Main St (US 22) and Columbus St (SR 13) Safety Study

Village of Somerset, Ohio

Ohio Department of Transportation

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TOOLE DESIGN

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1.0 Executive Summary

The purpose of this study is to analyze the existing safety and capacity conditions and to determine potential countermeasures to mitigate crashes and improve operations at the intersection of Main Street (US 22) and Columbus Street (SR 13) in the Village of Somerset, Ohio. Unlike conventional roundabouts where entering drivers yield to traffic in the roundabout, this traffic circle is designed such that drivers are expected to yield to traffic entering the intersection. However, some drivers are yielding to vehicles in the roundabout, while other drivers (who are familiar with the traffic control) are following the signage to yield to vehicles on the right, i.e., vehicles entering the traffic circle. This overall confusion is causing unnessecary delay and many near misses at the intersection. Because of the current intersection geometry and traffic control, vehicles are not slowing down as they enter the roundabout. As a result, pedestrians were observed walking swiftly or running within the crosswalk to clear the roadway as quickly as possible.

Based on the crash patterns and traffic operations in the study corridor, a phased approach over several years is proposed at this intersection. The short-term, medium- and long-term improvements are detailed below:

Short-Term

- **Modify the traffic operation to be yield upon entry:** The traffic operation can be modified by adding yield signage on all the approaches of the roundabout. Public education will be critical to the success of this modification. Outreach through ODOT and the local news media can help inform residents of the operational changes at the intersection.
- **Add mountable curb extensions to the intersection crosswalks:** The installation of curb extensions will act as a traffic calming measure by reducing the size roadway cross section. Pedestrians are also more visible with the installation of curb extensions as they are not obstructed by vehicles in the parking lane and have a shorter crossing distance.
- **Improve pedestrian signage:** The current pedestrian signage is outdated; improved pedestrian signage, including signs with high visibility, retroreflective sheeting, will bring more attention to pedestrians crossing the legs of the intersection.

Medium-Term

- **Construct a conventional roundabout through signage and pavement markings:** These pavement markings would channelize vehicles traveling through the roundabout and clearly delineate the roundabout from the parking areas. Traversable plastic barriers could be installed to help with this delineation, but frequent maintenance would likely be required due to vehicles driving over them. With this solution, the traffic would yield upon entry rather than to vehicles on the right. This solution could operate well into the future while the long-term roundabout is being funded and constructed.

Long-Term

- **Construct a conventional roundabout with curb delineation:** This roundabout would include raised splitter islands, permanent concrete curbing and truck aprons.
    - If off-street parking becomes available around the downtown Somerset area, parking within the intersection could be removed. If the parking is removed, the areas could be converted to enhanced public spaces with benches and tables, fountains, art, or other elements that attract visitors to Somerset.

- **Add curb extensions and crosswalks to the alley/side street intersections:** The curb extensions, even though they are a distance from the intersection, will still have the traffic calming effect to slow vehicles down as the approach or leave the intersection and will provide an additional visual cue to drivers to be alert for pedestrians.

2.0 Purpose

The purpose of this study is to analyze the existing safety and capacity conditions and to determine potential countermeasures to mitigate crashes and improve operations at the intersection of Main Street (US 22) and Columbus Street (SR 13) in the Village of Somerset, Ohio. The study area is shown below in **Figure 1.**

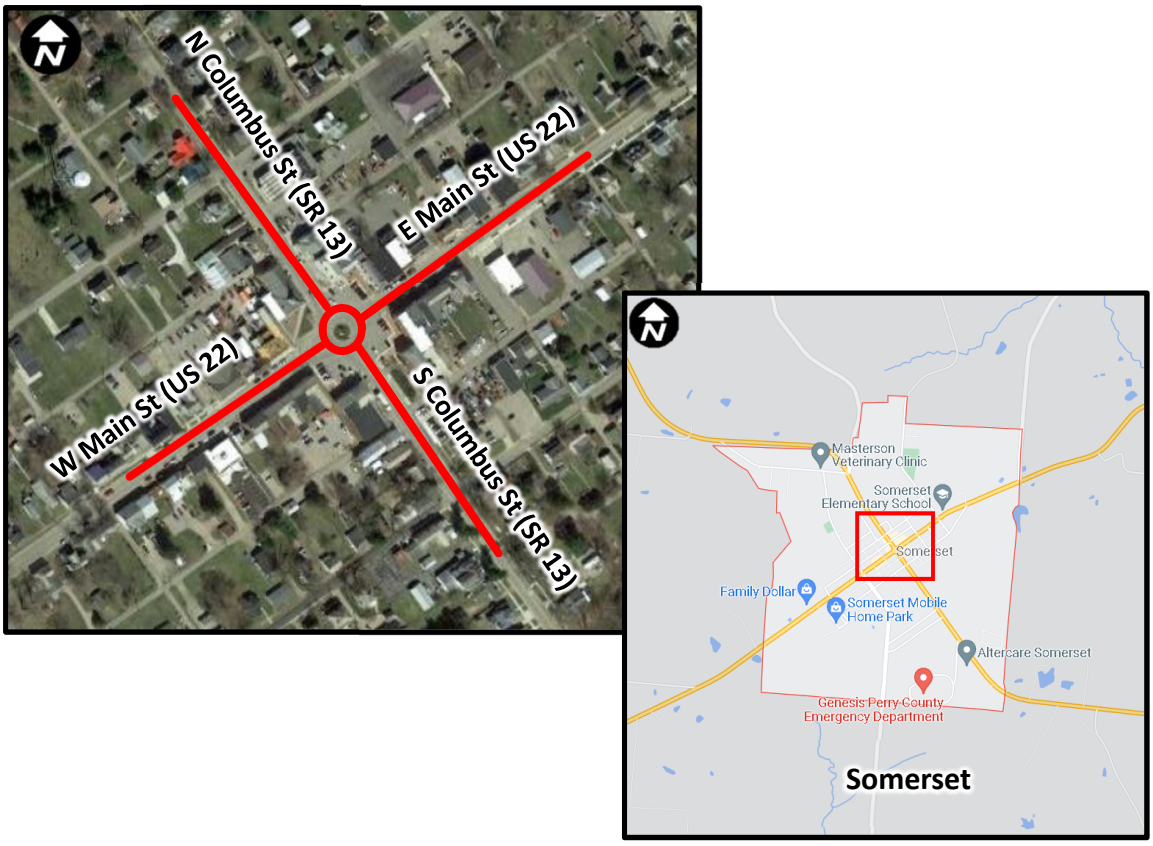


Figure 1: Study Area

3.0 Existing Conditions

Land Use and Pedestrian Generators

The area surrounding the intersection is comprised of a number of businesses and restaurants. The land uses surrounding the intersection are summarized below in **Figure 2.**

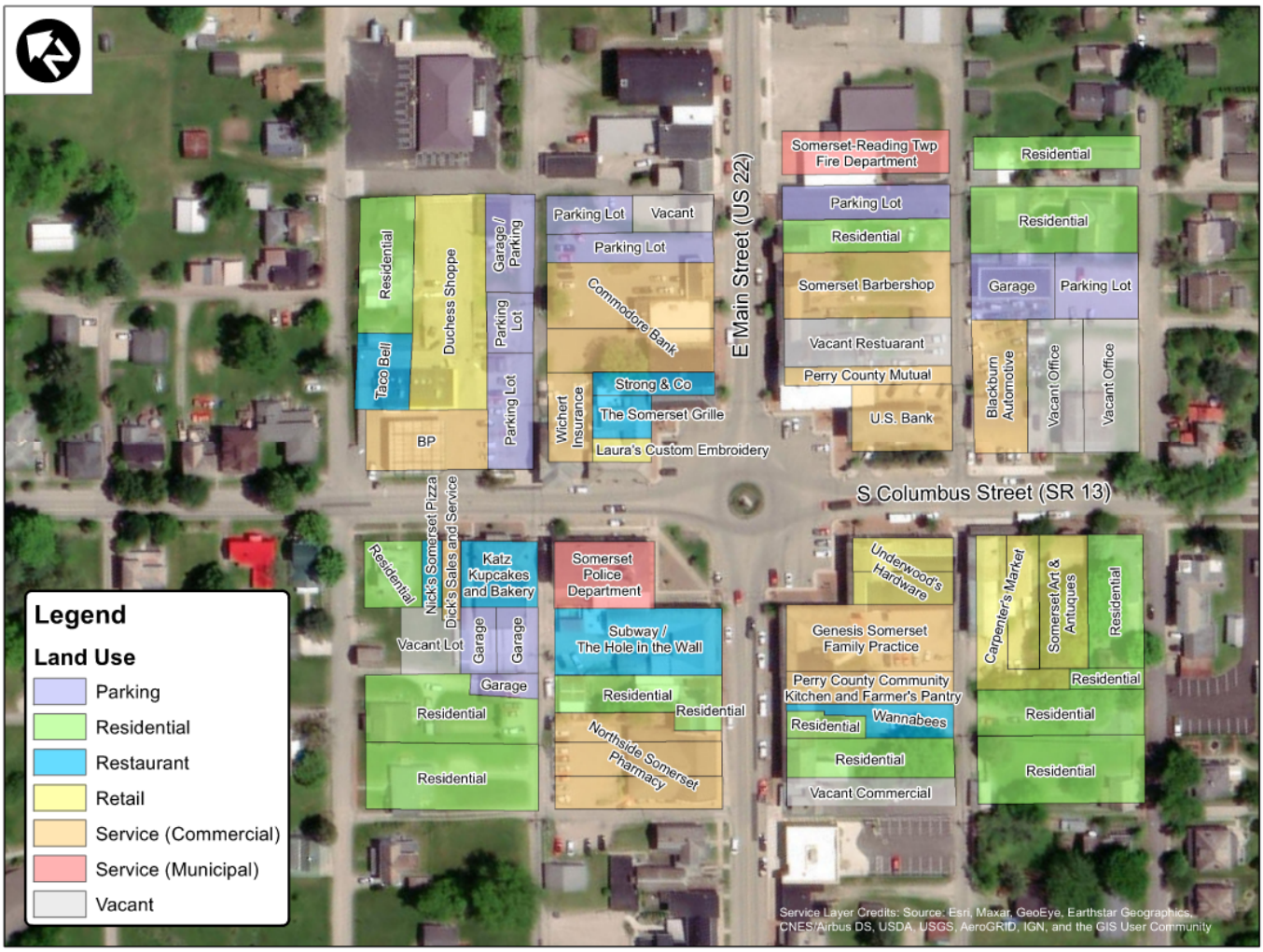


Figure 2: Land Use

On the northern, eastern, and southern quadrants of the intersection, there are designated parking areas for the businesses in the area. The western quadrant has green space and brick pavers. The restaurants in the area create increased pedestrian activity in the evenings. According to the community, the highest reported pedestrian activity in the area occurs on Saturdays from May to October for the farmers market. Somerset Elementary School is located approximately a quarter mile northeast of the study intersection along E Main Street. The Holy Trinity School K-8 School is located approximately a quarter mile southeast of the study intersection on S Columbus Street.

Roadway Conditions

Main Street (US 22) and Columbus Street (SR 13) are both classified as minor arterials. They are two-way two-lane roads with on-street parallel parking on both sides of the roadway. Sidewalks are provided along all approaches to the intersection. The speed limit along both roadways is 35 mph on

all approaches, until approximately 500 feet from the intersection where the speed transitions to 25 mph. All intersection approaches are lighted.

Intersection Conditions

The lane configuration for this four-legged unsignalized intersection is illustrated in **Figure 3**. Unlike conventional roundabouts where entering drivers yield to traffic in the roundabout, this traffic circle is designed such that drivers are expected to yield to traffic entering the intersection. Signs are posted in the center of the intersection on all approaches, shown in **Photo 1**. These signs direct drivers to "Yield to Traffic on the Right". The sign is not visible to approaching traffic as the sign is in the center island.

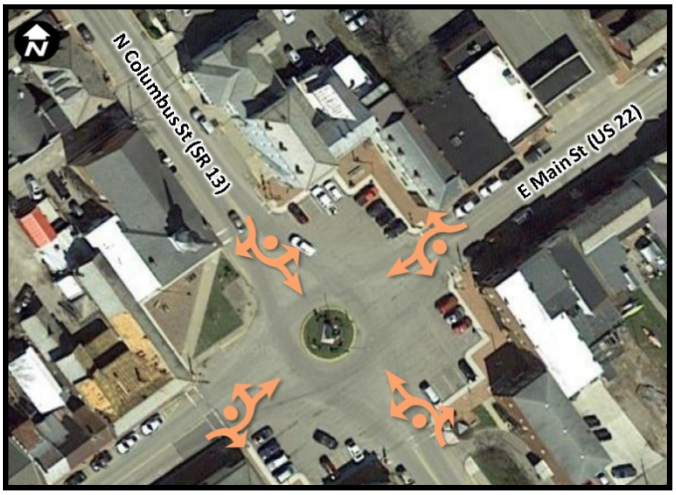


Figure 3: Intersection Configuration

Pedestrian crossing warning signs and high visibility crosswalks are provided on all four approaches to the intersection, shown in **Photo 2**. Pedestrian-scale lighting is provided near all crosswalks.

Photo 1: Yielding Signage

Photo 2: Pedestrian Accommodations

Observation Summary

Field observations were completed on September 14th, 2021 during the AM and PM peak hours. On the same day in the late afternoon, a meeting with stakeholders from ODOT, the Village of Somerset and Buckeye Hill Regional Council was held at the square to observe the intersection and brainstorm improvement options.

- During both the AM and PM peak periods, many near misses were observed. The majority of these near misses appear to be due to unfamiliarity of the roundabout traffic control and

confusion related to which vehicle has the right-of-way. **Photo 3** shows two vehicles stopped, with the drivers confused as to who has the right-of-way, resulting in delay at the intersection.

- Some drivers are yielding to vehicles on entry, while other drivers (who may be more familiar with the traffic control) are following the signage to yield to vehicles on the right, i.e., vehicles entering the traffic circle.
- There were a number of drivers waving other drivers through the intersection, disregarding the traffic control.
- Most vehicles traveling in the intersection were traveling slowly enough to avoid a collision. Additionally, due to the large amount of pavement, vehicles had space to maneuver away from a possible collision.
- In the PM peak, some right-turning vehicles (on entry) were observed maneuvering around vehicles backed up in the intersection.

Photo 3: Traffic Operation Confusion

- The parking areas are not well defined from the intersection area which causes confusion when vehicles were exiting and entering the parking areas.
  - **Photo 4** shows a vehicle (white van) that just backed out of the parking space is waiting for a gap to enter the intersection. Parking situations like these result in conflicts between parking vehicles and vehicles within the intersection and caused operational delay in the intersection.
  - A vehicle exiting the parking area on the southwest corner of the intersection was observed traveling the wrong way through the intersection to travel west on Main Street (US 22).
  - The busiest parking section in the AM peak hour was on the southwest corner which serves Underwood's Hardware and Genesis Primary Care.
  - The parking in the PM peak hour was more equally dispersed through the three parking areas.

Photo 4: Vehicle Exiting the Parking Areas

- There is heavy truck traffic through the intersection, including semi-trucks, tanker trucks and trucks carrying oversized loads (**Photo 5**).
    - Many of the trucks do not yield to traffic on the right which resulted in several near misses.
    - One semi-truck stalled in the center of the intersection while yielding to vehicles entering the intersection.

Photo 5: Oversized Load Truck

- A high number of school buses travel through this intersection.
- Two children were observed using the crosswalks on their way to school in the AM peak.
- In both the AM and PM peak hours, the majority of the drivers did not slow down before the crosswalks, especially on Columbus Street (SR 13). Many of the pedestrians crossing Columbus Street (SR 13) had to run or walk quickly across the crosswalks.
- Traffic flow is heaviest towards the north on Columbus Street (SR 13) in the morning and the south on Columbus Street (SR 13) in the evening.
    - There was rarely queuing observed during the AM peak hour. A small queue (three to five vehicles) formed on the northbound approach of Columbus Street (SR 13) a few times but would dissipate quickly.
    - In the PM peak hour, queuing of one to two block lengths occurred on the southbound approach on Columbus Street (SR 13), shown in **Photo 6**, but it dissipated quickly
    - In the PM peak hour, there were a few situations where all vehicles at the intersection were stopped or were moving extremely slowly. This situation occurred when vehicles inside the intersection were yielding to vehicles on another approach, and the vehicles entering the intersection could not move because there was gridlock within the intersection, shown in **Photo 7**.

Photo 6: Queueing on SR 13 in the PM Peak

Photo 7: Traffic Gridlock in the Intersection

- Based on conversations with the community, as the routes have become busier, there have been increasing complaints about semi-truck/traffic noise.
- An abandoned cistern built in 1829 is located on the northwest corner of the intersection that is out of commission, shown in **Photo 8**. It occasionally fills with water and the water

needs to be pumped out. The curb and concrete pavement above the cistern has crumbled from vehicle encroachment. There was concern that that continual weight of vehicles passing over the area may lead to a collapse.

Photo 8: Abandoned Cistern

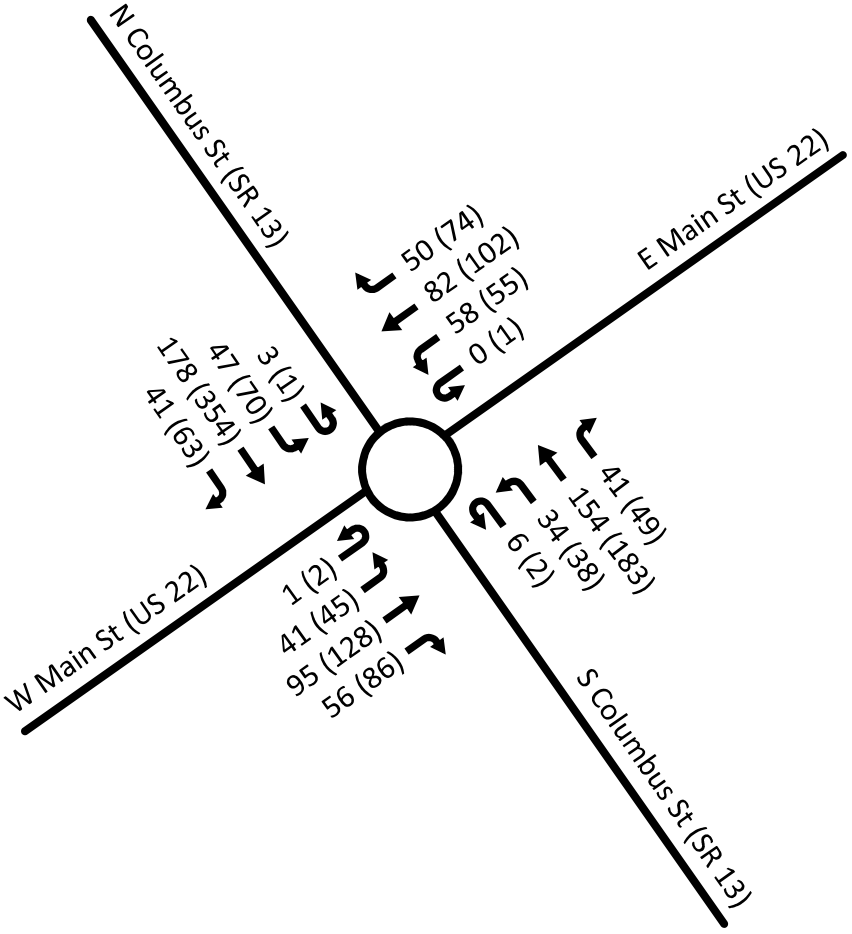
4.0 Data Collection

Turning movement counts were collected for 12 hours between 6:00 AM and 6:00 PM on Thursday, August 26th, 2021 and on Saturday, August 28, 2021. The peak hours were determined to be 8:30 AM to 9:30 AM and 3:45 PM to 4:45 PM for the weekday. The Saturday peak hour was determined to be 11:30 AM to 12:30 PM. The weekday peak hour counts are show in **Figure 4.** Raw traffic counts are provided in **Appendix A**.

The traffic volumes in the area are predicted to grow in the next 20 years, so an annual growth rate was applied to all existing volumes. This growth rate was obtained by selecting several points along ODOT's Traffic Forecast Management System (TFMS). The growth rates for each leg ranged between 0.1 percent and 1.0 percent so to be conservative, a 0.5 percent annual growth rate was applied to existing volumes to obtain future volume estimates. The TFMS Segment Forecast Report can be found in **Appendix B**.

ODOT's Peak Hour to Design Hour table for rural minor arterials was used to determine the design hour factor of 1.12. This table is provided in **Appendix C.** The existing 2021 volumes grown to 2041 volumes were multiplied by the design hour factor. These future volume calculations are shown in **Appendix D.** The final adjusted 2040 volumes are provided in **Figure 5**.

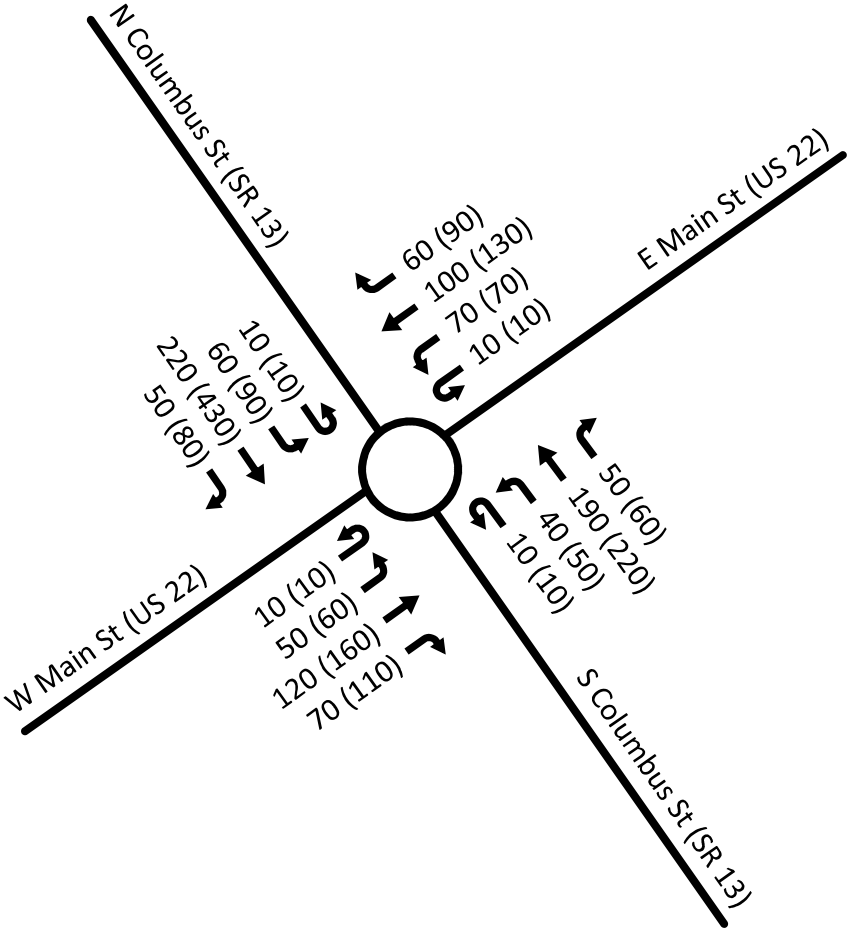
Weekday AM/PM
Peak Hour Counts



XX – 2021 AM Peak Hour Volume – 8:30 AM – 9:30 AM
(XX) – 2021 PM Peak Hour Volume – 3:45 PM – 4:45 PM

BURGESS & NIPLE Engineers ■ Architects ■ Planners	**Columbus St (SR 13) & Main St (US 22) Somerset, OH**	**Existing (2021) Peak Hour Volumes**	**Figure 4**

Weekday AM/PM
2041 Future Peak Hour
Counts



XX – 2041 AM Peak Hour Volume – 8:30 AM – 9:30 AM
(XX) – 2041 PM Peak Hour Volume – 3:45 PM – 4:45 PM

BURGESS & NIPLE Engineers ■ Architects ■ Planners	**Columbus St (SR 13) & Main St (US 22) Somerset, OH**	**Future (2041) Peak Hour Volumes**	**Figure 5**

5.0 Existing Capacity Analysis

The existing level of service was not able to be determined because of the unique traffic operation at the intersection. Traffic analysis is not currently available for intersections with vehicles yielding to the right. For the purposes of this study, only the proposed alternatives will be analyzed.

6.0 Existing Safety Analysis

Crash Trends and Analysis

Crash data from January 1, 2015 through December 31, 2019 were obtained for the study area from ODOT's *GIS Crash Analysis Tool* (GCAT) and analyzed using the *Crash Analysis Module* (CAM) Tool. The original data set consisted of 20 crashes in the study area. The reports were reviewed for accuracy and 4 were considered unrelated to the study area, leaving a total of 16 crashes. **Figure 6** summarizes the frequency of crashes, by severity, per year. There were no fatalities reported in the study area and out of the 16 crashes, 2 (13 percent) resulted in injury.

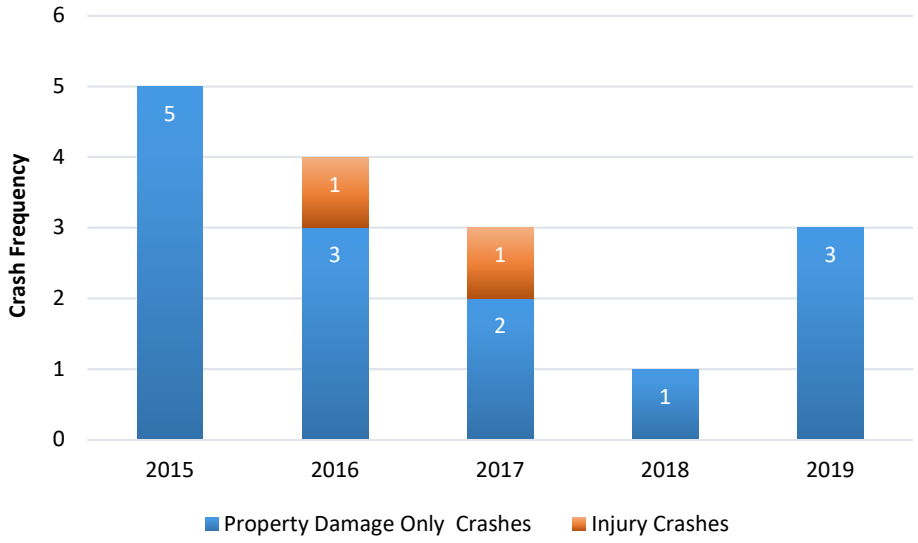


Figure 6: Frequency of Crashes by Year and Severity

A collision diagram that shows crash patterns by illustrating the approximate location of each reported crash is provided in **Appendix E**. Full analysis from the CAM Tool is provided in **Appendix F**. **Figure 7** shows the crash frequency in the study area by the crash type.

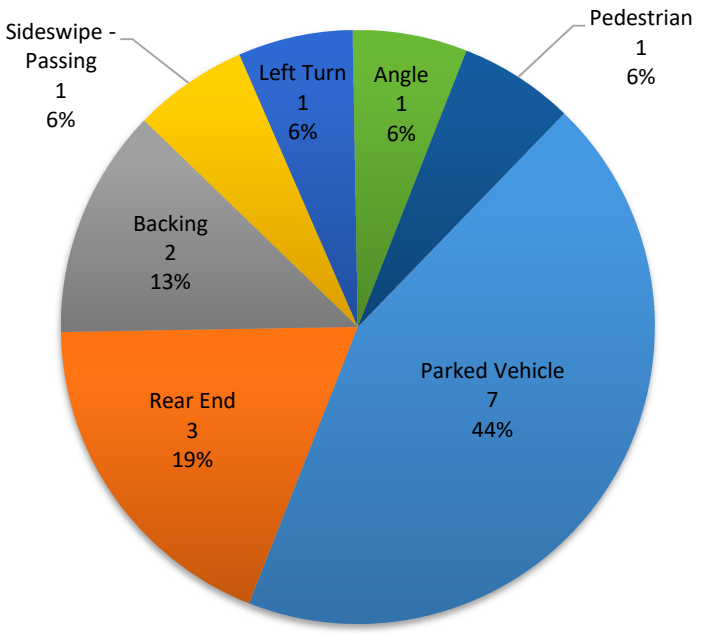


Figure 7: Crash Frequency by Crash Type

The most frequent crash type in the study area was parked vehicle collisions (44 percent). Three of the parked vehicle collisions occurred in the designated parking areas within the intersection, while the remaining collisions involved vehicles parked along Main Street (US 22) outside of the intersection. The parked vehicle collisions were mainly due to vehicles either backing up to exit their parking space or vehicles sideswiping the parked cars. One of the parked vehicle collisions was due to a drunk driver driving into a parked car.

The second most frequent collision type was rear end collisions (19 percent). These collisions occurred due to vehicles unexpectedly stopping in the intersection. One of these collisions resulted in injury when a vehicle was rear ended within the intersection.

The one pedestrian crash involved a pedestrian on the northern leg of the intersection on N. Columbus Street and an exiting vehicle traveling northbound.

Figure 8 shows the crash frequency by hour of the day, with the highest peak occurring between 4:00 PM and 5:00 PM.

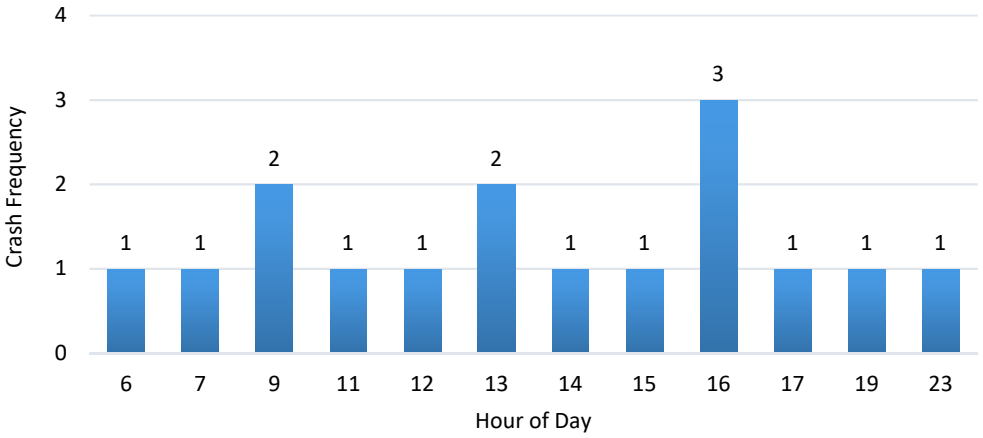


Figure 8: Crash Frequency by Hour of the Day

7.0 Countermeasures for Consideration

The following potential countermeasures were identified to mitigate crashes and improve safety within the study area. These countermeasures were further evaluated as part of this study. Based on the analysis and community feedback, some of the countermeasures were not considered for implementation.

- **Modify the traffic operation from yield to the right, to yield upon entry:** The traffic operation can be modified by adding yield signage on all the approaches to the intersection and removing the existing yield to traffic on the right signing. These new signs would be located on the approach legs of the intersection, instead of the center island. By modifying this traffic pattern to operate as a traditional roundabout, the traffic operation is consistent with all other roundabouts in Ohio and around the country which will reduce confusion. With the new traffic control, operational efficiency will be improved. Aside from yield lines at the entries to the roundabout, no other pavement marking changes will be implemented.
    - Public education will be a critical component with this operation modification. Additionally, advanced signage will communicate the traffic changes. During the first weeks of the traffic control/signage change, temporary high visibility signs are recommended on all approaches in advance of the intersection to warn of the traffic pattern change. Adding permanent advanced roundabout signage with speed advisory plaques would also be beneficial to warn drivers of the upcoming roundabout so they can prepare to yield upon entry.
- **Improve pedestrian signage:** The current pedestrian signage is outdated; improved pedestrian signage, including signs with high visibility, retroreflective sheeting, will bring more attention to pedestrians crossing the legs of the intersection.
- **Add mountable curb extensions to the intersection crosswalks:** The installation of curb extensions will act as a traffic calming measure by reducing the size roadway cross section. Pedestrians are also more visible with the installation of curb extensions as they are not obstructed by vehicles in the parking lane and have a shorter crossing distance. Mountable curb extensions are recommended in this area due to the high truck traffic traveling through the intersection. A layout of these curb extensions is shown in **Figure 9.**
- **Add curb extensions and crosswalks to the alley/side street intersections on all approaches to the intersection:** Currently the only marked crosswalks are within the intersection area. However, pedestrians cross Main Street (US 22) and Columbus Street (SR 13) outside of the intersection to access businesses and restaurants. The curb extensions, even though they are a distance from the intersection, will still have the traffic calming effect to slow vehicles down as the approach or leave the intersection and will provide an additional visual cue to drivers to be alert for pedestrians. A layout of these extensions is shown in **Figure 10.**
- **Construct raised crosswalks:** Raised crosswalks are an effective countermeasure to lower vehicular speeds and enhance the pedestrian crossing environment. Based on the field observations and feedback from the community, speeding is an issue as vehicles are approaching this intersection, especially through the crosswalks. Many pedestrians were observed running across the crosswalks because they do not feel safe within the crosswalk.
    - Raised crosswalks would span the entire width of the approaches, slowing vehicles down as they are entering and exiting the intersection. Since these crosswalks are flush with the top of the sidewalk, pedestrians are more visible to approaching vehicles. Trucks, snowplows, and emergency vehicles would be able to traverse the

raised crosswalks. Example typical raised crosswalk design details from the Delaware Department of Transportation, recommended by the Federal Highway Administration, are provided in **Appendix G.**

- **Construct a conventional roundabout through signage and pavement markings:** Pavement markings could be installed to channelize vehicles traveling through the roundabout and clearly delineate the roundabout from the parking areas. Traversable plastic barriers could be installed to help with this delineation, but frequent maintenance would likely be required due to vehicles driving over them. Under this alternative, traffic would yield upon entry rather than to traffic on the right. This alternative is shown in **Figure 11**.
- **Construct a conventional roundabout with raised curbs:** This roundabout would include raised splitter islands, permanent concrete curbing and truck aprons.
    - Parking within the intersection could remain. In this alternative, the majority of the current parking spaces would be retained, but center islands would be placed around the parking areas to facilitate the flow of vehicles between the roundabout and parking areas. The current parking areas within the intersection would be transitioned into angle parking for easier entrance and exit. The roundabout layout with parking is shown in **Figure 12**.
    - If parking is removed, more enhanced public spaces can be created in the other quadrants. This roundabout layout is provided in **Figure 13**.
    - The empty cistern would need to be filled for either permanent roundabout option to prevent it from collapsing under the truck traffic.
- **Convert the traffic circle to a signalized intersection:** This intersection alternative would eliminate the confusion related to the traffic control. While the parking spaces around the intersection would not be impacted with this improvement, the parking areas would need to be configured such that the parking areas are clearly delineated from the intersection. The access to the parking areas would need to be located as far from the signal as possible to avoid conflicts with queued vehicles at the signal. Pedestrians would have crosswalks and push buttons to cross each leg of the intersection. This option would change the look and feel of the intersection and the statue would likely need to be relocated. Higher speed angle and rear end collisions would be more likely to occur in this alternative.
- **Convert the traffic circle to a stop-controlled intersection:** The current intersection is operating like a stop-controlled intersection at some points during the day, with drivers waving each other through the intersection and stopping to let other drivers go in front of them. This alternative would also likely require the relocation of the statue. This alternative would likely improve pedestrian safety as every vehicle will be required to stop upon entry of the intersection. The operational delay would be increased over yield-controlled operations.

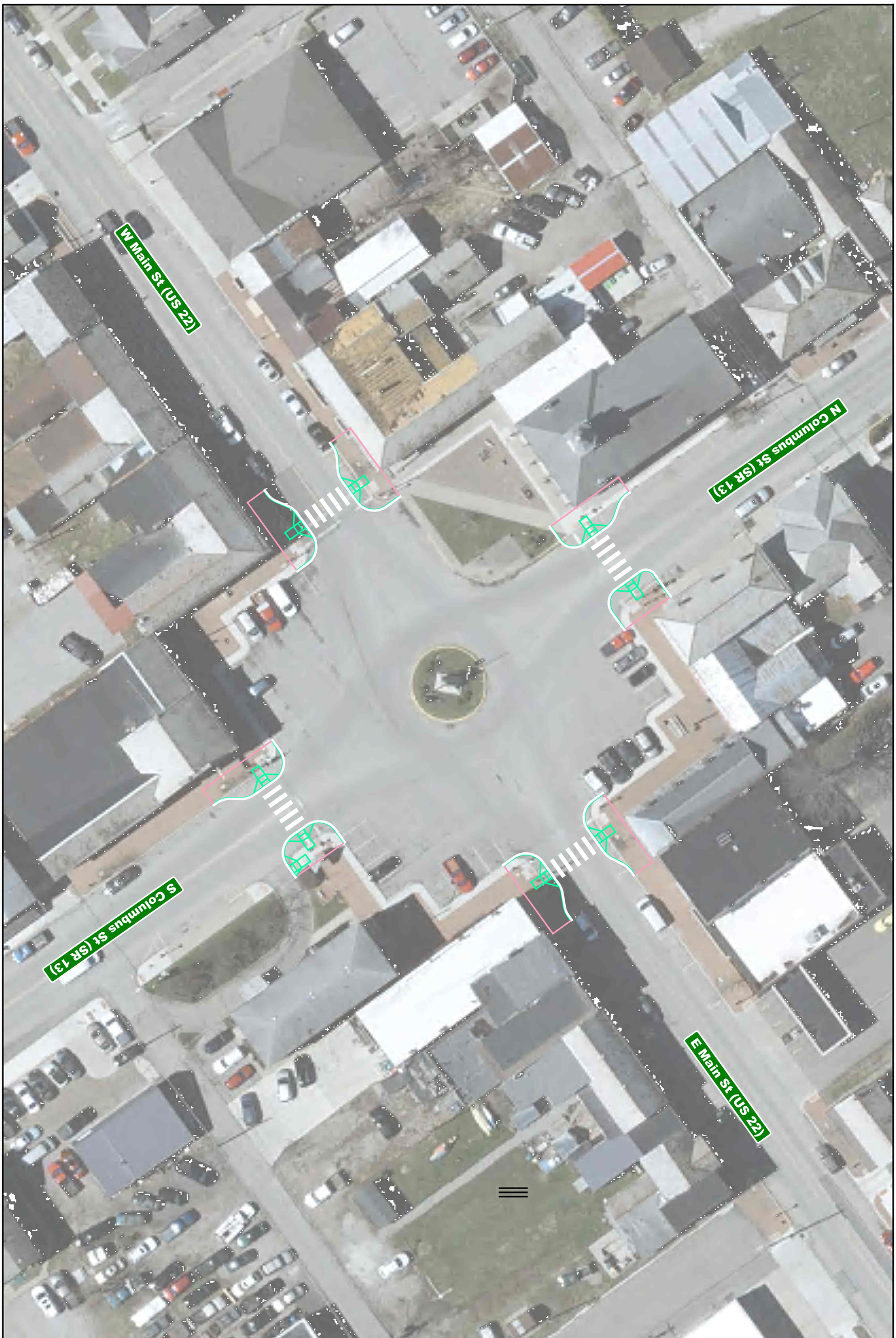


FIG 9

Curb Extensions at Intersection Crosswalks

HORIZONTAL SCALE IN FEET
0 20
10 40

FIG 10

Curb Extensions at the Alley/Side Streets

HORIZONTAL SCALE IN FEET

0 35 70

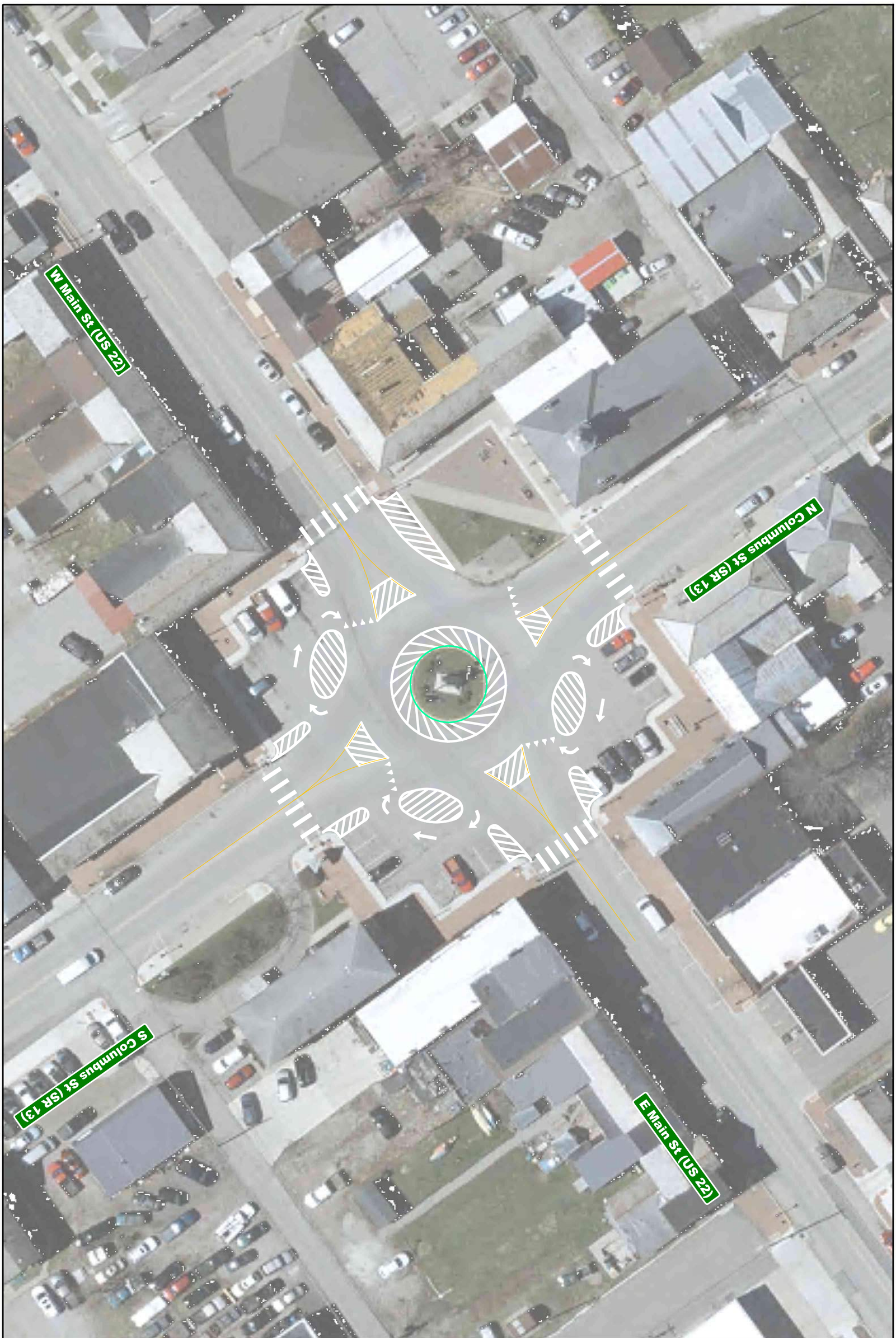


FIG 11

Roundabout Alternative - Striping/Pavement Markings

HORIZONTAL SCALE IN FEET

0 20 10 40

N

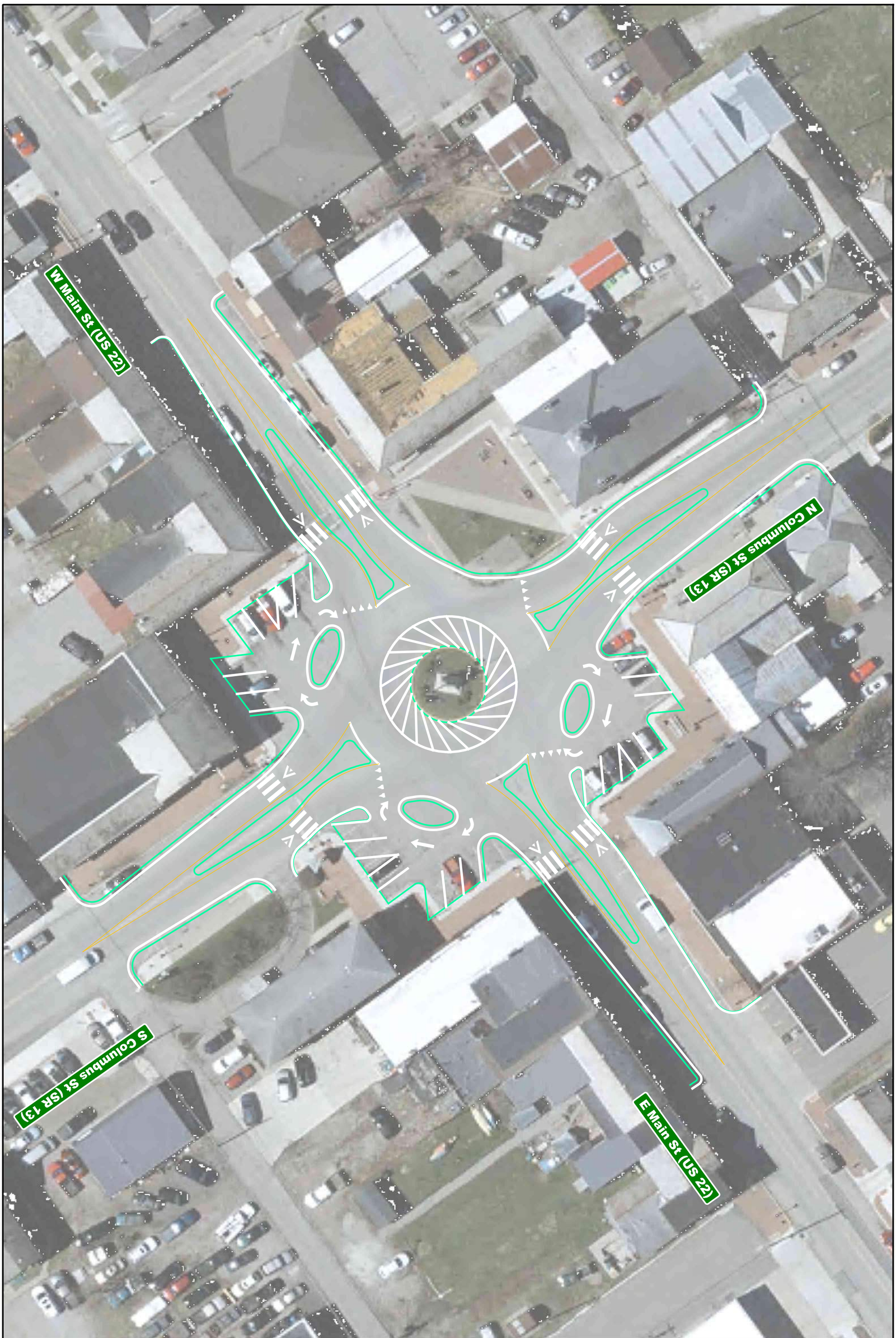


FIG 12

Roundabout Alternative - Curbed with Parking

HORIZONTAL SCALE IN FEET

0 20 10 40

N

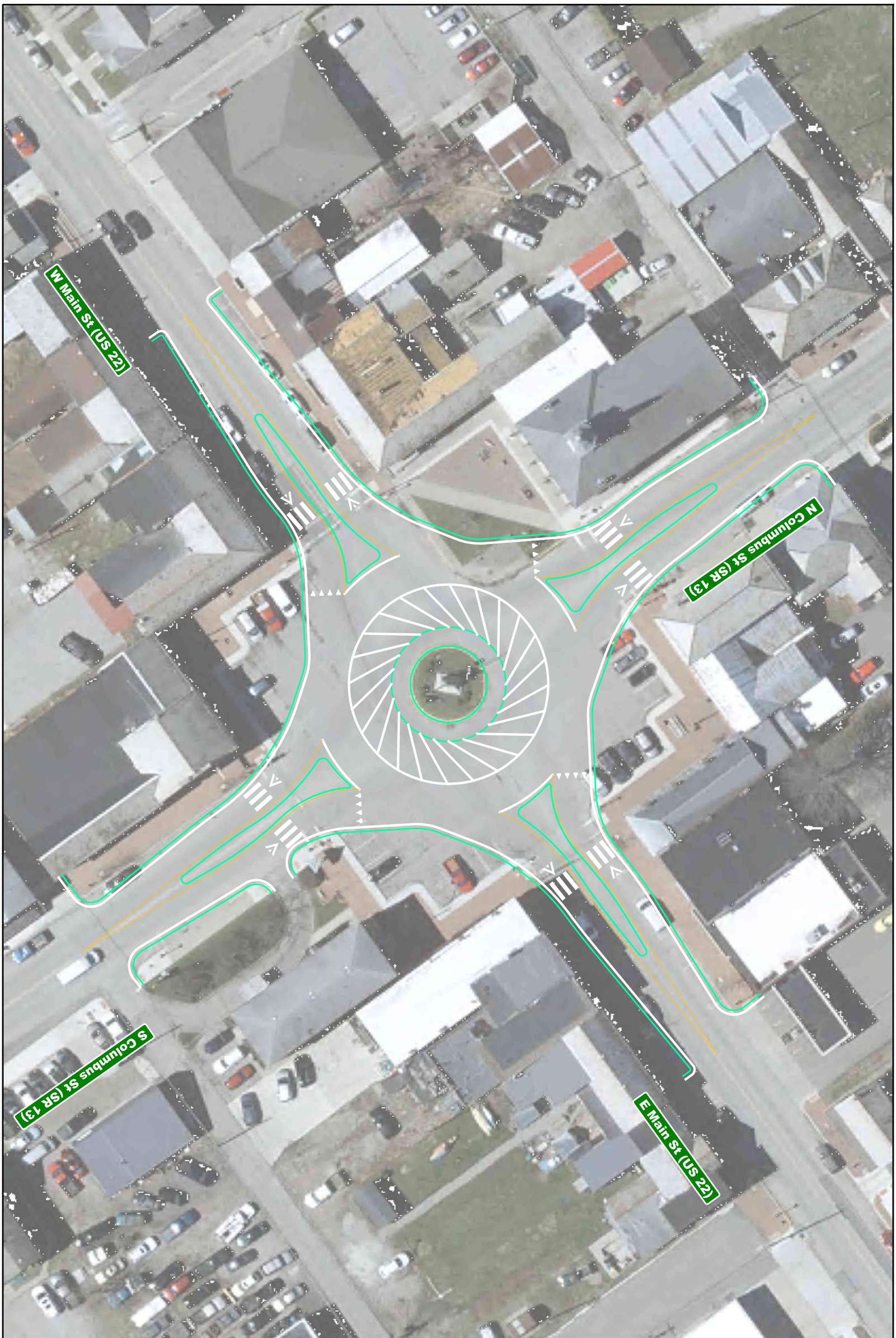


FIG 13

Roundabout Alternative - Curbed with Enhanced Public Spaces

HORIZONTAL SCALE IN FEET

0 20 10 40

N

8.0 Countermeasure Evaluation

8.1 Signal Warrant Analysis

The existing 2021 volumes were evaluated to determine if a signal is warranted at this intersection. Based on the signal warrant analysis, the intersection only meets Warrant 3, the Peak Hour Warrant. When Warrant 3 is met, the signal is only warranted for a very small portion of the day. Unless the intersection provides direct access to facilities that attract or discharge a large number of vehicles over a short time such as factories or large school complexes, signals are not typically installed when only Warrant 3 is met. Additionally, installing a signal will likely increase the number of injury crashes at the intersection over the existing conditions. For these reasons, a signal was not considered a viable solution and was not further evaluated. The detailed signal warrants are provided in **Appendix H**.

8.2 Operational Analysis

Operational analysis was conducted for the proposed roundabout with both existing 2021 traffic volume and forecasted 2041 traffic volumes and *HCS* software. Regardless of the improvement (either through just signage and striping, or through raised curb delineation), the single lane roundabout will operate similarly. Roundabout analysis results using 2021 volumes are summarized in **Table 1** with output provided in **Appendix I**.

Table 1: Roundabout Operation Analysis Results - Existing Volumes (2021)

	Overall Intersection	Eastbound Main St (US 22)			Westbound Main St (US 22)			Northbound Columbus St (SR 13)			Southbound Columbus St (SR 13)		
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour													
LOS	A		A			A			A			A	
Delay	7.2		7.9			6.8			6.6			7.3	
v/c			0.31			0.27			0.28			0.35	
95th % Queue			33'			28'			30'			40'	
			A - 7.9			A - 6.8			A - 6.6			A - 7.3	
PM Peak Hour													
LOS	A		B			A			A			A	
Delay	8.7		10.1			6.6			6.9			9.8	
v/c			0.40			0.27			0.31			0.51	
95th % Queue			48'			28'			33'			75'	
			B - 10.1			A - 6.6			A - 6.9			A - 9.8	

The overall intersection operates at LOS A in the AM and PM peak, with all approaches operating at LOS B or better. Analysis results using 2041 volumes are summarized in **Table 2** with output provided in **Appendix I**.

Table 2: Roundabout Operation Analysis Results - Future Volumes (2041)

	Overall Intersection	Eastbound Main St (US 22)			Westbound Main St (US 22)			Northbound Columbus St (SR 13)			Southbound Columbus St (SR 13)		
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour													
LOS	A		A			A			A			A	
Delay	8.9		9.9			8.4			8.1			9.2	
v/c			0.40			0.35			0.38			0.44	
95th % Queue			48'			40'			45'			58'	
			A - 9.9			A - 8.4			A - 8.1			A - 9.2	
PM Peak Hour													
LOS	B		B			A			A			A	
Delay	12.2		14.8			8.3			8.6			14.7	
v/c			0.55			0.36			0.40			0.68	
95th % Queue			85'			43'			48'			138'	
			B - 14.8			A - 8.3			A - 8.6			A - 14.7	

Using 2041 volumes, the overall intersection operates at LOS A in the AM and LOS B in PM peak. All approaches still operate at LOS B or better.

The intersection was also analyzed as a four-way stop controlled intersection using future 2041 volumes, summarized in **Table 3.**

Table 3: Four-Way Stop-Controlled Intersection - Future Volumes (2041)

	Overall Intersection	Eastbound Main St (US 22)			Westbound Main St (US 22)			Northbound Columbus St (SR 13)			Southbound Columbus St (SR 13)		
		LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
AM Peak Hour													
LOS	D		C			C			C			C	
Delay	25.8		21.8			21.2			24.8			32.8	
v/c			0.61			0.59			0.69			0.80	
95th % Queue			100’			95’			130’			185’	
			C – 21.8			C – 21.2			C – 24.8			C – 32.8	
PM Peak Hour													
LOS	F		E			D			E			F	
Delay	117.4		39.5			32.3			40.2			243.8	
v/c			0.82			0.74			0.82			1.47	
95th % Queue			190’			148'			193'			815’	
			E – 39.5			D – 32.3			E – 40.2			F – 243.8	

In the AM peak, the overall intersection and all approaches are operating at LOS D or better. In the PM Peak, the overall intersection operates at LOS F, with the southbound approach operating over capacity with a v/c ratio of 1.47. This degradation is due to the high southbound thru volume on Columbus Street. Because of the poor operations, four-way stop-control is not recommended at this location.

8.3 Cost Considerations

The cost estimates for each of the improvements are summarized in **Table 4**. Cost estimates included a 30 percent contingency and were inflated for a 2025 construction year. Engineering design cost ranged from 15 percent to 25 percent based on the complexity of the improvement. A detailed breakdown of the construction cost estimates is provided in **Appendix J**. Right-of-way will not need to be acquired for any of the alternatives. The cost estimates do not include utility relocation which may be required as a result of the roundabout.

The cost estimate for the raised crosswalks differs based on the type of drainage installed. Constructing catch basins for drainage around the crosswalks is more expensive than adding trench drains. Both raised crosswalk options are listed in **Table 4**.

Table 4: Cost Summary

	Cost Estimate
Modify the traffic operation from yield to the right, to yield upon entry	$2,000
Improve pedestrian signage	$3,000
Add mountable curb extensions to the intersection crosswalks	$509,000
Add curb extensions and crosswalks to the alley/side street intersections	$521,500
Construct raised crosswalks (Trench Drainage)	$94,500
Construct raised crosswalks (Catch Basin Drainage)	$373,200
Construct a conventional roundabout through signage and pavement markings	$111,700
Construct a conventional roundabout with raised curbs –maintaining parking	$840,500
Construct a conventional roundabout with raised curbs with enhanced public spaces – removing parking	$974,700

8.4 Stakeholder Engagement

B&N and Toole Design attended a Somerset Village Council meeting on November 9th, 2021 to inform the Village Council and Somerset residents on the potential pedestrian improvements and roundabout alternatives. The presentation materials can be found in **Appendix K**. The council meeting attendees had the following comments and questions:

- When asked about changing the roundabout to yield on entry, no one seemed adamantly opposed.
    - The attendees liked that the new yield signs will be enforceable because they currently feel like there is not adequate enforcement at the square.
- There was concern about pedestrian safety when crossing at the exit crosswalks of the conventional roundabout.
- There was agreement that back-ups occur at the intersection and stakeholders liked that a roundabout would allow vehicles to consistently flow through the intersection.
- There was agreement that if bollards or quick curb were put up it would be a nuisance to maintain.
- None of the meeting attendees were interested in losing any parking spaces based on the current lack of off-street parking.

- The meeting attendees were interested in adding crosswalks on Columbus Street at the side streets approaching the roundabout, such as Gay Street and Sheridan Street.
- They mentioned that speeding is a problem on the Main Street approaches to the roundabout, and they liked the idea of curb extensions to slow vehicles down.
    - A few council members were concerned about fire trucks and semi-trucks driving over these curb extensions, or not being able to fit between them.
- The meeting attendees wanted to fill in/eliminate the cistern at the square.
- There was concern that large farm equipment, such as combines, would not be able to travel through the more conventional roundabout.
- The majority of the attendees liked the idea of the raised crosswalks to slow vehicles down and create a safer place for pedestrians.

9.0 Conclusions and Recommendations

Based on the crash patterns and traffic operations in the study corridor, a phased approach over several years is proposed at this intersection. The short-term, medium- and long-term improvements are detailed below:

Short-Term

- **Modify the traffic operation to be yield upon entry:** The traffic operation can be modified by adding yield signage on all the approaches of the roundabout. Public education will be critical to the success of this modification. Outreach through ODOT and the local news media can help inform residents of the operational changes at the intersection.
- **Add mountable curb extensions to the intersection crosswalks:** The installation of curb extensions will act as a traffic calming measure by reducing the size roadway cross section. Pedestrians are also more visible with the installation of curb extensions as they are not obstructed by vehicles in the parking lane and have a shorter crossing distance.
- **Improve pedestrian signage:** The current pedestrian signage is outdated; improved pedestrian signage, including signs with high visibility, retroreflective sheeting, will bring more attention to pedestrians crossing the legs of the intersection.

Medium-Term

- **Construct a conventional roundabout through signage and pavement markings:** These pavement markings would channelize vehicles traveling through the roundabout and clearly delineate the roundabout from the parking areas. Traversable plastic barriers could be installed to help with this delineation, but frequent maintenance would likely be required due to vehicles driving over them. With this solution, the traffic would yield upon entry rather than to vehicles on the right. This solution could operate well into the future while the long-term roundabout is being funded and constructed.

Long-Term

- **Construct a conventional roundabout with curb delineation:** This roundabout would include raised splitter islands, permanent concrete curbing and truck aprons.
    - If off-street parking becomes available around the downtown Somerset area, parking within the intersection could be removed. If the parking is removed, the areas could be converted to enhanced public spaces with benches and tables, fountains, art, or other elements that attract visitors to Somerset.

- **Add curb extensions and crosswalks to the alley/side street intersections:** The curb extensions, even though they are a distance from the intersection, will still have the traffic calming effect to slow vehicles down as the approach or leave the intersection and will provide an additional visual cue to drivers to be alert for pedestrians.