CITY OF RICHMOND
INTRACITY CORRESPONDENCE

ADMINISTRATIVE IMPACT STATEMENT

Date: January 29, 2021

Ordinance No. 2020-275: To erect all-way stop signs at the intersection of Lamont Street and Wilmington Avenue.

Patron: Hilbert

Legislative History: Introduced December 14, 2020

Administrative Staff Presenting: Travis Bridewell (646.5745)

Impact Statement Summary: An engineering study is required by the Manual on Uniform Traffic Control Devices (MUTCD) to determine the need for all-way stops at an intersection. The intersection of Lamont Street and Wilmington Avenue does not meet the MUTCD requirements for an all-way stop and should not be installed.

Staff Position: DPW does not support Ordinance No. 2020-275.

The MUTCD is adopted by reference in accordance with Title 23, United States Code, Section 109(d) and Title 23, Code of Federal Regulations, Part 655.603, and is approved as the national standard for designing, applying, and planning traffic control devices and is applicable to Virginia, pursuant to Va. Code § 46.2-830.

The Safe and Healthy Streets Commission of Richmond Virginia serves as advisory to City Council. The Vision Zero Task Force and the Safe and Healthy Streets Commission has recommended City Council adhere to federal and state regulations and allow professional staff to follow the MUTCD. The Safe and Healthy Streets Commission adopted by Resolution on January 16, 2019 to follow Federal and State Requirements found in the MUTCD.

An engineering study is required to determine if an intersection meets the MUTCD requirements. By our review, the intersection of Lamont Street and Wilmington Avenue does not meet the MUTCD requirements for an all-way stop sign installation by not meeting the volume requirements. DPW staff worked with the neighborhood and suggested switching the stop signs at the intersection of Lamont Street and Wilmington Avenue but they were not interested.

The Fire Marshal's office is not in favor of any device such as all-way stops that will reduce response times according to Fire Marshall Earl Dyer. The Fire Marshall opined that any device that is installed as a measure to control the flow of traffic also increases the possibility that persons experiencing an emergency will have to wait longer for help to arrive. The impact of such devices will only be realized when the emergency occurs. Over time the cost of maintenance on fire apparatus, its weight and the stopping and staring at each stop sign also increases the response times. *The 2012 International Fire Code, the National Fire Prevention Association (NFPA), and the Virginia Statewide Fire Prevention Code 2012 support that same language. (The VSFP Code 2012 is adopted by the City of Richmond every three years when updated.)*

Failure to follow MUTCD federal standards for all-way stop installations may result in increased crashes with potential liability to the City. Unwarranted stop signs may create crashes at intersections by:

- Encouraging motorists to drive faster between intersections in order to save time
- Encouraging violation of traffic laws
- Increasing the chance that drivers will disregard conflicting vehicle and pedestrian traffic, which raises the risk of collisions.
- Unwarranted stop signs may result in motorists ignoring these signs or only slow down without stopping.

From the Article "Intersection Safety: Myth versus reality" by the U.S Department of Transportation Federal Highway Administration, Advocates for Highway and Auto Safety and the Institute of Transportation Engineers.

Drawbacks of Unsupported All-Way- Stop Controlled (AWSC) intersections

Over the past several decades, there has been growing evidence that unsupported AWSC intersections can do more harm than good. While the consensus against these AWSC intersections is strong, note that some of the following conclusions were based on a combination of anecdotal and factual evidence.

1. Increase in legal liability
    - Placement of AWSC intersections can run afoul of some State laws. For example, some cities (e.g., City of Seven Hills and City of Brook Park in Ohio) have been taken to court over the installation of AWSCs that we not supported by engineering study in accordance with MUTCD guidelines (Hagan, 1981; Jordan, 1983). In these cases, the cities lost and were ordered to remove the extraneous stop signs.
2. Decrease in pedestrian safety
    - AWSC intersections where the decision to place the control was not backed by engineering study following MUTCD guidance can give pedestrians a false sense of safety (Bretherton, 1999). This occurs when the pedestrian, especially small children, expects a driver to stop due to the stop sign but the driver has developed a habit of non-compliance and aggressive driving at the unjustified AWSC intersection.

3. Increase in driving violations
    - Numerous studies have found that compliance at intersections with unnecessary AWSCs is poor (see e.g., Chadda & Carter, 1983; Bretherton, 1999; City of Fort Collins, 2018). The main reason is that drivers tend to ignore these traffic controls (i.e., by rolling through the intersection) if they feel that the traffic conditions do not require the stop sign. As a result, unless strong enforcement is implemented, this often leads to increases in traffic violations at unnecessary AWSC intersections.
4. Increase in aggressive driving behavior
    - Unsupported AWSC intersections promote aggressive driving behavior. Studies have observed that drivers tend to speed away from the unnecessary AWSC intersections in order to make up for the lost time spent there (Bretherton, 1999). For example, studies have observed that drivers accelerate back to their original speed prior to the stop sign in about 200 feet or less than 3 house lots (City of Huntington, 2019). This aggressive driving behavior results in unintended consequences jeopardizing pedestrian safety.
5. Increase in air and noise pollution
    - Unnecessary AWSC intersections can lead to increases in noise and air pollution problems. Noise pollution has been observed to increase due to the associated engine noises at intersections as compared to before conditions (City of Fort Collins, 2018). Similarly, air quality pollution has been observed to increase due to increased hydrocarbon emissions at the intersection. For example, Henriksson (1992) found that four-way stop intersections had emissions that were 10-20% higher than a two-way stop only.
6. Increase in traffic problems elsewhere
    - Corridors with unsupported AWSC intersections may cause traffic problems elsewhere in the neighborhood as drivers seek alternative paths with fewer traffic controls (City of Fort Collins, 2018).
7. Increase in travel time
    - On average, unnecessary AWSC intersections increase vehicle travel time (Henriksson, 1992). Henriksson found that the mean delay (11 seconds per vehicle) at a four-way stop intersection was almost twice that of a two-way stop. As a result of these delays, there are other negative consequences in terms of cost, environmental pollution, and aggressive driving behavior.
8. Increase in costs to the driving public
    - Researchers found that the annual operating costs to the driving public increased by about $2,500 (or about $5,000 adjusted for inflation) at an unnecessary AWSC intersection as compared to a two-way stop (Eck & Biega, 1988). More specifically, these costs can include additional wear and tear on the vehicle due to the start/stop maneuvers at the intersection, increases in gasoline consumption from increased travel time, increases in insurance premiums from a higher risk of crashes, and increases in traffic violation fines due to driver compliance issues.

Fiscal Impact: $2,000 to fabricate and install stop signs, all-way panel signs and stop bars at the intersection of Lamont Street and Wilmington Avenue.