TRAFFIC STATEMENT
for
SPEEDWAY, LLC

Proposed Fuel Station Expansion
Block 8, Lots 1699 and 1699.A
623 Spring Street (US Route 1 & 9)
City of Elizabeth
Union County, New Jersey

JOHN R. HARTER
Professional Engineer
N.Y. License No. 77519

JERRID M. DINNEN
Professional Engineer
N.J. License No. 46962

N.J. P.E. Cert. of Authorization No. 24GA27957900
March 11, 2020

Atlantic Traffic & Design Engineering, LLC
INTRODUCTION

Atlantic Traffic & Design Engineering, LLC (ATDE) has prepared this Traffic Statement to examine an existing Speedway development located along westbound US Route 1 & 9 in the City of Elizabeth, Union County, New Jersey. The site is located at the southeast quadrant of the unsignalized intersection of US Route 1 & 9 and Woodruff Lane as shown on Figure 1 in Appendix A.

CURRENT CONDITION

The existing site consists of a 12-position passenger car fueling station with a 3,530 square foot convenience store located to the west of the property and a 3-position heavy vehicle fueling station located to the south of the property. The existing site has 2 ingress only curb cuts and 1 egress only curb cut located along northbound US Route 1 & 9 and 2 full-movement curb cuts located along eastbound Woodruff Lane along with a wide egress-only curb cut to the east.

PROPOSED CONDITION

Under the development proposal, the existing 3-position heavy vehicle fueling station will be reconstructed to also include a by-pass lane as well as an expansion of the eastern portion of the property to include an additional 2-position heavy vehicle fueling station with a more expanded egress-only access along eastbound Woodruff Lane.

SCOPE OF STUDY

This study has been performed to calculate the site traffic associated with the expansion of the Speedway development. Accordingly, the Traffic Statement includes the following:

- A review of existing roadway and traffic conditions in the vicinity of the site, including roadway geometrics;
- Projection of expected traffic volume to be generated by the proposed Speedway development, and;
- An evaluation of the Site Plan design, on-site circulation and parking supply.
EXISTING TRAFFIC CONDITIONS

SUBJECT PROPERTY

The subject property is located at the southeast quadrant at the unsignalized intersection of US Route 1 & 9 and Woodruff Lane in the City of Elizabeth, Union County, New Jersey. The following characteristics describe the subject property:

- Located in the HC MRC Zone where diesel dispensers and canopies are not a permitted use.
- The site is currently developed with a 12-position passenger car gasoline fueling station, a 3,530 square foot convenience store and a 3-postion heavy vehicle fueling station.
- Land use in the vicinity of the site are predominately commercial along the US Route 1 & 9 corridor.

ROADWAY NETWORK

The subject property has frontage along northbound US Route 1 & 9 and eastbound Woodruff Lane. The following is a description of the adjacent roadway network:

### US Route 1 & 9
- Classified as an Urban Principal Arterial under New Jersey Department of Transportation (NJDOT) jurisdiction.
- Designated as a north/south roadway.
- Provides 3 travel lanes to accommodate each direction of travel along the site frontage separated by a median with an approximately 8-foot wide shoulder.
- The posted speed limit is 40 miles per hour in the vicinity of the subject property.

### Woodruff Lane
- Classified as a local roadway under City of Elizabeth jurisdiction.
- Has a general east/west orientation in the vicinity of the site.
- Provides 1 lane of travel to accommodate each direction of travel along the site frontage and parking is not permitted.
- Posted speed limit is 25 miles per hour in the vicinity of the site.
The next step in the analysis procedure is to project the volume of future traffic that would be generated as a result of the proposed Speedway development. For the purpose of this analysis, complete project approval, construction, and occupancy are assumed to occur within 2 years.

Traffic projections for proposed developments along roads under NJDOT jurisdiction are traditionally prepared using rates published by the NJDOT Highway Access Permit System (HAPS). However, HAPS calculates trip generation for Land Use Code 960: “Super Convenience Market/Gas Station” based on the square footage of the convenience store, which is not changing for this proposal.

In order to maintain a conservative analysis, the trip generation projections were calculated based on the number of fueling positions as outlined in the Institute of Transportation Engineers (ITE) 10th edition of *Trip Generation*, September 2017. Table I summarizes the ITE trip generation projections for the existing 15-position fueling station and the proposed 17-position fueling station development. Specifically, Land Use Code 960: “Super Convenience Market/Gas Station” was utilized. The ITE trip generation summary printouts are contained in Appendix B.

<table>
<thead>
<tr>
<th>Peak Hour</th>
<th>Existing</th>
<th>Proposed</th>
<th>Additional Traffic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weekday Morning</td>
<td>320</td>
<td>362</td>
<td>+42</td>
</tr>
<tr>
<td>Weekday Evening</td>
<td>304</td>
<td>344</td>
<td>+40</td>
</tr>
<tr>
<td>Saturday Midday</td>
<td>349</td>
<td>395</td>
<td>+46</td>
</tr>
</tbody>
</table>

Based on the ITE trip generation projections, the proposed Speedway development expansion would not create a significant increase in traffic along the adjacent roadway network during any of the critical peak hours. NJDOT defines a “significant” increase in traffic as 100 or more peak hour vehicular trips. As noted, the additional traffic generated as a result of the proposed development falls well below this threshold. The projected trip generation translates to a maximum of approximately 1 vehicle entering and exiting the site every minute during critical peak periods. This demonstrates the
minimal traffic impact the Speedway development is anticipated to have on the adjacent roadway network.

Additionally, ITE data assumes that the fueling station positions serves both heavy vehicles and passenger cars while the proposed 2-postion fueling station expansion will only be utilized by heavy vehicles. Therefore, 46 additional trips is conservative based on the fact that the 2-position fueling expansion will only be utilized by heavy vehicles.
SITE ACCESS AND CIRCULATION

An evaluation has been made of the Plot Plan for the proposed Speedway development, prepared by Bohler Engineering dated March 4, 2020. In particular, the evaluation focuses on site access, on-site circulation, and parking supply. The following items address these design characteristics:

Site Access

- Access to the site is currently provided via a 2 ingress-only curb cuts and 1 egress-only curb cut along northbound US Route 1 & 9 and 2 full-movement curb cuts along eastbound Woodruff Lane along with a wide egress-only curb cut to the east. All access points will be maintained with the exception of the wide egress-only curb cut located along eastbound Woodruff Lane, which will be widened. This configuration is expected to provide adequate access to all areas of the site.

- A letter of No Interest will be sought from NJDOT as there are no proposed modifications to the US Route 1 & 9 driveways and the property is conforming.

Parking

- A total of 24 parking spaces will remain inclusive of 1 ADA van accessible space.
In summary, it has been determined from a review of future site-generated traffic volumes that the proposed Speedway development expansion would **not** significantly impact traffic conditions in the vicinity of the site. The proposed Speedway redevelopment expansion is projected to generate a maximum of only **46** trips during the critical peak hours, which falls well below the NJDOT threshold for a “significant” increase in traffic.

Site access is proposed to be maintained along the US Route 1 & 9 frontage widening of the egress-only curb cut located along eastbound Woodruff Lane is proposed.
Super Convenience Market/Gas Station (960)

Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday, AM Peak Hour of Generator
Setting/Location: General Urban/Suburban
Number of Studies: 18
Avg. Num. of Vehicle Fueling Positions: 14
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Vehicle Fueling Position

<table>
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<tr>
<th>Average Rate</th>
<th>Range of Rates</th>
<th>Standard Deviation</th>
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<tr>
<td>21.30</td>
<td>9.00 - 49.31</td>
<td>11.15</td>
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Data Plot and Equation

Study Site
Fitted Curve Equation: Not Given

Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers
Super Convenience Market/Gas Station (960)

Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Weekday,
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<td>20.25</td>
<td>9.83 - 37.42</td>
<td>7.73</td>
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Data Plot and Equation

Fitted Curve Equation: Not Given

Trip Gen Manual, 10th Ed + Supplement • Institute of Transportation Engineers
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs: Vehicle Fueling Positions
On a: Saturday, Peak Hour of Generator

Setting/Location: General Urban/Suburban
Number of Studies: 13
Avg. Num. of Vehicle Fueling Positions: 14
Directional Distribution: 50% entering, 50% exiting

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Fitted Curve Equation: Not Given

Data Plot:
- Study Site
- Average Rate

R² = ****

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