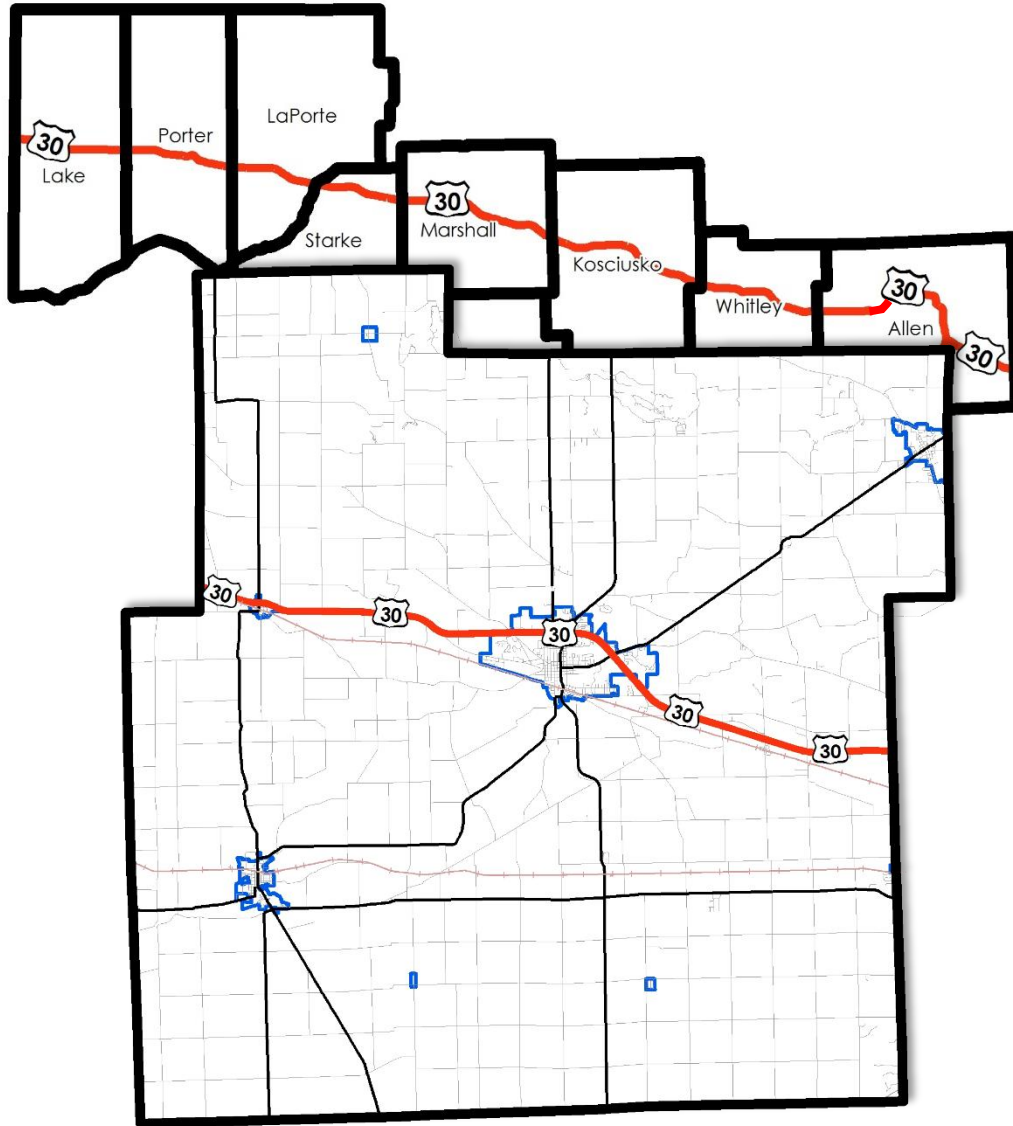


Upgrade U.S. 30 Whitley County



*A Concept for a U.S. 30 Freeway
across Whitley County, Indiana*

Whitley County U.S. 30 Planning Committee
January 2017

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EXECUTIVE SUMMARY

This report outlines the endeavors of the Whitley County U.S. 30 Planning Committee to develop and evaluate conceptual solutions to current and foreseen issues with the aging U.S. 30 highway in Whitley County, Indiana.

The Whitley County U.S. 30 Planning Committee is a ten member group comprised of representatives of local business, government, farms, and economic development which has been meeting since November, 2015, to develop a concept for a U.S. 30 freeway in Whitley County. The local planning committee is a subgroup of the statewide U.S. 30 Coalition, a 501(c)6 organization with constituent members from each county from Allen to Porter. Its goal is to prepare, plan, and advocate for an interstate-level U.S. 30 freeway across Indiana.

Over fourteen months, the Whitley County U.S. 30 Planning Committee met to develop a working concept for upgrading U.S. 30. The committee strived to minimize property acquisitions, minimize displacement of residents and businesses, maximize traffic capacity and through flow, and create opportunities for economic development in the County. These goals produced an idea for a U.S. 30 freeway using the existing alignment with up to eight interchanges at critical residential and economic areas.

In late 2016, the working concept was presented for comment during three stakeholder meetings and four public input sessions, in which over 200 people participated. Informal meetings, phone calls, letters, emails, and Facebook discussions yielded additional comments. That feedback was used to refine the concept and generate the map diagrams which are presented in this report.

The committee did not attempt to generate any precise cost estimates or construction timeline, which would be calculated by those better experienced to do so, such as the Indiana Department of Transportation. However, the committee did define the next steps necessary to pursue implementation of the U.S. 30 concept, both at the local and state levels.

INTRODUCTION

Established in 1926, U.S. 30 in northern Indiana is an east-west arterial thoroughfare stretching some 156 miles from the Ohio state line in Allen County to the Illinois state line in Lake County. For its entire length, the highway is a four-lane route, typically divided with a median, and is second only to the Indiana Toll Road in overall traffic volume traveling across the upper third of the state. This represents the long-standing importance of U.S. 30 as the major transportation connection for all of the communities along its corridor.

In Whitley County, the current U.S. 30 was constructed in the early 1960s and has seen few changes since that time. While substantial revisions to the highway configuration have occasionally been attempted, such as the 1974 proposal to close the State Road 109 intersection (Figure 1), none have been constructed. Traffic volume has continually increased, with significant growth in the past 15 years, and the highway is now beginning to show signs of reaching its capacity.

This report outlines the year and a half-long endeavor of the Whitley County U.S. 30 Planning Committee as they sought to develop conceptual solutions to the current and foreseen issues with the aging highway.

Included are background information, existing conditions, and forecasts for the highway's growth. The Planning Committee's efforts to solicit early feedback from stakeholders and the public on the conceptual plans are discussed at length.

The report continues with the resulting conceptual designs presented in an intersection-by-intersection format. These represent the bulk of the Planning Committee's work and serve as the foundation for further study and analysis for the future of U.S. 30. A section of example improvements is shown for convenient reference.

Finally, suggested steps for implementation of the conceptual plans are listed, along with commentary of the costs and timing of the overall project.

DID-YOU-KNOW ?

THE STATE HIGHWAY PLANS TO CLOSE **ST. ROAD 109** AND **INT. INTERSECTION ?** **ST. ROAD 109** IS COLUMBIA CITY'S BUSIEST INTERSECTION WITH U.S. 30 NOW HANDLING 7% MORE TRAFFIC THAN **ST. ROAD 9**

CAN NORTH MAIN ST. HANDLE DOUBLE ITS PRESENT TRAFFIC ?

ALL NORTH-SOUTH TRAFFIC IN AND OUT OF COLUMBIA CITY WILL BE FORCED TO USE N. MAIN ST. WHERE TRAFFIC NOW IS BECOMING MORE THAN IT IS SAFE TO HANDLE.

WHAT-CAN-YOU-DO ?

MAKE YOURSELF HEARD BY SIGNING THE PETITION AGAINST THE CLOSING OF **ROAD 109** AND **30** INTERSECTION. PETITIONS ARE AVAILABLE IN MANY OF THE AREA STORES AND FROM CONCERNED CITIZENS IN YOUR NEIGHBORHOOD. **UNLESS YOU ACT NOW ST. ROAD 109 AND U.S. 30 INTERSECTION WILL BE CLOSED.**

Why We Must KEEP INTERSECTION 109 AND 30 OPEN

WE NOW HAVE 2 MAIN HIGHWAYS LEADING INTO COL. CITY FROM THE NORTH. **ROAD 109** IS THE MAIN ROAD TO THE HOSPITAL, SCHOOLS, AND BUSINESSES IN COL. CITY.

ACCIDENTS AND PROPERTY DAMAGE HAVE BEEN REDUCED SINCE STOP LIGHTS, AND SLOWER SPEED LIMITS, HAVE BEEN INSTALLED ON **INT. INTERSECTION 109-30** **KEEP 109 OPEN**

PETITIONS - ARE - AVAILABLE - **IN MANY AREA STORES**

CLOSING 109-30 WOULD ADD 3800 MORE CARS ONTO 9 WHICH ALREADY HAS MORE TRAFFIC THAN IS SAFE **KEEP 109 OPEN**

COMMUNITY GROWTH IS DUE MAINLY TO THE ACCESS OF GOOD HIGHWAYS LEADING TO AND FROM THE CITY. **KEEP 109 OPEN**

TAXES COMING FROM THE NO. LINE ST. BUSINESSES, ALSO THE EMPLOYMENT, ADDS TO THE GROWTH OF COLUMBIA CITY. **KEEP 109 OPEN**

FARMERS FROM THE NORTH WOULD HAVE TO USE 9 AND 30 INT. BRINGING GRAIN INTO COL. CITY; ANOTHER HAZARDOUS CONDITION. **KEEP 109 OPEN**

PLEASE - SIGN - IF - IN - FAVOR - OF - NOT - **CLOSING 109 AT 30 INT. LEAVING IT OPEN**

PETITION TO KEEP 109 - 30 OPEN		PETITION TO KEEP 109 - 30 OPEN		PETITION TO KEEP 109 - 30 OPEN		PETITION TO KEEP 109 - 30 OPEN	
NAME	ADDRESS	NAME	ADDRESS	NAME	ADDRESS	NAME	ADDRESS
MAIL TO BOX 411 - COL. CITY, IND.							

Figure 1. Newspaper advertisement rallying against a proposed closure of the SR 109 intersection. (Columbia City Post, August 9, 1974)

EXISTING CONDITIONS

U.S. 30 has been, and continues to be, an important factor in the development of Whitley County. As such, it is vital to recognize current issues with the highway and work to rectify deficiencies and plan for future growth.

History of U.S. 30 in Whitley County

In the early 1920s, two transcontinental roads, the Lincoln Highway and Yellowstone Trail, crossed Whitley County. The Lincoln Highway, the better organized of the two groups, traversed the county by way of Coesse Corners and Lorane, using the route that is now known as Lincolnway. In 1926, U.S. 30 was designated over the Lincoln Highway route.

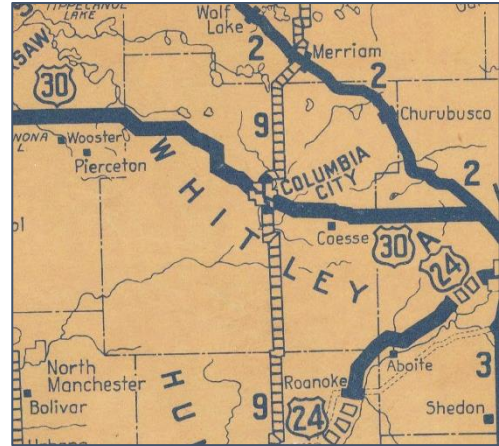


Figure 2. Excerpt from the 1926 State Highway System of Indiana. (Map Collection, Indiana Division, Indiana State Library)

By 1950, the curvy and hilly alignment northwest of Columbia City via Lorane was replaced with a straighter and flatter route that primarily used Squawbuck Road to Larwill. While the new alignment maintained existing road cuts onto the former county road to benefit adjacent landowners, the new route was designed with the ability to be expanded to a 4-lane highway in the future. The growth of traffic on U.S. 30 throughout the '50s warranted converting the road to a 4-lane limited access highway. A new greenfield alignment was constructed east of Columbia City and a bypass to the north of the city, and the new highway opened by 1963. Because of the differences in the designs of each segment, the eastern half of U.S. 30 had only two direct road cuts, while the western half had more than 20.

Over the past 53 years, Whitley County has seen new development along U.S. 30, especially of industry in the eastern half of the county, and several traffic signals have been added to facilitate the growth. Through traffic has also increased steadily, with a spike around 2007 after the lease of the Indiana Toll Road. In an attempt to address the increasing traffic levels, in 2015 the Indiana Department of Transportation (INDOT) proposed a system of “J-turns” and an interchange to replace intersections across the county. That proposal was withdrawn after significant local opposition; but it was the impetus for generating new interest in planning for the future of the highway.

U.S. 30 Coalition

After the “J-turn” proposal from INDOT, the counties and cities along the U.S. 30 corridor came together in 2015 to create a unified grassroots effort to “prepare, plan, and advocate for a U.S. 30 freeway.” This became the U.S. 30 Coalition, a 501(c)6 nonprofit group with representatives from each county along the highway from Allen to Porter. On a broader scale, it is a part of a larger regional effort to make improvements to segments of U.S. 30 from Iowa to Ohio to encourage economic development and more expedient travel along the corridor.

The Coalition currently meets quarterly to further their goal of developing U.S. 30 into an interstate-level freeway from the Ohio state line to SR 49 near Valparaiso. This would make U.S. 30 similar in design to the new U.S. 31 between Indianapolis and South Bend.

Importantly, the U.S. 30 Coalition has engaged the highway funding firm Appian, Inc. to research and develop the conceptual plans for the proposed freeway and to aid in facilitating its construction. Appian has a long history of developing Indiana highway projects and has been an important resource in developing the conceptual maps for Whitley County.

Existing conditions

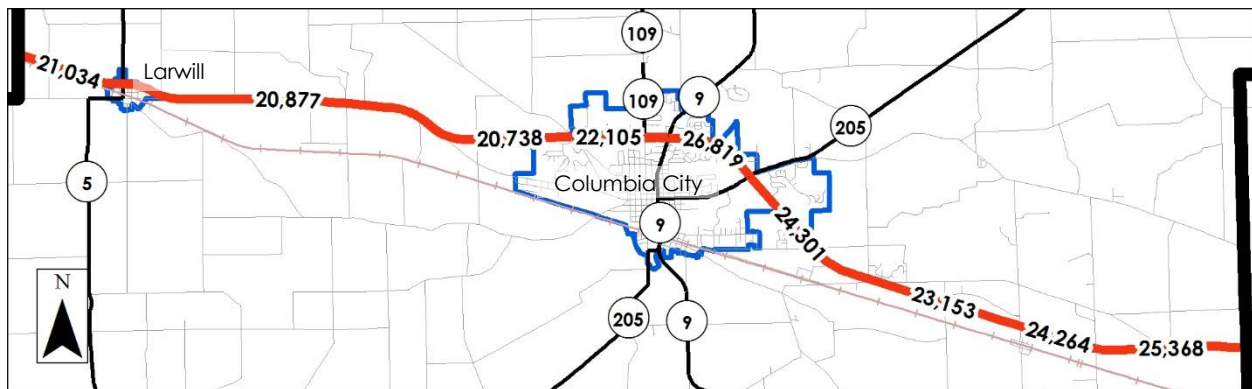


Figure 3. AADT counts from 2014, the most recent year available. (INDOT)

Traffic volume

As of 2014, the latest year for which actual counts are available for the entire county, traffic volumes on U.S. 30 range from over 20,000 AADT on the west side of the county to nearly 27,000 between SR 9 and SR 205, as shown in Figure 3 and Table 1. Local traffic between SR 205 and SR 109 generates the highest volumes, while the eastern half of the county reflects commuting patterns toward Fort Wayne and the businesses and industrial parks located between 400E and 800E¹.

Location	AADT (total)	Commercial vehicles	Percent CV
West of Binkley Road	21,440	6,408	30%
East of McLallen St.	19,893	5,431	27%
East of Wilson Lake Rd.	20,629	5,216	25%
Between SR 109 and Armstrong Dr.	21,629	5,381	25%
Between SR 109 and SR 9	23,664	5,521	23%
Between SR 9 and SR 205	26,242	5,346	20%
Between SR 205 and 100N	23,679	5,344	23%
Between 400E and 500E	23,608	4,974	21%
Between 700E and 800E	25,067	5,679	23%

Table 1. Total and commercial vehicle AADT, 2014 by location. (INDOT)

Considering only commercial vehicles, U.S. 30 sees an average of just under 5,500 commercial vehicles per day across the county. The consistency of the number of commercial vehicles at all points across the county, while the total

¹ Indiana Department of Transportation. (2016) Traffic Counts on Roadways in Indiana, 2014. Retrieved from <http://www.indianamap.org>

AADT fluctuates more significantly, may indicate that most commercial vehicles travel through the county².

As shown in Table 2, prior to its conversion to a freeway U.S. 31 had an AADT of 32,804 near Westfield, decreasing to 18,527 AADT near Peru, and a relatively low percentage of commercial vehicles. Comparing to interstates, traffic on the Indiana Toll Road east of SR 49 ranges from 20,860 to 28,300 AADT, and there are other interstate road segments around the state with similar or lower traffic volumes. However, it should be noted that many interstates reviewed for comparison did have higher percentages of commercial vehicles than U.S. 30³.

Highway	Location	Year	AADT (total)	Commercial vehicles	Percent CV
U.S. 30	Between SR 9 and SR 109	2017	27,627	7,108	26%
U.S. 30	Between CR 700E and 800E	2016	27,024	6,367	24%
U.S. 30	Whitley-Kosciusko County line	2014	21,440	6,408	30%
Indiana Toll Road	Ohio state line	2016	20,860	9,320	45%
Indiana Toll Road	East of SR 49 (Valparaiso)	2016	28,300	10,060	36%
U.S. 31	At 161 st Street (Westfield)	2011	32,804	2,565	8%
U.S. 31	At SR 28 (Tipton)	2011	22,039	2,426	11%
U.S. 31	At Old US 31 (Peru)	2012	18,527	2,763	22%
I-69	South of US 6 (Waterloo)	2015	30,267	7,912	26%
I-69	North of SR 26 (Gas City)	2015	27,281	10,455	38%
I-74	Between Brownsburg and Lizton	2016	23,198	6,652	29%
I-70	East of SR 46 (Terre Haute)	2014	27,726	13,250	46%
I-64	West of I-69 (Evansville)	2016	16,696	7,098	43%

Table 2. Traffic counts of highways at selected locations in Indiana. (INDOT)

Existing impediments

A survey conducted by Appian, Inc. of the eight-county U.S. 30 corridor across Indiana found that a total of 72 “impediments” to the free flow of vehicles exist along the highway in Whitley County, as shown in Table 3.

Type of impediment	Whitley County	Statewide (%)
Stoplight	9	33 (27.3%)
Intersection	7	68 (10.3%)
Driveway cuts	49	198 (24.7%)
T-intersections	7	33 (21.2%)
Interchange	0	10 (n/a)
Rail crossing	0	4 (n/a)
Total	72	344 (20.9%)

Table 3. Impediments to freeway U.S. 30. (Appian, Inc.)

Of the types of impediments studied, the number of stoplights in the county is of particular significance, being that the county has over a quarter of the state’s total number of stoplights on U.S. 30. Together, these 9 stoplights constitute a substantial disturbance to the flow of vehicles, creating the potential for delay at each intersection, as well as large vehicle platoons that impede cross traffic at unsignalized intersections.

² Indiana Department of Transportation. (2016) Traffic Count Database System.

³ Indiana Department of Transportation. (2016) Traffic Count Database System.

Vehicular safety is also affected, as stopped traffic poses increased crash risks, particularly high-speed rear-end collisions.

Also to note are the number of driveway cuts directly accessing the highway. That includes both active driveways and former driveways and field access points that could be reinstated for use in the future. As mentioned in the section above, most of these access points are located in the western half of the county, owing to the history of the construction of the highway. Anecdotally, residents in that area have stated that entering onto the highway is a growing problem and that they must frequently adjust their schedules to match the peak hours of the highway⁴.

Safety

A review of ARIES crash data for the three-year period 2013-2015 found that a total of 469 reported incidents occurred on U.S. 30 in Whitley County. Of those, 304 were multi-vehicle incidents which involved up to 30 vehicles. These resulted in one death at the scene and 98 reported injuries of varying severity.⁵

The majority of the multi-vehicle incidents occurred at intersections where vehicles were crossing travel lanes or were accelerating or decelerating for stopped traffic. Approximately 60% of the total crashes were rear end collisions, most of which occurred at signalized intersections. At least another 18% of incidents involved turning movements.

It is worthwhile to note that the one death during the review period happened in a two-vehicle crash in which a driver failed to stop for a red light at CR 800E, colliding with a vehicle turning onto the highway.



Figure 4. A semi-truck struck and mounted an automobile carrier stopped at the traffic light at West Lincolnway in early 2016. The driver of the auto carrier was pulled from the burning truck by bystanders. Restoration of travel on the highway took approximately seven hours. (WANE-TV)



Figure 5. This wreck in December 2016 involved a semi-truck and automobile at the CR 600E intersection. While not fatal, it resulted in a closure of US 30 lasting more than five hours while cargo and vehicles were cleared from the roadway. (WANE-TV)

⁴ Comments made by residents at stakeholder input session #2 and public input session #1.

⁵ State of Indiana. (2016) ARIES Collision Data Repository.

While specific crash data is not yet available from 2016 to include in the above discussion, the number of multi-vehicle crashes has increased each year, from 89 incidents in 2013 to 140 in 2016. This represents a 57% increase in the number of collisions over those four years.

Based on these existing conditions, it is apparent that U.S. 30 is already carrying traffic equivalent to many interstate highways elsewhere in Indiana, while its safety is increasingly impaired by the number of intersections and stoplights.

Projected traffic volume

Between 2002 and 2014, there was a 5-17% increase in traffic volume in Whitley County, depending on the location considered. INDOT also examined corridor-wide projected traffic growth as part of their work for the Blue Ribbon Panel, a group convened by then-Governor Pence to examine the most important transportation needs in the state. INDOT found that traffic volume is expected to increase by almost 30% by 2035, with no improvement. Some areas of the corridor are expected to see 31% truck traffic in this time frame.

PUBLIC PARTICIPATION

U.S. 30 Planning Committee

The Whitley County U.S. 30 Planning Committee began meeting in November 2015 to develop an initial conceptual framework to address many of the existing and forecasted problems identified by INDOT, the U.S. 30 Coalition, and local leadership. This committee was made of representatives of government, business, economic development, and agricultural sectors. An INDOT representative also attended some meetings and provided general guidelines for complying with INDOT highway specifications. The members of the committee are listed at the beginning of this document.

The U.S. 30 Planning Committee set forth the following as its key purposes in developing a concept plan to address the needs of the highway:

- To identify a feasible and acceptable route for U.S. 30 from Allen County to Kosciusko County
- To identify concerns and opinions of affected parties
- To identify options for treatment of intersections
- To consider traffic flow for ease of businesses
- To consider the safety of county residents and travelers
- To consider economic opportunities and challenges
- To create an idea for a new U.S. 30 using Interstate standards
- To consider public opinion of the idea
- To consider and discuss connections to adjacent counties
- To propose the idea to the U.S. 30 Coalition
- To propose the idea to the Indiana Department of Transportation

Working through each segment of the highway across the county, the committee set up goals and evaluated various alternatives for addressing the issues facing the highway. By September 2016, an initial conceptual map was refined to a point adequate enough to present for public comment.

Stakeholder input

Three formal stakeholder input sessions were held in late 2016 to solicit comments from those businesses and organizations that would be directly affected by changes to U.S. 30. Most participants in these meetings were invited by the Mayor's office based on their proximity to the highway corridor.

Stakeholder meetings held

- Stakeholder meeting #1 was held September 9th in the Northeastern REMC conference room, with a focus on the eastern half of Whitley County. Approximately 25 stakeholders attended, including representatives of Steel Dynamics, Inc., Sailrite, Reelcraft, Paige's Crossing, and others.
- Stakeholder meeting #2 was held September 28th at Whitko Middle School, focusing on the western half of the county. Around 40 persons attended,



Figure 6. Mayor Daniel speaks with an attendee during stakeholder meeting #2.

including representatives of the Richland Township Fire Department, Town of Larwill, local businesses, and citizens.

- Stakeholder meeting #3 was held October 27th at Eagles Nest, with a focus on the area around Columbia City. Roughly 25 stakeholders were present, including representatives from local gas stations, Wal-Mart, local realtors, and others.
- An additional informal stakeholder meeting was held on December 7th with representatives of emergency agencies to discuss the impacts a freeway-level U.S. 30 could have on the provision of emergency services.

Public input

Four public open input sessions were conducted to garner comments from the public at large. These sessions were well publicized in the *Columbia City Post & Mail* newspaper, and the paper also ran lengthy post-meeting articles covering the discussions at each session. The Facebook pages of the Columbia City government and Mayor also advertised the sessions and were further recipients of feedback on the proposed concepts.

Public meetings held

- Public input session #1 was held November 1st at New Hope Wesleyan Church with approximately 30 attendees.



Figure 7. Public input session #2.

- Public input session #2 was held November 17th at the Whitley County Government Center. There were 60 members of the public in attendance at this daytime session.
- Public input session #3 was held November 29th at Coesse Elementary School with roughly 30 members of the public attending.
- Public input session #4 was held December 1st at Columbia City High School with another 40 or so in attendance.

Legislative input

The U.S. 30 Planning Committee presented a draft version of the conceptual map to State Senator David Long in the fall of 2016, and he provided valuable guidance to the group for how to proceed with the efforts. Senator Long was also presented with the revised maps in late December. The Senator was unique in his ability to provide feedback at a statewide level.

Input received

In all, over 200 people attended an input session, made phone calls, sent letters and emails, or otherwise provided feedback. The result was a large number of comments and criticisms of the presented concept maps and shows the importance of this project to Whitley County.

The most frequently expressed comments included:

- Shifting the locations of some proposed interchanges
- Impacts on specific properties
- Increased or shifted traffic patterns on local roads
- Installation of additional service roads

- Preserving county road access for certain businesses, residences, and the Richland Township and Union Township fire departments

The U.S. 30 Planning Committee then evaluated the input received for application in the conceptual maps. While not all changes were incorporated and not all comments were able to be shown on the map, the conceptual maps were revised to best reflect the suggestions received. These revised maps are shown in the following section.

THE CONCEPT FOR U.S. 30

This section is a presentation of the purposes, working assumptions, and conceptual maps developed by the U.S. 30 Planning Committee with the input of stakeholders and the public, as described in the previous sections.

Purpose

The purpose in generating the conceptual map is to create an idea for improving U.S. 30 that is acceptable at the local level while being within the broad requirements of the Indiana Department of Transportation for freeway construction. By generating ideas at the local level, the concept already has local “buy-in” from many stakeholders, residents, and business owners, which should reduce the difficulty of the required public hearings held by INDOT as part of the design process. Ideally, if following the concepts developed by the committee, the design process for upgrades to U.S. 30 should be relatively streamlined, more efficient, and less costly.

It should be noted that the U.S. 30 Planning Committee did not attempt to address any funding sources, as U.S. highway funding is derived from the federal and state levels. However, it was recognized that certain projects may be most feasible if costs are shared between government levels or as public-private partnerships. The potential for these may be fully discussed in future stages of the U.S. 30 project.

Working assumptions

The U.S. 30 Planning Committee developed a framework of working assumptions prior to commencing work on the conceptual mapping. These guided the committee’s decisions throughout the process.

1. ***The highway would be an Interstate-level freeway to the greatest extent possible.***
This is consistent with the goals of the broader U.S. 30 Coalition, and it appeared to be the best solution to address the complex problems of traffic volume, safety, and local necessities. As such, the INDOT guidelines for interchange spacing and other requirements were followed, while still recognizing that as a retrofit, some concessions might be needed.
2. ***U.S. 30 would remain on the current alignment.***
By avoiding major acquisition of rights-of-way for a new road alignment, monetary costs could be reduced, environmental impacts could be close to negligible, and the effects on existing businesses could be lessened. In particular, the committee determined that a new bypass of the Columbia City area would not be in the interest of the county and would be detrimental to the existing businesses as well as the community’s quality of life.
3. ***Potential acquisition of businesses and homes would be avoided.***
Wherever possible, the committee strived to maintain current locations of businesses and homes. This could result in lower land acquisition costs for interchanges, but possibly higher construction costs.
4. ***Construction costs and environmental impacts would not be major considerations.***
In order to prioritize consideration of the effects on local residents and businesses, the estimated costs of construction and specific environmental impacts were minimized. Cost of construction will determine the feasibility of many improvements, but estimation of the feasibility of individual projects was disregarded in favor of more general cost minimization.

approaches. Environmental impacts are largely undetermined and would require study beyond the capability of the committee.

5. ***Improvements shown would be only those related to U.S. 30 construction.***

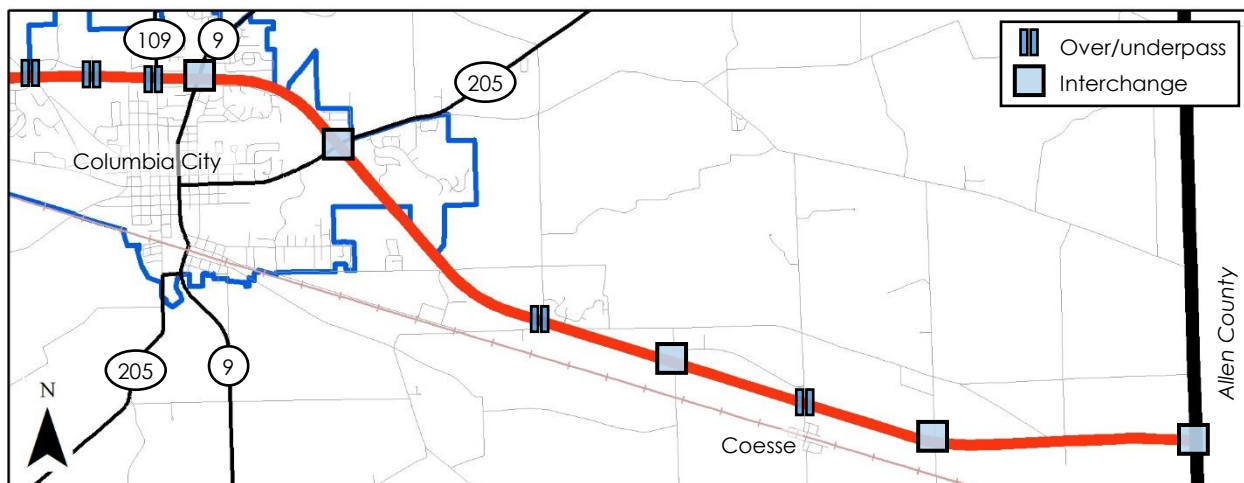
While local road improvements are anticipated as an outcome of improvements performed on U.S. 30, the Planning Committee only developed an improvement concept for the highway itself and directly related local road improvements (as examples, service roads and changes to adjacent intersections). Most improvements to local roads would be planned for in a later local thoroughfare planning study; such a study would be best performed after the formulation of the U.S. 30 concept.

Conceptual maps

The following pages contain the conceptual maps for ideas of improvements for U.S. 30 in Whitley County. They are presented only as refined ideas for consideration in later stages of design. Exact engineering, or even precise scaling, of individual improvements was not the purpose of these maps. Listed below each map is the rationale of each proposed idea, along with any identified advantages, constraints, or unresolved issues. For reference, examples of each type of design used are detailed beginning on page 37.

Overall concept index maps

East side of Whitley County



<u>Intersection</u>	<u>Page</u>	<u>Intersection</u>	<u>Page</u>
CR 800E/County Line Road	23	CR 100S	27
CR 700E	23	SR 205	28
CR 600E	24	SR 9	29
CR 500E	25	SR 109	29
CR 400E	26	Armstrong Drive	30
CR 300E/East Lincolnway	27	West Lincolnway	30

West side of Whitley County



<u>Intersection</u>	<u>Page</u>	<u>Intersection</u>	<u>Page</u>
SR 9	29	CR 300W	32
SR 109	29	Wilson Lake Rd/CR 400W	33
Armstrong Drive	30	CR 450W	33
West Lincolnway	30	CR 550W	34
New interchange	31	CR 650W	35
Wolf Road	31	SR 5	35
West Business 30	32	Binkley Road	36

County Road 800 E (County Line Road), County Road 700E



Conceptual design

A modified cloverleaf would be constructed at County Road 800E. The intersection at County Road 700E would be closed.

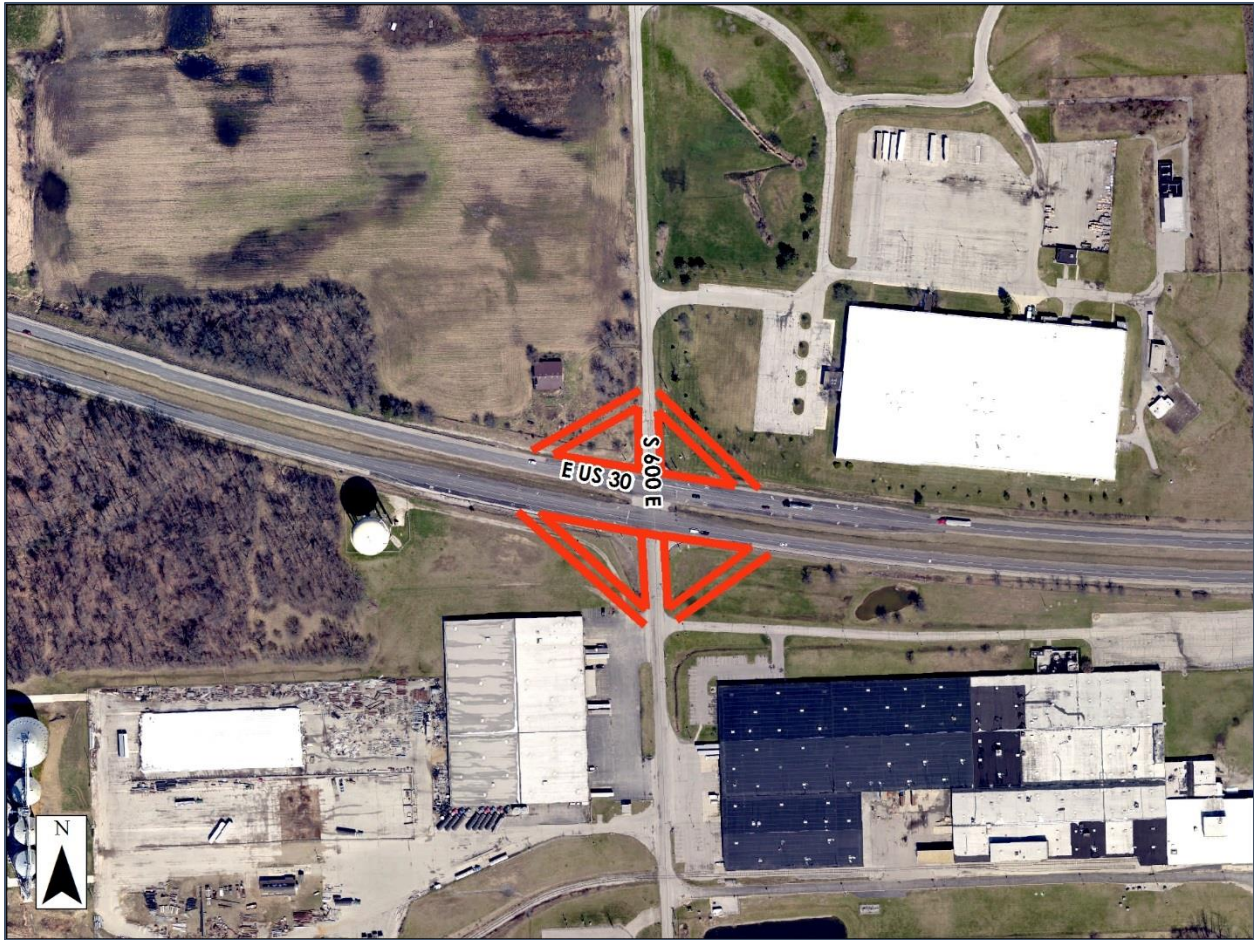
Rationale

County Road 800E is planned to be a minor arterial, connecting U.S. 30 to U.S. 24; as such it would be the only direct connection between those two highways between I-69 and S.R. 9. Additionally, Steel Dynamics' (SDI) steel mill is located at the southwest corner of the intersection and requires highway access. County Road 700E has already been vacated south of U.S. 30, and access is available by Lincolnway and Yellow River Road, so no overpass was deemed necessary.

Identified issues

- A truck stop exists at the southeast quadrant of the intersection.
- SDI has a small facility near the intersection.
- Poor soils are known to exist in the vicinity of the northeast quadrant.

County Road 600E



Conceptual design

A compact diamond interchange would be constructed at County Road 600E.

Rationale

County Road 600E is at the center of the County's large industrial area, which requires highway access. Rail Connect Business Park is accessed directly from County Road 600E, south of U.S. 30. Rerouting the traffic from the businesses and industries in the vicinity of 600E would require significant improvements to numerous parallel local roads.

Identified issues

- Industrial buildings and a water tower on the south side of the intersection create a very tight right-of-way for construction of a standard diamond.
- Closely located driveways likely require 600E to be maintained at grade with U.S. 30 on the overpass.

County Road 500E



Conceptual design

An overpass would be constructed at County Road 500E.

Rationale

Access from the north of U.S. 30 to Coesse School, Union Township Fire Department, and the town of Coesse would be maintained by continuing County Road 500E across U.S. 30. An interchange would not be compatible here as it would not be possible to adequately upgrade the streets in Coesse to accommodate the concentrated interchange traffic.

Identified issues

- Access from Union Township Fire Department onto U.S. 30 would be eliminated, increasing response times for incidents occurring on U.S. 30.

County Road 400E



Conceptual design

A modified diamond interchange would be constructed at County Road 400E that connects into Park 30 Drive and a new service road between CR 400E and East Business 30.

Rationale

Because County Road 500E would not have access to U.S. 30, and an interchange at the CR 300E/Lincolnway/East Business 30 intersection would not be feasible, an interchange at County Road 400E would serve the businesses and residents of the vicinity. The service road would offer an alternate route from East Business 30, as well as increasing land development opportunities.

Identified issues

- A pond exists in the southeast quadrant.
- Two houses exist near the intersection, south of U.S. 30.
- The connection between Park 30 Drive and the ramps may require steep grading.
- Soil quality on the south side of U.S. 30 may warrant additional stabilization.

County Road 300E/East Lincolnway, County Road 100S



Conceptual design

The intersection of County Road 300E/Lincolnway/East Business 30 would be replaced with an overpass. A service road would continue East Business 30 to the new County Road 400E interchange. County Road 100S would be cut off, with the western end being tied into Williams Drive.

Rationale

Because of the proximity of development near the intersection and the configuration of the three local roads, an interchange would not be feasible at this intersection. Instead, an overpass would allow the continuation of existing traffic patterns while the service road would permit direct access to the County Road 400E interchange. County Road 100S has low traffic volumes that may be redirected via Williams Drive and 300E.

Identified issues

- The intersections of County Road 300E with East Business 30 and Lincolnway may continue to create a complicated traffic pattern due to their close proximity.
- County Road 100S east to County Road 300E will need to be improved to accommodate the heavy truck traffic from the industries located at U.S. 30.

State Road 205



Conceptual design

A compact diamond interchange would be constructed at the State Road 205 intersection.

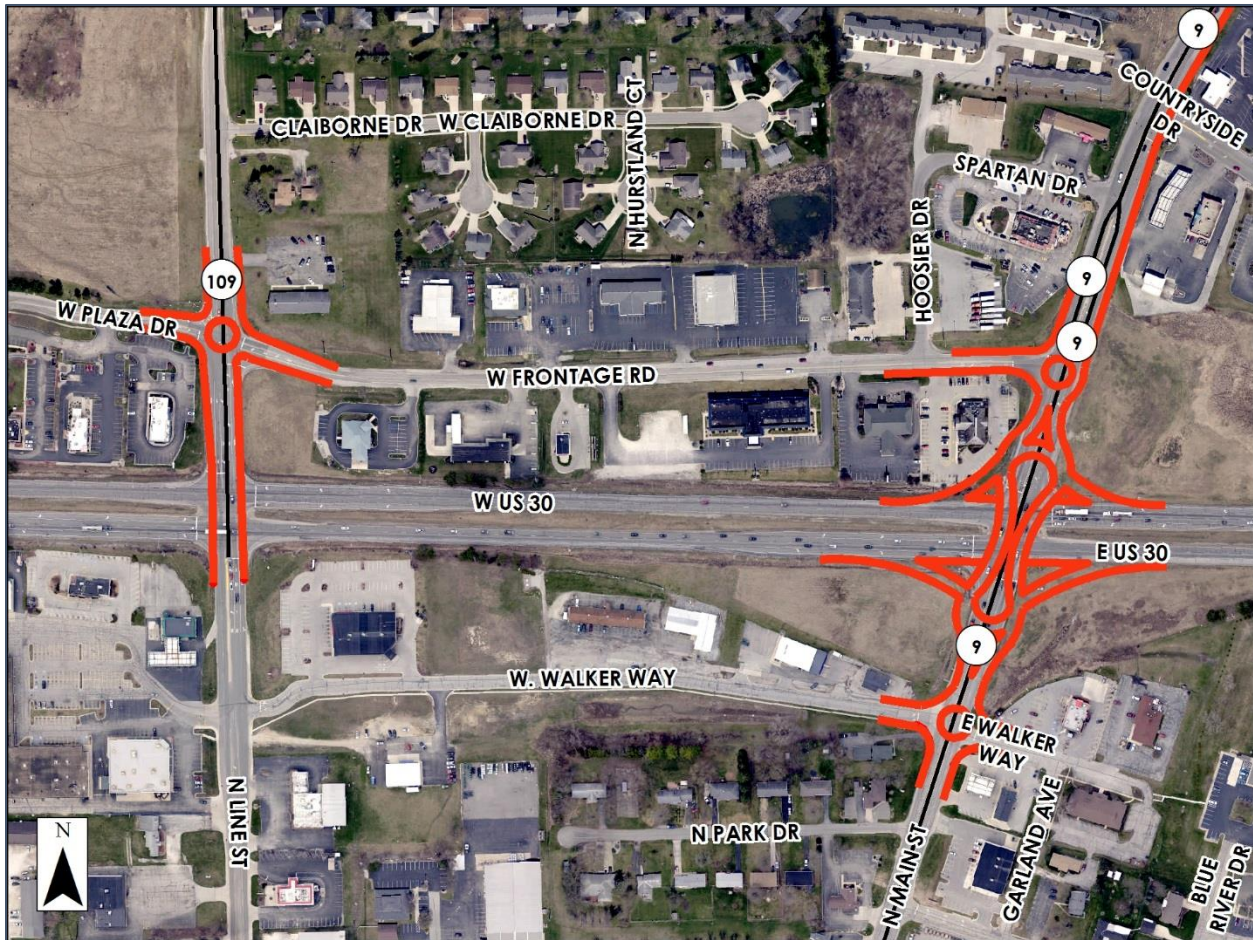
Rationale

The proximity of Parkview Hospital on the southern quadrant of the intersection warrants direct access onto U.S. 30 in order to provide for the best emergency services. Additionally, State Road 205 conveys significant traffic from the northeast quarter of Whitley County to U.S. 30; elimination of access here would divert traffic onto eastern county roads or through downtown Columbia City.

Identified issues

- Ponds exist in the northern and eastern quadrants. The highway right-of-way may need to be shifted westward to allow construction of ramps on the east side without impacting the pond(s).
- A used car dealership exists at western side of the intersection.
- Expansion sites for the hospital may be partially affected by any ramps constructed.

State Road 9, State Road 109



Conceptual design

A dogbone interchange and a series of roundabouts would be constructed along State Road 9. The State Road 109 intersection would be converted to an overpass, and the highway would be rerouted via a roundabout to Frontage Road and terminate at State Road 9.

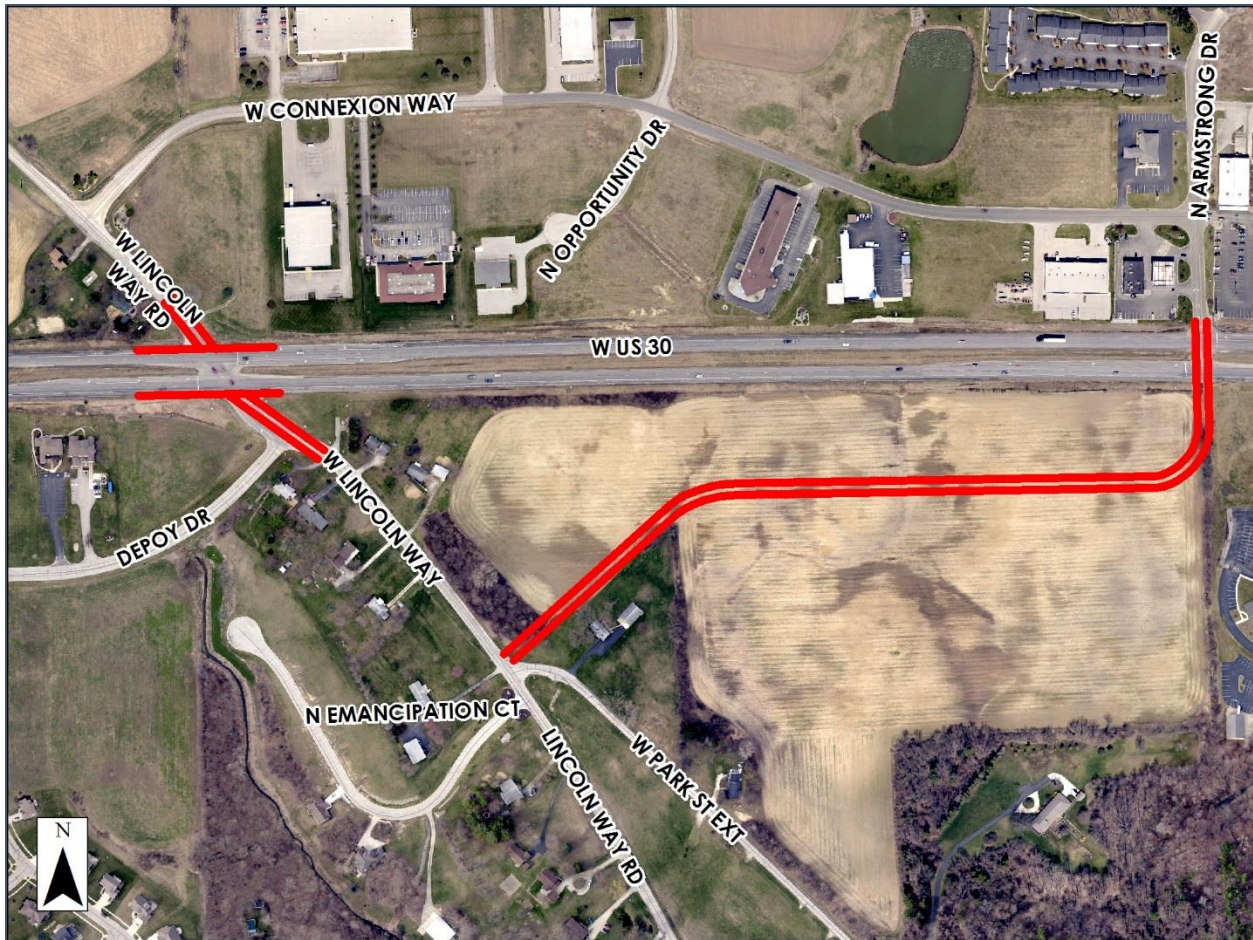
Rationale

A number of alternatives were discussed by the Planning Committee for these intersections; these concepts were chosen because they are compact and promote constant flow of vehicles through the numerous close intersections.

Identified issues

- Right-of-way has already been acquired for a modified diamond interchange at State Road 9, so that type of interchange may be used in lieu of the depicted dogbone type.
- The Spartan Drive intersection could be closed to eliminate a point of conflict on State Road 9. Doing so would shift traffic to the Hoosier Drive/Frontage Road intersection, which is already close to the State Road 9 intersection.
- Takeover of Frontage Road by INDOT may not be feasible.
- Significantly imbalanced traffic flow may negate the effectiveness of the roundabouts. Especially detailed and comprehensive traffic modeling would need to be done in the final engineering.

Armstrong Drive, West Lincolnway



Conceptual design

An overpass at Armstrong Drive would connect current and future commercial areas. The West Lincolnway intersection would be replaced with an overpass.

Rationale

A connection across U.S. 30 between State Road 109 and West Lincolnway would be beneficial for connectivity of local streets and to maintain viability of the existing commercial area. The proximity of Connexion Way and Depoy Drives to the West Lincolnway intersection, along with the goal of maintaining a one-mile separation between interchanges, prevents construction of an adequate interchange there. Instead, traffic would be routed to a new interchange to the west.

Identified issues

- The overpass at Armstrong Drive may involve a steep incline on the north side of U.S. 30.
- Lincolnway may need to be widened from the Park Street intersection westward in order to accommodate the concentrated traffic to and from the new interchange.
- Depoy Drive is the only access point for 158 homes, a large church, and several businesses.

New interchange, Wolf Road



Conceptual design

A new interchange would be constructed between West Lincolnway and Wolf Road, with local road connections to West Business 30 and West Lincolnway. The interchange right-of-way would be sized for future expansion. Wolf Road would be replaced with an overpass.

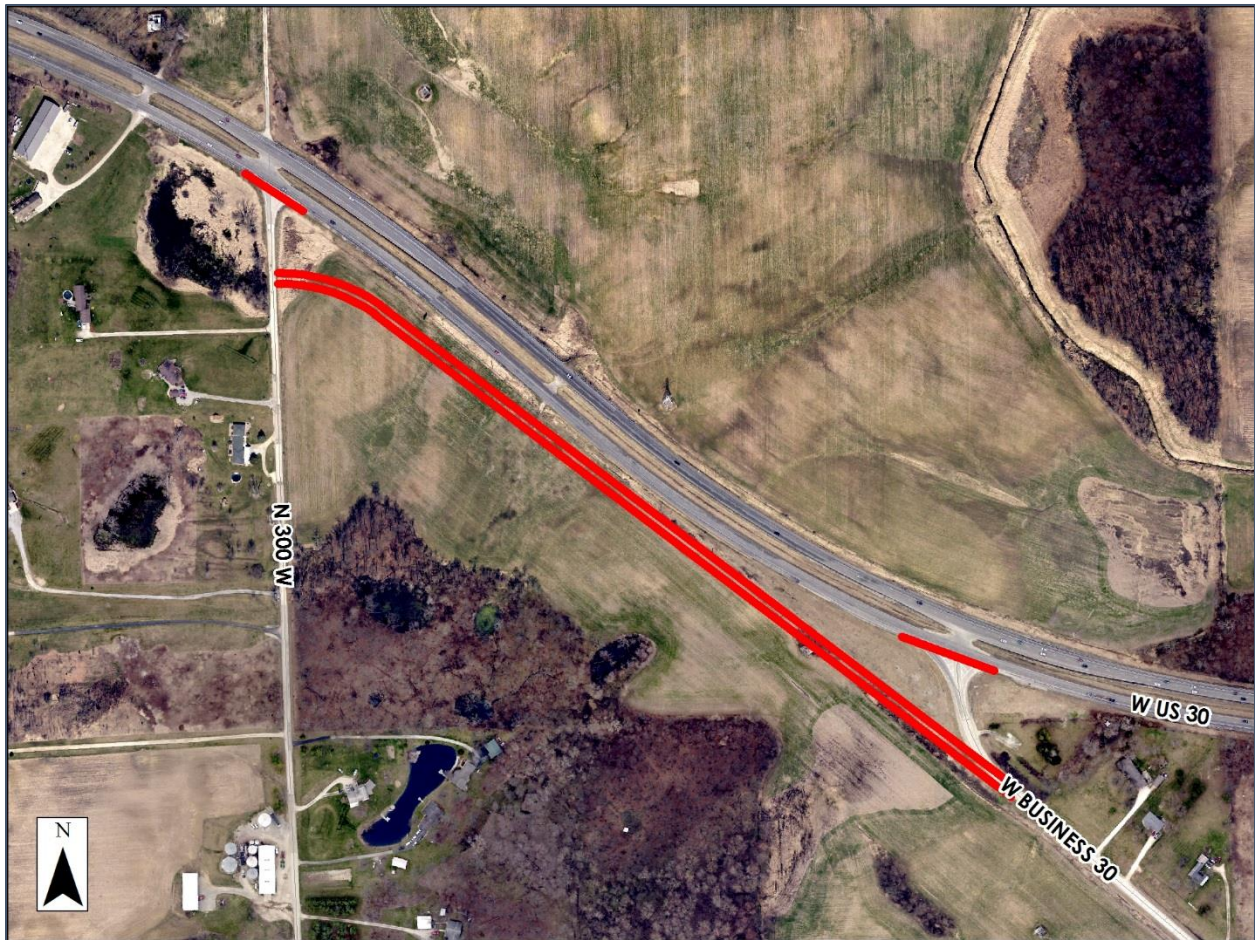
Rationale

Because of the goal of keeping the one-mile spacing between interchanges in the urban area, a new western interchange is proposed. This also avoids conflicts with existing development at West Lincolnway, and opens an additional north-south route on the west side of Columbia City. In addition, if a State Road 9 bypass of downtown were ever to be constructed, this interchange could be used as its connection to U.S. 30, if right-of-way were reserved during construction. Wolf Road is a minor collector road, so maintaining its connectivity was important.

Identified issues

- Mucky soils are prevalent on the south side of U.S. 30 near the interchange location.
- Reserving right-of-way for a hypothetical bypass route would require additional engineering costs outside of the U.S. 30 design.

West Business 30, County Road 300W



Conceptual design

West Business 30 would be extended to County Road 300W, and access from both roads would be eliminated.

Rationale

By creating a new interchange east of this location, access to U.S. 30 from these two roads would no longer be crucial. Connecting Business 30 to 300W is important to avoid a long detour south and east for the residents and businesses at the County Road 300W intersection.

Identified issues

- A cemetery exists near the current Business 30 intersection.
- A service road from County Road 300W westward might be found necessary to preserve access and reduce travel times for those near newly dead-end roads.

Wilson Lake Road, County Road 400W, County Road 450W



Conceptual design

Two options could be considered for these two roads. Option A would be a modified diamond at County Road 400W and a service road to connect with Wilson Lake Road. Option B would be a compact diamond at County Road 450W and a 2000' long extension to existing 450W at Plattner Road.

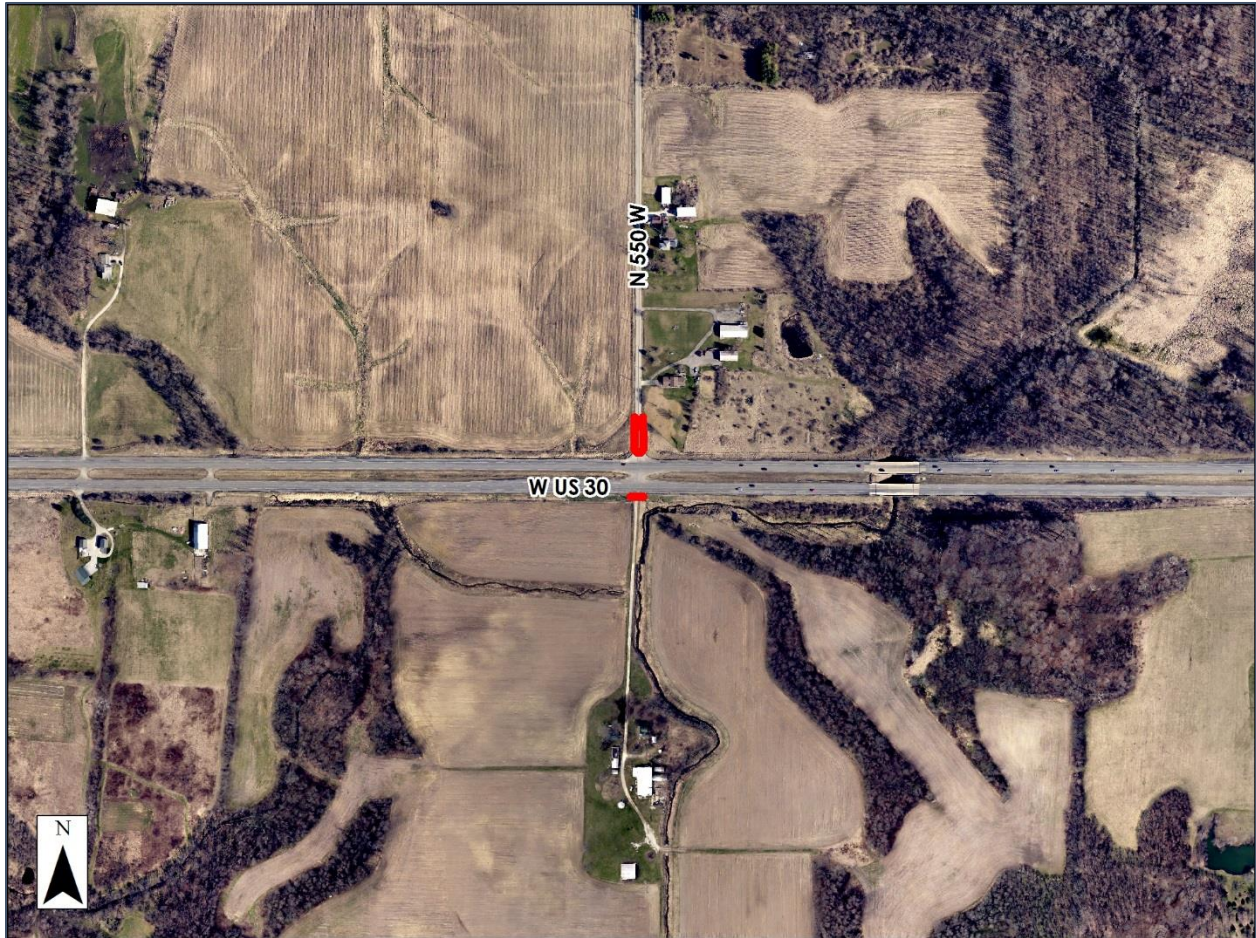
Rationale

Because of the existing homes and businesses located near County Road 400W, access to U.S. 30 at that road would be preferred; a modified diamond could be used to minimize the impact on those properties. By shifting access a half mile west to County Road 450W, a simpler diamond interchange could be used and an overpass would be at 400W with a service road to Wilson Lake Road. A 2000' connection would need to be made to preserve adequate access routes however. In the end, either option would be sufficient for access.

Identified issues

- Wilson Lake Road should not be considered for use as a main thoroughfare as it would require substantial reconstruction of the pond dam.
- New Hope Wesleyan Church is a large traffic generator located at 400W.

County Road 550W



Conceptual design

County Road 550W would be cut off at U.S. 30.

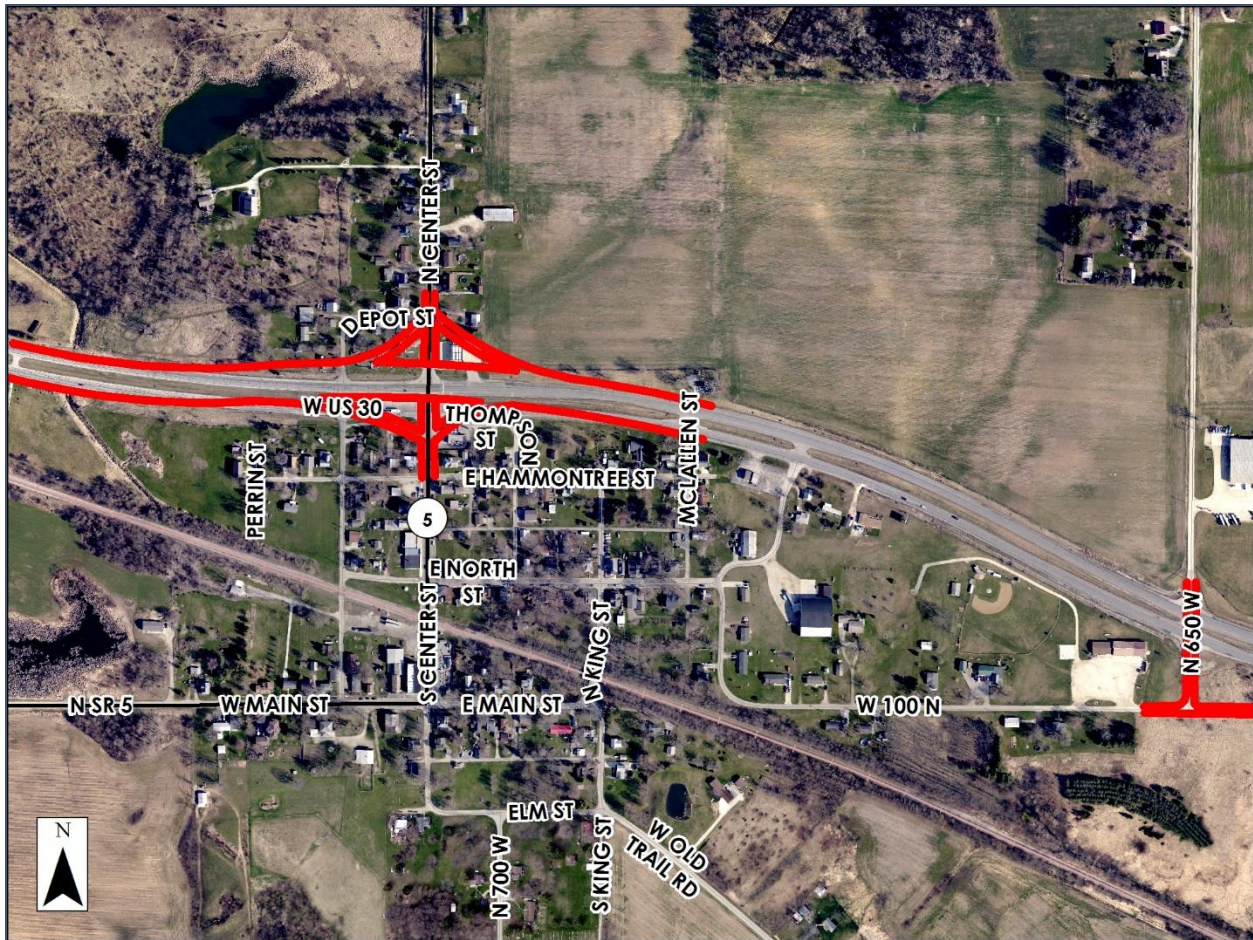
Rationale

County Road 550W would not warrant direct access to U.S. 30. Access would be rerouted to the north.

Identified issues

- The “road” south of U.S. 30 at County Road 550W is a private driveway.
- If service roads are constructed parallel to U.S. 30, access to adjacent property owners could be preserved while reducing the impact on travel times.

County Road 650W, State Road 5



Conceptual design

County Road 650W would be an overpass. A compact diamond would be used as the interchange with State Road 5.

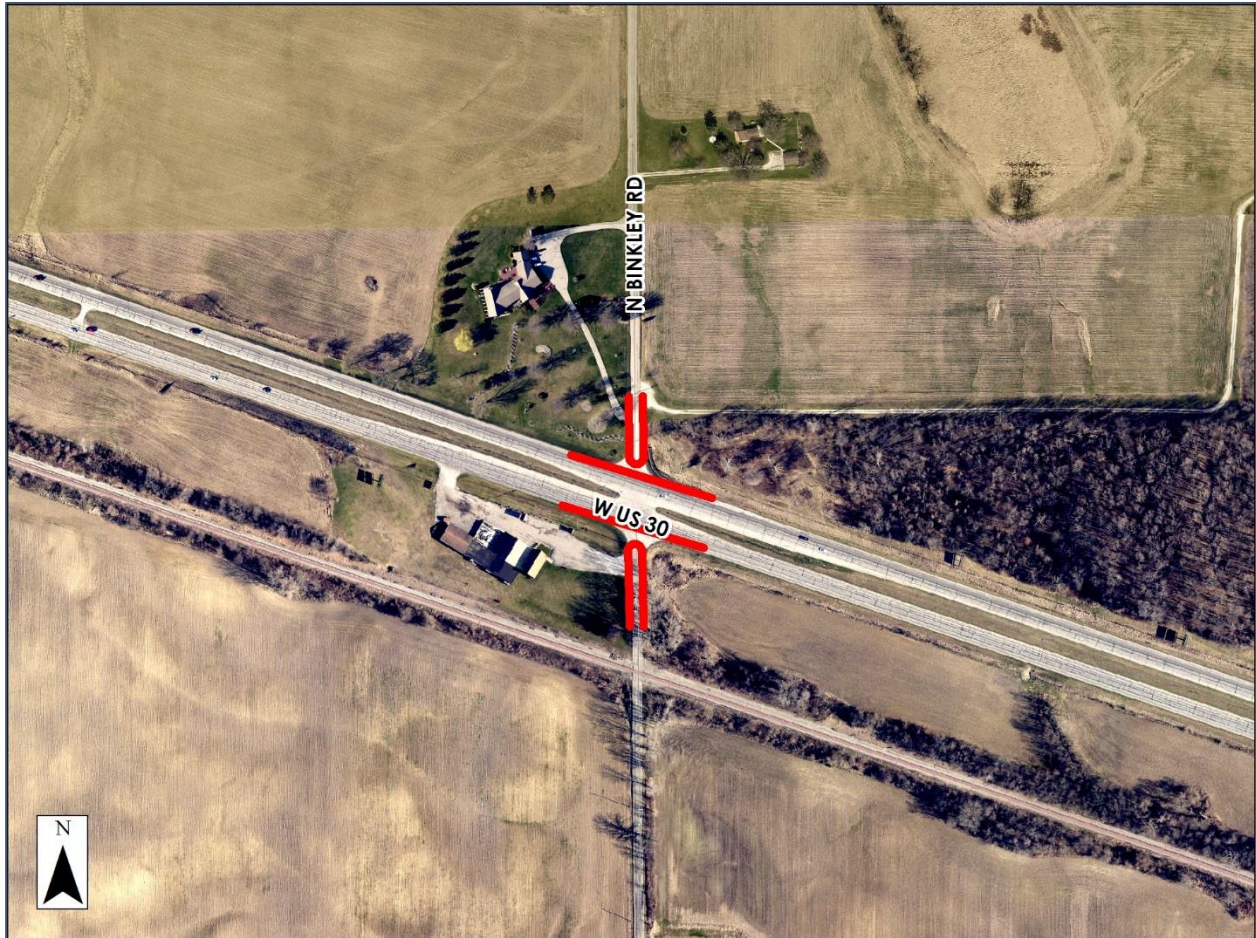
Rationale

Maintaining access for State Road 5 is important, but the proximity of development in Larwill would necessitate a tight interchange to avoid impacting too many properties. County Road 650W would be an overpass in order to preserve direct access for the Richland Township Fire Department to serve its territory to the north.

Identified issues

- Wetlands, lakes, and the adjacent railroad seem to preclude location of a new interchange west of town. If those obstacles are surmountable, a new interchange may be preferred.
- The incline for a County Road 650W overpass may be steep. Alternatively, improvements to the Larwill town streets between the fire station and State Road 5 may provide an adequate service route.

Binkley Road



Conceptual design

Binkley Road would be cut off at U.S. 30.

Rationale

While cutting the road off does eliminate nearly all access to the business at the southwest corner of the intersection, the traffic counts on Binkley Road do not seem to justify maintaining a through route.

Identified issues

- The nearness of the railroad would increase the difficulty of constructing an overpass if one were desired.

IMPROVEMENT EXAMPLES

For convenient reference, this section provides illustration of the ideas and concepts discussed elsewhere in this document. Of course, this is only a limited selection; final designs for U.S. 30 will vary according to the constraints of the site, traffic levels, and other considerations.

Diamond interchanges

Diamond interchanges are the most common limited access interchange type. The intersection of the interchange ramps and the cross road may be controlled by stop signs or traffic signals, depending on the level of traffic present or expected.



Figure 8. Standard diamond interchange, SR 9 and US 24, Huntington. (Google Maps)

Compact diamond interchange

Compact diamonds (or tight diamonds) are designed for locations with limited amounts of space by compacting the area used for the on- and off-ramps. They are typically found in developed urban areas where real estate for larger diamond interchanges is not available. For U.S. 30, as a retrofit project where existing development is in close proximity to interchange sites, a compact diamond may be an optimal choice. Single point interchanges are closely related, but differ in that left turning ramp traffic is conveyed through one intersection rather than two as in most diamonds.



Figure 9. US 31 and SR 32, Westfield. (Google Maps)



Figure 10. I-465 and Emerson Avenue, Indianapolis. (Google Maps)

Dogbone (“bow tie”) interchange

Dogbone interchanges (also called “bow tie” interchanges) are a type of diamond interchange in which the two ramp intersections have been replaced with an extended roundabout. This promotes

continuous traffic flow through the interchange. A related interchange is the “dumbbell” in which two separate roundabouts replace the ramp intersections.



Figure 11. US 31 and 116th Street, Carmel. (Google Maps)



Figure 12. Keystone Avenue and 116th Street, Carmel. (Google Maps)

Partial cloverleaf/modified diamond interchange

Diamond interchanges can be partially modified with cloverleaf ramps in order to avoid using one or more corners of the intersection due to topography, existing development, or other site constraints. These result in a trumpet shape.



Figure 13. SR 28 and US 31 interchange near Tipton. (INDOT)



Figure 14. I-469 and US 24 northeast of Fort Wayne. (Google Maps)

Diverging diamond interchange

Diverging diamond interchanges are a type of diamond interchange in which traffic on the cross road moves to the left side of the road at the interchange. This eliminates long left turns across opposing traffic, which increases safety and efficiency.



Figure 15. I-69 and Dupont Road, Fort Wayne. (Google Maps)

Roundabouts

Roundabouts have become a fairly common sight around Indiana over the past 15-20 years, typically being chosen for their increased efficiency over stop sign-controlled intersections and decreased operating costs compared to traffic signals. Traffic safety is also improved, as roundabouts greatly reduce the potential for high-speed “T-bone” crashes. Where used in this U.S. 30 concept, roundabouts would be sized appropriately to permit semi-trucks to traverse the intersection without adversely impacting its efficiency, while oversized vehicles could be accommodated using mountable curbs or other design features.



Figure 16. Roundabout in Princeton, Ind. (HWC Engineering)



Figure 17. Multi-lane roundabout, South Bend. (DLZ Corp.)

IMPLEMENTATION STRATEGIES

This report serves as documentation of the concepts for upgrading U.S. 30 to freeway standards developed by the U.S. 30 Planning Committee with the input of numerous stakeholders and the general public. There are many actions that may need to be taken in order to implement the projects outlined herein. Depending on many factors, fully implementing the concept could take as few as five years if all projects are funded and constructed at once, or many more years beyond that. Realistically, certain projects may occur relatively soon, with others much later, so predicting a time line with any precision is quite difficult.

As a general reference, the following are expected, or recommended, steps that would expedite the implementation of the U.S. 30 concept.

Presentation to Indiana Department of Transportation

This concept was developed with the advice of INDOT representatives, but as discussed above, many technical aspects of highway design were intentionally left vague. Presentation of this concept to INDOT would set the foundation for their further study and development of working plans for the U.S. 30 project. By giving INDOT guidance on what has been already discussed and generally accepted at the local level, their design and required public input process may be shortened, leading to a faster and cheaper implementation.

Presentation to legislative representatives

Funding is a key component of all infrastructure projects, and this concept plan should be presented to those in charge of allocating funds at an early stage. While the U.S. 30 Planning Committee intentionally avoided consideration of costs or funding sources, it was generally estimated that construction could be close to \$100 million if fully built as shown. The justifications of this expenditure, such as safety, economic development, and travel time, are discussed in this report.

It is also important to note that because of the effort to engage the public and key stakeholders in the creation of this concept, the importance of this project to business growth and residents' quality of life has been emphasized by constituents throughout the county.

Local thoroughfare planning

Converting U.S. 30 to a freeway will result in changes to traffic patterns on local roads that will need to be planned for. Integration of this U.S. 30 concept into a thoroughfare plan would give direction to planning future local road improvements that will become necessary as these traffic patterns are shifted.

Such a thoroughfare plan could be developed prior to any U.S. 30 work, and so could be used to reserve rights-of-way needed for future interchanges, road widening, planned streets, or other improvements. That would further reduce right-of-way acquisition costs and ease the implementation of the U.S. 30 upgrade.

Local land use planning

In conjunction with a thoroughfare plan, analysis of the current and future land uses around the U.S. 30 corridor should be undertaken, and planning and zoning documents adjusted accordingly. Doing so would prevent incompatible land uses from being developed in locations crucial to U.S. 30 development and would encourage the siting of businesses and industries to best take advantage of the interchanges and other improvements.

This effort could include updating the Whitley County and Columbia City Comprehensive Plans, by creating a corridor land use plan, or simply updating the zoning maps with the appropriate zoning districts. Like the thoroughfare plan, the land use study could be done prior to any work on U.S. 30 so as to set forth the expectations for development in the vicinity of the highway.

Construction of interim projects

The concept presented in this report assumes a complete conversion of U.S. 30 to freeway level, and the ideas reflect that “full build out” scenario. However, the Planning Committee determined that certain projects may be constructed sooner than others, particularly those which are warranted now (such as the State Road 9 interchange) versus those with longer-term impacts. As such, the concept could be developed in “piecemeal” fashion, with individual projects being completed with the planned design intent to become a U.S. 30 freeway.