

## Pelham Boulevard Suggested Treatments

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The following suggestions for street design and other changes within the Pelham Boulevard right of way are based on the following observations and/or assumptions:

- 1) Pelham Blvd is an important asset for the residents who live along this street, for the entire neighborhood that rely upon it for transportation purposes and for visitors and commuters who appreciate it as a key connector for popular trails, future light rail station, commercial/office hubs, the Lake Street bridge and other major destinations;
- 2) The public right of way of this corridor will remain its current width and there is no compelling reason to change it;
- 3) On-street parking is desirable and will remain in place at least on one side of the street for the entire length of Pelham, excluding the bridge of I-94;
- 4) Making Pelham as inviting to walkers and bicyclists (and to encourage more people to walk and bike) as possible is a priority; and
- 5) Ensuring safety for all users and encouraging motorists to travel at lower speeds than the current practice is a primary goal.

Pelham Blvd is classified as a minor collector with varying widths and land uses from University Ave (industrial/commercial) to its southern terminus at Mississippi River Blvd. (residential/recreational). From the bridge to Otis Ave., 2012 AADT figures show that there are approximately 4,250 vehicles per day using this corridor. Between Otis and Mississippi River Blvd the volumes drop to below 2,000.

Bicycle volumes - Based on two hour counts conducted just north of Otis on three different occasions, we can estimate that a little over 300 people are bicycling on Pelham Blvd on a daily basis during fair weather months. (This figure assumes that the two hour peak period on Pelham (4-6 PM) reflects 16.45 percent of the daily total, as derived from numerous 24 hour counts across Minneapolis.)

Pedestrian volumes – On an average day there are an estimated 125 pedestrians using Pelham Blvd based on three two hour counts conducted at the same time as the bicycle counts.

**St. Anthony to Doane Section**, curb to curb width: 44' wide.

Existing: 8' parking lanes, 14' travel lanes.

Proposed: Option A -- 7' parking lanes, 5' bike lanes, 10' travel lanes

Option B – 7' parking lanes, 6' advisory bike lanes and remove center stripe.

With either of the above options consideration can be given to adding a one or two foot hatched marked buffer zone between the parking lane and the bike lane, to encourage cyclists to stay further away from the door zone.

**Doane to Beverly Section**, curb to curb width: 36' wide.

Existing: 7' parking lanes (unmarked), 11' travel lanes.

Proposed: Option A – 7' parking lanes (visibly marked), 5' advisory bike lanes. Remove yellow center stripe for 10' space between ABLs. Note, motorists can cross over the dashed lines demarcating the advisory bike lanes when a bicyclist is not present. ABLs simply reinforce existing traffic law and principles.

Option B – 7' parking lanes (not marked), retain center stripe, reinforced sharrows in center of travel lanes (i.e., center of sharrow is 12' from the curb); erect “Bikes May Use Full Lane” signs.

Option A would have a greater traffic calming effect.

**Beverly to Otis Section**, curb to curb width: 36' wide.

Existing: 8' unmarked parking lane on west side; 14' travel lanes.

Proposed: Move parking lane to east side, mark 7' climbing bike lane on east side, 11' travel lanes, reinforced sharrow bike marking in center of southbound travel lane with “Bikes Use Full Lane” hill warning sign.

In addition to on-street changes (requiring only paint or poly-tape) the following infrastructure improvements are recommended:

- Curb extensions (bump outs) at each intersection to shorten crossing distances, reduce curve radii, better delineate parking zone, prevent illegal parking at intersections and create better sight lines (making people trying to cross the street more easily seen).
- Use zebra (highly visible vertical) markings for each crosswalk area
- Provide off-street trail on west side of street in boulevard sparing trees; path should be minimum 12' wide for two-way bicycle travel.
- Two way protected bike-way on west side of bridge over I-94 to tie into boulevard path would help reduce travel lane width on bridge (to prevent unsafe crossing of bikes to protected bike way, also mark on-street one way bike lane for northbound cyclists on bridge).
- Consider installing midblock crossing with median and crosswalks to Desnoyer Park for further traffic calming and chicane effect (without being a chicane); this would require loss of two parking spaces on each side of street.

# Glossary of treatment options

## Advisory Bike Lanes

Where there is insufficient width to stripe a regular bike lane with solid striping that provides for exclusive bicycle use, a dashed “advisory” bike lane can be used.

This type of marking has been shown to encourage greater bicycling on a given roadway, while also slowing traffic and promoting safer passing behavior. Motorists tend to give more room to cyclists when passing on such streets and often drive at slower speeds. Advisory bike lanes do not require a variance because they do not technically reduce the width of existing travel lanes. In order to be effective however they do



require the elimination of the center stripe which the Manual for Uniform Traffic Control Devices (MUTCD) allows when the volumes of vehicles are fewer than 6,000 per day.

## Bike Lanes

These are a minimum of 5’ wide (state standards) and are one way facilities generally on each

side of the street. The markings used are a white solid longitudinal stripe separating the bike lane space from the travel lane. Another stripe may be used to separate the bike space from the parking lane if one exists or from the gutter pan. Buffer zones can be created to encourage greater distance from passing motorists, or alternatively, to encourage cyclists to stay further away from parked cars (to stay out of the door zone). Recommended minimum width for an effective bike lane is half the width of the widest travel lane. Where bicycling speeds are greater (such as on downhill stretches) bike lanes should be wider



to give higher speed cyclists more room to maneuver. When descents approach 6% or greater, consideration should be given to encouraging cyclists to use the full lane, and remove bike lane from that side of the street, but retain climbing lane on uphill section. Downhill bike lanes adjacent to parking lanes are especially dangerous and should always be avoided unless there is ample space for buffer zone.

### **‘Bikes May Use Full Lane’ sign**

These are MUTCD informational signs that remind road users that whenever there is not space for a motorist to safely pass a cyclist without changing lanes, or going into the opposing lane, the cyclist has the right to take the lane. These signs currently can be found on Como Ave SE in Minneapolis, and on University Ave and Marshall Ave (westbound from Cretin) in St. Paul. These signs can be used with or without shared lane markings (sharrows).



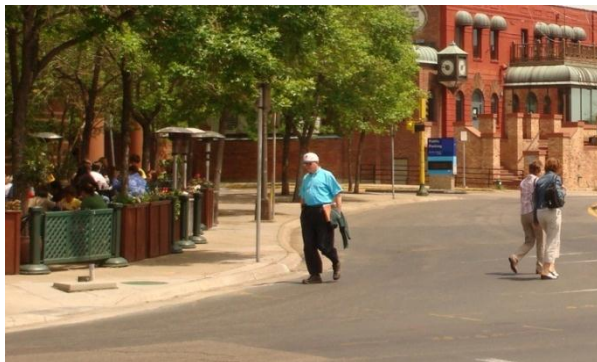
### **‘Bikes Use Full Lane’ hill warning sign**

These are warning signs that encourage cyclists to ride in the center of a travel lane when going down steep hills. They require custom wording (sign) below the MUTCD hill warning sign for bikes.



### **Curb Extensions (Bump Outs)**

Also known as ‘bump-outs’, these shorten crossing distances at crosswalks for people attempting to cross a street. They also slow turning motorists by reducing or tightening up the curve radii and often provide better sight lines for all road users by eliminating the opportunity



for illegal parking near an intersection.

### **Highly visible crosswalk markings**

These tend to be more effective in encouraging motorists to properly yield to pedestrians than longitudinal striped crosswalks. They can send a strong visual cue to road users that they can expect to see pedestrians at these locations.



### **Midblock Crossings**

Building a safe midblock crossing generally requires a median or pedestrian refuge island, and/or an activated signal of some sort. Medians have been shown to significantly reduce pedestrian/motor vehicle crashes, as



have special signals like the HAWK, which only goes red to stop traffic when activated by a bicyclist or pedestrian. For more on these proven safety countermeasures, see <http://safety.fhwa.dot.gov/provencountermeasures/>

### Reinforced Sharrows

Shared lane markings (sharrows) are used to denote the recommended position a cyclist should use on a street. They have not been shown to be effective in



encouraging increased cycling activity, but they may be effective in reinforcing the legitimacy for cyclists to take the full lane in conjunction with the signs. On the other hand, enhanced or reinforced sharrows do appear to attract new users and may be as



nearly as effective as bike lanes in encouraging safer passing distances. Sharrows can be reinforced or enhanced either by the use of green paint, or by dashed line markings, similar to advisory bike lanes.

### Two-way off-street trail

These facilities are safest where there are few if any driveways or other crossings such as along rivers or in railway corridors. Where this is not the case, designs should encourage slower speeds, clear right of way parameters, and the elimination of all sight obstructions at crossing/conflict points. Shared two-way facilities are to be a minimum of 12' wide. When there is an adjacent sidewalk, minimum recommended width is 10 feet.



### Two-way protected on-street bikeway (aka Cycle Track)

Protection from traffic for an on-street facility is generally created through portable concrete planters, parked cars with buffer zones, and sometimes removable bollards. Careful consideration of intersections is required to prevent turning motorists from colliding with straight through bicyclists, which the device(s) used to provide protection can sometimes exacerbate by blocking view of the cyclists. Restricting turning movements and/or special bike signals can mitigate this potential problem.

