
March 14, 2022
Via Fed-Ex

Township of North Brunswick Planning Board
710 Hermann Road
North Brunswick, NJ 08902

Attn: Janice Larkin, Secretary

**Re: Traffic Impact and Parking Assessment
North Brunswick Transit Village Phase 1F
Main Street NB
North Brunswick Township, Middlesex County, NJ
DT # 0925-13-001TEB**

Dear Planning Board Members:

Dynamic Traffic has prepared the following assessment to determine the traffic impact and adequacy of access, circulation, and parking associated with Phase 1F (The Project) of the Main Street North Brunswick amended development located in the northeast quadrant of Main Street and Grand Avenue in North Brunswick Township, Middlesex County, New Jersey (see Site Location Map). The site is designated as Block 148 – Lots 5.04, 6, 7.01, and 23 on the North Brunswick Township Tax Maps. The subject portion of the site is currently developed with a Panera with a drive thru. It is proposed to maintain the existing Panera and construct a mix of uses consisting of residential units and mixed-use retail/commercial spaces (The Project). It is proposed to maintain the existing driveways along Grand Avenue and construct the additional access points to Phase 1F previously approved.

This assessment documents the methodology, analyses, findings and conclusions of our study and includes:

- A detailed field inspection was conducted to obtain an inventory of existing roadway geometry, traffic control, and location and geometry of existing driveways and intersections.
- Projections of traffic to be generated by The Project were prepared utilizing trip generation data as published by the Institute of Transportation Engineers and compared to the previously approved trip generation.
- The proposed site driveways were reviewed for adequacy of geometric design, spacing and/or alignment to streets and driveways on the opposite side of the street, relationship to other driveways adjacent to the development, and conformance with accepted design standards.
- The parking layout and supply was assessed based on accepted design standards and demand experienced at similar developments.

Existing Conditions

Main Street is a private roadway with a general east/west orientation. In the vicinity of the site the posted speed limit is 25 MPH and the roadway provides one travel lane in each direction. On-street parking is not permitted along either side of the roadway. Curb and sidewalk are provided along both sides of the roadway. Main Street provides a straight horizontal alignment along the amended development program area frontage and a relatively flat vertical alignment.

Grand Avenue is a private roadway with a general north/south orientation. In the vicinity of the site the posted speed limit is 25 MPH and the roadway provides one travel lane in each direction. On-street parking is not permitted along either side of the roadway. Curb and sidewalk are provided along both sides of the roadway. Grand Avenue provides a curved horizontal alignment along the amended development program area frontage and a relatively flat vertical alignment.

Site Generated Traffic

Trip generation projections for The Project were made utilizing trip generation research data as published under Land Use Code (LUC) 220 – Multifamily Housing (Low-Rise), LUC 221 – Multifamily Housing (Mid-Rise), and LUC 820 – Shopping Center from the NJDOT published rates. The following table shows the anticipated trip generation for Phase 1F.

**Table I
 Proposed Trip Generation**

Land Use	AM PSH			PM PSH			Sat PSH		
	In	Out	Total	In	Out	Total	In	Out	Total
180 Unit Residential Lofts & 62 Stacked Townhouse Units (Low-Rise)	36	94	130	95	66	161	91	78	169
61,599 SF Mixed-Use Retail/Commercial	31	27	58	199	199	398	219	203	422
Total	67	121	188	294	265	559	310	281	591

Table II details the trip generation associated with the previously approved Phase 1F and compares them to the trip generation of the proposed uses.

Table II
Trip Generation Comparison

Land Use	AM PSH			PM PSH			Sat PSH		
	In	Out	Total	In	Out	Total	In	Out	Total
Previously Approved 282 Unit Residential Lofts (Mid-Rise)	28	74	102	74	50	124	61	63	124
Previously Approved 86,527 SF of Retail	44	37	81	255	254	509	287	265	552
Proposed Development	67	121	188	294	265	559	310	281	591
Net Increase	-5	+10	+5	-35	-39	-74	-38	-47	-85

As can be seen in Table II, the trip generation of the current development proposed for Phase 1F is similar or less than previously approved. It should be noted that the number of new trips falls below the industry accepted standard of a significant increase in traffic of 100 trips. Based on *Transportation Impact Analysis for Site Development*, published by the ITE “it is suggested that a transportation impact study be conducted whenever a proposed development will generate 100 or more added (new) trips during the adjacent roadways’ peak hour or the development’s peak hour.” Additionally, NJDOT has determined that the same 100 vehicle threshold is considered a “significant increase in traffic,” hence, it is not anticipated that the change in use have any perceptible impact on the traffic operation of the adjacent roadway network.

Site Access, Parking and Circulation

As previously noted, access to the regional roadway network will remain unchanged with the Phase 1F changes proposed.

The site will be served by aisles of 25 to 30 feet wide for two-way movements and 20 feet wide for one-way movements, which allows for full site circulation for the anticipated vehicle mix on site and meets generally accepted design standards.

It is proposed to provide 794 parking spaces, including 62 garage and driveway combinations (124 spaces) and 35 on-street spaces in the stacked townhouse section and 635 spaces for the remainder of Phase 1F. In section 205-76.1, Transit-Oriented Mixed-Use Development Overlay, the Ordinance sets forth a requirement of 1.5 parking spaces per unit for residential uses, 10 parking spaces per 1,000 SF for restaurant/eating & drinking establishments, and 4.5 spaces per 1,000 SF for mixed-use retail/commercial uses. For the stacked townhouse portion of the site, it is required to provide 1.5 spaces per unit for a total of 93 spaces and 159 spaces are proposed. The remaining mixed-use area contains 180 residential loft units, 23,674 SF of restaurant/eating & drinking establishments, and 37,925 SF of mixed-use retail/commercial uses. Utilizing the shared parking matrix in section 205-76.1 of the Ordinance (see attached calculations), this equates to a parking requirement of 601 parking spaces for the mixed-use portion which is exceeded by the 635 spaces proposed. Consequently, the Ordinance parking requirements are met and the proposed parking supply will be sufficient to support the anticipated demand of the project. The proposed parking stalls are 9'x18' which meets the Ordinance requirement of 9'x18' for the proposed development. Parking calculations are appended below.

Route 1 Southbound Travel Lanes

Route 1 southbound currently provides two 12' travel lanes along with an approximate 12' shoulder between the intersections with Aaron Road/Main Street to the north and Finnegans Lanes to the south. As part of a prior approval of the overall project, it was contemplated to convert the Route 1 southbound shoulder into a third travel lane between the two intersections. Similarly, it should be noted that NJDOT has recently converted the existing shoulder along Route 1 southbound between Promenade Boulevard to the north and just south of Ridge Road in South Brunswick, New Jersey into a third travel lane for cars during roadway peak periods.

This office has conducted field observations of the Route 1 southbound traffic flow from North Brunswick to South Brunswick. The first section observed was between Aaron Road/Main Street and Finnegans Lane. The traffic mix between the two lanes was observed to generally travel at or near the posted speed limit (55 MPH) while also providing adequate headway between vehicles via the two existing travel lanes. Further, observations were also conducted along the section of Route 1 southbound in South Brunswick where the shoulder has been converted into a third travel lane during roadway peak periods. The travel speed and headway behavior in the three-travel lane section in South Brunswick was found to be comparable to the two-travel lane section in North Brunswick. As such, it is the opinion of this office that the existing two travel lanes along Route 1 southbound between Aaron Road and Finnegans Lane are sufficient to support the traffic demands and it is not necessary to convert the existing shoulder into a third travel lane. Therefore, the applicant is seeking relief from the prior condition of approval.

Findings

Based upon the detailed analyses as documented herein, the following findings are noted:

- The proposed Phase 1F of the Main Street North Brunswick amended development will generate similar or less traffic as compared to the previous approval.
- Access to the site will be provided via the existing driveways as well as previously approved internal roadway connections.
- As proposed, The Project's site driveways and internal circulation have been designed to provide for safe and efficient movement of automobiles.
- The proposed parking supply and design is sufficient to support the projected demand and exceeds the Ordinance requirement.
- The existing two-lane geometry along Route 1 southbound between the intersections with Aaron Road/Main Street to the north and Finnegans Lane to the south sufficiently supports the roadway segment's traffic demand and the previous condition to convert the shoulder to a travel lane during peak periods should be removed.

Conclusion

Based upon our Traffic Assessment as detailed in the body of this report, it is the professional opinion of Dynamic Traffic that the adjacent street system of North Brunswick Township will not experience any significant degradation in operating conditions with the amendment as proposed. The site driveways are located to provide safe and efficient access to the adjacent roadway system. The site plan as proposed provides for good circulation throughout the site and provides adequate parking to accommodate The Project's needs.

If you have any questions on the above, please do not hesitate to contact me.

Sincerely,

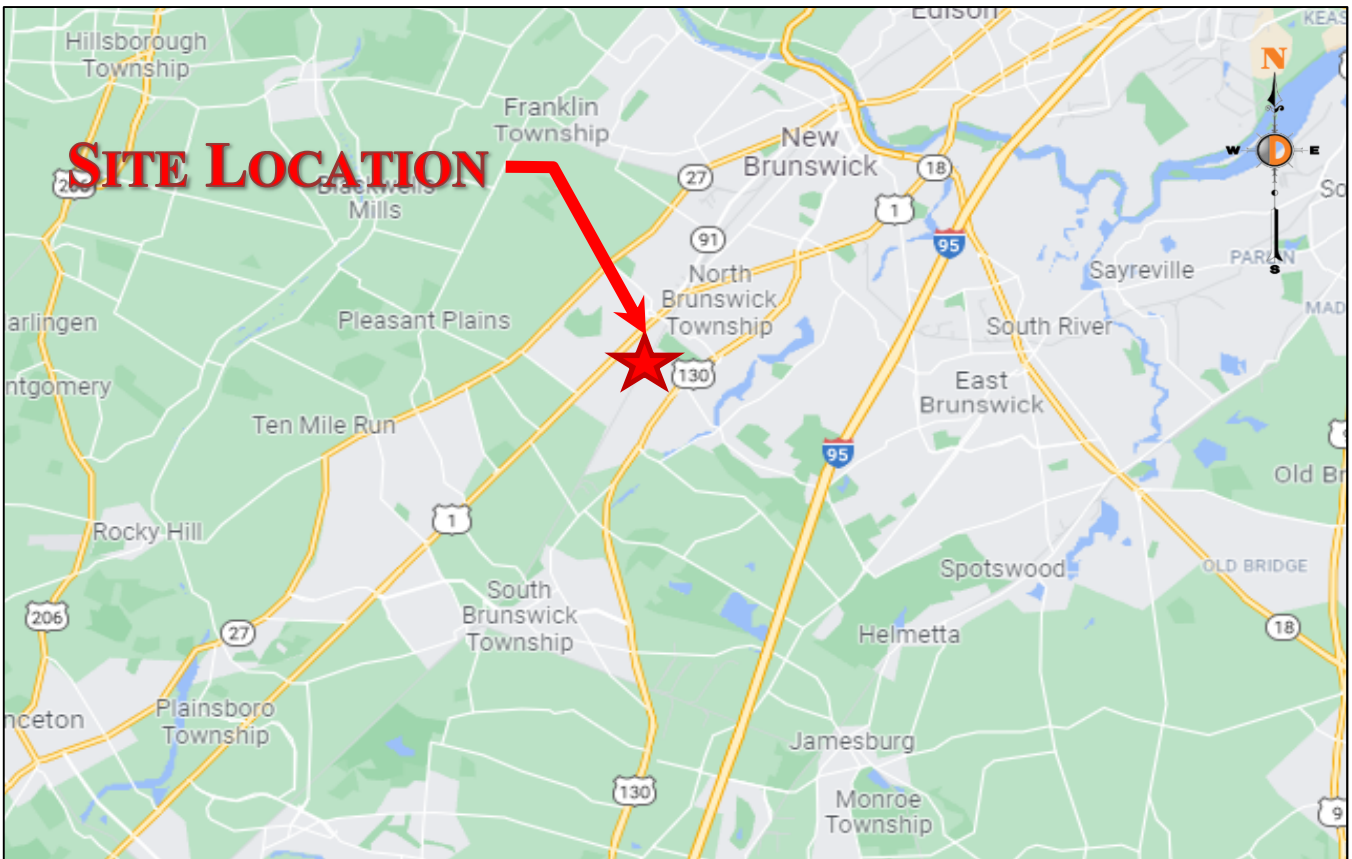
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North Brunswick Transit Village Phase 1F
Traffic Impact and Parking Assessment
0925-13-001TEB

Site Location Map

Phase 1F

601 Required - 635 Provided

North Brunswick Central Business District

North Brunswick, NJ																								
				Peak																				
		Redevelopment Demand		Factor	Unit	6am	7am	8am	9am	10am	11am	12n	1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm	12m
1		000 SF OneStory LRE -	4.5 / 1000 sf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
		000 SF MURC LRE	4.5 / 1000 sf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2	37.925	000 SF Mixed Use Retail Commercial	4.5 / 1000 sf	171	3	17	17	60	111	145	162	171	162	162	150	145	148	154	145	119	65	34	0	0
3		Room Hotel	1 / room	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4		000 SF Library	2 / 1000 sf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5	180	Residential Lofts	1.5 / unit	270	259	224	224	138	119	108	100	92	92	92	100	122	184	211	232	246	251	259	265	0
6		000 SF Office	3.3 / 1000 sf	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7	23.674	000 SF Restaurant	10 / 1000 sf	237	0	0	0	12	24	59	152	154	175	73	118	92	170	237	208	159	107	24	19	0
		Subtotal Development			263	241	241	209	253	312	414	416	429	327	368	359	503	601	586	524	422	317	284	0
	61.599	Subtotal Commercial			4	17	17	72	135	204	314	325	337	236	269	237	319	390	353	278	171	58	19	0
8		Commuter Parking	0 / 100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9		Total Demand																						
		Total Shared Parking Demand			0	263	241	241	209	253	312	414	416	429	327	368	359	503	601	586	524	422	317	284
		SF Large Retail			2%	10%	10%	35%	65%	85%	95%	100%	95%	95%	88%	85%	87%	90%	85%	70%	38%	20%	0%	0%
		SF Main Street Retail			2%	10%	10%	35%	65%	85%	95%	100%	95%	95%	88%	85%	87%	90%	85%	70%	38%	20%	0%	0%
		Room Hotel			95%	90%	84%	79%	74%	69%	64%	65%	69%	75%	75%	70%	67%	75%	67%	67%	67%	67%	67%	67%
		SF Library			2%	5%	15%	42%	65%	76%	51%	72%	75%	100%	85%	79%	46%	98%	83%	45%	1%	0%	0%	0%
		Residential Lofts			96%	83%	83%	51%	44%	40%	37%	34%	34%	34%	37%	45%	68%	78%	86%	91%	93%	96%	98%	0%
		SF Office			2%	2%	68%	80%	90%	95%	90%	80%	80%	95%	92%	62%	33%	10%	5%	3%	1%	1%	0%	0%
		SF Restaurant			0%	0%	0%	5%	10%	25%	64%	65%	74%	31%	50%	39%	72%	100%	88%	67%	45%	10%	8%	0%
		Commuter Parking			10%	50%	80%	98%	100%	100%	97%	92%	87%	77%	70%	65%	50%	33%	20%	10%	5%	3%	2%	0%