

Viaduct Work

Why are viaduct upgrades important?

Most of the structures along the North Red and Purple Lines were constructed between 1900 and 1920 and are significantly past their useful life. The infrastructure condition has declined to the point that further deterioration may compromise service and operation of the system. Many of the structures have been shored with additional steel braces, but the concrete is in poor condition and there is exposed steel rebar in many locations.

What will be done to improve the viaducts?

There are three basic levels of improvements to structures proposed under the various alternatives:

- Minor Repair – would involve “patching-type” repairs. The life of the repairs will vary, but is usually less than five years.
- Major Repair – would involve more significant repairs, such as replacement of deteriorated steel members. The life of the repairs is generally about twenty years.
- Reconstruction – would involve complete removal and replacement of structures. The life of the reconstructed structures would be more than sixty years. Additional issues such as vehicle clearance and pedestrian visibility beneath the viaducts would also be addressed.



An inventory summary of viaduct work by alternative is:

	Evanston Branch	North Red Line
<i>No Action</i>	<ul style="list-style-type: none"> • Maintain temporary shoring • Minor repairs to 19 viaducts • Reconstruct 3 viaducts 	<ul style="list-style-type: none"> • Maintain temporary shoring • Minor repairs to 44 viaducts • Major repairs to 2 viaducts
<i>Basic Rehabilitation & Basic Rehabilitation with Transfer Stations</i>	<ul style="list-style-type: none"> • Minor repairs to 9 viaducts • Major repairs to 15 viaducts • Reconstruction of 6 viaducts 	<ul style="list-style-type: none"> • Minor repairs to 2 viaducts • Major repairs to 18 viaducts • Reconstruction of 28 viaducts
<i>Modernization 3-Track & Modernization 4-Track</i>	<ul style="list-style-type: none"> • Major repairs to 5 viaducts • Reconstruction of 24 viaducts • Reconstruction of retaining walls • Remove 1 un-used viaduct 	<ul style="list-style-type: none"> • Major repairs to 1 viaduct • Reconstruction of 47 viaducts – new aerial structure
<i>Modernization 2-Track Underground</i>	<ul style="list-style-type: none"> • Major repairs to 5 viaducts • Reconstruction of 24 viaducts • Reconstruction of retaining walls • Remove 1 un-used viaduct 	<ul style="list-style-type: none"> • Major repairs to 1 viaduct • Reconstruction of 14 viaducts – new aerial structure • Viaducts south of Loyola no longer in use • Close viaducts for inclines at 2 locations