



County Road 311/US 31

Corridor Study

July 2017

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ACKNOWLEDGMENTS

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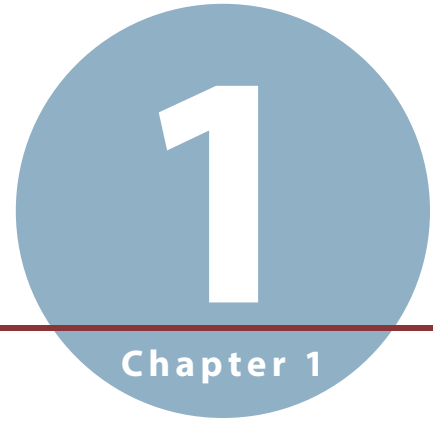
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EXECUTIVE SUMMARY



INTRODUCTION

This KIPDA County Road/US 31 Corridor Study was a cooperative process among many stakeholders with a vested interest in this corridor. The study was sponsored by The Kentuckiana Regional Planning & Development Agency (KIPDA) and was conducted and developed in a cooperative spirit with involvement from representatives from the following municipalities and agencies:

- Town of Sellersburg (Sellersburg)
- Town of Clarksville (Clarksville)
- Clark County
- Indiana Department of Transportation Seymour District (INDOT)

This study was commissioned with an eye towards identifying short and long-term improvements which will help reduce congestion and delays experienced along the corridor. One primary goal for the project, from the outset, was to identify the following types of improvements:

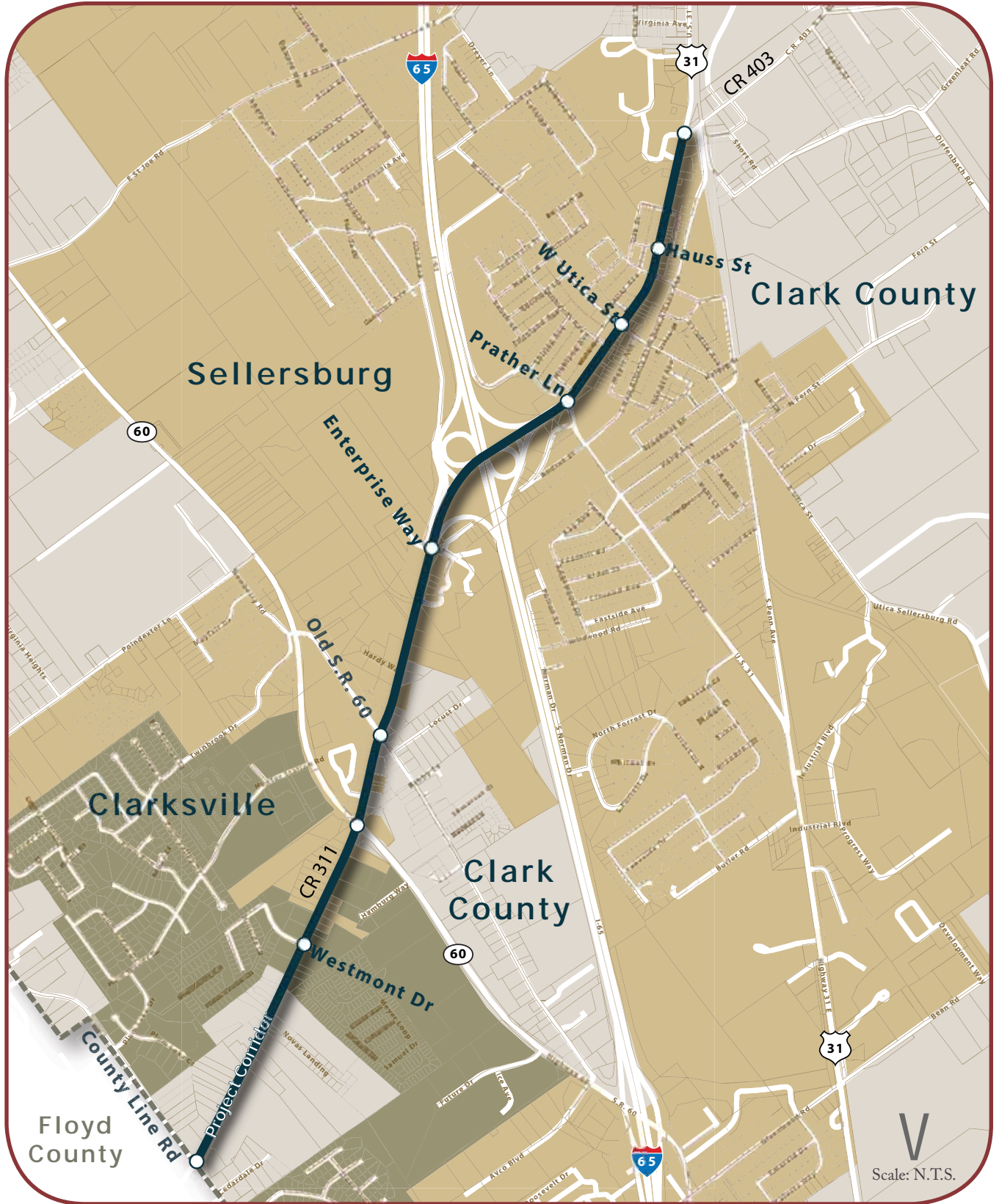
1. Short-term improvements, which could have some immediate positive impact on the corridor, and could also be implemented quickly and with more limited capital cost.
 2. Long-term improvements, which may be more challenging or more capital intensive but which will provide a permanent and significant upgrade over current conditions.
-

Corridor Complexity

One key takeaway from this study is the complexity which exists within the corridor study area. This complexity manifests itself primary in the following ways:

- Jurisdictional complexity – There are currently at least five major municipal and agency stakeholders with some responsibility over portions of the corridor. This blurs boundary lines for responsibility, which can result in decision making hesitancy due to uncertainty over primary responsibility.
- Physical complexity – There are a number of physical character changes along the corridor which lead to a diverse mix of character zones. Below is a brief description of the major character types identified during the study:
 - Southern portions of the corridor are largely rural in character with typical roadway characteristics expected for the former state road corridor, including open graded stormwater management and paved shoulders with no curbs. The development character adjacent to the corridor in these areas is still largely single lot residential with some larger parcels of land also present.
 - The middle portions of the corridor represent a more suburban style of roadway character. The roadway cross section is wider in many areas, and some curb and gutter has replaced the paved shoulder over time. However, some rural characteristics that can still be observed within this portion of the study area include, most prominently, multiple individual driveway approaches and open graded stormwater conveyance.
 - The northern portions of the corridor exhibit a more traditional urban type of roadway character with a fully paved cross section including curb and gutter. This portion of the corridor also has numerous, yet disconnected pedestrian provisions. Adjacent development in this portion of the study area includes scattered traditional commercial and retail uses with mixed out lot developments and some older residential uses.

The multiple character changes, pavement widths, and right of way conditions present a challenging mix of existing conditions to overcome if the future vision for this corridor is to be realized. Given the complexity of existing conditions and the number of municipalities and agencies with some jurisdiction over the corridor, cooperation will be key in making sure that improvements are made cohesively. Additional discussion on the corridor jurisdiction, the various character zones, pavement width, and right of way can be found in Chapter 3 of the plan.



The study corridor passes through three planning jurisdictions: Clarksville, Clark County and Sellersburg
Source: Clark County and Clarksville GIS data

Study Process and Results

To develop a set of reliable and appropriate improvement strategies, the study team developed a plan process which blended technical analysis, stakeholder guidance, and public input. The process used for this study can effectively be broken down into the following major components:

1. Learning: The first part of the planning process was to learn as much about the history and existing conditions along the corridor as possible. This was accomplished through the following activities:

- Review of available past plans for the study area region, including KIPDA transportation improvement plans, municipal comprehensive plans, thoroughfare plans, and special plans (including TIF area plans).
- Establishing current traffic conditions, including conducting traffic counts at key intersections, reviewing available traffic data and reviewing corridor and crash data.
- Modeling and analyzing future conditions, which included applying future growth scenarios to the existing conditions model to help establish an understanding of future corridor conditions. For this study, the future conditions were modeled for the year 2035.

2. Listening: The second part of the study process involved listening to the local corridor experts – the people who have experienced the daily frustrations and benefits of corridor operations. To learn from this invaluable experience, the study team conducted the following activities:

- Steering Committee Meetings – This group of key municipal and agency stakeholders was convened during key points in the study period. Their purpose and function was to help identify major study focus areas and confirm the direction and validity of the improvement recommendations in the plan. The steering committee had ultimate responsibility in approving the final plan document.

- Public Open House – To help identify new thoughts and ideas, a public open house was conducted at the Ivy Tech Community College Sellersburg campus. This open house was structured to allow corridor neighbors and travelers an opportunity to share their thoughts on improvements to make the corridor a more convenient and safer travel route for their daily activities.

- Survey Feedback – To help develop and prioritize major study components, (including focus areas and improvement strategies), a series of online surveys were conducted with the steering committee. The survey results allowed for further refinement of key plan ideas in a timely and convenient manner.

3. Confirming: The final step in the project process involved taking all of the information learned about the corridor and applying a series of potential improvements and strategies which might lead to a safer and more convenient user experience. The primary elements of the confirmation stage included drafting improvement strategies, confirming those strategies with the Steering Committee, and developing the draft plan document.

The result of the study process is a series of corridor improvement strategies which, when implemented, will help address the top priorities identified for the study area. These improvement strategies are grouped into the following two implementation timeframes:

1. Short-Term Strategies – these are projects which should begin immediately and be completed within the first six years following final plan adoption.
2. Long-Term Strategies – these are projects which will require additional time to plan, coordinate and implement. Implementation of long term strategies should begin immediately following plan adoption, but should be expected to take more than six years to completed due to project complexity and funding requirements.

Key Priorities

As the plan developed, a number of key themes emerged, which helped direct the final outcomes of the plan. Below is an abbreviated discussion of the top five project priorities which emerged during the planning process. These priorities form the basis for the resulting corridor improvement recommendations contained in this study:

- 1. Improve overall roadway safety** – while the number of fatal and injury crashes along the corridor is not extremely high, a high number of crashes do occur annually. These crashes are due, in large part, to the number of turning movements that occur along the corridor and the overall inconsistencies in roadway character.
- 2. Alleviate congestion and improve overall traffic flow** – Congestion was the primary public complaint regarding the corridor. Due to the number of turning movements and the number of signalized intersections, stopping and starting is frequently required. This makes for an inefficient movement of traffic and greater delay potential. This is exacerbated through Sellersburg by the number of large commercial trucks and school buses, which are present in this section of the corridor.
- 3. Define and control future adjacent development patterns** – Historically, this corridor developed as a rural state route connecting distant communities. With the introduction of Interstate 65, added development opportunity has led to a fragmented and inefficient adjacent development pattern. This type of development pattern has been encouraged without well-defined and unified land use plans or zoning controls. The result is a seemingly random development pattern which has allowed too many individual access points onto the roadway. This encourages a high number of independent turning movements, resulting in the current traffic frustrations.
- 4. Create a unified roadway character** – One desire heard over and over again was to help the corridor gain a unique and unified identity. There are currently at least four different character zones identified within the project study area. As a result, the traffic environment is unpredictable and visually disjointed. The style and types of development which have occurred have not adhered to any defined visual standards, leading to an uninviting visual experience and a negative perception of the roadway within the study area.
- 5. Provide for bicycle, pedestrian, and transit access** – The recent KIPDA Horizon 2035 Metropolitan Transportation Plan identified this corridor as a future primary bicycle and pedestrian corridor. In its existing condition, this section of roadway does not provide even the most basic needs for pedestrians and bicyclists. While some pedestrian facilities do exist in the form of adjacent sidewalks, they are not consistent in location, design, or accessibility. The facilities that do currently exist largely lack connectivity to key neighboring assets, and do not appear to meet current standards for accessibility.

Key Next Steps

The plan document goes into far greater detail on the ideas summarized here. Study recommendations can be reviewed in detail in Chapter 4 of the plan. Given the study horizon to the year 2035, a duration of more than 18 years, the natural question should be, “where do we start?” Below is a summary of next steps which are recommended to help ensure this study lays a solid foundation for the improvement of the corridor which matches the vision of the communities involved:

Complete the Following Improvement Projects

Projects for immediate consideration should focus on short term improvements to vehicle safety and relieving delays associated with peak hour congestion. Immediate project recommendations include:

- Completing signal timing for the entire corridor;
- Retrofitting existing signals with interconnect capabilities;
- Reconfiguring the current roadway to allow for a dedicated center turn lane for the length of the corridor.

Create Formal Mechanisms for a Unified Corridor Development Process

Focus on cooperative arrangements among all corridor stakeholders to ensure that long term corridor vision is implementable through the following actions:

- Establish a corridor Technical Advisory Committee (TAC) with committed quarterly meeting dates to discuss and define the corridor improvement process.
- Develop common corridor overlay district standards and work to have the overlay formally adopted by each municipality.
- Work with INDOT to identify strategies for local control for portions of corridor under state control. This is strictly a Sellersburg concern, as the only portions of the corridor under state control are in Sellersburg. Timing on this is critical due to planned INDOT improvements to the corridor within the next three years. As portions of the corridor are a US highway (US 31), additional accommodations may need to be considered as part of the discussions.

Create a Single Set of Corridor Development and Design Standards

Focus on clearly defining and formalizing corridor design and adjacent development standards. The following policy documents should be created and included in the corridor overlay district:

- Roadway technical design standards, including stormwater, typical cross sections, and material standards
- Design standards for corridor features, including the style, materials, and finishes for all features included along corridor
- Development and architectural standards for all future development occurring directly adjacent to the corridor

PLANNING CONTEXT

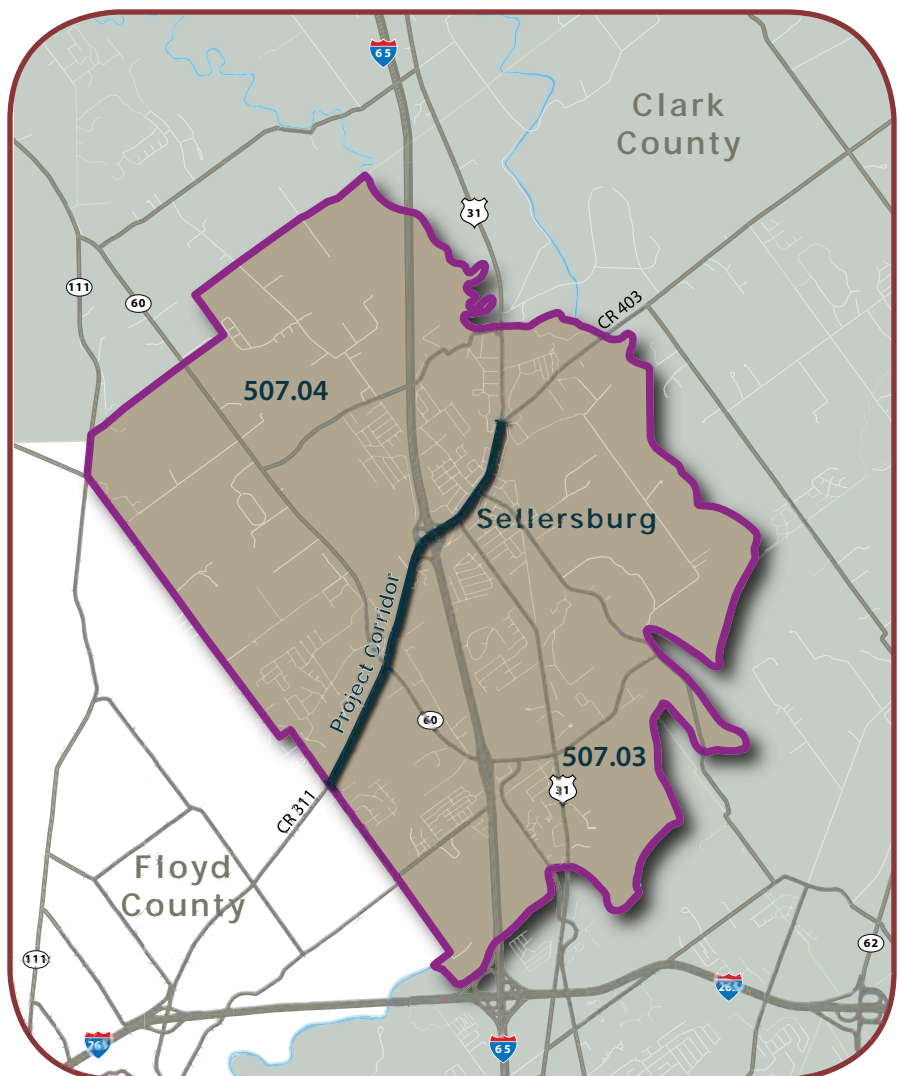
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Chapter 2

STUDY AREA

This report focuses on the CR 311/ US 31 corridor between the Floyd/ Clark County line and CR 403 in Sellersburg. However, the study of this corridor encompassed a much wider area than the physical extents of the roadway. Census tracts 507.04 and 507.03 created a very natural study area boundary north and south of the corridor. This wider study area allowed for a greater understanding of impacts on the corridor, including land use, commuting patterns, growth trends and demographics.

While the census tract boundaries allowed for consideration of broader impacts to the corridor, land uses, roadway infrastructure and pedestrian facilities directly adjacent to the corridor were studied in greater depth.



Census tracts 507.04 and 507.03 (outlined in purple above) formed a natural study area boundary on either side of the corridor

Source: Esri online and Clark County GIS data

V
Scale: N.T.S.

STUDY AREA CONTEXT

The study area is located within the Metropolitan Planning Organization (MPO) boundaries of the Kentuckiana Regional Planning & Development Agency (KIPDA) Transportation Division. While KIPDA encompasses a nine county region around Louisville and Jefferson County in Kentucky, the MPO serves a smaller five county region. The KIPDA Transportation Division provides planning and technical assistance to meet the transportation needs of all counties within the MPO area and the KIPDA region.

More specifically, the study area is within Clark County in Indiana, bisected by Interstate 65, approximately nine miles north of downtown Louisville. In the past, the corridor primarily served as a county mobility corridor that connected New Albany to Sellersburg and Charlestown. In fact, in adjoining Floyd County, the roadway is named Charlestown Road.

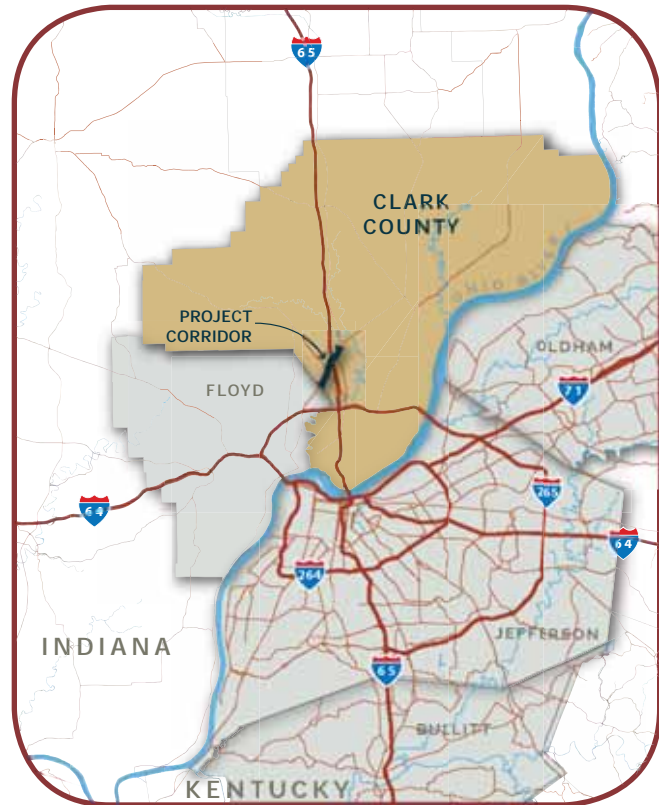
As the Louisville metropolitan area has grown, communities along the corridor have grown as well, changing the nature of the road from strictly a mobility corridor into one that functions more and more as local access to residential and commercial areas. The study area and the corridor pass through three jurisdictions: Clark County, Sellersburg and Clarksville. Each jurisdiction has its own unique challenges and needed improvements, as well as its own planning jurisdictions and responsibilities.



The planning jurisdiction for KIPDA encompasses nine counties in Indiana and Kentucky

Source: KIPDA.org

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Scale: N.T.S.

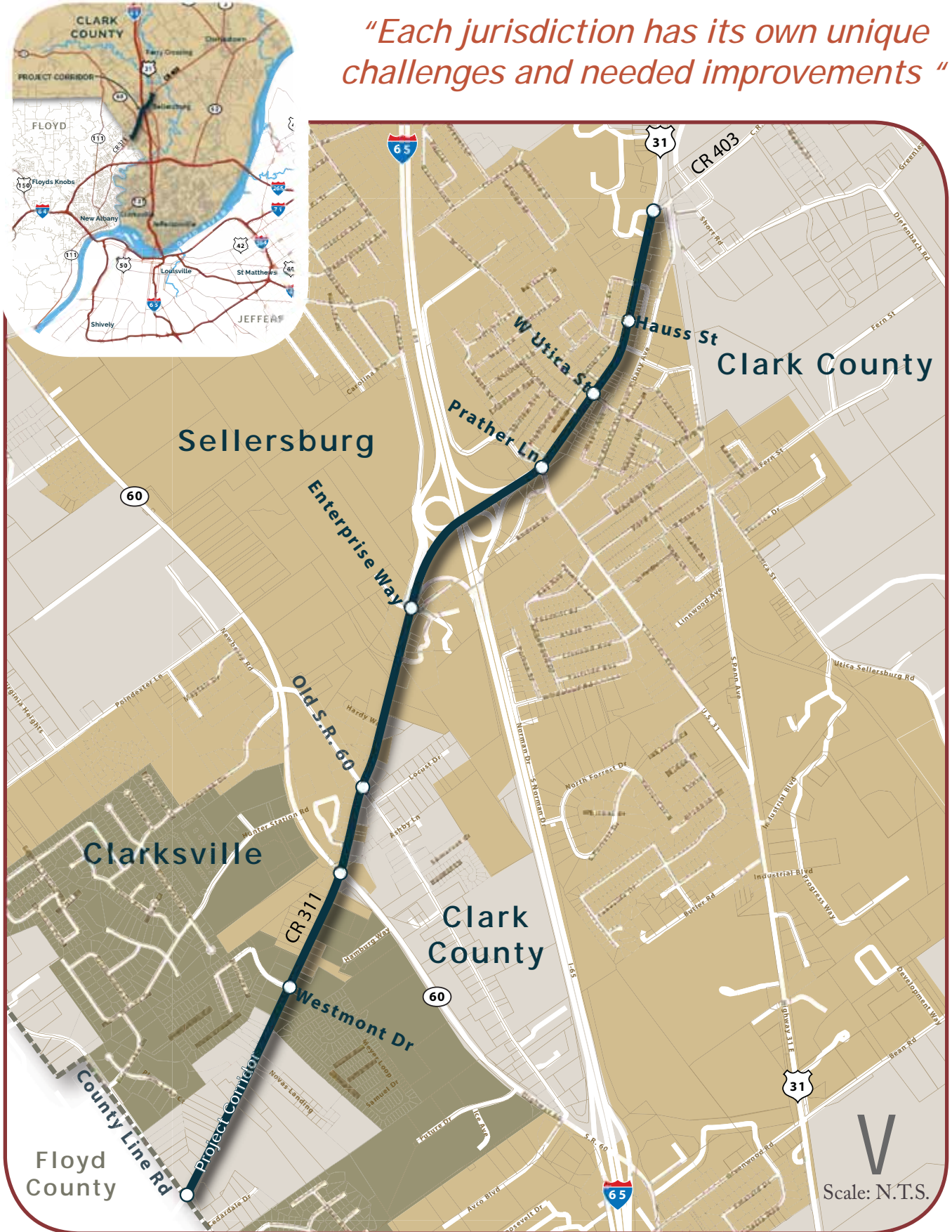


The study corridor lies within Clark County, one of the two Indiana counties in the KIPDA planning jurisdiction

Source: KIPDA.org

V
Scale: N.T.S.

“Each jurisdiction has its own unique challenges and needed improvements”



The study corridor passes through three planning jurisdictions: Clarksville, Clark County and Sellersburg
Source: Clark County and Clarksville GIS data

PREVIOUS PLANNING EFFORTS

This corridor, or portions thereof, have been part of many previous planning efforts and studies. Previous efforts and their findings related to CR 311 include:

2012 Clark County Transportation Plan

- Widen turn lanes along US 31 through Sellersburg
- Extend center turn lane to CR 403 along US 31 through Sellersburg
- Install multi-use path and/or sidewalks from County Line Road to Silver Creek Schools in Sellersburg
- Add center turn lane and widen/reconstruct pavement to include curbs and sidewalks on CR 311 from County Line Road to I-65
- Add through lanes on CR 311 to SR 60 from I-65

2015 Clarksville Comprehensive Plan

- CR 311 likely to develop similarly to Veterans Parkway
- Extend Westmont Drive to Hunter Station Road
- Improve the intersection of Hunters Station Road and SR 60 with improvements to turn lanes and additional through lanes on SR 60
- Implement wayfinding system or signage throughout town to assist travelers
- Create an interconnected system of trails and pathways for bikes and pedestrians
- Construct sidewalks along portions of CR 311 to increase connectivity between subdivisions

2011 Sellersburg TIF District Master Plan and PUD Ordinance

- Construction of new roadway infrastructure off of CR 311 at Enterprise Drive and Camp Run Parkway
- Development of street standards and approximate right-of-way widths for arterial, collector and local streets within the PUD
- Development of site and architectural design standards

KIPDA Horizon 2035 Metropolitan Transportation Plan

- Identification of priority project elements, including safety, congestion management, travel demand management, air quality, freight and alternate modes

1993 Sellersburg Comprehensive Plan

- Established arterial construction types
- Portion of then SR 311 from US 31 west to town boundary called for a 120 foot right-of-way with two moving lanes in each direction and a 20 foot median.
- Portion of US 31 through town called for an 80 foot right-of-way with three moving lanes and two parking or additional moving lanes in one direction.

PUBLIC PARTICIPATION

Steering Committee

This plan was developed with the assistance and direction of a steering committee, comprised of representatives from KIPDA, Clark County, Sellersburg and Clarksville. The steering committee brought forward concerns and issues facing the corridor, and helped to identify and prioritize the recommendations illustrated in this plan.

Some of the key strategies identified by the committee include:

- Providing for a center turn lane
- Reviewing intersection configuration/design
- Reviewing signal timing
- Providing pedestrian facilities along the corridor
- Reducing visual clutter along the corridor
- Upgrading utility and storm water infrastructure
- Considering decorative lighting and signal arms
- Establishing an interagency technical advisory committee
- Developing specific corridor area design standards

Public Open House

Input was sought from beyond the steering committee. A public open house was held April 10, 2017 at Ivy Tech Community College in Sellersburg. The public open house presented an opportunity for attendees to inform the consultants of concerns, opportunities and design preferences along the corridor. Key themes for the corridor derived from this meeting included:



Participants identifying priority design components along the corridor
Credit: HWC Engineering

Participants identifying opportunities along the corridor
Credit: HWC Engineering

Concerns

- Back-ups and congestion along the corridor
- US 31/CR 403 split is confusing
- Constrained right-of-way through Sellersburg on US 31 and New Albany Avenue
- Constrained right-of-way north of SR 60
- Cut through traffic in adjacent neighborhoods
- Signal timings

Opportunities

- Replacement of narrow bridges and culverts
- Widening of SR 60 and Old SR 60
- Safe pedestrian crossings to schools and key community areas
- Main Street in Sellersburg
- Alternate routes in the area

Design Preferences

- Right turn lanes
- Center turn lanes
- Sidewalks

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EXISTING CONDITIONS ANALYSIS

3

Chapter 3

SUMMARY OF ANALYSIS

Simplicity is not a trait of this corridor. To get a full understanding of the complexities within this corridor, a wide range of variables were analyzed, including:

- Physical Characteristics of the Roadway
- Demographic Growth Projections
- Roadway Safety
- Roadway Congestion and Capacity
- Connectivity and Access
- Land Use and Development Patterns
- Economic and Regulatory Catalysts
- Corridor Character



County Road 311 between SR 60 and Old SR 60
Credit: HWC Engineering

PHYSICAL ROADWAY CHARACTERISTICS

The following bullet points are intended to give an overview of the corridor as a whole. Additional discussion and maps are provided in the Goals and Strategies section of the report for many of the characteristics listed below.

Assumed Right-of-Way

- Varies along corridor from approximately 50 feet at the north end to approximately 60 feet at the south end. See page 36 for map of approximate widths
- Right-of-way is much greater around key intersections, such as the I-65 interchange, Enterprise Drive, SR 60 and Prather Street

Pavement Width

- Varies greatly along corridor due to passing blisters and turn lanes at select locations. See page 36 for map of approximate widths
- Most of corridor is at least 36 feet wide.
- Intermittent locations along the corridor south of Enterprise Drive are less than 36 feet
- The whole corridor contains one travel lane in each direction, with the exception of the area around the I-65 interchange, which contains two travel lanes in each direction
- Auxiliary turning lanes are located intermittently throughout the corridor or at busy intersections to serve businesses

Drainage

- Most of the stormwater drainage north of I-65 is comprised of closed stormwater infrastructure with curb/gutter
- Drainage south of I-65 is typically a rural drainage section with a swale along with some intermittent curb and gutter
- Three drainage culverts exist along the corridor; south of Nova's Landing Drive, south of Hardy Way and north of Hauss Avenue
- The corridor is generally flat with some gentle rolling hills

Signals

- The corridor contains nine signalized intersections
- See page 37 for map of signal locations

Pavement Condition

- Clark County completed a pavement assessment for the corridor in 2017 using the Pavement Surface and Evaluation Rating System (PASER)
- Sections of the corridor were rated between 5 and 7, indicating the pavement is in fair to good condition.

Roadside buffer

- The roadside buffer varies greatly along the corridor. In some areas, adjacent uses encroach to the edge and possibly into the right-of-way



US 31 through Sellersburg near St. Paul Street
Credit: HWC Engineering



CR 311 at Westmont Drive
Credit: HWC Engineering

TRAFFIC ANALYSIS

Road Safety

Crash records were obtained from the Automated Reporting Information Exchange System (ARIES) database for the period of 2012–2016. Since intersections with more traffic tend to have more crashes, a crash rate per million entering vehicles (MEV) was calculated to show which intersections have the highest risk for drivers, regardless of volume. The highlights of the analysis include:

Crashes from 2012 to 2016

- There were 955 crashes
- 83% were crashes with property damage only
- 17% were crashes with injury
- One crash was fatal

Primary Crash Type

- Rear-ended collision - 58%
- Right angle - 9%
- Left turn - 8%

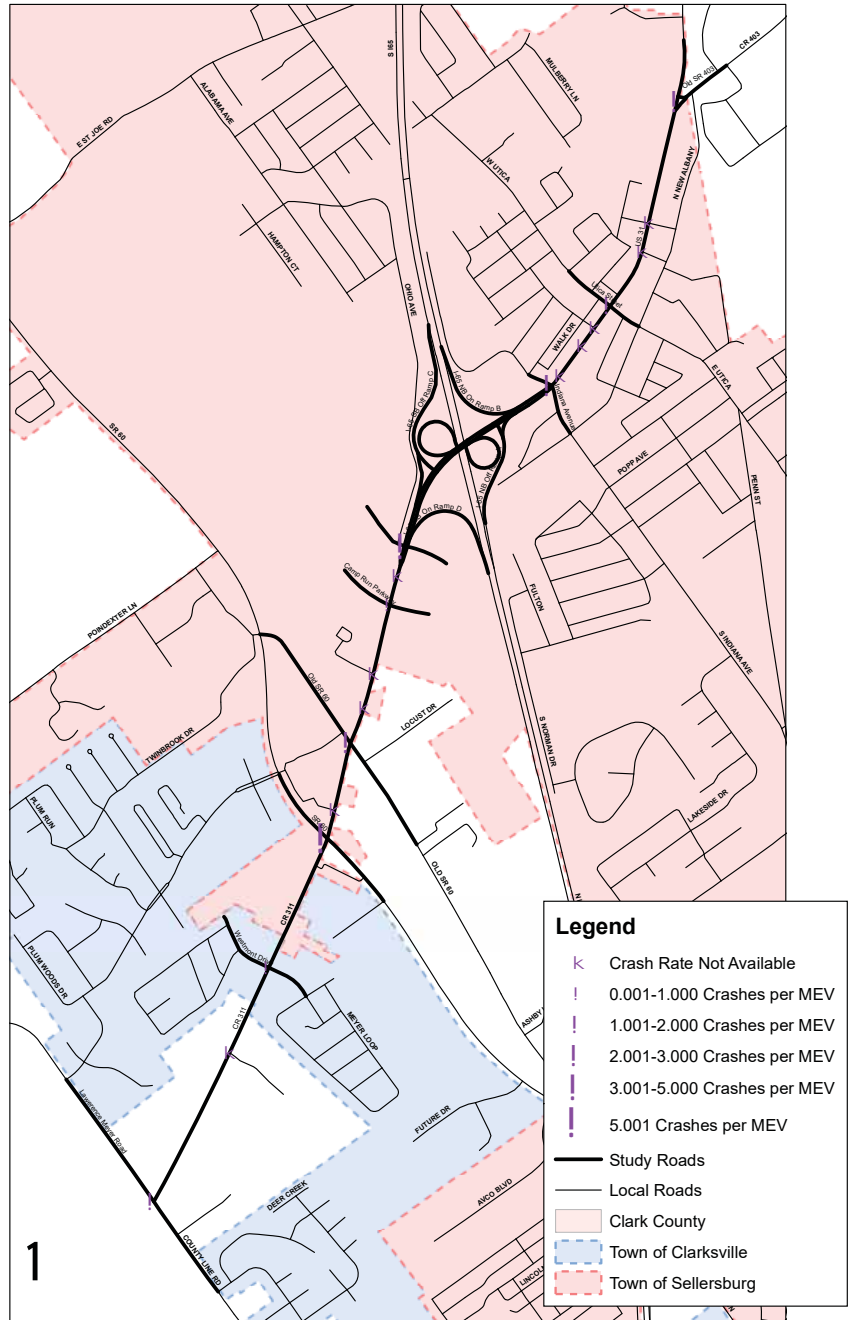
Top Crash Locations

- CR 311 and SR 60: 6.7 crashes per MEV
- CR 311 and Enterprise/New Albany Pike: 4.7 crashes per MEV
- US 31 and Prather Street: 2.6 crashes per MEV
- CR 311 and Old SR 60: 2.5 crashes per MEV

Corridor-wide, the primary crash type was rear-ended collision. A high prevalence of rear-ended collisions can be indicative of congestion and increased stopping and starting due to multiple uncontrolled conflict points. Potential causes for rear end collisions include:

- Following too closely
- Lack of turn lanes
- Poor signal coordination
- Improper clearance intervals
- Poor signal visibility
- Congestion/driver frustration
- Uncontrolled access

2012-2016 Crash Rates per Intersection



Source: Automated Reporting Information Exchange System

CONGESTION AND CAPACITY

Traffic Data

Traffic counts were obtained from various sources in late 2016 - early 2017. Collectively, these counts represent the base year traffic conditions.

A traffic study performed for the town of Clarksville provided peak hour turning movements at three intersections within the study area:

- CR 311/County Line Road
- CR 311/Westmont Drive
- CR 311/SR 60

Peak hour turning movements were also collected at six intersections in March 2017.

- CR 311/Old SR 60
- CR 311/Camp Run Parkway
- CR 311/New Albany Pike-Enterprise Drive
- US 31/Prather Street
- US 31/Utica Street
- US 31/CR 403

INDOT counts from September 2016 were used for the I-65 interstate ramps.

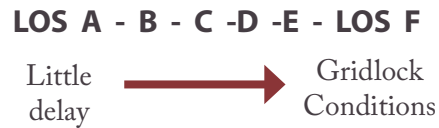
To determine future year volumes for 2035, several sources of input were considered:

- KIPDA traffic model provides 2016 and 2035 volumes. The average annual growth rate between those years was calculated to represent the future growth trends.
- INDOT traffic counts were examined for recent years to determine the historical growth.
- Finally, road segments that access vacant land were assigned higher growth rates to represent the influx of traffic from new developments.

The CR 311 and US 31 mainline was assigned growth rates averaging about 1 percent, while individual segments ranged from 0.5 percent to 2.9 percent. Cross street growth rates varied from 0-8 percent per year, with those at the higher end indicating imminent development.

Base Year Traffic Operations Analysis

Traffic counts, signal timings, and lane configurations from the existing conditions were entered into Synchro 10, a traffic simulation and modeling software, to analyze base year traffic operations. The resulting levels of service (LOS) represent the average delay experienced by vehicles. Table 1 shows the LOS for base year conditions, morning and evening peak, for each of the study intersections. The designation “ff” indicates free flowing movement, and no LOS is applicable to movement or intersection.



For the purposes of design, LOS D or better during the peak hour is considered acceptable for urban areas. Tables are available in the appendix which show the LOS for base year conditions, morning and evening peak and for each of the study intersections.

The LOS results indicate a few instances where drivers experience lengthy delays:

- CR 311 and Westmont Drive
 - PM Peak Eastbound Westmont Left Turn and Westbound Westmont Left Turn – LOS F
- CR 311 and SR 60
 - AM Peak Northbound CR 311 Through/ Right Turn and Southeastbound SR 60 Through – LOS E
- US 31 and CR 403
 - AM/PM Westbound CR 403 Left Turn – LOS F

Table 1: Base Year LOS Results

Intersection	NB				SB			SEB			NWB			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
CR 311 and County Line Road	AM	B	C	B	B	C	B	B	C		B	B		C
	PM	B	C	B	B	C	B	B	C		B	C		C
CR 311 and Westmont Drive	NB				SB			EB			WB			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	AM	ff		ff	ff		ff	C		B	C		B	-
PM	ff		ff	ff		ff	F		B	F		B	-	
CR 311 and SR 60	NB				SB			SEB			NWB			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	AM	C	E		C	D	A	B	E	C	C	C	C	C
PM	D	D		C	D	A	C	C	C	C	C	D	C	D
CR 311 and Old SR 60	NB				SB			SE			NW			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	AM	A		A	A		A	A			A			A
PM	A		A	A		A	B			B			A	
CR 311 and Camp Run Parkway	EB				WB			NB			SB			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	AM	A	A		C			ff	ff		ff	ff		-
PM	A	A		B			ff	ff		ff	ff		-	
CR 311 and Enterprise Drive/New Albany Pike	EB				WB			NB			SB			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	AM	B			B		B	A	B	B	B	B	B	B
PM	B			B		B	A	B	B	A	B	B	B	B
CR 311 and I-65 SB Exit Ramp L	NB				SEB			SWB			-			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	AM	-	ff	-	B	-	-	-	ff	-	-	-	-	-
PM	-	ff	-	B	-	-	-	ff	-	-	-	-	-	-
CR 311 and I-65 NB Exit Ramp J	EB				SWB			NB			-			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	AM	-	A	-	-	A	-	A	-	-	-	-	-	-
PM	-	A	-	-	A	-	A	-	-	-	-	-	-	A
CR 311 and US 31/Prather Street/Indiana Avenue	SEB				NWB			NEB			SWB			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	AM	C	C		C	C		B	B		B	C	A	C
PM	D	C		C	D		B	C		B	B	A	C	
US 31 and Utica Street	SEB				NWB			NEB			SWB			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	AM	C	C		C			C	A		B	B		B
PM	C	C		C			B	C		C	B		C	
US 31 and Old SR 403	WB				NB			SB			-			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
	AM	F	-	B	-	B	A	A	A	-	-	-	-	F
PM	F	-	B	-	B	A	A	A	-	-	-	-	F	

Table 2: Future Year LOS Results

Intersection	NB				SB			SEB			NWB			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
CR 311 and County Line Road	AM	B	C	B	B	C	C	B	C		B	B		C
	PM	C	D	B	C	D	C	C	D		C	C		D
CR 311 and Westmont Drive	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	ff		ff	ff		ff	C		B	C		B	-
	PM	ff		ff	ff		ff	F		B	F		B	-
CR 311 and SR 60	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	C		F	D	D	A	C	F	C	C	C	C	E
	PM	F		E	D	E	A	D	C	C	C	F	C	F
CR 311 and Old SR 60	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	B		A	B		A	B		A				B
	PM	B		A	C		A	C		B				B
CR 311 and Camp Run Parkway	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	A		A	E			ff		ff	ff		ff	-
	PM	A		A	C			ff		ff	ff		ff	-
CR 311 and Enterprise Drive/New Albany Pike	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	C			B		B	B	D	B	B	C	C	C
	PM	C			C		C	C	D	B	B	C	D	C
CR 311 and I-65 SB Exit Ramp L	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	-	ff	-	C	-	-	-	ff	-	-	-	-	-
	PM	-	ff	-	B	-	-	-	ff	-	-	-	-	-
CR 311 and I-65 NB Exit Ramp J	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	-	A	-	-	A	-	A	-	-	-	-	-	A
	PM	-	A	-	-	A	-	A	-	-	-	-	-	A
CR 311 and US 31/Prather Street/Indiana Avenue	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	C		C	C		C	B		C	B	F	A	E
	PM	D		C	D		F	B		F	D	C	B	E
US 31 and Utica Street	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	C		C	C		C	D		F	D		F	F
	PM	C		C	C		E	F		F	D		D	F
US 31 and Old SR 403	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	F	-	C	-	B	A	A	A	-	-	-	-	F
	PM	F	-	F	-	B	A	A	A	-	-	-	-	F

Future Year Traffic Operations Analysis

The 2035 projected traffic volumes were entered into Synchro (traffic-modeling software), leaving all other conditions the same, for a no-build future year analysis. The results are shown in Table 2. The designation “ff” indicates free flowing movement, and no LOS is applicable to movement or intersection.

Under the no-build scenario, the high-delay locations identified in 2016 will continue to deteriorate as more traffic is added. In addition to those approaches, the following locations drop to LOS E or F by 2035:

- CR 311 and SR 60
 - AM/PM multiple approaches LOS E/F
- US 31 and Prather Street
 - AM/PM multiple approaches LOS E/F
- US 31 and Utica Street
 - AM/PM multiple approaches LOS E/F

Additional improvements are needed to handle growth in the future year conditions.

The improved LOS results are shown in Table 3. Improvements accounted for in the LOS results for Table 3 include:

- CR 311 and County Line Road – add right-turn lane on southbound County Line Road
- CR 311 and SR 60 - add through travel lanes to SR 60 through the study intersection to undetermined limits. At this intersection, the possibility of adding lanes to CR 311 was also evaluated, but did not sufficiently improve traffic. SR 60 carries more traffic than CR 311.
- CR 311 and I-65 – conduct study of the interchange configuration. Evaluate interchange types that add capacity, take up less land, and have fewer intersection points along CR 311.
- US 31 and Prather Street – adjust the lane configuration on the southwest-bound approach of US 31 to provide one left-turn lane, one through, and one shared through/right-turn lane. The right-turn volume on this approach is low, and there are two receiving lanes for southwest-bound traffic, so this can be accomplished with signs and markings.
- US 31 and Utica Street – construct a dual-lane roundabout
- US 31 and Old SR 403 – construct a dual-lane roundabout

Table 3: Future LOS with Recommended Improvements

Intersection	NB				SB			SEB			NWB			Overall
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
CR 311 and County Line Road	AM	B	C	B	B	C	B	B	C	D	B	C		C
	PM	B	C	B	B	C	B	C	C	D	D	C		C
CR 311 and Westmont Drive	NB				SB			EB			WB			
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	ff		ff	ff		ff	C		B	C		B	-
PM	ff		ff	ff		ff	F		B	F		B	-	
CR 311 and SR 60	NB				SB			SEB			NWB			
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	C	D	A	C	C	A	B	D	C	C	C	A	C
PM	E	E	A	D	D	A	D	C	C	C	C	D	A	D
CR 311 and Old SR 60	NB				SB			SE			NW			
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	B		B	B		B	C			B			B
PM	C		B	C		C	D			C			C	
CR 311 and Camp Run Parkway	EB				WB			NB			SB			
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	A	A		E			ff	ff		ff	ff		-
PM	A	A		C			ff	ff		ff	ff		-	
CR 311 and Enterprise Drive/New Albany Pike	EB				WB			NB			SB			
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	D	B		C		B	B	C	B	B	B	B	C
PM	D	C		C		C	B	C	B	B	C	C	C	
CR 311 and I-65 SB Exit Ramp L	NB				SEB			SWB			-			
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	-	ff	-	C	-	-	-	ff	-	-	-	-	-
PM	-	ff	-	B	-	-	-	ff	-	-	-	-	-	
CR 311 and I-65 NB Exit Ramp J	EB				SWB			NB			-			
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	-	A	-	-	A	-	A	-	-	-	-	-	A
PM	-	A	-	-	A	-	A	-	-	-	-	-	A	
CR 311 and US 31/Prather Street/Indiana Avenue	SEB				NWB			NEB			SWB			
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	C	C		D	C		B	C		B	B	B	C
PM	C	C		D	C		A	D		D	B	B	C	
US 31 and Utica Street	SEB				NWB			NEB			SWB			
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	D			B	B		A	A		B	B		B
PM	B			C	D		B	B		B	B		B	
US 31 and Old SR 403	WB				NB			SB			-			
	Peak	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Overall
	AM	C	-	A	-	B	B	C	C	-	-	-	-	C
PM	D	-	A	-	A	C	A	A	-	-	-	-	C	

By deploying the recommended traffic improvements, the delay experienced by vehicles is decreased significantly. However, isolated movements remain at LOS E. During the evening peak, northbound CR 311 at SR 60 is LOS E. Adding dual left-turn lanes does not improve conditions. Improving network connectivity to provide alternate routes for local traffic would ultimately reduce traffic at the intersection and improve conditions for regional and through traffic. The westbound approach of Camp Run Parkway drops to LOS E during the morning peak. The westbound approach is connected to the signal at New Albany Pike, meaning as traffic volumes increase, drivers have the option of using the signalized intersection for a safer and more efficient left-turn movement.

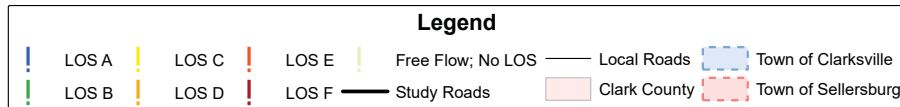
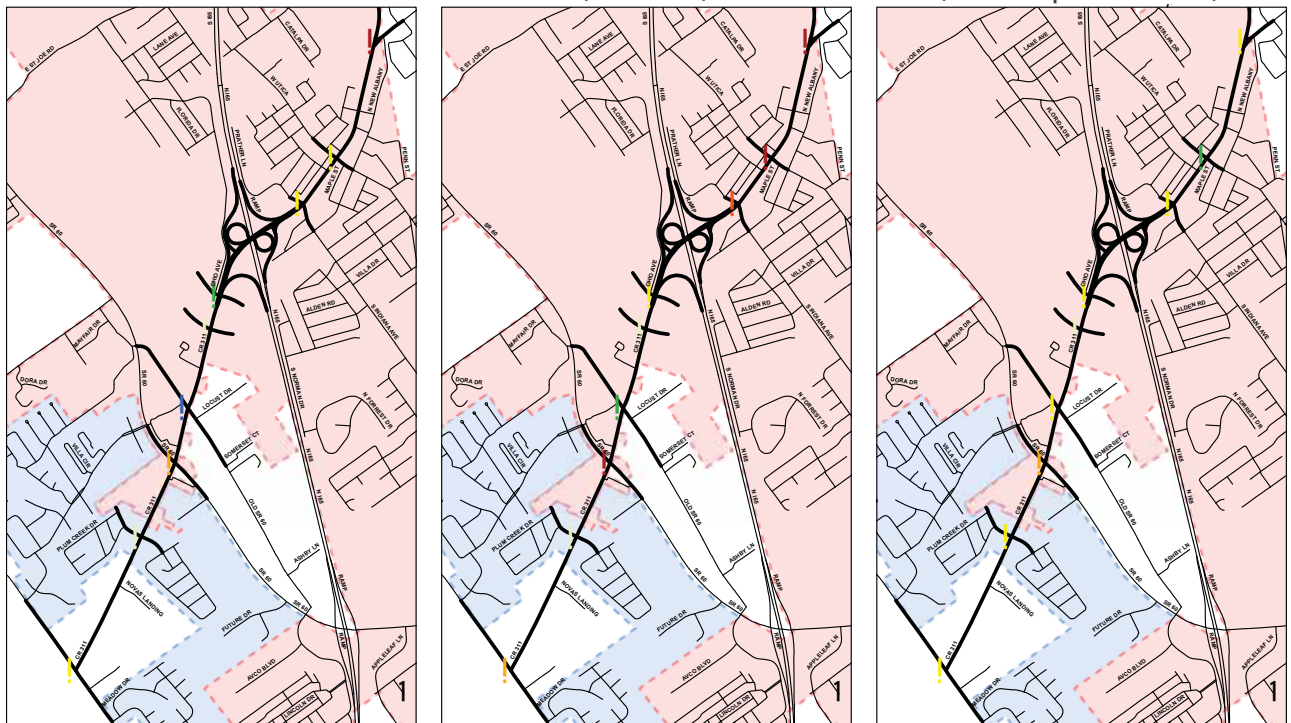
The roundabouts discussed in this section and later on in the report have been evaluated based on traffic operations only. The geometry, rights-of-way and impacts to adjacent parcels have not been considered for this analysis.

LOS Comparisons

2017 at the PM Peak

**2035 at the PM Peak
(No Build)**

**2035 at the PM Peak
(With Improvements)**



V
Scale: N.T.S.

Credit: Shrewsberry & Associates, LLC

CONNECTIVITY AND ACCESS

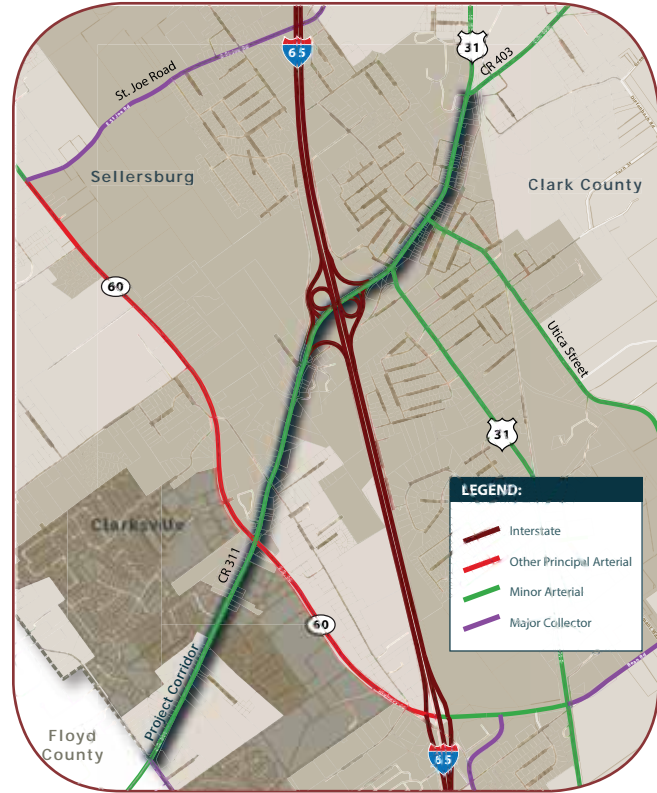
The Existing Functional Classification map to the right illustrates the arterial and collector roadway networks within the study area. As illustrated by the graph on the bottom right, the primary role of an arterial is to provide for through movement of traffic, while collectors serve to provide property access to destinations such as homes and businesses, while also collecting the traffic from those areas and routing them to the arterial network. Local roads primary role is to provide for property access while routing traffic to the collector road network. Roadway networks should be comprised of a good balance of roadways which fall all along the continuum illustrated in the bottom right. The map to the right highlights that the area has many arterial roadways, but very few collector roadways.

While the historical role of this corridor was connectivity, as evidenced by its classification as an arterial, its function has evolved into much more of a local access corridor, serving residential and commercial areas.

This trend towards local access is further illustrated by the Existing Traffic Volume map in the lower right. Primary traffic movements along the corridor are routed to SR 60 and the interstate system, the primary connectivity corridors.

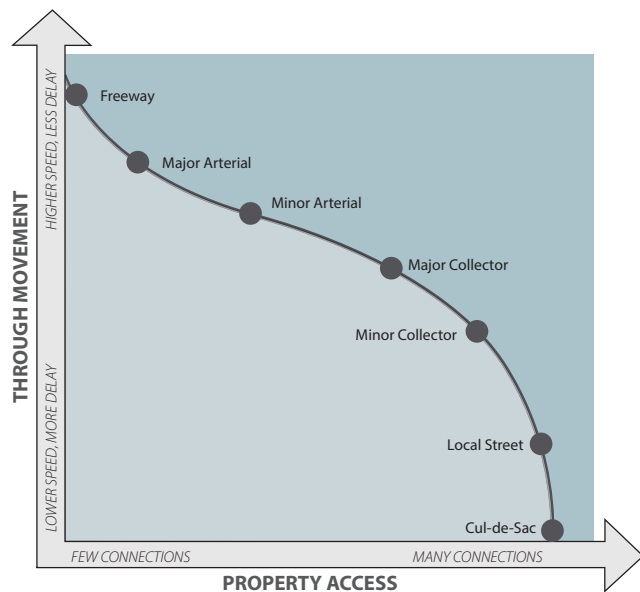
As this corridor continues to develop, the roadway is likely to function less and less as a free-moving arterial, and more as a local access corridor, serving homes and businesses.

Existing Functional Classification



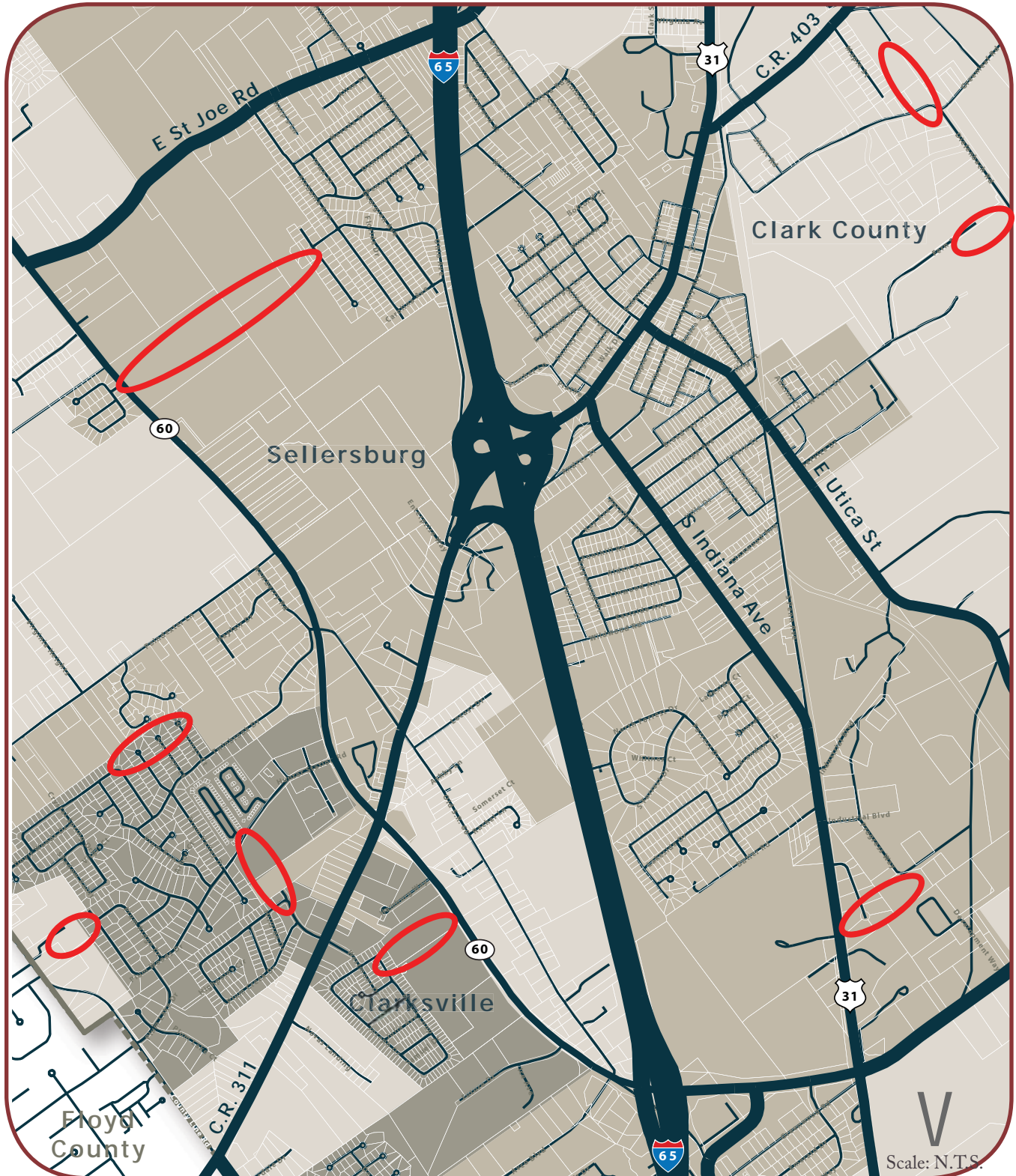
The INDOT functional classification map for the region includes several arterials, with few very collectors
Source: INDOT

V
Scale: N.T.S.



This functional classification diagram illustrates how classifications relate differently to through movements and property access
Credit: HWC Engineering

Existing Road Network



There are several areas where road networks are incomplete. The red circles above indicate areas where connections could be made to improve network connectivity. Source: Clark County GIS data

“By identifying and completing missing connections and developing a collector network, pressure can be relieved from the CR 311/US 31 corridor.”

LAND USE AND DEVELOPMENT PATTERNS

Table 4: Population Growth Rates - Annualized

Data Source	Clark County	Clarksville	Sellersburg	Census Tracts
Census (2010-2015)	0.74%	0.09%	0.61%	1.05%
KIPDA Horizon 2035 (through 2035)	1.37%			
IEDA – Zoom Prospector (through 2021)	0.85%	0.88%	0.75%	
Esri (through 2021)	1.02%	0.70%	1.10%	0.99%

Note: The Census Tracts column above references census tracts 507.04 and 507.03 on the north and south sides of the corridor

Table 5: Annualized Growth Rates

Census Tract	2011-2016 Growth Rate	2016-2021 Projected Growth Rate
507.03	1.56%	0.53%
507.04	0.54%	1.39%
509.03	0.77%	0.76%
509.04	2.01%	1.94%
508.01	1.80%	1.74%
508.03	1.64%	1.58%
710.07	1.00%	0.98%
710.05	0.57%	0.56%

Source: U.S. Census Data and Esri Year 2021 Projections

Growth and development in the Louisville area continues to influence southern Indiana. A review of historic growth and projected growth rates, as shown in Tables 4 and 5, shows that the population has been consistently growing in the area.

An average growth rate of 1.05 percent was assumed for future growth in the corridor after charting all the annualized growth rates. This growth rate also aligns with the future growth rate determined through traffic data analysis that assigned a 1 percent corridor-wide growth rate, with individual corridor segments ranging from 0.5 percent to 2.9 percent growth.

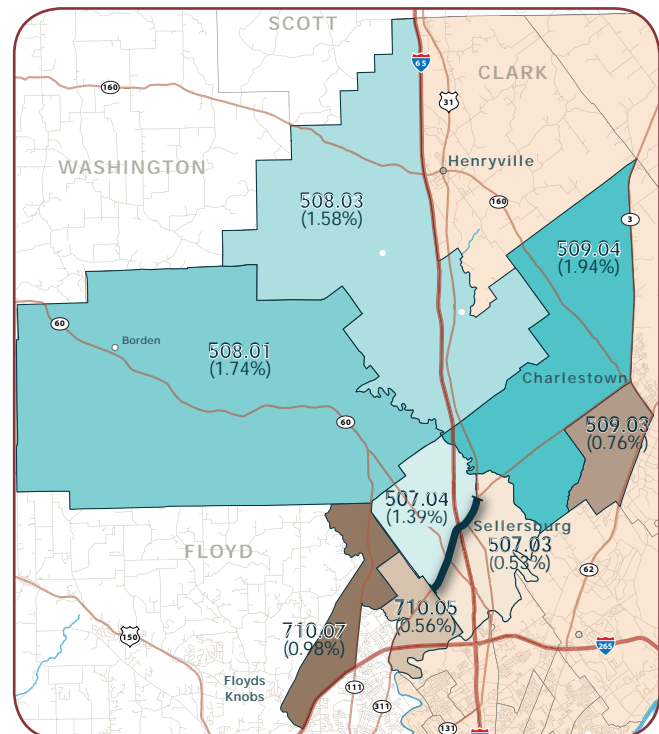
A review of projected growth rates for the census tracts around the corridor show continued growth, with some notable observations:

- Census tract 507.04, immediately north of the corridor, is projected to grow much faster than its historic growth rate
- Census tract 507.03, immediately south of the corridor, is projected to grow much slower than its historic growth rate

- Census tract 509.04, which encompasses Charlestown is projected to grow faster than all the other census tracts, similar to its historic growth rates.

As shown in the graphic below, these trends highlight that growth north of the corridor will continue to increase, while growth south of the corridor will likely slow. Charlestown and the area east of the corridor served by CR 403 will continue to see a higher growth rate than the surrounding census tracts. This will only be reinforced in the future by the continued development of the River Ridge Commerce Center just south of Charlestown.

Projected Census Tract Growth



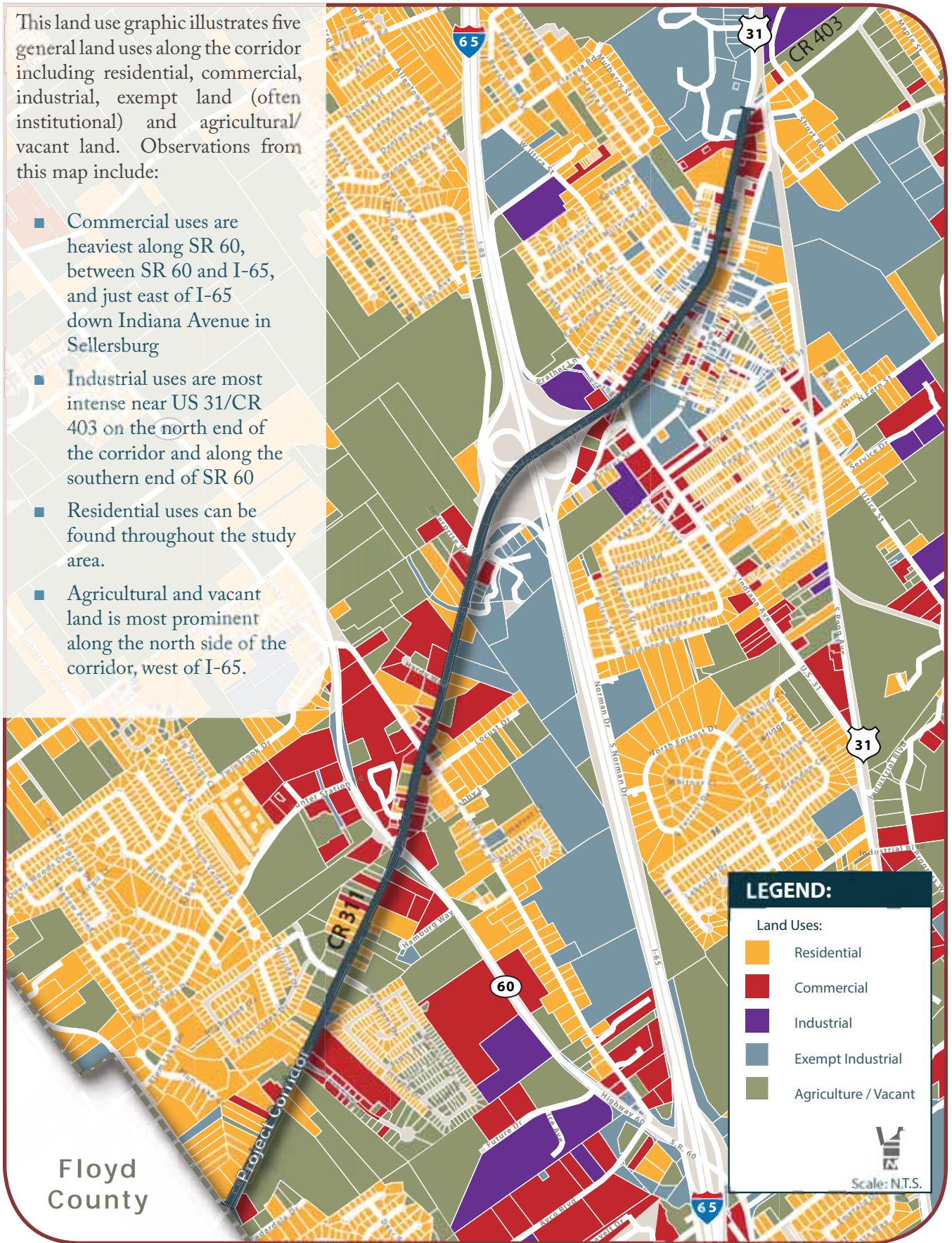
Census tracts north of the corridor are projected to grow more quickly than the those south
 Source: www.indianamap.org

V
 Scale: N.T.S.

Existing Land Use

This land use graphic illustrates five general land uses along the corridor including residential, commercial, industrial, exempt land (often institutional) and agricultural/vacant land. Observations from this map include:

- Commercial uses are heaviest along SR 60, between SR 60 and I-65, and just east of I-65 down Indiana Avenue in Sellersburg
- Industrial uses are most intense near US 31/CR 403 on the north end of the corridor and along the southern end of SR 60
- Residential uses can be found throughout the study area.
- Agricultural and vacant land is most prominent along the north side of the corridor, west of I-65.




Floyd County

LEGEND:

Land Uses:

- Residential
- Commercial
- Industrial
- Exempt Industrial
- Agriculture / Vacant


 Scale: N.T.S.

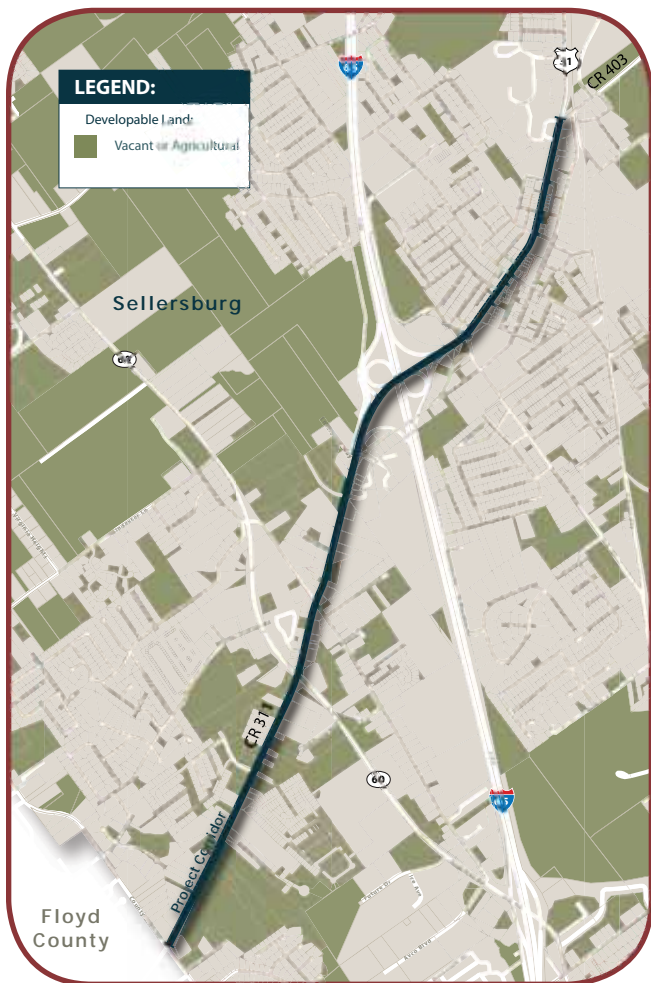
Generalized land uses along the corridor
 Source: Clark County parcel classification data

Based on a review of assessed parcels, there are nearly 8,000 acres of potential developable land within the two census tracts on the north and south sides of the corridor. While land is available throughout the corridor, there is much more contiguous and concentrated areas of agricultural and vacant land north of the corridor. This is important to note, as this land is the most readily available land for development.

The location and concentration of agricultural and vacant land north of the corridor reinforces the trends illustrated by projected growth rates of census tracts in the area.

Regulatory catalysts, such as Tax Increment Financing (TIF) and zoning districts further creates development pressure on these areas of developable land. Even though the corridor encounters three separate zoning jurisdictions, all of them zone a significant portion of land immediately adjacent to corridor as a commercial use of some type or a planned unit development (PUD), which allows for more flexible development over traditional zoning. PUD's often contain a mix of residential and commercial development.

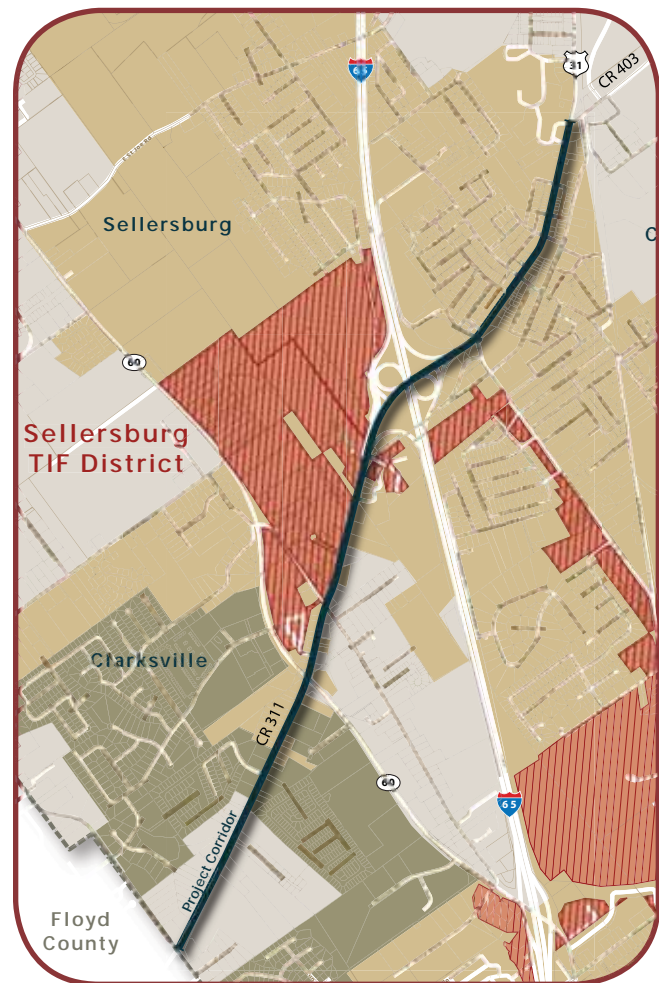
Available Developable Land



Source: Clark County parcel classification data

Scale: N.T.S.

Existing TIF Districts



Source: Clark County GIS data

Scale: N.T.S.

“There are nearly 8,000 acres of potential developable land within the two census tracts on the north and south sides of the corridor”

In 2011, Sellersburg completed a TIF District Master Plan and PUD Ordinance for the current TIF district extending from SR 60 to I-65 along the north end of the corridor. The study findings included:

- Evident demand for retail land use within the PUD, including for a supermarket/grocery
- Growing population and households
- The need for design standards and guidelines for the PUD

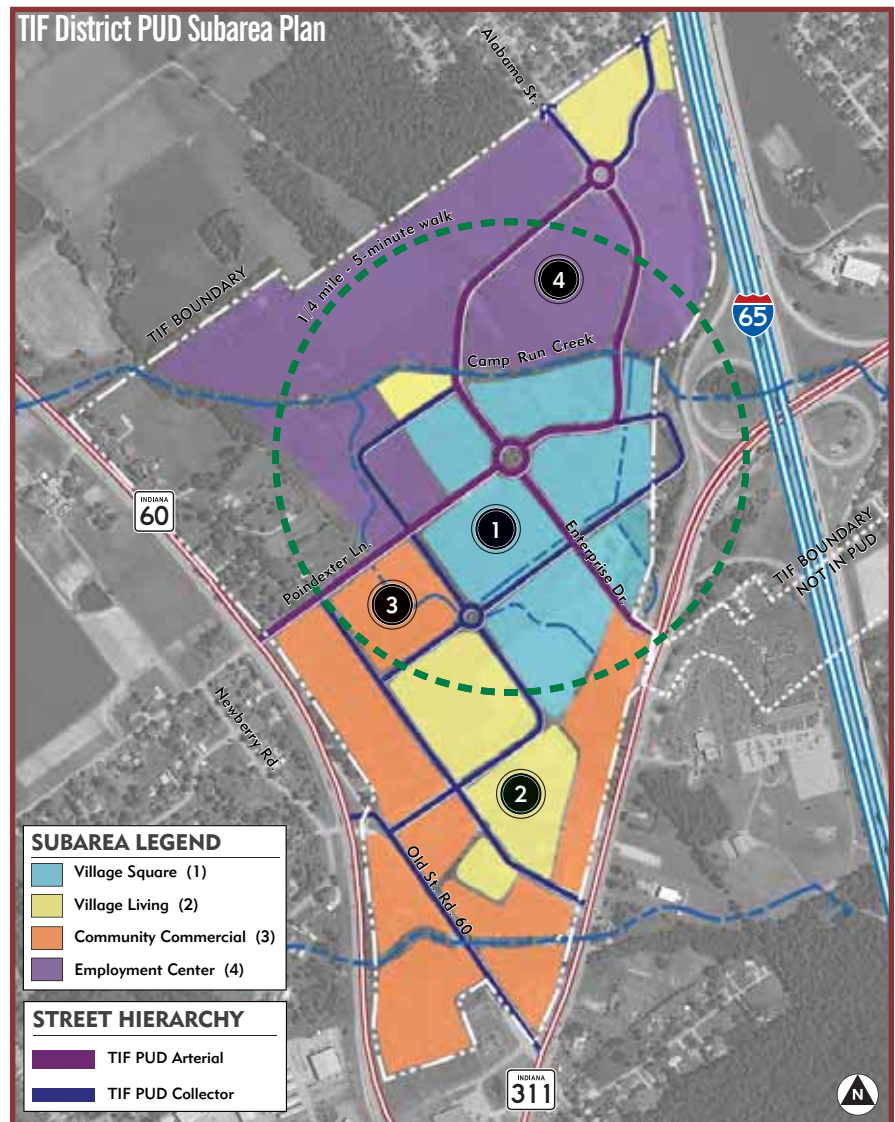
Likewise, Clarksville completed their comprehensive plan update in 2015. One of the key observations of this plan was that County Road 311 is subject to develop similarly to the way Veterans Parkway did between 2005 and 2007. Veterans Parkway is a primary commercial retail and shopping corridor located just south of the study area off of I-65.

More recently, the Clarksville Town Council rejected plans for an apartment complex on Westmont Drive, which would have rezoned the land from commercial to residential, reinforcing the current comprehensive plan vision of commercial use along the corridor.

Given current land uses and the location of TIF districts, commercial uses are likely to intensify along SR 60 and between SR 60 and I-65. More intermittent commercial uses are likely to continue to develop on the north and south ends of the corridor.

Without proper planning and additional road infrastructure, future development will continue to place increased demands on the CR 311/US 31 corridor.

Sellersburg TIF Concept from 2011 Plan



Source: Sellersburg TIF District Master Plan and PUD Ordinance

CORRIDOR CHARACTER ZONES

Through the course of the analysis presented in this chapter, it became evident that there were unique character zones along the corridor with their own attributes regarding the roadway and surrounding development.

Below is a description of the unique corridor character zones. Each of these areas exhibit unique features and challenges due to the adjacent development patterns and roadway character which have naturally evolved over time due to unique external factors. Each of the character zones has improvement strategies which are unique, yet interrelated with the larger CR 311 corridor.

CHARACTER ZONE 1

Character Zone 1 is the southernmost portion of the corridor and currently has a much more rural feel. Most of the drainage in this section is currently comprised of a drainage swale on the side of the road with no curb and gutter. A lot of undeveloped land exists within this area. Areas that are developed tend to be new residential, older residential, and older residential homes serving as businesses.

CHARACTER ZONE 2

Character Zone 2 is generally the area between SR 60 and I-65 along the corridor. This area is much more commercial in nature than Character Zone 1. While there are some residential areas off the corridor, most of the uses immediately adjacent to the corridor are commercial areas of varying ages. As traffic continues to increase on SR 60 and this segment of CR 311, commercial development will only increase.

INTERCHANGE CHARACTER ZONE

The Interchange Character Zone is the area on either side of the Interstate 65 interchange. This area consists of very wide right-of-way and wide pavement sections with very little to hint at what lies beyond the interchange. The current interchange configuration is a partial cloverleaf with directional slip ramps. It was designed when the surrounding land was mostly rural, near the town of Sellersburg, with relatively low traffic volumes.

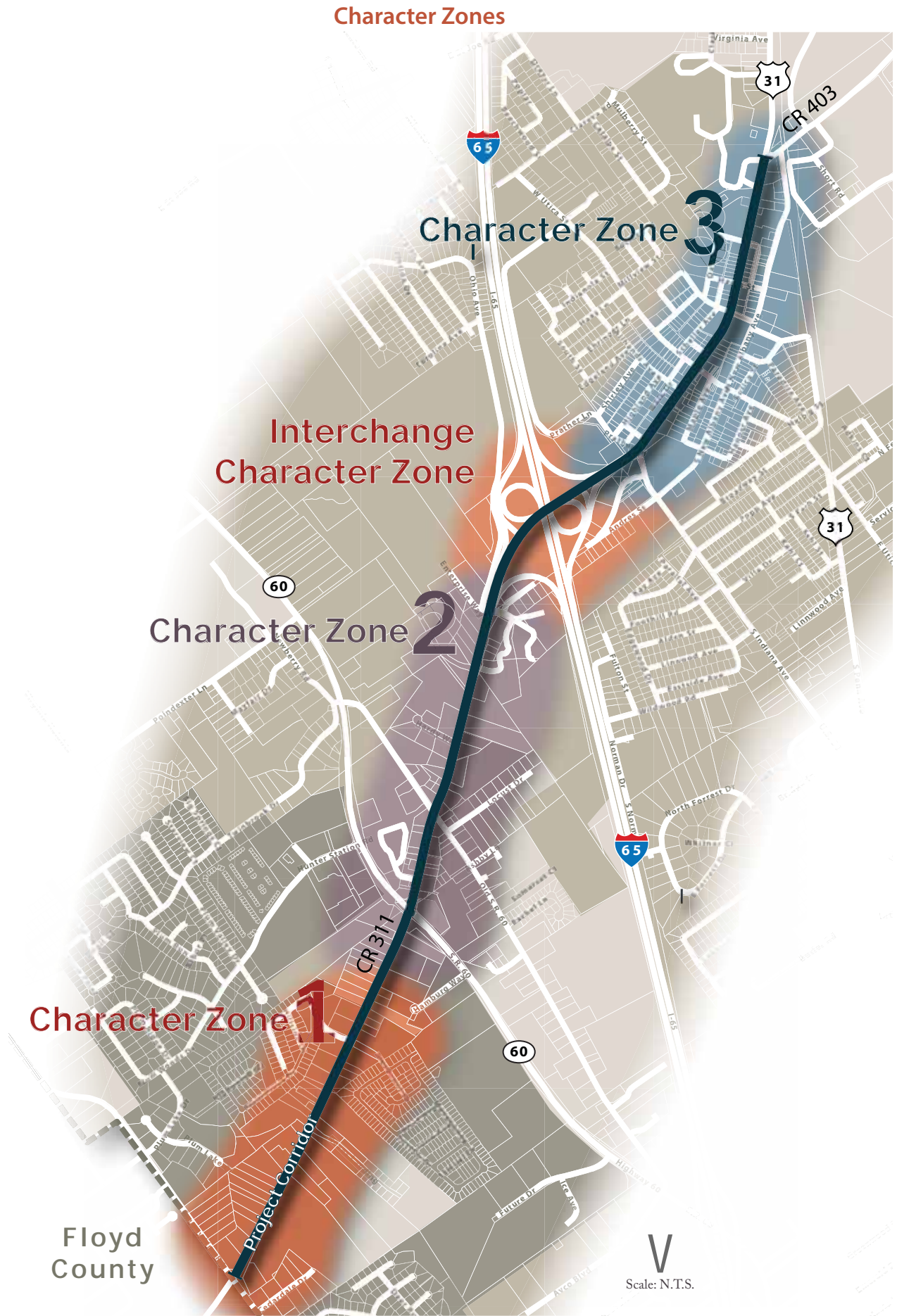
The interchange takes up a lot of space and contributes to some congestion and reduces free flow of traffic due to the ramp configuration. There are eight points of conflict between the interchange and CR 31. Each merge, diverge, stop-control, and signalized approach interrupts the flow of traffic, causing start-and stop conditions. The tight loop ramps are low-capacity and low-speed, especially for truck traffic. This backs up traffic onto CR 311 and may cause problems on I-65 mainline as well. Additionally, the ramp junctions at the far east and west ends of the interchange are in close proximity to signalized intersections, resulting in insufficient space for queuing and merging of vehicles.

CHARACTER ZONE 3

Character Zone 3 is the area north of I-65 through the established portion of the town of Sellersburg. This section of the corridor is nearly completely developed, and appears to have experienced many changes in development character over time. This zone is dominated by parking lots and buildings often at the edge of the right-of-way. The ROW along this portion of CR 311 is more narrow and constrained compared to the other character zones which means that available ROW will be a primary consideration in future roadway improvements. Sidewalks do exist through sections of the corridor, but they are often narrow and in poor condition.

This area of the corridor also has significant adjacent community resources, including St. John Paul II School, Silver Creek Elementary and Middle School, Sellersburg Library and the Sellersburg town pool and park.

The map on the next page depicts the unique Character Zones which will be used to help identify more specific improvement strategies on the following pages.



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CORRIDOR STRATEGIES

4

Chapter 4

STRATEGY OUTLINE

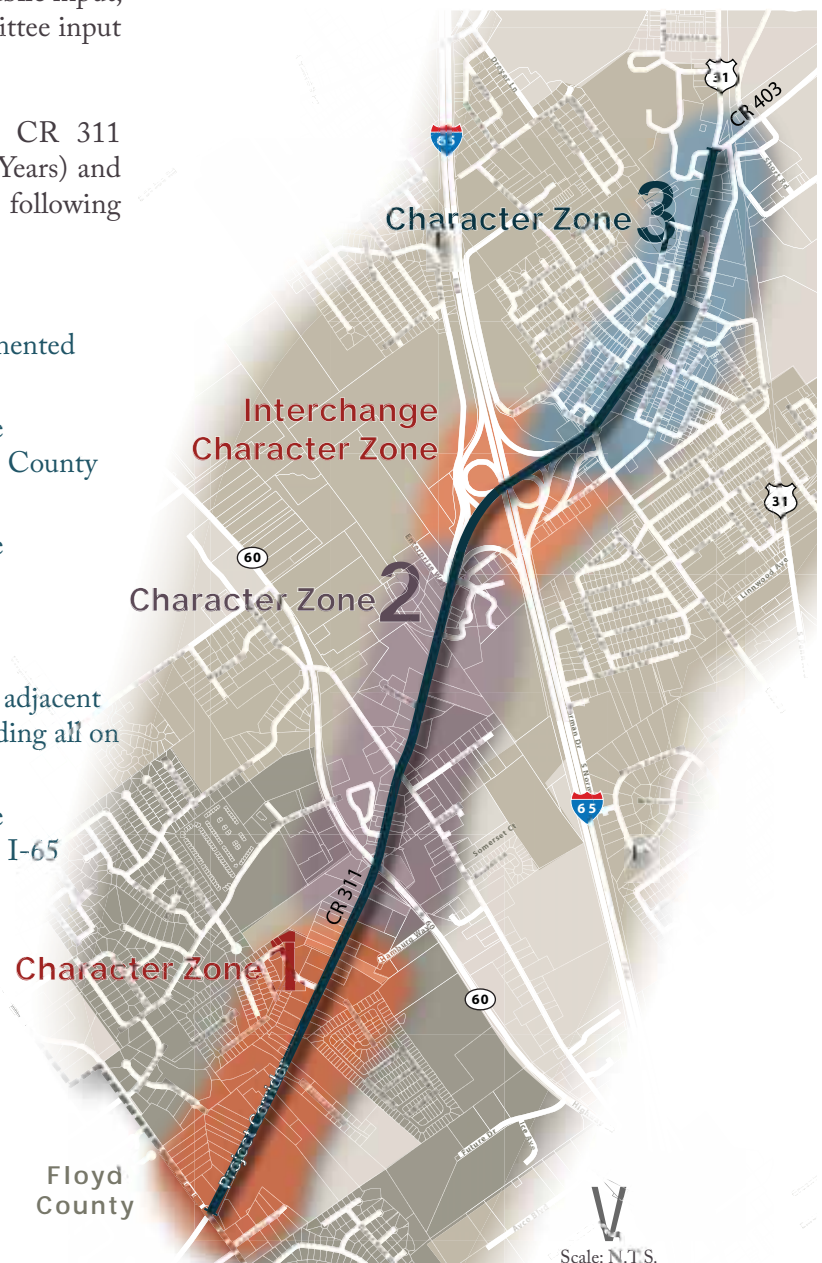
The improvements strategies identified in this chapter have been compiled through a combination of the analysis presented in the previous chapter, public input, previous planning efforts and steering committee input and prioritization.

Improvement strategies identified for the CR 311 corridor are organized into short term (0-5 Years) and long term (6+ years) timeframes within the following key categories:

- Corridor-Wide Improvements - Are improvements which should be implemented along the entire corridor
- Character Zone 1 Improvements - Are identified for the area roughly between County Line Road and Westmont Drive
- Character Zone 2 Improvements - Are identified for the area roughly between Westmont Drive and I-65
- Interchange Character Zone - Are improvements in the area immediately adjacent to the I-65/CR 311 interchange, including all on and off ramps.
- Character Zone 3 Improvements - Are identified for the area roughly between I-65 and CR 403

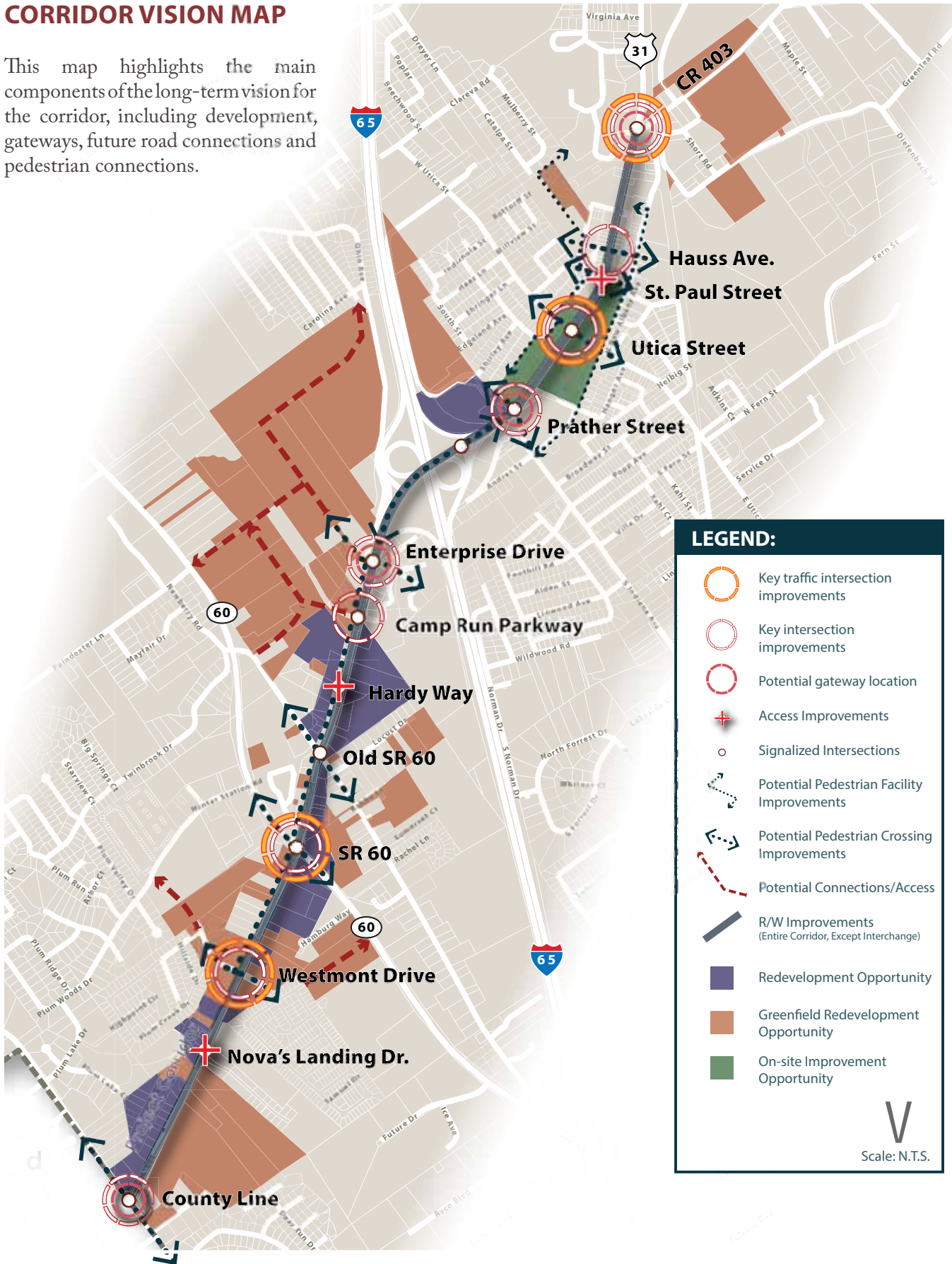
Additionally, the strategies address the following key focus areas identified for this corridor:

- Safety and Congestion
- Adjacent Development
- Corridor Character
- Pedestrian and Bicycle



CORRIDOR VISION MAP

This map highlights the main components of the long-term vision for the corridor, including development, gateways, future road connections and pedestrian connections.



LEGEND:

- Key traffic intersection improvements
- Key intersection improvements
- Potential gateway location
- Access Improvements
- Signalized Intersections
- Potential Pedestrian Facility Improvements
- Potential Pedestrian Crossing Improvements
- Potential Connections/Access
- R/W Improvements (Entire Corridor, Except Interchange)
- Redevelopment Opportunity
- Greenfield Redevelopment Opportunity
- On-site Improvement Opportunity

V
Scale: N.T.S.

CORRIDOR-WIDE STRATEGIES

The following improvement strategies can be applied to the entire corridor, exclusive of individual character zones. Some of these strategies are physical improvements recommended for the corridor, while some are policy guidelines, intended to create a coordinated approach to future corridor development. Each recommended strategy summarized below is covered in more detail on the following pages.

Short-Term Corridor Wide Strategies

- Re-stripe the corridor (where possible) as a three-lane section with two 11 foot travel lanes and one 14 foot center turn lane
- Adjust signal timing at all signalized intersections
- Interconnect signals at all signalized intersections
- Install flashing yellow arrow at signalized intersections
- Create an interagency technical advisory committee
- Establish a cooperative overlay district/zoning district
- Establish corridor design and development standards
- Create a common public information and driver awareness policy for corridor updates and information.
- Establish requirement for right-of-way dedication along corridor for new development

Long-Term Corridor Wide Strategies

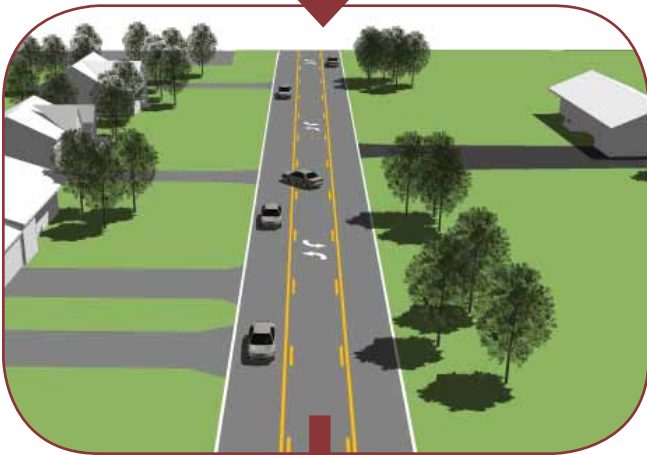
- Obtain right-of-way dedication along the corridor with new development and redevelopment
- Install curb and gutter and closed stormwater infrastructure along the corridor
- Pursue off-route secondary circulation network improvements for both vehicular and pedestrian routes



CR 311 at SR 60
Credit: HWC Engineering



Existing Condition
Credit: HWC Engineering



Short-term re-striping
Credit: HWC Engineering



Long-term reconstruction
Credit: HWC Engineering

Three Lane Section

One of the primary recommended strategies is to reconfigure the entire existing corridor into a three lane section. This would include two 11 foot travel lanes and one 14 foot center turn lane.

While this is the proposed typical configuration, the roadway would still be widened as needed near intersections to accommodate dedicated turn lanes and near the I-65 interchange to accommodate on and off ramp traffic. This transition is recommended to be completed in the following stages:

1 The first stage is to simply re-stripe the roadway within the existing pavement width, where possible. This approach works well for most of Character Zone 3, but it will require additional pavement in other locations where current pavement is less than the 36 foot width required for this strategy. The graphic on the next page highlights areas where the pavement is less than 36 feet along the corridor. Before this strategy could be implemented, areas of pavement currently outside the existing travel lanes, such as turn lanes and shoulders, would need to be structurally evaluated to ensure they could handle mainline vehicular traffic.

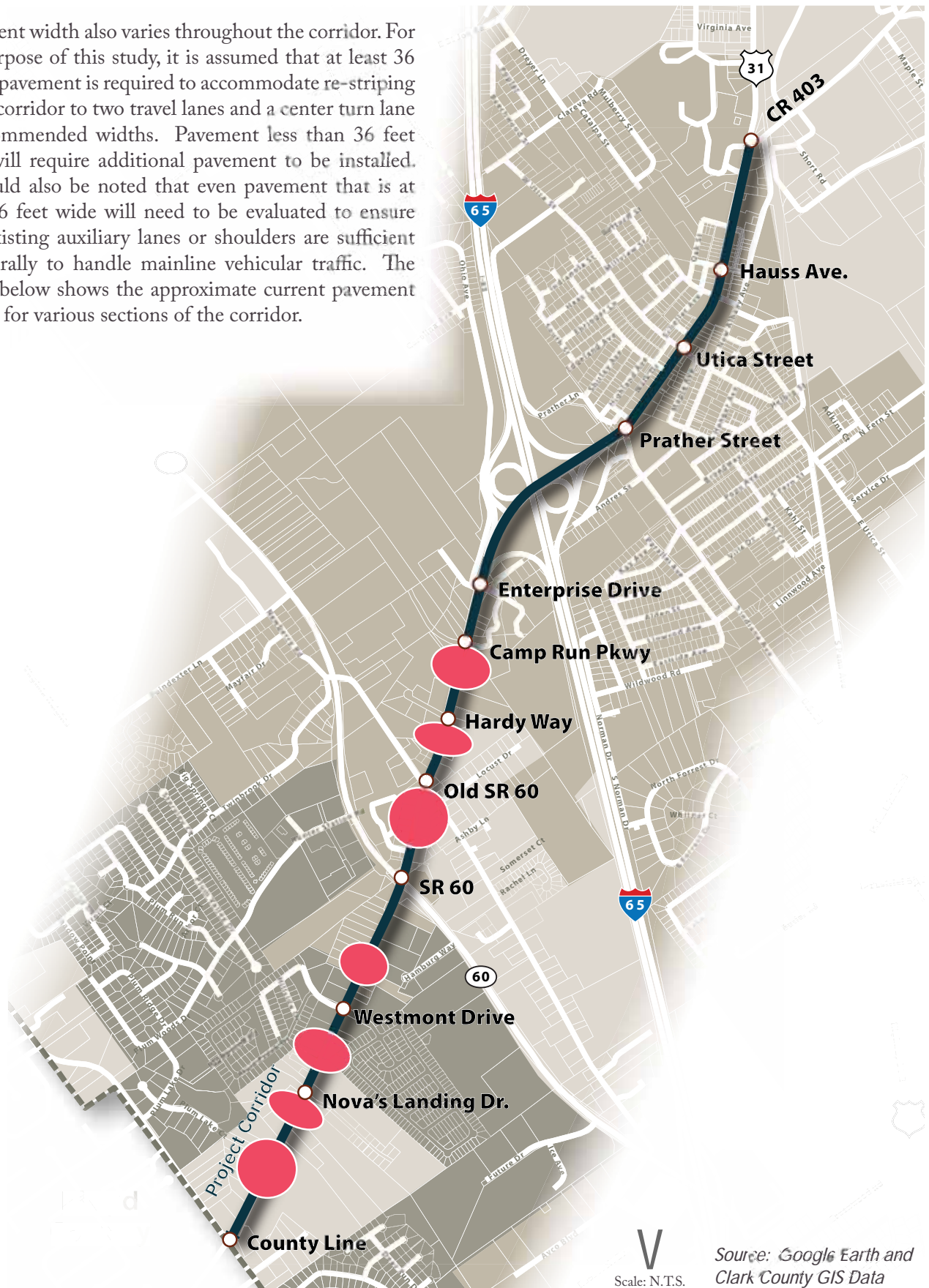
2 The second stage would include adding curb and gutter and closed stormwater infrastructure. Based on the assumed right-of-way analysis illustrated in the graphic on page 44, this stage could be accomplished within the existing right-of-way in most cases. Detailed surveys would be needed to confirm the exact right-of-way along the corridor.

3 The final stage of upgrading the corridor profile would be to add pedestrian facilities, street trees, and lighting. Ideally, this phase could be accomplished with Phase 2. Typical sections unique to each Character Zone are provided later in this chapter. In most cases, the addition of pedestrian facilities on both sides of the road will require additional right-of-way and in some cases would impact existing structures. A recommended minimum right-of-way target to achieve the fully-built out section with two travel lanes, a center turn lane, multi-use trail, sidewalk and pedestrian buffers would be 65'. Additional right-of-way may be desired to accommodate wider pedestrian buffers, wider pedestrian facilities, wider travel lanes and additional auxiliary lanes. Right-of-way width is further discussed on page 36.

Pavement Width

Pavement width also varies throughout the corridor. For the purpose of this study, it is assumed that at least 36 feet of pavement is required to accommodate re-stripping of the corridor to two travel lanes and a center turn lane at recommended widths. Pavement less than 36 feet wide will require additional pavement to be installed. It should also be noted that even pavement that is at least 36 feet wide will need to be evaluated to ensure that existing auxiliary lanes or shoulders are sufficient structurally to handle mainline vehicular traffic. The image below shows the approximate current pavement widths for various sections of the corridor.

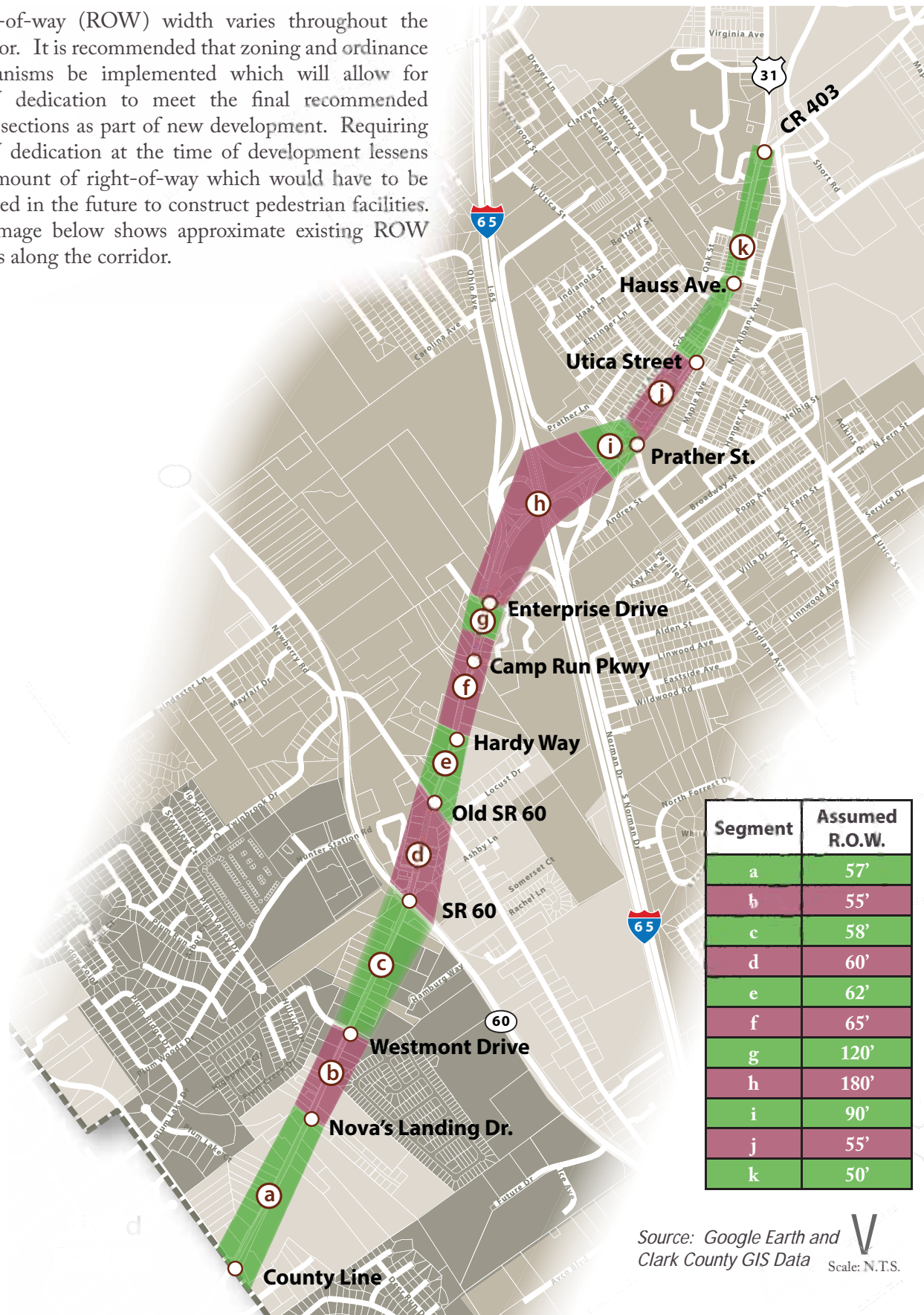
Areas of Constrained Pavement Width



Right-of-Way

Right-of-way (ROW) width varies throughout the corridor. It is recommended that zoning and ordinance mechanisms be implemented which will allow for ROW dedication to meet the final recommended street sections as part of new development. Requiring ROW dedication at the time of development lessens the amount of right-of-way which would have to be acquired in the future to construct pedestrian facilities. The image below shows approximate existing ROW widths along the corridor.

Approximate Right-of-Way Width



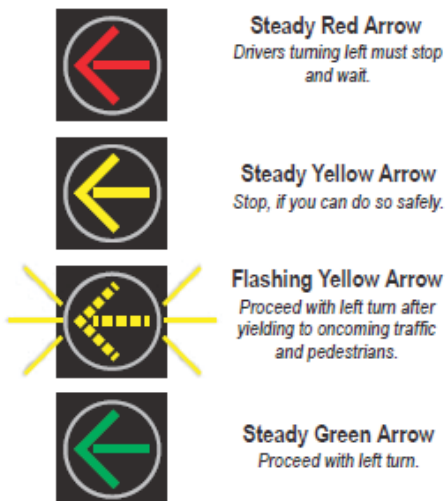
Signals

Signal timing

Signal timing involves deciding how much ‘green’ time each travel direction receives at a signalized intersection. Timing that is not properly programmed for traffic conditions can result in back-ups, delays and congestion. It is recommended that all signals be evaluated for proper timing, including reviewing and adjusting clearance intervals. The yellow and red times should be set to current standards and be sufficient to allow traffic to clear the intersection, but not so long as to increase delay unreasonably. Adjusting the clearance intervals may improve congestion and reduce crashes. The goal of signal timing should be the ability for a vehicle to travel the entire length of the corridor at a reasonable travel speed with limited stop interruptions at intersections.

Signal interconnectivity

Beyond adjusting the timing, it is recommended to interconnect the signals along the entire corridor, and possibly extend this to signals outside of the study corridor. Interconnected signals allow for coordination of green times and improving the progression of traffic along CR 311. With this improvement, drivers encounter more smooth-flowing traffic and are less likely to stop at successive intersections, which leads to frustration, tailgating, and rear-end collisions. As an added benefit, the signals can be programmed for a set travel speed, which encourages drivers to travel at that speed to reduce stops and starts.

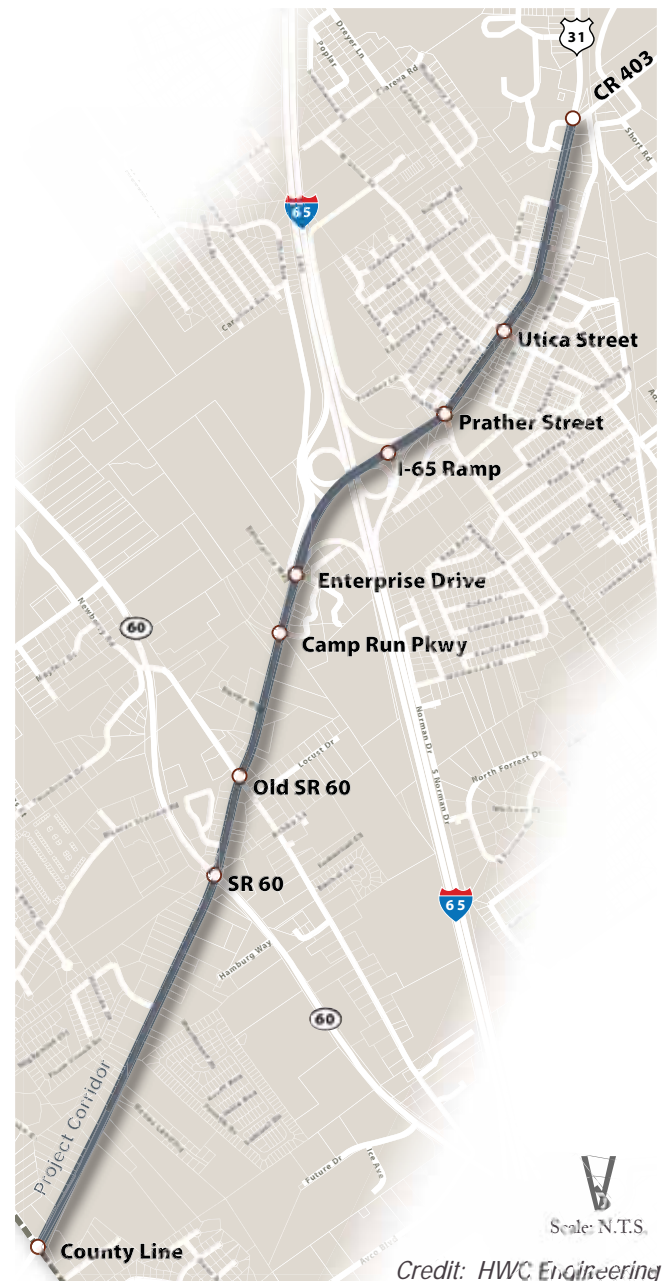


INDOT is in the process of installing flashing yellow arrows throughout their facilities.

Flashing yellow arrows

Flashing yellow arrow traffic signals feature a flashing yellow arrow in addition to the standard red, yellow and green arrows. When illuminated, the flashing yellow arrow allows waiting motorists to make a left-hand turn after yielding to oncoming traffic. INDOT is in the process of installing these signals throughout the state on their facilities.. The Federal Highway Administration has adopted the flashing yellow arrow as a preferred practice for protected/permissive left-turn operations at signalized intersections, and this should be adopted at signalized intersections through the corridor.

Signalized Intersections



Off-Route Network Connectivity

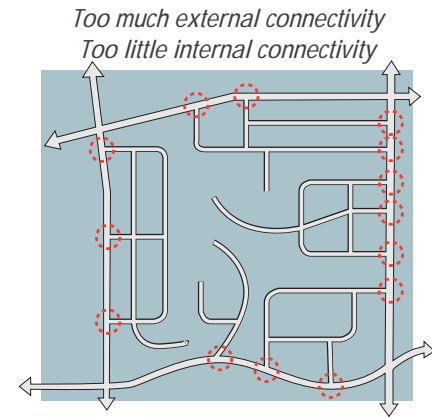
One key way to help alleviate additional congestion and conflicts associated with future commercial and residential development along the CR 311 corridor is by providing additional connectivity for roadways and pedestrian facilities independent of CR 311. Many current CR 311 drivers described significant effort to route around this corridor when making local trips to avoid potential congestion associated delays. Unfortunately, many of the routes described included travel through business parking lots and quiet residential neighborhoods.

Emphasis should be placed on providing additional connectivity between neighborhoods and local points of interest, such as shopping centers and schools. This connectivity can be achieved by extending and improving roadways and pedestrian facilities such as trails and sidewalks, which can serve as alternative travel routes to the CR 311 corridor. The maps on the next two pages show some initial areas to consider for completing important local connections which will allow people to travel without the necessity to use CR 311.

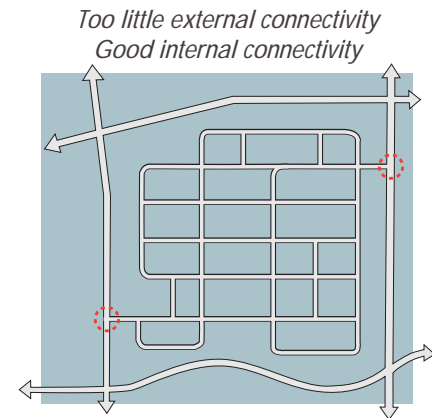
This connectivity can be enhanced by adopting neighborhood design standards which create greater internal connectivity and allow for appropriately spaced access points onto the collector and arterial roadway network. The images on the right of this page show various scenarios relating to internal circulation within neighborhoods. These circulation networks should also accommodate pedestrian connections.

While the end goal is increased connectivity, there must be balance. With too much external connectivity, the corridors surrounding the development are burdened with multiple conflict points. This can lead to a lot of the stopping, starting and rear end collisions prevalent along the CR 311 corridor today. However, with too little external connectivity, all of the traffic from a development may be routed to one location on a corridor, without providing options to relieve the traffic pressure created by funneling to that one spot.

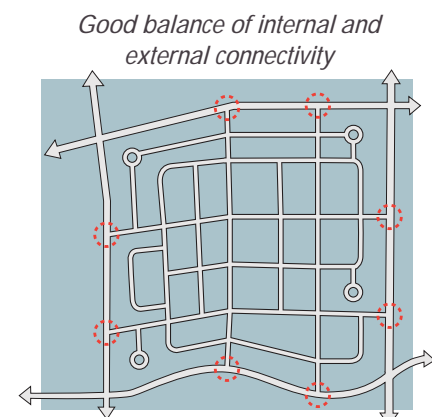
Too little internal connectivity does not allow for the development of robust pedestrian networks, which can cut down on vehicle usage and additional traffic demand on surrounding road networks. A good balance of internal and external connections is required for optimal efficiency.



Credit: HWC Engineering

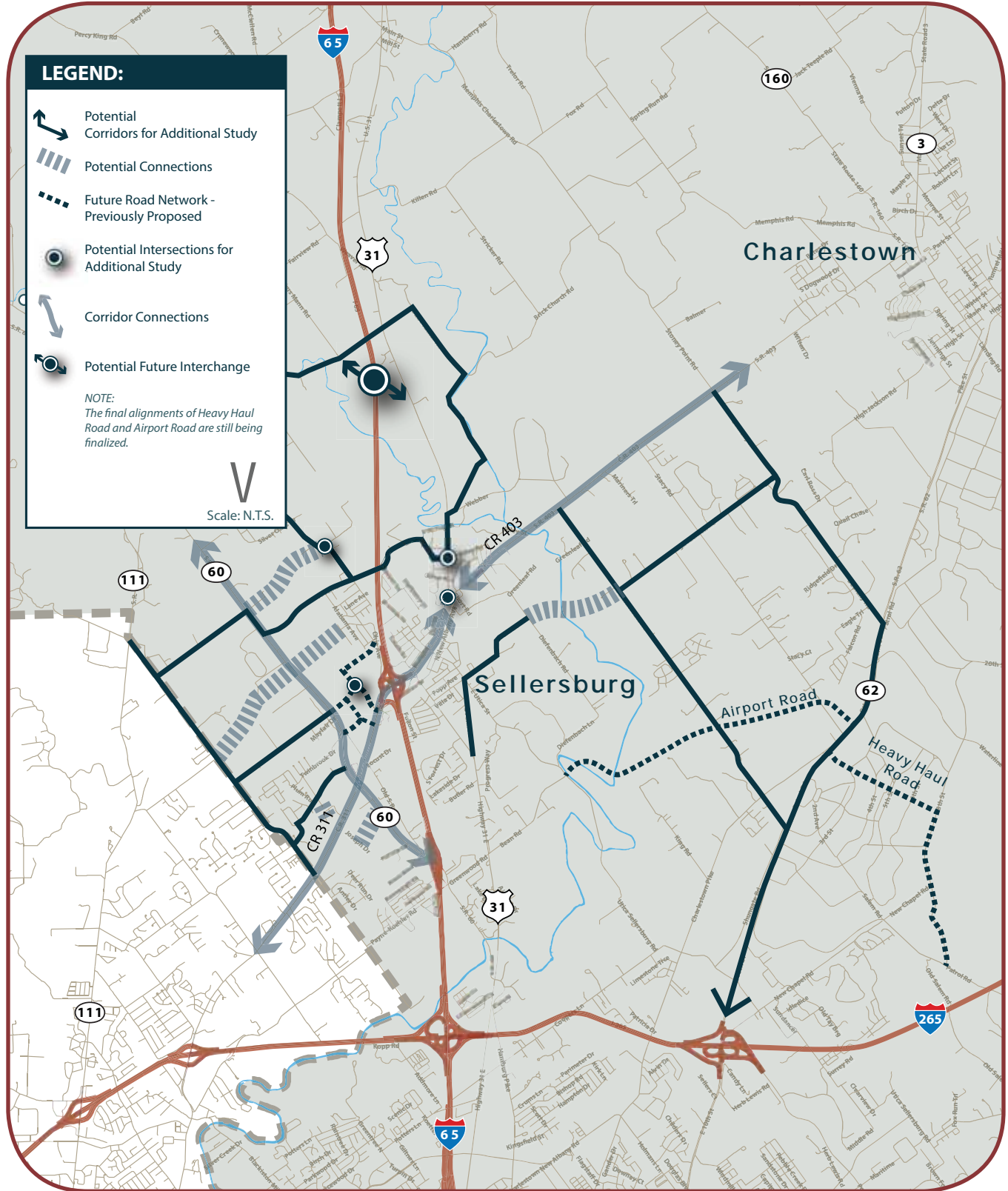


Credit: HWC Engineering



Credit: HWC Engineering

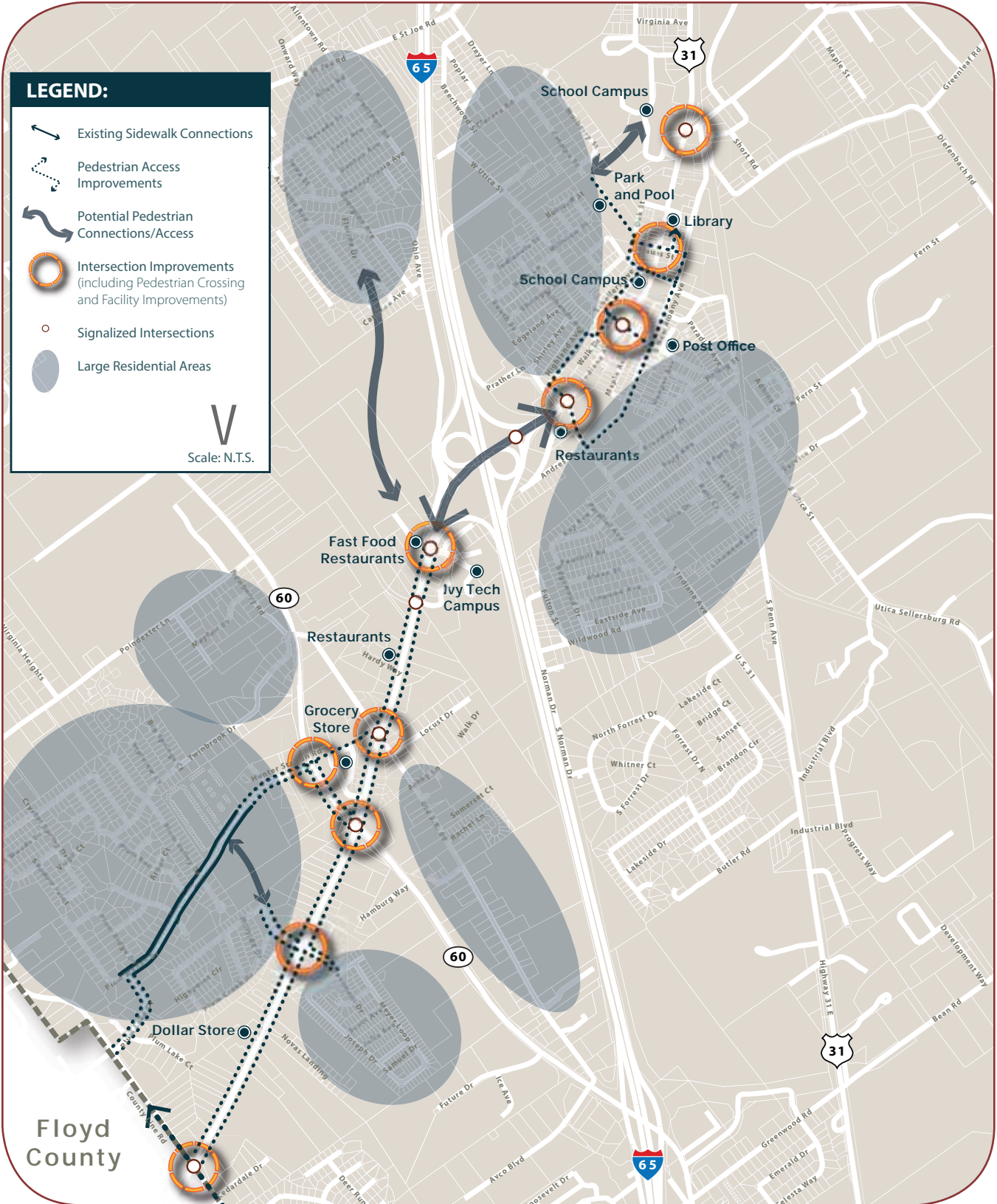
Potential Off-Route Improvement Considerations



Source: Clark County GIS Data, Google Earth

“Congestion and conflicts along the CR 311 corridor can be lessened by providing additional connections between roadways not directly linked to CR 311.”

Pedestrian Improvement Considerations



Source: Clark County GIS Data, Google Earth

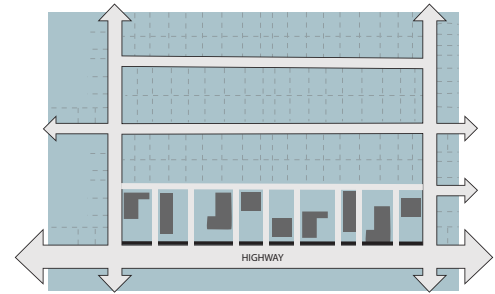
“Great emphasis should be placed on providing additional connectivity between neighborhoods and local points of interest”

Driveway Consolidation

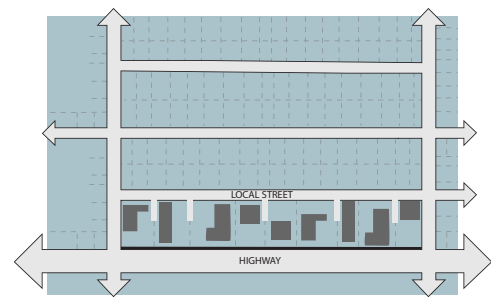
Another strategy that can be applied in multiple locations along the corridor is driveway consolidation. Driveway consolidation is the process of taking multiple driveways or access drives along that serve individual properties and connecting them to an access road, frontage road or shared driveway. By consolidating the drives, additional conflict points are removed and traffic entering and leaving the corridor is limited to key locations, helping to reduce congestion.

This approach should be implemented for any new development as part of an access management strategy to reduce conflict points along the corridor. While this effort can be accomplished much more easily by requiring it as part of new development, it can still be retrofitted into existing development where adequate space allows.

Prime candidates for driveway consolidation include areas along the corridor where multiple driveways exist serving multiple business or developments, all immediately adjacent to one another. Areas that are served by local roads running to the sides or rear of the property are also prime candidates.



*Without driveway consolidation, drives can clutter a corridor, increasing congestion
Credit: HWC Engineering*



*With driveway consolidation, access to properties is maintained, while also increasing mobility on the main corridor
Credit: HWC Engineering*



*Cobbs Ford Road in 2003
Source: Google Earth*



*Cobbs Ford Road in 2016
Source: Google Earth*

Between 2003 and 2016, portions of Cobbs Ford Road in Prattville, Alabama utilized driveway consolidation as development intensified along the corridor. As can be seen in the images above, seven separate driveways had direct access to Cobbs Ford Road. With driveway consolidation, the access points to Cobbs Ford Road was reduced to two points, but the businesses all maintained their locations and access to their properties. This approach minimizes conflict points, delay and congestion along the corridor and can be used in some locations along the CR 311 corridor.

Corridor-Wide Intersection Treatment

Several intersections within the study area have specific traffic improvement recommendations. However, there are some intersection elements which could be applied to all signalized intersections within the study area. The image below shows the recommended features which could be applied to all major intersections within the study area. While the configuration for each intersection may be different there is an assortment of features that can be applied at each intersection to help maintain regularity and consistency for both driver and pedestrian.

Potential Intersection Treatments can Include:

1. Decorative Signal Arms
2. Decorative Roadway Lighting
3. Sidewalk and Trail Connectivity
4. High Visibility Crosswalk Treatment
5. Curb Ramps
6. Site Furnishings such as Benches and Trash Receptacles
7. Street Trees
8. Wayfinding and Branding Elements such as Banners and Directional Signs
9. Artwork, Monuments or other Gateway Elements



*Some or all of the design components illustrated above can be implemented at intersections throughout the corridor
Credit: HWC Engineering*

Interagency Technical Advisory Committee

Corridor consistency was ranked among the most important needs for the CR 311 corridor by the steering committee and the public. There are currently five individual governmental stakeholders with jurisdiction along the corridor (Clarksville, Sellersburg, Clark County, INDOT and KIPDA). As development interest grows and future corridor improvements are planned, it is imperative that a consistent and cohesive decision making approach is developed to help ensure future consistency in corridor character.

One possible approach to this decision making process is the development of a Technical Advisory Committee (TAC) for corridor related activities. This committee should consist of representatives from each roadway stakeholder and provide guidance on important topics relating to corridor development such as: adjacent development patterns and uses, development design standards, roadway design standards, enhancements, and aesthetic corridor elements.

Corridor Design and Development Standards

To ensure improved corridor character it is recommended that a consistent set of design and development standards be created and adopted for all future adjacent development. These standards should consist of the following key elements:

Corridor specific land use overlay plan - This plan should identify the desired development patterns, land uses, and building quality and character for all parcels along the CR 311 corridor.

Corridor specific design standards - These standards should include future building architectural standards, landscaping standards, site furnishing and amenity standards, signage and wayfinding standards, and future roadway design standards.

Standard development should be guided by the CR311 TAC and adopted by individual municipalities for application through their standard development review and adoption process. Renaming the roadway or the entire length of the corridor is an additional approach that should be considered in tandem with development of the standards described above, to further create consistency and name recognition for the corridor.



Decorative regulatory signage
Credit: Site Essentials Company



Upgraded architectural detailing
Source: HWC Engineering



Decorative signal arms
Credit: HWC Engineering



Gateway element
Credit: HWC Engineering



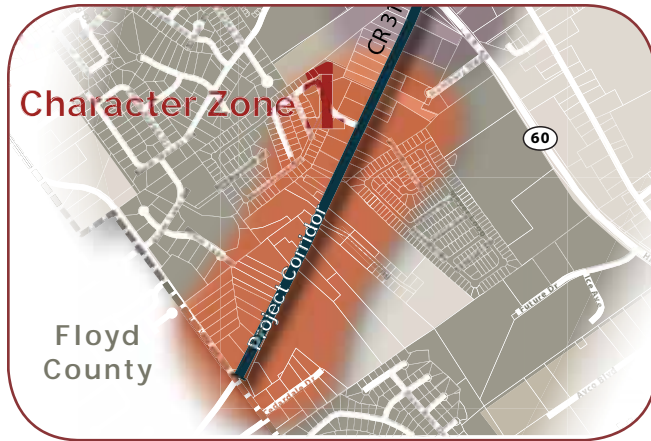
Median landscaping
Credit: Non-attributable source



Street trees, wayfinding signage and pedestrian lighting
Credit: HWC Engineering

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CHARACTER ZONE 1 STRATEGIES



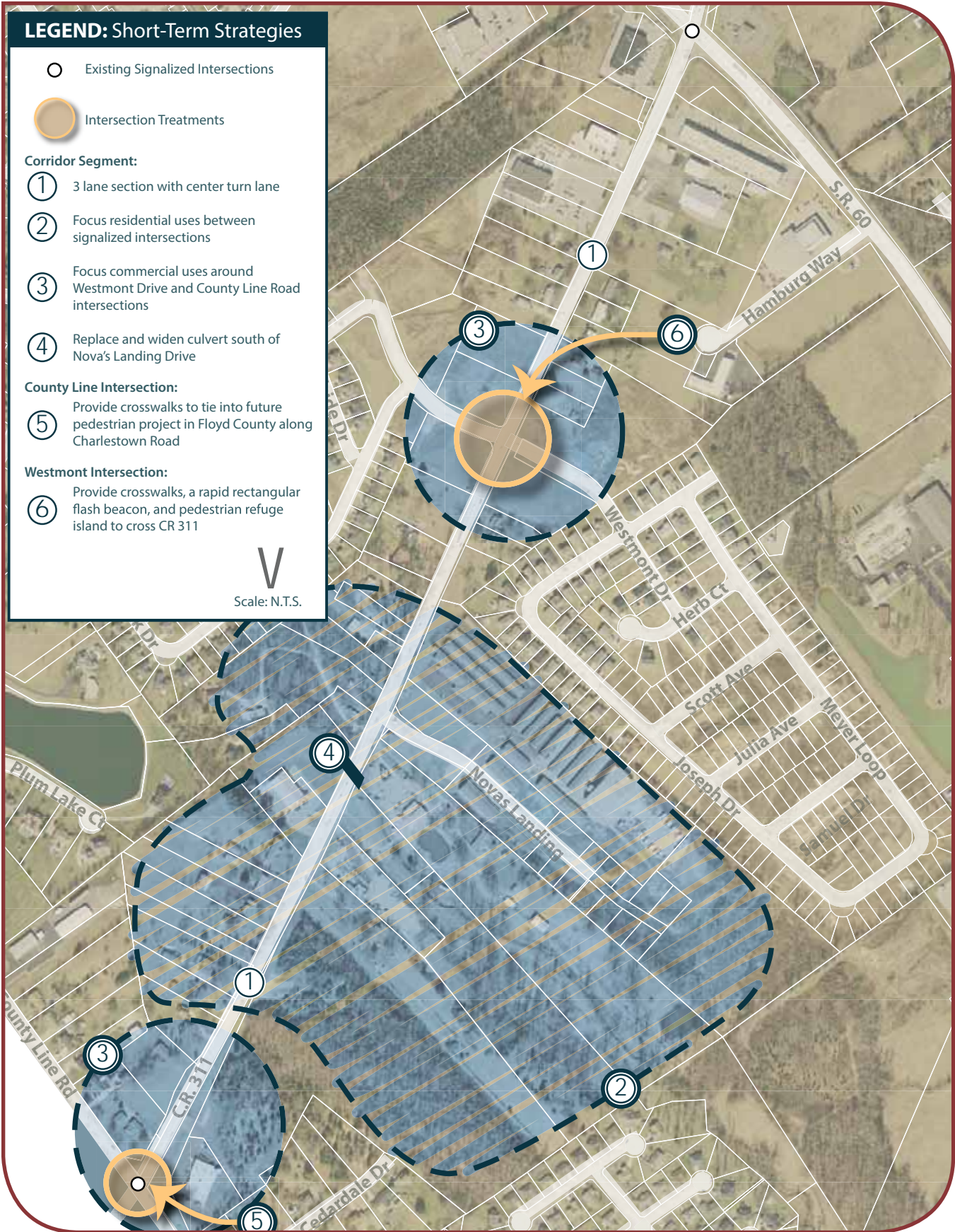
The following pages summarize the improvement strategies specific to Character Zone 1. While this character zone is currently mostly rural in nature future development is expected to increase along this section of the corridor.

The primary future land use in Character Zone 1 should be considered transitional from current large lot residential to more intense commercial and retail uses near the SR 60 intersection. Over time, growth pressure from both the north and south will provide incentive for many of the existing large residential lots to be aggregated into larger tracts which will be suitable for redevelopment into other uses.

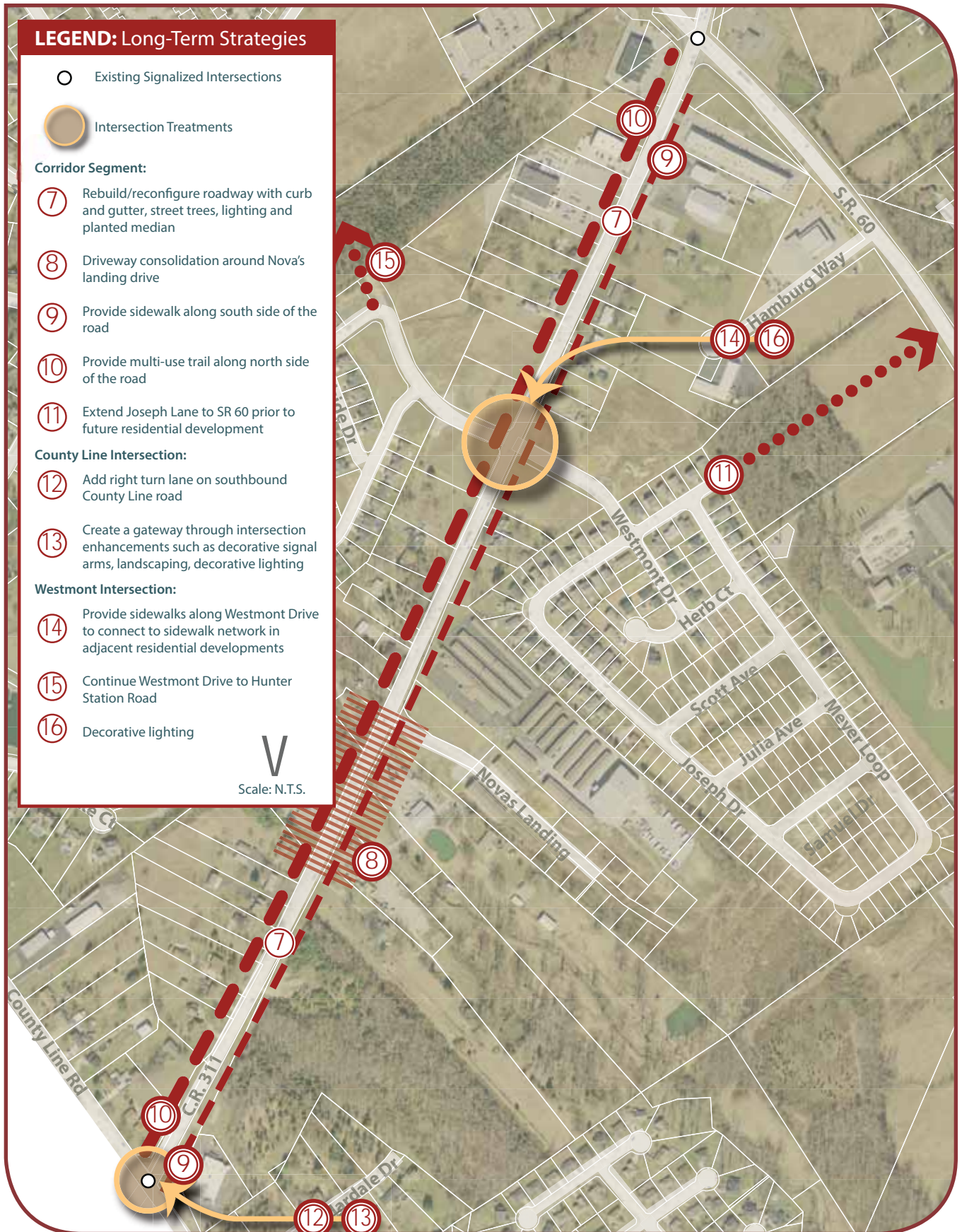


CR 311 north of County Line Road
Credit: HWC Engineering

Character Zone 1 Short-Term Strategy Locations



Character Zone 1 Long-Term Strategy Locations



Credit: HWC Engineering

Character Zone 1 - Improvement Strategy Highlights

The following pages provide detailed highlight for some of the most important improvement strategies recommended for Character Zone 1.

No. 7 - Long-Term: Rebuild/reconfigure roadway with curb and gutter, street trees, lighting and planted median

One of the primary corridor wide recommended strategies is to reconfigure the existing corridor into a three lane section. This would include two 11 foot travel lanes and one 14 foot center turn lane. The long-term strategy for Character Zone 1 is to reconstruct this segment of roadway to reflect a more urban character from what currently exists. Highlights of this strategy in Character Zone 1 include:

- Conversion of open drainage swales to an enclosed stormwater collection system
- Widening of existing culverts to accommodate a wider roadway cross section
- Installation of curb and gutter and a raised median the entire length of the corridor
- Consolidation of curb cuts to allow roadway access at managed locations
- Installation of roadway features including; street trees, decorative lighting, decorative regulatory signs, wayfinding and other corridor identifiers such as banners

The images on the right provide an idea of what these changes can look like within Character Zone 1.



*Short-term re-striping
Credit: HWC Engineering*



*Long-term reconstruction
Credit: HWC Engineering*

No. 11 - Long Term: Extend Joseph Lane to SR 60 prior to future residential development

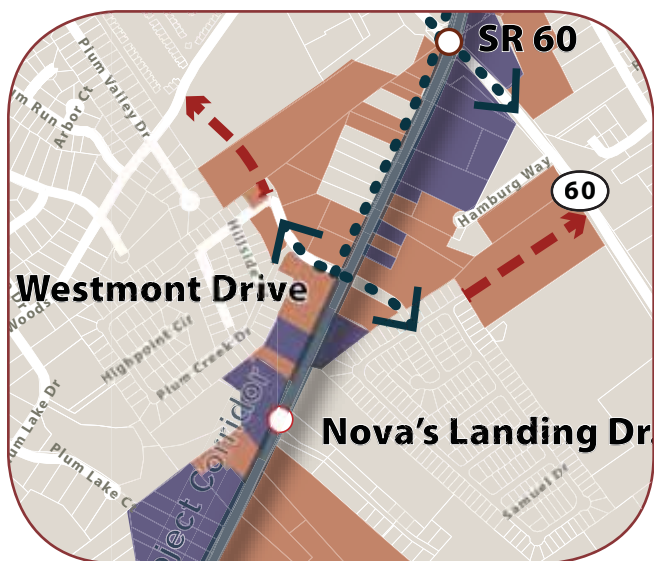
Joseph Lane in the subdivision off Westmont Drive on the south side of the corridor should be extended to SR 60 when new development is proposed for this area. This will serve to create a secondary means of ingress and egress for this subdivision besides solely relying on CR 311 for all neighborhood traffic.

No. 12 - Long-Term: County Line Road right-turn lane

The southbound County Line Road right-turn movement is heavy, as it connects residential areas to the north with commercial districts along the corridor south in Floyd County, as well as with the interchange with I-265. Adding a separate right-turn lane reduces delay for the County Line Road approach, which will also improve safety.

No. 15 - Long-Term: Continue Westmont Drive to Hunter Station Road

Similar to long-term recommendation above, Westmont Drive should be extended to Hunter Station Road in order to complete local road networks. If accompanied by pedestrian facilities, this extension can also serve to connect residential areas on both the north and south sides of the corridor.



The extension of Westmont Drive and Joseph Lane are illustrated by the red dashed arrows above.

Credit: HWC Engineering



Scale: N.T.S.

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CHARACTER ZONE 2 STRATEGIES



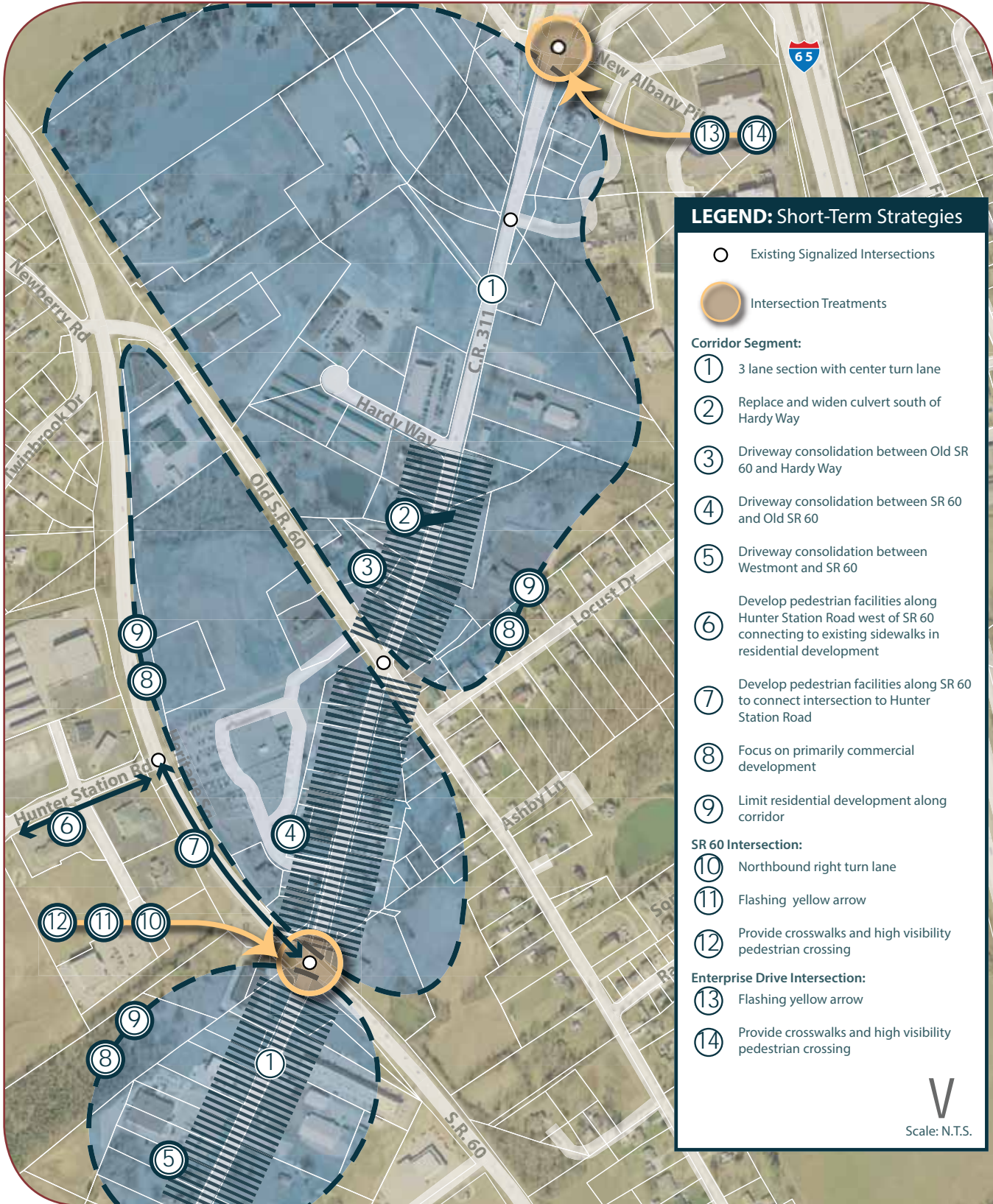
The following pages summarize the improvement strategies for Character Zone 2. Current development in this character zone is commercial with some large tracts of land and scattered single family residential lots. It is anticipated that aggregation and rezoning of existing parcels will occur within this character zone in the near future.

The primary future land use in Character Zone 2 should continue to be commercial and retail in nature, though the development styles will need to adapt as more commercial development pressure is experienced between SR 60 and I-65. Over time efforts need to be made to transition from the existing single lot, or 'outlot' commercial character to a more unified urban style development pattern. Some primary changes required to accomplish this include: consistent parking regulations, consistent building orientation, landscaping standards, and commercial signage standards more conducive to an improved corridor character.



CR 311 north of Old SR 60
Credit: HWC Engineering

Character Zone 2 Short-Term Strategy Locations



LEGEND: Short-Term Strategies

- Existing Signalized Intersections
- Intersection Treatments

Corridor Segment:

- ① 3 lane section with center turn lane
- ② Replace and widen culvert south of Hardy Way
- ③ Driveway consolidation between Old SR 60 and Hardy Way
- ④ Driveway consolidation between SR 60 and Old SR 60
- ⑤ Driveway consolidation between Westmont and SR 60
- ⑥ Develop pedestrian facilities along Hunter Station Road west of SR 60 connecting to existing sidewalks in residential development
- ⑦ Develop pedestrian facilities along SR 60 to connect intersection to Hunter Station Road
- ⑧ Focus on primarily commercial development
- ⑨ Limit residential development along corridor

SR 60 Intersection:

- ⑩ Northbound right turn lane
- ⑪ Flashing yellow arrow
- ⑫ Provide crosswalks and high visibility pedestrian crossing

Enterprise Drive Intersection:

- ⑬ Flashing yellow arrow
- ⑭ Provide crosswalks and high visibility pedestrian crossing

V
Scale: N.T.S.

Credit: HWC Engineering

Character Zone 2 Long-Term Strategy Locations



LEGEND: Long-Term Strategies

- Existing Signalized Intersections
- Intersection Treatments

Corridor Segment:

- 15 Rebuild/reconfigure roadway with curb and gutter, street trees, lighting and planted median
- 16 Provide multi-use trail along north side of the road
- 17 Provide sidewalks along south side of road
- 18 Provide decorative lighting between SR 60 and Enterprise Drive
- 19 Provide sidewalks along frontage of new commercial development (policy)

SR 60 Intersection:

- 20 Additional travel lane through intersection on SR 60
- 21 Provide decorative signal arms and lighting

Old SR 60 Intersection:

- 22 Provide decorative signal arms and lighting

Camp Run Parkway Intersection:

- 23 Provide decorative signal arms and lighting
- 24 Provide crosswalks and high visibility pedestrian crossing

Enterprise Drive Intersection:

- 25 Consider gateway with decorative signal arms, decorative lighting, landscaping and signature gateway feature

V
Scale: N.T.S.

Credit: HWC Engineering

Character Zone 2 - Improvement Strategy Highlights

The following pages provide detailed highlight for some of the most important improvement strategies recommended for Character Zone 2.

No. 15 - Long-Term: Rebuild/reconfigure roadway with curb and gutter, street trees, lighting and planted median

One of the primary strategies for the entire corridor is to reconfigure the existing roadway into a three lane section. This would include two 11 foot travel lanes and one 14 foot center turn lane. As is the case with Character Zone 1, the long-term strategy for Character Zone 2 is to reconstruct this segment of roadway to reflect a cross section with curb and gutter consistent along the entire length of this zone. Highlights of this strategy in Character Zone 2 include:

- Widening of existing culverts to accommodate a wider roadway cross section
- Installation of curb and gutter and a raised median the entire length of the corridor
- Consolidation of curb cuts to allow roadway access at managed locations
- Providing pedestrian improvements on both sides of the roadway and pedestrian crossing improvements at all signalized intersections
- Installation of roadway features including; street trees, decorative lighting, decorative regulatory signs, wayfinding and other corridor identifiers such as banners



*Short-term re-striping in Character Zone 2
Credit: HWC Engineering*



*Long-term reconstruction through Character Zone 2
Credit: HWC Engineering*

SR 60 Intersection

No. 10 - Short-Term: It is recommended that a northbound right-turn lane on CR 311 be constructed at this intersection. This turn lane should be designed with appropriate storage and taper lengths. Currently, CR 311 northbound through traffic and traffic turning right share a single lane. Both are heavy-volume movements, especially during the morning peak. The shared lane causes a significant delay, and creates a LOS E (during the AM peak) for that approach. By adding a northbound right-turn lane, the capacity of the approach is increased, delay is reduced, and the level of service is improved. As an added safety benefit, reduced delay can also reduce rear-end collisions, which are common at this intersection.

No. 20 - Long-Term: It is recommended that through travel lanes be added to SR60. Currently there is one through lane in each direction with high traffic volumes and high congestion, which will worsen in the future year conditions without additional improvements. By adding a through lane in each direction to SR 60, delay is reduced significantly. Additional through lanes along CR 311 were examined, but do not improve traffic sufficiently because SR 60 has the higher volume.

No. 12 Short-Term and No. 21 - Long-Term: Given its prominence as one of the most visible and heavily traveled intersections along the corridor, the SR 60 intersection provides an opportunity to create a visually appealing and safe intersection that can set the done for all other intersections along the corridor. Transforming this intersection into a stand-out intersection for the corridor includes the following features:

- High visibility pedestrian crossings
- Pedestrian crossing refuges
- Count down pedestrian signals
- Decorative roadway lighting
- Decorative traffic signal poles and arms
- Increased plantings
- Signage control standards to clean up the visual appearance of the intersection.

Enterprise Drive Intersection

In addition to the SR 60 intersection, the Enterprise Drive intersection is also one of the primary intersections on CR 311, and it will continue to play a prominent role in the future of the CR 311 corridor. This is due in large part to the intensity of uses in this location, including significant traffic generated by the adjacent Ivy Tech campus. Additional traffic is expected to be generated at this intersection in the future, as the recently completed Sellersburg TIF district begins to attract development opportunities.

As traffic increases at this intersection, it will be important to extend Enterprise Drive in a manner that connects to the existing street network. It will also be important to reconfigure the Ohio Street connection to Enterprise Drive so that the intersection does not occur so closely to the Enterprise Drive and CR 311 intersection.

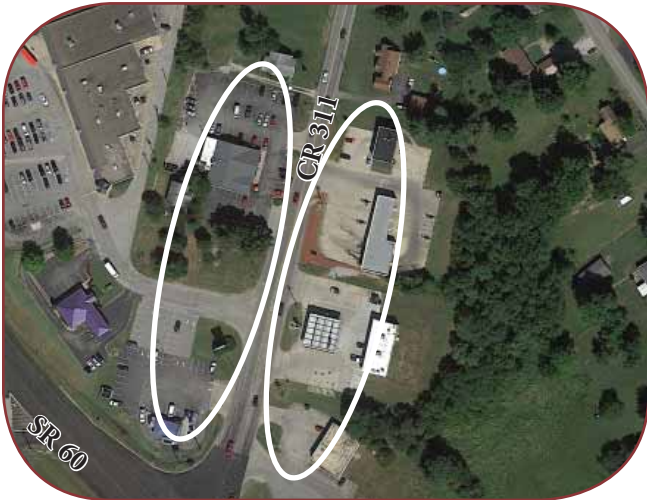
No. 25 - Long-Term: Since this is the first intersection that anyone traveling from I-65 south along CR 311 will encounter, it is important that future improvements at this intersection set the expectations for the character of the corridor. Given its location, this intersection should exhibit the features, maintenance, and improvements which will denote its special significance as a gateway into the larger CR 311 corridor and adjacent communities. Primary considerations for this intersection include the following:

- High visibility pedestrian crossings
- Pedestrian crossing refuges and transition to proposed I-65 pedestrian provisions.
- Decorative roadway lighting
- Decorative traffic signal poles and arms
- Increased plantings
- Signage control standards to clean up the visual appearance of the intersection.



Driveway consolidation opportunities north of old SR 60

Source: Google Earth



Driveway consolidation opportunities north of SR 60

Source: Google Earth



Driveway consolidation opportunities south of SR 60

Source: Google Earth

No. 3, 4, and 5 - Short-Term: Driveway Consolidation

Along the corridor through Character Zone 2, there are many opportunities for driveway consolidation, including between:

- Old SR 60 and Hardy Way
- SR 60 and Old SR 60
- Westmont Drive and SR 60

In some of these areas, one of the simplest solutions is to close multiple driveways. The primary function of CR 311 should not be to provide internal circulation and multiple entry and exit points to parking lots along the corridor.

Other areas present the opportunity to create one shared drive with internal circulation.

Still other areas may present the opportunity for a frontage road with one drive access that serves multiple businesses. A case study of how a frontage road can be used to serve multiple business can be found on page 41.

INTERCHANGE CHARACTER ZONE STRATEGIES



The following pages summarize the improvement strategies specific to the Interchange Character Zone. The Interchange Character Zone is the area on either side of and adjacent to the Interstate 65 interchange. This area consists of very wide right-of-way and wide pavement sections with very little to hint at what lies beyond the interchange.

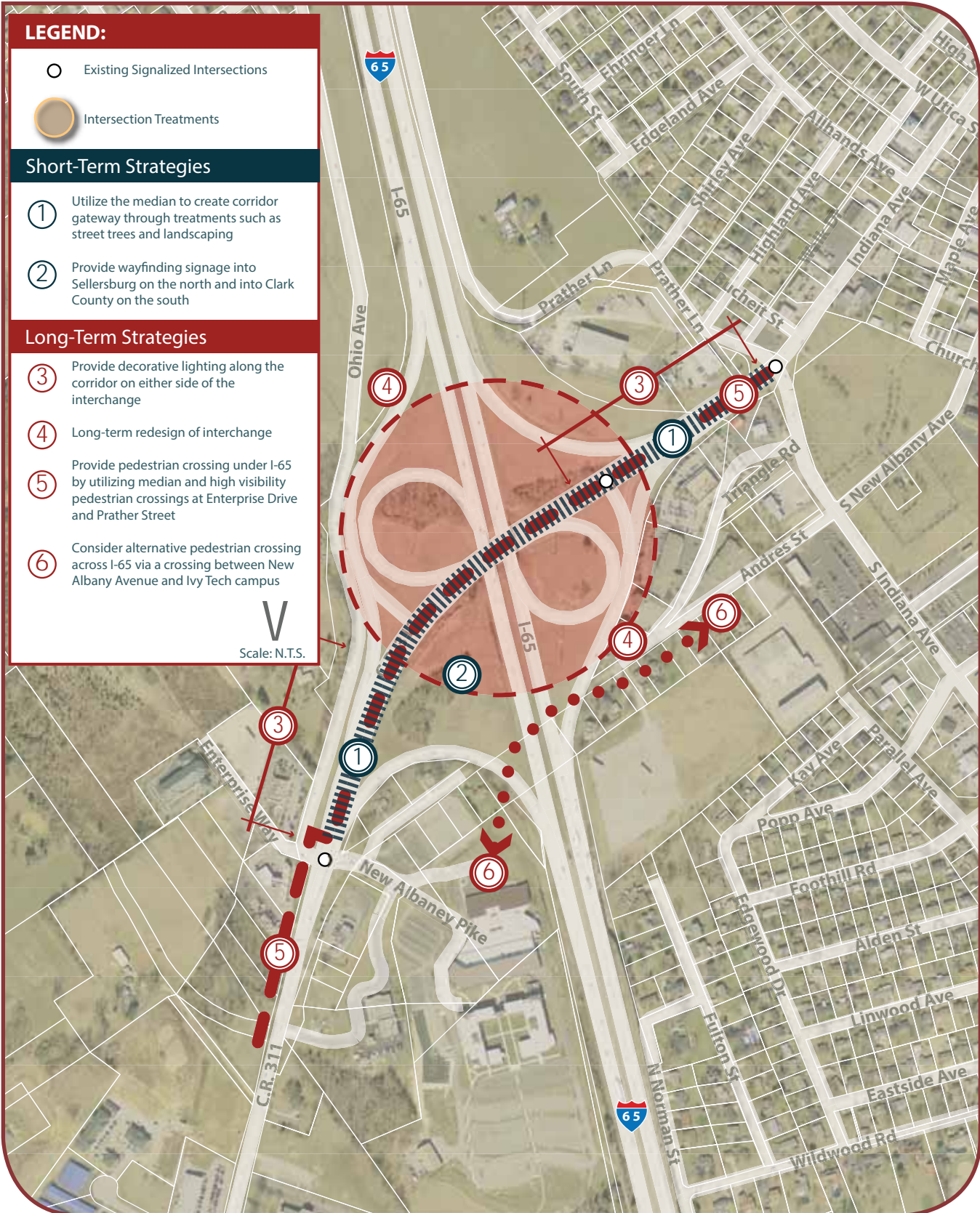
The expansive interchange currently contributes to some congestion and reduces the free flow of traffic due to the ramp configuration. There are eight points of conflict between the interchange and CR 31. Each merge, diverge, stop-control, and signalized approach interrupts the flow of traffic, causing start and stop conditions. The tight loop ramps are low-capacity and low-speed, especially for truck traffic. This backs up traffic onto CR 311 and may cause problems on I-65 mainline as well. Additionally, the ramp junctions at the far east and west ends of the interchange are in close proximity to signalized intersections, resulting in insufficient space for queuing and merging of vehicles.



CR 311 south of I-65

Credit: Shrewsberry & Associates, LLC

Interchange Character Zone Strategy Locations



Credit: HWC Engineering

Interchange Character Zone - Improvement Strategy Highlights

The following pages provide detailed highlights for some of the most important improvement strategies recommended for the Interchange Character Zone.

No. 5 Long-Term: Provide bicycle and pedestrian access under I-65 by utilizing existing surplus pavement and providing high visibility pedestrian crossings at Enterprise Drive and Prather Street

I-65 currently represents the largest significant barrier to continuous bicycle and pedestrian connectivity along the length of the CR 311 corridor. Due to the age and design of the interchange, there are currently no sidewalks present along this corridor and a high number of conflict points exist. One primary recommendation for the Interchange Character Zone is to utilize existing pavement widths to provide for separated bicycle and pedestrian access under the current I-65 interchange. Two approaches should be considered. One is to utilize the shoulders on the edge of the roadway. The other is to utilize the paved concrete shoulders in the middle of the roadway.

Either approach will require major considerations including:

- Significant pedestrian upgrades will be required at the primary pedestrian access points at Enterprise Drive and Prather Street
- Due to the nature and volume of traffic along this section of roadway the pedestrian connection should include permanent separation and physical barriers between roadway traffic and pedestrians.

The image on the bottom of the next page depicts one concept for the proposed future bicycle and pedestrian provisions within the Interchange Character Zone.



CR 311 heading south from the I-65 interchange
Credit: Shrewsberry & Associates, LLC



Depending on the location of the pedestrian crossings and facilities, the median can still serve as a gateway off the interchange, with street trees, lighting, wayfinding signage and landscaping
Credit: HWC Engineering



Pedestrian facilities under I-65. Pedestrian crossings could be provided at either end of the interchanges at Enterprise Drive and Prather Street
Credit: HWC Engineering

No. 4 - Long-Term: Redesign and Reconfigure I-65 Interchange

Further study of the interchange configuration is recommended. The current interchange configuration is a partial cloverleaf with directional slip ramps. It was designed when the surrounding land was mostly rural, near the town of Sellersburg, with relatively low traffic volumes. As there area has grown and developed, there are some down sides to this type of interchange:

- The interchange takes up a large amount of acreage that might otherwise be valuable commercial property with interstate frontage.
- There are eight points of conflict between the interchange and CR 311 as shown in [reference figure]. Each of these points of conflicts has a higher probability of collisions.
- Each merge, diverge, stop-control, and signalized approach interrupts the flow of traffic, causing start-and stop conditions.
- The ramp junctions at the far east and west ends of the interchange are in close proximity to signalized intersections, resulting in insufficient space for queuing and merging of vehicles.
- The tight loop ramps are low-capacity and low-speed, especially for truck traffic. This backs up traffic onto CR 311 and may cause problems on I-65 mainline as well.

As an alternative, an urban-style interchange with a narrow footprint, higher capacity ramps, and fewer conflict points would be preferred. An interchange justification study is required before modifying access to the interstate system. Further study will evaluate alternatives, but potential interchange configurations include tight diamond, single point urban interchange (SPUI), and diverging diamond interchange (DDI). The ramp volumes, available right of way, and existing I-65 bridge configuration will be factors in determining the most appropriate configuration for this interchange. By tightening the footprint of the interchange, there will be more distance between ramps and the intersections at Enterprise Drive and at Prather Street, which allows for improved operations at those intersections.



Diverging diamond interchange
Credit: www.modot.org



Single point urban interchange
Credit: www.wisconsin.gov



Tight diamond interchange
Credit: www.sehinc.com

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CHARACTER ZONE 3 STRATEGIES



The following pages summarize the improvement strategies specific to Character Zone 3.

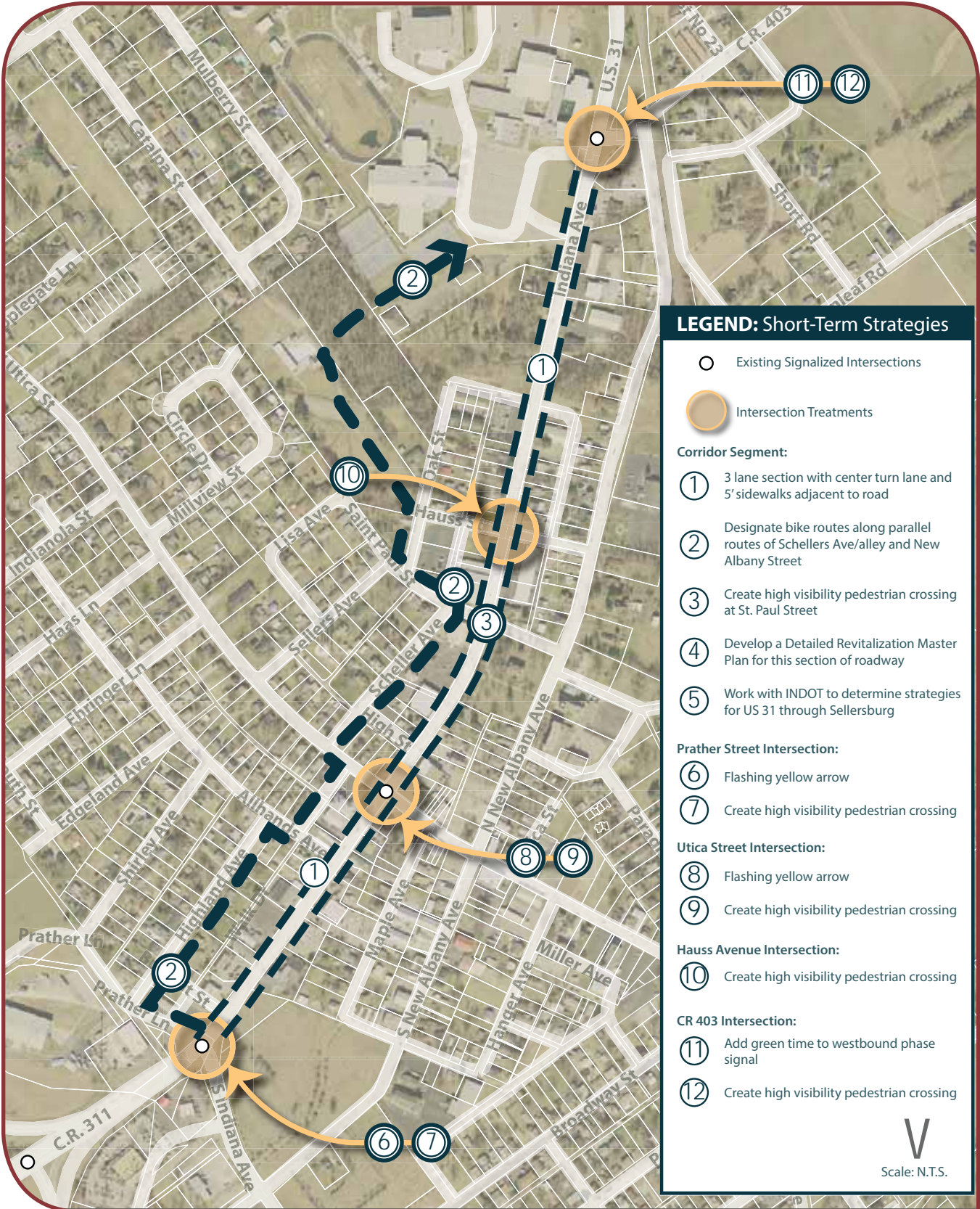
Character Zone 3 is the area north of I-65 through the historic portion of the town of Sellersburg. This section of the corridor is nearly completely developed, and a number of existing ROW constraints will need to be addressed prior to full implementation of the improvement strategies outline in this section.

The primary future land use of this section of CR 311 will be commercial and retail with mixed institutional uses at various points. Long term land use strategies and development standards should be aimed at converting the character of this section of corridor back to a more traditional style of development with generous furniture and pedestrian zones between the curb and building facades.



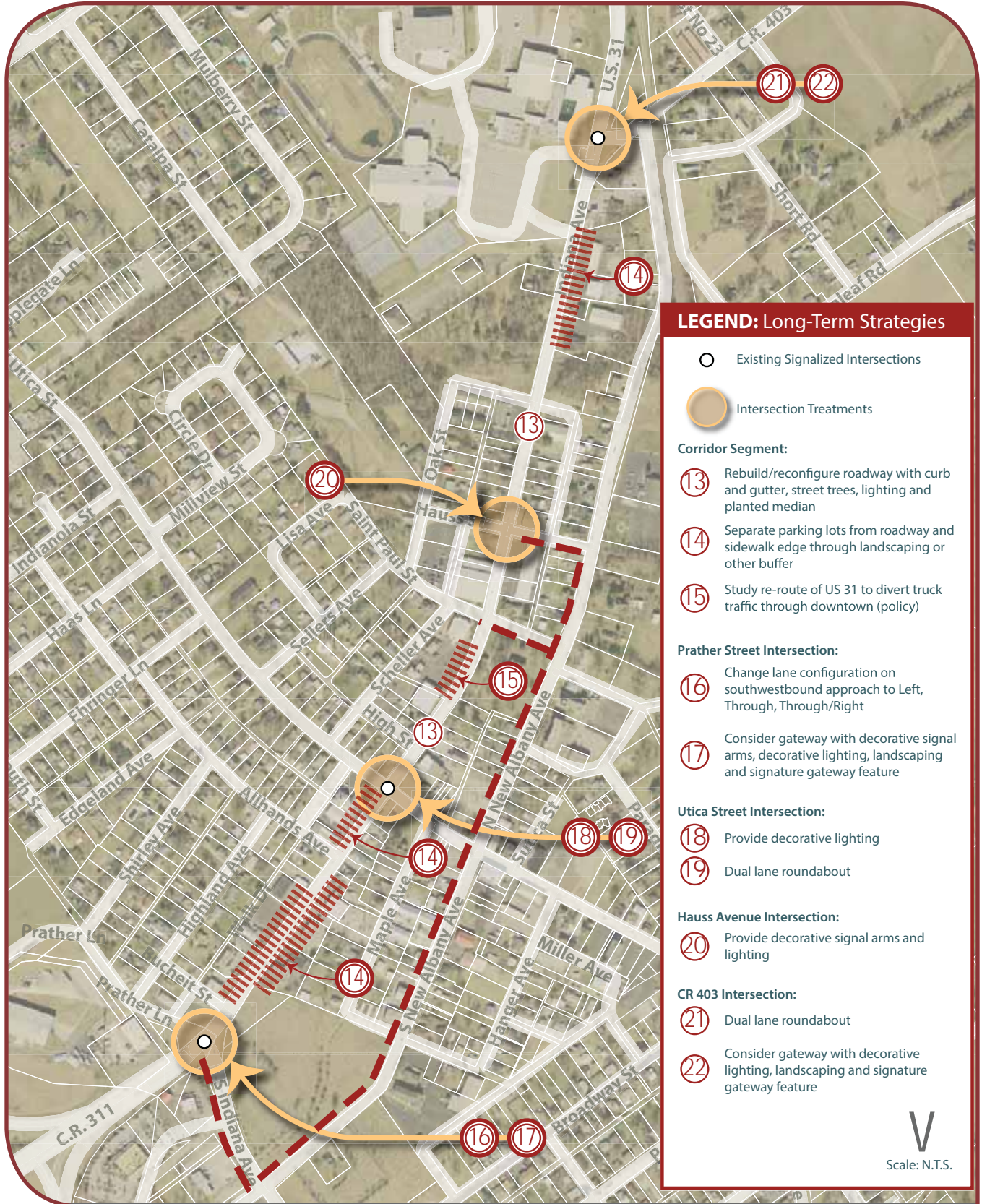
US 31 near St. Paul Street in Sellersburg
Credit: HWC Engineering

Character Zone 3 Short-Term Strategy Locations



Credit: HWC Engineering

Character Zone 3 Long-Term Strategy Locations



LEGEND: Long-Term Strategies

- Existing Signalized Intersections
- Intersection Treatments

Corridor Segment:

- 13 Rebuild/reconfigure roadway with curb and gutter, street trees, lighting and planted median
- 14 Separate parking lots from roadway and sidewalk edge through landscaping or other buffer
- 15 Study re-route of US 31 to divert truck traffic through downtown (policy)

Prather Street Intersection:

- 16 Change lane configuration on southwestbound approach to Left, Through, Through/Right
- 17 Consider gateway with decorative signal arms, decorative lighting, landscaping and signature gateway feature

Utica Street Intersection:

- 18 Provide decorative lighting
- 19 Dual lane roundabout

Haus Avenue Intersection:

- 20 Provide decorative signal arms and lighting

CR 403 Intersection:

- 21 Dual lane roundabout
- 22 Consider gateway with decorative lighting, landscaping and signature gateway feature

V
Scale: N.T.S.

Character Zone 3 - Improvement Strategy Highlights

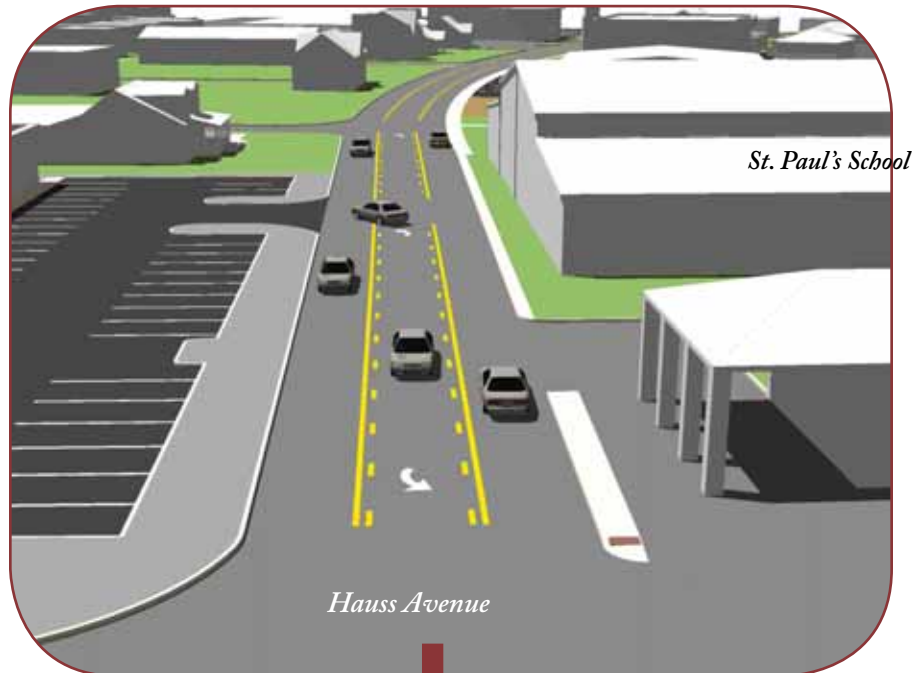
The following pages provide detailed highlight for some of the most important improvement strategies recommended for Character Zone 3.

No. 13 - Long-Term: Rebuild/reconfigure roadway with curb and gutter, street trees, lighting and planted median

The long-term strategy for Character Zone 3 is to reconstruct this segment of roadway to reflect an updated cross section with curb and gutter consistent along the entire length of this zone. Highlights of this strategy in Character Zone 3 include:

- Securing ROW width required to allow for the proposed cross section
- Installation of curb and gutter and a raised median the entire length of the corridor
- Consolidation of curb cuts to allow roadway access at managed locations
- Providing a generous pedestrian zone to allow for improved walkability
- Future adjacent development should feature a quality and character which supports key placemaking principle to resurrect traditional neighborhood and retail/commercial uses
- Installation of roadway features including; street trees, decorative lighting, decorative regulatory signs, wayfinding and other corridor identifiers such as banners

The images on the right provide an idea of what these changes can look like within Character Zone 3.



Short-term re-striping
Credit: HWC Engineering



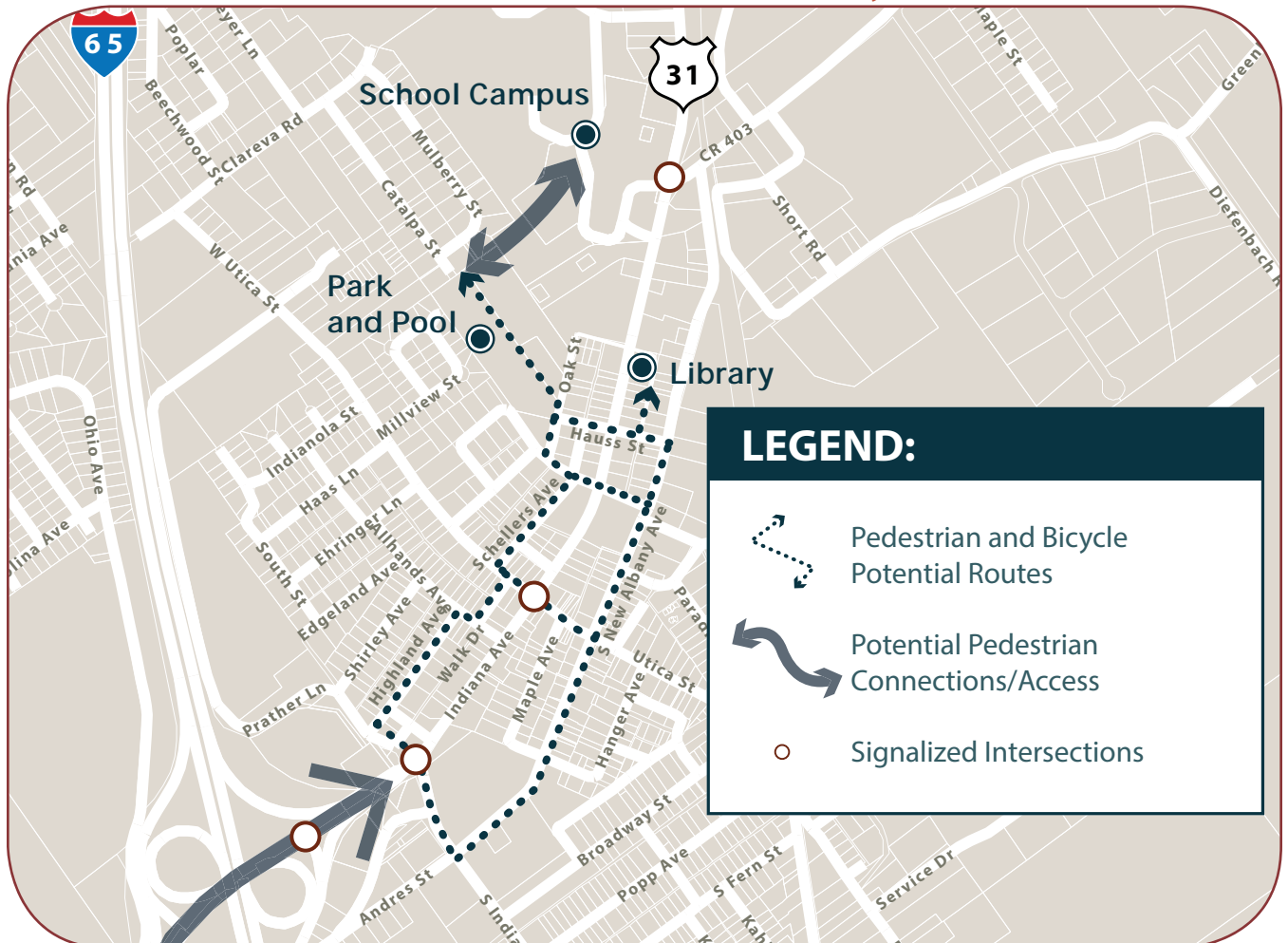
Long-term reconstruction
Credit: HWC Engineering

No. 2 - Short-Term: Designate bike routes through Sellersburg along parallel corridors such as Highlands Avenue, Schellers Avenue and New Albany Street

Due to right-of-way constraints, heavy traffic, and recommended future roadway cross sections, it is recommended that bicycle traffic through Sellersburg be separated from pedestrian traffic along alternate routes parallel to the CR 311 corridor. These routes could be striped and signed to indicate bicycle routes. This will provide for greater safety for both bicyclists and pedestrians and will allow for the development of a more traditional downtown pedestrian zone immediately adjacent to the CR 311 corridor. This will help enhance the desirability of this section of roadway for future retail and commercial business opportunities.

The map below depicts one possible scenario for alternate bicycle routing through Sellersburg. This route includes bicycle connections parallel to the CR 311 corridor along Walk Ave/Schellers Ave. north of CR 311 and along north and south New Albany Streets south of CR 311. As these alternate routes are implemented, Sellersburg should look for opportunities to provide bicycle access and amenities to the rear lots of business located along CR 311. These routes could also connect to a pedestrian access to Ivy Tech as described in the Interchange Character Zone discussion on page 61.

Character Zone 3 Potential Pedestrian and Bicycle Corridors



Parallel and designated bike routes through Sellersburg allows for community assets such as retail, the schools, the library and the park and pool to be connected without having to force cyclists onto CR 311
 Credit: HWC Engineering

No. 5 - Short-Term: US 31 through Sellersburg

The section of roadway within Character Zone 3 is currently the only portion of the study roadway under INDOT jurisdiction. In an effort to gain additional control over future roadway improvements within this character zone, it is recommended that conversations with INDOT about future improvements and control over this section of the corridor. A precedent for this process was recently undertaken by the county on portions of the study corridor south of the I-65 interchange, and a similar process could be expected for the Character Zone 3 roadway section.

By doing this, Sellersburg will have the ability to make maintenance and improvement decisions which better meet the needs of the community.

It is critical that these conversations begin quickly as there are plans for INDOT to make upgrades to the roadway during the 2022 fiscal year. Even if relinquishment is not a viable option for Sellersburg, it is important to request an active role in identifying the nature, character, and quality of planned INDOT roadway improvements to help ensure that they further work towards the corridor goals defined in this study.



US 31 at Prather Street in Sellersburg. Credit: HWC Engineering

It is critical that these conversations begin quickly as there are plans for INDOT to make upgrades to the roadway during the 2022 fiscal year.

No. 15 - Long-Term: Reroute US 31 Through Sellersburg to divert heavy truck traffic around town

One contributing factor to the travel delay experienced through Sellersburg is the prevalence of large, heavy haul vehicles. These vehicles typically require longer times to get up to speed, especially under full load. This adds considerable time for standard passenger vehicles to travel through Character Zone 3 if queued behind these vehicles. Implementing other strategies recommended in this document, such as roundabouts at key intersections and corridor signal timing, will help alleviate this issue.

A long-term strategy recommended for Character Zone 3 is to find alternate routes for heavy truck traffic around, instead of through, Sellersburg. Doing this will help with travel times through the community. This will be especially important if relinquishment of this portion of roadway is successful, since it will allow the community to re-envision this section of corridor in a manner which reduces long-term maintenance requirements and greatly improves the community and corridor character.

A detailed analysis will need to be performed on area routes to determine which ones have the most potential in serving as alternate routes for traffic through Sellersburg. Additional connections or spurs may also need to be made to make routes feasible.



Truck traffic heading south through Sellersburg at the CR 403 intersection. Credit: HWC Engineering

A long-term strategy recommended for Character Zone 3 is to find alternate routes for heavy truck traffic around, instead of through, Sellersburg.

No. 19 - Long-Term: Utica Street improvements to include roundabout.

As traffic volumes continue to grow, the congestion at US 31 and Utica Street will worsen. Space is tight, so any capacity improvements at this location will have an impact on the adjacent properties right-of-way will need to be obtained. A dual-lane roundabout is one way to relieve the congestion at this intersection. An operations analysis showed that a dual-lane roundabout improves the operations to an acceptable level. Preliminary design of the roundabout, including geometrics, was not part of the analysis.

As an alternate to the roundabout, widening to allow added travel lanes or additional turn lanes at the signalized intersection also has the potential to relieve congestion. This alternate would also have significant impact on adjacent properties.

The roundabout and added travel lanes solutions can achieve similar performance. The main difference between the two is how they impact adjacent properties. A roundabout requires significant land on all four corners of the intersection. In this case, there are businesses close to the road that would be severely impacted by the construction of a roundabout. The center of the roundabout can be shifted to reduce the impact on one or more quadrant to avoid any historic

properties or environmental issues. Properties along US 31 that are farther from the intersection would not be impacted at all.

Added lanes would require strips of land on either side of the road for a long distance. This would impact the parking lots of numerous businesses, in addition to some buildings that are close to the curb. More businesses would be impacted than with the roundabout, but each would be impacted to a lesser degree.

The roundabout offers the added benefits of traffic calming and an aesthetic/gateway opportunity for the town of Sellersburg. An added travel lanes option would lack these benefits.

As part of preliminary engineering, a roadway designer can begin to lay out intersection geometry and help the community to determine which type of improvement is preferred and is more cost-effective. If both improvements show to have an undesired impact on the surrounding land, a third option is to do nothing, and accept the higher possibility of congestion during peak periods. Improved signal timings can help somewhat, as can improving connectivity and parallel routes to give motorists and alternate route to avoid this location.



While a potential roundabout at Utica Street would undoubtedly require additional right-of-way and impact immediately adjacent structures, it would improve congestion and provide an opportunity for a signature feature in the middle of Sellersburg. Shown above is a two lane roundabout in Davidson, NC, which serves as a gateway into the community.

Credit: Google Street View

No. 21 and 22 - Long-Term: CR 403 Improvements including dual-lane roundabout and gateway features.

Traffic delays at the CR 403 intersection were a consistent concern raised by the steering committee and public. The west-to-south and north-to-east flow is a busy and growing traffic movement. Adjusted signal timings can reduce delay for westbound traffic as a short-term improvement. For the long-term, a dual-lane roundabout is operationally sufficient to handle the projected horizon year traffic flows. There are geometric challenges to constructing a roundabout between the existing school building and the railroad in close proximity. A large triangle of land at the intersection offers some opportunity to construct improvements without impacting businesses, like at Utica Street. If the roundabout proves too costly, close monitoring of traffic patterns and adjusting the signal timings accordingly should sufficiently handle traffic in the study horizon year. Gateway and beautification opportunities are present either in the inscribed circle of the roundabout or in the triangle property near the existing signal.

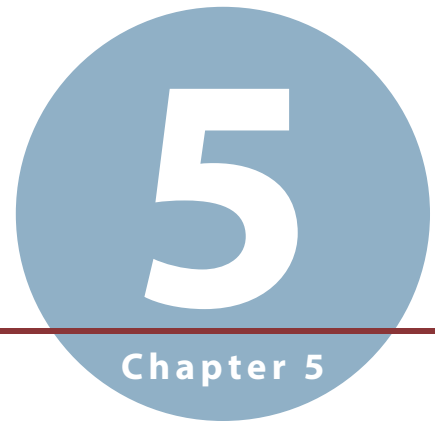
Aroundabout at this location also presents an opportunity to create a signature gateway into Sellersburg from the north. If designed in tandem with the proposed Utica Street roundabout, these two features could transform traffic flow through Sellersburg, while creating a signature design for the community.



*A roundabout at CR 403 provides an opportunity for a signature gateway into Sellersburg, while also greatly reducing congestion and efficiency through the intersection. While the roundabout above in Princeton, IN is only a single lane roundabout, it highlights how a water feature and landscaping can serve as a gateway into the community
Credit: HWC Engineering.*

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ACTIONS STEPS AND IMPLEMENTATION PLAN



How to Use the Implementation Plan

The tables that follow are summaries of the improvements identified in Chapter 4. The tables are organized by corridor-wide and character zone Strategies, as well as by short-term and long-term improvements. The tables include planning level budget ranges for each improvement, page references for where the improvement is discussed in the document and any other relevant notes for each improvement. It should be noted that the budget ranges are the probable opinion of cost based on similar improvements for which there is available pricing data. These are illustrated as ranges however, since the actual cost of the improvement will be highly dependent on site specific factors and final project design criteria.

One of the first recommendations of the plan is to create a interagency technical advisory committee and establish a cooperative overlay district or zoning district. If implemented, these two recommendations would allow for coordinated oversight of the recommendations, and increase the likelihood of implementation. Absent an advisory committee and overlay district, coordination and communication among all jurisdictions of this corridor, using these summary tables as a guide, is essential to moving these recommendations forward.

Short-Term and Long-Term Improvements

Throughout the text of this document, references have been made to short-term and long-term improvements to the corridor and character zones along the corridor. Short-term improvements fall within the timeframe of 0-5 years and should be more easily completed than those identified as long-term improvements. Many of these short-term recommendations can have immediate impact on the corridor and may set the stage and prepare for some of the long-term recommendations.

Long-term improvements fall within the timeframe of 6 years or greater. While long-term improvements are not unrealistic, they likely require additional funding or effort, in the form of more detailed studies, political will, and public engagement and support. Some long-term improvements are more policy focused, and will need to be applied over time as the corridor further develops and changes. Other long-term improvements may be more easily accomplished by breaking them into smaller pieces. While focused efforts may initially be towards the short-term improvements, long-term improvements should not be ignored or discounted. Steady and deliberate actions will be required to follow through on these recommendations.

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CORRIDOR WIDE STRATEGIES			
Short-Term			
Strategy	Ref. Pages	Probable Opinion of Cost	Notes
Re-stripe the corridor to a three lane section with two 11 foot travel lanes and one 14' foot center turn lane	31, 33, 34, 36	\$3.3 - \$3.9m	Will require additional pavement and structural pavement analysis in some locations. This line item is included in the long-term recommendation to rebuild the road in each character zone.
Adjust signal timing at all signalized intersections	37	\$5,000 - \$6,000 / intersection	Immediate and small step which can help delay issues
Interconnect signals at all signalized intersections	37	\$75,000 - \$100,000	Immediate and small step which can help delay issues
Install flashing yellow arrow at signalized intersections	37	\$1,000 - \$5,000 / intersection	INDOT is implementing this practice at all intersections within its jurisdiction
Create an interagency technical advisory committee	43	Policy	Should be one of the first priorities. Will involve representatives from all jurisdictions along the corridor
Establish a cooperative overlay district/ zoning district	43	Policy	Should be developed through the interagency technical advisory committee
Establish corridor design and development standards	43	Policy	Should be developed through the interagency technical advisory committee
Create a common public information and driver awareness policy for corridor updates and information.	33	Policy	Should be developed through the interagency technical advisory committee
Establish requirement for right-of-way dedication along corridor for new development	33, 34, 36	Policy	Each jurisdiction can establish this requirement. Requirements should be coordinated among jurisdictions

CORRIDOR WIDE STRATEGIES			
Long-Term			
Strategy	Ref. Pages	Probable Opinion of Cost	Other Considerations
Acquire right-of-way along corridor with new development and redevelopment	33, 34, 36	Policy	Each jurisdiction can establish this requirement. Requirements should be coordinated among jurisdictions.
Install curb and gutter and closed stormwater infrastructure along the corridor	31, 33, 34, 36	\$4 - \$5m	This line item is included in the long-term recommendation to rebuild the road in each Character Zone.
Pursue off-route secondary circulation network improvements for both vehicular and pedestrian routes	38, 39, 40	Policy and Future Study	Traffic modeling of off-route improvements should be performed to accurately understand the positive impacts to the CR 311 corridor

Budget ranges are the probable opinion of cost in 2017 based on similar improvements for which there is pricing data. Budget numbers provided are for understanding magnitude of costs. Detailed design criteria and project scopes will need to clearly be defined for refined cost estimates. Each location is subject to unique circumstances and situations that will determine cost, such as right-of-way widths, pavement condition, and utility locations.

CHARACTER ZONE 1 STRATEGIES			
Short-Term			
Strategy	Ref. Pages	Probable Opinion of Cost	Notes
Corridor Segment			
Three lane section with center turn lane	46, 48	\$1.4 - \$1.6m	Will require additional pavement and structural pavement analysis in some locations
Focus residential uses between signalized intersections	46	Policy	A cooperative overlay district/zoning district could clarify and unify uses along the corridor
Focus commercial uses around Westmont Drive and County Line Road intersections	46	Policy	A cooperative overlay district/zoning district could clarify and unify uses along the corridor
Replace and widen culvert south of Nova's Landing Drive	46	\$250,000 - \$350,000	A widened culvert will be necessary to accommodate a wider roadway section in the future
County Line Intersection			
Provide crosswalks and to tie into future pedestrian project in Floyd County along Charlestown Road	40, 46	\$40,000 - \$50,000	Will connect commercial development on all four corners of intersection and set stage for continuation of pedestrian facilities along Charlestown Road north along CR 311
Westmont Intersection			
Provide crosswalks, a rapid rectangular flash beacon, and pedestrian refuge island to cross CR 311	40, 46	\$75,000 - \$85,000	Will allow a safe pedestrian crossing across CR 311 for established and developing residential areas

Budget ranges are the probable opinion of cost in 2017 based on similar improvements for which there is pricing data. Budget numbers provided are for understanding magnitude of costs. Detailed design criteria and project scopes will need to clearly be defined for refined cost estimates. Each location is subject to unique circumstances and situations that will determine cost, such as right-of-way widths, pavement condition, and utility locations.

CHARACTER ZONE 1 STRATEGIES			
Long-Term			
Strategy	Ref. Pages	Probable Opinion of Cost	Notes
Corridor Segment			
Rebuild/reconfigure roadway with curb and gutter, street trees, lighting and planted median	47, 48	\$5.3 - \$5.9m	Right-of-way and additional pavement will be required in some locations. Costs do not account for right-of-way acquisition or utility relocation
Driveway consolidation around Nova's landing drive	41, 47	\$180,000 - \$210,000	Further study will be required for exact configuration
Provide sidewalk along south side of the road	38, 47	\$400,000 - \$500,000	Right-of-way likely required. Costs do not account for right-of-way acquisition or utility relocation
Provide multi-use trail along north side of the road	38, 47	\$800,000 - \$900,000	Right-of-way likely required. Costs do not account for right-of-way acquisition or utility relocation
Extend Joseph Lane to SR 60 prior to future residential development	38, 47, 49	\$800,000 - \$900,000	Should be requirement for further development
County Line Intersection			
Add right turn lane on southbound County Line road	19, 47, 49	\$40,000 - \$50,000	Will likely be warranted as traffic volumes increase
Create a gateway through intersection enhancements such as decorative signal arms, landscaping, decorative lighting	42, 47	\$300,000 - \$500,000	Should be developed under corridor design standards for consistency with other intersections
Westmont Intersection			
Provide sidewalks along Westmont Drive to connect to sidewalk network in adjacent residential developments	38, 47	\$45,000 - \$55,000	Complete pedestrian improvements identified in the short-term and connect residential areas to the corridor
Continue Westmont Drive to Hunter Station Road	38, 47, 49	\$900,000 - \$1.1m	Will complete road network and provide additional pedestrian facilities
Decorative signal arms and lighting	42, 47	\$250,00 - \$300,000	Should be developed under corridor design standards for consistency with other intersections

Budget ranges are the probable opinion of cost in 2017 based on similar improvements for which there is pricing data. Budget numbers provided are for understanding magnitude of costs. Detailed design criteria and project scopes will need to clearly be defined for refined cost estimates. Each location is subject to unique circumstances and situations that will determine cost, such as right-of-way widths, pavement condition, and utility locations.

CHARACTER ZONE 2 STRATEGIES			
Short-Term			
Strategy	Ref. Pages	Probable Opinion of Cost	Notes
Corridor Segment			
Three lane section with center turn lane	52, 54	\$1.5 - \$1.7m	Will require additional pavement and structural pavement analysis in some locations
Replace and widen culvert south of Hardy Way	52	\$300,000 - \$400,000	A widened culvert will be necessary to accommodate a wider roadway section in the future
Driveway consolidation: <ul style="list-style-type: none"> ■ Old SR 60 and Hardy Way ■ SR 60 and Old SR 60 ■ Westmont and SR 60 	41, 52, 56	\$350,000 - \$390,000	Further study will be required for exact configuration
Develop pedestrian facilities along Hunter Station Road west of SR 60 connecting to existing sidewalks in residential development	40, 52	\$50,000 - \$60,000	Connect residential areas commercial and retail areas, potentially limiting car trips
Develop pedestrian facilities along SR 60 to connect intersection to Hunter Station Road	40, 52, 55	\$230,000 - \$250,000	Connect residential areas commercial and retail areas, potentially limiting car trips.
Focus on primarily commercial development	52	Policy	A cooperative overlay district/zoning district could clarify and unify uses along the corridor
Limit residential development along corridor	52	Policy	A cooperative overlay district/zoning district could clarify and unify uses along the corridor
SR 60 Intersection			
Northbound right turn lane	52, 55	\$90,000 - \$100,000	Requires intersection re-design. Should include pedestrian crossing identified below into design
Flashing yellow arrow	37, 52	\$1,000 - \$5,000	Replace signal
Provide crosswalks and high visibility pedestrian crossing	40, 52, 55	\$75,000 - \$85,000	Connect residential areas commercial and retail areas, potentially limiting car trips. Also provide safe pedestrian crossing across CR 311
Enterprise Drive Intersection			
Flashing yellow arrow	37, 52	\$1,000 - \$5,000	Replace signal
Provide crosswalks and high visibility pedestrian crossing	40, 52, 55	\$75,000 - \$85,000	Connect the Ivy Tech campus to commercial and retail on north side of corridor with a safe pedestrian crossing

Budget ranges are the probable opinion of cost in 2017 based on similar improvements for which there is pricing data. Budget numbers provided are for understanding magnitude of costs. Detailed design criteria and project scopes will need to clearly be defined for refined cost estimates. Each location is subject to unique circumstances and situations that will determine cost, such as right-of-way widths, pavement condition, and utility locations.

CHARACTER ZONE 2 STRATEGIES			
Long-Term			
Strategy	Ref. Pages	Probable Opinion of Cost	Notes
Corridor Segment			
Rebuild/reconfigure roadway with curb and gutter, street trees, lighting and planted median	53, 54	\$5.2 - \$5.7m	Right-of-way and additional pavement will be required in some locations. Costs do not account for right-of-way acquisition or utility relocation
Provide multi-use trail along north side of the road	40, 53	\$800,000 - \$900,000	Right-of-way likely required. Costs do not account for right-of-way acquisition or utility relocation
Provide sidewalks along south side of road	40, 53	\$400,000 - \$500,000	Right-of-way likely required. Costs do not account for right-of-way acquisition or utility relocation
Provide decorative lighting between SR 60 and Enterprise Drive	42, 53	\$300,000 - \$350,000	Can be accomplished in tandem with pedestrian facilities projects above. Should be developed under corridor design standards for corridor consistency
Require sidewalks along frontage of new commercial development	53	Policy	Ensures pedestrian connectivity between developments. Each jurisdiction can require separately
SR 60 Intersection			
Additional travel lane through intersection on SR 60	19, 53, 55	Future Study	Will require detailed study
Provide decorative signal arms and lighting	42, 53, 55	\$250,00 - \$300,000	Should be developed under corridor design standards for consistency with other intersections
Old SR 60 Intersection			
Provide decorative signal arms and lighting	42, 53	\$250,00 - \$300,000	Should be developed under corridor design standards for consistency with other intersections
Camp Run Parkway Intersection			
Provide decorative signal arms and lighting	42, 53	\$250,00 - \$300,000	Should be developed under corridor design standards for consistency with other intersections
Provide crosswalks and high visibility pedestrian crossing	40, 42, 53	\$75,000 - \$85,000	Connect the Ivy Tech campus to commercial and retail on north side of corridor with a safe pedestrian crossing. Will supplement Enterprise Drive crossing as development increases
Enterprise Drive Intersection			
Consider gateway with decorative signal arms, decorative lighting, landscaping and signature gateway feature	42, 53, 55	\$400,000 - \$600,000	Should be developed under corridor design standards for consistency with other intersections

Budget ranges are the probable opinion of cost in 2017 based on similar improvements for which there is pricing data. Budget numbers provided are for understanding magnitude of costs. Detailed design criteria and project scopes will need to clearly be defined for refined cost estimates. Each location is subject to unique circumstances and situations that will determine cost, such as right-of-way widths, pavement condition, and utility locations.

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INTERCHANGE ZONE STRATEGIES			
Short-Term			
Strategy	Ref. Pages	Probable Opinion of Cost	Notes
Utilize the median to create corridor gateway through treatments such as street trees and landscaping	42, 58, 59, 60	\$600,000 - \$700,000	Should be developed under corridor design standards for consistency with other intersections
Provide wayfinding signage into Sellersburg on the north and into Clark County on the south	42, 58	\$50,000 - \$60,000	Should be developed under corridor design standards for consistency with other intersections. Branding should be considered for this corridor as part of developing wayfinding signage

INTERCHANGE ZONE STRATEGIES			
Long-Term			
Strategy	Ref. Pages	Probable Opinion of Cost	Notes
Provide decorative lighting along the corridor on either side of the interchange	42, 58	\$200,000 - \$300,000	Should be developed under corridor design standards for consistency with other intersections
Long-term redesign of interchange	58	Future Study	Conduct an Interchange Justification Study to determine more favorable and potentially safer interchange configurations
Provide pedestrian crossing under I-65 by utilizing median and high visibility pedestrian crossings at Enterprise Drive and Prather Street	40, 58, 59, 60	Future Study	Evaluate options for safely connecting the commercial and retail areas to residential and commercial areas east of the interstate.
Consider alternative pedestrian crossing across I-65 via a crossing between New Albany Avenue and Ivy Tech campus	40, 58, 59, 60	Future Study	Evaluate options for safely connecting the Ivy Tech Campus to residential and commercial areas east of the interstate

Budget ranges are the probable opinion of cost in 2017 based on similar improvements for which there is pricing data. Budget numbers provided are for understanding magnitude of costs. Detailed design criteria and project scopes will need to clearly be defined for refined cost estimates. Each location is subject to unique circumstances and situations that will determine cost, such as right-of-way widths, pavement condition, and utility locations.

CHARACTER ZONE 3 STRATEGIES			
Short-Term			
Strategy	Ref. Pages	Probable Opinion of Cost	Notes
Corridor Segment			
Three lane section with center turn lane and 5 foot sidewalks adjacent to road	64, 66	\$650,000 - \$750,000	Will require reconstruction of sidewalks
Designate bike routes along parallel routes of Schellers Ave/alley and New Albany Street	40, 64, 67	Policy	Can be accomplished with signage or pavement markings. Community input should confirm routes
Create high visibility pedestrian crossing at St. Paul Street	40, 64	\$75,000 - \$85,000	Should be a priority due to proximity to school
Develop detailed revitalization master plan	64	Policy	Will help establish a vision for areas of town east and west of the interstate and ensure both areas benefit each other
Discuss US 31 strategies through town with INDOT	64, 68	Policy	Discussions should be held with INDOT to determine appropriate actions. A cost benefit analysis should be conducted by the town
Prather Street Intersection			
Flashing yellow arrow	37, 64	\$1,000 - \$5,000	Replace signal
Create high visibility pedestrian crossing	40, 64	\$75,000 - \$85,000	Will connect commercial and retail areas across CR 311. Could also play a key role in creating pedestrian access under I-65
Utica Street Intersection			
Flashing yellow arrow	37, 64	\$1,000 - \$5,000	Replace signal
Create high visibility pedestrian crossing	40, 64	\$75,000 - \$85,000	Should be created as part of a comprehensive pedestrian network within the town
Hauss Avenue Intersection			
Create high visibility pedestrian crossing	40, 64	\$75,000 - \$85,000	Should be created as part of a comprehensive pedestrian network within the town
CR 403 Intersection			
Add green time to westbound phase signal	64	\$1,000 - \$5,000	Adjust signal
Create high visibility pedestrian crossing	40, 64	\$75,000 - \$85,000	Should be created as part of a comprehensive pedestrian network within the town

Budget ranges are the probable opinion of cost in 2017 based on similar improvements for which there is pricing data. Budget numbers provided are for understanding magnitude of costs. Detailed design criteria and project scopes will need to clearly be defined for refined cost estimates. Each location is subject to unique circumstances and situations that will determine cost, such as right-of-way widths, pavement condition, and utility locations.

CHARACTER ZONE 3 STRATEGIES			
Long-Term			
Strategy	Ref. Pages	Probable Opinion of Cost	Notes
Corridor Segment			
Rebuild/reconfigure roadway with curb and gutter, street trees, lighting and planted median	65, 66	\$6.2m - \$6.7m	Right-of-way and additional pavement will be required in some locations. Costs do not account for right-of-way acquisition or utility relocation
Separate parking lots from roadway and sidewalk edge through landscaping or other buffer	65	\$200 - \$250 per linear foot	Right-of-way likely required if done by town. Could also incentivized to encourage private property owners to undertake
Study re-route of US 31 to divert truck traffic through downtown	65, 69	Policy	May need to be done as part of evaluation of US 31 relinquishment
Prather Street Intersection			
Change lane configuration on southwestbound approach to Left, Through, Through/Right	19, 65	\$25,000 - \$30,000	Future traffic volumes will likely warrant lane configurations
Consider gateway with decorative signal arms, decorative lighting, landscaping and signature gateway feature	42, 65	\$400,000 - \$600,000	Should be developed under corridor design standards for consistency with other intersections
Utica Street Intersection			
Provide decorative signal arms and lighting	42, 65, 70	\$250,00 - \$300,000	Should be developed under corridor design standards for consistency with other intersections
Dual lane roundabout	19, 65, 70	\$1.5m - \$1.7m	Detailed study and preliminary engineering required to fully understand impacts
Hauss Avenue Intersection			
Provide decorative signal arms and lighting	42, 65	\$250,00 - \$300,000	Should be developed under corridor design standards for consistency with other intersections. Should be developed as part of potential roundabout design
CR 403 Intersection			
Dual lane roundabout	19, 65, 71	\$2 - \$2.2m	Detailed study and preliminary engineering required to fully understand impacts
Consider gateway with decorative signal arms, decorative lighting, landscaping and signature gateway feature	42, 65, 71	\$400,000 - \$600,000	Should be developed under corridor design standards for consistency with other intersections. Should be developed as part of potential roundabout design

Budget ranges are the probable opinion of cost in 2017 based on similar improvements for which there is pricing data. Budget numbers provided are for understanding magnitude of costs. Detailed design criteria and project scopes will need to clearly be defined for refined cost estimates. Each location is subject to unique circumstances and situations that will determine cost, such as right-of-way widths, pavement condition, and utility locations.

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