## ASHFORD AVENUE OVER SMRP/NYST ALTERNATIVE ANALYSIS

Date: 4/28/10

							COMMENTS
	SCOPE OF WORK		I OR Interior <sup>2</sup>	Mainline	(Millions) <sup>®</sup>	Total	
	Do Nothing	0.425	0.812	-	-	-	
REHABILITATION ALTERNATIVES (20-Year Service Life)	<ul> <li>Alt 1: Base Rehabilitation Alternative:</li> <li>Removal of existing deck, bearings</li> <li>New concrete bridge deck and shear connectors (composite deck), bridge barrier and sidewalks</li> <li>New elastomeric bearings</li> <li>Steel superstructure repairs</li> <li>Steel painting (including hazardous material containment / abatement)</li> <li>Concrete substructure repairs</li> <li>Approach work (minimal)</li> <li>Signals, signage, striping, and lighting</li> <li>Staged Construction</li> </ul>	1.226	1.681	\$13.5	\$2.7	\$16.2	
	Alt 2 & 3: Widening Rehabilitation Alternatives						
	<ul> <li>Alt 2: Retain existing fascia girder:</li> <li>Includes base rehabilitation items</li> <li>Additional deck width (43' curb to curb)</li> <li>Staged Construction</li> </ul>	1.043	1.681	\$13.8	\$3.0	\$16.8	
	<ul> <li>Staged Construction</li> <li>Alt 3: Replace fascia girder, install one sidewalk: <ul> <li>New Concrete deck installed with sidewalk only on one side Includes base rehabilitation items</li> <li>Additional deck width (48' curb to curb) facilitates staged construction</li> <li>Removal and replacement of fascia girder</li> <li>Staged Construction</li> </ul> </li> </ul>	> 1.681	1.681	\$14.9	\$3.3	\$18.2	<ul> <li>Minimal traffic operational improvement at Route 9A</li> <li>Negative impact to pedestrian movement</li> </ul>
SUPERSTRUCTURE REPLACEMENT (50-Year Service Life)	<ul> <li>Alt 4:</li> <li>Removal of concrete deck, steel framing, bearings (including hazardous material containment / abatement)</li> <li>New concrete bridge deck and shear connectors (composite deck), bridge barrier and sidewalks</li> <li>New steel superstructure and elastomeric bearings</li> <li>Concrete substructure repair</li> <li>Replace approach roadways, approach drainage, guiderailing / barrier</li> <li>Signals, signage, striping, lighting</li> <li>Staged Construction</li> <li>Seismic Retrofit</li> <li>New MSES wall at SE corner</li> </ul>	> 1.200	> 1.200	\$16.8	\$2.9	\$19.7	<ul> <li>(3) 2-span continuous arrangement on the mainline</li> <li>Rolled beams</li> <li>Existing substructure to remain</li> <li>Accommodate future dual left- turn at Rte. 9A</li> <li>Substructure Repair</li> </ul>
TOTAL REPLACEMENT (70-Year Service Life)	<ul> <li>Alt 5:</li> <li>Complete removal and replacement of concrete deck, steel framing, bearings, concrete piers, concrete abutments and wingwalls (including hazardous material containment / abatement)</li> <li>Replace approach roadways, approach drainage, guiderailing / barrier</li> <li>Signals, signage, striping, lighting</li> <li>Staged Construction</li> </ul>	> 1.200	> 1.200	\$24.2	\$4.1	\$28.3	<ul> <li>Reduction of mainline spans from 6 to 3.</li> <li>widening to support additional turn lanes</li> <li>Satisfies all current seismic requirements and truck loading (HL-93) truck loading</li> <li>Impact to adjacent buildings</li> </ul>
SEISMIC RETROFIT <sup>6</sup>	<ul> <li>Fill in fixed piers (Piers 2 and 4 on mainline)</li> <li>Increase pier cap width to satisfy seat width requirements</li> </ul>	N/A	N/A	\$0.70	\$0.30	\$1.0	

<sup>1</sup> HS-20 truck loading (ASD Method per AASHTO Standard Specification, 17<sup>th</sup> Edition).
<sup>2</sup> Rating factor is governed by mainline girder denoted S2 on record plans, with length 72.5'.
<sup>3</sup> This cost includes a 20% contingency and 4% mobilization cost.
<sup>4</sup> AASHTO 3.23.2.3.1.4: In no case shall an exterior stringer have less carrying capacity than an interior stringer.
<sup>5</sup> Cost estimate is escalated to mid-point of construction (September 2014) at an annual 3% inflation rate.
<sup>6</sup> Cost of Seismic Retrofit is included in Costs for Alternatives 1 - 4

