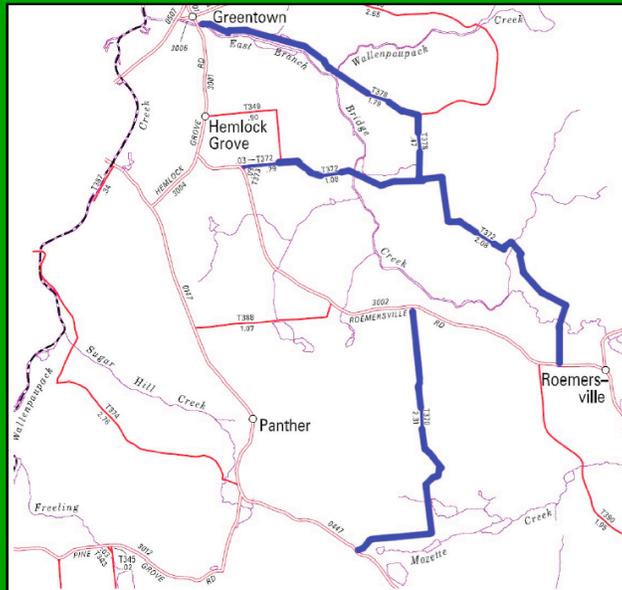


GREENE TOWNSHIP

Pike County, Pennsylvania

SPEED LIMIT STUDY

T-370, T-372 & T-378



Greene Township Board of Supervisors

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1.0 Background Brief

Greene Township, Pike County, Pennsylvania, includes three Township roads, T-370, 372 and 378, that are experiencing problems with traffic speeding. The Board of Supervisors has employed Shepstone Management Company to conduct a traffic study to determine whether these road sections qualify for speed limit restrictions under Subchapter C of Pennsylvania Department of Transportation Publication 201 (67 PA Code Chapter 201).

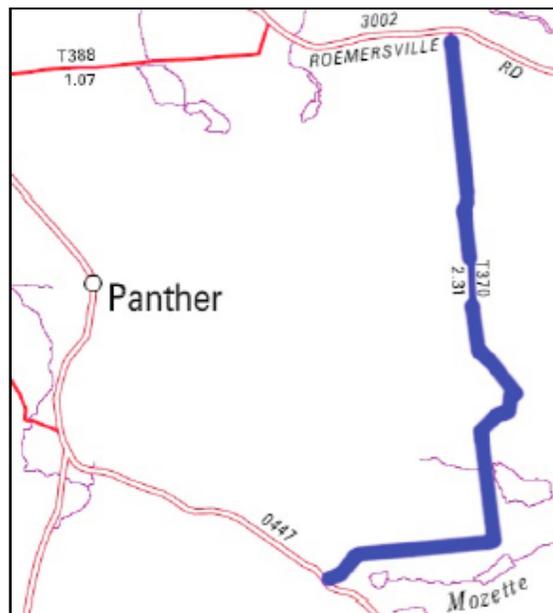
PennDOT's regulations, in Subsection 201.31, set forth the study requirements for establishing speed limits on roads within the Commonwealth. These requirements include analyses of accident patterns, sight distances and speed data. Criteria for setting the limits themselves are also provided. This report is organized along the same lines.

The three road sections involved are depicted and described below.

T-370 - German Valley Road

Township Road T-370 connects SR 447 and SR 3002, Roemersville Road. It is 2.31 miles in length and runs in a generally north-south direction. There are three blind curves and several other instances where sight distances are severely limited by trees located along the right-of-way and horizontal or vertical alignment. There are no shoulders, the travelway of T-370 being about 18 feet in width in total.

German Valley Road is populated by a combination of permanent and second homes located mostly at the north end. Several families with children reside along it. Roads grades are moderate in nature for most of the road length.



T-372 - Sawmill Road

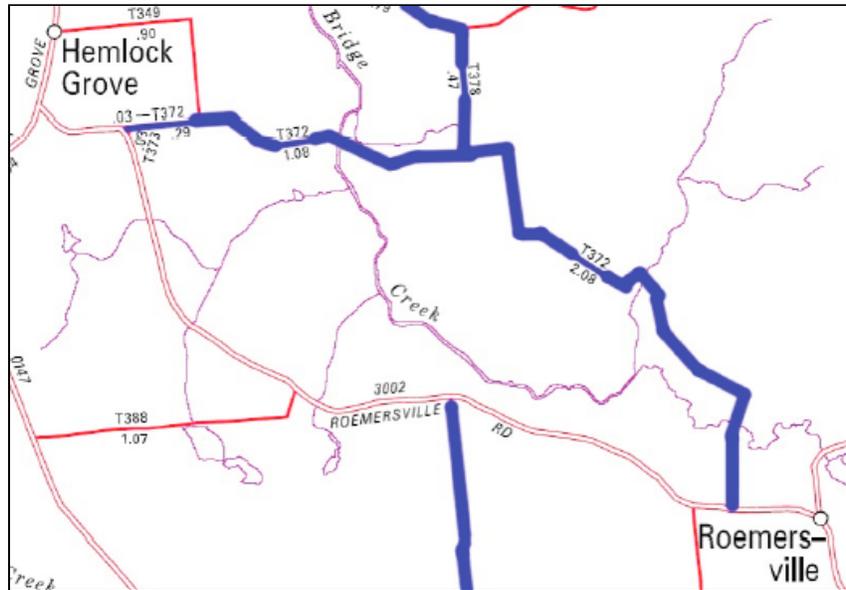
Township Road T-372 is connected to SR 3002, Roemersville Road, on both ends. It intersects with it near Hemlock Grove, then runs north and east on a generally parallel direction until meeting SR 3002 again near Roemersville. It is also intersected by T-

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378, Creek Road, 1.40 miles east of SR 3002. The section from Creek Road to SR 3002 at Roemersville is 2.08 miles in length.

A portion of the road is paved to an 18' cartway width with one foot wide shoulders. This section is used by five school buses. The unpaved section is used by three school buses and includes two feet wide shoulders.

There is a residential development known as Sugar Hill along T-372. There are numerous private drive intersections in this vicinity. There are four sharp curves on the unpaved section and another 3 on the blacktopped portion. There are several areas where winter icing combined with grades and curvatures have created safety problems.

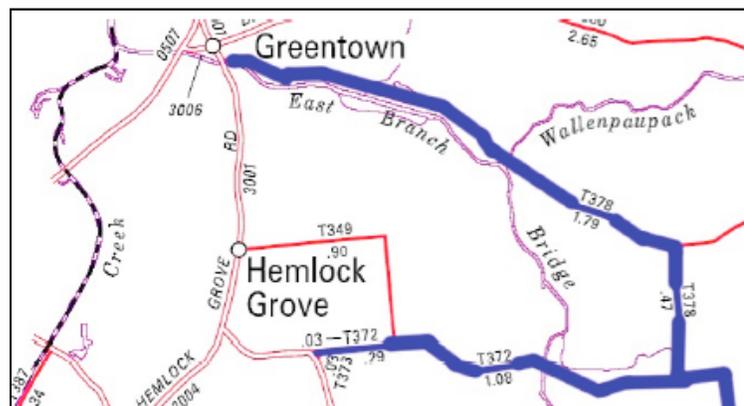


T-378 - Creek Road

Township Road T-378 runs from SR 3001, Hemlock Grove Road, to T-372, Sawmill Road. It is intersected by T-380, Lake Paupack Road, 0.47 mile north of T-372. This section of T-378 is paved and serves in some capacity as an extension of T-380. It is 18 feet wide and used by five school buses. The unpaved section is slightly wider.

Creek Road serves as an alternate route to Greentown for many residents, attracting a number of users from the Sugar Hill development, for example.

There is limited subdivision activity along the road (e.g., Plateau Drive). A lengthy straight section of the road attracts many speeders. Guard rails are also an issue.



2.0 Accident Analysis

Accident data was secured from the Pennsylvania Department of Transportation Bureau of Highway Safety and Traffic Engineering for all three Township roads for the last three years available (1999-2001).

This data revealed that there were two reported accidents on Township Road T-370, German Valley Road for this period, one in 1999 and another in 2000. Both involved property damage as a result of collisions with fixed objects. More recently there was a motorcycle accident and personal injury on this road but no documentation in PennDOT records was available.

There were two reported accidents on Township Road T-372, Sawmill Road, one in 1999 and another in 2001. Both involved property damage as a result of collisions with fixed objects.

There were no reported accidents on Township Road T-378, Creek Road for 1999 to 2001.

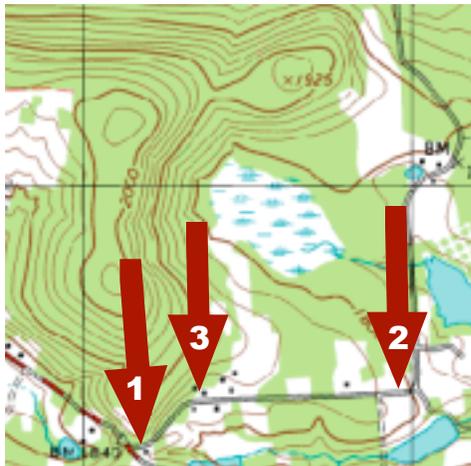
Accident analysis alone would not support the establishment of lower speed limits. However, the data does support the need for such limits on T-370 and T-372.

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3.0 Sight Distance

There are several areas along all three Township roads where corner sight distances are limited. The following maps and tables illustrate.

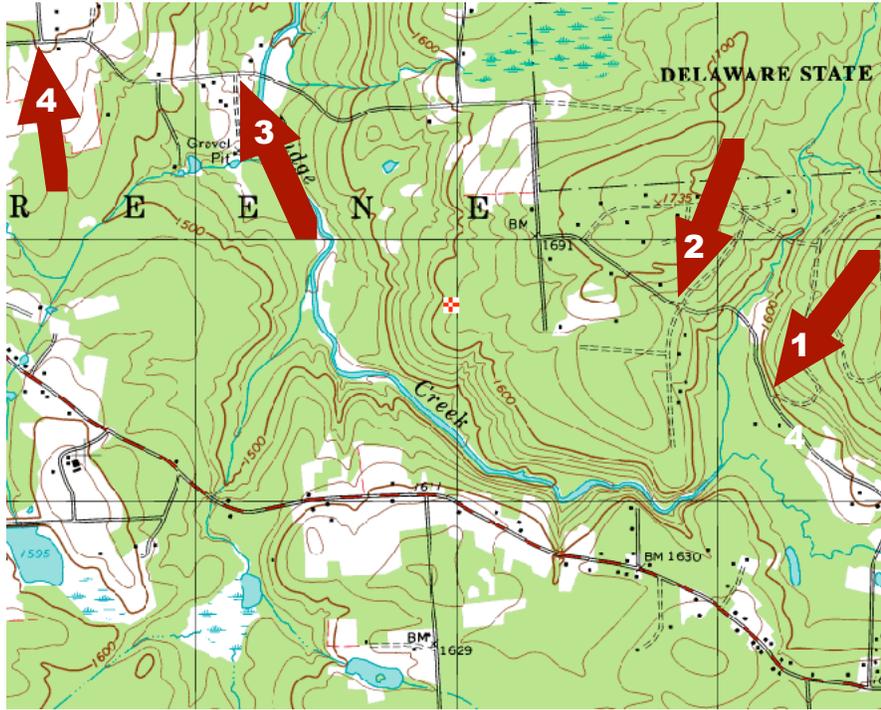
Corner Sight Distance Issues Greene Township Road 370							
Street	Intersecting Drive	Sight Distance		Suggested Speed MPH	Sight Distance		Suggested Speed MPH
		Left	Grade		Right	Grade	
German Valley Road	1 - Private Driveway	120	5%	25	100	0%	25
German Valley Road	2 - Private Driveway	155	5%	25	350	-5%	40
German Valley Road	3 - Private Driveway	160	0%	25	350	0%	40



Township Road 370, German Valley Road, exhibits corner sight distances at three private driveway locations that warrant 25 miles per hour speed limits to safely accommodate left turns, using the criteria found in Section 201.6(16)(v) of the Pennsylvania Department of Transportation regulations pertaining to Minimum Stopping Sight Distances. Right hand turn corner sight distances warrant speed limits of 25 to 40 miles per hour at these three specified locations. Other driveway locations undocumented in this study also warrant 25 mph speed limits.

Corner Sight Distance Issues Greene Township Road 372							
Street	Intersecting Drive	Sight Distance		Suggested Speed MPH	Sight Distance		Suggested Speed MPH
		Left	Grade		Right	Grade	
Sawmill Road	1 - Rocky Mountain D.	145	0%	25	132	0%	25
Sawmill Road	2 - Hemlock Terrace	200	-5%	30	158	5%	25
Sawmill Road	3 - Grassi Way	200	10%	30	180	-10%	25
Sawmill Road	4 - Valley View Road	120	-5%	25	185	5%	25

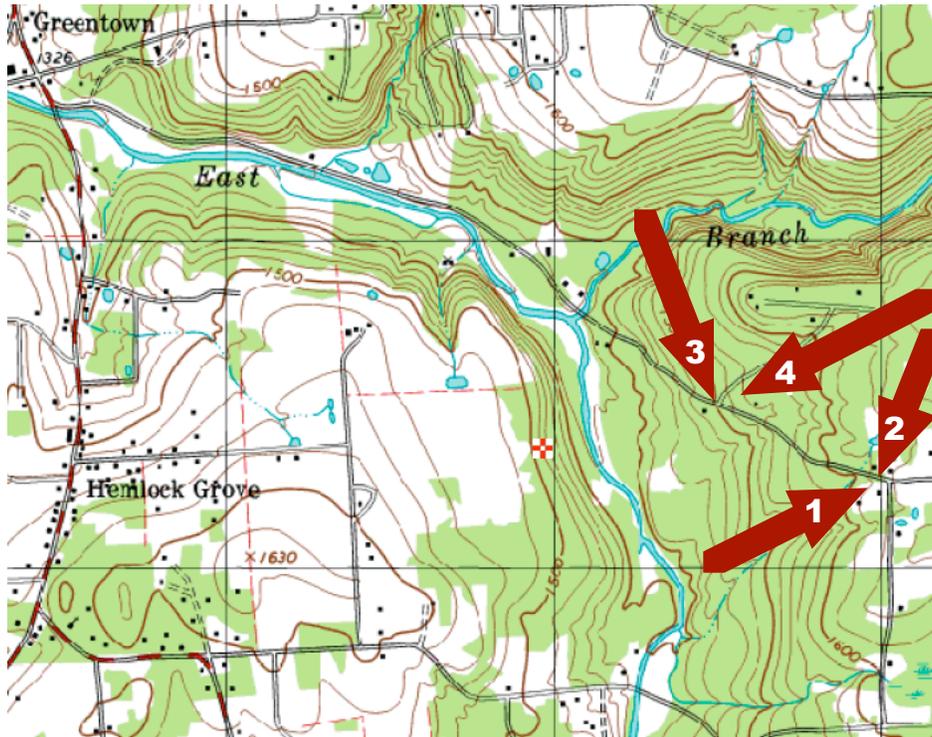
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Township Road 372, Sawmill Road, exhibits corner sight distances at four locations that warrant 25 miles per hour speed limits to safely accommodate right turns, using the criteria found in Section 201.6(16)(v) of the Pennsylvania Department of Transportation regulations pertaining to Minimum Stopping Sight Distances. Left hand turn corner sight distances warrant speed limits of 25 to 30 miles per hour. Two of the locations identified (No. 1 and No. 2) are major private development roads, one is a commercial drive (No. 3) and the last is a Township Road (Valley View Road). All receive regular use and are significant contributors to local traffic.

Corner Sight Distance Issues Greene Township Road 378							
Street	Intersecting Drive	Sight Distance Left	Grade	Suggested Speed MPH	Sight Distance Right	Grade	Suggested Speed MPH
Creek Road	1 - Private Drive	200	5%	30	300	-10%	35
Creek Road	2 - Private Drive	200	-10%	30	105	-5%	25
Creek Road	3 - Plateau Drive	220	0%	30	170	10%	30
Creek Road	4 - Private Drive	110	0%	25	300	10%	40

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Township Road 378, Creek Road, exhibits corner sight distances at four locations that warrant 25 to 40 miles per hour speed limits to safely accommodate left and right turns, using the criteria found in Section 201.6(16)(v) of the Pennsylvania Department of Transportation regulations pertaining to Minimum Stopping Sight Distances. One of the locations identified (No. 3) is major private development roads and the others are private drives.

Passing sight distances were not considered in this analysis but the corner sight distances, as detailed above, warrant 25 miles per hour speed limits on all three sections of road.

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4.0 Speed Data

Section 201.31(b)(1) of the Pennsylvania Department of Transportation regulations provides that “speed limits... 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... safe running speed on the section of highway...”

Safe running speed is defined in Section 201.6(17)(iii) of the regulations as follows:

Safe-running speed. The safe-running speed for a portion of a highway is determined by making a minimum of five test runs in each direction and periodically recording the running speed at different locations while driving at a speed which is reasonable and prudent considering the spacing of intersections, roadside development, sight distance, and so forth. The safe-running speed for a section of highway is the average test run speed.

Test runs of each of the three specified Township Roads were made during the months of July and October, 2004, in accordance with this criteria to determine the safe running speed by section. Weather conditions in both instances were dry and clear. There were no other particular obstacles to safe traffic movement on those days that were not inherent to road conditions.

Travel times were measured using a stop watch as each section of road was driven at a safe running speed considering grades, road widths, road conditions, sight distances, oncoming traffic and othe related factors. The tabulated results are presented in the tables following:

Safe Running Speed Analysis Greene Township Road 370					
Road	Section	Length (miles)	Time (minutes)	Speed (mph)	
T.R. 370	German Valley Road	SR 447 to SR 3002	2.31	7.87	17.6
T.R. 370	German Valley Road	SR 447 to SR 3002	2.31	6.10	22.7
T.R. 370	German Valley Road	SR 447 to SR 3002	2.31	6.90	20.1
T.R. 370	German Valley Road	SR 447 to SR 3002	2.31	6.27	22.1
T.R. 370	German Valley Road	SR 447 to SR 3002	2.31	6.37	21.8
			AVERAGES	6.70	20.9

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Safe Running Speed Analysis Greene Township Road 372

Road	Section	Length (miles)	Time (minutes)	Speed (mph)
T.R. 372 Sawmill Road	SR 3002 to T.R. 378	1.40	3.33	25.2
T.R. 372 Sawmill Road	SR 3002 to T.R. 378	1.40	3.25	25.8
T.R. 372 Sawmill Road	SR 3002 to T.R. 378	1.40	3.97	21.2
T.R. 372 Sawmill Road	SR 3002 to T.R. 378	1.40	3.45	24.3
T.R. 372 Sawmill Road	SR 3002 to T.R. 378	1.40	3.55	23.7
AVERAGES			3.51	24.0
T.R. 372 Sawmill Road	T.R. 378 to SR 3002	2.08	6.95	18.0
T.R. 372 Sawmill Road	T.R. 378 to SR 3002	2.08	6.07	20.6
T.R. 372 Sawmill Road	T.R. 378 to SR 3002	2.08	6.03	20.7
T.R. 372 Sawmill Road	T.R. 378 to SR 3002	2.08	6.88	18.1
T.R. 372 Sawmill Road	T.R. 378 to SR 3002	2.08	6.38	19.6
AVERAGES			6.46	19.4

As the data indicates, all three sections of Township road have safe running speeds below 25 miles per hour. Creek Road, Sawmill Road and German Valley Road, therefore, all qualify for 25 miles per hour speed limit posting.

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Safe Running Speed Analysis Greene Township Road 378

Road	Section	Length (miles)	Time (minutes)	Speed (mph)
T.R. 378 Creek Road	T.R. 372 to T.R. 380	0.47	1.33	21.2
T.R. 378 Creek Road	T.R. 372 to T.R. 380	0.47	1.13	24.9
T.R. 378 Creek Road	T.R. 372 to T.R. 380	0.47	1.27	22.3
T.R. 378 Creek Road	T.R. 372 to T.R. 380	0.47	1.18	23.8
T.R. 378 Creek Road	T.R. 372 to T.R. 380	0.47	1.17	24.2
AVERAGES			1.22	23.3
T.R. 378 Creek Road	T.R. 380 to SR 3001	1.79	6.00	17.9
T.R. 378 Creek Road	T.R. 380 to SR 3001	1.79	4.88	22.0
T.R. 378 Creek Road	T.R. 380 to SR 3001	1.79	5.13	20.9
T.R. 378 Creek Road	T.R. 380 to SR 3001	1.79	5.05	21.3
T.R. 378 Creek Road	T.R. 380 to SR 3001	1.79	5.13	20.9
AVERAGES			5.24	20.6

5.0 Conclusions and Recommendations

The foregoing analyses indicates that the safe running speeds of all three Township Roads are between 19 and 24 miles per hour. This data suggest no further analysis of accidents or sight distances is required to establish a uniform speed limit of 25 mph on these highways, which is recommended. Nonetheless, accident analysis also supports the need for such limits on T-370 and T-372. Likewise limited corner sight distances support the need for 25 miles per hour speed limits on all three roads and T-370 and T-372 in particular.