Executive Summary
Downtown Franklin Enhancement Project
Proposed Traffic Circulation

Introduction and Background:

In 2002 the Town of Franklin (Town) initiated a project to enhance the roadways and sidewalks in the downtown area. At the heart of this project is an area often referred to as the "Triangle", consisting of Central Street from Emmons Street to Main Street currently carrying two lanes of traffic easterly in one direction toward East Central Street (Rte 140); Emmons Street from West Central Street (Rte 140) to Main Street currently carrying two lanes of traffic southerly in one direction toward West Central Street (Rte 140); and Main Street from Emmons Street to East Central Street (Rte 140) currently carrying two lanes of traffic westerly in one direction toward Emmons Street. Each of the three roadway segments are within the municipal jurisdiction of the Town of Franklin and not within State Highway Layout.

Basic Project Goals and Objectives and Benefits of Two Way Circulation:

General
- Restore downtown as a destination center
- Restore downtown as the focal point of community life
- Leverage private investment along the improved travel corridors
- Create new and improved pedestrian accommodations and amenities
- Improve deteriorated conditions
- Improve overall aesthetics
- Improve ADA accommodations
- Easily accommodate Main Street Closings for street fairs and other special events without interrupting east/west travel on East and West Central Streets

Traffic Related
- Allow direct move through downtown for east and west bound travelers
- Allow direct (and intuitive) connections to all downtown destinations
- Allow improved emergency response time from fire station
- Return Main Street to traditional two-way circulation
- Eliminate the criss-cross move (weaving of west and north bound traffic) at Main Street
- Improve vehicular circulation and safety overall
- Improve pedestrian safety and street-crossing opportunities by creating gaps in vehicular travel patterns (through the installation of two way circulation with appropriate signalization)

Traffic Circulation Analysis:

In 1988 Bruce Campbell & Associates, Inc. was retained by the Town to develop a traffic study of the subject corridor which analyzed the three major intersections and identified acceptable levels of service (LOS) for either a one way travel pattern (current conditions) or for a two-way travel pattern (current proposed conditions). In 2004 Weston & Sampson was retained by the

Town to develop a Draft Traffic Study for the same corridor in order to assess the impacts associated with converting the existing one-way to two-way circulation. This study included an origin/destination study performed by Accurate Counts, Inc. in order to re-assign one-way traffic to future two-way traffic volumes. As a result, the traffic study concluded the future LOS for two-way traffic to be acceptable. During the ensuing years from 2004 to 2007 several initial concepts and alternatives were developed, a public participation program was initiated and the town applied for funding grants, namely the Public Works Economic Development (PWED) and the High Priority Projects (HPP). In 2005 the town was notified they were the recipient of the HPP funding in the amount of $5 million and in 2009 the town received $1 million through the state Public Works and Economic Development (PWED) Program administered by the Executive Office of Transportation. In 2008 Weston & Sampson was selected as the primary design consultant for implementing the Downtown Franklin Enhancement Project along with sub-consultant Traffic Solutions, Inc. Traffic Solutions charge is to analyze and design all traffic related improvements.

In 2009 automated traffic recorder and manual turning movement counts were performed at specific locations within the triangle area in order to compare with similar traffic counts performed in 2005 as part of the original traffic study, and to develop future traffic flows as part of the design (typically 20 years out or through 2029). The following table summarizes traffic volumes at various locations within the project corridor:

Peak Hour Traffic Volume Data (Vehicles per hour)				
Location	**Year**			
	2005	2009	2013	2029
W. Central St.-West St. to East St.	EB 846 (1168)	EB 677 (947)	EB 459 (652) WB 327 (409) T=786 (1061)	EB 538 (765) WB 383(480) T=921 (1245)
W. Central St.-East St. to Cottage St.	EB 749 (1083)	EB 642 (977)	EB 524 (810) WB 330 (410) T=854 (1220)	EB 614 (950) WB 387 (481) T=1001 (1431)
E. Central St.-Cottage St. to Summer St.	EB 541 (843) WB 575 (759) 1116 (1602)	EB 493 (695) WB 537 (680) 1030 (1375)	EB 545 (791) WB 579 (772) T=1124 (1563)	EB 639 (927) WB 679 (905) T=1318 (1832)
Main St.-From Emmons St. to Central St.	NB 903 (1187)	NB 787(957)	NB 438 (456) SB 197 (300) T=635 (756)	NB 514 (535) SB 231 (352) T=745 (887)
Emmons St.-W. Central St. to Main St.	SB 766 (1056)	SB 603 (764)	NB 177 (258) SB 206 (308) T=383 (566)	NB 207 (302) SB 242 (361) T=449 (663)

Note: ( ) indicates afternoon volume

Note: EB=East Bound, WB=West Bound, NB=North Bound, SB=South Bound

In addition, known planned growth initiatives (i.e. Big Y, commercial and private development) was obtained from the town in order to develop a better understanding of the traffic demand on the corridor in the future. This information along with the origin/destination data from the initial traffic study served as the basis of the traffic analysis to evaluate existing conditions (one-way circulation) and future alternatives (including possible two-way circulation) with respect to overall operation, LOS and safety. The following tables summarize the LOS (existing versus proposed) respectively:

Existing Level of Service (LOS)						
	AM Peak Hour			**PM Peak Hour**		
Location	**LOS**		**Delay (Sec)**	**LOS**		**Delay (Sec)**
W. Central St. @ Emmons St.	B		12.0	C		17.3
W. Central St. @ East St.	B		11.4	B		12.8
Emmons St. @ Main St.	B		14.4	C		23.4
Main St. @ E. Central St.	A		9.9	B		11.3
E. Central St. @ Cottage St.	B		17.2	B		14.6
E. Central St. @ Summer St.	F		>50	F		>50

Proposed Level of Service (LOS) – Two Way Circulation						
	AM Peak Hour			**PM Peak Hour**		
Location	**LOS**		**Delay (Sec)**	**LOS**		**Delay (Sec)**
W. Central St. @ Emmons St.	B		12.9	B		18.4
W. Central St. @ East St.	C		15.6	D(1)		31.2
Emmons St. @ Main St.	F(2)		>50	F(2)		>50
Main St. @ E. Central St.	B		15.5	B		15.0
E. Central St. @ Cottage St.	C		20.5	C		26.8
E. Central St. @ Summer St.	A		9.9	B		10.4

(1) East Street operates at a LOS C in the AM Peak Period, LOS D in the PM Peak Period: West Central Street operates at a LOS A in both the AM and PM Peak Period.

(2) Emmons Street functions at a LOS F in the east bound direction and at a LOS D in the west bound direction during the AM Peak Period: Main Street operates as a LOS B in the north bound direction and operates at a LOS A in the south bound direction during the AM Peak Period: Emmons Street operates at a LOS F in both the east and west bound direction and Main Street operates at a LOS A in both the north and south bound direction.

On July 19, 2010, the Town, Weston & Sampson and Traffic Solutions met with representatives from the Massachusetts Department of Transportation (MassDOT) – District 3 office to discuss the project with respect to traffic circulation. The preliminary design converting one-way traffic to two-way traffic was presented to the State and was well received. Similarly, on August 4,

2010, the Town, Weston & Sampson and Traffic Solutions met with the MassDOT State Traffic Engineer to discuss the project with respect to traffic circulation and converting from one-way to two-way flow and again, the State expressed support for all traffic related enhancements.
As a result of the latest traffic analysis it has been determined that two-way traffic around the triangle is feasible and will result in good traffic flow (i.e. acceptable and reasonable LOS) while making it safer for both vehicles and pedestrians. To achieve the desired results, specific modifications and/upgrades will be required as follows:

- **West Central Street, West Street & Emmons Street Intersection:**
  Revise the existing geometry and install new traffic signals in order to accommodate two-way traffic; incorporate exclusive left turn lane along West Central Street to allow left turns onto Emmons Street and West Street respectively; eliminate the existing mid-block pedestrian crosswalk to the west of the intersection; install new 8 foot (min.) wide pedestrian crosswalks at each approach to the intersection with pushbutton controls; and install a double yellow centerline along Central Street from Emmons Street to Main Street and a single yellow centerline along Emmons Street from West Central Street to Main Street in order to accommodate two-way traffic.

- **Emmons Street & Main Street Intersection:**
  Revise the existing geometry in order to accommodate two-way traffic; Emmons Street will operate under stop control while Main Street will remain unrestricted; and install new 8 foot (min.) wide pedestrian crosswalks at each approach to the intersection with stop bars along Emmons Street only.

- **Dean College Crosswalk (signalized) along Main Street:**
  Install a new raised table and replace/upgrade the existing traffic signals.

- **Dean Avenue & Main Street Intersection:**
  Install new raised table and a double yellow centerline along Main Street from Emmons Street to East Central Street in order to accommodate two-way traffic.

- **East Street & West Central Street Intersection:**
  Replace/upgrade existing traffic signals; install new 8 foot (min.) wide pedestrian crosswalk with stop bar on East Street.

- **West Central Street, Main Street & Cottage Street Intersection:**
  Replace/upgrade existing traffic signals and pavement markings; install new 8 foot (min.) wide pedestrian crosswalks at each approach to the intersection; revise geometry to accommodate two-way traffic along West Central Street and Main Street but restrict left turns from West Central Street onto Main Street.

- **East Central Street, Summer Street & Alpine Row:**
  Install new traffic signals; install new 8 foot (min.) wide pedestrian crosswalk with stop bar at each approach to the intersection.

- **Entire Project**
  Interconnect and coordinate all traffic signals.

Parking:

As a result of current design standards established by MassDOT through the 2006 Project Development & Design Guide, the American Association of State Highway and Transportation Officials (AASHTO), the Highway Capacity Manual (HCM) and the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD), parking will be impacted by the proposed design. The following table summarizes this information:

Parking Summary			
Location	Number of Stalls (Parallel or Head-In)		
	Existing	Proposed	Net
W. Central St. - Emmons St. to Main St.	0	0	0
E. Central St. – Main St. to Ruggles St.	25	26	+1
Emmons St. – W. Central St. to Main St.	0	8	+8
Main St. – Emmons St. to E. Central St.	35	26	-9
Emmons St. – Main St. to Ray St.	3	3	0
Dean Avenue	5	7	+2
Depot Street	15	20	+5
Municipal Parking (Includes 2 HC)	59	63	+4
Total	142	153	+11

Public Participation and Summary

The concept of returning to two way circulation within downtown Franklin has been vetted to concerned residents, property owners, business owners, members of the Downtown Partnership, Dean College, Town Departments, Boards and Committees and other project stakeholders at dozens of public forums hosted during the past eight years. While support has not been universal, the majority of those involved in the project have strongly supported the return of two way circulation and the associated enhancements to vehicular and pedestrian circulation, safety and convenience that would be the outcome of the planned project. And importantly, MassDOT representatives from the Boston Traffic office and the District support the plans for improvements to downtown Franklin that are now approaching the 25% level of design.