

Traffic Engineering, Transportation Planning & Design

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July 21, 2023

Mr. Clint Miller
Hammer Land Engineering
1707 Atlantic Avenue, Suite B2
Manasquan, New Jersey 08736-1147

(21 copies via UPS and email: clint@hammerengineering.com)

Re: **Traffic Analysis Letter**
Auto Repair Facility - Sayreville
Block 439, Lots 6, 7, & 8
928 Route 9
Borough of Sayreville, Middlesex County, NJ
SA Project No. 22310

Dear Clint:

In response to your request, Shropshire Associates, LLC prepared this Traffic Analysis Letter to support the Borough of Sayreville site plan application for the above referenced automotive repair facility to be located along southbound Route 9 in the Borough of Sayreville, Middlesex County, New Jersey. The site currently contains an automotive repair facility and associated storage on Lots 7 & 8, with an existing single-family home on Lot 6. Both developments currently have access along southbound Route 9.

The proposal is for the closure of the existing driveway location for Lot 6, and the consolidation of the existing properties to create a new single lot with access to/from the State Highway via the existing auto repair driveways. In addition, on-site improvements will include the expansion of the existing parking areas to provide a total of 30 off-street parking spaces.

Existing Conditions

A field reconnaissance was conducted to determine the features of the adjacent roadways in the study area. A brief description of the roadway along the site's frontage is provided below.

Along the site's frontage, **Route 9** in the southbound direction is a three (3) lane median-divided roadway that is under the jurisdiction of NJDOT and is classified as an Urban Principal Arterial. Southbound Route 9 has an approximate cartway width of 36', consisting of three (3) 12' travel lanes. Route 9 has a posted speed limit of 50 MPH. For the purpose of this letter, Route 9 is assumed to extend in a general north-south direction.

Existing Roadway Volumes

Historical automatic traffic recorder (ATR) data was obtained from the New Jersey Department of Transportation (NJDOT) database for southbound Route 9 in the vicinity of the site. This historical volume data was collected in January 2020 during typical weekday conditions. Based upon the historical ATR data, the following is a summary of the weekday AM peak hour,



weekday PM peak hour, and weekday daily volumes in the vicinity of the site. Copies of the historical DVRPC data are attached for your review.

- Southbound Route 9
 - AM Peak Hour – 8:00 AM to 9:00 AM
 - 2,561 vehicles per hour
 - PM Peak Hour – 5:00 PM to 6:00 PM
 - 4,974 vehicles per hour
 - Weekday Daily
 - 53,808 vehicles total

Trip Generation

As previously mentioned, the existing auto repair facility will remain, while the single-family home will be razed to accommodate the parking expansion. The amount of traffic generated by the existing automotive repair facility can be calculated based on data provided by the Institute of Transportation Engineers (ITE) in the *Trip Generation Manual, 11th Edition*. The existing development is most similar to ITE Land Use 942: Automobile Care Center. Table 1 indicates the site traffic generated by the existing 2,754 SF facility during the weekday AM and weekday PM peak hours based upon the ITE trip generation data, with the trip generation worksheets attached for your review.

Table 1 ITE Trip Generation						
Development	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Automobile Care Center (2,754 SF)	4	2	6	4	5	9

Off-Street Parking

Under the current Borough of Sayreville Zoning Ordinance, the off-street parking supply requirements for a repair garage are four (4) parking spaces for each service bay and two (2) service bays for each service vehicle. Based upon this requirement and our review of the current site plan information, the automotive repair facility will require a total of 22 off-street parking spaces. There are 30 proposed parking spaces, therefore this requirement is satisfied.

Please call me if you have any questions or require additional information.

Sincerely,
Shropshire Associates LLC

Nathan B. Mosley, P.E., C.M.E.
Professional Engineer
NJ License #48698

NBM/jab
Attachments

cc: Jason Regan

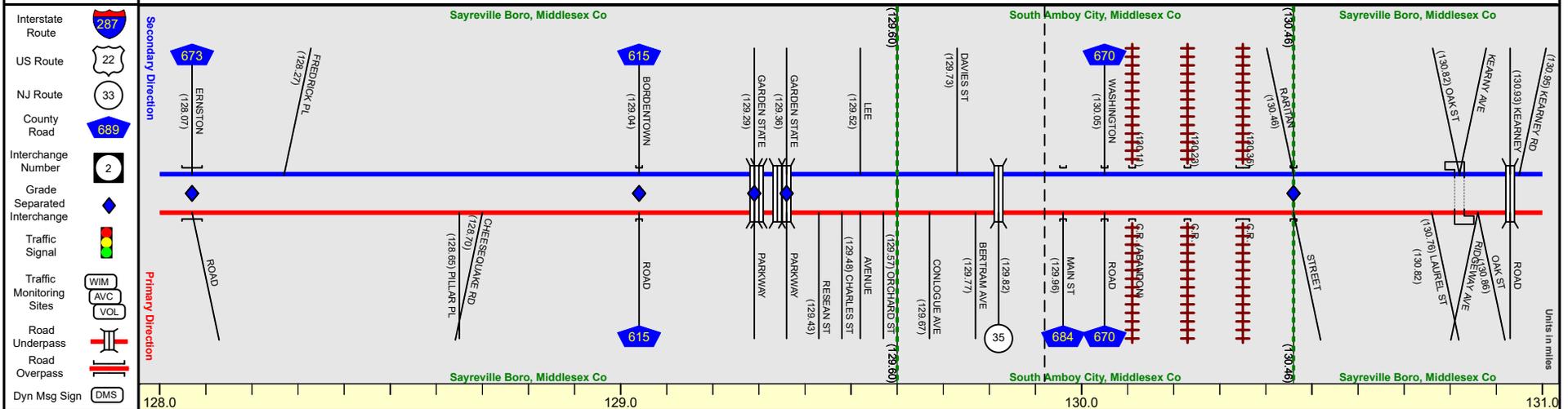
(via email: jason@hammerengineering.com)

US 9 (South to North)

Mile Posts: 128.000 - 131.000



Pavement	40	36	24	36
Shoulder	12		12	
Number of Lanes		3	2	3
Speed Limit			50	
Street Name	US 9			



Street Name	US 9			
Jurisdiction	N.J.D.O.T.			
Functional Class	Urban Principal Arterial			
Federal Aid - NHS Sy	NHS			
Control Section	1207		1208	
Speed Limit	50			
Number of Lanes	3		3	
Med. Type	Positive			
Med. Width	10		8	
Pavement	36		36	
Shoulder	12		12	
Traffic Volume				
Traffic Sta. ID				
Structure No.	1207150		1208150	
Enlarged Views	1207152 2623 (DMS) 2622 (DMS)		1208151 1208152 1208153 1208154 1208155 1208156 1208157	

SRI = 0000009_

Date last inventoried: March 2021



New Jersey DOT

Most Recent 48 Hour Count for Year for 1/1/2020 - 12/31/2020
 Criteria: Type = I-SECTION, Is Perm Station = 0, From 1/1/2020 To 12/31/2020

Location ID: 4-5-031
County: Middlesex
Location: US 9 BET BORDENTOWN AVE GS PKWY

Wednesday, January 29, 2020

Time	NB Hourly	SB Hourly	2-WAY Hourly
0:00-1:00	301	573	874
1:00-2:00	248	348	596
2:00-3:00	259	291	550
3:00-4:00	431	323	754
4:00-5:00	1,202	402	1,604
5:00-6:00	3,133	775	3,908
6:00-7:00	3,998	1,643	5,641
7:00-8:00	4,281	2,352	6,633
8:00-9:00	3,911	2,561	6,472
9:00-10:00	3,325	2,118	5,443
10:00-11:00	2,530	2,175	4,705
11:00-12:00	2,479	2,253	4,732
12:00-13:00	2,259	2,462	4,721
13:00-14:00	2,379	2,736	5,115
14:00-15:00	2,392	3,652	6,044
15:00-16:00	2,682	4,593	7,275
16:00-17:00	2,662	4,906	7,568
17:00-18:00	2,654	4,974	7,628
18:00-19:00	2,150	4,703	6,853
19:00-20:00	1,637	3,415	5,052
20:00-21:00	1,310	2,355	3,665
21:00-22:00	1,166	1,913	3,079
22:00-23:00	827	1,329	2,156
23:00-24:00	511	956	1,467

Count Total	48,727	53,808	102,535
AM Peak	07:00-08:00 4,281	07:45-08:45 2,605	07:15-08:15 6,686
Mid Peak	09:15-10:15 3,084	13:45-14:45 3,328	13:45-14:45 5,708
PM Peak	15:30-16:30 2,797	17:00-18:00 4,974	15:45-16:45 7,633

Thursday, January 30, 2020

Time	NB Hourly	SB Hourly	2-WAY Hourly
0:00-1:00	386	732	1,118
1:00-2:00	249	419	668
2:00-3:00	273	335	608
3:00-4:00	439	310	749
4:00-5:00	1,193	436	1,629
5:00-6:00	2,875	824	3,699
6:00-7:00	3,748	1,550	5,298
7:00-8:00	4,103	2,384	6,487
8:00-9:00	3,733	2,615	6,348
9:00-10:00	3,224	2,329	5,553
10:00-11:00	2,689	2,036	4,725
11:00-12:00	2,240	2,183	4,423
12:00-13:00	2,416	2,411	4,827
13:00-14:00	2,275	2,777	5,052
14:00-15:00	2,470	3,578	6,048
15:00-16:00	2,560	4,497	7,057
16:00-17:00	2,656	4,900	7,556
17:00-18:00	2,654	4,787	7,441
18:00-19:00	2,233	4,254	6,487
19:00-20:00	1,698	3,216	4,914
20:00-21:00	1,431	2,432	3,863
21:00-22:00	1,230	1,917	3,147
22:00-23:00	895	1,542	2,437
23:00-24:00	742	1,046	1,788

Count Total	48,412	53,510	101,922
AM Peak	07:00-08:00 4,103	07:30-08:30 2,694	07:30-08:30 6,660
Mid Peak	09:15-10:15 3,086	13:45-14:45 3,320	13:45-14:45 5,742
PM Peak	15:45-16:45 2,688	16:30-17:30 4,902	15:45-16:45 7,580

Station AADT * **98,864**

** The AADT Estimate is based on factors in use on the date the report was generated*

Peak Hour Starts Between		
Period	Begin	End
AM	6:00	9:00
MID	9:15	14:45
PM	15:00	18:00

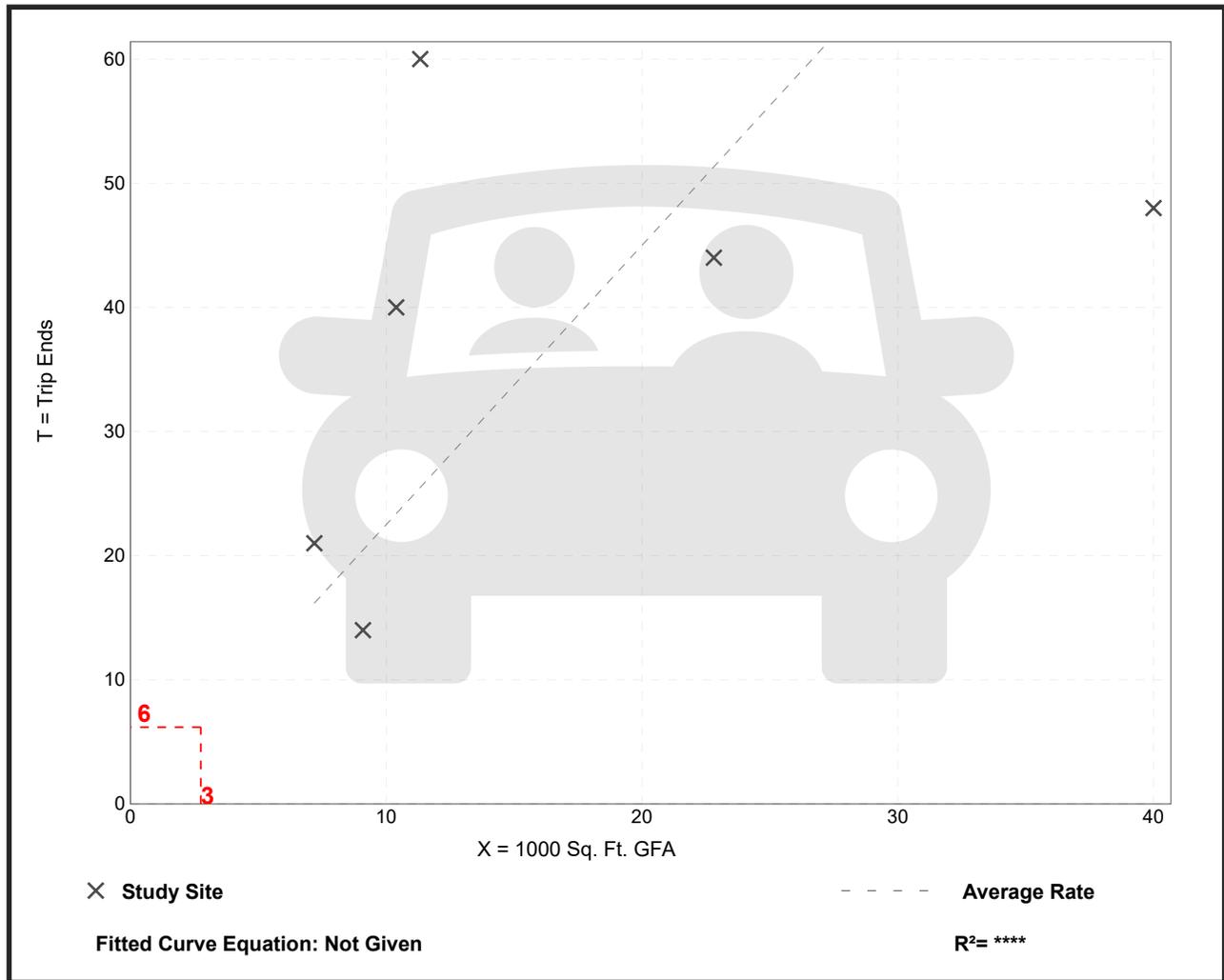
Automobile Care Center (942)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 6
 Avg. 1000 Sq. Ft. GFA: 17
 Directional Distribution: 66% entering, 34% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.25	1.20 - 5.30	1.49

Data Plot and Equation



Automobile Care Center (942)

Vehicle Trip Ends vs: 1000 Sq. Ft. GFA
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 6
 Avg. 1000 Sq. Ft. GFA: 17
 Directional Distribution: 48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.11	1.87 - 5.65	1.09

Data Plot and Equation

