Missouri Department of Transportation

CONCEPTUAL REPORT

US 60 SAFETY & ACCESS IMPROVEMENTS – SEYMOUR, MO

Webster County, Missouri

MoDOT Job # J7P3425B

November 2023

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1.0 INTRODUCTION

The primary goal of this study is to identify safety and access improvements along the US 60 corridor near Seymour, MO that facilitate the removal of the existing signalized intersections. There are a total of four (4) at-grade intersections within the project limits, including two (2) signalized at Clinton Avenue and Route C/K and two (2) unsignalized at Skyline Road and Lynch Drive.

The two (2) signalized intersections at US 60 & Clinton Avenue and US 60 & Route C/K currently create a safety risk and historically have the highest crash volumes within Seymour. Crash volumes are expected to continue to rise as the area continues to develop, warranting intersection safety, consolidation, and access improvements. Additionally, due to the large Amish community in the surrounding area, agricultural traffic (horse & buggy) is a key safety concern considered within this conceptual study.

The project limits are shown in Exhibit 1, which includes approximately 3.10 miles of US 60 from Cobblestone Drive at the west end to just east of Route C/K.

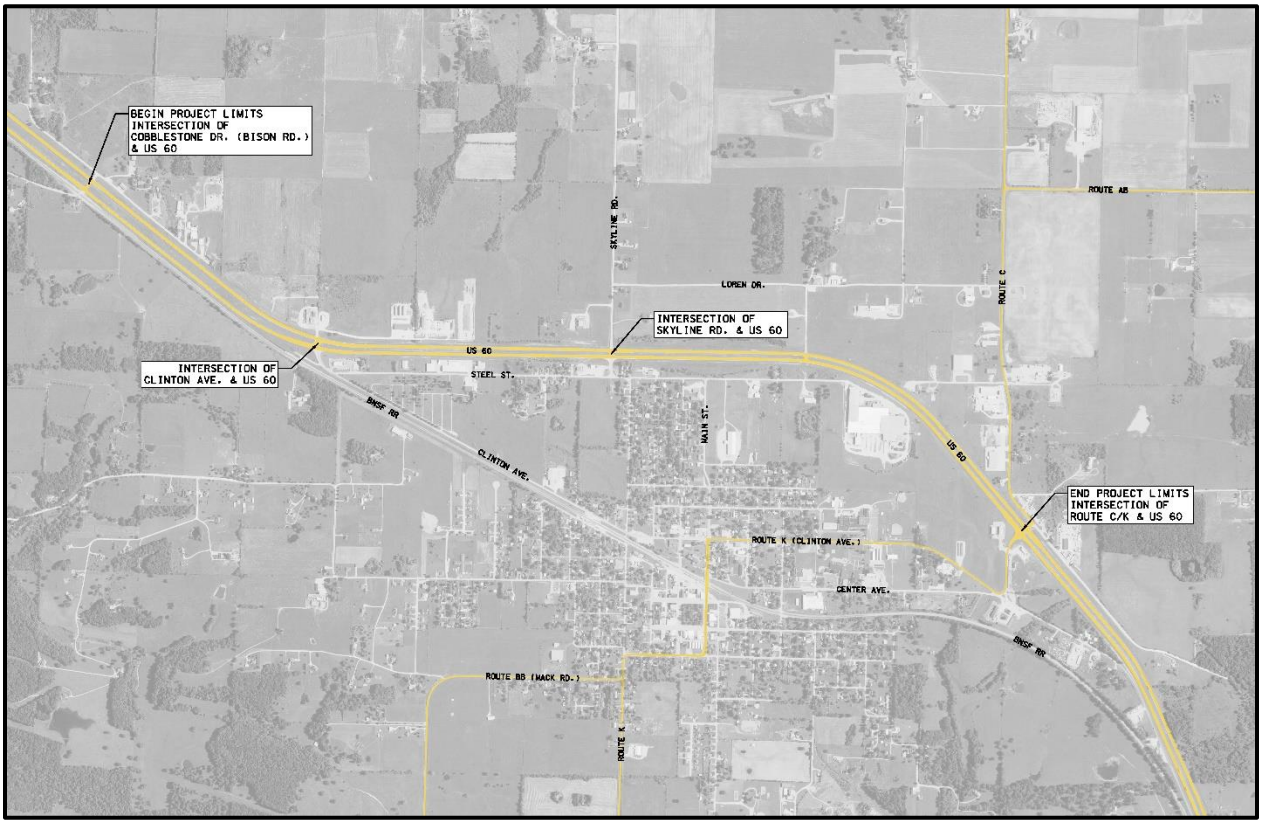


Exhibit 1: US 60 Project Corridor

2.0 PURPOSE AND NEED

2.1 PROJECT HISTORY

In July of 2022, the Missouri Department of Transportation (MoDOT) contracted Crawford, Murphy & Tilly, Inc. (CMT) to analyze solutions to the ongoing safety concerns along the US 60 corridor near Seymour, Missouri. The intersections at US 60 & Clinton Avenue and US 60 & Route C/K are of the few signalized intersections that remain along US 60 east of Springfield, MO, resulting in an enhanced safety risk where historically have higher crash frequencies. The recent and proposed future developments in the area elevate the need for a new solution to move traffic more safely and efficiently through Webster County on US 60.

Traffic and crash volumes have increased in recent years and are expected to continue to rise. As a major east-west route across southern Missouri, US 60 is critical to the transportation system, and is predicted to be the ninth highest freight route (by tonnage) in the state by 2045[1]. New development along US 60 and expansion of the City of Seymour has also resulted in additional traffic to US 60 and the existing intersections within the city limits, further impacting traffic operations and intersection safety.

The primary objective of this study was to analyze the existing US 60 corridor and identify safety and access improvements, including signal removal, at-grade intersection consolidation, at-grade intersection geometric improvements, grade-separated interchanges, and access roads. Various improvement alternatives were analyzed to consolidate access and improve safety along US 60 through Seymour. Improvement alternatives were presented to key stakeholders, property owners, and the general public for input. The resulting selected alternatives have been analyzed and are described further in the *Alternatives Analysis* section of this report.

CONCEPTUAL COST DATA:

	Cost ($1,000's)
Right of Way:	$840
Construction:	$22,228.6
PE (11%):	$2,445.1
CE (17%):	$3,778.9
Utilities:	$820
Total Program Cost:	**$30,302.6**

[1] 2022 Missouri State Freight & Rail Plan

DESCRIPTION OF EXISTING TRANSPORTATION FACILITIES

Study Area

The project is located in Seymour, Missouri as shown above in Exhibit 1. The study corridor incorporates approximately 2.75 miles of the existing US 60 corridor from Cobble Stone Drive (Log Mile 113.6) to just east of the MO Routes C/K intersection (Log Mile 116.9).

The study also investigated the adjacent local roadway network for connectivity to facilitate intersection consolidation. The local roadway network south of US 60 has significant connectivity and redundancy. Local roads north of US 60 have minimal connectivity and redundancy, requiring new roadways to facilitate intersection closures.

Roadways

US 60:

US 60 within the project area is a four-lane highway with 12-foot-wide lanes, 10-foot-wide outside shoulders, and 4-foot-wide inside shoulders. The average daily traffic (ADT) within the study corridor is approximately 9,300 vehicles per day (vpd) carried within two eastbound lanes and approximately 6,620 vpd carried within two westbound lanes. The posted speed limit is 65 mph. US 60 is signalized at its intersection with Clinton Avenue/Enterprise Drive and with Route C/Route K. US 60 Eastbound has left turn lanes at Clinton Avenue, Skyline Road, and Route C/K and right turn lanes at Clinton Avenue and Route C/K. US 60 Westbound has left turn lanes at Clinton Avenue, Skyline Road, and Route C/K and right turn lanes at Skyline Road and Route C/K.

Missouri Route C:

MO Route C in the project area is a two-lane major collector highway with 11-foot-wide lanes and 2-foot-wide shoulders. The average daily traffic (ADT) within the study corridor is approximately 2,675 vehicles per day (vpd), carried within one northbound and one southbound lane. The posted speed limit is 55 mph.

Missouri Route K:

MO Route K in the project area is a two-lane major collector highway with 11-foot-wide lanes and 1-foot-wide shoulders. The average daily traffic (ADT) within the study corridor is approximately 3,650 vehicles per day (vpd), carried within one northbound and one southbound lane. The posted speed limit is 35 mph throughout the project area.

Clinton Avenue:

Clinton Avenue is a two-lane roadway with 11-foot-wide lanes that intersects US 60 with a four-way signalized intersection. The average daily traffic (ADT) within the study corridor is approximately 4,465 vehicles per day (vpd) south of US 60, carried within one northbound and one southbound lane. The posted speed limit is 45 MPH throughout the project area.

Enterprise Drive:
Enterprise Drive is a privately-owned gravel roadway that intersects US 60 with a four-way signalized intersection. The average daily traffic (ADT) within the study corridor is approximately 625 vehicles per day (vpd) north of US 60. There is no posted speed limit.

Skyline Road:
Skyline Road is a two-lane roadway that intersects US 60 with a two-way stop-controlled (TWSC) intersection.

Lynch Drive:
Lynch Drive is a two-lane roadway that intersects US 60 from the north with a one-way stop-controlled intersection.

EXISTING FACILITIES

Beginning Log Mile	Pavement		Year Built	Roadbed Width	Min. R/W Width	Access Control
	Width	Type				
US 60 – Log Miles						
113.6	36’ Eastbound 36’ Westbound	Variable HMA Overlay 8” PCC	1970	Varies 128’ – 200’	Varies 260’ – 300’	Partial Controlled
RTE C – Log Miles						
9.1	22’ Overall	Variable HMA	1970	24’	60’	Normal
RTE K – Log Miles						
13.8	22’ Overall	Variable HMA	1970	22’	60’	Normal

2.2 PROPOSED DESIGN CRITERIA

The proposed US 60 facility has a functional classification of Expressway with a design average daily (ADT) traffic of approximately 17,050 vehicles per day. In accordance with MoDOT’s design criteria, the following criteria will be used when designing this facility based on the stated functional classification and traffic in level terrain.

Functional Classification	Design Speed	No. & Width Of Lanes	Shoulder Width	Roadbed Width	Right of Way	
					Width	Control
US 60, Expressway	65 mph	2 x 12’ mainline lines	Left: Varies 4’-8’ Right: 10’	Varies	Varies 260’-300’ (existing)	Fully Controlled
Route C, Minor Arterial	55 mph	2 x 12’	Curb and Gutter; 8’ Shoulder	Varies	60’ min. (existing)	Normal
Route K, Major Collector	35 mph	2 x 12’	Curb & Gutter; 8’ Shoulder	Varies	60’ min. (existing)	Normal
Enterprise Dr./Cobblestone Dr., Local	45 mph	2x11’	Left: 2’ Right: 2’	24’	60’ min.	Normal

Roundabout design criteria will follow TRB's NCHRP Report 672, *Roundabouts: An Informational Guide, Second Edition.* A typical section of the proposed facility is included in the appendix.

2.3 SYSTEM LINKAGE

Facility at the west end of the project: Cobble Stone Dr./Bison Rd./Box School Lp.

Facility at the east end of the project: Route C/Route K

US 60 is the primary route in the area used to travel east-west across southern Missouri, including commuter traffic toward Springfield. This corridor has experienced heavy use as economic development and population increase within Seymour and in the surrounding areas.

Route C connects US 60 to Highway 38 approximately 10 miles to the north. This corridor has experienced relatively high volumes of agricultural buggy traffic as it is one of the main routes utilized to enter Seymour from the north.

Logical Termini
The Federal Highway Administration defines logical termini as "rational endpoints for a transportation improvement and a review of environmental impacts" (FHWA, 1993). Three principles are used to define these points:

1.0 Termini must be of sufficient length to address environmental matters on a broad scope.
2.0 Termini must be set such that a project is determined to have independent utility and be a reasonable expenditure.
3.0 Termini are placed to not restrict any alternatives or foreseeable improvements.

For this study, the logical termini are specified as:

- At the existing intersection of US 60 and Cobble Stone Drive
- At the proposed intersection of US 60 and Routes C & K

2.4 OVERVIEW OF PURPOSE AND NEED

Purpose and Need refers to the transportation-related problems of a system that a project is intended to address. It identifies the need for improvements and justification for why a project is needed.

The growth of industrial developments on the northwest side of the City of Seymour as well as commercial and residential developments on the southeast side of the City of Seymour along US 60 is creating a strain on the existing intersections along the corridor. Existing traffic demands have resulted in increased crash frequencies at the signalized intersections at Clinton Ave. and

Route C/K and are expected to worsen as growth continues to occur in this area and on the corridor. In response to these safety concerns, MoDOT initiated a study of the corridor to identify solutions to improve safety at these intersections. Following stakeholder and public input, the preferred improvement alternative includes constructing a "Peanut" Interchange (US 60 Over) at the Route C/K intersection and a Restricted Crossing U-Turn Intersection (RCUT) at the Clinton Ave. intersection, along with the construction of a new local road to facilitate the closure of the existing Skyline Rd. and Lynch Dr. intersections.

The purpose of the proposed action is to improve roadway and intersection safety, create continuous State Route connectivity, and provide additional local connectivity. Traffic congestion is also expected to improve by providing a more efficient transportation facility. Specifically, the proposed transportation improvements will:

- Improve **roadway safety** at the US 60 intersections of Clinton Ave. Skyline Rd., Lynch Dr., and Route C/K, particularly by removing signalized crossings, consolidating unsignalized intersections and providing more desirable approach speeds & sight distances for roadways intersecting US 60.
- Maintain **continuous State Route connectivity** throughout the roadway network by replacing signalized intersections of state routes within the project area with new geometric improvements.
- Create **additional local connectivity** by providing new local roadways that facilitate enhanced connectivity.
- Foster **economic growth** by providing additional areas with improved highway access.

2.5 ACCIDENT DATA, SAFETY ENHANCEMENTS, AND ACCESS MANAGEMENT

Because the study area contains mostly low-severity crashes, it is assumed no locations within or adjacent to the study limits are on the "High Severity Location Lists" in the TMS database. A detailed summary of historical crash data can be found in the appended safety analysis summary tables.

Fatal And Major Injury Crashes
No fatal crashes occurred in the study area in the past five (5) years. Most of the injuries sustained in the study area were noted as minor injuries. Injury crashes accounted for 25% of the total crashes in the study area.

There was one (1) disabling injury crash in the project corridor:

US 60 Eastbound

- Right angle crash at the Clinton Avenue intersection in 2018 in dry but cloudy nighttime conditions

There were six (6) suspected serious injury crashes in the project corridor:

US 60 Eastbound

- Right angle crash at the Clinton Avenue intersection in 2019 during dry and clear daytime conditions
- Right angle crash at the Skyline Road intersection in 2021 during dry and cloudy daytime conditions
- Out of control crash approximately 0.13 mile west of Skyline Road in 2022 during dry and clear daytime conditions

US 60 Westbound

- Rear end crash at the Route C/K intersection in 2021 during wet and cloudy daytime conditions
- Right angle crash at the Skyline Road intersection in 2021 during dry and clear daytime conditions
- Rear end crash at the Clinton Avenue intersection in 2022 during dry and clear daytime conditions

Rear end crashes were the predominant crash type (almost 42%). Rear end crashes can be indicative of congestion and/or a failure to meet driver expectations.

Safety Mitigation / Enhancements

There are several safety enhancements within the design of the preferred alternative, including:

US 60 and Clinton Avenue intersection

The removal of the signal at this intersection and conversion to a RCUT will better meet US 60 driver expectations and create continuity throughout the rest of the corridor. Installing downstream U-turns with left-in turn lanes will provide the same access to local businesses and amenities within Seymour while improving the safety of the intersection.

US 60 intersections with Skyline Road and Lynch Drive

The closure of these two intersections will eliminate several corridor conflict points and consolidate access to US 60 to access points with fewer conflict points.

US 60 and Route C/K intersection

Installing an interchange at this intersection will greatly enhance safety. The grade separated access will remove most conflict points with the heavy US 60 traffic. The ‘peanut’ roundabout will further enhance safety on Route C and Route K by slowing traffic and eliminating most conflict points at the interchange.

Highway Safety Manual Analysis Results

The HSM analysis results for the build alternative and the No Build alternative are shown below. The proposed alternative predicts a 60% reduction (approximately 80 crashes per year) in crashes compared to the No Build alternative. The proposed improvements will address most of the rear

end crashes and angle crashes occurring in the corridor, which account for 66% of the historic corridor crashes.

US 60 Seymour Safety Analysis - 2040 Annual Predicted Crashes			
Analysis Tool	**Severity**	**Alternative**	
		No Build	**MO C Interchange w/ Clinton J-Turn**
Rural Multilane	Fatal / Injury	19.1	2.4
	PDO	25.3	2.7
iSATe	Fatal / Injury	--	2.1
	PDO	--	6.9
State Hwy & Local Suburban	Fatal / Injury	2.1	2.0
	PDO	4.1	3.9
Total		**50.6**	**20.0**
Difference from No Build		**--**	**-60.5%**

Calibration factors by facility type were provided by MoDOT based on statewide data. The adjustment factors adjusted the crash prediction to match performance statewide for similar facilities.

Non-Motorized Facility Accommodation

Sidewalks and bicycle facilities are not currently present along US 60, Route C, or Route K within or adjacent to the project limits. This project will not install pedestrian or bicycle facilities at this time, but the design will accommodate future pedestrian/non-motorized traffic.

The Seymour area is home to a significant Amish population that utilizes agricultural horse & buggy to travel along US 60 and within Seymour. There are two (2) Amish populations: the 'Highway A' Amish community in Diggins (west of Seymour) and the 'Highway C' Amish community north of Seymour. Both groups travel to Seymour for access to various services, utilizing US 60, Routes C & K, and other local roadways. Agricultural buggy accommodations are planned to enhance safety with the increased mixed-use traffic, including widened shoulders and a channelized roundabout 'shoulder.'

Access Management

US 60 already has limited access. This project will further limit access, moving the US 60 corridor towards a change in the access character to freeway for the corridor. With two intersection closures, a grade separation, and a J-turn style intersection, the number of conflict points in the US 60 corridor will be significantly reduced.

2.6 ROADWAY CAPACITY

The following table summarizes the average intersection delay for the existing intersections during the morning and evening peak hours for 2020 and 2040 Design Year. This table shows the average intersection delay (seconds per vehicle) and Level of Service (LOS) for each approach and overall intersection performance for signalized intersections and the stopped approach for unsignalized intersections.

Existing Analysis Results – Delay and LOS					
Intersection	**Approach**	**Delay, s (LOS)**			
		2020 AM	**2020 PM**	**2040 AM**	**2040 PM**
US 60 & Clinton	EB	13.0 (B)	13.3 (B)	13.7 (B)	14.6 (B)
	WB	17.7 (B)	15.7 (B)	19.2 (B)	16.6 (B)
	NB	20.2 (C)	21.2 (C)	22.7 (C)	23.6 (C)
	SB	20.2 (C)	20.5 (C)	21.7 (C)	21.9 (C)
	ALL	**16.3 (B)**	**14.9 (B)**	**17.7 (B)**	**16.2 (B)**
US 60 & Skyline*	NB	13.1 (B)	20.6 (C)	15.0 (B)	33.1 (D)
	SB	12.9 (B)	15.1 (C)	14.6 (B)	18.4 (C)
US 60 & Lynch*	SB	11.2 (B)	10.1 (B)	12.1 (B)	10.5 (B)

Existing Analysis Results – Delay and LOS (cont.)					
US 60 & Rte. C/K	EB	14.9 (B)	19.6 (B)	16.8 (B)	24.2 (C)
	WB	16.4 (B)	17.8 (B)	19.0 (B)	21.2 (C)
	NB	18.6 (B)	22.8 (C)	21.6 (C)	26.2 (C)
	SB	14.8 (B)	29.8 (B)	16.6 (B)	22.4 (C)
	ALL	**16.0 (B)**	**19.4 (B)**	**18.3 (B)**	**23.3 (C)**

** Unsignalized intersection, delay reported for stopped approach only.*

2.7 ROADWAY DEFICIENCIES

From the historical crash data, hot-spot areas with correctable, geometric-related crash history include:

- US 60 and Clinton Avenue Intersection
- US 60 and Skyline Road Intersection
- US 60 and Route C/K Intersection

All the hot-spot areas experience relatively high volumes of agricultural buggy traffic. The Clinton Ave. and Route C/K intersections are signalized, and therefore not consistent with the rest of the US 60 corridor throughout Webster County. The Skyline Rd. intersection experiences a significant portion of truck traffic to Hutchens Industries. No other deficiencies were noted within the study limits.

3.0 ALTERNATIVES ANALYSIS

3.1 ALTERNATIVES DEVELOPMENT

In November 2022, a meeting was held to discuss six different interchange alternatives as well as three intersection consolidation alternatives along US 60 in Seymour, as follows:

- Interchange Alternative 1 – 'Dogbone' Interchange (US 60 Over) west of the existing Route C/K intersection
- Interchange Alternative 2A – 'Peanut' Interchange (US 60 Over) west of the existing Route C/K intersection
- Interchange Alternative 2B – 'Peanut' Interchange (Over US 60) west of the existing Route C/K intersection
- Interchange Alternative 3 – 'Dogbone' Interchange (Over US 60) east of the existing Route C/K intersection
- Interchange Alternative 4 – Diamond Interchange (Over US 60) east of the existing Route C/K intersection
- Interchange Alternative 5 – Main Street 'Dogbone' Interchange (Over US 60) located east of the existing Skyline Road intersection, connecting Main Street to Loren Drive
- Consolidation Alternative 1 – J-Turns with Cobblestone NOR (backage road option)
- Consolidation Alternative 2 – Eastbound Slip Ramps with Enterprise/Cobblestone NOR (frontage road option)
- Consolidation Alternative 3 – RCUT with Enterprise/Cobblestone NOR (frontage road option)

Alternatives were developed that are consistent with both MoDOT's *Engineering Policy Guide (EPG*) and the American Association of State Highway and Transportation Officials (AASHTO) *A Policy on Geometric Design of Highways and Streets.* **Appendix A** shows detailed conceptual layouts of the alternatives that were further analyzed.

During the November meeting, Interchange Alternatives 3 and 4 were eliminated due to the lack of economic and geometric feasibility, and Alternative 5 was eliminated due to lack of support from the City of Seymour and their preference being to have an interchange west of the existing Route C/K intersection. Improvement alternatives were refined based on public and stakeholder feedback received, resulting in the Final Study Alternatives presented below. Further stakeholder involvement with the City of Seymour resulted in the recommended alternative.

3.2 FINAL STUDY ALTERNATIVES:

Final Alternative 1 – Route C/K 'Peanut' Interchange & Clinton RCUT

Appendix A - Final Alternative 1 Exhibit shows the conceptual layout. Major features of Alternative 1 include:

- New 'Peanut' Interchange (US 60 Over) at Route C/K west of existing intersection & realignment of Route K
- New roundabout intersection at the Route K/East Clinton and Center Ave.
- New local roadway connection from Stave Mill Ln. to Matney Hollow Rd.
- New local roadway connection to Steel St.
- New RCUT intersection at W Clinton Ave./Enterprise Dr.
- Extension of Enterprise Dr. to Skyline Rd
- Closure of Skyline Rd. and Lynch Dr. intersections

Benefits

The use of roundabouts improves the safety of the interchange at the intersections and slower speeds alleviate mixed traffic concerns with agricultural vehicles. The 'peanut' roundabout is designed to channelize the use of agricultural buggies with motor vehicle traffic. The use of an RCUT intersection at W. Clinton Ave. maintains necessary access on the west side of Seymour while significantly improving safety by eliminating the existing signal and restricting the left-out movement. The connection to Steel St. provides direct access to the interchange for trucks traveling to and from the Steel plant.

Disadvantages

The RCUT intersection improvements do not achieve freeway status. Additionally, following discussions with representatives of the Steel plant, there were multiple concerns with increased traffic along the proposed Steel St. connection interfering with loading and unloading operations and was ultimately determined not to be the preferred access road location.

Final Alternative 1a – Route C/K 'Peanut' Interchange & Main Street Folded Diamond

Appendix A - Final Alternative 1a Exhibit shows the conceptual layout. Major features of Alternative 1a include:

- New 'Peanut' Interchange (US 60 Over) at Route C/K west of existing intersection & realignment of Route K
- New roundabout intersection at the Route K/East Clinton and Center Ave.
- New local roadway connection from Stave Mill Ln. to Matney Hollow Rd.
- New local roadway connection to Steel St.
- New RCUT intersection at W Clinton Ave./Enterprise Dr.
- New partial interchange at Main St. (EB Off & WB On Ramps Only)

- Extension of Enterprise Dr. to Skyline Rd
- Closure of Skyline Rd. and Lynch Dr. intersections

Benefits

In addition to the benefits listed for Alternative 1, the Main St. partial interchange provides enhanced access across US 60 for emergency responders and additional freeway-level US 60 access.

Disadvantages

The RCUT intersection improvements do not achieve freeway status. Additionally, significant fiscal resources are required to implement this alternative.

The roundabout at Route K/East Clinton and Center Ave. results in an increased cost to the project, as well as more challenging geometrics for oversized loads that utilize East Clinton Ave.

Final Alternative 1b – Route C/K 'Peanut' Interchange (Anderson Alignment) & Clinton RCUT

Appendix A - Final Alternative 1b Exhibit shows the conceptual layout. Major features of Alternative 1b include:

- New 'Peanut' Interchange (US 60 Over) at Route C/K west of existing intersection & realignment of Route K
- New local roadway connection from Stave Mill Ln. to Matney Hollow Rd.
- New widened intersection at the Route K/East Clinton
- New local roadway connection to Anderson St.
- New RCUT intersection at W Clinton Ave./Enterprise Dr.
- Extension of Enterprise Dr. to Skyline Rd./Loren Dr. intersection
- Closure of Skyline Rd. and Lynch Dr. intersections

Benefits

Local connectivity to Anderson St. provides enhanced local access in addition to the improved safety of the interchange due to the use of roundabouts at the interchange. The use of an RCUT intersection at W. Clinton Ave. maintains necessary access on the west side of Seymour while significantly improving safety by eliminating the existing signal and restricting the left-out movement.

The widened 'T-intersection' at Route K/East Clinton Ave. provides more conducive geometrics for oversized loads utilizing East Clinton Ave., as well as significant cost savings when compared to a roundabout intersection.

Disadvantages

RCUT intersection improvements do not achieve freeway status. Additionally, Anderson St. is a narrow, highly residential street that is currently not accustomed to through-traffic

movements. Upon discussion with the city and the CORE Team, it was decided that Anderson St. was not a preferable alignment due to the residential impacts and existing roadway width.

Final Alternative 1c – Route C/K 'Peanut' Interchange (Garfield Alignment) & Clinton RCUT

Appendix A - Final Alternative 1c Exhibit shows the conceptual layout. Major features of Alternative 1c reflect many of the same concepts and benefits as Final Alternative 1b, with the addition of the improvement of access to school traffic.

- New 'Peanut' Interchange (US 60 Over) at Route C/K west of existing intersection & realignment of Route K
- New local roadway connection from Stave Mill Ln. to Matney Hollow Rd.
- New local roadway connection to Garfield Ave.
- New widened intersection at the Route K/East Clinton
- New RCUT intersection at W Clinton Ave./Enterprise Dr.
- Extension of Enterprise Dr. to Skyline Rd.
- Closure of Skyline Rd. and Lynch Dr. intersections

Benefits

The use of roundabouts provides safety advantages at the intersections due to slower speeds, reducing concerns regarding mixed traffic with agricultural vehicles such as tractors and buggies. The 'peanut' roundabout is designed to channelize the use of agricultural buggies with motor vehicle traffic.

Local connectivity to Garfield Ave. provides enhanced local access while alleviating some of the concerns of diverting traffic down a narrow and densely populated street, while also allowing improved access for school traffic. Also, the point of access to the Steel plant is more favorable due to the increased distance between the roadway traffic and the loading/unloading and parking zones. The use of an RCUT intersection at W. Clinton Ave. maintains necessary access on the west side of Seymour while significantly improvement safety by eliminating the existing signal and restricting the left-out movement.

The widened 'T-intersection' at Route K/East Clinton Ave. provides more conducive geometrics for oversized loads utilizing East Clinton Ave., as well as significant cost savings when compared to a roundabout intersection.

Disadvantages

RCUT intersection improvements do not achieve freeway status.

Final Alternative 2a – Main Street Diamond Interchange (State Route)

Appendix A - Final Alternative 2a Exhibit shows the conceptual layout. Major features of Alternative 2a include the following:

- New Interchange (Over US 60), connecting Main St. to Loren Dr.
  - EB Ramp terminal roundabout intersection w/ Steel St. & Main St.
  - WB Ramp two-way stop controlled
- Realignment/Route Status Change of Main St. to Route K and Loren Dr./E. Forrest Rd. to Route C
- New roundabout intersection at existing Route C/Forrest Dr.
- New RCUT intersection at W Clinton Ave./Enterprise Dr. and existing Route C/K
- Extension of Enterprise Dr. to Skyline Rd./Loren Dr. intersection
- Closure of Skyline Rd. and Lynch Dr. intersections

Benefits

The interchange is located centrally in Seymour, providing efficient access from and north of US 60 to downtown Seymour. This location provides adverse travel and traffic diversions.

The use of a roundabout at the EB ramp terminal improves the safety of the interchange at this intersection and facilitates slower speeds, alleviating mixed traffic concerns with agricultural vehicles. The use of an RCUT intersection at W. Clinton Ave. and existing Route C/K maintains necessary access at both ends of Seymour while significantly improving safety by eliminating the existing signal and restricting the left-out movement.

Local connectivity to Enterprise Dr. provides enhanced local access and improves access for existing and future development.

Disadvantages

RCUT intersections improvements do not achieve freeway status. This option is not a favored access point for the City of Seymour nor local public due to its location that would direct increased traffic through Main St. and residential areas, and is not in conjunction with the existing infrastructure and growth of Seymour.

Roundabout intersections at the new Main St./Loren Dr. intersection and Loren Dr./Route C are proposed for safety, however add additional cost to the project. The feasibility of widened 'T-intersections' were discussed, however not refined as this option was not pursued as a preferred alternative.

Final Alternative 2b – Main Street Diamond Interchange (Local Route)

Appendix A-Final Alternative 2b Exhibit shows the conceptual layout. Major features of Alternative 2b include the following:

- New Interchange (Over US 60), connecting Main St. to Loren Dr.
    - EB Ramp terminal roundabout intersection w/ Steel St. & Main St.
    - WB Ramp two-way stop controlled
- New RCUT intersection at W Clinton Ave./Enterprise Dr. and existing Route C/K
- Extension of Enterprise Dr. to Skyline Rd./Loren Dr. intersection
- Closure of Skyline Rd. and Lynch Dr. intersections

Benefits

The interchange is located centrally in Seymour, providing efficient access from and north of US 60 to downtown Seymour. This location provides adverse travel and traffic diversions.

The use of a roundabout at the EB ramp terminal provides the same traffic and safety benefits as Alternative 2a. The use of an RCUT intersection at W. Clinton Ave. and existing Route C/K maintains access and improves safety due to the elimination of existing signals and restriction of the left-out movement.

Local connectivity to Enterprise Dr. provides enhanced local access and improved access for existing and future development.

Disadvantages

RCUT intersections improvements do not achieve freeway status.

The interchange will serve local routes, resulting in greater traffic volumes likely utilizing the RCUT intersections. RCUT intersections improvements do not achieve freeway status. This option is not a favored access point for the City of Seymour nor local public due to its location that would direct increased traffic through Main St. and residential areas, and is not in conjunction with the existing infrastructure and growth of Seymour.

Final Alternative 3 – Clinton Ave. & Route C/K RCUT Intersections Only

Appendix A-Final Alternative 3 Exhibit shows the conceptual layout. Major features of Alternative 3 include the following:

- New RCUT intersection at W. Clinton Ave. and Routes C/K
- New roundabout intersection at Route K/E. Clinton Ave. and Center St.
- Closure of Skyline Rd. and Lynch Dr. intersections

Benefits

The RCUT intersections will significantly improve safety along US 60 and facilitate the removal of the signalized intersections. Access at the ends of Seymour will remain in the same locations, resulting in limited adverse travel.

Disadvantages

RCUT intersections improvements do not achieve freeway status. Additionally, this alternative does not provide a grade-separated crossing of US 60. Furthermore, truck traffic that currently utilizes the Skyline Rd. intersection will be required to travel through town to access US 60.

3.3 ALTERNATIVE SAFETY ANALYSIS

3.3.1 Highway Safety Manual Analysis and Results

The safety performance functions (SPFs) for rural multi-lane highways and urban and suburban arterials were used for the detailed safety analysis. The iSATe analysis uses freeway SPFs for the build scenarios that would add grade separated interchanges, upgrading segments of US 60 to a freeway condition.

The crash modification factors (CMFs) listed below were incorporated into the analysis for the identified alternatives. These CMFs were in addition to any adjustments to base CMFs already incorporated into the SPFs. CMF 314 was used to calibrate the analysis to match the existing all-way stop-control condition at the Main Street/Clinton Avenue intersection.

Crash Modification Factors	
Route C/K Interchange with Clinton J-Turn	Main Street Interchange with J-Turns
- CMF 207: Conversion of Stop-Controlled intersection into a single-lane roundabout - CMF 5555 – Install J-Turn Intersection - CMF 314 – Convert Minor-Road Stop Control to All-Way Stop Control	- CMF 207: Conversion of Stop-Controlled intersection into a single-lane roundabout - CMF 5555 – Install J-Turn Intersection - CMF 314 – Convert Minor-Road Stop Control to All-Way Stop Control
Clinton and Route C/K J-Turns	
- CMF 207: Conversion of Stop-Controlled intersection into a single-lane roundabout - CMF 5555 – Install J-Turn Intersection - CMF 314 – Convert Minor-Road Stop Control to All-Way Stop Control	-

The HSM analysis results for the three build alternatives and the No Build alternative are shown below. All the build alternatives show substantial reductions in corridor crashes. The SPFs show removing the traffic signals along US 60 is a major safety improvement. Additional access management along US 60 was also a significant factor.

US 60 Seymour Safety Analysis - 2040 Annual Predicted Crashes					
		Alternative			
Analysis Tool	**Severity**	**No Build**	**Alt. #1 - Rte. C/K Interchange w/ Clinton RCUT**	**Alt #2 - Main St Interchange w/ RCUT's**	**Alt #3 – Rte. C/K & Clinton RCUT**
Rural Multilane	Fatal / Injury	19.1	2.4	4.7	6.9
	PDO	25.3	2.7	5.1	7.2
iSATe	Fatal / Injury	--	2.1	1.3	--
	PDO	--	6.9	4.3	--
State Hwy & Local Suburban	Fatal / Injury	2.1	2.0	1.9	2.0
	PDO	4.1	3.9	3.8	3.9
Total		**50.6**	**20**	**21.1**	**20**
Difference from No Build		**--**	**-60.5%**	**-58.3%**	**-60.5%**

The interchange at Route C/Route K and J-turns at both Clinton and Route C predict the highest crash reduction of the build alternatives. The removal of the traffic signals on US 60 in both options is the most significant safety benefit to the corridor. The installation of J-turns at Clinton and Route C would provide a substantial safety benefit, but of the build alternatives, it is furthest from achieving MoDOT's ultimate goal of a US 60 freeway facility.

3.4 ALTERNATIVE OPERATIONAL ANALYSIS:

3.4.1 Initial Screening

Through the initial screening process, each alternative was analyzed using Synchro to determine the average intersection delay and LOS for the three (3) remaining intersections within US 60 Project Limits for each of the final alternatives. Sidra Intersection was used to analyze roundabout intersections. The following table provides the results of the initial screening of the alternatives.

Proposed Analysis Results – Delay and LOS						
1A	US 60 & Clinton*	J-Turn W	11.1 (B)	14.5 (B)	11.8 (B)	17.0 (C)
		EBL	18.0 (C)	18.8 (C)	22.2 (C)	24.3 (C)
		WBL	12.5 (B)	16.6 (C)	13.5 (B)	19.8 (C)
		J-Turn E	13.8 (B)	13.7 (B)	16.7 (C)	16.3 (C)
	US 60 & Rte. C/K *	Roundabout[i]	6.6 (A)	7.5 (A)	7.1 (A)	8.3 (A)
	US 60 & Rte. C/K w/o Oak Lawn Div*	Roundabout[i]	5.9 (A)	6.6 (A)	6.3 (A)	7.2 (A)

Proposed Analysis Results – Delay and LOS (cont.)						
1B	US 60 & Clinton*	J-Turn W	11.1 (B)	14.5 (B)	11.8 (B)	17.0 (C)
		EBL	18.0 (C)	18.8 (C)	22.2 (C)	24.3 (C)
		WBL	12.5 (B)	16.6 (C)	13.5 (B)	19.8 (C)
		J-Turn E	13.8 (B)	13.7 (B)	16.7 (C)	16.3 (C)
	US 60 & Rte. C/K *	Roundabout[i]	6.8 (A)	7.9 (A)	7.3 (A)	8.8 (A)
	US 60 & Rte. C/K w/o Oak Lawn Div*	Roundabout[i]	6.2 (A)	7.0 (A)	6.6 (A)	7.7 (A)
1C	US 60 & Clinton*	J-Turn W	11.1 (B)	14.5 (B)	11.8 (B)	17.0 (C)
		EBL	17.9 (C)	18.5 (C)	22.1 (C)	23.7 (C)
		WBL	12.5 (B)	16.6 (C)	13.5 (B)	19.9 (C)
		J-Turn E	13.4 (B)	12.8 (B)	15.8 (C)	14.5 (B)
	US 60 & Rte. C/K *	Roundabout[i]	6.7 (A)	7.7 (A)	7.1 (A)	8.4 (A)
	US 60 & Rte. C/K w/o Oak Lawn Div*	Roundabout[i]	6.0 (A)	6.8 (A)	6.4 (A)	7.4 (A)
2A/2B	US 60 & Clinton*	J-Turn	11.0 (B)	14.1 (B)	11.6 (B)	16.4 (C)
		EBL	17.5 (C)	17.1 (C)	21.1 (C)	20.6 (C)
		WBL	12.8 (B)	17.7 (C)	13.9 (B)	21.5 (C)
	US 60 & Main*	EB Ramp[i]	4.9 (A)	5.7 (A)	5.3 (A)	6.3 (A)
		WB Ramp	12.8 (B)	13.9 (B)	14.6 (B)	16.4 (C)
	US 60 & Rte. C/K *	EBL	15.1 (C)	14.9 (B)	17.4 (C)	17.4 (C)
		WBL	13.6 (B)	22.7 (C)	15.3 (B)	35.2 (E)
		J-Turn	12.5 (B)	12.9 (B)	13.9 (B)	14.7 (B)
	US 60 & Rte. C/K w/o Oak Lawn Div*	EBL	15.1 (C)	14.9 (B)	17.4 (C)	17.3 (C)
		WBL	12.9 (B)	18.6 (C)	14.0 (B)	24.0 (C)
		J-Turn	12.2 (B)	12.4 (B)	13.4 (B)	13.9 (B)
3	US 60 & Clinton*	J-Turn W	11.3 (B)	14.9 (B)	12.1 (B)	17.9 (C)
		EBL	18.0 (C)	18.8 (C)	22.2 (C)	24.3 (C)
		WBL	12.9 (B)	17.6 (C)	14.1 (B)	21.7 (C)
		J-Turn E	14.3 (B)	14.6 (B)	17.6 (C)	18.4 (C)
	US 60 & Rte. C/K *	J-Turn W	11.0 (B)	13.6 (B)	11.7 (B)	15.8 (C)
		EBL	15.1 (C)	15.0 (C)	17.4 (C)	17.5 (C)
		WBL	13.6 (B)	22.7 (C)	15.3 (B)	35.2 (E)
		J-Turn E	12.5 (B)	12.9 (B)	13.9 (B)	14.7 (B)
	US 60 & Rte. C/K w/o Oak Lawn Div*	J-Turn W	11.0 (B)	13.6 (B)	11.7 (B)	15.8 (C)
		EBL	15.1 (C)	15.0 (C)	17.4 (C)	17.4 (C)
		WBL	12.9 (B)	18.6 (C)	14.0 (B)	24.0 (C)
		J-Turn E	12.2 (B)	12.4 (B)	13.4 (B)	13.9 (B)

** Unsignalized intersection, delay reported for stopped approach only.*

[i] Overall roundabout delay

A Peak Hour Movement analysis was also performed for each of the proposed alternatives. See **Appendix C** for the full detailed traffic analysis and summary.

In addition to the detailed analyses presented in the evaluation matrix above, the final alternatives were compared using a Benefit-Cost Analysis (BCA) based on traffic and safety, as shown below. Final Alternative 3 was shown to have the highest BCA based upon the long term operational and safety benefits. It should be noted that while the BCA results vary significantly, the traffic and safety benefits are similar for each alternative and the significant BCA variation is attributed to the wide range in costs.

While Alternative 3 has the highest BCA, Alternate 1c is recommended as the preferred alternative based on public and stakeholder feedback received during the conceptual phase for local and regional access, emergency responder access, school traffic, and agricultural buggy accommodations.

Benefit-Cost Analysis Summary

Year		*Total Annual Discounted Benefits (7% Discounted)*					
		Alt. 1a	*Alt. 1b*	*Alt. 1c*	*Alt. 2a*	*Alt. 2b*	*Alt. 3*
0	2024	$ -	$ -	$ -	$ -	$ -	$ -
1	2025	$ -	$ -	$ -	$ -	$ -	$ -
2	2026	$ -	$ -	$ -	$ -	$ -	$ -
3	2027 (Construction)	$ -	$ -	$ -	$ -	$ -	$ -
4	2028 (Construction)	$ -	$ -	$ -	$ -	$ -	$ -
5	2029	$ 5,262,586	$ 5,264,929	$ 5,258,745	$ 5,118,660	$ 5,118,660	$ 4,202,508
6	2030	$ 5,648,065	$ 5,650,029	$ 5,644,611	$ 5,525,916	$ 5,525,916	$ 4,644,119
7	2031	$ 5,294,886	$ 5,296,556	$ 5,291,733	$ 5,175,425	$ 5,175,425	$ 4,360,927
8	2032	$ 4,961,985	$ 4,963,419	$ 4,959,073	$ 4,873,957	$ 4,873,957	$ 4,097,454
9	2033	$ 5,277,876	$ 5,279,118	$ 5,275,161	$ 5,203,402	$ 5,203,402	$ 4,479,502
10	2034	$ 4,945,320	$ 4,946,401	$ 4,942,769	$ 4,874,206	$ 4,874,206	$ 4,194,910
11	2035	$ 4,626,179	$ 4,627,124	$ 4,623,767	$ 4,563,737	$ 4,563,737	$ 3,936,214
12	2036	$ 4,344,468	$ 4,345,297	$ 4,342,175	$ 4,300,807	$ 4,300,807	$ 3,697,291
13	2037	$ 4,062,726	$ 4,063,454	$ 4,060,536	$ 4,067,870	$ 4,067,870	$ 3,512,054
14	2038	$ 3,807,524	$ 3,808,163	$ 3,805,424	$ 3,818,390	$ 3,818,390	$ 3,288,747
15	2039	$ 3,184,764	$ 3,185,326	$ 3,182,745	$ 3,580,975	$ 3,580,975	$ 3,049,717
16	2040	$ 3,133,218	$ 3,133,711	$ 3,131,270	$ 3,276,799	$ 3,276,799	$ 2,926,777
17	2041	$ 2,996,113	$ 2,996,543	$ 2,994,227	$ 3,187,657	$ 3,187,657	$ 2,720,205
18	2042	$ 2,656,939	$ 2,657,313	$ 2,655,111	$ 2,995,400	$ 2,995,400	$ 2,547,171
19	2043	$ 2,485,473	$ 2,485,797	$ 2,483,696	$ 2,805,538	$ 2,805,538	$ 2,390,900
20	2044	$ 2,330,564	$ 2,330,843	$ 2,328,835	$ 2,630,830	$ 2,630,830	$ 2,243,047
21	2045	$ 2,210,352	$ 2,210,589	$ 2,208,665	$ 2,487,958	$ 2,487,958	$ 2,131,381
22	2046	$ 2,073,643	$ 2,073,841	$ 2,071,996	$ 2,333,895	$ 2,333,895	$ 1,994,715
23	2047	$ 1,940,134	$ 1,940,297	$ 1,938,523	$ 2,194,661	$ 2,194,661	$ 1,876,527
24	2048	$ 1,822,669	$ 1,822,799	$ 1,821,091	$ 2,041,554	$ 2,041,554	$ 1,757,044
25	2049	$ 1,728,367	$ 1,728,467	$ 1,726,820	$ 1,931,105	$ 1,931,105	$ 1,668,052
Total Discounted Benefits		**74,793,851**	**74,810,015**	**74,746,973**	**76,988,741**	**76,988,741**	**65,719,260**
Total Discounted Project Cost		**27,297,194**	**21,326,304**	**22,865,575**	**20,274,649**	**14,787,635**	**9,044,406**
Project BCA Ratio		**2.74**	**3.51**	**3.27**	**3.80**	**5.21**	**7.27**

3.5 COST ESTIMATES

High-level conceptual cost estimates were developed for each improvement alternative throughout the processes. Cost estimates included Construction Costs, Utility Relocations, Right of Way, Design Engineering (PE), and Construction Engineering (CE). A refined conceptual cost estimate

was developed on the selected Final Improvement Alternative 1c (Route C/K Peanut Interchange) and is attached in **Appendix B**.

3.6 SATISFACTION OF THE PURPOSE AND NEED

The proposed intersection and interchange improvements fulfill the project's purpose and need by providing efficient and safe traffic operations for all projected traffic scenarios. Safety along the US 60 corridor is improved through implementation of the Route C/K interchange and W. Clinton Ave. intersection improvements significantly reduces conflict points, reduces corridor inconsistencies, and enhances access for new development.

The removal of signalization allows free-flowing traffic on US 60 and provides consistency throughout the US 60 corridor in Webster County. The proposed interchange was designed to accommodate diverse traffic use in the area, including large, oversized trucks and agricultural buggies.

4.0 CONSTRUCTION IMPACTS

4.1 UTILITIES

Lumen (Fiber) – Impacts TBD / Non-Reimbursable
Lumen (Fiber) [CenturyLink National] – Impacts TBD / Non-Reimbursable
Summit Natural Gas – Relocation at New Interchange Anticipated / Non-Reimbursable
City of Seymour Electric – Relocation at New Interchange Anticipated / Reimbursable
City of Seymour Water – Relocation at New Interchange Anticipated / Reimbursable
City of Seymour Sewer – Relocation at New Interchange Anticipated / Reimbursable
Webster County Electric – Single-Phase Relocation at Enterprise Drive / Reimbursable

City of Seymour Utilities, Summit Natural Gas, and Webster County Electric are anticipated to have utility conflicts. City of Seymour and Webster County Electric are anticipated to be reimbursable utility conflicts.

4.2 HANDLING OF TRAFFIC

The preferred alternative will require significant coordination for traffic phasing during construction. The US 60 mainline horizontal and vertical realignment will require a phased approach, including constructing portions of the ramps and roundabout first, followed by temporary pavement widening during the US 60 realignment.

There is sufficient and redundant local access within Seymour to minimize local traffic disruptions during construction. Further phasing details and plans are anticipated during the preliminary stage.

4.3 LAND USE WITHIN THE STUDY AREA

Land use along the corridor is split, with a majority north of US 60 being undeveloped agricultural land, south mostly developed commercial and industrial use. A majority of the developments are primarily commercial with some industrial buildings. There are various planned commercial and industrial developments along the corridor, both north and south of US 60.

4.4 ENVIRONMENTAL SUMMARY

ENVIRONMENTAL CLASSIFICATION:
A Categorical Exclusion (CE2) is the expected classification for this project. The conceptual request for environmental services (RES) submittal was submitted by MoDOT on March 6, 2023. An updated RES will be submitted with this report and at each project development milestone. All environmental concerns that are identified will be addressed.

PUBLIC HEARING/PUBLIC MEETING:
An initial conceptual public meeting was held on March 21, 2023, at the Seymour Middle School. See **Appendix E** for details.

A Public Hearing is anticipated to occur during the future phases of the project.

NOISE ASSESSMENT:
MoDOT Environmental staff have indicated a noise study is not anticipated for this project due to receptor locations in relation to the proposed improvements.

SECTION 4(F) AND SECTION 6(F):
The extension of Garfield Avenue may require additional 4(f) investigations. No 6(f) resources are located within or near the project study area.

THREATENED AND ENDANGERED SPECIES:
Federally threatened gray bats use caves year-round and are found primarily in the Ozark highlands, but may be wherever caves are found. Federally endangered Indiana bats and federally threatened Northern long-eared bats hibernate in caves during winter and spend summers in a forested habitat where they may use trees with suitable characteristics. There are no records of these species within or near the project study area. There will be no impact to known caves from this project. Tree removal is anticipated as part of this project and further investigations for potential habitat for the Indiana, Northern long-eared, and Tri-colored bats.

The federally threatened Ozark cavefish is found in cave streams and springs and are affected by inputs to groundwater. This project crosses mapped groundwater recharge area. There are no records of this species within or near the project study area and there will be no impacts to suitable

habitat. Because of the recharge area, the Ozark cavefish Job Special Provision (JSP) will be required to ensure this project will have no effect on Ozark cavefish.

404 PERMIT:
The National Wetland Inventory and National Hydrography Dataset does not indicate any defined streamlines within the project study area. The alternatives are expected to have no direct impact on surface water resources. The project will not impact any waters of the United States. A 404 permit is not anticipated.

SECTION 106:
No National Register of Historic Places sites are located within or adjacent to the project study area. The project will require a Section 106 submittal to the Missouri State Historic Preservation Office and an archaeological survey is anticipated to be needed.

FLOODPLAIN MANAGEMENT (NO RISE CERT.):
The project is located in an area of minimal flood hazard; therefore, a floodplain development permit will not be required.

STORMWATER QUALITY:
The project is located outside the Municipal Separate Storm Sewer System (MS4) area and Transportation Separate Storm Sewer System (TS4) area.

HAZARDOUS MATERIAL:
Various underground storage tank (UST) facilities are documented within or near the project limits:

- One (1) Former UST located at the SW corner of US 60/Skyline Rd.
- One (1) Operating UST located at the SW corner of US 60/Rte. K
- One (1) Other Known Petroleum facility located at the NE corner of US 60/Rte. C

If additional right-of-way will be needed near this site, further investigation will be needed.

FARMLAND:
The project is located outside the U.S. Census urban area of Springfield, MO. Any new right-of-way and permanent easements will require a farmland impact rating from the U.S. Department of Agriculture Natural Resources Conservation Service.

OTHER RESOURCES
Webster County, MO is an attainment area for the Clean Air Act. The project is not expected to result in an exceedance of the National Ambient Air Quality Standards or the criteria set by the state of Missouri for hydrogen sulfide and sulfuric acid. Fugitive dust and noise from construction and minor traffic disruptions are expected.

5.0 COMMENTS AND RECOMMENDATIONS

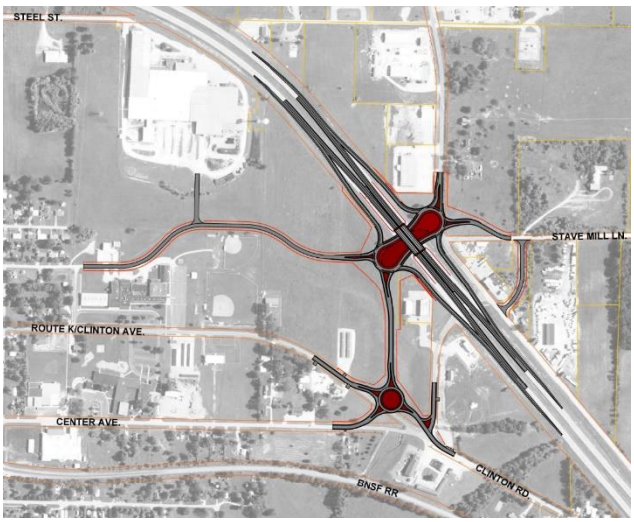
The various alternatives for the interchange concepts and intersection improvements were analyzed based on traffic operations, safety, and benefit-cost ratios. The traffic analysis included initial screening of alternatives using macroscopic traffic tools and the most promising alternatives were analyzed using VISSIM microscopic models using different traffic projection scenarios to complete a sensitivity analysis on the interchange type. Based upon the results of this analysis in addition to stakeholder & public involvement, Final Alternative 1c was selected as the preferred improvement alternative, including the Route C/K Peanut Interchange (Garfield Alignment) and a RCUT intersection type at Clinton Ave./Enterprise Dr.

The following describes the various components of the preferred alternative.

5.1 US 60 / ROUTES C & K INTERCHANGE

The proposed interchange of Route C/K and US 60 is a 'peanut' interchange with US 60 over. The 'peanut' roundabout itself will include one motor vehicle traffic lane, as well as a separate 8' shoulder on the outside that is channelized by low-profile medians to discourage lane crossover to accommodate agricultural buggies. At the westbound ramp terminal, connections to Route C and Stave Mill Lane are included in the roundabout, effectively creating a five-leg roundabout. In the median island, truck aprons are extended to accommodate the large, oversized loads that frequently utilize the existing signalized intersection with the westbound-to-southbound movement. At the eastbound ramp terminal, connections to Route K/Clinton Avenue and Garfield Avenue are included, effectively creating a five-leg roundabout similar to the westbound ramp terminal.

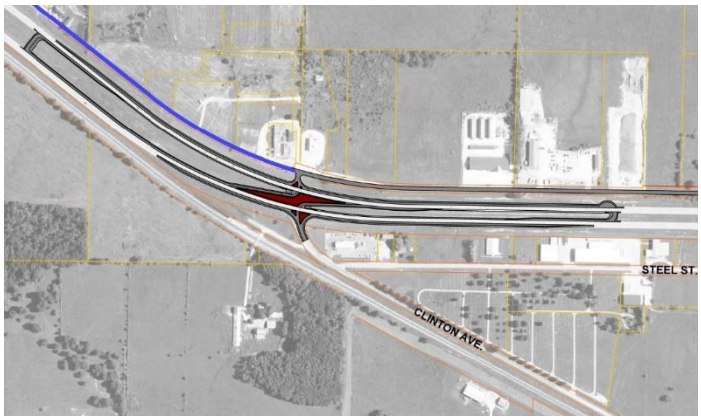
The US 60 bridge over the roundabout is designed to accommodate adequate sight distance at the ramp terminals. If pedestrian accommodations are included at the interchange, consideration should be taken of the additional bridge length that may be required to accommodate ADA facilities.



5.2 US 60 / CLINTON AVENUE INTERSECTION

The proposed intersection improvement at Clinton Avenue is the removal of signalization and installation of a Restricted Crossing U-Turn (RCUT) that includes a Right In-Right Out, Left In access and two downstream J-Turns.

The project includes extending local Enterprise Drive from the existing US 60 Intersection to Skyline Drive for improved access and to facilitate the closure of the Skyline Dr. intersection.



5.3 COBBLESTONE DRIVE

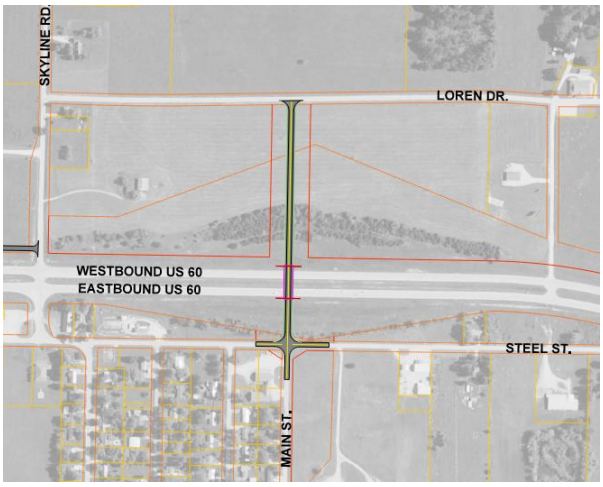
A potential additional improvement sub-option was proposed with the selected alternative to extend Cobblestone Drive east to Enterprise Drive. This connection would facilitate improved local access for existing and future developments and reduce agricultural buggy traffic on US 60.

While this sub-option would provide the added benefits mentioned above, it is not vital to the project to fulfill the purpose and need, it would require additional costs and right-of-way acquisition. Due to this, it was ultimately decided that this sub-option would not be pursued due to budget constraints on construction and right-of-way costs attributed to the project.

5.4 MAIN STREET OVERPASS

A potential addition access improvement for a Main Street Overpass, connecting Main Street over US 60 (no access ramps) to Loren Drive. This connection would facilitate improved local access across US 60 for agricultural buggy traffic, emergency access, and future developments north of US 60.

While this sub-option would provide the added benefits mentioned above, it is not vital to fulfill the purpose and need, and would require significant additional costs and right-of-way acquisition. Due to this, it was decided this sub-option would not be pursued with this project due to budget constraints on construction and right of way costs attributed to this project. This improvement can be made in future other local funding sources are identified.



5.5 IMPLEMENTATION PLAN

Historical crash records indicate a need for safety enhancements along this section of US 60, specifically at the signalized intersections. The project is anticipated to let for construction bids in Fall 2026, with construction completed by Fall 2028, per the current STIP. No interim improvements are programmed at this time.

Prepared by:

Steve J. Prange, P.E.
C*MT Project Manager*

Submitted by:

Warner "Bud" Sherman, P.E., PMP
Transportation Project Manager

Design Liaison Engineer's Comments & Recommendation:

11/14/2023 - Reviewed conceptual report and concur with proposed grade separated interchange at Route C/K and at-grade intersection improvements at Clinton Ave. I support the need for future funding for the additional overpass at Main Street and the north outer road extensions to improve access to Seymour for low-speed vehicles and buggies. Randall Glaser, PE

Attachments:
Appendix A – Concept Exhibits
Appendix B – Conceptual Engineer's Opinion of Probable Cost
Appendix C – Traffic Operational Analysis Results
Appendix D – Highway Safety Manual Reports
Appendix E – Public Involvement Summary

Approved by:
Stacy Reese, P.E.
District Engineer