

# Pilot PedRail Bumpouts – DeziignLine 2017 Evaluation Summary

## Project Overview

- Minneapolis Public Works installed two pilot DeziignLine bumpouts at the intersection of 7<sup>th</sup> St S and Chicago Ave. The bumpouts were located at the northeast and northwest corners of the intersection and bumped into both 7<sup>th</sup> St S and Chicago Ave (a wrap-around bumpout). The bumpouts were installed on August 30, 2017 and final removal was on May 3, 2018. The northeast bumpout was removed on January 8, 2017 due to security preparations for the Super Bowl.
- This location was chosen based on an analysis of downtown intersections to find a good candidate location for a pilot bumpout project, including coordination with other projects (a Highway Safety Improvement Project (HSIP), which will include signal and pedestrian improvements along 7<sup>th</sup> street in 2018, including permanent bumpouts in 2018), proximity to major pedestrian destination (Hennepin County Medical Center), and a mix of pedestrian, transit, and motor vehicle volumes.



## Project Purpose

- The primary purpose of this pilot bumpout was to test the durability of the pedestrian rail, particularly over the course of a Minneapolis winter.
- A secondary purpose was to evaluate the effectiveness of the temporary treatment ahead of a permanent project (an HSIP project that includes permanent concrete bumpouts, in this case)
- A third objective was to evaluate appropriate bump-out configuration for these corners, and to ensure that the turning radii and general intersection geometry would accommodate especially larger vehicles (e.g., ambulances, buses and delivery trucks) which use this intersection on a regular basis

## Installation

- Installation was largely performed by two Dero employees, with support from a Minneapolis Public Works staff, and took roughly seven hours.
- The system is rapidly deployable and easy to assemble.
- Lessons learned from the installation process
  - Obstruction permit needs to include space for vehicles to deliver and unload the materials.
  - The work area should be delineated and blocked off prior to installation
  - Use chalk or tape to outline the installation
  - Consider “explanation” signage in the future



## 311 Analysis

- Two “test bumpout – call 311” signs were placed on site for the duration of the test.
- 88 respondents throughout the test period.
  - 26 people responded in support.
  - 58 people responded with concerns.
  - 4 people had neutral comments or suggestions.
- The primary reason people supported the project was an increased feeling of safety when crossing the street as a pedestrian.
  - Other comments that reflected support include: planters are nice, increased convenience, would like to see more, and appreciate the shorter crossing distance.
- Two primary reasons people opposed the project were impacts to traffic flow/delay (21 people), and turning difficulty (21 people).
  - Other comments that reflected concerns include: takes up too much of the street, waste of money, generally against bumpouts, concerned about the ability to clear snow, loss of parking, and concern about bicyclist being forced into the travel lane.
- No tripping incidences were reported during the pilot period.



## Winter Maintenance

- There were no challenges reported from plow drivers. Heard feedback from TM&R staff that “they just plowed around them.”
- The adjacent properties – HCMC and the church agreed to remove snow left in the crosswalk



## Product Durability

- The DeziLine PedRail was an effective barrier for motor vehicles.
  - There was evidence of the rails being hit by motor vehicles based on black marks on the side of the rail.
  - No physical damage was observed on any of the rails (\*with one exception described in the next bullet) and no posts came loose.
  - In the day or two after the April 14-15 blizzard, there was evidence a plow hit two of the rails as it passed, denting one of the rails. Though slightly dented, the rail stayed firmly mounted on the posts and was still functional. The anchored posts did not come loose or move at all.
- Early on in the test, several delineators were snapping off due to vehicles hitting them, primarily at the northeast corner from vehicles travelling west on 7<sup>th</sup> St S turning right to northbound Chicago Avenue. Delineators were also being hit by motor vehicles parallel parking and backing into them.
  - Delineators were snapping off where the delineator attaches to the base.
  - In response to the delineators being snapped off, DeziLine staff modified the design and began replacing broken and vulnerable-location delineators with new “flex delineators,” which prevented any further loss of delineators because they were able to absorb contact from motor vehicles. Zero delineators were damaged after they were replaced with the new flex version.



## Conclusion

- The pilot produced positive results based on the project purpose.
- The pilot allowed Public Works to test the intersection geometry for potential future installations.
- The DeziLine Ped Rail was very durable throughout the test period. The rail held up to motor vehicle contact, including snow plows.
- A mid-pilot adjustment to change the way the delineators attached to helped significantly reduce potential for maintenance needs on future installations.