



## MEMORANDUM

**To:** Upper Providence Township Planning Commission Members

**From:** Bryan Proska, P.E.  
Frank Montgomery, P.E., PTOE

**cc:** George Waterman III, Township Manager  
C. Lee Milligan, Assistant Manager  
Edward A. Skypala, Esq., Township Solicitor  
William Dingman, P.E., Township Engineer  
Frank Zabawski, P.E, Township Traffic Consultant

**Date:** July 5, 2012

**Re:** **Oaks Village Area Traffic Study**  
Traffic Data Collection Summary – Baseline Conditions  
Upper Providence, Montgomery County  
TPD# ALDC.A.00014

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The following memorandum provides an overview of the comprehensive traffic data collection effort undertaken within the Oaks Village Area of Upper Providence Township as part of the Oaks Village Area Traffic Study. As part of the comprehensive traffic data collection effort, the following basic traffic data was gathered at selected locations to provide an objective baseline of traffic condition within the Oaks Village Area: volume, speed, and vehicle classification.

### **DEFINED STUDY AREA**

For purposes of this study, the defined area generally follows the Oaks Village Area illustrated in the Upper Providence Township Village Preservation Plan, and includes the area bound by Black Rock Road to the north, the railroad tracks to the east, the Schuylkill River to the south, and Green Tree Road to the west.

### **TRAFFIC DATA COLLECTION**

#### ***Traffic Count Locations***

The identified traffic count locations, chosen with input from FAZ Associates, represent both the entry/exit points of the defined study area from major roadways/generators and depict representative samples of the typical roadways throughout the Village Area. The traffic count locations are illustrated in **Figure 1**.

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<sup>1</sup> In addition, traffic counters at two locations were re-deployed from May 14, 2012 to May 20, 2012 and from May 18, 2012 to May 23, 2012 due to technical issues with the counters.



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### **Automatic Traffic Recorder (ATR) Counts**

Twenty-four hour traffic counts were conducted at the traffic count locations utilizing Automatic Traffic Recorders (ATR). The twenty-four hour traffic data was collected between Wednesday, May 9, 2012 and Wednesday, May 16, 2012.<sup>1</sup> The counts were conducted while school was in session and normal events were scheduled at the Greater Philadelphia Expo Center at Oaks in order to reflect normal traffic conditions.

The key traffic condition information collected is summarized in **Table 1**. A summary of the individual traffic count locations are included in **Attachment A**. A more detailed summary is included in **Attachment B** with the raw traffic count data included in **Attachment C**.

### **GLOSSARY**

A glossary of common traffic engineering terms that are used throughout this memorandum and associated attachments is included below for your reference.

**ADT – Average Daily Traffic.** The total volume of traffic during a given time period (in whole days greater than one day and less than one year) divided by the number of days in that time period. For roadways having traffic in two directions, the ADT includes traffic in both directions unless specified otherwise.

**AWDT – Average Weekday Daily Traffic.** The total traffic volume for an average weekday. AWDT is a representative weekday traffic volume computed as the mathematical average of typical weekday volumes selected throughout the year. A typical weekday has no anomaly such as heavy traffic due to a special public event or light traffic due to inclement weather.

**Average Speed.** The average speed of all vehicles passing through the road segment.

**85th Percentile Speed.** The 85th percentile speed shows the speed at which 85 percent of the vehicles are traveling at or below.

**Peak Hour.** The hour during which the most vehicles travel across a point on the roadway. The highest traffic volumes are typically during the weekday morning (7:00-9:00 P.M.), weekday evening (4:00-6:00 P.M.), and Saturday midday (11:00 A.M.-1:00 P.M.) travel periods.

**10 MPH Pace.** The 10-mph pace represents the highest percentage of vehicles traveling in a 10-mph speed range (for example, 25 to 35 mph). Typically, the midpoint of the 10-mph pace corresponds with the average (mean) speed of the roadway.

**Vehicle Classification.** A method of counting, identifying and classifying different types of vehicles into categories as shown below. This study utilizes Scheme F method of classification, which classifies vehicles into 13 vehicle classes according to the number of axles the vehicle has and the lengths between the axles. For purposes of this study, Classes 1-3 are Passenger Vehicles; Class 4 is Buses; and Class 5-13 are Trucks.

**Class 1: Motorcycles**

All two or three wheeled motorized vehicles. Typical vehicles in this category have saddle type seats and are steered by handlebars rather than wheels. This category includes motorcycles, motor scooters, mopeds, motor-powered bicycles, and three-wheeled motorcycles.

**Class 2: Passenger Cars**

All sedans, coupes, and station wagons manufactured primarily for the purpose of carrying passengers and including those passenger cars pulling recreational or other light trailers.



**Class 3: Other Two-Axle, Four-Tire, Single Unit Vehicles**

All two-axle, four-tire, vehicles other than passenger cars. Included in this classification are pickups, panels, vans, and other vehicles such as campers, motor homes, ambulances, hearses, carryalls, and minibuses. Other two-axle, four-tire single unit vehicles pulling recreational or other light trailers are included in this classification.

**Class 4: Buses**

All vehicles manufactured as traditional passenger-carrying buses with two axles and six tires or three or more axles. This category includes only traditional buses (including school buses) functioning as passenger-carrying vehicles. Modified buses should be considered to be trucks and be appropriately classified.

**Class 5: Two-Axle, Six-Tire, Single Unit Trucks**

All vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., having two axles and dual rear wheels.

**Class 6: Three-axle Single unit Trucks**

All vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., having three axles.

**Class 7: Four or More Axle Single Unit Trucks**

All trucks on a single frame with four or more axles.

**Class 8: Four or Less Axle Single Trailer Trucks**

All vehicles with four or less axles consisting of two units, one of which is a tractor or straight truck power unit.

**Class 9: Five-Axle Single Trailer Trucks**

All five-axle vehicles consisting of two units, one of which is a tractor or straight truck power unit.

**Class 10: Six or More Axle Single Trailer Trucks**

All vehicles with six or more axles consisting of two units, one of which is a tractor or straight truck power unit.

**Class 11: Five or Less Axle Multi-Trailer Trucks**

All vehicles with five or less axles consisting of three or more units, one of which is a tractor or straight truck power unit

**Class 12: Six-Axle Multi-Trailer Trucks**

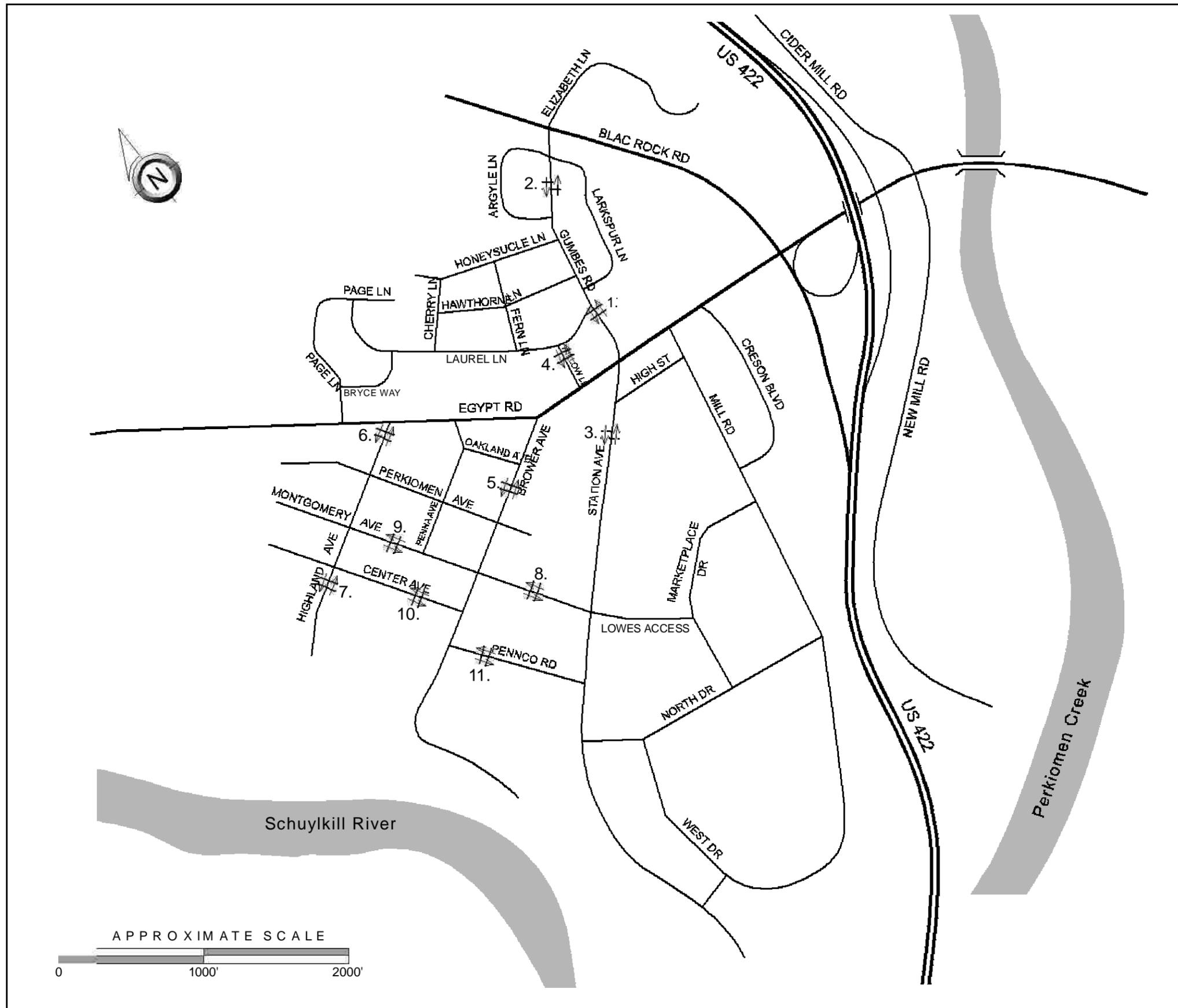
All six-axle vehicles consisting of three or more units, one of which is a tractor or straight truck power unit.

**Class 13: Seven or More Axle Multi-Trailer Trucks**

All vehicles with seven or more axles consisting of three or more units, one of which is a tractor or straight truck power unit.

If there are any questions or comments on the submitted information, please feel free to contact us.

***Enclosures***



LEGEND

1. Gumbes Rd  
(Egypt Rd - Laurel Ln)
2. Gumbes Rd  
(Argyle Ln - Black Rock Rd)
3. Station Ave  
(Montgomery Ave - Egypt Rd) 2
4. Willow Dr.  
(Egypt Rd - Laurel Ln)
5. Brower Ave  
(Montgomery Ave - Oakland Ave)
6. Highland Ave  
(Perkiomen Ave - Egypt Rd)
7. Highland Ave  
(Business Park - Center Ave)
8. Montgomery Ave  
(Brower Ave - Station Ave)
9. Montgomery Ave  
(Highland Ave - Pennsylvania Ave)
10. Center Ave  
(Highland Ave - Brower Ave)
11. Pennco Rd  
(Brower Ave - Station Ave)

**DRAFT**  
6/20/12

Fig - 1  
TRAFFIC COUNT LOCATIONS

OAKS VILLAGE AREA  
TRAFFIC STUDY  
Upper Providence Township

**Oaks Village Area Traffic Study  
Traffic Count Summary**

No.	Location Description	Daily Total Traffic			Peak Hour Total Traffic			Daily Trucks		Overall Speed		
		Average Weekday	Friday	Saturday	Weekday Morning	Weekday Evening	Saturday	Vehicles	Percent	Average	85th Percentile	Pace Speed
1	Gumbes Rd (Egypt Rd - Laurel Ln)	1,377	1,512	1,430	142	149	129	55	4%	26	32	24-33
2	Gumbes Rd (Argyle Ln - Black Rock Rd)	1,728	1,855	1,676	169	180	147	42	2%	26	31	23-34
3	Station Ave (Montgomery Ave - Egypt Rd) 2	6,567	8,138	8,939	439	675	743	222	6%	34	39	30-39
4	Willow Dr. (Egypt Rd - Laurel Ln)	606	645	439	49	54	52	19	4%	17	23	16-25
5	Brower Ave (Montgomery Ave - Oakland Ave)	1,953	2,166	1,689	91	214	146	109	6%	27	33	24-33
6	Highland Ave (Perkiomen Ave - Egypt Rd)	1,319	1,241	621	134	163	68	86	9%	17	26	20-29
7	Highland Ave (Business Park - Center Ave)	244	119	76	29	36	11	50	15%	21	28	20-29
8	Montgomery Ave (Brower Ave - Station Ave)	1,344	1,361	1,053	85	174	128	110	9%	21	30	22-31
9	Montgomery Ave (Highland Ave - Pennsylvania Ave)	397	462	328	30	49	38	31	8%	21	28	20-29
10	Center Ave (Highland Ave - Brower Ave)	140	123	93	13	15	12	5	6%	-	-	-
11	Pennco Rd (Brower Ave - Station Ave)	267	284	238	14	34	31	34	13%	24	32	22-31

Note: Traffic counts conducted by Traffic Planning & Design, Inc., May 2012