

Bicycle Advisory Committee Memorandum to County Commissioner Peter McLaughlin and Minneapolis City Council Members

Re: Cycle tracks on Minnehaha Ave S

The Bicycle Advisory Committee and Pedestrian Advisory Committee have both formally supported the cycle track layout for Minnehaha Avenue.

According to the University of British Columbia study *Bicyclists' Injuries and the Cycling Environment*,ⁱ cycle tracks are both the safest type of bike facility and the safest-feeling type of bike facility. Cycle tracks are significantly safer than bike lanes, especially bike lanes on major streets with parked cars. It found that the "adjusted odds ratio" for injuries was just 0.11 for major streets with well-designed cycle tracks compared to 0.69 for a major street with an unprotected bike lane and parked cars.

In addition to the University of British Columbia study, a recent study by the New York City Department of Transportation has found that protected bike lanes reduce crashes that result in injuriesⁱⁱ. The protected bikeway on 8th Ave reduced injuries for all street users by **35%** and a parallel facility on 9th Ave reduced injuries by **58%**. A contraflow protected bikeway on Union Square N reduced injury crashes by **26%**.

A 2011 study by Dr. Anne Lusk from the Harvard School of Public Healthⁱⁱⁱ and published in the *Journal Injury Prevention* found that cycle tracks provide a **28%** lower rate of injury than on-street riding. The study also finds that **2.5 times** more people use cycle tracks than standard streets. This research is highly relevant to Minnehaha Avenue, as **four of the six** bike facilities studied (Rue Rachel, Berri Street, Avenue Christophe-Colombe, and Boulevard René-Levesque) were two-way cycle tracks on one side of a two-way roadway, equivalent to the proposed west-side cycle track on Minnehaha.^{iv} Three of the cycle tracks in question also featured parking.

The relevant academic research indicates that cycle tracks, including two-way cycle tracks on one side of two-way roadways, are at least as safe as other treatments if not significantly safer, and attract significantly more bicyclists.

A cycle track on Minnehaha would be safer than bike lanes in the following ways:

1. Moving the bicycle facility to the west side of the parked cars would narrow the perceived width of the roadway, and result in better adherence to the speed limit. Improved compliance with speed limits results in fewer accidents and lower fatality rates for all modes.
2. The cycle track design allows for shorter pedestrian crossings, especially if pedestrian safety is prioritized over the creation of a large turning radius at each corner.
3. Separated facilities tend to attract more bicyclists, and increasing the numbers of bicyclists improves the safety of bicyclists as a group. In Minneapolis, as bike mode share has increased, crash rates have decreased. Increasing the number of bicyclists on Minnehaha will make motorists more aware of the presence of bicyclists in the corridor, and increase safety.
4. The cycle track design eliminates visibility problems that would cause a car to push a bicyclist into moving traffic when exiting a driveway. To adequately address this risk in the bike lane configuration, parking spaces near major driveways would need to be removed.

5. Better public health outcomes - obesity and related diseases kill many more Americans than traffic accidents do. According to the National Institutes of Health, an estimated 300,000 deaths per year are due to the obesity epidemic, and according to the U.S. Census, there were 33,808 traffic fatalities in the U.S. in 2009.
6. A cycle track allows interactions between transit and bicyclists to be managed. In the bike lane layout, conflicts between buses and bikes are a significant problem that remains unresolved by the proposed bike lane design. Buses move across bike lanes to load and unload passengers. A good cycle track design will give transit riders a safe 'landing zone' at each bus stop, and indicate that bikes must yield to pedestrians.
7. A cycle track design is more consistent with trails in Minnehaha Park, as well as the Midtown Greenway just north of the project terminus. Buffered bike lanes between Lake Street and the Greenway could provide a 'quick fix' connection until reconstruction occurs on that segment of Minnehaha. A cycle track is more consistent with the level of high-quality trails that currently see thousands of bicycle trips/day near the north and south termini of the project. Even with no change, the current bike lanes on Minnehaha north of Lake Street are safer and more inviting than the proposed bike lanes south of Lake, as they are beside the curb rather than parked cars (see the University of British Columbia study above).
8. The cities with the best safety records have extensive cycle track networks. There are many variables to explain this, of course. But consider: helmet usage is rare in these cities, and they still have fewer fatalities per bike mile travelled, by a very large margin, than we do in Minneapolis.
9. Under a cycle track design, midblock collisions – which make up roughly 1 in 5 collisions – are eliminated.
10. A cycle track design eliminates the threat of 'dooring' accidents, which remain a problem in the proposed bike lane design.
11. The cycle track would reduce sidewalk riding, which improves the environment for pedestrians.

Cycle track design at intersections

Intersection design is important to the safety of cycle tracks. At minor, non-signalized intersections, we propose that the cycle track cross intersecting streets at sidewalk grade, over a "speed table" that would alert drivers to the presence of the bikeway and discourage high-speed crossings of the bikeway. At signalized intersections, we recommend the use of colored pavement markings, similar to the very successful colorized markings the City has installed on 15th Avenue SE, and separate signals for bicycles and pedestrians. The signals for non-motorized travelers could provide a head start across the intersection, improving visibility and establishing right-of-way, or if necessary, could provide an entirely separate signal phase. These are not new ideas, generated by the BAC. They are national best practices that have been implemented in other U.S. cities. All of these best practices were shared with Hennepin County staff at the cycle track symposium Hennepin County organized on April 16, 2013, by Alta Planning and Design, Toole Design Group, and the City of San Francisco.

Why street design should address health

Crash avoidance is a shared responsibility. Ultimately, it is each driver's responsibility to drive safely. Engineers should design streets with as many safety-enhancing elements as possible, to promote and encourage the driving behaviors that maximize safety. In the same way, public health is a shared responsibility. Ultimately, it is each person's responsibility to maintain her/his health. Engineers should design streets with as many health-enhancing elements as possible, to promote and encourage the active transportation trips that maximize health. Because health problems related to obesity and sedentary lifestyles claim many more lives in our country than

traffic collisions do, it would be problematic the design of our streets to ignore the larger problem, while focusing exclusively on the smaller one.

Neighborhood livability is improved with the cycle track design

Choice neighborhoods – walkable urban neighborhoods – are considered preferable to car-oriented neighborhoods. Hwy 55 is a hostile environment for pedestrians, because it prioritizes high-speed, high-capacity motorized travel. With the reconstruction of Minnehaha, Hennepin County has the opportunity to create a more pedestrian-friendly corridor, and create a better balance in the area. Rebuilding Minnehaha with a cycle track will make the neighborhood more inviting to pedestrians, bicyclists, and people looking for a place to live. In the suburban context, the mobility of automobiles is often considered secondary to the livability of a street - as evidenced by interrupted grid patterns and cul-de-sacs. Compared to these suburban strategies for balancing livability with mobility, the cycle track design on Minnehaha represents a subtle change – we are not proposing to interrupt Minnehaha with barriers or create cul-de-sacs. Minnehaha is a neighborhood street with many residents directly facing the street, and the narrowing of the street by converting the bike lanes to a cycle track represents a reasonable method for making Minnehaha Avenue a better place to live.

Cycle tracks improve economic vitality

The recent NY DOT study (see above) also indicates that protected bike facilities have a major positive impact on business corridor vitality. The protected bikeway on 9th Avenue, which was constructed in 2007, has helped local businesses. Stores between 23rd and 31st streets have seen a **49%** increase in sales, compared to an average of 3% for Manhattan as a whole over the same time period.

Transit access is improved with a cycle track design.

Creating world-class transit lines is not enough to increase transit ridership. In order to realize the full potential of transit, the neighborhoods near good transit lines must be designed to maximize pedestrian safety and comfort. One daunting pedestrian barrier (Hwy 55) between Longfellow and the Hiawatha LRT stations already exists. The Longfellow community does not benefit from Minnehaha being a second barrier between pedestrians and LRT stations. The cycle track design, combined with smaller curb radii, would allow for crossings as short as 22 feet. The bike lane design, by contrast, requires that pedestrians cross a roadway that is at least 34 feet wide. It also introduces an operational ‘double threat’ for pedestrians crossing the street, because the bike lane is used by cars making right turns and by cars passing vehicles waiting to make left turns. Whether Longfellow residents are accessing the bus route along Minnehaha or the LRT line, a Minnehaha Avenue with a cycle track and narrower crossings represents an improvement in transit access for local residents.

Other cities’ experience

Cycle tracks are being implemented in many other cities in the U.S. and Canada, including New York, Chicago, San Francisco, Washington, D.C., Portland, OR, Vancouver, Montreal and Seattle. This type of facility has been used for years in the European cities with the highest bicycle mode shares (most above 30%), including Copenhagen and Amsterdam. These cities also have significantly fewer accidents per bicycle mile travelled than Minneapolis does. According to the Census, the percentage of commuting trips made by bicycle in Minneapolis has *decreased* slightly since 2008. Our peer cities are continuing to increase bicycle commuting mode share; all but two of the top 10 bike-commuting cities in the U.S. increased their mode share between 2009 and 2011, and Minneapolis is one of those two. As a result, we have dropped from 2nd place in the nation to 4th place in the nation, behind Portland, San Francisco, and Seattle – all cities that are investing in protected bikeway networks.^v

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- ⁱ <http://cyclingincities.spph.ubc.ca/injuries/the-bice-study/>
 - ⁱⁱ <http://www.nyc.gov/html/dot/downloads/pdf/2012-10-measuring-the-street.pdf>
 - ⁱⁱⁱ <http://injuryprevention.bmj.com/content/17/2/131.full>
 - ^{iv} <http://injuryprevention.bmj.com/content/17/2/131/T1.expansion.html>
 - ^v <https://docs.zoho.com/sheet/published.do?rid=b0tmjb34e59c0d6f645899baab2d1ddb1ed2c>