

**Feasibility Study**  
**WYA-23 Intersection Improvements**  
**PID 109362**  
**August 2021**

**Introduction:**

There are 7 at-grade intersections included in this project that are located just southeast of the City of Upper Sandusky (Wyandot County) intersecting US-23 in between the SR-199 interchange and the SR-231 interchange. US-23 is a four-lane divided highway with a speed limit of 70 mph through this corridor. The lane widths on US-23 are 12' wide with a 9' wide outside shoulder and a 4' wide inside shoulder. There is an intersection ahead warning sign when approaching the intersections travelling northbound and southbound on US-23 except for the State Route 294 intersection. There are dual intersection ahead warning signs before State Route 294 intersection. There are stop signs on the eastbound and westbound intersecting roadways. There are dual stop signs at each of the State Route 294 approaches. The locations of the at-grade intersections can be seen in Figure 1 located in Appendix A.

**Previous Studies:**

There was one previous *Long-Term Access Study* completed by ODOT District 1 in 2018 to identify improvements that could be made to the at-grade intersections along the US-23 corridor. This study involved identifying a long-range plan for all the at-grade intersections along US 23 in Wyandot County and Hancock County. Traffic counts, crash history, cost of construction and stakeholder comments were the main factors considered. The proximity of adjacent access to US-23 was also considered when determining alternatives for the intersections. The information obtained from this study was utilized when developing feasible alternatives for this project.

**Purpose & Need:**

The purpose of this project is to enhance the safety of these at-grade intersections along US-23 for this portion of the roadway. These intersections experience many crashes due to drivers attempting to cross the intersection not realizing how quickly the oncoming traffic is travelling. This results in angle crashes. The goal is to eliminate the serious "angle" crashes that take place at these intersections.

**Alternatives**

There were five alternatives that were considered for each of the 7 intersections that are included in this project. These alternatives include: no build, removing the access to US-23 or installing cul-de-sacs, installing restricted crossing U-Turns (RCUT), constructing an overpass, or constructing an interchange. Impacts associated with each of these alternatives will be described further in this study to help analyze which alternative is preferred for the at-grade intersections being studied.

**Key Issues**

Key issues to be considered in the alternative selection process include traffic demand and alternative routes, crash reduction, and public involvement. In addition, the environmental impacts, utility impacts,

right-of-way costs and the cost of the construction for each alternative also are also all key factors to be considered for these intersection enhancements.

### **Environmental Impacts**

ODOT District 1 Environmental Staff conducted a preliminary desktop review of environmental resources at each of the seven intersections associated with this project in early July 2019. The desktop review was followed up with a field visit in late July 2019. In general, all seven intersections are located in rural southeastern Wyandot County in an agricultural landscape. The area surrounding each of these intersections is maintained roadway right-of-way and, in general, doesn't contain sensitive natural resources. At two intersections, construction activities could potentially impact two small, low-quality streams. Any impacts to these streams that would result from this project would be minor and should not affect the selection of the preferred alternative. Portions of the Township Road 72 and U.S. 23 intersection are located within a regulated floodplain. Impacts to this floodplain would be minimal and should not affect selection of the preferred alternative. The primary environmental concerns for this project relate to community impacts and access management. Most notably, a large grain silo exists about 0.5 miles east of the intersection of County Road 74 and U.S. 23 and Coon's Candy (candy shop) is located immediately adjacent to the intersection of County Road 113 and U.S. 23. The needs and concerns of these businesses, nearby residents, local schools, law enforcement, and emergency services must be taken into account during stakeholder and public involvement activities.

### **Right-of-Way Impacts**

ODOT District 1 Right-of-Way staff completed a review of the right-of-way for the project limits. Each of the intersections generally has the same amount of existing right-of-way available. There is enough right-of-way at each intersection to accommodate cul-de-sacs, an RCUT, or an overpass with minor additional costs. If an interchange was the selected alternative there would be higher costs to purchase additional right-of-way. The costs for right-of-way was considered when selecting the preferred alternative.

### **Utility Impacts**

ODOT District 1 reviewed the project limits for any present utilities that would have to be moved as a result of this project. There are minor utility impacts at all intersections therefore this was not a factor considered when choosing a preferred alternative.

### **Traffic Analysis**

Traffic counts were obtained for each of the seven intersections in between State Route 199 and State Route 231. The amount of traffic utilizing the intersections was taken into consideration when determining the most effective changes for the intersections. In addition, the distances between the available access points to US-23 and detour routes that would occur with intersection closures were considered when determining the preferred alternative. The traffic counts at the intersections along this corridor are low, so there would not be a large traffic impact on any roadways involved in alternate routes. The traffic counts and alternate route distances for each of the intersections can be found in Appendix B.

### **Crash History**

Crash information from 2016-2018 was collected for each of the seven intersections. County Road 113 experienced five crashes in the three-year period, which is the highest of all seven intersections. The intersection of State Route 294 and US-23 experienced 3 crashes. The other five intersections experienced minimal crashes throughout the three-year period. The number of crashes at each intersection can be seen in the table in Appendix B. The crash history along with the potential safety improvement that could be made with each alternative was also considered when selecting the preferred alternative.

### **Costs of Alternatives**

The cost for the four alternatives varies by a large amount. An estimated construction cost for the different alternatives is shown in the table below. Each of the alternatives provides crash reduction but at differing costs and impacts.

<b>Alternative</b>	<b>Cost</b>
No Build	\$ -
Cul-De-Sac	\$ 250,000
RCUT	\$ 1,500,000
Overpass	\$ 4,000,000
Interchange	\$ 14,000,000

Table 1: Estimated Construction Costs

### **Public Involvement**

There was a stakeholder meeting that took place as a part of the study completed in 2018. At this meeting, emergency personnel, law enforcement, county engineers and local government officials voiced concerns with each of the at-grade intersections studied. The Wyandot County Engineer among others were concerned about a flooding problem that frequently occurs with the Sandusky River bottom areas that could potentially create long detours for those travelling south if the north access of County Road 113 was closed. There were also comments regarding the location of Coon's Candy adjacent to County Road 113 and the impacts a cul-de-sac could have on the business. There were no major concerns at the other five intersections, and the stakeholders were generally in support of the closures of these intersections. The comments from this meeting were considered when identifying alternatives.

In June 2020, ODOT sent out invitations, flyers, press releases, and newspaper ads inviting nearby property owners, stakeholders, and the general public to view an on-line pre-recorded presentation detailing recommended preferred alternatives at the seven intersection being reviewed along the U.S. Route 23 corridor. The presentation was made available on a project website ([https://www.transportation.ohio.gov/wps/portal/gov/odot/projects/projects/109362?utm\\_medium=email&utm\\_source=govdelivery](https://www.transportation.ohio.gov/wps/portal/gov/odot/projects/projects/109362?utm_medium=email&utm_source=govdelivery)) on July 7, 2020. The invitations that were sent out contained a comment form and visitors to the website were also provided with a comment form to provide feedback about the proposed preferred alternatives. Comments were requested by August 7, 2020 in order to keep the project proceeding in a timely manner, although comments received at any time would continue to be evaluated and considered. During this comment period, numerous comments were

received (greater than 70) from a variety of sources (e-mail, phone call, comment forms, etc.). Details of the comments and ODOT's responses are provided in the "Response to Public Comments.pdf" in the Environmental Document for the PID: 109362 project.

In response to public comments received, ODOT sent out a press release on September 4, 2020 indicating they would be re-evaluating the alternatives proposed at the seven intersections and would no longer be considering the originally proposed restricted crossing U-turn (RCUT) at the County Highway 113/Township Highway 124 intersection due to the impact on emergency response services.

In January 2021, ODOT petitioned the Wyandot County Commissioners to vacate five intersections along the US 23 corridor originally proposed for closure in ODOT's July 2020 pre-recorded on-line presentation. On May 4, 2021, the Wyandot County Commissioners held a public viewing of ODOT's petition at the Wyandot County Courthouse. On May 6, 2021, the petition was rejected by the Wyandot County Commissioners, providing clear opposition to ODOT's proposal from a key stakeholder.

On May 12, 2021, ODOT issued a press release announcing the project was "called off" (thereby selecting the 'no build' as the preferred alternative) citing, "the community has shown tremendous active engagement in the public comment process raising many substantive questions about how the changes would impact the local businesses, farmers, and residents." In reference to the Wyandot County Commissioners rejection of ODOT's petition, the press release stated, "with this vote, the commissioners acknowledged the community's preference to leave the corridor along unless a full interchange can be constructed at State Route 294." The press release also indicated a full interchange at this location is not feasible at this time due to the cost ratio/safety benefit. A letter was also sent out to local property owners and stakeholders providing this information.

## **Conclusion**

The key issues described above were the factors considered when selecting a recommended preferred alternative for each of the intersections based on preliminary design. The recommended preferred alternative for the intersections of County Road 68, County Road 74, County Road 65, County Road 72, and County Road 62 with US-23 is to install a cul-de-sac or remove access from all approaches to US-23. The traffic counts at these intersections were small and there is a county road (CR-113) that runs parallel to US-23 that drivers would be able to use to access US-23 without a long detour. Since the traffic counts on these roads are lower, this alternative results in the least amount of impacts to the travelling public. The cost of the cul-de-sac is small, and this completely removes the chance of any future crashes occurring from this at-grade crossing.

The recommended preferred alternative for the intersection of CR-113 and US-23 is to cul-de-sac the south access and construct an RCUT on the north approach of CR-113. There is not a high amount of traffic that uses this intersection to the south. In addition, CR-113 runs south parallel to US-23 so drivers can access the highway from the SR-294 intersection. The north access to US-23 from CR-113 needs to remain due to flooding of the Sandusky River bottom areas that would prevent drivers from accessing areas south of the flooding without having to travel a long detour. A partial RCUT would allow drivers to have this access but would alleviate the crashes that have occurred at this intersection. Compared to a traditional intersection, there are less conflict points at an RCUT intersection. The driver only has to

cross two lanes of traffic at a time, focusing only on one direction. A normal intersection requires a driver to look in both directions and cross four lanes at one time. Therefore, there are less decisions to make when utilizing an RCUT, thus making the intersection safer. Also, when comparing alternatives that maintain access, the cost to install a partial RCUT is small, so there would be a large benefit of crash reduction at this intersection compared to the cost of installation.

The recommended preferred alternative for the intersection of State Route 294 with US-23 is to install a full RCUT. The traffic at this intersection is the second highest of the entire US-23 corridor access study. There is also a crash history. The RCUT would allow for all existing traffic movements while alleviating the crash patterns here. In addition, a RCUT is an alternative that allows for any future alterations that would be made to this intersection. The cost for a complete RCUT is around \$1.5 million dollars, but the cost of the RCUT would be small compared to the benefit of the crash reductions at this intersection. Table 2 in Appendix C summarizes the key issues and above information.

The recommended preferred alternatives were presented to the public virtually in June of 2020 for comments. Public comments were collected, and many discussions occurred following this meeting to accommodate local comments. There were requests to leave some intersection open and to have an interchange at State Route 294. The requested interchange would be very costly, and the safety benefit would not be large enough to justify the cost of the interchange instead of the RCUT at the time of the study. In January 2021, ODOT petitioned the commissioners for the closure of the at-grades. The petition was declined by the commissioners resulting in ODOT's decision to select the No Build Alternative as the preferred alternative for this corridor.

Appendix A



Figure 1: Location of Intersections

## Appendix B

Intersecting Route	Crashes (2016-2018)	Intersecting Traffic (2019) Vehicles Per Day		Detour Distance (Miles)
		Approach	Count	
TR-68	0	East Approach	28	2.8
		West Approach	49	
CR-74	1	East Approach	85	5.4
		West Approach	37	
TR-72	0	East Approach	106	4.5
		West Approach	62	
SR-294	3	East Approach	359	-
		West Approach	665	
CR 113/TR-124	5	North Approach	171	5.3
		South Approach	140	
TR-65	2	East Approach	31	7
		West Approach	70	
CR-62/TR-62	1	East Approach	205	4.9
		West Approach	168	

Table 1: Crash History & Traffic Counts



## Appendix C

Alternative	Cost	R/W Impacts	Environmental Impacts	Utility Impacts	Detour Potential	Safety Benefit	Public Input
<b>TR-68</b>							
No Build	0	0	0	0	0	0	0
Interchange	0	0	0	0	0	0	0
Overpass	0	0	0	0	0	0	0
RCUT	0	0	0	0	0	0	0
Cul-De-Sac	0	0	0	0	0	0	0
<b>CR-74</b>							
No Build	0	0	0	0	0	0	0
Interchange	0	0	0	0	0	0	0
Overpass	0	0	0	0	0	0	0
RCUT	0	0	0	0	0	0	0
Cul-De-Sac	0	0	0	0	0	0	0
<b>TR-72</b>							
No Build	0	0	0	0	0	0	0
Interchange	0	0	0	0	0	0	0
Overpass	0	0	0	0	0	0	0
RCUT	0	0	0	0	0	0	0
Cul-De-Sac	0	0	0	0	0	0	0
<b>SR-294</b>							
No Build	0	0	0	0	0	0	0
Interchange	0	0	0	0	0	0	0
Overpass	0	0	0	0	0	0	0
RCUT	0	0	0	0	0	0	0
Cul-De-Sac	0	0	0	0	0	0	0
<b>CR-113/TR-124</b>							
No Build	0	0	0	0	0	0	0
Interchange	0	0	0	0	0	0	0
Overpass	0	0	0	0	0	0	0
RCUT	0	0	0	0	0	0	0
Cul-De-Sac	0	0	0	0	0	0	0
<b>TR-65</b>							
No Build	0	0	0	0	0	0	0
Interchange	0	0	0	0	0	0	0
Overpass	0	0	0	0	0	0	0
RCUT	0	0	0	0	0	0	0
Cul-De-Sac	0	0	0	0	0	0	0
<b>CR-62/ TR-62</b>							
No Build	0	0	0	0	0	0	0
Interchange	0	0	0	0	0	0	0
Overpass	0	0	0	0	0	0	0
RCUT	0	0	0	0	0	0	0
Cul-De-Sac	0	0	0	0	0	0	0

0: Good    0: Fair    0: Poor

Table 2: Alternatives & Key Issues Summary