

Main and Auburn Roundabout

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Public Information Package

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Proposed Main and Auburn Roundabout



Contents

I. General Information about Roundabouts

- A. Do roundabouts have a history within the United States?
- B. Are roundabouts appropriate everywhere?
- C. Do roundabouts work?
- D. Why do modern roundabouts seem so confusing?
- E. How do multi-lane roundabouts work?
- F. Once motorists are in the roundabout, should they stop to let other vehicles enter the roundabout?
- G. When driving in a multi-lane roundabout, how do motorists know which lane to enter and exit?

II. Safety of Roundabouts

- A. How does a roundabout affect pedestrians?
- B. Will older drivers have a more difficult time negotiating modern roundabouts than traffic signals?
- C. Won't emergency vehicles be slowed down by a roundabout? Can a fire truck safely negotiate the roundabout?
- D. Why do roundabouts have such good safety records?

III. Roundabouts vs. Other Intersection Options

- A. How do roundabouts compare to using traffic signals at an intersection?
- B. Wouldn't a traffic signal be safer than a roundabout?
- C. Couldn't a traffic signal handle higher traffic volumes better than a roundabout?
- D. What is the difference between a traffic circle and a modern roundabout?

IV. The Main and Auburn Roundabout

- A. Why a roundabout at Main and Auburn?
- B. When is the roundabout going to be built?
- C. How are people going to learn how to drive the roundabout?
- D. Where are the key decision points, and what are the key decisions a driver has to make to use the Main and Auburn roundabout?
- E. Illustration: Navigating the Main and Auburn Roundabout
- F. How will the nearby intersections work with the Main and Auburn roundabout?
- G. Will a big truck be able to use the roundabout?
- H. How will snow be removed from the roundabout?

V. Effects on Nearby Property

- A. How does a roundabout impact the property area of an intersection?
- B. What will happen to the Civil War Memorial?
- C. What will happen to the cemetery?

VI. The Overall Benefit of Roundabouts

- A. What are the overall benefits for motorists?

General Information about Roundabouts

Q: Do roundabouts have a history within the United States?

A: The first modern roundabouts in the U.S. were constructed in Nevada in 1990. Since that time, approximately 2,000⁷ roundabouts have been built. By comparison, there are about 20,000 roundabouts in France; 15,000 in Australia; and 10,000 in the United Kingdom.

Many states, including Alaska, California, Colorado, Connecticut, Florida, Hawaii, Indiana, Kansas, Maryland, Michigan, Minnesota, Mississippi, Nevada, New Hampshire, New York, North Carolina, Oregon, South Carolina, Utah, Vermont, Virginia, Washington and Wisconsin, have active programs to construct roundabouts⁴.

Q: Are roundabouts appropriate everywhere?

A: No. The choice of using a roundabout versus traffic signal is a case-by-case decision. Each candidate intersection is individually evaluated to determine whether a roundabout or a traffic signal is more effective³.

Q: Do roundabouts work?

A: Yes. As of January 2009, more than 2,000 modern roundabouts have been built in the U.S. since 1990⁷. National and state studies throughout the country have analyzed these intersections and found they increase safety and reduce delay¹.

Q: Why do modern roundabouts seem so confusing?

A: Modern roundabouts are different from traffic signals and will require drivers to learn how they operate. Experience in the U.S. has shown that motorists quickly adapt to this new type of intersection.

[Video depicting typical community sentiment toward roundabouts](#)

Perhaps the best illustrations of this are Vail and Avon, CO, the location of numerous high-capacity roundabouts. Both of these cities are major tourist destinations with many thousands of first time roundabout drivers using the roundabout intersections each year. A similar situation exists on the campus of Michigan State University where the modern roundabout at the intersection of Bogue Street and Shaw Lane sees an influx of new inexperienced drivers with each new freshman class. Despite large numbers of drivers who have not driven roundabouts previously, these intersections work well and do not confuse motorists. Additionally, proper use of the signing and striping at roundabouts assists motorists and minimizes the potential for confusion².

General Information about Roundabouts (cont.)

Q: How do multi-lane roundabouts work?

A: Multi-lane roundabouts function similar to a traffic signal with multiple lanes. Motorists should follow the instructional signs to choose the correct lane. Use the left lane for left turns, u-turns and through movements. Use the right lane for right turns and through movements¹.

There are many good resources available for instruction on how to use multilane roundabouts. Two good ones are available at the following:

[Interactive Video Animation: How to drive through a multi-lane roundabout](#)

[Video: How do I drive a roundabout?](#)

The Main and Auburn Roundabout will function very similarly to the roundabouts shown in these two examples. How to navigate the Main and Auburn Roundabout is specifically shown in Figure 1 found on the next page. It indicates which lane a driver is supposed to choose and the driving paths available from that lane. Since the Main and Auburn Roundabout is configured the same from every direction, the lanes on each approach are used the same regardless of the direction from which you approach. In addition, more information and public education will be provided during the final design phase and construction of the Main and Auburn Roundabout.

Q: Once motorists are in the roundabout, should they stop to let other vehicles enter the roundabout?

A: No. Motorists should not stop once in the roundabout except to avoid a collision. Traffic in the roundabout has the right-of-way, and entering traffic must yield at the line just outside the circle⁵.

Q: When driving in a multi-lane roundabout, how do motorists know which lane to enter and exit?

A: In general, drivers should approach a multi-lane roundabout the same way they would approach any other intersection. You have to decide which lane you need to be in before you get to the intersection. The pavement markings and signs will help inform you about which lane is correct.

Once you have entered the roundabout, simply stay in your lane until you exit to your destination. Do not change lanes while in the roundabout. This may seem confusing, but Figure 1 on the next page shows the correct vehicle paths for each of the lanes in the Main and Auburn Roundabout. While the figure only shows vehicles traveling from one direction (heading north on main from the South), all of the legs of the Main and Auburn Roundabout will function in the same manner. The left lane is for left turns, straight through, and u-turns. The right lane is for straight through and right turns. Notice that these lane assignments are just like many signalized intersections in which you cannot turn left from the right lane and vice-versa.

Drivers who want to turn left should use the left-most lane and signal to turn left. Drivers who want to turn right should use the right-most lane and signal to turn right. Driver who want to go straight can use either lane. In all cases, the driver should pass counterclockwise around the central island. When preparing to exit, drivers should use their right turn signal as they pass the exit just prior to their intended turn³.

Safety of Roundabouts

Q: How does a roundabout affect pedestrians?

A: In many cases, roundabouts offer a safer environment for pedestrians than a traffic signal.

This is because traffic moves slower, crossing distance is reduced, and traffic is only coming from one direction. At a signal, a pedestrian has to deal with higher vehicle speeds, right and left turning traffic, and vehicles proceeding through the intersection at the same time.

As with other crossings requiring acceptance of gaps, roundabouts still present visually-impaired pedestrians with unique challenges^{1,4}.

[Video: Roundabouts-Pedestrians and cyclists](#)

[Rules for pedestrian use of the modern roundabout](#)

Q: Will older drivers have a more difficult time negotiating modern roundabouts than traffic signals?

A: Two comprehensive studies of modern roundabouts in the U.S. have shown that the average age of drivers involved in crashes did not increase following replacement of traffic signals and stop signs with modern roundabouts. Although not conclusive, these results suggest that modern roundabouts do not pose a problem for older drivers².

Q: Won't emergency vehicles be slowed down by a roundabout? Can a fire truck safely negotiate the roundabout?

A: Roundabouts are carefully designed to accommodate emergency and large-sized vehicles. Driver should behave in the same manner as they would on any other road if an emergency vehicle approaches, yielding to emergency vehicles by pulling over either before you enter or after you exit the roundabout².

Q: Why do roundabouts have such good safety records?

A: Roundabouts have a good safety record, thanks to three primary safety areas. First, conflicts are reduced. Roundabouts have fewer conflict points in comparison to conventional intersections. The potential for hazardous conflicts, such as right-angle, left-turn or head-on crashes, is virtually eliminated with roundabout use. Single-lane approach roundabouts produce greater safety benefits than multi-lane approaches because of fewer potential conflicts between road users, and pedestrian crossing distances are short.

Next, speeds are reduced and are more consistent. Low absolute speeds associated with roundabouts allow drivers more time to react to potential conflicts, also helping to improve the safety performance of roundabouts. Since most road users travel at similar speeds through roundabouts, i.e., have low relative speeds, crash severity can be reduced compared to some traditionally controlled intersections.

Finally, pedestrians need only cross one direction of traffic at a time at each approach of roundabouts, as compared with two-way and all-way stop-controlled intersections. The conflict locations between vehicles and pedestrians are generally not affected by the present of a roundabout, although conflicting vehicles come from a more defined path at roundabouts (and thus pedestrians have fewer places to check for conflicting vehicles). Additionally, a well-designed roundabout will feature reduced speed limits—encouraging motorists to enter and exit the roundabout at lower relative speeds⁴.

[Video: Roundabouts-Safety Benefits](#)

[Benefits of roundabouts](#)

Roundabouts vs. Other Intersection Options

Q: How do roundabouts compare to using traffic signals at an intersection?

A: Roundabouts generally offer a safer intersection with less delay for drivers. They virtually eliminate T-bone crashes, allowing for a 75 percent reduction in injury crashes. Crashes at multi-lane roundabouts are reduced by 8 to 35 percent or more.

Roundabouts reduce delay by having traffic yield before proceeding instead of forcing traffic to stop and wait at a red light when there is no opposing traffic¹.

[Video: Roundabouts—What they are and what they aren't](#)

Q: Wouldn't a traffic signal be safer than a roundabout?

A: Research from the Insurance Institute for Highway Safety shows far fewer crashes occur at intersections with roundabouts than at intersections with signals or stop signs. The majority of U.S. roundabouts have excellent safety performance because of their small diameter (compared to traffic circles), slower circulating speeds, flared approach and deflection, and yield control entrances. Studies from around the world have shown modern roundabouts typically reduce crashes by 40 to 60 percent compared to stop signs and traffic signals. They also typically reduce injury crashes by 35 to 80 percent and almost completely eliminate fatal and incapacitating crashes.

Considering the massive costs to society related to traffic injuries and deaths, this is an extremely important benefit associated with modern roundabouts².

Q: Couldn't a traffic signal handle higher traffic volumes better than a roundabout?

A: In most situations a modern roundabout can handle higher traffic volumes with less delay than traffic signals. A two-lane roundabout will handle 3,500 to 5,000 vehicles an hour. It would take three travel lanes and usually dual left turn lanes in each direction to match that capacity².

At the North Main and Auburn intersection, traditional signalized intersection improvements would have a much greater impact to property owners and still not provide the same level of service.

Q: What is the difference between a traffic circle and a modern roundabout?

A: Some traffic circles still exist in the U.S. However, safety and operational problems caused many of them to fall out of favor in the 1950's and 60's.

Traffic circles are different than a modern roundabout in the following ways:

- Traffic circles can involve stop signs or stop signals,
- Traffic circles can be very large or very small, and
- Traffic circles can operate at higher speeds and often require motorists to move from one lane to another.

By 1984, the term "modern roundabout" came into being with three main features:

- Modern roundabouts have motorists yield to the traffic in the circle,
- Modern roundabouts use deflection at entry, and
- Modern roundabouts use a low design speed².

The Main and Auburn Roundabout

Q: Why a roundabout at Main and Auburn?

A: Of the numerous alternatives examined, this roundabout option is cheaper, safer, more efficient, and has the least negative impact on the surrounding business and residential area.

For more than twenty years⁶, the business and residential communities surrounding Main and Auburn have sought ways to improve the existing and future traffic function of the intersection. Anyone familiar with the area knows that for years drivers have avoided this intersection by driving through neighborhood side streets. In addition to seeking a solution to the traffic problem, the community stakeholders have expressed a strong desire to preserve as much of the character of the area as practical.

Due to the close proximity of the existing buildings to the roadway, it is not practical to add turn lanes or through lanes in order to help solve the traffic concern. Adding any lanes would result in near total loss of the existing business district in all directions. Adding enough lanes to provide an acceptable future intersection would destroy the district entirely.

In numerous public meetings, workshops, and studies over the last five years—involving hundreds of residents, business owners, the State, the City, and several different engineering consultants—it became very clear that adding lanes was neither practical nor acceptable. The stakeholders demanded a solution, and it also became clear that doing nothing was not acceptable.

The concept of a roundabout was introduced in recent years as a potential solution. Numerous configurations were studied along with numerous variations of simple to more complex traditional signalized intersections. The results of the studies pointed to a roundabout as the only solution that would both handle the future traffic and do the least damage to the existing district. In fact, the proposed roundabout actually adds space in front of some of the existing businesses along Main that might be utilized for outside seating or additional green space.

Of the final six alternatives considered, four made varying levels of improvement to the intersection. The table below summarizes the results.

Cost & Property Comparison of Alternatives at Main and Auburn							
Alternative	LOS (A-F)*	Displacements			Cost**		
		Residential	Commercial	Total	Construction	Land Acquisition	Total
3	E	5	23	28	\$4,500,000	\$5,605,000	\$10,105,000
4	D	5	23	28	\$5,200,000	\$5,605,000	\$10,805,000
5	C/D	4	26	30	\$6,500,000	\$6,390,000	\$12,890,000
6	A/B	1	11	12	\$3,500,000	\$2,895,000	\$6,395,000

Alternative 3: Add left turn lanes
 Alternative 5: Add right and additional left turn lanes

Alternative 4: Add Auburn St. through lanes
 Alternative 6: Roundabout

*LOS is level-of-service, a measure of the operational efficiency of an intersection.

**These preliminary opinions of cost do not represent final estimates or known costs. The actual costs may differ, but the relative comparison should remain consistent.

The Main and Auburn Roundabout (cont.)

Q: When is the roundabout going to be built?

A: It is anticipated that construction will begin and be completed in 2013.

As of June 2009, the Main and Auburn Roundabout project completed the first of three formal phases:

- Phase 1 included preliminary engineering and analysis, public involvement, and project approval by the State and Federal governments.
- Phase 2 will consist of the final design and production of the construction plans. This phase began in August of 2010 and will take approximately one year.
- Phase 3 will be the actual construction of the roundabout and the approach roadways. It is anticipated that construction will begin and be completed in 2013.

Q: How are people going to learn how to drive the roundabout?

A: Public education is a condition of project approval for the Main and Auburn roundabout by the State of Illinois and the Federal Highway Administration. The City is very interested in people having information available to get comfortable with the concept before and after it is completed.

The City and the project team have put together a variety of resources which offer numerous sources and types of information for interested people. This document includes links and references many of those resources including videos, websites with interactive roundabout tutorials, research data, and testimonials from other communities and stakeholders.

Additionally, several roundabouts already exist in the area for people who care to try one out. A smaller single-lane version exists at the intersection of Swanson Road and Perryville Road in Winnebago County. As of 2011, several roundabouts are under construction in DeKalb, and numerous single and multilane roundabouts exist in the Madison Wisconsin area as well.

Take a look at the illustration on the following page. It gives basic instruction on how to drive the Main and Auburn roundabout.

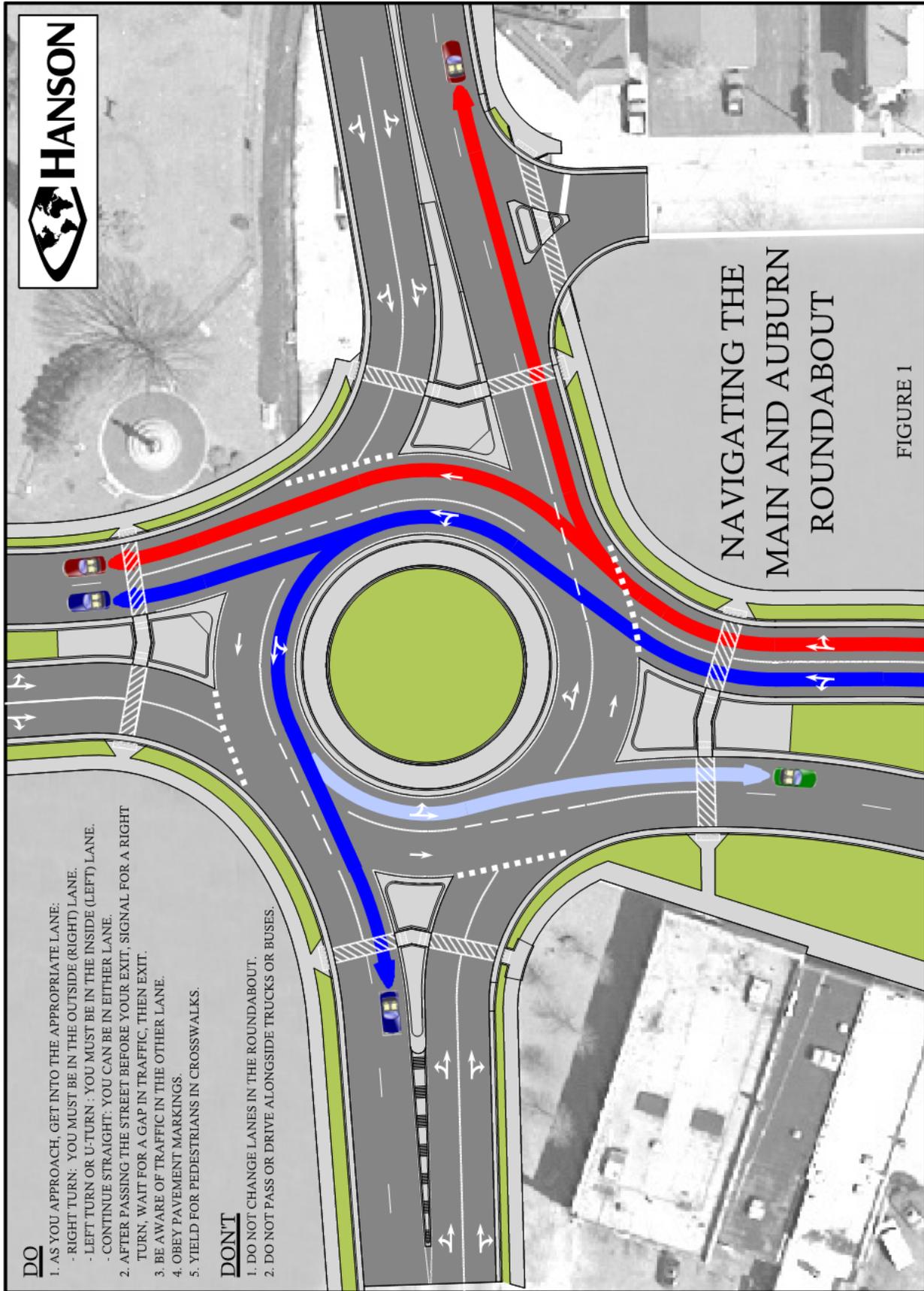
Q: Where are the key decision points, and what are the key decisions a driver has to make to use the Main and Auburn Roundabout?

A: There are two key decisions: One is “which lane should I be in as I approach the roundabout?” The other is “when should I enter the roundabout?”

The first decision has to be made when you see the signs and pavement markings before you get to the intersection. The signs and pavement markings will tell you which lane you need to be in for a left-turn, a right-turn, or a straight-through direction. This is the same as at any other intersection with more than one lane.

The second key decision point is at the yield line just outside the circular portion of the roadway. The decision of when to enter the roundabout is made at this point. If no other cars are present in the roadway, then you may proceed directly into the roundabout. If cars are present, then you need to wait for a gap in traffic in order to enter safely into the roundabout.

Before, during, and after entering the roundabout, drivers must maintain awareness of other drivers, pedestrians, bicycles, emergency vehicles, pavement markings, signs, etc. and practice safe and defensive driving – just like at any other intersection. While traveling through the roundabout, drivers should not change lanes. When exiting the roundabout, practice defensive driving to avoid collisions with vehicles that are not using the intersection correctly, and be prepared to yield for pedestrians in the crosswalks as you exit the roundabout.



The Main and Auburn Roundabout (cont.)

Q: How will the nearby intersections work with the Main and Auburn Roundabout?

A: Several of the nearby intersections will be modified to work with the roundabout.

The signalized intersection at King Street and Myott Avenue will be changed to an unsignalized intersection, so that it does back up traffic into the roundabout. Additionally, it will no longer be possible to drive straight across Main at this location.

Vernon Street will be right-in, right-out access only, which means that no left turns will be permitted to or from Vernon Street.

Toner Avenue is anticipated to be right-in, right-out access only, and may eventually be eliminated depending on how that quadrant is anticipated to be redeveloped.

These changes were developed after listening to comments made by the public and modifying the design accordingly.

All of these changes will still allow traffic to access all of the businesses and residential areas in the Main and Auburn business district.

Q: Will a big truck be able to use the roundabout?

A: Yes. The Main and Auburn roundabout has been designed specifically to accommodate large trucks and other vehicles. As a large vehicle approaches the roundabout, it may need to occupy both of the entry lanes and the entire circulatory roadway to make the turn³. As the large vehicle passes through the roundabout, the trailer may drag over the special apron around the central island—it was designed specifically for this purpose.

What does this mean to drivers in cars? It means that you should not try to pull alongside a truck or bus when you approach the roundabout and you should not pull along side or pass a truck or bus inside the roundabout. Let them take all the space they need – just like at any other intersection.

Q: How will snow be removed from the roundabout?

A: A number of communities in snowy areas have installed roundabouts, including Hamilton, Kemptville, Waterloo, and Ottawa in Ontario, along with various locations in the U.S. All indications are that while there is an adjustment period for snowplow crews, there are generally no major problems with snow removal in roundabouts. Roundabouts actually make it easier to turn snowplows⁸.

[NYS DOT video of snow removal at roundabout](#)

Effects on Nearby Property

Q: How does a roundabout impact the property area of an intersection?

A: At the North Main and Auburn intersection, the property impacts are far less with the roundabout when compared to traditional intersection improvements.

Roundabouts typically take more room than traffic signals at lower volume intersections, but as volumes increase, the size of property needed for a roundabout or a traffic signal become comparable. Since roundabouts do not require the development of turn lanes, they allow the roadway between intersections to be narrower, thus reducing property impacts¹. This is especially true of the Main and Auburn intersection.

Q: What will happen to the Civil War Memorial?

A: Nothing. This project will not touch the circular area around the monument or the monument itself. The trapezoidal paved area in front of the circle will be removed and landscaped with grass or something else that will not obscure the statue and memorial. There are currently traffic signals, signal equipment, and utility poles in the trapezoidal area, which block the view of the monument and are not necessary once the intersection becomes a roundabout. The end result is that the monument will be much more visible than it is now.

Q: What will happen to the cemetery?

A: A small amount of right-of-way will be purchased along the edge of the cemetery to accommodate the modified alignment of Auburn Street. No grave sites will be disturbed. Additionally, the entrance to the cemetery on Auburn Street will be rebuilt in its current location and will result in better sight distance for drivers coming in and out of the cemetery.

The Overall Benefit

Q: What is the overall benefit of a roundabout for both motorists and pedestrians?

A: [Video: Roundabouts-What does this mean for motorists?](#)

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