



Transportation Management Plan

Project 53-175

Rehabilitation of Putnam (Bridge No. 00417)

Route 3 over Connecticut River, Wethersfield-Glastonbury, CT

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1.0 - Introduction

The Putnam Bridge (Bridge No. 00417) is a major link in the regional transportation system of the Central Connecticut Region, carrying CT Route 3 over the Connecticut River, connecting the towns of Wethersfield and Glastonbury.

The Connecticut Department of Transportation (CTDOT) is currently planning to rehabilitate this bridge by performing partial bridge deck replacement and associated repairs along with addition of a new 6 foot wide pedestrian walkway. This will cause disruption to the normal traffic operating conditions on Route 3 northbound and southbound, adjoining ramps of Interstate 91 and intersections in close vicinity as well as create potential capacity issues on CT Route 15 over Charter Oak Bridge and Interstate 84. This Transportation Management Plan (TMP) attempts to describe the possible work-zone impacts of the abovementioned project and addresses them to the extent possible by laying out a set of coordinated transportation management strategies, in accordance with CTDOT and the Federal Highway Administration (FHWA) guidelines.

2.0 - Project Description and Work Hours

The project will involve partial bridge deck replacement along the outsides of bridge span, new parapets as well as installation of a pedestrian walkway on the south side of the bridge and removal and replacement of the median barrier. The anticipated construction period is 2 years.

In general, work is expected to be performed at all hours, while maintaining existing number of lanes during peak hours.

The exact work hours on the bridge as well as the ramps and further details of traffic operations are outlined in the specification, Section 1.08 – Prosecution and Progress, Article 1.08.04, “Limitation of Operations”.

3.0 - Existing Conditions

CT Route 3

CT Route 3 is a major regional arterial in the Greater Hartford area, originating at Washington Street in Middletown and running north-south through Cromwell, Rocky Hill and Wethersfield before turning east to cross the Connecticut River to Glastonbury and meeting Route 2 at an interchange. On the Putnam Bridge, CT Route 3 is classified as “Urban Other Freeway/ Expressway”, with a posted speed limit of 55 mph, consisting of two 12-foot lanes in each direction, separated by a 2-foot wide raised concrete median with 3.7-foot right shoulder and a 3.2-foot left shoulder. Immediately south of Putnam Bridge, CT Route 3 and Interstate 91(I-91) form a complex interchange, which consists of the following movements:

- Off-ramp from I-91 northbound (Exit 25), providing access to CT Route 3 northbound and Great Meadow Road, a local collector in Old Wethersfield.
- Off-ramp from I-91 southbound (Exit 25 N), providing access to CT Route 3 northbound.
- Off-ramp from I-91 southbound (Exit 25 S), providing access to CT Route 3 southbound.

- On-ramp (left-hand ramp) from CT Route 3 northbound, providing access to I-91 northbound and Great Meadow Road.
- On-ramp from CT Route 3 southbound, providing access to I-91 northbound and Great Meadow Road.
- On-ramp from CT Route 3 southbound, providing access to I-91 southbound.

Motorists intending to travel southbound from CT Route 3 northbound can take the left-hand off-ramp to I-91 northbound, exit via the next off-ramp to Great Meadow Road, turn left at the signalized intersection at the end of the ramp and again turn left at the on-ramp to access I-91 southbound.

To the north of the bridge, CT Route 3 forms a simple interchange, with on/off-ramps from/to Glastonbury Boulevard in the northbound direction and on/off-ramps from/to Putnam Boulevard in the southbound direction. The intersections of the ramps with Glastonbury Boulevard and Putnam Boulevard are both signalized.

There are three signalized intersections, immediately to the south of the bridge:

- CT Route 3 and Elm Street
- CT Route 3 and Spring Street
- CT Route 3 and CT Route 99 (Silas Deane Highway)

I-91

I-91 is a major regional limited access freeway in the vicinity of Putnam Bridge, running in the north-south direction. Near the bridge, I-91 consists of three mainline lanes in each direction.

3.1 Traffic Volumes (ADT)

On an average, the Bridge 00417 carries a daily traffic volume (ADT) of approximately 54,200 vehicles.

4.0 - Work Zone Impact Assessment and Temporary Traffic Control Plan (TCP)

PUTNAM BRIDGE – GENERAL SEQUENCE OF STAGE CONSTRUCTION

STAGE 1

1. Install all erosion and sedimentation control systems. Clear and grub as necessary.
2. Construct temporary access ramps and haul roads.
3. Deliver MPCBC to site during a weekend operation, utilizing directional bridge closure.
4. Install MPCBC, TPCBC and temporary impact attenuation systems, as shown on the staging plans. Install temporary pavement markings and construction signing per Stage 1 traffic operations.
5. Remove the existing concrete median on the bridge and roadway approaches to the limits shown on staging plans. Place temporary steel plates over the existing northbound median scuppers, place temporary pavement within median area, as shown on the plans.

STAGE 2

1. Install temporary pavement markings and construction signing per Stage 2 traffic operations.
2. Relocate MPCBC, TPCBC along the temporary access ramp to northbound Route 3 (Glastonbury side), as well as temporary impact attenuation systems, as shown on staging plans.
3. Remove the existing northbound (south) bridge parapet and portions of the bridge deck to the limits shown on the bridge staging plans.
4. Reconstruct the bridge parapet, bridge decking, new bridge scuppers and bituminous concrete overlay as required by the bridge staging plans.

STAGE 3

1. Install temporary pavement markings and construction signing per Stage 3 traffic operations.
2. Relocate MPCBC; remove TPCBC and temporary impact attenuation system from northbound Route 3 (Wethersfield side), as shown on staging plans.
3. Reconstruct the bridge parapet, bridge decking, new bridge scuppers and bituminous concrete overlay, as required by the bridge staging plans.

STAGE 4

1. Install temporary pavement markings and construction signing, per Stage 4 traffic operations.
2. Relocate MPCBC, as shown on the staging plans.
3. Reconstruct the Route 3 and Putnam Bridge precast concrete median, new median scuppers and bituminous concrete overlay pavement as shown on the roadway and bridge staging plans.
4. Mill and overlay the roadway and bridge, as indicated by the roadway and bridge staging plans. The Contractor shall perform final overlay during off-peak hours to reduce impacts to traffic operations.
5. Place final pavement markings to re-establish original pavement markings, prior to construction.

The work-zones for the different construction phases can be described as follows:

- Weekend closures with northbound and southbound detours
- Stage 1: Two lanes open in both directions (existing traffic)
 - : One lane open in northbound direction and one lane open in southbound direction (reduced lanes)
- Stage 2: Two lanes open in both directions; lateral shift of northbound lanes (existing traffic)
 - : Two lanes open in southbound direction; one lane open in northbound direction (one lane NB)
- Stage 3: Two lanes open in both directions; lateral shift of southbound lanes (existing traffic)
 - : Two lanes open in northbound direction; one lane open in southbound direction (2 lanes NB)
- Stage 4: Two lanes open in both directions (existing traffic)
 - : One lane open in each direction (reduced lanes)

Directional closure (full closure of NB or SB lanes) of Route 3 within the limits of the bridge is allowable within the Contract Provisions. Closures will not be allowed during regionally planned events and holidays. The total number of weekend directional closures shall not exceed ten weekends.

In addition to the sheets MPT-001 through MPT-047, Special Provisions for Maintenance and Protection of Traffic as well as Section 1.08 of Specifications for Roads, Bridges and Incidental Construction, Form 816 will be the guiding documents as far as design and operation of the work zones in different construction stages. A quantitative traffic analysis has not been performed for the TMP. Any signal timing adjustments required at signalized intersections at the Wethersfield or Glastonbury side of the bridge for better traffic flow will be done during construction and will be the responsibility of CTDOT District Construction.

5.0 - Transportation Operations Plan (TOP)

The Transportation Operations Plan typically deals with strategies for work-zone impact mitigation, involving non-highway infrastructure systems:

- Demand management – The Department’s strategy to reduce construction hour traffic delays is to discourage travel on Putnam Bridge during construction. Strategies pertaining to demand management will include providing advance notice to road users, special event restrictions as well as work-hour time restrictions. Alternate routes to cross the Connecticut River in the near vicinity include the Charter Oak Bridge to Route 2/I-84 and also the Bissell Bridge carrying I-291.
- Incident Management – Changeable Message Signs (CMS) will be used to warn travelers about delays in work-zones as well as any incident that might cause a bottleneck. The locations of the CMS have been included in the Plans.
- Enforcement – The Contract includes an adequate number of police forces (State and local) whose duties will include posting at the ends of the queues on State highways to help manage traffic and assisting emergency response personnel on established routes during construction.

6.0 - Public Information – Public Outreach

In order to mitigate possible negative effects of the road construction work zone the Department has implemented a public information and outreach campaign. A broad range of elements have been considered. Planned special events such as holiday weekends, parades and sporting events have been identified and no work will be permitted during these periods. These time periods are further discussed in the Special Provisions, Section 1.08.04 – Limitations of Operations. Several meetings were held with officials from the major impacted municipalities during the planning stages of the project to receive input from different departments and stakeholders regarding detour routes, safety, and business impacts.

The meetings that were arranged with different stakeholders for this project are listed as follows:

- Meeting with officials from Town of Wethersfield on May 11, 2011.
- Meeting with officials from Town of East Hartford on May 11, 2011.
- Meeting with officials from Town of Glastonbury on May 12, 2011.
- Public information meeting in the presence of town officials as well as representatives of Capitol Region Council of Governments (CRCOG) on June 21, 2011 at Glastonbury Town Center.

The project will be posted on the CTDOT website immediately before commencement of construction and updated information will be presented at each stage of the project. Moreover, further meetings with the towns and public might be scheduled at opportune times during various phases of construction.

7.0 - TMP Roles and Responsibilities

This TMP encompasses a wide variety of impacts, disciplines and activities. Full implementation and monitoring of such a plan requires an interdisciplinary approach. This will be achieved through partnership of various units of CTDOT and external entities. CTDOT Bridge Consultant Design has the overall responsibility of preparing the TMP and CTDOT Construction will have the primary implementation role. Specific information on the roles of various units and organizations is described below:

Construction Contractor: The contractor fulfills the specified contract requirements.

The TTC Plan will be implemented primarily through construction contract provisions. In addition to the lead role for physically shaping all aspects of the work zone and executing construction operations, the contractor makes other contributions to the TMP. An effective public information program can only be based on credible information regarding construction operations (e.g. intermittent closures, phase changes). Much of this information is developed by the contractor.

Consulting Engineer: The consulting engineer for this project is Close, Jensen and Miller P.C. The consulting engineer is responsible for design and preparation of the contract documents, including the Provisions for Maintenance and Protection of Traffic. Close, Jensen and Miller P.C. will be available to support CTDOT during construction, especially in situations that require detailed familiarity of design decisions and design modifications. Assistance of the Consulting Engineer may be needed during the TTC Plan implementation.

CTDOT Construction: Award of the construction contract marks a transfer of principal responsibility between CTDOT units, from Design to Construction. CTDOT Construction will be responsible for overall monitoring of the TMP. The designated contact person for CTDOT Construction for this project is Mr. Kenneth Fragnoli, Assistant District I Engineer (Ph: 860-258-4604).

CTDOT Division of Bridges and Facilities: The Division of Bridges and Facilities has the primary responsibility for the development of major engineering design projects and is the lead unit involved in the preparation of this TMP. This division will support implementation of this TMP by CTDOT Construction, primarily in the area of public information. The designated contact person for this project is Mr. Scott Hill (Ph: 860-594-3272), who is also the TMP manager.

CTDOT Operations (TOC): The location, capabilities and general functions of the TOC are described under the Transportation Operations Center.

CTDOT Traffic Engineering: The project MPT will be reviewed by CTDOT Traffic Engineering Division, CTDOT Construction and CTDOT Bridge Consultant Design as part of the normal design process, prior to advertising. CTDOT Traffic Engineering will also provide TTC-related construction consultation.

Public Safety / State Police: An active project-level State Police presence is planned. The role, conduct, cost and reimbursement provisions for State Police personnel on CTDOT-administered construction projects are covered by a Memorandum of Understanding between CTDOT and Connecticut Department of Public Safety. State Police will be used for enforcement purposes on CT Route 3 and I-91, while local (Wethersfield and Glastonbury) police personnel, when available will be used for local roadways, wherever needed.

Partners: This category includes non-CTDOT organizations that provide specialized assistance and support. These partners include:

- Town of Wethersfield
- Town of Glastonbury
- Emergency Services
- Major area employers

Through routine and close contact with these parties, CTDOT will gain feedback and observations that can be used for TMP monitoring.