

# MEETING MINUTES

Project: Downtown Crestwood Railroad Crossing Study  
Oldham County

Purpose: Project Team Meeting No. 1

Place: Virtual Meeting

Meeting Date: May 17, 2021 at 9:00 AM

Prepared By: Qk4

Participants:

Matt Bullock	KYTC D5 CDE
Kevin Bailey	KYTC D5
Larry Chaney	KYTC D5 Planning
Shelli Venable	KYTC D5
Allen Rust	KYTC CO Railroad Coordinator
Steve De Witte	KYTC CO Planning
Sadie Middleton	KYTC CO Planning
Andy Rush	KIPDA
Rebecca Thompson	Qk4
Tom Springer	Qk4
Jeremy Lukat	Qk4

Rebecca Thompson opened the meeting, welcoming attendees. The purpose of the meeting is to review the existing conditions information for the planning study, which examines the at-grade railroad crossings in downtown Crestwood. CSX issued a resolution regarding the KY 329 Railroad Avenue crossing, where semi-trucks often get stuck due to the steep grade to the south.

- The KY 329 Railroad Avenue crossing is classified as a local street; KY 22 and KY 146 adjacent are minor arterials; KY 329 to the north is a minor collector.
- It has a Class F horizontal curve (45 degrees) per HIS data with grades up to 15% just south of the tracks.
- The County is interested in installing a mast arm with bars/poles (see inset) to limit vertical clearance south of the KY 22/KY 329 intersection. Kevin will coordinate with D5 Permits for additional information; similar measures have been suggested several times but limited space is available.
- Warning signage is posted at 14 sites in the vicinity, advising trucks approaching from any direction to avoid the crossing. Signs on KYTC right-of-way show the “low-boy” style flat bed trailer consistent with MUTCD standards.



Example mast/bar to limit clearance



### Crashes

Crash data from several different sources was compared.

- The FRA crossing inventory reports 11 crashes since 1978, with two occurring since 2016. Both crashes were property damage only (PDO) involving semi-trucks.
- Kentucky State Police reports during 2017-2019 showed two crashes at the crossing itself (both semi-trucks resulting in PDO) and 12 at the adjacent KY 146/KY 329 intersection. Four 0.1-mile high crash spots showed up in the study area, concentrated at the KY 146/KY 329 and KY 146/KY 329B Bypass intersections.
- No segments or intersections were flagged as having a high Excess Expected Crashes (EEC) rating or a poor Level of Service of Safety (LOSS).
- CSX provided their incident log for January 2016 through early 2021. Of the 355 entries, about 180 represent unique events: mostly semi-trucks getting hung up on the crossing but also 3 collisions. Compared to TRIMARC records, 23 of these (13%) correspond to times where one or more lanes along I-71 were closed due to a crash, increasing traffic on local surface streets.

### Traffic

Qk4 collected 12-hour turning movement data at seven intersections in March 2021. Historic KYTC Counts, KIPDA's travel demand model, and origin-destination data from StreetLight were also compared to understand existing traffic flows. The study does not include a future year analysis but will rely on Vissim microsimulation to test out several what-if scenarios modifying at-grade crossings. **Table 1** compares recent traffic counts crossing the rail line. Drone footage to measure queue lengths was collected; AM readings occurred when there was a lane closure on I-71, demonstrating lengthy queues throughout downtown.

**Table 1: Comparison of Existing Traffic Volumes**

Source	KY 329 Railroad Ave	KY 146 Reardon's	KY 329B Bypass
Latest KYTC Counts (2017)	4,603 vpd 5.8% Trucks	-	7,603 vpd 6.7% Trucks
Miovision Counts (Mar 2021)	5,150 vpd 1.4% Trucks	6,664 vpd 2.8% Trucks	9,219 vpd 3.3% Trucks
StreetLight Data (2019)	5,800 vpd	9,973 vpd	8,392 vpd

Operationally, the four-way stop intersection at the school operates at LOS F in the PM peak based on existing volumes. Conversations with the local police department indicated they would prefer to see it operate as a two-way stop (with free flow on KY 22/KY 146 east-west movements) with a guard during peak school times.

KIPDA's 24-hour model provides the baseline for the what-if scenarios. The model under assigns traffic using the KY 329B Bypass but shows a substantial increase in traffic for Pewee Valley crossings. Engineering judgement and Vissim's dynamic assignment procedures will temper results for other scenarios to ensure volume assumptions reflect capacity constraints.

The team also discussed other possible solutions in addition to closure(s):

- Renumber KY 329 and/or KY 329B bypass, coordinating with GPS routing companies to promote use of the bypass.
- Add a U-turn option for southbound trucks on Railroad Avenue. Until decorative boulders were added along the park driveway in early 2018, trucks were able to turn around.
- Convert Railroad Avenue to a city street.



- Prohibit trucks via 603 KAR 5:250, which allows for legislative deletions to the 15-mile/5-mile buffers along the National Truck Network, as employed to prohibit trucks at the railroad crossing in Anchorage. STAA trucks can be prohibited for “significant, clearly evident safety problems.”

Stantec is finalizing a planning study that will formalize a process to delist routes from the truck network. Steve will confirm with Mikael the steps necessary to delist the KY 329 crossing, at least as a temporary measure while more impactful solutions are evaluated. Enforcement is key for the first few months to reestablish truck flows, as seen on the 2016 truck ban along KY 151 in Franklin/Anderson Counties.

Regarding next steps, Qk4 will model the what-if traffic scenarios then reconvene the project team in June to review findings and discuss recommendations. Outreach with local officials will occur in July, who are unlikely to support closure(s) if other options are viable. The draft report will follow in August.

End of Minutes





*Groundbreaking by Design.*

# MEETING MINUTES

Project: Downtown Crestwood Railroad Crossing Study  
Oldham County

Purpose: Project Team Meeting No. 2

Place: Virtual Meeting

Meeting Date: June 29, 2021 at 1:00 PM

Prepared By: Qk4

Participants:

Matt Bullock	KYTC D5 CDE
Kevin Bailey	KYTC D5
Tom Hall	KYTC D5 Planning
Larry Chaney	KYTC D5 Planning
Shelli Venable	KYTC D5
Allen Rust	KYTC CO Railroad Coordinator
Stephen De Witte	KYTC CO Planning
Beth Niemann	KYTC CO Planning
Jay Balaji	KYTC CO Planning
Jeremy Edgeworth	KYTC CO Planning
Sadie Middleton	KYTC CO Planning
Connor Schurman	KYTC CO Planning
Andy Rush	KIPDA
Rebecca Thompson	Qk4
Jeremy Lukat	Qk4
Theresa Owen	Qk4

Rebecca Thompson opened the meeting, welcoming attendees. The purpose of the meeting is to present “build” traffic analyses for the planning study, which examines the at-grade railroad crossings in downtown Crestwood. CSX issued a resolution regarding the KY 329 Railroad Avenue crossing, where semi-trucks often get stuck due to the steep grade (~15%) to the south. Despite numerous warning signs, an estimated 180 semi-trucks have gotten stuck at the crossing since 2016.

Traffic analyses examined three what-if scenarios: close KY 329 crossing to southbound traffic, close KY 329 crossing to all traffic, and close both KY 329 and KY 22/KY 146 crossings. Turn lanes and traffic control changes at nearby intersections were adjusted to improve operations as needed. The *Traffic Forecast/Microsimulation Report* (coming soon) will document the calibration and modeling processes in greater detail.



- While many of the incidents involve southbound trucks, northbound is an issue too.

Of the “build” scenarios, options closing both local crossings quickly failed with network-wide gridlock. Closing KY 329 entirely works with coordinated signals at either side of the KY 22/KY 146 (*Reardon’s Market*) crossing. With the conversion of KY 329 to one-way traffic (northbound) several viable solutions address the increased traffic at Reardon’s crossing: coordinated signals, four-way stop-control, or a mini-roundabout. In each option, the signal at the KY 329/KY 146 intersection south of the railroad was removed. Turn lanes approaching the Reardon’s crossing from all directions were also assumed.

A turn lane concept sketch at Reardon’s crossing was presented, as well as a mini-roundabout which minimizes the amount of right-of-way required. The westbound right turn lane to the Reardon’s crossing would impact one utility pole; however, the mini-roundabout does not impact that pole since no new pavement is required in that area with the mini-roundabout. Planning-level construction costs are estimated at \$350,000+ for turn lanes, \$80,000+ for signals, and \$250,000 to \$500,000 for the mini-roundabout, excluding right-of-way and utility costs.

Questions/Discussion regarding the concepts:

- The coordinated signals could use a three-phase system, assuming one shared controller for both sides. However, it could increase the number of stops on the gas station side when fewer crossings occur.
- How much space is required between the tracks and gate? How does that work with the roundabout? Gates are usually at least 15 feet from the tracks. Roundabouts can be gated on each approach—to shut it down when a train comes—or just on the approach to the tracks.
- Does the mini-roundabout work with the amount of truck traffic? Geometrically, mini-roundabouts are designed with a fully traversable center island which allows trucks/buses to travel either direction coming out of the school.
- How many trains use this stretch? Per Tom Hall, 38 trains per day. Four train crossings were recorded during the 12-hour data collection. School was in session during traffic data collection activities; Tom estimates about 2/3 of students were attending in-person so bus volumes could have been lower than other years. Approximately half of the students are estimated to ride buses versus parent pickups.
- Improved access control at the gas station north of Reardon’s crossing should be considered when redesigning.
- What other physical improvements would be needed to one-way Railroad Avenue? Adjustments to signing, signal timing, curbs, gates. There is also a cut-through using Old Railroad Ave, which is beyond state jurisdiction.

Other solutions were discussed:

- Can raising the grade north of the KY 329 crossing eliminate snags? The county examined this. You would have to add 3+ feet of asphalt, chasing the grade a relatively long way. The other solutions shown would be less impactful.
- Making Railroad Avenue a local street has been discussed in the past but the City was not supportive.



- Development of a U-turn option, north of the tracks and low clearance mast arm were discussed at the May project team meeting.
- KYTC leadership does not support an order to prohibit trucks although a legislative mandate could be pursued.
- With the new park entrance and recent demolition, an *escape route* for trucks trying to avoid the southbound crossing could be added on City property (see below) instead of the turnaround discussed previously. This may require other upgrades to the park to demonstrate a net benefit.



- Redesignating KY 329 to a four-digit route might discourage truck traffic; this could apply to everything south of the bypass intersection or only the section south of KY 22. Part of the confusion is the KY 329B designation for the bypass, which could represent “Business” instead. Renumbering the route requires updating the milepoint log county-wide. Another issue: there is no local street name for KY 329 so addressing would be impacted if the designation changed.

KYTC confirmed that a concise tech memo is preferred over a standard planning report. A single recommendation is not required unless there is a clear solution that makes sense. Otherwise, a menu of options is appropriate. Kevin Bailey will reach out to the mayor and judge about setting up a meeting to present options.

End of Minutes





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# MEETING MINUTES

Project: Downtown Crestwood Railroad Crossing Study  
Oldham County

Purpose: Meeting with Local Officials

Place: Virtual Meeting

Meeting Date: July 7, 2021 at 1:00 PM

Prepared By: Qk4

Participants:

David Voegele	Oldham Co Judge/Executive
Jim Silliman	Oldham Co Engineer
Kevin Bailey	KYTC D5
Shelli Venable	KYTC D5
Zachary Neihof	KYTC D5 Traffic
Allen Rust	KYTC CO Railroad Coordinator
Beth Niemann	KYTC CO Planning
Andy Rush	KIPDA
Tom Springer	Qk4
Rebecca Thompson	Qk4

Kevin Bailey opened the meeting, welcoming attendees. The purpose of the meeting is to present a menu of options for the study, which examines the at-grade railroad crossings in downtown Crestwood. CSX issued a resolution regarding the KY 329 Railroad Avenue crossing, where semi-trucks often get stuck due to the steep grade (~15%) to the south. Despite numerous warning signs, an estimated 170 semi-trucks have gotten stuck at the crossing since 2016. While many of the incidents involve southbound trucks, northbound is an issue too.

In the next few weeks, KYTC will install a new warning sign in the southwest quadrant of the KY 329/KY 22 intersection, the 15<sup>th</sup> sign in the vicinity.

Rebecca Thompson presented a synopsis of the potential solutions developed to date, each intended to minimize costs and impacts for short-term implementation.

Lower Cost Solutions	Construction-based Solutions
Redesignate KY 329 Routing	Truck Escape Route
Mast Arm for Low-Clearance Warning	One-way KY 329 Crossing
Legislative Truck Prohibition	Close KY 329 Crossing
U-Turn off KY 329 Railroad Ave	



Traffic analyses examined three what-if scenarios: close KY 329 crossing to southbound traffic, close KY 329 crossing to all traffic, and close both KY 329 and KY 22/KY 146 crossings. Turn lanes and traffic control changes at nearby intersections were adjusted to improve operations as needed.

Analyses showed that options closing both local crossings quickly failed with network-wide gridlock. Closing the KY 329 crossing entirely works with coordinated signals at either side of the KY 22/KY 146 (*Reardon's Market*) crossing. The evaluation of the conversion of KY 329 crossing to one-way traffic (northbound) showed several viable solutions address the increased traffic at Reardon's crossing: coordinated signals, four-way stop-control, or a mini-roundabout. In each option, the signal at the KY 329/KY 146 intersection south of the railroad was removed. Turn lanes approaching the Reardon's crossing from all directions were also assumed.

Discussion on the concepts followed:

- How does the railroad gate work with the roundabout? Roundabouts can be gated on each approach—to shut it down when a train comes—or just on the approach to the tracks.
- Does the mini-roundabout work with the amount of truck traffic? Geometrically, mini-roundabouts are designed with a fully traversable center island which allows trucks/buses to travel either direction coming out of the school. *[Follow-up note: diagrams for truck turns will be presented in the study report.]*
- Prior to 1994, the KY 329/KY 146 intersection operated as a four-way stop. Traffic would back up to the post office in Pewee Valley. If the signal is removed, will queuing be a concern? Will traffic to/from KY 1408 be able to enter the traffic stream?
- Does the U-turn provide enough room for trucks to maneuver? AutoTURN was used to develop the U-turn concept shown. Existing boulders and display sheds located in this area prevent trucks from making this movement today.
- Regarding the mast arm for low clearance warning, input is needed from the Mayor of Crestwood before moving forward with this option. District 5 will consider approval if hangers are freely moving.
- Can new signs be installed directing traffic to bypass?
- There are several ways to approach the solution—keep implementing small-scale efforts to keep trucks off of Railroad Avenue and preserve existing traffic patterns, make a larger fix at the Reardon's crossing, or a combination. It was generally agreed the proposed improvements to the Reardon's (KY 22/KY 146) crossing were warranted regardless of the issues at Railroad Avenue.
- As the railroad tracks rise each time CSX does work in the area, the grade just keeps getting steeper. Looking forward over the next 10+ years, the problem will gradually get worse to the point that other large vehicles will not be able to clear the crossing. Allen agreed to ask if there is a way to keep CSX from raising these crossings each time they complete maintenance activities; agreeing to such seems unlikely.
- If a mini-roundabout is recommended, it could be constructed on top of existing pavement to raise the grade at this intersection.



- Closing Railroad Avenue could be a benefit for the City: additional parking for and enhancing safety to access Maples Park, freeing up space for on-street community events, revitalization of the historic area that is city-owned, etc.
- Widening the Reardon's crossing to increase storage is a possible longer term solution but would be more expensive than the short-term fixes discussed herein. Available right of way would need to be investigated.
- Likely, a construction-based solution could be treated as an administrative modification to KIPDA's TIP rather than an amendment.
- Allen Rust will follow-up with CSX to discuss potential modifications to the gate (\$300,000+ if reconstructed), timing, construction responsibilities, funding for closing an at-grade crossing, etc.

General consensus favored the mini-roundabout scenario. Though the Mayor was unable to join the call, his input is critical moving forward. KYTC will schedule a follow-up meeting. While KYTC is responsible for the final decision, finding a reasonable solution that works for the local community is a key factor.

End of Minutes





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# MEETING MINUTES

Project: Downtown Crestwood Railroad Crossing Study  
Oldham County

Purpose: Coordination Call with Crestwood Mayor Jim Kramer

Place: Phone Call

Date: August 31, 2021 at 8:00 AM

Prepared By: Qk4

Participants:

Jim Kramer	Mayor of Crestwood
Tom Springer	Qk4

Due to numerous scheduling conflicts, Tom Springer and Mayor Kramer held an impromptu briefing about the study over the phone. Key discussion items on the concepts included:

- The mayor supports any/all of the short-term options but is opposed to closing the road—either the one-way scenario or full closing of the crossing. He supports pursuing a legislative truck prohibition.
- Changing existing signs to illustrate a box truck instead of a “low boy” could help reduce driver confusion.
- While the mast arm clearance setup may not be aesthetically pleasing, if it prevents future incidents it’s worthwhile.
- Closing Railroad Avenue to southbound traffic may reduce southbound incidents but northbound is a concern too. Pewee Valley will object to closures as well as traffic along Wooldridge Avenue will increase.
- He feels reconstruction at Reardon’s and its approaches is warranted, with turn lanes extending as long as possible in all directions.
- LaGrange has not faced the same grade-raising issues as Crestwood.

End of Minutes