

Pilot Choker in the 700 block of 6th Ave SE

January 21, 2014

Background

Construction began on the Stone Arch Bridge Bicycle Boulevard in the fall of 2013, providing a bicycle connection between downtown and northeast Minneapolis neighborhoods. Bicycle detection was installed at the 6th Avenue SE & University/4th Street stoplights, and an overhead flasher is being installed this winter at E Hennepin Avenue & 5th Avenue SE.

The purpose of the bicycle boulevard is to provide bicyclists, especially those who are not comfortable riding on busy streets, a safer and more relaxing place to ride. Motorists are encouraged to travel at slow speeds with traffic calming, and the frequency of stop signs is reduced to keep bike traffic flowing.

During the planning process, the 2-block stretch of 6th Avenue SE between 8th Street and 6th Street was identified as a location of high speeds by motorists. Due to design questions, this location was identified as an area for a pilot traffic calming test called a “choker,” or pair of midblock curb extensions, in the 700 block of 6th Ave SE.

The purpose of a choker is to reduce the average speeds of motor vehicles by narrowing the width of the roadway. Most local streets in Minneapolis are wide enough to accommodate parking on both sides of the street and a two-way travel lane wide enough to accommodate two oncoming motor vehicles. The choker removes parking for a portion of the block and narrows the two-way travel lane space to 12'; wide enough to accommodate only one motor vehicle at a time. A choker treatment is new to Minneapolis, so a temporary version was installed to better understand the effectiveness before fully considering a permanent installation.

Design

The pilot choker was designed using temporary signs and materials. Orange surface mounted delineators were used to simulate the curb lines of a permanent choker. The 700 block of 6th Ave SE is 36' wide from curb face to curb face. The pilot choker extended the original curb face 12' on both sides of the street. A 12' two-way travel lane space remained between the two bump outs.

The choker was located on 6th Ave SE, approximately 30' northeast of 7th St SE. Temporary “No Parking” was posted between 7th St SE and the choker. Two-way traffic signs were installed next to the bump outs in addition to blue signs soliciting public comments through Minneapolis 311.

Dates

The pilot project was installed on June 26, 2013 and removed on October 18, 2013. Prior to the installation, adjacent properties were flyer'd with information about the pilot project.



Pilot choker installation in July 2013. Facing southwest on 6th Ave SE.

Evaluation

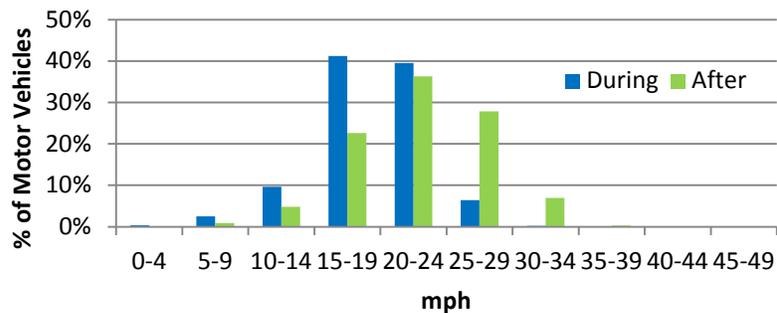
Before installation, evaluation criteria were established to determine if the choker was effective at reducing speeds on 6th Ave SE and providing a safe environment for all road users. The evaluation measures were:

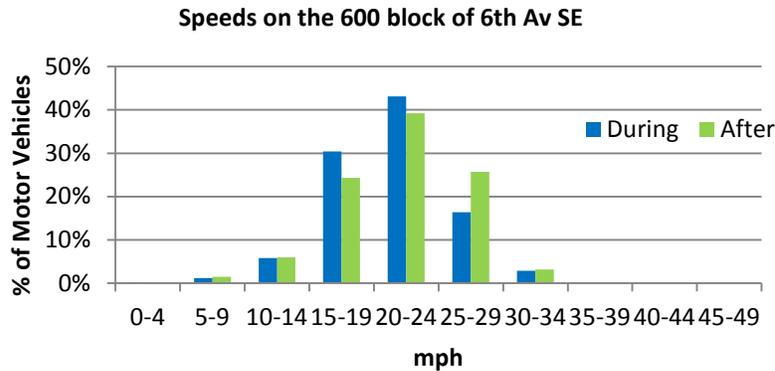
- Motor vehicle speeds
- Traffic diversion
- Field observations
- Crash history
- Public feedback

Motor Vehicle Speeds

Speed studies were conducted while the pilot choker was installed and again after it was removed. Speed was monitored in the 700 block of 6th Ave SE immediately north of the choker and at a midblock location in the 600 block of 6th Ave SE. Without the choker in place, 85th-percentile speeds (a standard way of measuring speeds) were 28 mph in the 700 block of 6th Ave SE and 26.5 mph in the 600 block of 6th Ave SE. With the choker in place, 85th-percentile speeds were 23 mph in the 700 block of 6th Ave SE and 25.5 mph in the 600 block of 6th Ave SE. As a result, 85th-percentile speeds along the two-block segment were 1.5 to 5.0 mph lower with the choker in place.

Speeds on the 700 block of 6th Av SE

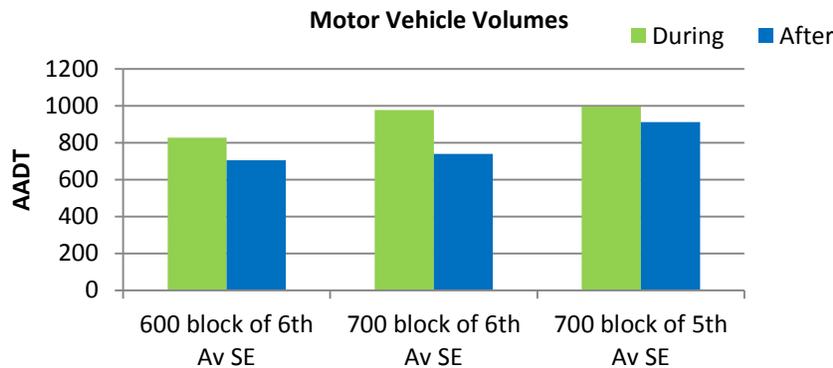




Traffic Diversion

With the installation of traffic calming on 6th Ave SE, residents expressed some concern about motor vehicle traffic being diverted onto 5th Ave SE. Traffic volumes were collected during and after pilot in the 600 block of 6th Ave SE, 700 block of 6th Ave SE, and the 700 block of 5th Ave SE. Counts during the test were collected in July and the after counts were collected in October and November.

Overall, motor vehicle traffic volumes on all segments were higher during the pilot and lower after the pilot was removed. Both before and after the pilot, volumes were higher on 5th Ave SE than on 6th Ave SE. It should be noted that the differences among the volume counts is somewhat negligible and may simply be due to daily or seasonal variation.



Field Observations

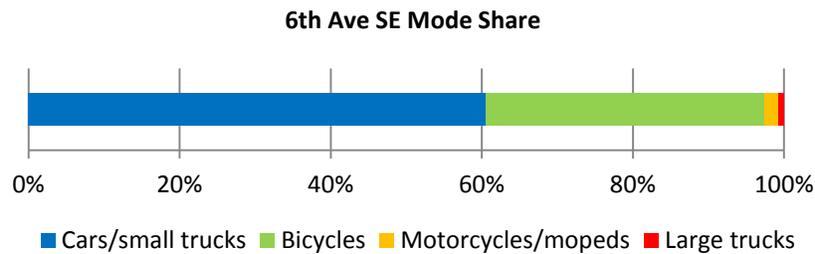
Public Works staff conducted eight hours of field observations at the pilot project during peak hour periods:

- Tuesday, July 16 from 7:00-9:00 a.m.
- Tuesday, July 16 from 4:00-6:00 p.m.
- Monday, September 23 from 7:00-9:00 a.m.
- Monday, September 23 from 4:00-6:00 p.m.

Mode Share

A total of 509 vehicles were observed during the observations. Cars and small trucks accounted for 61 percent of vehicles and bicycles accounted for 37 percent. Motorcycles, mopeds, and large trucks accounted for the remainder of vehicles. The bicycle mode share is relatively high

for a local street in Minneapolis, although expected given that 6th Ave SE provides a direct bicycle connection to downtown and is within close proximity to the University of Minnesota.



User behavior

During the observations, Public Works staff noted if any conflicts or unintended issues arose with the choker installed. Of the 509 vehicles observed, 38 vehicles arrived at the choker at the same time, resulting in 19 simultaneous arrival events. Ten of the events involved a bicycle and a motor vehicle. The remaining nine events involved two motor vehicles.

During the 19 events no conflicts or explicit confusion occurred. The vehicle operators executed basic rules of the road and allowed the first vehicle to arrive to proceed first through the choker.

Crash History

During the three years prior to the installation of the pilot choker, five crashes occurred in the vicinity of 6th Ave SE and 7th St SE. These crashes included two parked vehicle crashes, one right angle crash, one bicycle crash, and one fixed object crash. The pilot project was installed on June 26, 2013 and removed on October 18, 2013. During this period, there were no reported crashes.

Public Feedback

During the pilot project, signs were placed at the choker, encouraging member of the public to submit feedback to Minneapolis 311. In total, comments were received from 22 individuals, most of which were received within the first month of the pilot project. Public Works staff categorized the general sentiment the comments: 8 were positive/in support of the pilot, 12 were negative/against the pilot, and 2 expressed mixed reactions or mixed support for the pilot.

For those that viewed the choker as positive, speed reduction was cited most frequently (5 comments). For those that viewed the choker as negative, confusion and safety concerns about oncoming traffic were expressed most frequently (4 comments each). Some individuals stated that a different solution would be better (e.g. stop signs, traffic circle, no changes).

Summary

Below is a summary of the evaluation measures:

- *Motor vehicle speeds*
During the pilot, motor vehicle speeds were 1.5 to 5.0 mph lower than after the pilot.
- *Traffic diversion*
The pilot choker did not appear to affect motor vehicle volumes on 5th Ave SE or 6th Ave SE.

- *Field observations*
No conflicts were observed. During simultaneous arrival events, vehicle operators executed basic rules of the road.
- *Crash history*
No reported crashes occurred in the vicinity of the choker during the pilot period.
- *Public feedback*
Public feedback regarding the pilot project was mixed. Those with positive feedback stated that the choker lowered speeds. Those with negative feedback stated that the choker was confusing and unsafe. Some feedback suggested alternative solutions for the location.

Conclusion

Public Works staff recommends that the choker be installed, contingent upon neighborhood support for the idea. The choker is effective at reducing speeds, and it does not appear to have a negative effect on either neighboring street traffic volumes or safety. The only concern staff has is the large amount of negative feedback from the neighborhood. While this is not unusual for other types of traffic calming (such as speed bumps and traffic circles), it does have the potential to be a source of future debate if the choker is installed on a permanent basis.