



CITY OF PORTSMOUTH

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Karen S. Conard
 City Manager

Date: August 25, 2020
To: Honorable Mayor Becksted and City Council Members
From: Karen S. 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 have 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 and 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.
- At 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. 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 has 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.



CITY OF PORTSMOUTH
PLANNING DEPARTMENT

MEMORANDUM

TO: KAREN S. CONARD
FROM: JULIET WALKER, PLANNING DIRECTOR *JW*
CC: TODD GERMAIN, FIRE CHIEF
 MARK NEWPORT, POLICE CAPTAIN
 PETER RICE, PUBLIC WORKS DIRECTOR
 ERIC EBY, PARKING AND TRAFFIC ENGINEER
SUBJECT: REPORT BACK ON MIDDLE STREET / LAFAYETTE ROAD BIKE LANES
DATE: 5/5/2020

On March 12th, City staff held a public meeting in City Council Chambers on the Middle Street / Lafayette Road bicycle lanes. The purpose of the public meeting was to provide opportunity for members of the public to share comments, concerns, and suggestions for improvement. Meeting notices were mailed to all property owners along the section of roadway where the bike lanes have been installed.

A follow-up work session with Council was originally scheduled for March 23rd, but due to the COVID-19 emergency, this work session was postponed indefinitely. Enclosed with this memo are City staff responses to some of the feedback provided by members of the public in March.

The City typically re-installs our removable on-street bike facilities (e.g. bicycle corrals, flex post bollards, and bike share stations) starting in early May with the arrival of warmer weather and increased bicycling activity.¹ We anticipate there will continue to be demand for bicycle facilities in the City, and we are also anticipating that the social distancing and suspension of many organized sports, as well as ongoing closure of indoor exercise facilities will likely continue for some time. With that in mind, staff is recommending that the City continue to support the ability for residents to partake in passive localized recreation (i.e. bicycling and walking) along our city streets and sidewalks safely and comfortably. This could also help to reduce congestion in our area parks and off-road trails.

After the meeting in March, Public Works Director Peter Rice, Planning Director Juliet Walker, Fire Chief Todd Germain, Police Captain Mark Newport, and Parking and Traffic Engineer Eric Eby met to discuss possible modifications to the bike lanes. Given the current context of the COVID-19 emergency and the anticipated freeze on capital

¹ The City has temporarily suspended the bike share program due to the COVID-19 emergency.

projects, we unanimously agree that substantial changes to the bike lane design should not be a City priority at this time, and we have jointly agreed to recommend the following low cost modifications to the bike lanes for the coming season. We have also included some longer term (and higher cost) considerations for the future.

We would also recommend holding a work session with Council in the fall to review the impact of the interim modifications and to discuss any future courses of action.

Staff Recommendations

Spring of 2020

- Re-install a limited number of flex post bollards (about 40 along the entire corridor, which is a reduction of 30 from last year). The bollards helps to delineate the bike lanes and parking areas, which improves safety for bicyclists and motorists.
 - Keep bollards at all intersections and at start of on-street parking areas.
- Remove on-street parking at intersections to improve sight lines
 - 1 space south of Aldrich and 1 space north of Aldrich
 - 1 space south of Cass and 4 spaces north of Cass
- Reduce posted speed limit to 25 mph.

Summer of 2020

- Restriping -- adjust center line in locations to align with road crown, this will widen travel lanes and straighten out curves and help prevent cars crossing center line
 - Between Union Street and Park Street, and Middle Road and Mendum Avenue.

Longer-Term Changes

- Full re-pave of Middle Street will provide consistent pavement color and eliminate scarring in pavement that creates visual confusion at night and in low visibility conditions.
- Research more aesthetic alternatives to flex post bollards.
- Evaluate locations for additional pedestrian crossings.
- Implement intersection improvements at Greenleaf Avenue and Lafayette Road.
- Continue to work on completing connections to city-wide bicycle network.

Ongoing Data Collection

- Collect additional data on traffic speeds, accident reports, and bike lane usage – to compare impact of design modifications
- Survey students and families at Middle School and High School regarding usage of bike lanes

Staff Responses to Public Comments about Bike Lanes (from March 2020 public meeting and correspondence submitted to Planning Department)

- **Comment:** Middle Street is a principal arterial roadway intended to serve high traffic volumes. 30-35 mph speed limit based on 85th percentile is not unreasonable.

Staff Response: We agree. That is why a protected bike lane using parked vehicles or flex posts, or a separated bicycle facility is appropriate for this roadway where speeds regularly exceed 30 miles per hour.
- **Comment:** Although the design meets most minimum bike lane standards, minimums are rarely enough for the public to feel comfortable.

Staff Response: We agree that increasing the bike lane widths above the minimum standards would likely increase comfort for bicyclists, however minimums could only be exceeded by removing parking or reconstructing the sidewalk. There is a desire to retain as much on-street parking as possible and the reconstruction of the sidewalk would be a substantial expense. This is also an argument for keeping the striped buffer, flexible bollards, and parking wherever possible.
- **Comment:** Return Middle Street and Lafayette Road back to wide and bike-friendly roadway it once was.

Staff Response: Based on the volume and speed of traffic on Middle and Lafayette, with parking on both sides, this corridor was not considered a bike-friendly roadway previously which is why it was identified in both the 2010 Safe Routes to School Action Plan and the 2014 Bicycle and Pedestrian Plan.
- **Comment:** This project has not increased the number of cyclists using the roadway and there is minimal bike lane utilization.

Staff Response: Cyclists will be more likely to use a bicycle facility, separated or otherwise, if it is part of a comprehensive bicycle network. The City is working on completion of the bicycle network, but that will take time and additional funding. While we have not seen substantial increases in bicycle usage along this corridor, these lanes have not been in place for very long and changes in commuting patterns and behaviors can take time.
- **Comment:** Sight line concerns for traffic entering from intersecting streets

Staff Response: City and state standards allow for on-street parking within 20 feet of an intersection with another street, and right up to the edge of private driveways. This rule allows for the maximum amount of on-street parking but can limit sight lines. It should be noted that poor sight lines existed in many locations along this corridor prior to the construction of the new bike lanes. To strike a balance between retaining as much parking as possible and providing improved sight lines at intersections and driveways, for this project parking was restricted within 20 feet of private driveways and within 40-65 feet of intersections. In some locations, the bike lane project has eliminated parking altogether and greatly improved sight lines as a result. Providing the minimum recommended sight lines for the observed speed of traffic on Middle Street, would require the removal of some the remaining on-street parking spaces.
- **Comments:** The road has long pedestrian crossings and few areas for refuge.

Staff Response: Pedestrian crossing distances were not lengthened by this project. In fact, the crossing distances are shorter when measured between the edge of the parking spaces and the bike lane on the opposite side of the road.

There are just as many areas for pedestrian refuge as before the bike lanes, that has not changed.

- **Comments:** Poor aesthetic due to paint and bollards.
Staff Response: Striping and bollards comply with the latest nationally accepted design guidance for protected bike lanes.
- **Comments:** Catch basins and dips in pavement along bike lane are hazardous.
Staff Response: The majority of catch basins were raised before installing the bike lane. The roadway is in need of resurfacing, which will resolve the unevenness of the pavement. Paving was not part of the budget for this project.
- **Comments:** Concerns about hazards such as car doors swinging into bike lane and travel lanes, drainage, and debris.
Staff Response: A striped buffer was provided where the bike lanes are next to parked cars to safeguard against car doors swinging into the bike lane. City maintenance staff are making adjustments to improve removal of leaves and debris in the bike lanes.
- **Comments:** The design increased the points of conflict at intersections due to parking between lanes.
Staff Response: Removing parking spaces to improve sight lines would help to alleviate this concern.
- **Comments:** Vehicles must block bike lanes at intersections in order to see beyond parked cars.
Staff Response: This is not uncommon for many types of urban bike lanes where there are intersecting streets and on-street parking. Removing parking spaces to improve sight lines would help to alleviate this concern.
- **Comments:** Narrower, shifting lanes cause vehicles to cross parking lane, center line, bike lane buffer.
Staff Response: High vehicle speeds can be a factor in why this is occurring, but there are places that the center line and bike lane buffer could be adjusted. Reducing the posted speed limit can also be considered.
- **Comments:** Concern about congestion and conflicts due to buses and turning vehicles.
Staff Response: This is normal on a City street, and helps to slow traffic, a desirable effect.
- **Comments:** Concern about driver frustration and aggression due to traffic calming impact.
Staff Response: Bike lane design is meant to provide for safer cycling, not to calm traffic. Data indicate that speeds have only lowered slightly. Increase in travel time on corridor is negligible. It is normal for there to be a period of adjustment when traffic patterns are changed.
- **Comments:** On-street ADA parking has been sacrificed
Staff Response: City is not required to provide ADA parking on-street. Individual property owners are required to provide off-street ADA parking for their customers or residents. The City did make an adjustment after the bike lanes were installed to add an ADA drop off space in front of the chiropractic office.
- **Comments:** Cars are parking in bike lane buffer due to minimum travel lane widths.
Staff Response: Removing parking spaces to improve sight lines would help to address this concern. Removing all parking spaces would allow lanes to be

- widened, but this project was intended to balance on-street parking demand with improved bicycle safety.
- **Comments:** Parking is unprotected from lane shifts or wide turns at intersections.
Staff Response: When bollards are in place, they help to better delineate the parking lanes from travel lanes.
 - **Comments:** Parking on one side of street creates extra pedestrian crossings.
Staff Response: Eliminating on-street parking would address this concern, but this project was intended to balance on-street parking demand with improved bicycle safety. Primary purpose of arterial roadways is for moving higher volumes of traffic. Providing on-street parking is a secondary use, and only when sufficient room exists.
 - **Comments:** Vehicles are stopping less for pedestrian crossings.
Staff Response: This observation is anecdotal and not backed up by data. However, video observations by the City of pedestrian crossings along the entire corridor reveal that there are a low volume of pedestrian crossings, typically less than 10 per hour at all crosswalks during the peak hour. This is true before and after the bike lanes were installed. Studies have shown that driver yield rates are very low when pedestrian crossings are less than 20 per hour.
 - **Comments:** Consider alternative options such as reverting back to prior design (no bike lanes), placing bike lanes on the outside of the parking lanes (next to vehicular travel ways), or total roadway redesign that includes a raised buffer between bicycles and parking.
Staff Response: Original design is not appropriate for a roadway with this level of traffic and speeds and, furthermore, reverting to prior condition would require returning the federal funding received for this project. Separated bike lane is the appropriate design. High impact alternative (total roadway design) is a good solution, but as noted, expensive.
 - **Comments:** Install traffic signal at Middle and Cass
Staff Response: Middle at Cass did not meet any signal warrants in 2018. It might have in 2019 due to Islington detour, but no detour in 2020.