

Newton City Council

January 10, 2021

RE: Support for roundabout at the Auburn St./Commonwealth Ave. intersection

Dear City Councilors,

We are writing to you as a united array of advisory, advocacy, and philanthropic groups (the Newton Transportation Advisory Group, the Newton Safe Routes to Schools Task Force, Bike Newton, Green Newton, Riverside Greenway Working Group, and the Solomon Foundation) to support MassDOT's plan to design and construct a modern roundabout at Auburn Street and Commonwealth Avenue. We support the roundabout concept for a variety of reasons, including the following advantages compared to current conditions or alternative designs:

- increased safety for all road users, including drivers, bicyclists, and pedestrians,
- efficient traffic flow with no unnecessary delays or queues for drivers or pedestrians,
- greater access to the recreational uses of the Charles River,
- universal accessibility for adults, children, and families,
- neighborhood and regional connectivity for trails and multi-use paths,
- an attractive and prominent new gateway to Auburndale,
- expansion of greenspace and reduction of paved and impervious surfaces,
- reduced maintenance and electricity costs related to intersection operations,
- reductions in noise levels, vehicle emissions, and fuel consumption,
- safer response for emergency vehicles.

MassDOT's planning for this intersection is still at an early concept stage. There remains ample opportunity for the City of Newton, neighborhood groups, and other interested parties including ourselves to provide input to make this project as effective as it can be. However, we strongly believe that the roundabout design offers clear and significant advantages over other proposed solutions and the current dangerous and inaccessible conditions. It is our common consensus that the City of Newton should support MassDOT's roundabout concept, assist the state in bringing it to an effective 100% design, and integrate it into the City's planning for the Commonwealth Ave. Carriageway towards Lyons Field.

We would like to provide more detail about why we so strongly support a roundabout at this intersection.

## Importance of this project

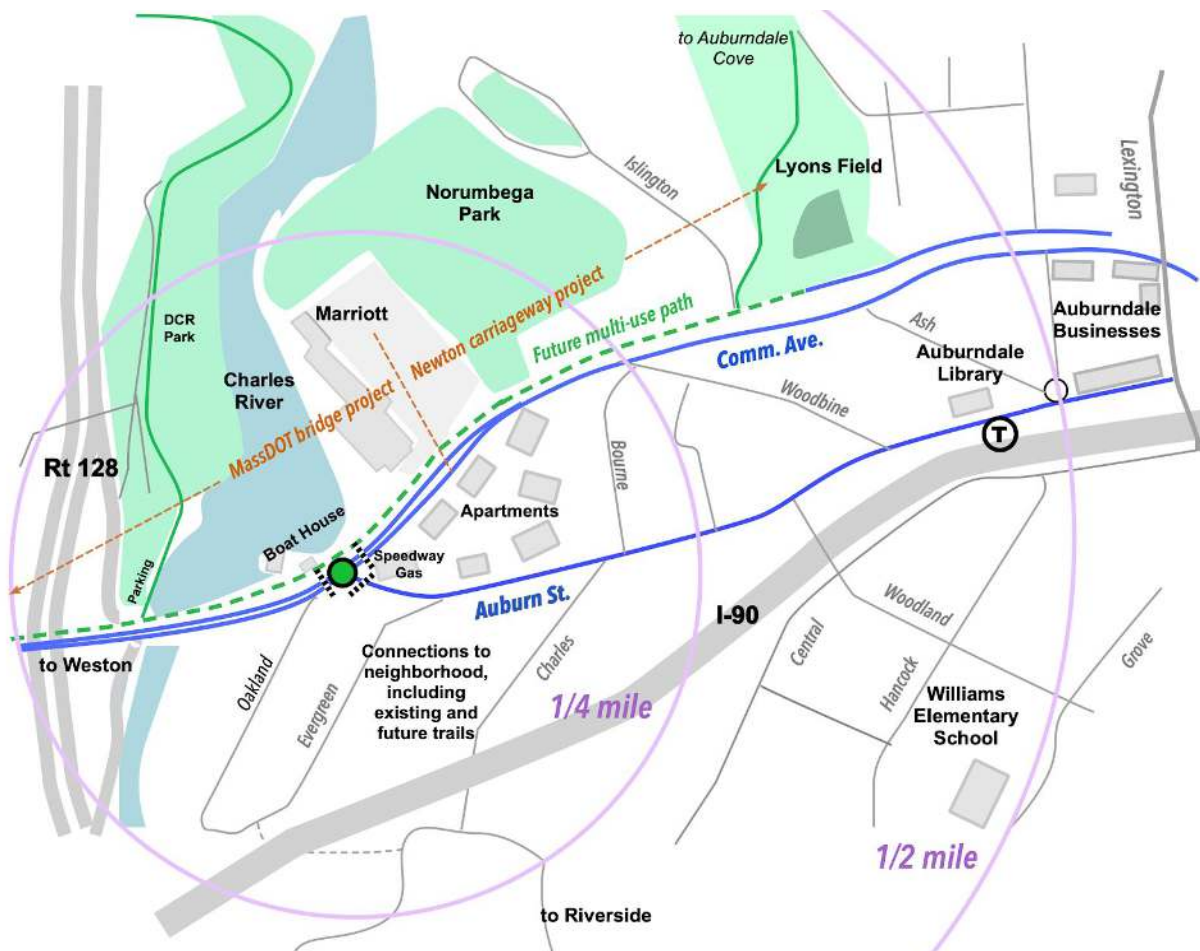
The Auburn Street/Commonwealth Ave intersection is one of the most important gateways to the City of Newton. Comm. Ave brings significant motor vehicle traffic to and from Weston, Route 128, and Route I-90. The location marks a major entrance to the village of Auburndale and to Newton itself. It is adjacent to a rich network of current and planned transportation and

recreational facilities connected to the Charles River. It is a hub that connects recreational and transportation amenities to abutting residences, neighborhoods off of Auburn Street, the village of Auburndale, and neighboring cities and towns. The existing roadway is a well-traveled bike route for cyclists accessing roads and trails to the west.

## Current conditions

Given the strategic importance of this intersection, the current conditions at Auburn St/Comm Ave. are unsafe, inaccessible, inefficient, unaesthetic and confusing. This configuration is likely the result of incremental evolution dating back to the days when streetcars served Norumbega Park in the early 1900's. With a unique and confusing lane configuration, it resembles an extension of the highway ramp system more than a village intersection. It lacks any pedestrian crossing of Commonwealth Avenue, cutting off the residents to the south from the recreational opportunities to the north, including the only pedestrian route across Route 128. The existing conditions encourage excessive motor vehicle speeds and "beat the light" behavior that endanger all road users. Finally, the intersection currently uses a large amount of impervious pavement at an environmentally sensitive location immediately adjacent to the Charles River.

This intersection is long past time for a needed, major redesign.



## Why is this project happening now?

As part of its statewide bridge rehabilitation and replacement work, MassDOT must reconstruct the Rt-30 overpass over Route 128 and the Charles River, as well as Commonwealth Ave. from the river through the Auburn St. intersection. A “no build” alternative is not an option, and any alternative will be required to meet current standards for traffic design, safety, and accessibility. This project offers us a once in a generation opportunity to improve the Auburn St./Commonwealth Ave. intersection, integrating it with a new river crossing to the west and a signature new multi-use path along Comm. Ave. to the east.

## Intersection options

MassDOT had developed four preliminary design alternatives for the Auburn St./Comm. Ave. intersection:

- Option 1 (“Continuous Westbound Thru” is the design most similar to the current conditions. It is considered by MassDOT to be insufficiently safe for pedestrians crossing the westbound side of Commonwealth Avenue.
- Option 2 (“Displaced Left Turn”) requires drivers turning from Comm. Ave. westbound to Auburn St. southbound to make a U turn at a traffic signal, with a roadway width of more than 6 lanes and 95 feet across at Oakland St.
- Option 3 (“Traditional T Intersection”) has extremely long and unprotected crosswalks across Comm Ave, (approximately 60-80 feet).
- Option 4 (“Modern Mixed-Lane Roundabout”) is a modern roundabout design with pedestrian safety enhancements. **This option is MassDOT’s preferred option.**

**MassDOT has clearly stated that all designs handle the traffic requirements for the intersection and roadways, with roughly equivalent transit times.** Thus, we can focus on the specific question about which design is better for all other reasons. **We believe that the proposed roundabout design is far simpler, safer, and more efficient than the other alternatives. The roundabout design alternative is an excellent fit for this location. We commend MassDOT for bringing this design forward.**

It is critical that those evaluating these alternatives understand that a modern roundabout is significantly different from the large 1950’s style rotaries familiar to drivers on major Massachusetts highways and DCR parkways. Modern roundabouts are designed to maintain the through flow of traffic while limiting speeds to safe levels, minimizing potential conflict points, and otherwise mitigating the risks of vehicle collisions. A roundabout footprint is significantly smaller than that of the region’s historic rotaries.

Roundabouts are ubiquitous in Europe and have been growing in popularity in the United States since the 1990s, with about 4,600 designed and built recently in the US. States such as New York and Virginia have “roundabout first” policies requiring roundabouts to be considered in

preference to signalized intersections for all roadways. The [City of Carmel, Indiana has installed more than 125 roundabouts since 1996](#) with great success. According to MassDOT, 59 roundabouts have been built in Massachusetts over the last twenty years. In addition, roundabouts have become common as part of roadway designs for large private developments such as Dedham's Legacy Place and the Natick Mall. [MassDOT has recently authored a third edition of its comprehensive standards for roundabout design in the state.](#)

## Why a roundabout is the best choice for Auburndale

A roundabout at Auburn Street and Commonwealth Avenue would offer numerous benefits to road users and residents alike in ways that are far superior to the other design alternatives.

### Safety

- Roundabout design reduces the speed of vehicles to levels (20-25 mph) to allow drivers to avoid most crashes, and minimize damage and injury when crashes do occur.
- Compared to traditional intersections, roundabouts minimize the number of potential conflict points between motor vehicles, pedestrians, and bicyclists.
- Roundabouts decrease the crossing distance for pedestrians. The pedestrian crosswalks for the roundabout design are about 50% shorter than the longest crossing in Option 3, and offer a pedestrian refuge island half-way for extra protection.
- The roundabout alternative includes Pedestrian Hybrid Beacons (PHBs) to provide extra safety for pedestrians. PHBs have been shown to have greater than 90% compliance from drivers.
- Audible pedestrian traffic signals and carefully constructed ramps and crossings provide universal accessibility for the disabled, the elderly, children, and families with strollers.
- Pedestrians, bicyclists and drivers have shorter wait times with roundabouts. There is no need to wait for a whole light cycle for a pedestrian or traffic signal. Short wait times increase signal compliance.
- Roundabouts are safer for emergency vehicles. One of the greatest dangers for responding police and fire vehicles is the risk of 90 degree or head-on collisions at an intersection at high speed. Roundabouts eliminate this type of collision. Mountable aprons on traffic islands enable fire apparatus and other large vehicles to safely navigate roundabouts.

[Studies cited by the Insurance Institute for Highway Safety \(IIHS\)](#) have shown that converting intersections from stop signs or traffic signals to roundabouts reduces injuries 72-80% and reduces all crashes by 35-47%. European studies have shown roundabouts reduce pedestrian crashes by about 75%.

These safety benefits do not come at the expense of vehicle delay or traffic backups. According to IIHS, studies across multiple states show that roundabouts substantially reduce both average vehicle delay and vehicle queue length.

## Accessibility

The existing conditions at this intersection limit neighborhood access to the Charles River and all the recreational amenities on the north side of Commonwealth Avenue. The value of a safe and convenient crossing of Commonwealth Avenue, made possible by a roundabout, cannot be overstated. Whether it be kayaking the Charles, biking to Weston, walking with family to a baseball game at Lyons Field, pushing a stroller along a river path, or enjoying Norumbega Park, the safe and convenient pedestrian crossings provided by the design will be transformational for the neighborhood. Modern accessibility standards mean that these opportunities will be open to a broader swath of Newton's residents than ever before.

The timing of this development meshes well with ongoing efforts to build or rebuild trail networks in the area. Improved crossings of Commonwealth Ave. will allow increased north-south recreation and transportation mobility by bicyclists and walkers. These visitors will have greater and safer access to transit, businesses and other destinations in Auburndale.

## Environment and sustainability

The roundabout design is far more environmentally friendly than conventional intersection alternatives. The roundabout restores significantly more greenspace to the river reservation. Increased greenspace means less impervious surface, lowered salt requirements for winter deicing, reduced surface to collect roadway contaminants, and overall lower maintenance costs. Reducing contaminants and runoff into adjacent water bodies is especially important to protect the Charles River and the adjacent recreational boating facility.

By relying on passive traffic control rather than an active system such as traffic signals, roundabouts reduce emissions and energy use. Vehicles do not idle at traffic lights. Instead, traffic flows at a slower but steady rate. Carmel, Indiana estimates that each roundabout saves about 24,000 gallons of gasoline each year and about \$5,000 in electricity that would have been needed for traffic equipment. A recent study by [MRC Centre for Environment and Health at King's College London](#) has shown that pollution from brake, clutch, and tire wear may have health effects as serious as tailpipe emissions; by reducing the need for braking, roundabouts may reduce these harmful particulates. The fuel savings, improved traffic flow, and eliminated wasted idle time that result from roundabouts directly correspond to a smaller carbon footprint, reduced particulate emissions, and reduced noise pollution.

## Aesthetics

Auburndale residents have long sought a worthy gateway at the entrance to their village. What they have today is a small sign in a median, dominated by a gas station on the edge of a sea of asphalt. A roundabout would offer the ideal location for such a prominent gateway focal point, whether it be a sign, a sculpture by a local artist, or attractive natural landscaping. Where installed roundabouts have become integral to the identity of their surroundings.

The aesthetics of roundabouts also fit well with the historical character of the Charles River Lakes District, helping to restore the parkway character of this section of Commonwealth Ave.

Roundabouts fit well with the design language of other regional parkways including the DCR system. The proposed roundabout offers the opportunity for a familiar and attractive visual design combined with modern safety elements.

We urge the City to work with local neighborhood groups to design a roundabout that celebrates the pride of Auburndale and Newton. This discussion should include plans for ongoing maintenance and upkeep.

## Public opinion

In spite of their numerous advantages and widespread use worldwide, it is not uncommon for roundabout proposals to be met with initial skepticism in new locations. However, roundabouts typically become popular design choices after installation. IIHS studies of six communities showed that public support for roundabout increased from about 34% before construction to 70% one year after construction, including two-thirds of older drivers. In Carmel, roundabouts are so popular that neighborhoods compete to get the next intersection conversion. The city's Mayor cites reduced traffic delays as the primary reason for the roundabout's warm reception.

## Next steps

We believe this opportunity is not one to be missed. The City should support continued development of MassDOT's roundabout design for the Auburn St./Comm Ave. intersection. There are many details to be worked out once the commitment to the roundabout plan has been made. The City should work closely with MassDOT, with members of the neighborhood, and with groups such as ours to refine the design, making it as safe and effective as possible. The design should be integrated with both the MassDOT bridge project and Newton's Commonwealth Ave. Carriageway project in a way that is coherent and exciting for its future users. Finally, as the project timeline approaches, the City should follow MassDOT guidance for public education regarding safety in roundabouts. The City should also consider other locations where a roundabout may be appropriate.

These outreach, planning, engineering, and education efforts will take time and commitment, but we are confident that the investment will pay dividends for years to come.

Your support is critical to help this important and long-overdue project move forward. We thank you in advance for your support.

Sincerely,

Michael Halle, Chair, Transportation Advisory Group, for its Citizen Members  
Jenn Martin, Chair, Newton Safe Routes to School Task Force, for its Citizen Members  
Ed Olhava, President, Bike Newton  
Marcia Cooper, President, Green Newton  
Ted Chapman, Project Manager, Riverside Greenway Working Group  
Herb Nolan, Executive Director, Solomon Foundation