



Alternatives Analysis Report: Executive Summary SR 3045 (Belmont Avenue) and St. Asaphs Road

Lower Merion Township, Montgomery County, PA
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Prepared for:

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Introduction

Through PennDOT's Highway Safety Improvement Program the intersection of SR 3045 (Belmont Avenue) and St. Asaphs Road was identified as a high crash location warranting safety improvements. Through initial screening, a roundabout was identified as a way to improve safety at the intersection by reducing crashes and crash severity while meeting the project's purpose and need.

The original preliminary design plans were presented to the public at a March 27, 2024 (virtual) Public Meeting. The roundabout faced significant public opposition with main concerns including bicyclist/pedestrian safety, multi-lane roundabout design, driver compliance, access, impacts to the Sutton Terrace stone wall, and increased traffic projections with surrounding development in the area.

PennDOT listened to the public input and decided to expand the scope of the project to include corridor improvements to St. Asaphs Road, including a mid-block crossing at Clwyd Road with a Rectangular Rapid Flashing Beacon. PennDOT presented this to some focus groups of HOA leaders and stakeholders and still received concerns of the roundabout intersection.

As a result of the feedback received, PennDOT performed a full alternatives analysis of the intersection of Belmont Avenue and St. Asaphs Road to re-evaluate other intersection control strategies as well as alternatives for St. Asaphs Road to further expand safety improvements. Nine (9) alternatives were studied and ultimately through stakeholder engagement and community feedback, the preferred roundabout alternative, signal alternative, and road diet alternative were advanced for further detailed evaluation. The remainder of this summary will focus on the three (3) advanced alternatives.

Project Purpose

The primary purpose of this project is to reduce the number and severity of potential crashes at the intersection of Belmont Avenue and St. Asaphs Road. Additionally, a goal of the project is to improve pedestrian connections and not to preclude redevelopment in three (3) of the four (4) quadrants.

Between January 1, 2020 and December 31, 2024, there were 31 reportable crashes (16 involving injuries) at the intersection of Belmont Avenue and St. Asaphs Road. The expected (normalized) crash rate at this intersection was nearly 50% higher than the predicted rate, suggesting that this intersection location shows potential for safety improvement.

Through coordination with the township, the project scope was expanded to include reviewing improvements along St. Asaphs Road corridor and inclusion of a mid-block crossing at Clywd Road and St. Asaphs Road. For the corridor (excluding the Belmont Avenue and St. Asaphs Road intersection crashes) there was a total of 35 crashes (31% of them involved injuries) during this same period.

Alternatives Analysis

The alternatives analysis evaluated each concept using a comprehensive set of performance measures, including traffic operations, safety impacts, multimodal accommodations, right-of-way impacts, environmental impacts, economic performance, project delivery, and community feedback. Traffic operations were assessed under existing and future trip generation conditions to compare levels of service and delay, while safety was evaluated based on projected changes in fatal/injury, property damage only, and total crashes. Multimodal accommodations were qualitatively reviewed to reflect how well each alternative supports pedestrians, bicyclists, and transit users. Economic performance was analyzed using safety benefit ratios derived from life cycle costs and anticipated crash reduction benefits. Project delivery timelines were also considered to understand how quickly each alternative could be implemented. In addition, community feedback was gathered through a virtual public meeting held on November 18, 2025, where the advanced alternatives were presented, along with input collected via a digital comment card and follow-up emails. The results of these evaluations are summarized in the [Table 1 – Summary of Performance for Advanced Alternatives](#).

Conclusion

The summary performance results of the analysis have been summarized in [Table 1 – Summary of Performance for Advanced Alternatives](#). Overall, all three Advanced Alternatives meet the project's purpose and need. Reviewing the intersection analysis, Alternative 2B Mod – Hybrid roundabout provides the largest safety benefit and operational improvements, however Alternative 3A – Signalized Intersection Option 1 offers less property impacts and a shorter project design delivery while also reducing crashes and providing a safety benefit to the project area.

Based on this Alternatives Analysis, PennDOT recommends implementing the **signalized intersection alternative** and the **road diet alternative** along St. Asaphs Road. The combination of shorter project design delivery, safety enhancements, improved traffic flow and accommodation for future growth and overall community feedback received throughout the life of the project make these alternatives the most effective improvement for the project area.

Table 1 – Summary of Performance for Advanced Alternatives

Criteria		Alternative 1	Alternative 2B Mod	Alternative 3A	Alternative 4	
		No-Build	Hybrid Roundabout	Signalized Intersection Option 1	Road Diet St. Asaphs Road	
		<u>Corridor & Intersection</u>	<u>Intersection</u>	<u>Intersection</u>	<u>Corridor</u>	
Safety	Percent (%) Change in Predicted Crashes	Fatal/Injury Crashes	-	- 63%	- 34%	
		Property Damage Only Crashes	-	+125%	- 34%	
		Total Crashes	-	+6%	- 34%	
	Pedestrian Safety Improvements		1 - None	5 - Excellent	4 - Good	3 - Moderate
	Speed Reduction		1 - None	5 - Excellent	1 - None	3 - Moderate
Operations	Intersection of Belmont Ave & St. Asaphs Rd Design Year 2047 -- AM / PM LOS (delay in seconds)	C (33) / C (34)	C (26) / B (11)	C (32) / C (25)	See <u>Note 1</u> below	
Multi-Modal Accommodations		3 - Moderate	5 - Excellent	4 - Good	4 - Good	
Utility Pole Impacts <i>(underground utility impact to be determined in preliminary engineering)</i>		N/A	10 poles	7 poles	4 poles	
ROW Impacts	<u>Parcels Impacted</u> <i>Impacts include Temporary Construction Easements, Required ROW, Sidewalk Easements</i>	N/A	4	4	0	
Environmental Impacts	Environmental Impacts	N/A	Potential impacts to Indiana Bat, NRHP eligible resources, and Land Recycling Cleanup location	Potential impacts to Indiana Bat, NRHP eligible resources, and Land Recycling Cleanup location	None anticipated	
	Stormwater Management / Drainage	-	One Stormwater Management Basin New drainage inlets at intersection	One Stormwater Management Basin New drainage inlets at intersection	N/A	
Economic Performance	Economic Performance (Societal Benefit of Predicted Crash Reduction - See Appendix E)	-	\$14,464,336	\$8,172,116	\$24,758,279	
	Estimated Project Construction Cost	-	\$5,946,000	\$4,974,000	\$3,157,000	
	Benefit/Cost Ratio	-	2.43	1.64	7.84	
Community Feedback	Support Alternative	1	49 (54%)	35 (38%)	38 (41%)	
	Oppose alternative	-	37 (40%)	25 (27%)	17 (18%)	
	Unclear opinion & No Response	91	6 (6%)	32 (35%)	27 (41%)	
Project Delivery	Design Duration	N/A	4.5 years	2.5 years	2.5 years	
	Construction Duration (Staged Construction)	N/A	2 years	1.5 years	1.5 years	
	TOTAL Project Duration	N/A	6.5 years	4 years	4 years	

NOTES

1 - Kings Grant, Decker, Monument intersections operate at overall intersection LOS B or better.