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**SUMMARY OF BICYCLE AND PEDESTRIAN
ADVISORY BOARD ACTION**

Subject: Comparison of Wide Outside Lanes and Bicycle Lanes

Meeting Date: May 22, 2001

Recommendation: The Bicycle and Pedestrian Advisory Board reviewed the staff memorandum dated April 24, 2001 and voted to recommend that the Council consider the comments and recommendations contained in the attached Board memorandum dated May 22, 2001.

Vote: 5 - 1

Aye: Dorothy Verkerk, Ray Magyar, Eva Metzger, Wayne Pein, Doug Venema

Nay: Evelyn Gordon

Prepared by: Dorothy Verkerk, Chair, Bicycle and Pedestrian Advisory Board DV Cky T
Than Austin, Long Range Planner



MEMORANDUM

TO: Mayor and Town Council

FROM: Bicycle and Pedestrian Advisory Board
Dorothy Verkerk, Chair DV (by TA)

SUBJECT: Comparison of Wide Outside Lanes and Bicycle Lanes

DATE: May 22, 2001

The following is a response to the 24 April 2001 memorandum drafted by the town staff and submitted to the Board.

Review of Studies

The Comprehensive Plan was drafted before the Board was functioning, so the Board members were not able to lend their expertise and advice on the matter of bicycle lanes (hereafter BL). We do not believe the members who wrote the Comprehensive Plan were fully apprised of the issues involved in cycling in Chapel Hill. Also, the studies cited in the memorandum reflect only one position—bicycle lanes—without a discussion of the body of literature that supports wide outside lanes (hereafter WOL), an omission that flaws the report. Much of the support for bike lanes is based on the perception of safety rather than on hard data and on experience gained from cycling in town. The report also makes the error of stating that WOL are 14 feet wide. They can be as much as 16 feet.

These are some of the studies not considered by the staff and which inform much of our position:

J. Forester, *Effective Cycling*, (1976; 6th ed., MIT Press/Cambridge, MA & London, 1993).

Review of the 1986 edition by G. Kovaciny, *Bicycle USA*, March/April 1986.

In response to other studies cited in the staff report:

1. Selecting Roadway Design Treatments to Accommodate Bicycles (page 3)

This report was produced for the FHWA by the Bicycle Federation of America, an advocacy firm consisting of no more than a half dozen employees. Bill Wilkinson, the director, wrote the report. The classification of bicyclists into groups is misleading, and is not based on scientific research. No attempt is made to classify motorists and place them in different facilities.

2. Report of the NCDOT Pedestrian and Bicycling Safety Summit 2000 (page 5)

Bicyclists were not a part of this Summit.

3. Bicycle Lanes Versus Wide Curb Lanes: Operational and Safety Findings and Countermeasure Recommendations.

One board member worked on the study cited in the town staff report and it is flawed. Roads with BL were compared to roads with WOL, but this is not a sound research methodology. In order to compare these facilities, the same road would have to be a BL and a WOL. Furthermore, the finding that more wrong way riding takes places in WOL is a misrepresentation of the data (the data reduction was in error) and is also a result of the faulty research design. Wrong way riding is situational. For example, bicyclists on Airport Rd ride the wrong way on the east sidewalk because they don't want to cross Airport Rd twice in order to get to campus. It is possible that in the study the WOL data collection sites were more amenable to wrong way riding based on bicyclist origin and destination desire lines.

Essentially, the board takes exception to the statement that "Bikelanes should be provided on all arterial and collector streets..." (emphasis added, page 6). The board's position is that BL or WOL should be situational, based on opportunity and on the individual necessities of each road, since no two roads are alike in Chapel Hill. It goes without saying that we fully support the goal of encouraging more cycling in town, but we emphasize that correct cycling be enabled through a well implemented plan that considers all options, problems, and situations.

Funding

BL are constructed from a very limited allocation of funds, which in reality means that they often are not funded. WOL, on the other hand, are funded from NCDOT road construction monies, which means that they are much more easily funded and built. Moreover, funding for bike lanes requires a local match. The board urges the Council to consider this important benefit of WOL since a wide lane is preferable to no bike lane or accommodation for cyclists; the Estes Drive extension is a case in point. Also, WOL are a better means of establishing a regional bicycling network, linking towns and rural communities. The board, for example, does not envision NCDOT building bike lanes on 15-501 from Chapel Hill to Pittsboro, but it does envision the construction of WOL.

In addition, BL require greater rights-of-way, which increase the cost and therefore lessen the potential for actual construction. Greater ROW requirements and costs for a standard 12' lane with standard 4' BL (16' total feet) as compared to a 14' or 15' WOL. Less total width of a WOL means less impermeable surface to contribute to downstream flooding. The bike lanes north of Homestead on Airport road are about 6000 feet long and 5 feet wide, 1 foot wider than is required (17' of total width including the adjacent lane). Here, 15' WOL would have saved 24,000 (2 x 6000 x 2) square feet of impermeable surface, and considerable money in ROW acquisition and roadway construction costs. Furthermore, the excessively wide BL have predictably become riddled with debris.

Restriction of bike lanes for the cyclist

Bike lanes confine the cyclist to the lane, so that whenever the bicyclist leaves the lane to make a left turn or to avoid debris the bicyclist has then encroached on lanes dedicated solely to cars. When all vehicles share all the lanes, bicyclists and cars bear equal responsibility.

§20-4.01 (49) of the NC traffic code says: "...for the purposes of this Chapter bicycles shall be deemed vehicles and every rider of a bicycle upon a highway shall be subject to the provisions of this Chapter applicable to the driver of a vehicle except those which by their nature can have no application." Thus, bicycle riders have equal rights to the road as do other vehicle operators. BL have the effect of sending the message to motorists that bicyclists have less right to be out of the BL. BL create the expectation in motorists that bicyclists will and must stay "where they belong." Some motorists make the incorrect assumption that bicyclists should be on the sidewalk. This misperception can manifest itself as "Get on the sidewalk!" yells, honking, or even physical harassment: several incidences of this have been reported to the board. When on-road space is specifically outlined for BL, that assumption is even stronger: "Get in the Bicycle Lane!" Some communities have made laws requiring bicyclists to be in BL unless there is justification to be out of them. The board does not support this kind of restrictive legislation.

The board notes that the BL in Chapel Hill and Carrboro often simply stop and leave the bicyclist without a lane, particularly at intersections. The staff memorandum points out that they "require special treatments at intersections" and that "Intersections pose special challenges" (pages 1, 4); however, this problem has not been successfully addressed in Chapel Hill, nor is there any indication in the staff report how these challenges would be overcome. BL add to complexities at intersections and roads in general. A 5-lane road becomes a 7-lane road when BL are added. Motorists turning right must turn across the BL. BL encourage bicyclists to overtake motorists on the right side and to go to the front of the queue. Passing on the right is very risky and leads to many Right Hook collisions.

The board advocates sharing the road, education of rights and responsibilities, and courtesy.

"They that can give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety." *Benjamin Franklin, Historical Review of Pennsylvania, 1759.*

The perception of safety

BL are typically advertised as increasing bicyclist safety. BL, and WOL for that matter, have never been shown to actually increase safety as defined by reduced collisions. Two separate bicycle-motor vehicle crash analyses, (Bicycle-Motor Vehicle Crashes in Chapel Hill, 1993-1995 and 1996-1999) spanning 7 years, have shown the most prevalent collisions in Chapel Hill occur at driveway or roadway intersections. These crashes are partly a result of bicyclists being too close to the edge of the road. BL tend to aggravate this problem because of the physical, operational, and visual separation that a bike lane produces, and the constraining nature of the stripe. The educational countermeasure for these types of collisions is Use More Lane or Take The Lane. BL thwart this message because they restrict bicyclists.

BL are touted as drawing new bicyclists because they "feel" safer. Is it proper to attract novice riders to potentially dangerous situations because of the perception of safety? Novice bicyclists fear getting hit from behind, an unlikely type of collision, and so request BL, the only on-road accommodation they may know to exist. The board strongly encourages an educational campaign to make novice riders aware of safe riding practices. The board does not advocate luring young riders into BL on higher speed roads due simply to a heightened perception of safety.

Chapel Hill realities

Due to the town's hilly topography that allows cyclists to achieve speeds of up to 40 MPH, BL are not designed for these greater speeds, whereas WOL allow the cyclist to use more of the existing lane. These high speeds require the cyclist to make advance preparation for turning left that are not accommodated by BL.

Existing BL are currently filled with impediments--rocks, gravel, sunken grates, glass, leaves--that require the cyclist to leave the lane. Due to the sweeping action of cars, WOL are less hazardous and allow the cyclist the option of taking more lane.

The staff memorandum does not address one-way streets in Chapel Hill, indicating that the issue has not been fully examined for all situations in town.

The town is encouraging the use of public transit, which the board strongly supports but also recognizes that this poses a special problem for cyclists. Bus stops and routes frequently impinge on BL, which again requires the cyclist to leave BL. WOL would not solve this problem, but would allow the cyclist to use all of the existing lane to maneuver around the busses.

Bike Lanes

The board might consider a bike lane if ALL of the following criteria are met:

1. Roads with 35 MPH and 45 MPH speed limits
2. Intersections are minimal, with limited cross traffic
3. Few driveway cuts
4. Limited turning movements
5. Descents with high speeds (>25 MPH) are not an issue
6. Commitment to keep bicycle lanes free of debris

Summary

Funding has the highest priority for implementing WOL as the default position rather than BL. The *perception* of BL safety is not a compelling reason for bicyclists to give up the road since WOL are a feasible and simple alternative.

* This report is based on the board's lengthy discussion over a two-year period about WOL and BL and excerpts from the study by Wayne Pein, *Bicycle Lanes vs. Wide Outside Lanes*, 1999.