

US 20 (Buffalo Road) at SR 430 (Station Road) Intersection Study

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Borough of Wesleyville
Erie, PA



**BOROUGH OF
WESLEYVILLE**



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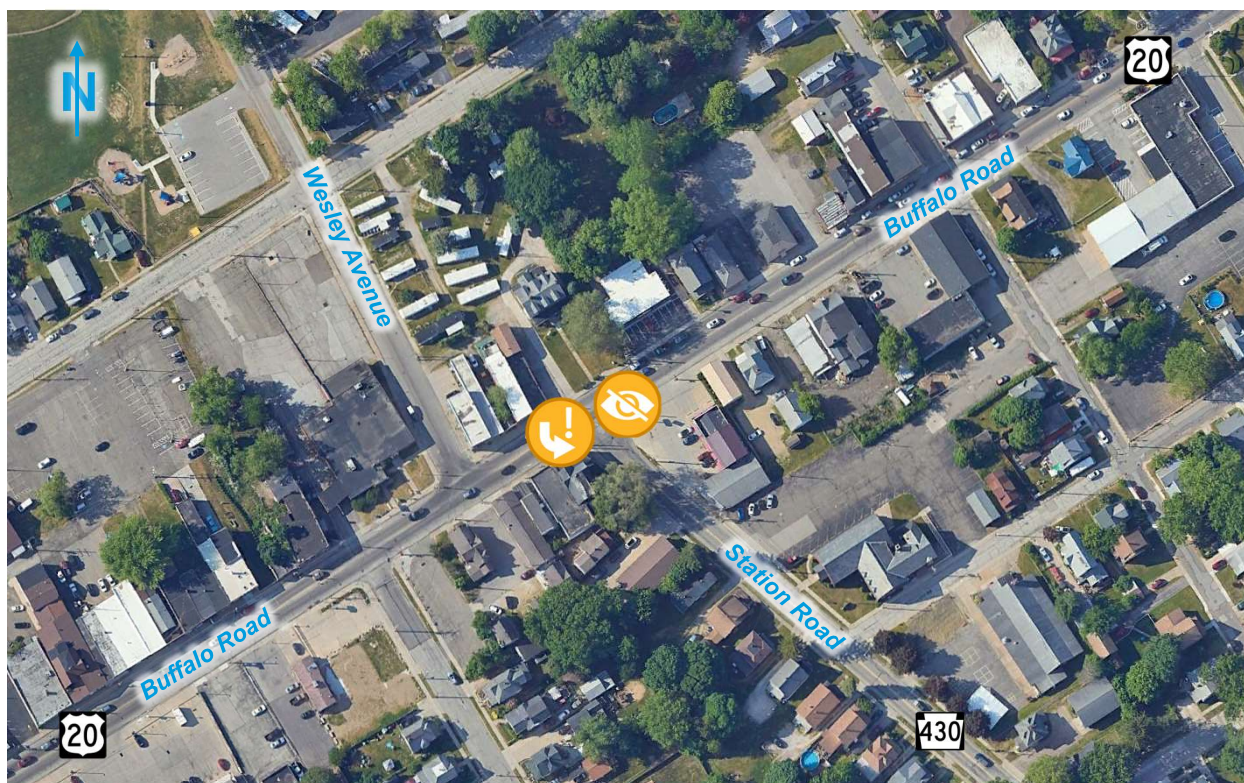
EXECUTIVE SUMMARY

Wesleyville Borough initiated this intersection study to analyze existing conditions and evaluate benefits of potential transportation improvements to enhance operations and improve safety within downtown Wesleyville in Erie County, PA. This plan provides short-, medium-, and long-term concepts that help address project needs, and the results of this document can be used to guide planning and programming associated transportation projects for implementation.

The study area covers the main signalized intersection of US 20 (Buffalo Road) and SR 430 (Station Road) in downtown Wesleyville. US 20 (Buffalo Road) connects the downtown area with the City of Erie to the west, Harborcreek Township and the State of New York to the east, and with I-90 to the south via SR 430 (Station Road).

To examine the future needs of the study area, Wesleyville provided a list of existing concerns to serve as the plan's starting point. An extensive series of meetings collected further insight on a wide range of concerns and potential solutions. With the area's safety and operational needs defined, improvement alternatives were then developed and evaluated to determine how well they met the project needs, ultimately arriving at the final list of potential projects in the implementation plan.

Project Location Map



Sight Distance Restriction



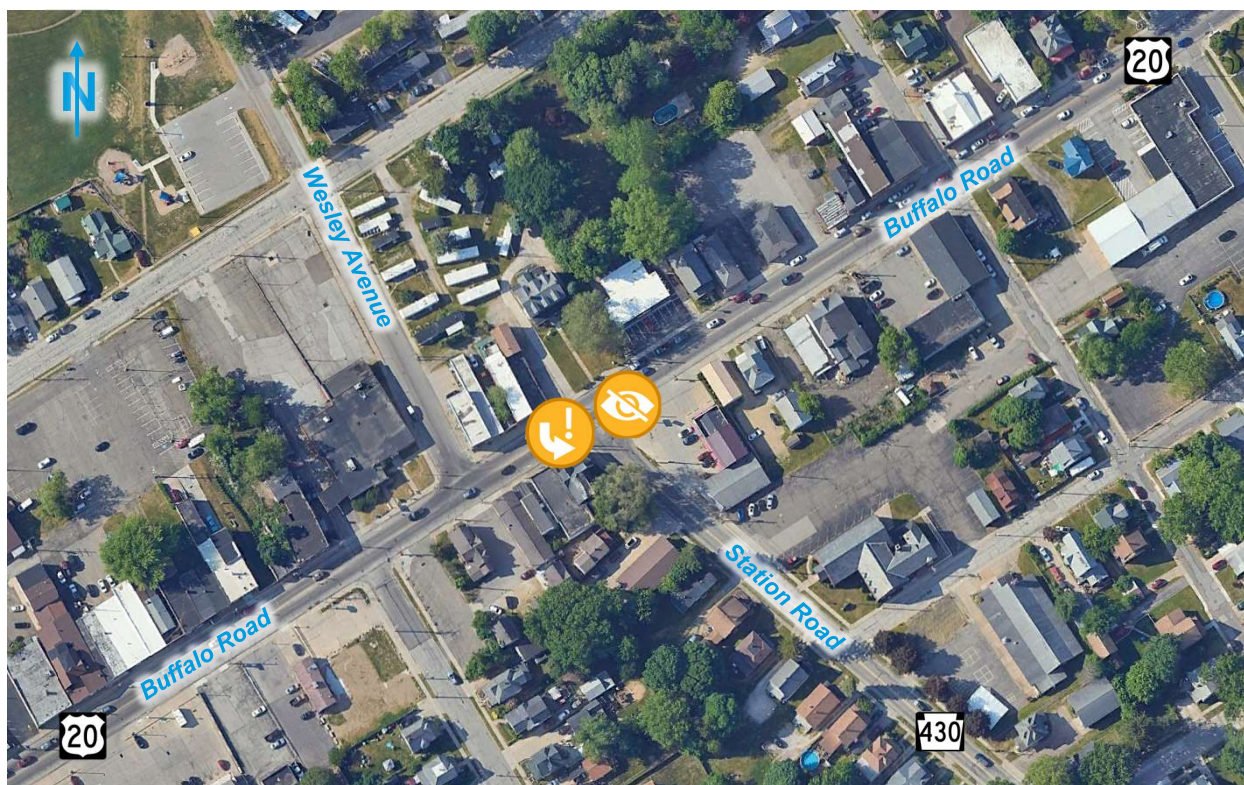
Turning Limitation

BACKGROUND

Wesleyville Borough initiated this intersection study to analyze existing conditions and evaluate benefits of potential transportation improvements to enhance operations and improve safety within downtown Wesleyville in Erie County, PA. The study intersection of US 20 (Buffalo Road) at SR 430 (Station Road) connects the downtown area with the City of Erie to the west, the State of New York to the east, and with I-90 to the south. The area features a mix of retail, commercial, municipal, and residential properties. The two-lane roadways feature posted speed limits of 35 miles per hour (MPH), meeting at the signalized study intersection. Outdated equipment, turning restrictions, and sight distance concerns highlight the issues present. This plan examines the existing and future conditions of this intersection.

The project was led by a steering committee composed of the Borough of Wesleyville, the Erie Metropolitan Planning Organization (MPO), and PennDOT District 1-0. The steering committee led the project and made key decisions on the direction and findings of the study. The steps of the study included identifying project needs, developing options to meet those needs, crafting an intersection plan, and developing improvement alternatives for potential implementation.

Project Location Map



Sight Distance Restriction



Turning Limitation

PROJECT NEEDS

Through a series of public and stakeholder engagement activities, the community's feedback informed the system needs and concepts in this memo. The planning team conducted a series of meetings, a paper survey, and one public meeting. These concepts are not locally preferred alternatives or final designs but represent possible direction for future investment and improvement. Each improvement discussed will require additional study, funding, and engineering before implementation.

Understanding Existing Conditions

Engineering studies included data collection ([Appendix A](#)) and analyses ([Appendix B](#)), such as:

- Field reconnaissance
- Intersection turning movement counts
- Safety / crash data review
- Signal operations evaluation
- Sight distance evaluation
- Turning lane warrant analysis

Outreach

The planning team heard many concerns regarding queuing, signal equipment malfunctions, poor sight lines, driveway access, detour routes, truck traffic, and other various issues. A public outreach component further identified and developed the needs of the surrounding community and the people who live, walk, and commute through the intersection. Using these valuable insights, the planning team created alternatives for improvements that would address identified concerns. Alternatives were presented to the public and the Steering Committee for feedback. After public comment was received, the planning team revised the alternatives.

The planning team distributed one paper survey, conducted one public meeting, and led four Steering Committee meetings ([Appendix C](#)):

- Stakeholder Interview – Investigate concerns with local stakeholders
- System Needs – Existing and future issues in the plan area
- Preliminary Build Alternatives – Improvement alternatives refined or eliminated
- Public Meeting – Feedback on the plan and alternatives

Summary of Concerns

Based on the data collected and analyzed, as well as feedback from the public and Steering Committee, the concerns at the study intersection were identified and quantified:

- In the southwest corner, the wooden signal pole has been struck repeatedly, causing extensive gouging of the wood.
- Vehicles making the northbound right turn on red (RTOR) do not have adequate intersection sight distance to turn safely due to a building located in the southwest corner of the intersection.
- The signal equipment is outdated, and is affixed to span wires which are lower than standard heights.
- The pedestrian push buttons and signal heads have been replaced recently, but pavement markings including crosswalks and stop bars are extremely faded.
- Drainage on all corners appears to be an issue, with visible evidence of water ponding on the pedestrian ramps.

DEVELOPING OPTIONS

Vetting Alternatives

The Steering Committee provided interpretation of existing and future conditions. This involved inputs ranging from anecdotal observations to comprehensive Borough-wide insights. This interpretation led to multiple improvement alternatives being developed, after which feedback on the alternatives was used to refine, and in some cases eliminate, alternatives. The alternatives presented in this plan address lane and intersection geometry and capacity and level-of-service needs.

INTERSECTION PLAN

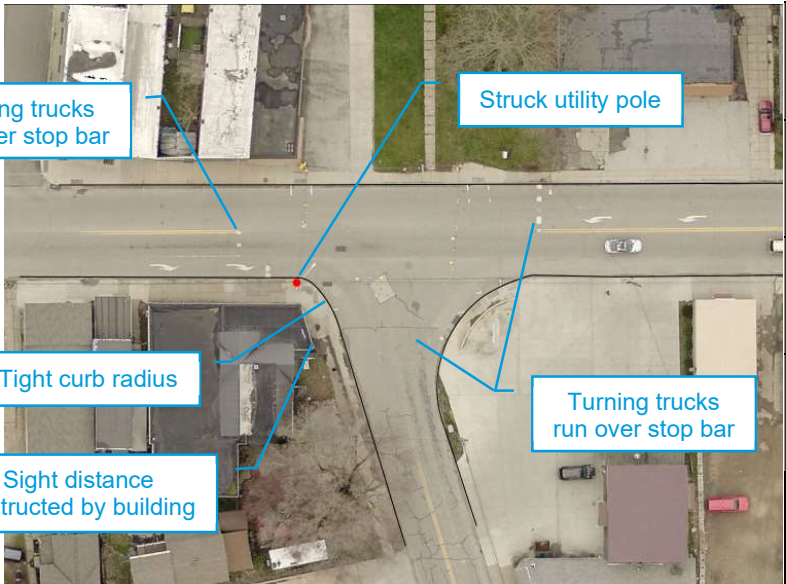
Following analysis and discussion of alternatives, the Steering Committee selected the concepts on the following pages to address identified problems such as safety concerns and geometric adjustments. The goal for the study intersection is to better accommodate eastbound right-turning vehicles to avoid striking the signal pole, while also improving intersection sight distance. Each alternative was reviewed from a planning-level feasibility standpoint. Multiple alternatives are presented for further consideration. All of the suggested alternatives would require detailed study and additional outreach prior to implementation.

Relative measures of cost and effectiveness are suggested for each alternative. Planning and right-of-way impacts range from low to high. Low-impact projects can be implemented with nominal impacts to private property. High-impact projects will require a longer process and have more potential for significant impacts to adjacent property.

The implementation section of this plan provides considerations on priority, cost, and timing for each alternative.

US 20 (Buffalo Road) and SR 430 (Station Road) Existing Conditions

This alternative leaves the intersection unaltered from its current condition, in what is known as a “no-build” alternative. While this alternative does not improve the geometric or sight distance concerns at the intersection, it does not require any right-of-way (ROW), and does not cost anything to implement.



Existing Conditions	
Rough Order of Magnitude (ROM) Cost	None
Right of Way (ROW) Impact	None
Utility Impact	None
Permitting	None

US 20 (Buffalo Road) and SR 430 (Station Road) Improvement 1

The first improvement includes reducing the eastbound approach to a single shared through/turn lane by hatching out the current outside lane with pavement markings, prohibiting northbound right turn on red (RTOR) movements, and modifying several stop bar locations to accommodate truck turns. This alternative does not have any ROW impacts, addresses geometric and sight distance concerns, and is relatively low cost. Operations would worsen slightly, as this alternative does not include optimizing the traffic signal.

Intersection Restriping	
Rough Order of Magnitude (ROM) Cost	\$
Right of Way (ROW) Impact	None
Utility Impact	None
Permitting	Nominal

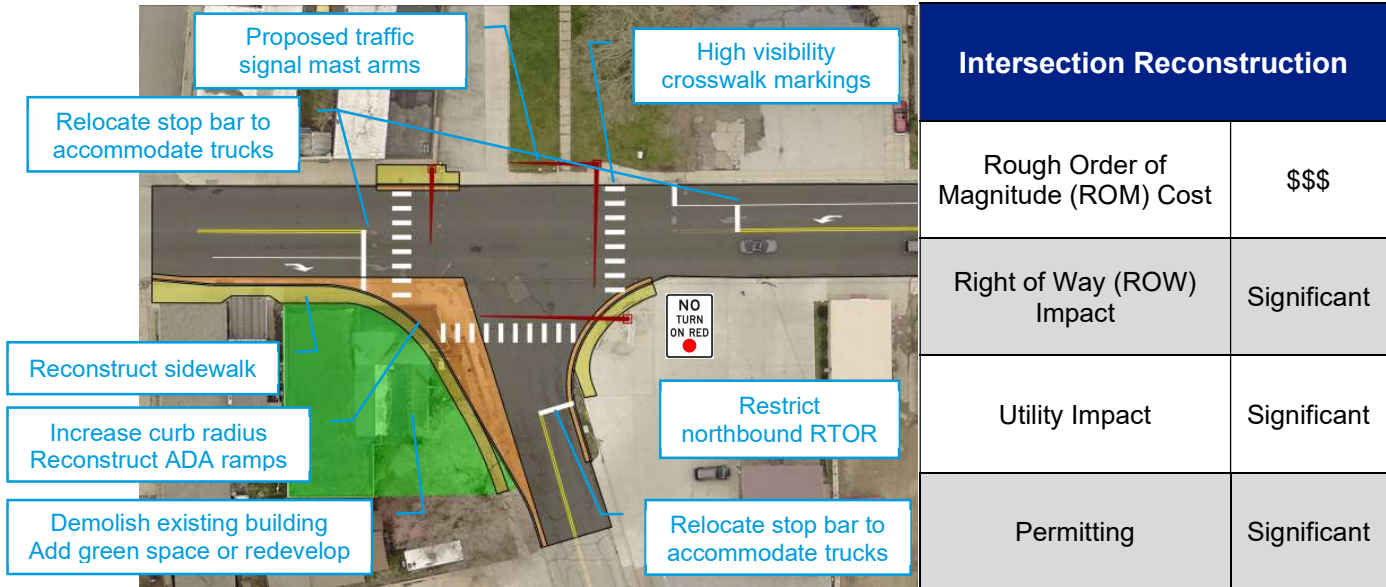
US 20 (Buffalo Road) and SR 430 (Station Road) Improvement 2

The second improvement builds upon Improvement 1 by converting the hatched out area on the eastbound approach into a permanent, channelizing curb extension. The same RTOR restrictions and stop bar relocations would be kept in place as well. Additionally, this alternative includes an upgraded traffic signal, with new signal heads, mast arms, and piano key crosswalks. Depending on signal pole placement, there may be minor ROW impacts. The new traffic signal would be optimized, returning operations to levels similar to the Existing Conditions.

Curb Reconfiguration	
Rough Order of Magnitude (ROM) Cost	\$\$
Right of Way (ROW) Impact	Nominal
Utility Impact	Moderate
Permitting	Moderate

US 20 (Buffalo Road) and SR 430 (Station Road) Improvement 3

The third improvement addresses the pole strikes by completely reconstructing the southwest corner of the intersection to accommodate truck movements. This alternative would also reconstruct the curb on the southeast corner of the intersection, and the entire intersection would receive new curb ramps and improve drainage. This alternative would have significant ROW impacts, as it would require the demolition of the building in the southwest corner. The northbound RTOR would still be prohibited, and traffic operations would be the same as Improvement 2.



IMPLEMENTATION

Where the Rubber Hits the Road

This document is a planning study whose goal is to determine potential solutions and planning level costs for the issues identified at the intersection of US 20 (Buffalo Road) and SR 430 (Station Road). The costs identified for the preliminary improvement alternatives can be used for what is referred to as project programming, where funding is identified and "programmed" from local, county, state, or federal funds through operating budgets, state or federal programmatic funding, or discretionary funding such as grants.

Funding sources may generally be split into three categories: Transportation Improvement Program (TIP) funds, available through the Erie MPO, Grant funds, which may be acquired from either Federal or State resources, and Private funds, which can be sought after through local fundraising or from donors. TIP funds cover many potential sources, including Federal Surface Transportation Program (STP) funds, Federal Highway Performance Program (NHPP) funds, and others. Grant funds can come from the Bipartisan Infrastructure Law (BIL), as well as state sources such as the Automated Red-Light Enforcement (ARLE) Program, and the PennDOT Green-Light-Go (GLG) Program, among others.

Once funding is secured, if state or federal funds are programmed for a specific improvement, the first phase of the project implementation will include a more detailed study and engineering evaluation based on updated data, such as new traffic counts, topographic surveys, right-of-way investigations, and environmental studies. These will result in the final determination of the improvement that gets constructed.

The following matrix summarizes the improvement alternatives presented in this plan, suggesting parameters for each that can inform how projects take shape. Some relatively simple "low-hanging fruit" improvement alternatives could get underway with minimal further review and relatively little funding. However, some improvement alternatives will require significant time and investment.

Actual project timeframes and funding decisions will depend on factors beyond the scope of this memo, such as funding availability, future feasibility or conceptual design considerations, and overarching competition among local, regional, and statewide transportation goals.

Implementation			
Improvement Concept	Potential Funding Sources	Timeframe	Estimated Cost
Existing Conditions	N/A	Immediate	None
Intersection Restriping	Non-Tip/Private Funding	Short-Term (< 1 Year)	\$7.5K
Curb Reconfiguration	TIP/Grant	Mid-Term (3 - 5 Years)	\$980K
Intersection Reconstruction	TIP/Grant	Long-Term (> 10 Years)	\$2.67M

