



**VISION
ZERO
CHICAGO**

**Milwaukee Avenue
Rapid Delivery Project
Evaluation Study**

March 2019



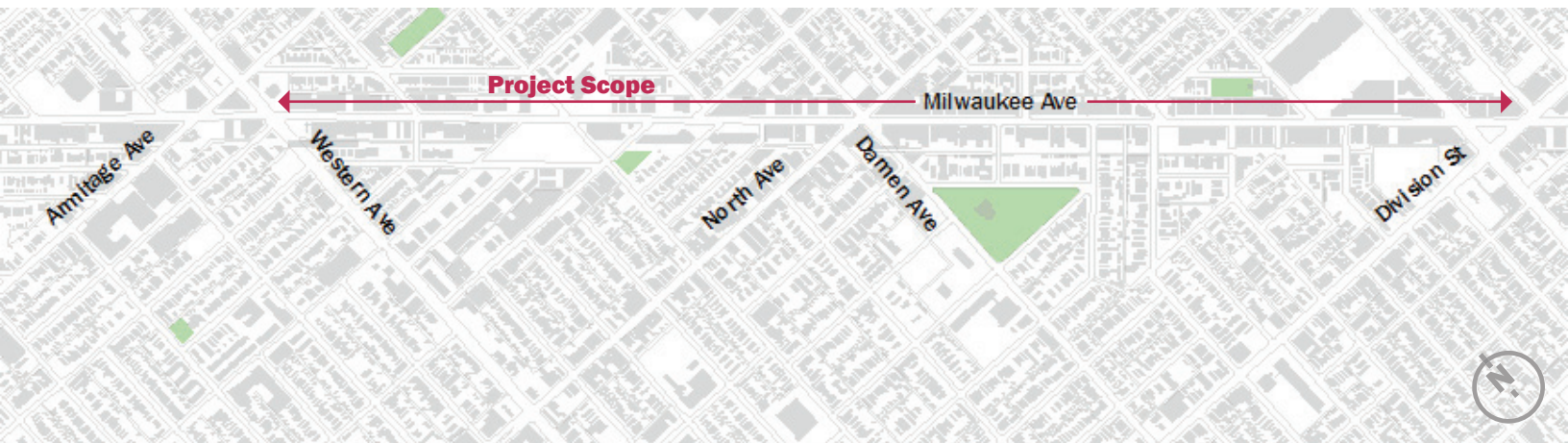
BEFORE

AFTER





MILWAUKEE AVENUE PROJECT EVALUATION REPORT



In the summer of 2017, the Chicago Department of Transportation (CDOT) implemented changes to Milwaukee Avenue between Western Avenue and Division Street to enhance the safety of the corridor for people walking, biking, riding transit, and driving. CDOT’s Vision Zero Action Plan identified this segment as a High Crash Corridor where a disproportionately high number of people are killed or severely injured in crashes. Improvements were made as part of CDOT’s Vision Zero initiative and implemented as a Rapid Delivery Project. The Rapid Delivery approach uses low-cost, quick implementation techniques including new street markings, colored pavement treatments, and flexible delineators. The

Wicker Park Bucktown Special Service Area (SSA) Master Plan helped inform the draft design of the project, which was finalized over the course of three stakeholder and two public meetings. The project utilized city funding and much of the project was planned, designed, and installed in six months.

1,097 crashes from 2010 to 2014

66% of injuries were people walking or biking

PROJECT GOALS

Safer Biking

Safer Access to the 606

Safer Intersections

Safer Speeds

DESIGN STRATEGIES

Dashed Bike Lanes, Bike Boxes

Median Bike Lane, Bump-outs

Bump-outs, Slip Lane Closures, Crosswalks

20 MPH Posted Speed Limit

EVALUATION METRICS

People Biking in Door Zone
People Driving in Bike Lane

People Biking Against Traffic

People Using New Crosswalks
People Stopping for Pedestrians

People Driving over 30 MPH
People Driving less than 20 MPH



HOW DID THE STREET CHANGE?

Safer Biking

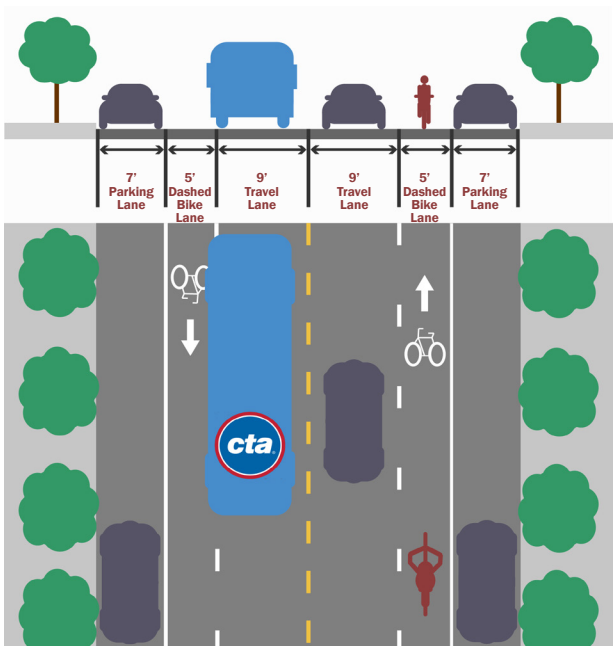
Milwaukee Avenue is the busiest street for biking in Chicago. Pre-project counts indicated that close to 500 people biked on Milwaukee Avenue during the evening rush hour despite having no dedicated space within the project limits. CDOT installed dashed bike lanes in both directions to guide vehicular traffic towards the center of the road and provide a clear path for biking. Bike boxes were installed at several intersections to provide greater visibility for bicyclists at traffic signals, and a bus-bike lane was installed between Ashland Avenue and Division Street to improve transit operations.

Safer Access to the 606

Before the Rapid Delivery Project was installed, it was difficult for people biking to access the 606 from Milwaukee Avenue. Bicyclists heading north had to switch rapidly from the right side of the street to the left, navigating wide traffic lanes underneath the trail viaduct. To make the access safer for bicyclists, CDOT installed two new options: 1. a median left turn bike lane and 2. a turn-box along the northbound curb, both from Leavitt Street to the 606's entrance. Besides having one less traffic lane to navigate, the median bike turn-lane ensures bicyclists have a dedicated space as they wait to cross the southbound traffic lane of Milwaukee Avenue to access the trail.

52% fewer people biking in door zone
37% fewer people driving in bike lane

74% fewer people biking against traffic to access the 606





Safer Intersections

In addition to being a busy biking corridor, Milwaukee Avenue has heavy foot traffic. To improve safety for people walking, project designers incorporated elements that shortened crossing distances, increased pedestrian visibility, and reduced the number of drivers failing to stop for pedestrians. CDOT installed painted curb bump-outs at several crosswalks and closed right-turn slip lanes at two intersections. Following field observations, CDOT installed two new crosswalks and pedestrian countdown timers at the six-legged intersection of Milwaukee Avenue, North Avenue, and Damen Avenue to formalize the prevalent pedestrian crossing patterns.



42% fewer people failing to stop for pedestrians in uncontrolled crosswalks

60% more people crossing on two new crosswalks during p.m. rush hour



TOOLKIT

The Milwaukee Avenue Rapid Delivery Project used design elements recommended in the Vision Zero High Crash Corridor Framework Plan as well as the Wicker Park Bucktown SSA Master Plan. Following are the design elements CDOT employed to improve street safety on Milwaukee Avenue:

1 20 MPH Speed Limit

Speeding is one of the leading causes of traffic fatalities and serious injuries. Studies have shown that only 1 out of 10 pedestrians hit by a vehicle travelling at 40mph were able to survive, whereas 9 out of 10 pedestrians survived being hit by a vehicle travelling at 20mph or less. Lower speeds enable drivers to stop more quickly and see more of their surroundings, improving the visibility of other road users including vulnerable pedestrians and bicyclists. Thus, lower speeds help reduce the number of crashes as well as their severity.



2 Dashed Bike Lanes

CDOT uses dashed bike lanes where the roadway is too narrow for a dedicated bike lane. They provide clearer delineation than a marked shared lane, or sharrows, for bicyclists and motorists, while allowing larger vehicles to occupy the bike lane when necessary.



3 Bike Boxes

Painted bike boxes provide a space for bicyclists to wait safely at a traffic signal. By placing bike boxes in front of the vehicle stop bar, bicyclists are more visible to drivers.

4 Paint and Post Bump-outs

Paint and post bump-outs use pavement markings and flex posts to designate space for pedestrian use. They reduce crossing distances, slow turning speeds, increase pedestrian visibility, and prevent illegal parking near crosswalks. Moreover, the paint and post design is cheaper and quicker to install than concrete bump-outs.



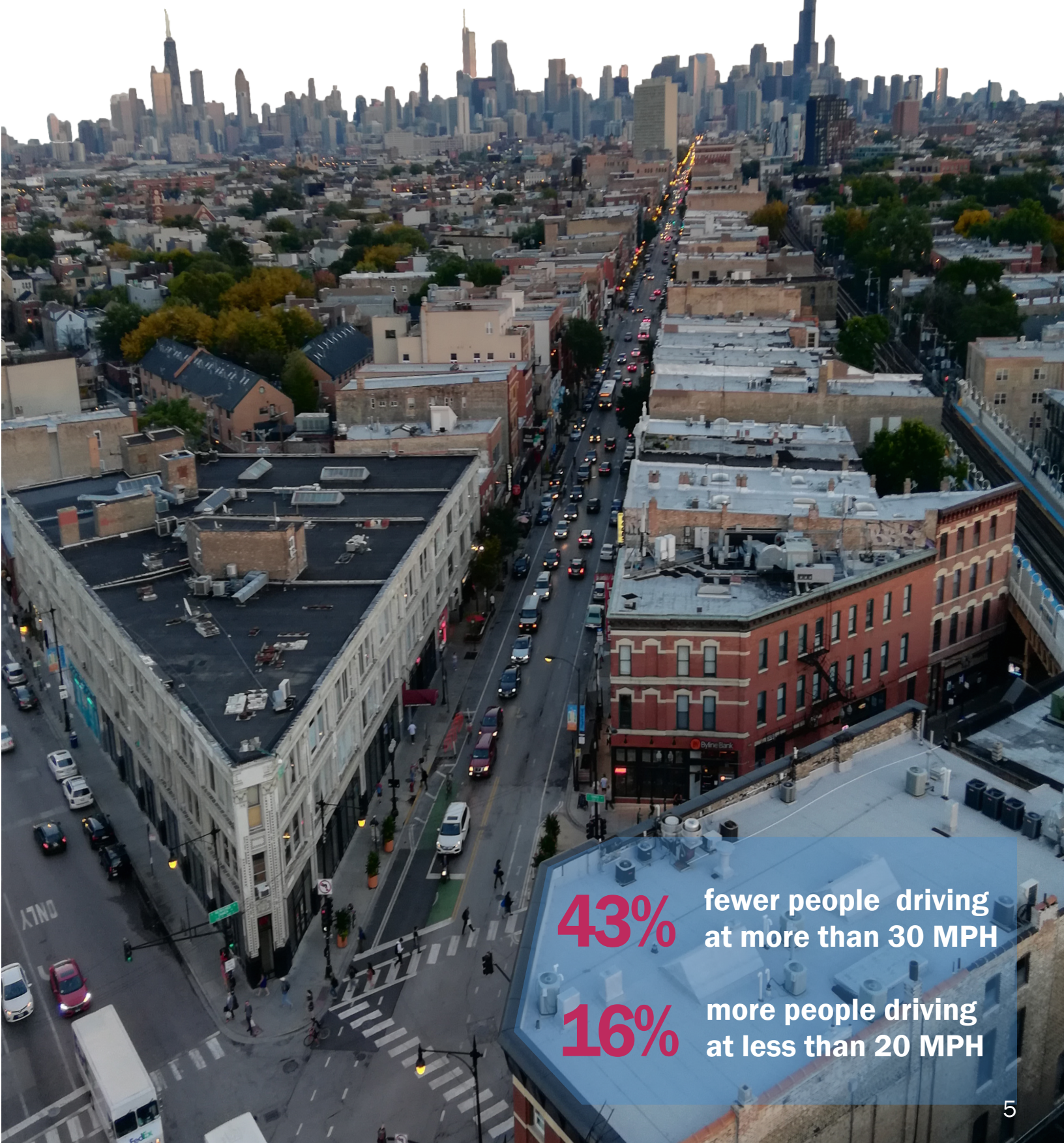
5 Slip Lane Closures

Closing right turn slip lanes with low vehicle volumes reduces conflict points at complex intersections and creates additional space for pedestrians to congregate while waiting for a signal. Low-cost materials, such as those used for paint and post bump-outs, can also be used to designate the slip lanes as exclusive pedestrian spaces.

Safer Speeds

Lower speeds create safer streets for all users. Since Milwaukee Avenue is a High Crash Corridor, it is critical that the Rapid Delivery design reinforce and support the new 20mph

posted speed limit. The combination of physical and regulatory changes on the corridor has resulted in safer driving speeds and better organization of the street.



43% fewer people driving at more than 30 MPH

16% more people driving at less than 20 MPH



WHAT DID WE LEARN?

- **Use Rapid Delivery Projects to test ideas, gain involvement and support, and see results quickly.** CDOT will continue to build on the safety improvements made to Milwaukee Avenue and use it as a model for future projects. This approach allowed CDOT to test a solution within a year compared to traditional infrastructure projects which take several years to plan, fund, and implement.

“Shorter crosswalks and bump-outs make streets more palatable and comfortable for pedestrians.”

- SSA Board Chair

“I am a big fan of the project and I would like to see the improvements made permanent.”

- Wicker Park Resident

- **Build upon ongoing community development plans and projects.**

CDOT prioritized community engagement and worked with community organizations to keep the stakeholders involved after the completion of SSA Master Plan. This allowed CDOT to capitalize on the community involvement process of the master plan. The SSA also helped activate the pedestrian space by installing planters within the newly painted curb extensions.

Feedback from Transit

Chicago Transit Authority (CTA) operates bus route #56 along Milwaukee Avenue, including from Division Street to Western Avenue, where CDOT implemented the Rapid Delivery Project.

- A taxi stand was relocated as part of the project to create a bus-bike lane between Ashland Avenue and Division Street, which eased access for southbound buses to the nearside bus stop on Milwaukee Avenue.



- Available data shows that the project did not impact the bus speeds negatively along the corridor.

WHAT COMES NEXT?

- **Find funding to make improvements permanent.** CDOT will continue to evaluate opportunities to improve safety while working with the SSA and ward offices to find a funding source to make this Rapid Delivery Project permanent.
- **Develop and post information for street users on how to share the road when dashed bike lanes are installed.**
- **Seek additional locations for Rapid Delivery Projects using the High Crash Corridors Framework Plan to advance Vision Zero goals.**

The City of Chicago is committed to Vision Zero and the High Crash Corridors Framework Plan which identifies potential improvements on all 43 High Crash Corridors in Chicago. Although there is no single solution to eliminating traffic deaths, Rapid Delivery Projects hold the potential to be an easier first step to take towards Vision Zero. CDOT will use the momentum from successful Rapid Delivery Projects to install similar projects along other High Crash Corridors.



Chicago's Initiative to Eliminate Traffic Fatalities and Serious Injuries by 2026.



www.VisionZeroChicago.org