

**AN ORDINANCE OF BUCKINGHAM TOWNSHIP,
BUCKS COUNTY, PENNSYLVANIA,
ESTABLISHING SPEED LIMITS
ALONG ASH ROAD, CHURCH ROAD, CHURCH SCHOOL ROAD, HOLICONG
ROAD, LONG LANE, LOWER MOUNTAIN ROAD AND SMOKE ROAD.**

WHEREAS, in general, speed limits within Pennsylvania are set by the Pennsylvania Vehicle Code, which provides at 75 P.S. § 3362 (a):

(a) General rule.-- Except when a special hazard exists that requires lower speed for compliance with section 3361 (relating to driving vehicle at safe speed), the limits specified in this section or established under this subchapter shall be maximum lawful speeds and no person shall drive a vehicle at a speed in excess of the following maximum limits:

(1) 35 miles per hour in any urban district.

(1.1) 65 miles per hour for all vehicles on freeways where the department has posted a 65-miles-per-hour speed limit.

(1.2) 25 miles per hour in a residence district if the highway:

(i) is not a numbered traffic route; and

(ii) is functionally classified by the department as a local highway.

(2) 55 miles per hour in other locations. (3) Any other maximum speed limit established under this subchapter.

; and

WHEREAS, pursuant to the Pennsylvania Vehicle Code, 75 P.S. § 3363,

On highways under their respective jurisdictions, local authorities..., upon the basis of an engineering and traffic investigation, may determine that the maximum speed permitted under this subchapter is greater or less than is reasonable and safe under the conditions found to exist upon any such highway or part thereof and establish a reasonable and safe maximum limit.

; and

WHEREAS, pursuant to the Pennsylvania Vehicle Code, 75 P.S. § 3363 Buckigham Township has had an Engineering and Traffic Study performed on the following municipal roadway segments:

	<u>Road</u>	<u>Road Segment</u>
1	Ash Road	Holicong Road to Ash Road (5200 Block to 5400 Block)
2	Church Road	Snake Hill Road to SR 0413 (4300 Block to 4800 Block)
3	Church School Road	Woodridge Drive to Charter Club Drive (3700 Block to 3800 Block)
4	Holicong Road	US 202 to SR 0413 (2500 Block to 3500 Block)
5	Long Lane	SR 0413 to Street Road (5200 Block to 5800 Block)
6	Lower Mountain Road	Forest Grove Road to SR 0413 (3800 Block to 4500 Block)
7	Smoke Road	Swamp Road to Church School Road (3600 Block to 4000 Block).

; and

WHEREAS, the above referenced Engineering and Traffic Study is attached to this Orinance as Exhibit “A”; and

WHEREAS, the above referenced Engineering and Traffic Study based upon 75 P.S. §§ 3362 and 3363 concludes the speed limits on the above referenced road sections should be as follows:

	<u>Road</u>	<u>Road Segment</u>	<u>Speed Limit</u>
1	Ash Road	Holicong Road to Ash Mill Road	25 Miles Per Hour
2	Church Road	Snake Hill Road to Burnt House Hill Road	35 Miles Per Hour

3	Church Road	Snake Hill Road to SR 0413	35 Miles Per Hour
4	Church School Road	Woodridge Drive to Charter Club Drive	40 Miles Per Hour
5	Holicong Road	York Road to Mechanicsville Road	35 Miles Per Hour
6	Holicong Road	Mechanicsville Road to SR 0413	25 Miles Per Hour
7	Long Lane	SR 0413 to Street Road	45 Miles Per Hour
8	Lower Mountain Road	Forest Grove Road to SR 0413	35 Miles Per Hour
9	Smoke Road.	Swamp Road to Church School Road	35 Miles Per Hour

; and

WHEREAS, the Board of Supervisors has determined that to ensure the safety and well being of the citizens of the Township and other persons traveling on Ash Road, Church Road, Church School Road, Holicong Road, Long Lane, Lower Mountain Road and Smoke Road that the Board desires to establish speed limits upon and along those roads as recommended in the Engineering and Traffic Study is attached to this Ordinance as Exhibit "A".

NOW, THEREFORE, BE IT ORDAINED AND ENACTED, by the Board of Supervisors of Buckingham Township, after public hearing duly advertised and held on the 10th day of September, 2014, as follows:

**SECTION 1
SPEED LIMITS**

The following vehicle speed limits are established upon the following roads and sections thereof. All vehicles operating on said roads or portions of said roads shall operate at or below the speed limits established hereunder.

	<u>Road</u>	<u>Road Segment</u>	<u>Speed Limit</u>
1	Ash Road	Holicong Road to Ash Mill Road	25 Miles Per Hour
2	Church Road	Snake Hill Road to Burnt House Hill Road	35 Miles Per Hour
3	Church Road	Snake Hill Road to SR 0413	35 Miles Per Hour
4	Church School Road,	Woodridge Drive to Charter Club Drive	40 Miles Per Hour
5	Holicong Road	York Road to Mechanicsville Road	35 Miles Per Hour
6	Holicong Road	Mechanicsville Road to SR 0413	25 Miles Per Hour
7	Long Lane	SR 0413 to Street Road	45 Miles Per Hour
8	Lower Mountain Road	Forest Grove Road to SR 0413	35 Miles Per Hour
9	Smoke Road.	Swamp Road to Church School Road	35 Miles Per Hour

**SECTION 2
PENALTY**

Any person who shall violate any provision of this Ordinance shall be subject to such fines and penalties as are established under the Pennsylvania Vehicle Code, PA. C.S.A. Title 75, as amended.

**SECTION 3
SEVERABILITY**

If any sentence, clause, section, or part of this Ordinance is for any reason found to be unconstitutional, illegal or invalid, such unconstitutionality, illegality or invalidity shall not affect or impair any of the remaining provisions, sentences, clauses, sections or parts of this Ordinance. It is hereby declared as the intent of the Buckingham Board of Supervisors that this Ordinance would

have been adopted had such unconstitutional, illegal or invalid sentence, clause, section or part thereof not been included herein.

**SECTION 4
REPEALER**

All Ordinances, or parts of Ordinances, inconsistent herewith, be and the same are hereby repealed.

**SECTION 5
POSTING**

The appropriate officials of Buckingham Township are hereby authorized to post the speed limit restrictions hereby enacted in accordance with the Pennsylvania Vehicle Code and the applicable sections of the Pennsylvania Code.

**SECTION 6
EFFECTIVE DATE**

This Ordinance shall become effective five (5) days from the date hereof.

ENACTED AND ORDAINED THIS 10th day of September, 2014.

**BUCKINGHAM TOWNSHIP
BOARD OF SUPERVISORS**

Maggie Rash, Chairman

Jon Forest

Paul Calderaio

ATTEST:

Dana Cozza, Esq., Township Manager

EXHIBIT "A"



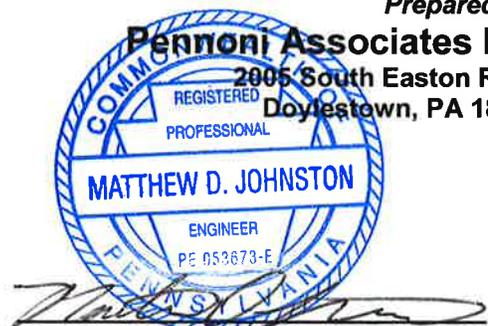
TRANSPORTATION AND TRAFFIC STUDIES

Buckingham Township,
Bucks County,
Pennsylvania



Prepared For:
Buckingham Township
4613 Hughesian Drive
Buckingham, PA 1912

Prepared By:
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BUTO 1101

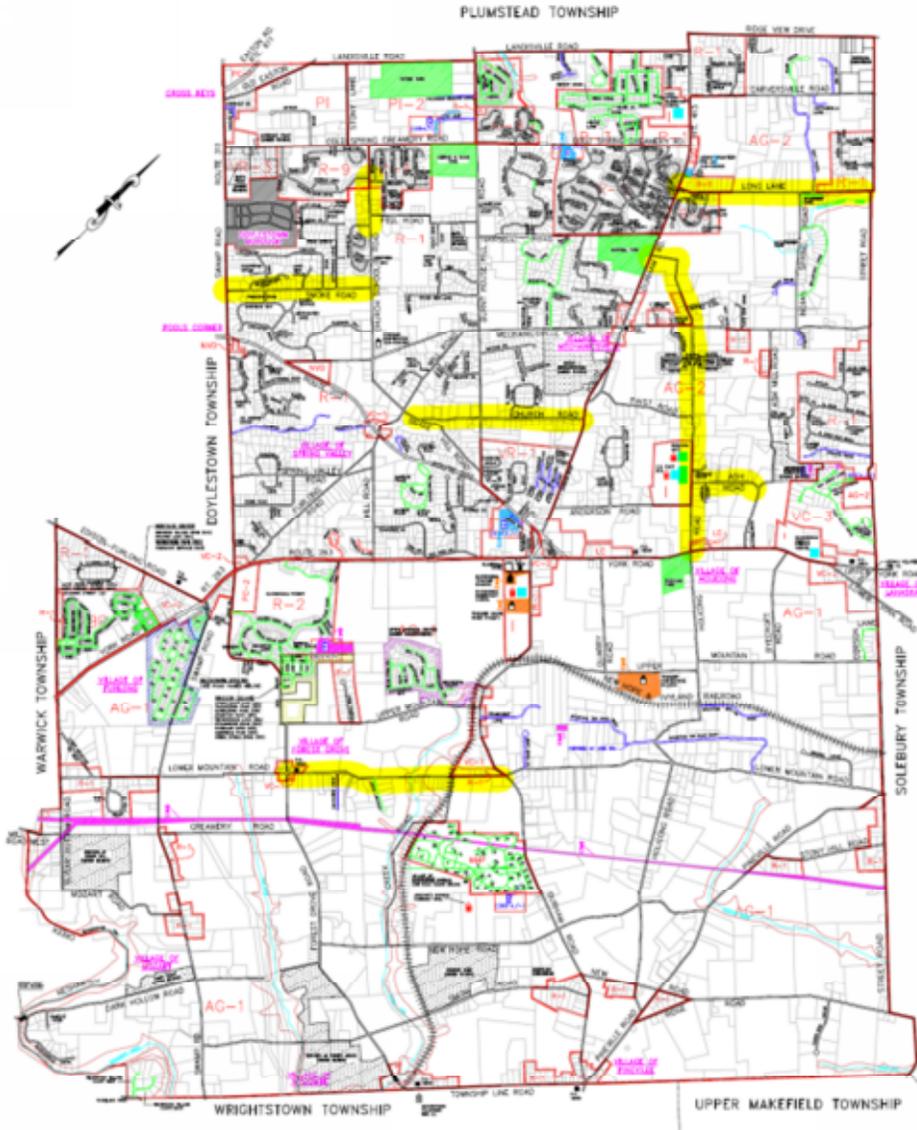
INTRODUCTION/PROJECT DESCRIPTION

The purpose of this report is to summarize and provide recommendations to reestablish speed limits along roadways within Buckingham Township. The recommendations are in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), the Pennsylvania Vehicle Code (Title 75), and PennDOT Publication 212, Official Traffic Control Devices (formerly PennDOT Publication 201) criteria. Additional criteria that are taken into consideration when preparing this evaluation are existing posted speed limits, speed limits of the adjacent roadway, roadway functional classification and operation, geometry, sight distance from side street intersections, and adjacent land use(s).

As requested by Buckingham Township we evaluated the following Roadway Segments.

Ash Road	Holicong Road to Ash Mill Road (5200 Block to 5400 Block)
Church Road	Snake Hill Road to SR 0413 (4300 Block to 4800 Block)
Church School Road	Woodridge Drive to Charter Club Drive (3700 Block to 3800 Block)
Holicong Road	US 202 to SR 0413 (2500 Block to 3500 Block)
Long Lane	SR 0413 to Street Road (5200 Block to 5800 Block)
Lower Mountain Road	Forest Grove Road to SR 0413 (3800 Block to 4500 Block)
Smoke Road	Swamp Road to Church School Road (3600 Block to 4000 Block)

Location Map – Study Roadway Segment



Buckingham Township Zoning Map,
(Prepared by Knight Engineering, Inc. July, 2006, Not to Scale)

EXISTING CONDITIONS

A field inspection of the study roadways was conducted to obtain the following; roadway segment lengths, lane and shoulder widths, existing posted speed limits, pavement type and condition, and pavement marking. The Buckingham Township Zoning Map, dated July 2006, was utilized to obtain the adjacent land uses (zoning districts) for the study roadway.

Ash Road – Holicong Road to Ash Mill Road

Roadway Segment Length (feet / miles)	2,450 / 0.46
Direction of Travel	Northbound/Southbound
Existing Posted Speed Limit	25
Roadway Width / Lane Width (feet)	17'-18' / NA ⁽¹⁾
Shoulder Width (feet)	None
Curbing	None
Pavement Type (Condition)	Bituminous / Tar and Chip (good)
Pavement Markings	None
Adjacent Land Uses (Zoning District)	Agricultural (AG-1)

(1) Lane widths were not noted because there are no pavement markings to delineate the travel lanes.

Additional noted roadway characteristics:

- Mature tree growth and dense vegetation along the entire length of the roadway segment.
- No stormwater facilities (i.e. inlets, swales) were observed.
- At approximately 5426 Ash Road, there is a horizontal and vertical curve in the roadway delineated by a warning sign in the westbound direction.
- At approximately 5441 Ash Road, the roadway narrows from 17 feet to 12.5 feet with two stone headwalls abutting the roadway, delineated in the eastbound and westbound direction by warning signs.
- The eastbound approach of Ash Road is controlled by a Yield sign at the intersection with Ash Mill Road.

Church Road – Snake Hill Road to Burnt House Road

Roadway Segment Length (feet / miles)	2,205 / 0.42
Direction of Travel	Northbound / Southbound
Existing Posted Speed Limit	35
Roadway Width / Lane Width (feet)	16' / NA ⁽¹⁾
Shoulder Width (feet)	None
Curbing	None
Pavement Type (Condition)	Bituminous / Tar and Chip (good)
Pavement Markings	None
Adjacent Land Uses (Zoning District)	Residential (R-1)

(1) Lane widths were not noted because there are no pavement markings to delineate the travel lanes.

Additional noted roadway characteristics:

- Mature tree growth and dense vegetation along the entire length of the roadway segment.
- No stormwater facilities (i.e. inlets, swales) were observed.
- The intersection of Church Road and Burnt House Road is controlled by a 4 way stop, and the northbound and southbound approaches of Church Road are offset by approximately 50 feet.

Church Road – Burnt House Road to SR 0413 (Durham Road)

Roadway Segment Length (feet / miles)	3,595 / 0.68
Direction of Travel	Northbound / Southbound
Existing Posted Speed Limit	35
Roadway Width / Lane Width (feet)	18' / NA ⁽¹⁾
Shoulder Width (feet)	None
Curbing	None
Pavement Type (Condition)	Bituminous / Tar and Chip (good)
Pavement Markings	None
Adjacent Land Uses (Zoning District)	Residential (R-1)

(1) Lane widths were not noted because there are no pavement markings to delineate the travel lanes.

Additional noted roadway characteristics:

- Mature tree growth and dense vegetation along the entire length of the roadway segment.
- No stormwater facilities (i.e. inlets, swales) were observed.

Church School Road – Woodridge Drive to Charter Club Drive

Roadway Segment Length (feet / miles)	1,580 / 0.30
Direction of Travel	Eastbound / Westbound
Existing Posted Speed Limit	40
Roadway Width / Lane Width (feet)	22'-24' / 11'-12'
Shoulder Width (feet)	3'-4' for 350' on the south side of the road
Curbing	None
Pavement Type (Condition)	Bituminous
Pavement Markings	4" single yellow centerline/4" white edge line for 350' shoulder area
Adjacent Land Uses (Zoning District)	Residential (R-1, R-4, R-9)

Additional noted roadway characteristics:

- Mature tree growth along sections of the roadway segment.

- Some stormwater facilities at the side streets installed for residential developments or private residential driveways. The remainder of the roadway segment did not have stormwater facilities.
- Along the south side of the road, adjacent the eastbound travel lane, there is a 3 to 4 foot wide shoulder defined by a 4 inch white (edge line) pavement markings for approximately 350 feet (west of Fell Road). This defines a portion of the pedestrian trail that is adjacent to Church School Road.

Holicong Road – SR 0202 (York Road) to Mechanicsville Road

Roadway Segment Length (feet / miles)	11,160 / 2.11
Direction of Travel	Eastbound / Westbound
Existing Posted Speed Limit	35
Roadway Width / Lane Width (feet)	22' / 11'
Shoulder Width (feet)	2'-4'
Curbing	Curb on the south side along Central Buck School District properties
Pavement Type (Condition)	Bituminous
Pavement Markings	4" double yellow centerline/4" white edge lines
Adjacent Land Uses (Zoning District)	Agricultural (AG-2), Residential (R-1, R-4, R-9), Institution (I), Limited Commercial (LC)

Additional noted roadway characteristics:

- Within the limits of the Central Bucks School District properties there is a 15 mph school zone.
- From Anderson Road to the western end of the School District property there is concrete vertical curbing.
- There is variable width shoulder (2 to 4 feet) along this segment of Holicong Road. There are three, 12 foot shoulder areas in front of the School District property signed for no parking.

Holicong Road – Mechanicsville Road to SR 0413 (Durham Road)

Roadway Segment Length (feet / miles)	3,260 / 0.62
Direction of Travel	Eastbound / Westbound
Existing Posted Speed Limit	25
Roadway Width / Lane Width (feet)	20' / 10'
Shoulder Width (feet)	None
Curbing	None
Pavement Type (Condition)	Bituminous
Pavement Markings	4" single yellow centerline
Adjacent Land Uses (Zoning District)	Agricultural (AG-2), Residential (R-1)

Additional noted roadway characteristics:

- Mature tree growth and dense vegetation in some areas of the roadway segment.
- No stormwater facilities (i.e. inlets, swales) were observed.
- In the vicinity of the intersection of Winfield Place and Holicong Road, there is a back to back horizontal curve in the roadway with no advance warning signage posted.

Long Lane – SR 0413 to Street Road

Roadway Segment Length (feet / miles)	6,915 / 1.130
Direction of Travel	Northbound / Southbound
Existing Posted Speed Limit	45
Roadway Width / Lane Width (feet)	20' -22' / 10'-12'
Shoulder Width (feet)	None
Curbing	None
Pavement Type (Condition)	Bituminous / Tar and Chip (good)
Pavement Markings	4" single yellow centerline
Adjacent Land Uses (Zoning District)	Agricultural (AG-2), Residential (R-1, R-6)

Additional noted roadway characteristics:

- Some stormwater facilities at the side streets installed for residential developments or private residential driveways.
- Dense vegetation along some areas of the roadway segment.

Lower Mountain Road – Forest Grove Road to SR 0413

Roadway Segment Length (feet / miles)	7,603 / 1.44
Direction of Travel	Northbound / Southbound
Existing Posted Speed Limit	35
Roadway Width / Lane Width (feet)	18' / NA ⁽¹⁾
Shoulder Width (feet)	None
Curbing	None
Pavement Type (Condition)	Bituminous (new overlay)
Pavement Markings	None
Adjacent Land Uses (Zoning District)	None

(1) Lane widths were not noted because there are no pavement markings to delineate the travel lanes.

Additional noted roadway characteristics:

- Mature tree growth and dense vegetation in some areas of the roadway segment.
- No stormwater facilities (i.e. inlets, swales) were observed.
- Approximately 100 feet south of Devonshire Drive there is a horizontal and vertical curve in the roadway that is not delineated by advance warning signs in either direction of travel.

Smoke Road – Swamp Road to Church School Road

Roadway Segment Length (feet / miles)	5,050 / 0.96
Direction of Travel	Northbound / Southbound
Existing Posted Speed Limit	35
Roadway Width / Lane Width (feet)	18' - 24' / 9.5' - 12'
Shoulder Width (feet)	None
Curbing	None
Pavement Type (Condition)	Bituminous / Tar and Chip (good)
Pavement Markings	4" double yellow centerline
Adjacent Land Uses (Zoning District)	Residential (R-1)

Additional noted roadway characteristics:

- Some stormwater facilities at the side streets installed for residential developments or private residential driveways.
- Smoke Road has a straight, generally flat alignment (only one section was noted to have a vertical curve between Secondwoods Road and Lakeview Circle).
- Tree and Dense vegetation are between Philmont Drive and Lakeview Circle was noted.
- The roadway is wider at side street intersections and there are no delineated shoulder areas.

CRITERIA

The collected speed data was evaluated in order to reestablish the speed limits along the study roadways in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), the Pennsylvania Vehicle Code (Title 75), and PennDOT Publication 212, Official Traffic Control Devices (formerly PennDOT Publication 201).

Pennsylvania Vehicle Code (Title 75)

Chapter 1, GENERAL PROVISIONS

§ 102. Definitions.

Subject to additional definitions contained in subsequent provisions of this title which are applicable to specific provisions of this title, the following words and phrases when used in this title shall have, unless the context clearly indicates otherwise, the meanings given to them in this section:

Business District - *The territory contiguous to and including a highway when within any 600 feet along the highway there are buildings in use for business or industrial purposes, including but not limited to hotels, banks, or office buildings, railroad stations and public buildings which occupy at least 300 feet of frontage on one side or 300 feet collectively on both sides of the highway.*

Residence District - *The territory contiguous to and including a highway not comprising a business district when the property on the highway for a distance of 300 feet or more is in the main improved with residences or residences and buildings in use for business.*

Urban District - The territory contiguous to and including any street which is built up with structures devoted to business, industry or dwelling houses situated at intervals of less than 100 feet for a distance of a quarter of a mile or more.

85th percentile speed - The speed on a roadway at or below which 85% of the motor vehicles travel.

Chapter 33, Subchapter F, SPEED RESTRICTIONS, Section 3362, Maximum Speed Limits and Section 3363, Alterations of Maximum Speed Limits state the following:

§ 3362. Maximum speed limits.

(a) General rule.--Except when a special hazard exists that requires lower speed for compliance with section 3361 (relating to driving vehicle at safe speed), the limits specified in this section or established under this subchapter shall be maximum lawful speeds and no person shall drive a vehicle at a speed in excess of the following maximum limits:

(1) 35 miles per hour in any urban district.

(1.1) 65 miles per hour for all vehicles on freeways where the department has posted a 65-miles-per-hour speed limit.

(1.2) 25 miles per hour in a residence district if the highway:

(i) is not a numbered traffic route; and

(ii) is functionally classified by the department as a local highway.

(2) 55 miles per hour in other locations.

(3) Any other maximum speed limit established under this subchapter.

(b) Posting of speed limit.--

(1) No maximum speed limit established under subsection (a)(1), (1.2) or (3) shall be effective unless posted on fixed or variable official traffic-control devices erected in accordance with regulations adopted by the department which regulations shall require posting at the beginning and end of each speed zone and at intervals not greater than one-half mile.

(2) No maximum speed limit established under subsection (a)(1.1) shall be effective unless posted on fixed or variable official traffic-control devices erected after each interchange on the portion of highway on which the speed limit is in effect and wherever else the department shall determine.

§ 3363. Alteration of maximum limits.

On highways under their respective jurisdictions, local authorities subject to section 6109(e) (relating to specific powers of department and local authorities) or the department, upon the basis of an engineering and traffic investigation, may determine that the maximum speed permitted under this subchapter is greater or less than is reasonable and safe under the conditions found to exist upon any such highway or part thereof and establish a reasonable and safe maximum limit. The maximum speed limit may be made effective at all times or at times indicated and may vary for different weather conditions and other factors bearing on safe speeds. No maximum speed greater than 55 miles per hour shall be established under this section except on highways listed in section 3362(a)(1.1) (relating to maximum speed limits), where the maximum speed for all vehicles shall not be greater than 65 miles per hour.

PennDOT Publication 212, Official Traffic Control Devices (formerly PennDOT Publication 201)

Subchapter B. SIGNS

§ 212.108. Speed limits.

(a) General. This section applies to maximum speed limits established according to 75 Pa.C.S. § § 3362 and 3363 (relating to maximum speed limits; and alteration of maximum limits). Engineering and traffic studies are not required for statutory speed limits, but documentation should be on file for urban

districts and residence districts to show that the requirements defined in the Vehicle Code are satisfied.

(b) Engineering and traffic studies. Speed limits established in accordance with 75 Pa.C.S. § 3363 may be established in multiples of 5 miles per hour up to the maximum lawful speed. The speed limit should be within 5 miles per hour of the average 85th percentile speed or the safe-running speed on the section of highway, except the speed limit may be reduced up to 10 miles per hour below either of these values if one or more of the following conditions are satisfied:

(1) A major portion of the highway has insufficient stopping sight distance if traveling at the 85th percentile speed or the safe-running speed.

(2) The available corner sight distance on side roads is less than the necessary stopping sight distance values for through vehicles.

(3) The majority of crashes are related to excessive speed and the crash rate during a minimum 12-month period is greater than the applicable rate in the most recent high-crash rate or high-crash severity rate table included in the appendix of Official Traffic-Control Devices (Department Publication 212). Crashes related to excessive speed include those crashes with causation factors of driving too fast for conditions, turning without clearance or failing to yield right-of-way.

(c) Variable speed limits. To improve safety, speed limits may be changed as a function of traffic speeds or densities, weather or roadway conditions or other factors.

(d) Special speed limits.

(1) Within a rest area or welcome center, a 25 mile per hour speed limit may be established without the need for an engineering and traffic study if pedestrians walk across the access roadways between the parking lot and the rest facilities.

(2) Within a toll plaza or a truck weight station, an appropriate speed limit may be established without an engineering and traffic study by the authorities in charge to enforce the safety of the operations or to protect the scales.

(e) Posting of speed limits. A Speed Limit Sign (R2-1) or variable speed limit sign showing the maximum speed limit shall be placed on the right side of the highway at the beginning of each numerical change in the speed limit, but an additional sign may also be installed on the left side of the highway. If the new speed limit begins at an intersection, the first sign should be installed within 200 feet beyond the intersection. The placement of this sign must satisfy both the requirement to post the beginning of the new speed limit and the requirement to post the end of the previous speed limit. Additional requirements for posting are as follows:

(1) Speed limits of 50 miles per hour or less shall be posted as follows:

(i) A Reduced Speed Ahead Sign (R2-5), or a Speed Reduction Sign (W3-5), shall be placed on the right side of the highway 500 to 1,000 feet before the beginning of every speed reduction unless one of the following applies:

(A) The speed reduction is 10 miles per hour or less.

(B) The speed reduction begins at an intersection and all traffic entering the roadway with the speed reduction has to either stop at a Stop Sign (R1-1) or make a turn.

(C) The new speed limit is posted on variable speed limit signs.

(ii) Speed Limit Signs (R2-1) or a variable speed limit sign showing the maximum speed shall be placed on the right side of the highway at the beginning of the speed limit and at intervals not greater than 1/2 mile throughout the area with the speed limit.

(iii) The end of a speed limit is typically identified by the placement of a sign indicating a new speed limit, but the End Plaque (R2-10) may be placed above a Speed Limit Sign (R2-1) at the end of the zone if the appropriate speed limit is not known on the following section of roadway.

SPEED DATA

Speed studies were completed for each roadway segment by the Buckingham Township Police Department. The results of the speed studies for each roadway are summarized below, and included; location, direction, study date, 85th percentile speed, and number of vehicles counted in sample.

Ash Road – Holicong Road to Ash Mill Road

Location (Block)	5300
Study Date	3/25/2008 to 4/8/2008
Direction	Northbound/Southbound
85 th Speed (MPH)	
Eastbound/Westbound/ Both	37/38/ 37
Vehicles in Sample	
Eastbound/Westbound/ Combined	1,163 /973/ 2,136

Church Road – Snake Hill Road to Burnt House Road

Location (Block)	4300
Study Date	2/11/2009 to 2/25/2009
Direction	Northbound / Southbound
85 th Speed (MPH)	
Northbound/Southbound/ Both	40/40/ 40
Vehicles in Sample	
Northbound/Southbound/ Combined	2,139/1,813/ 3,952

Church Road – Burnt House Road to SR 0413 (Durham Road)

Location (Block)	4600
Study Date	1/22/2009 to 2/05/2009
Direction	Northbound / Southbound
85 th Speed (MPH)	
Eastbound/Westbound/ Both	42/39/ 41
Vehicles in Sample	
Eastbound/Westbound/ Combined	2,849/1,972/ 4,821

Church School Road – Woodridge Drive to Charter Club Drive

Location (Block)	3700
Study Date	11/24/2008 to 12/7/2008
Direction	Eastbound / Westbound
85 th Speed (MPH)	
Eastbound/Westbound/ Both	44/43/ 44
Vehicles in Sample	
Eastbound/Westbound/ Combined	12,083/7,821/ 19,904

Holicong Road – SR 0202 (York Road) to Mechanicsville Road

Location (Block)	2600
Study Date	4/07/2009 to 4/21/2009
Direction	Eastbound / Westbound
85 th Speed (MPH)	
Eastbound/Westbound/ Both	38/43/ 40
Vehicles in Sample	
Eastbound/Westbound/ Combined	24,573/19,025/ 43,598

Holicong Road – Mechanicsville Road to SR 0413 (Durham Road)

Location (Block)	3100
Study Date	3/16/2009 to 3/30/2009
Direction	Eastbound / Westbound
85 th Speed (MPH)	
Eastbound/Westbound/ Both	42/45/ 44
Vehicles in Sample	
Eastbound/Westbound/ Combined	24,309/23,404/ 47,713

Long Lane – SR 0413 to Street Road

Location (Block)	5400
Study Date	9/14/2008 to 9/28/2008
Direction	Northbound / Southbound
85 th Speed (MPH)	
Eastbound/Westbound/ Both	51/52/ 52
Vehicles in Sample	
Eastbound/Westbound/ Combined	24,656/23,419/ 48,075

Lower Mountain Road – Forest Grove Road to SR 0413

Location (Block)	4100
Study Date	5/24/2010 to 6/7/2010
Direction	Northbound / Southbound
85 th Speed (MPH)	
Northbound/Southbound/ Both	40/41/ 40
Vehicles in Sample	
Northbound/Southbound/ Combined	4,935/6,408/ 11,343

Smoke Road – Swamp Road to Church School Road

Location (Block)	North of Philmont Drive
Study Date	1/10/2012 to 1/24/2012
Direction	Northbound / Southbound
85 th Speed (MPH)	
Northbound/Southbound/ Both	44/50/ 48
Vehicles in Sample	
Northbound/Southbound/ Combined	11,714/10,179/ 21,893

SMOKE ROAD SIGHT DISTANCE ANALYSES

Sight distance analyses were conducted along Smoke Road at the intersections of Philmont Drive and Buttonwood Drive in accordance with PennDOT Publication 212, Official Traffic Control Devices, PennDOT Publication 282, Highway Occupancy Permit Guidelines, Pennsylvania Code, Title 67 Transportation, Chapter 441, Access to and Occupancy of Highways by Driveways and Local Roads. The sight distance evaluation included, but was not limited to the following:

- Obtained existing approach grades on Smoke Road (northbound and southbound at the side street intersection).
- Measuring the physical sight distance along Smoke Road (northbound and southbound at the intersection of Smoke Road and Philmont Drive, and Smoke Road and Buttonwood Drive).

The measured sight distances obtained in the field were compared to the criteria provided in Pennsylvania Code, Title 67 Transportation, Chapter 441, Access to and Occupancy of Highways by Driveways and Local Roads, Section 441.8(h) Sight Distance, Table 1-Safe Sight Distance for passenger cars and single units trucks exiting from driveways onto two-lane roads.

Posted Speed Limit (MPH)	Sight Distance	
	Left (Feet)	Right (Feet)
25	250	195
35	440	350
45	635	570
55	845	875

(1) PA Code, Title 67, Chapter 441, Section 441.8(h)

The results of the Sight Distance Analysis are as follows:

Intersection with Smoke Road	Smoke Road Speed Limit (MPH)	Desirable Sight Distance (feet) ⁽¹⁾		Observed Sight Distance (feet)		Meets PennDOT Desirable Sight Distance Criteria
	85 th Percentile ⁽²⁾	Left	Right	Left	Right	
Philmont Dr.	45	635	570	650+/-	440	No, sight distance to the Right is less than desirable.
Buttonwood Dr.	45	635	570	275	545	No, sight distance to the Left and Right are less than desirable.

(1) From Table 1 – Safe Sight Distance, noted above.

(2) PennDOT Publication 212, Section 212.107(b).

CONCLUSIONS/RECOMMENDATIONS

Based upon the speed study data collected by the Buckingham Township Police Department for the study roadway segments and in accordance with the criteria in Manual on Uniform Traffic Control Devices (MUTCD), Pennsylvania Vehicle Code (Title 75), and PennDOT Publication 212, Official Traffic Control Devices, we offer, based upon reasonable engineering certainty, the following Conclusions and Recommendations:

Ash Road – Holicong Road to Ash Mill Road

- The existing posted speed limit is 25 mph. The speed study 85th percentile speed is 37 mph for both directions of travel (12 mph above the posted speed limit).
- Ash Road is in a residence district is a local highway and is not a numbered traffic route. Ash Road has an existing cartway width of 17 to 18 feet with no shoulders, no pavement markings, and dense vegetation, mature trees and residential driveways along the majority of the roadway (Holicong Road to Ash Mill Road), which are limiting factors for drivers using Ash Road.
- We recommend maintaining the posted speed limit on Ash Road (Holicong Road to Ash Mill Road) at 25 mph in accordance with Pennsylvania Vehicle Code (Title 75), Section 3362 (a) (1.2)Maximum Speed Limits.

Church Road – Snake Hill Road to Burnt House Road

- The existing posted speed limit is 35 mph. The speed study 85th percentile speed is 40 mph for both directions of travel (5 mph above the posted speed limit), which is in accordance with PennDOT Publication 212, Official Traffic Control Devices, Section 212.108.2(b) for posting of the speed limit.
- Church Road has an existing roadway width of 16 feet with no shoulders, no pavement markings, and there is dense vegetation and mature trees along the majority of this section (Snake Hill Road to Burnt House Road), which are limiting factors for drivers using Church Road.
- We recommend maintaining the posted speed limit on Church Road (Snake Hill Road to Burnt House Road) at 35 mph in accordance with Pennsylvania Vehicle Code (Title 75), Section 3363 Alteration of Maximum Limits and PennDOT Publication 212, Official Traffic Control Devices, Section 212.108 Speed Limits.

Church Road – Burnt House Road to SR 0413 (Durham Road)

- The existing posted speed limit is 35 mph. The speed study 85th percentile speed is 41 mph for both directions of travel (6 mph above the posted speed limit), which is 1 mph over the 5 mph standard in accordance with PennDOT Publication 212, Official Traffic Control Devices, Section 212.108.2(b) for posting of the speed limit.
- Church Road has an existing roadway width of 18 feet with no shoulders, no pavement markings, and there is dense vegetation and mature trees along the majority of this section (Burnt House Road to SR 0413 (Durham Road)), which are limiting factors for drivers using Church Road.
- As a result of our engineering and traffic investigations, we recommend maintaining the posted speed limit on Church Road (Burnt House Road to SR 0413 (Durham Road)) at

35 mph in accordance with Pennsylvania Vehicle Code (Title 75), Section 3363 Alteration of Maximum Limits and PennDOT Publication 212, Official Traffic Control Devices, Section 212.108 Speed Limits.

Church School Road – Woodridge Drive to Charter Club Drive

- The existing posted speed limit is 40 mph. The speed study 85th percentile speed is 44 mph for both directions of travel (4 mph above the posted speed limit), which is in accordance with PennDOT Publication 212, Official Traffic Control Devices, Section 212.108.2(b) criteria for posting of the speed limit.
- We recommend maintaining the posted speed limit on Church School Road (Woodridge Drive to Charter Club Drive) at 40 mph in accordance with Pennsylvania Vehicle Code (Title 75), Section 3363 Alteration of Maximum Limits and PennDOT Publication 212, Official Traffic Control Devices, Section 212.108 Speed Limits.

Holicong Road – SR 0202 (York Road) to Mechanicsville Road

- The existing posted speed limit is 35 mph. The speed study 85th percentile speed is 40 mph for both directions of travel (5 mph above the posted speed limit), which is in accordance with PennDOT Publication 212, Official Traffic Control Devices, Section 212.108.2(b) criteria for posting of the speed limit.
- We recommend maintaining the posted speed limit on Holicong Road (SR 0202 (York Road) to Mechanicsville Road) at 35 mph in accordance with Pennsylvania Vehicle Code (Title 75), Section 3363 Alteration of Maximum Limits and PennDOT Publication 212, Official Traffic Control Devices, Section 212.108 Speed Limits.

Holicong Road – Mechanicsville Road to SR 0413 (Durham Road)

- The existing posted speed limit is 25 mph. The speed study 85th percentile speed is 44 mph for both directions of travel (19 mph above the posted speed limit).
- Holicong Road is in a residence district is a local highway and is not a numbered traffic route. Holicong Road has an existing roadway width of 20 feet, no shoulders and a 4 inch single yellow centerline, there is some dense vegetation, signed and unsigned horizontal curves and mature trees along the portions of the roadway (Mechanicsville Road to SR 0413 (Durham Road)), which are limiting factors for drivers using Holicong Road.
- We recommend maintaining the posted speed limit on Holicong Road (Mechanicsville Road to SR 0413 (Durham Road)) at 25 mph in accordance with Pennsylvania Vehicle Code (Title 75), Section 3362 (a) (1.2) Maximum Speed Limits.

Long Lane – SR 0413 to Street Road

- The existing posted speed limit is 45 mph. The speed study 85th percentile speed is 52 mph for both directions of travel (7 mph above the posted speed limit).
- Long Lane has an existing roadway width of 20 to 22, with a generally straight and flat alignment, no delineated shoulders and a 4 inch single yellow centerline.
- We recommend in accordance with our conclusion that there is inadequate stopping sight distance that the Township maintain the posted speed limit on Long Lane (SR

0413 to Street Road) at 45 mph in accordance with Pennsylvania Vehicle Code (Title 75), Section 3363 Alteration of Maximum Limits and PennDOT Publication 212, Official Traffic Control Devices, Section 212.108 Speed Limits.

Lower Mountain Road – Forest Grove Road to SR 0413

- The existing posted speed limit is 35 mph. The speed study 85th percentile speed is 40 mph for both directions of travel (5 mph above the posted speed limit), which is in accordance with PennDOT Publication 212, Section 212.108.2(b) criteria for posting of the speed limit.
- We recommend maintaining the posted speed limit on Lower Mountain Road (Forest Grove Road to SR 0413) at 35 mph in accordance with Pennsylvania Vehicle Code (Title 75), Section 3363 Alteration of Maximum Limits and PennDOT Publication 212, Official Traffic Control Devices, Section 212.108 Speed Limits.

Smoke Road – Swamp Road to Church School Road

- The existing posted speed limit is 35 mph. The speed study 85th percentile speed is 48 mph for both directions of travel (13 mph above the posted speed limit).
- Smoke Road has an existing roadway width of 18 to 24 feet, no delineated shoulders and a 4 inch double yellow centerline. Areas where the pavement width is 22 to 24 feet at the intersections with residential side streets that have been flared to accommodate the residential development. Smoke Road has a straight, generally flat alignment (only one section was noted to have a vertical curve between Secondwoods Road and Lakeview Circle).
- During our field investigation, we noted sight distance deficiencies for the side streets at the intersections with Smoke Road. Sight distance evaluations were conducted in accordance with PennDOT criteria noted in the **Smoke Road Sight Distance Analysis** section of this report. The existing sight distances were obtained at the intersections of Philmont Drive and Buttonwood Drive. Were Smoke Road posted within 5 mph of the 85th percentile speed at 45 mph, the measured sight distances in both directions (looking right and left) of Buttonwood Drive and looking to the right at Philmont Drive would not meet the PennDOT criteria. Due to the deficient sight distances, PennDOT allows the 85th percentile speed limit to be reduced up to 10 mph in accordance with Publication 212, Section 212.108(b).
- Based upon these considerations we recommend maintaining the posted speed limit on Smoke Road (Swamp Road to Church School Road) at 35 mph in accordance with Pennsylvania Vehicle Code (Title 75), Section 3363 Alteration of Maximum Limits and PennDOT Publication 212, Official Traffic Control Devices, Section 212.108 Speed Limits.