

Route 41 (Gap Newport Pike) and Route 841 (London Grove Road) Intersection Improvement Project Purpose and Need

This project involves addressing the safety and operational needs at the Route 41 (Gap Newport Pike) intersection with Route 841 (London Grove Road) in the Village of Chatham in London Grove Township, Chester County. Various alternatives were evaluated, and there are five alternatives being presented at the Public Open House. These include: Alternative 5A- Roundabout Option #1; Alternative 5B- Roundabout Option #2; Alternative 6- Route 841 Relocation Option #1; Alternative 9- Route 841 Intersection Realignment; and Alternative 10- Route 841 Relocation Option #2.

The Purpose and Need statement is the foundation of all transportation projects. The purpose of this project is to provide a safe and efficient means of accommodating the regional movement of people, goods, and services and to provide for local access connections to support the existing community and businesses in the village of Chatham. The need identifies the key problems associated with the intersection. The problems are quantifiable, are based on fact, and are supported by such factors as traffic data, safety and crash data, and accessibility.

In July 2014, PennDOT Engineering District 6-0 completed a “PA 41 Intersections Study” which evaluated capacity and summarized crash data for the Route 41 and Route 841 intersection. Over half of the 363 survey respondents indicated that they find it difficult to cross Route 41 mainly due to the traffic volumes on PA 41 (196 occurrences), sight distance limitations (167 occurrences), and speeds on PA 41 (151 occurrences). Approximately 39% of the survey respondents indicated that they avoid the Route 841 (London Grove Road) and Route 41 (Gap Newport Pike) intersection. A Road Safety Audit (RSA) was conducted in May 2014 with a multi-disciplinary team made up of PennDOT and Township staff as well as local interest groups. A common concern mentioned during the RSA for the intersection is that it is confusing with the 5-legs. The results of the studies were used in developing the following project needs:

- Traffic is forecasted to operate at Level of Service E on the Route 841 (London Grove Road) approaches in the design year (2037).
- The existing Route 41 (Gap Newport Pike) and Route 841 intersection geometry is confusing. Multiple roadways converge on the east side of Route 41 (East London Grove Road and Route 841). The current intersection layout with five approaches and severe skew angles causes driver confusion.
- Large vehicles cannot negotiate the turning movements without tracking over the existing curbs and islands, especially for the southbound Route 41 (Gap Newport Pike) movement to westbound Route 841 (London Grove Road).
- The posted speed limit in the Village of Chatham is 35 mph. Based on a speed study completed in November 2018, 85 percent of the travelling public exceeds this posted speed by 5 mph contributing to unsafe conditions.
- Sixteen reportable crashes occurred over the past five years. Seven of these are angle/head-on type with one of these resulting in a fatality. (see other side)
- There are limited sidewalks and pedestrian accommodations in the Village of Chatham. The only sidewalk is on the south side of Route 41 (Gap Newport Pike) from Route 841 (London Grove Road) to Church Alley.

A project goal is to maintain access from Twin Pines Healthcare Center to the Route 841 (London Grove Road) and Route 41 (Gap Newport Pike) intersection. Also, it is a project goal to allow the intersection to accommodate farm equipment, which can be up to 17 feet in width.

The table on the other side of this sheet shows a general score for how well each alternative meets the purpose and need for either a roundabout or a stop controlled intersection, if applicable.

Environmental and Community Impacts Per Alternative

As part of the Alternative Evaluation, the environmental, community, and engineering impacts of each alternative are evaluated. The environmental impacts for these alternatives are shown in the below table. There are no impacts to wetlands, waterways, or threatened and endangered species. While there are potential hazardous waste concerns along Route 41, these concerns are similar for each alternative and are not used as a factor in the alternatives evaluation. The Chatham Historic District (HD) and the Chatham Hotel are located in the project area; these properties are eligible/listed on the National Register of Historic Places. There are also contributing resources to the HD which are defined as those properties that add to the historical integrity or architectural qualities that make the HD significant. At this point in design, the stormwater management locations have not yet been determined.

		Alternative 5A	Alternative 5B	Alternative 6	Alternative 9	Alternative 10
Agricultural Resource Impacts	Actively Farmed	0.012 ac	0.841 ac	0.168 ac	0.044ac	0.482 ac
	Agricultural Security Area (ASA)	0.005 ac	0.800 ac	0.164 ac	0.010 ac	0.451 ac
Cultural Resources	Chatham Hotel	No impact to building; minor sliver acquisition	No impact to building; property is bisected	No impact to building; minor sliver acquisition	Building impacted results in displacement	No impact to building; minor sliver acquisition
	Contributing Resources total property acquisitions	2 (residences)	0	1 (vacant lot)	0	0
Potential Right-of-Way Impacts	Minor Impact (strip acquisitions)	13	10	17	9	10
	Substantial Impact	3	3	5 (includes 1 total acquisition of vacant lot)	0	5
	Displacement	4 (residences)	1 (gas station)	2 (residences)	1 (Chatham Hotel)	1 (residence)
	Total Impacted Parcels	20	14	24	10	16
Project Need*	Satisfies Project Need with Roundabout	1	1	1	Previously dismissed	2
	Satisfied Project Need with Stop Control	2	2	2	3	2

*The ratings for the Project Need rows are: 1=Substantial Improvement; 2= Partial Improvement; 3= Negligible Improvement