



November 9, 2020

Planning Board
Township of Wayne
475 Valley Road
Wayne, New Jersey, 07470

**RE: Traffic Assessment Letter Report
Proposed Jet Wash Car Wash
Block 400, Lot 2
555 U.S. Route 46 MP 56.73
Township of Wayne, Passaic County, New Jersey
SE&D Job No. S-18097**

Dear Board Members:

Stonefield Engineering and Design, LLC (“Stonefield”) has prepared this analysis to examine the potential traffic and parking impacts of the proposed Jet Wash car wash on the adjacent roadway network. The subject property is located along U.S. Route 46 westbound in the Township of Wayne, Passaic County, New Jersey. The subject property is designated as Block 400, Lot 2 as depicted on the Township of Wayne Tax Map. The site has approximately 100 feet of frontage along U.S. Route 46. The existing site contains an unoccupied muffler shop. The existing access is provided via one (1) curb-cut along the entire site frontage. Under the proposed development program, the existing 4,948-square-foot building would be expanded to be occupied by a 5,550-square-foot, two (2) tunnel automated car wash. Access is proposed via one (1) bifurcated right-in/right-out driveway along U.S. Route 46.

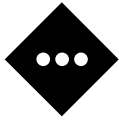
Existing Conditions

The subject property is located along the northerly side of U.S. Route 46 in the Township of Wayne, Passaic County, New Jersey. The subject property is designated as Block 400, Lot 2 as depicted on the Township of Wayne Tax Map. The site has approximately 100 feet of frontage along U.S. Route 46. Land uses in the area are predominantly commercial.

U.S. Route 46 is classified as an Urban Principal Arterial with a general east-west orientation and is under the jurisdiction of the New Jersey Department of Transportation (NJDOT). Along the site frontage, the roadway provides four (4) lanes of travel in the westbound direction and has a posted speed limit of 50 mph. Curb is provided along the northerly side of the roadway, sidewalks are not provided, shoulders are provided along both sides of the roadway, and on-street parking is not permitted. U.S. Route 46 provides east-west mobility through the Township of Wayne and across northern New Jersey for predominately retail/commercial uses along its length and provides connections to Interstate 80 and NJSH Route 23 less than 0.5 miles west of the site.

Trip Generation

Trip generation projections for the proposed car wash were prepared utilizing NJDOT’s Highway Access Permit System (HAPS) and ITE’s Trip Generation Manual, 10th Edition. It is noted that the HAPS does not contain data for the enter/exit trip distribution for its land uses. Therefore, the enter/exit trip distribution for each land use was obtained from the ITE’s Trip Generation Manual, 10th Edition. Trip generation rates associated with Land Use 948 “Automated Car Wash” were cited for the two (2)-tunnel car wash. It is noted that the site was previously occupied by a muffler shop which previously generated traffic to and from the adjacent roadway network. No trip generation credit was applied for these trips to provide for a conservative analysis. **Table I**



provides the weekday evening and Saturday midday trip generation volumes associated with the proposed development.

TABLE I – PROPOSED TRIP GENERATION

Land Use	Weekday Evening Peak Hour			Saturday Midday Peak Hour		
	Enter	Exit	Total	Enter	Exit	Total
Automated Car Wash Two (2)-Tunnel Car Wash <i>HAPS Land Use 948</i>	77	78	155	41	41	82

As shown in Table I, the proposed addition of fueling service is expected to generate 155 new trips (78 new vehicles) along the adjacent roadway network during the weekday evening peak hour and 82 new trips (41 new vehicles) the during the Saturday midday peak hour. The increase in vehicles along U.S. Route 46 westbound represents less than an 2% increase in volume during the critical weekday evening peak hour. Additionally, based on the vehicle-centric nature of the proposed car wash and the configuration of the surrounding highway network, a significant portion of the site-generated traffic volumes would come from traffic already on the roadway network. These trips, referred to as "pass-by trips," do not add new vehicles to the roadway, but rather consist of vehicles already traveling past the site on U.S. Route 46 West on their way to an ultimate destination. Therefore, it is anticipated that the development program would not have a significant impact on the adjacent roadway network.

Site Circulation/Parking Supply

A review was conducted of the proposed car wash using the Site Plan, prepared by Schwanewede / Hals Engineering, dated November 9, 2020. In completing this review, particular attention was focused on the site access, circulation, and parking supply.

Access is proposed via one (1) bifurcated right-in/right-out driveway along U.S. Route 46. Access to the two (2) automated kiosks would be provided via the ingress lane along the easterly side of the property. The two (2) kiosk drive aisles merge to a single lane before splitting and entering the automated car wash tunnel in the northerly portion of the property. A bypass circulation aisle would be provided along the westerly side of the car wash building. Right-turn egress to U.S. Route 46 would be provided on the westerly side of the U.S. Route 46 frontage.

The car wash queuing area would accommodate a queue of at least 16 vehicles on-site, not including any vehicles within the car wash tunnel. Based on the design of the site, a queue of 16 vehicles would not impact the U.S. Route 46 right-of-way. Based on operational information provided by the Applicant, to ensure product quality the proposed Jet Wash would process approximately 40 to 50 vehicles per tunnel per hour (80 to 100 total vehicles per hour). It is noted the program offerings of the car wash can be adjusted to increase capacity significantly and provide a higher rate of customer turnover. Based on the peak-hour trip generation projections of the development, the operations as proposed would support the anticipated vehicle demand during the critical peak hour while maintaining superior product quality.

Regarding the parking requirements for the proposed development, the Township of Wayne Ordinance requires 10 parking spaces per entrance lane, four (4) parking spaces per exit lane, and one (1) parking space per employee for car wash uses. For the proposed development consisting of two (2) entrance lane, two (2) exit lane, and one (1) employee, this equates to a requirement of 29 parking spaces. The proposed development plan would provide two (2) parking spaces on-site and based on the operations of the proposed car wash the parking would be sufficient to support the proposed development.



Unlike a traditional hand car wash with numerous employees providing wash, rinse, and drying services, the proposed Jet Wash is an automatic touchless car wash, which does not require employees to perform washing or drying of the vehicles. There would be a maximum of one (1) employee on-site. Based on the peak of one (1) employee on-site at any time, and that patrons of the Jet Wash do not park on-site to use the car wash services, the proposed parking supply of two (2) spaces would be sufficient to support the operations of the proposed Jet Wash car wash.

Conclusions

This report was prepared to examine the potential traffic impacts of the proposed Jet Wash automated car wash. The analysis findings, which have been based on industry standard guidelines, indicate that the proposed development would not have a significant impact on the traffic operations of the adjacent roadway network. The on-site layout has been designed to provide effective circulation to accommodate the site operations and provide sufficient queuing to accommodate the peak operations of the facility without impacting traffic along U.S. Route 46. The parking supply of two (2) parking spaces would be sufficient to accommodate the operations of the automatic car wash.

Please don't hesitate to contact our office if you have any questions.

Best regards,

Charles D. Olivo, PE, PP, PTOE
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