

FIVE POINTS ROUNDABOUT CONCEPT

QUESTIONS AND RESPONSES

August 4, 2023

- Why are we doing anything at this intersection? The Five Points traffic signal is about 28 years old. It will reach the end of its useful life in the next 5-10 years. The city is studying the roundabout concept to see if it is a better option to manage traffic at Five Points and improve the intersection safety performance versus traditional traffic signal control.
- Why are we considering a roundabout? There is extensive support from traffic safety studies for building roundabouts, showing that they reduce crashes, particularly serious injury crashes, and reduce motorist delays. Reducing delays also has environmental benefits such as reduced vehicle emissions. Roundabouts have been constructed and are functioning well in multiple locations around the Miami Valley, throughout Ohio and all around the country.
- Where is a Dog Bone/Peanut roundabout being used in a similar densely populated area with school children crossing? The atypical configuration of the Five Points intersection supports a unique roundabout shape to improve safety and minimize property impacts. One of the benefits of roundabouts is that the shape does not need to be a simple circle, like the Alex Bell Rd/ Mad River Rd intersection, to achieve the safety and traffic capacity benefits. Peanut-shaped roundabouts have been proposed and constructed at numerous locations within Ohio and around the country to improve safety at complex intersections and to minimize property impacts. The peanut shape and other non-traditional shapes will become more common in the future as the benefits of roundabouts are understood as a better method of controlling traffic flow than a traffic signal. A few examples of non-traditional roundabout shapes and the proximity of roundabouts to schools are listed below:

36th St/Hill Rd/Catalpa Dr; Boise, ID – This is a 6-leg roundabout in a school zone with one leg being a school driveway.

Harding St/Madison St/Green St/Vernon St; Worcester, MA – This is a multi-lane, 7-leg peanut roundabout in an urban setting adjacent to I-290. The southeast approach

(SR 122A) is downhill at a grade (4-5%). It includes multiple crosswalks at all legs and even one mid-roundabout.

Honore Ave/Sawgrass Rd; Fruitville, FL – This is a roundabout adjacent to an elementary school and residential area.

E. Fifth St/N. Cherry St/Columbus Ave/Delaware Ave; Marysville, OH – This is a multi-lane, 5-leg roundabout in a downtown area.

SR 656/ Wilson Rd/SR 61; Delaware County, OH – This is a 4-leg peanut roundabout constructed on high-speed roadways (55 MPH).

Worthington Rd/ Lewis Center Rd; Delaware County, OH – This is a 4-leg peanut roundabout under design at a Highway Safety Improvement Program (HSIP) location.

County Line Rd/ Center Village Rd/Edwards Rd/ Duncan Plains Rd NW; Delaware County, OH – This is a 5-leg peanut roundabout to be designed having a US Bike Route (USBR 50A) and high-speed approaches (55 MPH).

- How do the Far Hills Ave and Oakwood Ave grades impact the roundabout? A primary benefit of roundabouts is that they reduce vehicle speeds. The geometry of roundabouts requires vehicles to slow down as they approach and traverse the intersection. Vehicles traveling northbound (downhill) and southbound (uphill) on Far Hills Ave will be braking as they approach the roundabout, as opposed to maintaining normal speed or perhaps even accelerating as they approach the intersection. The existing 85th percentile speed north of Five Points is 45 MPH despite the posted speed of 35 MPH. The grades will not adversely impact the functionality of the roundabout.
- How does the cost of a roundabout compare to a traditional traffic signal? The cost to convert the existing signalized intersection to a roundabout will be significantly higher than the cost to simply replace the existing traffic signal installation. However, lifecycle costs to maintain the roundabout would be lower than lifecycle costs to maintain a traffic signal. Also, it may be that a majority of the cost to build the roundabout would be paid by state and/or federal transportation dollars, effectively making the local share (Oakwood taxpayer expense) comparable to, or perhaps even less than, the cost of rebuilding and upgrading the traffic signal.

- Will privately owned land be acquired to build the roundabout? If so, how much? The conceptual plan requires seven small areas of private roadway frontage property to be acquired as additional public right-of-way. It would not require the acquisition and removal of any structures. The small areas of land are depicted in orange highlight on Display Board #5 which is posted on the city website at <https://oakwoodohio.gov/departments/traffic-signal-study-five-points/>
- Could the Ohio Department of Transportation (ODOT) change Oakwood's roundabout design after the project is funded? ODOT is a proponent of roundabouts; the ODOT Safety Program regularly funds construction of roundabouts due to their safety performance record. A funding application to the ODOT Safety Program will be considered if the roundabout alternative advances beyond the initial study phase. ODOT's review of the roundabout design will involve verifying that it complies with ODOT and Federal Highway Administration (FHWA) roadway design standards. The design firm preparing detailed construction plans for the roundabout will be required to prepare those plans consistent with the same standards.
- How will vehicles be stopped to make the Far Hills Ave pedestrian crossing safe? The conceptual roundabout plan includes the use of a Pedestrian Hybrid Beacon (PHB) signal. The PHB uses lighted signals to stop motorists when a crosswalk user is present. The signal is actuated via a pedestrian pushbutton. The signal indications are dark when not active, but incorporate yellow and red lights to stop traffic for pedestrians. A PHB is recommended for multi-lane roundabouts in the US Access Board guidelines under the Americans with Disabilities Act (ADA) for the Public Rights-of-Way Accessibility Guidelines (PROWAG). The roundabout design divides the Far Hills crossing into two phases. Each phase is approximately 24 feet in length (two lane widths). The phases are separated by a 24 +/- feet wide raised center median. While negotiating the crosswalk, pedestrians need only consider approaching vehicular traffic from one direction at a time. The current signalized intersection requires pedestrians to cross approximately 60 feet of roadway, without a raised center median, and pedestrians must consider approaching vehicular traffic from two directions. The conceptual roundabout plan may also include raised pavement pedestrian crossings to slow traffic.

- Would we need to add a second adult crossing guard during the times when children travel to and from Harman School? Given that pedestrians are 50% less exposed to vehicular traffic with the roundabout design, there would be no reason why a second permanent adult crossing guard is needed. A crossing guard would likely be staged in the splitting island to assist students crossing either direction of Far Hills Ave. A second guard could be used during the first school year in operation as a means of aiding in educating pedestrians and motorists on the operation of the roundabout and the new crosswalk design.
- How will vehicles be stopped to make the Thruston Blvd pedestrian crossing safe? Crossing Thruston Blvd would be similar to crossing other 2-lane streets in the city of Oakwood. In the case of Five Points, the crosswalk would likely be raised to discourage higher-speed traffic on Thruston Blvd. Such speed reduction devices do not exist on the existing roadway.
- How will vehicles be stopped to make the Oakwood Ave pedestrian crossing safe? The crossing of the south leg of Oakwood Ave would be similar to Thruston Blvd. The crossing of the north leg of Oakwood Ave would be similar to crossing the northbound Far Hills Ave approach.
- Would it be better to move the crosswalks farther away from the intersection? No. Best design practices call for crosswalks to be incorporated within the functional area of the intersection. Moving pedestrian crosswalks further away from the roundabout would result in them operating more like a mid-block crossing where speeds are higher and where motorists are less likely to expect them.
- Why not consider constructing a pedestrian bridge over Far Hills Ave or a tunnel under Far Hills Ave? While a bridge or tunnel could be constructed, the cost/benefit analysis would not support it. Given the amount of underground utilities, a tunnel would be very difficult to build, and would be extremely expensive. Likewise, a bridge would be very expensive. Americans with Disabilities Act (ADA) requirements would also complicate construction of a bridge or tunnel such that elevators may be required.

- What side street traffic changes will occur if the roundabout is built? While it is impossible to predict exactly how local traffic patterns might change, it is likely that some motorists would modify their trips depending on origin and destination. Some drivers may initially avoid the roundabout by using residential streets to seek alternate paths to reach their intended destinations. However, as motorists become more familiar with the roundabout operation, it is likely that most local traffic patterns will return to what they are today. It is possible that some commuter traffic may divert to other thoroughfares, but this is also likely to revert back to what it is today.
- What alternate routes will northbound Oakwood Ave traffic use? The conceptual design does not permit northbound Oakwood Ave (south of Far Hills Ave) traffic to enter the roundabout. All northbound Oakwood Ave traffic must turn right, moving southbound on Far Hills Ave. Motorists in this Oakwood Ave neighborhood wishing to travel northbound into Dayton or beyond will need to use Katherine St (or Dixon Ave) and Runnymede Rd to enter the roundabout from W. Thruston Blvd. Alternatively, motorists could use Dixon Ave and Far Hills Ave to enter the roundabout from the south.
- How will approaching vehicles be advised of the roundabout? Advance signage will be incorporated into the detailed design consistent with ODOT and FHWA design guidelines, including the Ohio Manual of Uniform Traffic Control Devices (OMUTCD). The signage plan will be comprehensive and will include appropriately sized signs for all five approaches to the roundabout. The signage plan may also include advance lane direction markings.
- How will the roundabout impact driveways in the immediate area? The ability of residents living along Far Hills Ave in the vicinity of Five Points to exit their driveway and enter Far Hills Ave will not be negatively impacted by the construction of a roundabout. During roughly 95% of the time when traffic at Five Points is moderate to light, there are sufficient gaps in traffic that allow safe entry onto Far Hills Ave. During roughly 5% of the time (weekday morning and afternoon rush hours) when traffic is heavy, the gaps will be created when vehicular traffic is stopped by the traffic signals at Patterson Rd and at Schantz Ave. The gaps that are available during rush hours today are created by those same two traffic signals.

- Will property owners on Far Hills Ave find it difficult to enter Far Hills Ave during rush hour? **No more so than they do today. As explained above, gaps will be created when vehicular traffic is stopped by the traffic signals at Patterson Rd and at Schantz Ave, just as they are today.**
- Will headlights of vehicles in the roundabout shine into neighboring homes? **It is possible that this might occur in a select few locations, but it could be mitigated with grading and landscaping.**
- Will the vehicle noise from a roundabout be greater than with a traditional traffic signal? **No, vehicle noise should not change. Noise caused by vehicles accelerating from a stop condition is expected to decrease.**
- Will the roundabout decrease the value of neighboring properties? **The roundabout would slow down vehicular traffic. It is anticipated that the “traffic calming” effect of the roundabout is more compatible with the residential character of the area. The roundabout design offers myriad options for enhancing the landscape within the Five Points public right-of-way. Greatly reduced vehicle speeds and improved landscaping may in fact increase property values.**
- How will the roundabout impact Harman School drop-offs/pick-ups on Oakwood Ave? **Given that northbound Oakwood Ave (south of Far Hills Ave) does not connect to the roundabout, some current Harman School traffic patterns may need to be adjusted for traffic having destinations north of Five Points.**
- Is one northbound Far Hills Ave lane adequate to address rush hour traffic? **Yes. The roadway capacity analysis using future traffic volumes shows that one through lane is adequate. While there is sufficient public right-of-way to include a second through lane, it is not justified or recommended. Better safety performance is expected with a single northbound lane exiting the roundabout on Far Hills Ave.**

- Will the southbound Oakwood Ave traffic find adequate gaps to enter the roundabout during the weekday morning rush hour traffic periods? During the heaviest morning rush hour traffic period, southbound Oakwood Ave traffic will experience delays in entering the roundabout, but the delays are expected to be less than the current delays encountered with the red lights from the traffic signal. The gaps will be created when northbound Far Hills traffic is stopped by a red light at Patterson Rd or by pedestrians actuating the PHB at Five Points.
- During the morning and afternoon rush hour periods, will eastbound traffic on W. Thruston Blvd be able to safely enter the roundabout and negotiate through it continuing on eastbound E. Thruston Blvd? During the heaviest rush hour traffic periods, eastbound Thruston Blvd traffic will experience delays in entering the roundabout, but the delays are expected to be less than the current delays encountered with the red lights from the traffic signal.
- Does the existing accident history really support a change in the intersection? The Five Points intersection has the highest accident rate of all 17 signalized intersections in Oakwood. It also has the highest injury accident rate. With almost one-third of the accidents involving injury, the intersection is a strong candidate for funding under the ODOT Highway Safety Improvement Program.
- How will traffic be maintained during construction? The detailed construction drawings will include a Maintenance of Traffic (MOT) plan. The MOT will stipulate how traffic is to be addressed during construction. The plan may include periodic lane closures or complete closure of the intersection for several months. In either case, roadway detours will be established and appropriately marked with roadway signage.
- How will vehicles and pedestrians/cyclists cross at that intersection during construction? All modes of transportation, including vehicles, pedestrians and cyclists will be addressed in the MOT plan.

- How long would it take to build the roundabout? It depends on the MOT plan. If the entire intersection is closed, the length of time to build the roundabout would be significantly shorter than it would be if traffic is maintained during construction. The maximum range of time to build the roundabout is expected to be one construction season (April to November) or 6-8 months.
- How will large tractor/trailer rigs get through the roundabout? The conceptual roundabout is configured with geometry to accommodate large commercial tractors/trailers. It also includes mountable curbs and paved truck aprons behind the curb in the event that a particularly large vehicle requires additional space.
- How will heavy rain and snow impact functionality of the roundabout? For all practical purposes, the impact will be no different than what we experience with the current signalized intersection. Slower vehicle speeds will make the intersection safer during heavy rain and snow events.
- How will snow/ice removal be accomplished through the roundabout? Snow and ice removal will be somewhat modified from what it is today, given the different roadway lane configuration and roadway geometry. Prior to the first winter season, the Oakwood Public Works Department will assess the intersection and determine the most expedient and efficient method of plowing and salting the roadway pavement.
- Will the roundabout create major backups during peak traffic periods? The two most significant benefits of a roundabout are safety improvements and efficiency. A properly designed and properly used roundabout moves traffic much more efficiently than a traditional traffic signal. Congestions during peak traffic periods will be reduced from what they are today.
- Can the roundabout design include bike lanes? If not, how will cyclists negotiate it? No, the right-of-way limits at Five Points do not provide space to construct designated bike lanes. Cyclists will negotiate the roundabout using the roadway or transition to the sidewalk/shared use paths on the outside edge of the roundabout.

- Will greenspace and trees be lost? The conceptual roundabout is designed to minimize the loss of trees. No large, old growth trees will need to be removed. The roundabout includes creation of several new greenspaces where pavement currently exists. Based on the conceptual plan, future greenspace is estimated to be 20-25% greater than the existing greenspace. An important design element is that a higher percentage of the future greenspace is distributed to the interior of the roadway which enhances landscape options and the visual experience of drivers, and can reduce headlight glare of opposing vehicles. Also, the roundabout design moves the street away from several sections of public sidewalk, creating safer pedestrian routes.
- How will we preserve the history of the greenspace triangle north of the intersection? City leaders and officials from The Oakwood Historical Society have discussed ideas on how to better recognize and present the history of the land on the northern end of the roundabout, an area that was historically referred to as “Flat Iron Point”. Detailed plans for the roundabout would include provisions for enhancing the historic significance of Flat Iron Point. If federal funds are awarded for the project, historical impacts are required to be considered and incorporated into the project design.
- Will loss of the greenspace triangle negatively impact the 333 Oakwood Ave condominium complex? No negative impact is anticipated. In fact, given the traffic calming effect of the roundabout, options for enhancing the landscape within the Five Points public right-of-way, and creation of a historic feature at “Flat Iron Point,” it may enhance 333 Oakwood Ave.
- Where will the Pedestrian Hybrid Beacon (PHB) poles be located? The beacon poles will be located near the crosswalks, at the entrance to the roundabout.
- Will the beacons create light pollution? The beacons will create less light pollution than the current traffic signal. The current traffic signal includes 6 lenses per approach, which are always illuminated in either red, yellow or green. The conceptual roundabout plan includes 6 lenses, but they are only illuminated when actuated by a person using the crosswalk and only on the multi-lane approaches. The vast majority of the time, the signal heads are not illuminated, and the minor side streets would not have beacons.

- Will the beacons back up traffic more than the current traffic signal? No, in fact, they will back up traffic less, given the shorter distance of the pedestrian crossings and the fact that they are activated in a full stop mode for a shorter duration than a normal traffic signal.
- Will the beacons confuse drivers because they will only be activated periodically? There may be some initial confusion for those people who are not familiar with them. PHB's are beginning to be installed in the Dayton region. A local example is on Detroit Street (US-68) at Market Street in the city of Xenia.
- Will drivers speed up before and after the roundabout to make up for lost time? Roundabouts move traffic more efficiently than traffic signals so it is not anticipated that motorists will feel as if they "lost time."
- How will the intersection accommodate persons with disabilities? Accessibility will be addressed in the same manner as today. Ramps designed to ADA standards will be incorporated into the crosswalk design, and other elements such as the Pedestrian Hybrid Beacons (PHB) will likewise meet ADA standards.
- How will the intersection impact the movement of emergency vehicles? Emergency vehicles will move through the roundabout in a manner similar to how emergency vehicles currently move through the signalized intersection. In the event that motorists do not move to the right and out of the way, emergency vehicles will have the option of using the mountable curb and paved truck aprons to safely pass through the intersection.
- How about closing the Thruston Blvd access to Five Points and make it a traditional four approach intersection? This could be done, but would negatively impact those motorists who routinely use those approaches to the intersection.
- How about prohibiting all left turns from Far Hills Ave? While this could be done, it would likely be opposed by roadway users who make those left turn movements on a regular basis.

- How long will it take for people to understand how the roundabout functions and how to correctly use it? It is not possible to predict the time it will take for people to become comfortable using the roundabout. That said, it is anticipated that the learning curve will be short and that the traveling public will quickly embrace the change, just as was the case when the city reconfigured Shroyer Rd in 2017. Roundabouts will become more common in the Miami Valley region as shown by the recently constructed roundabout at the intersection of Mad River Rd and Alex Bell Rd.
- How will the roundabout function with people unfamiliar on how to use it? As is the case with any newly constructed roundabout, there is a period of time when some users are unfamiliar with how to properly use it, and may be uncomfortable with using it. Over time, however, the level of unfamiliarity and/or discomfort lessens. The efficient operation of a roundabout is negatively impacted by persons who do not use it properly. As an example, motorists who do not exercise their right-of-way while inside the roundabout can unnecessarily delay other motorists negotiating the intersection. The roundabout will operate most efficiently when motorists use it properly.
- How and from what vantage point(s) will our public safety officers enforce traffic laws within the roundabout? The Oakwood Public Safety Department has a long history of placing strong emphasis on traffic enforcement throughout the city. In each area of the city, Safety Officers use their professional judgment to determine the best means and methods for enforcing traffic laws. Once built, Oakwood Public Safety Officers will assess the roundabout and enforce traffic in and around it in the best manner possible.
- Has the city considered simpler approaches to reducing speed like rumble strips or speed bumps along Far Hills before considering a roundabout? Far Hills Ave is a state route with a 35 mph statutory speed limit. ODOT and FHWA design standards do not support the use of rumble strips or speed bumps on a thoroughfare. Such devices also have disadvantages such as increased noise and slower emergency response times.

- What is the city's contingency plan if the roundabout does not work as intended?
The city has commissioned and completed a thorough analysis of the intersection and traffic volumes. Traffic engineering best practices will be applied to confirm that the roundabout will function as intended.

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