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Date: August 25, 2020
To: Honorable Mayor Becksted and City Council Members
From: Karen Conard, City Manager *KSC*
Re: Middle Street Bike Lanes – Report Back for City Council August 31, 2020 Meeting

At the August 17 City Council meeting, the Council voted to request a report back on the Middle Street / Lafayette Road Bike Lanes and questions raised in relation to a recent crash in which a bicyclist was hit with the door of a vehicle parked next to the bike lane.

As no accident report was prepared at the time of the injury, the City is unable to report back on any specifics related to the circumstances of the crash. However, staff has outlined a few potential design modifications at the location of the recent crash to improve overall performance of the bike lane design for traveling motorists, parked motorists, and bicyclists. We have also provided a summary of some of the statistics we've been tracking since the bike lanes were implemented. Finally, in response to suggestions by Councilors to eliminate or substantially modify the bike lane design, we have outlined the process for seeking NHDOT approval.

As a follow-up to the safety questions submitted by Councilor Huda at the August 18, 2020 Council meeting, staff would refer Council members to the memo dated May 5, 2020 that was submitted to the Parking & Traffic Safety Committee and subsequently to the City Council, which is provided in this packet for the Council's reference. Included in that memo are responses to most of the public comments that Councilor Huda listed.

1. BIKE LANE STATISTICS

Traffic Crashes

The Police Department has compiled the data on the number of crashes reported on Route 1 (Middle Street and Lafayette Road) in the area where the bike lanes were installed. This report included ALL crashes reported, regardless of circumstances or cause (i.e. these are not crashes related to the bike lanes necessarily).

Installation of the bike lanes was completed at the end of September 2018, therefore staff had previously requested that the Police run reports comparing crash data for the year immediately prior to the bike lanes being installed (October 1, 2017 to October 1, 2018) with the year after they were installed (October 1, 2018 to October 1, 2019). The most recent report includes crash data from October 2019 to August 11, 2020.

Pre-Bike Lanes: Between October 1, 2017 and October 1, 2018 the total number of accidents reported for that area was 26.

- Of those 26 accidents 3 involved personal injury and 6 had less than \$1,000 worth of damage.
- 1 of the personal injury accidents was located at the intersection of Middle Road and Middle Street and the other 2 occurred at Lafayette Road and South Street, and none involved bicyclists or pedestrians.

Bike Lanes – Year 1: Between October 1, 2018 and October 1, 2019 the total number of accidents for that same area was 25.

- Of those 25 accidents, 2 involved personal injury and had less than \$1,000 worth of damage.
- 1 of the personal injury accidents was located at the intersection of Middle Street and Aldrich Road and the other occurred at Middle Street and Cass Street, and none involved bicyclists or pedestrians.
- 7 of the accidents occurred during the 5-month period when the flex post delineators were installed, the remaining 18 occurred during the 7-month period between late November 2018 and early July 2019 when the flex posts were not installed.

Bike Lanes – Year 2: From October 1, 2019 to August 21, 2020 the total number of accidents for that same area was 12.

- Of those 12 accidents, 5 involved personal injury.
- 3 accidents occurred at the intersection of Lafayette Road and South Street.
- 2 accidents occurred at the intersection of Lafayette Road and Andrew Jarvis Drive.
- 2 accidents were related to the bike lane. Only one involved a cyclist and that was the recent dooring accident. The other was a collision with a parked car between Cass Street and Aldrich Road.

Bicycle Counts

City staff has conducted spot counts at several locations along the bike lanes. This year, spot counts were only conducted at the intersection with Aldrich Road, as it represents a location in the middle of the most residential section of the bike lane, and there are several previous counts at that location with which to compare.

- **This year's** count during the last week of July revealed a daily total of 119 bicycles using the bike lanes between the hours of 6 AM and 8 PM, for an average of **8.5 bicycles per hour**.
- **Previous years'** counts at the same location, revealed an average **2.4 to 7.7 bicycles per hour**. The previous years' peak of 7.7 occurred in June, typically a peak month of bike usage.
- During the **last week of July in 2019**, the average number of cyclist was observed at **5.1 cyclists per hour**.

So the number of cyclists using the bike lanes has increased significantly over previous years.

In addition to the spot counts, the traffic signal at the intersection of Lafayette Road and South Street began collecting data on bike lane usage in March of this year on a 24/7 basis. The data from that location show an average daily number of bicyclists of 40 to 50 per day since late May of this year. The counts at this location are likely lower than at Aldrich Road as it is not as densely residential as the section at Aldrich Road.

Motor Vehicle Speeds

As injury potential increases for pedestrians, bicyclists, and motor vehicles as vehicle speeds increase, one way to gauge overall safety is to review changes in traffic speeds. Vehicle speeds vary along the corridor, but in general the data has shown that there has been an overall decrease of 1 to 2 miles per hour in average vehicle travel speeds since the installation of the bike lanes and posts. The staff has also compared average travel speeds with and without the delineator posts and the indication has been that removal of the posts results in a 1 to 2 mile per hour increase in travel speeds (back to pre-bike lane conditions). The results of the most recent speed study conducted at Aldrich Road, from August 12 to August 19, 2020, indicated average speeds of 29 mph and 85th percentile speeds of 33 mph.

2. SAFETY IMPLICATIONS FOR CRASH INVOLVING BICYCLIST AT START OF BIKE LANES

While any crash and injuries incurred by a bicyclist in the bike lane is cause for concern, staff does not by extension conclude that the bike lane design is faulty or unsafe. While we do agree that the condition of the bike lane could be greatly improved in some locations, these are conditions derived from pavement condition, debris or other obstacles in the bike lane, and maintenance (e.g. fading paint lines) and not to the bike lane design. The bike lane was designed to reduce the likelihood for dooring by providing a 2' to 3' striped buffer between the parking spaces and the bike lane. However, motorists are still responsible for parking within the designated parking spaces and checking for bicyclists and cars before opening their doors.

Whether the car was parked in a legal spot as originally suggested or in the striped no-parking area as the injured bicyclist reported to the Herald, opening a door into a traveling bicyclist (or “dooring”) is a violation-level traffic offense. Motorists can still be breaking the law even when their vehicles are not in motion. NH RSA 265:96 states: “No person shall open the door of a vehicle on the side available to moving traffic unless and until it is reasonably safe to do so and can be done without interfering with the movement of other traffic.” In this case the passenger’s side was also “available to moving traffic” in the bicycle lane. Bicycles are vehicles and therefore traffic under state law.

The bike lane was reviewed and approved at multiple levels and at multiple stages in the design, engineering, and construction of the project by qualified and certified transportation engineers including the City’s Parking and Transportation Engineer, the project engineers from GPI, and the NHDOT’s own Bureaus of Planning and Community Assistance, Highway Design, Traffic, as well as the Office of Federal Compliance.

3. CONSIDERATIONS FOR MINOR ADJUSTMENTS AT START OF SOUTHBOUND BIKE LANE

As stated above, staff does not conclude the bike lane design is faulty or unsafe. However, there are some potential minor design modifications that could be considered at the location of the recent crash to improve overall performance of the bike lane design for traveling motorists, parked motorists, and bicyclists. Two of these would require minor adjustments to the bike lane striping and parking lines. Staff would be happy to provide more details on these options if there is interest in considering these.

- 1) Start southbound bike lane at Union Street.
- 2) Start bike lane closer to Cabot Street in the no-parking stretch to allow a longer transition zone before the on-street parking starts.
- 3) Reinstall flex posts that were previously removed in the no-parking area at the start of the bike lane to prevent illegal parking and clearly demarcate the start of the bike lane for drivers and bicyclists.

4. PROCESS FOR SUBSTANTIAL REDESIGN OF BIKE LANES

Staff does not agree that there are existing safety concerns that merit a substantial redesign or elimination of the bike lanes. However, if Council is interested in pursuing a substantial change to the bike lanes such as pulling the parking to the curb and/or shortening the length of the protected bike lanes, there is a process that would need to be followed to ensure that the City does not have to return the federal grant funds received for this project.

As has been documented in email exchanges provided to the Council, NHDOT, as the fiscal agent for this project, has an obligation to protect the federal investment in the funds allocated to the City for this project in perpetuity. By extension, the City as recipient of these funds also has an obligation to do the same.

NHDOT staff have indicated that in order for them to consider whether design modifications are merited, the community would need to demonstrate safety, environmental or other concerns about specific design details by completing a review and analysis by a qualified engineer. If after that analysis is completed, there are concerns and engineered options that the City would like the Department to consider, NHDOT has indicated they would be

open to discussion about changes that could be made. Staff estimates that the engineering fees associated with conducting this analysis and presenting design modifications would cost the City approximately \$5,000 to \$10,000.

If NHDOT ultimately approves design modifications as described above, the City would then be responsible for the construction costs. It is unlikely any such changes would be able to be implemented until next construction season (spring of 2021).

At the August 18th meeting, some Councilors suggested that the bike lane could be temporarily modified by moving the parking to the curb as an interim step while an alternative design plan is being developed. Staff does not agree that such a modification would be feasible or advisable as a temporary measure and is of the opinion that this would be unsafe for both motorists and bicyclists.