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Mr. Bill Herbet  
BBL Development Group, LLC  
302 Washington Avenue Extension  
Albany, New York 12203

**RE: Supplemental Traffic Analysis, Vista Tech Campus, Town of Bethlehem, Albany County, New York; CME Project No. 05-152d**

Dear Mr. Herbert:

As a supplement to our August 29, 2006 Traffic Impact Study (TIS), Creighton Manning Engineering, LLP (CME) has completed a sensitivity analysis for an alternative land use scenario for the proposed *Vista Tech Campus*. This supplement was conducted to determine if an alternative land use scenario could impact study area intersection operations and possibly change any of the recommendations contained in the original TIS. The proposed project is still envisioned as a two phased, 1,400,000 square-foot (SF) mixed-use development with an estimated completion date of 2010 for Stage 1 construction and full build-out completed by 2015. However, under the new land use alternative, a 3,000 SF bank and a 47,000 SF general retail component will be incorporated in place of 25,000 SF of general office space and 17,800 SF of retail development in Stage 1, and an additional 7,200 SF of research & development office space during Stage II.

### A. Traffic Analysis

The 2005 Existing, 2010 No-Build, and 2015 No-Build AM and PM peak hour traffic volumes at the seven study area intersections contained in the original TIS form the basis for the analysis.

#### *Trip Generation*

Several applicable land uses described in Institute of Transportation Engineers (ITE) *Trip Generation, 7<sup>th</sup> Edition* were used to estimate trip generation for the weekday AM and PM peak hours of adjacent street traffic for the proposed mixed-use development. As stated above, this project will be constructed in two phases with Stage 1 development and full build-out of the development completed in 2010 and 2015, respectively. Trip generation for Stage 1 of the development was based on the following Land Use Codes (LUC) provided by ITE:

- LUC 720 (Medical-Dental Office Building) – 90,000 SF medical office building
- LUC 710 (General Office Building) – 22,000 SF of office space
- LUC 310 (Hotel) – 150-room hotel
- LUC 814 and 820 (Specialty Retail and Shopping Center, respectively) – 22,020 SF specialty retail space
- LUC 912 (Drive-In Bank) – Two 3,000 SF banks
- LUC 932 (High Turnover Sit-Down Restaurant) - 12,000 SF restaurant
- LUC 850 (General Retail) – 47,000 SF general retail component

*Engineers, Planners and Surveyors*

As stated in the original TIS, a specific trip generation study conducted by CDTC at the *Rensselaer Technology Park* located in Troy, New York was used to determine peak hour trip rates per 1,000 SF for a research & development/office land use. An average trip generation rate of 0.618 trip ends per 1,000 SF and 0.539 trip ends per 1,000 SF were used for the AM and PM peak hours, respectively. These trip generation rates were used to generate trips for 473,000 SF of research & development/manufacturing/office space related to Stage 1 of the project.

It is noted that a 10% multi-use credit was taken for the trips generated by the retail developments, banks, and restaurant. In addition, a pass-by trip percentage was taken for traffic generated by the banks, restaurant, and retail developments. Based on information provided by ITE and the specific land use, a pass-by trip percentage of 35% to 40% was used for this study.

Trip generation for the remaining 660,580 SF of research & development/office space associated with full build-out development of the project was based on the trip generation rates described for Stage 1. The peak hour trip generation estimate is summarized in Table 1.

**Table 1 - Summary of Trip Generation**

Land Use		Size	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Stage 1	Manufacturing/Research & Development/Office Space	473 KSF	242	50	292	38	217	255
	Medical Office Space	90 KSF	176	47	223	77	209	286
	General Office Space	22 KSF	49	7	56	18	85	103
	Hotel (at 67,400 SF)	150 Rooms	41	27	68	47	42	89
	Retail Development	22.02 KSF	10	10	20	33	41	74
	General Retail Component	47 KSF	102	66	168	262	252	514
	Bank	6 KSF	42	32	72	138	138	276
Restaurant	12 KSF	72	66	138	80	51	131	
<b>Total Stage 1 Trips</b>			<b>734</b>	<b>305</b>	<b>1039</b>	<b>693</b>	<b>1035</b>	<b>1728</b>
Multi Use for Retail/Bank/Restaurant (-10%)			-12	-12	-24	-24	-24	-48
Multi Use for General Retail Component (-10%)			-8	-8	-16	-25	-25	-50
<b>Subtotal Stage 1 (Site Driveway Trips)</b>			<b>714</b>	<b>285</b>	<b>999</b>	<b>644</b>	<b>986</b>	<b>1630</b>
Retail/Bank/Restaurant Pass-by (-40%)			-42	-42	-84	-87	-87	-174
General Retail Component Pass-by (-35%)			-27	-27	-54	-81	-81	-162
<b>Total "New" Stage 1 Trips (External)</b>			<b>645</b>	<b>216</b>	<b>861</b>	<b>476</b>	<b>818</b>	<b>1294</b>
Full Build-Out	Research & Development/ Office Space	660.58 KSF	339	69	408	53	303	356
	<b>Total Full Build-Out Trips (External)</b>		<b>984</b>	<b>285</b>	<b>1269</b>	<b>529</b>	<b>1121</b>	<b>1650</b>

### Traffic Forecasts

A review of the primary trip distribution patterns provided in the original TIS indicates that the percentages will not change as a result of the alternative land use scenario. The primary and pass-by trip distribution pattern for the proposed development is shown on Figure 1 and the associated site-generated traffic volumes for Stage 1 and full build-out are shown on Figure 2 through Figure 5. The site-generated trips for Stage 1 and full build-out were then added to the 2010 and 2015 No-Build traffic volumes, respectfully. The 2010 and 2015 Build traffic volumes for the weekday AM and PM peak hours are shown on Figure 6 through Figure 9.

### Operational Analysis

Intersection Level of Service (LOS) and capacity analysis relate traffic volumes to the physical characteristics of an intersection. Intersection evaluations were made using the RODEL roundabout software and the Highway Capacity Software (HCS+ ver. 5.2) which automates the procedures contained in the *2000 Highway Capacity Manual*. Appendix A contains detailed descriptions of LOS criteria for unsignalized, signalized, and roundabout intersections and the revised detailed RODEL and HCS Level of Service reports for build conditions.

The relative impact of the *Vista Tech Campus* can be determined by comparing the Levels of Service for the No-Build and Build conditions for each phase and design year. According to the NYSDOT Highway Design Manual (HDM 5.9.2), the NYSDOT currently strives to provide a LOS D or better on each lane group. However, in some cases, it may be necessary to accept LOS E or F on individual lane groups due to unreasonable costs or impacts associated with improving the level of service.

The results of the level of service calculations for the study area intersections during the AM and PM peak hours are shown in Table 2 for Stage 1 development and Table 3 for full build-out of the development.

**Table 2 – Stage 1 Level of Service Summary**

Intersection	Control	AM Peak Hour				PM Peak Hour			
		2005 Existing	2010 No-Build	2010 Build	2010 Build w/ Imp	2005 Existing	2010 No-Build	2010 Build	2010 Build w/ Imp
Route 85/Blessing Rd	S								
Route 85 EB	L	A (7.5)	--	--	--	D (37.0)	--	--	--
	T	B (15.0)	--	--	--	A (8.2)	--	--	--
Route 85 WB	TR	B (17.2)	--	--	--	E (76.7)	--	--	--
Blessing Rd SB	LR	D (37.5)	--	--	--	E (74.8)	--	--	--
Overall		B (16.7)	--	--	--	D (54.5)	--	--	--
Route 85 EB	LT	--	A (5.0)	A (5.6)	--	--	A (4.4)	A (5.6)	--
Route 85 WB	TR	--	A (3.8)	A (4.4)	--	--	A (5.6)	A (8.6)	--
Blessing Rd SB	LR	--	A (4.4)	A (5.0)	--	--	A (8.0)	B (13.4)	--
Overall		--	A (4.7)	A (5.1)	--	--	A (5.6)	A (7.8)	--
Route 85/New Scotland Rd	S								
Route 85 EB	L	F (96.3)	A (3.5)	A (3.7)	B (13.4)	F (106.2)	B (16.5)	B (18.1)	--
	T	A (2.6)	A (2.8)	A (2.8)	A (8.6)	A (8.1)	A (8.4)	A (8.6)	--
New Scotland Rd WB	T	B (15.4)	B (15.9)	B (16.5)	B (16.5)	C (26.9)	C (30.7)	C (32.0)	--
	R	A (7.6)	A (7.7)	A (8.0)	A (2.6)	A (5.9)	A (6.2)	A (6.4)	--
Route 85 SB	L	D (45.5)	E (59.0)	E (68.7)	C (26.4)	C (29.9)	C (30.3)	C (31.1)	--
	R	C (21.4)	B (15.4)	B (15.4)	B (15.4)	F (771.0)	B (15.6)	B (15.6)	--
Overall		E (57.7)	B (12.9)	B (14.4)	B (12.9)	F (407.0)	B (18.3)	B (19.1)	--

**Table 2 – Stage 1 Level of Service Summary (Cont.'d)**

Intersection	Control	AM Peak Hour				PM Peak Hour			
		2005 Existing	2010 No-Build	2010 Build	2010 Build w/ Imp	2005 Existing	2010 No-Build	2010 Build	2010 Build w/ Imp
Route 85/Price Chopper Plaza Drwy	U								
Price Chopper Plaza Drwy SB R		B (12.3)	B (11.3)	B (11.7)	--	D (25.1)	C (18.0)	C (19.1)	--
Route 85/Route 140/Price Chopper Plaza Drwy/(Bypass Road)	S								
Route 85 EB L		D (49.3)	--	--	--	D (52.6)	--	--	--
TR		D (51.2)	--	--	--	D (39.1)	--	--	--
Route 85 WB L		D (50.0)	--	--	--	D (50.2)	--	--	--
TR		C (27.8)	--	--	--	C (23.1)	--	--	--
Route 140 NB L		C (30.4)	--	--	--	C (33.7)	--	--	--
T		C (31.3)	--	--	--	D (35.6)	--	--	--
R		D (45.3)	--	--	--	B (12.9)	--	--	--
Price Chopper Plaza Drwy SB L		C (31.7)	--	--	--	D (38.7)	--	--	--
TR		C (30.4)	--	--	--	D (37.0)	--	--	--
Overall		D (44.9)	--	--	--	D (35.6)	--	--	--
Route 85 EB LTR R		--	A (5.0)	A (5.6)	--	--	A (6.2)	A (7.4)	--
Route 85 WB LTR		--	A (5.6)	A (6.2)	--	--	A (6.2)	A (6.8)	--
Route 140 NB LTR		--	A (5.0)	A (5.6)	--	--	A (4.4)	A (4.4)	--
Bypass Rd SB LTR		--	A (3.8)	A (3.8)	--	--	A (6.8)	B (10.4)	--
Overall		--	A (4.9)	A (5.3)	--	--	A (6.1)	A (8.0)	--
Route 85/Kenwood Ave	S								
Route 85 EB TR		B (16.0)	B (19.9)	C (26.5)	--	B (11.2)	B (12.4)	B (12.6)	--
Route 85 WB LT		A (7.4)	A (7.9)	A (8.1)	--	B (11.6)	C (23.9)	C (33.9)	--
Kenwood Ave NB LR		C (21.4)	C (21.6)	C (21.6)	--	C (23.0)	C (23.8)	C (24.5)	--
Overall		B (15.7)	B (17.9)	C (22.0)	--	B (14.6)	C (20.3)	C (25.4)	--
Route 140/McCormick Rd North	U								
Route 140 SB L		B (11.0)	B (12.4)	B (13.1)	--	A (8.7)	A (9.6)	A (9.9)	--
McCormick Rd North WB LR		C (21.0)	D (29.7)	D (34.4)	--	B (14.0)	C (18.4)	C (21.9)	--
Route 140/Kenwood Ave/Cherry Ave	S								
Kenwood Ave EB LTR		D (53.1)	E (58.5)	E (58.5)	E (79.5)	D (49.5)	D (54.4)	D (54.4)	E (68.3)
Route 140 WB LT		C (29.0)	C (29.2)	C (29.2)	D (36.3)	D (41.7)	D (43.2)	D (43.2)	D (48.1)
Cherry Ave NB L		C (34.7)	C (34.8)	C (34.8)	D (41.5)	D (51.9)	D (54.9)	D (54.9)	D (52.4)
TR		D (46.8)	F (101.7)	F (141.0)	F (101.5)	C (33.2)	E (57.8)	E (78.6)	E (67.8)
Route 140 SB L		D (49.4)	F (93.4)	F (104.6)	F (110.5)	D (36.1)	E (58.4)	E (76.9)	E (75.5)
TR		C (23.5)	C (26.0)	C (26.9)	C (27.8)	B (15.6)	C (25.3)	D (36.5)	C (33.7)
Overall		D (43.0)	E (70.4)	F (87.5)	E (78.6)	C (31.1)	D (44.4)	E (56.9)	D (54.8)
Route 85/Maher Road/Bypass Road	R								
Bypass Rd EB LTR		--	A (2.4)	A (2.4)	--	--	A (1.8)	A (3.0)	--
Route 85 WB LTR		--	A (1.8)	A (2.4)	--	--	A (4.2)	A (7.8)	--
Route 85 NB LTR		--	A (2.4)	A (2.4)	--	--	A (1.8)	A (3.0)	--
Maher Rd SB LTR		--	A (0.0)	A (0.0)	--	--	A (0.0)	A (0.0)	--
Overall		--	A (2.1)	A (2.4)	--	--	A (3.4)	A (5.7)	--
Bypass Road/East Site Access Road	R								
Bypass Rd EB LT		--	--	A (2.4)	--	--	--	A (2.4)	--
Bypass Rd WB TR		--	--	A (2.4)	--	--	--	A (4.8)	--
East Site Access Rd SB LR		--	--	A (1.8)	--	--	--	A (3.6)	--
Overall		--	--	A (2.3)	--	--	--	A (3.9)	--
Bypass Road/West Site Access Road	U								
West Site Access Rd SB R		--	--	B (10.5)	--	--	--	F (61.7)	--

Key: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound  
 U = Unsignalized, S = Signalized, R = Roundabout  
 L = Left, T = Through, R = Right  
 X (Y.Y) = Level of Service (Delay, seconds per vehicle)  
 [LTR] = Geometric Improvements

The following is a list of additional LOS degradations for the alternative land use scenario where it is recommended that the NYSDOT grant an exception to their policy of requiring mitigation to maintain the same levels of service from No-Build to Build conditions for Stage 1 construction:

- NY Route 85/Blessing Road – The level of service summary indicates that this intersection will operate at an overall LOS A during both peak hours with all approaches operating at a LOS A during 2010 No-Build conditions. With the additional traffic generated by Stage 1 construction of the proposed tech park, this intersection will continue to operate at an overall LOS A during the AM peak hour with all approaches operating at a LOS A. During the PM peak hour, the intersection will continue to operate at an overall LOS A with the southbound Blessing Road approach degrading to a LOS B. No mitigation is recommended for Stage 1 of the *Vista Tech Campus* as the LOS B on the southbound approach is recognized as an acceptable level of service for a peak hour, and hence, it is recommended that the NYSDOT grant an exception to their policy of requiring mitigation to maintain the same levels of service from no-build to build conditions.
- NY Route 85/NY Route 140 (Cherry Avenue Extension)/Price Chopper Plaza Driveway/(Slingerlands Bypass) – The level of service summary indicates that this intersection will operate at an overall LOS A during both peak hours with all approaches operating at a LOS A during 2010 No-Build conditions. With the additional traffic generated by Stage 1 construction of the proposed tech park, this intersection will continue to operate at an overall LOS A during the AM peak hour with all approaches operating at a LOS A. During the PM peak hour, the intersection will continue to operate at an overall LOS A with the southbound Bypass Road approach degrading to a LOS B. No mitigation is recommended for Stage 1 of the *Vista Tech Campus* as the LOS B on the southbound approach is recognized as an acceptable level of service for a peak hour, and hence, it is recommended that the NYSDOT grant an exception to their policy of requiring mitigation to maintain the same levels of service from no-build to build conditions.
- NY Route 140/Kenwood Avenue/Cherry Avenue – The level of service summary indicates that this intersection currently operates at an overall LOS D/C during the AM and PM peak hours with all approaches operating at a LOS D or better. During 2010 No-Build conditions, this intersection will degrade to an overall LOS E during the AM peak hour with the northbound Cherry Avenue through/right-turn lane and southbound NY Route 140 left-turn lane operating at a LOS F and the eastbound Kenwood Avenue approach operating at a LOS E. This intersection will operate at an overall LOS D during the PM peak hour with the northbound Cherry Avenue through/right-turn lane and southbound NY Route 140 left-turn lane operating at a LOS E during 2010 No-Build conditions.

After Stage 1 development of the proposed tech park, this intersection will degrade to an overall LOS F during the AM peak hour and an overall LOS E during the PM peak hour with the southbound Route 140 approach degrading from a LOS C to a LOS D. It is noted that the overall intersection levels of service during the AM and PM peak hours can be improved to No-Build conditions with minor signal timing improvements as recommended in the original TIS. However, the westbound Route 140 left-turn/through lane and northbound Cherry Avenue left-turn lane will degrade from a LOS C to a LOS D during the AM peak hour while the eastbound Kenwood Avenue eastbound approach will degrade from a LOS D to a LOS E during the PM peak hour.

With the exception of Cherry Avenue Extension, all of the approach legs to the intersection are two-lane roadways. Therefore, capacity at the current signalized intersection can only be improved by adding auxiliary turn lanes, of which only the Kenwood Avenue approaches haven't already been widened. Although adding a left-turn lane on the eastbound Kenwood Avenue approach would mitigate the LOS degradations back to No-Build conditions, this lane would only

accommodate a peak hour demand of 40 vehicles during the AM peak hour and 25 vehicles during the PM peak hour. Since the improvement would be used by so few vehicles, the cost of this improvement far outweighs the benefits that would be achieved. In addition, the Town of Bethlehem has indicated a desire to pursue mitigating the projected background capacity constraints at the intersection by converting the signalized intersection into a modern roundabout, utilizing roundabout set-aside funding from CDTC. This improvement would alleviate the projected delays and also integrate well into the neighborhood. As such, we propose to delay completion of the proposed left-turn lane until the results of the after-traffic study are completed in conjunction with an updated status from the Town on the proposed roundabout. In light of this potential comprehensive roundabout solution, an exception to the NYSDOT policy is requested at this time.

- Slingerlands Bypass/West Site Access Road – After Stage 1 development of the proposed tech park, the level of service summary indicates that the unsignalized southbound right-turn movement from the West Site Access Road will operate at a LOS B during the AM peak hour and a LOS F during the PM peak hour (with approximately 1 minute of delay) during 2010 Build conditions. It is noted that although the southbound right-turn lane exiting the proposed development will have a 95<sup>th</sup> percentile queue length of 200-feet (or approximately 8 vehicles) during the PM peak hour, approximately 700-feet of storage is available along the site access road and this queue will not impact on-site circulation. The vehicles exiting the site could also be redistributed to use the proposed roundabout at the East Site Access Road if longer delays are experienced. If 90 of the 260 vehicles making a right-turn on the West Site Access Road use the roundabout instead, the right-turn lane will then operate at a LOS D while the roundabout will continue to operate at an overall LOS A. Therefore, the operations of this site access road intersection are deemed acceptable.

It is noted that the remaining study area intersections not mentioned above will continue to operate at similar traffic operations with the alternative land use scenario for Stage 1 construction.

**Table 3 – Full Build-Out Level of Service Summary**

Intersection	Control	AM Peak Hour				PM Peak Hour			
		2005 Existing	2015 No-Build	2015 Build	2015 Build w/ Imp	2005 Existing	2015 No-Build	2015 Build	2015 Build w/ Imp
<b>Route 85/Blessing Rd</b>									
Route 85 EB	L	A (7.5)	--	--	--	D (37.0)	--	--	--
	T	B (15.0)	--	--	--	A (8.2)	--	--	--
Route 85 WB	TR	B (17.2)	--	--	--	E (76.7)	--	--	--
Blessing Rd SB	LR	D (37.5)	--	--	--	E (74.8)	--	--	--
Overall		B (16.7)	--	--	--	D (54.5)	--	--	--
<b>Route 85/New Scotland Rd</b>									
Route 85 EB	LT	--	A (5.6)	A (6.8)	--	--	A (4.4)	A (7.4)	--
Route 85 WB	TR	--	A (3.8)	A (5.0)	--	--	A (6.8)	B (13.4)	--
Blessing Rd SB	LR	--	A (4.4)	A (5.6)	--	--	B (10.4)	C (32.6)	--
Overall		--	A (5.1)	A (5.9)	--	--	A (6.4)	B (13.0)	--
<b>Route 85/New Scotland Rd</b>									
Route 85 EB	L	F (96.3)	A (3.8)	A (4.2)	B (18.3)	F (106.2)	C (27.0)	C (33.4)	--
	T	A (2.6)	A (2.9)	A (2.9)	A (8.8)	A (8.1)	A (8.5)	A (8.9)	--
New Scotland Rd WB	T	B (15.4)	B (16.2)	B (16.9)	B (16.9)	C (26.9)	C (32.6)	C (34.3)	--
	R	A (7.6)	A (7.9)	A (8.3)	A (2.8)	A (5.9)	A (6.3)	A (6.4)	--
Route 85 SB	L	D (45.5)	E (73.7)	F (96.7)	C (26.8)	C (29.9)	C (30.5)	C (31.7)	--
	R	C (21.4)	B (15.5)	B (15.5)	B (15.5)	F (771.0)	B (16.3)	B (16.3)	--
Overall		E (57.7)	B (14.6)	B (17.8)	B (14.3)	F (407.0)	C (21.6)	C (23.4)	--
<b>Route 85/Price Chopper Plaza Drwy</b>									
Price Chopper Plaza Drwy SB	R	B (12.3)	B (11.7)	B (12.3)	--	D (25.1)	C (21.1)	C (22.5)	--

**Table 3 – Full Build-Out Level of Service Summary (Cont.'d)**

Intersection	Control	AM Peak Hour				PM Peak Hour			
		2005 Existing	2015 No-Build	2015 Build	2015 Build w/ Imp	2005 Existing	2015 No-Build	2015 Build	2015 Build w/ Imp
Route 85/Route 140/Price Chopper Plaza Drwy/(Bypass Road)	S								
Route 85 EB	L	D (49.3)	--	--	--	D (52.6)	--	--	--
	TR	D (51.2)	--	--	--	D (39.1)	--	--	--
Route 85 WB	L	D (50.0)	--	--	--	D (50.2)	--	--	--
	TR	C (27.8)	--	--	--	C (23.1)	--	--	--
Route 140 NB	L	C (30.4)	--	--	--	C (33.7)	--	--	--
	T	C (31.3)	--	--	--	D (35.6)	--	--	--
	R	D (45.3)	--	--	--	B (12.9)	--	--	--
Price Chopper Plaza Drwy SB	L	C (31.7)	--	--	--	D (38.7)	--	--	--
	TR	C (30.4)	--	--	--	D (37.0)	--	--	--
Overall		D (44.9)	--	--	--	D (35.6)	--	--	--
Route 85 EB	LTR	--	A (5.6)	A (6.2)	--	--	A (6.8)	A (9.2)	--
Route 85 WB	LTR	--	A (6.2)	A (7.4)	--	--	A (6.8)	A (8.0)	--
Route 140 NB	LTR	--	A (5.6)	A (6.8)	--	--	A (4.4)	A (4.4)	--
Bypass Rd SB	LTR	--	A (3.8)	A (3.8)	--	--	A (9.2)	C (30.8)	--
Overall		--	A (5.3)	A (6.2)	--	--	A (7.2)	B (17.8)	--
Route 85/Kenwood Ave	S								
Route 85 EB	TR	B (16.0)	C (26.0)	D (51.4)	C (28.9)	B (11.2)	B (13.0)	B (14.2)	B (12.0)
Route 85 WB	LT	A (7.4)	A (8.0)	A (8.3)	A (7.2)	B (11.6)	C (30.1)	E (60.6)	C (33.6)
Kenwood Ave NB	LR	C (21.4)	C (22.0)	C (22.0)	C (28.8)	C (23.0)	C (24.7)	C (24.7)	C (34.3)
Overall		B (15.7)	C (21.7)	D (38.2)	C (24.6)	B (14.6)	C (23.7)	D (39.2)	C (27.0)
Route 140/McCormick Rd North	U								
Route 140 SB	L	B (11.0)	B (13.5)	B (14.9)	--	A (8.7)	A (9.9)	B (10.3)	--
McCormick Rd North WB	LR	C (21.0)	E (35.9)	E (46.8)	--	B (14.0)	C (20.3)	C (22.8)	--
Route 140/Kenwood Ave/Cherry Ave	S								
Kenwood Ave EB	LTR	D (53.1)	E (74.9)	E (74.9)	F (102.2)	D (49.5)	E (74.4)	E (74.4)	E (79.2)
Route 140 WB	LT	C (29.0)	C (29.3)	C (29.3)	D (36.4)	D (41.7)	D (44.9)	D (44.9)	D (45.8)
Cherry Ave NB	L	C (34.7)	C (34.8)	C (34.8)	D (41.5)	D (51.9)	D (54.9)	D (54.9)	E (73.4)
	TR	D (46.8)	F (154.1)	F (218.6)	F (168.6)	C (33.2)	F (81.5)	F (115.1)	F (82.3)
Route 140 SB	L	D (49.4)	F (104.6)	F (124.3)	F (129.9)	D (36.1)	E (67.1)	F (95.7)	F (128.8)
	TR	C (23.5)	C (27.5)	C (29.5)	C (29.7)	B (15.6)	D (37.7)	E (68.0)	E (59.1)
Overall		D (43.0)	F (95.4)	F (125.1)	F (112.3)	C (31.1)	E (57.7)	F (82.3)	E (79.5)
Kenwood Ave EB	LTR	--	A (7.4)	A (8.0)	--	--	B (13.4)	B (19.4)	--
Route 140 WB	LTR	--	A (6.4)	A (7.4)	--	--	A (6.8)	A (6.8)	--
Cherry Ave NB	LTR	--	A (4.4)	A (5.0)	--	--	A (4.4)	A (4.4)	--
Route 140 SB	LTR	--	A (3.8)	A (3.8)	--	--	A (6.2)	A (6.8)	--
Overall		--	A (5.2)	A (5.4)	--	--	A (6.4)	A (7.4)	--
Route 85/Maher Road/Bypass Road	R								
Bypass Rd EB	LTR	--	A (2.4)	A (3.0)	--	--	A (2.4)	A (4.2)	--
Route 85 WB	LTR	--	A (1.8)	A (3.0)	--	--	A (5.4)	B (16.2)	--
Route 85 NB	LTR	--	A (2.4)	A (3.0)	--	--	A (2.4)	A (3.6)	--
Maher Rd SB	LTR	--	A (0.0)	A (0.0)	--	--	A (0.0)	A (0.0)	--
Overall		--	A (2.3)	A (2.9)	--	--	A (4.2)	B (10.4)	--
Bypass Road/East Site Access Road	R								
Bypass Rd EB	LT	--	--	A (3.0)	--	--	--	A (3.0)	--
Bypass Rd WB	TR	--	--	A (3.0)	--	--	--	A (5.0)	--
East Site Access Rd SB	LR	--	--	A (1.8)	--	--	--	A (5.0)	--
Overall		--	--	A (2.8)	--	--	--	A (5.2)	--
Bypass Road/West Site Access Road	U								
West Site Access Rd SB	R	--	--	B (11.1)	--	--	--	F (183.2)	--

Key: NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound  
 U = Unsignalized, S = Signalized, R = Roundabout  
 L = Left, T = Through, R = Right  
 X (Y.Y) = Level of Service (Delay, seconds per vehicle)  
 [LTR] = Geometric Improvements

The following is a list of additional LOS degradations for the alternative land use scenario where it is recommended that the NYSDOT grant an exception to their policy of requiring mitigation to maintain the same levels of service from No-Build to Build conditions for full build-out construction:

- NY Route 85/Blessing Road – The level of service summary indicates that this intersection will operate at an overall LOS A during both peak hours during 2015 No-Build conditions. With the additional traffic generated by full build-out construction of the proposed tech park, this intersection will continue to operate at an overall LOS A during the AM peak hour with all approaches operating at a LOS A. During the PM peak hour, the westbound Route 85 approach will degrade from a LOS A to a LOS B while the southbound Blessing Road approach will degrade from a LOS B to a LOS C causing the intersection to degrade to an overall LOS B. No mitigation is recommended for full build-out of the *Vista Tech Campus* as the levels of service experienced during build conditions are recognized as an acceptable level of service for a peak hour, and hence, it is recommended that the NYSDOT grant an exception to their policy of requiring mitigation to maintain the same levels of service from no-build to build conditions.
- NY Route 140/Kenwood Avenue/Cherry Avenue – The level of service summary indicates that this intersection will operate at an overall LOS F/E during the AM and PM peak hours with several approaches operating at a LOS F during both peak hours during 2015 No-Build conditions. After full build-out of the proposed tech park, this intersection will continue to operate at an overall LOS F/E during the AM and PM peak hours with only signal timing improvements. However it is noted that during the AM peak hour, the westbound Route 140 left-turn/through lane and northbound Cherry Avenue left-turn lane degrades from a LOS C to a LOS D while the eastbound Kenwood Avenue approach will degrade from a LOS E to a LOS F. After full build-out during the PM peak hour, the northbound Cherry Avenue left-turn lane and the southbound Rout 140 through/right-turn lane degrade from a LOS D to a LOS E while the southbound Route 140 left-turn lane degrades from a LOS E to a LOS F.

In addition to signal timing improvements, it is recommended that the applicant monitor future traffic at this intersection in conjunction with traffic counts conducted at the site access roads during phased construction of the tech park to determine if background growth and the project related trips occur as estimated. There are two potential traffic improvements at this intersection. The first is the construction of left-turn lanes on the eastbound and westbound Kenwood Avenue approach which would mitigate the LOS degradations back to No-Build conditions. However, these left-lanes would only accommodate a total peak hour demand of 45 vehicles during the AM peak hour and 30 vehicles during the PM peak hour. Since the improvement would be used by so few vehicles, the cost of this improvement far outweighs the benefits that would be achieved. A second potential traffic improvement at this intersection is the modern roundabout discussed above which is being pursued by the Town. It is noted that a modern roundabout at this intersection will operate at an overall LOS A during both peak hour during No-Build conditions and will continue to operate at the same levels of service after full build-out of the proposed *Vista Tech Campus*.

Therefore, no specific mitigation is recommended for full build-out of the *Vista Tech Campus* since, as per the NYSDOT HDM, it may be necessary to accept LOS E/F on individual lane groups due to unreasonable costs or impacts associated with improving levels of service.

- NY Route 85/Maher Road/Bypass Road – The level of service summary indicates that this intersection will operate at an overall LOS A during both peak hours during 2015 No-Build conditions. With the additional traffic generated by full build-out construction of the proposed tech park, this intersection will continue to operate at an overall LOS A during the AM peak hour with all approaches operating at a LOS A. During the PM peak hour, the westbound Route 85

approach will degrade from a LOS A to a LOS B causing the intersection to degrade to an overall LOS B. No mitigation is recommended for full build-out of the *Vista Tech Campus* as the levels of service experienced during build conditions are recognized as an acceptable level of service for a peak hour, and hence, it is recommended that the NYSDOT grant an exception to their policy of requiring mitigation to maintain the same levels of service from no-build to build conditions.

- Slingerlands Bypass/West Site Access Road – At full build-out of the proposed tech park, the level of service summary indicates that the unsignalized southbound right-turn movement from the West Site Access Road will operate at a LOS B during the AM peak hour and a LOS F during the PM peak hour (with approximately 3 minutes of delay) during 2015 Build conditions. It is noted that although the southbound right-turn lane exiting the proposed development will have a 95<sup>th</sup> percentile queue length of 450-feet (or approximately 18 vehicles) during the PM peak hour, approximately 700-feet of storage is available along the site access road and this queue will not impact on-site circulation. The vehicles exiting the site could also be redistributed to use the proposed roundabout at the East Site Access Road if longer delays are experienced. If 225 of the 335 vehicles making a right-turn on the West Site Access Road use the roundabout instead, the right-turn lane will then operate at a LOS D while the roundabout will continue to operate at an overall LOS A. Therefore, the operations of this site access road intersection are deemed acceptable.

It is noted that the remaining study area intersections not mentioned above will continue to operate at similar traffic operations with the alternative land use scenario for full build-out construction.

## **B. Conclusion**

Based on the results of the level of service analysis, the study area intersections will provide adequate access for the alternative land use scenario with the following additional exceptions to the NYSDOT policy of requiring mitigation to maintain the same levels of service from No-Build to Build conditions. Justification for the following level of service exceptions are included in the March 29, 2007 *Comment/Response* letter provided in response to the March 19, 2007 *Review of Public Comments Received for DEIS* letter received from Barton & Loguidice, P.C.

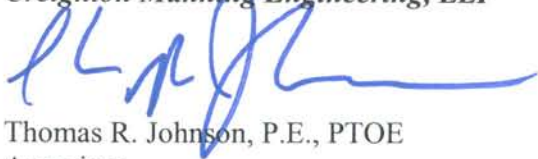
- Stage I NYSDOT Exceptions –
  - NY Route 85/Blessing Road – Southbound Blessing Road approach degrading from a LOS A to a LOS B during the PM peak hour.
  - NY Route 85/NY Route 140 (Cherry Avenue Extension)/Price Chopper Plaza Driveway/(Slingerlands Bypass) – Southbound Bypass Road approach degrading from a LOS A to a LOS B during the PM peak hour.
  - NY Route 140/Kenwood Avenue/Cherry Avenue – Westbound Route 140 left-turn/through lane and northbound Cherry Avenue left-turn lane degrades from a LOS C to a LOS D during the AM peak hour while the eastbound Kenwood Avenue approach degrades from a LOS D to a LOS E during the PM peak hour.
- Full Build-Out NYSDOT Exceptions –
  - NY Route 85/Blessing Road – Southbound Blessing Road approach degrading from a LOS B to a LOS C while the westbound Route 85 approach and the overall intersection degrades from a LOS A to a LOS B during the PM peak hour.

- NY Route 140/Kenwood Avenue/Cherry Avenue – Westbound Route 140 left-turn/through lane and northbound Cherry Avenue left-turn lane degrades from a LOS C to a LOS D while the eastbound Kenwood Avenue approach degrades from a LOS E to a LOS F during the AM peak hour. During the PM peak hour, the northbound Cherry Avenue left-turn lane and the southbound Rout 140 through/right-turn lane degrade from a LOS D to a LOS E while the southbound Route 140 left-turn lane degrades from a LOS E to a LOS F.
- NY Route 85/Maher Road/Bypass Road – Westbound Route 85 approach degrades from a LOS A to a LOS B while the overall intersection degrades from a LOS A to a LOS B during the PM peak hour.

If you have any questions regarding this analysis, or if we can be of any further assistance, please do not hesitate to contact our office.

Sincerely,

**Creighton Manning Engineering, LLP**



Thomas R. Johnson, P.E., PTOE  
Associate



Mark D. Nadolny  
Project Engineer

Attachments