Evaluation of Strategy Effectiveness

According to federal guidance on the development of the CMP, once CMP-recommended strategies are implemented through TIP funding, before-and-after studies are performed to measure strategy effectiveness. However, as discussed in the previous section about Programming, the Boston Region MPO's CMP largely informs study selection in the UPWP and contributes in the evaluation of needs assessment in the LRTP and the evaluation of recommended projects in the LRTP and the TIP. As other factors, including those based on other visions and policies of the MPO, are considered in project implementation, there is no steady stream of projects that are implemented as a result of direct CMP input. Therefore, there is currently no account of CMP-recommended projects that have been implemented to evaluate.

Instead, in FFY 2012, CMP staff requested and received UPWP funding to evaluate implemented recommendations from two projects that were constructed by 2008–2009, very similar to those typically recommended in a CMP-generated UPWP study: largely dealing with safety and operations improvements at arterial intersections. Two projects selected for before-and-after studies are listed in Table 8-1, below.

TABLE 8-1
Projects Selected for Before-and-After Studies

Projects Selected for Before-and-After Studies	Description
Arlington – Roadway Reconstruction on a Section of Route 2A (Summer Street)	The work consists of reconstructing the roadway, constructing cement concrete sidewalks, installing granite curbing, and upgrading the existing drainage.
Westwood – Reconstruction, Route 109 (High Street) from Grove Street to Hartford Street (8,780 feet)	This project proposes to reconstruct High Street utilizing full-depth reconstruction. Included are sidewalks, walls, drainage, curbing, signs, and pavement markings. New traffic signals will be installed at Hartford Street, Gay Street, Windsor Road/Public Library Entrance, and Summer Street. The project will accommodate bicycles and be fully accessible to persons with disabilities. Extensive landscaping and site furnishings are also included.

The evaluation was performed according to the following criteria:

- Crashes
- Level of service
- Traffic volume

“Before”/”After” evaluation revealed that crash rates dropped in all cases and level of service improved in the overwhelming majority of the AM and PM conditions that were examined for four intersections.

The conclusions from evaluation were that the following safety and congestion measures were effective, when implemented at the four locations:

- Signal head visibility
- Proper timing and phasing design of traffic signal
- Additional left-turn lanes
- Accommodation of pedestrians

These findings lead to the overall conclusion that safety and operations-type of improvements are effective in reducing crashes and operational efficiencies at arterial locations. These types of improvements are advocated in federal CMP guidance as being part of the strategy collection termed Management and Operations (M & O), and they are highly recommended for their ability to achieve operational efficiencies, often at low cost.