U.S. Department of Transportation
**Federal Highway Administration**

**Rhode Island Division**

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August 15, 2016

In Reply Refer To:
HDA-RI

Mr. Peter Alviti, Jr., P.E, Director
Rhode Island Department of Transportation
Two Capitol Hill
Providence, RI 02903-1124

Subject: ***Huntington Avenue Viaduct - Bridge No. 504***

Dear Director Alviti:

We are concerned with the level of deterioration of the Huntington Avenue Viaduct Bridge #504. We are soliciting that you provide us with the current anticipated schedule for rehabilitation or replacement of Bridge No. 504 in the RIDOT NBI bridge inventory. Based on our field observations, review of available inspection and load rating reports, and the high volume of traffic this structure carries, our technical opinion is that this bridge should receive a high priority for rehabilitation or replacement in your current bridge program to avoid further deterioration and significant use restrictions or closure.

There are several factors that would place this structure as a high priority and why it is considered a high risk by the FHWA.

- There are several indicators in the most recent bridge inspection report dated 12/16/15 that place this structure at a high risk of loss of capacity and/or use.
    - The bridge is categorized as structurally deficient
    - The sufficiency rating which is a measure of structural capacity and service condition is 19 out of 100.
    - The structural load carrying elements are rated in poor or serious condition indicating immediate need for replacement.

- In 2012 several piers supporting this bridge were reported to be in critical condition. This condition continues to deteriorate as evident by crumbling concrete and exposed deteriorated reinforcing steel. It should be noted that some of these deficiencies were also detected as early as a 1991 inspection report.

- The load carrying capacity of this bridge is ½ the AASHTO legal load requirement based on the latest load rating analysis and report.

- The AASHTO HS-20 design load capacity, used for the last repair design in 1978, is obsolete and below the current legal loads allowed to use this structure.

- Several of the beams are heavily deteriorated at the ends with corrosion that has caused holes through the beams in critical locations.

- In addition to deterioration from corrosion, the bridge girders are prone to fatigue cracking due to the obsolete design details.

- There was moderate load deflection and heavy load vibration noted during inspection. A clear indication of inadequate capacity and conditions that cause accelerated deterioration.

We recognize that this bridge is currently sustained by supplemental shoring. Shoring, however, is intended as a temporary means to support a damaged or deficient bridge until permanent repairs or replacement is undertaken. Since shoring is only a temporary fix, the performance of this system is well beyond the intended useful service life and even the shoring has recently required repairs due to deterioration. The temporary shoring is not designed nor intended to restore the capacity of a structure for an extended period of time.

Closure or a restriction of traffic (load restrictions) across this bridge is a real possibility that would result in a significant disruption of commuter and freight traffic throughout the area. We request that the RIDOT prepare a plan of action that includes a timeline and list of activities for the replacement of this viaduct that is servicing a heavily travelled and important route.

Sincerely,

Carlos C. Machado
Division Administrator

Cc: Peter Garino, Celia Blue, Dave Fish, Georgette Chahine