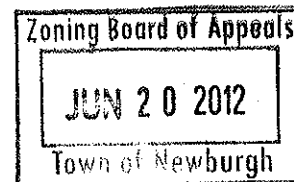


19 June 2012

Grace Cardone, Chair and Zoning Board of Appeals
Town of Newburgh
1469 Route 300
Newburgh, New York 12550

**RE: Route 300 Center
Area Variance Application
Newburgh, New York
Langan Project No.: 140059701**



Dear Chair Cardone and ZBA Members:

As a follow up to the May 24th hearing regarding the Route 300 Center application please find attached a traffic assessment, completed by Langan, which analyzed New York State Route 300 between the Newburgh Mall South Driveway and Meadow Hill Road. The results and details of this assessment were discussed during the hearing; however we thought that it would be beneficial to the board to have the supporting documentation as well. We look forward to appearing in front of the board again at the next available opportunity and furthering our discussion on this project.

Sincerely,
Langan Engineering and Environmental Services, Inc.

A handwritten signature in black ink, appearing to read "Timothy S. Onderko".

Timothy S. Onderko, P.E.
Senior Project Manager

TSO:tso
Enclosure(s): Traffic Assessment

cc: John Cappello, Lisa Davis

W:\angan.com\data\NH\data\140059701\Office Data\Correspondence\Cardone 001L.docx

555 Long Wharf Drive New Haven, CT 06511 T: 203.562.5771 F: 203.789.6142

To: Town of Newburgh

From: William Lothian, P.E. Professional Engineer in NY, NJ and PA
Alan Lothian

Info: Tim Onderko (Langan)

Date: 19 June 2012

Re: Route 300 Center
Traffic Assessment
Langan Project No.: 140059701

This memo has been prepared to respond to questions raised at the May 2012 Zoning Board of Appeals meeting regarding potential traffic impacts that may occur with the redevelopment of the parcel at 1413 Union Avenue in Newburgh, New York. The parcel was previously occupied by a trucking terminal and warehouse facility while the proposed development will include a gasoline service station with 10 fuel positions, a tire store with 6 service bays and a bank with 2 drive-up windows.

The parcel is located on the opposite side of Union Avenue (Route 300) from an existing Dunkin Donuts located in the Newburgh Commons Center. The trip generation for the proposed uses was obtained from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 8th Edition. The gasoline service station trip generation estimates were adjusted to include Saturday peak hour volumes. No credit was taken for the traffic generated by the previously occupied site use. The proposed site is anticipated to generate a total of 124 new trips (60 entering and 64 exiting) during the weekday evening peak hour and a total of 119 new trips (58 entering and 61 exiting) during the Saturday midday peak hour.

Traffic analyses were prepared for adjacent intersections along the Union Avenue corridor along with the proposed site driveway opposite the Newburgh Commons driveway. The analyses were conducted using manual traffic counts performed in 2011. These 2011 counts were similar to or lower than the existing traffic volumes (from 2004) identified in the DEIS prepared for the proposed Newburgh Marketplace.

For all of the future conditions, traffic that could be generated by the proposed Newburgh Marketplace development was included as background traffic in the analyses, along with any proposed roadway improvements as a result of that development. This was done due to the Marketplace having already received its local approvals. Note that numerous roadway improvements, including many identified in the Marketplace study, have taken place in the region. These improvements include the reconfiguration of the Route 1-87 and I-84 interchange.

The proposed Newburgh Marketplace development improvements, that are not yet installed, include a new traffic signal at the existing Newburgh Mall South Driveway and the coordination of all of the traffic signals on the corridor.

MEMO

Additionally, should the Marketplace not be built and its proposed remaining roadway improvements not be constructed the operating condition for all of the "build" scenarios analyzed would be slightly improved. The functional operation of the Route 300 Center and Route 300 corridor is not contingent on the Marketplace roadway improvements.

Utilizing the 2011 counts as discussed above, Level of Service (LOS) and delay analyses have been performed for several scenarios to depict a clear understanding of the impact of the proposed development. The following scenarios were analyzed:

1. 2011 Existing Condition – Actual operation of the roadway network in its current configuration
2. 2013 No-Build Condition – Anticipated operating condition of roadway in 2013, assumes Marketplace is constructed and southern mall driveway becomes signalized. Route 300 Center not constructed.
3. 2013 Build with an Unsignalized Driveway – Anticipated operating condition of roadway in 2013, assumes Marketplace is constructed, southern mall driveway becomes signalized, and Route 300 Center is constructed with stop sign controlled driveway. Route 300 traffic signals are not coordinated.
4. 2013 No-Build Condition with a Coordinated Network - Anticipated operating condition of roadway in 2013, assumes Marketplace is constructed, southern mall driveway becomes signalized, and Route 300 traffic signals are coordinated. Route 300 Center not constructed.
5. 2013 Build condition with a Coordinated Network and an Unsignalized Intersection - Anticipated operating condition of roadway in 2013, assumes Marketplace is constructed, southern mall driveway becomes signalized, Route 300 traffic signals are coordinated, and Route 300 Center is constructed with stop sign controlled driveway.
6. 2013 Build Condition with a Coordinated Network and a Signalized Intersection - Anticipated operating condition of roadway in 2013, assumes Marketplace is constructed, southern mall driveway becomes signalized, and Route 300 Center is constructed with traffic signal controlled driveway. Route 300 traffic signals are coordinated.

The analyses, summarized in the attached Table A, show that there is no significant impact to the intersections along the Union Avenue corridor for all of the future Build scenarios. All of the signalized intersections within the study area will continue to operate at the same overall level of service (LOS "D" or better) during both time periods analyzed.

At the proposed site driveway, the analyses show that the intersection will operate at an overall LOS "A" for all No-Build and Build scenarios for both peak hour time periods. The analyses of an unsignalized intersection without a coordinated network show an acceptable LOS for the site driveway intersection with left-turn movements exiting the site at LOS "D" during the weekday evening peak hour and LOS "E" during the Saturday midday peak hour. The analyses

MEMO

of an unsignalized intersection with a coordinated network (as proposed by the Newburgh Marketplace study) show a LOS "F" during both time periods, but there would be minimal queues (less than 60 feet) that could be accommodated on-site. Additionally, queues for vehicles entering the site from Route 300 northbound, which would use the center turn lane, are anticipated to be less than one vehicle. See attached queue table.

Based on the existing and projected traffic volumes at the site driveway, a traffic signal does not appear to be warranted at the proposed site driveway intersection with Union Avenue. If a signal were warranted, the overall benefit to the level of service of the intersection is minimal. In addition, coordination would likely be required as a result of an additional traffic signal along the Union Avenue corridor.

CONCLUSION

Based on the level of service analyses results summarized in Table A, and the minimal queuing that would occur at the site driveway, as shown in Table B, it is our opinion that the site driveway will operate at an acceptable LOS and delay without the need for installation of a new traffic signal. The proposed redevelopment could occur with no significant impact to the Union Avenue corridor. Additionally, acceptable operation of the Route 300 corridor is possible with the construction of the Route 300 Center regardless of the construction of the Newburgh Marketplace development and the implementation of the proposed roadway improvements associated with that development.

Summary of Multi-Use Trip Generation
Average Weekday Driveway Volumes

Land Use	Size		AM Pk Hour		PM Pk Hour		Sat Pk Hour	
			Enter	Exit	Enter	Exit	Enter	Exit
Drive-in Bank	2	Drive-In Lanes	11	8	27	28	29	30
Gasoline Service Station	10	Vehicle Fueling Positions	62	60	69	69	69	69
Tire Store	6	Service Bays	8	5	9	12	6	8
Total Driveway Volume			81	73	105	109	104	107
Total Peak Hour Pass-By Trips			36	35	45	45	46	46
Total Peak Hour Vol. Added to Adjacent Streets			45	38	60	64	58	61

TABLE A
ROUTE 300 CENTER - NEWBURGH, NEW YORK
STUDY INTERSECTIONS
LEVELS OF SERVICE WITH DELAYS

LOCATION	MOVEMENT	2011 EXISTING		2013 NO-BUILD		2013 BUILD (UNSIGNALIZED DRIVEWAY)		2013 NO-BUILD WITH COORDINATED NETWORK		2013 BUILD WITH COORDINATED NETWORK (UNSIGNALIZED DRIVEWAY)		2013 BUILD WITH COORDINATED NETWORK (SIGNALIZED DRIVEWAY)		
		PM	Sat	PM	Sat	PM	Sat	PM	Sat	PM	Sat	PM	Sat	
Union Avenue (Route 300) & Meadow Hill Road/Meadow Avenue	EB	L	C (25.9)	C (24.2)	C (23.8)	C (24.4)	C (26.0)	C (24.4)	C (23.8)	C (21.3)	C (23.7)	C (21.2)	C (23.7)	C (21.2)
		T,R	E (58.0)	E (58.0)	D (53.7)	E (66.9)	E (63.5)	E (67.2)	D (53.7)	E (55.9)	D (54.3)	E (56.3)	D (54.3)	E (56.3)
	WB	L	C (34.5)	D (35.4)	D (43.3)	D (41.0)	D (37.9)	D (42.1)	D (43.3)	D (40.6)	D (44.7)	D (41.4)	D (44.7)	D (41.4)
		T,R	D (41.5)	C (34.3)	D (36.6)	D (35.5)	D (42.3)	D (35.5)	D (36.6)	C (27.5)	D (36.4)	C (27.4)	D (36.4)	C (27.4)
	NB	L	C (21.5)	C (22.7)	D (37.0)	C (34.5)	C (28.3)	D (36.8)	D (37.0)	D (46.3)	D (37.5)	D (48.3)	D (36.6)	D (47.5)
		T,R	C (24.8)	C (24.0)	C (34.7)	C (26.9)	C (27.9)	C (27.2)	C (34.7)	D (35.9)	C (34.6)	D (35.8)	C (33.0)	C (33.9)
	SB	L	B (16.8)	B (16.6)	B (15.8)	B (17.6)	B (18.2)	B (17.8)	B (15.8)	B (15.7)	B (15.9)	B (15.8)	B (15.9)	B (15.8)
		T,R	C (32.3)	C (34.1)	C (30.1)	D (40.0)	D (36.6)	D (40.9)	C (30.1)	C (34.5)	C (30.6)	D (35.1)	C (30.6)	D (35.1)
	OVERALL		C (32.3)	C (32.6)	D (36.2)	D (38.1)	D (36.1)	D (38.8)	D (36.2)	D (38.3)	D (36.5)	D (38.7)	D (35.8)	D (38.0)
	Union Avenue (Route 300) & Newburgh Commons Driveway/Site Driveway	EB	L,T	---	---	---	---	D (26.3)	E (48.2)	---	---	D (31.8)	F (68.8)	D (46.1)
R			---	---	---	---	A (9.5)	A (9.5)	---	---	A (9.5)	A (9.6)	B (13.4)	B (13.5)
WB		L,T,R	C (15.2)	B (14.4)	C (18.5)	C (15.7)	D (34.2)	D (33.7)	C (18.5)	C (17.2)	E (42.9)	F (50.4)	D (42.8)	C (33.1)
		L	---	---	---	---	B (10.1)	B (10.6)	---	---	B (10.1)	B (10.6)	A (2.3)	A (3.1)
NB		L	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (1.9)	A (2.3)
		T,R	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (2.2)	A (3.2)
SB		L	B (10.5)	B (10.8)	B (11.5)	B (11.5)	B (10.8)	B (11.3)	B (11.5)	B (11.8)	B (11.3)	B (11.6)	A (2.7)	A (3.2)
		T,R	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (0.0)	A (1.5)	A (2.2)
OVERALL			A (0.7)	A (1.1)	A (0.8)	A (1.0)	A (2.2)	A (3.0)	A (0.8)	A (1.1)	A (2.6)	A (4.1)	A (4.2)	A (4.8)
Union Avenue (Route 300) & Newburgh Mall North Driveway		EB	L	C (29.3)	C (31.7)	D (53.2)	C (34.5)	C (31.5)	D (35.9)	D (53.2)	D (53.0)	D (53.2)	D (53.0)	D (53.2)
	R		A (6.5)	B (10.3)	B (14.2)	B (13.2)	A (9.7)	B (14.2)	B (14.2)	C (20.0)	B (16.1)	C (21.0)	B (16.1)	C (21.0)
	WB	L,T,R	B (13.8)	B (17.6)	B (18.7)	B (18.4)	B (14.3)	B (18.6)	B (18.7)	C (23.3)	B (18.7)	C (23.3)	B (18.7)	C (23.3)
		L	A (5.4)	A (5.9)	A (1.5)	A (5.8)	A (5.3)	A (5.9)	A (1.5)	A (1.9)	A (1.5)	A (2.0)	A (1.5)	A (2.0)
	NB	L	A (9.9)	A (9.0)	A (1.8)	A (9.5)	B (10.8)	A (9.7)	A (1.8)	A (1.7)	A (1.8)	A (1.8)	A (1.8)	A (1.9)
		T,R	A (5.2)	A (5.6)	A (3.2)	A (5.4)	A (5.0)	A (5.4)	A (3.2)	A (3.4)	A (3.2)	A (3.6)	A (2.8)	A (3.0)
	SB	L	B (14.4)	B (15.9)	A (6.0)	B (16.1)	B (14.9)	B (16.1)	A (6.0)	A (6.5)	A (6.3)	A (7.0)	A (5.8)	A (6.1)
		T,R	B (12.7)	B (13.9)	A (6.7)	B (14.4)	B (13.5)	B (14.5)	A (6.7)	A (8.0)	A (6.8)	A (8.2)	A (6.6)	A (7.8)
	OVERALL		B (12.7)	B (13.9)	A (6.7)	B (14.4)	B (13.5)	B (14.5)	A (6.7)	A (8.0)	A (6.8)	A (8.2)	A (6.6)	A (7.8)
	Union Avenue (Route 300) & Newburgh Mall South Driveway/ Newburgh Marketplace Driveway	EB	L	---	---	D (48.6)	D (45.5)	D (44.1)	D (45.5)	D (48.6)	D (49.4)	D (48.6)	D (49.4)	D (48.6)
R			B (11.0)	B (12.1)	C (26.2)	C (27.4)	C (24.5)	C (27.5)	C (26.2)	C (28.0)	C (26.4)	C (28.3)	C (26.4)	C (28.3)
WB		L	---	---	E (68.4)	F (113.0)	D (52.1)	F (113.6)	E (68.4)	F (108.6)	E (67.9)	F (128.2)	E (67.9)	F (128.2)
		T	---	---	C (27.9)	C (25.0)	C (24.8)	C (25.0)	C (27.9)	C (26.9)	C (27.9)	C (27.0)	C (27.9)	C (27.0)
NB		L	---	---	A (7.6)	A (6.4)	A (7.1)	A (6.4)	A (7.6)	A (6.5)	A (7.6)	A (6.5)	A (7.6)	A (6.5)
		T	B (12.4)	B (13.4)	D (36.5)	D (44.2)	D (37.6)	D (44.4)	D (36.5)	D (39.8)	D (39.9)	D (40.2)	D (39.9)	D (40.2)
SB		L	A (0.0)	A (0.0)	B (18.8)	B (17.1)	B (19.2)	B (17.5)	B (18.8)	B (18.7)	B (19.4)	B (18.8)	B (19.4)	B (18.8)
		T,R	---	---	A (1.5)	A (2.3)	A (1.4)	A (2.3)	A (1.5)	A (2.6)	A (1.5)	A (2.6)	A (1.5)	A (2.6)
OVERALL			A (2.8)	A (3.4)	C (25.2)	D (38.3)	C (28.0)	D (41.5)	C (25.2)	C (33.5)	C (26.0)	D (36.3)	C (26.0)	D (36.3)

Table B
 ROUTE 300 CENTER - NEWBURGH, NEW YORK
 SITE DRIVEWAY
 95TH PERCENTILE QUEUE LENGTHS

LOCATION	MOVEMENT	AVAILABLE STORAGE	2011 EXISTING		2013 NO-BUILD		2013 BUILD (UNSIGNALIZED DRIVEWAY)		2013 NO-BUILD WITH COORDINATED NETWORK		2013 BUILD WITH COORDINATED NETWORK (UNSIGNALIZED DRIVEWAY)		2013 BUILD WITH COORDINATED NETWORK (SIGNALIZED DRIVEWAY)		
			PM	Sat	PM	Sat	PM	Sat	PM	Sat	PM	Sat	PM	Sat	
Union Avenue (Route 300) & Newburgh Commons Driveway/Site Driveway	EB	L,T	250'	---	---	---	---	19'	35'	---	---	29'	47'	57'	59'
		R		---	---	---	---	5'	7'	---	---	6'	7'	38'	38'
	WB	L,T,R	240'	19'	26'	21'	29'	50'	69'	25'	33'	62'	97'	67'	91'
		L		---	---	---	---	7'	8'	---	---	7'	8'	8'	12'
	NB	T,R	250'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	48'	70'
		L		3'	7'	3'	8'	3'	8'	4'	8'	4'	8'	3'	8'
	SB	L		0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'
		T,R	150'	0'	0'	0'	0'	0'	0'	0'	0'	0'	0'	46'	72'