

Ms. Gina Wilkolaski
Traffic Safety Engineer
Erie County | Highways (DPW)
95 Franklin Street
Buffalo, New York 14202

July 27, 2022

RE: Proposed Shatkin School of Dentistry, Town of Amherst, NY
Signal Warrant Analysis Letter

Dear Ms. Wilkolaski:

This study performed a traffic signal warrant analysis at the Kensington Avenue/Bentham Parkway intersection. Turning movement counts were performed by SRF Associates at the study intersection on Tuesday, June 2, 2022, from 7:00 AM to 7:00 PM.

The need for a traffic signal is determined by comprehensive investigation of existing traffic conditions and physical characteristics at the location. The Standard Specifications Update for the adoption of the National MUTCD (FHWA) and the New York State Supplement were reviewed to investigate the need for a traffic control signal at this location. There are nine (9) warrants, and they are as follows:

Warrant 1	Eight-Hour Vehicular Volume
Warrant 2	Four-Hour Vehicular Volume
Warrant 3	Peak Hour Vehicular Volume
Warrant 4	Pedestrian Volume
Warrant 5	School Crossing
Warrant 6	Coordinated Signal System
Warrant 7	Crash Experience
Warrant 8	Roadway Network
Warrant 9	Intersection Near a Grade Crossing

All supporting materials are included in the Attachments. Prior to applying warrants, the MUTCD suggests consideration of the effects of right-turn volumes on the minor street approach, and a reduction taken in the number of right turning vehicles, where appropriate. A certain number of right-turn vehicles will execute a right-turn on the red (RTOR) indication without actuating a traffic signal (if one were in place). Generally, up to 25% of right-turn vehicles may be assumed to execute at RTOR maneuver and should, therefore, be subtracted for the purposes of the warrant analysis. However, for purposes of this analysis, no adjustments were made to remain conservative. The posted speed limit on Kensington Avenue is 35 MPH, thus 100% thresholds in Table 4C-1, Figure 4C-1, and Figure 4C-3 are used as a basis for analysis.

1. Warrant 1 is subdivided into Condition A and Condition B. The Minimum Vehicular Volume, Condition A, is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic control signal. The Interruption of Continuous Traffic, Condition B, is intended for application at locations where Condition A is

not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. These conditions are satisfied when, for each of any eight hours of an average day, anticipated volumes on the artery and side road are more than the minimum values presented in Tables 4C-1 in the MUTCD. **Based upon these calculations, Conditions A and B are not satisfied.**

2. Warrant 2, the Four-Hour Vehicular Volume signal warrant conditions, are intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic control signal. This warrant stipulates that for any four hours of a day, minimum threshold volumes are met on the artery and side road. **This warrant is partially satisfied for two of the four hours.**
3. Warrant 3 is intended for application where minor street traffic suffers undue delay in entering or crossing the major street for one hour of the day. It stipulates that the warrant shall be applied in unusual cases (high-occupancy vehicle facilities – i.e., shopping centers, office parks) where a large number of vehicles discharge over a short period of time. **This warrant is not satisfied.**
4. Warrant 4 is met when pedestrians experience excessive delay in crossing the major street because the traffic volumes are so heavy. The intersection currently has low pedestrian activity. **This warrant is not satisfied.**
5. Warrant 5 is met when a sufficient number of gaps in traffic do not exist for certain size and frequency of school children to cross the major roadway. **This warrant is not satisfied.**
6. Warrant 6 is met when a traffic signal is needed to maintain progressive movement and vehicle platooning in a coordinated signal system. **This warrant is not satisfied.**
7. Warrant 7 is intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal. The need for a traffic control signal shall be considered if *all* of the following criteria are met:
 - a. Adequate trial of alternatives with satisfactory observance and enforcement has failed to reduce crash frequency. **Condition A is not satisfied.**
 - b. Five (5) or more reported crashes, of types susceptible to correction by a traffic signal, to have occurred within a 12-month period, each crash involving a personal injury or property damage. Five (5) crashes were documented in the crash analysis over a 12-month period. One crash was animal-related, and one was a medical condition. The three remaining crashes were right angle (2) in the eastbound and westbound directions. These drivers failed to yield the right of way. The last crash was a northbound rear end incident in which the driver of the trailing vehicle was following too closely. **Condition B is not satisfied.**

Given that both Conditions A and B are not satisfied, this warrant is not satisfied.
8. Warrant 8 is met when a traffic signal might encourage concentration and organization of traffic flow on a roadway network. This warrant primarily focuses on two major intersecting roadways, which is not the case at the study intersection. **This warrant is not satisfied.**

9. Warrant 9 is applicable when an intersection is located near an at-grade rail crossing. **This warrant is not satisfied.**

TABLE 1: TRAFFIC SIGNAL WARRANT SUMMARY

WARRANT	SATISFACTION OF WARRANTS
1A – Eight-Hour Condition A	NOT SATISFIED
1B – Eight-Hour Condition B	NOT SATISFIED
2 – Four-Hour	NOT SATISFIED
3 – Peak-Hour	NOT SATISFIED
4 – Pedestrian Volume	NOT SATISFIED
5 – School Crossing	NOT SATISFIED
6 – Coordinated Signal System	NOT SATISFIED
7 – Crash Experience	NOT SATISFIED
8 – Roadway Network	NOT SATISFIED
9 – Intersection Near a Grade Crossing	NOT SATISFIED

Table 1 summarizes the signal warrants at the study intersection under full build conditions and the results of the investigation. The results show that a three-color traffic signal is not warranted.

If you have any questions or require additional information, please do not hesitate to contact our office.

Sincerely,
SRF Associates, D.P.C.



David Kruse, AICP, PTP
Senior Transportation Planner

Attachments