side of South Broadway. This is a typical suburban single-family neighborhood. A row of homes backs to South Broadway and is buffered by a concrete or masonry wall. The subdivision was platted in two phases in 1997 and 1998 with some homes continuing to be built.

A low density mix of commercial and light industrial uses begins on the east side near the city limits. Building age, density, quality and condition vary. Business signage is also inconsistent.

Location 7

Near 75th St. South, the land uses adjacent to the roadway become almost entirely commercial and industrial. Development density increases at this point. Architectural characteristics resemble the previous segment and there is very little landscaping or greenery. Driveway design and spacing appear to be inconsistent with current KDOT standards in many locations.



Data Sources:
Wichita-Sedgwick County MAPD; Sedgwick County DIO/GIS

LEGEND

- Study Area
- Haysville City Limits
- Street Centerlines
- Railroad Tracks
- Rivers, Streams
- Agriculture
- Residential Suburban
- Residential Urban
- Residential Medium Density
- Residential High Density
- Commercial Service (Offices)
- Commercial Retail
- Commercial Service (Warehouse)
- Commercial Mixed
- Industrial
- Transportation, Communications, Utilities
- Public, Semi-Public, Institutional
- Public Park, Open Space, Golf Course
- Vacant
- Right-of-Way, Drainage

EXISTING LAND USES (2011)

FIGURE 7.1

South Broadway CORRIDOR PLAN

FIGURE 7.2

CORRIDOR DEVELOPMENT SNAPSHOT

Locations 8 and 9

The most recent development in the corridor is located near the intersection of Grand Ave./71st St. South. There are several commercial buildings built within the last decade that are occupied by various types of service businesses. Their architectural character and quality of construction appear to be generally consistent with the community vision for the corridor. Older buildings fronting South Broadway in this segment are mostly constructed of metal siding, but appear mostly well-kept. This mix of uses and structures is consistent through approximately ¼-mile north of the intersection.

Location 8 is actually located just outside the study area boundaries. The photo depicts a new motel under construction at the time of this writing. Situated between I-35 and South Broadway along both sides of Grand Ave./71st St. South, this area is a mix of vacant developable lands and other land uses varying in intensity between single-family residential and industrial. The location has excellent exposure to traffic exiting the turnpike.

Location 10

Development density and land use character change between this location and the Wichita-Valley Center Floodway. On the east side of the road, lot sizes increase dramatically. There are several residences located on properties with some agricultural activity. The two structures nearest the floodway are operating businesses.

West of South Broadway is located a manufactured home subdivision. This development does not actually front Broadway. However, it does access the main road directly. The frontage lots are mostly occupied with commercial uses. Most of these structures were constructed fairly recently, since about 1980. They are generally in good condition, but a few of them are clad with metal siding.

Location 11

The final segment is located between the floodway and 63rd St. South. Again, the character differs widely between the east and west sides of the road. The east side, which is outside Haysville proper, is fronted with no structures. However, there are residences located deep on the lots that address 63rd St. South. Two sand pits located on these properties appear to be out of operation. The undeveloped state presents a wooded view to passing motorists.

Immediately adjacent to the floodway on the west side is an auto salvage operation. The use is largely screened from the view of drivers by several residences fronting South Broadway. Several other residences on large lots front the road. They are all in excess of 50 years in age and appear to be in poor to moderate condition. Approaching the intersection is a nursery business with structures built in the mid-1970s. The corner lot is occupied with a used car dealership and a large video billboard.

ANTICIPATED GROWTH

Based on analysis, the graphic represents the probable future growth/redevelopment pattern within the corridor study area. Future development is likely to be centered on the intersection of South Broadway and Grand Ave./71st St. South. This intersection contains the highest density of existing development and the highest traffic volumes within the corridor. Also, its proximity to the population center of Haysville's more than 10,000 residents provides high potential for growth in the near to mid-term. The likely growth rate to the south and east will be fairly fast given the developable land and traffic patterns. Meanwhile growth to the north and west will probably be a bit more moderate. These areas are mostly developed, but redevelopment is quite likely.

The 63rd St. South intersection also has somewhat high growth potential, particularly to the south on the west side of South Broadway where there is vacant land and underutilized existing buildings. But, growth at this location will probably be slower and longer term due to the lack of readily available public utilities. The defunct sand pit to the east will restrain growth in that direction.

The 79th St. South intersection is poised for mid-term growth. It is removed from the Haysville population center and has lower traffic volume than the previously discussed locations. However, developable land and nearby utilities to the north, may make this an attractive location for new large scale commercial development, particularly if Haysville continues to grow and South Broadway traffic volumes increase as forecasted.

Development potential of the 87th St. South intersection is the lowest of the four arterial intersections in the corridor. Existing low density residential development and lack of public infrastructure will push development to the long term. Over time, it is likely that development density will increase from low to moderate between 87th and 79th St. South, especially near both intersections. The middle portion of this segment will probably take several decades to transition due to the current residential development pattern.

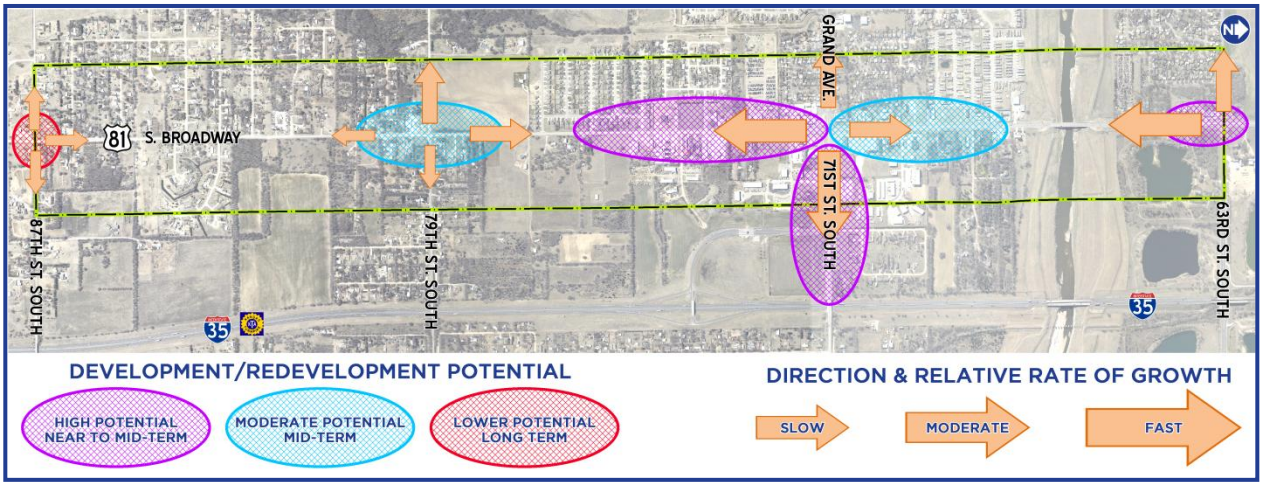


Figure 7.3: Anticipated Corridor Growth

CHAPTER 8
FUTURE GROWTH ALTERNATIVES AND RECOMMENDATIONS

FUTURE LAND USES

Future Land Use Scenario Alternatives

Future land use categories are normally described more broadly than existing land uses. This is done deliberately to preserve flexibility for property owners and prospective developers. Also, the precise use that will occupy a given parcel in the future cannot be dictated years in advance. It is sufficient to indicate a community's preferred growth pattern in terms of general land use categories appropriate for a multitude of similar uses. Development potential can be restricted if future land use categories are defined too specifically.

Kansas statutes do not dictate strict compliance with future land use maps as development applications are approved. Rather, most Kansas zoning jurisdictions use their future land use maps simply to guide and inform the decision making process. The purpose of a future land use map is to illustrate a community's vision for its growth. It should represent an orderly development pattern with land uses placed such that they will not negatively impact adjacent properties. Environmental conditions, such as soils and drainage, should be suitable to the type of development at that location. Finally, and perhaps most importantly, the future land use map should represent a development scenario that can be served feasibly, efficiently and cost-effectively with public utilities.

With these points in mind, **Figure 8.1** on page 74 illustrates the future land use scenario alternatives presented for consideration. The use categories depicted on the maps are also defined in this figure.

Alternative 1
This alternative is the adopted future land use map found in the Haysville Comprehensive Plan. It depicts a scenario within the corridor that has strip commercial development along the majority of the east frontage of South Broadway and industrial land uses between that point and the turnpike. The west frontage is all residential, with the exception of some locations where commercial uses exist between South Brooke subdivision and the floodway. North of the floodway both frontages are shown as future commercial with residential uses behind them.

Alternative 2
Two new future land use categories are introduced with Alternative 2, which call for mixed land uses as defined in **Figure 8.1**. These categories allow a high degree of development flexibility in appropriate locations. Existing single-family neighborhoods are preserved and buffered by compatible adjacent uses. Also, higher intensity commercial land uses are focused at the arterial intersections.

Alternative 3
Alternative 3 represents a high commercial and industrial growth scenario. Most South Broadway frontage is reserved for commercial development of all types. Industrial uses are shown between the commercial frontage and the turnpike. 71st St. South frontage and areas near the turnpike connector road are converted to commercial to take advantage of the traffic exposure. Finally, there is no preservation of existing residential development.

Recommended Future Land Use Scenario

After analysis of the land use factors and community input, Alternative 2 was selected as the recommended future land use scenario. **Figure 8.2** on page 75 is the recommended future land use map for the corridor. The area allocated to each future land use category under this scenario is summarized in **Table 8.A** below.

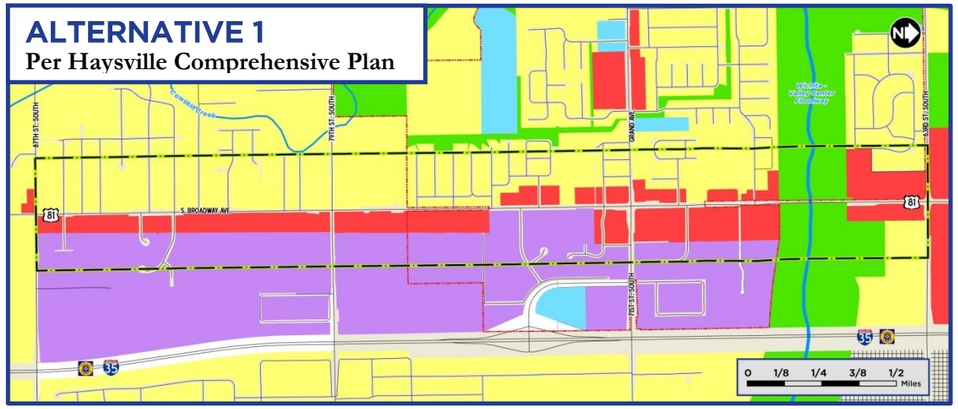
Land Use Category	Area (Acres)	Percent of Total
Agriculture/Vacant	0.97	0.1%
Residential	203.11	27.8%
Neighborhood Mixed Use	136.53	18.7%
Commercial	139.87	19.2%
Commercial Mixed Use	79.79	10.9%
Industrial	11.95	1.7%
Public Park, Open Space, Golf Course (includes drainage)	64.77	8.9%
Right-of-Way	92.50	12.7%
TOTALS	729.49	100.0%

Table 8.A: Recommended Future Land Use Table

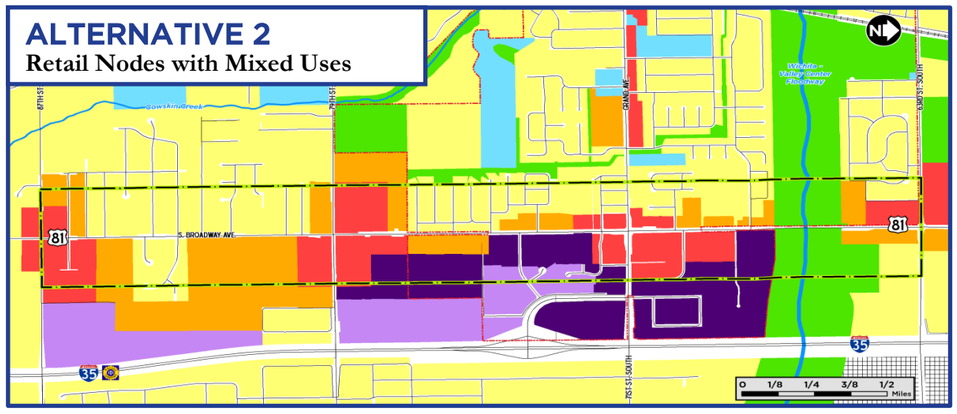
This alternative was selected for several reasons:

- It promotes safe, efficient travel by focusing major commercial land uses to the arterial intersections where they will have good access. This is particularly true if implemented in conjunction with sound access management practices.
- It will implement the types of land uses and development preferred by survey respondents.
- It encourages development that is compact, attractive and walkable.
- It promotes housing choices by providing locations where two-family and multi-family residences may be appropriate.
- It encourages multi-modal transportation choices by placing neighborhood services, such as banks, medical offices and small scale retail in close proximity to where people live. This not only provides opportunities for walking and bicycling, but provides a more transit-ready environment.
- It helps preserve existing residential neighborhoods and buffers them from higher intensity land uses.

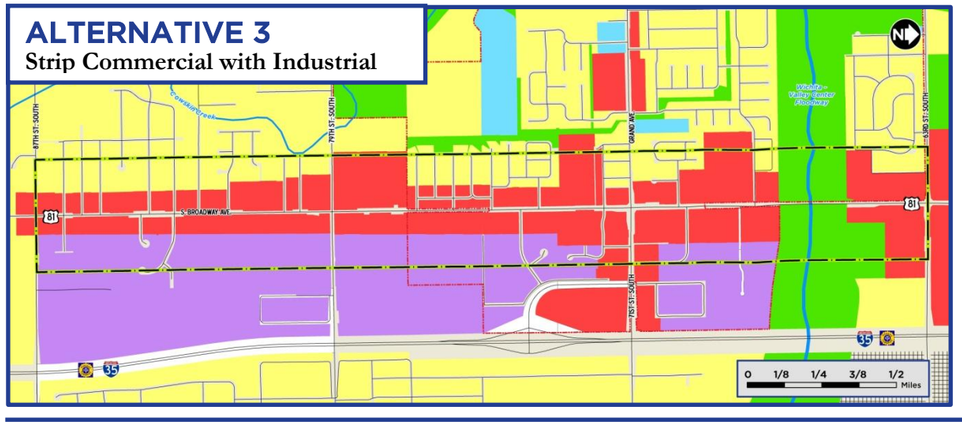
ALTERNATIVE 1
Per Haysville Comprehensive Plan



ALTERNATIVE 2
Retail Nodes with Mixed Uses



ALTERNATIVE 3
Strip Commercial with Industrial



LEGEND

- Study Area
- Haysville City Limits
- Street Centerlines
- Railroad Tracks
- Rivers, Streams
- Residential
- Neighborhood Mixed Use
- Commercial
- Commercial Mixed Use
- Industrial
- Public/Semi-Public
- Public Park, Open Space Including Drainage
- Right-of-Way
- Outside Haysville Planning Area

FUTURE LAND USE CATEGORY DEFINITIONS

Residential
This includes a mix of single, two, and multi-family residential land uses.

Neighborhood Mixed Use
This includes a mix of residential types and small-scale commercial and institutional uses that are typically meant to serve the needs of the surrounding neighborhood, but does not include drive-thru businesses like banks, restaurants or car washes.

Commercial
This includes commercial, retail, restaurant and professional office land uses that serve the needs of the community as a whole and perhaps a larger region.

Commercial Mixed Use
This contains a mix of higher intensity commercial land uses and may include lighter intensity industrial uses, such as warehousing and assembly. Heavy manufacturing and raw material processing is not appropriate.

Industrial
This contains heavy and light industrial land uses that may include manufacturing, warehousing, storage and processing of raw materials.

Public/Semi-Public
This includes governmental offices or facilities and land uses related to other institutions such as prisons, hospitals, schools, colleges, churches and nonprofit organizations.

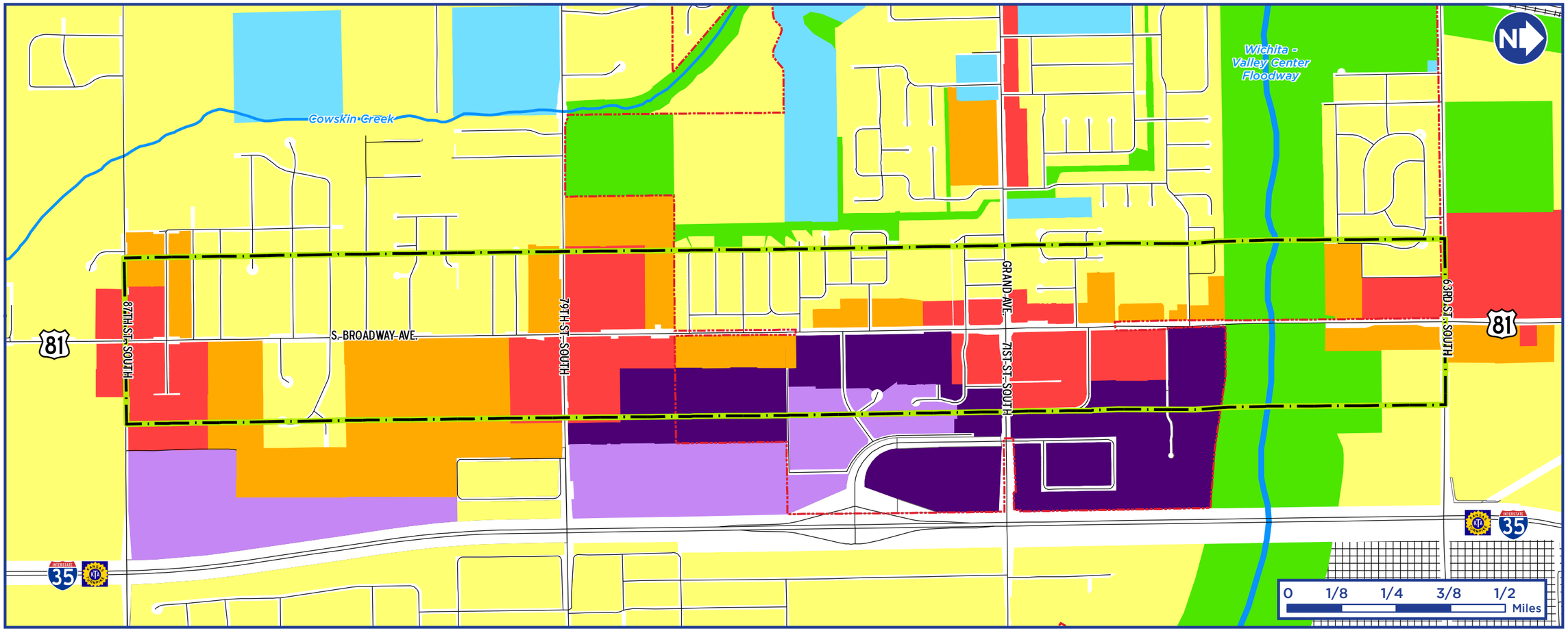
Public Park, Open Space
This includes parks (city, county or state), golf courses and unpaved drainage easements or rights-of-way.

Right-of-Way
This is property owned by a government entity or similar organization, such as utility companies and railroads, which is used for a public infrastructure purpose, generally transportation or utility facilities.

FUTURE LAND USE SCENARIO ALTERNATIVES

FIGURE 8.1

South Broadway CORRIDOR PLAN



LEGEND

- Study Area
- Haysville City Limits
- Street Centerlines
- Railroad Tracks
- Rivers, Streams
- Residential
- Neighborhood Mixed Use
- Commercial
- Commercial Mixed Use
- Industrial
- Public/Semi-Public
- Public Park, Open Space Including Drainage
- Right-of-Way
- Outside Haysville Planning Area

Data Sources:
Wichita-Sedgwick County MAPD; Sedgwick County DIO/GIS

RECOMMENDED FUTURE LAND USE SCENARIO

FIGURE 8.2

South Broadway CORRIDOR PLAN

As previously indicated, two future land use categories were developed for this alternative specifically to further the Corridor Vision Principles. These two categories are defined in **Figure 8.1**. Both help provide flexibility in future development. Mixed use districts allow different types of land uses to be developed side-by-side, but design standards help to mitigate negative impacts.

The neighborhood mixed land use category also helps to preserve existing residential neighborhoods by providing a buffer between them and higher intensity uses. This category would allow lower intensity commercial uses to be located next to or even in the same development as residential uses.

The commercial mixed use category can be considered a transition zone between commercial and industrial uses. It was devised to provide two main benefits. First, it provides a buffer between commercial and industrial developments. Only commercial and lower intensity industrial uses would be allowed. New commercial developments, particularly a major one that may contain a discount chain, are quite costly. When placed adjacent to heavy commercial uses, the commercial value can be diminished because of the noise, odor and traffic associated with industry. By discouraging the heavier industrial uses, the new category enhances opportunities for significant commercial development.

Second, some types of businesses are not clearly retail or industrial. For example, warehousing and self-storage display characteristics of both. While they each generate truck traffic and may operate around the clock, they don't typically produce offensive odors or loud noises. There are also some businesses that may sell items they produce. For example, some iron workshops are more artisan oriented than production oriented. Another use that would fit well in this category is an auto repair shop. They aren't really retail, since they provide a service. But, they aren't really compatible with residential or office uses.

Corridor Vision Principle Impacts

The future land use scenario recommendation impacts the following Corridor Vision Principles:

- Provide and Leverage
- Manage and Preserve
- Focus and Integrate
- Protect and Maximize
- Enhance and Encourage

FUTURE CORRIDOR DEVELOPMENT

Regarding the character of corridor development, several community preferences were discovered early in the planning process. This knowledge eliminated the need to evaluate an extensive number of future development alternatives. These items include:

- Aesthetic improvements within the right-of-way would greatly improve the corridor character.
- Architectural design was a much larger concern than site design issues such as landscaping and site layout.
- Architectural standards should focus primarily on commercial properties with frontage on South Broadway or the arterial streets in the corridor.
- Mixed use development should be held to a higher standard than most other types of development.
- Any new standards should apply only to new development and should allow for flexibility.

Commercial Development Style Alternatives

Successful implementation of the recommended future land use scenario will depend on appropriate commercial design and location. Achieving the Corridor Vision will require using consistent criteria for the review and approval of future commercial development proposals. **Figure 8.3** below illustrates the commercial development styles presented for community feedback. Descriptions, evaluations and recommended review criteria for each style begin on the next page.

Figure 8.3: Commercial Development Style Options

High-End Strip Commercial

Description and Evaluation
This type of commercial development contains buildings of high quality construction with expensive finishes. They usually consist of upscale retail and service businesses. Site layout is typified by shallow, but wide parcels with several hundred feet of street frontage. Front parking is the norm.

There was seen to be limited applicability for this style of development, at least through the 2035 planning horizon. The site design characteristics of strip commercial, regardless of development quality or target customer, do not mesh well with several Vision Principles. This type of development should not be encouraged. However, there should be some flexibility allowed for this style of development.

Recommended Review Criteria
Development approval for this style of commercial development should focus on:

- Location in commercial or commercial mixed use future land use category areas.
- Mitigation of negative impacts to adjacent properties.
- Appropriate driveway spacing and location.
- Mobility and access to the site and within the site.

New Urbanist Mixed Use

Description and Evaluation
This style of development may contain a mix of retail, commercial services, offices and even residential land uses. Sometimes, residential units are found on the upper floors with commercial uses at the street level. The form and function of this style are similar to a traditional downtown neighborhood. Buildings are normally closely spaced and located at the sidewalk with main entrances oriented for pedestrians to promote walkability and connectivity between. On-street parking is preferred, but larger scale parking may be located behind buildings. Plantings and street trees are often integrated with the streetscape.

Feedback given during community involvement activities indicated a preference for this style of development over the other alternatives in terms of attractiveness, landscaping and providing a safe walking environment. However, it was also realized that it is not feasible for all future corridor development to be of this style. This style of development should be preferred and encouraged for the neighborhood mixed use future land use category.

Ideally, this style would be developed on large parcels or a number of aggregated parcels. The developer would place controls over the architectural character, design themes and building materials. This could be done by deed restrictions or a zoning mechanism such as a planned unit development. However, new urbanist style developments can be successfully implemented on a lot-by-lot basis.

Recommended Review Criteria
Development approval for this style of commercial development should focus on:

- Appropriateness of location.
- Integration of mixed land uses.
- Compatibility with adjacent land uses.
- Design consistency between sites, buildings, streetscape and signage.
- Walkability, accessibility and connectivity.
- Pedestrian orientation, rather than vehicle orientation.

Big Box Retail

Description and Evaluation
This style of development is generally anchored by a national discount chain tenant, with outparcels (located around the site perimeter) occupied by individual commercial establishments. They generate high traffic volumes, which is a frequent concern of nearby residents. Large surface parking lots are normally located between the anchor tenants and outparcels. The outparcel buildings typically face the street with surface parking lots located to the front of the lot. There is often little design consistency between the individual buildings. Landscaping is normally sparse. While centered on a high volume retail outlet, these developments often assume the appearance of strip retail. This is because of the length of street frontage, the location of outparcels, the number of driveways and the amount of signs.

While these developments generate many negative impacts, they also can play an enormous role in a community's economic vitality. So, they should not only be allowed, but encouraged in the proper locations with good site design. These factors (location and site design) are important to the economic success of the development and overall benefit to the community.

Recommended Review Criteria
Development approval for this style of commercial development should focus on:

- Location within a commercial future land use category area.
- Compatibility with adjacent land uses.
- Primary access located on an arterial street, not on South Broadway.
- Appropriate design, size, location and spacing of driveways.
- Site layout with good onsite traffic flow and access controls.
- Minimal, if any, direct outparcel driveway access to South Broadway.
- Reverse frontage (backage) roads should be preferred over other means of access to outparcel lots.
- Onsite pedestrian safety measures such as sidewalks, crosswalks and signage.
- Pedestrian and bicycle connectivity to street and trail network.
- Consistent architecture and sign design standards.

Suburban Strip Commercial

Description and Evaluation
This style of development is seen in many suburban communities. It is typified by a mix of commercial, retail, restaurant and service businesses. Parcels are generally shallow with buildings facing the street. Developments are vehicle oriented. Parking is normally located between the building and street. Driveways are usually spaced closely and individual lots often have multiple driveways.

As mentioned in earlier discussion, strip commercial development is inconsistent with several Corridor Vision Principles. However, most existing corridor development exhibits strip characteristics. It is also likely that population growth and traffic volumes will drive demand for a continuation of this trend. Many traffic oriented commercial business models depend on this style of development. So, there should be flexibility within the corridor.

Recommended Review Criteria
Development approval for this style of commercial development should focus on:

- Preferred development locations are areas with commercial or commercial mixed use future land use designations.
- Locations in neighborhood mixed use areas could be considered if site design and layout mitigate negative impacts to adjacent properties.
- Number and spacing of driveways should be appropriate, with direct access to South Broadway kept to the absolute minimum.
- Shared driveways and cross-lot access should be encouraged as an access management tool.
- Pedestrian and bicycle connectivity to street and trail network.
- Consistent architecture and sign design.

Corridor Vision Principle Impacts

The recommendations regarding commercial development styles impact the following Corridor Vision Principles:

- Provide and Leverage
- Manage and Preserve
- Focus and Integrate
- Protect and Maximize
- Enhance and Encourage

Commercial/Industrial Building Material Alternatives

The community expressed early in the process the desire to minimize the use of metal as a commercial and industrial building siding material. Along with this there was consensus around the use of more masonry/brick to enhance corridor aesthetics. So, the alternatives presented for consideration focused on determining the preferred mix of siding materials and the appropriate percentage of masonry/brick coverage. **Figure 8.4** below illustrates the options for building material combinations. Alternatives for masonry coverage are shown in **Figure 8.5**.

Figure 8.4: Siding Material Combination Alternatives

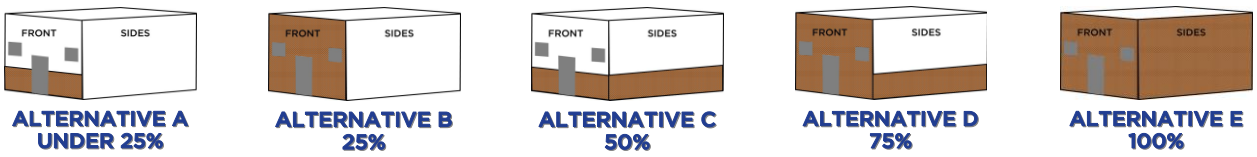


Figure 8.5: Masonry/Brick Coverage Alternatives

The siding materials shown in **Figure 8.4** were selected because they are commonly used within the region. Metal framed and sided buildings are frequently used for commercial development because of their relatively low cost and ease of construction. It is not being suggested that their use be eliminated. In fact, it is likely that much of the future commercial and industrial construction in the corridor will be metal buildings. Rather, it is assumed that metal buildings would be sided in the alternative materials in locations where higher design standards apply.

The masonry coverage alternatives in **Figure 8.5** are just rough depictions of the coverage percentages presented for consideration. It is not anticipated that any masonry would be required on the back side of any buildings, where loading docks and trash dumpsters are likely to be placed.

Commercial/Industrial Building Material Recommendations

The recommended commercial/industrial building material standards were formulated after a thorough review of community input, committee feedback, construction costs and other considerations. To implement the Corridor Vision Principles, the future land use designation for the each site should be the basis for determining the applicable standard for each future commercial or industrial development. The listing that begins below outlines the recommended standards for each future land use category in which commercial or industrial land uses will be allowed.

Neighborhood Mixed Use Category

- No metal sided buildings are allowed.
- Preferred siding materials are EIFS, stucco, fiber cement board or panel, and masonry. Other siding materials of equal or higher quality may be used upon approval.
- Minimum masonry coverage of 25% is required.
- A list of approved masonry products should be developed. Fiber cement board or panel should not be considered an acceptable masonry siding product used toward the masonry coverage requirement.

Masonry coverage calculations should be determined using the following step-by-step method. Example calculations based on a 25% coverage requirement for a 20-foot by 50-foot rectangular building are included in parentheses under each step. Dimensions should be rounded up to the next half-foot (ex. 8’ 3” = 8’6”).

1. Calculate the square footage of exterior wall surface area to get the base wall area.
   (front: 9 ft. H x 20 ft. W = 180; 2 sides: 9 ft. H x 50 ft. W x 2 = 900; total = 1,080 sf)
2. Calculate the square footage of window and door surface area.
   (3 doors: 7 ft. H x 3 ft. W x 3 = 63 sf; 5 windows: 5 ft. H x 5 ft. W x 5 = 125 sf)
3. Subtract the door/window area from the total wall area to get the adjusted wall area.
   (walls: 180 + 900 = 1,080; doors/windows: 63 + 125 = 188; 1,080 – 188 = 892 sf)
4. Multiply the adjusted wall area by the percent of required coverage to get the masonry coverage requirement.
   (892 sf x 25% = 223 sf masonry coverage required)

The masonry coverage requirement would then be applied by either Equal Height or Front Weighted methods as indicated below.

Equal Height:

1. Apply the required masonry square footage to an equal height on all three walls.
2. Divide the masonry coverage square footage by the running wall length to get the base height.
   (223 sf / 120 ft. = 1.858 ft.; round up to 2 ft.)
3. Masonry should be applied to two feet in height on all three walls.

Front Weighted:

1. Cover the front façade entirely and distribute the remaining amount equally between the other two sides.
2. Calculate the square footage of door/window surface on the front façade.
   (2 doors: 21 sf x 2 = 42 sf; 2 windows: 25 sf x 2 = 50 sf; 42 + 50 = 92 sf)
3. Subtract the front door/window area from the total front wall area to get the adjusted front wall area.
   (180 sf – 92 sf = 88 sf)
4. Subtract the adjusted front wall area from masonry coverage requirement and divide by 2 to get the required masonry square footage for each side wall.
   (223 sf – 88 sf = 135 sf / 2 = 67.5 sf per wall)
5. The per wall masonry coverage requirement may be applied to the side walls according to the design preference of the applicant.

Commercial Land Use Category

- Architectural standards apply only to lots with South Broadway or arterial street (63rd St., Grand Ave./71st St., 79th St., 87th St.) frontage.
- No metal sided buildings are allowed.
- Preferred siding materials are EIFS, stucco, fiber cement board or panel, and masonry. Other siding materials of equal or higher quality may be used upon approval.

- Minimum masonry coverage of 25% is required on the front façade only.
- A list of approved masonry products should be developed. Fiber cement board or panel should not be considered an acceptable masonry siding product used toward the masonry coverage requirement.

Calculations are according to the previous example for the neighborhood mixed use category, but applied only to the front façade of a building. So, the square footage of door/window area on the front façade would be subtracted from the total area of the front façade. This square footage is then multiplied by 25% to determine the masonry coverage requirement, which will be applied to the front façade only.

Commercial Mixed Use and Industrial Land Use Categories

- Architectural standards apply only to lots with South Broadway or arterial street (63rd St., Grand Ave./71st St., 79th St., 87th St.) frontage.
- No prohibition of metal siding.
- Minimum masonry coverage of 25% is required on the front façade only.
- A list of approved masonry products should be developed. Fiber cement board or panel should not be considered an acceptable masonry siding product used toward the masonry coverage requirement.

Calculations are according to the previous example for the commercial land use category.

Corridor Vision Principle Impacts

The recommendations regarding commercial/industrial building materials impact the following Corridor Vision Principles:

- Protect and Maximize
- Enhance and Encourage

Commercial Sign Design Recommendations

The design of commercial and advertising signage can affect the way people perceive a corridor. A cluttered mix of sign types and size is unappealing. Through the planning process, the community indicated a preference for more consistent and attractive corridor signage. No specific alternatives were presented. However, Survey #2 included a preference question on corridor signage. Photos of four corridors were shown, each with a different type of prevalent sign: monument/pylon signs, two-legged pole signs, flush mounted signs and a mix of sign types/sizes. Monument/pylon signs were preferred.

Along with a blanket prohibition of billboard and off-site advertising signs (except fronting I-35), it is recommended that corridor sign design standards be implemented by future land use category. Each should include requirements for consistent sizes and design elements. However, these

standards should only apply to parcels with South Broadway or arterial street (63rd St. South, Grand Ave./71st St., South 79th St. South, 87th St. South) frontage. Monument/pylon signs should be required in Neighborhood Mixed Use and Commercial land use areas. Two-legged pole signs should be required in Commercial Mixed Use and Industrial land use areas.

Corridor Vision Principle Impacts

The recommendations regarding commercial sign design impact the following Corridor Vision Principles:

- Protect and Maximize
- Enhance and Encourage

Recommended Design Standards Matrix

Table 8.B below summarizes the architectural and signage design standards recommended in the plan by future land use category. It also indicates the locations within each future land use area where the standards would apply.

Future Land Use Category	Minimum Architectural Standards						Signage Standards		Applicable Locations
	Allowable Materials Used with Masonry				Masonry Coverage				
	Metal	EIFS or Stucco	Lap or Panel	Masonry Only	25% of Front Façade	25% of Building	Monument	2-Legged Pole	
Residential	Not applicable; Commercial and industrial development is not allowed.								
Neighborhood Mixed Use		●	●	●		●	●		Architecture: All locations Signage: Arterial frontages only
Commercial		●	●	●	●		●		Architecture: All locations Signage: Arterial frontages only
Commercial Mixed Use	●	●	●	●	●			●	Architecture: Arterial frontages only Signage: Arterial frontages only
Industrial	●	●	●	●	●			●	Architecture: Arterial frontages only Signage: Arterial frontages only

Table 8.B: Design Standards Matrix

PUBLIC AMENITY RECOMMENDATIONS

Streetscape Amenities

To foster an attractive corridor and walkable environment it is recommended that streetscape amenities be included with future corridor sidewalk projects. Benches and trash receptacles should be placed in strategic locations where they will serve pedestrians. Bicycle racks should also be included near retail developments or other main destinations. This might even be considered as a development requirement similar to vehicle parking areas. Over time, pedestrian scale street lights could be added. The specific products currently used by Haysville for their trail network and street lighting would be appropriate along South Broadway. These are shown below in **Figure 8.6**.

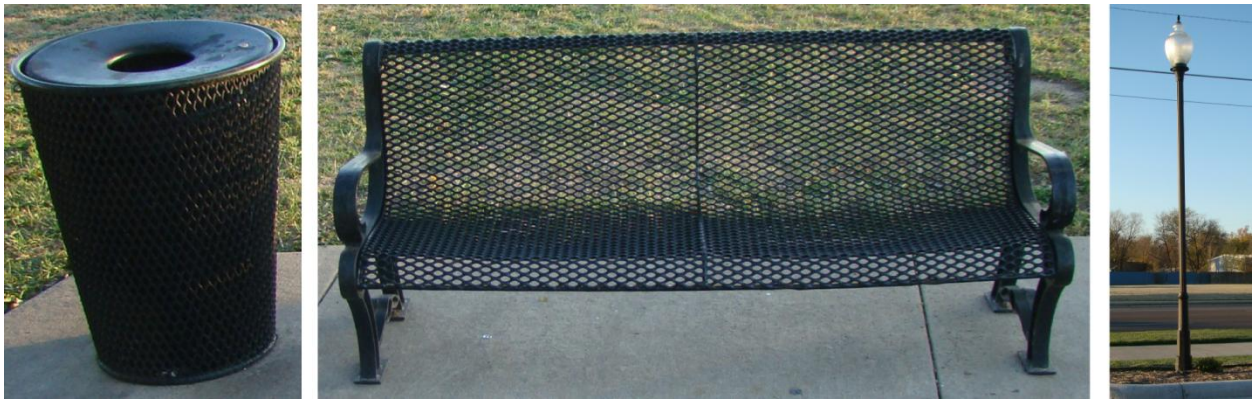


Figure 8.6: Haysville Street Furniture and Lighting

Gateway Signage

The City of Haysville has developed concepts for gateway signage, but has delayed implementing the program until this project was completed. One desired outcome from the process was to determine appropriate locations for the signs. The gateway signage program includes a hierarchy of primary and secondary signage. Primary gateway signs should be reserved for high traffic volume entrances to the corridor. Secondary gateway signs are appropriate for the lower traffic entrances.

It is recommended that the city implement the program as illustrated on the next page in **Figure 8.7**. This might even be a good first project to generate interest in future corridor improvements. It is also recommended that the city expand the program to other locations outside the South Broadway corridor as circumstances allow. Wayfinding signage would be another good addition to the program. These are generally smaller, strategically located signs that direct travelers to key community destinations.

Corridor Vision Principle Impacts

The recommendations regarding public amenities impact the following Corridor Vision Principles:

- Provide and Leverage
- Anchor and Introduce
- Enhance and Encourage

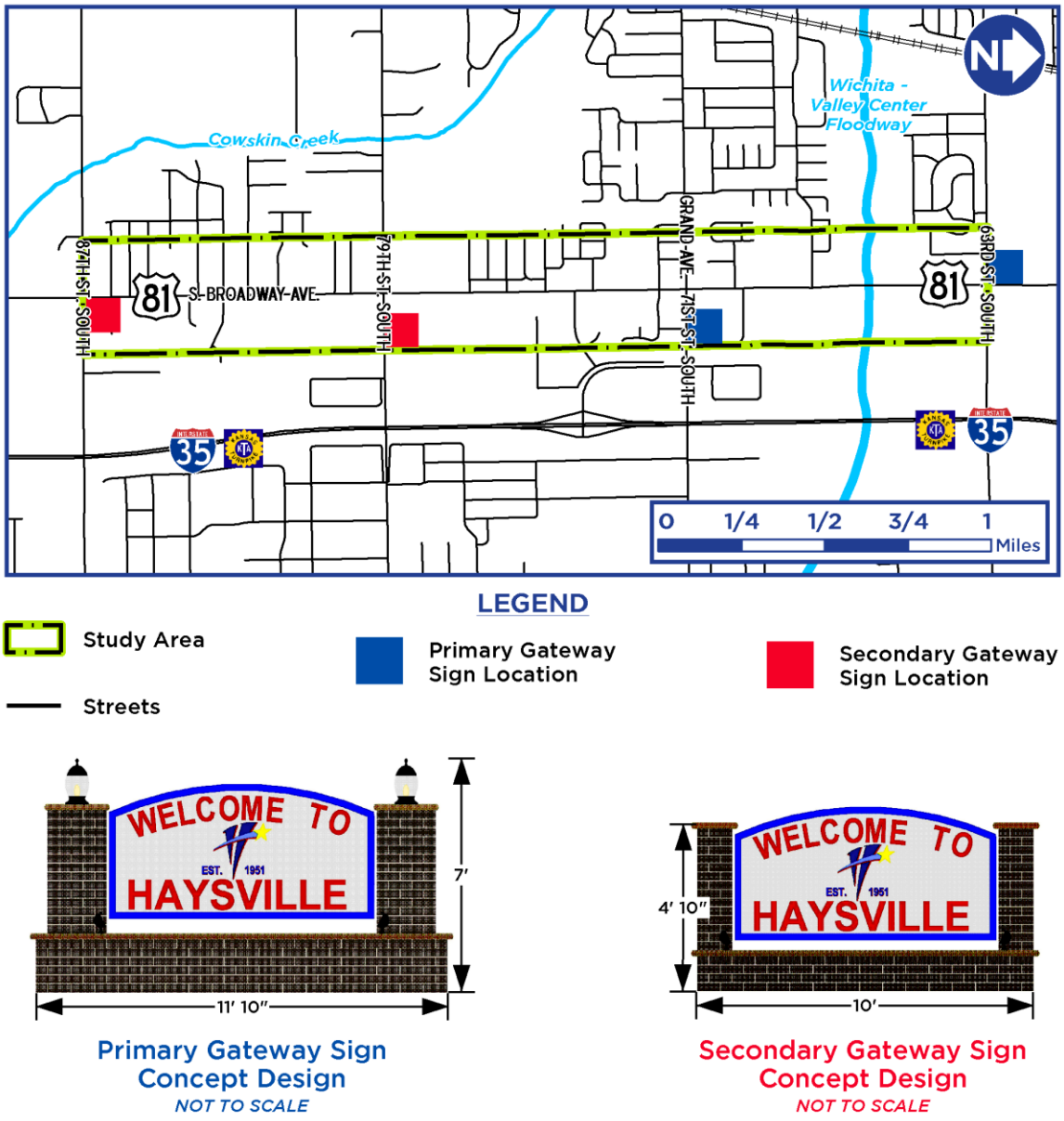


Figure 8.7: Gateway Signage Program

CHAPTER 9
PLAN IMPLEMENTATION

PROJECT IMPLEMENTATION SUMMARY

It is unlikely that all recommended improvements could be constructed as one single project. Rather, they will almost certainly be built in segments or phases for several reasons. They probably would not meet warrants and design criteria in the same timeframe. Constructed as one project, it would be quite expensive with total costs over $9 million. Therefore, funding will need to be programmed and projects planned well in advance.

It might even require multiple funding sources. There will be some property acquisition needed, which takes time and money as well. For these reasons, the various projects will most likely occur at different times over a number of years. Although, construction might proceed more quickly if an agency such as KDOT is willing to fund the improvements.

Construction of the road and intersection design projects will require coordination, planning, funding and programming. These activities will likely take place over a number of years. These projects were prioritized by the Project Advisory Committee and are intended to proceed in the order indicated in the listing. The cost estimate and anticipated project timing is included with each project. It should be noted, however, that the actual order of project completion may differ based on various engineering, financial, political and programmatic factors. As such, this should only be considered a guide.

Table 9.A on the next page is a prioritized summary table of all recommended improvement projects, which total $7 - $9 million in estimated costs. All estimated costs are provided in 2011 dollars and include all project phasing/alternative options subtotaled in three columns. One column shows full project implementation as recommended. The other two cost columns show the projects with interim or alternate implementation options. Cost estimates for those improvements are subtotaled to include the full implementation costs for other aspects of the project.

Road and intersection improvements assume concrete pavement and urban (curb and gutter) standards with storm sewer. These do not include sidewalk costs. Sidewalk projects are prioritized and estimated separately. Property acquisition is not included in estimated costs. Land needed for improvements is typically acquired during the development process. Property would need to be purchased from any land owners that have not dedicated the required width during development approval.

Project			Estimated Costs (in 2011 $)			Anticipated Project Timeframe
Type	Priority	Location	Full Improvements	Interim Improvements	Alternate Improvements	
Road	1	79th St. to Grand Ave./71st St.	$2,784,000	None	None	By 2015
	2	87th St. to 79th St.	$1,797,000	None	None	By 2020
	3	Grand Ave./71st St. to floodway	$604,000	None	None	By 2035
	4	Floodway to 63rd St.	$363,000	None	None	After 2035
Project Type Subtotals			$5,548,000	-	-	-
Intersection	1	79th St.	$492,000	$288,000	None	By 2015
	2	87th St	$492,000	$288,000	$2,000,000	By 2020
	3	63rd St.	$224,000	None	None	By 2020
	4	Grand Ave./71st St.	$10,000	None	None	By 2035
Project Type Subtotals			$1,218,000	$810,000	$2,726,000	-
Sidewalk	1	Grand Ave./71st St. to floodway	$130,700	$119,300	None	Coincide with either development or with road projects
	2	Floodway to 63rd St.	$38,300	None	None	
	3	79th St. to Grand Ave./71st St.	$234,000	None	None	
	4	87th St. to 79th St.	$234,000	None	None	
Project Type Subtotals			$637,000	$625,600	-	-
Total Estimated Costs			$7,403,000	$6,995,000	$8,911,000	-

Table 9.A: Summary of Recommended Improvements

ROAD, INTERSECTION AND SIDEWALK IMPROVEMENT PROJECTS

Prioritized Road Improvement Projects

The recommended improvements are mapped on the next page in **Figure 9.1** with project descriptions beginning below in order of priority.

Road Improvement Project Priority #1
South Broadway Location: 79th St. South to Grand Ave./71st St. South
Description: Improve to five lanes including center left turn lane
Cost Estimate: $2,784,000
Project Timing: Anticipated need by 2015

Road Improvement Project Priority #2
South Broadway Location: 87th St. South to 79th St. South
Description: Improve to three lanes including center left turn lane
Cost Estimate: $1,797,000
Project Timing: Anticipated need by 2020

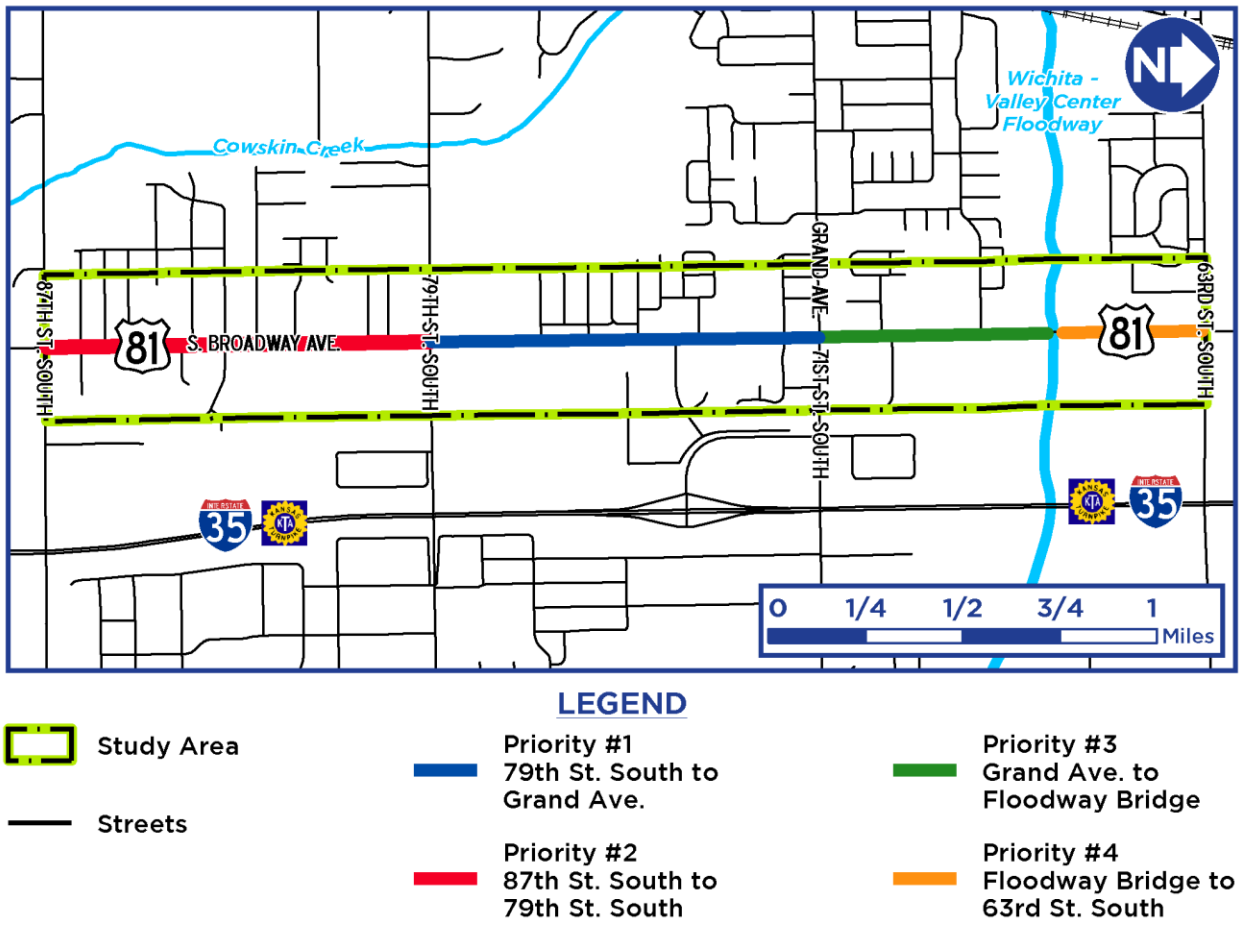


Figure 9.1: Road Improvement Project Priorities

Road Improvement Project Priority #3
South Broadway Location: Grand Ave./71st St. South to Floodway Bridge
Description: Improve to five lanes including center left turn lane
Cost Estimate: $604,000
Project Timing: Anticipated need by 2035

Road Improvement Project Priority #4
South Broadway Location: Floodway Bridge to 63rd St. South
Description: Improve to five lanes including center left turn lane
Cost Estimate: $363,000
Project Timing: Anticipated need after 2035

Road Project Implementation

Potential Funding Sources
Primary Funding Sources (most require local match, % match indicated)

Federal Funding Programs
A) OneDOT Discretionary Funding – match varies
WAMPO Programmed Funding
B) Surface Transportation Program (STP) – 20% match
KDOT Programmed Funding
C) Highway Safety Improvement Program (HSIP) – 10% match
D) City Connecting Link (KLINK) Resurfacing Program – 50% match ($200,000 max.)
E) Economic Development Program – 25% match
F) Corridor Management Program – match varies

Local Funding Sources (for primary or matching funds)

KDOT Transportation Revolving Fund (loan program)
Transportation Utility Fee
Transportation Development District
Community Improvement District
Local Capital Improvement Program
Local Sales Tax

Lead Agency or Agencies (assumes current city limits and facility ownership)
Any of the agencies listed below may initiate a project funding request. Lead agency depends upon primary funding program and project location. Programs indicated by letter corresponding with the funding sources as listed above.

KDOT: All Priority Projects; Funding Programs – May apply to A, B, C
City of Haysville: Priority Project #4; Funding Programs – B, C, D, E, F
Sedgwick County: Priority Projects #1, #2; Funding Programs – B, C, D, E, F
City of Haysville or Sedgwick County: Priority Project #3; Funding Programs – B, C, D, E, F

Coordinating Agency or Agencies for All Non-Local Funding Sources
City of Haysville
Sedgwick County
WAMPO
KDOT
KTA (possibly)

Prioritized Intersection Projects

Intersection projects are mapped in **Figure 9.2** on the next page with project descriptions following the graphic. The listing is in order of priority.

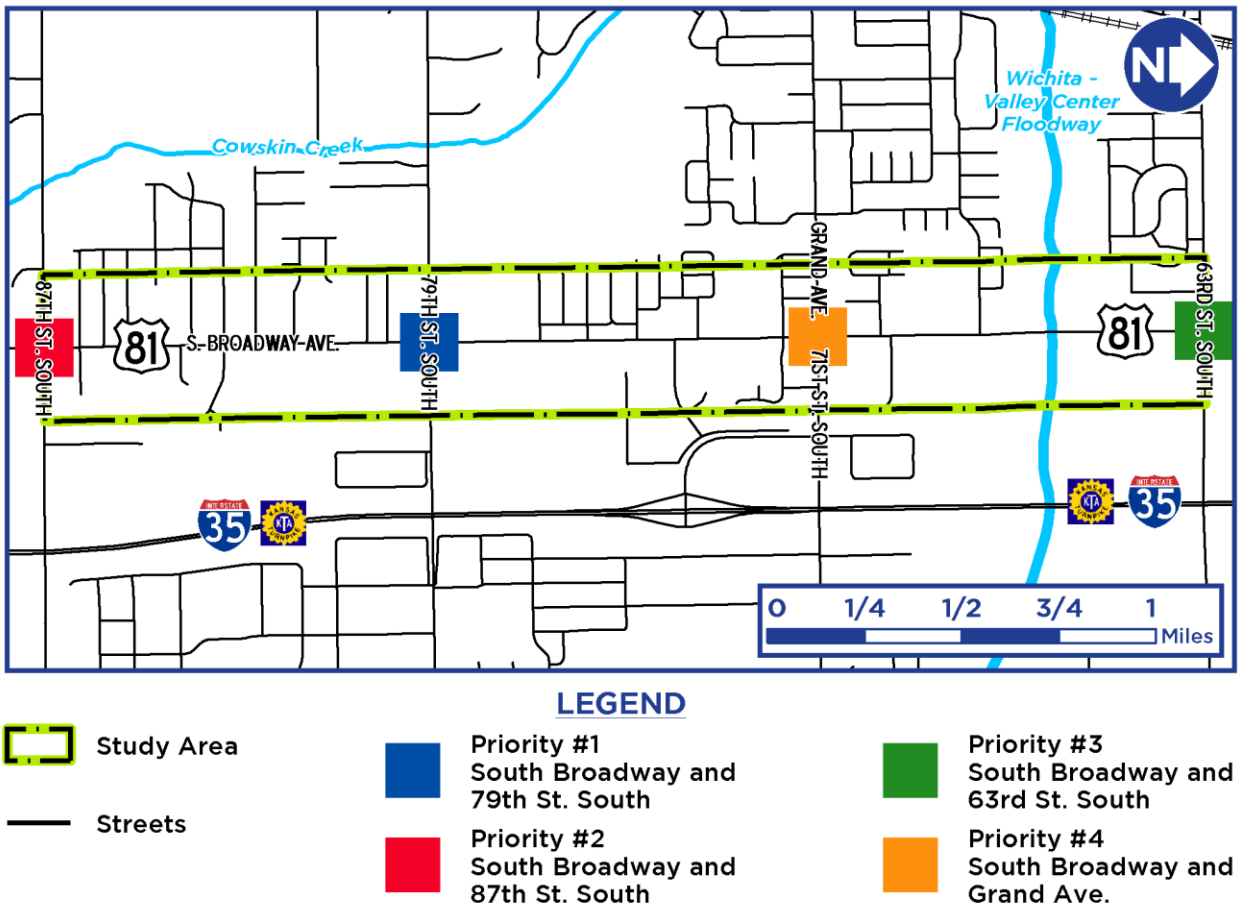


Figure 9.2: Intersection Project Priorities

Intersection Improvement Project Priority #1
South Broadway Location: 79th St. South
Description: Add left turn lanes and traffic control improvements
Cost Estimate: Full Improvements (signalized): $492,000
Interim Improvements (stop sign controlled): $288,000
Project Timing: Anticipated need by 2015, perhaps as early as 2012

Intersection Improvement Project Priority #2
South Broadway Location: South Broadway and 87th St. South
Description: Add left turn lanes and traffic control improvements
Cost Estimate: Full Improvements (signalized): $492,000
Interim Improvements (stop controlled): $288,000
Alternate Improvements (roundabout): $2,000,000
Project Timing: Anticipated need by 2020, perhaps as early as 2015

Intersection Improvement Project Priority #3
South Broadway Location: 63rd St. South
Description: Add turn lanes and modify signal timing/phasing
Cost Estimate: $224,000
Project Timing: Anticipated by 2020

Intersection Improvement Project Priority #4
South Broadway Location: Grand Ave./71st St. South
Description: Modify signal timing/phasing
Cost Estimate: Under $10,000
Project Timing: Anticipated by 2035

Intersection Project Implementation

Potential Funding Sources
Primary Funding Sources (most require local match, % match indicated)

Federal Funding Programs
A) OneDOT Discretionary Funding – match varies

WAMPO Programmed Funding
B) Surface Transportation Program (STP) – 20% match
C) Congestion Mitigation and Air Quality (CMAQ) – 20% match

KDOT Programmed Funding
D) Highway Safety Improvement Program (HSIP) – 10% match
E) High Risk Rural Roads Program (HRRR) – 10% match
F) Geometric Improvements Program – 0%-25% match
G) Economic Development Program – 25% match

Local Funding Sources (for primary or matching funds)

KDOT Transportation Revolving Fund (loan program)
Transportation Utility Fee
Transportation Development District
Community Improvement District
Local Capital Improvement Program
Local Sales Tax

Lead Agency or Agencies (assumes current city limits and facility ownership)
Any of the agencies listed below may initiate a project funding request. Lead agency depends upon primary funding program and project location. Programs indicated by letter corresponding with the funding sources as listed above.

KDOT: All Priority Projects; Funding Programs – May apply to A, B, C, D, E
City of Haysville: Priority Project #4; Funding Programs – B, C, D, E, F, G
Sedgwick County: Priority Projects #1, #2; Funding Programs – B, C, D, E, F, G
City of Haysville or Sedgwick County: Priority Project #3; Funding Programs – B, C, D, E, F, G

Coordinating Agency or Agencies for All Non-Local Funding Sources

City of Haysville	WAMPO
Sedgwick County	KDOT

Other Implementation Possibilities

1. If transfer of US-81 to local control is deemed feasible and pursued, KDOT might fund one or more projects prior to the transfer if they see this as preferable to long-term maintenance responsibilities. Such details would be determined by the agreement. At that point, the local agency with ROW control would become the lead agency for all funding requests. Funding requests would proceed as listed under the Lead Agency or Agencies portions of the Implementation outlines contained in this chapter.
2. Right-of-way acquisition should be accomplished by property dedication as part of the development process to the extent possible. See the Integration with Local Plans and Codes section of this chapter for additional details.
3. Any local participation in necessary studies, analysis or project funding above the minimum would likely strengthen chances of project funding.

Prioritized Sidewalk Projects

The main factors considered in prioritizing the sidewalk projects were system connectivity and ability to serve existing development, redevelopment or anticipated development. Therefore, the corresponding road and sidewalk segments projects are prioritized in different order. However, if construction of a road segment precedes sidewalk construction, sidewalks should be included in the road project. Projects might be completed only on one side or the other. Regardless of construction order or side, the entire segment lengths should be constructed at the same time to avoid gaps in the system. Also, project timing for all projects is based on demand or construction of adjacent development or road improvements, so timing is not included in the listings.

Estimated costs assume construction both sides of South Broadway, except between 63rd St. South where only the west side is anticipated through the planning horizon. Funding sources assume construction independent of adjacent road project.

Recommended sidewalk improvements were broken into segments to produce four individual projects of relatively manageable cost, size and scope. They are prioritized according to need and mapped on the following page in **Figure 9.3** with project descriptions beginning below.

Sidewalk Improvement Project Priority #1
South Broadway Location: Grand Ave./71st St. South to Floodway Bridge
Description: Add six-foot sidewalks to both sides; with option to install crosswalk south of bridge
Cost Estimate: Sidewalks only: $119,300
Crosswalk: $11,400
Total: $130,700

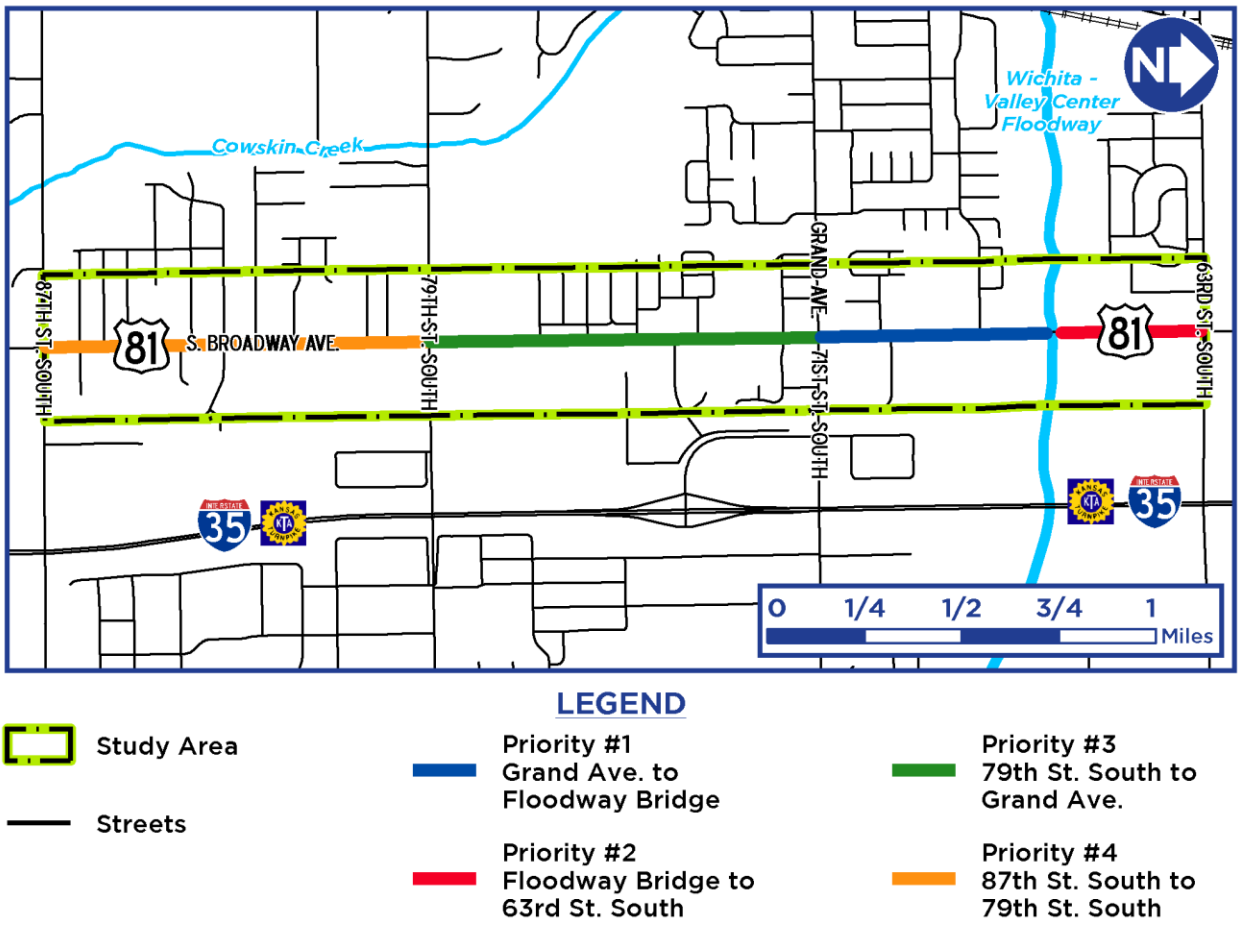


Figure 9.3: Sidewalk Project Priorities

Sidewalk Improvement Project Priority #2
South Broadway Location: Floodway Bridge to 63rd St. South
Description: Add six-foot sidewalks to west side only
Cost Estimate: $38,300

Sidewalk Improvement Project Priority #3
South Broadway Location: 79th St. South to Grand Ave./71st St. South
Description: Add six-foot sidewalks to both sides
Cost Estimate: $234,000

Sidewalk Improvement Project Priority #4
South Broadway Location: 87th St. South to 79th St. South
Description: Add six-foot sidewalks to both sides
Cost Estimate: $234,000

Sidewalk Project Implementation

Potential Funding Sources
Primary Funding Sources only in conjunction with road project

Any funding source listed for the road projects could potentially be used to fund sidewalks adjacent to the road construction project.

Primary Funding Sources Sidewalk Only (most require local match, % match indicated)

KDOT Programmed Funding

A) Transportation Enhancement Program (TE) – 20% match
B) Safe Routes to School Program (SRTS) – no match for construction

Local Funding Sources (for primary or matching funds)

Transportation Utility Fee
Transportation Development District
Community Improvement District
Local Capital Improvement Program
Local Sales Tax

Lead Agency or Agencies (assumes current city limits)
KDOT: KDOT would not generally pursue a sidewalk only project as the lead agency.
City of Haysville: Priority Projects #1, #2; Both non-local funding sources.
Sedgwick County: Priority Project #4; Both non-local funding sources.
City of Haysville or Sedgwick County: Priority Project #3; Both non-local funding sources.

Coordinating Agency or Agencies for all Non-Local Funding Sources

City of Haysville	WAMPO
Sedgwick County	KDOT

FUNDING APPLICATION PROCESSES FOR LOCAL APPLICANTS

KDOT Programmed Funding Sources

Most KDOT funding programs for local government agencies follow the same general application process. KDOT encourages all potential applicants to coordinate with the appropriate Bureau or District/Area Engineer to discuss possible projects, funding programs, applications and eligibility. Currently, the basic process for Haysville and Sedgwick County is:

1. Applicant submits the General Application. KDOT will review submissions for eligibility and suggest the appropriate funding program.
2. Applicant submits the program specific application to both KDOT and WAMPO. Indicate if the project requires a quick response in facilitate an economic development project.
3. If it does, a decision will be made within 45 days. Otherwise, applications will be included in the annual round of selections.
4. WAMPO will review the application for consistency with regional priorities and goals then submit a recommendation to KDOT.
5. KDOT will make a decision and announce awards.
6. The applicant will enter into a funding agreement with KDOT that specifies the responsibilities of each party in conducting the study, design and/or construction process. Generally, KDOT will let the bid and manage the project while coordinating with the applicant.

WAMPO Programmed Funding

WAMPO chooses local government projects for funding using competitive selection processes. Each funding program has a set of project selection criteria (PSC) to determine project eligibility and priority. Selected projects must then be programmed in the Transportation Improvement Program (TIP) and included in the Metropolitan Transportation Plan (MTP) to receive funds. The current general selection process outlined in the TIP policy is:

1. WAMPO issues a call for projects.
2. Applicant submits the competitive project application.
3. Project applications are reviewed by the Technical Advisory Committee (TAC). TAC makes project funding recommendations to the Transportation Policy Body (TPB).
4. TPB endorses a list of competitive fund projects.
5. TAC recommends the TIP (or TIP amendment) for TPB approval.
6. TPB takes action on the TIP.
7. The applicant coordinates with KDOT and enters into a funding agreement that specifies the responsibilities of each party in conducting the study, design and/or construction process. KDOT will typically let the bid and manage the project while coordinating with the applicant. The applicant will report project status and funding progress to WAMPO.

INTEGRATION WITH LOCAL PLANS AND CODES

The general implementation process with plans such as the South Broadway Corridor Plan is to gain local approval, integrate it into the community's Comprehensive Plan and incorporate it into local development codes. On February 13, 2012, Haysville City Council passed a resolution officially endorsing the plan as an effective vision for future development of the South Broadway Corridor. Subsequently, the City of Haysville will integrate the planning recommendations into their Comprehensive Plan and local development codes as updates are made in the future.

Haysville Comprehensive Plan

Incorporating the South Broadway Corridor Plan into the Haysville Comprehensive Plan will establish it as a factor that must be considered in the development approval process. Additionally, it will make the Corridor Plan and its recommendations official City planning policy.

Coordination with Ongoing Planning Initiatives

At the time of this writing, there are the two applicable ongoing planning initiatives. Coordination with each of these should occur so the recommendations are integrated. First, KDOT is in the initial planning stages for the US-81/K-53 Casino Area Transportation Plan. The project study area is located immediately south of the South Broadway Corridor Plan study area. For continuity purposes, the recommended improvements and policies contained herein should be considered during KDOT's planning process.

Second, portions of the South Broadway Corridor study area overlap with the area included in the ongoing Sedgwick County Quad City Plan. MAPD's Advanced Plans Division has been involved on the Core Project Team. Additional consultation should occur to determine which elements of this Corridor Plan are applicable to the Quad City effort. Those critical aspects should be incorporated into the Quad City Plan as deemed appropriate.

Additionally, regional transportation planning is considered to be a continual and ongoing process. WAMPO should be aware of the findings and recommendations contained in the South Broadway Corridor Plan that may impact their ongoing analysis, planning and programming. These items can then be incorporated into the regional transportation planning process.

Development Code Integration

The most effective means of implementing the recommendations is to integrate them into Haysville's zoning and subdivision regulations. The first step will be for Haysville to determine as a community which specific planning policy, transportation policy, land use, development and design recommendations should be implemented and to what degree they should be implemented. For example, the City may want to implement the full set of commercial/industrial building material recommendations or implement them with only a 10% masonry coverage requirement.

After these items are decided, specific code language will need to be drafted and amended into the appropriate development code. Generally speaking, the most effective way to implement the land use, development and sign design components of the South Broadway Corridor Plan is to create a Corridor Overlay District in the Haysville Zoning Regulations. This zoning designation should then be assigned to the corridor.

It is not necessary for the overlay district boundaries to correspond exactly with the Corridor Plan study area. In fact, some planning recommendations, particularly the future land uses, may be applicable along the corridor but outside the study area. This should be considered and implemented as deemed appropriate.

Each recommendation for private development can be instituted through the overlay district mechanism. Upon determining the feasibility of the recommendations, design specifics and desired language, a zoning amendment should be adopted as soon as practicable to prevent inconsistent development from being approved.

Normally, a site plan review process is included with Corridor Overlay District language. This process would require submission of a sketch plan for proposed developments. City staff would then review the plan for deficiencies between the submittal and the zoning requirements and notify the applicant. This process gets all the expectations on the table early in the process and improves the applicant's chances for successful zoning approval.

Some recommendations will be implemented through the subdivision regulations and the property platting process. For example, dedication of property for needed right-of-way. Access spacing and driveway design requirements are often implemented in this way since they encroach into the public right-of-way.

Even if Haysville decides not to implement these standards through codification two related items are worth considering. Plats could be required to include a notice of applicability regarding the South Broadway Corridor Plan and the KDOT Access Management Policy. These items then become a matter of record and are more easily enforced. Some communities even require KDOT access controls to be shown on a plat. This enforces driveway spacing consistent with KDOT standards, helping to ensure appropriate access spacing into the future.

Sometimes, access management can be implemented through the recording of a separate instrument. Separate instruments are documents that are filed with the Register of Deeds and become part of a property's official record. So, they run with the land remaining in place from owner to owner until they are legally changed. These are particularly useful for implementing cross-lot access agreements or shared driveway agreements.

FINAL CONSIDERATIONS

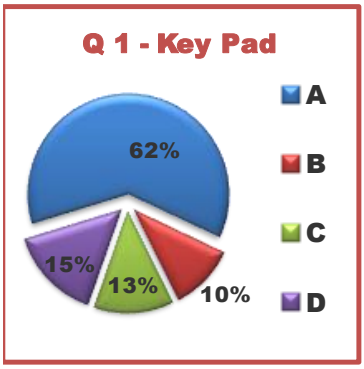
The future vision of the South Broadway Corridor and the recommendations contained in this plan are the result of extensive analysis, discussion, consideration and coordination. Each recommendation has been conceived to further the Corridor Vision Principles and regional planning goals. If the plan is implemented, safe and efficient travel through the South Broadway Corridor will be preserved, appropriate land uses will be encouraged and the development quality will improve. This will help the South Broadway Corridor reach its full economic potential as traffic and population increase.

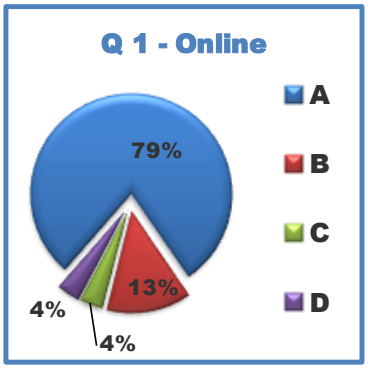
Regardless of how fully this plan is implemented, development pressure is likely to grow within the corridor. Certainly, there are ways to deal with the impacts of that growth other than those contained herein. If the community chooses to use other means, the key to success will be to use a transparent, comprehensive process to develop tools aimed at achieving community goals – just as the South Broadway Corridor plan has done.

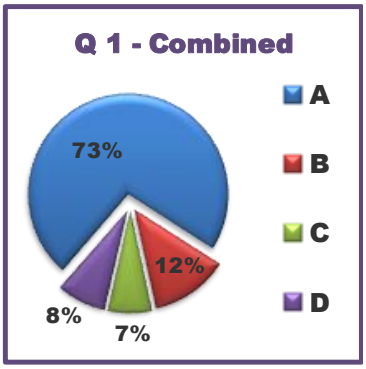
APPENDIX A
SURVEY RESPONSES

SURVEY #1 ON ISSUES AND OPTIONS – COMBINED RESULTS

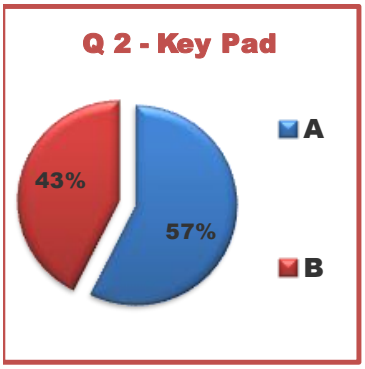
Q 1	I live in...						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Haysville	61.7%	29	79.0%	64	72.7%	93
B	Wichita	10.6%	5	13.6%	11	12.5%	16
C	Unincorporated Sedgwick County	12.8%	6	3.7%	3	7.0%	9
D	Some other place.	14.9%	7	3.7%	3	7.8%	10
	answered question		47		81		128
	skipped question		0		0		0

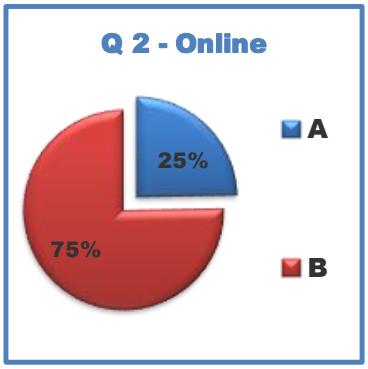


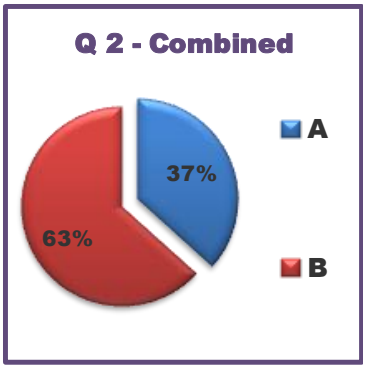




Q 2	I own home, business and/or property with a South Broadway address.						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Yes	57.4%	27	24.7%	20	36.7%	47
B	No	42.6%	20	75.3%	61	63.3%	81
	answered question		47		81		128
	skipped question		0		0		0

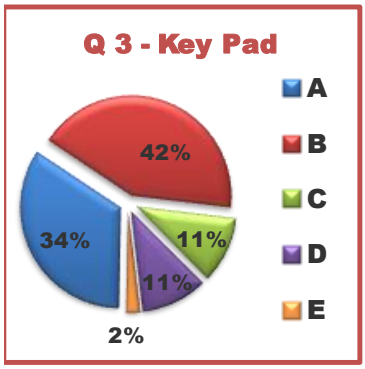


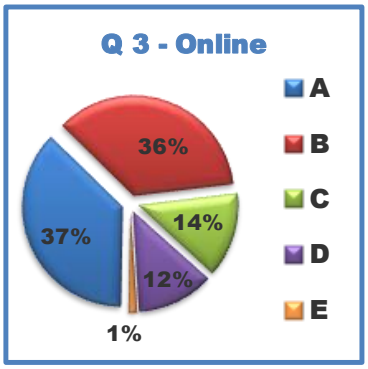


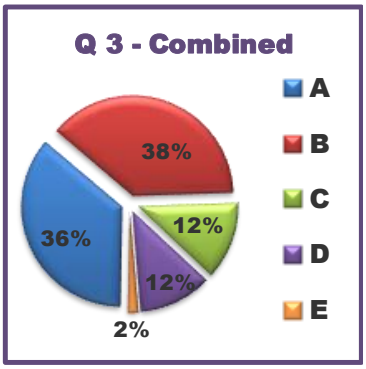


SURVEY #1 – CONTINUED

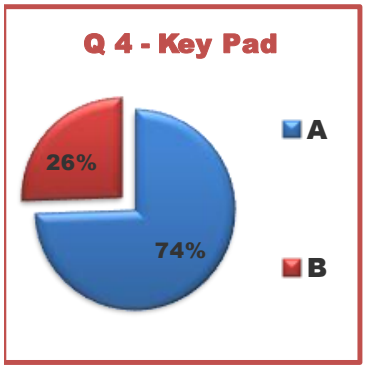
Q 3	I visit businesses, offices or other establishments in the South Broadway study area...						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Daily	34.0%	16	37.0%	30	35.9%	46
B	Weekly	42.6%	20	35.8%	29	38.3%	49
C	Monthly	10.6%	5	13.6%	11	12.5%	16
D	Less frequently than once a month	10.6%	5	12.3%	10	11.7%	15
E	Never	2.1%	1	1.2%	1	1.6%	2
	answered question		47		81		128
	skipped question		0		0		0

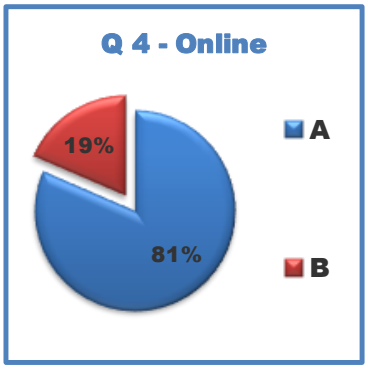


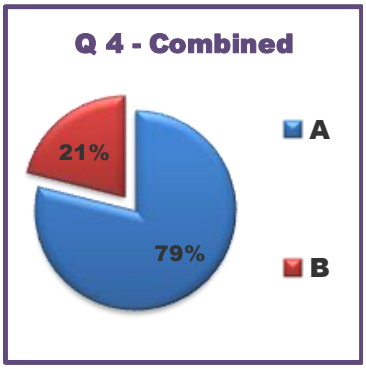




Q 4	South Broadway is the first impression most visitors have of Haysville.						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Yes	74.5%	35	81.5%	66	78.9%	101
B	No	25.5%	12	18.5%	15	21.1%	27
	answered question		47		81		128
	skipped question		0		0		0

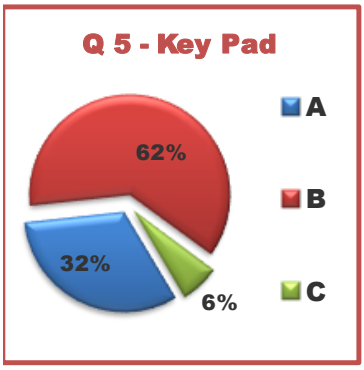


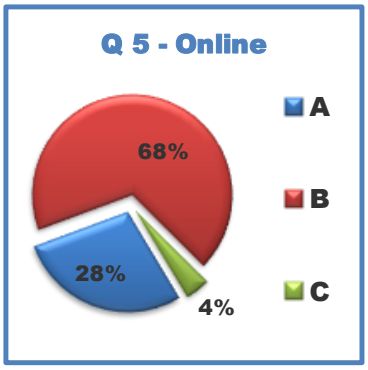


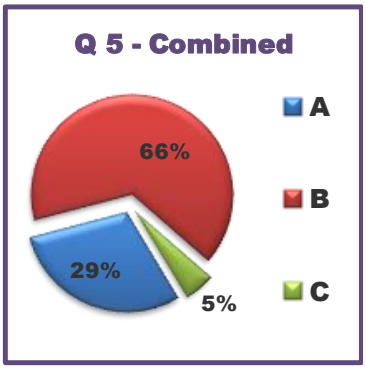


SURVEY #1 – CONTINUED

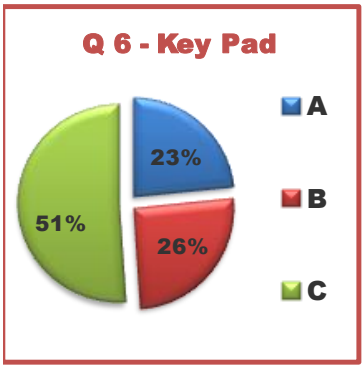
Q 5	Which of the following most closely reflects your thoughts on the transportation role of South Broadway (US-81) south of Wichita?						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	#	%	#	%	#
A	Important US Highway	31.9%	15	28.0%	21	29.5%	36
B	Serves mostly regional commuter traffic	61.7%	29	68.0%	51	65.6%	80
C	Serves mostly local Haysville traffic	6.4%	3	4.0%	3	4.9%	6
	answered question		47		75		122
	skipped question		0		6		6

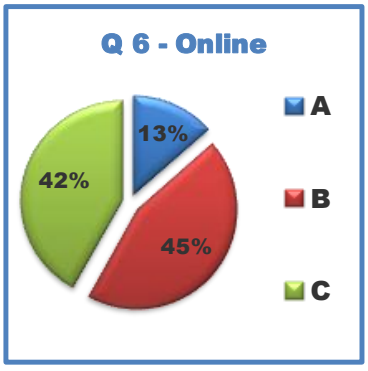


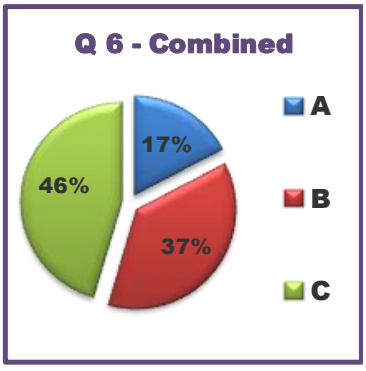




Q 6	Which of the following most closely reflects your thoughts on the lane configuration of South Broadway in the study area?						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	#	%	#	%	#
A	The existing configuration should not be changed.	23.4%	11	13.5%	10	17.4%	21
B	The entire corridor should be improved to four lanes for through traffic.	25.5%	12	44.6%	33	37.2%	45
C	A continuous center left turn lane should be added to the existing configuration, which would make it three lanes or five lanes.	51.1%	24	41.9%	31	45.5%	55
	answered question		47		74		121
	skipped question		0		7		7

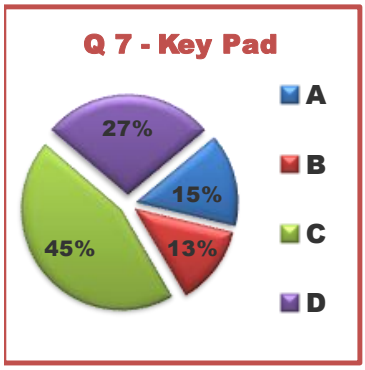


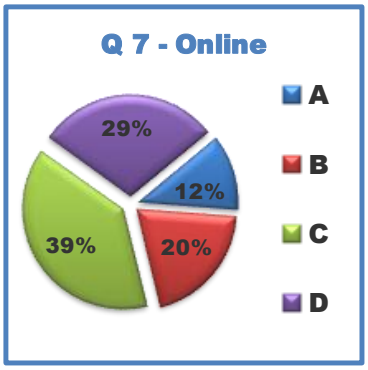


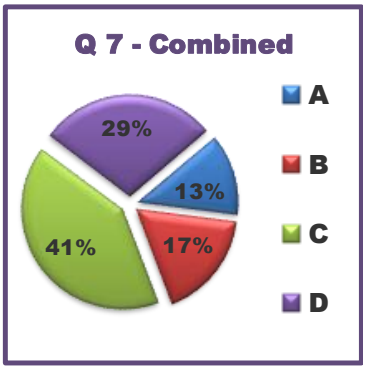


SURVEY #1 – CONTINUED

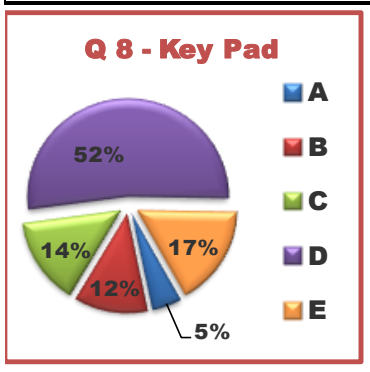
Q 7	Which of the following most closely reflects your thoughts about left turn lanes on South Broadway in the study area?						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	#	%	#	%	#
A	The existing configuration with left turn lanes only at signalized intersections adequately serves corridor traffic needs.	14.9%	7	12.0%	9	13.1%	16
B	There should be left turn lanes added at some street intersections.	12.8%	6	20.0%	15	17.2%	21
C	There should be a continuous center left turn lane added through all or part of the corridor.	44.7%	21	38.7%	29	41.0%	50
D	There should be a landscaped median with left turn lanes at appropriate locations added through all or part of the corridor.	27.7%	13	29.3%	22	28.7%	35
	answered question		47		75		122
	skipped question		0		6		6

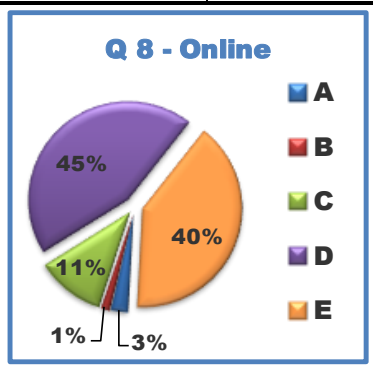


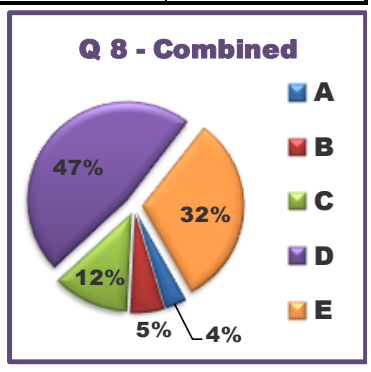




Q 8	Referring to the above access management information, which technique do you think would provide the most benefits to corridor traffic flow and safety?						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	#	%	#	%	#
A	Frontage roads	4.8%	2	2.8%	2	3.5%	4
B	Reverse frontage roads	11.9%	5	1.4%	1	5.3%	6
C	Shared or cross-lot access	14.3%	6	11.1%	8	12.3%	14
D	Continuous center left turn lane	52.4%	22	44.4%	32	47.4%	54
E	Raised median with left turn lanes where appropriate	16.7%	7	40.3%	29	31.6%	36
	answered question		42		72		114
	skipped question		5		9		14

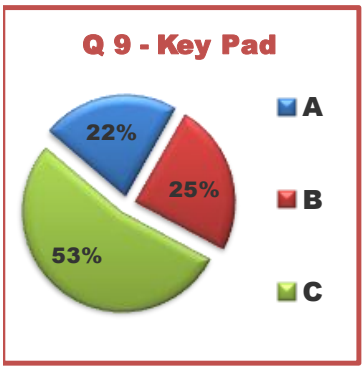


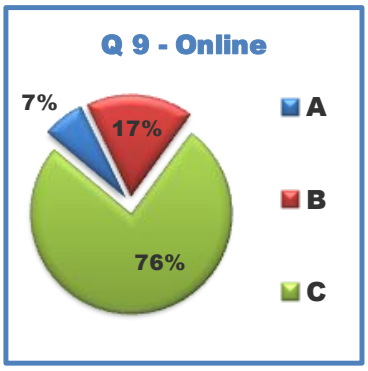


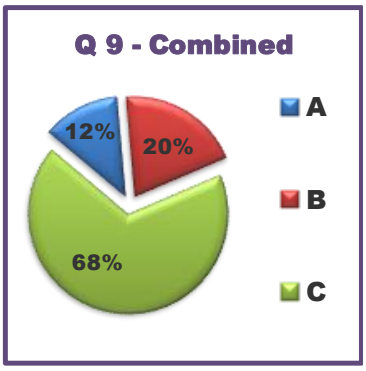


SURVEY #1 – CONTINUED

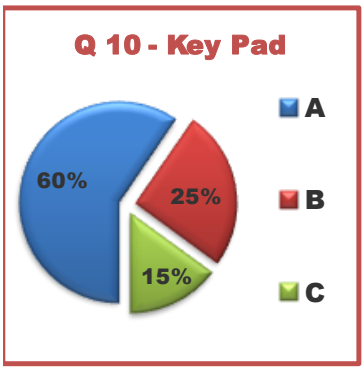
Q 9	Which of the following most closely reflects your thoughts about improving the walking environment along South Broadway in the study area?						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	#	%	#	%	#
A	There should be no pedestrian facilities.	22.2%	10	6.7%	5	12.5%	15
B	Sidewalks should be added through all or part of the corridor.	24.4%	11	17.3%	13	20.0%	24
C	Multi-use paths should be added through all or part of the corridor to accommodate pedestrians and bicyclists.	53.3%	24	76.0%	57	67.5%	81
	answered question		45		75		120
	skipped question		2		6		8

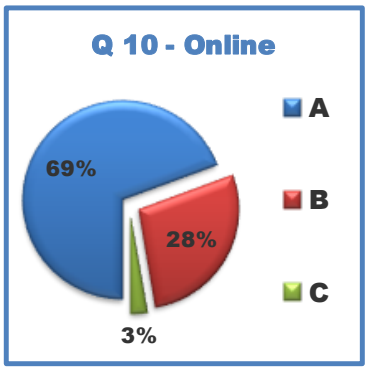


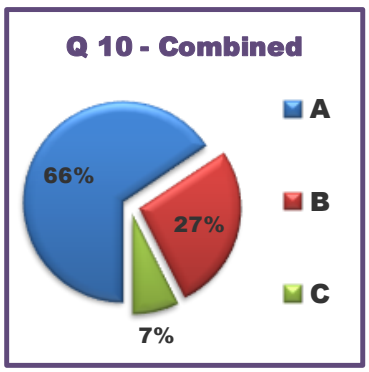




Q 10	If sidewalks or multi-use paths are ever constructed along South Broadway, they should include amenities such as benches and trash receptacles.						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	#	%	#	%	#
A	Yes	59.6%	28	69.3%	52	65.6%	80
B	No	25.5%	12	28.0%	21	27.0%	33
C	There should be no pedestrian facilities.	14.9%	7	2.7%	2	7.4%	9
	answered question		47		75		122
	skipped question		0		6		6

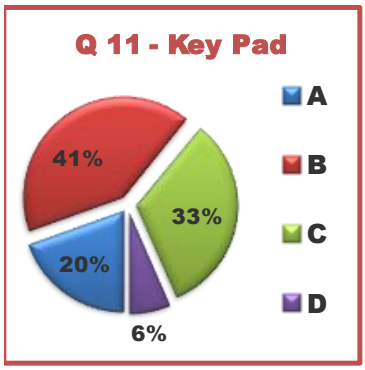


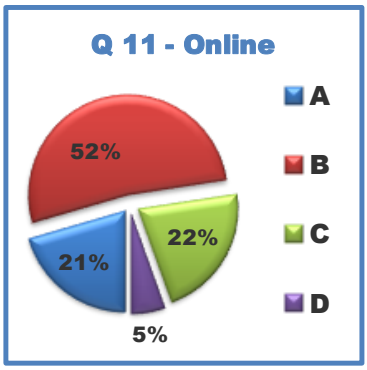


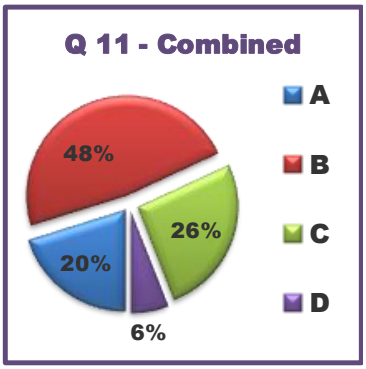


SURVEY #1 – CONTINUED

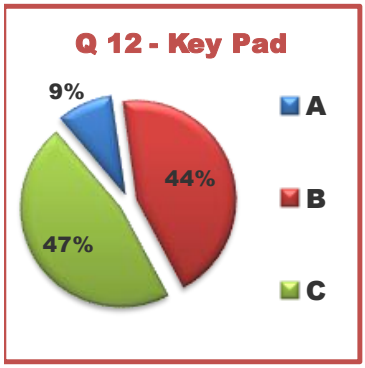
Q 11	Indicate your level of agreement with the following statement: A good mix of residential, commercial, industrial and/or institutional land uses along the corridor is desirable.						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	**#**	**%**	**#**	**%**	**#**
A	I strongly agree	19.6%	9	20.5%	15	20.2%	24
B	I agree	41.3%	19	52.1%	38	47.9%	57
C	I disagree	32.6%	15	21.9%	16	26.1%	31
D	I strongly disagree	6.5%	3	5.5%	4	5.9%	7
	answered question		**46**		**73**		**119**
	skipped question		**1**		**8**		**9**

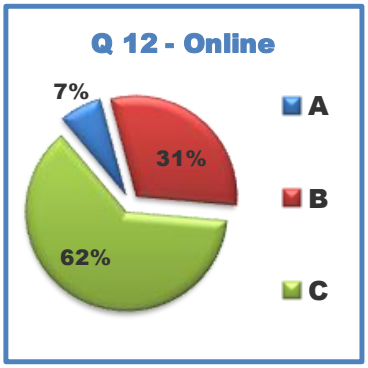


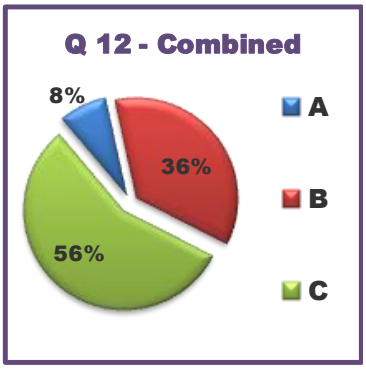




Q 12	Which of the following most closely reflects your preferred method for managing land uses along the corridor?						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	**#**	**%**	**#**	**%**	**#**
A	All types of land uses should be allowed throughout the corridor with no restrictions.	8.9%	4	6.9%	5	7.7%	9
B	Standard zoning where different land uses are separated and screened from one another.	44.4%	20	30.6%	22	35.9%	42
C	Mixed use zoning where most land uses are allowed and site design standards help to minimize negative impacts.	46.7%	21	62.5%	45	56.4%	66
	answered question		**45**		**72**		**117**
	skipped question		**2**		**9**		**11**

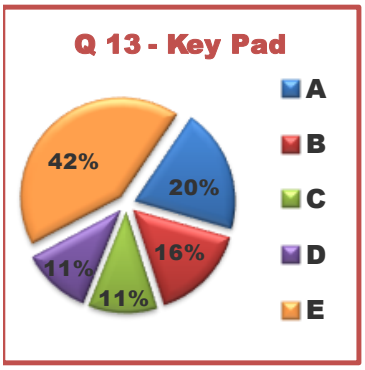


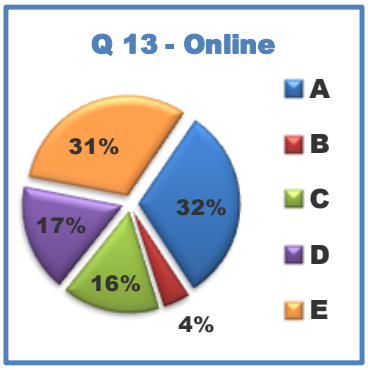


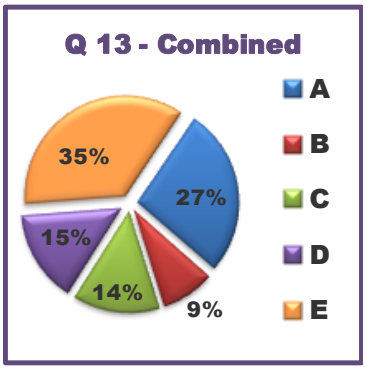


SURVEY #1 – CONTINUED

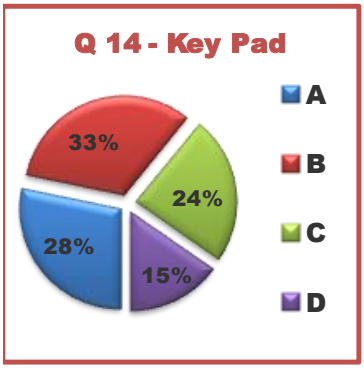
Q 13	Which of the following types of land uses should be restricted from developing along South Broadway frontage?						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	#	%	#	%	#
A	No land uses should be restricted	20.0%	9	31.4%	22	27.0%	31
B	Single-family residential only	15.6%	7	4.3%	3	8.7%	10
C	All residential	11.1%	5	15.7%	11	13.9%	16
D	Industrial	11.1%	5	17.1%	12	14.8%	17
E	One or more other land uses should be restricted	42.2%	19	31.4%	22	35.7%	41
	answered question		45		70		115
	skipped question		2		11		13

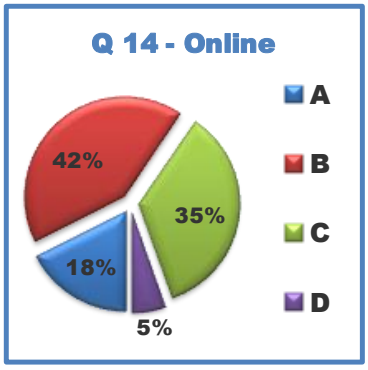


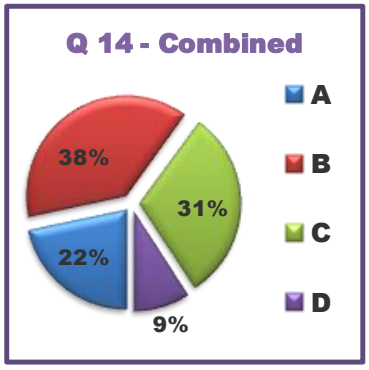




Q 14	Indicate your level of agreement with the following statement: Major commercial development that generates high traffic volumes should only be allowed to develop at locations with a high degree of access, such as major intersections.						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	#	%	#	%	#
A	I strongly agree	28.3%	13	17.6%	13	21.7%	26
B	I agree	32.6%	15	41.9%	31	38.3%	46
C	I disagree	23.9%	11	35.1%	26	30.8%	37
D	I strongly disagree	15.2%	7	5.4%	4	9.2%	11
	answered question		46		74		120
	skipped question		1		7		8

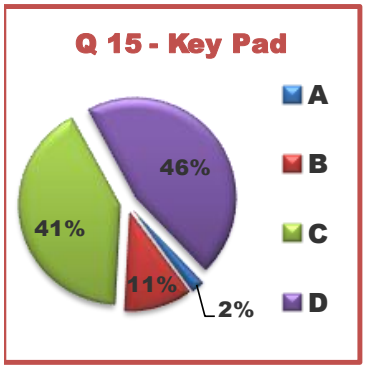


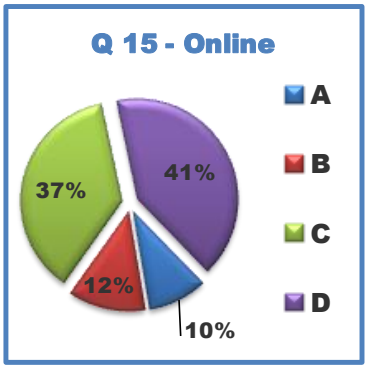


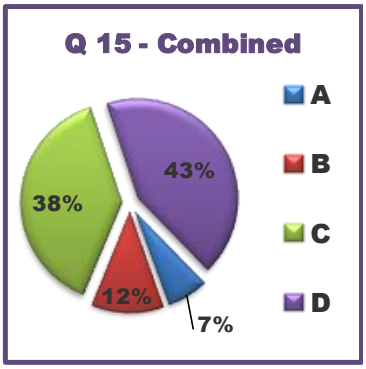


SURVEY #1 – CONTINUED

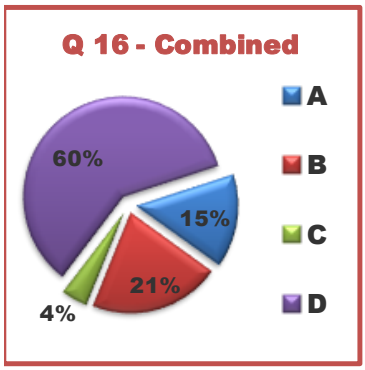
Q 15	Indicate your level of agreement with the following statement: The quality and/or design of the existing buildings along South Broadway present a positive image of the Haysville community.						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	**#**	**%**	**#**	**%**	**#**
A	I strongly agree	2.2%	1	9.6%	7	6.7%	8
B	I agree	10.9%	5	12.3%	9	11.8%	14
C	I disagree	41.3%	19	37.0%	27	38.7%	46
D	I strongly disagree	45.7%	21	41.1%	30	42.9%	51
	answered question		**46**		**73**		**119**
	skipped question		**1**		**8**		**9**

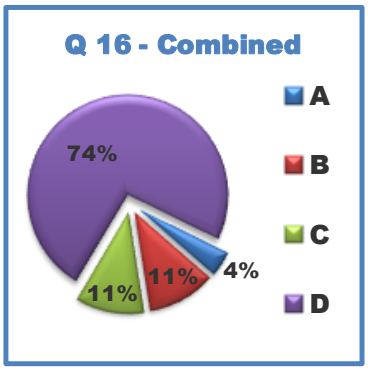


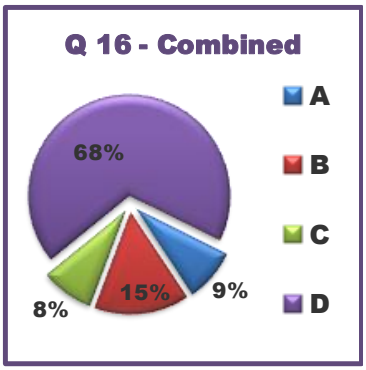




Q 16	The most effective way to control the quality of development is through:						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	**#**	**%**	**#**	**%**	**#**
A	Allowing property owners to construct buildings and develop sites as they see fit.	14.9%	7	4.2%	3	8.4%	10
B	Incentives to encourage preferred building materials and site design standards.	21.3%	10	11.1%	8	15.1%	18
C	Regulations that require certain building materials and site design standards.	4.3%	2	11.1%	8	8.4%	10
D	A mix of incentives and regulations.	59.6%	28	73.6%	53	68.1%	81
	answered question		**47**		**72**		**119**
	skipped question		**0**		**9**		**9**

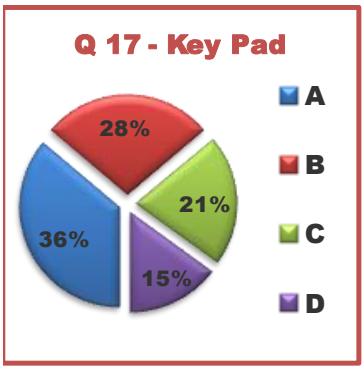


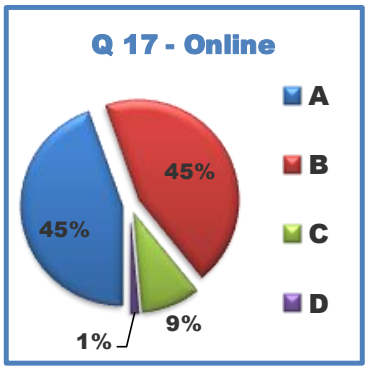


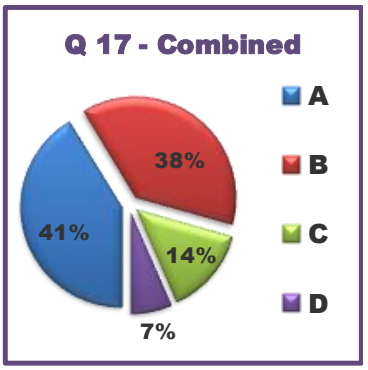


SURVEY #1 – CONTINUED

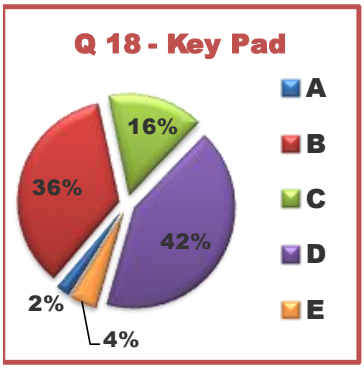
Q 17	Indicate your level of agreement with the following statement: Certain types of building materials used for commercial buildings should be encouraged to improve community image.						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	**#**	**%**	**#**	**%**	**#**
A	I strongly agree	36.2%	17	44.6%	33	41.3%	50
B	I agree	27.7%	13	44.6%	33	38.0%	46
C	I disagree	21.3%	10	9.5%	7	14.0%	17
D	I strongly disagree	14.9%	7	1.4%	1	6.6%	8
	answered question		**47**		**74**		**121**
	skipped question		**0**		**7**		**7**

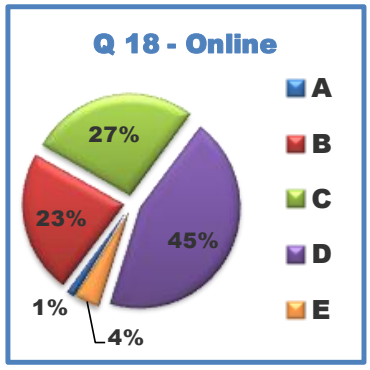


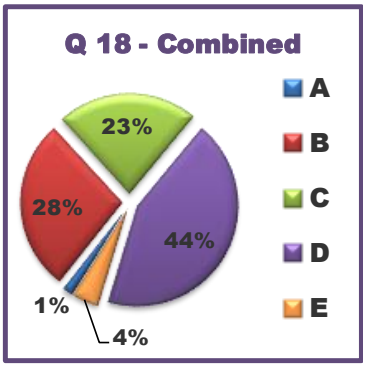




Q 18	Regardless of your previous answer, which building materials do you prefer? Please consider cost, durability and appearance.						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	**#**	**%**	**#**	**%**	**#**
A	Metal siding	2.2%	1	1.4%	1	1.7%	2
B	Metal siding with façades (building fronts) of other materials for enhanced appearance	35.6%	16	23.0%	17	27.7%	33
C	EIFS or stucco-style siding and façades	15.6%	7	27.0%	20	22.7%	27
D	Full or partial masonry	42.2%	19	44.6%	33	43.7%	52
E	Other materials such as vinyl or concrete board	4.4%	2	4.1%	3	4.2%	5
	answered question		**45**		**74**		**119**
	skipped question		**2**		**7**		**9**

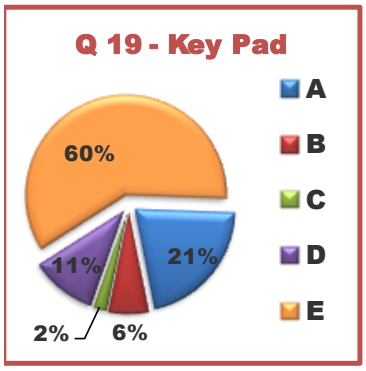


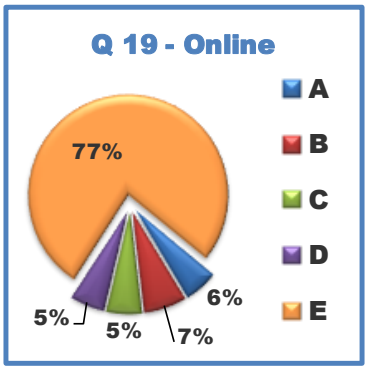


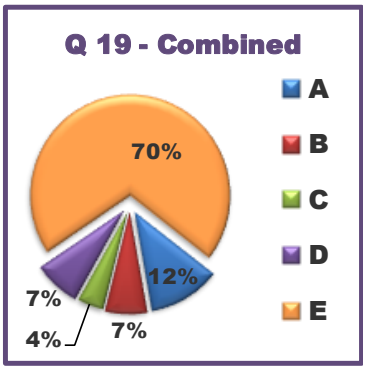


SURVEY #1 – CONTINUED

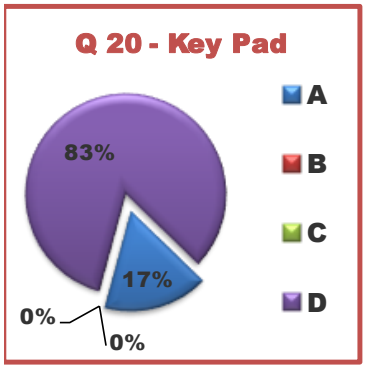
Q 19	To improve the attractiveness of the corridor, sign regulations along South Broadway should:						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Remain the same. There is no problem with how existing signs look.	21.3%	10	5.5%	4	11.7%	14
B	Require a consistent style, such as monument or pole signs.	6.4%	3	6.8%	5	6.7%	8
C	Restrict portable signs, banners and other temporary signs.	2.1%	1	5.5%	4	4.2%	5
D	Place reasonable requirements on the use of electronic and LED signs, such as animation or brightness limits.	10.6%	5	5.5%	4	7.5%	9
E	Some combination of B, C, and D.	59.6%	28	76.7%	56	70.0%	84
	answered question		47		73		120
	skipped question		0		8		8

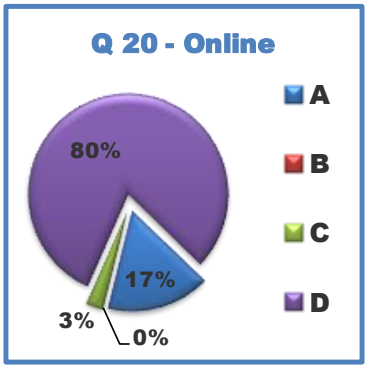


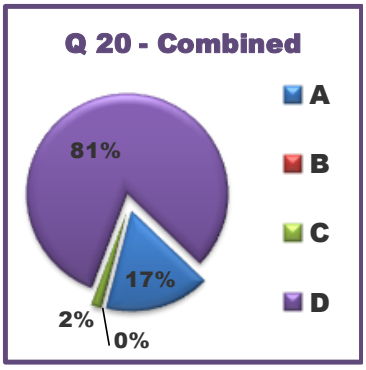




Q 20	Considering appearance, accessibility and walkability, indicate your preferred parking lot location for corridor commercial development.						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Front of building	17.0%	8	16.7%	12	16.8%	20
B	Rear of building	0.0%	0	0.0%	0	0.0%	0
C	Side of building	0.0%	0	2.8%	2	1.7%	2
D	It depends on factors such as location, type of land use or style of development.	83.0%	39	80.6%	58	81.5%	97
	answered question		47		72		119
	skipped question		0		9		9

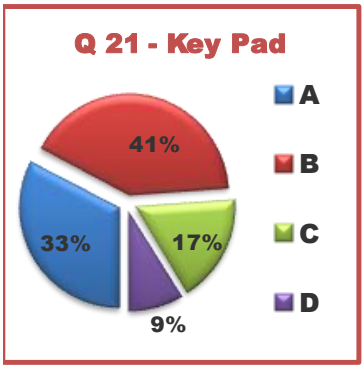


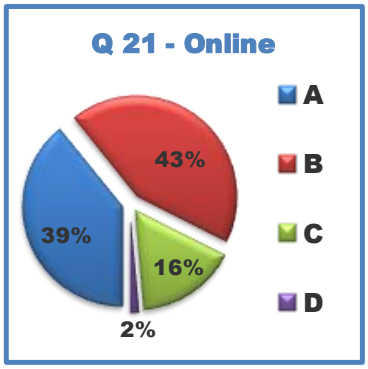


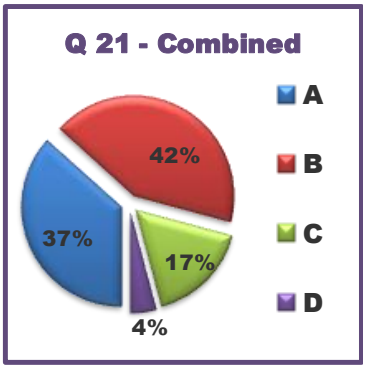


SURVEY #1 – CONTINUED

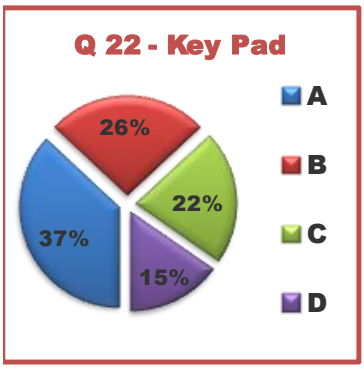
Q 21	Indicate your level of agreement with the following statement: Landscaped open space, perimeter plantings and/or landscaped parking islands should be a part of development standards for South Broadway frontage properties.						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	**#**	**%**	**#**	**%**	**#**
A	I strongly agree	32.6%	15	39.2%	29	36.7%	44
B	I agree	41.3%	19	43.2%	32	42.5%	51
C	I disagree	17.4%	8	16.2%	12	16.7%	20
D	I strongly disagree	8.7%	4	1.4%	1	4.2%	5
	answered question		**46**		**74**		**120**
	skipped question		**1**		**7**		**8**

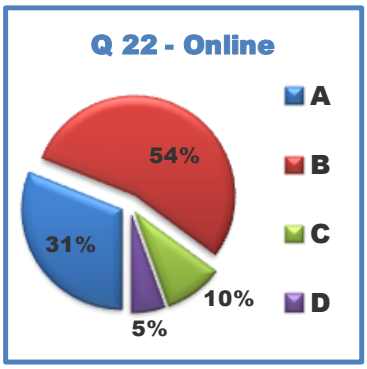


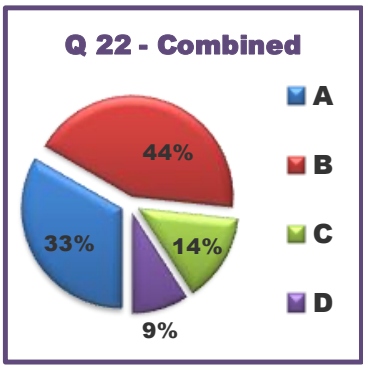




Q 22	Indicate your level of agreement with the following statement: The City of Haysville should plant street trees along all or part of South Broadway as corridor improvements are constructed.						
All Responses Combined		**Key Pad Poll**		**Online Survey**		**Combined**	
		%	**#**	**%**	**#**	**%**	**#**
A	I strongly agree	37.0%	17	31.1%	23	33.3%	40
B	I agree	26.1%	12	54.1%	40	43.3%	52
C	I disagree	21.7%	10	9.5%	7	14.2%	17
D	I strongly disagree	15.2%	7	5.4%	4	9.2%	11
	answered question		**46**		**74**		**120**
	skipped question		**1**		**7**		**8**

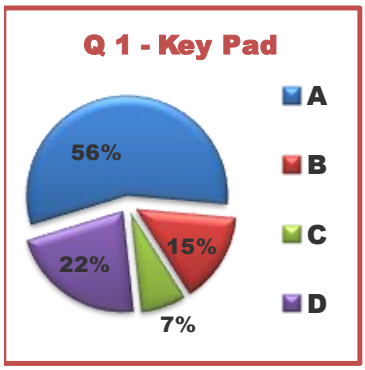


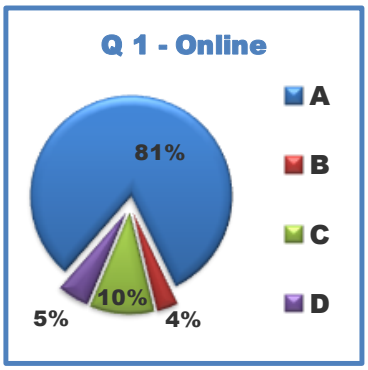


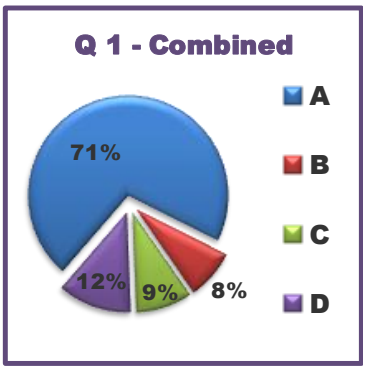


SURVEY #2 ON COMMUNITY PREFERENCES – COMBINED RESULTS

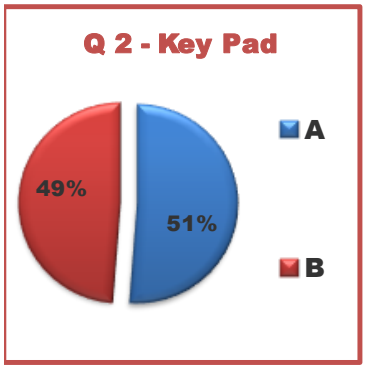
Q 1	I live in...						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Haysville	56.1%	23	81.4%	48	71.0%	71
B	Wichita	14.6%	6	3.4%	2	8.0%	8
C	Unincorporated Sedgwick County	7.3%	3	10.2%	6	9.0%	9
D	Some other place. Please type the name of the place you live.	22.0%	9	5.1%	3	12.0%	12
	answered question		41		59		100
	skipped question		1		0		1

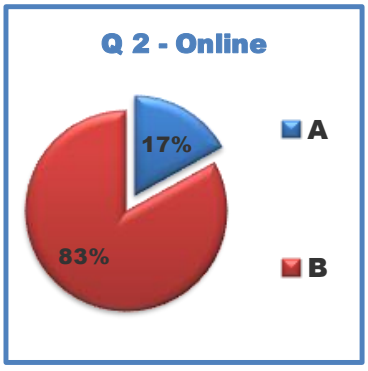


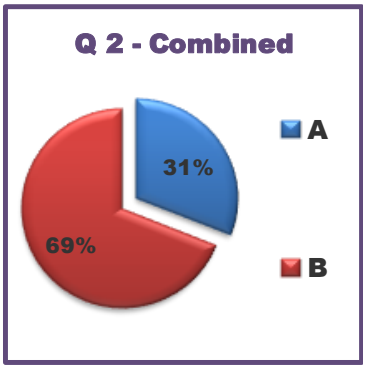




Q 2	I own home, business and/or property with a South Broadway address.						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Yes	51.2%	21	16.9%	10	31.0%	31
B	No	48.8%	20	83.1%	49	69.0%	69
	answered question		41		59		100
	skipped question		1		0		1

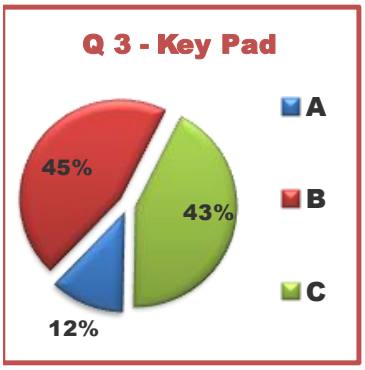


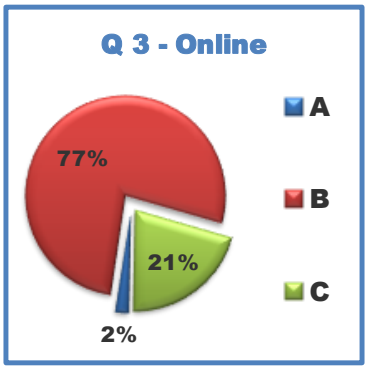


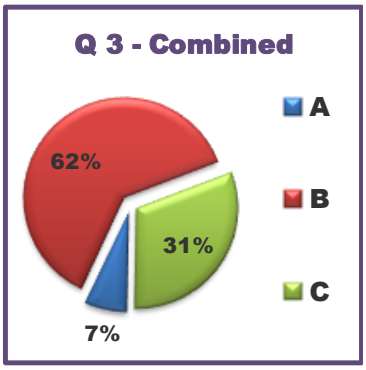


SURVEY #2 – CONTINUED

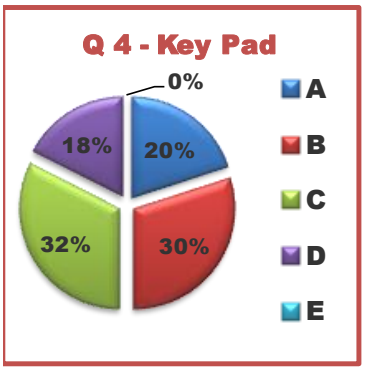
Q 3	Which of the concept alternatives do you prefer for future left turn lane improvements on South Broadway in the study area?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Alternative A - The existing configuration.	11.9%	5	2.1%	1	6.7%	6
B	Alternative B - Adding a continuous left turn lane through most of the corridor.	45.2%	19	77.1%	37	62.2%	56
C	Alternative C - Adding left turn lanes only at driveways and intersections with high traffic volumes.	42.9%	18	20.8%	10	31.1%	28
	answered question		42		48		90
	skipped question		0		11		11

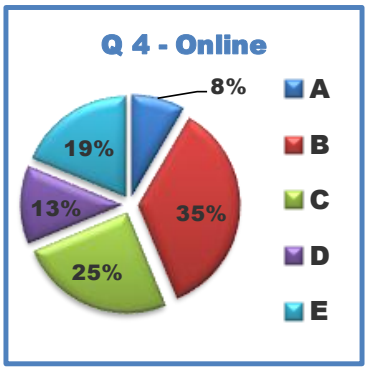


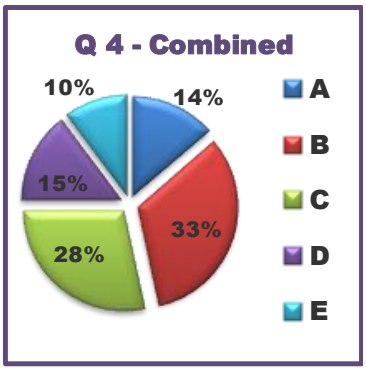




Q 4	Which of the concept alternatives do you prefer for future pedestrian and/or bicycle facilities on South Broadway in the study area?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Alternative A - Keep only existing sidewalks.	20.0%	8	8.3%	4	13.6%	12
B	Alternative B - Add new 5-foot sidewalks on both sides.	30.0%	12	35.4%	17	33.0%	29
C	Alternative C - Add a new 10-foot sidepath on the west side AND add a new 5-foot sidewalk on the east side.	32.5%	13	25.0%	12	28.4%	25
D	Alternative D - Add new 10-foot sidepaths on both sides.	17.5%	7	12.5%	6	14.8%	13
E	Alternative E - Add new 5-foot sidewalks on both sides AND add new on-street bike lanes.	0.0%	0	18.8%	9	10.2%	9
	answered question		40		48		88
	skipped question		2		11		13

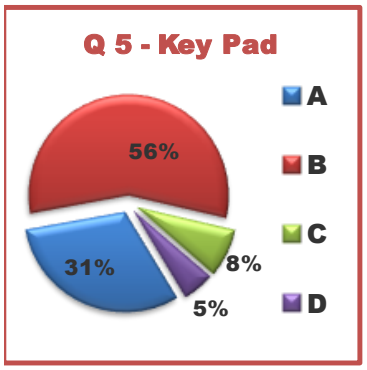


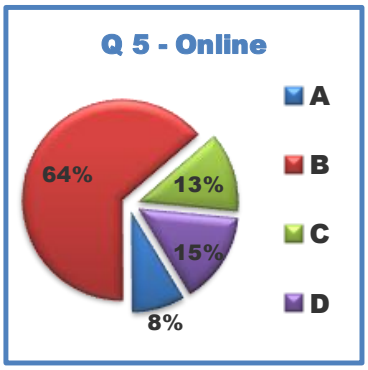


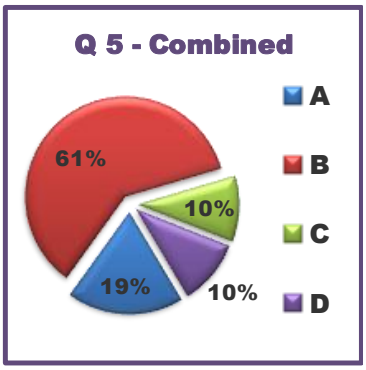


SURVEY #2 – CONTINUED

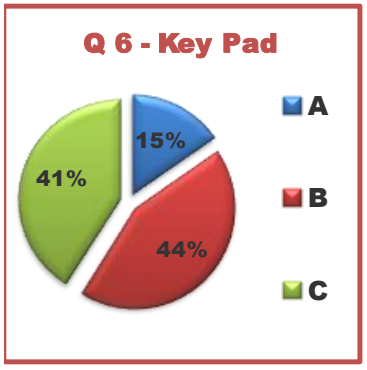
Q 5	Which type of development do you think represents the SAFEST walking environment?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	High-end Strip Center	30.8%	12	8.5%	4	18.6%	16
B	New Urbanist Mixed Use	56.4%	22	63.8%	30	60.5%	52
C	Big Box Retail Center	7.7%	3	12.8%	6	10.5%	9
D	Suburban Commercial Strip	5.1%	2	14.9%	7	10.5%	9
	answered question		39		47		86
	skipped question		3		12		15

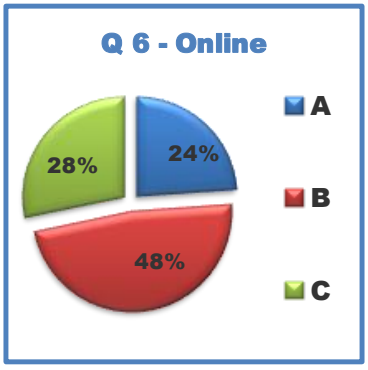


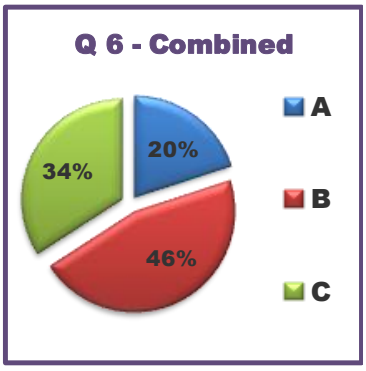




Q 6	Without regard to existing development, which of these land use patterns represents your PREFERRED FUTURE DEVELOPMENT SCENARIO for the South Broadway corridor study area?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Scenario Alternative A - Haysville Comprehensive Plan	15.4%	6	23.9%	11	20.0%	17
B	Scenario Alternative B - Mixed uses with major retail arterial nodes	43.6%	17	47.8%	22	45.9%	39
C	Scenario Alternative C - Strip commercial with industrial	41.0%	16	28.3%	13	34.1%	29
	answered question		39		46		85
	skipped question		3		13		16

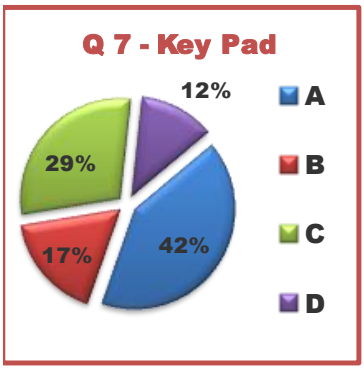


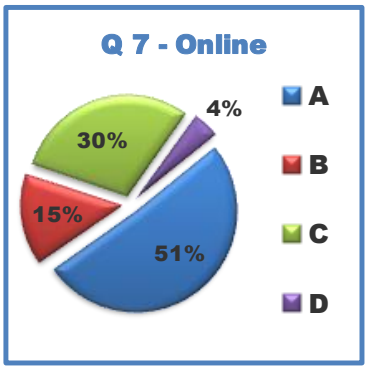


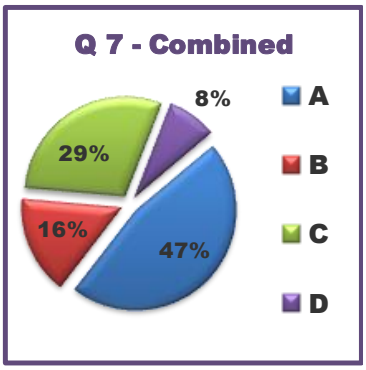


SURVEY #2 – CONTINUED

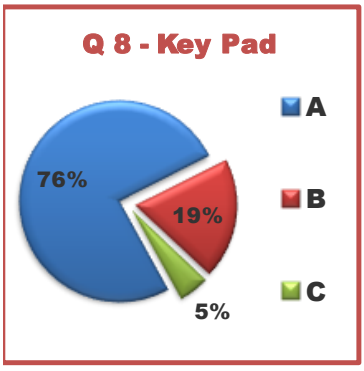
Q 7	Considering ONLY the signs, which picture represents the MOST ATTRACTIVE corridor?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Monument Signs with Similar Designs	41.5%	17	51.1%	24	46.6%	41
B	Flush Mounted Signs	17.1%	7	14.9%	7	15.9%	14
C	Pole Signs with Similar Designs	29.3%	12	29.8%	14	29.5%	26
D	Inconsistent Mix of Sign Styles and Sizes	12.2%	5	4.3%	2	8.0%	7
	answered question		41		47		88
	skipped question		1		12		13

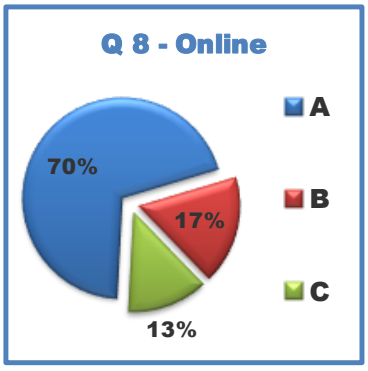


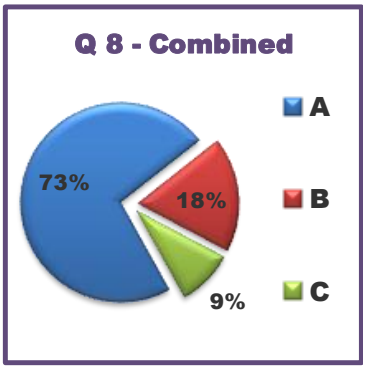




Q 8	Which STYLE of street furniture and light fixture best represent the desired character of future development on South Broadway in the study area?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Alternative A - Traditional/Historic	75.6%	31	69.6%	32	72.4%	63
B	Alternative B - Modern/Contemporary	19.5%	8	17.4%	8	18.4%	16
C	Alternative C - Artistic/Whimsical	4.9%	2	13.0%	6	9.2%	8
	answered question		41		46		87
	skipped question		1		13		14

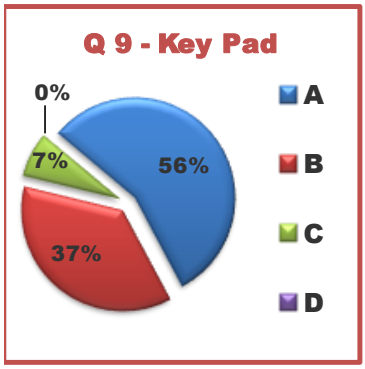


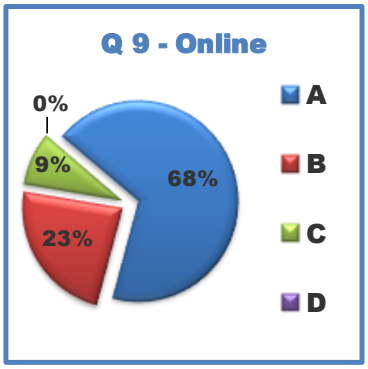


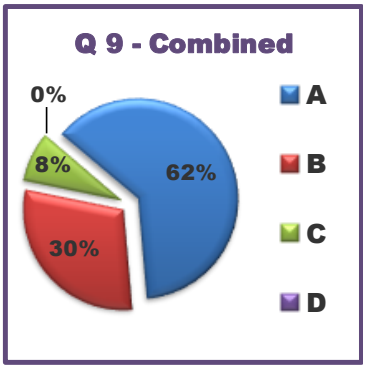


SURVEY #2 – CONTINUED

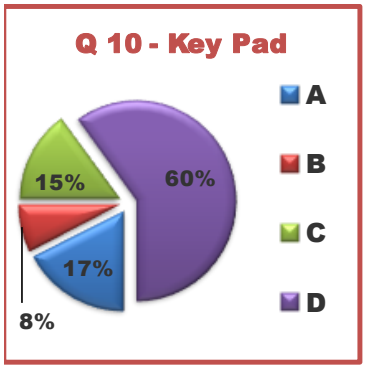
Q 9	Indicate your level of agreement with the following statement: Light emitting diode (LED) light fixtures should be considered for new or replacement streetlights along South Broadway in the study area?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	I strongly agree	56.1%	23	68.1%	32	62.5%	55
B	I agree	36.6%	15	23.4%	11	29.5%	26
C	I disagree	7.3%	3	8.5%	4	8.0%	7
D	I strongly disagree	0.0%	0	0.0%	0	0.0%	0
	answered question		41		47		88
	skipped question		1		12		13

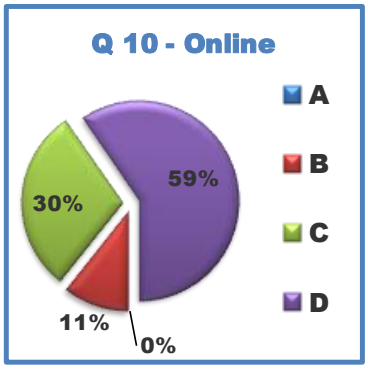


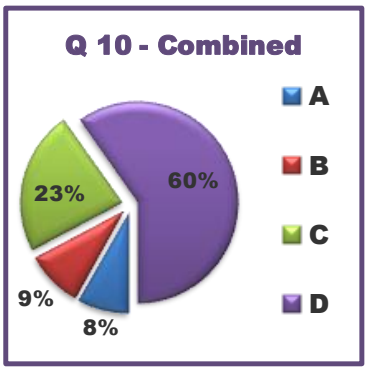




Q 10	Which STYLE of gateway sign is most appropriate for Haysville along the South Broadway corridor?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Alternative A - Standard or modified city limit sign	17.5%	7	0.0%	0	8.0%	7
B	Alternative B - Traditional style pole sign	7.5%	3	10.6%	5	9.2%	8
C	Alternative C - Custom pole sign with modified legs or columns	15.0%	6	29.8%	14	23.0%	20
D	Alternative D - Custom pylon or monument sign	60.0%	24	59.6%	28	59.8%	52
	answered question		40		47		87
	skipped question		2		12		14

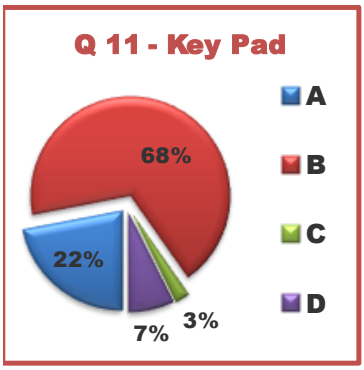


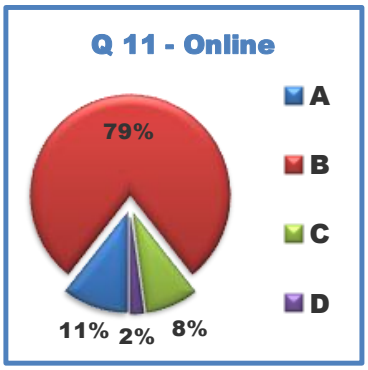


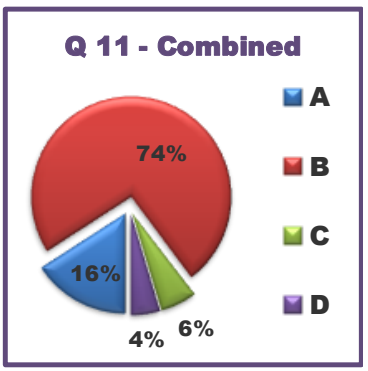


SURVEY #2 – CONTINUED

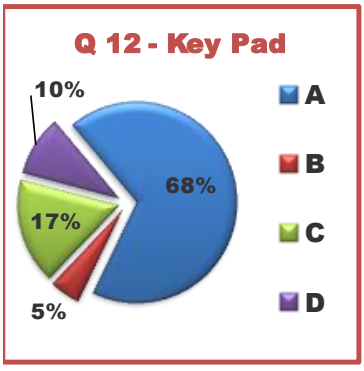
Q 11	Which type of development represents the MOST ATTRACTIVE AND PLEASANT walking environment?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	High-end Strip Center	22.0%	9	10.6%	5	15.9%	14
B	New Urbanist Mixed Use	68.3%	28	78.7%	37	73.9%	65
C	Big Box Retail Center	2.4%	1	8.5%	4	5.7%	5
D	Suburban Commercial Strip	7.3%	3	2.1%	1	4.5%	4
	answered question		41		47		88
	skipped question		1		12		13

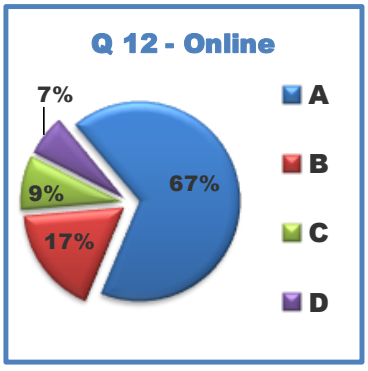


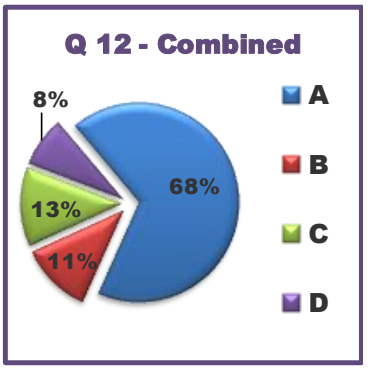




Q 12	Considering ONLY landscaping, which represents the MOST ATTRACTIVE corridor?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Street Trees and Planters	68.3%	28	67.4%	31	67.8%	59
B	Large Setbacks and Lawns	4.9%	2	17.4%	8	11.5%	10
C	Minimal; Mostly On-site	17.1%	7	8.7%	4	12.6%	11
D	Lot Perimeter; On-site	9.8%	4	6.5%	3	8.0%	7
	answered question		41		46		87
	skipped question		1		13		14

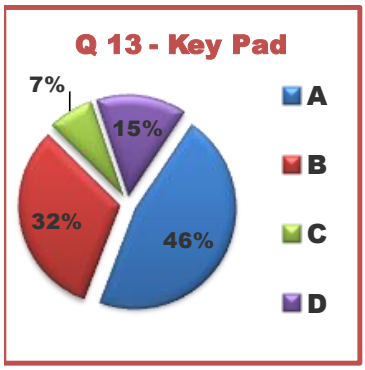


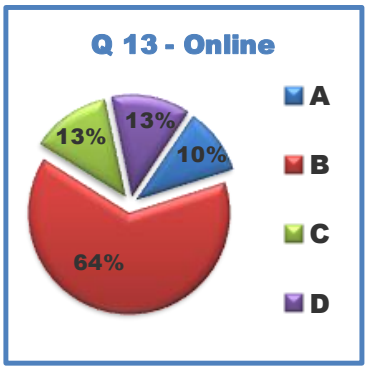


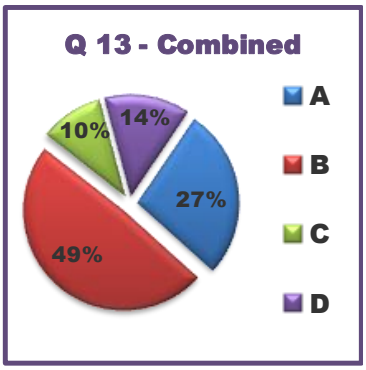


SURVEY #2 – CONTINUED

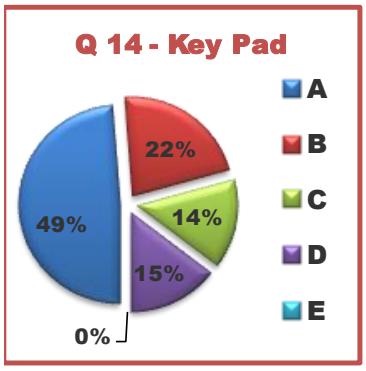
Q 13	Which image represents the MINIMUM ACCEPTABLE combination of exterior siding materials for future commercial buildings in the South Broadway corridor?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Alternative A - Metal & Masonry	46.3%	19	10.6%	5	27.3%	24
B	Alternative B - EIFS or Stucco Style & Masonry	31.7%	13	63.8%	30	48.9%	43
C	Alternative C - Other Lap or Panel Siding & Masonry	7.3%	3	12.8%	6	10.2%	9
D	Alternative D - Masonry Only	14.6%	6	12.8%	6	13.6%	12
	answered question		41		47		88
	skipped question		1		12		13

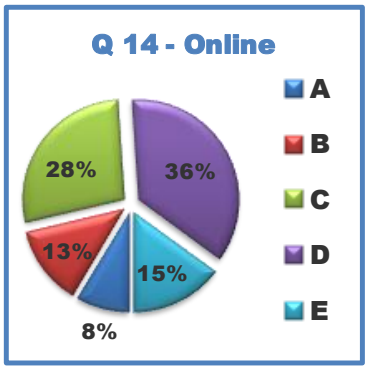


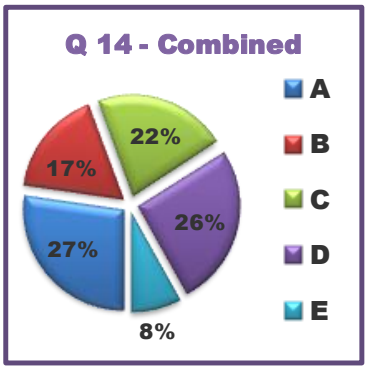




Q 14	Which picture represents the MOST APPROPRIATE PERCENTAGE of brick/masonry exterior coverage for future commercial buildings in the South Broadway corridor?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	Alternative A - Under 25%	48.8%	20	8.5%	4	27.3%	24
B	Alternative B - 25%	22.0%	9	12.8%	6	17.0%	15
C	Alternative C - 50%	14.6%	6	27.7%	13	21.6%	19
D	Alternative D - 75%	14.6%	6	36.2%	17	26.1%	23
E	Alternative E - 100%	0.0%	0	14.9%	7	8.0%	7
	answered question		41		47		88
	skipped question		1		12		13

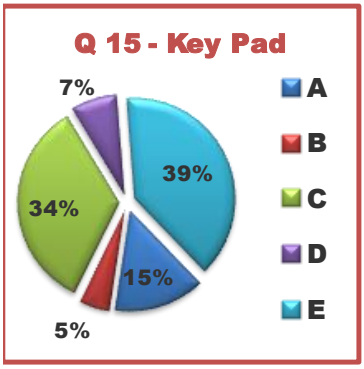


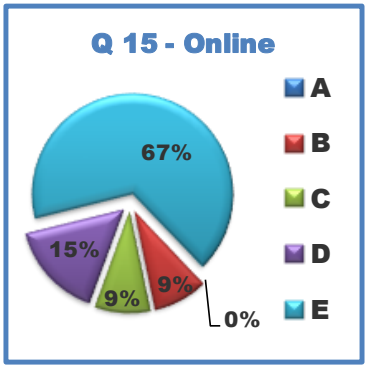


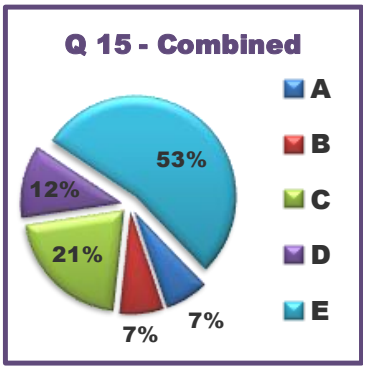


SURVEY #2 – CONTINUED

Q 15	Which of the following methods would you support for implementing community preferences for high quality FUTURE COMMERCIAL DEVELOPMENT along the South Broadway corridor?						
All Responses Combined		Key Pad Poll		Online Survey		Combined	
		%	#	%	#	%	#
A	ALTERNATIVE A: NO ACTION - Make no changes to current development codes and processes.	14.6%	6	0.0%	0	7.0%	6
B	ALTERNATIVE B: ENCOURAGEMENT - Develop design guidelines that explain/illustrate preferred design elements.	4.9%	2	8.9%	4	7.0%	6
C	ALTERNATIVE C: INCENTIVES - Develop design guidelines along with policy and/or financial incentives.	34.1%	14	8.9%	4	20.9%	18
D	ALTERNATIVE D: REGULATION - Add design standards to development codes that require preferred elements.	7.3%	3	15.6%	7	11.6%	10
E	ALTERNATIVE E: HYBRID - Some combination of B, C & D.	39.0%	16	66.7%	30	53.5%	46
	answered question		41		45		86
	skipped question		1		14		15







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APPENDIX B
FUNDAMENTAL TRANSPORTATION CONCEPTS

TRANSPORTATION/LAND USE RELATIONSHIP

Transportation and land use are closely related for several reasons. Land is of little worth if it cannot be conveniently accessed by vehicles. Roadway access is one of the most important considerations in the layout and site design of any type of land development. Additionally, the design and function of roadways often dictate the types of land uses that are appropriate in a given location. For example, industrial land uses are best located along truck routes and arterial roads.

Conversely, adjacent land use is a key factor in the design and function of roadways. Roads that serve industrial areas are generally designed to withstand larger vehicles and heavier traffic volumes than residential streets. For these reasons, decisions regarding transportation facilities must take into consideration local land use and economic demands.

FUNCTIONAL ROAD CLASSIFICATION

As shown in **Figure B.1**, local roadways are commonly grouped into three main functional classifications: arterial streets, collector streets and local streets.

Arterials provide the highest level of service at the greatest speeds for the longest uninterrupted distance, with some degree of access control. South Broadway through Haysville serves the community as an arterial.

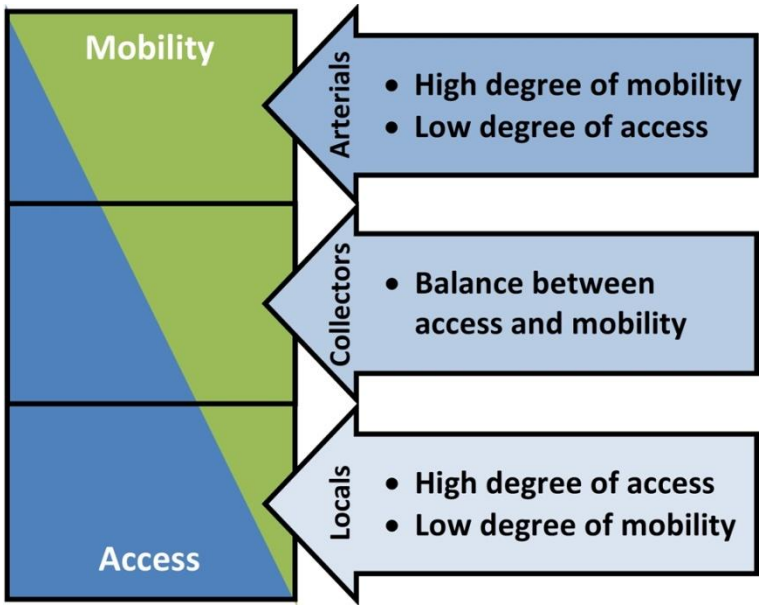

Figure B.1: Functional Road Classification

Collectors, as their name implies, collect local traffic and provide connections between property and arterials. They provide a lesser level of service at lower speeds than arterials. One example of a collector in Haysville is Kay Ave., which conveys traffic from residential areas to South Broadway from the west.

Local streets primarily provide direct access to property parcels and allow for little, if any, through movement across a community. They are characterized by an abundance of driveways and slow speeds. Local streets funnel traffic to collector streets. Most streets within a residential subdivision are considered local streets.

Functional classification is closely related to both land use and access management, since the functional classification of a roadway is tied directly to the level of access to property. Under ideal circumstances, arterials provide very limited direct access to property parcels. Where such access points exist, such as to serve retail businesses, they should be spaced appropriately to minimize impact on traffic flow. Access to land parcels along collectors can be more closely spaced since traffic speeds are lower and the access needs are greater. Finally, driveways along local streets can be spaced quite closely because of the low travel speeds and relatively abundant need for direct property access.

ACCESS MANAGEMENT BASICS

Why is Access Management Important?

The Transportation Research Board (TRB) Access Management Manual defines access management as "the systematic control of the location, spacing, design, and operations of driveways, median openings, interchanges and street connections to a roadway." Each driveway and intersection along a roadway creates a potential point of conflict where travel paths may cross one another. They also cause friction within the traffic stream as vehicles reduce speed to make turning movements.

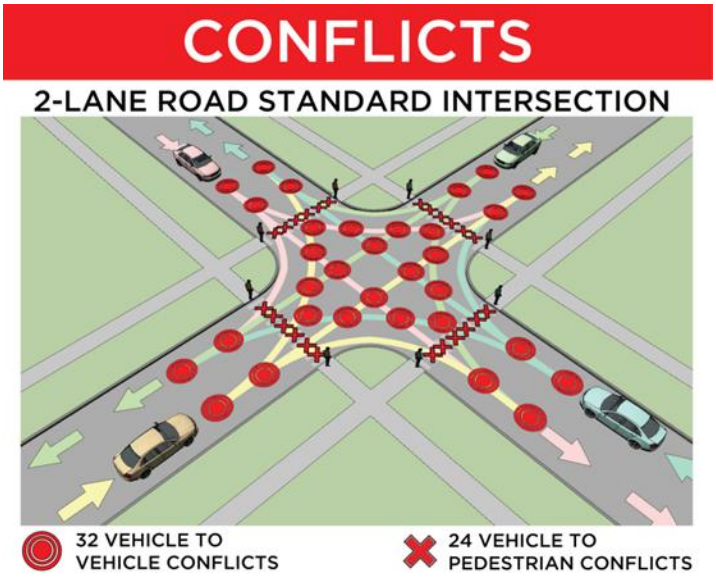

Figure B.2: Intersection Conflict Points

A conflict point is a location where the potential exists for a vehicle to collide with another road user, whether it is another vehicle, pedestrian or bicyclist. The typical four-way, two-lane intersection has 56 conflict points of which 32 are vehicle-to-vehicle conflicts and 24 are vehicle-to-pedestrian conflicts. This is illustrated in **Figure B.2**.

Access management improvements to typical intersections, such as dedicated turning lanes, result in fewer overall conflict points. Research by the TRB indicates that an estimated 40% of crashes occur at access locations. The addition of dedicated left turn lanes alone reduces crashes an average of about 50% and reduces rear-end collisions an average of 74% thereby improving safety for all road users.

Access is managed through a variety of common methods and design treatments further detailed in in the following section. Several of these access management techniques include:

- Medians.
- Turning lanes.
- Roundabouts.
- Proper traffic signal timing.
- Frontage roads.
- Appropriate driveway spacing.

Properly executed access management offers many potential benefits to a variety of transportation system users at relatively low costs. This high benefit-to-cost ratio is the main reason it has become an essential part of transportation system design in the United States. In recent decades, taxpayers have begun demanding good infrastructure investments to maximize the dollars spent. Access management delivers. To illustrate this point, some of the major benefits of good access management are listed below.

- Preserve highway capacity and reduce crashes.
- Protects public investment by reducing the need for costly roadway improvements.
- Faster, safer, more efficient travel.
- Improved access to businesses and increased business vitality.
- Relatively low-cost to implement compared to adding capacity.
- Return on investment is measurable in travel time savings and fewer crashes.

ACCESS MANAGEMENT TECHNIQUES

To achieve the safety and efficiency goals of access management, a variety of design techniques are employed. This section describes a few commonly used access management design techniques that may have some application within the study area or within the Haysville area community. This is by no means an exhaustive list. Each technique described in this section has a variety of benefits when used in the appropriate situation. The benefits of some of these common techniques are outlined in the **Table B.A** on the next page.

Turn Lanes

Left turn lanes remove left turning movements from the through travel lanes. This provides left-turning vehicles refuge, which helps preserve traffic flow on through lanes and provides storage space while waiting to make a safe turning movement. Dedicated left turn lanes are separated from through lanes by either a raised or painted median. Left turn lanes improve safety, increase visibility of oncoming traffic and expand roadway capacity.

Two-way left turn lanes (TWLTL) or center left turn lanes (CLTL) are painted medians that provide left turn refuge for both travel directions on two-way roadways. They are appropriate where moderate to high levels of development exist adjacent to roadways. However, they can be used in lesser developed commercial corridors with high left turn demand. TWLTLs also provide refuge for vehicles turning left onto a roadway where they can wait to safely merge into the main traffic lane.

Access Management Benefit	Access Management Technique					
	Medians	Turning Lanes	Round-abouts	Traffic Signal Timing	Frontage Roads	Driveway Spacing
Improve motorist safety	◆	◆	◆			◆
Improve pedestrian and bicycle safety	◆		◆	◆		◆
Reduce conflict points	◆	◆	◆	◆	◆	◆
Decrease crash rates	◆	◆	◆			◆
Improve air quality			◆	◆		
Decrease congestion	◆	◆	◆	◆	◆	◆
Improve aesthetics	◆		◆			◆
Decrease travel times		◆	◆	◆		◆
Improve access to properties		◆			◆	◆
Preserve roadway capacity	◆	◆	◆	◆	◆	◆

Table B.A: Access Management Techniques and Benefits

Right turn lanes are sometimes deployed at relatively high traffic intersections to remove right turning movements from the through travel lanes. They are not frequently implemented at lower volume driveways and intersections, because right turning traffic does not need to come to a complete stop under normal circumstances. Also, right turning movements do not cross another vehicle's travel path. However, they can serve an important role in access management by allowing space for right turning vehicles to decelerate to a safe speed prior to negotiating the turn. By removing that deceleration from the through travel lane, friction is minimized and potential conflict avoided.

Medians

There are two main types of medians: raised (non-traversable) medians, flush (painted) medians. Medians provide a physical or visual barrier, which separates opposing traffic flows and concentrates turning movements to specific sections of a roadway. Raised medians are particularly useful in access management because of the physical separation they provide. Raised medians also have ancillary benefits. For example, they can be used for landscaping, drainage and pedestrian refuge.

Traffic Signal Spacing/Timing

Traffic signals serve the important purpose of controlling the flow of traffic at relatively high volume intersections. But they should be used sparingly. Generally, signal deployment occurs only as warranted and justified by a through traffic engineering analysis. Such an analysis normally considers the broader traffic control needs of the entire corridor and local land use development plans to maximize positive results.

Proper spacing and timing of traffic signals helps control the ebb and flow of traffic to facilitate access management along a roadway. Too frequent spacing results in decreased operational efficiency by slowing traffic flow. Poorly synchronized timing cycles yield similar results.

Roundabouts

A roundabout is a type of intersection in which traffic from all directions merges into a circular facility and travels counter-clockwise until it can proceed in its desired direction of travel. In many situations, roundabouts have proven to be safer and more efficient at moving traffic than signalized intersections.

They can be safer than typical two lane intersections, because they eliminate conflict points within an intersection. The typical two lane intersection, as previously mentioned, has 32 conflict points. In a roundabout, there are no left turn movements. This results in only eight vehicular conflict points, none of which represent the potential for a head-on collision (**Figure B.3**).

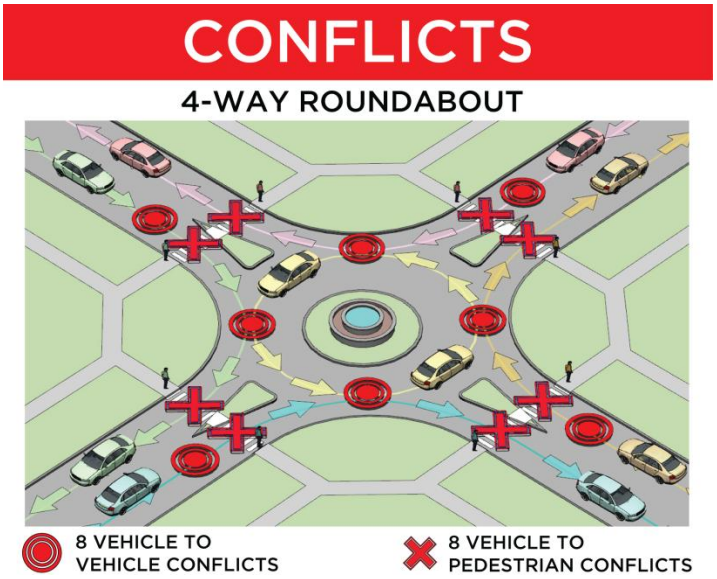

Figure B.3: Roundabout Conflict Points

Frontage Roads

Frontage roads are built parallel to the primary roadway and allow no direct access from properties onto the main through lanes. The standard frontage road configuration places it adjacent to the primary roadway and allows front access to properties. The frontage road typically connects to an intersecting roadway, where traffic is then allowed to access the main through lanes. Frontage roads allow businesses good visibility to the primary roadway while minimizing the number of direct access points.

Reverse frontage or backage roads are an alternative configuration to typical frontage roads. They are offset a greater distance from the primary roadway, typically located to the rear of frontage lots. This means that traffic accesses property from the rear of the lot. The main advantage to reverse frontage roads is that the greater offset distance separates the turning movements from the primary intersection, creating a safer and more efficient configuration. This also allows for commercial development on both sides of the frontage road.

Driveway Spacing

The amount of space between driveways can dramatically affect traffic flow. Condensed driveway spacing results in many conflict points along a corridor, while increased driveway spacing creates fewer conflict points. The greater the distance between access points, the smoother the traffic flow. There are several methods used to control driveway spacing. These include cross-lot access, shared access and shared parking.

Cross-lot access occurs when access is gained to a property through an adjacent property's driveway. Shared access occurs when two or more properties gain access through a driveway that is located on a common property line. Shared parking occurs when adjacent properties jointly develop, maintain and use the same parking area.

Such access strategies are commonly implemented by legal agreements entered into by adjacent property owners. The agreements are notarized and filed for record with the local county and are legally binding. Also, access agreements typically run with the land to ensure long-term mitigation of access issues. That is to say, they do not expire with a change in ownership, but remain intact as property changes hands. Therefore, access management is enhanced over an extended period of time. Many jurisdictions have standard access agreements to facilitate their use. Such agreements can be used as conditions of development approval.

LEVEL OF SERVICE (LOS)

One common measure of a facility's operational efficiency is level of service (LOS). Road segment LOS is measured by how freely the stream of traffic is flowing. Intersection LOS uses amount of delay at an intersection. While different, delay and flow both describe congestion.

U.S. highway standards use the letters A through F to describe LOS. LOS A indicates the least congested conditions and LOS F describes the most congested conditions. Generally, LOS C is considered optimal efficiency. In other words, a road segment or intersection operating at LOS C is designed with the appropriate amount of capacity to handle the traffic volumes seen during the period of analysis. **Table 5.A** in **Chapter 5** summarizes the definitions of each LOS measure from TRB's Highway Capacity Manual.

TRAFFIC ANALYSIS BASICS

Many factors impact how much traffic uses a road. This includes the types of development along or near it, what the road connects to, how far the road travels, the number of lanes the road has (road capacity) and area population. Transportation planners and engineers must take all these things into account when determining where roads should be located and how much capacity is needed.

The volume of traffic on a roadway is often referred to in terms of average daily traffic (ADT). Traffic volumes are determined using counting devices. Counts are typically gathered in 15 minute increments over the course of one week. The totals are then divided over a week to get the ADT.

Not only is current information important, but planning a transportation corridor requires traffic volume forecasts for future years. Traffic volume projections can be made using a software-based travel demand forecasting model (TDFM). TDFMs determine future traffic volumes and flows taking into consideration factors such as land uses, employment, travel patterns, modes of travel and anticipated road projects. Metropolitan Planning Organizations (MPOs), such as WAMPO, use a TDFM to plan their regional transportation network.

Alternatively, mathematic formulas can be used forecast future traffic volumes. This technique applies an assumed rate of growth to baseline traffic volumes. Mathematic forecasting is often used to supplement or verify TDFM projections. It is a particularly useful method when there are circumstances that are not accounted for in the TDFM, such as new development or recent transportation improvements.

Traffic simulation software is another useful analysis tool. This tool works by building a model of the existing roadway configurations and mimicking how the road operates as traffic volumes change over time. At locations where operational issues occur, alternatives or countermeasures can be developed and tested for effectiveness. These alternatives may be relatively simple, such as changing a traffic signal's timing. Design alternatives can also be evaluated. For example, turn lanes or a roundabout might be modeled for a congested intersection.

INTERSECTION ANALYSIS BASICS

The design of an intersection is a critical part of how safely and efficiently it conveys traffic. An intersection's size, number of lanes (through and turn), configuration or geometry, type of traffic control (signal or sign) and signal timing are all factors. As traffic increases through an intersection, improvements or modifications may keep traffic flowing smoothly.

Intersections may also be impacted by rush hour traffic. The morning rush hour is called the AM peak. The afternoon rush hour is called the PM peak. Traffic volume through an intersection can vary substantially between the AM and PM peaks, depending on the direction of travel.

CRASH ANALYSIS BASICS

Roadway system deficiencies, which are manifested in vehicle crashes, contribute to low work productivity, economic loss, as well as human suffering and death. Due to the human factors affecting drivers, roadway geometry and capacity do not always correspond to roadway safety. However, a concentration of crashes or a frequently recurring pattern of crashes can indicate problems with roadway characteristics. Therefore, crash analysis can be used to identify problem locations and assist in developing countermeasures to future roadway improvements.

Traffic crashes are evaluated using the total number of accidents, the accident severity and the accident rate. Accident severity refers to the harm caused by the crash in terms of property damage only (PDO), injury or fatality. Accident rates are typically compared based upon traffic volumes and

exposure. KDOT evaluates crash rates for roadway segments in terms of million vehicle miles (mvm) and intersection crash rates are compared in terms of ten million entering vehicles (tmev).

In evaluating crash rates, two primary values are used for comparison – the "statewide average (mean) crash rate" and the "critical crash rate." The critical crash rate identifies locations where the crash rate is significantly worse than average for specific road types and traffic volumes.

APPENDIX C
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