

TE-101 (8-09)

SPEED RESTRICTIONS ENGINEERING AND TRAFFIC STUDY



pennsylvania
DEPARTMENT OF TRANSPORTATION
www.dot.state.pa.us

PLEASE TYPE OR PRINT ALL INFORMATION IN BLUE OR BLACK INK

A - LOCATION INFORMATION

COUNTY PA County		MUNICIPALITY PA Municipality	
SR# n/a	SEGMENT n/a	STREET NAME Marvin Drive	
SEGMENT/OFFSET n/a	TO SEGMENT/OFFSET n/a	<input type="checkbox"/> ASCENDING <input type="checkbox"/> DESCENDING <input checked="" type="checkbox"/> BOTH	

OTHER LOCATION INFORMATION:
SAMPLE STUDY
 This study assumes that the road in question does not meet the definitions of the districts.

 For educational purposes only.

B - REFERENCE INFORMATION

REFERENCE Chapter 212	SECTION(S) 212.108
REFERENCE MUTCD	SECTION(S) 2B.13 and 2B.18
REFERENCE PUB 46	SECTION(S) Chapter 11.3 and 2.4.6
REFERENCE Vehicle Code Title 75 Pa. C.S.	SECTION(S) §3362, 3363, 3364 and 6109 (a)(5)(10)

C - STUDY ELEMENTS

FROM PUB 212 APPENDIX:

<input checked="" type="checkbox"/> Crash Analysis (1)	<input checked="" type="checkbox"/> Sight Distance (16)	<input checked="" type="checkbox"/> Other: <u>Geometric Review</u>
<input type="checkbox"/> Roadside Development (13)	<input checked="" type="checkbox"/> Speed Data (17)	
<input type="checkbox"/> Roadside Instructions (14)	<input checked="" type="checkbox"/> Traffic Volumes (20)	

D - ATTACHMENTS LISTING

Check those that apply and attach to this form in the order listed below:

<input type="checkbox"/> 1. 10-Day Response Letter	<input checked="" type="checkbox"/> 7. Crash Extract	<input checked="" type="checkbox"/> 13. Traffic/Pedestrian Volumes
<input checked="" type="checkbox"/> 2. Letter or Memo Requesting Study	<input type="checkbox"/> 8. Crash Rate	<input type="checkbox"/> 14. STAMPP Identification Data
<input checked="" type="checkbox"/> 3. Location Map	<input type="checkbox"/> 9. Collision Diagram Plot	<input checked="" type="checkbox"/> 15. Speed Limit
<input type="checkbox"/> 4. Straight Line Diagram	<input checked="" type="checkbox"/> 10. Speed Study	<input type="checkbox"/> 16. Traffic Signal Permit Plan
<input checked="" type="checkbox"/> 5. Photographs	<input checked="" type="checkbox"/> 11. Warrant Analysis	<input checked="" type="checkbox"/> 17. Other <u>Sight Distance Study</u>
<input type="checkbox"/> 6. Field View Drawing or Condition Diagram	<input type="checkbox"/> 12. Multi-Way Stop or Truck Restriction Worksheet	

Confidential - Traffic Engineering and Safety Study

This document is the property of the Commonwealth of Pennsylvania, Department of Transportation. The data and information contained herein are part of a traffic engineering and safety study. This safety study is only provided to those official agencies or persons who have responsibility in the highway transportation system and may only be used by such agencies or persons for traffic safety related planning or research. The document and information are confidential pursuant to 75 Pa. C.S.3754 and 23 U.S.C. 409 and may not be published, reproduced, released or discussed without the written permission of the Pennsylvania Department of Transportation.

E - SITE OBSERVATION CHECKLIST

Operational Checklist:

1. Do obstructions block a driver's view of pedestrians or approaching vehicles? YES NO N/A
2. Do drivers respond correctly to signals, signs, or other traffic control devices? YES NO N/A
3. Is there evidence of crashes (*skid marks, property damage, tree/bush damage, broken glass/vehicle parts, etc.*)? YES NO N/A
4. Are there violations of parking or other traffic regulations? YES NO N/A
5. Do drivers appear confused about routes, street names, or other guidance information? YES NO N/A
6. Have you observed the location during peak hours for volume, crashes, and traffic operations? YES NO N/A
7. Are there traffic flow deficiencies or traffic conflict patterns associated with turning movements? YES NO N/A
8. Are there significant delays and/or congestion? YES NO N/A
9. Are there vehicle/pedestrians conflicts? YES NO N/A
10. Are there other traffic flow deficiencies or traffic conflict patterns? YES NO N/A

Physical Checklist:

1. Can sight obstructions be removed or lessened? YES NO N/A
2. Do the street alignments or widths adequately accommodate the type of traffic using the roadway? YES NO N/A
3. Are curb radii adequate for turning vehicles? YES NO N/A
4. Are pedestrian crosswalks properly located? YES NO N/A
5. Are signs adequate as to usefulness, message, size, conformity, and placement? YES NO N/A
6. Are traffic signals adequate as to placement, visibility, glare, conformity, number of signal heads, and timing? YES NO N/A
7. Are pavement markings adequate as to their conformance to standards and location? YES NO N/A
8. Is channelization (islands or pavement markings) adequate for reducing conflict areas, separating traffic flows, and defining movements? YES NO N/A
9. Does the existing legal parking layout affect sight distance for through or turning vehicles? YES NO N/A
10. Is the pavement condition free of potholes, washboard, slick surface, etc.? YES NO N/A

F - SITE DATA

DATE DATA COLLECTED 5/14/20	PERSON CONDUCTING STUDY MVT	TITLE Traffic Engineer
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THIS REQUEST FOR A SPEED RESTRICTION IS BASED ON: (CHECK APPROPRIATE SECTION)

A. Section 3362 and 3363 of Pa. Vehicle Code & Section 212.108 of Title 67 (Speed Restrictions)

B. Section 3364 of Pa. Vehicle Code & Section 212.108 of Title 67 (Minimum Speed Limits)

C. Section 3365(a) the Pa. Vehicle Code & Section 212.109 of Title 67 (Bridge Speed Limits) - **SEPARATE STUDY REQUIRED, USE TE-115.**

D. Section 3365(c) the Pa. Vehicle Code & Section 212.110 of Title 67 (Hazardous Grade Speed Limits) - **SEPARATE STUDY REQUIRED, USE TE-116.**

<p>1. The existing speed limit is <u>25</u> MPH.</p> <p>2. The requested speed limit is <u>35</u> MPH.</p> <p>3. The 20 <u>19</u> ADT is <u>1500</u> vehicles. <input checked="" type="checkbox"/> Actual <input type="checkbox"/> Estimated</p>	<p>4. The area is a(n):</p> <table style="width: 100%;"> <tr> <td><input type="checkbox"/> Business District</td> <td><input type="checkbox"/> Residence District</td> </tr> <tr> <td><input type="checkbox"/> Urban District</td> <td><input type="checkbox"/> Rural District</td> </tr> <tr> <td><input type="checkbox"/> Interstate Highway</td> <td></td> </tr> <tr> <td colspan="2"><input type="checkbox"/> Adjacent to an Urban District _____</td> </tr> </table> <p>5. The request for a speed change is being made by:</p> <p><input checked="" type="checkbox"/> Local Authorities <u>PA Municipality</u> (list name)</p> <p><input type="checkbox"/> PennDOT</p>	<input type="checkbox"/> Business District	<input type="checkbox"/> Residence District	<input type="checkbox"/> Urban District	<input type="checkbox"/> Rural District	<input type="checkbox"/> Interstate Highway		<input type="checkbox"/> Adjacent to an Urban District _____	
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<input type="checkbox"/> Interstate Highway									
<input type="checkbox"/> Adjacent to an Urban District _____									

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F - SITE DATA (CONTINUED)

6. a. 85th percentile speed 40 MPH. No. of vehicles 1275

b. Safe running speed is:

North Bound/East Bound

Run No. 1 30 MPH.
 Run No. 2 38 MPH.
 Run No. 3 34 MPH.
 Run No. 4 42 MPH.
 Run No. 5 40 MPH.
 Total 184

divided by 5
 = 36.8 MPH.

South Bound/West Bound

Run No. 1 39 MPH.
 Run No. 2 37 MPH.
 Run No. 3 31 MPH.
 Run No. 4 44 MPH.
 Run No. 5 41 MPH.
 Total 192

divided by 5
 = 38.4 MPH.

Average Safe Running Speed is 37.6 MPH.

NOTE (1): Safe Running samples should normally consist of at least 100 observations although 50 observations is acceptable on low volume highways.

NOTE (2): Use Safe Running Speed when the 85th percentile speed cannot be obtained.

7. Does a major portion of the highway have insufficient stopping sight distance if traveling at the 85th percentile speed or the safe running speed? YES NO

8. Is the available corner sight distance on side roads less than the necessary stopping sight distance values for through vehicles? YES NO

9. Are the majority of crashes related to excessive speed? YES NO

Actual Crash Rate: 91 per 100 million VMT

Applicable crash rate from homogenous table published by BHSTE annually: *From PennDOT's table, which you can ignore if you don't have it.*

10. Provide sketch of area indicating:

- a. Spacing of intersections and driveways
- b. Roadside development-to include schools, commercial properties, residences, etc
- c. Location of inadequate stopping or corner sight distance

11. Describe the surface features of the roadway to include: Surface-vertical and horizontal alignment, width, shoulders, crown, etc.:

20-foot wide road
no shoulders
some vertical alignment

12. The signs necessary to legalize the reduced speed zone will be purchased, erected and maintained by:

- Local Municipality PA Municipality (list name)
- Department
- Other _____ (list name)

13. Signs to be installed (list each type separately):

- a. Sign Nomenclature Number from Pub. 236M R2-1
- b. Number of signs to be installed 4
- c. Sign Message Speed Limit 35

14. Has the municipality agreed to purchase, erect and maintain the signs necessary to legalize the above Speed Restriction? YES NO

G - REMARKS

The actual crash rate above can be retrieved using the FHWA USLIMITS2 tool: safety.fhwa.dot.gov/uslimits/

The applicable crash rate is from PennDOT's Homogeneous Report for 2014-2018.

The road is 2 miles long with no intersections. Signs need to be placed in 1/2-mile increments.

H - ENGINEERING JUDGEMENT

This section is to be filled out by engineers only.

Sometimes, a study might not meet the necessary warrants to implement the requested traffic control device. In some situations, an engineer can use engineering judgement to implement the requested traffic control device anyways.

I - APPROVALS

Comments:

If this study is for a local road, no need to submit to PennDOT for approval. However, you should still get the necessary approvals from management.

Don't forget after conducting the study, the next step would be to pass an ordinance, and then you can post your signs.

Reviewed and Approved by Signature	Name/Title	Date
Reviewed and Approved by Signature	Name/Title	Date

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