

# Memo

**To:** Docketing Division

**From:** Jill Henry, Rail Specialist, Rail Division

**Cc:** PUCO Legal Department

**Date:** 8/16//2019

**Re:** PUCO Case No. 16-1413-RR-FED- In the Matter of the Authorization of Norfolk Southern Railway to Install Active Warning Devices at a Grade Crossing in Fulton County.

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Please see the attached staff response to the Norfolk Southern variance request to modify the types of warning devices to be installed at the West Barre Road crossing.

# Norfolk Southern Variance Request

## Case #16-1413-RR-FED

### Staff Response

#### Introduction:

On April 24, 2017, Norfolk Southern Railway Company (NS) filed a request for variance to change the type of warning devices for W. Barre Street (DOT#509-522J) in Archbold, Ohio.

In the request, NS states that there are unresolvable utility conflicts and therefore they cannot place a cantilever and gate mechanism in the northeast quadrant (quadrant B) for this upgrade project. Attached to the request was a "Review of Utility Constrictions" document that was created by the Ohio Rail Development Commission (ORDC).

Based on its review of the variance request and letter of support submitted the Ohio Rail Development Commission, Staff has concluded that the current record is insufficient for PUCO staff to recommend the Commission's approval of the variance requested.

#### Project Background:

On January 25, 2013, the Ohio Rail Development Commission (ORDC) authorized funding for Norfolk Southern Railway (NS) to install lights and gates at the W. Barre Street, DOT#509-522J, grade crossing in Archbold, Fulton County, Ohio.<sup>1</sup> The crossing was surveyed, on September 18, 2012, and was found to warrant the upgrade.

There were significant delays with the engineering of this project due multiple utility conflicts. ORDC granted construction authorization for this project on June 14, 2016. On July 6, 2016, the Commission issued a Finding and Order approving the project and ordering project completion by April 6, 2017. Since construction began, there have been additional utility conflicts found on site and resolution of them has been ongoing. Over the last few years, Staff has participated in multiple on site meetings and conference calls, but the construction of the warning devices in the northeast quadrant remains unresolved.

The remaining issue to resolve, and the subject matter of the variance request, concerns the two westbound traffic lanes located east of the tracks at the intersection of the railroad with Myers Road and W. Barre Road. The active warning devices in the northeast quadrant will need to protect two westbound traffic lanes at the crossing. The standard method to protect both traffic lanes is to install a cantilever device that would have flashing lights specific to both travel lanes and would put the flashing lights for second lane (the turn lane) over the traveled way so that approaching traffic would see the devices.<sup>2</sup>

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<sup>1</sup> See Exhibit A for a photograph and overview of the crossing.

<sup>2</sup> See Exhibit B for examples of active warning devices over multiple traffic lanes at similarly configured crossings.

However, due to utility conflicts in this northeast quadrant, NS has requested a variance to downgrade the active warning lights from the standard cantilever lights and gates typically installed when two lanes of travel are to be protected.<sup>3</sup>

### **Staff Review:**

In its variance request, which is supported by ORDC, NS proposed the construction of a pair of mast mounted left-hand flashing lights in the southeast quadrant of the crossing. These mast-mounted lights would be located approximately twenty-two feet from the left turn-lane. No cantilever would be installed and, as such, there would be no flashing lights placed above the westbound left-hand turn lane.

While this method likely allows for a less costly and timelier completion of the project, PUCO Staff finds it to be substantial deviation from the typical installation practices authorized by the Commission where there are multiple lanes of travel in the same direction at a crossing and inconsistent with relevant technical requirements. In particular, although PUCO Staff acknowledges the point raised by ORDC in its letter of support that the OMUTCD does not mandate the installation of cantilevered lights, the AREMA manual states that a pair of flashing lights should be visible for each approaching traffic lane when placement of the mast mounted lights is greater than ten feet from the traveled way.<sup>4</sup>

Although Staff has reviewed and the Commission has approved variances regarding the location of similar devices (active warning lights and cantilever) at a crossing, removal and replacement of such devices with a pair of mast mounted flashing lights has not previously been considered or authorized.

As such, staff worked with NS and ORDC to identify the following alternatives that align more closely with typical installation practices:

#### ***1. Traffic Beacon for Left-Hand Turn Lane***

Staff proposed the construction of a traffic beacon for the left-hand turn lane in place of the cantilever mounted railroad warning flashers and installation of mast mounted gates for the right-hand lane. This alternative places a flashing light for drivers over the left-hand turn lane. This places the warning device in the drivers' line of sight in a similar way to a cantilever, ensuring drivers are likely to see the warning device as they approach the crossing.

However, at this time ORDC and NS have expressed concerns that similar unresolvable utility right of way issues make this alternative unfeasible, in part, because of the size of the foundation required to install the traffic beacon. ORDC has also expressed concerns that this would be a non-standard use of a traffic beacon flashing light. However, neither party has responded to staff's request for additional documentation to support the presence of unresolvable utility right of way conflicts with this

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<sup>3</sup> For additional information on the typical installation requirements, see Ohio Manual of Uniform Traffic Control Devices (OMUTCD 2012 Edition), Section 8C.02 - Flashing Light Signals (*If used, flashing-light signals shall be placed to the right of approaching highway traffic on all highway approaches to a grade crossing; and (f)flashing-light signals may be installed on overhead structures or cantilevered supports as shown in Figure 8C-1 where needed for additional emphasis, or for better visibility to approaching traffic, particularly on multi-lane approaches or highways with profile restrictions*); American Railway Engineering and Maintenance of Way Association (AREMA) C&S Manual 2016 Edition, (C)(3) (*Overhead mounted flashing-light signal units should be used at locations on two-lane roadway with surfaced shoulders which require the flashing light signal units to be located greater than 10 feet from the edge of the traveled way and (D) (a)t least one pair of flashing lights should be visible from each approaching traffic lane under all traffic conditions*).

<sup>4</sup> Id.

alternative and Staff believes the non-standard use of a traffic beacon is warranted to increase visibility for drivers. Staff believes that such documentation should be provided and reviewed prior to approval of an alternative variance.

## *2. Left-Hand Cantilever in the Southeast Quadrant*

Staff proposed the construction of a left-hand cantilever in the southeast quadrant of the crossing. The location of the cantilever would be in the in public right-of-way east of the tracks at a location to be determined by NS. Generally, the location would be closer to the start of the turn lane, approximately fifty feet from the crossing. This option would ensure flashing lights are still located over the center turn lane.

However, ORDC raised safety concerns with this location in that the active warning devices will not be visible to drivers already in the turn lane. NS raised similar sight-distance concerns. Staff notes that the length of the turn lane at this crossing is approximately 110 feet.

Following its site review of this alternative, NS raised additional concerns in that it would require NS to obtain rights to private property near the crossing (funding for which is disallowed in the grant associated with this project) and would place the cantilever fifty feet from the centerline of the tracks due to the presence of overhead power lines.

In reviewing the location proposed by NS for this alternative in its response, staff did not find documentation to support NS's position that the power lines precluded installation of the cantilever at a suitable location. Again, Staff believes that the risks associated with placement of the cantilever before the turn lane are outweighed by its increased visibility for vehicles.

## *3. Acquiring Addition Right of Way to Install Active Warning Devices in the Northeast Quadrant.*

PUCO staff believes that NS could construct the active warning devices in a manner consistent with the Commission's order by shifting the cantilever and flashing lights further from the tracks. However, construction of the cantilever in that quadrant would require NS to acquire additional right of way to install the devices property.

As has previously been explained, and raised by ORDC and NS, the grant funding for this project does not allow expenditure of funds to purchase right of way. However, PUCO Staff believes that the Grade Crossing Protection Fund could be expended to facilitate the purchase of this additional right of way.<sup>5</sup> To be able to utilize these funds, NS would need to complete the project under the variance proposed and enter into an agreement with the PUCO to purchase the right of way and install a cantilever immediately following completion of construction.

In addition to the need to purchase additional right of way, there is a possibility that installation in the northeast quadrant would also require the relocation of a twenty inch diameter water line. Although NS has objected to the viability of relocating the water line, PUCO staff has received no documentation describing in detail the costs and/or other difficulties associated with such a relocation. As such, PUCO staff has not been able to balance these factors against potential safety concerns for members of the public traveling near the crossing.

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<sup>5</sup> R.C. 4907.472

## **Conclusion:**

Staff acknowledges that the original project situation has changed based upon the current site situation and agrees with NS and ORDC that this project cannot be built as originally designed and that there are limited options to resolve this situation.

This is a very complex intersection with two roadways and the tracks intersecting on top of each other. When approaching a complex intersection involving a railroad crossing, it is imperative that drivers receive sufficient warning so that they can navigate this complicated intersection safely. Staff notes that there have been five accidents at this crossing since January of 2012 and that the crossing sees well over six thousand vehicles per day.

The variance proposed by NS will install the turn lane lights more than twenty-two feet from the traveled way. The flashing lights will not be placed over the turn lane and will be far from the driver's line of sight when compared with typical flashing light installations. There is not enough room to install a center median so that the flasher mast could be placed directly next to the turn lane.

The deviation from typical installation practices proposed in the variance may create significant safety risks for drivers traveling through this crossing. As such, PUCO staff believes that such a variance should only be granted after considering the alternatives to this variance proposed by PUCO staff and thoroughly documenting why such alternatives are not feasible.

At this time, however, PUCO staff does not believe that NS and ORDC have submitted sufficient documentation showing these alternatives are not feasible. Despite multiple requests, PUCO staff has never received documentation confirming:

- 1) The presence of utility lines (or the costs associated with relocating such utility lines) for a traffic beacon;
- 2) The costs associated with the purchase of additional right of way for a cantilever in the northeast or southeast quadrants;
- 3) The particular risks associated with shifting a southeast quadrant cantilever approximately fifty feet forward toward the beginning of the left-hand turn lane and how these risks compare to the risks associated with the variance; or
- 4) The actual restrictions imposed on NS regarding work near power lines.

While the variance proposed may ultimately be the only viable option to complete construction of active warning devices at this particular crossing, PUCO staff believes such a conclusion would be premature without first considering documentation supporting the topics outlined above.

Accordingly, the PUCO staff asks the Commission to order NS and ORDC to produce records responsive to the questions outlined above. Alternatively, PUCO staff recommends that any approval of the variance requested require NS to monitor vehicle traffic behavior at the crossing for at least two years following completion of construction and file an engineering analysis with PUCO staff on the efficacy of the pair of mast mounted left-hand flashing lights in the southeast quadrant of the crossing in alerting drivers to the presence of an oncoming train.

## Exhibit A



Overview of the W. Barre Street Crossing



## Exhibit B

### **Ohio's Standard Warning Device Protection for Crossings with more than one lane of travel in each direction:**

When upgrading to active warning devices on a multi-lane roadway, Ohio has traditionally followed these setups:

Multiple Travel Lanes in each direction.



DOT#142-894G: Shuffel Drive Canton

Multiple Travel Lanes in one direction.



DOT# 474-399K:12<sup>th</sup> Street NE Canton

Multiple Travel Lanes in both directions with median.



DOT#851-575V Superior Street Rossford



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Summary: Response In the Matter of a Variance Request by Norfolk Southern Railway regarding the Installation of Active Warning Devices at a Grade Crossing in Fulton County. electronically filed by Mrs. Jill A Henry on behalf of PUCO/Rail Division