Recommendation: Main Street intersections at So. Union, S. Winooski, Church, St. Paul, So. Champlain, Pine and Battery should be scoped for roundabout versus signal versus all-way-stop. That scoping would show metrics of delay for each mode, queues of vehicles, motor fuel/energy consumption, injuries projected, and equity.

Reasons for the recommendation:

1) Four of the Main Street intersection in the proposed Main Street Great Streets “generational redevelopment” proposal are on Vermont’s high crash list based on 2012-2016 data:
   #1 highest crash location in Vermont is Main and South Winooski
   #24 is Main and St. Paul
   #31 is Main and Battery
   #52 is Main and South Union

2) Roundabouts provide 24/7 traffic calming, and create safer intersection crossings for pedestrians and bicyclists while facilitating smooth traffic flow by slowing traffic. Negotiation between vehicles at intersections is separated from negotiation between drivers of vehicles and pedestrians making for safer passage. Eye contact is facilitated between all users passing through intersections resulting in safer passage for all.

3) Roundabouts avoid forced greenhouse gas emissions caused by vehicles idling at signals when their movement is prohibited even when there are no competing vehicles or pedestrians/bicyclists at the intersection. Roundabouts cut CO2 emissions by 20-30%.

4) Signals at intersections are challenging to program in ways to avoid vehicle idling or pedestrians waiting to cross, despite there being no other vehicles at an intersection. “Intersection waiting experiences” can induce drivers and pedestrians to unsafely ignore signals and move through an intersection without regard to the signals.

5) Compared to roundabouts, signals unfortunately induce vehicle drivers to step on the gas at yellow signals, causing collisions with other vehicles.

6) Compared to roundabouts, signals leave pedestrians vulnerable to being hit by turning vehicles.

7) Compared to roundabouts, signals leave motorcyclists and scooter riders vulnerable to being hit while turning or rear-ended while waiting to turn.

8) Roundabouts are less expensive to maintain, by not requiring electricity costs, mechanical repairs and equipment upgrades year after year.

I provide three attachments to support my recommendation:

1) A document prepared by Transportation expert Tony Reddington listing crash statistics and costs at four high crash Main Street intersections based on 2012-2016 VTRANS data;

2) A document showing design specifications and photographs for a roundabout in Athens, Ohio. The information in that document makes it easier for people to visualize the aesthetics, safety and functionality of roundabouts. The Athens, OH roundabout document has been provided to the Department of Public Works and the Public Works Commission before, initially in 2020, to facilitate DPW understanding of the superior aesthetics, environmentally-sound functionality and safety of roundabouts.

3) Tony Reddington’s testimony regarding the “Great Streets” TIF Bond ballot item, 2/20/2022