

September 10, 2024

Mr. Steve Hart, P.E.  
Hart Engineering  
1969 Ferndale Road  
Castleton, New York 12033

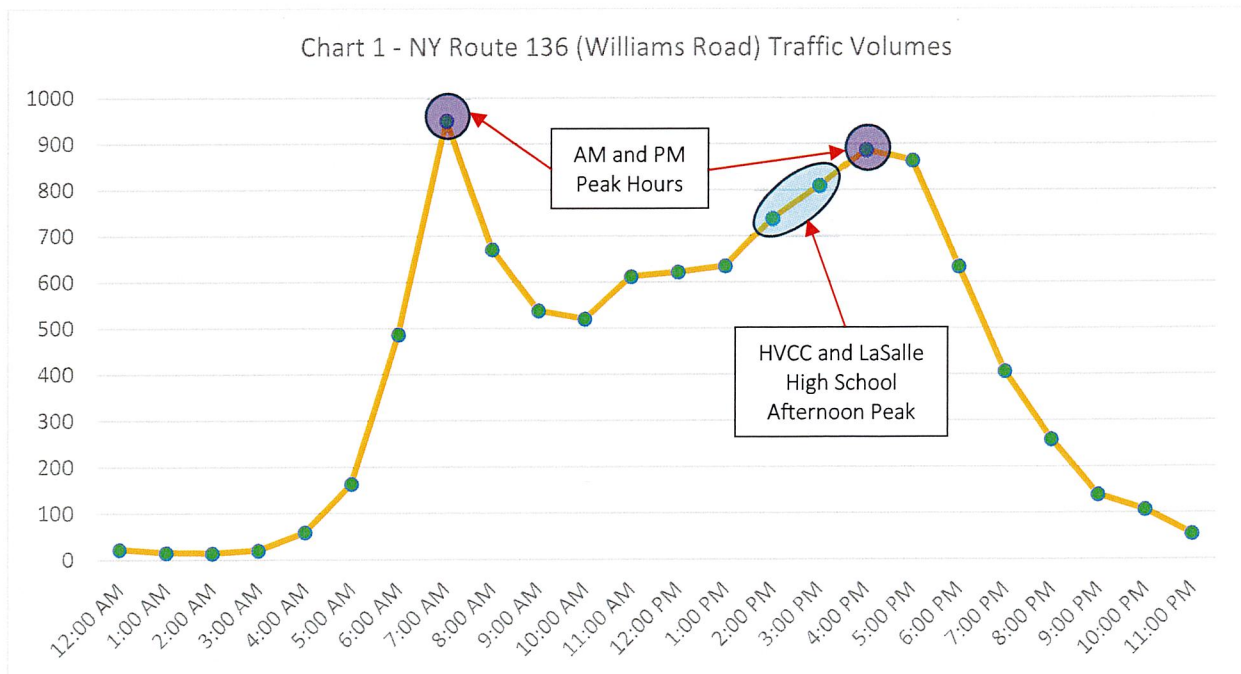
RE: Response to Comments, Cape Enterprises Subdivision, Town of North Greenbush, Rensselaer County, New York; CM Project 122-326

Dear Mr. Hart,

Creighton Manning (CM) has reviewed the traffic related to comments provided at the Public Hearing during the Town of North Greenbush Planning Board meeting on April 22, 2024 associated with proposed *Cape Enterprises Subdivision*. Below is a general summary of the traffic related comments and our responses.

**Comment #1 – It was requested that the mid-day peak period be evaluated due to potential traffic impacts associated with operations of HVCC and LaSalle High School.**

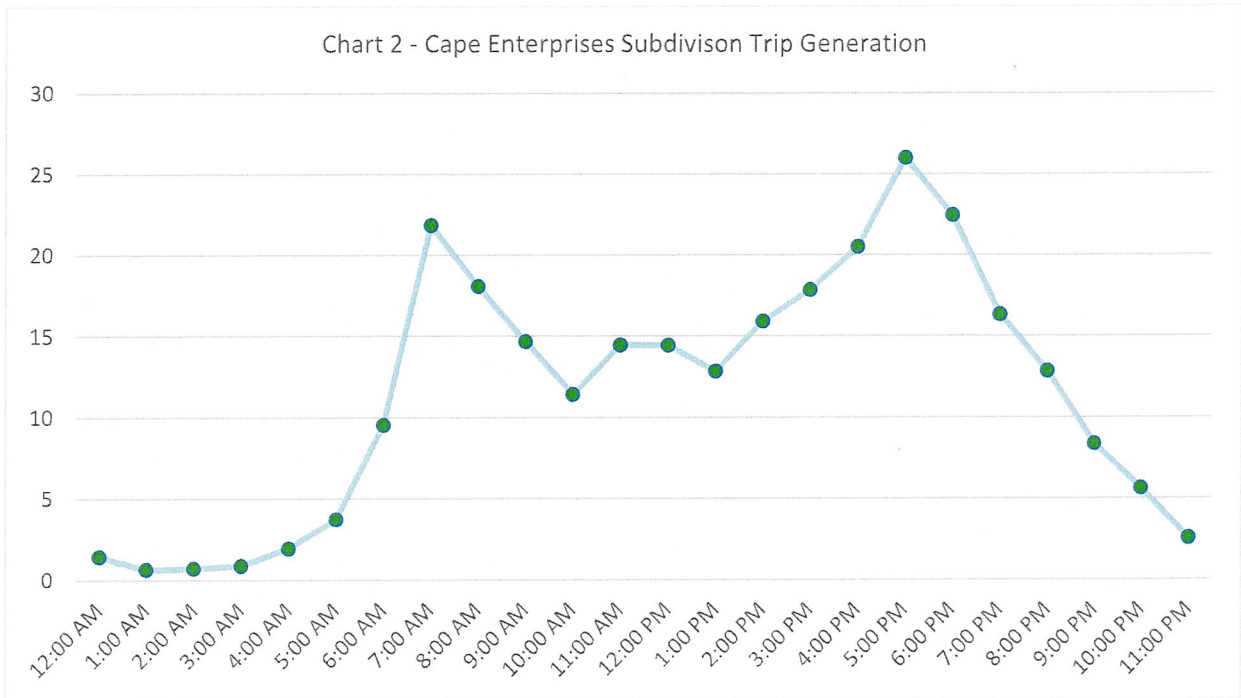
Response: The turning movement counts at the NY Route 136 (Williams Road)/Orchard Lane intersection and the automatic traffic recorder (ATR) installed near the proposed Site Access Road were conducted in October 2022 which includes traffic associated with *HVCC* and *LaSalle High School*. In addition, information provided by NYSDOT indicates that traffic count observations conducted during this time frame represent normal post-pandemic conditions and do not need to be modified. Daily traffic volumes on NY Route 136 are shown on Chart 1.



The daily traffic volumes show that the AM peak hour occurs from 7:00 to 8:00 a.m. while the PM peak hour occurs from 4:00 to 5:00 p.m. A review of the detailed analysis provided in the *Traffic Assessment* letter dated January 10, 2024 indicates that these timeframes were used in the evaluation of the NY Route 136 (Williams Road)/Orchard Lane intersection. It is noted that dismissal of *HVCC* and *LaSalle High School* generally occurs a little earlier in the day between 2:00 and 4:00 p.m. These times do not

represent worst-case conditions based on Chart 1; therefore, the detailed analysis provided in the letter is consistent with worst-case conditions and no additional analysis is necessary.

In addition, the daily distribution of site generated traffic associated with a residential development with twin homes was also reviewed based on available ITE data. Chart 2 indicates that the AM and PM peak hours for this type of development coincides with the typical daily distribution of traffic on NY Route 136 (Willimas Road).



*Comment #2 – It was noted that it may be difficult to make a left-turn from the Site Access Road intersection onto NY Route 136 (Williams Road).*

Response: A gap study was conducted to determine if adequate gaps exist in traffic on NY Route 136 (Williams Road) to allow vehicles to exit the Site Access Road. Data was collected to coincide with peak daily operations from 7:00 a.m. to 7:00 p.m. on Tuesday, October 16, 2023. The gap count data and summary are included under Attachment A. Gaps were measured in the flow of traffic traveling eastbound and westbound on NY Route 136 (Williams Road). Based on the geometry of the proposed intersection, the *Highway Capacity Manual* (HCM) provides the duration of critical gaps at an unsignalized intersection. A minimum gap of 7.1 seconds is required in the flow of eastbound and westbound traffic for a northbound vehicle on the Site Access Road to turn left onto NY Route 136 (Williams Road). Longer gaps are required to accommodate more left-turning vehicles from the site. The traffic volume figure indicates that a maximum of 10 vehicles would turn left from the Site Access Road to NY Route 136 (Williams Road) during the peak hour of the generator. Table 1 summarizes the gaps available for left-turn traffic from the Site Access Road onto NY Route 136 (Williams Road).

Table 1 – Available Gaps for Left-Turn Traffic from the Site Access Road

Time	Number of Gaps	Vehicles Served
7:00 a.m.- 8:00 a.m.	122	266
8:00 a.m.- 9:00 a.m.	153	382
9:00 a.m.- 10:00 a.m.	171	470
10:00 a.m.- 11:00 a.m.	159	470
11:00 a.m.- 12:00 p.m.	151	414
12:00 p.m.- 1:00 p.m.	155	401
1:00 p.m.- 2:00 p.m.	165	400
2:00 p.m.- 3:00 p.m.	161	334
3:00 p.m.- 4:00 p.m.	138	280
4:00 p.m.- 5:00 p.m.	136	253
5:00 p.m.- 6:00 p.m.	138	290
6:00 p.m.- 7:00 p.m.	150	367

The gap study demonstrates that the available gaps can accommodate a minimum of 253 left-turning vehicles from the Site Access Road onto NY Route 136 (Williams Road) during the peak hours. This indicates that the available gaps can accommodate the number of vehicles turning left from the Site Access Road during the peak hours (10 left-turns or fewer). Based on the gap study and the detailed intersection analysis, the average northbound queue of vehicles on the Site Access Road waiting to turn left or right onto NY Route 136 (Williams Road) will be very short.

**Comment #3 – There is concern that the addition of the Site Access Road will make it difficult to exit Orchard Lane on the opposite side of NY Route 136.**

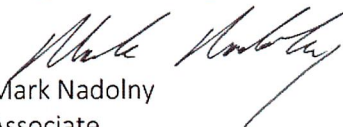
Response: The detailed intersection analysis indicates that the southbound Orchard Lane approach currently operates at LOS C/B during the AM and PM peak hours, respectively. After construction of the proposed residential development, the southbound approach will operate at LOS D/C during the AM and PM peak hours, respectively, with an increase in average vehicle delay of approximately 3½ seconds or less. This indicates that adequate access will continue to be provided exiting Orchard Lane during the peak hours.

**Comment #4 – It was requested that the speed limit on NY Route 136 (Williams Road) be lowered.**

Response: NY Route 136 (Williams Road) has a posted speed limit of 35-mph adjacent to the Site Access Road which transitions to a 40-mph speed limit east of Winter Street Extension. A review of the ATR data indicates that the average speed adjacent to the site is approximately 40-mph while the 85<sup>th</sup> percentile speed is approximately 45-mph. The Town of North Greenbush would need to make a request to NYSDOT in order to lower the posted speed limit since it cannot come from a private developer.

Please call our office if you have any questions or comments regarding the above analysis.

Respectfully submitted,  
Creighton Manning

  
Mark Nadolny  
Associate

## Attachment A



Gap Analysis for Two-Lane Major Road

Analyst: MDN  
 Date: 9/10/2024  
 Project: 122-326 Cape Enterprises Subdivision  
 Peak Hour: 7:00-8:00 a.m.  
 Location: NY Route 236 (Williams Road/Orchard Lane/Site Access Road)  
**PASSENGER CAR**

One-way traffic direction: **EB**

Intervals	4.0 - 5.9	6.0 - 7.9	8.0 - 9.9	10.0 - 11.9	12.0 - 13.9	14.0 - 15.9	16.0 - 17.9	18.0 - 19.9	20.0 - 21.9	22.0 - 23.9	24.0 - 25.9	26.0 - 27.9	28.0 - 29.9	>30
	17	17	11	10	8	13	2	6	7	6	6	8	1	41

**Left-turn from Major**

Gaps	Vehicles Served
1 Vehicle	19
2 Vehicle	17
3 Vehicle	12
4 Vehicle	10
5 Vehicle	12
6 Vehicle	7
7 Vehicle	5
8 Vehicle	7
9 Vehicle	7
10 Vehicle	7
11 Vehicle	8
12 Vehicle	42
<b>Total</b>	<b>153</b>

**Right-turn from Minor**

Gaps	Vehicles Served
1 Vehicle	24
2 Vehicle	16
3 Vehicle	18
4 Vehicle	6
5 Vehicle	11
6 Vehicle	12
7 Vehicle	6
8 Vehicle	41
<b>Total</b>	<b>134</b>

Two-way traffic direction: **EB/WB**

Intervals	6.0 - 7.9	8.0 - 9.9	10.0 - 11.9	12.0 - 13.9	14.0 - 15.9	16.0 - 17.9	18.0 - 19.9	20.0 - 21.9	22.0 - 23.9	24.0 - 25.9	26.0 - 27.9	28.0 - 29.9	>30
	43	30	15	19	9	9	7	6	3	2	1	1	1

**Left-turn from Minor**

Gaps	Vehicles Served
1 Vehicle	54
2 Vehicle	30
3 Vehicle	16
4 Vehicle	12
5 Vehicle	6
6 Vehicle	2
7 Vehicle	2
<b>Total</b>	<b>122</b>



Gap Analysis for Two-Lane Major Road

Analyst: MDN  
 Date: 9/10/2024  
 Project: 122-326 Cape Enterprises Subdivision  
 Peak Hour: 8:00-9:00 a.m.  
 Location: NY Route 236 (Williams Road/Orchard Lane/Site Access Road)  
**PASSENGER CAR**

One-way traffic direction: **EB**

Intervals	4.0 - 5.9	6.0 - 7.9	8.0 - 9.9	10.0 - 11.9	12.0 - 13.9	14.0 - 15.9	16.0 - 17.9	18.0 - 19.9	20.0 - 21.9	22.0 - 23.9	24.0 - 25.9	26.0 - 27.9	28.0 - 29.9	>30
	8	10	6	14	8	9	6	12	4	5	8	4	6	39

**Left-turn from Major**

Gaps	4.1 - 6.2	6.3 - 8.4	8.5 - 10.6	10.7 - 12.8	12.9 - 15.0	15.1 - 17.2	17.3 - 19.4	19.5 - 21.6	21.7 - 23.8	23.9 - 26.0	26.1 - 28.2	28.3 - 30.4
1 Vehicle	9											
2 Vehicle	10											
3 Vehicle	9											
4 Vehicle	13											
5 Vehicle	9											
6 Vehicle	8											
7 Vehicle	11											
8 Vehicle	6											
9 Vehicle	5											
10 Vehicle	8											
11 Vehicle	5											
12 Vehicle	44											
Total	137											

Vehicles Served **1034**

**Right-turn from Minor**

Gaps	6.2 - 9.4	9.5 - 12.7	12.8 - 16.0	16.1 - 19.3	19.4 - 22.6	22.7 - 25.9	26.0 - 29.2	29.3 - 32.5
1 Vehicle	14							
2 Vehicle	19							
3 Vehicle	14							
4 Vehicle	14							
5 Vehicle	9							
6 Vehicle	9							
7 Vehicle	9							
8 Vehicle	41							
Total	129							

Vehicles Served **640**

Two-way traffic direction: **EB/WB**

Intervals	6.0 - 7.9	8.0 - 9.9	10.0 - 11.9	12.0 - 13.9	14.0 - 15.9	16.0 - 17.9	18.0 - 19.9	20.0 - 21.9	22.0 - 23.9	24.0 - 25.9	26.0 - 27.9	28.0 - 29.9	>30
	33	32	33	18	11	10	11	7	1	1	5	4	5

**Left-turn from Minor**

Gaps	7.1 - 10.5	10.6 - 14.0	14.1 - 17.5	17.6 - 21.0	21.1 - 24.5	24.6 - 28.0	28.1 - 31.5
1 Vehicle	57						
2 Vehicle	42						
3 Vehicle	18						
4 Vehicle	17						
5 Vehicle	4						
6 Vehicle	6						
7 Vehicle	9						
Total	153						

Vehicles Served **382**