

June 13, 2016

Mr. Isidoro Perez
Highway Deputy Administrator
Office of Project Controls & Performance Oversight
MassDOT – Highway Division
Ten Park Plaza, Suite 4160
Boston, MA 02116

Subject: Triennial Inspection of Western Turnpike
Report Update

Dear Mr. Perez,



The 2015 Triennial Inspection was conducted in the Summer and early Fall of 2015 with the final report issued in November 2015. The 2015 Triennial involved the inspection of a sample set of each asset class that comprises the Western Turnpike system. The results of the inspections were assessed against State of Good Repair performance standards. Also included in that report were recommended action plans with associated costs to meet and maintain conditions at performance standards that would allow the asset class to be considered in a State of Good Repair.

Current Status

In Spring 2016, TranSystems, at the direction of MassDOT, began inspecting assets that were not inspected as part of the 2015 Triennial Inspection with a particular focus on pipe and box culverts. This effort is ongoing and we anticipate inspection of all of the remaining assets to be completed in Fall 2016.

Updated Condition Ratings

As part of the Western Turnpike's 2015 Triennial Inspection, condition assessments for the Western Turnpike Bridges were gathered from MassDOT's 4D system in July 2015. Since the collection of this data, updated inspection reports have become available for 83 bridges along the Western Turnpike. A review of this updated data shows, that of the 83 bridges, 19 bridges were found to have a lower condition rating in at least one of three major categories: deck, superstructure or substructure while one was found to have a higher rating due to recently completed rehabilitation activities. A listing of updated bridges (with category rating changes highlighted) is shown in the table on the following page.

<u>Condition Rating</u>	
	9 – Excellent
	8 – Very Good
	7 – Good
	6 – Satisfactory
	5 – Fair
	4 – Poor
	3 – Serious
	2 – Critical
	1 – “Imminent” Failure
	0 - Failed

BIN	Previous Condition			Current Condition		
	Deck	Superstr.	Substr.	Deck	Superstr.	Substr.
4KN	5	6	5	4	6	5
4KD	7	5	6	6	5	6
4KE	6	5	6	5	5	6
4L7	6	6	7	6	6	6
4L8	5	5	7	5	5	6
4HU	7	6	6	7	5	5
4JI	6	7	7	5	6	6
4HL	6	5	5	6	4	5
4PH	5	4	5	4	4	5
4PJ	5	4	4	4	4	4
9YQ	6	6	6	7	7	6
4LQ	6	6	7	6	6	6
4H8	7	6	6	6	6	6
4NI	7	6	7	6	6	7
4N2	7	7	7	7	6	7
4PW	7	6	7	7	6	6
4HG	7	7	7	7	6	7
4HE	6	6	6	6	6	5
4HF	6	7	7	6	6	7
4JT	6	6	5	5	5	5

Of the reassessed bridges, two that were not previously considered Structurally Deficient are now classified as such:

- Auburn - A-17-046 (4KN) – I-90 Interchange 10 Ramp over State Route 12 (Southbridge Street) (Deck from 5 to 4)
- Chicopee – C-13-023 (4HL) – I-90 over Conn. River (Superstructure from 5 to 4)

The conditions of the remaining 63 bridges that had updated inspection data were unchanged from the previous inspection. These results are consistent with the findings of the 2015 Triennial Inspection that identified a deteriorating trend in bridge condition.

Action Plan

The 2015 Triennial Inspection Report included a recommended action plan and associated costs necessary to allow the Western Turnpike to meet performance standards consistent with a State of Good Repair condition. Since completion of the Triennial Report in November 2015, seventeen contracts have been advertised for construction on Western Turnpike Assets. At the time of this update, five of these have been awarded with limited construction work completed to date. Because we have not identified any significant improvements that have occurred to date since completion of the November 2015 report and based upon the updated information detailed above, the action plan and costs presented in the 2015 Report remain valid. The costs as identified in that report are shown in the table on the following page.



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Cost Category	2016	2017	2018	2019	2020	5 Year Total	10 Year Total	20 Year Total
1. Modernization	\$ 42.82	\$ 25.98	\$ 7.55	\$ 7.55	\$ 7.47	\$ 91.38	\$ 129.15	\$ 149.95
2. Capacity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 204.51	\$ 204.51
3. State of Good Repair	\$ 134.12	\$ 135.80	\$ 142.12	\$ 135.87	\$ 138.62	\$ 686.54	\$ 1,363.68	\$ 2,691.63
Western Turnpike Total Cost	\$ 176.94	\$ 161.78	\$ 149.68	\$ 143.42	\$ 146.10	\$ 777.92	\$ 1,697.33	\$ 3,046.09

Table 7-1 Projected Expenditures (in \$ millions) – Present Day (2015) by Year

Cost Category	2016	2017	2018	2019	2020	5 Year Total	10 Year Total	20 Year Total
4. Modernization	\$ 44.32	\$ 27.83	\$ 8.38	\$ 8.67	\$ 8.88	\$ 98.07	\$ 147.87	\$ 179.21
5. Capacity	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 269.40	\$ 269.40
6. State of Good Repair	\$ 138.81	\$ 145.48	\$ 157.58	\$ 155.91	\$ 164.64	\$ 762.42	\$ 1,655.20	\$ 3,932.81
Western Turnpike Total Cost	\$ 183.13	\$ 173.30	\$ 165.95	\$ 164.58	\$ 173.52	\$ 860.48	\$ 2,072.47	\$ 4,381.42

Table 7-2 Projected Expenditures (in \$ millions) – 3.5% Escalation

As mentioned previously, we anticipate completing inspections of the remaining assets over the coming months with final completion in the Fall 2016. If you have any questions or would like to discuss this further, please feel free to contact me.

Very Truly Yours,

TRANSYSTEMS CORPORATION

Scott Darling, PE
Vice President
Senior Project Manager