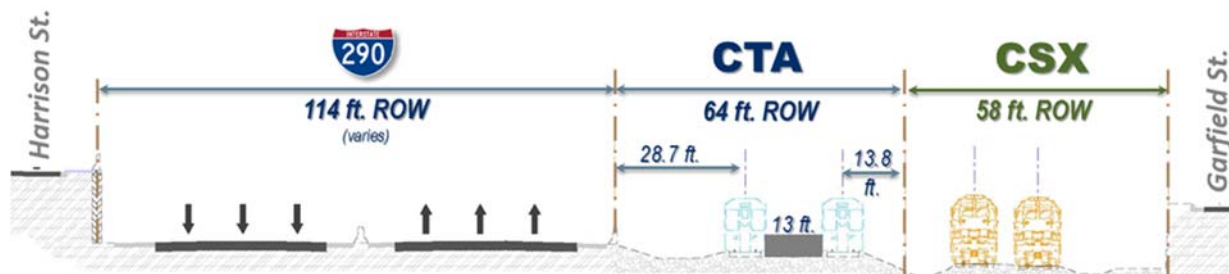


## INTRODUCTION

As part of the I-290 phase I study, IDOT has evaluated the availability of CTA and freight railroad right-of-way from just east of Austin Boulevard to Circle Avenue to determine an optimal cross-section configuration that considers the needs of CSX Transportation freight rail, CTA rapid transit and the I-290 expressway. The typical section below represents the most constrained section of this area located just east of Oak Park Avenue.



### CSX Right-of-Way Availability & Typical Section:

Within this footprint evaluation study area, CSX operates in a generally 58' wide strip of parallel right-of-way located south of I-290 and CTA. The southern edge of the CSX right-of-way is primarily defined by a retaining wall that extends along the majority of its trackage in this area.

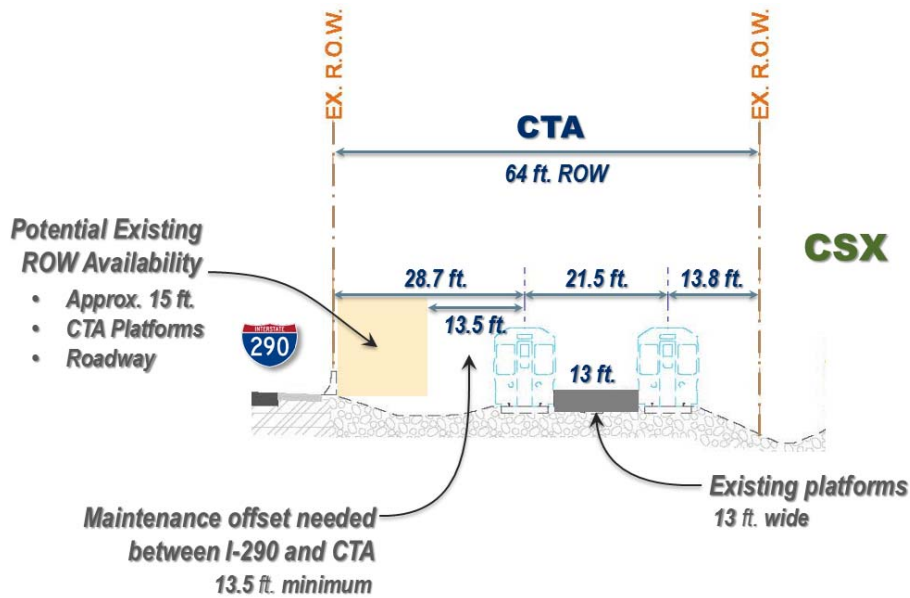
Currently there are two mainline tracks in this area, and a siding track where the CSX services the Ferrara Candy Company located along the south edge of the corridor, just east of Circle Avenue. CSX provides weekly rail deliveries to this client.

Coordination with CSX has been on-going regarding both vertical and horizontal clearances. With respect to vertical clearances, the I-290 study team is evaluating and coordinating options for improving CSX freight rail vertical clearances without raising the cross-road bridge profiles.

Regarding horizontal clearances, CSX has stated that this is an active freight corridor. As such, CSX stated that they need to accommodate a minimum two track envelope to maintain service and that there is no excess CSX right-of-way available.

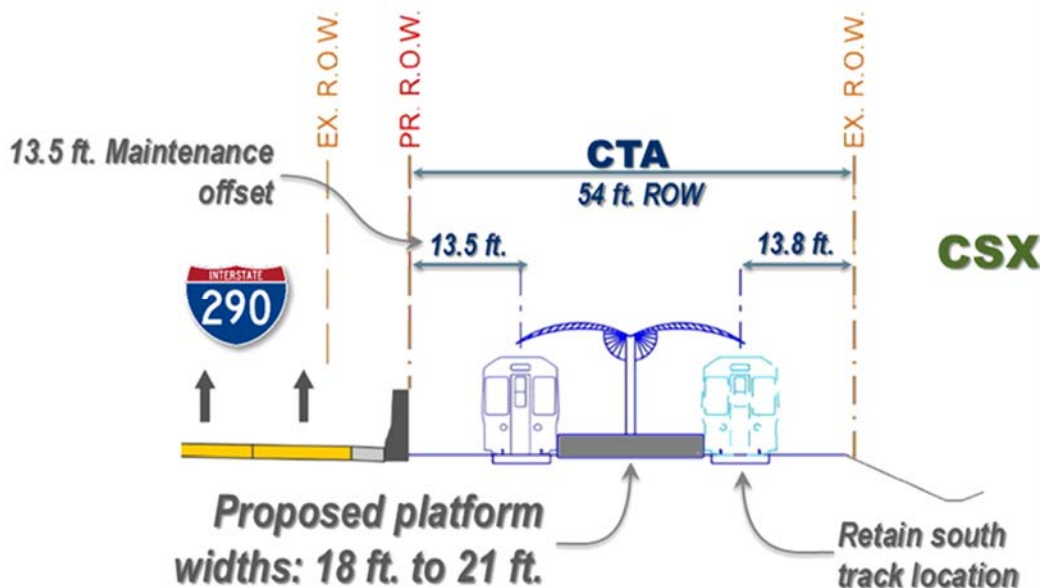
### CTA Right-of-Way Availability and Safety Evaluation:

The CTA Blue Line Vision Study concluded that as part of the Blue Line modernization needs, Austin, Oak Park, and Harlem stations would remain in place and that they would continue to be accessible via dual head houses located at the adjacent cross streets and track level platform access would continue to be end loaded as it is today. The Blue Line Vision study also concluded that a third or express track is not needed and is not proposed as part of the modernization. Based on the results of the Blue Line Vision study, the CTA indicated that up to 15 feet of CTA right-of-way could be available for expressway and platform improvements.



CTA stipulated that any use of CTA right-of-way would need to accommodate platform widening; a platform that would accommodate future ridership and up to a 10-car train; a 13.5-foot maintenance offset between the proposed I-290 barrier and the centerline of the CTA rapid transit tracks; and a review of the proposed platform widths per NFPA-130.

Assuming an expressway improvement that utilized up to 10' of CTA right-of-way to accommodate wider shoulders and/or lanes, the resulting space available for platform widths were determined and evaluated assuming that the south track would remain on its current alignment and the north track would be shifted to accommodate wider platforms. The following figure illustrates generally how the I-290 and CTA right-of-way is proposed to be allocated. Each station platform can accommodate a 10-car train; however, the length of the platform was not a factor in the determination of right-of-way evaluation.

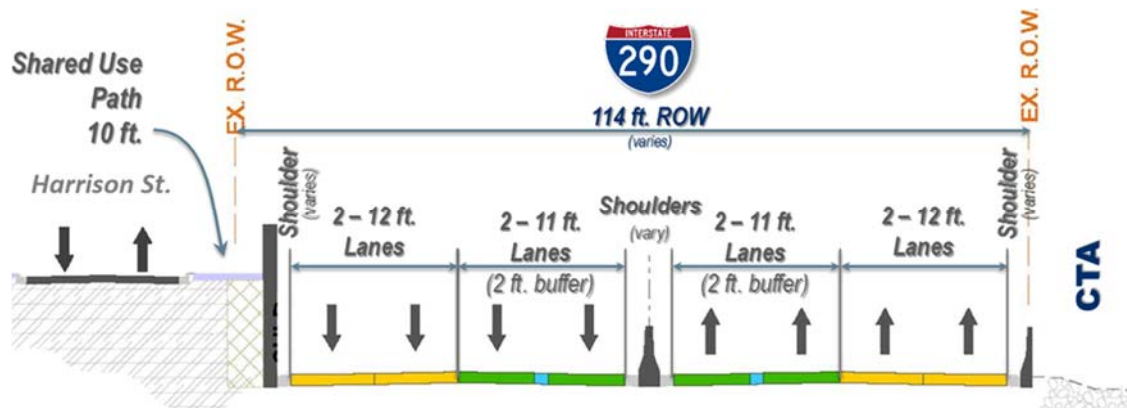


IDOT evaluated the proposed platform widths to determine if the widths would meet the National Fire Protection Association (NFPA)-130 fire code egress time requirements.

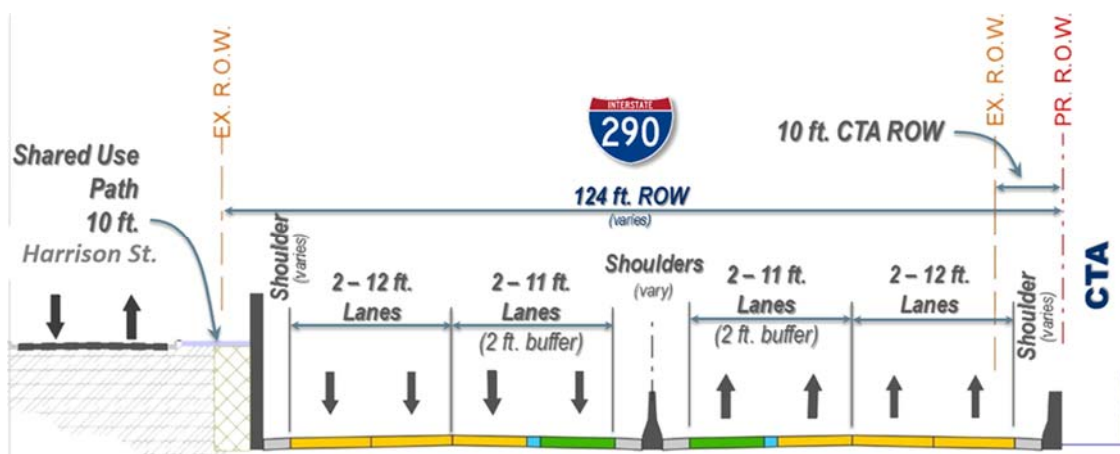
The conceptual platform widths as proposed for Harlem, Austin, and Oak Park stations were found to allow passengers to be evacuated to the street-level sidewalk areas outside the stationhouses within the NFPA-130 time requirements. The analysis indicated that emergency passenger evacuation is primarily affected by the configuration of stationhouse egress barriers (turnstiles, roto gates, accessible fare gates, emergency exit gates and station exit doors / gates) than by the width of the end-loaded platforms. Simply increasing platform widths beyond the proposed dimensions (and thereby the clear widths of vertical circulation elements) is not a key factor in reducing total evacuation time per NFPA 130 - 2014. Further and more detailed fire code safety analysis would be required during final design to account for any proposed platform features / amenities and other obstructions.

### I-290 Safety Evaluation

Two expressway geometric alternatives were evaluated as part of the right-of-way footprint evaluation; an alternative that required no right-of-way from CTA, and an alternative that assumed up to 10 feet of CTA right-of-way were available to accommodate wider shoulders and/or lanes.



*NO CTA Right-of-Way*



*10 ft. CTA Right-of-Way*

The expressway safety performance of both geometric alternatives was evaluated to determine the best overall lane and shoulder configurations. The Enhanced Interchange Safety Analysis (ISATe) predictive highway safety evaluation tool developed by the Texas Transportation Institute was used to test the mainline geometry. The summary of the analysis is presented in the following table.

ISATe Expressway Safety	Lanes (each direction)	Shoulders (minimum)	Injury Crash Reduction (Compared to NoBuild)	Overall Crash Reduction (Compared to NoBuild)
<b>1. No ROW</b>	2 @ 11ft 2 @ 12ft	2ft inner 2ft outer	<b>-3.9%</b>	<b>-11.8%</b>
<b>2. 10ft. CTA ROW</b>	2 @ 11ft 2 @ 12ft	4ft inner 4ft outer	<b>-9.6%</b>	<b>-15.1%</b>

Both expressway alternatives provide an injury crash and overall crash safety benefit. Mainline capacity improvement is the primary factor increasing safety for the no CTA right-of-way alternative. Wider shoulders were also found to be key safety factors, in that wider outside shoulders provide a greater safety benefit than wider lanes. Overall, lane widths were not found to be a primary safety performance driver, and if additional space were available to accommodate all 12 foot lanes, the incremental safety benefit would be an additional 0.3% decrease in the overall crash rate.

Utilizing up to 10 feet of CTA right-of-way to provide wider shoulders is predicted to provide an additional 3.3% decrease in overall crash rate and an additional 5.7% decrease in the injury crash rate (more than double the reduction) from the crash rates of the no CTA right-of-way alternative.

**Conclusions:**

Based on the geometric and safety analysis, up to 10 feet of CTA right-of-way will be utilized for I-290 improvements which will more than double the expressway safety performance while also accommodating between 5 and 7 feet of station platform widening, ADA requirements, CTA operational needs, and fire safety requirements.

