

BRIDGE PRESERVATION OPPORTUNITIES FOR LOCALLY OWNED CAPITAL DISTRICT BRIDGES

In November of 2013, CDTC formed a Bridge Working Group to address questions and concerns raised by the Planning Committee in response to the paradigm shift from routine replacement or rehabilitation of bridges to an emphasis on more affordable preservation under the MAP-21 Federal transportation legislation and New York State Department of Transportation's "Preservation First" strategy. The Bridge Working Group, comprised of members representing four counties, local cities, NYSDOT, and CDTC, discussed various issues related to bridge preservation approaches and the funding and programming of repairs.

One major outcome of the Bridge Working Group sessions was the concept of a mechanism to assist local bridge owners in identifying longer-term bridge preservation needs. Such an effort required strong technical information on bridge conditions, strategies, and costs to be created and assembled in support of the planning efforts of local bridge owners. As a result, CDTC with the financial help of NYSDOT Region 1 commissioned a study entitled "Identification of Bridge Preservation Candidates, Treatments and Costs for Locally-Owned Capital District Bridges." CDM Smith was selected as the consultant, and was tasked to review and evaluate the most up-to-date existing information on structural conditions, as well as with selective field investigation of bridges and assessment of individual critical bridge elements.

CDM Smith's recently completed Bridge Report has created an informative database regarding the state of the Region's local bridges. There are 389 bridges within CDTC's jurisdiction that are owned and maintained by the local municipalities (counties, cities, towns, and villages). Roughly 44 of these bridges, or about 12 percent, have been found by previous NYSDOT inspections to be "structurally deficient," a term which describes bridges that have some load-carrying elements in poor condition due to deterioration. These bridges are not unsafe or they would not be in operation. However, their structural deficiency signals a need for investment that is often higher in priority than bridges that are in better condition. An additional 123 bridges – over 30% - are judged to be "functionally obsolete," a broader term which describes a bridge that is no longer optimally fulfilling its role within the transportation system, often because use and needs have changed since the bridge was constructed.

CDM Smith made repair recommendations on 189 of the local bridges in the region, totaling \$80.5M in need over the next ten or more years. Of these, 137 bridges are considered candidates for preservation, valued in total at \$42M in repairs. 52 bridges were found to be beyond preservation and would likely require more full-scale replacement. Of special interest, most of these bridges are located in the rural areas of the region, all of which are located off the federal-aid highway system. Consequently, also the largest volume of recommended bridge repairs – \$39.5M devoted to 87 bridges – is in the rural areas of the regions, especially in Rensselaer County. The attached table summarizes the key findings of the CDM assessment.

While the Bridge Report confirms that bridges remain safe, increased levels of investment will be needed moving forward in order to ensure that conditions do not worsen and that delayed repairs do

not result in even larger future expenditures for repairs and maintenance. The Bridge Report and database will help guide municipalities and CDTC in understanding conditions, risks, and repair strategies in order to facilitate prioritization and rational programming of future bridge stabilization and repair work. The intended end result is that limited resources will be put to most effective use in stabilization of the Capital District region's bridge assets within a comprehensive and objective bridge management program.

The financial information we have available at this point in the TIP update process suggests that resources will fall far short of what we need to repair or replace all deficient locally-owned bridges. The ability to program new local bridge projects at current investment levels may prove to be difficult, even under the new FAST Act. Meeting existing TIP commitments, especially for those bridges not on federal-aid eligible roads (off-system), may be difficult as well. However, there seems to be a new opportunity under the FAST Act, especially for on-system bridges. It looks like NHPP funds could be "flexed" for use on on-system bridges. Transferring NHPP or STP funds for off-system bridges may be possible as well, but that opportunity can be expected to be very limited. Add to the above conditions the need to meet the preservation/beyond preservation target of 80/20, and the need to address State-owned bridge deficiencies, the programming of local bridge repairs and replacements in the new 2016-21 TIP becomes very challenging.

LOCAL BRIDGE FACT SHEET FOR CDTC'S PLANNING & PROGRAMMING AREA

Total number of bridges in the Capital District.....	1,087	
Total locally-owned bridges.....	389	
Local bridges needing some type of repair or replacement.....	189	
Federal-Aid System Bridges.....	46	(6 replacements)
Off Federal-Aid System Bridges.....	143	(35 replacements)
Preservation candidates.....	137	(\$42-60M)
Beyond preservation (replacement plus major rehab).....	52	(\$40-45M)
Total repair + replacement need "right now"	189	(\$82-105M)
2013-18 TIP programmed local bridge projects.....	31	(\$31M - mostly off-system)
Replacements.....	11	(\$18M)
Preservation.....	20	(\$13M)
Years to "catch-up"	15-25	(at current investment levels)
Federal-Aid System Cost to Repair.....	\$22-35M	
Off Federal-Aid System Cost-to-Repair.....	\$59-70M	