

SR 32 Corridor East Study

Strategic Plan for Access Improvements: SR 32 Corridor East

Prepared for:

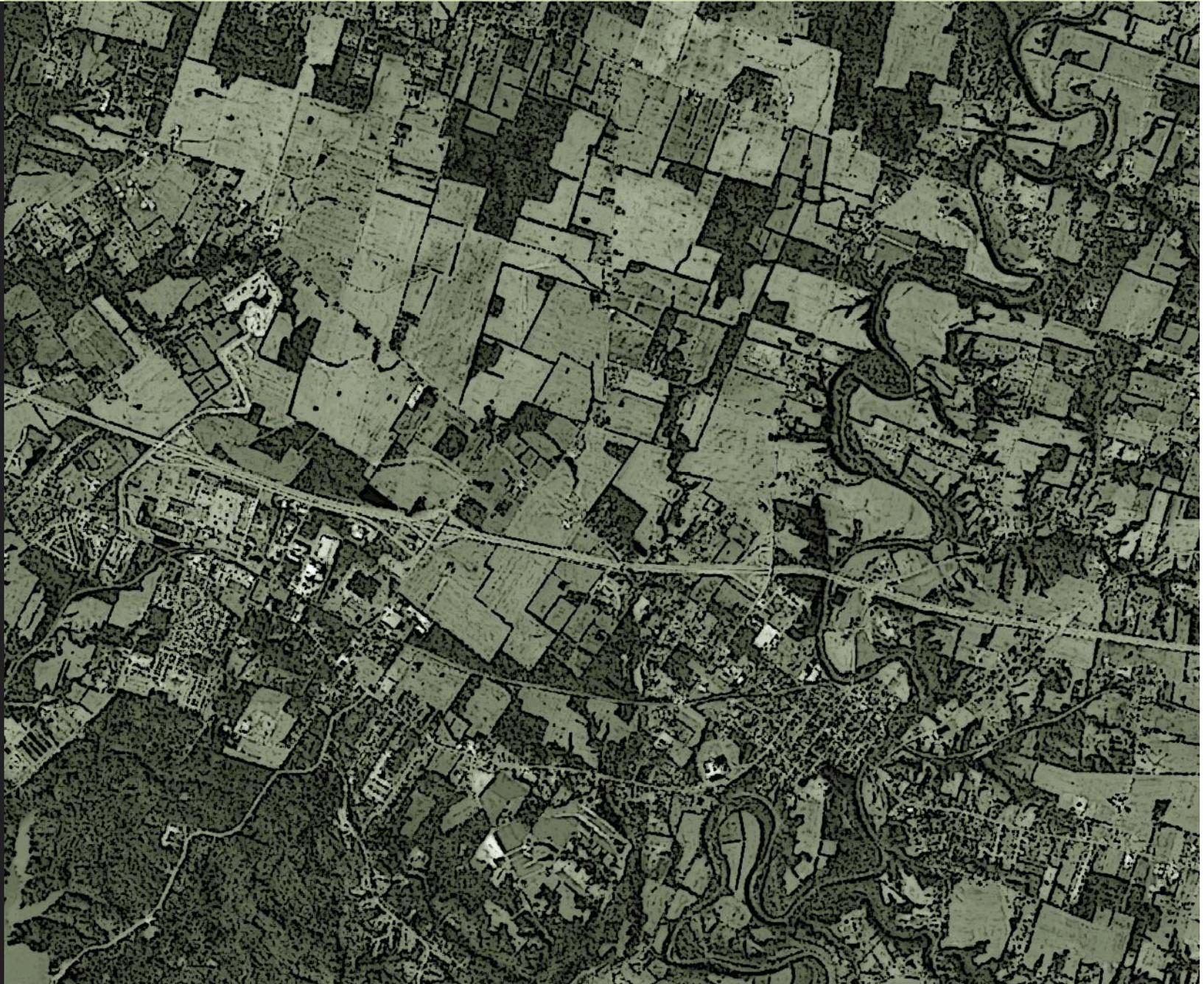
Clermont County
Transportation
Improvement
District

Prepared by:



M+E Companies Inc.

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Existing Conditions Technical Memo

Prepared for:

TRANSPORTATION IMPROVEMENT DISTRICT
CLERMONT COUNTY, OHIO

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INTRODUCTION

PROJECT BACKGROUND

The Clermont County Transportation Improvement District (CCTID) is planning for future transportation and infrastructure improvements along State Route (SR) 32 in central and eastern Clermont County from Bauer Road to Dela Palma Road. Called the *Strategic Plan for Access Improvements: SR 32 Corridor East (SR 32 Corridor East Study)* the study will evaluate the approximately 6.5 mile corridor in order to provide recommendations to ensure the capacity, safety and efficiency of the transportation corridor and the surrounding land uses for the future.

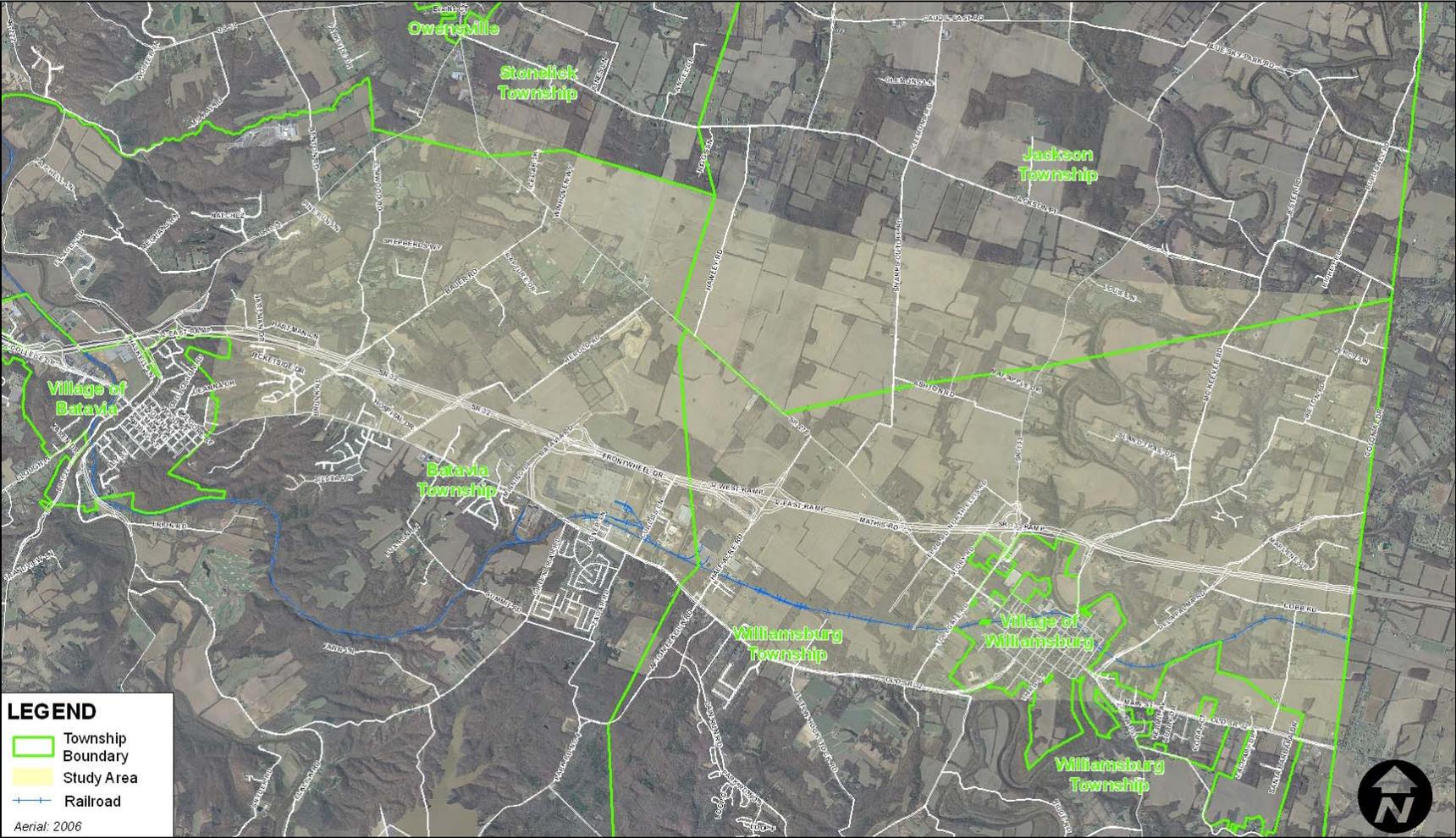
STUDY AREA DESCRIPTION

The *SR 32 Corridor East Study* analyzes SR 32 from Bauer Road to Dela Palma Road in Clermont County, Ohio. The study area travels through the townships of Batavia and Williamsburg and through the Village of Williamsburg (see Exhibit 1). The western terminus of the study is just west of the Bauer Road/SR 32 intersection. The study area continues east of the Dela Palma Road/SR 32 intersection to the Clermont and Brown Counties common boundary. To the north the study area lies 0.65 miles north of SR 32 including southern portions of Jackson and Stonelick Townships. The northern boundary was chosen to encompass future planned developments within the corridor. The southern terminus follows Old SR 32. From a regional perspective, the intersection of Bauer Road and SR 32 is approximately nine miles east from the I-275/SR 32 interchange. The study area can be described as rural with pockets of development associated along access points.



Williamsburg village limits. The study area also includes portions of Batavia and Williamsburg Townships.

EXHIBIT 1 | STUDY AREA



SR 32, within the study area, is a four-lane divided highway with a grass median traversing east-west. SR 32 is the main thoroughfare in this section of Clermont County with limited additional connectivity in either the north-south or east-west direction. SR 32 is classified by the Ohio Department of Transportation (ODOT) as a Rural Principal Arterial. Access points along the corridor are both at-grade and grade separated. The study area has four intersections and three interchanges, which are described below.

Bauer Road Intersection. The Bauer Road signalized intersection has dedicated left turn lanes in both the north-south and east-west directions. There is commercial development on the south side of the intersection and the northern portion of Bauer Road houses a government center for Clermont County; including the Clermont County Engineers Office. It is expected that the commercial development on Bauer Road will continue in the future based on projected land use plans supplied by Clermont County. Bauer Road extends from SR 32 to SR 276 on the north and to old SR 32 on the south.

Herold Road Intersection. Herold Road has an at-grade unsignalized intersection with SR 32. Only a break in the grass median designates this roadway as an access point. There is limited storage for turning vehicles within the median break. Institutional uses border this access point with both the Clermont County Mercy Hospital and the Batavia Nursing Care Center on the south side of SR 32. There is a new residential development north of SR 32 on Herold Road which is expected to grow in the future. Herold Road extends to SR 276 on the north and to Old SR 32 to the south. To the south of SR 32, Bauer Road and Herold Road are connected via Hospital Drive and Old SR 32. To the north of SR 32, Bauer Road and Herold Road are connected by SR 276.

Batavia Road Interchange. The Batavia Road grade separated interchange is a modified parclo or partial cloverleaf interchange serving westbound SR 32 with Batavia Road and a diamond serving eastbound SR 32 with the ramps connecting to Frontwheel Drive. Frontwheel Drive is a parallel route connecting Batavia Road and Half Acre Road serving the Ford Transmission Plant. In order to access Batavia Road from the

west, a vehicle must exit to Frontwheel Drive, turn right at the terminus of the ramps and then proceed to the Frontwheel Drive/Batavia Road intersection. Batavia Road extends from the interchange on the north to old SR 32 to the south. The roadway dead-ends at the interchange ramps on the north.

Half Acre Road Interchange. The Half Acre Road grade separated full diamond interchange with SR 32 serves as an access to the Ford Transmission Plant. While primarily a rural area, the Half Acre Road interchange includes a several highway related commercial uses along with a medley of industrial, office/warehouse and institutional uses. To the south, Half Acre Road extends to Old SR 32, then changes names to Afton Elklick Road then to Afton Zager Road and terminates at the East Fork Lake. To the north, Half Acre Road connects to SR 276. Half Acre Road serves as one of the primary entrances to the East Fork State Park.

SR 133 Interchange. The SR 133 interchange is grade separated with SR 32 and incorporates a half-cloverleaf design. The area surrounding the interchange is rural to the north with some commercial/industrial development to the south. All Star Drive, adjacent to the interchange provides access to a locally owned restaurant. Dualite, Inc. is located southeast of the interchange. SR 133 extends north past US 50 and south through downtown Williamsburg to SR 125 at the Village of Bethel. SR 133 also connects to Tollgate Road south of the intersection with SR 276 and serves as a north-south route for eastern Clermont County between the Ohio River and I-71.

McKeever Road Intersection. The McKeever Road at-grade intersection is located just 0.59 miles east of SR 133 on SR 32. There is limited storage for turning vehicles within the median break. It provides, along with Dela Palma Road, access to the Village of Williamsburg. The land surrounding McKeever Road can be categorized as rural until the roadway reaches the Williamsburg Village. McKeever Road extends north to Blue Sky Park Road and south to the Village in close proximity to the East Fork of the Little Miami River.

Dela Palma Road Intersection. The Dela Palma Road at-grade signalized intersection is located 0.96 miles east of McKeever Road on SR 32. Improvements to the intersection, which include extending the left turn lanes is planned and programmed by the Ohio Department of Transportation (ODOT) in either 2008 or 2009. Dela Palma Road serves as an access point to the Village of Williamsburg, as well as residential development to the south along SR 133. The area surrounding the interchange can be categorized as rural.

PROJECT GOALS

The following draft goals were developed based on input received from community leaders and several stakeholders. These goals represent the basis upon which the alternatives will be measured.

GOAL #1: To develop transportation solutions that adequately address the future land use and infrastructure needs of the *SR 32 Corridor East Study* area.

GOAL #2: To preserve needed right of way for future transportation and infrastructure investments.

GOAL #3: To develop infrastructure solutions that are compatible with the rural character of the corridor while at the same time allowing for economic development opportunities.

GOAL #4: To improve the safety and efficiency of the *SR 32 Corridor East Study* transportation system by preserving capacity, decreasing travel times, and providing adequate connectivity.

GOAL #5: To develop innovative financing options for the phased implementation of the preferred transportation and infrastructure improvements.

RELATED STUDIES & PROJECTS

PREVIOUS STUDIES

In preparation for the *SR 32 Corridor East Study*, Clermont County prepared three red flag summary documents in 2006. These reports gathered information about the environmental conditions of three areas along the corridor including; SR 32 Batavia (extending along SR 32 from Bauer Road to Batavia Road); SR 32 Afton (extending from Batavia Road to SR 276); and SR 32 Williamsburg (extending from the Little Miami River/McKeever Road to Dela Palma Road).

In addition to the red flag summaries, the CCTID initiated a public involvement effort with local landowners and other stakeholders in the SR 32 Williamsburg corridor. Stakeholder Meeting #1 held in November 2006, was primarily a “kick-off” meeting - introducing the project, the red flag work conducted to date, and initiating input on the project. Stakeholder Meeting #2 held in January 2007, identified problems and needs and defined early goals for the next phase of the work.

FUTURE PROJECTS

An online search of the Ohio-Kentucky-Indiana Regional Council of Governments (OKI) Fiscal Year (FY) 2008-2011 Transportation Improvement Program for Highway, Transit, and Bikeway Projects found the following scheduled projects within the *SR 32 Corridor East Study* area (see Figure 1).



McKeever Road, one of the many roadways within the study area listed for future transportation improvements.

FIGURE 1 | OKI TRANSPORTATION IMPROVEMENT PROJECTS IN THE SR 32 CORRIDOR EAST AREA

PID	C-R, Location	Description	Sponsor	Year
75686	SR 32, from 0.11 miles west of Batavia corporate line to 0.25 miles west of SR 133	Microsurface a portion of SR 32 in Clermont County	ODOT	Future (Construction)
82588	SR 32 - Batavia Road Interchange	Convert existing modified parclo interchange to full	Clermont County	FY 2008 (Planning)
82590	SR 32 - Bauer Road Intersection	Study possible overpass and eastbound ramp at intersection	Clermont TID	FY 2008 (Planning)
82589	SR 32 - Dela Palma Road/McKeever Road	Access management with potential grade separations	Clermont TID	FY 2008 (Planning)
82586	SR 32 - Frontage Road	New three-lane frontage road with additional turn lanes at major intersections from Bauer Road to Half Acre Road	Clermont TID	FY 2008 (Planning)
82587	SR 32 - Herold Road	New interchange 1000' west of existing Herold Road intersection on SR 32	Clermont TID	FY 2008 (Planning)
81224	SR 133 (Main Street)	Construct a streetscape project between Front Street and Broad Street	Williamsburg	FY 2008 (Construction)

An online search of the OKI 2030 Regional Transportation Plan 2004 Update found the following scheduled projects within the *SR 32 Corridor East Study* area (see Figure 2). Please note that the 2030 Regional Transportation Plan is undergoing an update expected in June of 2008.

FIGURE 2 | OKI 2030 REGIONAL TRANSPORTATION PLAN 2004 PROJECTS IN THE SR 32 CORRIDOR EAST AREA

ID	Facility	Location	Description	Cost
2329*	SR 32 – Frontage Road	Bauer Road to Half Acre Road	New three-lane frontage road with additional turn lanes at major intersections. (PID 82586)	\$15.79 million
2327*	SR 32 – Bauer Road	Intersection of Bauer Road and SR 32	Access improvements for SR 32. (PID 82590)	\$12.12 million
2330*	SR 32 – Herold Road	1000 ft west of existing Herold Road intersection on SR 32	New interchange. (PID 82587)	\$22.51 million
2328*	SR 32 – Dela Palma Road/McKeever Road	McKeever and DeLa Palma intersections at SR 32	Access management with potential grade separations. PID 82589	\$27.71 million
2326*	SR 32 – Batavia Road Interchange	SR 32 interchange at Front Wheel Drive	Convert existing half interchange to full. PID 82588	\$11.26 million
NA	Williamsburg-Batavia Trail	Construct a 14 mile hike/bike trail between Williamsburg and Batavia utilizing shared and dedicated roadways.		\$2.6 million

*Listed on OKI’s DRAFT 2030 Regional Transportation Plan Update which will finalized in June 2008.

COMMUNITY & ENVIRONMENTAL CHARACTERISTICS

SOCIOECONOMIC CONDITIONS

Information for the socioeconomic profile was obtained from the 2000 US Census Survey, the 2005 Clermont Chamber of Commerce Economic Development Activity and the Inter-County Commuting Patterns within the OKI Region, 1970-2000. The study area for this project is located is predominately located in two townships; Batavia and Williamsburg.

Population

The population of Clermont County has grown steadily over the past several decades. From 1990 to 2000, the county's population grew from 150,187 to 177,977 people, an increase of 18.5 percent (see Figure 3). In Clermont County, 10.6 percent of the population lives in the two townships in the study area. These townships account for just over 15 percent of the overall county population growth (see Figure 4). The increased growth can be attributed to the pattern of outward migration from Hamilton County, Ohio. The Ohio Kentucky Indiana Regional Council of Governments predicts that the population of Clermont County will increase to 245,000 in the year 2030. Clermont County has an overall population density of 394 persons per square mile. Batavia Township is the third largest township in Clermont County behind Union and Miami Townships. Williamsburg Township is the third smallest township in Clermont County.



Looking south at East Fork State Park, which is located in the southern portion of the study area.

FIGURE 3 | CLERMONT COUNTY HISTORICAL POPULATION GROWTH

Year	1920	1930	1940	1950	1960	1970	1980	1990	2000
Population	28,291	29,786	34,109	42,182	80,530	95,725	128,483	150,187	177,977

FIGURE 4 | BATAVIA AND WILLIAMSBURG TOWNSHIPS, POPULATION GROWTH BY TOWNSHIP, 1980-2000

Township	Total Population			Percent Change (1980-2000)	Percent of County Population (2000)	Share of Overall County Population Growth (1980-2000)
	1980	1990	2000			
Batavia	10,523	13,673	17,503	66.3%	9.8%	14.1%
Williamsburg	4,537	4,789	5,005	10.3%	2.8%	0.94%

Note: Township population includes incorporated and unincorporated areas of each township

Source: 2000 US Census Bureau

Employment

From the Ohio Department of Development and the Office of Strategic Research, Clermont County saw a steady increase in employment between 1995 and 2000; just over 16 percent in those five years. The employment of the county is primarily concentrated in retail and services industries with 52 percent of the county's 49,239 workers holding jobs in those two fields. The next closest sector is the manufacturing industry with 16 percent or approximately 8,000 employees.

The county's third largest employer is located within the study area, Batavia Transmissions, LLC operated by Ford with 1,195 employees. Unfortunately, the transmissions plant will be closing in the near future leaving a large manufacturing facility vacant within Batavia Township and adjacent to SR 32. The ninth largest employer in Clermont County is Mercy Hospital - Clermont with 649 employees. The hospital is located just east of Herold Road on Hospital Drive. Milacron, the tenth largest employer with 600 employees is located along the west side of Half Acre Road south of SR 32. Dualite, Inc. has its national headquarters in Williamsburg and employs more than 250 people. Source: Clermont County Chamber of Commerce, March 2007

Economics

The median household income for Clermont County in 2000 was \$49,386, while the Census Bureau reports that the U.S. median household income for the same year was \$41,944 annually. Figure 5 lists the income of the two townships compared to the county. Batavia and Williamsburg Townships are above the national average value.

FIGURE 5 | CLERMONT COUNTY INCOME DATA

Township	Median Household Income	Per Capita Income	Percentage of Residents Below the Poverty Line
Batavia	\$45,597	\$19,031	9.8%
Williamsburg	\$44,588	\$19,633	6.3%

Commute Patterns

Individual vehicular travel to work is the dominant mode of transportation in the county (see Figure 6), to the operator preference to drive alone, multiple destination trips, relatively inexpensive gasoline and established transportation patterns. The Clermont County Transportation Connection runs two fixed route services; but neither is within the study area. It also operates an on-demand service entitled “Dial-A-Ride”. With these limited transit options for commuting; the drive alone option has become more prevalent.

FIGURE 6 | CLERMONT COUNTY COMMUTING PATTERNS

Township	Drove Alone	Carpooled	Public Transportation	Other Means	Worked At Home
Batavia	84.1%	11.1%	1.2%	0.1%	2.3%
Williamsburg	79.5%	16.2%	0.9%	0.7%	1.8%

While Clermont County is considered a suburb with the Cincinnati metropolitan area to which a majority of Clermont County residents commute for work. However, it is clear from commuting patterns that the number of residents both living and working in the county is growing. According to OKI, the commuting patterns of Clermont County residents have followed a trend over the last 30 years. In 1970, only 30 percent of Clermont County residents worked in the county, most commuted to Hamilton County. In 2000, more than 40 percent of people both lived and worked in Clermont County (see Figure 7).

FIGURE 7 | CLERMONT COUNTY COMMUTING PATTERNS IN 2000

Location	Commute From Clermont County	
	Total	Percent
Clermont County	35, 455	41.3%
Hamilton County	40, 090	46.3%
Other Counties	10, 135	11.8%

As expected, Clermont County has a low percentage of zero-car households. With limited transit options available and the high occurrence of low density housing; automobile is obviously the predominant mode of travel in the county (see Figure 8).

FIGURE 8 | COUNTYWIDE VEHICLE OWNERSHIP

Township	No Vehicle	1 Vehicle	2 Vehicles	3 or more
Batavia	7.2%	28.0%	43.4%	21.4%
Williamsburg	7.2%	26.1%	41.6%	25.1%

Conclusion

The populations of Batavia and Williamsburg Township have increased by nearly 15 percent over the last 20 years. In fact, over half of the overall growth of Clermont

County has taken place in Batavia Township alone over the last 20 years. It is only a matter of time before this growth reaches even further east to Williamsburg. With the proximity to I-275 and the growth experienced just west of the study area, this expansion trend is expected to continue.

ENVIRONMENTAL RESOURCES

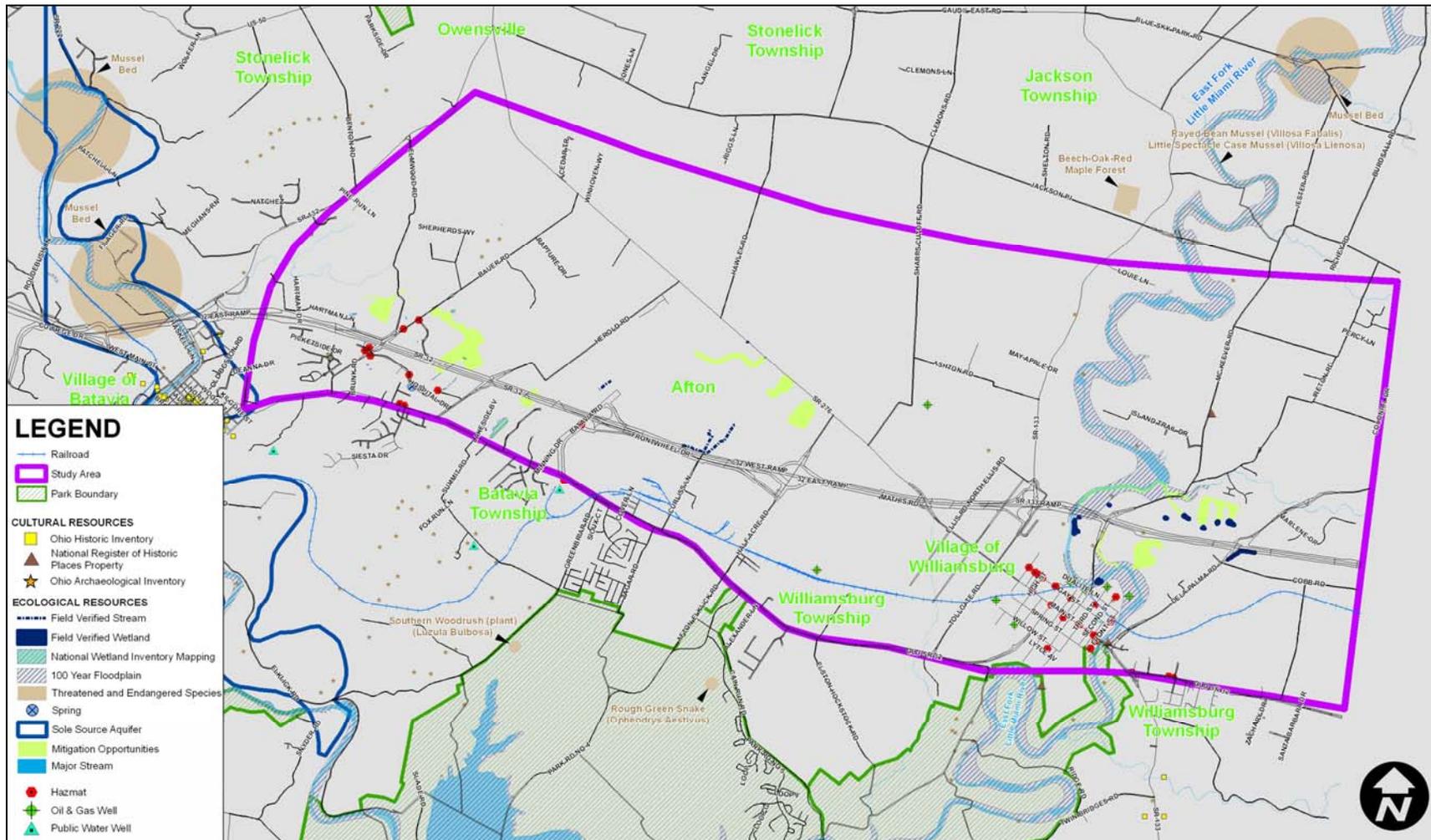
A review of relevant mapping and databases indicated that the following resources are located in the project study area, presenting the potential for project impacts (Exhibit 2). These resources should be considered during the alternatives evaluation process.

- Cultural Resources (Dating Pre-1958)
- Permits (Section 404 USACE and Section 401 WQC OEPA)
- Streams & Wetlands
- Total Maximum Daily Load Streams
- Threatened & Endangered Species
- Section 4(f) (potential historic resources)
- Section 4(f) (East Fork State Park)
- Hydric Soils
- Potential Ecological Mitigation Areas
- Hazardous Materials Sites
- ODOT MS4 (Municipal Storm Sewer Systems) Phase 2 Regulated Areas
- Wellhead Protection Areas (SWPA)
- Farmland
- Air Quality and Noise Sensitive Resources
- Permits (Section 404 USACE and Section 401 WQC OEPA)
- Oil and gas wells
- Floodplain
- Public Facilities

Secondary source literature reviews indicated the following types of resources were not located in the study area and therefore no impacts are anticipated: environmental justice populations, scenic rivers, historic bridges, nature preserves and wildlife areas, landfills, Lake Erie Coastal Management area and sole sources aquifers.

References include the Environmental Red Flag Summary - Phase I (SR 32 Afton Corridor 7/2006) and II (SR 32 Batavia & Williamsburg Corridor, 10/2006).

EXHIBIT 2 | ENVIRONMENTAL RED FLAG DATA

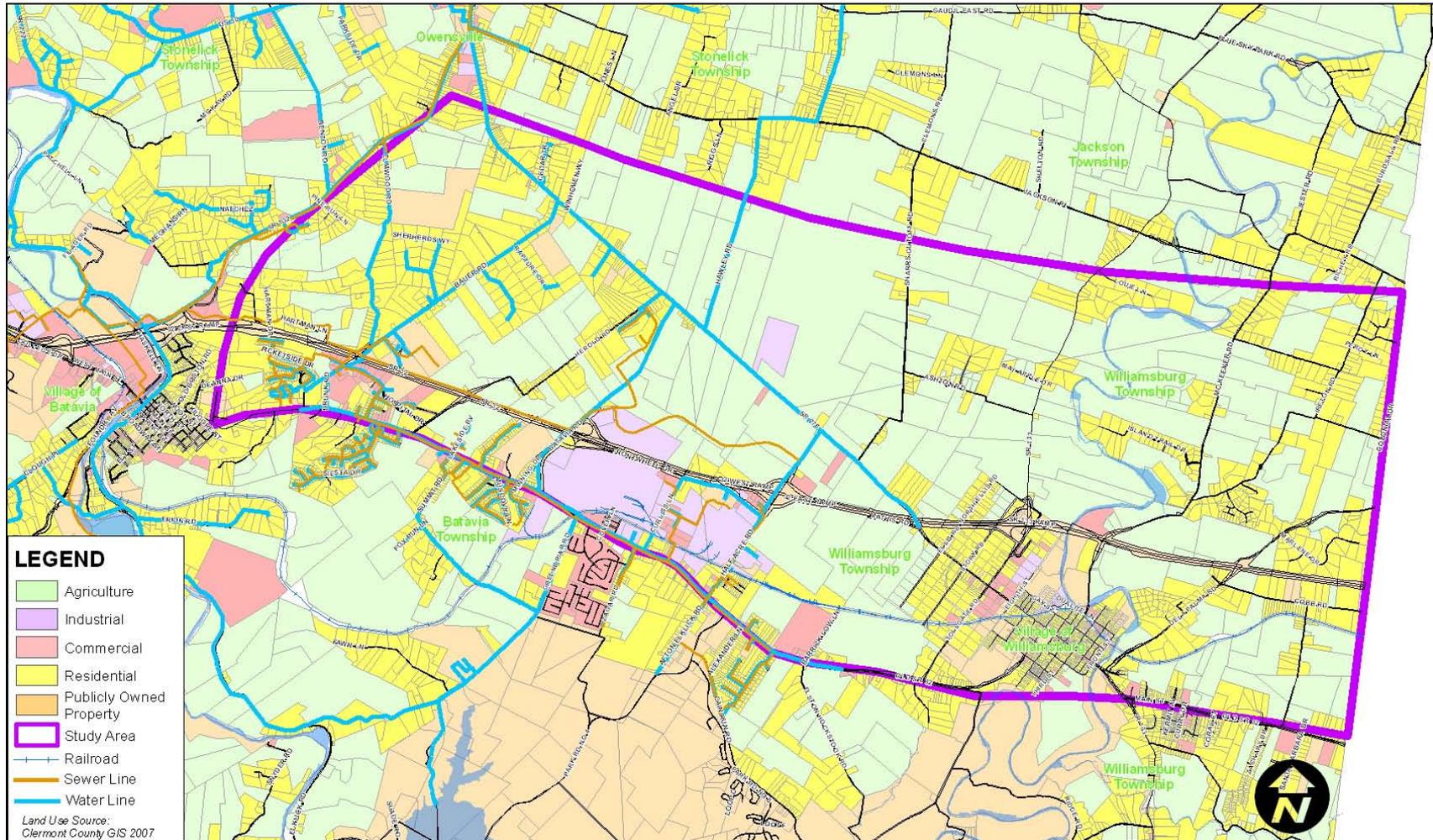


During the course of the completion of the Environmental Red Flag Summaries (Phases I and II) a field review was conducted to verify some of the information. This included locations that may have conditions that would lend themselves to potential mitigation areas for stream and wetland impacts from any proposed build transportation solutions. The field verification included visual inspection and preliminary assessment using wetland and stream data forms (Ohio Environmental Protection Agency - Ohio Rapid Assessment Method and United States Army Corps of Engineers- Routine Wetland Determination). Several locations within the project study area were identified that have the requisite conditions (hydric soils, hydrology and/or hydric plant species) to be utilized as stream and wetland mitigation areas. In addition, several of these areas have existing streams and or wetlands where additional enhancements could be made. These locations have been noted and will be considered for mitigation areas in the future as the project development process progresses (see Exhibit 2).

EXISTING & FUTURE LAND USE

The existing land use of the study area includes a mix of agricultural land, woodland, residential, commercial, industrial and institutional development (see Exhibit 3). A majority of the residential and commercial development is located in the eastern and western portions of the study area, surrounding the Village of Batavia to the west and the Village of Williamsburg to the east. Areas south of SR 32 are more developed than those to the north. There is also a concentration of industry between Batavia and Williamsburg along SR 32 including the Batavia Transmissions (Ford) plant (closing), as well as other mixed use development facilities. Fast-food restaurants, gas stations, strip development, medical and elderly services and institutional uses, such as schools and county offices, parallel SR 32. A significant portion north of SR 32 and in the center of the study area includes agricultural uses intermixed with newer residential developments.

EXHIBIT 3 | EXISTING LAND USE



Existing land use information was gathered from the Clermont County Engineers office and their Geographic Information Systems database. We acknowledge that there may be inconsistencies in the data presented and the actual uses. During the next phase of the *SR 32 Corridor East Study*, a recommended future land use map will be created that takes into account present and anticipated development.

Future land use for the study area was provided by Clermont County Planning Department and includes agricultural and woodland, residential, commercial, industrial and institutional development (see Exhibit 4). A significant amount of the study area, near the Villages of Batavia and Williamsburg, is projected to include an increase in low density residential and neighborhood development within the rural areas north of SR 32.

The industrial base is also expected to increase at the center of the study area between Batavia and Williamsburg. Commercial development is projected along SR 32 near Batavia and the western portion of the study area, along SR 32 just north of Williamsburg, and along Old SR 32 between the industrial center west to Williamsburg. With the closing of the Batavia Transmissions Plant (located south of SR32 between Batavia Road and Half Acre Road), this site is now open to other new commercial development.

Future transportation and development strategies were provided by the Clermont County Engineer’s Office, the Villages of Williamsburg and Batavia and from study area stakeholders and can be viewed in Exhibit 5. Planned residential and industrial developments are shown in Figures 9 and 10, respectively.

FIGURE 9 | PLANNED RESIDENTIAL DEVELOPMENT

Development	Location
Hartman/Elmwood (24 units)	Near Bauer Road and SR 32
Streamside (275 units)	Between Bauer Road and Herold Road
Vista Meadows (153 units)	North of SR 32 and east of Herold Road
Settlements at Kain Run (155 units)	South of SR 32 and west of SR 276
North Point Trail (125 units)	Elston-Hockstock Road and Old SR 32
Estates of Todd Run (199 units)	Adjacent to Santa Barbara Drive

FIGURE 10 | PLANNED INDUSTRIAL DEVELOPMENT

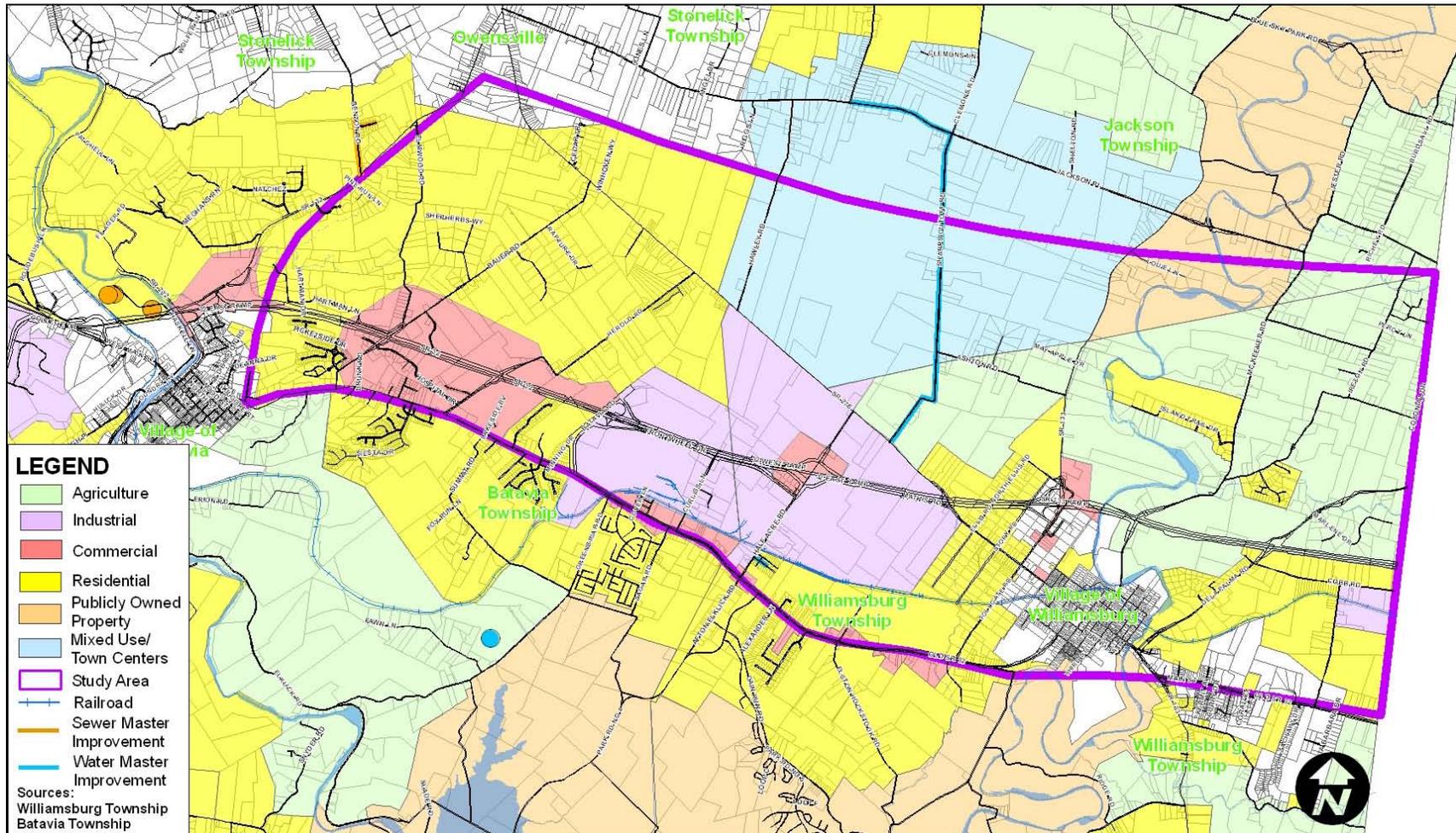
Development	Location
Arch Materials Mine	North of SR 276 and west of Half Acre Road
Dualite’s 100,000 Sq. Ft. Addition	Gay Street just west of 5th Street
Ford Plant Redevelopment	Frontwheel Drive

Additional planned amenities include the Williamsburg-Batavia Bike-Hike Trail (located along the northern edge of East Fork State Park) and future sewer and water line extensions. Planned future road infrastructure improvements are listed in Figures 1 and 2. Additional infrastructure improvements include access improvements for Batavia High School along Batavia Road and intersection improvements to SR 32 and Dela Palma Road.

There are several transportation and development issues within the *SR 32 Corridor East Study* area. They have been expressed during community and stakeholder meetings and are listed below. These issues as well as technical analysis and future developments will begin to shape the alternatives considered for the corridor.

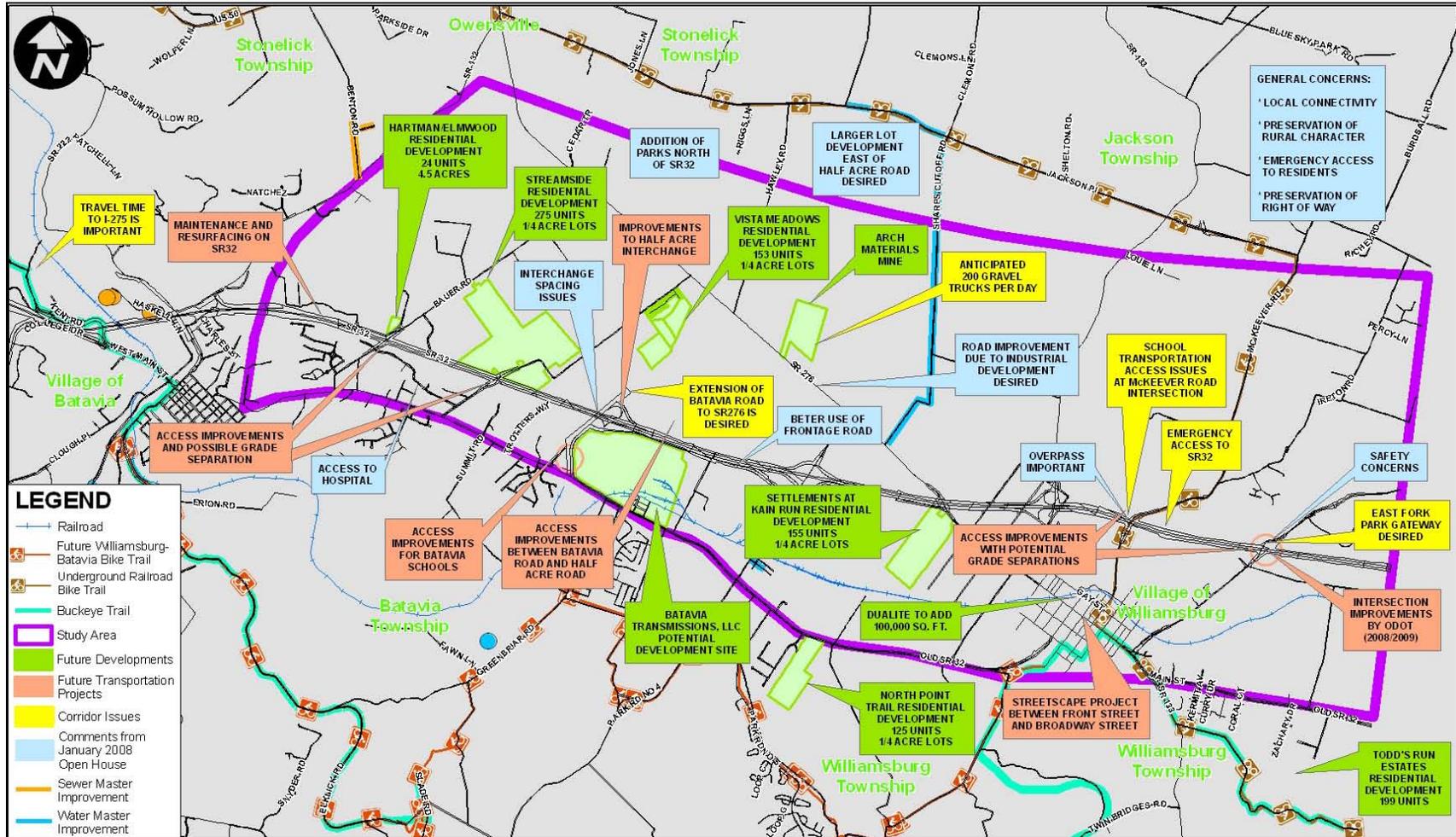
- The desire for an East Fork Park Gateway (at SR 32 and Dela Palma Road),
- Efficient access for emergency responders to SR 32
- The crossing of SR 32 by school buses
- The anticipated 200 gravel trucks per day from the new Arch Materials mine
- An extension of Batavia Road to SR 276
- Quick access to I-275.

EXHIBIT 4 | FUTURE LAND USE



Future land use information was gathered from the Williamsburg, Batavia and Jackson Township’s offices. We acknowledge that there may be inconsistencies in the data presented and the actual/anticipated land uses. During the next phase of the *SR 32 Corridor East Study*, a recommended future land use map will be created that takes into account present and anticipated development.

EXHIBIT 5 | FUTURE TRANSPORTATION & DEVELOPMENT STRATEGY



RECREATION FACILITIES

In addition to the Buckeye Trail and the Williamsburg-Batavia Bike-Hike Trail four parks are located within the general study area and include:

Community Park (Village of Williamsburg). The Village maintains a thirty-five acre park facility located at 150 East Main Street.

East Fork State Park. One of Ohio's largest state parks, East Fork offers a great diversity of recreational opportunities including: camping, trails, boating, hunting and fishing, picnicking and swimming.

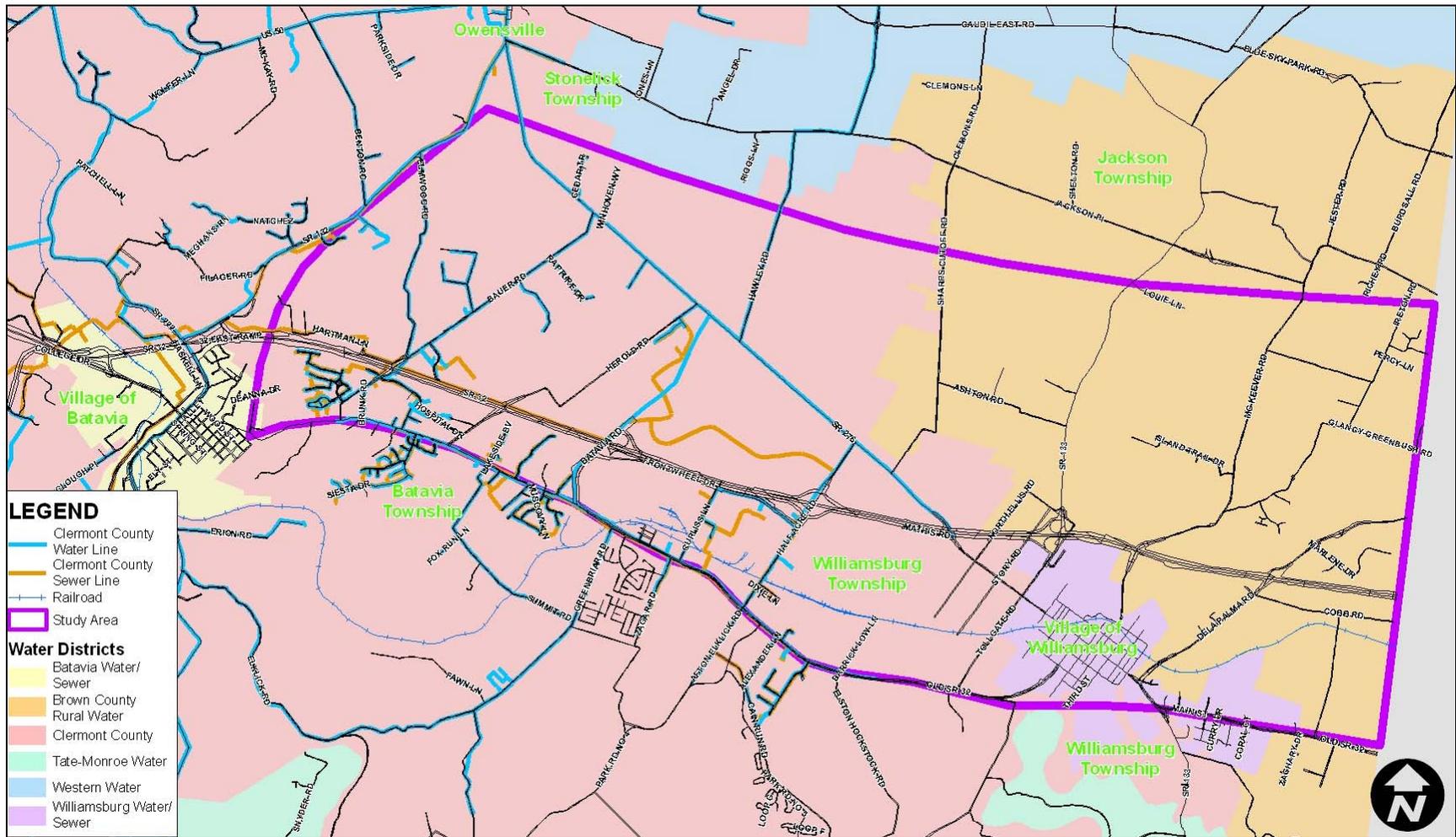
Sycamore Park. Located one mile south of the Village of Batavia on State Route 132, Sycamore Park features picnic shelters, hiking trail, tennis, volleyball and basketball courts, playfield, horseshoes and a playground.

222 Roadside Park. This seven-acre park located off of State Route 222, one-mile north of Batavia and on the East Fork of the Little Miami River, provides canoeing and fishing access.

EXISTING & FUTURE UTILITIES

Three companies serve the sewer needs of the *SR 32 Corridor East Study* area and they include the Clermont County Water and Sewer District, the Village of Batavia Sewer and Water Service and the Village of Williamsburg Sewer and Water Service. Forced and gravity sewer lines are located in the western and southern portions of the study area. A recently installed gravity sewer line is located to the north of SR 32 between Bauer Road and Half Acre Road. These sewer companies and lines are shown in Exhibit 6. The possibility of sewer extensions to provide increased development potential will be studied as part of this project.

EXHIBIT 6 | EXISTING UTILITIES



Clermont County is also served by private utilities, providing cable, electric, natural gas, telephone and waste collection services. A communications tower is located on the Clermont County Administrative Complex property on the north side of SR 32.

TRANSPORTATION NETWORK

TRAFFIC INFORMATION

The following is a summary of the traffic routes in the study area, focusing on SR 32, but also including other transportation corridors that feed into SR 32. This traffic summary also includes the Annual Average Daily Traffic (AADT) and 2030 Levels of Service (LOS), or predicted ease of traffic flow, along SR 32. Existing traffic information was collected from OKI, ODOT and the Clermont County Engineers Office. Additional traffic counts were also conducted by the Clermont County Engineers Office.

I-275. I-275 travels north-south through the western edge of Clermont County for 13.8 miles. The roadway traverses through Miami Township and Union Township, with the major city being Milford. Within Clermont County, I-275 is a six or eight lane divided highway with a grass median and is classified as an Urban Interstate by ODOT. It has five grade separated interchanges located at SR 125, SR 32, SR 50, SR 28 and Wards Corner Road.

SR 32. SR 32 travels east-west through the length of Clermont County. In western Clermont County it serves as the connection to the Eastgate Shopping area at I-275. Following the roadway east, SR 32 passes through Union Township, Batavia, Batavia Township, Williamsburg and Williamsburg Township. Within the study area, SR 32 is a four lane divided highway with a grass median. It has three grade separated interchanges and four at-grade intersections. From 2006 ODOT traffic counts, SR 32 experiences an AADT flow varying from almost 36,000 just west of Bauer Road to just under 23,000 vehicles between McKeever Road and Dela Palma Road. SR 32 is classified as a Principal Arterial by ODOT. Figure 11 shows the 2006 and the predicted 2030



SR 32 in Clermont County.

AADT for SR 32. As can be seen from the figure, traffic is expected to increase between 75 percent and 150 percent over the next 20 years.

FIGURE 11 | 2006 & 2030 ANNUAL AVERAGE DAILY TRAFFIC

	SR 32 Link	2006 AADT TSR	2030 AADT Average	Increase Over 2006 TSR	% Increase Over 2006 TSR
EASTBOUND	SR 132 to Bauer Road	17,980	32,870	14,890	82.81%
	Bauer Road to Herold Road	17,980	32,870	14,890	82.81%
	Herold Road to Batavia Road	17,980	33,360	15,380	85.54%
	Batavia Road to Half Acre	13,620	28,570	14,950	109.77%
	Half Acre to SR 276	13,700	29,100	15,400	112.41%
	SR 276 to SR 133	13,700	29,100	15,400	112.41%
	SR 133 to Dela Palma	11,500	28,840	17,340	150.78%
	Dela Palma to Brown Co. Line	11,500	29,920	18,420	160.17%
WESTBOUND	Brown Co. Line to Dela Palma	11,500	29,170	17,670	153.65%
	Dela Palma to SR 133	11,500	28,660	17,160	149.22%
	SR 133 to SR 276	13,700	29,380	15,680	114.45%
	SR 276 to Half Acre	13,700	29,380	15,680	114.45%
	Half Acre to Batavia Road	13,620	27,470	13,850	101.69%
	Batavia Road to Herold Road	17,980	32,200	14,220	79.09%
	Herold Road to Bauer Road	17,980	31,220	13,240	73.64%
	Bauer Road to SR 132	17,980	31,220	13,240	73.64%

TSR = ODOT Traffic Survey Report 2006 volumes from ODOT Tech Services website

TDM = OKI Travel Demand Model Output for years 2005 and 2030, runs dated 01/29/2008

2030 Additive Method = 2006 TSR + (2030 TDM - 2005 TDM)

2030 Ratio Method = 2006 TSR x (2030 TDM / 2005 TDM)

2030 Average Method = (Additive Result + Ratio Result)/2

All calculated numbers are rounded to the nearest 10.

Bauer Road. Bauer Road connects Old SR 32 with SR 276. It is approximately 2.5 miles long with one-lane in each direction. It crosses SR 32 with an at-grade intersection with dedicated left turn lanes. There are a number of commercial developments to the south and to the north is a Clermont County government center. Hospital Drive acts as a connector road between Bauer Road and Herold Road. There is some residential development in the proximity of SR 276.

Herold Road. Herold Road also connects Old SR 32 with SR 276. It is a two lane facility that is approximately 2.25 miles long. It connects via an unsignalized at-grade intersection with SR 32. As there is only a small median break, storage for vehicles is limited. There are no acceleration or deceleration lanes present. There is commercial development to the south of SR 32 including the Clermont Mercy Hospital and a long term care facility. Herold Road also provides access to a carpool lot adjacent to SR 32. Hospital Drive connects Herold Road to Bauer Road as a parallel route to SR 32. North of SR 32 is mostly open land that is ready for development. While the roadway is mostly straight there are two sharp 90 degree curves just north of SR 32, which may present an issue in the future as development grows.

Batavia Road. Batavia Road is a north-south route (approximately 0.62 miles in length) that travels from just north of SR 32 to just south of SR 32. It is located west of the Village of Afton in Batavia Township. It is a two lane facility and is classified as a Local Street. It provides access to SR32 by a modified parclo interchange and local access to existing industrial and commercial industries in the project study area.

Half Acre Road. Half Acre Road travels from SR 276 south across SR 32 to East Fork State Park. It is approximately two miles long with one lane in each direction. It has a full diamond design grade separated interchange with SR 32. Half Acre Road provides access to the Ford Transmissions plant via Frontwheel Drive. The development surrounding Half Acre Road is commercial/industrial to the south and rural to the north.

SR 133. SR 133 is classified as a Major Rural Connector by ODOT, which means it serves intra-county travel and connects arterial routes. SR 133 extends from US 50 in Owensville to US 52 at the Ohio River. It travels nearly 30 miles in Clermont County. It connects the communities of Owensville, Williamsburg, Bethel, Mount Olive and Felicity. Within the project area it is a two lane facility that provides access to the Village of Williamsburg and Williamsburg Township via a grade-separated half clover interchange. The land uses surrounding the interchange are rural to the north and commercial/industrial to the south. A local restaurant (Mama's Grill/Grandma's Pizza) and the Dualite Sign Company is located adjacent to the interchange. The access at SR 133 also serves as an entrance to the Village of Williamsburg.

Old SR 32/CR 351. Old SR 32 (CR 351) is an east-west route (approximately 6.77 miles in length) that travels from the village of Batavia to the Clermont/Brown County line. It is a two lane facility and is classified as a Rural Major Collector. It provides east-west access through Batavia and Williamsburg townships as well as to the villages of Batavia, Afton and Williamsburg. Major intersections include SR 132, Bauer Road, Herold Road, Batavia Road, Summit Road, Zagar Road, Half Acre Road, and SR 133/SR 276.

McKeever Road. McKeever Road (CR 80) is a north-south route (approximately 2.90 miles in length) that travels from the Village of Williamsburg to Jackson Pike. It is a two lane facility and is classified as a Rural Local road. It provides north-south access between Walnut Street and Jackson Pike. Major intersections include Walnut Street, SR 32 (at grade intersection), Ireton Road and Jackson Pike.

Dela Palma. Dela Palma Road is a north-south route (approximately 2.32 miles in length) that travels from the Village of Williamsburg (SR 276) to the Clermont/Brown County line. It is a two lane facility and is classified as a Rural Major Collector. It provides north-south access between SR 133/SR 276 and SR 32 (at grade intersection). Major intersections include SR 133/ SR 276, Greenbush-Cobb Road and SR 32.

SR 276. SR 276 travels northwest-southeast through the middle of Clermont County for 5.59 miles. The roadway traverses through Stonelick, Batavia and Williamsburg townships between the major villages of Owensville and Williamsburg. Within Clermont County, SR 276 is a two lane highway and is classified as a Rural Major Collector by ODOT. It intersects with US50, Jackson Pike, Bauer Road, Herold Road, Hawley Road, Sharps-Cutoff Road, Half Acre Road and SR 32.

Frontwheel Drive. Frontwheel Drive is a local east-west road constructed to provide access to the Ford Transmission Plant. It is a four lane roadway approximately 1.6 miles in length that parallels SR 32. It connects Batavia Road and Half Acre Road and allows access to SR 32 through two interchanges as well as connecting to other local roads.

Sharps Cutoff/CR 108. Sharps Cutoff Road (CR 108) is a north-south route (approximately 2.45 miles in length) that travels from the Village of Williamsburg (SR 276) to Jackson Pike. It is a two lane facility and is classified as a Rural Local road. It provides north-south access between SR 276, Jackson Pike and further north. Major intersections include SR 276, Ashton Road and Jackson Pike.

2030 Levels of Service

LOS is a qualitative measure of the effect of traffic flow factors, such as travel time, interruptions, freedom to maneuver, driver comfort, convenience, and (indirectly) safety and operating cost. It is defined in the *Highway Capacity Manual* as ranging from A to F. LOS A is the best rating, indicating free flow conditions. LOS B represents essentially free flow conditions. LOS C indicates nearly free flow speeds, but freedom to maneuver is beginning to be restricted. At LOS D, travel speeds are reduced and the ability to maneuver is limited. At LOS E, the roadway is near capacity and traffic flow is unstable. At LOS F, the traffic volumes exceed the roadway's capacity, which may result in queues and stop-and-go conditions. 2008 LOS data was calculated using 2007-2008 traffic counts from the Clermont County Engineers Office and analyzed using HCS+. 2030 LOS data is from the projected 2030 traffic levels from the OKI regional

travel demand model. The summary LOS for the SR 32 Corridor East Study area is listed below in Figure 12. Exhibits 7-10 illustrated more detail regarding the LOS on SR 32.

FIGURE 12 | 2008 & 2030 LEVELS OF SERVICE

SR 32 Access Point	Bauer	Herold		Batavia (Interchange)		Half Acre (Interchange)		SR 133 (Interchange)		McKeever		Dela Palma	
		NB	SB	WB Ramps	EB Ramps	WB Ramps	EB Ramps	WB Ramps	EB Ramps	NB	SB		
Traffic Control	Signal	Stop Sign	Stop Sign	Stop Sign	Signal	Stop Sign	Stop Sign	Stop Sign	Stop Sign	Stop Sign	Stop Sign	Signal	
2008 AM	SOT	D	C	E	A	B	B	A	A	A	C	F	B
2008 PM		E	F	D	A	B	B	A	B	B	E	D	B
2030 AM	SOT	F	F	F	A	B	B	B	F	E	F	F	F
2030 PM		F	F	F	A	B	B	B	F	F	F	F	F

Several observations from the traffic analysis of SR 32 can be made and are listed below:

Traffic on SR 32 will exceed capacity in 2030. The OKI Travel Demand Model predicts that traffic will increase between 75 percent and 150 percent in the SR 32 Corridor East Study area. With these increases in traffic, all of the signalized intersections along the mainline of SR 32 are expected to exceed capacity in 2030. The signalized intersections will no longer be able to handle the peak traffic flows with only two lanes in each direction on SR 32. However, if the signalized intersections were converted to grade-separated configurations, the existing four-lane facility would be sufficient to handle the increased traffic.

EXHIBIT 8 | 2008 PM LOS

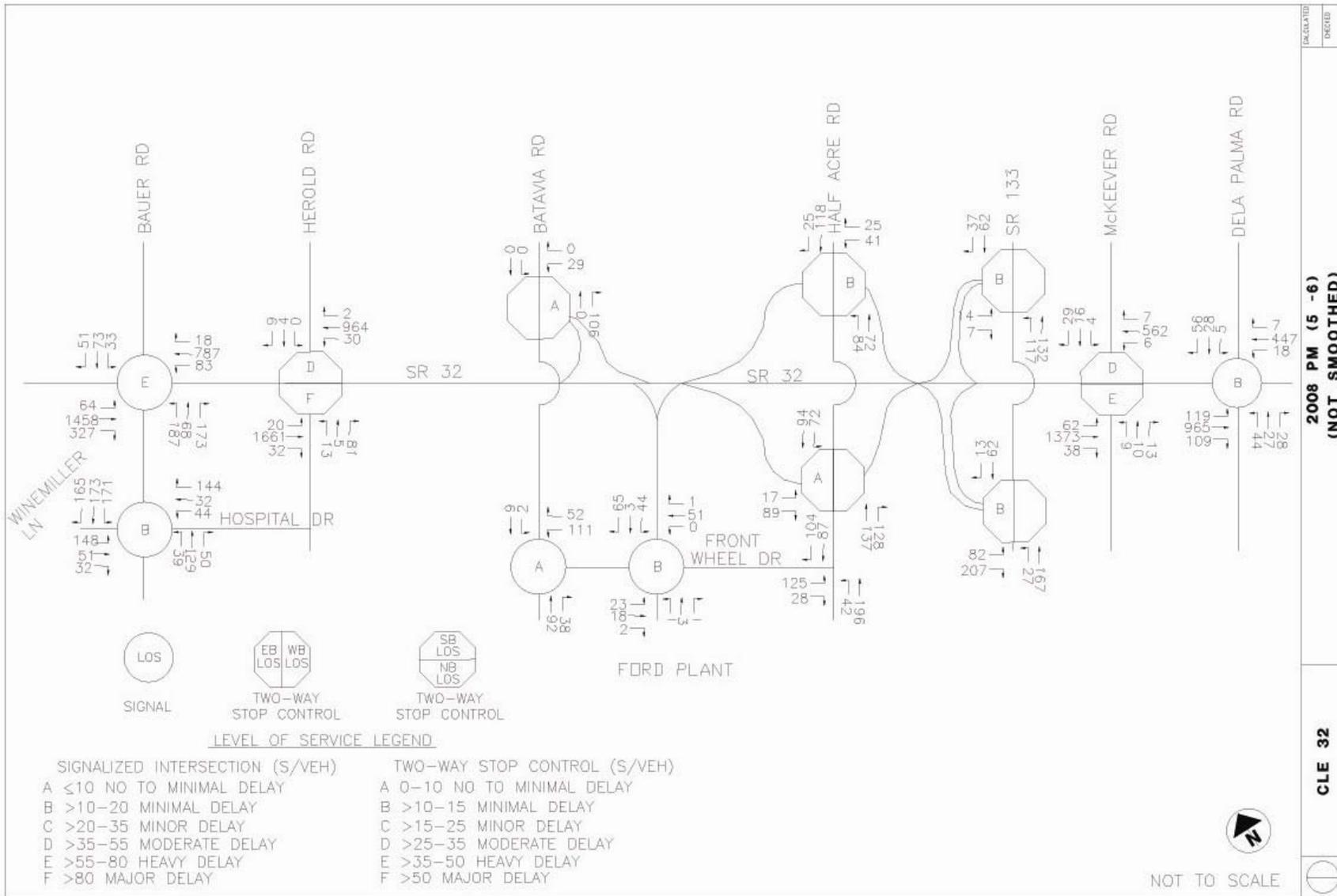


EXHIBIT 9 | 2030 NO-BUILD AM LOS

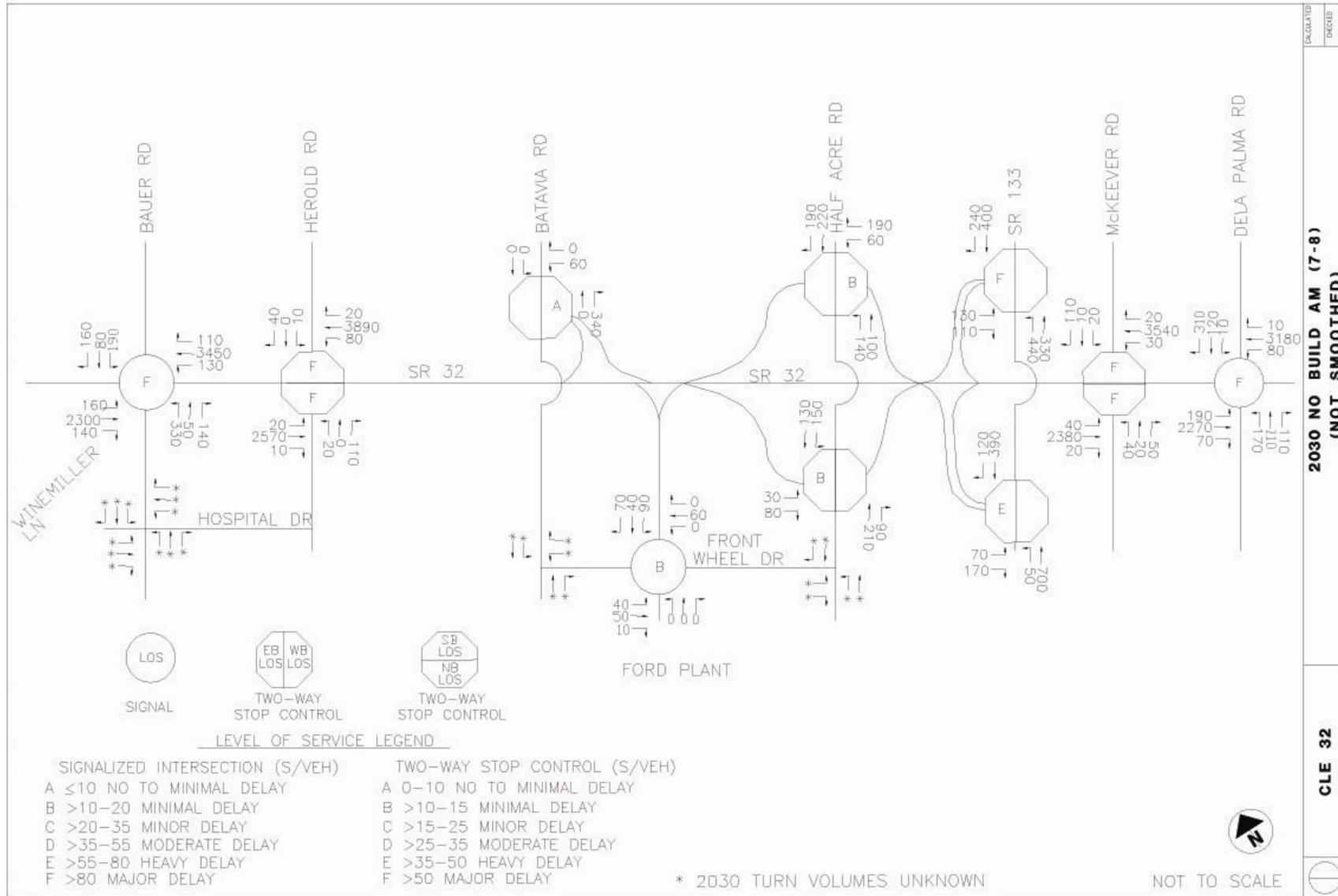
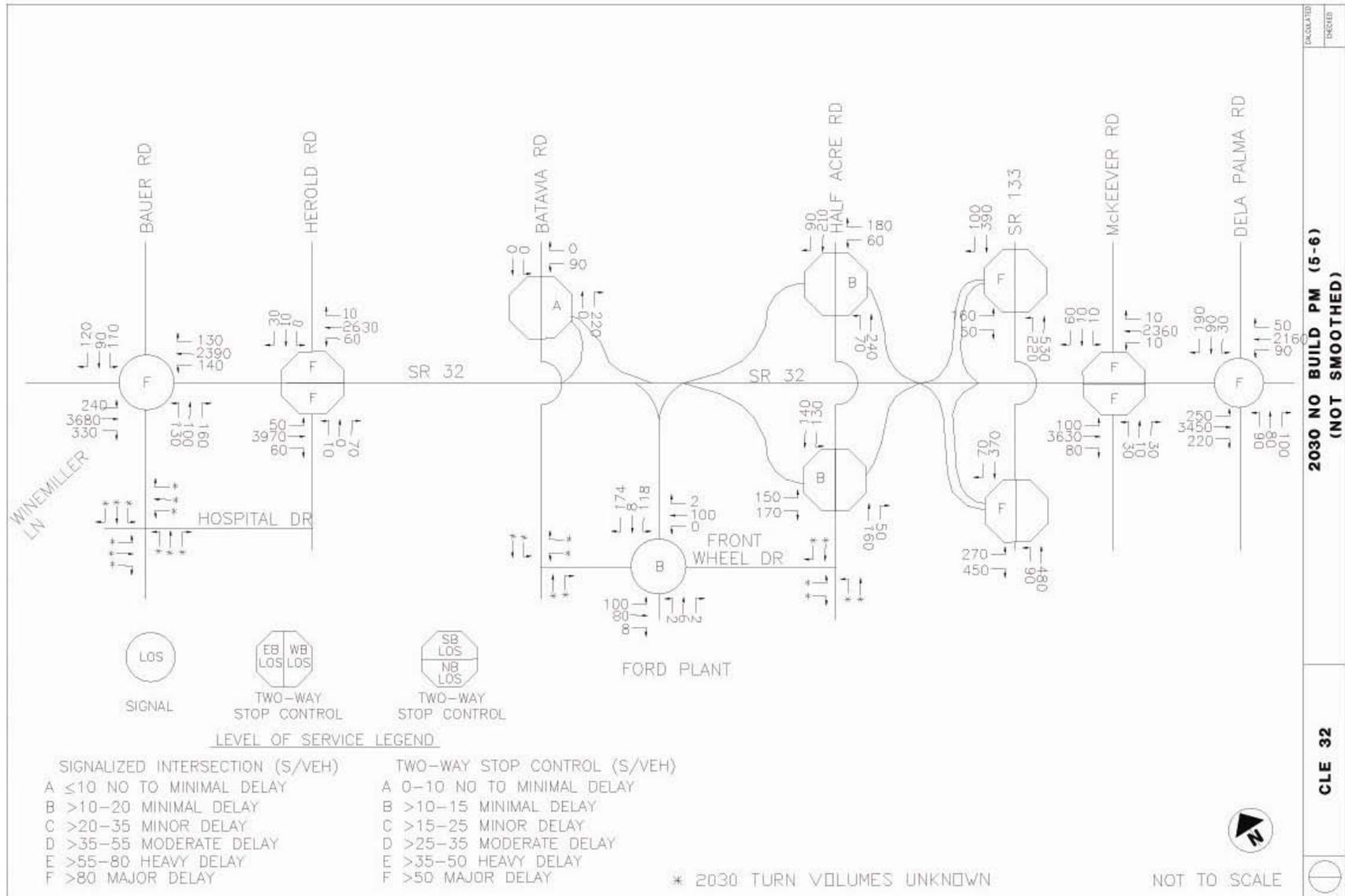


EXHIBIT 10 | 2030 No-Build PM LOS



Signalized intersections are impeding traffic flows on SR 32. SR 32 is experiencing extended peak hour traffic flows lasting not one, but two hours in length. This is occurring because peak directional traffic flows are at or near capacity at the signalized intersections. Traffic counts can only measure the number of vehicles that are allowed through an intersection during each phase, not the number of cars waiting in the queue. An extended peak hour tells us that there are more vehicles using the intersection than it is designed to handle. Therefore, peak hour travel is taking longer to dissipate and motorists are choosing, by necessity, to alter their travel patterns to avoid the back-ups. Both of these factors create an extended peak hour traffic flow.

Current grade-separated interchanges have excess capacity. While the traffic flows at the at-grade intersections are straining the SR 32 corridor, the current grade separated interchanges have capacity to spare now and in the future. The 2030 travel demand model shows that each existing grade separated interchange will have excess capacity except for SR 133. SR 133 is currently a stop controlled at the ramp terminals, if these intersections were signalized this access point would be under capacity in the future as well. In fact, the peak hour traffic volumes at Dela Palma are almost identical to that of SR 133, but Dela Palma is signal controlled and SR 133 is a full service interchange.

Non-signalized intersections carrying little traffic and have safety concerns. While less than 200 vehicles enter or exit both Herold Road and McKeever Road during the peak hour, they both have accident rates higher than the Ohio Statewide Average. McKeever Road has an accident rate more than eight times the average, while Herold Road's accident rate exceeds the average by one and one half. It can be concluded that the advantages of having additional access to SR 32 may not outweigh the safety issues associated with at-grade intersections.

TRAFFIC CRASH STUDY

Traffic crash data for the 6.5-mile segment of SR 32 from Bauer Road to Dela Palma Road in Clermont County was collected and reviewed to identify patterns and other common features. A total of 296 crashes occurred on SR 32 within the analysis area during the 2004-2006 three-year period.

The most prevalent crash type was a rear-end crash at 27 percent (80 crashes), which is typically expected on congested roadways with backed-up traffic. The next most prevalent crash types involved an animal or object in the roadway at 26 percent (78 crashes), which is typically expected on a rural section of highway. Other significant traffic crashes included angle crashes at 20 percent (58 crashes), which is typically associated with access deficiencies, and fixed objects at 9 percent (26 crashes), which is typically associated with access issues.

Of the 296 crashes on SR 32, most occurred during daylight hours at 56 percent (167 crashes), and the pavement conditions involved dry pavement at 80 percent (236 crashes) with no adverse weather conditions at 85 percent (250 crashes). Most of the at-fault drivers were heading westbound at 41 percent (121 crashes), followed by the eastbound drivers at 37 percent (109 crashes). Most of the crashes occurred on a straight and level section of roadway at 91 percent (270 crashes). One fatality and 80 injuries (27 percent) were attributed to the 296 crashes reported on SR 32 within the analysis area.

The most significant contributing factor for traffic crashes was 'following too close' at 26 percent (77 crashes). The next most prevalent factor of the crashes involved drivers failing to yield at 13 percent (38 crashes). Alcohol and drugs do not appear to be factors related to the crashes in this area. A breakdown of traffic crash statistics by intersection and mainline can be viewed in Exhibit 11 and Figure 13.

EXHIBIT 11 | ACCIDENT DATA LOCATION MAP

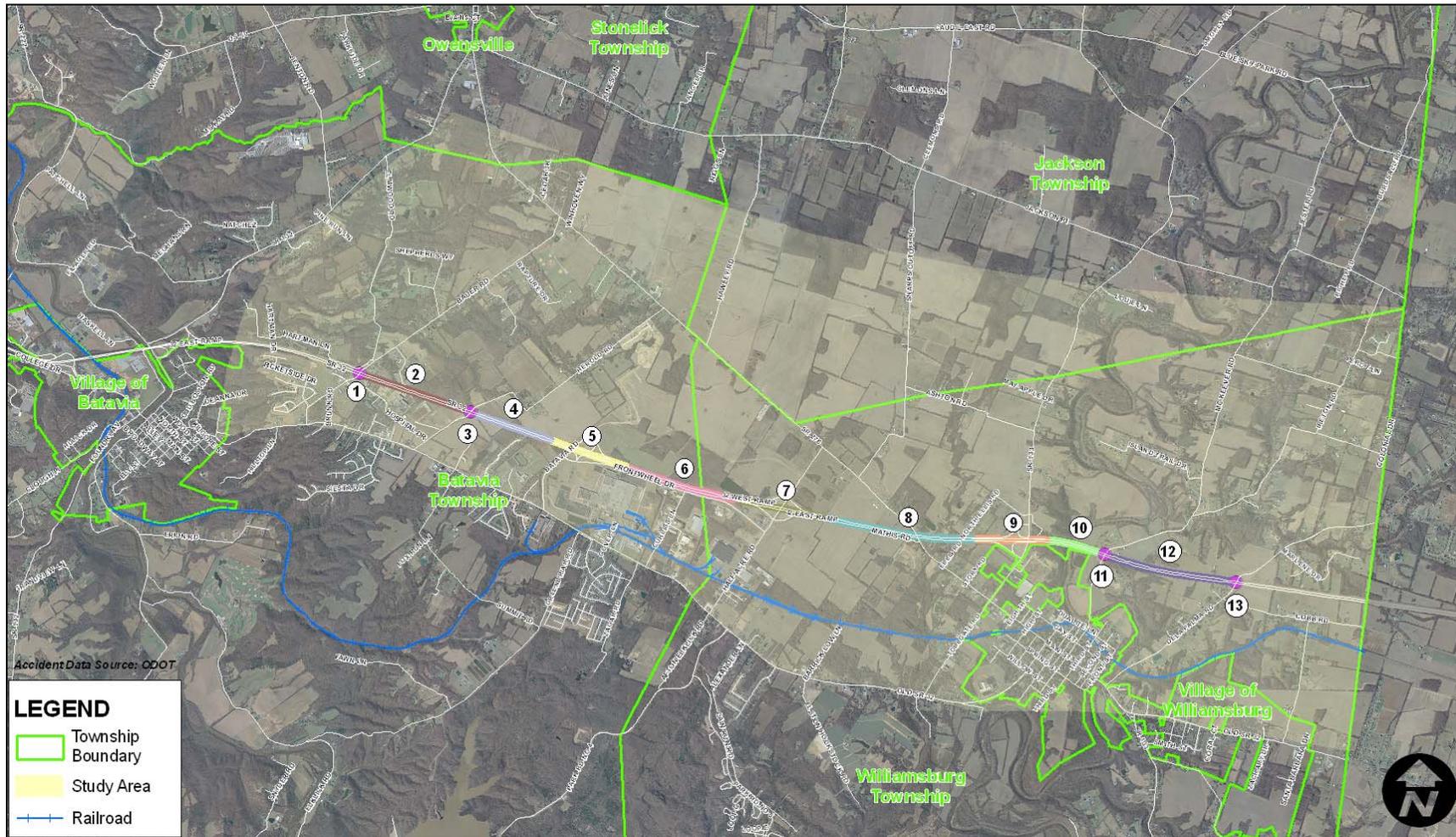


FIGURE 13 | ACCIDENT DATA (2004-2006)

Mainline/Intersection	Total Crashes	Injury Crash	Property Crash	Highest Accident Hour	Rear End Crash	Sideswipe Crash	Angle Crash	Other Crash	Crashes/Per Mile
① Bauer Road Intersection	59	32%	68%	12 pm & 6 pm (10%)	72%	3%	15%	10%	-
② Bauer Road to Herold Road	27	15%	85%	1 pm (22%)	48%	7%	4%	41%	31.8
③ Herold Road Intersection	10	40%	60%	4 pm (30%)	10%	10%	80%	-	-
④ Herold Road to Batavia West Ramp	29	24%	76%	6 am & 9 pm (10%)	10%	7%	3%	80%	18.2
⑤ Batavia Road Interchange	7	14%	86%	2 am (29%)	14%	14%	-	72%	11.9
⑥ Batavia East Ramp to Half Acre Road West Ramp	23	9%	91%	5 pm, 8 pm & 10 pm (13%)	9%	4%	4%	83%	27.4
⑦ Half Acre Road Interchange	12	25%	75%	3 pm (25%)	25%	16%	8%	51%	18.2
⑧ Half Acre Road East Ramp to SR 133 West Ramp	27	19%	81%	6 pm (15%)	7%	4%	-	89%	24.8
⑨ SR 133 Interchange	12	17%	83%	5 am, 6 pm & 8 pm (17%)	8%	-	-	92%	21.8
⑩ SR 133 Ramp to McKeever Road	16	6%	94%	12 am, 1 pm, 3 pm & 7 pm (13%)	-	6%	13%	81%	38.1
⑪ McKeever Road Intersection	25	68%	32%	1 pm & 4 pm (16%)	8%	-	64%	28%	-
⑫ McKeever Road to Dela Palma Road	16	16%	94%	6 am (19%)	6%	6%	-	88%	16.5
⑬ Dela Palma Road Intersection	33	46%	45%	5 pm (18%)	24%	9%	58%	9%	-

From this summary data we can conclude that accidents experienced on the SR 32 corridor cannot be attributed to roadway factors and are clearly associated with either congestion, access or the rural setting. In terms of transportation improvements, it is nearly impossible to eliminate or reduce the number of animals or objects within the roadway right of way; but improvements can be made to reduce congestion and manage access. With a congestion and access management plan in place the number of rear-end, angle and sideswipe crashes will reduce in the future.

Accident Rates

It is important not only to understand the types of accidents within the SR 32 corridor, but also to evaluate the rate at which the crashes are occurring. Figure 14 compares the accident rates at each at-grade intersection with that of the Ohio Statewide Average. The Ohio Statewide Average compares accidents on roads of similar type by looking at the crashes per 100 million vehicle miles traveled. As can be seen in the figure, each at-grade intersection is exceeding the statewide average. In fact, the accident rate at McKeever Road is more than eight times that of the statewide average. It can be concluded that the at-grade intersections along this corridor pose a safety concern to the traveling public. With traffic volumes expected to increase as much as 150 percent by 2030, the rate and severity of accidents will continue to grow. One way to reduce the number of accidents is to reduce the number of conflict points or the places at which an accident could occur. One way to achieve this goal is to convert a current at-grade intersection to a fully grade separated interchange.

According to the Federal Highway Administration's (FHWA) Report on Alternative Intersection Treatments (FHWA-HRT-04-091), left turn crossing conflict points will be reduced by half; from 12 conflict points at an at-grade intersection to six at a grade separated diamond design interchange. A grade separated interchange offers the potential for a decrease in crashes involving the main road (SR 32) and the cross street traffic, which is a major concern within the SR 32 corridor. During the course of the *SR 32 Corridor East Study*, the use of grade separated interchanges will be evaluated.

FIGURE 14 | ACCIDENT RATES

SR 32 At-Grade Intersection Location	Intersection Category	2004-2006 Frequency*	2004- 2006 Rate**	2004-2006 Statewide Average Rate***	Rate Factor
Bauer Road	4-Lane Urban, Sig.	59	1.85	0.67	2.76
Herold Road	4-Lane Urban, Unsig.	10	0.31	0.20	1.55
McKeever Road	4-Lane Rural, Unsig.	25	1.07	0.13	8.23
Dela Palma Road	4-Lane Rural, Sig.	33	1.41	0.47	3.00

* Frequency = Total number of crashes from 2004 to 2006

**Rate = Crashes/Annual Million Vehicles entering the intersection

***Statewide Average Rate = ODOT 2004-2006 average rate by intersection category

CONNECTIVITY

Connectivity refers to number of links (roadway segments) and the number of nodes (intersections and dead-ends) within a roadway network and their relationship to each other. A well-connected roadway network has many short links, numerous intersections, and minimal dead-ends (cul-de-sacs). As connectivity increases, travel time decreases and transportation options increase. Thus, allowing more direct travel between destinations and a more efficient transportation system. Connectivity is the link between the roadway system and land uses in a corridor. The design of the transportation system affects how land is developed and land uses determine how a roadway system is utilized. According to the National Cooperative Highway Research Program Report 582, "minimizing travel distances and increasing travel mode options are essential to an efficient transportation system that will spur a sustainable pattern of land use." Figure 15 shows the major connections within the *SR 32 Corridor East Study* area. These roadways connect to at least two roadways in the corridor and do not have a dead-end or cul-de-sac. These roadways contribute to the connectivity of the corridor.

FIGURE 15 | MAJOR ROADWAY CONNECTIONS WITHIN THE STUDY AREA

Roadway	Length within the corridor	East - West Roadway	North - South Roadway
SR 32	8.5	●	
Bauer Road	2.4		●
Herold Road	2.2		●
Half Acre Road	1.5		●
Batavia Road	0.8		●
SR 276	5.3	●	●
Sharps Cutoff Road	1.8		●
Old SR 32	6.5	●	
SR 133	3.0		●
McKeever Road	3.0		●
Dela Palma Road	2.3		●
Hospital Drive	0.8	●	
Frontwheel Drive	1.6	●	
Ashton Road	1.0	●	
Ireton Road	2.2	●	
Curliss Lane	0.6		●
McKeever Schoolhouse	0.8	●	
Glancy Greenbush	0.5	●	

Total East-West Roadway Length: 18.7 miles (minus SR 32)

Total North-South Roadway Length: 17.6 miles

Connectivity South of SR 32

To the south of SR 32 the connectivity can be considered adequate. Old SR 32 serves as a parallel route to SR 32 providing seven independent access points to north-south roadways. South of SR 32 also has the advantage of two shorter frontage roads in Hospital Drive and Frontwheel Drive. In addition, the Village of Williamsburg street network provides additional access to SR 32.

Connectivity North of SR 32

On the contrary to the north of SR 32, SR 276 provides the predominant east-west connection, with limited connections to north-south roadways. SR 276 also travels away from SR 32 and it is difficult to classify it as a parallel route. Within Williamsburg, to the north of SR 32, there are minor connections including Ashton, McKeever-Schoolhouse and Ireton Roads, but they do not provide the access needed for a growing community.

Connectivity Across SR 32

Connectivity across SR 32 can be considered adequate where there are grade separated interchanges. On the contrary, where there are at-grade intersections, the access across SR 32 is limited and in some cases dangerous, particularly at Herold Road and at McKeever Road. Both intersections are unsignalized have only a break in the median and limited storage capacity for vehicles turning left from SR 32. To complicate matters, there are also no acceleration or deceleration lanes. In fact, the McKeever Road intersection must be avoided by Williamsburg School District buses due to the configuration of the intersection and the difficulty in crossing SR 32. It is not surprising that there are a limited number of east-west connections to the north of SR 32. The area is still mostly a rural farming community with houses situated on large lots. Development is sparse and most service oriented development is located to the south of SR 32. In the future, it will become increasingly more important to gain quick and efficient access to all portions of the corridor and a connected transportation system will be the key to continued growth and development. Figure 16 shows the nodes or intersections between the connecting roadways within the corridor. There are 34 independent nodes or intersections within the corridor and 18 major connecting roads. Aside from SR 32, Old SR 32 and SR 276, several of the roadways have only two to three connections to the transportation system. These limited connections to the transportation system require motorists to travel circuitous routes to reach destinations and provides little route choice.

FIGURE 16 | NODES & INTERSECTIONS BETWEEN CONNECTING ROADWAYS

Roadway	SR 32	Bauer Road	Herold Road	Half-Acre Road	Batavia Road	SR 276	Sharps Cutoff	Old SR 32	SR 133	McKeever Road	Dela Palma Road	Hospital Drive	Frontwheel Drive	Ashton Road	Ireton Road	Curliss Lane	McKeever Schoolhouse	Glancy-Greenbush
SR 32		•	•	•	•				•	•	•		•					
Bauer Road	•					•		•				•						
Herold Road	•					•		•				•						
Half Acre Road	•					•		•					•					
Batavia Road	•							•					•					
SR 276		•	•	•			•		•	•	•							
Sharps Cutoff Road						•								•				
Old SR 32		•	•	•	•				•	•						•		
SR 133	•					•		•						•				
McKeever Road	•					•		•							•		•	•
Dela Palma Road	•					•												•
Hospital Drive		•	•															
Frontwheel Drive	•			•	•											•		
Ashton Road							•		•									
Ireton Road										•								•
Curliss Lane								•					•					
McKeever Schoolhouse										•					•			
Glancy Greenbush											•				•			

Conclusion

The type of connectivity seen in the SR 32 corridor is indicative of a rural farming community, where access to limited destinations was adequate. This area is growing as can be seen by the population trends and projections. In the future it will be necessary to provide a higher level of connectivity to the SR 32 transportation system.

MULTI-MODAL OPTIONS

This summary encompasses modes of transportation in the vicinity of the study area in addition to roadways and highways. These modes include: public use airports, freight and passenger railroad services, bus transit services, marine terminals and other water ports, and bicycle and pedestrian facilities.

Airports. The Clermont County Airport offers regional flights and is managed by Eastern Cincinnati Aviation. The airport is located along Old SR 74 west of Batavia.

Freight and Passenger Railroads. Clermont County is served by a Norfolk and Southern line, with connections to several other regional lines.

Transit. The Clermont County Transit System (CTC) is the primary provider of public transportation in Clermont County and offers two fixed routes in addition to its Dial-A-Ride services. The Southwest Ohio Regional Transit Authority (SORTA) operates two Park & Ride stops within Clermont County. They are located at the Milford Kroger in Milford, and at the Union Township Civic Center in Union Township.

Marine Terminals and Other Water Ports. According to the Ohio Department of Transportation's *ACCESS OHIO 2004-2030 Statewide Transportation Plan*, Clermont County does not have any marine terminals or major water ports.

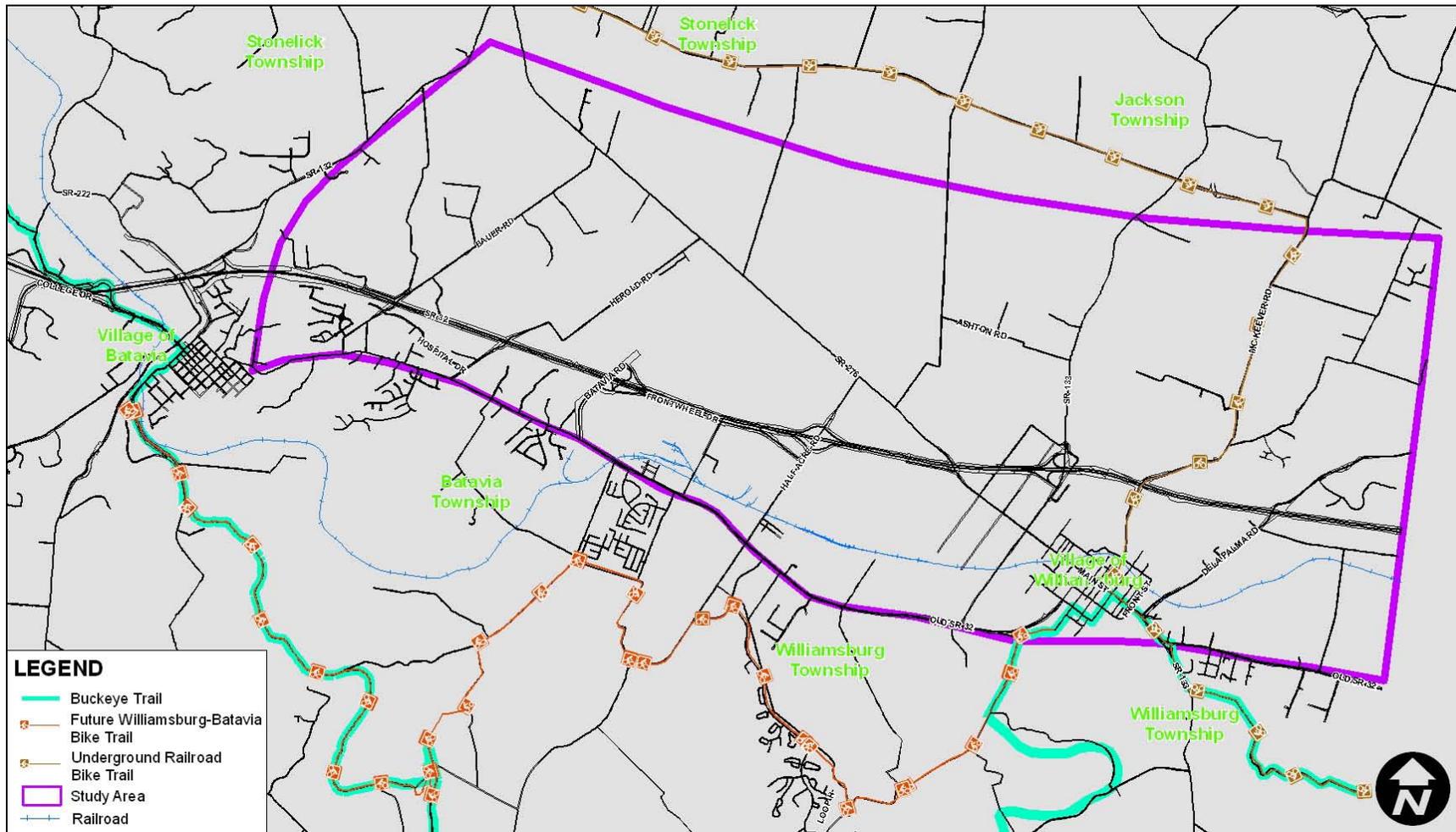
Bicycle and Pedestrian Facilities. Mapping provided by OKI has identified two bicycle and pedestrian trails (see Exhibit 12). For nearly 1444 miles, the Buckeye Trail winds around Ohio and is maintained and managed by the Buckeye Trail Association, a private, non-profit volunteer organization. This section of the Buckeye Trail within the study area passes through Williamsburg, East Fork State Park and Batavia. OKI notes that the Buckeye Trail route mapping may not be accurate on Exhibit 12.

The Williamsburg-Batavia Bike-Hike Trail is a planned 13.3 mile long shared use path between Batavia and Williamsburg. When the trail is completed it will provide scenic connections in each village while traveling through East Fork State Park. Portions of the trail are completed and available for use.

A portion of the 2,100 mile Underground Bicycle route is within Clermont County (see Exhibit 12). It is specifically routed along McKeever Road and SR 133 within the study area. Completed in March of 2007, this trail stretches from Mobile, Alabama to Owen Sound in Canada. This bicycle route memorializes the Underground Railroad, a network of clandestine routes by which African freedom seekers attempted to escape for many years before and during the Civil War. During this period of slavery, the tribal custom of creating songs to transmit information from plantation to plantation was used. The Underground Railroad Bike trail route is based on the song, “Follow the Drinking Gourd.” This song refers to following the North Star and the waterways—in essence, an escape route from Alabama and Mississippi—to the Ohio River.

While none of these modal options solves the issues in the study area in and of themselves, these modal options will be enhanced by any transportation solutions that are developed by this study. In addition, the recommendations from this study will not preclude non-highway projects in the area and may enhance other modes of transportation and intermodal relationships.

EXHIBIT 12 | BIKE & PEDESTRIAN TRAIL MAP



EXISTING ECONOMIC CONDITIONS

CENTRAL & EASTERN CLERMONT COUNTY OPPORTUNITIES

Before identifying potential transportation funding sources for the current undertaking, it is important to highlight several assets that provide a quality of life attractive to residents and employers:

- State Route 32 is a critical commerce corridor which connects the Appalachia region of Ohio to the Interstate Highway system including I-275, I-74, I-71, and I-75.
- Scenic byways and bicycle corridors are interspersed in the region providing a high quality of life advantage to residents of Clermont County.
- East Fork State Park, one of Ohio's largest state parks, encompasses over 7,000 acres and provides recreational opportunities and natural history for the Greater Cincinnati Area.
- Clermont County Airport, home to Sporty's - the world's largest pilot shop, also boasts a 3,700 foot lighted runway with notable aviation services, training, business friendly aircraft accommodations, and 119 based aircrafts.
- University of Cincinnati Clermont College serves six county regions, has a staff of over 300 and offers more than 50 associates degrees.
- Mercy Hospital Clermont, with over 600 employees, provides medial, surgical, and acute care services to the region.
- Two villages, Williamsburg and Batavia, offer the re-immersing quality of new urbanism environments, including walkable and bikeable communities with historic streetscapes in close proximity to the Greater Cincinnati Metropolitan area.



Located in Batavia Township, Mercy Hospital Clermont is one of them many existing businesses and services in the study area.

- Williamsburg is the oldest settlement in Clermont County and offers the beauty, charm, and tranquility of country living balanced with the amenities of a city to it's over 2,300 residents. Williamsburg also serves as a gateway to East Fork State Park.
- Batavia, the current county seat, home to over 1,600 residents, offers government, residential, and businesses ventures blended with historic character.

CENTRAL & EASTERN CLERMONT COUNTY TRANSITIONS

Transportation improvements which not only sustain but enhance local development sites are needed. National companies, once attracted to this area, now cite congestion along SR 32 and poor infrastructure on the secondary routes, as two of the primary reasons for the lack of new investment and reinvestment. The area has suffered a recent setback in regard to some of its larger national employers, including 3M Precision Optics and Batavia Transmission, owned by the Ford Motor Company. Batavia Transmission is slated to close in 2008 as part of Ford's "Way Forward" program leaving behind 1160 employees, with an annual payroll totaling \$80.4 million dollars, and a 91.8 million square foot facility sitting on 250 acres. This plant site is located along SR 32 between the villages of Batavia and Williamsburg.

In terms of housing, the area encompassing Batavia Township is a well established community of over 12,000 residents. Small pockets of density exist in the Villages of Batavia and Williamsburg, surrounded by largely rural areas. These areas provide a home for a concentration of families in a mix of rental and owner occupied units. Similar to other areas throughout the County, Batavia Township also provides limited choice in regard to the housing stock for the planned growth in the County.

This area has the youngest median age, roughly 33 years, within the county. In reviewing the population over 25, this area has the highest percentage of high school graduates within the 10 distinct regions of the County. However, they have only a modest level of advanced degrees and have one of the lowest per capita incomes of the region.¹ Employment challenges, combined with the limited choices in housing stock, support the need for well planned transitions for the area. Plans need to include improved housing choices balanced with improved connectivity to employment, community facilities and the numerous assets located in the County.

To address these concerns, the study area stakeholders are taking steps to align land use and development plans with transportation and infrastructure improvements to ultimately establish, not only a sustainable, but thriving community to support Clermont County. It is anticipated that the final capital improvement programs will include a mixture of short and long-term improvements, which will require a diverse mix of funding resources to plan, complete and maintain these investments.

PROJECT FUNDING OPTIONS

A number of funding options are available for new transportation public works projects from many different sources. In almost all cases, new roads are constructed using a mix of moneys from more than one originating source. In the most typical example, State and Federal grants require local government matching contributions. In other instances, private contributions usually provide part of the mix particularly in high-growth areas or when local governments can not reach total funding requirements for needed projects.

General categories of funding options available to local governments for the construction of road improvement projects include:

¹ Property Advisors LLC completed (2007) an initial Market place Housing and Commercial Assessment of the region. The study of Batavia Township, Housing Study Area [reference B9] is largely representative of the demographics within the study area. [Commercial nodes for the Batavia area remain to be studied.]

General Revenues. Typically the largest source of funding available in local government budgets, but its use is always in competition with other services -- such as police, fire, parks, administrative duties, and many others. These funds mostly come from property taxes, sales taxes and State revenue sharing moneys.

Special Sales Taxes. A portion of local sales taxes may be earmarked specifically for use in improving or maintaining local streets and roads, as allowed by State enabling laws.

Special Property Taxes. Similarly, a specific earmarked ad valorem tax may be added to property tax bills for designated uses, as allowed by State law.

Fuel Taxes. Special gasoline taxes also may be assessed for use on transportation improvement projects as allowed by State and Federal law.

Tolls (User Fees). Modern electronic recording systems provide new means to assess user fees for roadways of different geographic configurations beyond toll collection booths traditionally restricted to limited access facilities such as bridges and interstate highways. Low traffic and primarily residential areas are generally not good candidates for toll roads, however.

Public-Private Partnerships. Private sector participation in project funding can take many forms, particularly when local developers are eager to ensure projects are completed and/or completed to particular schedules. The most common and long-standing form of contribution occurs when infrastructure is designed and constructed by the developer (to government standards) and then donated to the government for use by the general public. This is the case for dedicated street, water, sewer and storm water construction in residential subdivisions, but this model can be used to good effect in larger and more complex developments as well. At its simplest, a developer contribution may consist of private land contributed for right-of-way.

Public-private partnerships in recent years have taken the form of much more complex arrangements including joint development of infrastructure, privately-managed public services, and even privately-owned facilities built for use by the public, all of which require properly negotiated agreements.

Regulatory Requirements. By properly enacting and enforcing building codes, zoning ordinances, maintenance requirements and other laws affecting development of private property, local governments can stretch capital funds by requiring the assistance of property owners adjacent to public infrastructure. For example, landscaping requirements as well as partial right-of-way maintenance requirements have been used for many years to reduce tax burdens.

Special Economic Districts. In Ohio, State law allows special districts to be created to generate revenue without territory being annexed. A Joint Economic Development District (JEDD) is one proven mechanism for Ohio communities to partner in a shared economic vision towards a true partnership of public and private investments and should be explored as concepts are being evaluated. Another possible formation is a Cooperative Economic Development Districts (CEDAs), which initially only includes municipalities and townships, but can later add counties, states, or state agencies. Another important option to consider is Tax Incentive District (TID) which can partner municipalities, townships, and counties by utilizing Tax Increment Financing (TIF).

Transportation Grants. Traditional transportation funding matched often matched with local funding are derived from four major sources within Ohio:

- Ohio Kentucky Indiana Regional Council of Governments (OKI) operates as a clearing house for the FHWA's Congestion Mitigation and Air Quality (CMAQ) Improvement Program, Surface Transportation Program (STP), and Transportation Enhancements (TE) Program. OKI's Transportation Improvement Program (TIP) is a

Transportation Enhancements projects add community or environmental value to planned or completed transportation projects. The three general categories of enhancement projects include bicycle/ pedestrian, historic/ archaeological, and scenic/ environmental.

compilation of highway and transit projects scheduled to receive state and/or federal funding. It includes CMAQ, STP and TE eligible projects.

- In cooperation with the County Engineer Association of Ohio (CEAO), the Clermont County Engineer Office (CCEO) administers County STP (CSTP) (formerly the referred to as the Federal-aid Rural Secondary System funds), and the County Local Bridge Program (LBR).
- The Ohio Department of Transportation (ODOT) administers funding for seven major programs Safety, Small City, Local Major Bridge, TE, Municipal Bridge, Grants and the State Infrastructure Bank for historic projects.
- The Ohio Public Works Commission (OPWC) aids local government entities on State Routes within municipal limits improving roads, bridges, culverts, water supply systems, wastewater systems, storm water collection systems, and solid waste disposal facilities for repair and replacement, as well as new and expanded infrastructure.

Additional transportation related and/or infrastructure grant funding can be obtained from

- Ohio Water Development Authority (OWDA) provides loans for construction, brown-fields, water, and wastewater projects.
- Ohio Rail Development Commission (ORDC) uses a series of grants and loans to fund freight and passenger rail programs.
- Ohio Parks & Recreation Association (OPRA) provides state funds for park drives or park roads, together with roads leading from state highways into a state park.
- Ohio Department of Development (ODOD) bestows funding for off-site infrastructure improvements that assist in the development and revitalization of local communities, downtown streetscape and infrastructure, water and sewer lines

in agricultural areas for job creation or pollution abatement, brownfield cleanup, economic reuse, and creation of industrial parks.

- Economic Development Administration (EDA) confers grants for water, sewer, roadway, and industrial park expansion.
- Rural Development (RD) finances and facilitates utilities and roads that aid in the development of small and private businesses allocating funds to construct, enlarge, or improve facilities which provide essential services to rural residents, including transportation facilities.
- Environmental Protection Agency (EPA) presents loans for planning, design, and construction of improvements to public water systems.
- WSOS Community Action Commission and Rural Community Assistance Partnership (RCAP) offers no cost technical assistance in obtaining water and wastewater funding for small communities.
- Appalachian Regional Commission (ARC) and Ohio Department of Development (ODOD) presents grants for infrastructure projects.

In addition to traditional resources and economic development tools, Federal and State entities offer various discretionary grant programs. These programs can be highly competitive and may vary with each funding cycle.

FHWA administers various discretionary programs for transportation improvements. These discretionary programs represent special funding categories where FHWA solicits for candidates and selects projects for funding based on applications received. Each program has its own eligibility and selection criteria that are established by law, by regulation, or administratively. Current programs include:

- Bridge
- Corridor Planning and Development and Border Infrastructure

- Delta Region Transportation Development Program
- Ferry Boats
- Highways for LIFE
- Innovative Bridge Research and Construction
- Innovative Bridge Research and Deployment Program
- National Historic Covered Bridge Program
- ITS Deployment Program
- Interstate Maintenance
- Public Lands Highways
- Scenic Byways
- Transportation and Community and System Preservation Program
- Transportation Infrastructure Finance and Innovation Act (TIFIA)
- Truck Parking
- Value Pricing Pilot Program

Special Project Grants. Project-specific State and especially Federal funding is available every fiscal budget year for projects sponsored by elected representatives in Columbus and Washington, DC. The most successful projects usually represent more than simple infrastructure needs and address solutions to environmental, social and economic development issues as well.

Tax Increment Financing (TIF). Infrastructure required for the advancement of known private development can be funded from the future increased tax revenue stream by the creation of a TIF.

Special Assessment. Capital improvements benefiting a particular group of property owners can be funded – in whole or part – with tax assessments, which are usually calculated based on the benefit derived by each affected property owner.

Impact Fees. Capital improvements made necessary by the demands of new community growth can be funded – usually only partially – by special taxes levied at the time of the new private construction and calculated on the basis of added demand.

Other Infrastructure Funding. Recognizing that roadway projects can involve significant water, sewer, storm water and perhaps even park improvements, grant funds, user fees, etc. available for these separate infrastructure components should be considered when adding up resources for the total project.

FINANCING OPTIONS

It is important to note that “funding” capital projects is not the same as “financing” capital projects. “Funding” refers to the origin of moneys ultimately used to pay for a project, such as taxes, user fees, grants, contributions, etc. “Financing” refers to the method in which these funding sources are collected over time, and put to use on a project requiring a large amount of capital at one time.

Financing methods include bond, loan or other commitments, which in turn can be paid by any number of funding sources. Potential financing options include the following:

Pay As You Go. For governments with sufficiently large annual cash revenues and comfortable reserves, moneys taken directly from current income streams may be used for smaller projects. In other words, “pay as you go” financing requires no debt at all.

General Obligation (GO) Bonds. Normally 20-year debt, GO bonds are repaid from general revenues as secured by the “full faith and credit” of the issuing government. Interest rates are largely determined by the government’s ability to repay the debt.

Revenue Bonds. In contrast to GO bonds, revenue bonds are repaid from and are secured by a specific dedicated revenue stream (such as toll collections). Interest rates are largely determined by the stability and security of the specific revenue stream.

Loans. Of particular note are low-interest loans available for transportation projects available from the Federal and State governments (as explored above).

Lease Back Agreements. Options to finance projects through private sector resources are increasingly widely available, particularly when combined with other public-private initiatives.

Energy Savings Guarantee Agreements. While not directly tied to transportation programs, per se, local governments may find new capital funds for any discretionary use with the implementation of energy savings contracts written for aging public buildings and other facilities.

PUBLIC INVOLVEMENT

PUBLIC INVOLVEMENT OVERVIEW

Public involvement activities for the *SR 32 Corridor East Study* are ongoing and will be continually updated in the reports for this study. To date four community and stakeholder meetings have taken place. The first two meetings were held on October 20, 2007 and included Clermont County officials, Batavia and Williamsburg Township official and Batavia and Williamsburg Village officials. The purpose of these meetings was to give an opportunity for the public officials to provide input on issues, goals, and shared interests for the future of the *SR 32 Corridor East Study* area. These issues can be found in the next section entitled “Community Needs & Issues”.

Two stakeholder meetings were held on November 26, 2007. One meeting was with the Williamsburg School District Superintendent and the other with the owner of Dualite, Inc. Additional community meetings, open houses and public meetings are being planned for the study. Two open houses are being organized to be held during the beginning of February 2008. A mobile display is planned for January 2008. The display will be placed at four locations within the study area and will feature display boards, a fact sheet and a comment sheet. In addition, the fact sheet and comment sheet will be e-mailed to stakeholders.

COMMUNITY NEEDS & ISSUES

At the October 20, 2007 community meetings, several community needs and issues were discussed and are included in the following section. Throughout the study, there will be ongoing opportunities for community involvement. The issues presented here and



Public Open House at Williamsburg High School on January 30, 2008.

those from subsequent meetings will be integrated into the alternatives evaluation process.

SR 32 Transportation and Infrastructure Issues

- Batavia Township is in favor of the parallel connector road from Bauer Road to Half-Acre Road.
- Batavia Township would like to see an extension of Batavia Road to the north to provide an additional north-south connection to SR 276.
- Access to SR 32 from Bauer Road is important to Batavia Township. It is important to maintain access to this area, but it is understood that in the future a different configuration may be required.
- Williamsburg would like to see gateway signage to East Fork Park at Dela Palma Road.
- McKeever Road is the “Gateway” to Williamsburg. It provides access to industrial and residential development.
- While the access at Dela Palma Road is important, it is also viewed as a “bypass” of Williamsburg.
- The traffic signal at Dela Palma Road has helped with accidents. ODOT will lengthen the left turn lanes next year to provide for protected left-turn movements.
- Emergency management access to SR 32 is important.
- There is an interest in investigating railroad tourism in Williamsburg, possibly a train ride from Williamsburg to Batavia.
- The extension of sewer service is important to continued development. Future utility extensions will be included as part of the *SR 32 Corridor East Study* evaluation process.

- Within Williamsburg Township, access roads are desired for the north & south side of 32 from Dela Palma Road to McKeever Road. The continuation of Mathis Road (on the south side of 32 from SR 276 at Mathis Road) westward to Half Acre Road could open up the properties to development and relieve congestion.
- When the White farm property becomes Arch Mines, it is anticipated that there will be 200 gravel trucks per day traveling to SR 32.

DESIGN RED FLAG ISSUES

INTERCHANGE SPACING

Interchange spacing issues will be a controlling factor when determining the configuration of access points for the SR 32 Corridor East Study area. Listed below is the design criterion from the ODOT Location and Design Manual, Section 502.3 – Interchange Spacing.

“Interchanges within urban areas should not be spaced closer than an average of 2 miles [3.2 km], in suburban sections an average of not closer than 4 miles [6.5 km], and in rural sections an average of not closer than 8 miles [13 km]. In consideration of the varying nature of the highway, street or road systems with which the freeway or expressway must connect, the spacings between individual adjacent interchanges must vary considerably. In urban areas, the minimum distance between adjacent interchanges should not be less than 1 mile [1.6 km], and in rural areas not less than 3 miles [4.8 km]. Spacing less than this has a detrimental effect on freeway operations.”

The statement from the ODOT Location and Design Manual places the preferred urban interchange spacing at two miles and the minimum distance between interchanges at one mile. In rural areas, the standard states that the minimum spacing between interchanges should be no less than three miles, but that eight mile spacing is preferred. Figure 17 illustrates the current spacing between access points. Even utilizing the more lenient urban criteria, of at least one mile spacing between interchanges, the current access spacing is still inadequate in many areas along the corridor. One way to accommodate additional access to a facility, while at the same time maintaining additional access points, is to utilize collector-distributor roads between interchanges. The project alternatives will evaluate the use of collector-distributor facilities, split interchanges and other innovative interchange and intersection treatments in order to achieve the desired spacing in the project area.



SR 32 near the Batavia Road/Front Wheel Drive Interchange, one of the many access points with spacing issues.

FIGURE 17 | ACCESS SPACING

Access Point	Access Spacing
Bauer Road	0.9 miles
Herold Road	0.8 miles
Batavia Road	1.6 miles
Half Acre Road	1.8 miles
SR 133	0.6 miles
McKeever Road	1.0 miles
Dela Palma Road	

URBAN SPACING

According to the 2000 US Census, the urban boundary lies at Half-Acre Road on the SR 32 corridor; west of Half-Acre SR 32 is considered urban, east of Half-Acre SR 32 is considered rural. The urban boundary is determined by the US Census based on block group densities. An area is classified as urban if the census block groups have a population density of at least 1,000 people per square mile. The surrounding census blocks must have an overall density of at least 500 people per square mile. This urban boundary determines where the urban and rural interchange spacing standards apply. Therefore, the SR 32 corridor west of Half-Acre Road is considered urban (1-mile minimum spacing) and the area east of Half-Acre Road is considered rural (3-mile minimum spacing) (see Exhibit 13). While it is nearly impossible to predict the exact location of the Urban Boundary in the future, due to changes in the criteria by the US Census, it is probable to say that the population densities within the SR 32 corridor will continue to increase. Exhibits 14 and 15 show the population densities of the *Corridor East Study* area in 2005 and the predicted densities in 2030.

EXHIBIT 13 | URBAN SPACING

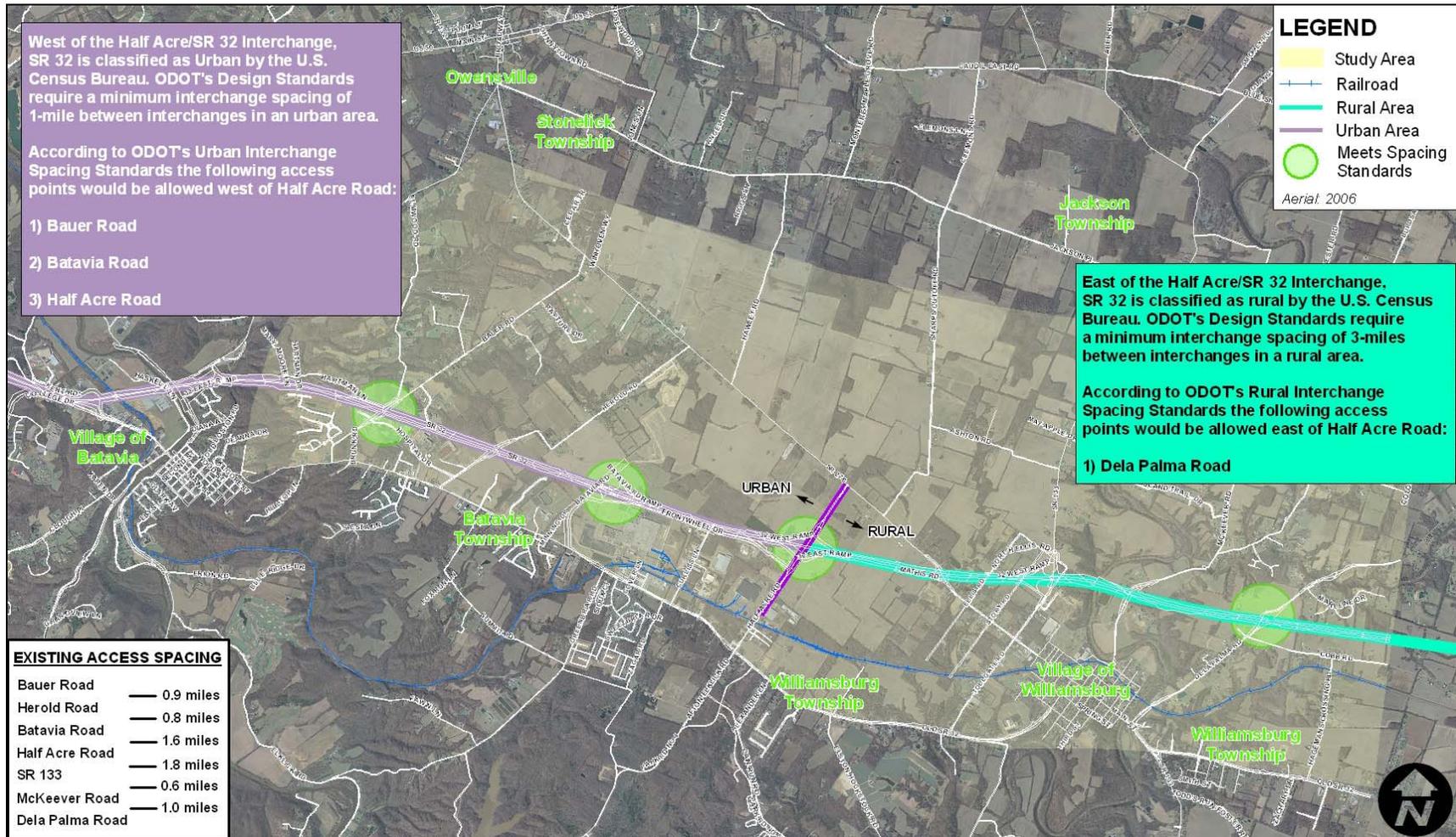
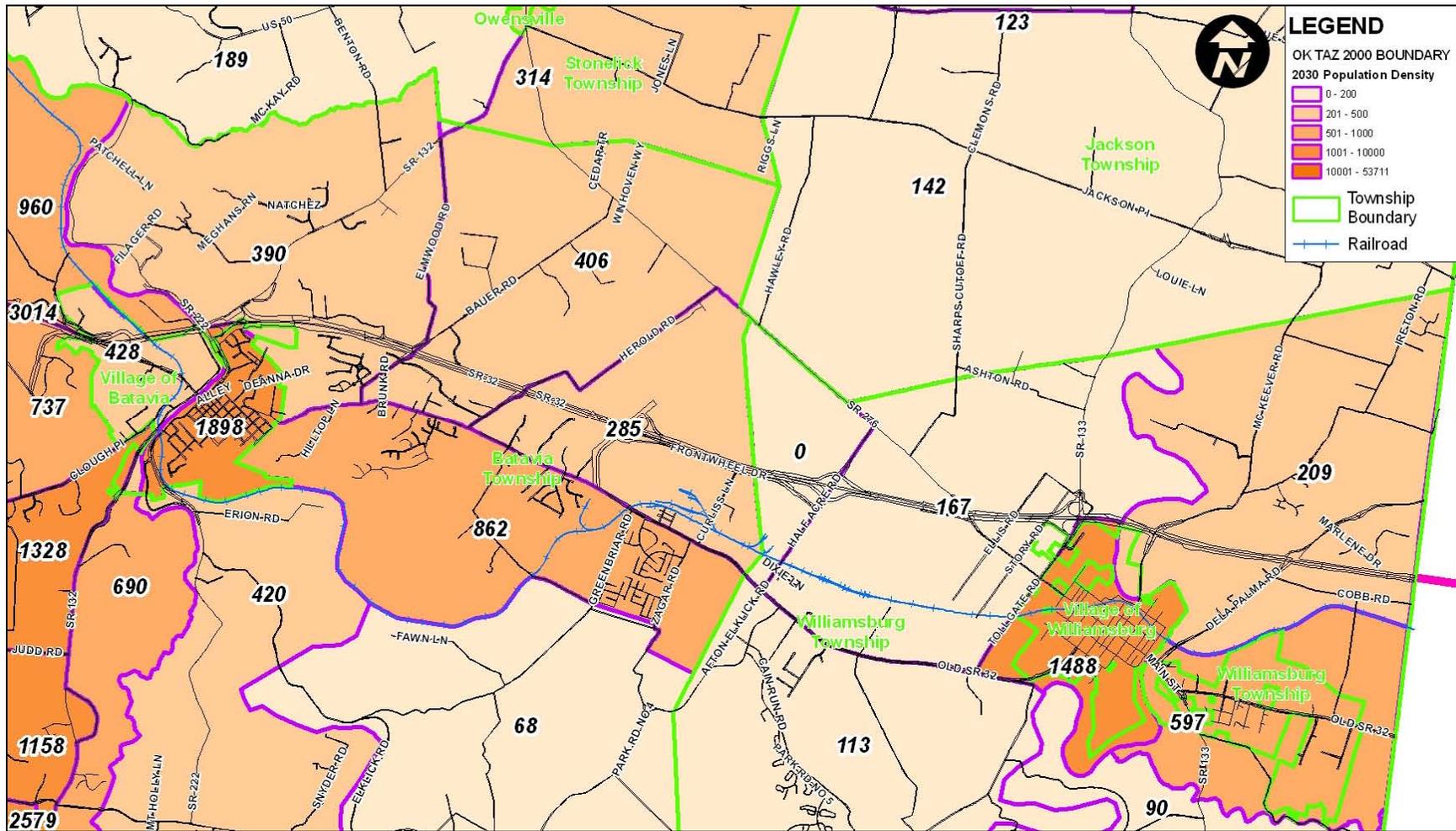


EXHIBIT 15 | 2030 POPULATION DENSITY



As can be clearly seen, the population densities are expected to increase over the next 20 years, making it probable that the Urban Boundary would be adjusted further to the east and that the urban spacing criteria would apply to a larger area. It would then be advantageous and proactive for this project to develop alternatives consistent with the projections of increased population.

LOCAL CONNECTIVITY

When evaluating the location of improved and new access points along a facility, it is also imperative to evaluate the supporting local roadway network. As discussed in this memo, local connectivity is an issue along the SR 32 corridor, particularly in the northern portion of the study area. The project alternatives will investigate not only access to SR 32, but also improvements to the local roadway network to improve connectivity to SR 32 and within the study area.