



December 9, 2013

Mr. Robert Leslie, AICP
Director of Planning
Town of Bethlehem
445 Delaware Avenue
Delmar, NY 12054

RE: Traffic Counts; Hasgate Drive; CHA Project No. 21074.1041.36200

Dear Mr. Leslie:

As requested, Automatic Traffic Recorders (ATRs) were placed at four locations within Haswell Farms and The Enclave at Glenmont residential developments from November 4th to 13th, 2013. The ATR placement is shown on the attached map.

We've reviewed the volume and speed data collected at these locations to determine if the volumes are reasonable for the number of single-family dwelling units in the two developments and if the speeds are appropriate for the posted speed limit and the character of the neighborhoods. The volume and speed data for each of the four locations is enclosed.

Traffic Volumes

The traffic volume data for each count location is summarized in the table below. The Average Daily Traffic (ADT) was calculated for both a Weekday (Tuesday through Thursday) and Weekly (Sunday through Saturday) basis.

Traffic Volume
Town of Bethlehem, NY

Segment	Direction	Weekday			ADT
		AM	PM	ADT	
Hasgate Drive <i>Feura Bush Road to Dowers Way</i>	NB	175	70	985	945
	SB	30	135	975	945
	Total	205	205	1960	1890
Hasgate Drive <i>Barrington Court to Reynolds Court</i>	NB	110	50	635	605
	SB	20	85	625	595
	Total	130	135	1260	1200
Forsten Drive <i>Hasgate Drive to Ashgrove Lane</i>	NB	85	35	485	455
	SB	20	70	480	460
	Total	105	105	965	915
Harvest Ridge Road <i>Crescent Creek Way to Elm Avenue East</i>	NB	10	25	190	190
	SB	30	60	185	175
	Total	40	85	375	365

AM = AM peak hour

PM = PM peak hour

ADT = Average Daily Traffic

A trip generation estimate was also calculated based on the data published in the Institute of Transportation Engineers (ITE) *Trip Generation, 9th Edition* for single-family detached housing. There are approximately 185 units in Haswell Farms and approximately 230 units in The Enclave at Glenmont. Trip generation estimates are presented in the table below.

Trip Generation Estimate

Development	Direction	Weekday		
		AM	PM	ADT
Haswell Farms (185 units)	Enter	35	115	925
	Exit	104	68	925
	Subtotal	139	183	1850
The Enclave (230 units)	Enter	43	140	1130
	Exit	128	82	1130
	Subtotal	171	222	2260
Combined	Total	310	405	4110

While still recognizing that each of these developments has a second access (Haswell – Westphal Drive, Enclave – Holly Mill Road), it appears that the traffic volumes collected are lower than the trip generation estimate for these developments. But overall, the volumes are consistent with the levels that would be anticipated for the size of these neighborhoods and with the local street function of these streets. It is



evident that most traffic is destined to/originating from the north to Feura Bush Road. A relatively low volume of vehicles are using the Harvest Ridge Road entrance to Elm Avenue East, with a higher proportion of traffic using Forsten Drive between the two developments.

It is noted however that the traffic volume on the northern portion of Hasgate Drive is approaching a threshold which is more closely associated with a residential collector street function rather than for local streets. Local streets should typically have daily volumes that are 1500 vehicles per day or less. It does not appear from the volume data that there is any noticeable “cut-through” traffic (i.e. traffic that does not have an origin or destination within these two developments). But the predominant pattern of travel to/from the north suggests that these roadways could receive traffic from future development in the area, unless suitable alternative routes are provided attendant to future growth.

Speeds

The 50th percentile (i.e. average) and 85th percentile speeds for each ATR location are presented in the table below. The 85th percentile speed is typically a measure used for design considerations. The Town speed limit is 30 mph.

Speed Data
Town of Bethlehem, NY

Segment	Direction	50 th Percentile	85 th Percentile
Hasgate Drive <i>Feura Bush Road to Dowers Way</i>	NB	30	34
	SB	29	33
Hasgate Drive <i>Barrington Court to Reynolds Court</i>	NB	32	38
	SB	31	36
Forsten Drive <i>Hasgate Drive to Ashgrove Lane</i>	NB	31	35
	SB	32	36
Harvest Ridge Road <i>Crescent Creek Way to Elm Avenue East</i>	NB	22	28
	SB	23	29

Speeds provided in miles per hour (mph)

As shown, the 85th percentile speed is above the posted speed limit at all locations except for Harvest Ridge Road. However, that ATR location was chosen primarily for the volume data rather than speed and since it is very near to the intersection with Elm Ave East, it is not an ideal location to measure prevailing speed. The 85th percentile speed was measured at the highest values at the location on Hasgate Drive between Barrington Court and Reynolds Court, with 38 mph in the northbound direction and 36 mph in the southbound direction.

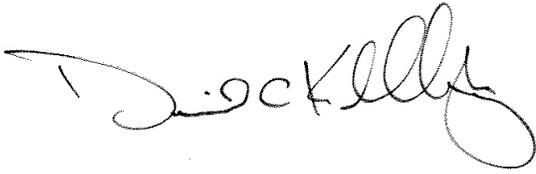


The hourly pace speed patterns were also reviewed to identify if speed patterns change during the peak hours or vary for daylight vs. nighttime hours. No identifiable pattern in time of day speed patterns is evident from the data. There were a number of days that showed a slight increase in pace speed during midday hours, especially on weekends when activity is higher. But for the most part, speed characteristics seem to be fairly consistent throughout the day.

Overall, the prevailing speeds are higher than would be expected or desirable for the width (24 feet) and residential character of these roadways.

Please feel free to contact us if you have any questions.

Sincerely,



David C. Kahlbaugh, AICP
Associate



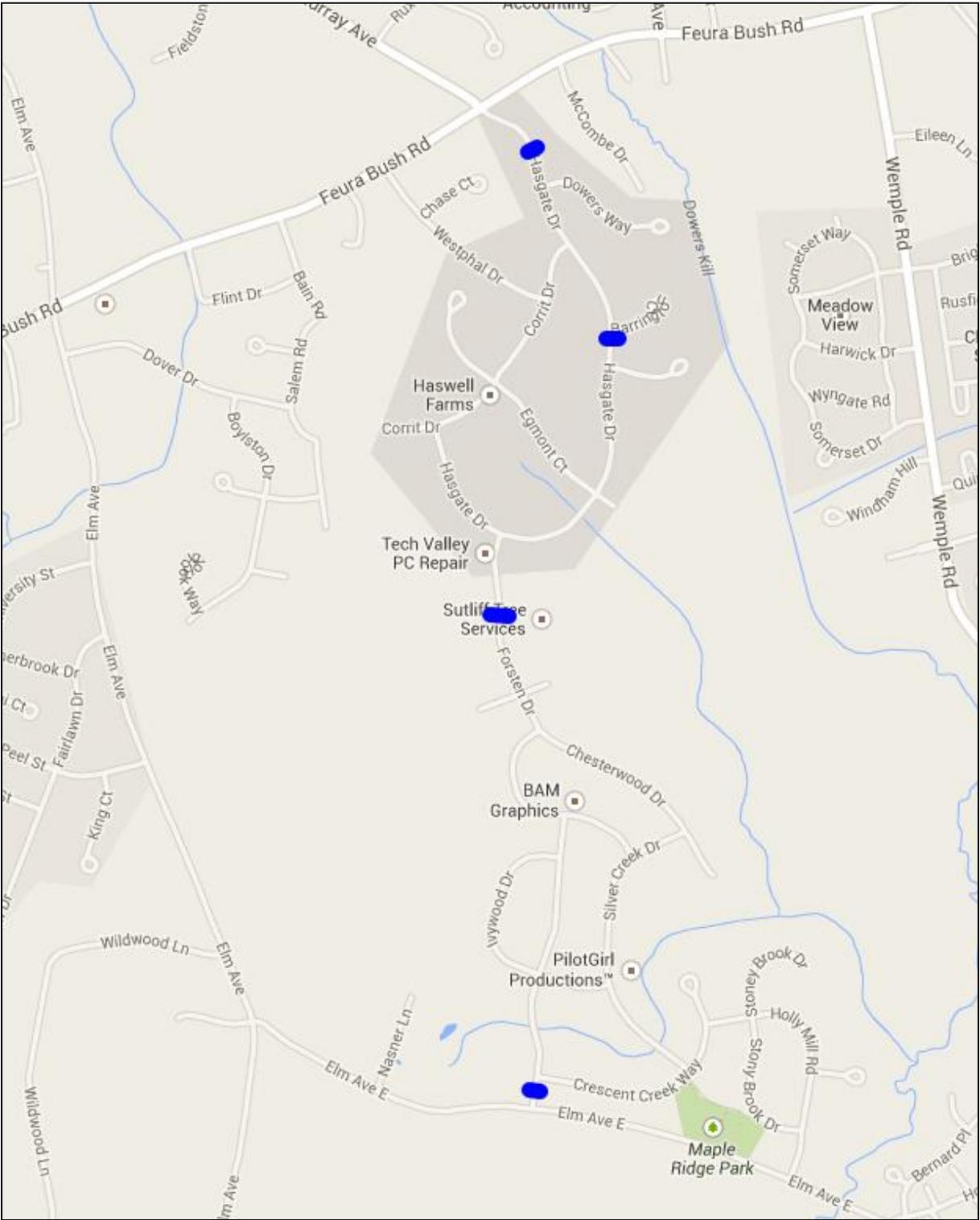
Christina L. Doughney, P.E., PTOE
Associate

CLD/

Enclosure

C: Joe Romano, P.E.; CHA

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Automatic Traffic Recorder Locations
November 4-13, 2013