BICYCLES IN CITIES

THE EUGENE EXPERIENCE

Vol. VI

ON-STREET BICYCLE LANES

Bicycle lanes form the mainstay of Eugene's commuter system. These striped lanes on selected arterial and collector streets are often the only practical way to provide some protection and encouragement for cyclists. All bike lanes are one-way.

By 1982, Eugene had obtained space for striped bike lanes in these ways: removing car parking (7.5 miles); including sufficient width for bike lanes when building new streets or reconstructing streets and interections (20 miles); narrowing car lanes (9 miles); and even eliminating a car lane (0.5 miles). Bike lane widths usually are 5 feet but may be as wide as 6 feet or as narrow as 4 1/2 feet.

The decision to place a stripe on a given street is based on evidence of existing high bike/car conflict and on the lack of an acceptable, alternate bike route. Eugene has no law requiring cyclists to use the lanes when provided; however, most cyclists do so because the lanes are well-placed.

Striping lowered accident rates in Eugene. Accident data gathered before and after five years of bikeway operation showed that streets with striped lanes had lower accident rates than before. The lanes remind motorists that cyclists might be present, thus making drivers more cautious when turning across the bike lanes. The lanes also provide more predictable movements by both cyclists and motorists.

STRIPING PATTERNS. Eugene stripes its bicycle lanes with a solid, white, 8-inch-wide stripe between the bike and car lanes. Approaching an intersection, the stripe is dashed

Symbols, not words, mark bike lanes. Eugene uses this design from Holland.

Bicycle symbols, directional arrows, and wide stripes claim the space. The stripe is dashed through the intersection.

to caution the cyclist and the motorist of the increasing risk of turning movements. When the bike lane is moved out from the curb to allow space for parking, an additional stripe may be needed (**below left**). This narrower 4-inch stripe is added when parking is so light that drivers mistake this space for another car lane. When parking is heavy and parking spaces are designated with a "t", this supplemental stripe is not needed (**below right**).

TURN LANES. Turn lanes make difficult design problems for bikeway engineers. The space required for a turn lane or turn pocket may consume the bike lane space. If this happens, the bike lane is usually discontinued in advance of the turn lane and a sign placed saying "Bikes Merge" (**below left**).

Sometimes, the space for both a right-turn-only lane and a bike lane comes from dropping the parking lane. At other times, widening the intersection provides the room. In these instances the right-turn-only lane is placed to the right of the bike lane (**below right**). This striping configuration encourages the turning motorist and the through bicyclist to cross paths in advance of, rather than in the immediate vicinity of, the intersection.

Eugene dashes the 8-inch-wide line through the intersections. The line is also dashed, rather than dropped, when bike lanes approach right-turn-only lanes (**see front page, right**). This encourages motorists to use caution when making their weave across the bike lane.

LEFT SIDE BIKE LANES ON ONE-WAY STREETS. Two one-way streets striped for bike lanes in downtown Eugene serve as principal north-south commuter routes for both bicycles and cars. Average daily traffic (ADT) is 8000 on one and 10,000 on the other. Heavy right-turn movements on the streets threatened the usefulness of the needed bike lanes. Placing the bike lanes on the left side of the street instead of the usual right side solved the problem; bicyclists avoid conflicts with double right-turn lanes, bus stops, and also heavy right-turn movements into mid-block parking lots. These left side lanes have

been well received. Directional arrows in the lanes, police warnings and citations, and peer pressure all emphasize the proper riding direction.

Once out of the congested downtown area, both streets have transition blocks to transfer the bike lane to the right side of the street. This is accomplished with a block that has bike lanes on both sides. Bicyclists merge across two high-volume automobile lanes (8000 ADT) to get into the bike lane on the right-hand side. These transition blocks are virtually accident-free.

Unusual left-side bike lanes on one-way couplet.

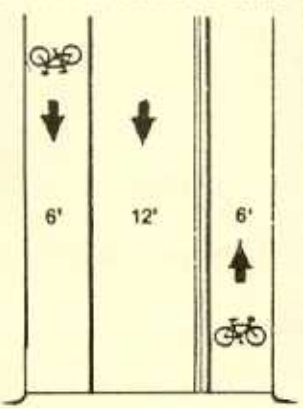
Commuter to downtown Eugene rides left-side north to work.

Homebound commuters ride left-side south on adjoining street.

ONE-WAY AUTOS AND TWO-WAY BIKES. Eugene has many one way streets. Two particularily narrow ones near the University of Oregon have a high demand for two-way bike travel. In the early seventies, when the streets still carried two-way automobile traffic as well as bicyclists, the bike/car conflict was very high. Widening the 24-foot-wide street would have meant losing the trees that border the campus. Tempers flared giving the traffic engineer gray hairs.

The solution originated with the consultants who developed the Eugene Bikeway Master Plan: place a one-way, 12-foot-wide car lane in the middle of the street, thus allowing a 6-foot bike lane on each side (**below left, center**). The bike lane in the direction of traffic is striped with Eugene's customary 8-inch-wide white stripe. The contra-flow bike lane on the opposite side of the street has this 8-inch stripe plus a double yellow stripe. Each intersection and major driveway has a sign cautioning motorists that the street has two-way bike traffic in addition to one-way automobile traffic (**below right**).

While this treatment cannot be recommended in all such cases, it solved a particular problem in the University area where streets were narrow and bicycle volumes great.



NEW BUT NARROW STREETS. Due to limited right-of-way, four recently reconstructed collector streets in Eugene are only 28 feet wide. These narrow streets, each with an ADT less than 6500, are striped with two 9 1/2-foot car lanes and two 4 1/2-foot bike lanes (right). When constructed with wide concrete gutters for the bike lanes, the streets have a pleasing appearance and work well. The narrower car lanes tend to reduce vehicle speed.

4½' bike lanes, 9½' car lanes

REMOVING CAR PARKING. On most new arterial streets parking is prohibited. City policy specifically states that collector and arterial streets are for the movement of traffic rather than the storage of vehicles. However, on Eugene's older and often narrow streets, gaining space for bike lanes meant displacing accustomed parking lanes. Six of Eugene's most used on-street bike lanes occupy former car parking space.

The Bicycle Committee had difficulty winning City Council support for the first proposal to remove parking for bike lanes. Subsequent votes have been easier to win due to the success of that first project.

A recent restriping effort on a major east-west arterial (15,000 ADT) again met initial opposition but won eventual support. This project also proved successful and included new turn lanes, parking removal, and bike lanes. Results a year later: less car congestion, lower bicycle accident rate, and more bicycle use.

Winning support for parking removal. Traffic engineer explains bike needs to City Council.

NARROWING CAR LANES. On some older streets, Eugene found space for bike lanes by narrowing travel lanes. One 36-foot wide collector street was restriped with 10-foot instead of 11-foot car lanes and with parking permitted on one side only. This made room for a 4 1/2-foot bike lane on each side (right). Since parking turnover is low on this street and the average daily traffic is under 7000, these widths work well. Higher traffic volumes require wider lanes.

4½' bike lanes, 10' car lanes, 7' parking lane

Eugene's system of well-placed, on-street bicycle lanes provides a continuous reminder that the City welcomes bicyclists.