

HAMILTON COUNTY  
 WARREN COUNTY  
 CITY OF SHARONVILLE  
 DEERFIELD TOWNSHIP  
 SYCAMORE TOWNSHIP  
 SYMMES TOWNSHIP



KZF TRANSPORTATION AND MUNICIPAL GROUP

ARCHITECTURE  
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## **INTRODUCTION**

### **BACKGROUND**

The Hamilton County and Warren County Engineers, in conjunction with the City of Sharonville, Deerfield Township, Symmes Township and Sycamore Township is conducting a study of Fields Ertel Road, between Reed Hartman Road and Wilkens Boulevard, near the I-71 interchange, to investigate ways to provide a safer roadway to better serve the needs of the public. The I-71 interchange is being studied separately by Warren and Hamilton Counties with the Ohio Department of Transportation (ODOT).

The Fields Ertel Road Corridor, an approximate 2.5 mile stretch of road, exists in an area mainly consisting of single-family houses, apartment buildings and some small business. It also serves as a major connector between the local residential and commercial areas and Interstate 71 and Interstate 275. These local residential areas have seen an explosion of growth over the past 20 years, causing the Fields Ertel Corridor to become increasingly congested, resulting in delays, accidents, decreased safety and an overall annoyance to the local residents and business owners.

Recognizing the need to establish a strategy for improving safety and traffic flow on Fields Ertel Road, an Advisory Group was created consisting of representatives from all the governmental agencies Fields Ertel Road passes through. Organized by the Hamilton County Engineer's Office, the Advisory Group retained KZF Design as technical consultant to prepare the study through a contract administered by the Hamilton County Engineer's Office.

Previously, a traffic study of the Fields Ertel Road and Conrey Road and Fields Ertel Road and McCauly Road intersections was completed by M-E Companies in October 1995. A 402 Safety Study was completed by Edwards and Kelcey in September 2002.

### **PURPOSE**

The Fields Ertel Road corridor has seen a tremendous amount of development over the past 20 years, resulting in significant changes in traffic flow, congestion, land use and safety. The purpose of this study is to review and identify deficiencies in traffic operations and safety, and recommend improvements within the corridor to mitigate these deficiencies. Toward that end, KZF Design began an inventory and analysis of:

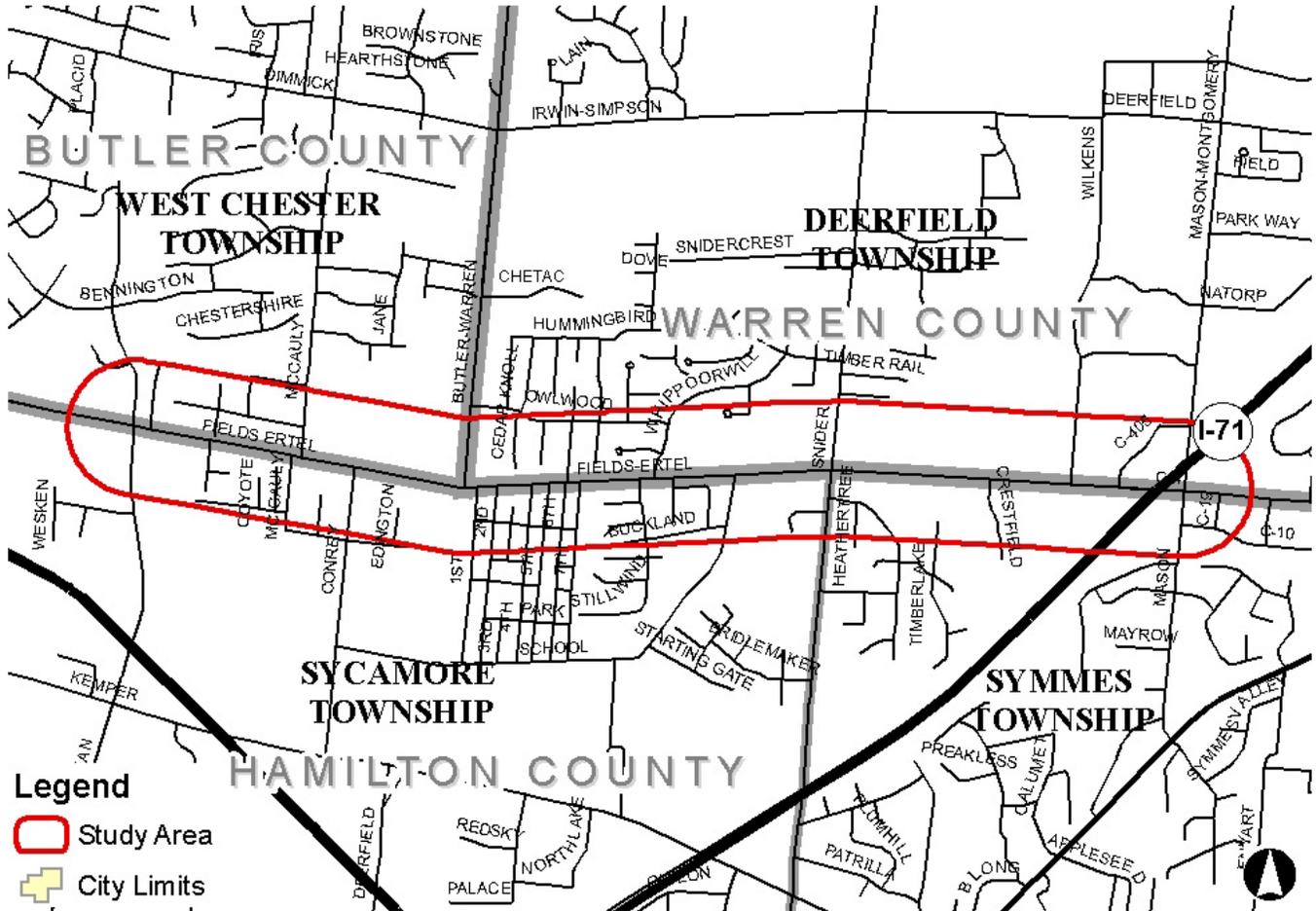
- past studies done on the area
- accident reports
- traffic volumes
- turning movements
- number and width of roadways
- locations of signals
- locations of problem areas
- safety issues/concerns
- calculation of future traffic volumes
- evaluation of existing infrastructure

Recommendations will then be made that will identify short-term and long-term improvements that will:

- accommodate the existing and future traffic volumes in an efficient manner
- improve overall safety
- improve level of service
- improve or maintain access to properties

## STUDY AREA

The project is located in the northeastern portion of the Greater Cincinnati area, on the border between Hamilton, Butler and Warren Counties. Fields Ertel Road roughly parallels I-275 in this area. The study extends from Reed Hartman Road to Wilkens Boulevard, near the I-71 interchange.



## **GOALS AND OBJECTIVES**

1. Inventory existing traffic control within the corridor, including traffic signals, signal equipment and the timing/phasing of the existing signals. Check signal warrants of existing signals.
2. Identify traffic safety deficiencies within the corridor and recommend improvements to improve the overall safety of motorists, residents and customers within the corridor.
3. Determine future traffic demands based upon existing traffic and projected population/traffic increases.
4. Identify improvements to accommodate existing and future traffic volumes in an efficient manner that improves the level of service (operations). Improvements are expected to include:
  - a. additional travel lanes;
  - b. dedicated right-turn or left-turn lanes where warranted;
  - c. additional signals, where warranted, or improvements to existing signals;
  - d. geometric improvements to the roads;
  - e. improved signage and/or lighting.
5. Prioritize recommended improvements.
6. Identify an access management strategy for the corridor, including
  - a. locations where full movement access should be permitted,
  - b. locations where left turns should be eliminated or restricted,
  - c. locations where existing or proposed access points should be combined,
  - d. improve or maintain access to the abutting properties within the corridor,
  - e. identify potential improvements that help accomplish these ends.

## **STUDY APPROACH**

### **Study Area Definition**

The limits of the study were predetermined by the Hamilton County Engineer's Office in the scoping for the project.

The 2.5 mile long study area covers Fields Ertel Road from Reed Hartman Highway to the I-71 interchange, with a corridor width is 500' on each side of the roadway (1000' total), covering most parcels fronting Fields Ertel Road and sufficient distance up side streets. Of particular concern are the main intersections with Fields Ertel Road: Reed Hartman Highway; Conrey Road; McCauley Road; Butler-Warren Road and Wilkens Boulevard.

### **Study Team Composition**

Recognizing the multi-jurisdictional nature of the Corridor, an Advisory Group was formed with representation from the following:

Hamilton County Engineer's Office	Sycamore Township, OH
Warren County Ohio Engineer	Symmes Township, OH
Deerfield Township, OH	City of Sharonville, OH

The Fields Ertel Advisory Group has been formed to provide technical assistance, input and overall guidance for the study. The primary role of the Council is to help assemble data on existing conditions within the corridor, provide input into the analyses of this data and offer guidance as potential improvements are developed into recommendations. As the course of the study progresses, additional stakeholders may be added to the Advisory Group as needed.

The Advisory Group attended all study team meetings and guided the study process in support of KZF's technical work. Other organizations were asked to participate on a selected basis to provide data and/or comments as required. These groups included the police, fire, planning, zoning and engineering offices from the various government agencies.

## **Public Participation**

Completion of the Fields Ertel Road Corridor Study was enhanced by the participation of various interested parties. In addition to the Advisory Group, which included all jurisdictions for which Fields Ertel Road passes through, a formal Public Participation Process was established. A list of all property owners, and their tenants, was compiled and notices were sent to each property owner and resident including:

- A Notification of Field Work letter introducing the study and informing residents about work crews in the area
- Letters notifying residents of upcoming public meetings, open houses or public involvement opportunities

In addition to the numerous public meetings held throughout the approximate 20-month study, a number of other tools to communicate with the residents and property owners were utilized including:

- Periodic news articles in the Cincinnati Enquirer as well as Community Press and Recorder
- Progress reports listed on township, county and local government websites
- Public meeting notices listed on township, county and local government websites
- Reference in county/township government meetings, commission meetings and local government meetings
- Project Website ([www.fieldsertel.com](http://www.fieldsertel.com)) containing study findings, public involvement opportunities, news and contacts
- Online feedback opportunities allowing for public comment through the project Website ([www.fieldsertel.com](http://www.fieldsertel.com))
- Opportunities to register for emails announcing public meetings and news

## **Data Gathering**

Preparation of this study required the compilation of information on existing conditions based on information available from a number of sources. The data collected from these sources was supplemented by a detailed field reconnaissance by KZF to record traffic flow patterns and other existing conditions. Following is a list of sources used in this study:

<b>Data</b>	<b>Source</b>
GIS Data	BHE Environmental, Butler Co. Information Services, Cincinnati Area Geographic Information System (CAGIS), KZF Design, Ohio Dept. of Natural Resources (ODNR), US Geographic Services (USGS), Warren Co., West Chester Township
Traffic Volumes	Hamilton Co. Engineer's Office, KZF Design, Ohio Dept. of Transportation (ODOT)
Crash Reports	Hamilton County Engineer's Traffic Department
Land Use	BHE Environmental, Butler Co. Info. Services, CAGIS, Sycamore Township, Sycamore Township, Symmes Township, Warren Co., West Chester Twp
Zoning	City of Sharonville, Hamilton Co. Regional Planning Commission, Sycamore Township, Symmes Township, Warren Co. West Chester Township
Tenants (by Address)	KZF Design
Key Corridor Features	KZF Design
General Travel Patterns	KZF Design
2002 Edwards & Kelcey 402 Safety Study	Hamilton County Engineer's Office
Traffic Projections	KZF Design
Existing Roadway and Traffic Inventory	KZF Design
Website/Email	KZF Design
Census Data	US Census
Environmental and Cultural Resources	BHE Environmental

## **Analysis Approach**

Upon completion of the data gathering phase for the entire corridor, KZF focused on an analysis of potential improvements within the corridor. The analysis included an evaluation of the existing roadways with respect to existing traffic and future design year traffic. Deficiencies were noted and recommendations made for improvements needed to meet future traffic demands. Consultation with residents helped develop an understanding of concerns regarding traffic volumes and patterns. Problems and opportunities were also explored for conflict resolution and traffic flow enhancements. The analysis focused on key areas, both on and off of the right-of-way as follows:

### **Capacity**

- Signal timing/interconnection
- Additional signals or signal relocation
- Exclusive turn lanes
- Consolidated turning movements
- Intersection alignment
- Roadway widening
- Traffic calming measures

### **Access Management**

- Consolidation of driveways
- Reduction in number of curb cuts
- Access between parcels/Private service roads
- Public access roads
- Side street connection/access
- Cut-through traffic
- Multiple intersections

### **Sight Distance**

- Roadway profile
- Intersection profile
- Roadside shoulders
  
- Maintenance of vegetation
- Signage

### **Crash Rate**

- Evaluation of accident location diagrams

### **Field Reconnaissance**

Upon completion of the analysis of the corridor, specific recommendations were proposed relative to each of the focus areas described above. KZF met with the Advisory Group and residents to discuss proposals and seek consensus on viable options and priority considerations. Refinements were made as required. Priorities, including short- and long-term recommendations were also prepared for improvements.

## EXISTING CONDITIONS

### EXISTING LAND USE

The Fields Ertel area is widely known as one of the predominant shopping and office areas in the Greater Cincinnati region, with heavy commercialization surrounding the I-71 interchange, extending to the north and east. While its reputation – and traffic congestion - dominates the region, the portion of Fields Ertel Road west of the commercial area is predominantly single family residential, with mix of multi-family residential, neighborhood retail and institutional. This wide range of land uses has had a major impact on traffic conditions along Fields Ertel Road Corridor.

Most of the parcels adjacent to the roadway are residential, with individual driveway access, though there are several sizeable subdivisions throughout the corridor. Subdivisions have limited connectivity to other public roads, though many of the larger subdivisions combine direct access to Fields Ertel with secondary access to the adjoining public roads.

West of Reed Hartman Road – within the City of Sharonville – land use is predominately single family residential.

Small commercial neighborhoods have developed around a couple of intersections, including McCauley and Butler-Warren Roads. At Wilkens Boulevard - the east end of project - Fields Ertel Road becomes heavily commercial. A dense mix of restaurants, shops, service operations and big box retail dominate the I-71 interchange area.

#### *Reed Hartman Rd to McCauley Rd*

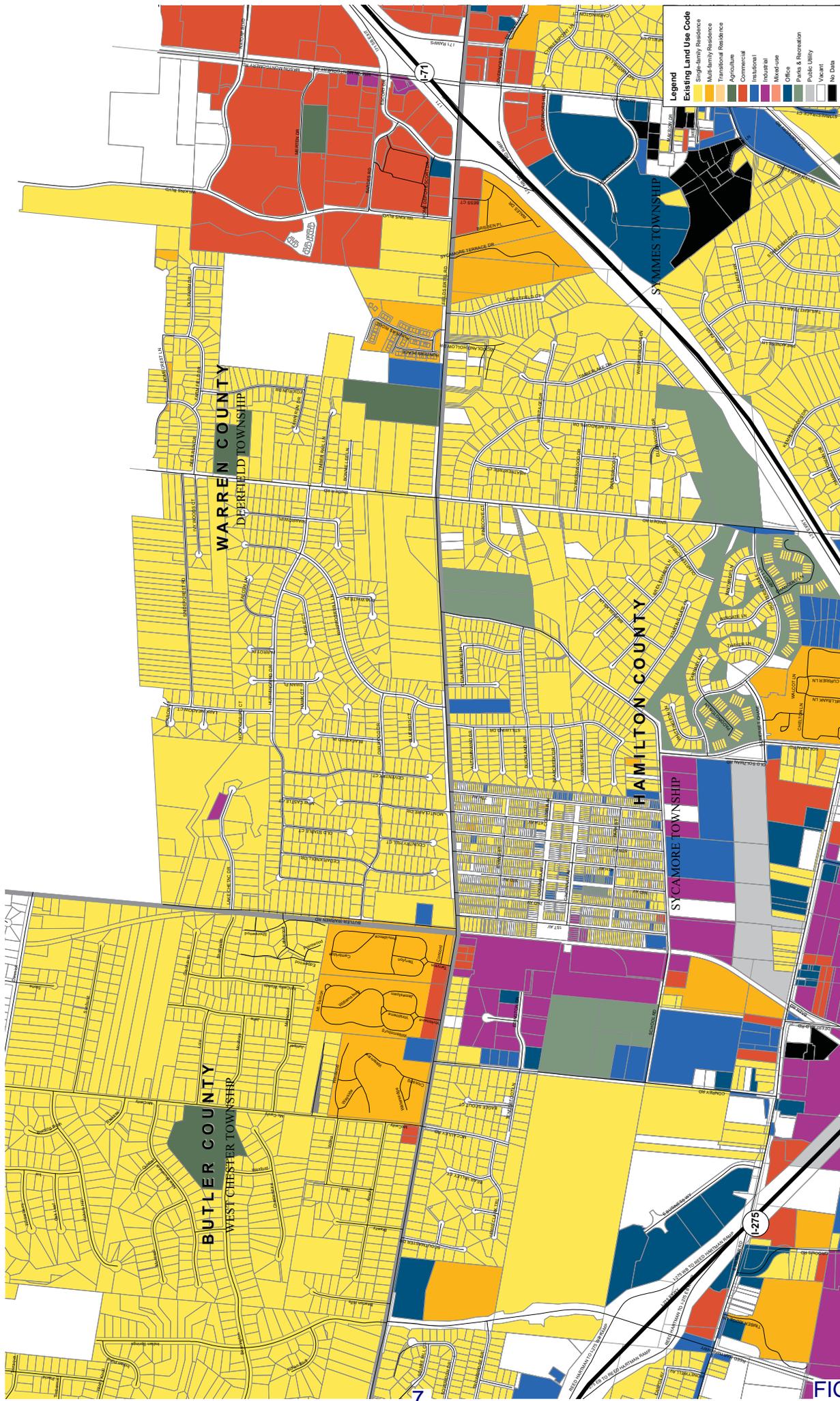
At the west end of the study corridor, Reed Hartman Highway offers quick access to the I-275 beltway. Reed Hartman Highway itself is heavily commercial to the south. The Brookwood Retirement Community and new office development have been construct on the southeast corner of the Fields Ertel/Reed Hartman intersection.

Single family residences, with individual driveways fronting onto Fields Ertel Road, line the corridor from Reed Hartman Road to McCauley Road. Residential subdivisions have developed behind these residences, including



- Indian Springs Subdivision, a rather large subdivision, with access to Fields Ertel at the Reed Hartman Road intersection (signalized), and secondary access to several nearby roadways. This subdivision is in Butler Co.
- Beacon Hills Subdivision extends most of the north side, from Reed Hartman to McCauley Rd. It includes Beacon Hills Drive, a 15 home cul-de-sac 250 feet east of Indian Springs Dr., with no connection to the rest of the subdivision. The larger subdivision includes access at Breezy Lane, with secondary access to McCauley Rd. These connections have led to complaints of cut-through traffic.
- On the south side, in Hamilton County, the Scoutmaster Drive subdivision includes 15+ homes, with a single, unsignalized access to Fields Ertel Road.

A small commercial development is located on the northwest corner of Fields Ertel and McCauley Roads.



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# EXISTING LAND USE

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FIGURE 1

## *McCauley Road to Butler-Warren Road*

South of Fields Ertel, single family residences continue along the south side of Fields Ertel Road to Conrey Road. McCauley Road extends into McCauley Woods Subdivision, a single family residential subdivision that makes up the quadrant west of Conrey, and includes access to Conrey, by way of Tenderfoot Lane.

A couple of single family homes line the south side of Fields Ertel, east of Conrey, but generally, land use changes substantially. A large light industrial park (50+ acres) occupies much of the property south and east of Conrey Road, with primary access off Conrey, by way of Edington Drive, 500 feet south of Fields Ertel Road. A secondary access to the northeastern portion of the development is directly to Fields Ertel Road, near the Butler-Warren Road intersection.

A number of the facilities access Fields Ertel Road directly, west of Butler-Warren Road. Several commercial outlots in front of these industrial uses front Fields Ertel Road, including a BP Gas/Convenience Store, car wash and an electrical supply facility.

Land use on the north side of this section (the southeast corner of Butler County) is primarily multi-family, including:

- The McCauley Crossing Luxury Apartment complex is a 264 unit facility, with gated access to both McCauley and Fields Ertel Roads.
- Sharonville Fire Station 88, is located directly opposite Conrey Road.
- The Yorktowne Mobile Home complex is a 250 unit facility, with two primary access drives onto Fields Ertel Road. This complex includes two commercial outlots along Fields Ertel Road – one includes the Speedway Gas Station/Convenience Mart and the other is currently undeveloped.



## *Butler-Warren Road to Snider Road*

This section is nearly entirely residential, with individual parcels fronting much of Fields Ertel Road, and subdivisions to the rear. Residences fronting onto Fields Ertel Road are grouped in small clusters near Whippoorwill Lane, School Road and Snider Roads. Residential subdivisions have developed behind these residences, including

- Montclair Drive subdivision in Warren County, spans the north side of Fields Ertel, from Butler-Warren Road all the way to Snider Road, with access to Fields Ertel Road on Montclair Dr., and Whippoorwill Lane. Secondary access to Butler-Warren and Snider Roads also serves this 300 home subdivision.
- South of Fields Ertel Road is the High Pointe Subdivision, east of Butler-Warren Road. This 200+ unit development dates back to the early 1900's, with some recent construction since sanitary sewers were introduced to the area in the 1990's. This subdivision consists of seven north-south local streets extending from Fields Ertel Road and School Road to the south – only Third Street doesn't connect to Fields Ertel. Several east-west connectors combine to form a local street grid within the subdivision.
- East of the High Pointe Subdivision is the more recent Windfield Subdivision, which includes to Fields Ertel Road from Stillwind and Fieldsted Drives. This 100 +/- home development also has secondary access to School Road to the east.
- The segment includes two churches on Fields Ertel Road:
  - The Crosspoint Church on the northeast corner of the Butler-Warren Road intersection accesses Butler-Warren. Undeveloped space on this 10 acre parcel provides room for expansion, both north and south (towards Fields Ertel).
  - The High Point First Church of God is on a smaller, 3-acre parcel between Stillwind and Fieldsted Drives. It has access directly to Fields Ertel Road, and is constrained by the adjacent subdivision.
- The undeveloped parcel east of School Road is owned by Sycamore Township, and is expected to remain as undeveloped greenspace.



## *Snider Road to Wilkins Boulevard*

Residential uses continue east of Snider Road, with single family subdivisions closer to Snider and multi-family beginning to transition to the commercial areas east of Wilkins. Single family residences with individual driveways front onto Fields Ertel Road on both north and south sides of the corridor near Snider Road. Residential subdivisions have developed on the south side of corridor, including:

- Paul Meadows Drive Subdivision with 150 +/- homes access from Snider Road.
- Woodland Hollow Drive subdivision is a small, upscale subdivision, with 8 single family homes on a private roadway midway between Snider and Wilkins.
- Immediately to the east, the Crestfield Road subdivision serves as a single street subdivision for approximately 20 homes. It is located in the bottom of a significant "valley," adjacent to the Polk Run Creek.
- The north side of Fields Ertel in this section includes several smaller subdivisions, and some significant undeveloped property. Recent development includes the Northern Hills Synagogue, midway between Snider and Wilkins. Further to the east, is the 40 unit Hunter's Place Condominium Development. Both have separate access to Fields Ertel, and constrained by topography in the area

Closer towards the I-71 interchange, the south side of the corridor includes several sizeable developments, including:

- The Sycamore Creek Apartments is a 250 unit, multi-building complex with a single entrance to Fields Ertel Rd.
- The Wellington Place Townhome complex is a 200 unit, multi-building facility located immediately east of the apartments. It also includes a single formal access drive onto Fields Ertel Road, but also includes an indirect access through the adjacent Sycamore Center commercial development.
- The Sycamore Center commercial development is a 50,000 square foot shopping center, with an access drive to the Wilkins Boulevard intersection, providing signalized access. The site includes a small gas station near the signalized entrance and several small restaurants and shops. Secondary access is also available to the secondary Wellington Place Townhome eastern drive.

Two rather large parcels on the northwest corner of the Wilkins Boulevard intersection remain single family residences, with current access directly to Fields Ertel Road. These parcels include more than 20 acres of somewhat "undeveloped" property, given their proximity to the Fields Ertel commercial area.



## **EXISTING CONDITIONS**

### **FUTURE LAND USE**

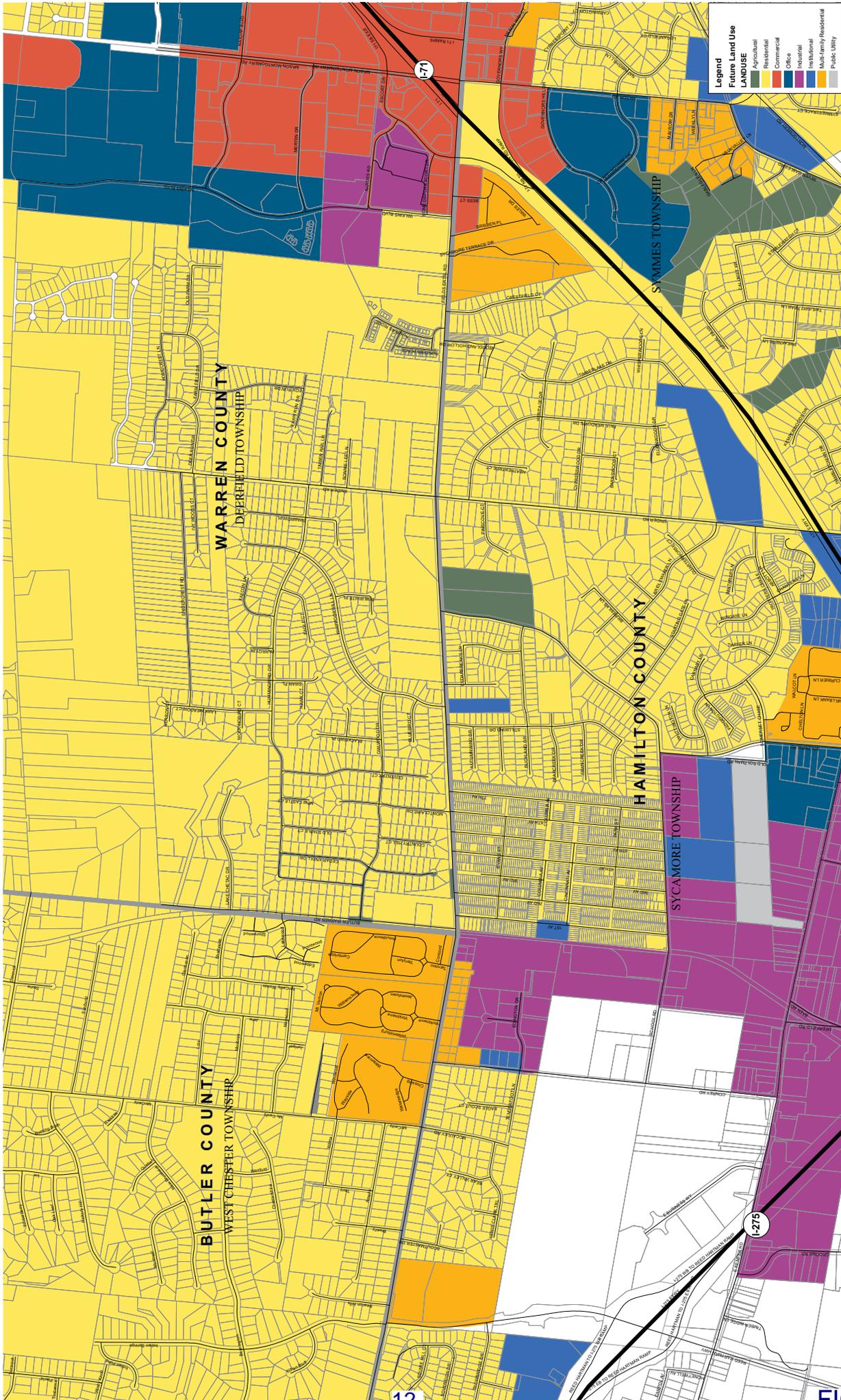
Future land use within the corridor is expected to remain essentially the same as existing land use, particularly with only limited undeveloped parcels within corridor. Specific undeveloped or underdeveloped parcels within the immediate Fields Ertel corridor include the following:

- Residential parcels on the northwest corner of the Wilkins-Fields Ertel Road intersection represent the largest potential development within the corridor – 20 +/- acres zoned agricultural and residential. Current owners have indicated no desire to develop the property, but visibility and location are attractive. Situated between single family residences and the commercial development east of Wilkens Boulevard, this property is shown as “Transitional Mixed Residential” in the Future Land Use Plan for Deerfield Township.
- Undeveloped wooded parcels north and west of the Snider-Fields Ertel Road intersection includes over 15 acres of largely undeveloped property, but is limited by terrain and several existing residences. It is also shown as “Transitional Mixed Residential” property.
- The Crossroads Baptist Church on the northeast corner of the Butler-Warren-Fields Ertel Road intersection consists of a 15,000 SF building on approximately 10.0 acres. Expansion of the church on this parcel is anticipated in the Future Land Use Plan (Institutional use).

Vacant parcels within the immediate corridor that are not expected to redevelop include:

- Vacant parcel adjacent to School Road, on the south side of Fields Ertel in this area was recently purchased by Sycamore Township, and is not expected to be actively developed.
- Two small (0.4 +/- acre) residential lots are currently vacant. Existing residences on these properties were acquired as part of the adjacent office development, and subsequently donated to Sycamore Township. The Township has no plans for these residences.





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**FUTURE LAND USE**

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## **EXISTING CONDITIONS**

### **ZONING**

The Fields Ertel Road corridor is located within the boundaries of three counties and four City/Townships. Each of the three Townships – Sycamore, Symmes and Deerfield – and the City of Sharonville are responsible for zoning within their individual jurisdictions. The County line generally runs down the center of the road, with Hamilton County to the south and Butler (west) and Warren (east) Counties to the north. Existing zoning is generally consistent with the parcel's current land use, and the majority of the parcels have been developed.

West of the project area, the City of Sharonville controls both the north side of Fields Ertel (in Butler County) and the south (in Hamilton Co.). Between Reed Hartman and Butler-Warren Roads, the north side of the road is in Sharonville and the south side is in Sycamore Township.

The largest portion of this area is Single Family Residential. Notable exceptions include:

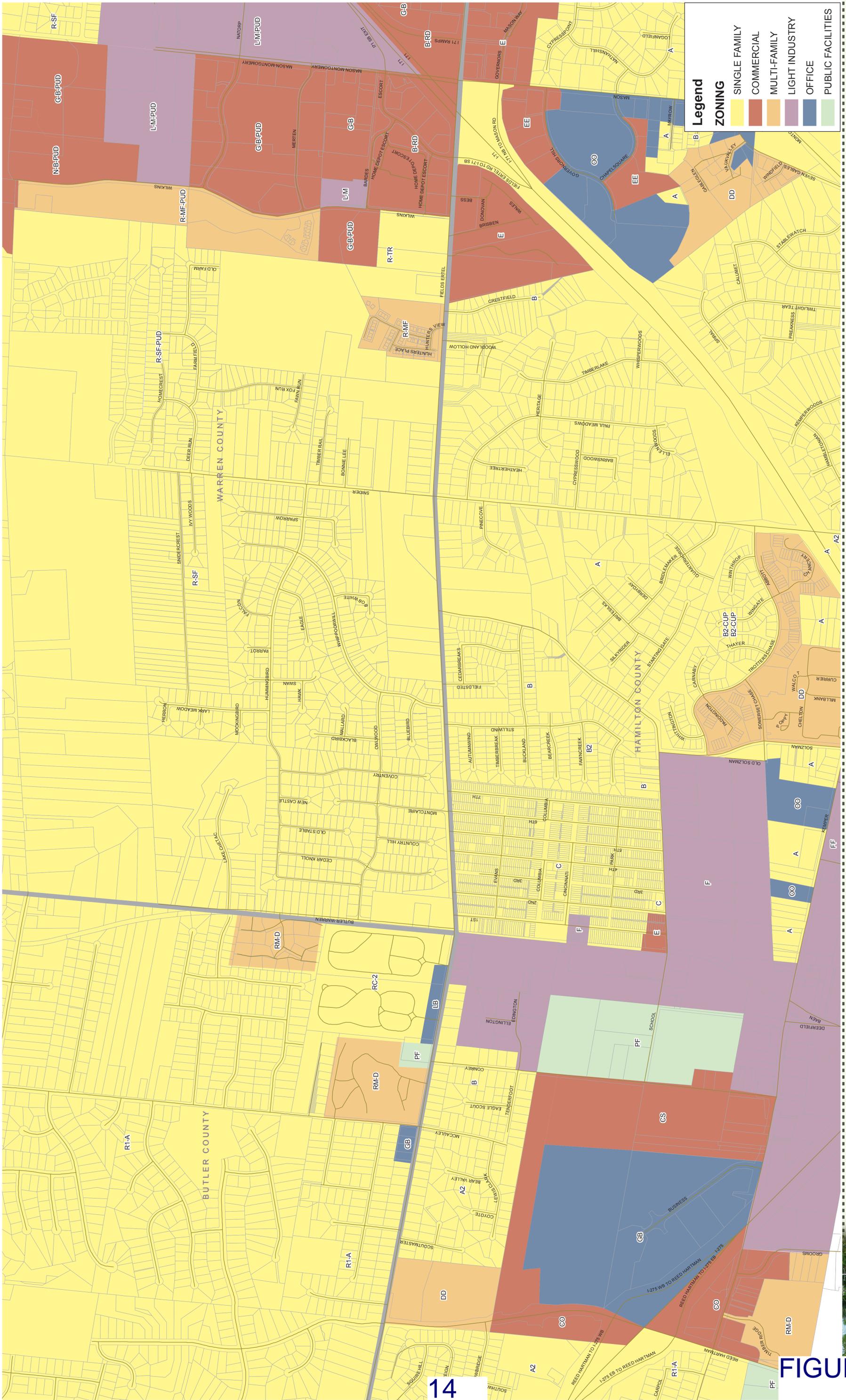
- The Planned Multi-Family (Brookwood Retirement Community) and Office on the corner of Reed Hartman Rd.
- General Business (GB) on the northwest corner of McCauley Road (Beacon Hills retail center that includes McCauley's Pub, Marathon Gas Station and Widmer's Cleaners).
- Multi-Family (RMD) – McCauley Crossing Apartments – on the northeast corner of McCauley.
- Sharonville Fire Station (Public Facilities/Institutional) on the north side of Fields Ertel, across from Conrey Road.
- Family Townhouse (R2-C) – Yorktowne Mobil Home park at Butler-Warren Road.
- Light Industrial Park on the south side of Fields Ertel, between Conrey and Butler-Warren Rd. Some general retail uses front Fields Ertel Road within this Light Industrial zone. The Light Industrial extends south along Conrey to I-275 and includes Commercial Service and General Business space in the City of Sharonville.

East of Butler-Warren Road, the north side of Fields Ertel Road is controlled by Deerfield Township (Warren County).

The south side (Hamilton County) is split evenly between Sycamore Township and Symmes Township (to the east).

Single Family Residential continues as the predominant zoning in the corridor. Notable exceptions include:

- Residential transitional zoning (R-TR) in Deerfield Township, both east and west of Snider Road. Generally, these are single family residences with the potential to be redeveloped into more intense uses. The potential is based on the amount of traffic on Fields Ertel Road and the surrounding uses. The intent of the zoning is to allow for redevelopment in a fashion that encourages a high-quality transitional neighborhood.
- Residential Multifamily (R-MF PUD) – Hunter's Place Condominiums – between Snider and Wilkens. This area includes the recently constructed Northern Hills Synagogue.
- General Business, Residential Multi-family, Office and Light Manufacturing PUD areas along Wilkens Boulevard, north of Fields Ertel Road.
- Commercial zoning on the south side of Fields Ertel, at the east end of the project area. These parcels include the Sycamore Center retail center opposite Wilkens Boulevard, but also the Sycamore Creek Apartments and Wellington Place Townhomes.



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# ZONING

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FIGURE 3

## **EXISTING CONDITIONS**

### **TRAFFIC NETWORK**

Within the study area, traffic can be characterized as:

- volumes are generally heavy
- most traffic is generated by commuter trips
- commercial traffic dominates the area, with office uses to the southwest and northeast, and retail to the east
- heavily oriented to the Interstates, both directly and through indirect routes

### *Historical Perspective*

Like most of the Greater Cincinnati area, many of the roadways in the project area evolved over the years from dirt roads into major collectors and arterials which now carry up to 40,000 vehicles per day. Fields Ertel Road is no different. Unfortunately, this growth in traffic has not always been matched by geometric improvements, safety upgrades and access controls. Additionally, the I-71/Fields Ertel interchange just to the east of the project has evolved into a regional problem that will require unique and innovative strategies to solve. The extensive commercial development and office complexes surrounding the interchange generate a regional traffic destination and regional sized backups as well.

Within the study area, Fields Ertel Road is a secondary arterial, intended to move traffic efficiently over longer distances, with access to adjacent properties considered secondary. Throughout the study area, the Hamilton/Warren County line essentially runs along the centerline of Fields Ertel Road.

According to local officials and long time residents, traffic volumes on Fields Ertel Road were very light until the 1970's. The area was predominately farm fields, with some residential (particularly within the project area). Construction of I-71 foretold of major changes coming to the area, particularly with the subsequent completion of I-275. During the 1970's, smaller retail development and residential subdivisions within Hamilton County began gradually encroaching on the area.

The 1980's saw major changes to the area, with rapid office and retail development activity around the I-71-Fields Ertel interchange and further residential development surrounding the corridor. Traffic growth was so rapid, roadway capacity could not keep up. Significant capacity improvements to Mason Montgomery, Fields Ertel (east of study area) and Reed Hartman Roads were quickly overwhelmed.

### *Current Area Network*

The area roadway network within the general vicinity is dominated by I-275 to the south and I-71 to the north, and their respective interchanges with Reed Hartman Road and Fields Ertel Road.

**I-275** marks the southern boundary to the broader project area, serving area commuter traffic around the Cincinnati region. Access to I-275 from the project area is by way of the Reed Hartman interchange or indirectly, from I-71. Some area traffic appears to be using the various north-south collectors such as Conrey Road to use Kemper Road (south of I-275) to access the Reed Hartman interchange.

Major arterials in the vicinity include Montgomery Road (US 22/3) to the east, and Reading Road (US 42) to the west. Both run northeast-southwest, roughly parallel to I-71, with more than 30,000 veh./day. Land use along Fields Ertel between Montgomery Road and the project limits is a heavily developed commercial/retail area.

I-71 including the Fields Ertel Road interchange, is passes immediately east of the project area. Volumes are high (90,000 vehicles per day), with daily congestion in both morning and evening peak hours. The interchange with Fields Ertel Road is extremely busy, and complicated by a major intersection in the middle.

Explosive commercial development in the area has resulted in renowned congestion, and numerous roadway improvement efforts. Currently, the Warren County Engineer's Office is coordinating a regional effort to identify a long-range fix traffic flow at this interchange.



## *North South primary arterials*

Within the immediate study area, several north-south roadways hold important roles in the transportation network.

Reed Hartman Road is a 4-5 lane Minor Arterial, with interchange access to I-275. It serves as a major access into the many office and mixed-use developments in Blue Ash to the south. In the project area, Reed Hartman extends to a signalized intersection at Fields Ertel Road, with the Indian Springs residential subdivision to the north, creating a full 4-way intersection.

Wilkins Boulevard is a 4 lane Major Collector-Distributor, which extends north from Fields Ertel Road only a couple of miles to Socialville-Foster Rd. Wilkins is a parallel route to Mason-Montgomery Road, offering access to the commercial developments in northern Deerfield Township, and a by-pass to the I-71 interchange for residents of southern Mason.

Towards the eastern portion of the study area, Snider Road is a 2-3 lane Minor Arterial (Hamilton Co.), connecting from Cornell Road at the I-275/Montgomery Road interchange north into Warren Co., serving mostly to connect the residential areas of the City of Mason to I-275. Snider Road traverses a very rolling terrain, particularly in Hamilton Co.

Butler-Warren Road serves the middle of the project area, extending north from Fields Ertel Road as a collector. It serves 8,000 vpd in the project area, and runs directly up the Butler-Warren County line, including an intersection with US 42 and Tylersville Road. A two lane road in the project area, plans are to widen portions of the road to the north.

**EXISTING CONDITIONS**

**TRAFFIC VOLUMES**

Peak hour traffic counts were taken at 8 major intersections in the study corridor during July 2007. Average Daily Traffic (ADT) volumes were projected from these counts, and compared to past counts from the Hamilton and Warren County Engineer’s Offices, ODOT and the 2002 Safety Study.

Table 1  
Existing Traffic Volumes and Recent Growth Rates

Roadway	Location	ADT	ADT 2007	Percent Increase	Growth (per year)
Fields Ertel	west of Reed Hartman	10,880 <sub>2004</sub>	12,211	12%	
	east of Reed Hartman	13,780 <sub>2001</sub>	16,678		
	east of McCauley	12,539 <sub>2004</sub>	11,250		
	east of Conrey		15,567		
	west of Butler-Warren Rd.	15,001 <sub>2002</sub>	13,511		
	west of School		9,578		
	west of Snider	16,397 <sub>2001</sub>	11,622		
	west of Wilkens	20,935 <sub>2002</sub>	16,467		
	east of Wilkens		19,511		
Reed Hartman	south of Fields Ertel	16,902 <sub>2002</sub>	18,644		
McCauley Rd.	north of Fields Ertel	6,667 <sub>2002</sub>	7,078		
Conrey	south of Fields Ertel	5,479 <sub>2002</sub>	6,867		
Butler-Warren Rd	north of Fields Ertel	7,850 <sub>2002</sub>	6,900		
School	south of Fields Ertel	2,279 <sub>2002</sub>	4,767		
Snider	south of Fields Ertel	10,061 <sub>2005</sub>	11,600		
	north of Fields Ertel	10,393 <sub>2005</sub>	13,811		
Wilkens	north of Fields Ertel		11,178		

A simple review of ADT’s across the corridor show traffic volumes vary across the corridor, from 16,678 vehicles per day (vpd) at the western end (Reed Hartman Road), to a low of 9,211 vpd at Butler-Warren Road, rising to 19,511 vpd at the eastern end of the project (Wilkens/I-71), showing a heavy orientation to the Interstates – I-71 to the east, and I-275/Reed Hartman to the west.

Analysis of peak hour traffic flows reveals several additional trends that help identify traffic patterns within the corridor, including:

- North-south roadways show a heavy directional split – southbound in the morning and northbound in the evening. Split is as high as 80% of the traffic in the peak direction in some sections.
- The peak flow on Fields Ertel is eastbound during the AM peak (72%) and the PM peak (52%).
- Several north-south roadways effectively “T” into Fields Ertel Road, and do not extend through the corridor.
- Snider Road is the only north-south roadway that passes all the way “through” the corridor, as a 2-lane arterial. Accordingly, traffic volumes are higher than other roads in the corridor, and show more north-south “through” traffic.

## FIELDS ETEL ROAD CORRIDOR STUDY

- Traffic counts show Fields Ertel Road is not simply an east-west roadway, collecting traffic and feeding it east to I-71 or west to Reed Hartman and I-275. Substantial volumes of traffic are proceeding south on Conrey and School Roads. It appears traffic is using Kemper Road to access Montgomery Road (east) or I-275 (west).
- Traffic volumes vary widely along the corridor, particularly between “north-south pairs” - roads that go either north or south, but must be “paired up” with another roadway to proceed north/south through the corridor. In this way, Fields Ertel Road seems to act as a “connector” for north-south roadways that do not pass all the way through corridor, with traffic using Fields Ertel to connect from one north-south road to another, including:

McCauley to Reed Hartman  
Wilkins to I-71

McCauley to Conrey  
Wilkins to School

Some commuter traffic is making route choice by delay, resulting in several very different commuting patterns between morning and evening peak hours.

- Some southbound traffic on McCauley in the morning appears to be using Conrey and Kemper Road to access I-275, rather than heading west on Fields Ertel to Reed Hartman Road. Many of these motorists appear to be using Reed Hartman directly to Fields Ertel in the evening.
- Southbound morning traffic on Snider and Wilkins is turning right (east) on Fields Ertel to the easy right turn onto I-71. In the evening, much of this traffic is turning by way of northbound on School Road, apparently to avoid congestion at the I-71/Fields Ertel interchange.

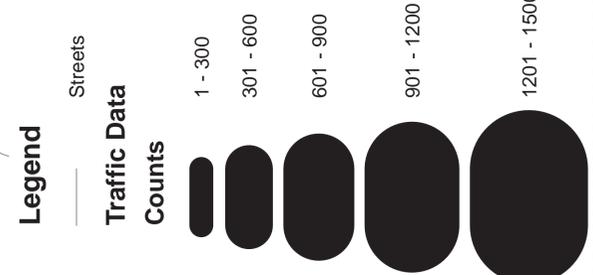
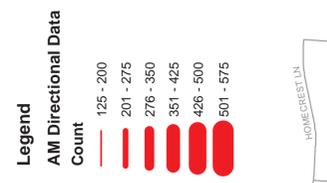
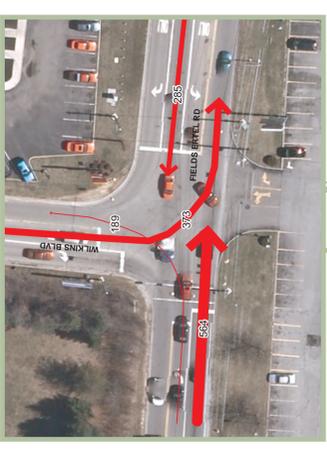
Comments from area residents - made at the public meeting and on the project website - expressed concern about traffic avoiding congested intersections by taking shortcuts through area neighborhoods. Field observations and a review of traffic volumes indicate some truth to this complaint, though not the level cited. Shortcuts were noted at:

- Northbound traffic on Conrey (PM) is using McCauley Crossing/Tenderfoot to avoid the delays trying to turn left at Conrey/Fields Ertel (2-way stop), using the 4-way stop at McCauley/Fields Ertel to head north on McCauley.
- Southbound traffic on McCauley was reported to be cutting through the Breezy Point subdivision to avoid delays at the McCauley/Fields Ertel intersection. The City of Sharonville recently installed speed humps on Amelia and Wilma Drives that seem to have slowed complaints.
- Truck traffic was reportedly making u-turns or shortcuts within the McCauley Crossing retail center. These moves were not observed in the field, but construction of barriers and gates within the parking lot would seem to verify the problem.



Several areas appeared to be potential problems, but no problems were observed at:

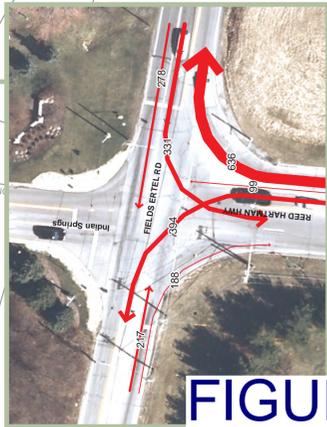
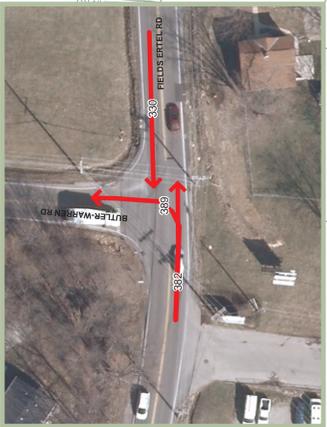
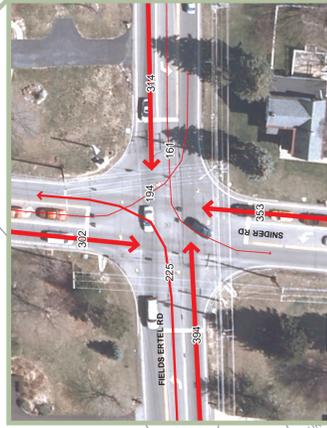
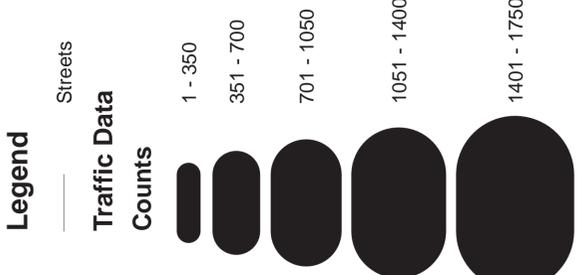
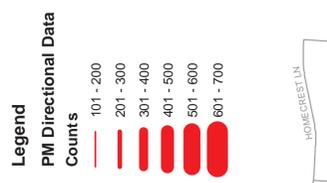
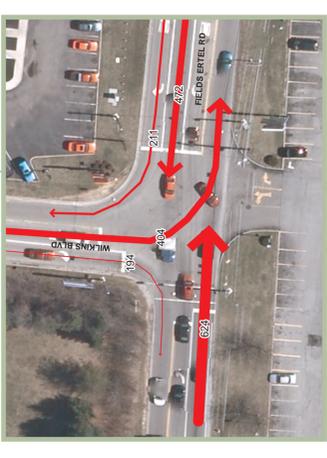
- Traffic does not appear to be taking shortcuts through the High Point subdivision between School Road and Fields Ertel, probably because of the narrow streets and slow speeds.
- No evidence of traffic taking shortcuts through the Montclair subdivision between Snider and Butler-Warren Roads was noted on either Montclair or Whippoorwill Drives despite complaints by residents. Traffic volumes on these streets did appear to be within normal volumes for a subdivision of this relative size.



AM PEAK HOUR 2-WAY VOLUMES (VEHICLES PER HOUR)

FIELDS ERTEL ROAD  
CORRIDOR STUDY

FIGURE 4A



**PM PEAK HOUR 2-WAY VOLUMES (VEHICLES PER HOUR)**

**FIELDS ERTEL ROAD  
CORRIDOR STUDY**

**FIGURE 4B**

**EXISTING CONDITIONS**

**CRASH DATA**

Analyzing crashes within the corridor is a tool in locating safety deficiencies and identifying potential countermeasures to reduce the number of crashes and injuries within the project area. Crash data from the Hamilton County Engineer’s Office showed 127 crashes in the project corridor in a 3 year analysis period (2004-2006), including 20 (16%) that resulted in injuries. Collision diagrams for the corridor to identify key areas of concern.

Most common types of crashes include Rear End (43%), Right Angle (23%) and Loss of Control or Hit a Fixed Object (29%). The overall rate of 2.4 crashes/million vehicle miles traveled is more than double the statewide average for similar roads.

Typical causes of rear-end crashes include inadequate stopping sight distance, frequent turning movements, excessive or unexpected stopped vehicles and congestion. Many of these same factors are also known to cause angle crashes, often associated with a failure to yield. Analysis of the Failure to Control crashes indicates that many of these may actually be motorists losing control of their vehicles and sliding off the roadway while attempting to avoid stopped vehicles. The lack of adequate shoulders, edge drop-offs and roadside hazards all combine to penalize motorists unable to control their vehicle, or possibly, those sliding off the roadway to avoid stopped vehicles in the roadway.

A “402 Safety Study” was commissioned in 2002 by the Butler, Hamilton and Warren Co. Engineer’s Offices and the City of Sharonville, in cooperation with Ohio Department of Highway Safety, to identify potential safety improvements of Fields Ertel Road from US 42 to I-71. The results of this study showed an overall crash rate of 3.57 crashes/million vehicle miles during the 1999-2001 study period. This compares to a statewide average crash rate of 3.8 crashes/million vehicle miles on similar facilities around the state of Ohio. During this 3 year period, ODHS data showed 229 crashes, including 60 injury crashes (26%), resulting in 85 persons injured and 0 fatalities.

Table 2  
Crash Causes on Fields Ertel Road

PROBABLE CAUSE/CONDITIONS	Fields Ertel Rd		STATE AVG.
	1999-2001	2004-06	
Excessive Speed	1%	1%	8%
Failure to Control	10%	30.7%	37%
Failure to Yield	26%	24.4%	28%
Following too Close	36%	42.5%	27%
Weather/Light Conditions			
Wet Pavement	18%		14%
Dark	16%	13%	20%
Accident Type			
Rear-End	44%	42.5%	30%
Right-Angle	20%	22.8%	35%
Loss of Control	12%	28.4%	35%

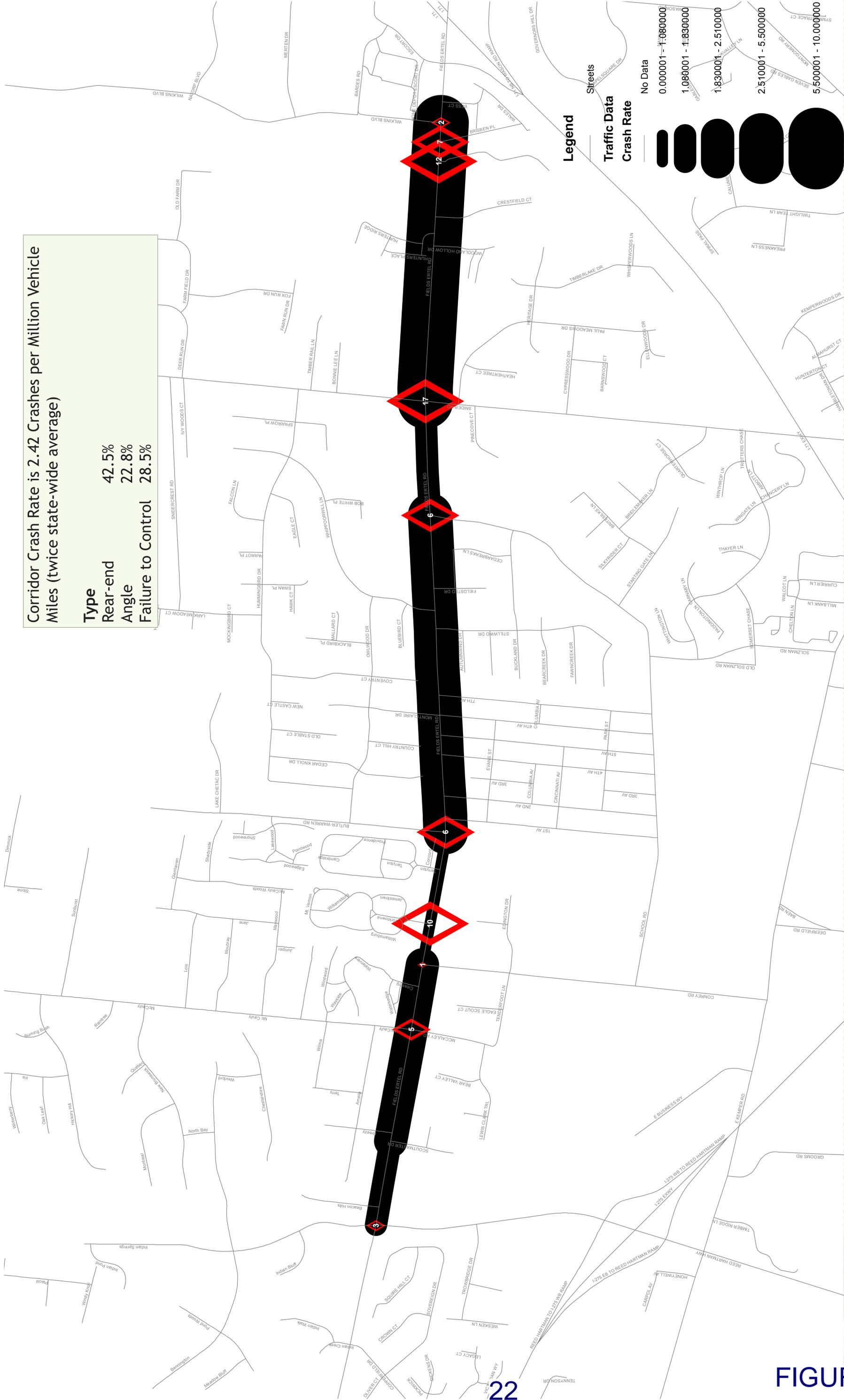
Notable trends include the substantial increase in crashes caused by Failure to Control (from 10% in 2001 to 31% in 2006) and number of Rear End crashes (43% - well above statewide average).

While darkness and wet pavement are certainly contributing factors in a substantially number of crashes, it does not appear that these factors are causing an abnormally high number of crashes.

Excessive speed was reported as a probable cause on only 1% of crashes, compared to the statewide average of 8%. The safety study found the 85th percentile speed on Fields Ertel Road was 39 to 41 mph.

Corridor Crash Rate is 2.42 Crashes per Million Vehicle Miles (twice state-wide average)

**Type**  
**Rear-end** 42.5%  
**Angle** 22.8%  
**Failure to Control** 28.5%



FIELDS ERTEL ROAD CORRIDOR STUDY

CRASH HISTORY 2004 TO 2006

ARCHITECTURE  
 ENGINEERING  
 INTERIORS  
 PLANNING

KZFDDESIGN

0 250 500 1000  
 SEPTEMBER 18, 2007



FIGURE 5

## *Specific Crash Locations*

Reviewing the crashes in more detail revealed several specific problem areas and hazards, including:

- near Scoutmaster and Breezy Drives
  - Eastbound Rear end crashes of stopped vehicles waiting to turn left into Breezy
  - Eastbound lose of control crashes of vehicles leaving the roadway
- west of McCauley Road
  - Eastbound Rear End crashes - stopped vehicles, backed up from the McCauley intersection
- between McCauley and Conrey
  - Eastbound Rear end crashes of stopped vehicles waiting to turn left into Breezy
  - Eastbound lose of control crashes of vehicles leaving the roadway
- between Conrey and Butler-Warren, with crash rate of 1.80 crashes/mvmt
  - primarily Eastbound traffic, mix of Angle, Rear-End and Failure to Control crashes
- Butler-Warren Road intersection
  - Angle crashes at intersection, due to poor sight distance, particularly turning left
- between Butler-Warren and School Roads, with crash rate of 5.50 crashes/mvmt
  - mix of Angle, Rear-End and Failure to Control crashes, primarily at local approach roads
- School Road intersection
  - Westbound Rear-end crashes at intersection with WB vehicles stopped, waiting to turn left
- Snider Road intersection
  - Multiple right angle crashes, with injuries, in the intersection
  - Rear-end crashes approaching the intersection from all approaches, with stopped EB vehicles (congestion)
- between Snider Road and Wilkins Blvd., with crash rate of 10.0 crashes/mvmt
  - Rear End crashes (mostly Eastbound) and Failure to Control approaching Wilkins/I-71 congestion
  - Multiple Angle crashes at local approach roads and higher volume drives – some Sight Distance issues

## Safety Deficiencies/Typical Countermeasures

Crashes within the project area were primarily Rear End (42.5%), Failure to Control (26.0%) and Angle Crashes (22.8%). Based on the type and location of crashes, a number of causes and potential countermeasures can be analyzed. Potential countermeasures that may be applicable are summarized by cause, time frame and costs to implement:

Rear-end crashes are typically caused by congestion, slowed or stopped traffic, inattentive drivers, wet/slippery pavement or deficient geometrics resulting in inadequate sight distance. Typical countermeasure strategies include:

Probable Cause	Countermeasure	Time	Cost
Congestion	Improved traffic control warning signage/pavement mark	short	low
	Improve directional/location signage	short	low
	Improve Signal operations – phasing, timing, gaps	short	low
	Restrict or eliminate maneuvers	short	low
	Speed control, traffic calming	medium	medium
	Improve turning radius at intersections	medium	medium
	Improve visibility of the intersection/lighting	medium	medium
	Modify Intersection Traffic Control – Signal, Stop sign, etc.	medium	medium
	Access Management to reduce left turn conflicts	medium	medium
	Widen pavement to provide additional turn lanes	medium	high
	Widen pavement to provide center left turn median	long	high
	Widen pavement to provide additional capacity	long	high
Wet/Slippery Traffic	Improved traffic control warning signage/pavement mark	short	low
	Resurfacing, or skid resistant pavement	medium	medium
	Improve stormwater drainage/roadside ditches	medium	medium
	Modify Profile of the Road	long	high
Deficient Geometrics	Improved traffic control warning signage/pavement mark	short	low
	Remove or clear roadside obstructions	short	low
	Widen Shoulders	medium	medium
	Improve roadside berms/slopes	medium	medium
	Reconstruct or improve roadway curves	long	high
	Change Horizontal and/or Vertical Alignment – Sight Dist.	long	high

Failure to Control crashes are typically caused by slippery pavement, excessive speed, roadside obstructions, substandard geometrics or congestion. Typical countermeasure strategies include:

Probable Cause	Countermeasure	Time	Cost
Wet/Slippery Traffic	Improved traffic control warning signage/pavement mark	short	low
	Resurfacing, or skid resistant pavement	medium	medium
	Improve stormwater drainage/roadside ditches	medium	medium
	Modify Profile of the Road	long	high
Roadside Obstructions	Improved traffic control warning signage/pavement mark	short	low
	Remove area vegetation – as obstacles and visibility	short	low
	Control Excessive Speed	short	low
	Remove or clear roadside obstructions/utilities/fix objects	short	low
	Reconstruct berms, drop-offs and roadside slopes/ditches	medium	medium
	Reconstruct or improve roadway curves	medium	medium
	Widen pavement (lanes, shoulders) – not adding capacity	medium	medium/high
Change Horizontal and/or Vertical Alignments	long	high	

Geometrics	Improved traffic control warning signage/pavement mark	short	low
	Install painted median	short/med.	medium
	Widen shoulders, roadside berms	medium	medium
	Change Horizontal and/or Vertical Alignment – Sight Dist.	long	high
Congestion	Improve visibility of the intersection/lighting	short	low
	Modify Intersection Traffic Control – Signal, Stop sign, etc.	short	low
	Access Management to reduce left turn conflicts	short	low
	Widen pavement to provide additional turn lanes	medium	medium
	Widen pavement to provide center left turn median	long	high
	Widen pavement to provide additional capacity	long	high

Right angle crashes are typically caused by congestion/ignoring traffic control, intersection deficiencies, poor access management or inadequate sight distance. Typical countermeasure strategies include:

Probable Cause	Countermeasure	Time	Cost
Congestion	Improved intersection traffic control	short	low
	Traffic Control Restrict or eliminate turn maneuvers/Consider Yield sign	short	low
	Run Stop Sign Improve Visibility – Warn Signs, 2 <sup>nd</sup> Stop Sign, reflective posts	short	low
	Install Rumble Strips	short	low
	Flashing beacons, Advance Warning Signs, Overhead	short	low
	Modify Intersection Traffic Control – Signal, Stop sign, etc.	medium	low
	Improve visibility of the intersection/lighting	medium	medium
	Run Signal Improve Visibility – Warn signs, Back plates, add 12" Signal Heads	short	low
Access Management	Coordinate adj. Signals, Install Advance Warning Flashing Signs	short	low
	Upgrade Signal operations – timing, review Warrants	short	low
	Widen pavement to add turn lanes/ capacity	medium	medium
	Restrict or eliminate maneuvers, particularly left turns	short	low
	Close drives in critical areas – intersections, turn lanes,	short	low
	Improve visibility of entrances/remove roadside obstacles	short	low
	Connect parking lots to improve access to signals	short	low
	Combine driveways to reduce conflicts	medium	low
	Move entrances and left turns to signalized intersections	medium	medium
	Construct frontage roads to handle access	medium	medium
Deficient Geometrics	Improve available gaps – signalization, coordination	medium	low/medium
	Widen pavement to provide center left turn median	long	high
	Improved traffic control warning signage/pavement mark	short	low
	Remove or clear roadside obstructions	short	low
	Widen Shoulders and berms	medium	medium
	Improve roadside berms/slopes	medium	medium
Change Horizontal and/or Vertical Alignments	long	high	

**EXISTING CONDITIONS**

**SPEED STUDY:**

The posted speed limited on Fields Ertel Road within the project area is 35 mph. A specific speed study was not conducted in the current study, as previous studies showed consistent results. The 2002 Hamilton Co. 402 Study conducted by Edwards & Kelcey (2002), performed radar speed measurements at 6 locations within the project limits, with results summarized below:

Table 3  
Spot Speed Study

Location	Roadway segment	85 <sup>th</sup> Percentile Speed	
		EB	WB
1	Fields Ertel 500' west of Reed Hartman	35 mph	42 mph
2	Fields Ertel at Breezy Lane	39 mph	40 mph
3	Fields Ertel 900' east of Conrey Road	39 mph	38 mph
4	Fields Ertel 100' west of Whippoorwill Lane	41 mph	42 mph
5	Fields Ertel 400' east of School Road	45 mph	45 mph
6	Fields Ertel 200' east of Crestfield Court	45 mph	43 mph

## EXISTING CONDITIONS

### ENVIRONMENTAL RESOURCES

The study was completed to research and identify potential “hot spots” or “red flag” areas to determine what avoidance and mitigation measures may be needed during preliminary design for the proposed roadway improvements. The potential environmental and cultural “hot spots” or “red flag” areas that were reviewed included:

#### *Ecological Resources*

- **Wetlands:** One **potential wetland** area was identified immediately northwest of the Butler-Warren and Fields Ertel Road intersection. A second wetland area was observed in the field, approximately 80 ft north of Fields Ertel Road and approximately 330 ft west of Hunters Ridge Road.
- **Streams:** Based on the available stream data and pedestrian survey, **several headwater streams, Polk Run, and a tributary to Polk Run** (Lake Chetac Creek) were located within the project area. The Polk Run –immediately west of Cresfield Drive –is designated as a Warm Water Habitat. According to the OEPA, the Polk Run is designated as a 303(d) impaired water. Coordination and permitting requirements will need to be addressed with the OEPA and USACE prior to design of roadway improvement to determine if the design would be authorized under the regulatory permits for the agencies. Impacts to the streams should be avoided or minimized for any proposed improvement
- Preliminary review of the available data did not reveal any known records of **federally-listed Threatened Or Endangered Species** within the project area, though field reconnaissance did identify suitable habitat for five federally-listed species (eastern massasauga, Indiana bat, rayed bean, running buffalo clover, and sheepnose). A detailed site-specific analysis may be required to identify these areas and avoid impacts from proposed improvements.

Several *state-listed species* have known ranges and/or records within the vicinity, and potential habitat for a number of state-listed species does exist within the area. Detailed field analysis may be required to identify and avoid these areas.

Based on this review, it is unlikely that any of these ecological resources would be considered “fatal flaws” that would prevent the project from being undertaken. Design or location modifications may be required to avoid, or mitigate for, sensitive ecological resources as more detailed work is performed.

#### *Cultural Resources*

A review of records maintained at the Ohio Historic Preservation Office identified 26 historic architecture resources, 5 archaeological resources within the vicinity of the project. No NRHP properties were identified. Of the 31 resources inventoried, only 3 are located within the immediate project area:

- The **Joseph Conrey Farmstead (HAM-4111-5)** is on the southeastern corner of the intersection of Fields-Ertel and Conrey Roads (**12160 Conrey**). The two-story brick farmhouse dates from the 1840s. It displays a distinctive fenestration pattern with two central front doors, each topped with a simple 3-light transom. An Italianate cornice and a rear ell were added in the later part of the nineteenth century. Additions to the rear reveal change but do not necessarily compromise integrity of the property. It has not been determined whether the property is eligible for inclusion on the NRHP.
- The **William Rempler House (HAM-3333-52) at 12182 Snider Road** is on the southeast corner of the intersection of Snider and Fields Ertel Roads. It is a two-story farmhouse (circa 1900) with an L-shaped plan commonly built around the turn of the twentieth century. It has a one-story shed-roofed addition on the back (east) side. Its historic integrity is compromised by aluminum siding and replacement windows, though its potential for eligibility for the NRHP has not been determined.
- The **three-bay brick house located at 6072 Fields-Ertel Road** just west of Snider Road, was noted in field. Based on field observations the building plan indicated by the structures fenestration and Greek Revival detailing around the

windows and front door suggest that it may date to the mid-nineteenth century. The structure has not been previously inventoried, though, and the historic character has been obscured by vinyl siding that disrupts the original design.

The **Highpoint subdivision is made up of 1<sup>st</sup> through 7<sup>th</sup> Avenues**, running from Fields Ertel Road south, to School Road. It is located east of Butler-Warren Road, and was originally platted in 1893. It was located along the route of the Cincinnati, Lebanon, and Northern Railroad, which provided commuter transportation into Cincinnati beginning in 1881. Today the neighborhood consists of 200+ modest single family houses constructed from the 1920s to the 1970s. 12 historic era structures (1940s and 1950s) form the northern portion of the subdivision (HAM-4113-50 through HAM-4117-50). Many of the buildings are typical mid-century ranch houses or front-gabled one story houses. The historic integrity of the Highpoint subdivision as a whole is compromised by repeated examples of poor maintenance, additions, and replacement materials, such as windows, doors and siding.

Though the houses within this neighborhood are not individually significant, the subdivision's tie to Cincinnati's early commuter railroad system would likely necessitate additional investigations to assess whether or not the components of the Highpoint Subdivision located within or adjacent to the current project area are eligible for the NRHP.

- While no prehistoric-era **archaeological resources** have been recorded on landforms within the project area, the presence of prehistoric mounds and earthworks in the vicinity suggests at least a moderate potential for encountering prehistoric cultural material within the project area. Based upon an analysis of these resources, the portions of the project area which contain upland heights-of-land located above permanent water sources are considered to contain a high potential for prehistoric resources, and would warrant further study if improvements are proposed in these areas. In addition, areas which correspond with nineteenth century farmsteads and structures possess a heightened sensitivity for containing historic-era archaeological deposits and would likely warrant additional archaeological investigations.

An examination of the historic-era mapping available for the tri-county region assisted in defining portions of the project area which likely contained farmsteads and structures in the late nineteenth century. These areas of sustained historic-era occupation are considered to contain a heightened sensitivity for historic archaeological resources and should be examined as part of a formal Phase I Archaeological Survey.

Based on the review of currently available data and limited field survey, it is unlikely that any of these resources would be considered "fatal flaws" that would prevent the project from being undertaken, though design modifications may be required to avoid, or mitigate for, sensitive sites.

### *Other Environmental Resources*

Two **flood hazard areas (100-year flood zone)** were identified on FEMA mapping within the project area. One area is along the Polk Run, just west of Crestfield Dr., and the other is along a tributary to Polk Run. These two identified floodplain areas will likely require a Flood Hazard Development Permit from the County Floodplain Administrator.

Based on information gathered through the literature search and field review, **no Section 4(f) or 6(f) properties** (parks, public recreational areas or significant cultural resources) were identified within the literature review area.

Based on the information from the OEPA, no groundwater source water protection areas, surface water source water protection areas, **public drinking water system** wells, or public drinking water system intakes were identified, according to OEPA data sources. Furthermore, no portions of the project area overlie sole source aquifers. There are several private water wells within the project area, according to the ODNR water well log database.

Although further investigation may certainly be warranted, it does not appear that any of the identified environmental resources within the project area present what would be considered "fatal flaws" that would prevent improvements to Fields Ertel Road, though certain design or location modifications may be required to avoid or mitigate impacts to sensitive sites. A copy of the ODOT Red Flag Summary is provided in the Appendix.

## **EXISTING CONDITIONS**

### **PUBLIC MEETING COMMENTS**

A public involvement meeting for comment on existing conditions within the Fields Ertel Corridor study was held on Wednesday, Sept. 26, 2007 to review exhibits on existing conditions and gather comments from interested residents, property owners and motorists. Approximately 35 citizens attended the meeting, offering a variety of comments, including:

- Bicycle lanes or sidewalks need to be included in the plan.
- I-275 traffic needs to be prevented from using Fields Ertel Road to avoid I-275 backups. Widening Fields Ertel will simply encourage more traffic.
- Fields Ertel traffic speeds!
- Truck traffic is a real problem, speeding too fast.
- Traffic growth in recent years has been caused by Warren County, with little consideration for solutions. If you must widen Fields Ertel, please do so in Warren County.
- Warren Co. needs more east-west roads to relieve traffic problems. Consider connecting I-71 to I-75.
- Fields Ertel is a residential roadway, and should remain such.
- Widen the hill west and east of Woodland Hollow to 3 lanes (center turn lane).
- Install warning devices on the hills near Woodland Hollow to alert motorists to stopped traffic.
- Signal timing at the Reed Hartman intersection is inadequate.
- Northbound Reed Hartman traffic turning right onto Fields Ertel is frequently "cutting" the corner on turns.
- Traffic frequently uses Beacon Hills Dr. (immediately east of Reed Hartman) to make U-turns).
- Southbound traffic on McCauley is causing problems by cutting through the Breezy/Amelia subdivision roads.
- The McCauley intersection needs a traffic signal and turn lanes.
- Suggest an Eastbound right turn lane from Fields Ertel onto Conrey Rd.
- Westbound Fields Ertel needs a Left turn lane onto southbound Conrey.
- Conrey needs separate right and left turn lanes.
- Suggest an Eastbound left turn lane on Fields Ertel into Tarrytown Dr., the Yorktown MH park.
- The Butler-Warren Road intersection is a significant safety and traffic problem.
- Restricted turning radius on northwest corner of Butler-Warren Road intersection.
- There is a real Sight Distance problem at Butler-Warren Road.
- A traffic signal is needed at the Butler Warren intersection.
- The drainage ditch on the north side of the road (east of But-Warren) is hazardous, causing numerous crashes.
- Speeding is a significant problem east of Butler-Warren Road. Speed limits should be enforced.
- The subdivision northeast of But-Warren Road has a substantial drainage problem, particularly the area east of Coventry Ct./west of Whippoorwill. Apparently, natural flow went north, but development raised this whole subdivision. Drainage eventually flows east, then south under the road (just east of Fieldsted).

- Southbound traffic on Snider is causing problems by cutting through the Whippoorwill/Hummingbird subdivision roads.
- Westbound Fields Ertel needs a Left turn lane onto southbound School Rd.
- Drivers on School Rd. have limited visibility turning onto Fields Ertel.
- Addresses on Fields Ertel Road need corrected.
- Restricted turning radius on northeast corner of Snider Road intersection – traffic signal controller has been hit several times.
- Drivers departing the Jewish Temple between Snider and Wilkens. Have very limited visibility (crest to west).
- There is a bad drop-off along the edge of the roadbed from Snyder to Ameri-Stop.
- There are frequent eastbound backups (extending west of Crestfield Ct.), causing numerous rear end crashes.
- Crests on Fields Ertel Road, west of Crestfield Ct., limit sight distance.
- Center turn lanes are needed on Fields Ertel Road, west of Wilkens.
- Eastbound backups from the I-71 entrance ramp intersection are extending back through the Wilkens intersection, causing rear end crashes west of Wilkens.
- A center left turn lane is needed on Fields Ertel Road, turning into the Brisben Place condominiums.
- Drivers on Wilkens have limited visibility turning onto Fields Ertel.
- Restricted turning radius on northwest corner of Wilkens intersection.
- The Telephone utility box on Wilkens is too close to the road, and restricting sight distance.
- The Wilkens traffic signal needs to be retimed.
- The south approach to the Wilkens intersection (from gas station, shopping center) doesn't align with Wilkens, causing driver confusion.
- Turn lanes are needed on westbound Fields Ertel at Wilkens.

## TRAFFIC OPERATIONAL ANALYSIS

### EXISTING LEVELS OF SERVICE

Analysis of the various traffic conditions and operations within the study area was performed in accordance with the standards and procedures set forth in the latest edition of the “Highway Capacity Manual.” Operational analyses were performed for both the morning and evening peak hours of street operation on major street intersections and proposed entrances within the study area.

The traffic operational characteristics of intersections can be expressed as Levels of Service (LOS). Level of service is a qualitative measure that represents collective factors of speed, travel time, traffic interruptions, freedom to maneuver, safety, driving comfort and convenience, and operating costs under a particular traffic volume condition. Standard guidelines for calculating a given Level of Service for an intersection have been developed by the Transportation Research Board, and are outlined in the “Highway Capacity Manual.”

Level of service for signalized intersections is defined in terms of delay. Specifically, levels of service criteria are stated in terms of the average stopped delay per vehicle for a peak 15-minute period. The analysis for unsignalized intersections assumes that minor street traffic will not have a significant affect on major street traffic flow. Level of service for unsignalized intersections is a qualitative measure based on delay, and defined in terms of the reserve, or unused capacity, to perform each movement. This reserve capacity is determined by subtracting the actual number of vehicles attempting the move, from the potential capacity.

The analysis for all-way stop-controlled intersections assumes that all vehicles will be required to stop. Level of service for all-way stop-controlled intersections is also stated in terms of average delay per vehicle, although the corresponding LOS criteria is different than signalized criteria due to differing driver expectation levels. Levels of service for all intersection are grouped into distinct categories, as described in Table 4.

**Table 4**  
Levels of Service (LOS) Definitions

LOS	Signalized Delay (Sec./veh.)	All-Way Stop Control Delay (Sec./veh.)	1-Way, Stop-Control Delay (Sec./veh.)	Description
A	0 – 10.0	0 – 10.0	0 – 10.0	Free flow, no restrictions on speed or maneuverability.
B	10.1 – 20.0	10.1 – 15.0	10.1 – 15.0	Stable flow, some restrictions but reasonable freedom to select speed and lane operation.
C	20.1 – 35.0	15.1 – 25.0	15.1 – 25.0	Stable flow. Higher volumes more closely control speed and maneuverability.
D	35.1 – 55.0	25.1 – 35.0	25.1 – 35.0	Nearing unstable flow, little freedom of maneuverability, comfort/convenience low, but tolerable for short periods.
E	55.1 – 80.0	35.1 – 50.0	35.1 – 50.0	Unstable flow, at or near capacity, may be stoppages of momentary duration.
F	> 80.0	> 50.1	> 50.1	Forced flow, both speed and volume can drop to zero.
Over-saturation				Volumes exceed ability of intersection to accommodate the demand, creating queues of excessive length.

## Signalized Intersections

Capacity analyses were performed at all indicated intersections using existing geometric, signal operation and traffic conditions. Analyses were performed for the critical peak hour, generally presumed to be 5:00-6:00 PM, as well as the critical morning peak hour. A LOS C is generally considered the target operation for new or upgraded facilities, while LOS D is commonly viewed as an acceptable operational standard. A summary of the evening peak hour operations are shown in Tables 5 and 6.

**Table 5**  
Existing Signalized Levels of Service

Fields Ertel Intersection	Crash Rate	Northbound			Southbound			Eastbound			Westbound		
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
Reed Hartman	0.7	C (C)	D (B)	C (B)	C (B)	B (C)	D (D)	C (D)	B (A)				
Snider	0.5	B (B)	C (E)	B (D)	D (B)	B (D)	D (D)	C (C)	C (E)				
Wilkins	2.0	B (B)	B (B)	C (C)	B (B)	B (C)	B (C)	B (B)	C (D)	B (C)			

Lt: Left turn movement  
Th: Through Traffic  
Rt: Right Turn Movement

B (C) AM (PM) Peak Hour Levels of Service  
\* Oversaturated Conditions  
Rate - Crashes/Million Vehicles Entering Intersection

There are a total of only 3 traffic signals within the 2.3 mile corridor, including one at each end of the project area – Reed Hartman to the west and Wilkins Boulevard to the east terminus. Snider Road is also signalized. Capacity analyses of these 3 intersections (see Table above) do not show significant operational deficiencies or excessive delay.

Public comments offered a different view, with many residents noting significant delays and backups, particularly at the Wilkins intersection. Field observations verify backups during the PM peak hour, particularly the west and north approaches, but these backups appear to be from the I-71 interchange extending back through the Wilkins intersection. Eastbound queues were noted to extend back on Fields Ertel to at least 500 ft. west of Wilkins Boulevard.

The Snider Road intersection was improved several years ago to add left turn lanes and improve the alignment of Fields Ertel Road through the intersection. The improvements appear to be working, though continued increasing traffic volumes are resulting in increasing delays, particularly in the evening peak.



## Unsignalized Intersections

**Table 6**  
Existing UnSignalized Levels of Service

Fields Ertel Intersection	Crash Rate	Northbound			Southbound			Eastbound			Westbound		
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
McCauley	2.5	B (C)			E (D)			D (F)			D (F)		
Conrey	1.1	E (F)			-			n/a			B (A)		n/a
Butler-Warren	1.2	-			C (D)			A (B)		n/a		n/a	
School	1.3	B (D)			-			n/a			A (A)		n/a

Lt: Left turn movement  
Th: Through Traffic  
Rt: Right Turn Movement

B (C) AM (PM) Peak Hour Levels of Service  
\* Oversaturated Conditions  
Rate - Crashes/Million Vehicles Entering Intersection

Several unsignalized intersections are experiencing deficient operations, with excessive delay, lengthy backups and higher crash rates, particularly the 4-way stop McCauley Road intersection. Excessive delays are noted on 3 of the 4 approaches during both AM and PM peak hours. Lengthy queues and inadequate sight distance for approaching vehicles are resulting in an unacceptable number of rear end crashes. Delays at McCauley are exceeding 60 sec./veh. during evening peak hours.

Delays on the approach street are also being experienced at several of the 2-way stop intersections within the corridor, particular Butler-Warren and Conrey Roads. Existing conditions at both intersections are affecting traffic patterns within the corridor. At Butler-Warren, inadequate gaps in through traffic on Fields Ertel Road combined with inadequate sight distance to the west make turning left (to the east) difficult. Approximately 85% of the traffic on Butler-Warren Road turns right (west).

At Conrey, delays for northbound evening traffic exceed 80 sec./veh. The volume of northbound through traffic at the McCauley Road intersection indicates traffic is using Tenderfoot Drive to shortcut through the residential neighborhood and avoid the Conrey intersection all together.



**TRAFFIC OPERATIONAL ANALYSIS**

**PROJECTED TRAFFIC CONDITIONS/OPERATIONS**

A proper analysis of the traffic operations and safety of the Fields Ertel Corridor involves analysis of not only existing conditions, but also an analysis of projected traffic characteristics along the corridor. Traffic projections were obtained by combining the expected general growth rate along the corridor (background growth), with traffic from specific parcels expected to redevelop over the next several years.

Background traffic growth refers to the past traffic increases across the area traffic network, due to normal growth and redevelopment within the region. Analysis of the changes in traffic counts within the study area (see Table 1) shows mixed results, varying by location, section and year. Over the past 5 years, traffic volumes on Fields Ertel have increased by an average of 1.0% per year. Traffic is also increasing on north-south approach roads within the corridor.

Within the larger project area, there is certainly more growth potential to the north, in Butler and Warren Counties, than the south (Hamilton County). Within Hamilton County, undeveloped property is sparse and opportunities are limited. Redevelopment of underdeveloped parcels would seem to have the largest potential for new development within Hamilton County, but substantial changes in land use or area traffic are not expected.

More development opportunities are available within Warren and Butler Counties to the north, but clearly undeveloped land within one mile of the corridor is becoming more difficult to find. Significant areas of single family residential property is available north on Snider Road, and several parcels are available on Wilkens Boulevard. Much of the City of Mason, approximately two miles to the north has already been developed. Recent population growth within the Warren County portion of the project area has been over 2.5% per year. Area growth in Butler County has been approximately 1.0% per year. Future land use plans anticipate a gradual moderation of this growth in coming years.

With these growth rates beginning to level off, existing traffic was increased by an average of 1.0 % per year was used in the west end of the project and 2.5% was used in the east end (Hamilton and Warren Co.), to account for general regional growth and redevelopment. A horizon of Year 2020 was used calculate Project Traffic Volumes.

Predicting redevelopment of specific parcels is more complex. Within the project area, only a few limited parcels are currently undeveloped, most notably the northwest corner of Wilkins Boulevard and Fields Ertel Road. Redevelopment of individual parcels is always possible, but existing land use generally conforms to future land use plans. Without readily identifiable changes in development, significant changes in trip generation of these parcels is not expected.

Year 2020 Traffic Projections were used to analyze projected conditions, and are shown in the Appendix.

**Table 7  
Projected Signalized Levels of Service - Year 2020**

*Projected Traffic Volumes and Improved Geometry*

Fields Ertel Intersection	Crash Rate	Northbound			Southbound			Eastbound			Westbound		
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
Reed Hartman	0.7	D (F)	D (B)	C (B)	D (B)	B (C)	E (E)	D (F)	B (B)				
Snider	0.5	C (B)	C (F)	F (F)	E (B)	B (F)	E (F)	C (C)	C (F)				
Wilkens	2.0	B (B)	B (B)	E (F)	B (B)	C (E)	D (D)	B (B)	C (E)	B (C)			

Lt: Left turn movement  
Th: Through Traffic  
Rt: Right Turn Movement

B (C) AM (PM) Peak Hour Levels of Service  
\* Oversaturated Conditions  
Rate - Crashes/Million Vehicles Entering Intersection

## Signalized Intersections

With projected traffic growth in the corridor, delays are expected to increase. Peak flows are expected to exceed available capacity at all 3 signalized intersections. At the Reed Hartman, the most significant issue appears to be westbound left turns throughout the day, and northbound left turns in the evening. The westbound left turn deficiencies is especially important according to public comments, as delays in this move may be persuading motorists to find alternative routes through area neighborhoods.

Growth in the Warren County area is expected to have a more significant impact on delays in the eastern portion of the study area. Both Snider and Wilkens intersections are projected to experience increasing delays, and require significant capacity improvements to provide acceptable levels of service. Deficiencies at Snider are projected in both AM and PM peak hours, while the Wilkens Boulevard intersection is more of an evening problem.

## Unsignalized Intersections

**Table 8**  
Projected UnSignalized Levels of Service – Year 2020

Fields Ertel Intersection	Crash Rate	Northbound			Southbound			Eastbound			Westbound		
		Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt	Lt	Th	Rt
McCauley	2.5	B (C)			F (D)			F (F)			E (F)		
Conrey	1.1	E (F)			–			n/a			B (A) n/a		
Butler-Warren	1.2	–			D (F)			A (B) n/a			n/a		
School	1.3	C (F)			–			n/a			A (A) n/a		

Lt: Left turn movement  
 Th: Through Traffic  
 Rt: Right Turn Movement

B (C) AM (PM) Peak Hour Levels of Service  
 \* Oversaturated Conditions  
 Rate - Crashes/Million Vehicles Entering Intersection

With projected traffic increases, available gaps will shrink and delays will increase on approach roads, driveways and entrances waiting to turn onto Fields Ertel Road. At Butler-Warren Road, an increase in “risk taking” by impatient motorists would likely lead to an increase in crashes, particularly more severe right angle crashes with higher frequency of injuries/fatalities.

Delays at McCauley will increase on all four approaches, with queues extending into limited sight distance areas more frequently, and lasting longer throughout the day.

## TRAFFIC OPERATIONAL ANALYSIS

### TRAFFIC CONTROL

#### Signing

A field review of existing traffic control signs in the corridor, as shown on the roadway plans in the Appendix. Signs were generally evaluated for proper placement, size, reflectivity and location. In general, all signs were appropriate for the existing conditions and placed properly.

Traffic signal at Reed Hartman, with No Left Turn  
– Trucks signage into Sharonville and decorative  
street signage on Indian Springs Rd.



#### Pavement Marking

A review of existing pavement marking was made within the project corridor. Double yellow centerlines are properly marked throughout the corridor, with left turn lanes at Reed Hartman, Snider, Wilkens and the entrance to McCauley Crossing all adequately marked with white channelizing lines and left turn symbols.

White edge lines are properly installed along both sides of the road throughout the length of the roadway.

Raised pavement markers have been installed within the recent widening to provide left turn lanes at the Snider Road intersection.

Snider Road intersection, with Double Yellow Center, Left  
turn lanes, White Edge Lines and Raised Pavement Markers



#### Signal Warrants

The need for a traffic signal is a complicated and sometimes contentious decision. Signals are a valuable member of the traffic control toolbox, providing for an orderly assignment of traffic through an intersection, but they also can have a significant impact on capacity and safety. Traffic signals can have a significant impact on capacity of main road, and are considered as one of the most restrictive traffic control devices. To ensure the proper factors are considered, a series of “warrants” has been developed by the FHWA to define the minimum conditions a traffic signal may be considered. Meeting one or more of the warrants does not mean a signal should be installed, but rather, may be considered. Failing to meet any warrant signifies a signal should not be installed. Signalized intersections that no longer meet any warrant should be removed.

Signal warrants, as described in the Ohio Manual of Uniform Traffic Control Devices (OMUTCD), include a number of factors to be included, summarized in 8 separate warrants. Where possible, it is desirable to meet Warrant #1 – Eight Hour Vehicular Warrant.

Warrant 1, Eight-Hour Vehicular Volume.

Warrant 2, Four-Hour Vehicular Volume.

Warrant 3, Peak Hour.

Warrant 4, Pedestrian Volume.

Warrant 5, School Crossing.

Warrant 6, Coordinated Signal System.

Warrant 7, Crash Experience.

Warrant 8, Roadway Network.

Intersection	1	2	3
Existing signalized Intersections			
Reed Hartmann Highway	X	X	X
Snider Road	X	X	X
Wilken Boulevard	X	X	X
Existing signalized Intersections			
McCauley Road		X	
Conrey Road			No
Butler-Warren Road		X	
School Road			X

Warrants for pedestrian volumes, school crossings, coordinated signal systems or roadway network (#4, 5, 6 and 8) were not checked. These warrants typically do not apply to similar roadways, unless unusual conditions apply.

Existing signals meet 8 hour volume warrants (Warrant #1), as well as peak hour warrants.

The 4 Hour Peak Warrant (#2) is met of McCauley and Butler-Warren intersections, both currently unsignalized. A signal at Conrey is not warranted, and School Road only meets the Peak Hour Warrant (#3).

**TRAFFIC OPERATIONAL ANALYSIS**

**GEOMETRIC CONDITIONS**

*Alignment and Design Speed*

A review of the horizontal alignment of Fields Ertel Road in the field and with available mapping indicates no obvious deficiencies. There are only two changes in horizontal alignment – at Butler Warren Road and at Snider Road – within the project corridor. Both curves appear to exceed geometric design standards for the posted 35 mph speed, though visibility is restricted at Butler-Warren Road by roadside vegetation.

Geometric design standards are cited for comparison where appropriate.

Design Element	Type	
Functional Classification	Urban Minor Arterial (Hamilton Co.) Urban Collector (Warren Co.)	
ADT	Varies 9,500 – 30,000 vpd	
Horizontal Alignment	<b>Two Horizontal Curves – Long Tangents</b>	
Existing curvature	Butler-Warren Rd. – 100 +/- (11° +/-) Snider Rd. – 60 +/- (5° +/-)	10° 45' (40 mph)
Posted Speed	35 mph	35 – 45
Operating Speed	40 mph	40 - 50
Profile	2.0 - 8.4% grades	8 – 10%
Vertical Curves	Rolling or Hilly Terrain -	
Effective SSD	200 ft. (30 mph) or less	305 ft. (40 mph)
Intersection Sight Dist.		445 ft. (40 mph)
Lanes	Two	
Turn Lanes	<b>Left turn lanes at Reed Hartman, Snider &amp; Wilkens</b> McCauley Crossing, east of McCauley	
Lane Width	10 +/- ft.	11 - 12 ft.
Shoulder Width	1 ft. paved	1 – 2 ft. (pvd.)
Roadside slopes	Varies – 8:1 to 1:1	6:1
Guardrail	Where needed (slopes) Primarily from School, west to Snider Rd.	
Drainage Structures	Roadside ditches 3 Large Box Culverts	
Access Management	None Historically	Co. Regulations
Driveway Spacing	150 – 175 ft. (mostly SFR)	
R/W Width	Varies 55 0 65 ft. Reed Hartman to Butler-Warren 60 -80 ft. Butler-Warren to Snider (add'1 10 ft. dedicated at more recent subdivisions) 85 ft. +/- Snider to Wilkens (47' Warren/38' Hamilton)	
Existing Pavement	Asphalt, minor cracking only	

## Roadway Drainage

Existing stormwater drainage within the corridor is by roadside ditches. In many areas throughout the corridor, these ditches move close to the edge of the roadway, often with steep roadside slopes directly into the ditch with little or no recovery area for vehicles that run off the roadway.



Roadside drainage ditch, creating a roadside hazard, and causing maintenance issues.



Improperly draining roadside ditch east of Butler-Warren Rd. creating both maintenance and safety hazard. Note recent tire track into ditch.

Large culverts between Snider and Wilkens carry the Polk Run and Lake Chetac Creeks under Fields Ertel – the two large sags in this area. Both are protected with guardrail.



Large stream flows along Fields Ertel Road west of the McCauley Road intersection, with steep slopes to the stream directly from the edge of the road.

## Sight Distance

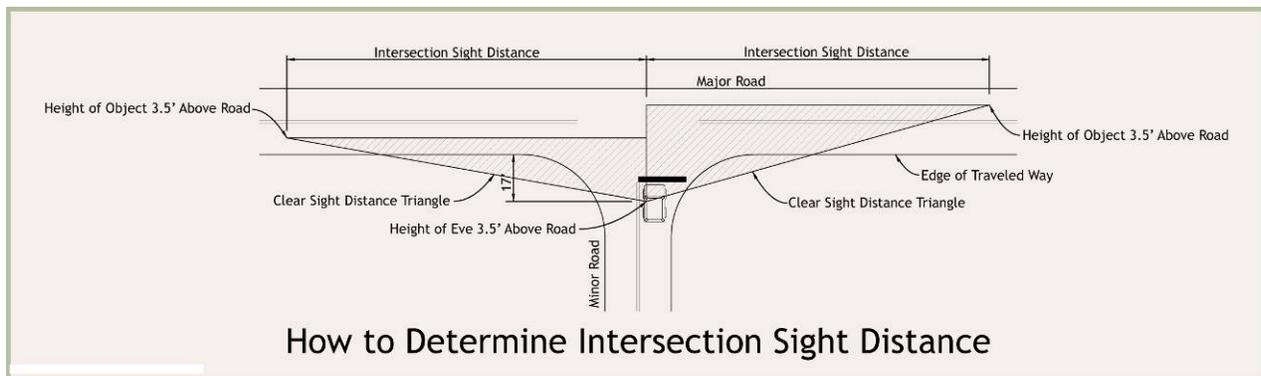
In traffic terms, sight distance is the distance ahead that is visible to the driver. This distance should be sufficiently long enough to allow a motorist traveling at the design speed to perceive an object or hazard, react and stop before reaching it. Although greater lengths are desirable, stopping sight distance should be provided at every point along the highway. Obstructions can include both horizontal and vertical elements, including the horizontal roadway alignment, profile of the roadway and roadside objects. A review of available sight distance was made in the field to note any obvious deficiencies, particularly in high crash areas.

A review of the horizontal alignment of Fields Ertel Road in the field and with available mapping indicates no obvious deficiencies. In fact, there are only two changes in horizontal alignment – at Butler Warren Road and at Snider Road – within the entire corridor. Both curves appear to exceed geometric design standards for the posted 35 mph speed, though visibility is restricted at Butler-Warren Road by roadside vegetation.

The existing profile features several significant vertical curves, due to the rolling terrain in the area. The pavement of the roadway itself can obscure visibility in deficient crest curves, while visibility in sag curves is mainly a problem at night, when the curvature is too sharp to allow vehicle headlights to illuminate adequate sight distance.

Slow moving vehicles turning onto Fields Ertel Road from a side street or driveway would constitute a “hazard” in the roadway, and severely compound the issue. Stopping sight distance for 35 mph is 250 ft. If a vehicle that is pulling out of an intersection or drive cannot see at least 250 ft., they risk pulling out into the path of an oncoming vehicle that cannot possibly safely stop in time to avoid a crash (Stopping Sight Distance – SSD).

Intersection Sight Distance (ISD) goes beyond Stopping Sight Distance, providing sufficient visibility to allow motorists to see the presence of potential conflicts and adjust their speed accordingly to avoid a crash. ISD is appropriate on intersections with 2-way stop or yield control, particularly on new or improved design or existing intersections with a history of right angle crashes. ISD for 35 mph design speeds is 390 ft.



Field observations of existing driveways and intersections along the corridor revealed several areas that did not appear to meet design guidelines, including:

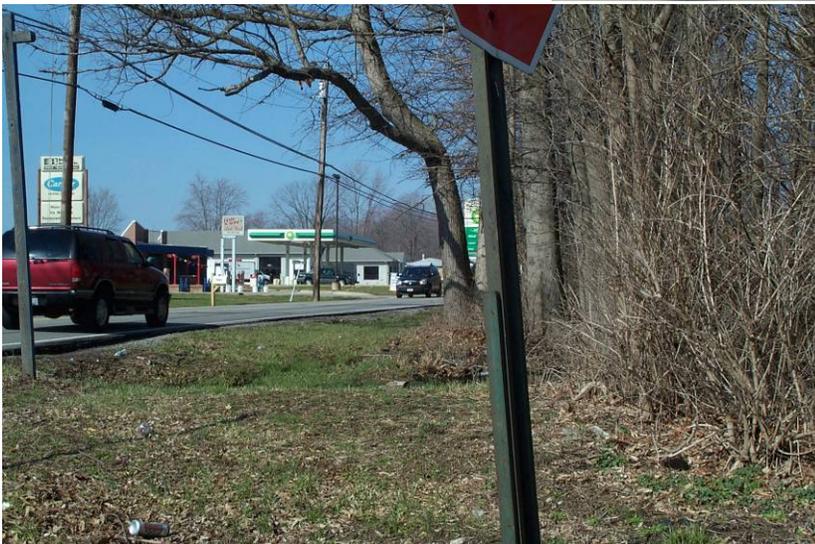
## Butler-Warren Road Intersection

The Butler-Warren Road intersection had more comments than any other from the public. Traffic control is a two-way stop, with Butler-Warren traffic having to wait for gaps to turn onto Fields Eitel Road. Fields Eitel Road does curve in the intersection, but the biggest problem is the proximity of trees and shrubs on the northwest corner, restricting visibility to approximately 250 ft., below the 305 ft. minimum Stopping Sight Distance required.



It's hard to know the Butler-Warren intersection is ahead when eastbound on Fields Eitel, due to the curve and vegetation.

Looking West, you can see how difficult it is for a vehicle to see enough to safely turn left from Butler Warren onto eastbound Fields Eitel Road.



## Profile - Critical Vertical Curves

Curve	Station Location	Crest or Sag	Ex. SSD (sight dist.)	Effect. Safe Speed
4	Sta. 24+27 <b>East of Beacon Hills</b>	Minor Crest	250 ft.	35 mph
5	Sta. 28+06 <b>East of Beacon Hills West of Scoutmaster</b>	Crest	425 ft.	50 mph
6	Sta. 32+73 <b>East of Scoutmaster/Breezy</b>	Crest	150 ft.	25 mph
9	Sta. 37+40 <b>West of McCauley</b>	Crest	115 ft.	20 mph
10	Sta. 39+58 <b>West of McCauley</b>	Sag	115 ft.	20 mph
13	Sta. 46+00 <b>100' East McCauley</b>	Crest	150 ft.	25 mph
24	Sta. 103+27 <b>650' West of School</b>	Crest	440 ft.	51 mph
25	Sta. 107+25 <b>250' West of School</b>	Crest	360 ft.	45 mph
26	Sta. 111+34 <b>at School Road</b>	Sag	115 ft.	20 mph
27	Sta. 116+05 <b>East of School Rd.</b>	Crest	425 ft.	50 mph
32	Sta. 134+10 <b>West of Woodland Hollow</b>	Sag	115 ft.	20 mph
33	Sta. 140+22 <b>Northern Hills Synagogue</b>	Crest	290 ft.	39 mph
34	Sta. 146+77 <b>Polk Run (w. of Crestfield)</b>	Sag	115 ft.	20 mph



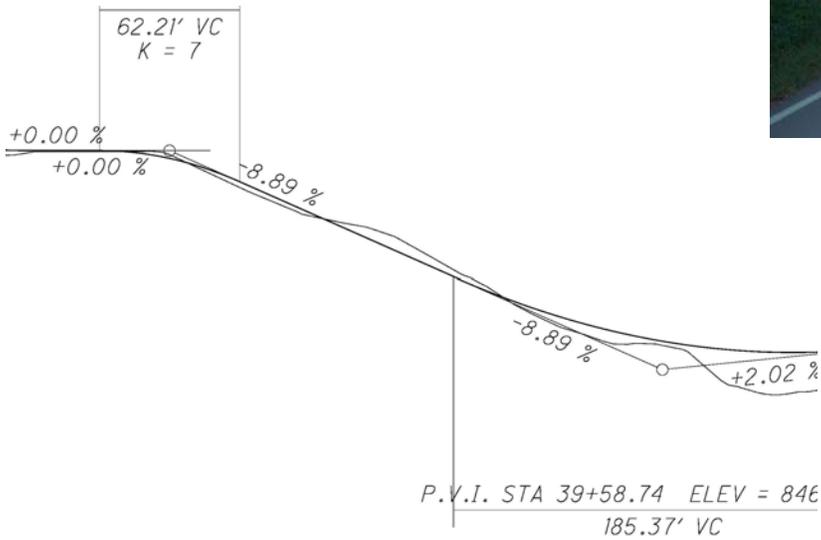
Crests in the profile can obscure a motorist's visibility of upcoming hazards, or in this case near McCauley Road, nearly obscure one's vision of a school bus.



Multiple drives between Snider and Wilkens have restricted sight distance because of the steep hills and sharp vertical curves.

## McCauley Road Area

The profile of Fields Ertel Road in the section between Breezy Lane and McCauley Road has a combination of vertical curves that restricts sight distance, and presents a growing safety concern as traffic congestion at the McCauley intersection grows. Visibility for westbound traffic is restricted by two closely spaced vertical crests, with a sag in the middle. This problem is compounded by the proximity of the McCauley Road intersection, with 4-way stop control requiring all vehicles to stop. The resulting congestion during the evening peak hour backs traffic up to this restricted area.



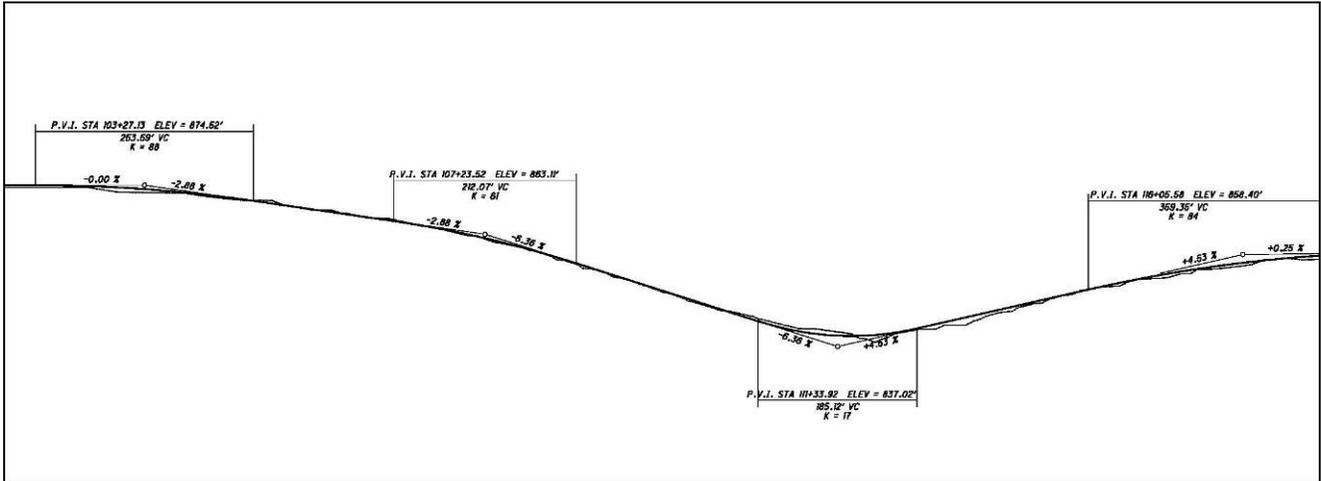
Existing Profile of McCauley



Sight distance looking west from northbound McCauley (residential subdivision McCauley Crossing) has significant Stopping Sight Distance issues, that work only because the intersection is 4-Way Stop Controlled.

## School Road Intersection

The School Road intersection is a Two-Way Stop Controlled intersection, with what appears to be adequate SSD. Safety comments from the public, though, are reinforced by a history of westbound rear end crashes at the intersection. The profile of Fields Ertel Road does indicate this is the one intersection on the corridor that is in the middle of one of the large sag curves, or dips in the road at each of the large drainage ways. Crash data shows 5 westbound rear end crashes, apparently caused by vehicles waiting to turn left onto School Road, despite what appears to be adequate SSD. Several eastbound crashes appear to be caused by vehicles pulling out of School Road into eastbound traffic.



Westbound Fields Ertel at the School Road intersection (to the left). Crash data shows a high number of rear end crashes here, apparently with vehicles waiting to turn left onto School.

Vehicle turning left, with oncoming eastbound traffic.



## Driveways and Entrances

Sight distance restrictions were noted at private driveways and entrances as well, due to most of the same obstructions noted with public roadways.

Trees, shrubs and vegetation are a common obstacle to adequate Sight Distance, like these at the Sharonville Fire Dept. (right) and the Yorktowne Mobile Home park.



Deficiencies in the profile of Fields Ertel Road cause these two problems — single family residential drives just west of School Road (above),

and the Northern Hills Synagogue (left) drive which received a number of comments at Public

## *Lane Width, Lateral Clearance*

Existing pavement generally consists of two 10 ft. through lanes, with 0.5 to 1 ft. paved shoulders. Much of the road includes an additional 2 ft. graded berm, but portions of have no graded shoulder, and drop directly into roadside ditches. Edge drop-offs of up to 6 to 8 in. are not uncommon, and some existing ditches are up to 3 ft. deep, with side slopes steeper than 1:1. Many of these areas have significant edge drop-off issues, and crash data shows related crashes in these areas. These conditions account for 40-50% of the corridor.

Areas with recent development have much more “recoverable” sideslopes, with 6:1 foreslopes into a shallow roadside ditch, with 4:1 slopes. These areas much safer for area motorists, but occur less than 25% of the area.

Pavement condition through the project area is in average condition, with some evident surface cracking and rutting. No obvious structural failures of the pavement were noted. Routine maintenance and resurfacing throughout the project will be required in the near future.



Edge drop-off, like this one near Breezy Lane create safety hazard, making recovery impossible for vehicles that veer off the road.



Edge drop-off west of Scoutmaster leaves no change of recovery for oncoming vehicles cresting near hill, particularly with Vehicles waiting to turn left into nearby



Northbound McCauley Road, with shallow roadside ditches, flat berms and limited fixed objects increase chances of vehicle recovery in roadway departure events.

## TRAFFIC OPERATIONAL ANALYSIS

### ACCESS MANAGEMENT

Access management is a practice to coordinate the safe and efficient use of roads while providing for the necessary vehicular access to adjacent land through comprehensive planning and responsible enforcement. This concept does not necessarily involve wholesale closing of drives and access restrictions, but rather, a comprehensive, system-wide approach to providing access to adjacent property, while maintaining the integrity of the roadway system.

Access control is an effective method for reducing congestion. Fewer, but better designed driveways can reduce the conflicts between turning and through traffic, meaning fewer accidents and reduced congestion. A resulting increase in mainline roadway capacity and flow also increases the ability for traffic to access adjacent properties.

Common access management techniques include:

- |  |  |
|--|--|
| Establishment of a Roadway Hierarchy     | Service Roads or Drives                      |
| Signal coordination and proper spacing   | Limit Conflict Points                        |
| Limiting of Speed Differential           | Proper Driveway design & spacing             |
| Spacing of median openings               | Deceleration lanes for turning traffic       |
| Raised medians to control left turns     | Shared driveway/parking areas                |
| Proper intersection spacing              | Combined curb cuts                           |
| Public roadway improvements (turn lanes) | Private connections between adjacent parcels |

A field review showed the primary access problem within the Fields Ertel Road corridor is location of driveways and even side roads within areas of restricted sight distance (referenced earlier).

Two particular areas were noted in the field. The western approach to the Butler-Warren Road intersection 4-5 commercial establishments along the south side of the road, all with multiple entrances, minor sight distance obstacles and a history of right angle crashes. Further, the north side of this section – the Yorktown Mobile Home Park – has several entrances that also have a significant crash problem. The combination of multiple decisions and multiple conflict points is clearly causing motorists problems. Worse yet, none of these area parcels have access to Butler-Warren Road or to the intersection with Fields Ertel Road.

Section of multiple commercial parcels west of Butler-Warren Road, with multiple entrances and a significant number of crashes.



Connecting parking lots with a frontage road across the front would allow several drives to be closed without degrading access. Removing a fence would allow all of these properties to share access to the Butler-Warren Road intersection.

# FIELDS ERTEL ROAD CORRIDOR STUDY

Access conflicts are not limited to private driveways. Crash reports show an average of 2-3 right angle crashes, at each of the six intersections at the High Pointe Subdivision, east of Butler-Warren Road.

While there are 150+ single family residences within this subdivision, traffic volumes are not particularly high on any one street, likely because of the number of entrances (including connections to School Road to the south), making the number of crashes curious.

Despite the obvious connections from School Road to Fields Ertel, traffic counts show these streets are not being used as cut through streets. Traffic speeds are slightly higher in this section (see speed study), but speed was not cited in most crashes.



Looking west along Fields Ertel Road, with High Pointe entrances coming in from the left..



Looking south, down First St.

Westbound Fields Ertel, from Sixth St./Montclair.





Concrete island restricting left turns in this drive just east of Wilkens Boulevard.

The concept of access management is not anti-growth as many businesses fear. The reduction in access related congestion, improved intersection operation and reduced accidents is expected to substantially improved travel time along the corridor by reducing stops and slower

moving vehicles. The reduction in vehicle conflicts and improvement in travel time results in tangible improvements as well as improved potential customer's perception of traffic getting into a business area.

Road capacity increases can be expected once system wide improvements are implemented. Studies show increasing signal spacing and restricting left-turns can increase capacity of a primary arterial by as much as 50%, with corresponding increases in safety. This 50% increase in capacity is similar to widening a four-lane road to six lanes, without the major property takes required of a major road widening project. In most cases, the impacts of closing driveways and modifying parking lots is much smaller than major widening and the required property takes of parking areas, buildings and possibly entire parcels.

Improvements were grouped into several categories, based on responsibility for implementation, scope and impacts. These recommendations are discussed in the following sections through specific improvements that have been accomplished in the corridor through the implementation efforts of the past 10 years.



Signs of existing problems within the corridor. Congestion at the McCauley Road intersection was routing traffic through the adjacent residential subdivision.

On the other hand, businesses in the corridor have had problems with trucks turning around in parking lots because there aren't any other options in a residential corridor.



## TRAFFIC OPERATIONAL ANALYSIS

### ALTERNATIVE TRAVEL MODES

#### Pedestrian Traffic

Pedestrian traffic along Fields Ertel Road is relatively sparse within the study corridor. The majority of pedestrian trips are primarily short utilitarian trips oriented to the east end of the corridor, between the multi-family facilities and the retail/service employment centers surrounding the I-71 interchange. There are very few dedicated pedestrian facilities within the study corridor. "Makeshift" facilities such as parking lots and wide lawns are also limited throughout the corridor. In fact, steep roadside ditches, lack of adequate shoulders and general unfriendly roadside conditions make walking along the corridor difficult and unsafe. Limited pedestrian volumes may be partially due to the lack of clearly defined pedestrian facilities along the corridor.

Roadside conditions throughout the corridor fail to provide a safe area for pedestrians.

Even this area at the Yorktowne Mobile Home Park doesn't have pedestrian facilities.



Sidewalks are located on some of the minor, residential side streets entering the corridor in the western portion of the study area. These facilities are important to provide the necessary connections

Both sides of Whippoorwill Lane and Montclair Drive subdivision east of Butler-Warren Road

Both sides of Stillwind and Fieldsted Drives subdivision west of School

Separate walking path within the Hunter's Ridge Condominium development, along Polk Run Creek

Both sides of Crestfield Court – low-volume residential street at east end of project area

There is only one designated crosswalk within the study area, crossing Fields Ertel Road at the Wilkins Boulevard intersection, though there is no sidewalk along either facility.



## *Bicycle Traffic*

Bicycle traffic along Fields Ertel Road is very light. Many aspects of Fields Ertel Road – the large volume of traffic, narrow lanes, lack of paved shoulders and hazardous pavement edge drop-offs - create an inhospitable environment for even the most skilled bicyclists. There were no bicycle-related crashes within the 3 year analysis period, still, it would



seem likely the perception of unsafe conditions has a negative impact on the volume bicycle traffic in the corridor.

Alternative routes within the general study area are not substantially better than Fields Ertel. OKI Bicycle Master Plans in the area recommend Kemper Road as an east-west bicycle route within the study area.

Analysis of the broader project area would certainly seem to indicate that the potential for bicycle traffic within the corridor does exist, though the potential volume is difficult to project. The residential nature of the project area, array of commercial destinations and employment opportunities to the east and ease of connections to more regional attractions would indicate potential for both recreational and utilitarian bicycle trips does exist.

## *Public Transportation*

Public transportation in the project area consists of bus service provided by Metro (SORTA), consisting primarily of downtown commuter travel. There are no “direct” routes through the corridor, though a couple of routes do provide service within the vicinity, including both peak hour express service (Route 71X) and Route 72, a daily, full service route on Mason-Montgomery and Fields Ertel Roads (outside of the project area).

During morning and evening peak hours, bus service is typically spaced approximately 15 minutes apart. Off peak service is limited to only 1-2 routes per day.

Bus routes do not extend outside the I-71 corridor, into the residential community, meaning that riders from the area residential community generally must **travel to the corridor** to access the bus system. As a result, the majority of the current riders access the bus system at the Park & Ride on Fields Ertel Road, just east of the I-71 Interchange. This site serves as parking for approximately 250 vehicles, and was generally observed to be approximately half full.

## **RECOMMENDATIONS**

A number of recommendations were developed to improve traffic flow, safety and the environment within the corridor, as outlined in this report. Short range, intermediate range and long range improvements were developed, with the following timelines:

Short Term – now, to two years

Intermediate Term – Two to five years

Long Term – At least five years

### **SHORT-TERM IMPROVEMENTS**

Short term recommendations generally involve relatively minor improvements, often tasks that can be handled with existing roadway or maintenance crews, or at relatively low cost with minimal coordination required. Short term improvements include the following:

1. New or updated pavement markings should be installed on an annual basis. Review of the existing markings showed them to be in good general condition, and consistent with existing traffic conditions and the MUTCD. Use of thermoplastic markings for all stop lines, arrows, crosswalk lines and transverse lines is recommended.
2. Check and remove vegetation along the pavement throughout the project corridor to provide adequate sight distance, particularly at the Butler-Warren Road intersection, Yorktowne MH entrance, Sharonville Fire Dept. entrance, along the Montecaire Drive subdivision.
3. Check and clear vegetation from traffic control and warning signage within the corridor.
4. Review of existing traffic control signage showed them to be in good general condition, and consistent with existing traffic conditions and the MUTCD. Replacement with newer, more reflective signage in accordance with the MUTCD is recommended.
5. Install reflective sign post sheeting on all post-mounted Stop, Yield and appropriate Directional Arrow and warning signs, in accordance with the MUTCD.
6. Install “Stopped Traffic Ahead” warning signs in advance of McCauley, School and Wilkens intersections.
7. Review and standardize addresses within the entire corridor. Currently, each county – Butler, Hamilton and Warren – each have their own address numbering system that conflict with each other, making identification difficult for emergency response teams, much less the general public.
8. Provide Street Name identification warning signs in advance of upcoming intersections to facilitate their identification and avoid confused or lost motorists. The addition of large, standardized street name signs on the existing signals should be investigated to maximize consistency and minimize confusion.
9. Review signal timing at existing signals within the area. All left turn phases should be checked, and existing detection systems should be checked to insure their operation.
10. Consider restricting left turns in to and out of Beacon Hill Drive, to limit turning conflicts from overlapping with the operation of Reed Hartman Road intersection.
11. Consider traffic calming measures on Tenderfoot Drive at McCauley, to limit cutthrough traffic at this location.
12. Add Intersection Ahead warning signs on Fields Ertel approaching the School and Butler-Warren Road intersections.
13. Increase speed enforcement of the corridor, particularly the section from Butler-Warren to School Road.
14. Widen roadside berms to address edge drop-offs where feasible within existing Right of Way.

## **INTERMEDIATE-TERM MEASURES**

Intermediate term recommendations include the following:

### **Reed Hartman Intersection**

Problem: Congestion, vehicle delay and rear-end crashes.  
 Traffic Volume: 24,822 vpd (entering intersection)/16,700 vpd (Fields Ertel)  
 Crash Rate: 0.11 crashes/m-veh. entering intersect./1.84 crash/mvmt (approach)  
 Congestion: LOS D(C)

RECOMMENDATION: Widen to Add turn lanes to improve intersection operations and reduce vehicle delay.  
 Widen eastbound Fields Ertel Road approach to add separate right turn lane  
 Widen northbound Reed Hartman Road approach to add a separate right turn lane  
 Improve Turning Radii and New Traffic Signal

Improvement: Improve operations to LOS C (D) Expect a 10% reduction in overall crashes.

Length:	Fields Ertel - 1,250 ft. and 500 ft. on Conrey.	
R/W Impacts:		\$500,000
Utility Impacts:		\$100,000
Const. Costs:		\$1,400,000

ALTERNATE 2 – Reconstruct the intersection as a roundabout, with minor approach widening to direct traffic.

Improvement: Improve to LOS C(D). Expect a 10% reduction in crashes and 80% reduct. in Angle crashes.

Length:	Fields Ertel - 600 ft.	
R/W Impacts:	possible relocation of 2 corner residences)	\$500,000{
Utility Impacts:		\$10,000
Const. Costs:		\$1,400,000



## Scoutmaster approaches

Problem: Inadequate Stopping Sight Distance (SSD) on Fields Ertel Road over a crest vertical curve at McCauley. Eastbound traffic backups extend back into this deficient section, resulting in high frequency of rear-end crashes and injury crashes.

Traffic Volume: 16,000 vpd (section)

Crash Rate: 18.4 crash/mvmt (approach)

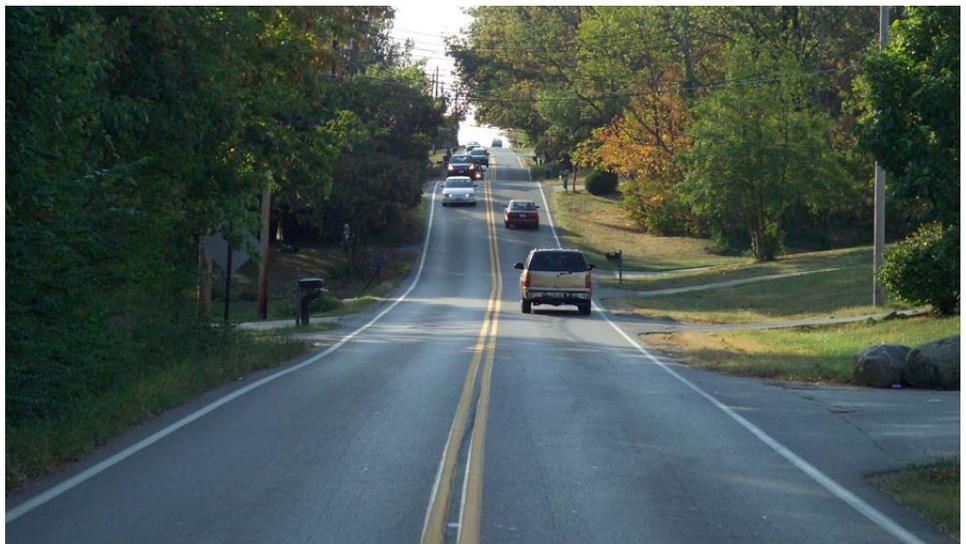
Congestion: LOS C(C)

RECOMMENDATION: Widen Fields Ertel to add center two-way left turn lane to remove left turn vehicles from thru lanes  
 Improve profile of Fields Ertel Rd. to improve SSD on the crest curve west of Scoutmaster/Breezy  
 Widen existing shoulders to reduce roadside hazards (drop-offs).

Improvement: Expect a 20-50% reduction in rear end and right angle (left turn) crashes. Minor reduction in delay.

Length: Fields Ertel – 1,500 ft.

R/W Impacts:	Frontage strips	\$200,000
Utility Impacts:	Major profile cutting	\$200,000
Const. Costs:		\$1,100,000



## McCauley Approach

Problem: Inadequate Stopping Sight Distance (SSD) on Fields Ertel Road over a crest and sag vertical curves 700 ft. west of 4-way stop at McCauley. Eastbound traffic backups extend back into this deficient section, resulting in high frequency of rear-end crashes and injury crashes.

Traffic Volume: 15,000 vpd (section)

Crash Rate: 2.20 crash/mvmt (approach) w/Injuries and 1 Fatal crash

Congestion: LOS C(C)

RECOMMENDATION: Improve grade of Fields Ertel Rd. by 3+ feet to improve vertical profile and provide improved Stopping Sight Distance (SSD) approaching McCauley - (2 lane section)  
 2 lane section with improved roadside shoulders to reduce roadside hazardous and drop-offs.  
 Recommend widening to one side (north or south) to establish permanent curb/drainage..

Improvement: Expect a 25% reduction in rear end crashes.

Length: Fields Ertel - 750 ft.

R/W Impacts:	Frontage strips, possible Detention Easement and 1 acquisition	\$400,000
Utility Impacts:	Major profile cutting	\$200,000
Const. Costs:		\$800,000

## McCauley Intersection

Problem: Congestion, vehicle delay and rear-end crashes. All vehicles must stop (4-way).  
 Traffic Volume: 16,500 vpd (entering intersection)/12,150 vpd (Fields Ertel)  
 Crash Rate: 0.28 crashes/m-veh. entering intersect./2.20 crash/mvmt approach)  
 Congestion: LOS D (F)

RECOMMENDATION – Construct a traffic signal, Widen both Fields Ertel Road approaches, and the northern section of McCauley Road to add separate Left Turn Lanes to improve overall operations/reduce delay.

Construct a New Traffic Signal to replace the 4-way stop.

Improvement:	Improve operations to LOS C (D). Expect a 25% reduction in rear end crashes.	
Length:	Fields Ertel - 2,000 ft. and 500 ft. on McCauley. Expect a 10% reduction in overall Crashes.	
R/W Impacts:		\$1,000,000
Utility Impacts:		\$100,000
Const. Costs:		\$1,000,000

ALTERNATE 2 – Construct a roundabout

Project:	Reconstruct the intersection as a roundabout, with minor approach widening to direct traffic.	
Improvement:	Improved operations to LOS C(C). Expect 20% reduction in crashes and 80% reduction in Injuries.	
Length:	Fields Ertel - 1,000 ft.	
R/W Impacts:		\$500,000
Utility Impacts:		\$100,000
Const. Costs:		\$1,500,000



## Conrey Intersection

Problem: Congestion, vehicle delay and rear-end crashes. All vehicles must stop (4-way).  
 Traffic Volume: 17,150 vpd (entering intersection)/12,000-15,000 vpd (Fields Ertel)  
 Crash Rate: 0.05 crashes/m-veh. entering intersect./2.20 crash/mvmt approach)  
 Congestion: LOS E (F)

RECOMMENDATION – Reconstruct the intersection as a roundabout, with minor approach widening to direct traffic.

Improvement:	Improve to LOS C(D). Expect 10% reduction in crashes and 80% reduct. in Angle crashes/Injuries.	
Length:	Fields Ertel - 600 ft.	
R/W Impacts:	(possible relocation of 2 corner residences)	\$700,000
Utility Impacts:		\$75,000
Const. Costs:		\$900,000

ALTERNATE 2 – Widen both Fields Ertel Road approaches and south Conrey Road approach to add separate left turn lanes to improve intersection operations and reduce vehicle delay.  
 Construct a New Traffic Signal to replace the 2-way stop.

Improvement:	Improve operations to LOS C (D). Expect a 10% reduction in crashes (rear end crashes may rise).	
Length:	Fields Ertel - 1,250 ft. and 500 ft. on Conrey. Expect a 10% reduction in overall Crashes.	
R/W Impacts:		\$500,000
Utility Impacts:		\$100,000
Const. Costs:		\$1,300,000



## ***Butler-Warren Rd. Intersection***

Problem: Significant Stopping Sight Distance (SSD) issues from Butler-Warren, with increasing delay and crashes due to 2-way stop control and sight distance delays.  
 Traffic Volume: 24,822 vpd (entering intersection)/16,700 vpd (Fields Ertel)  
 Crash Rate: 0.37 crashes/m-veh. entering intersect./5.50 crash/mvmt approach-West)  
 Congestion: LOS D (E)

RECOMMENDATION – Construct a roundabout, with widening on approaches to direct traffic and improve alignment.

Realign the southern Industrial Park entrance to access the signal.  
 Improvement: Improve to LOS C (D). Expect a 10% reduction in crashes and 80% reduct. in Angle crashes/Injuries.  
 Length: Fields Ertel - 600 ft.  
 R/W Impacts: (possible relocation of 4 MH) \$750,000  
 Utility Impacts: \$100,000  
 Const. Costs: \$1,250,000

ALTERNATE 2 – Widen both Fields Ertel Road approaches and Butler-Warren Road approach to add separate left turn lanes to improve intersection operations and reduce vehicle delay. Realign the southern Industrial Park entrance to access the signal.

Construct a New Traffic Signal to replace the 2-way stop>  
 Does not need to realign Fields Ertel Rd. (as Long Term recommend.).  
 Improvement: Improve operations to LOS C (D). Expect a 10% reduction in crashes (rear end crashes may rise).  
 Length: Fields Ertel - 1,500 ft. and 600 ft. on Butler-Warren. Expect a 20% reduction in overall Crashes.  
 R/W Impacts: \$300,000  
 Utility Impacts: \$100,000  
 Const. Costs: \$1,000,000

## ***Butler-Warren Rd. Access Management***

Problem: Inadequate Intersection/Access spacing within the vicinity of Butler-Warren Road, with significant right angle crashes at each access.

Traffic Volume: 9,500 vpd (section)  
 Crash Rate: 5.50 crash/mvmt (approach) w/Injuries  
 Congestion: LOS C (D)

RECOMMENDATION: - Construct 2 lane frontage roads along the south side of Fields Ertel to combine multiple intersections and entrances, reducing potential conflict points and driver decisions.

Improvement: Expect a 20% reduction in right angle crashes.  
 Length: 1,600 ft.  
 R/W Impacts: Frontage strips, possible Detention Easement and 1 acquisition \$1,000,000  
 Utility Impacts: Major profile cutting \$200,000  
 Const. Costs: \$1,000,000



## *Snider Rd. Approach/Intersection*

**Problem:** Congestion, vehicle delay and crashes. Growing traffic volumes and high number of left turns resulting in high frequency of rear-end, right angle (left turns) and injury crashes. Heavy volume of traffic, especially left turns, result in extended backups, particularly north and eastbound during the evening peak hour. These backups are resulting in a significant number of rear-end crashes. The intersection is also experiencing a significant number of right angle crashes with corresponding injuries. Increasing traffic volumes is beginning to approach maximum capacity of the intersection, which will see a corresponding increase in crashes over the next 10+ years.

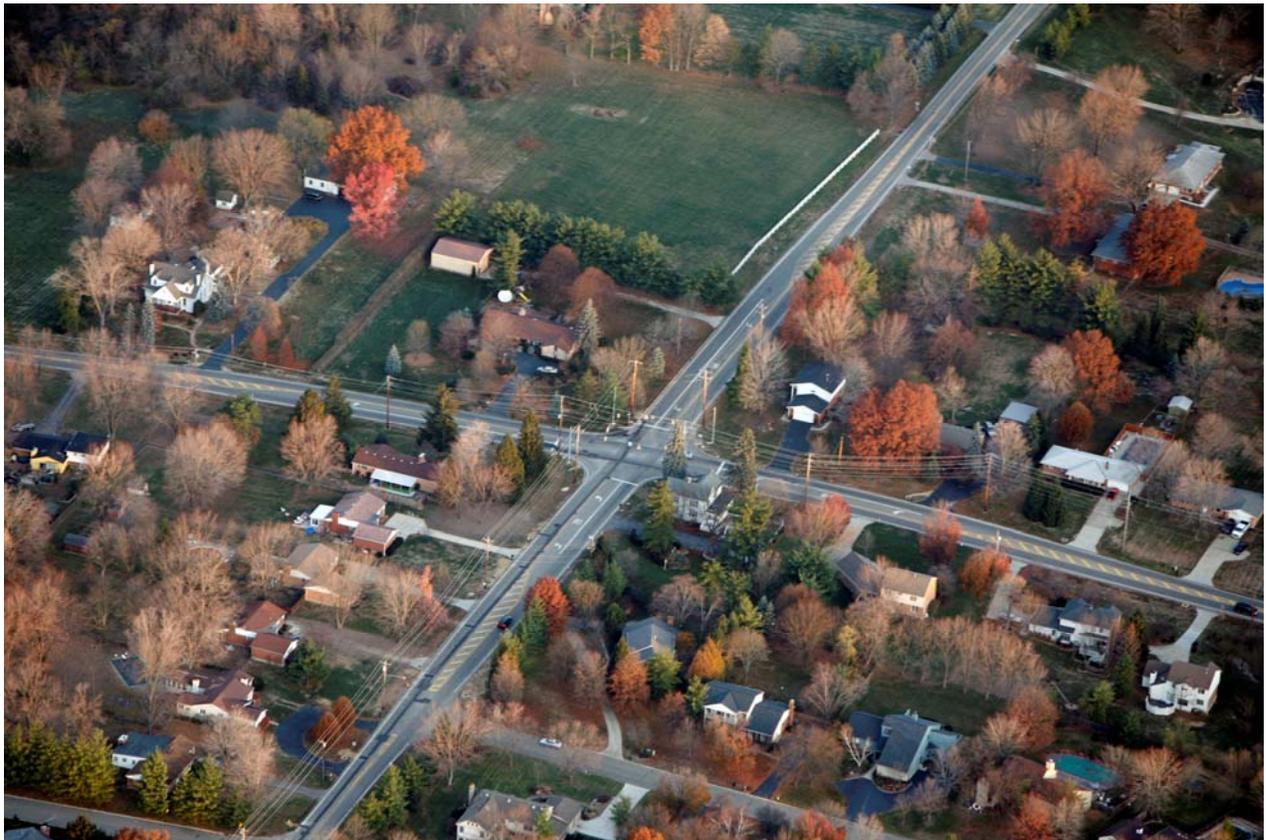
**Traffic Volume:** 26,000 vpd (entering intersection)/16,700 vpd (Fields Ertel)

**Crash Rate:** 0.60 crashes/mv-intersect./10.1 crash/mvmt (West) and 1.7 c/mvmt (East)

**Congestion:** LOS C (D) existing – LOS D (F) year 2020

**RECOMMENDATION -** Add right turn lanes to improve intersection operations and reduce vehicle delay. Improve intersection turning radii, improve traffic signal, widen shoulders, clear roadside clearance areas and improve alignment of Fields Ertel (as appropriate). Realignment to the south, and 2 additional through lanes on Fields Ertel expected to be long term

<b>Improvement:</b>	Improve operations to LOS C (D)	
<b>Length:</b>	Fields Ertel - 1,500 ft. and 1,000 ft. on Snider	
<b>R/W Impacts:</b>	Residences on SE corner.	\$1,000,000
<b>Utility Impacts:</b>	Minor relocations	\$200,000
<b>Const. Costs:</b>		\$1,750,000



## *Crest to West of Woodland Hollow*

**Problem:** Inadequate Stopping Sight Distance on Fields Ertel Road over a crest vertical curve. Primarily noted in right angle and rear-end crashes at existing side roads. The new synagogue drive has no crash history reported, but has a notable SSD deficiency, and may be expected to have experience a significant occurrence of rear-end, right angle (left turns) and injury crashes, based on public comments and field observations.

**Traffic Volume:** 16,000 vpd (Fields Ertel)

**Crash Rate:** 10.1 crash/mvmt (section)

**Congestion:** LOS C (C)

**RECOMMENDATION:** Lower Fields Ertel Rd. 3-4 ft. to improve vertical profile and improve Stop Sight Distance (SSD) in crest curve west of Woodland Hollow - (2 lane section)

Regrade northern roadside berm to improve SSD at synagogue drive, etc.

Widen existing shoulders to reduce roadside hazards (drop-offs).

Recommend widening to one side (north or south) to establish permanent curb/drainage.

**Improvement:** Reduce rear end crashes by as much as 25%, and right angle crashes by 20%

**Length:** Fields Ertel - 750 ft.

**R/W Impacts:** Minor frontage strips along both side of roadway \$75,000

**Utility Impacts:** Minor relocations \$100,000

**Const. Costs:** \$750,000

## *Woodland Hollow (East) Approach to Wilkens*

**Problem:** Traffic backups, delay and rear-end crashes. Backups eastbound on Fields Ertel extend back from Wilkens and I-71 interchange, resulting in high frequency of rear-end crashes and right angle (left turn) crashes turning into southside apartment/condominium developments. This segment includes higher occurrence of injury crashes.

**Traffic Volume:** 16,000 vpd (Fields Ertel)

**Crash Rate:** 10.1 crash/mvmt (section)

**Congestion:** LOS C (C)

**RECOMMENDATION:** Add center two-way left turn lane to remove left turning vehicles from through lanes

Raise grade of Fields Ertel Rd. as much as 7 ft. to improve vertical profile and improve

Stopping Sight Distance (SSD) within this sag curve (at Crestfield Dr.)

Widen existing shoulders to reduce roadside hazards (drop-offs).

Recommend widening to one side (north or south) to establish permanent curb/drainage.

**Improvement:** Reduce rear end crashes by as much as 25%, and right angle crashes by 20%

**Length:** Fields Ertel - 1,500 ft.

**R/W Impacts:** Minor frontage strips along both side of roadway \$100,000

**Utility Impacts:** Minor relocations \$100,000

**Const. Costs:** \$1,000,000

## Wilkins Boulevard Intersection

**Problem:** Congestion, vehicle delay and rear-end crashes. Backups eastbound on Fields Ertel extend back from the I-71 interchange, resulting in high frequency of rear-end crashes, poor use of Wilkins signal capacity and left angle crashes turning into southside apartment/condominium developments.



**Traffic Volume:** 24,000 vpd (entering intersection)/16,000 vpd (Fields Ertel)  
**Crash Rate:** 0.08 crashes/m-veh. enter. intersect./10.1 crash/mvmt (West approach)  
**Congestion:** LOS B (C) – field observation/public say backups far worse than analysis.

**RECOMMENDATION:** Realign the south approach (private drive) to align with Wilkins Blvd.  
 Add 2<sup>nd</sup> Eastbound Through Lane, extending ex. Thru/Right at interchange.  
 Improved Traffic Signal Phasing

**Improvement:** Improve operations from LOS B (C) to LOS B (C)

**Length:** Fields Ertel - 1,000 ft.

**R/W Impacts:** Minor frontage on both sides – Full take of gas pumps, south side

\$1,000,000

**Utility Impacts:** Minor relocations

\$50,000

**Const. Costs:**

\$1,000,000



## **LONG-TERM IMPROVEMENT**

Long term growth and traffic increases in the region will continue to increase delay and congestion at key intersections, while decreasing safety along the entire corridor. To meet traffic demand and reduce growing safety concerns within the corridor, the long term improvement of Fields Ertel Road is recommended, including the following:

RECOMMENDATION: Widen to Fields Ertel Road from Reed Hartman Highway to Snider Road to 3 Lanes to provide a center two-way left turn lane to reduce rear-end crashes and improve efficiency  
Widen Fields Ertel Road from Snider Road to Wilkens Boulevard to 5 lanes to add capacity

Improvement: Improve operations to LOS C (D) Expect a 10% reduction in overall crashes.

Length: Fields Ertel – 12,100 ft. (2.3 miles)

R/W Impacts: \$4,250,000

Utility Impacts: \$6,800,000

Const. Costs: \$12,850,000

\$28,300,000

Widening Fields Ertel Road to provide a center left turn lane to the length of the project area to remove waiting left turn vehicles from the through lanes will improve both safety and the efficiency of the roadway capacity. Crash data shows a high frequency of rear-end crashes throughout the corridor, but particularly at the higher volume drives and entrances, including School Road, Scoutmaster/Breezy Roads, Sycamore Terrace apartments, First Street, Second, etc.

A two foot wide curbed shoulder is recommended to accommodate stormwater drainage, removing the need for large roadside ditches and upgrading the roadway to an urban section. The need for a wider shoulder was considered, but was not favored to limit the overall roadway width and minimize impacts to adjacent residential properties.

Review of traffic flow within the corridor made it obvious that traffic patterns are being affected delay. The discussion earlier in this report about McCauley-Conrey is the most obvious example, and was an important factor in the selection of recommended improvements for these two intersections. Local residents, the study team and local authorities were united in the desire to avoid “routing” traffic on McCauley Crossing (to south) and Tenderfoot, considered to be part of a residential subdivision. The decision to recommend a roundabout at Conrey was made in large part to protect this decision. A traffic signal would also achieve similar delay and safety goals, but a roundabout has the added advantage of minimizing delay on Conrey as well as Fields Ertel Road. Care should be taken to design a Conrey roundabout to accommodate emergency access from the Sharonville Fire Station, which should be feasible. A signal was recommended at McCauley because of geometric constraints and impacts. A roundabout would work at this location as well.

At Butler-Warren Road, a traffic signal was considered (Alternate 2), and would work well in the short term, but a roundabout was recommended in part to be compatible with the recommendations for Fields Ertel east to School Road. The combination of multiple access points, narrow corridor and higher speeds than adjacent areas were strong factors in recommending a narrower section. The traffic calming affect of a narrower section, limiting the number of connections into the High Pointe Subdivision and better defining the roadway were key recommendations in lowering crash rates in this area.

The recommendation of a five lane section from Snider to Wilkens Boulevard was made to provide needed capacity in this area, and avoid having to widen Snider Road. The combination of access, grades and higher traffic volumes warrant this recommendation.

## **PUBLIC COMMENTS ON IMPROVEMENTS**

A public involvement meeting for comment on existing conditions within the Fields Ertel Corridor study was held on Wednesday, April. 26, 2008 to review exhibits on existing conditions and gather comments from interested residents, property owners and motorists. Over 30 citizens attended the meeting, offering a variety of comments, including:

- Improve the capacity of the I-71 /Fields Ertel interchange. Suggestions to add an interchange to I-71.
- Like the widening to provide a center turn lane.
- Build it, and build it now. Expedite construction because of safety concerns.
- Short term recommendations are all sound, needed and should be implemented.
- Oppose the widening of Fields Ertel. The proposed plan does not meet the needs of the community or the residents of Fields Ertel. Widening will cut into residents' yards, and create additional traffic and noise.
- Construct a traffic light at McCauley and Fields Ertel before drastic widening of the roadway.
- Widening to 5 lanes is not necessary – solve the I-71 interchange and traffic will work on Fields Ertel.
- Widen Fields Ertel Road and make it a 3 or 4 lane on the Hamilton County side. Then re-zone it for Commercial-Residential. Buy us out now – we can't sell our property as it is!
- Concurrence with the proposed improvements, especially improving the roadside shoulder and drainage.
- Requests for "beautification elements" included in the plans.
- Oppose sidewalks along Fields Ertel – cannot envision 10 yr. olds walk or bike alongside a 35 mph road.
- Many residents along Fields Ertel still view the roadway as a residential street, and oppose the idea of any "widening" as attracting additional traffic and "unfairly" impacting their property.
- Significant concern about impacts to property values – either because of increasing traffic, or widening.
- General concurrence with "leveling" profile.
- Concerns over the increasing crashes (and severity) of crashes along Fields Ertel.

## **Comments related to Specific Locations**

- Suggest re-striping Reed Hartman to provide separate northbound left, right and through lanes by providing only one southbound through lane at the intersection (retains existing 4 lanes of pavement w/o widening).
- Prefer a traffic light at McCauly and Fields Ertel in the near future, without having to add turn lanes.
- Concerns a roundabout at McCauley would eliminate gaps in traffic that allow homeowners to get out of drives.
- Like both designs at the Butler-Warren intersection, but prefer a signal over the roundabout.
- Like the concept of eliminating intersections east of Butler-Warren.
- Like the proposed connection to the Butler-Warren intersection.
- Favor the plan east of School Road, but the planned roadway should be as narrow as possible.
- Concerns about School Road access – would a roundabout work here?
- Disenchanted R/W required at Snider is shown to be taken from south side while 10 ft. is spared in Warren Co.
- 5 lanes on Fields Ertel Rd between Snider and I-71 will simply provide space for queue waiting to get on I-71.
- Upset that no provisions were made to access my driveway when headed west.
- Concerned about how profile changes affect entrance to residential drives between Snider and Wilkens].
- Can our driveway be routed to McCauley? [6801 Fields Ertel – south side between Snider and Wilkens].
- Add a Right turn lane from Fields Ertel to I-71 to improve the flow of right turns on red.
- Homeowners in Heritage Green are concerned about additional noise and traffic caused by road expansion.