

Application of Sharrows in Missoula -- Guidelines for determining when to use them.

1. REPLACING CURRENT BIKE ROUTE SYMBOLS

The City will replace the “bike in the house” symbol with the sharrow symbol on all designated bicycle **routes** whenever

- (a) the street is resurfaced, or
- (b) on streets not being resurfaced, the paint of the old symbols is sufficiently worn that applying the new symbol on those bike routes will not result in confusion.

2. MARKING NEW LANES OR ROUTES

The City will evaluate streets not currently designated as bicycle lanes or routes for designation as a bicycle lane or bicycle route. Streets may be proposed for designation by staff, the Bicycle Pedestrian Advisory Board, elected officials, or citizens, or as street maintenance is planned.

- A. Such streets must provide a reasonable connection between portions of the current bike system (lanes, routes, trails), or on an existing or potential high-use corridor.
 - **Does the street segment connect parts of the current bike system with other parts or with high-use destinations?**
- B. Priority consideration must be given to establishing a bike lane on the street. Recognizing that a bike lane requires five feet of reserved space on each side of the street, the following factors must be evaluated and documented:
 - **Is there enough room for a bike lane without changing lanes or parking?**
 - **Is there on street parking which can be removed to make room for bike lanes?**

This requires a public process, in which parties affected by removal of parking are involved. An evaluation of the parking needs along the street must be provided.
 - **Can the driving lanes be narrowed to create enough room for bike lanes?**

Written documentation must be provided, showing that lanes can be narrowed or why lanes cannot be narrowed. Would the change in automobile operations result in conditions considered unsafe or at an unacceptable level of service by city engineers?
 - **Can a lane be removed to create enough room for bike lanes?**

Written documentation must be provided, showing that a lane can be removed or why a lane cannot be removed. Would the change in automobile operations result in conditions considered unsafe or at an unacceptable level of service by city engineers?
- C. If a bike lane cannot be established on the target road segment, then the following factors must be evaluated and documented to determine if the road segment can be classified as a bike route, and thus be marked with a sharrow:
 - **Can a motorist safely pass a slowly-moving bicyclist?**

This would require one of the following conditions to be satisfied:

 - Having at least 14 feet of width in the travel lane; or
 - Two driving lanes in each direction, so a motorist may move left to pass; or
 - If one lane in each direction, either no centerline or a dashed centerline. Motorists may not cross a solid centerline to pass.
 - An opportunity for slow-moving bicyclists to move over, e.g. at frequent intersections

- **Are there any uncorrectable roadway conditions, e.g. sight distance problems, which would create a significant jeopardy for a cyclist sharing the driving lane?**
- **Will marking the roadway with sharrows create unacceptable difficulties in motor vehicle operation of the roadway?**
There are many factors to consider, including high traffic volumes which could result in reducing traffic capacity the street for peak traffic hours each day.
- **What is the 85th percentile speed?**
Motor vehicle speeds greater than 35 mph create significant safety risks for bicyclists in the same lane. Shared lanes are typically not recommended for streets with the 85th percentile speed exceeding 35 mph.

3. UNIQUE SITUATIONS

In unique or hazardous situations, the City will consider using a sharrow to indicate to motorists and bicyclists that each must share the roadway with the other for a distance of a block or less. In these cases, the City will evaluate the following factors to determine if a sharrow can be justified:

- **Does the situation create an unexpected conflict between motorists and bicyclists?**
For example, does a bike lane abruptly end for a bridge abutment or a right-turn only lane with no guidance for motorists or bicyclists?
- **Will applying a sharrow increase the likelihood that motorists will accommodate bicyclists in the targeted distance?**
- **Does applying a sharrow in the situation increase the risk to bicyclists?**
- **Does applying a sharrow in the situation create unacceptable motor vehicle operations in the targeted distance?**

4. PLACEMENT OF MARKINGS

A. For roadways with (a) two lanes in either direction, or (b) one lane in either direction and either no centerline or a dashed centerline:

- **With On-Street Parking.** Place the shared lane pavement markings a minimum of 10' from the face of curb in the presence of on-street parking. This distance can be increased for:
 - Downhill sections (greater than 5%)
 - Areas where wider vehicles park
 - Where cyclists may still encounter motorists trying to pass without changing lanes, as in lanes at 20'-21' wide.
- **Without on-street parking.** In any travel lane narrower than 14', recommended placement is at 3' from the face of the curb, but may be shifted further into travel lane to avoid obstacles near the curb, such as longitudinal joints or seams, or depressed inlets, etc.

B. For roadways with one lane in direction of travel -- either one-way or two-way with a solid centerline. Sharrows should be placed closer to the center of the travel lane. Where there presumably is no means for a motorist to safely pass a cyclist, the shared lane pavement marking should be placed so as to send a message that motorists cannot pass in the segments with the markings.

C. Frequency of Application

Provide one marking per block in each direction of travel, or one marking every 250-400 feet. Place markings 50' toward the center of the roadway segment from the inside of crosswalks at both ends of the segment.

**City of Missoula Shared Lane Pavement Marking Criteria and Evaluation
12-07**

D R A F T

I.	Is segment currently marked as a bike route?	YES NO	Mark with sharrows Proceed in this chart
II.	For segments proposed to be included in the bike system:		
A.	Does the segment connect portions of the current bike system or is it on a high-use corridor?	YES NO	Proceed in this chart No action possible
B.	Can a bike lane be striped on this roadway segment?		
	1. Is there enough room for a bike lane to be striped without changing lanes or parking?	YES NO	Stripe with bike lanes Proceed in this chart
	2. Is there on-street parking which can be removed to make room for bike lanes?	YES NO	Stripe with bike lanes Proceed in this chart
	3. Can driving lanes be narrowed to make room for bike lanes?	YES NO	Stripe with bike lanes Proceed in this chart
	4. Can one or more driving lanes be removed to make room for bike lanes?	YES NO	Stripe with bike lanes Proceed in this chart
C.	If a bike lane cannot be striped on this roadway segment, can sharrows be marked?		
	1. Can a motorist safely pass a slowly-moving bicyclist? Possible exception: where passing is prohibited.	YES NO	Proceed in this chart No action possible
	2. Are there any uncorrectable roadway conditions which would create jeopardy for a cyclist sharing the driving lane?	YES NO	No action possible Proceed in this chart
	3. Will marking the roadway with sharrows create unacceptable difficulties in motor vehicle operation on the roadway?	YES NO	No action possible Proceed in this chart
	4. Is the 85 th percentile speed <35 mph?	YES NO	Sharrows may be installed Action possible only by admin exception
III.	For unique spot situations		
	1. Does the situation create an unexpected conflict between motorists and bicyclists?	YES NO	Proceed in this chart Sharrows not necessary
	2. Will a sharrow increase the likelihood that motorists will accommodate bicyclists in the targeted distance?	YES NO	Proceed in this chart Sharrows not necessary
	3. Does applying a sharrow in the situation increase the risk to bicyclists?	YES NO	Don't consider sharrows Proceed in this chart
	4. Does applying a sharrow in the situation create unacceptable motor vehicle operations in the targeted distance?	YES NO	Don't consider sharrows Sharrows may be applied
IV.	Other information (circle answer)		
	Is there more than one lane in the direction of travel?	YES	NO
	If only one lane in direction of travel, is the centerline	nonexistent	dashed solid
	Is existing or potential bicycle use...	high	moderate low
	Is the Average Daily Traffic	under 5000 5001 to 10,000 10,000 to	20,000 Over 20,000