

# Great Road Traffic Optimization Study

The Town of Bedford initiated the Great Road Traffic Optimization Study to examine the functionality of the Great Road/Route 4 corridor and its 11 intersections between Shawsheen Road and Carlisle Road/Route 225/North Road/Route 4. The goal of the Study is to improve safety and traffic operations on Great Road by evaluating operational and safety deficiencies, and providing recommendations for short term and long-term improvements. Reducing travel delays along Bedford's main thoroughfare will improve residents' quality of life, lower vehicle emissions, and reduce cut-through traffic through residential neighborhoods.

Within Bedford, the Great Road is a significant connector to the I-95/Route128 corridor and several significant regional destinations such as the VA Hospital. Moreover, there are several major local destinations that Great Road provides access to such as Bedford Marketplace, Stop&Shop Plaza, and Bedford's Town Campus. According to the 2020 US Census, Bedford's residential population is about 14,400, whereas the daytime population is estimated to be approximately 25,000. Traffic data compiled for this Study indicates:

- A relatively significant portion of the traffic on Great Road is likely attributable to local destinations;
- Vehicles are likely using other collector roads in Town (South Road, Page Road, etc.) to bypass the heavily congested Great Road corridor.

A safety and traffic operational analysis was conducted to identify deficiencies with existing conditions, and recommend improvements to the roadway layout and intersection controls. The following major findings/recommendations are included in the Study, and if implemented, should reduce congestion and improve safety on Great Road:

- A well-timed, coordinated signal system along Great Road would permit continuous movement through the corridor, and reduce congestion by minimizing stops and delays. Upgraded signal equipment would be needed in most cases.
- The following intersections meet engineering standards (MUTCD Signal Warrants) for signalization:
  - Brooksbie Road/Great Road
  - Willson Park (Concord Road/Great Road)
  - North Road/Carlisle Road
- Geometric improvements are recommended for some intersections to address specific deficiencies.
- Additional recommendations for crash clusters are included, and recommendations from previous plans and studies are brought forward as well.

Suggested timeframes for improvements are Interim (2029) or Long-Term (2040 or later). The recommendations include budgetary level, order-of-magnitude, probable construction costs. The total for the Interim Improvements is anticipated to be approximately \$220,000; the total for the Long-Term Improvements is anticipated to be \$4.7M (in 2022 dollars, respectively). The improvements would be eligible for the MassDOT Local Bottleneck Reduction Program, which targets delays that are created from poor traffic signal timing, outdated equipment, lack of adequate vehicle detection, or geometric deficiencies, and can be used on individual intersections or on small corridors. The program provides \$500,000 maximum for construction costs in a single fiscal year.

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For additional information, see the full report at: <https://bedfordma.gov/430/Transportation-Improvement-Projects>

