

# Clark County Engineer's Office

Johnathan A. Burr P.E., P.S.  
Clark County Engineer

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4075 Laybourne Road  
Springfield, Ohio 45505-3613  
(937) 521-1800 (937) 328-2473 fax  
[www.clarkcountvohio.gov/engineer](http://www.clarkcountvohio.gov/engineer)

## **Response to Public Comments Selma Pike and E. Possum Road Intersection Improvements CLA-CR351-7.92, PID 109451**

*How will the design ensure farm equipment, buses, tractor-trailers, emergency equipment, etc. can maneuver through the roundabout, without damaging the vehicles?*

**Clark County Response:** The roundabout will be designed to accommodate semi-trucks, school buses, emergency vehicles, and farm equipment by using a mountable center island and mountable curb in key locations. Traffic signs and lighting will be set back to allow additional room for oversized vehicles. It is important to note that passenger vehicles make up the vast majority of traffic entering the intersection. As such, the roundabout must be designed to effectively control passenger vehicle speeds while still accommodating the less frequent trucks or farm machinery as much as possible. The existing roads in general were not designed to accommodate the widths of modern farming equipment, and some inconvenience should be expected when maneuvering these larger vehicles through a roundabout as well. The purpose of the project is to handle the anticipated congestion in the safest manner for the students and traveling public. This may require some sacrifice to the ease and speed at which large trucks and machinery maneuver the intersection. Avoidance of the school zones during peak arrival and dismissal times would be recommended for oversized vehicles whether the roundabout is constructed or not.

*Will the roundabout have higher maintenance costs than other options, due to curb damage? Who will responsible for maintenance?*

**Clark County Response:** As noted above, the roundabout is being designed to accommodate larger vehicles to the maximum extent possible. This will help prevent damage to the new concrete curb. Otherwise, the roadway will require regular pavement maintenance and resurfacing as with other roadways. On the positive side, the roundabout eliminates issues associated with traffic signals such as on-going signal maintenance, annual inspections, power outages, and accident-related equipment damage.

*How can you be certain a signal isn't warranted? Don't you need to wait for the new school to be built?*

**Clark County Response:** The traffic volumes used for this intersection design and analysis are based off the existing roadway traffic volumes and the anticipated increase in traffic associated with the new schools and the anticipated growth in traffic over the next twenty years. The school's consultant used data such as existing volumes at the site with the number of students to be combined at one campus and forecasted the future traffic using standard traffic engineering practices and formulas. Since Selma Pike and E. Possum Road presently have a relatively low volume of traffic, adding the expected traffic from the new schools still does not meet the required volumes to justify a traffic signal or an all-way stop. The policies and traffic engineering standards that prevent the installation of a traffic signal at this location are for safety reasons: traffic signals that are installed when they are not warranted can lead to more (and more severe) crashes, especially rear-end crashes.

*Could you install a traffic signal that only operated during peak hours, and flashes during other hours?*

**Clark County Response:** ODOT's Traffic Engineering Manual does not permit the flashing operation during off-peak times. The Clark County Engineer's Office prefers to adhere to this guidance and reserves the flashing all-red operation for indicating signal malfunction. A signal that only operates during peak traffic hours and flashes during other hours can create additional safety concerns. According to studies by the Federal Highway Administration, the elimination of the off-peak flashing operation that was formerly common practice has reduced crashes nationwide approximately fifty percent. Drivers typically do not anticipate seeing a flashing red or flashing yellow light as they approach a signal and often treat a flashing yellow as a green light without slowing down. Setting the signal to flash during off-peak hours would also eliminate the protection for pedestrians, as pedestrian signal heads are switched off during the flashing operation. There would not be a method to program the signal to switch on during major athletic events or other school functions held outside of the normal school hours.

*Why would the Clark County Engineers want to spend \$1.4 million dollars on a roundabout when for much less money a traffic light and solar-type signage would be more practical, safe & much less cost to the taxpayer?*

**Clark County Response:** As previously noted, neither a traffic signal nor an all-way stop is warranted and cannot be built. Additionally, the difference in cost is not as great as one might expect: both a four-way stop and a signalized intersection would be expected to cost approximately one million dollars each, in part due to the new turn lanes to handle the additional traffic. The benefits of the roundabout with respect to congestion and severe accident reduction outweigh its cost.

*Why can't you construct a four-way stop instead of a roundabout?*

**Clark County Response:** The project's Feasibility Study evaluated an all-way (or four-way) stop as one of the build alternatives for the intersection. Similar to the traffic signal alternative, there is not enough current or projected traffic to satisfy the recommended guidance for installing an all-way stop. Since installing an all-way stop when it is not warranted can lead to more crashes, this option will not be pursued.

*Rather than building a roundabout, could you just replace the stop signs with yield signs?*

**Clark County Response:** If the existing stop signs were replaced by yield signs, the northbound/southbound traffic on Selma would continue free-flow, and traffic on Possum would be asked to yield. This would also mean that vehicles on Possum would not be required to come to a full stop which would likely affect when and how well drivers on Possum looked for traffic on Selma. This would potentially provide some operational benefit and reduce delay, but it could come at a significant safety cost. Except for at roundabouts, the Ohio Manual of Uniform Traffic Control Devices does not allow yield signs to be installed on all approaches of an intersection.

*Could turn lanes be installed, instead of a roundabout?*

**Clark County Response:** The traffic study for the school project analyzed the need for turn lanes and indicated that a southbound left turn lane on Selma Pike at E. Possum Road would be required along with an eastbound right turn lane in to the new school entrance on E. Possum Road. This alone, however, is not expected to address the delay and congestion issue at the intersection and therefore doesn't address the purpose and need of the project.

*Why not just widen the road, to provide two through lanes in each direction?*

**Clark County Response:** The existing 2-lane roadways have sufficient capacity to handle the projected traffic volumes, but the current intersection configuration does not. The construction of additional lanes would not address this issue.

*Won't a roundabout just be confusing (particularly to teenage drivers and the elderly) and lead to more accidents?*

**Clark County Response:** The roundabout proposed for this location is a single-lane roundabout that provides fewer conflict points than a typical intersection. While it may not be as familiar yet as other forms of traffic control, that does not mean using a roundabout is more complicated. In reality, the single-lane roundabout is one of the simplest forms of traffic control. For example, consider the existing four-leg intersection with stop control on the minor approaches (E. Possum Road) - if a driver is approaching the intersection on E. Possum Road and wants to turn left, they have to analyze the following in regards to other vehicles (not including pedestrians):

- Presence and speed of traffic from the right
- Presence and speed of traffic from the left
- Presence of a vehicle on the opposite approach

Factors that can affect the difficulty of this include traffic volumes, sight distance, uncertainty about what movement the approaching traffic is planning to make, etc. This is also more difficult for drivers with less experience or for drivers who do not have the best depth perception and therefore have more difficulty with gauging the speeds of approaching traffic, which can vary considerably. However, at a roundabout, a driver on any approach only has to analyze the following:

- Presence and speed of traffic on the left

The single-lane roundabout operation can generally be thought of as 'right in/right out'...turn right to enter the roundabout when there is a clear gap, then turn right again at the desired exit. In the roundabout, vehicle speeds are constrained by the geometry which further simplifies the decision-making process. The slower speeds and geometry make it virtually impossible to have a high-speed, high-angle crash that is most likely to result in serious injuries or fatalities. Studies have shown that installing roundabouts – especially single-lane roundabouts – is a proven way to improve intersection safety and operation.

*How will your office teach unfamiliar drivers how to correctly drive the roundabout?*

**Clark County Response:** The Clark County Engineer's Office can partner with the school with respect to a student educational campaign on the new roundabout. An instructional video on how to navigate a single-lane roundabout was available on the Online Open House and will be uploaded to the County Engineer's website at [www.clarkcountyohio.gov/engineer](http://www.clarkcountyohio.gov/engineer). Traffic signs and pavement markings will be installed that will help guide motorists through the roundabout. The learning curve will be shallow for a single-lane roundabout.

*Won't a roundabout just make it even harder to find gaps in traffic to get through the intersection?*

**Clark County Response:** Actually, the roundabout should make it easier to find gaps. All movements, including left turn and through movements, will need to find a gap in only one lane. Compare this to a two-way stop; a vehicle on the stop approach going straight would need to wait for a gap in both northbound and southbound traffic, and watch for opposing left turns. Another way the roundabout will help is that the geometry of the roundabout will limit the speed of the traffic in that one lane even when the school flashers are not active. The slower speeds will make it easier - especially for less experienced drivers - to find an appropriate gap.

*Couldn't the congestion just be addressed by having the arrival and dismissal times for each school staggered?*

**Clark County Response:** Clark-Shawnee schools will have the arrival and dismissal times for each school staggered. However, analysis of the predicted traffic indicates that, even with staggered start/dismissal times, the intersection will still experience unacceptable levels of congestion. Of the alternatives evaluated, the roundabout will provide the greatest reduction in congestion and provide the best level of service at the intersection for accommodating the increase in traffic during both regular school days and special events. It will also provide the greatest safety benefit of the alternatives evaluated.

*How will the design prevent driver's from trying to "cut" the roundabout, by going left in front of the circle? How will the design discourage drivers speeding through the roundabout, or failing to yield?*

**Clark County Response:** It is difficult to design transportation facilities that eliminate problems from drivers who speed, fail to yield, and generally disregard traffic laws. If these issues become a common problem among the student drivers, it will be up to local law enforcement, school officials, and parents to address the issues. Because drivers sometimes do speed and run red lights and stop signs (intentionally or not), a single-lane roundabout is the preferred solution as it will be the best countermeasure for reducing the severity of the crashes when they do happen.

Interestingly, we also received comments that students and parents would ignore speed limits and try to beat a red light if a signal were installed. Those in this school of thought were in favor of the roundabout to avoid major collisions. They felt it would help slow or calm traffic in the area. Crashes would be glancing instead of high-speed head-on impact.

*Won't students dart across the road, rather than walk up to the roundabout and back? Won't this travel path be burdensome to students that utilize wheelchairs?*

**Clark County Response:** The original sidewalk plan for the roundabout did route the sidewalk up Selma Pike in order to cross at one of the proposed splitter islands. This has been replaced with a mid-block crossing on Selma Pike located directly east of the existing high school building. The crossing will be supplemented with Rectangular Rapid Flashing Beacons to alert motorists. All pedestrian facilities will be ADA-compliant.

*Can the project include a bike lane or other features to make the corridor more bicycle-friendly?*

**Clark County Response:** A bike lane was not considered for this improvement as there are no existing bike lanes or bike facilities along the roadways. Cyclists are encouraged to ‘take the lane’ and move to the center of the lane as they approach the roundabout in order to prevent drivers from trying to rush past the cyclist. At that point, cyclists should obey the rules for yielding, entering, and exiting the roundabout as normal. The county will assess the options for additional bicycle signage with the design consultant.

*How will this project impact the adjacent residential property?*

**Clark County Response:** The location of the roundabout as currently planned has been designed to minimize acquisition from the adjacent residential property. This proposed roundabout will have the same or less impact to the residential properties than would installing turn lanes for either a signal or an all-way stop.

*Will this project increase traffic?*

**Clark County Response:** No, the roundabout will not increase traffic, but it will provide the best level of service to help mitigate the additional traffic due to the new school, as well as traffic associated with expected population growth.

*Will there be street lighting improvements? The existing security light has been out for some time.*

**Clark County Response:** The project will install new lighting at the roundabout. In the meantime, the existing light will have to remain but it will be inspected and corrected. Thank you for bringing this to our attention.

*What will be in the center of the roundabout? Will it be paved or have vegetation? Will you make sure the center island doesn't block the view of drivers?*

**Clark County Response:** The county will work with the design consultant to determine the best type of treatment for the center island with respect to safety and maintenance requirements. One treatment option is to leave the center clear of visual obstructions, but another practice is to create a line of sight hindrance at the center to prevent drivers from focusing on the other legs of traffic. The driver should focus mainly on looking left to determine when there is a sufficient gap to enter the circle. The sight restriction may also deter those drivers who would speed up as they approach the roundabout if they could see that there were no oncoming vehicles. Both options will be evaluated. If some type of center buffer is used, it will be important to maintain sufficient stopping sight distance for vehicles within the circle.

*Will the project include rumble strips? Will the project include temporary advanced warning signage with LEDs to alert drivers for the first 30-60 days?*

**Clark County Response:** This is being evaluated. The existing LED's supplementing the intersection-ahead and stop-ahead signs that would no longer be required can be transferred to the new roundabout signs temporarily. The county is working with the engineering consultant to identify the needed roundabout signage and any changes needed with the existing signage. With the existing school flashers, existing speed feedback signs, and proposed rapid flashing beacons at the new mid-block crossing, it will be important to make sure the area is not too ‘busy’ and distracting with too many signs and flashers.

*Will construction be scheduled to minimize interference with school and holiday traffic?*

**Clark County Response:** The project may bid late summer/early fall, but the majority of construction will have to wait until the following spring and summer. The contractor may elect to start some aspects of the work in the fall provided it doesn't interfere with traffic.

*Are the school drives spaced an adequate distance from the roundabout to ensure proper traffic flow and safety?*

**Clark County Response:** The existing northern high school drive on Selma Pike will be eliminated as part of the school's revisions. The new bus entrance for the K-6 building will be aligned directly across from the existing south high school drive on Selma Pike located approximately 400 feet south of the intersection. The new K-6 school entrance on E. Possum Road will be directly across from Kenerly Street and will have a new eastbound right turn lane. No other school drives will be constructed between these locations and the roundabout.

*Will the existing intersection at Kenerly St and East Possum Road become a four-way or 2-way stop? When are changes, if any, scheduled?*

**Clark County Response:** The proposed parent/teacher entrance to the new elementary school will be on E. Possum Road aligned directly across from Kenerly Street. The school's traffic impact study determined a need for a new eastbound right turn lane on E. Possum Road at the new school entrance. The school's contractor will be constructing this turn lane during 2021 prior to the school opening. No other changes are planned for the Kenerly Street intersection.

*There are more concerns with the E. Possum Road and State Route 72 intersection and traffic turning at peak times for staff and students. Are turn lanes being established for E. Possum Road onto Rt 72 going west?*

**Clark County Response:** This intersection was not evaluated as part of the project, but the county will forward these concerns to the Ohio Department of Transportation for their consideration.