

Report by: J. Lockaby Date: 10/16 Checked by: R. Pothering Date: 10/16 Recommended by:	STATE OF CONNECTICUT DEPARTMENT OF TRANSPORTATION OFFICE OF THE STATE TRAFFIC ADMINISTRATION TRAFFIC INVESTIGATION REPORT	OSTA No.: 135-1512-01 Loc No.: Approved by OSTA
See Previous Traffic Investigation Report No: N/A		Date:
Requested by: Veera Karukonda How Requested: Signal Application to OSTA Date: November 20, 2015	City of Stamford Location: Route 137 (High Ridge Road) at Bradley Place and Donata Lane	Executive Director

Recommendations:

Deny installation of a traffic control signal at the intersection of Route 137 (High Ridge Road) at Bradley Place and Donata Lane in the City of Stamford at this time.

Chief Jonathan Fontneau, the representative for the Local Traffic Authority for the City of Stamford, concurred with the above recommendation on November 3, 2016.

Report of Findings:

Mr. Veera Karukonda, in a letter to the Department of Transportation’s Office of the State Traffic Administration, requested that a signal be installed at the intersection of Route 137 (High Ridge Road) at Bradley Place and Donata Lane due to an expected increase in traffic volume along Route 137 and Bradley Place.

Existing Conditions:

- Route 137 is a four-lane highway traveling in a north/south direction. Bradley Place intersects Route 137 from the west and Donata Lane intersects Route 137 from the east approximately 85 feet north of Bradley Place, creating an offset intersection.
- The posted speed limit on Route 137 is 35 mph, and the 85th percentile speed is approximately 41 mph in both directions.
- The 2015 average daily traffic on Route 137 was 27,300 vehicles per day.
- The posted speed limit on Bradley Place is 25 mph. Average daily traffic was measured to be 1,224 vehicles per day in March 2016.
- Donata Lane has no posted speed limit. Average daily traffic data was not collected for this approach.
- Left turn lanes exist for vehicles turning left from Route 137 onto Bradley Place and Donata Lane.
- Stop signs control the Bradley Place and Donata Lane approaches to Route 137.
- The intersection is illuminated.

Crash History Analysis

A review of the Department's latest available three-year crash history from January 1, 2013 to December 31, 2015 revealed a total of six crashes.

- One crash involved a vehicle turning left onto Route 137 from Bradley Place.
- One crash involved a vehicle making a U-turn and colliding with another vehicle on Route 137.
- There were no patterns among the six crashes.

Based on previous safety studies, the installation of the proposed traffic control signal would be expected to increase the number of rear-end crashes.

Traffic Signal Warrant Analysis

The 85th percentile speed along Route 137 is above 40 mph, therefore the 70% volume factor was applied to Warrant No. 1--Eight-Hour Vehicular Volume criteria.

A single lane approach for Bradley Place was utilized.

Based on traffic volume counts performed in March 2016 at the subject location:

- Warrant No.1—Condition A—Minimum Vehicular Volume was not satisfied
- Warrant No. 1—Condition B-- Interruption of Continuous Traffic is satisfied
- Warrant No. 7—Crash Experience was not satisfied as it did not meet two of the three required criteria.

Conclusions and Recommendations

Although one traffic signal warrant is satisfied for the intersection of Route 137 (High Ridge Road) at Bradley Place and Donata Lane, satisfaction of a traffic signal warrant does not, in itself, require the installation of a traffic control signal. While the "Interruption of Continuous Traffic" condition is satisfied under the 8-hour vehicular volume warrant, there are similar unsignalized intersections along Route 137, suggesting there may not be an apparent interruption of Route 137 continuous traffic for many of the side streets and drives. In addition, the existing traffic signals along Route 137 in the subject area are coordinated and may provide gaps in the traffic traveling on Route 137 that would allow vehicles to exit Bradley Place and Donata Lane. The physical offset distance between Bradley Place and Donata Lane would require split phasing for a proposed traffic signal. Split phasing would result in additional clearance time being required to accommodate each of the side street phases, reducing the amount of green time available for the Route 137 movements. This would create additional delay and disruption in traffic operations along Route 137. Based on the above, it is recommended that a traffic control signal not be installed at this time.

Eight-Hour Rural Warrant Values

(Information is from Section 4C.02 of the 2003 edition of the MUTCD)

Milford

Route Rte. 137 (High Ridge Road) at Bradley Place

85th percentile speed = 41 mph

<u>Warrant 1 - Condition A - Minimum Vehicular Volume</u>	<u>(Check)</u>	<u>Percent satisfied for each hour</u>	<u>No. of hours satisfied to</u>	
Number of vehicles per hour for each of any 8 hours of an average day on the major street (total of both approaches).	One Lane 350 veh. <input type="checkbox"/>	1. <u>487</u> 5. <u>532</u> 2. <u>431</u> 6. <u>786</u>	100%	80%
	Two or More 420 veh. <input checked="" type="checkbox"/>	3. <u>508</u> 7. <u>527</u> 4. <u>486</u> 8. <u>373</u>	<u>8</u>	<u>8</u>
Number of vehicles per hour for each of the same 8 hours on the higher volume minor street approach.	One Lane 105 veh. <input checked="" type="checkbox"/>	1. <u>70</u> 5. <u>84</u> 2. <u>95</u> 6. <u>109</u>		
	Two or More 140 veh. <input type="checkbox"/>	3. <u>66</u> 7. <u>85</u> 4. <u>71</u> 8. <u>68</u>	<u>1</u>	<u>4</u>

Warrant 1 - Condition B - Interruption of Continuous Traffic

Number of vehicles per hour for each of any 8 hours of an average day on the major street (total of both approaches).	One Lane 525 veh. <input type="checkbox"/>	1. <u>325</u> 5. <u>324</u> 2. <u>298</u> 6. <u>355</u>		
	Two or More 630 veh. <input checked="" type="checkbox"/>	3. <u>287</u> 7. <u>524</u> 4. <u>339</u> 8. <u>351</u>	<u>8</u>	<u>8</u>
Number of vehicles per hour for each of the same 8 hours on the higher volume minor street approach.	One Lane 53 veh. <input checked="" type="checkbox"/>	1. <u>140</u> 5. <u>142</u> 2. <u>132</u> 6. <u>166</u>		
	Two or More 70 veh. <input type="checkbox"/>	3. <u>189</u> 7. <u>215</u> 4. <u>130</u> 8. <u>168</u>	<u>8</u>	<u>8</u>

Warrant 1 - Combination of Conditions A and B

Condition A satisfied to 80% NO

Condition B satisfied to 80% YES

The combination of Conditions A and B should be applied only after an adequate trial of other alternatives that could cause less delay and inconvenience to traffic has failed to solve the traffic problems. The need for a traffic control signal under the combination condition shall be considered only if BOTH Condition A and Condition B are satisfied to 80%. The major-street and minor-street volumes shall be for the same 8 hours for each condition; however, the 8 hours satisfied in Condition A shall not be required to be the same 8 hours satisfied in Condition B.

Warrant 7 - Crash Experience

Number of crashes, of types susceptible to correction by a traffic control signal, that occurred within a 12-month period: 2

Condition A satisfied to 80% NO

Condition B satisfied to 80% YES

The Crash Experience signal warrant conditions are intended for application where the severity and frequency of crashes are the principal reasons to consider installing a traffic control signal. A traffic control signal shall be considered if an adequate trial of alternatives has failed to reduce the crash frequency; five or more crashes, of types susceptible to correction by a traffic control signal, have occurred during a 12-month period; and for each of any 8 hours during an average day, the vehicles per hour satisfy either Condition A to 80% or Condition B to 80%.

Computed by J. Lockaby Date 8/18/16

Checked by R. Pothering Date 10/26/16

Date(s) of count: 3/10/2016