

Investigation Of The Request

To Make The Intersection Of Flat Hill Road At Burrage Street A 4-Way Stop

Received July 16, 2024 from Lynne Man (463 Burrage Street)

Completed by

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Dated 09/25/2024

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Chief Thomas L. Gammel

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Using the Manual on Uniform Traffic Control Devices for Streets and Highways as a guide, I conducted my investigation with the assistance of Officer LaChance.

The *Manual on Uniform Traffic Control Devices for Streets and Highways*—the MUTCD—defines the standards used by road managers nationwide to install and maintain traffic control devices on all streets, highways, pedestrian and bicycle facilities, and site roadways open to public travel. The MUTCD is published by the Federal Highway Administration (FHWA) under 23 Code of Federal Regulations (CFR), Part 655, Subpart F.

The following excerpt from the MUTCD defines the 5 factors (A-E) to be studied:

Manual on Uniform Traffic Control Devices for Streets and Highways

11th Edition, December 2023

US Department of Transportation

Federal Highway Administration

Section 2B.12 All-Way Stop Control

Support:

01 The provisions in the following sections describe warrants for the recommended engineering study to determine all-way stop control. Warrants are not a substitute for engineering judgment. The fact that a warrant for a particular traffic control device is met is not conclusive justification to install or not install all-way stop control. Because each intersection will have unique characteristics that affect its operational performance or safety, **it is the engineering study for a given intersection that is ultimately the basis for a decision to install or not install all-way stop control.**

02 All-way stop controls at intersections with substantially differing approach volumes can reduce the effectiveness of these devices for all roadway users.

Guidance:

03 ***The decision to establish all-way stop control at an unsignalized intersection should be based on an engineering study. The engineering study for all-way stop control should include an analysis of factors related to the existing operation and safety at the intersection, the potential to improve these conditions, and the applicable factors contained in the following all-way stop control warrants:***

All-Way Stop Control Warrant A: Crash Experience (see Section 2B.13)

All-Way Stop Control Warrant B: Sight Distance (see Section 2B.14)

All-Way Stop Control Warrant C: Transition to Signal Control or Transition to Yield Control at a Circular Intersection (see Section 2B.15)

All-Way Stop Control Warrant D: 8-Hour Volume (Vehicles, Pedestrians, Bicycles) (see Section 2B.16)

All-Way Stop Control Warrant E: Other Factors (see Section 2B.17)

Option:

04 The decision to install all-way stop control on site roadways open to public travel may be based on engineering judgment.

Standard:

05 **The satisfaction of an all-way stop control warrant or warrants shall not in itself require the installation of all-way stop control at an unsignalized intersection.**

I then looked at each of the 5 factors.

Section 2B.13 All-Way Stop Control Warrant A: Crash Experience

Option:

01 All-way stop control may be installed at an intersection where an engineering study indicates that:
For a four-leg intersection, there are five or more reported crashes in a 12-month period or six or more reported crashes in a 36-month period that were of a type susceptible to correction by the installation of way stop control.

For a three-leg intersection, there are four or more reported crashes in a 12-month period or five or more reported crashes in a 36-month period that were of a type susceptible to correction by the installation of way stop control.

Per the Police, the area of Burrage had 2 accidents, one in January and one in June; specifically, from 2021-2024: 1 and from 2014-2021: 1.

Therefore, an all-way stop is not warranted.

Section 2B.14 All-Way Stop Control Warrant B: Sight Distance

Option:

01 All-way stop control may be installed at an intersection where an engineering study indicates that sight distance on the minor-road approaches controlled by a STOP sign is not adequate for a vehicle to turn onto or cross the major (uncontrolled) road.

Support:

02 At such a location, a road user, after stopping, cannot see conflicting traffic and is not able to negotiate the intersection unless conflicting cross traffic is also required to stop.

In November of 2023 Officer LaChance investigated the sight distances at this location. His conclusion was that if 2 trees were removed, the sight distances would be adequate. The DPW subsequently removed the 2 trees.

In September of 2024 Officer LaChance and the DPW Director revisited the intersection. Our conclusions are sight distances were adequate; however, they could be improved with the removal of brush on the southwest corner of the intersection and the removal of a tree on the northwest corner. The DPW will schedule this work.

Therefore, an all-way stop is not warranted.

Section 2B.15 All-Way Stop Control Warrant C: Transition to Signal Control or Transition to Yield Control at a Circular Intersection

Option:

01 All-way stop control may be installed at locations where all-way stop control is an interim measure that can be installed to control traffic while arrangements are being made for the installation of a traffic control signal (see Chapter 4C) at the intersection or for the installation of yield control at a circular intersection.

There are no plans to install Signal Control at the intersection.

Therefore, an all-way stop is not warranted.

Section 2B.16 All-Way Stop Control Warrant D: 8-Hour Volume (Vehicles, Pedestrians, Bicycles)

Option:

01 All-way stop control may be installed at an intersection where an engineering study indicates:

The combined motor vehicle, bicycle, and pedestrian volume entering the intersection from the major-street approaches is at least 300 units per hour for each of any 8 hours of a typical day; and

The combined motor vehicle, bicycle, and pedestrian volume entering the intersection from the minor-street approaches is at least 200 units per hour for each of any of the same 8 hours.

02 If the 85th-percentile approach speed of the major-street traffic exceeds 40 mph, the minimum vehicular volume warrants may be reduced to 70 percent of the values given in Items A and B in Paragraph 1 of this Section.

In November of 2023 Officer LaChance conducted a speed study at this location which included vehicle counts on Flat Hill Road. The busiest times of the day were 2 PM to 5 PM with the maximum hourly count of 236 vehicles cumulative over the entire study period (11/13/2023 to 11/19/2023) or an average of 39 vehicles in one hour.

The DPW Director counted motor vehicles, bicycles, and pedestrians from 2 PM to 5 PM on September 24, 2024.

		Flat Hill Road Northbound	Flat Hill Road Southbound	Flat Hill Road Totals		Burrage Street Eastbound	Burrage Street Westbound	Burrage Street Totals
2 PM to 3 PM	Vehicles	29	25	54		12	11	23
	Trucks	1	0	1		0	0	0
	Pedestrians	0	0	0		1	3	4
	Bicycles	0	0	0		1	0	1
	Total	30	25	55		14	14	28
3 PM to 4 PM	Vehicles	30	22	52		19	5	24
	Trucks	0	0	0		0	0	0
	Pedestrians	1	2	3		1	0	1
	Bicycles	0	1	1		0	0	0
	Total	31	25	56		20	5	25
4 PM to 5 PM	Vehicles	45	26	71		18	8	26
	Trucks	0	0	0		0	0	0
	Pedestrians	0	1	1		3	1	4
	Bicycles	2		2		0	0	0
	Total	47	27	74		21	9	30
Totals	Vehicles	104	73	177		49	24	73
	Trucks	1	0	1		0	0	0
	Pedestrians	1	3	4		5	4	9
	Bicycles	2	1	3		1	0	1
		108	77	185		55	28	83

The observed traffic counts in both studies were significantly less than the 300 unit per hour threshold for the major-street (Flat Hill Road) and the 200 unit per hour threshold for the minor-street (Burrage Street).

Therefore, an all-way stop is not warranted.

Section 2B.17 All-Way Stop Control Warrant E: Other Factors

Option:

01 All-way stop control may be installed at an intersection where an engineering study indicates that all-way stop control is needed due to other factors not addressed in the other all-way stop control warrants. Such other factors may include, but are not limited to, the following:

The need to control left-turn conflicts, an intersection of two residential neighborhood collector (through) streets of similar design and operating characteristics where all-way stop control would improve traffic operational characteristics of the intersection, or where pedestrian and/or bicyclist movements support the installation of all-way stop control.

Based on sound engineering judgement, there is no need for left-turn control (as supported by the crash data), there is no need to improve traffic operational characteristics of the intersection (as supported by the low traffic counts); and no need for all-way stop control for pedestrian and/or bicyclist movements (as supported by the crash data and count data).

Therefore, an all-way stop is not warranted.