



# Blue Line Forest Park Branch Feasibility/Vision

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## EXISTING CONDITIONS ASSESSMENT

Executive Summary

September 23, 2013



Service on the Forest Park Branch of the Blue Line of the Chicago Transit Authority (CTA) began operations as the Congress Branch of CTA's West-Northwest Route in late June 1958. This line, located in the median of the Congress Expressway, replaced an older rapid transit service, the Garfield Park Branch of the CTA, which had its beginnings in 1895. Many of the current infrastructure assets are original and date to the opening of the line. Other assets have undergone interim repair or replacement, but are overdue for replacement as of 2013. Throughout the history of the Forest Park Branch, maintenance has been conducted with a piecemeal approach in order to sustain safe operations. This level of investment however has not been able to sustain the level of service intended for the route, resulting in aged infrastructure, slow orders and an overall reduced quality of service for customers. In order to provide a quality, efficient service for customers, there is a need for near total replacement and modernization of assets for the Forest Park Branch of the Blue Line.

The Congress Branch opened with stations on an approximate one-mile spacing. Station design aspects included concrete-surfaced island platforms and long ramps which connected to major (and in some cases, intermediate) cross-streets. Auxiliary entrances were included at several of the stations to increase the station catchment area. Connections to CTA and suburban bus routes (where available) have been a feature of these stations since their opening. An additional station was added to the line after it opened and the west end of the line was relocated adjacent and to the south of the expressway right-of-way in 1959 and 1960. Three of the fifteen stations on the branch were closed approximately 40 years ago as traffic declined.

An overall assessment is essential to making an informed decision on the investment strategy for the Forest Park Branch. However, developing an overall rating for a given major asset category, let alone for the entire branch as a single entity is a challenge. The varying service lives and distinct safety-critical roles of many of the assets make it difficult to logically combine individual ratings and arrive at an all-encompassing conclusion.

The Existing Conditions Assessment Report presents our understanding of the current conditions of the various assets that compose the Forest Park Branch of the Blue Line. For the most part, the conditions and ratings have been taken from the "CTA Calendar Year 2011 Condition Assessment Update Source Data December 2012" data base, though some information has been obtained from other sources, including more recent editions of the CTA Slow Zone Maps and other resources. The CTA rating scale is from 1 to 5, with 1 being the poorest condition and 5 being the best condition.

The communications assets on the branch are in a state where complete replacement should be planned in the short-term. Those assets which have remaining service life as of this writing will likely be at the end of their useful service life by the time the replacement equipment is ready for service. With regard to the signal and interlocking assets, the relatively recent complete replacement of these features on the Forest Park Branch mainline means that all have considerable remaining service life and should be programmed for re-use to the maximum extent possible as the branch is reconstructed.

As for the stations assets, all 12 passenger stations should be programmed for complete replacement, as they are near the end of their useful service life and do not appear to conform to contemporary requirements with regard to station accessibility and platform widths. Replacement of the stations will also address the related assets including station electrical rooms, subway lighting, pump stations and bus interchange facilities. Improvements in bus interchange facilities can be made as part of the redesign program at each of the intermediate stations on the branch.

In terms of the structural assets on the branch, these generally display a need for reconstruction as part of the overall branch rehabilitation project. Reported defects include deterioration, spalling, exposed rebar, cracks, and loose or falling concrete at nearly every station on the branch as well as the CTA bridges on the branch. With regard to the track assets composing the Forest Park Branch, given the branch's history with drainage issues and other related problems, all track structure should be programmed for replacement as part of an overall branch reconstruction program. Similarly, the trackwork on tangent and in curve over the length of the branch should be replaced in total. The special trackwork asset is one where the fully life-expired installations, such as those at the Forest Park yard should be replaced as part of the overall branch track reconstruction effort. The remainder of the special trackwork installation on the branch has estimated remaining service live of between 16 and 30 years. Depending on the schedule by which the rest of the branch is ultimately reconstructed, these installations could be replaced or reprogrammed for re-use, as best makes sense at that time.

Forest Park Yard is past its serviceable life, according to CTA data. This entire facility should be reconstructed as part of the branch rebuild program. A related asset that requires reconstruction is the Forest Park Shop, which has less than a decade of remaining service life.

As for the Forest Park Branch traction power assets, five of the six substations and the tie breaker house are all overdue for replacement, which should be programmed as soon as possible. Of the 18-plus miles of contact rail and associated chairs, anchors, inclines and R.O.W. cabling, less than a mile of these installations were reported to have significant remaining service life. All contact rail, chairs, anchors, inclines and R.O.W. cabling on the branch should be replaced at one time, to ensure that modern design and installation practices are adopted throughout.

It is the recommendation of the study team that the entire Forest Park Branch should be reconstructed in entirety, similar to the programs that have addressed similar needs on the Dan Ryan Branch. Certain assets, with substantial remaining life, may be re-used in any construction effort, as has been done on other lines. A particular consideration is the lead time required to program sufficient funds, develop the required procurement documents, make contractor/vendor selections and ultimately stage the construction of the replacement assets. When this timeline is considered, one can see that the replacement program actions should begin as soon as possible. Additionally, the lead-time required for planning in coordination with community input suggests that the process to secure the required funding should begin as soon as possible.