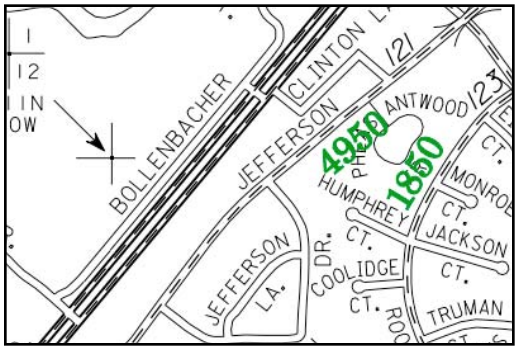
Bicycling on Jefferson Road

Jefferson Road, once a rural route from Northfield to Dundas, is now the only city street that follows the same route as South Highway 3. As Highway 3 has a high speed limit and almost no nonmotorized accommodations, Jefferson Road has become a popular bikeway for accessing the southwest corner of Northfield, including retail areas at Target and Heritage Square. This document discusses Jefferson Road from West Jefferson Parkway to Hidden Valley Road, which is being resurfaced in 2011.

Traffic on Jefferson Road

There is no record of bike traffic on Jefferson, but it is well-known by Northfield cyclists as a very popular route. As a mirror of Highway 3, the usefulness for bike transportation cannot be overlooked. This portion of the route gets about 4950 cars per day, as of 2008. By comparison, adjacent Highway 3 has nearly 13,000 cars per day.[1] Jefferson has a design speed of 30 mph, while Highway 3 has a speed of 45-55 mph in this area.



The Big Picture

Jefferson Road and South Maple Street are the only continuous north-south streets that go south of Jefferson Parkway at a 30 mph speed. South Division Street (TH 246) and Highway 3 both have highway speed limits that are uncomfortable for nearly all cyclists. Students from St. Olaf and Carleton are often unaware of Jefferson as a bike route, and either believe they cannot bike to Target/Cub or bike on Highway 3.

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[1] http://www.dot.state.mn.us/traffic/data/maps/trafficvolume/2008/cities_over_5000/northfie.pdf

Jefferson is known locally as a bike route, but there is nothing on the current roadway to indicate that it is a good bike route, or that it will bring you to a particular destination. ***Because it connects a major commercial destination to the core of Northfield, Jefferson is an essential bike route to preserve and build on.***

Parking on Jefferson Road

Currently, there is a seldom-used parking lane on the west side of Jefferson Road. This lane creates a number of problems. As the striping fades, cars are unclear whether to follow the striping they *know* is there, or to simply hold a normal position on the road. (Following the striping means that southbound cars drive roughly in the middle of the roadway).

Going southbound, bicycling is actually quite comfortable. The rarely used parking lane makes for a very wide space for bikes to use. For northbound bikes, however, it squeezes them uncomfortably with northbound vehicular traffic.

There is parking allowed on streets that intersect Jefferson in this section — Jefferson Drive (which is a horseshoe road and intersects twice) and Hidden Valley Road. ***The farthest distance from any house on Jefferson Road to one of these parking-ample streets is 500 feet — less than 1/10 of a mile.***[2]

Objective vs. Subjective Safety

The roadway is objectively the safest place for bicycles. In fact, according to Mn/DOT, a cyclist is 25x more likely to get into an accident on a sidewalk than on the roadway — mostly due to cars turning right or entering/exiting driveways.[3] Subjective feelings of safety also matter, however: if it *feels* unsafe or unwelcoming on the road, bicyclists may choose to ride on the objectively less safe sidewalk.

As a low-speed street with relatively good lighting and visibility, Jefferson Road is generally a safe city street for bicycling. The high traffic volume of the roadway is relatively inconsequential at low speeds. However, the current striping configuration presents certain safety issues.

Safety Issues

For vehicles, as mentioned, faded lanes are cause for confusion between normal roadway position for a car and the skewed position created by one-sided parking. Bicycles also pose a safety hazard for vehicles, due to the current striping. Northbound bikes will generally ride at least a foot from the pavement edge — or two feet from the curb. State law requires drivers give at least three feet in passing, and they may choose

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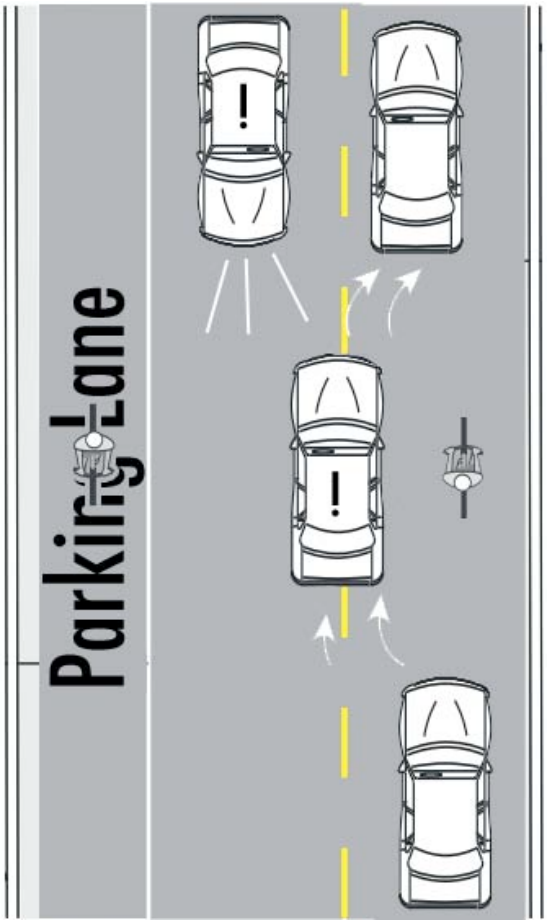
[2] S-1712 and S-1801 Jefferson are just under 500 feet away. No house is farther away than this. Measurements from Rice County GIS.

[3] http://www.sharetheroadmn.org/rules.html#rule2

to give more, if they feel uncomfortable brushing past.[4] ***This means that northbound traffic pushes into the southbound lane, requiring southbound drivers to swerve into the parking lane to avoid collision*** — see the graphic to the right for this conflict.



For bicycles, the greatest safety issues come from trying to stay out of the way of cars. Bicycles riding northbound may ride too close to the roadway edge and lose control of their bike by catching the edge of asphalt, or hitting a stormsewer grate. As mentioned, they may ride on the sidewalk, dramatically increasing their risk of collision. Or, seeing the wide-open space on the west side of the roadway, they may ride in the parking lane, against traffic. Fortunately, there are two solutions that increase safety for all users, with ***virtually no additional cost to the resurfacing project.***

Solution 1: Bike Lanes

The roadway is currently 36', according to the City.[5] Mn/DOT considers 5' to be the minimum for on-street bike lanes, with 6' for busier routes.[6]

The best option would eliminate parking on Jefferson Road and build it with 6' bike lanes in both directions and 11' driving lanes, with the margin being used for striping. This bike lane measurement would include the concrete gutter — the actual rideable surface would be about 5'. This solution is preferable for cycling.

Advantages	Disadvantages
Safest type of bicycle facility[3]	Less parking immediately in front of houses — but no house more than 1/10 of a mile away from street parking
Reduced wear and tear on edge of roadway, extending road life	
Best way to build Jefferson as a bikeway to the Target-Heritage commercial district	

[5] http://www.ci.northfield.mn.us/assets/p/Packet-Part-II.pdf

[6] http://www.dot.state.mn.us/bike/pdfs/manual/Chapter4.pdf, page 70

Solution 2: Shared Lanes

The second option would be to retain parking on the west side, but not mark it as a separate lane. Dedicated parking lanes are not necessary at low parked car volumes. Stripe the yellow dividing down the middle, and add shared bicycle symbols (right) near the edge of the roadway. These symbols show the approximate path of cyclists, keep drivers aware of cyclists, and remind cyclists to stay on the street.

Advantages	Disadvantages
Parked vehicles still allowed on west side	Somewhat less welcoming to cyclists.
More comfortable for cars and bikes than existing striping	Southbound drivers/cyclists may have to swerve around parked car.

Existing Striping

In summary, a comparison with the proposed solutions:

Advantages	Disadvantages
Capacity for a high number of parked vehicles.	Confuses drivers as the striping fades.
Generally comfortable southbound cycling.	Forces northbound drivers to enter the southbound lane to pass bikes.
	Perceived as unsafe by cyclists, potentially leading to sidewalk or wrong-way cycling
	Increased wear and tear on the edge of the asphalt surface — leading to much of the damage today.
	Not an obvious bikeway.

Document information

This document was prepared by Sean Hayford O'Leary, 1500 St. Olaf Ave W. sdho@sdho.org. It can be accessed — with examples of similar streets in other municipalities — at http://sdho.org/jefferson.