



## BACKGROUNDER: I-84 HARTFORD PROJECT

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### ISSUE

What is the status of the I-84 Viaduct Project?

### SUMMARY

The state Department of Transportation (DOT) has been studying various alternatives to replace the deteriorating segment of I-84 known as the Hartford Viaduct. In September 2016, DOT formally notified the Federal Highway Administration (FHWA) that, subject to FHWA review and approval, it will conduct a federally-required environmental review of the plans. DOT has recommended that FHWA dismiss two of the alternatives it studied (rebuilding the viaduct as an elevated highway or burying a substantial portion of it in a tunnel). If FHWA agrees with this recommendation, DOT will evaluate the two remaining options (lowering the viaduct or the "no-build" alternative, in which DOT would replace bridges as needed but otherwise maintain the existing structure in its current configuration).

According to DOT, the lowered highway option, estimated to cost between \$4.3 billion and \$5.3 billion, would address current structural deficiencies; improve traffic safety and operation; improve mobility for vehicles, bicyclists, and pedestrians; and reduce the highway's visual and physical impact on the city of Hartford.

Much of the information for this report, including the photographs and maps, comes from DOT's May 2016 [Draft Purpose and Need Statement](#) and [website](#).

### NEED FOR THE PROJECT

The I-84 Project seeks to address problems with the existing viaduct, including structural deficiencies, traffic congestion, and its substantial impacts on the city of Hartford. The portion of I-84 to be replaced extends from just east of Exit 45 (Flatbush Avenue) to just west of Exits 51 and 52 (I-91) in downtown Hartford, a distance of about 2 miles.



**Figure 1: Hartford Viaduct**



### ***Structural Deficiencies***

The highway, built in Hartford between 1959 and 1969, includes several multi-span bridges (viaducts) that carry it over the Amtrak railroad tracks (see Attachment 1). According to DOT, the bridges carrying portions of the Sisson Avenue, Sigourney Street, and Asylum Street/Capitol Avenue/Broad Street ramps are in an advanced state of deterioration.

DOT says it spent about \$60 million between 2002 and 2012 to rehabilitate some of the bridges in this segment, and expects to spend approximately another \$50 million on repairs in the next three years. But despite continued maintenance, repairs, and capital investment, DOT says many of the viaducts, "now near or past their anticipated [50-year] life span...are classified as either 'structurally deficient' or 'functionally obsolete' or both."

Although still safe to drive on, structurally deficient bridges typically require repair to remain in service and eventually require rehabilitation or replacement.

## **Traffic Congestion**

The combination of very heavy traffic and outmoded design on the elevated corridor contribute to stop-and-go commutes, a high accident rate, and costly delays in emergency response times.

**Volume.** The amount of traffic on the highway almost immediately exceeded the 50,000 to 66,000 vehicles a day it was meant to carry. In 1970, one year after completion, between 70,000 and 100,000 vehicles were traveling it each day. Today, nearly 50 years after its completion, an estimated 175,000 or more vehicles use the viaduct each day, nearly triple the original estimate.

**Outdated Design.** Neither the viaduct's shoulders (breakdown lanes) nor interchanges meet current highway standards. The shoulders are between two feet and four feet wide, much narrower than the current standard. The corridor has eight full or partial interchanges (including the Flatbush Avenue and I-91 interchanges) within 2.7 miles, spaced too closely to allow traffic to flow freely.

**Consequences.** As a result, travel speeds are often below 20 m.p.h. for more than an hour at a time. DOT says the portion of I-84 west of I-91 accounts for slightly more than half (53%) of all traffic delays on the region's highways, much of it caused by bottlenecks outside the project limits.

The highway's narrow shoulders mean that disabled vehicles block travel lanes and hinder the arrival of tow trucks and emergency vehicles. When traffic is heavy, the constricted shoulders slow ambulances on their way to St. Francis and Hartford hospitals.

According to DOT, there were 1,840 traffic accidents in the corridor between 2009 and 2012. Portions of I-84 have a crash rate four times that of comparable state highways.

## **Visual and Physical Impacts on Hartford**

DOT also is seeking to reduce the environmental and municipal impacts caused by the viaduct's construction. That construction, DOT said, "displaced many families, businesses, and institutions [and] created a lasting impact, especially on nearby neighborhoods."

The highway, DOT says, divides "employment centers, communities and neighborhoods...Crossings of I-84 are mostly limited to locations where local streets pass under the highway viaduct spans. These crossings are...unappealing

and challenging to pedestrians and bicyclists, discouraging travel and interaction between communities that the highway bisects.”

As a result, DOT said, it is important that the reconstruction of the viaduct take “all reasonable measures to remedy the impacts this section of the interstate has imposed on the neighborhoods, businesses, and communities of Hartford.”

## **PROPOSED ALTERNATIVES AND EVALUATION**

DOT studied four options to replace the Hartford viaduct. The options, including estimated costs, included a:

- “no build” option - keeping the current configuration, but replacing bridges as needed (\$2.5 billion to \$3.1 billion);
- new elevated highway - replacing the highway with a new elevated highway (\$4.9 billion to \$6.2 billion);
- lowered highway - replacing the highway with a new highway at or below ground level (\$4.3 billion to \$5.3 billion); and
- tunneled highway - burying 4,000 feet of the highway in a tunnel (\$9.7 billion to \$12.1 billion).

DOT is recommending that FHWA dismiss from consideration the elevated highway and tunneled highway alternatives. DOT concluded that it could not design an elevated highway that would meet traffic and safety concerns and reduce the highway’s visual impact. It found that the tunneled alternative would be too costly and have too great an impact on property. If FHWA agrees with these findings, DOT will evaluate the two remaining options (lowering the viaduct and the “no-build” alternative).

### **LOWERED HIGHWAY OPTION**

There is no single version of the lowered highway design (see Attachment 2 for one example). DOT is studying three alternative highway alignments, and analyzed nearly two dozen interchange options before deciding on those that it believes would satisfactorily address traffic operations and safety considerations. DOT will analyze these more fully.

Because the viaduct now passes over the Amtrak rail line, lowering the highway means, among other things, moving a portion of the rail line north of I-84 and building a new rail station, along with parking facilities and passenger drop-off and pick-up points.

According to DOT, lowering the highway would make available between 40 and 45 acres for open space or development. The department also is exploring the possibility of an east-west linear park as part of the East Coast Greenway. (The greenway is an attempt to create a 3,000 mile traffic-free path linking East Coast cities from Maine to Florida.)

### **Preliminary Project Costs**

A [2015 DOT presentation](#) details the estimated \$4.3 billion to \$5.3 billion project cost of lowering the highway as follows:

**Table 1: Preliminary Project Costs**

<b>Activity</b>	<b>Estimated Cost</b>
Construction	\$1,500,000,000
Utilities	\$100,000,000
Program Management	\$50,000,000
Design Engineering	\$120,000,000
Construction Engineering	\$230,000,000
Property Acquisition	\$180,000,000
Escalation (i.e., inflation)	\$1,500,000,000
Risk Costs (unforeseen events that may affect project costs or schedule)	\$600,000,000 to \$1,600,000,000

DOT says it plans to update this estimate.

### **PROJECTED TIMETABLE**

The draft environmental review (Environmental Impact Statement/Environmental Impact Evaluation, or EIS/EIE) is expected to be made public by mid-2018, with a public hearing taking place in the summer or fall of that year. The final EIS/EIE is expected to be completed in spring of 2019 with a final FHWA decision on the assessment by mid-2019.

A favorable FHWA decision is a prerequisite to possible federal funding. If the project is approved and sufficient state and federal funding is available, DOT estimates that final design work and the beginning of construction could start early in the next decade.

### **MORE INFORMATION**

Additional information on the I-84 Project can be found at:

<http://www.i84hartford.com/>.

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### Attachment 1: Hartford Viaduct – Current Elevation

Currently 80% of the highway is elevated (depicted in orange)



## Attachment 2: Possible Concept for Lowered Highway

