



**APPENDIX L:  
TRAFFIC CIRCULATION  
MODIFICATIONS**

### Conceptual Intersection Modifications

If Center and Cabot Streets were changed to allow two-way traffic, modifications would be required at key intersections. Conceptual modifications to support traffic flow changes have been summarized below.

#### *Exchange Street/Center Street/Springfield Street*

Exchange Street is a one-way, two-lane roadway with on-street parking on both sides that approaches from the west into its intersection with Center Street and Springfield Street. Center Street is a one-way, three-lane roadway with on-street parking along the west side that approaches from the south into the intersection. Springfield Street is a two-way, two-lane roadway with parking that approaches the intersection from the east and continues north as a one-way, two-lane movement towards Front Street with parking along the west side.

The signalized intersection of Exchange Street/Center Street/Springfield Street has offset east-west approaches into the intersection. In order to accommodate two-way flow from Exchange Street (east side) into the intersection, additional roadway improvements and/or signalization phasing modifications would likely be required in order to maximize safety through this offset intersection. There may be limited options for realignment of this intersection given the limits of development in the urban area. Another improvement option may be that traffic signal operations be “split” (operate exclusively) to enhance safety. Further investigation of traffic movements and operations would be necessary to fully assess recommended intersection improvements.

- Opinion of Probable Conceptual Construction Cost: \$300,000. This includes limited intersection reconfiguration and traffic signal improvements.

#### *Front Street/Springfield Street/Chicopee Street*

Front Street is a one-way, two-lane roadway west of its intersection with Springfield Street and a two-way, two-lane roadway east of its intersection with Springfield Street. Springfield Street is a one-way, two-lane roadway from the south that splits towards Front Street. Chicopee Street is a two-way, three-lane roadway north of its intersection with Front Street.

The signalized intersection of Front Street and Springfield Street would likely require significant geometric roadway reconstruction to accommodate two-way travel at this intersection. The existing triangle-shaped intersection would likely require a reduction of landscaped area to accommodate traffic demand for two-way traffic. In addition, the traffic signal equipment and phasing would be modified to accommodate two-way traffic. The full extent of landscape area taking would be determined by assessing the future traffic volume distribution and the resultant geometric improvements at this intersection.

- Opinion of Probable Conceptual Construction Cost: \$1.5 million - \$2 million. This includes reconfiguration of the traffic island and traffic signal improvements.

#### *Cabot Street/Front Street*

Front Street is a one-way, two-lane roadway with no on-street parking east and west of its intersection with Cabot Street. Cabot Street is a one-way, four-lane roadway with no on-street parking immediately south of the intersection with Front Street. There is no traffic signal at this location. Depending on future uses to the west along Front Street, signalization may be warranted at this intersection.

#### *Cabot Street/Exchange Street*

West of the intersection, Exchange Street is a two-way, two-lane roadway with on-street parking. East of the intersection, Exchange Street is a one-way, two-lane roadway with on-street parking. North of the intersection, Cabot Street is a one-way, four-lane roadway without on-street parking. South of the intersection, Cabot Street is a one-way, two-lane roadway with on-street parking.

The signalized intersection of Cabot Street and Exchange Street would require traffic signal reconstruction to accommodate two-way traffic from all approaches. At a minimum, the traffic signal modifications at this location would likely require a new mast structure to accommodate traffic control for the two-way flow movements. No significant roadway geometric improvements are expected as a result of the two-way traffic flow reconfiguration.

- Opinion of Probable Conceptual Construction Cost: \$200,000. Improvements include limited signalization reconstruction and minor roadway improvements.

#### *Cabot Street/Center Street*

The unsignalized intersection of Cabot Street and Center Street is a “Y” shaped intersection. South of the intersection, Center Street is a two-way, two-lane roadway with parking. North of the intersection, Center Street is a one-way, two-lane roadway with parking on both sides of roadway. Cabot Street is a one-way, two-lane roadway with on-street parking along the western side of the roadway.

Given the existing downtown roadway network and the unknown traffic volume redistribution as a result of modifying traffic patterns to two-way travel on Cabot and Center Streets, the warrant for a traffic signal at this location is unknown. Therefore, a traffic signal warrant study would be necessary to determine the applicability of a traffic signal at this location.

In addition, geometric improvements would be required at this intersection to accommodate two-way traffic flow. Potential geometric reconfiguration would likely encroach on Bullen’s Park. Assessment of this option would require analysis of potential Article 97 issues related to change of use of the existing park. Furthermore,

approximately seven on-street parking spaces within the existing intersection layout would be removed to accommodate future intersection alignment.

- Opinion of Probable Conceptual Construction Cost \$500,000. This includes geometric reconstruction to provide a reconfigured “T” intersection and full signalization, if warranted.

#### *Cabot Street/Dwight Street*

The “T” shaped intersection of Cabot Street and Dwight Street has traffic signal equipment, but it does not appear to be under signalized control, except for a flashing red light in the direction of the fire station driveway approach. South of the intersection, Cabot Street is a one-way, two-lane cross section with no parking. North of the intersection, Cabot Street is a one-way, two-lane roadway with on-street parking on the west side. Dwight Street is a two-way, two-lane roadway with on-street parking. At this location, a fire station is located at the northwest corner of the intersection.

A traffic signal warrant study would be necessary to determine the applicability of existing traffic signal during the existing and future traffic conditions. Based on preliminary review of the traffic operations at this intersection, the warrant for a future signalization needs to be assessed.

#### **On-Street Parking Impacts**

Two-way circulation patterns would likely result in the loss of on-street parking spaces at locations where the overall roadway width is too narrow to provide adequate width for lanes of travel combined with on-street parking on both sides. For example, the width of travel along Center Street north of its intersection with Cabot Street is approximately 38 feet. Based on recommended guidelines for two-lane travel and on-street parking on both side sides of the roadway, the minimum roadway width is 46 feet, assuming two 12-foot travel lanes and two 11-foot on-street parking lanes.

It should be noted that a 2009 Chicopee Center Parking Study by the Pioneer Valley Planning Commission revealed that there is enough short-term parking on Front, Center and Exchange Streets to serve City Hall, the post office and other businesses in the study area. These streets have relatively low parking utilization rates. A comprehensive parking study is recommended to assess on-street parking impacts.

The City Engineer Steve Frederick indicated that there are some options for future parking:

- The City is currently working on demolishing a building on Market Street, which will provide an additional 26 parking spaces
- If future parking needs warrant, the existing parking lot at the intersection of Center Street and School Street could be expanded by adding a parking deck that could be accessed off of School Street.