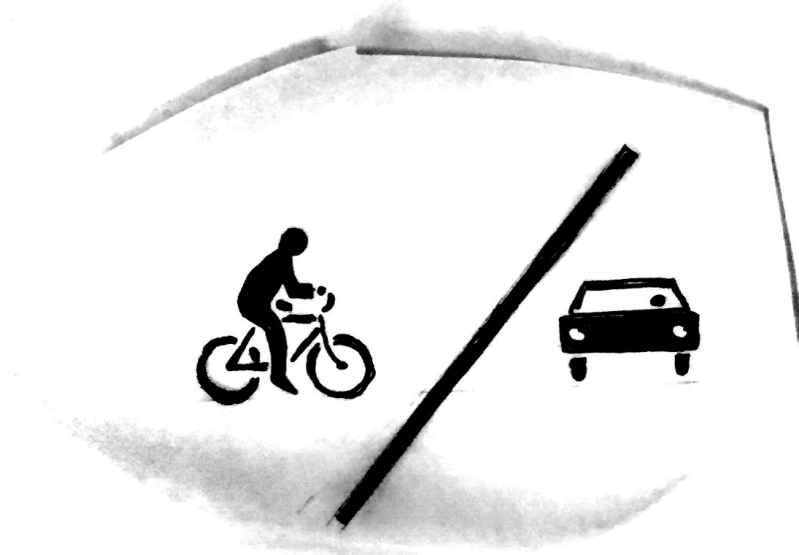


ASSESSING THE PERCENTAGE OF BICYCLISTS
IN THE TRAFFIC OF MANHATTAN'S
CENTRAL BUSINESS DISTRICT

A draft report by Mary Frances Dunham, Feb., 1991



ASSESSING THE PERCENTAGE OF BICYCLISTS IN THE TRAFFIC OF
MANHATTAN'S CENTRAL BUSINESS DISTRICT

A draft report about the NYC Department of Transportation and
Transportation Alternatives programs for assessing the percentage
of bicycles in the traffic of Manhattan's Central Business
District

Researched and compiled for Transportation Alternatives
by Mary Frances Dunham during the summer of 1990

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The following report is respectfully submitted to Charles Komanoff, President of Transportation Alternatives, John Benfatti, NYC Department of Transportation Bicycle Coordinator, and to David Sterman, Director of the NYC D.O.T. Traffic Surveillance Office.

Sincerely,

Mary Frances Dunham
Education Coordinator for Transportation Alternatives

February, 1991

* * *

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ACKNOWLEDGEMENTS

The NYC Department of Transportation ("D.O.T.") Bicycle Coordinator, John Benfatti, arranged for me, a Transportation Alternatives ("T.A.") volunteer counter, to attend D.O.T. bicycle counting sessions. John gave generous amounts of time to brief me on the history of the D.O.T. bicycle counts and to answer my questions about the the D.O.T.'s motor-vehicle counts. He put me in contact with the D.O.T. Traffic Surveillance Division Director, David Sterman, who went over the details of the D.O.T. bicycle counting system and answered my questions as they arose. David Sterman informed all the D.O.T. counters of my intended visits to their posts, so that I was well introduced before meeting them. David Sterman and Joe Cordona, his assistant, were helpful in answering my questions and providing materials for this report.

I would like to thank the D.O.T. bicycle counters whom I met during counting sessions. They cordially accepted me and it was a pleasure to work along side of them. I found that they were experienced and dedicated. I admired the counters' high degree of loyalty to performing a tedious task always on schedule during many hours of a long day. It was gratifying to find that the D.O.T. has such a dedicated team of counters.

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TABLE OF CONTENTS

- I. PURPOSE OF THE REPORT AND SUMMARY OF CONCLUSIONS
- II. A HISTORY OF THE D.O.T. AND T.A. BICYCLE COUNTING PROGRAMS
- III. A DESCRIPTION OF THE D.O.T. AND T.A. CURRENT METHODS OF COUNTING BICYCLES
- IV. AN ASSESSMENT OF THE D.O.T. AND T.A. STYLES OF COUNTING BICYCLES
- V. SUGGESTIONS FOR IMPROVEMENTS IN THE D.O.T. BICYCLE COUNTING PROGRAM
- VI. APPENDIX

ASSESSING THE PERCENTAGE OF BICYCLISTS IN THE TRAFFIC OF MANHATTAN'S CENTRAL BUSINESS DISTRICT

(A draft report by Mary Frances Dunham, a volunteer counter for
Transportation Alternatives, February, 1991)

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PURPOSE OF THE REPORT

The following report summarizes information gathered by myself, Mary Frances Dunham, a volunteer counter for Transportation Alternatives ("T.A."), when the New York City Department of Transportation ("D.O.T.") kindly allowed T.A. to make its own bicycle counts simultaneously with the D.O.T. counting staff. T.A. hoped to learn from this direct observation how the D.O.T. conducts its counts (choice of posts and method of counting) and to find out why the D.O.T. assessed percentages of bicyclists in the traffic of Manhattan's Central Business District ("CBD") have been significantly lower than those of T.A.

SUMMARY OF CONCLUSIONS

I. THE DIFFERENCES BETWEEN THE TWO PROGRAMS

The D.O.T. and T.A. bicycle count programs differ in geographic scope, in the extent of time devoted to counting, in the method of counting, and, consequently in the resulting data. (See the document called "OUTLINE COMPARISON OF THE D.O.T. AND T.A. BICYCLE COUNTS AS THEY WERE PERFORMED IN 1990.") program "shoots" a broad "landscape" of the CBD, whereas the T.A. program takes a "close-up" view of its central district. The "picture" (i.e., the assessment of the proportion of bicycles in the CBD traffic) that results from the data collected differs according to the different perspectives of the programs. The "picture" produced by one program is, therefore, inadequate for describing the "scene" viewed by the other program.

Due to its basis in a broad geographic and temporal scope, the D.O.T.'s annual assessed percentage figure for bicycles in CBD traffic is necessarily lower than T.A.'s figure which refers rather to the central region of the CBD. The D.O.T. figure includes in its assessment the motor vehicles that are on the Manhattan outer avenues where motor vehicles are numerous but where bicycles are few. The T.A. percentage figure, being based on data from the heart of the CBD, reflects a bicycle volume that is definitely higher than on the periphery of the CBD -- in fact,

unusually high for an American city.

II. THE UTILITY OF EACH PROGRAM

The D.O.T. program with its broad geographical scope and extensive number of counting sessions furnishes useful data each year that can be compared year-to-year for tracing fluctuations in bicycle volume in the CBD as a whole and at individual locations. As the D.O.T. Bicycle Coordinator, John Benfatti, has pointed out, the scope of the D.O.T. program serves to show peak times of bicycle volume not only within a series of years, but within seasons of a year, within a single day, and even within portions of a day.

In contrast to the D.O.T. program, the T.A. one has a much narrower focus limited to sites of greatest traffic activity in the CBD during business hours (after 9 a.m. and before 6 p.m.) on relatively few days in spring. The T.A. counters make counts of bicycles and of motor vehicles simultaneously, thus producing a ratio figure at any one moment that correlates closely with actuality. This figure is useful for describing the proportion of bicycles in the center of the CBD, although it may be inaccurate in indicating the proportion in the CBD as a whole.

Because the T.A. and D.O.T. programs are so different in scope and focus, their results should be interpreted with care. Their percentage assessments should be used appropriately according to whether a broad picture or a focused one is concerned.

III. METHODS OF COUNTING BICYCLES IN TRAFFIC NEED IMPROVEMENT

Although my counting sessions jointly with the D.O.T. were few and were mostly located on central CBD avenues, I feel that my experience in these joint counts was sufficient to show that bicycle counting in NYC is, as yet, more of an art than a science, or, at best, a science in need of refinement.

In 11 out of 14 joint counting sessions, my counts were higher than those of the D.O.T. counters. (See the document called "SUMMARY OF SYNCHRONIZED BICYCLE COUNTS".) In the remaining 3 sessions, two D.O.T. counters saw 5 or more bicycles than I did and one D.O.T. counter saw 8 more. In 10 out of the 11 sessions when I saw more bicycles than the D.O.T. counters, my counts were 5 or more counts higher. In one instance, my count almost doubled that of the D.O.T. counter's. In three instances my counts were over 10 counts higher. These figures indicate that both the D.O.T. counters and I miscounted bicycles.

From my previous experience in counting bicycles for T.A., I have learned that the counter must take certain precautions in order to sight every bicycle that passes by. Much depends on the particular density of traffic at a particular counting post, the speed of traffic, its particular mix (e.g., Park Avenue has no buses but a lot of vans and taxis), and how the observer is placed in order to sight bicycles. (See the collection of

photographs and accompanying notes.) The degree and span of a counter's concentration is, of course, a prime factor in his or her ability to "catch" every cyclist. The observations and recommendations that I have made in this report will show that impediments need study and solutions need to be found before it will be possible to assess correctly the percentage of bicycles in CBD traffic or in any one part of it.

On the whole, I feel that the T.A. counting method is more efficient than the D.O.T.'s; it accomplishes more with less personnel in less time than the D.O.T. program. (See the section below called "A DESCRIPTION OF D.O.T. AND T.A. CURRENT METHODS OF COUNTING".) However, the higher degree of concentration that the T.A. method requires makes, perhaps, the T.A. method impractical for a long day's job such as the D.O.T. program demands. Of course, the ideal method for counting bicycles would be to use a mechanical device sensitive to bicycle presence, perhaps a modified form of the device that the D.O.T. uses for counting motor vehicles.

Until bicycle counting becomes more scientific, I suggest that persons who are interested in an accurate idea of bicycle presence in the CBD should make in situ observations as well as consult reports on count results. In reverse, in situ observations should be accompanied by a study of collected counts. Unless first hand observation is accompanied by reported data (and vice versa), only a rough idea will emerge of the proportion of bicycles in NYC CBD traffic.

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