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a plan for bicycle facilities and programs in jefferson county

kipda
march, 1977

PLAN FOR BICYCLE FACILITIES AND PROGRAMS IN LOUISVILLE AND JEFFERSON COUNTY

MARCH, 1977

KENTUCKIANA REGIONAL PLANNING AND DEVELOPMENT AGENCY
505 WEST ORMSBY AVENUE, LOUISVILLE, KENTUCKY 40203, (502)587-3804

PREPARED BY AND IN ASSOCIATION WITH:
C.F.P. TRANSPORTATION ENGINEERS AND PLANNERS, INCORPORATED
REYNOLDS, SMITH AND HILLS, ARCHITECTS-ENGINEERS-PLANNERS, INCORPORATED

THE PREPARATION OF THIS DOCUMENT WAS FINANCED THROUGH PLANNING FUNDS FROM THE U.S. DEPARTMENT OF TRANSPORTATION THE KENTUCKY DEPARTMENT OF TRANSPORTATION, AND THE CITY OF LOUISVILLE, AND JEFFERSON COUNTY FISCAL COURT.

EXECUTIVE SUMMARY

THIS REPORT DOCUMENTS THE BIKEWAY PLANNING PROGRAM CONDUCTED FOR LOUISVILLE AND JEFFERSON COUNTY. THE PROGRAM IS A PART OF THE URBAN TRANSPORTATION PLANNING PROGRAM.

AUTHORITY

THE BIKEWAY PLANNING PROGRAM WAS INCORPORATED INTO THE KIPDA UNIFIED WORK PROGRAM FOR FISCAL YEAR 1975 IN ACTION TAKEN AT THE OCTOBER 24, 1974 MEETING OF THE TRANSPORTATION POLICY COMMITTEE. FUNDING HAS BEEN PROVIDED BY THE UNITED STATES FEDERAL HIGHWAY ADMINISTRATION, STATE OF KENTUCKY AND LOCAL GOVERNMENTS IN JEFFERSON COUNTY. AN AD HOC BIKEWAY PLANNING COMMITTEE CONSISTING OF CITIZENS AND LOCAL GOVERNMENT DEPARTMENTAL PERSONNEL WAS AUTHORIZED TO ASSIST.

PROGRAM OBJECTIVE

AS STATED IN THE 1974-1975 WORK PROGRAM, THE BIKEWAY PLANNING PROGRAM WAS INITIATED TO ''ASSESS THE NEED FOR BICYCLE PATHWAY FACILITIES AND DEVELOP A PLAN WHICH SAFELY AND AESTHETICALLY INTEGRATES PROPOSED FACILITIES WITH OTHER TRANSPORTATION AND RECREATION FACILITY PLANS.''

ORGANIZATION

THE STAFF OF THE KIPDA TRANSPORTATION PLANNING DIVISION UNDERTOOK THE PROGRAM IN ASSOCIATION WITH THE LOUISVILLE AND JEFFERSON COUNTY PLANNING COMMISSION UNDER A CONTRACT DATED MAY 1, 1975; AND WITH A JOINT VENTURE CONSISTING OF C.F.P. TRANSPORTATION ENGINEERS AND PLANNERS OF ATLANTA, GEORGIA, AND REYNOLDS, SMITH & HILLS, ARCHITECTS-ENGINEERS-PLANNERS, INC. OF JACKSONVILLE, FLORIDA UNDER A CONTRACT DATED OCTOBER 3, 1975.

THE BIKEWAY PLANNING COMMITTEE ACTIVELY REVIEWED STAFF AND CONSULTANT ACTIVITIES DURING THE COURSE OF THE PLANNING PROGRAM. PERIODIC PROGRESS REPORTS HAVE BEEN MADE TO THE TRANSPORTATION ADVISORY COMMITTEE AND TO THE TRANSPORTATION COORDINATING COMMITTEE.

CONTENT

THIS REPORT INCLUDES THE FOUR TECHNICAL MEMORANDA THAT WERE PREPARED BY THE CONSULTANT DURING THE PLANNING PROGRAM AND REVIEWED BY THE BIKEWAY PLANNING COMMITTEE. IN PHASE I, DEVELOPMENT OF GOALS AND OBJECTIVES FOR GUIDANCE THROUGHOUT THE PLANNING PERIOD, IDENTIFICATION OF A SPECIAL BICYCLE TRAFFIC GENERATORS, REVIEWING OF EXISTING AND POTENTIAL RIGHTS-OF-WAY, AND ESTIMATION OF DEMAND FOR BICYCLE FACILITIES WERE COMPLETED.

DURING PHASE II, POLICIES AND STANDARDS WERE GENERATED FROM GOALS AND OBJECTIVES DEVELOPED EARLIER. THREE ALTERNATIVE CONCEPTS FOR BIKEWAY DEVELOPMENT WERE PREPARED AND EVALUATED. THE BIKEWAY SYSTEM PLAN CONSISTS OF THREE DEVELOPMENT PHASES:

1. IMMEDIATE ACTION PHASE TO BE IMPLEMENTED BY JUNE 30, 1977;

2. A SHORT-RANGE PROGRAM TO BE IMPLEMENTED BY 1985; AND

3. A LONG-RANGE PLAN TO BE IMPLEMENTED BY THE YEAR 2000.

THIS PHASE II CHAPTER OF THE REPORT INCLUDES A DESCRIPTION OF THE FACILITIES PROPOSED FOR THE PERIOD FROM 1985 TO 2000.

THE PHASE III CHAPTER REVIEWS THE SHORT-RANGE BIKEWAY FACILITIES PLAN. A SPENDING CEILING OF $400,000 PER YEAR WAS ESTABLISHED TO GUIDE DEVELOPMENT RECOMMENDATIONS. THE IMMEDIATE ACTION PLAN RECOMMENDS 54 MILES OF BIKEWAYS, MOST OF WHICH ARE SIGNED BIKE ROUTES IN THE CITY OF LOUISVILLE. THE SHORT-RANGE PROGRAM RECOMMENDS 150 ADDITIONAL MILES OF BIKEWAYS THROUGHOUT JEFFERSON COUNTY. ABOUT 60 MILES OF INDEPENDENT BIKE PATHS AND 90 MILES OF BIKE ROUTES CONSISTING OF SHARED USE STREETS AND SIDEWALKS ARE RECOMMENDED. THE TOTAL ESTIMATED COST OF THE SHORT RANGE PROGRAM IS $3.5 MILLION.

IN PHASE IV, STRATEGIES AND RESPONSIBILIEIS FOR IMPLEMENTING BIKEWAY FACILITIES AND PROGRAMS ARE RECOMMENDED. POTENTIAL FUNDING SOURCES AND COORDINATION AND PROGRAMMING CONSIDERATIONS ARE IDENTIFIED. SUGGESTIONS FOR LEGISLATIVE ACTION AND FOR EDUCATION AND ENFORCEMENT PROPOSALS ARE MADE.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF TABLES

LIST OF FIGURES

LIST OF FIGURES

INTRODUCTION

As bicycle sales and use continue their resurgence, planning for bicycle facilities has become a critical issue. The bicycle's traditional role of providing a means of recreation and physical fitness is expanding to a mode of more purposeful transportation and because of growing environmental and energy concerns, there is strong support for making bicycle facilities a major part of the area's transportation system.

In an effort to delineate a bikeway system, the Kentuckiana Regional Planning and Development Agency sponsored this study which is designed to develop a balanced bicycling system that serves the bicycling needs of Jefferson County in a direct, safe and convenient manner.

This plan is not a rigid schedule for construction of bicycle facilities or implementation of bicycle programs. It is a flexible guide for facility and program development that is intended to encourage coordinated action by the dozens of local and state governments and agencies responsible for implementation. Periodic amendments and revisions can be expected in order to reflect the current views of all parties, including the general public, elected officials, and public servants.

Methodology - The work program for the study was structured to respond to immediate, short-range and long-range bikeway needs. This was accomplished through the four-phased program illustrated in Figure 1.

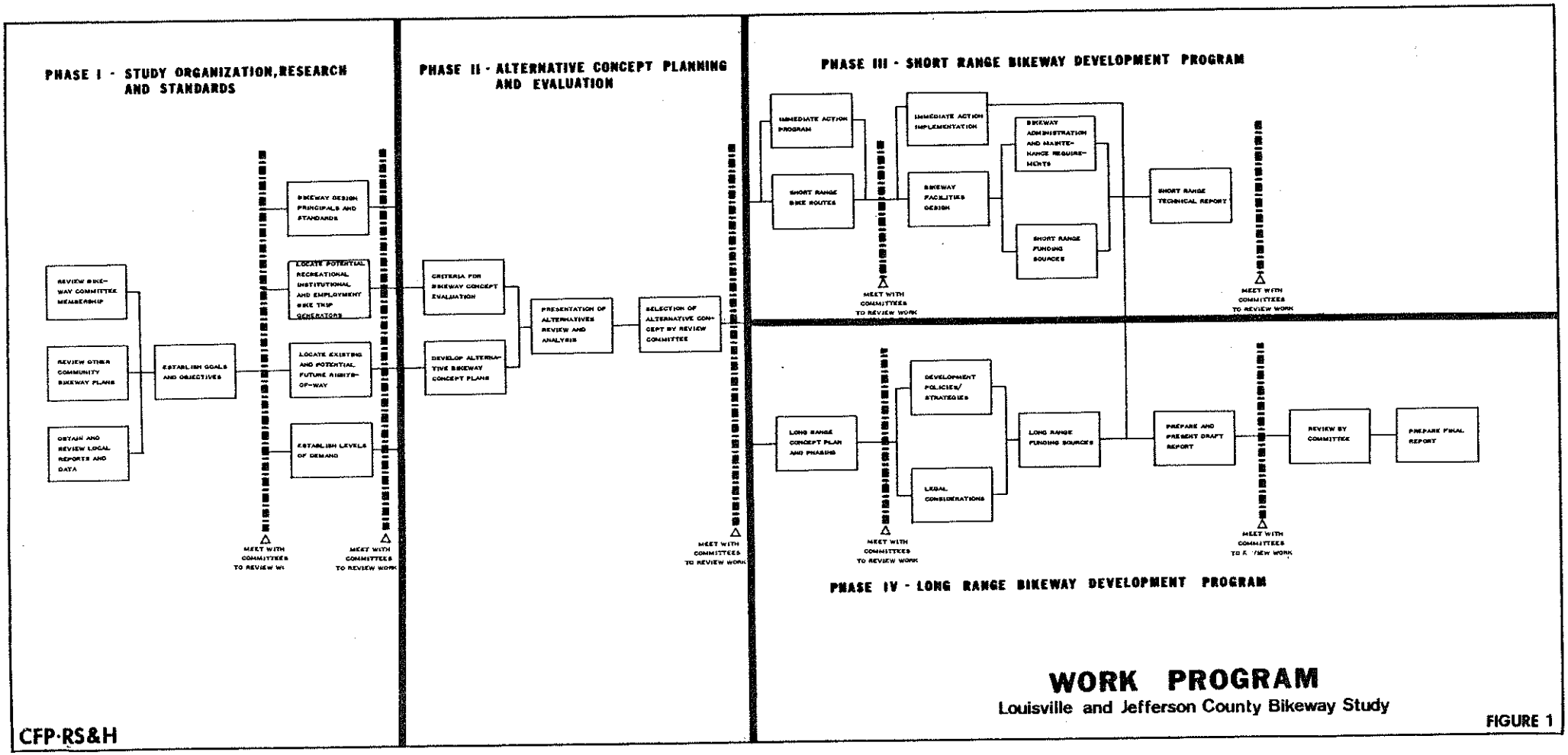
To provide both governmental and citizens' involvement in the bikeway planning process, a Bikeway Planning Committee was appointed from public and private organizations having a special interest in the program. Approximately 20 members were appointed representing a wide range of interests such as cycling clubs, school board representatives, safety groups, and the State Department of Transportation, as well as government and civic groups.

Throughout the course of the study, presentations and conferences were held to receive input and respond to suggestions offered by committee members. The County-wide bikeway program is the result of direct citizen, public agency and consultant involvement through the Bikeway Planning Committee. In addition to assistance in preparing the County-wide bike routes, the Bikeway Planning Committee also participated in the development and adoption of specific goals, objectives and design principles/standards. Subsequently, bikeway routes and Design treatments were prepared using the constraints included in these standards.

PUBLIC INPUT TO THE STUDY ALSO TOOK THE FORM OF SURVEYS AND PUBLIC MEETINGS. DURING THE FIRST PHASE OF THE STUDY THREE PUBLIC MEETINGS WERE HELD IN NOVEMBER, 1975 TO IDENTIFY BICYCLING PROBLEMS PERCEIVED BY THE PUBLIC. SIX SURVEYS OF STUDENTS, SHOPPERS AND MEMBERS OF THE GENERAL PUBLIC WERE CONDUCTED IN THE SPRING OF 1976 TO HELP IDENTIFY BICYCLE USE AND NEEDS AND PROBLEMS OF RIDERS.

HISTORY OF BIKEWAY PLANNING IN LOUISVILLE - MUCH ACTIVITY HAS TAKEN PLACE IN BIKEWAY PLANNING IN THE JEFFERSON COUNTY AREA DURING RECENT YEARS. THE LOUISVILLE WHEELMEN AND LOUISVILLE AREA BICYCLING ASSOCIATION HAVE BEEN VERY ACTIVE IN ADVOCATING ROUTES AND OTHER BIKEWAY PLANNING IN THE LOUISVILLE AREA. THE LOUISVILLE DEPARTMENT OF TRAFFIC ENGINEERING HAS IMPLEMENTED THE PRESENT BIKEWAY SUB-SYSTEMS USING FUNDS APPROPRIATED BY HUD. IN ADDITION TO THIS THE LOUISVILLE-JEFFERSON COUNTY PLANNING COMMISSION PREPARED IN 1975 AN UNOFFICIAL PLAN FOR DISCUSSION ONLY FOR RECREATION DEVELOPMENT ALONG THE OHIO RIVER AND ALONG THE MIDDLE FORK OF BEARGRASS CREEK. DEVELOPMENT RECOMMENDATIONS INCLUDED BICYCLE FACILITIES. FINALLY, THE BIKEWAY PLANNING COMMITTEE (A CITIZENS INVOLVEMENT GROUP) WAS FORMED BY KIPDA AND LJCPC TO AUGMENT THE AREA'S BIKEWAY PLANNING EFFORTS.

ORDER OF PRESENTATION - WHILE THE TOTAL BIKEWAY PLANNING FOLLOWED THE WORK PROGRAM SHOWN IN FIGURE 1, THIS REPORT PROVIDES A REVIEW OF CURRENT CONDITIONS, GENERAL BIKEWAY PLANNING CHARACTERISTICS, AND OPPORTUNITIES/LIMITATIONS OF BIKEWAYS IN THE JEFFERSON COUNTY AREA AND RESULTS IN AN IMMEDIATE ACTION AND SHORT AND LONG TERM PLANS DELINEATING SPECIFIC ROUTES, INTERSECTION SOLUTIONS, COSTS, AND RECOMMENDED DESIGN TREATMENTS. FINALLY, THE REPORT PRESENTS A SPECIFIC IMPLEMENTATION PROCEDURE DESIGNED TO ACHIEVE FUNDING, ADMINISTRATIVE AND LEGISLATIVE REQUIREMENTS WITHIN A 25 YEAR TIME FRAME.



WORK PROGRAM

Louisville and Jefferson County Bikeway Study

FIGURE 1

CFP·RS&H

PHASE I TECHNICAL MEMORANDUM

.INVENTORY AND REVIEW
.EXISTING DEMANDS

LOUISVILLE/JEFFERSON COUNTY BIKEWAY STUDY

CFP TRANSPORTATION ENGINEERS AND PLANNERS, INC.
REYNOLDS, SMITH AND HILLS
ARCHITECTS-ENGINEERS-PLANNERS, INC.

INVENTORY AND REVIEW

THIS TECHNICAL REPORT DESCRIBES THE ACTIVITIES AND TASKS THAT WERE CONDUCTED IN PHASE 1 OF THE BIKEWAY DEVELOPMENT PLAN FOR JEFFERSON COUNTY, KENTUCKY. THIS INVENTORY PHASE CONSISTED OF THE FOLLOWING ELEMENTS:

1. REVIEW OF THE MEMBERSHIP OF THE BIKEWAY PLANNING COMMITTEE,
2. DEVELOPMENT OF GOALS AND OBJECTIVES,
3. IDENTIFICATION OF SPECIAL GENERATORS,
4. LOCATING EXISTING AND POTENTIAL RIGHTS-OF-WAY,
5. REVIEW OF TRANSPORTATION PLANS,
6. THE CONDUCTION AND ANALYSIS OF A SERIES OF BIKEWAY SURVEYS, AND
7. DEVELOPMENT OF METHODOLOGY TO ESTIMATE DEMANDS FOR BIKEWAYS.

BIKEWAY PLANNING COMMITTEE

PRIOR TO THIS STUDY, A BIKEWAY PLANNING COMMITTEE (BPC) HAD BEEN ORGANIZED AND HAD BEEN ACTIVELY INVOLVED IN ESTABLISHING THE NEED FOR BIKEWAY FACILITIES IN LOUISVILLE AND JEFFERSON COUNTY, KENTUCKY. MEMBERS OF THE BPC AND THEIR AFFILIATION AS OF JULY 1, 1976 ARE:

1. THE KENTUCKIANA REGIONAL PLANNING AND DEVELOPMENT AGENCY (KIPDA), REPRESENTED BY MR. NORMAN NEZELKEWICZ,
2. MR. DAVID A. RIPPLE OF THE LOUISVILLE AND JEFFERSON COUNTY PLANNING COMMISSION,
3. MR. JAMES GULICK OF THE MAYOR'S OFFICE,
4. THE KENTUCKY DEPARTMENT OF TRANSPORTATION REPRESENTED BY MR. JACK SYKES OR MR. JOHN MOISAN-THOMAS,
5. MS. LINDA PENLEY, A PARKS PLANNER WITH THE METROPOLITAN PARKS DEPARTMENT,

6. MR. BOB WATTS OF THE LOUISVILLE AND JEFFERSON COUNTY DEPARTMENT OF TRAFFIC ENGINEERING,

7. COLONEL RUSSELL MCDANIEL OF THE JEFFERSON COUNTY POLICE DEPARTMENT,

8. CAPTAIN HOWARD SWARTZ, TRAFFIC BUREAU, REPRESENTING THE LOUISVILLE DEPARTMENT OF SAFETY,

9. MR. WILLIAM BELANGER OF THE JEFFERSON COUNTY PROGRAM PLANNING AND DEVELOPMENT DEPARTMENT,

10. MR. HERB LEWIS OF THE JEFFERSON COUNTY BOARD OF EDUCATION,

11. MR. VIPEN HOON OF THE CENTER CITY COMMISSION,

12. MS. KATHLEEN A. RYAN, A CITIZEN,

13. MR. DAVID DUNN, A LOUISVILLE WHEELMAN,

14. THE LOUISVILLE AREA BICYCLING ASSOCIATION REPRESENTED BY MR. JERRY PARSONS,

15. MR. JOHN CUMMINS, A CITIZEN AND LEGAL COUNSEL FOR THE URBAN BIKEWAY DESIGN COLLABORATIVE,

16. MR. W. ROBINSON BEARD, A CITIZEN, AND

17. OTHERS

THE COMMITTEE WAS ESTABLISHED TO COORDINATE AND MONITOR THE ACTIVITIES OF VARIOUS PUBLIC AGENCIES, AND TO PROVIDE CITIZEN INPUT INTO THE BIKEWAY PLANNING PROCESS. THE COMMITTEE FUNCTIONS AS AN ADVISORY ARM OF KIPDA'S TRANSPORTATION COORDINATING COMMITTEE, A GROUP OF PROFESSIONAL ENGINEERS AND PLANNERS EMPLOYED BY AREA GOVERNMENT AND THE TRANSPORTATION POLICY COMMITTEE, A COOPERATIVE BODY OF LOCAL ELECTED OFFICIALS WHICH OVERSEES AREAWIDE TRANSPORTATION PLANNING.

AT THE OUTSET OF THE STUDY BY THE CONSULTING TEAM OF CFP TRANSPORTATION ENGINEERS AND PLANNERS, INC., AND REYNOLDS, SMITH AND HILLS, INC., IT WAS SUGGESTED THAT THE BIKEWAY PLANNING COMMITTEE BE EXPANDED BY ESTABLISHING A CITIZEN'S COMMITTEE THUS PROVIDING A BROADER REPRESENTATION OF THE TOTAL COMMUNITY (SPECIAL ACTION GROUPS, ELECTED OFFICIALS, THE LOCAL SCHOOL BOARD, POLICE DEPARTMENT AND A SEGMENT OF THE REAL ESTATE COMMUNITY). THIS REPRESENTATION WOULD INVOLVE PERSONS INTERESTED AND INSTRUMENTAL IN HAVING BIKEWAYS

CONSTRUCTED. HOWEVER, MEMBERSHIP OF THE COMMITTEE WAS NOT SIGNIFICANTLY CHANGED DURING THE STUDY.

GOALS

FIVE GOALS WERE DEVELOPED BY THE BIKEWAY PLANNING COMMITTEE TO PROVIDE GUIDANCE FOR BIKEWAY PLANNING AND PLAN IMPLEMENTATION. THE GOALS WERE ACCEPTED BY THE TRANSPORTATION COORDINATING COMMITTEE AND THE TRANSPORTATION POLICY COMMITTEE. THESE GOALS ARE:

1. DEVELOP A COMPREHENSIVE, BALANCED, AND INTEGRATED BICYCLING TRANSPORTATION SYSTEM THAT SERVES THE BICYCLING NEEDS OF JEFFERSON COUNTY IN A DIRECT, SAFE, AND CONVENIENT MANNER.

2. MAKE BICYCLING SAFER IN JEFFERSON COUNTY.

3. INSURE THE EFFICIENT AND EFFECTIVE UTILIZATION OF RESOURCES TO SERVE THE BICYCLING NEEDS OF THE COMMUNITY.

4. IMPROVE THE RIDING ENVIRONMENT TO ENCOURAGE THE USE OF THE BICYCLE BY INTERESTED INDIVIDUALS.

5. IMPROVE BICYCLE SECURITY.

THE GOALS RESULTED FROM A PROBLEM IDENTIFICATION PROCEDURE THAT INVOLVED MEMBERS OF THE BIKEWAY PLANNING COMMITTEE AND INTERESTED PUBLIC WHO ATTENDED TWO SPECIAL PUBLIC MEETINGS HELD IN NOVEMBER, 1975. FURTHER DOCUMENTATION OF THE PROBLEM IDENTIFICATION AND GOALS ESTABLISHMENT PROCESS IS AVAILABLE THROUGH KIPDA OR THE LOUISVILLE AND JEFFERSON COUNTY PLANNING COMMISSION.

Special Generators

One of the primary objectives of this study is to develop a bikeway plan which will link the primary employment, commercial, recreational and educational centers with residential neighborhoods. This process of identifying existing and potential bike trip generators involved consultations with various governmental agencies and local businesses. Initially, many of the generators were identified from records of KIPDA. This was then supplemented with data obtained from several secondary sources. The secondary sources included:

1. Louisville Gas and Electric Company,
2. Louisville Water Company,
3. Louisville and Jefferson County Planning Commission, and
4. Louisville and Jefferson County Department of Traffic Engineering.

As a result of discussions with the above organizations, the following existing and potential special generators were identified:

1. Elementary schools,
2. Junior High schools,
3. Senior High schools,
4. Schools of higher learning such as seminaries, community colleges, junior colleges and universities,
5. Parks,
6. Libraries,
7. Shopping centers,
8. Employment centers,
9. Community Centers,
10. Historical neighborhoods, and
11. Park-and TARC facilities.

After compiling this information, it was presented to the BPC for their review and subsequent use in plan delineation. Appropriate committee comments were considered and necessary modifications were made to reflect these comments.

Existing and Potential Rights-of-Way

Another key element of the inventory involved locating existing and potential rights-of-way for bikeways. These rights-of-way were subsequently analyzed to determine the feasibility of reserving it for exclusive bicycle use.

A field reconnaisance of the major arterial street system was conducted. This consisted of determining the number of travel lanes, posted speed limits, parking conditions, the existence of sidewalks and medians for each facility. Additional data from KIPDA and the Louisville and Jefferson County Planning Commission included the identification of railroad lines and railroad rights-of-way, locations of existing bikeways, existing and proposed parks and other recreational facilities, roadway rights-of-way, utility easements and alleys and side streets. Locations of Park-and-TARC lots and committed roadway improvement programs were also obtained from KIPDA and the Kentucky Department of Transportation. Special barriers such as high volume roadways, bridges, Beargrass Creek and the Ohio River were also identified. In addition, potential mixed-mode opportunities such as attaching bike racks to TARC buses or carrying bicycles on a trailer pulled by buses were explored on a conceptual basis.

Inventory and Review of KIPDA Transportation Plans

A detailed inventory of transportation plans within the Louisville and Jefferson County area was conducted. This included the accumulation of all available traffic volume counts on roadways within the study area and transfer of this information to work maps. In addition, proposed arterial and collector improvements recommended by TOPICS; short term construction projects; the 1970 Comprehensive Plan prepared by the Louisville and Jefferson County Planning Commission; and the Metropolitan Louisville Transportation Report prepared by the Louisville Metropolitan Comprehensive Transportation and Development Program (predecessor to KIPDA) were documented and mapped where appropriate. Other data included the location of new and proposed Park-and-TARC facilities and the identification of high accident locations. High accident locations were selected from Table 22 of 'Accident Study 1972-1973.'[1]

[1] 'Accident Study 1972-1973', Kentuckiana Regional Planning and Development Agency, 1974.

EXISTING AND FUTURE DEMANDS

In order to assist in estimating the level of demands and bikeway needs, surveys of various sectors of the population were conducted. Survey findings were then integrated with information available from other areas and a procedure for estimating the level of bikeway needs was developed.

Surveys

A series of survey forms for determining demand levels at certain major generators and a newspaper questionnaire to gauge bicycle use and public attitude toward bikeway improvements were prepared. These survey forms were submitted to KIPDA and the Bikeway Planning Committee for review and approval. The BPC then revised the survey forms. The six survey forms, illustrated in Appendix Figures A-1 through A-6 were:

1. Louisville/Jefferson County Elementary School Bicycling Survey,
2. Louisville/Jefferson County High School Bicycling Survey,
3. Louisville/Jefferson County college bicycling survey,
4. Louisville/Jefferson County employee bicycling survey,
5. Louisville/Jefferson County shopper bicycling survey, and
6. Newspaper mailback questionnaire.

Surveys were administered by KIPDA and the local Wheelman Association. None of these surveys were administered or samples selected to control bias. Another survey was administered by the Louisville and Jefferson County Planning Commission. This survey was completed by persons who attended a series of public meetings held to identify bicycling problems by members of the St. Matthews Younger Woman's Club and by interested citizens (See Appendix Table A-1).

Surveys were conducted in one classroom at each level in grades three through six at three elementary schools in the Louisville area during February, 1976. All of the schools were exempted from the 1975-76 busing plan for integration due to their satisfactory racial balance. Schools were selected on the basis

OF GEOGRAPHIC LOCATION IN THE DENSELY DEVELOPED INNER CITY, IN ESTABLISHED SUBURBAN AREAS AND IN DEVELOPING SUBURBAN AREAS. THE SCHOOLS SURVEYED WERE:

1. INDIAN TRAIL ELEMENTARY SCHOOL (NO SIXTH GRADE CLASS IN THIS SCHOOL),
2. WATTERSON ELEMENTARY SCHOOL, AND
3. ENGELHARD ELEMENTARY SCHOOL.

OF 242 STUDENTS QUESTIONED, NEARLY 70 PERCENT OWNED A BICYCLE BUT ONLY 7 PERCENT HAD RIDDEN A BICYCLE TO SCHOOL ONCE SINCE SEPTEMBER. (SEE FIGURES I-1A AND I-1B) AS ILLUSTRATED IN FIGURE I-1C, MOST OF THESE CHILDREN HAD RIDDEN TO SCHOOL BECAUSE IT WAS FASTER OR FUN. APPROXIMATELY 89 PERCENT OF THE CHILDREN HAD NOT RIDDEN A BICYCLE TO SCHOOL BECAUSE:

1. DANGER OF THEFT OF BICYCLE,
2. THEY DID NOT OWN A BICYCLE,
3. BICYCLING IS TOO DANGEROUS, OR
4. TOO FAR TO TRAVEL ON A BICYCLE.

SEVERAL OTHER REASONS WERE MENTIONED FOR NOT RIDING A BICYCLE. (SEE FIGURE I-1D) AS ILLUSTRATED IN FIGURE I-1E, APPROXIMATELY 67 PERCENT OF THE CHILDREN REPORTED THAT BIKE LOCKERS ARE NEEDED AT THE SCHOOL.

A SURVEY OF JUNIOR (GRADES 7 - 9) AND SENIOR (GRADES 10 - 12) HIGH SCHOOLS WAS ALSO CONDUCTED BY KIPDA IN COOPERATION WITH THE JEFFERSON COUNTY BOARD OF EDUCATION. THREE JUNIOR HIGH SCHOOLS AND THREE SENIOR HIGH SCHOOLS WITHIN THE LOUISVILLE AREA WERE SURVEYED DURING FEBRUARY, 1976. THESE SCHOOLS WERE:

1. SOUTHERN JUNIOR HIGH,
2. WESTPORT JUNIOR HIGH,
3. WOERNER JUNIOR HIGH,
4. AHRENS SENIOR HIGH,
5. BUTLER SENIOR HIGH, AND
6. FAIRDALE SENIOR HIGH.

ELEMENTARY SCHOOL BICYCLING SURVEY RESULTS

SAMPLE SIZE = 242

FIGURE I-1A: DO YOU OWN A BICYCLE?

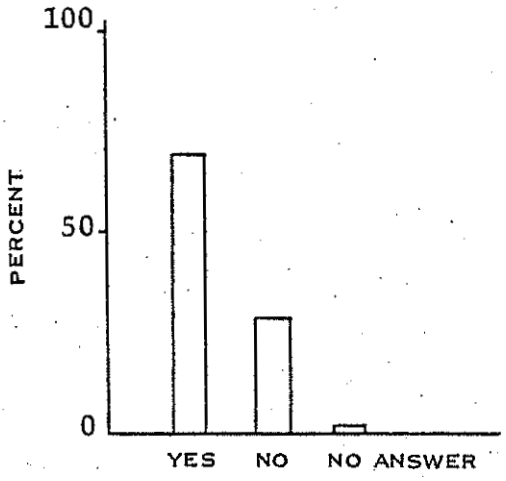


FIGURE I-1B: HAVE YOU RIDDEN YOUR BIKE TO SCHOOL SINCE SEPTEMBER?

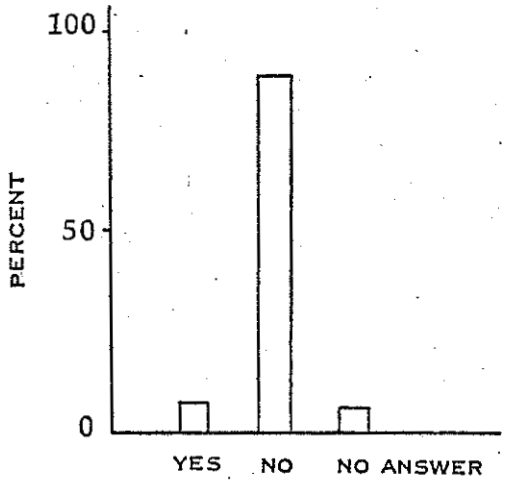


FIGURE I-1C: IF YOU RIDE A BIKE TO SCHOOL, THEN WHY?

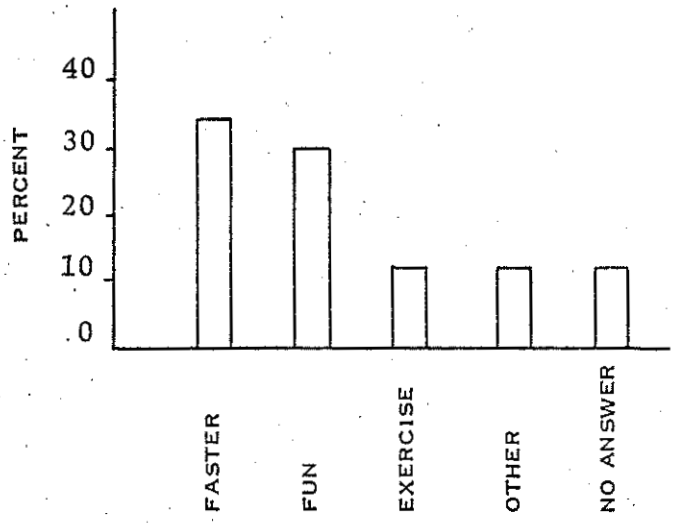


FIGURE I-1D: IF YOU DO NOT RIDE A BIKE TO SCHOOL, THEN WHY?

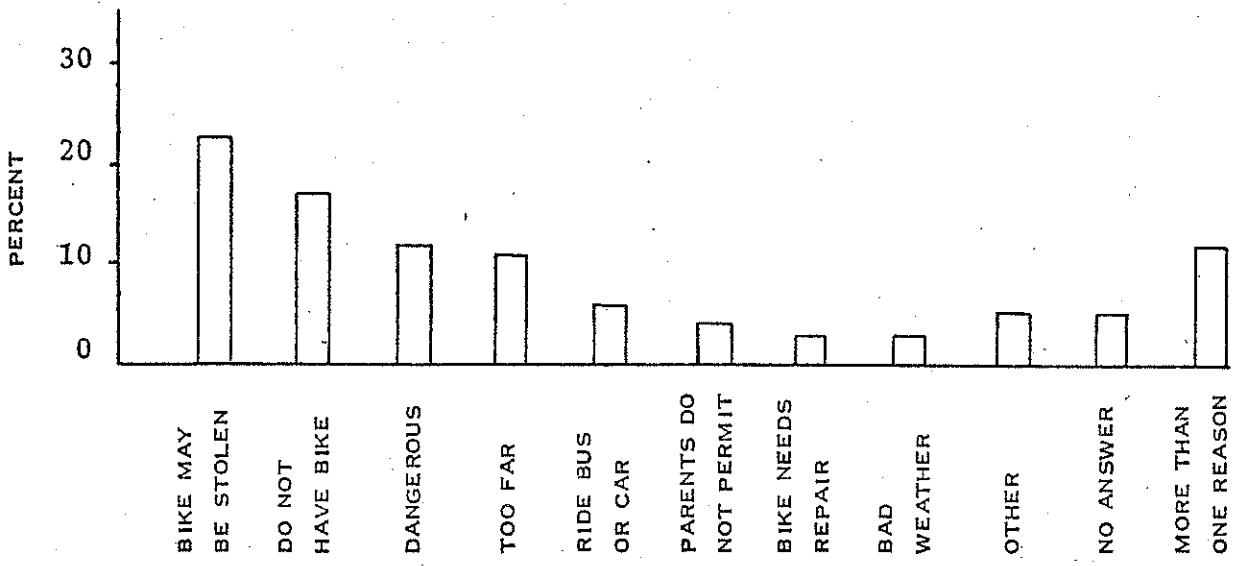
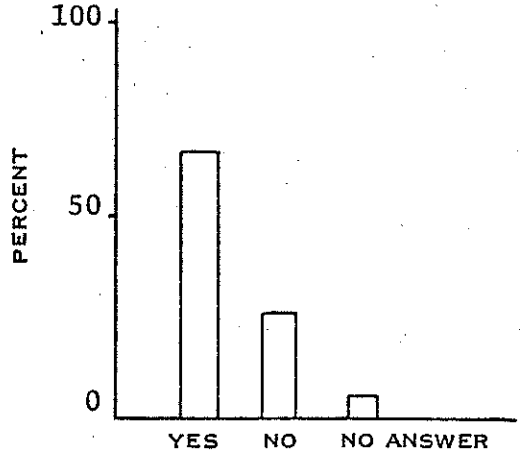


FIGURE I-1E: ARE BIKE LOCKERS NEEDED AT SCHOOL?



ONLY WESTPORT AND FAIRDALE HIGH SCHOOLS PARTICIPATED IN DESEGREGATION BUSING. SCHOOLS WERE SELECTED ON THE SAME GEOGRAPHIC BASIS AS ELEMENTARY SCHOOLS REPRESENTING URBAN, SUBURBAN AND SUBURBANIZING ENROLLMENT DISTRICTS. SURVEYS WERE DISTRIBUTED IN ONE CLASSROOM AT EACH GRADE LEVEL AT EACH SCHOOL.

THIS SURVEY INCLUDED A TOTAL OF 490 STUDENTS. OF THE STUDENTS SURVEYED, NEARLY 68 PERCENT OWNED A BICYCLE, BUT ONLY 7 PERCENT HAD OCCASIONALLY RIDDEN A BICYCLE TO SCHOOL SINCE SEPTEMBER (SEE FIGURE I-2A AND I-2B). APPROXIMATELY 67 PERCENT OF THE STUDENTS WHO HAD RIDDEN A BICYCLE TO SCHOOL GAVE NO REASON AS TO WHY. ABOUT 15 PERCENT SAID BICYCLING IS FASTER, AND 6 PERCENT RODE FOR THE EXERCISE (SEE FIGURE I-2C). THE MOST FREQUENTLY STATED REASON FOR NOT RIDING A BICYCLE TO SCHOOL IS THE DANGER OF THEFT (SEE FIGURE I-2D). MANY STUDENT ALSO MENTIONED THAT A BICYCLE IS NOT AVAILABLE, BICYCLING TAKES TOO LONG, THEY EITHER DRIVE OR RIDE IN A CAR OR BICYCLING IS DANGEROUS. ABOUT 11 PERCENT OF THE STUDENTS GAVE MORE THAN ONE REASON FOR NOT RIDING A BIKE TO SCHOOL AND ABOUT 5 PERCENT GAVE NO PARTICULAR REASON. AS SHOWN IN FIGURE I-2E ONLY 39 PERCENT OF THOSE STUDENTS WHO HAD NOT RIDDEN A BICYCLE TO SCHOOL WOULD RIDE IF THE CONDITIONS ILLUSTRATED IN FIGURE I-2D WERE CORRECTED. WHEN ASKED IF THEY WOULD PAY A FEE FOR A BICYCLE REGISTRATION, ONLY 35 PERCENT INDICATED THAT THEY WOULD PAY SUCH A FEE AND NEARLY 38 PERCENT SAID THEY WOULD PAY A FEE TO FUND BICYCLE IMPROVEMENTS (SEE FIGURES 1-2F AND 1-2G). A MAJORITY OF THE STUDENTS, 61 PERCENT SAID BIKE LOCKERS ARE NEEDED AT THE SCHOOLS (SEE FIGURE I-2H). A LISTING OF STREETS THAT HAVE BEEN USED FOR BICYCLE TRAVEL BY THE STUDENTS AND A LISTING OF STREETS THAT STUDENTS WOULD LIKE TO USE FOR BICYCLE TRIPS BUT DO NOT BECAUSE OF THE AUTOMOBILE TRAFFIC ARE SUMMARIZED IN APPENDIX TABLE A-2.

IN ADDITION TO THE PUBLIC SCHOOL CHILDREN, THREE COLLEGES AND TWO SEMINARIES WERE SURVEYED:

1. SPALDING COLLEGE,
2. BELLARMINE COLLEGE,
3. JEFFERSON COMMUNITY COLLEGE,
4. PRESBYTERIAN SEMINARY, AND
5. SOUTHERN BAPTIST SEMINARY.

DUE TO SCHEDULING PROBLEMS, THE UNIVERSITY OF LOUISVILLE, THE LARGEST AREA EDUCATIONAL INSTITUTION, DID NOT PARTICIPATE IN THIS SURVEY.

THE SAMPLING PROCESS UTILIZED BY KIPDA WAS UNCONTROLLED; A BOOTH WAS LOCATED ON EACH OF THE CAMPUSES AT A HIGH TRAFFIC LOCATION FOR APPROXIMATELY TWO HOURS DURING A SINGLE DAY. IN NO CASE WERE SURVEYS PERMITTED IN CLASSROOMS.

HIGH SCHOOL BICYCLING SURVEY RESULTS

SAMPLE SIZE = 490

FIGURE 1-2A: DO YOU OWN A BICYCLE?

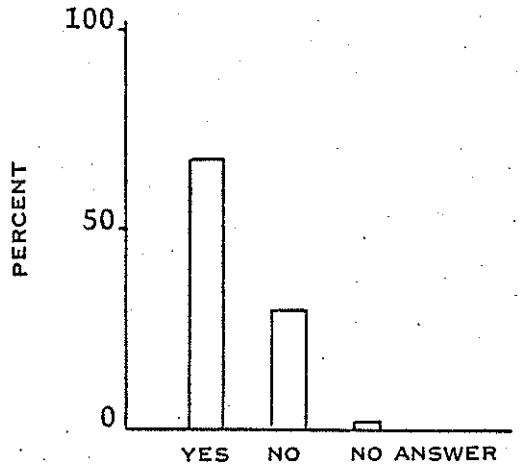


FIGURE 1-2B: HAVE YOU RIDDEN YOUR BIKE TO SCHOOL SINCE SEPTEMBER?

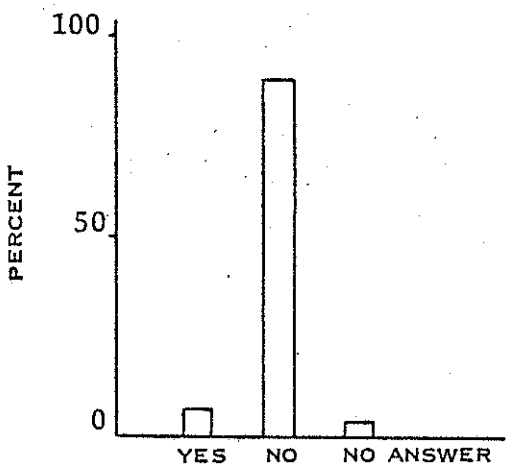


FIGURE 1-2C: IF YOU RIDE A BIKE TO SCHOOL, THEN WHY?

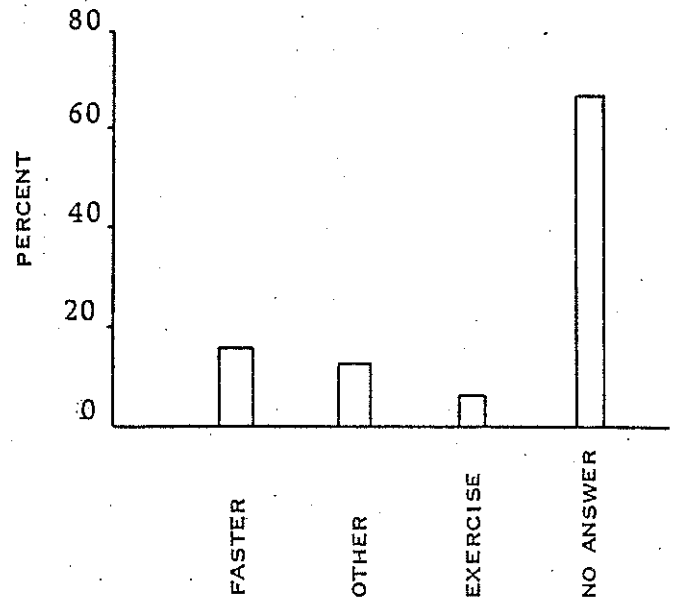


FIGURE I-2D: IF YOU DO NOT RIDE A BIKE TO SCHOOL, THEN WHY?

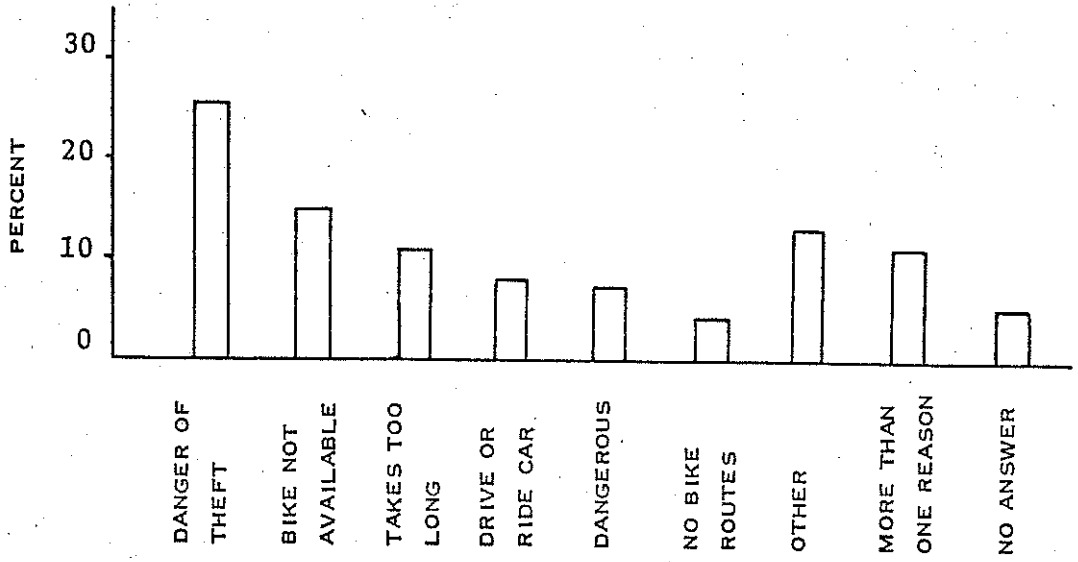


FIGURE I-2E: IF YOU DO NOT RIDE A BIKE TO SCHOOL, WOULD YOU IF CONDITIONS IN FIGURE 2D WERE CORRECTED?

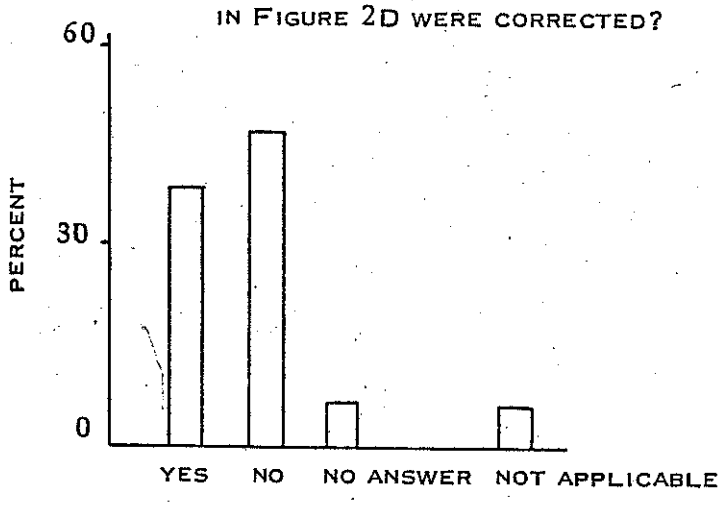


FIGURE I-2F: WOULD YOU PAY A FEE FOR BICYCLE REGISTRATION?

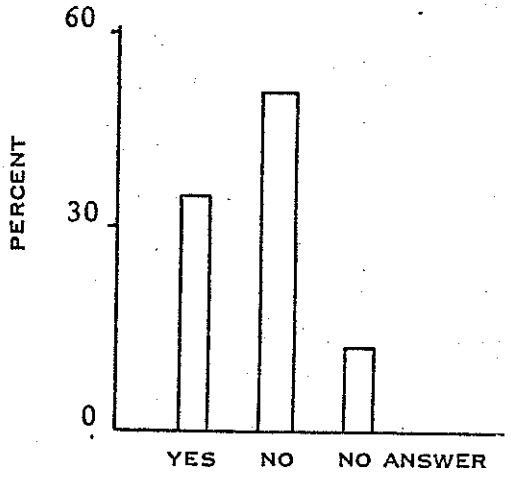


FIGURE 1-2G: WOULD YOU PAY A FEE TO FUND BICYCLING IMPROVEMENTS?

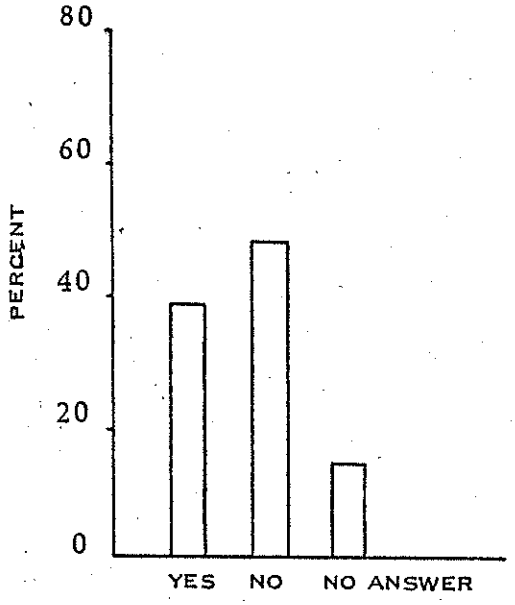
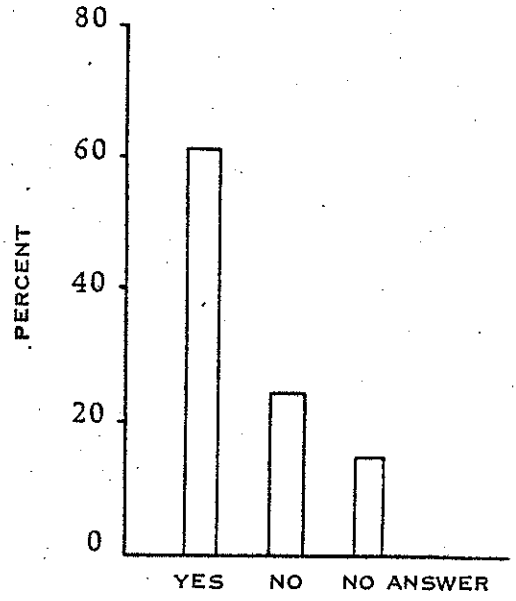


FIGURE 1-2H: ARE BIKE LOCKERS NEEDED AT SCHOOL?



A TOTAL OF 142 STUDENTS PARTICIPATED IN THIS SURVEY. AS SHOWN IN FIGURES I-3A AND I-3B, ABOUT 77 PERCENT OF THOSE RESPONDING TO THE SURVEY INDICATED THAT THEY OWNED A BICYCLE, AND 24 PERCENT OF THE STUDENTS HAD RIDDEN A BICYCLE TO THE CAMPUS SINCE SEPTEMBER. THE MOST FREQUENTLY STATED REASON WHY STUDENTS HAD RIDDEN A BICYCLE TO THE SCHOOL WAS EXERCISE. ADDITIONAL REASONS FOR RIDING A BICYCLE WERE:

1. BICYCLING IS ECONOMICAL,
2. BICYCLING CONSERVES ENERGY, AND
3. BICYCLING IS FASTER.

ABOUT 26 PERCENT OF THE STUDENTS RESPONDED WITH MORE THAN ONE ANSWER WHILE NEARLY 9 PERCENT GAVE NO RESPONSE (SEE FIGURE I-3C). APPROXIMATELY 21 PERCENT OF THE STUDENTS WHO HAD NOT RIDDEN A BICYCLE TO SCHOOL SAID THAT A BICYCLE WAS NOT AVAILABLE TO THEM. ADDITIONAL REASONS FOR NOT RIDING A BICYCLE INCLUDED:

1. TOO FAR TO TRAVEL ON A BICYCLE,
2. BICYCLING IS TOO DANGEROUS,
3. BICYCLING IS TOO HARD,
4. DANGER OF THEFT OF BICYCLE, AND
5. BAD WEATHER.

ABOUT 23 PERCENT OF THE STUDENTS GAVE OTHER REASONS WHILE APPROXIMATELY 18 PERCENT RESPONDED TO MORE THAN ONE ANSWER (SEE FIGURE I-3D). AS SHOWN IN FIGURE I-3E, ABOUT 42 PERCENT OF THE STUDENTS WHO HAD NOT RIDDEN A BICYCLE TO SCHOOL INDICATED THAT THEY WOULD RIDE A BICYCLE IF THE CONDITIONS IN FIGURE I-3D WERE CORRECTED. APPROXIMATELY 46 PERCENT OF THE STUDENTS SAID THEY WOULD PAY FOR BICYCLE REGISTRATION WHILE MORE THAN 56 PERCENT INDICATED THAT THEY WOULD PAY A FEE TO FUND BICYCLING IMPROVEMENTS (SEE FIGURE I-3F AND I-3G). A LISTING OF STREETS THAT HAVE BEEN USED BY COLLEGE STUDENTS FOR BICYCLE TRAVEL AND A LISTING OF STREETS THAT THE STUDENTS WOULD LIKE TO UTILIZE FOR BIKE TRAVEL BUT DO NOT BECAUSE OF THE AUTOMOBILE TRAFFIC ARE SUMMARIZED IN APPENDIX TABLE A-3.

IN ADDITION TO PUBLIC SCHOOLS AND INSTITUTIONS OF HIGHER LEARNING, EMPLOYEES AT FIVE OF LOUISVILLE'S MAJOR BUSINESSES WERE SURVEYED BY KIPDA. THE FIVE EMPLOYERS INCLUDE A CROSS-SECTION OF WHITE COLLAR AND BLUE COLLAR ESTABLISHMENTS AT VARIOUS LOCATIONS WITHIN THE COUNTY. EMPLOYERS PARTICIPATING IN THIS SURVEY INCLUDED:

1. LINCOLN INCOME LIFE INSURANCE,

COLLEGE BICYCLING SURVEY RESULTS

SAMPLE SIZE = 142

FIGURE I-3A: DO YOU OWN A BICYCLE?

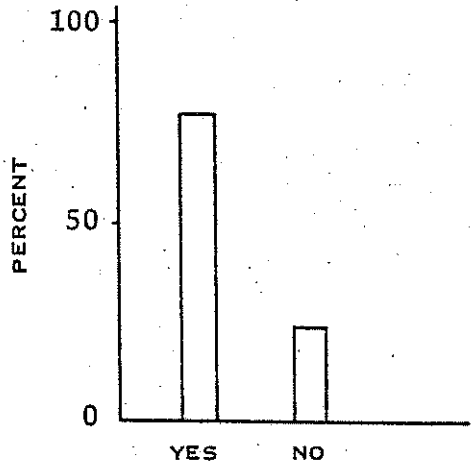


FIGURE I-3B: HAVE YOU RIDDEN YOUR BIKE TO SCHOOL SINCE SEPTEMBER?

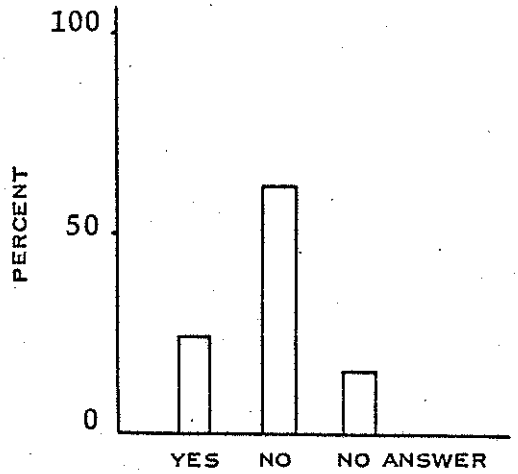


FIGURE I-3C: IF YOU RIDE A BIKE TO SCHOOL, THEN WHY?

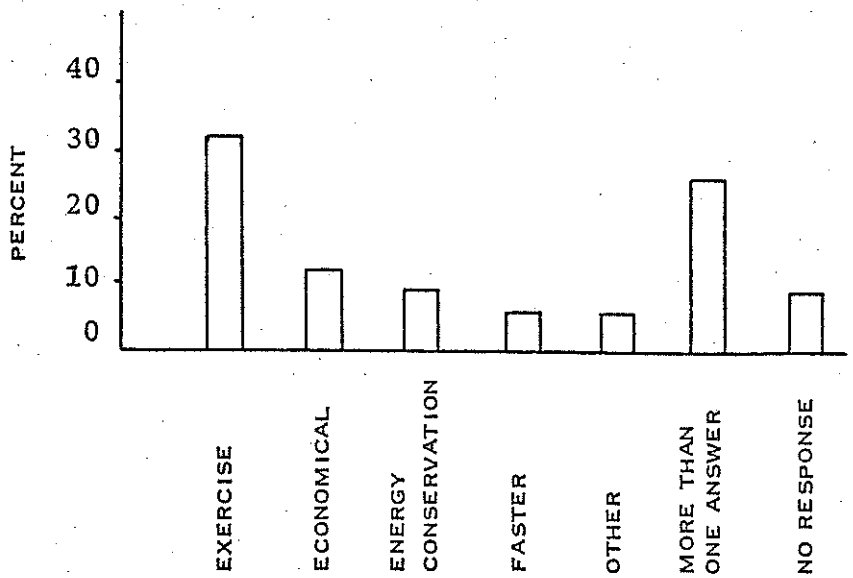


FIGURE I-3D: IF YOU DO NOT RIDE A BIKE TO SCHOOL, THEN WHY?

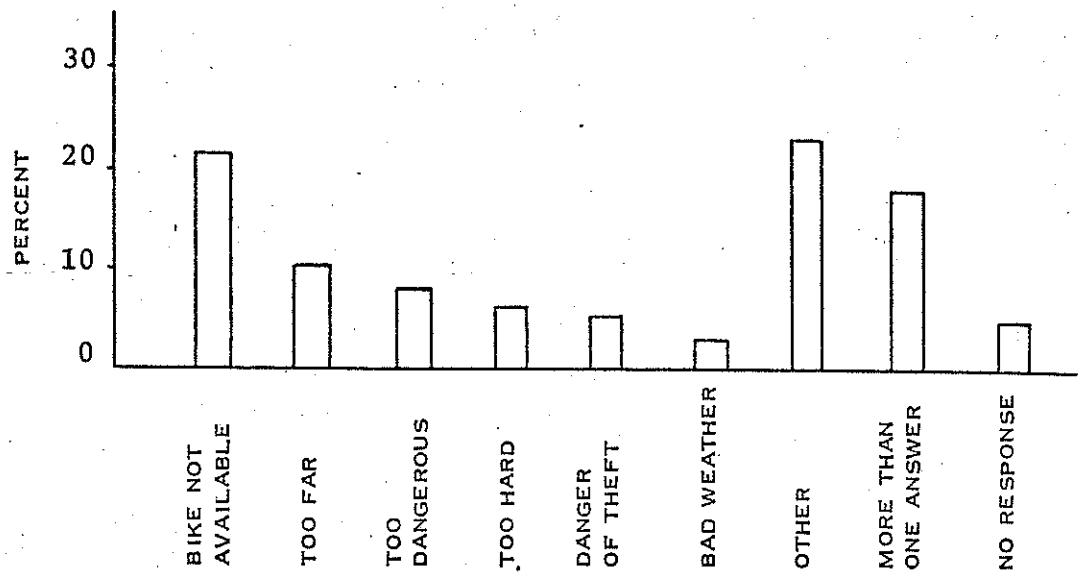


FIGURE I-3E: WOULD YOU COMMUTE BY BICYCLE IF CONDITIONS IN FIGURE 3D WERE CORRECTED?

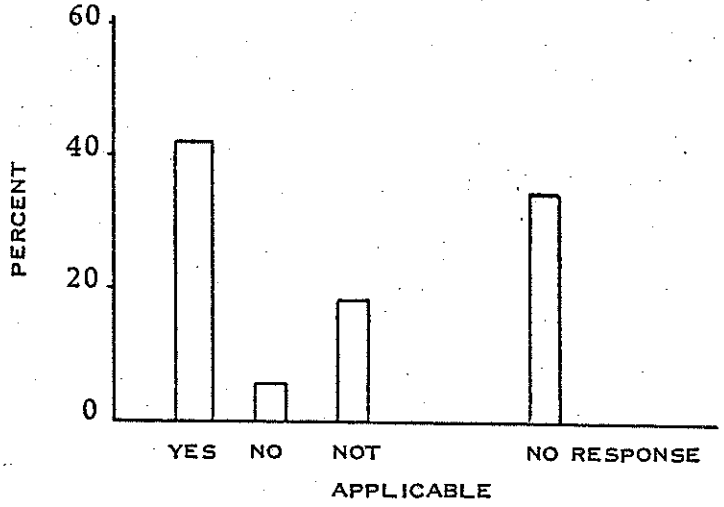


FIGURE I-3F: WOULD YOU PAY FOR BICYCLE REGISTRATION?

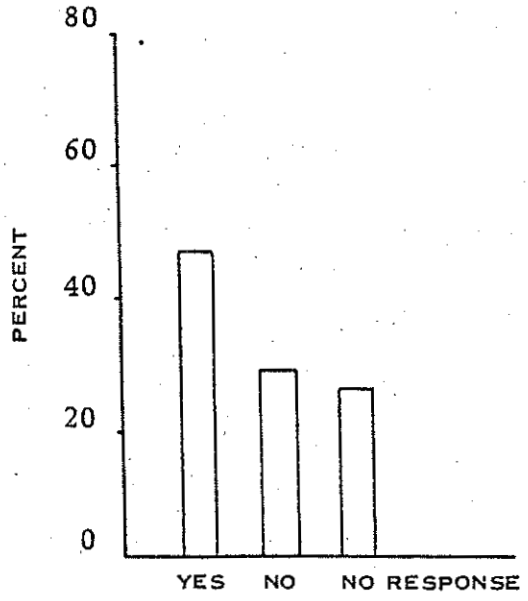
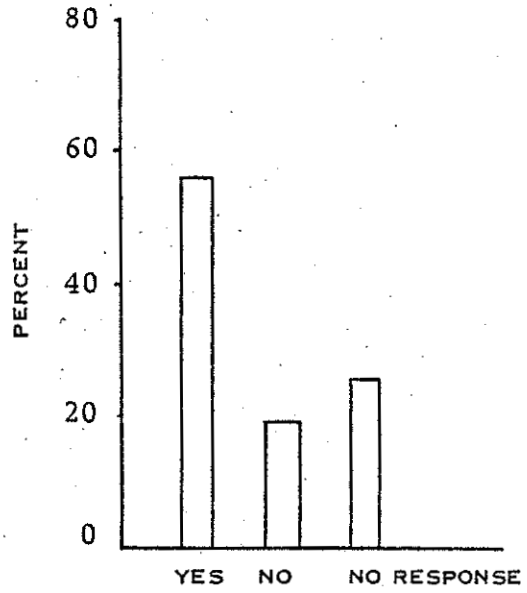


FIGURE I-3G: WOULD YOU PAY A FEE TO FUND BICYCLING IMPROVEMENTS?



2. Dawson Education Center (Jefferson County Board of Education),

3. Louisville Water Company,

4. L & N Railroad, and

5. Bremner Biscuit Company.

Voluntary participation was again principal to survey results. Findings reflect the lack of sample control.

Approximately 42 percent of the employees indicated they owned a bicycle, but only 1 percent utilized the bicycle for transportation to work on the day of the survey (See Figures I-4A and I-4B). The employees who did not ride a bicycle to work gave several reasons. As shown in Figure I-4C, about 31 percent of the persons who did not ride a bike cited one of the following reasons:

1. Bicycling takes too long,

2. Bicycling is too dangerous,

3. A bicycle is not available, and

4. Bicycling is too hard.

Since the survey was uncontrolled, more than 45 percent of the employees responded with more than one answer. Sixteen percent stated various other reasons and 8 percent gave no response. Approximately 25 percent of the employees said they would pay a bicycle registration fee, but only 19 percent indicated they would pay a fee to fund bicycling improvements.

Shoppers at three neighborhood centers in the Louisville area were interviewed between the hours of 10 A.M. and noon on a typical Saturday during March, 1976. This survey was administered by KIPDA personnel and local Wheelmen. Since the survey was conducted on a Saturday and, in addition, did not provide a random sample of shoppers during each hour of operation, bicycle ridership on a typical shopping day could not be determined. The shopping centers surveyed were selected to obtain a varied geographic distribution of survey responses. The three shopping centers surveyed were:

1. Shawnee Center,

2. Iroquois Manor, and

3. Gardiner Lane Center.

EMPLOYEE BICYCLING SURVEY RESULTS

SAMPLE SIZE = 464

FIGURE I-4A: DO YOU OWN A BICYCLE?

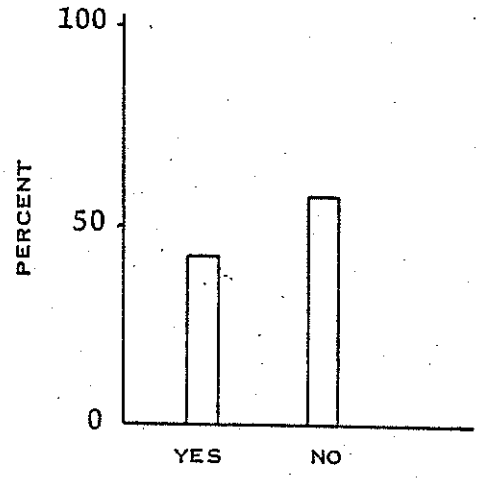


FIGURE I-4B: DID YOU USE A BICYCLE TO TRAVEL TO WORK?

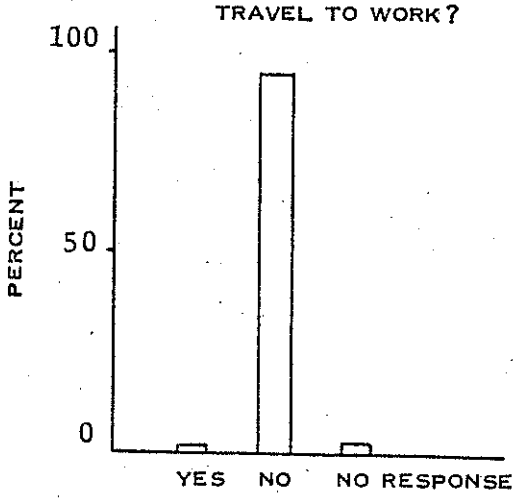


FIGURE I-4C: IF YOU DO NOT RIDE A BIKE TO WORK, THEN WHY?

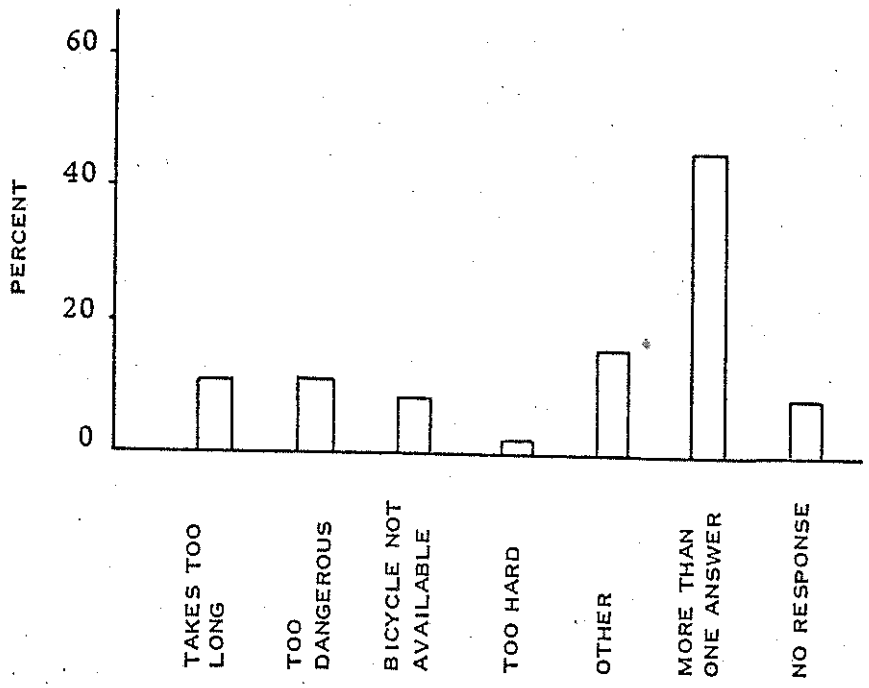


FIGURE I-4D: WOULD YOU PAY A FEE FOR BICYCLE REGISTRATION?

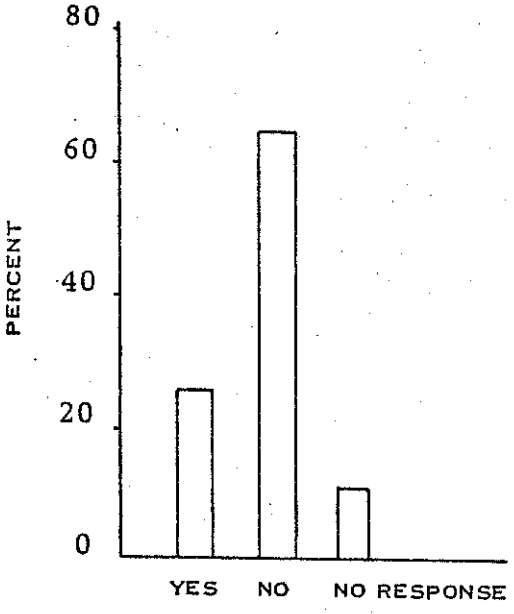
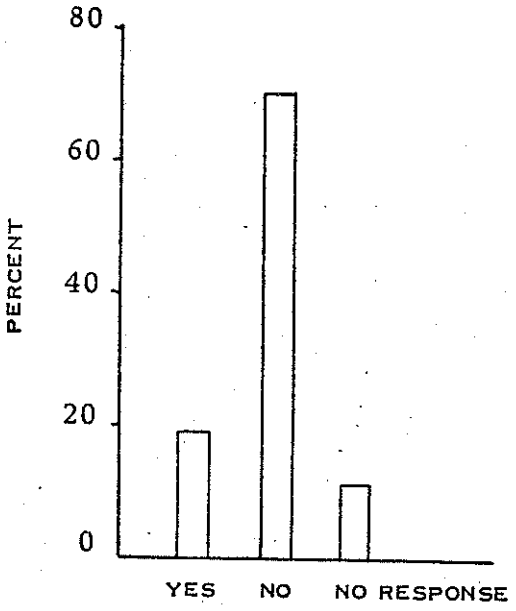


FIGURE I-4E: WOULD YOU PAY A FEE TO FUND BICYCLING IMPROVEMENTS?



ABOUT 57 PERCENT OF THE 174 SHOPPERS INTERVIEWED SAID THEY OWNED A BICYCLE BUT ONLY 9 PERCENT RODE A BICYCLE TO A SHOPPING CENTER (SEE FIGURES I-5A AND I-5B). THE PERSONS THAT DID RIDE A BICYCLE TO A SHOPPING CENTER GAVE THREE PRIMARY REASONS:

1. EASIER TO GET AROUND ON A BICYCLE,

2 FOR EXERCISE, AND

3. NO OTHER VEHICLE AVAILABLE.

APPROXIMATELY 27 PERCENT OF THE PERSONS WHO DID NOT RIDE A BICYCLE TO A SHOPPING CENTER INDICATED THAT A BICYCLE WAS NOT AVAILABLE TO THEM. THE REMAINING MOST FREQUENTLY STATED REASONS FOR NOT RIDING A BICYCLE WERE:

1. DANGER OF THEFT OF BICYCLE,

2. BICYCLING IS TOO HARD,

3. BICYCLING TAKES TOO LONG, AND

4. BICYCLING IS TOO DANGEROUS.

ABOUT 29 PERCENT OF THE SHOPPERS GAVE OTHER REASONS FOR NOT RIDING A BICYCLE AND NEARLY 11 PERCENT RESPONDED TO MORE THAN ONE ANSWER (SEE FIGURE I-5D).

ANOTHER TYPE OF SURVEY CONDUCTED BY KIPDA WAS A NEWSPAPER MAIL-BACK SURVEY. THIS QUESTIONNAIRE, PUBLISHED IN THE MARCH, 25TH LOUISVILLE TIMES AND THE MARCH, 24TH COURIER JOURNAL, REQUESTED THAT INDIVIDUALS INTERESTED IN PARTICIPATING IN THE BIKEWAY PLANNING PROCESS ANSWER THE QUESTIONS AND MAIL THE FORM TO KIPDA. THIS SURVEY WAS CONDUCTED TO GAUGE THE CHARACTERISTICS OF COUNTY BICYCLE USERS AND TO PROVIDE INDICATIONS AS TO THE GEOGRAPHICAL AREAS WHERE THE HIGHEST UTILIZATION OF BIKING FACILITIES WOULD MOST LIKELY OCCUR. THIS DATA WOULD BE UTILIZED IN ESTABLISHING THE SHORT-RANGE PRIORITIES. A TOTAL OF 269 HOUSEHOLDS WITH A POPULATION OF 896 PERSONS RESPONDED TO THE MAILBACK SURVEY.

AS ILLUSTRATED IN FIGURE I-6A, APPROXIMATELY 28 PERCENT OF THE PERSONS RESPONDING TO THE QUESTIONNAIRE LIVED IN EASTERN LOUISVILLE AS SHOWN ON FIGURE I-7. MOST OF THE OTHER HOUSEHOLDS RESPONDING TO THE SURVEY WERE LOCATED IN:

1. EASTERN JEFFERSON COUNTY,

2. SOUTHEAST LOUISVILLE,

3. EAST HIGHLANDS LOUISVILLE,

4. Southeastern Jefferson County, and

5. Southwestern Jefferson County.

As shown in Figure I-6B, when asked the principal purpose for bicycle use, nearly 62 percent of the households indicated recreation while only 8 percent rode bicycles to work. About 19 percent of the households responded with more than one answer. Most of the households indicated that bikeways need to be separated from automobile traffic in order to increase bicycle use as shown in Figure I-6C. Only 4 percent indicated that marked bike routes on local streets or scenic bike trails would increase bicycling, while nearly 17 percent responded to more than one of the needs. Figures I-6D illustrates the age distribution of bike riders that responded to the survey with nearly 24 percent of the persons in the 25 to 34 age group. This response was expected since this age group represents the group of people that is both most interested in bicycling and reads newspapers. The age group 10 to 14 constituted 19 percent of the bike riders. As illustrated in Figures I-6E and I-6F, 78 percent said that they would be willing to pay a bicycle registration fee and nearly 82 percent indicated that they would pay a fee to fund bicycle improvements.

SHOPPER BICYCLING SURVEY RESULTS

SAMPLE SIZE = 174

FIGURE I-5A: DO YOU OWN A BICYCLE?

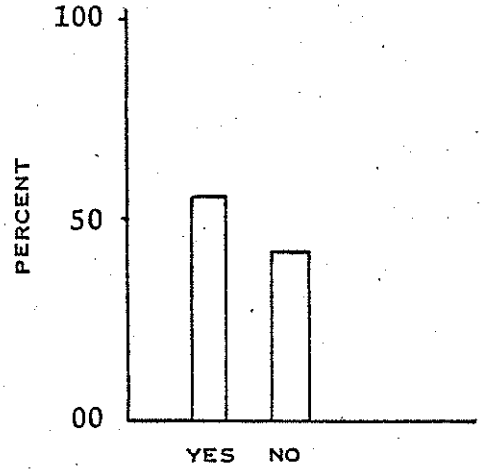


FIGURE I-5B: DID YOU USE A BICYCLE FOR THIS TRIP?

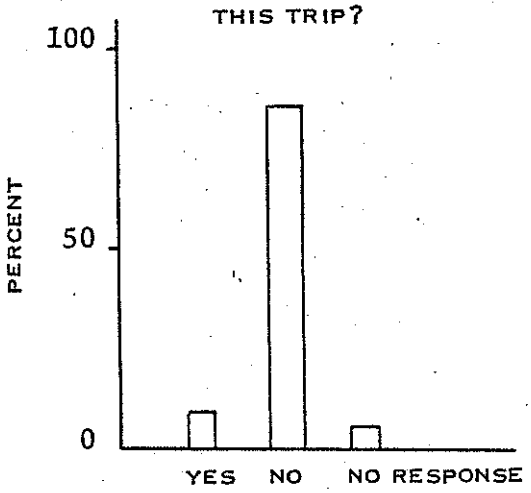


FIGURE I-5C: IF YOU RODE A BIKE, THEN WHY?

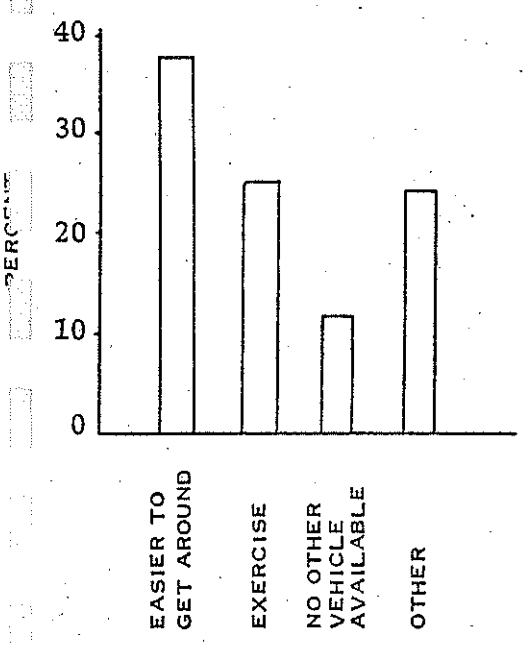
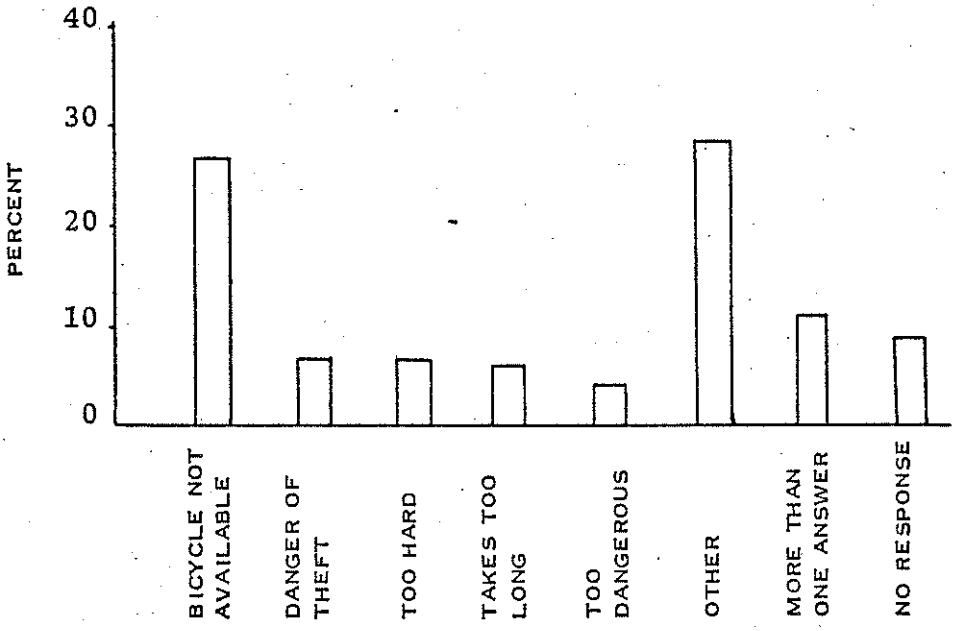


FIGURE I-5D: IF YOU DID NOT RIDE A BIKE, THEN WHY?



NEWSPAPER MAILBACK BICYCLING SURVEY RESULTS

SAMPLE SIZE = 269 HOUSEHOLDS

FIGURE I-6A: DISTRIBUTION OF RESPONDANTS.

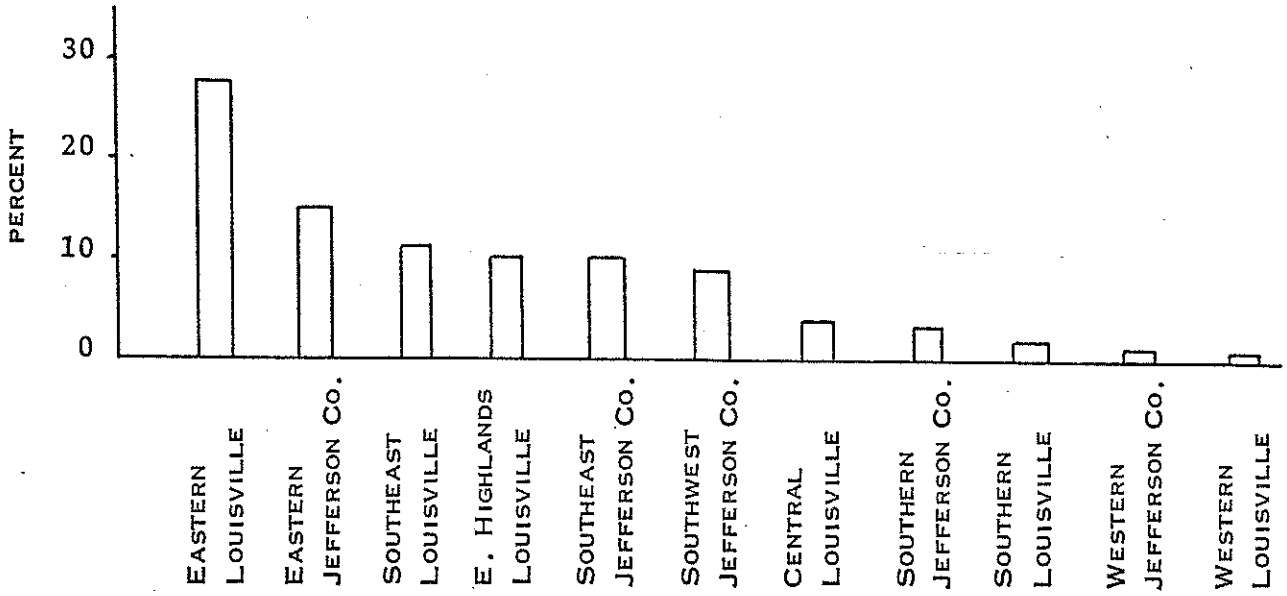


FIGURE I-6B: PURPOSE OF BICYCLE TRIPS.

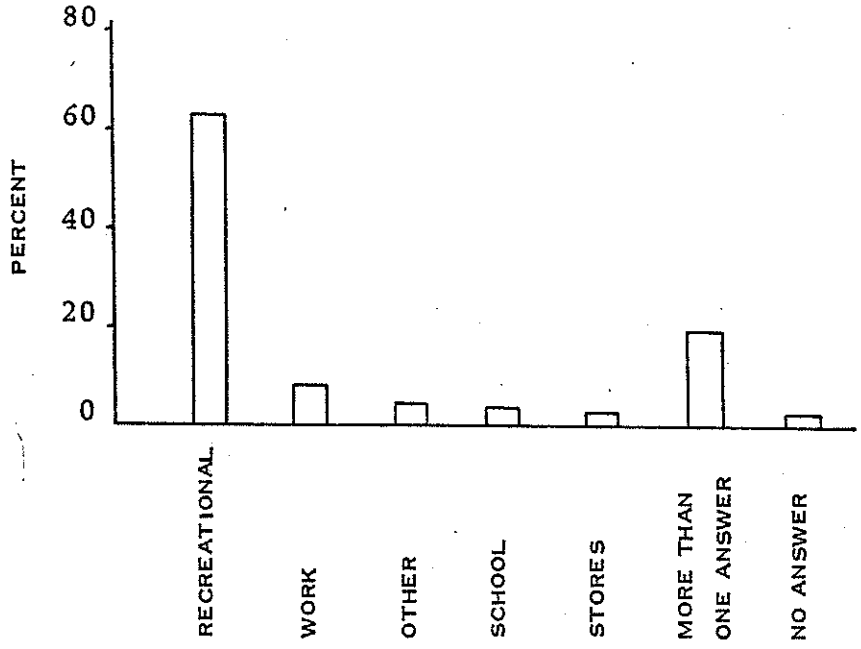


FIGURE I-6C: WHAT IS NEEDED MOST TO INCREASE BICYCLE USE?

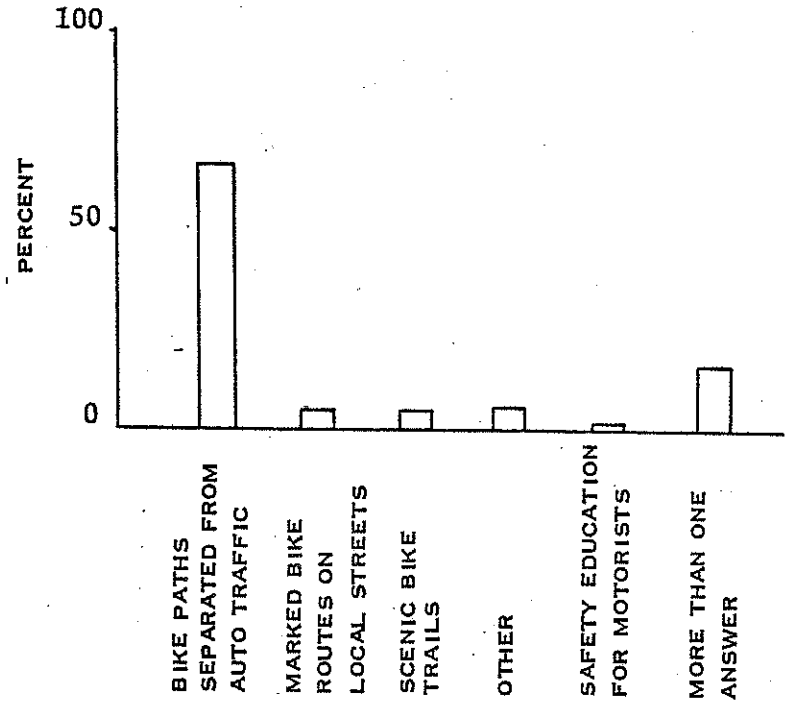


FIGURE I-6D: AGE DISTRIBUTION OF BIKE RIDERS RESPONDING TO THE SURVEY.

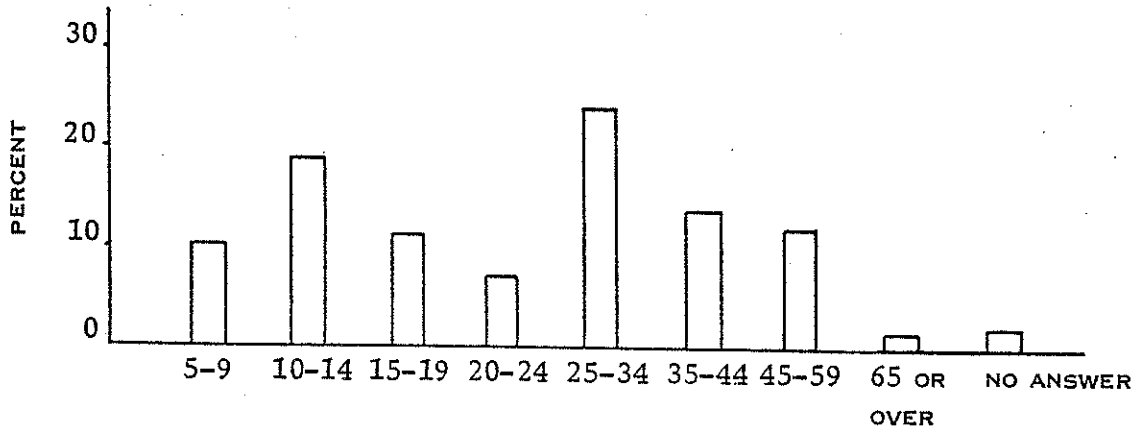


FIGURE I-6E : WOULD YOU PAY A FEE FOR BICYCLE REGISTRATION?

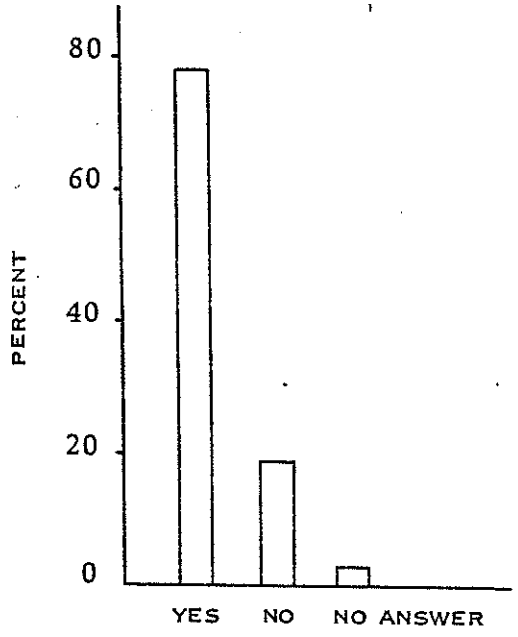
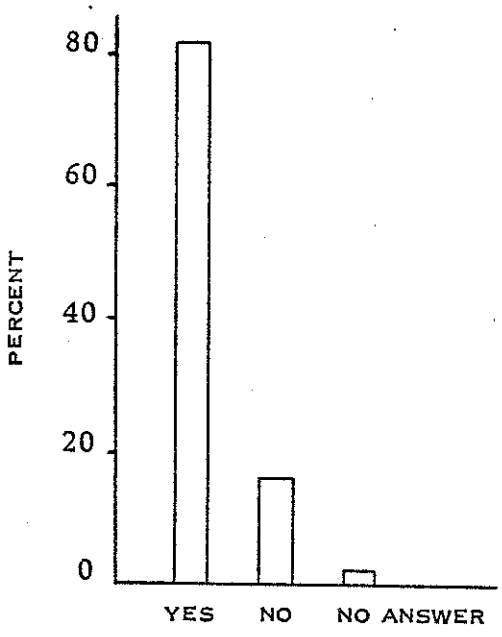


FIGURE I-6F : WOULD YOU PAY A FEE TO FUND BICYCLING IMPROVEMENTS?



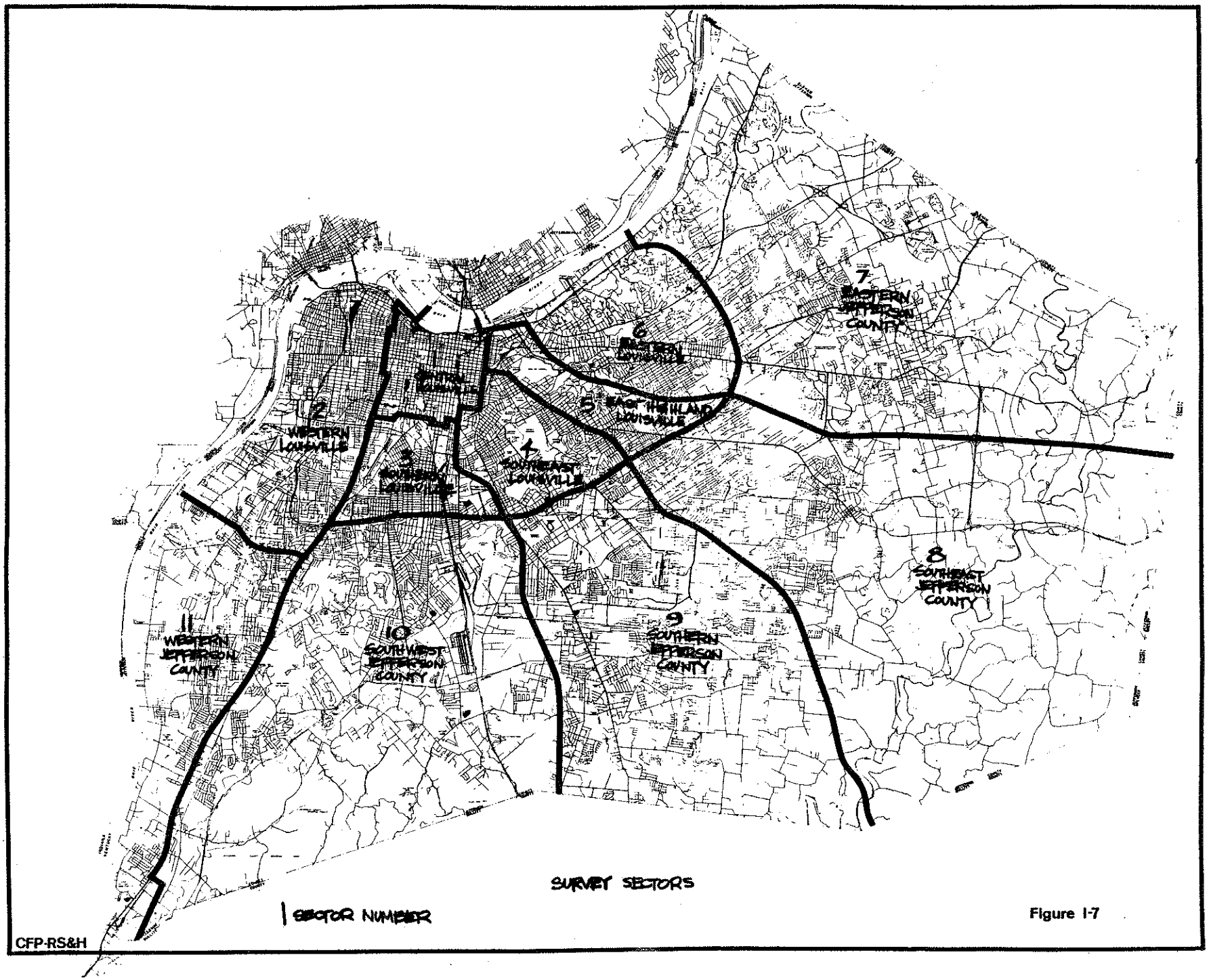


Figure I-7

CFP-RS&H

SUMMARY - A MAJORITY OF PERSONS INTERVIEWED IN EACH OF THE SURVEYS INDICATED THAT THEY OWNED A BICYCLE; HOWEVER, A MAJORITY OF THESE PERSONS INDICATED THAT THEY DID NOT RIDE THE BICYCLE TO SCHOOL, TO WORK OR TO SHOP. THE MOST FREQUENTLY STATED REASONS FOR RIDING THE BICYCLE WERE:

1. BICYCLING IS FASTER,
2. FOR THE EXERCISE,
3. EASIER TO GET AROUND ON A BICYCLE,
4. BICYCLING IS FUN,
5. NO OTHER VEHICLE WAS AVAILABLE, AND
6. BICYCLING IS ECONOMICAL.

REASONS GIVEN FOR NOT RIDING A BICYCLE TO SCHOOL, TO WORK OR TO A SHOPPING CENTER WERE:

1. A BICYCLE WAS NOT AVAILABLE,
2. DANGER OF THEFT OF BICYCLE,
3. BICYCLING IS TOO DANGEROUS,
4. TOO FAR TO TRAVEL ON A BICYCLE,
5. BICYCLING IS TOO HARD, AND
6. BICYCLING TAKES TOO LONG.

LESS THAN 50 PERCENT OF THE COLLEGE AND SECONDARY SCHOOL CHILDREN INDICATED THAT THEY WOULD PAY A FEE FOR BICYCLE REGISTRATION. AS EXPECTED, A MAJORITY OF PERSONS (APPROXIMATELY 78 PERCENT) THAT RESPONDED TO THE NEWSPAPER MAILBACK QUESTIONNAIRE SAID THAT THEY WOULD PAY A FEE FOR BICYCLE REGISTRATION; HOWEVER, ONLY 25 PERCENT OF THE EMPLOYEES FAVORED A BICYCLE REGISTRATION FEE. MORE THAN 50 PERCENT OF THE COLLEGE STUDENTS AND PERSONS RESPONDING TO THE NEWSPAPER QUESTIONNAIRE SAID THAT THEY WOULD PAY A FEE TO FUND BICYCLE IMPROVEMENTS, WHILE ONLY 19 PERCENT OF THE EMPLOYEES AND 38 PERCENT OF THE SECONDARY SCHOOL CHILDREN INDICATED THAT THEY WOULD PAY THE FEE. BOTH THE ELEMENTARY AND SECONDARY SCHOOL CHILDREN INDICATED THAT BIKE LOCKERS ARE NEEDED AT SCHOOLS.

METHODOLOGY FOR ESTIMATING NEEDS

THE DEVELOPMENT OF A PROCEDURE TO DETERMINE LEVELS OF BICYCLE DEMAND INVOLVED EXTENSIVE RESEARCH. STUDIES HAVE INDICATED THAT AGE, SEX AND TRIP PURPOSE ARE THE MOST SIGNIFICANT FACTORS WITH

FAMILY INCOME OF SECONDARY IMPORTANCE. BOTH DATA FROM THE CONTROLLED SURVEY REFERENCED IN THE TENNESSEE BICYCLING STUDY[1] CONDUCTED IN SPRING 1974 AND THE RESULTS OF THE SURVEYS CONDUCTED BY KIPDA WERE CONSIDERED DURING THE DEVELOPMENT OF THE METHODOLOGY. THE BICYCLE TRIP GENERATION RATES DERIVED FROM THE KIPDA SURVEYS WERE MUCH LARGER THAN THE RATES DOCUMENTED IN THE TENNESSEE REPORT. THE GENERATION RATE RESULTING FROM THE KIPDA SURVEYS FOR HIGH SCHOOL TRIPS WAS 50 PERCENT HIGHER THAN THE RATE REFERENCED IN THE TENNESSEE REPORT, WHILE THE KIPDA RATE FOR SCHOOL TRIPS BY COLLEGE STUDENTS WAS MORE THAN 125 PERCENT HIGHER. IN ADDITION, THE WORK TRIP RATE DEVELOPED AS A RESULT OF THE KIPDA SURVEYS WAS APPROXIMATELY 115 PERCENT HIGHER THAN THE RATE DOCUMENTED IN THE TENNESSEE REPORT. SINCE THE RATES IN THE TENNESSEE STUDY WERE THE RESULT OF A STATISTICAL SURVEY OF 1,000 RESIDENTS CONDUCTED BY THE A.C. NIELSON COMPANY AND SINCE THE RATES GENERATED BY THE KIPDA SURVEYS WERE SIGNIFICANTLY LARGER THAN THE TENNESSEE RATE, THE BICYCLE TRIP GENERATION RATES REFERENCED IN THE TENNESSEE REPORT WERE UTILIZED TO DETERMINE BICYCLE DEMAND.

THE FOLLOWING PROCEDURE FOR ESTIMATING NEEDS WAS ESTABLISHED. (SEE FIGURE I-8) INITIALLY, THE JEFFERSON COUNTY STUDY AREA WAS DIVIDED IN SECTORS OF MULTIPLE O - D ZONES FOR TABULATION OF THE NEWSPAPER MAILBACK SURVEY AND THE BICYCLE USERS SURVEY CONDUCTED BY KIPDA (SEE FIGURE I-7). THE TOTAL POPULATION BY AGE GROUPS AND SEX WAS THEN DETERMINED FOR EACH SECTOR. THE MALE AND FEMALE POPULATION IN EACH OF THE FOLLOWING AGE GROUPS WAS DETERMINED FOR EACH SECTOR:

1. UNDER 6,
2. 6 - 15,
3. 16 - 19,
4. 20 - 44,
5. 45 - 59, AND
6. 60 AND OVER.

[1] 'BICYCLING IN TENNESSEE, PLANNING AND DESIGN MANUAL,' BARTON-ASCHMAN ASSOCIATES, INC. MAY, 1975.

FIGURE I-8

DEMAND ESTIMATION METHODOLOGY

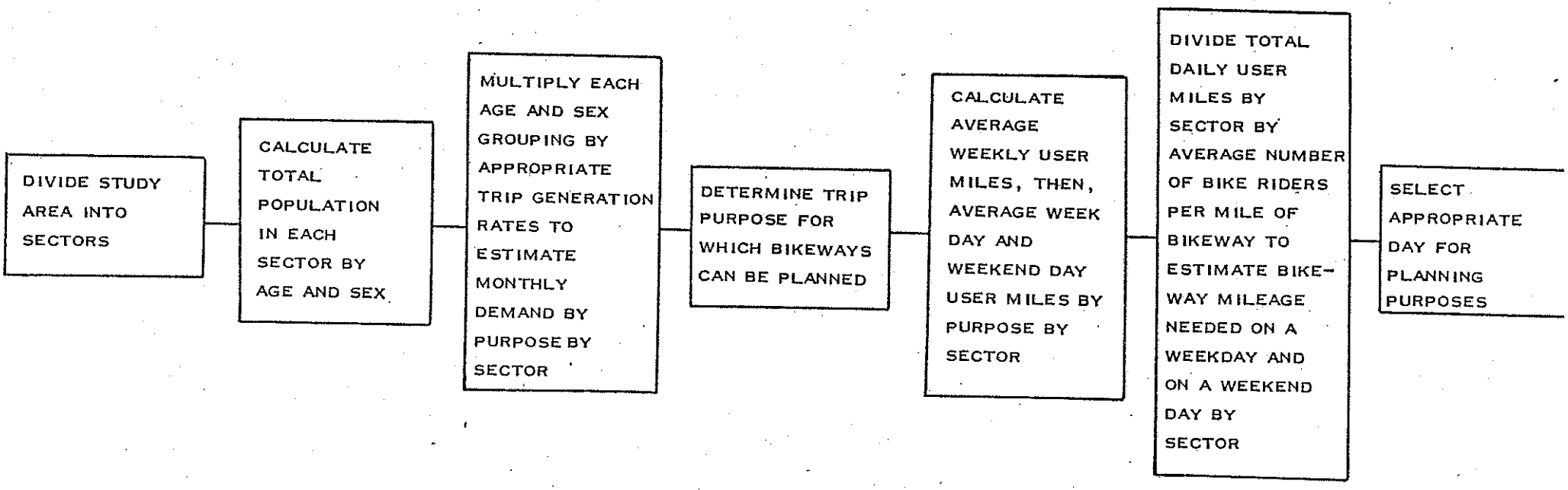


TABLE I-1

PER CAPITA FREQUENCY OF BICYCLING IN TENNESSEE BY AGE AND SEX (30-DAY APRIL-MAY PERIOD, 1974)[1]

Type of Trip	Males									Females								
	Total	Under 6	6-11	12-15	16-19	20-29	30-44	45-59	60 & Over	Total	Under 6	6-11	12-15	16-19	20-29	30-44	45-59	60 & Over
To work	0.12	-	0.17	0.10	0.34	0.08	0.17	0.11	-	0.01	-	-	-	-	-	0.05	-	-
To school	0.26	-	0.51	1.25	0.67	0.08	0.09	-	-	0.05	-	0.13	0.11	0.23	0.10	-	-	-
To conduct personal business	0.37	0.07	0.76	1.28	0.98	0.28	0.09	0.08	0.03	0.23	-	0.86	0.50	0.38	0.33	0.07	0.01	0.06
To go to recreational activity	0.80	0.12	2.21	3.61	1.38	0.28	0.11	0.13	-	0.50	0.27	2.12	1.03	0.61	0.43	0.33	0.05	0.02
To visit friends or relatives	1.33	0.73	4.09	4.86	2.35	0.51	0.13	0.22	0.01	0.83	0.38	4.16	2.37	0.97	0.64	0.12	0.01	0.01
To ride long distances (2 hours)	0.56	-	1.45	1.75	0.97	0.57	0.27	0.13	-	0.42	0.17	1.14	1.27	0.48	0.60	0.31	0.05	0.01
To ride around the neighborhood	3.89	2.62	12.85	11.83	4.31	1.88	1.06	0.94	0.31	2.94	1.96	12.64	7.98	3.42	1.80	1.59	0.23	0.07
Total Trip-Purpose Days Ridden[2]	7.33	3.54	22.04	24.68	11.00	3.68	1.92	1.61	0.35	4.98	2.78	21.05	13.26	6.09	3.90	2.47	0.35	0.17
Total Calendar Days Ridden[3]	5.13	3.54	16.54	15.76	6.05	2.61	1.48	1.20	0.32	3.59	2.69	14.62	9.67	4.48	2.55	1.98	0.25	0.10

(1) Bicyclist defined as having ridden at least once during past year.
(2) Each calendar day could include a possible 7 trip purposes (trip-purpose days).
(3) Does not include consideration of trip purposes, thus the maximum number of calendar days ridden can only equal the number of days in the month.

SOURCE: "BICYCLING IN TENNESSEE, PLANNING AND DESIGN MANUAL," BARTON-ASCHMAN ASSOCIATES, INC., MAY, 1975.

TABLE I-2

AVERAGE DAILY BICYCLING TRIPS AND USER-MILES BY TRIP PURPOSES

Trip Purpose	April-May Average Daily One-Way Trips Per 1,000 Persons: Utilitarian Bikeway Potential (1)	Recreational Bikeway Potential	Possible Recreational Bikeway Potential	Total	Assumed Average Trip Length (miles)	Average User-Miles Per Day Per 1,000 Persons: Utilitarian Bikeway	Recreational Bikeway	Possible Recreational Bikeway	Total	Estimated Mean Percentage of Trips on Weekends	Approximate Correction Factor to Determine ADT or User-Miles on Weekdays
To work	4	-	-	4	2.25 (2)	9.0	-	-	9.0	0%	1.40x
To school	10	-	-	10	1.74 (2)	17.4	-	-	17.4	0%	1.40x
On personal business	19	-	-	19	0.50 (3)	9.5	-	-	9.5	30%	1.00x
To recreational activities	43	-	-	43	0.50 (3)	21.5	-	-	21.5	55%	0.63x
To ride long distances	-	33	-	33	8.00 (4)	-	264.0	-	264.0	60%	0.56x
To visit friends	-	-	71	71	0.50 (5)	-	-	35.5	35.5	40%	0.84x
To ride around neighborhood	-	-	224	224	0.50 (5)	-	-	112.0	112.0	50%	0.70x
Total	76	33	295	404	-	57.4	264.0	468.9	468.9	47%	0.74x

(1) Assumes concentrated destinations and need to travel on busy streets
(2) Based on telephone survey samples (see Table 5.1)
(3) Assumes that most of these destinations will be within 1/2 mile of home
(4) Assumes 8.0 mph reasonable average speed over long distances
(5) Assumes a looped trip of approximately 1 mile or 12 minutes riding

SOURCE: "BICYCLING IN TENNESSEE, PLANNING AND DESIGN MANUAL," BARTON-ASCHMAN ASSOCIATES, INC., MAY, 1975.

THIS PROCESS UTILIZED THE POPULATION DATA PUBLISHED IN '1970 CENSUS OF POPULATION AND HOUSING'.[1] ALL OF THE CENSUS TRACTS IN ONE SECTOR WERE GROUPED TOGETHER FOR THIS ANALYSIS. THE CENSUS TRACTS DIVIDED BY THE SECTOR BOUNDARIES WERE DISTRIBUTED BETWEEN THE TWO SECTORS BASED UPON THE PERCENTAGE OF EACH TRACT IN EACH SECTOR.

THE 1970 CENSUS DATA WAS THEN ADJUSTED TO REPRESENT 1976 POPULATION BY AGE GROUP. EACH OF THE AGE GROUPINGS WAS MODIFIED TO SHOW AN INCREASE IN THE AGE OF THE 1970 POPULATION. AS A RESULT OF THIS PROCEDURE, THE AVERAGE INCREASE IN THE TOTAL POPULATION OF EACH OF THE AGE GROUPING WAS APPROXIMATELY 6 PERCENT. SINCE THIS INCREASE IS WITHIN THE RANGE OF ERROR OF THIS ANALYSIS AND SINCE THE SCOPE OF THIS STUDY DID NOT INCLUDE A NEW POPULATION BASE PROJECTION, THE POPULATION GROUPINGS IN THE 1970 CENSUS WAS USED IN PRELIMINARY DEMAND ESTIMATES.

SINCE THE AGE GROUPINGS IN THE TENNESSEE STUDY WERE NOT THE SAME AS THE AGE GROUPINGS IN THE CENSUS DATA, IT WAS NECESSARY TO COMBINE AGE GROUPS 6-11 AND 12-15 TO FORM ONE GROUP 6-15 AND AGE GROUP 20-29 WITH 30-44 TO FORM GROUP 20-44. THE TRIP RATES OF THESE AGE GROUPS ILLUSTRATED IN TABLE I-1 WERE PROPORTIONATELY AVERAGED. THE POPULATION IN ALL AGE GROUPINGS WERE MULTIPLIED BY THE PER CAPITA FREQUENCY OF BICYCLING RATES ILLUSTRATED IN TABLE I-1 TO ESTIMATE MONTHLY TWO-WAY BICYCLE TRIPS BY TRIP PURPOSE FOR EACH AGE GROUP OF MALES AND FEMALES. BICYCLE DEMAND WAS ADDED TOGETHER BY TRIP PURPOSE FOR EACH SECTOR (SEE TABLE I-3). THE LARGEST BICYCLE DEMAND IS TRIPS WITHIN NEIGHBORHOODS FOLLOWED BY TRIPS TO VISIT FRIENDS OR RELATIVES. TRIPS TO RECREATION ACTIVITIES CONSTITUTED THE THIRD LARGEST DEMAND WHILE LONG DISTANCE TRIPS (TWO HOURS OR LONGER) GENERATED THE FOURTH LARGEST DEMAND. THE SMALLEST DEMAND WAS FOR WORK TRIPS.

IN ORDER TO DETERMINE THE NUMBER OF BIKEWAY ROUTE MILES NEEDED TO ACCOMMODATE THE ESTIMATED BICYCLE USE, THE AVERAGE DAILY BICYCLE USER MILES WERE ESTIMATED. THE AMOUNT OF ONE-WAY USER MILES ON A TYPICAL WEEK DAY AND ON A TYPICAL WEEKEND DAY WAS DETERMINED. TO DETERMINE BICYCLE USER MILES BY SECTOR BY TRIP PURPOSE, THE MONTHLY TWO-WAY TRIPS WERE CONVERTED TO ONE-WAY TRIPS AND THE ONE-WAY TRIPS WERE MULTIPLIED BY THE AVERAGE ONE-WAY TRIP LENGTH FOR EACH PURPOSE (SEE TABLE I-2). THE RESULTANT MONTHLY USER MILES WERE DIVIDED BY 4.2857, THE NUMBER OF WEEKS IN A 30 DAY PERIOD, TO ESTIMATE THE AVERAGE WEEKLY ONE-WAY USER MILES FOR A WEEK IN APRIL - MAY.

IT WAS ASSUMED THAT MAJOR BIKEWAY FACILITIES OF THE TYPE DEFINED BY DESIGN STANDARDS OF THIS STUDY WOULD GENERATE BIKE TRIPS PREDOMINATELY WITHIN THE FOLLOWING TRIP PURPOSES:

1. TO WORK,

2. TO SCHOOL,

[1] '1970 CENSUS OF POPULATION AND HOUSING,' U.S. DEPARTMENT OF COMMERCE, MAY 1972.

TABLE I-3

BICYCLE DEMAND BY PURPOSE BY SECTOR
(SECTORS 1, 2, 3, 4, 5, AND 6)
TOTAL TWO-WAY MONTHLY BICYCLE TRIPS

TRIP PURPOSE	SECTOR 1	2	3	4	5	6
TO WORK	2,730	6,350	2,755	2,960	1,715	2,485
TO SCHOOL	6,305	16,855	6,155	7,195	3,880	5,490
TO CONDUCT PERSONAL BUSINESS	12,860	33,900	12,315	14,165	7,995	11,315
TO GO TO RECREATIONAL ACTIVITIES	27,825	76,490	26,715	30,440	17,065	24,710
TO VISIT FRIENDS	46,615	130,015	44,620	50,830	28,200	40,830
TO RIDE LONG DISTANCE	21,020	55,800	20,380	22,860	13,140	19,070
TO RIDE AROUND THE NEIGHBORHOOD	150,330	410,795	144,825	162,520	91,270	133,165
TOTAL	267,685	730,205	257,765	290,970	163,265	237,065

implies that 9.3% of persons ride daily

3. To go to recreational activities, and

4. To ride long distances.

The average weekly one-way user miles for each of these four trip purposes was multiplied by the appropriate factor to estimate the number of one-way user miles on an average week day and an average weekend day for each purpose. The 'state-of-the-art' of bikeway planning has not determined minimum number of bicyclists on a daily basis needed to justify a bikeway. A value of 200 daily bicyclists was utilized to justify a bikeway. This value is based upon bikeway warrants established by the Kentucky Department of Transportation and upon bicycle demand measured on some existing facilities. [1, 2] Both the average weekday and weekend day one-way user miles were divided by 200 users (bicyclists) to approximate the number of bikeway miles warranted on an average week day and on an average weekend day. As a result, it was estimated that 305 miles of bikeways would be warranted in sectors 1, 2, 3, 4, 5, and 6 on a week day and 885 miles on a weekend day. The miles of bikeway warranted on an average week day to accommodate demand appears to be a reasonable total mileage. This procedure, therefore, was retained for utilization in the development of the bikeway plan.

[1] 'Bikeway Survey', The Maryland-National Capital Park and Planning Commission, May, 1974.

[2] 'Bikeways - State of the Art - 1974', U.S. Department of Transportation, Federal Highway Administration, July, 1974, P. 82.

PHASE II TECHNICAL MEMORANDUM

- DESIGN STANDARDS
- POTENTIAL BIKEWAY FACILITIES
- GOALS OBJECTIVES & POLICIES
- LONG-RANGE BIKEWAY ALTERNATIVES
- CRITERIA FOR THE SELECTION OF ALTERNATIVES
- LONG-RANGE PLAN
- LONG-RANGE PHASING

LOUISVILLE BIKEWAY STUDY

CFP TRANSPORTATION ENGINEERS AND PLANNERS

REYNOLDS, SMITH AND HILLS
ARCHITECTS-ENGINEERS-PLANNERS, INCORPORATED

DESIGN STANDARDS

THE KENTUCKY DEPARTMENT OF TRANSPORTATION OFFICE OF TRANSPORTATION PLANNING, DIVISION OF URBAN AND REGIONAL PLANNING, HAS PREPARED 'GUIDELINES FOR THE DEVELOPMENT OF BIKEWAYS' FOR KENTUCKY. A COPY OF THESE GUIDELINES THAT WERE APPROVED IN JULY 1975 ARE CONTAINED IN THE APPENDIX. IT SHOULD BE NOTED THAT THESE GUIDELINES ARE TO BE USED IN THE DESIGN CONSIDERATIONS OF BIKEWAYS AND IN JUDGING THE ACCEPTABILITY OF DESIGNS SUBMITTED BY LOCAL ORGANIZATIONS AND AGENCIES FOR PROJECTS INVOLVING STATE AND FEDERAL PARTICIPATION. FOR THE MOST PART THE CRITERIA REFLECTS TWO ASPECTS OF DESIGN:

- ABSOLUTE MINIMUM DESIGN STANDARDS WHICH WILL ALLOW FOR ADEQUATE FUNCTIONING OF THE FACILITY.

- OPTIMUM DESIGN STANDARDS WHICH HAVE BEEN PROVEN TO PROVIDE THE MOST EFFICIENT BIKEWAYS.

ANY STANDARD BETWEEN THE TWO IS ACCEPTABLE, BUT SOUND ENGINEERING JUDGMENT IS NECESSARY IN ORDER TO DETERMINE WHETHER THE MINIMUM OR THE OPTIMUM GUIDELINES SHOULD BE USED. SUCH JUDGMENT SHOULD BE BASED ON ANTICIPATED USE, COST, FEASIBILITY OF CONSTRUCTION, AND ADAPTABILITY TO THE SITE. DESIGN CRITERIA BELOW THE MINIMUM MAY BE USED IN HIGHLY UNUSUAL CIRCUMSTANCES IF ADEQUATELY JUSTIFIED AND APPROVED BY THE STATE HIGHWAY ENGINEER AND THE FEDERAL HIGHWAY ADMINISTRATION (IF THERE IS FEDERAL PARTICIPATION IN THE PROJECT).

A REVIEW OF THESE GUIDELINES INDICATES THAT THEY ARE GOOD STANDARDS FOR THE DESIGN AND LOCATION OF BIKEWAYS IN THE LOUISVILLE AREA. HOWEVER, THE FOLLOWING SUGGESTIONS ARE PROPOSED AS ADDITIONS TO THE DESIGN STANDARDS.

SIDEWALK TREATMENT: IF A SIDEWALK IS TO BE USED AS A BIKEWAY FACILITY, THE WIDTH STANDARDS SHALL BE THE SAME AS THOSE STANDARDS USED TO DETERMINE BIKEWAY WIDTH. IF THE SIDEWALK DOES NOT MEET THE WIDTH CRITERIA, WIDENING SHOULD BE CONSIDERED.

IN ORDER TO MAINTAIN A HIGH QUALITY BIKEWAY SYSTEM, CERTAIN OTHER CONDITIONS SHOULD BE MET. THEY ARE: 1) THE EDGE OF THE SIDEWALK CLOSEST TO THE ROADWAY SHOULD BE WITHIN 5 FEET OF THE ROADWAY; 2) THE SIDEWALK SHOULD BE FREE OF ANY OBSTRUCTIONS SUCH AS MAILBOXES; 3) DRIVEWAY CROSSINGS SHOULD BE A MINIMUM OF 100 FEET APART TO REDUCE 'ROLLER-COASTER' EFFECT; 4) WITHIN 15 FEET OF DRIVEWAY OR STREET CROSSINGS, OBSTRUCTIONS WHICH MAY IMPAIR THE BICYCLIST'S SIGHT DISTANCE SHALL BE NO CLOSER THAN 10 FEET TO THE SIDEWALK PAVEMENT; AND 5) THE DISTANCE BETWEEN STREET CROSSINGS OF 100 FEET WITH 200 FEET THE DESIRABLE MINIMUM.

STREET CONDITION: LOCAL STREET CONDITIONS PLAY AN IMPORTANT ROLE IN THE SELECTION OF BIKEWAYS BECAUSE LOCAL STREETS COMPRISE THE BULK OF DESIGNATED ON-STREET BIKEWAYS. THE MAJOR CONSIDERATIONS IN THE SELECTION OF LOCAL STREETS ARE: LOW AUTOMOBILE VOLUME, LOW AUTOMOBILE SPEED, ADEQUATE STREET WIDTH, STREET CONTINUITY, AND INLET GRATES AND SURFACE CHARACTERISTICS (CONDITIONS) OF THE STREET.

WHERE POSSIBLE, STREETS WITHOUT CURB SIDE PARKING SHOULD BE USED AS BIKEWAY FACILITIES. THE FOLLOWING GUIDELINES ARE RECOMMENDED FOR MINIMUM STREET PAVEMENT WIDTH WHERE BIKEWAYS ARE PROVIDED ON STREETS.

WHERE NO PARKING IS PERMITTED ON EITHER SIDE OF A STREET PROVIDING TWO LANES OF MOVING TRAFFIC, THE MINIMUM DESIRABLE WIDTH OF THE PAVEMENT (EXCLUDING THE GUTTER) SHOULD BE 24 FEET. HOWEVER, IN VERY LOW TRAFFIC VOLUME SITUATIONS, AN ABSOLUTE MINIMUM OF 20 FEET MAY BE USED. IF PARKING IS PROVIDED, AN ADDITIONAL 10 FEET OF PAVEMENT (EXCLUDING THE GUTTER) PER PARKING LANE SHOULD BE PROVIDED WITH 8 FEET THE ABSOLUTE MINIMUM. IN GENERAL, A MINIMUM OF 12 FEET OF PAVEMENT FOR EACH MOVING LANE PLUS 10 FEET FOR EACH PARKING LANE, EXCLUSIVE OF GUTTERS, IS DESIRABLE TO HANDLE A SHARED BIKEWAY FACILITY.

A SIGNIFICANT HAZARD TO CYCLIST TRAVELING ADJACENT TO THE CURB, ON A SHARED BIKEWAY FACILITY, IS THE PRESENCE OF INLET GRATES WHICH ARE PARALLEL TO THE CURB OR RECESSED BELOW GRADE. THESE GRATES ARE OF PARTICULAR HAZARD TO THE POPULAR, NARROW TREAD, 10-SPEED BICYCLES. IT IS RECOMMENDED THAT THE GRATES WHICH ARE PARALLEL TO THE CURB, OR BELOW GRADE, BE REPLACED OR MODIFIED TO ELIMINATE THIS HAZARD.

CURBS: ANY CURB THAT CROSSES A BIKEWAY SHALL BE RAMPED BY 'CURB CUT' METHOD. RAMPING BY ASPHALT OR CONCRETE FROM STREET LEVEL IS NOT ACCEPTABLE BECAUSE DRAINAGE FLOW IS DISRUPTED AND IT MAY PRESENT A HAZARD TO TURNING AUTOMOBILES.

THE ADOPTED DESIGN PRINCIPLES AND STANDARDS REQUIRE BICYCLE RAMPS WHERE SIDEWALKS ARE UTILIZED. SLOPES WOULD RANGE FROM 12:1 IN THE CASE OF A JOINT USE BY PEDESTRIANS, WHEELCHAIRS AND BICYCLES, TO 2:1 IN CASES WHERE STEEPER SLOPES MAY BE NECESSARY TO ENCOURAGE BICYCLISTS TO SLOW SUBSTANTIALLY PRIOR TO ENTERING THE STREET OR THE SIDEWALK.

SIGNS AND STANDARDS:

THE SIGN DETAILS, MARKINGS AND CURB CUT STANDARD SHOULD BE IN ACCORD WITH THE KENTUCKY DEPARTMENT OF TRANSPORTATION'S MANUAL

ON UNIFORM TRAFFIC CONTROL DEVICES, IF APPLICABLE. BECAUSE ALL CONDITIONS ARE NOT COVERED IN THIS MANUAL, ADDITIONAL SIGNING MAY BE NEEDED WHICH IS NOT 'OFFICIAL', SEE APPENDIX TABLE A-4. SIGNS SHOULD BE INSTALLED ACCORDING TO COUNTY, CITY OR STATE REQUIREMENTS AS FOLLOWS:

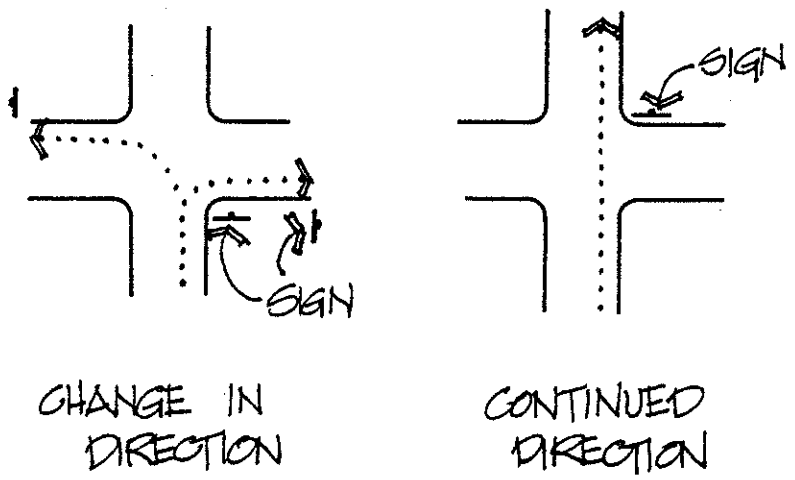
A. SIGNS SHALL BE MOUNTED ON EXISTING TRAFFIC SIGN POSTS OR UTILITY POLES WHERE POSSIBLE. IF NOT POSSIBLE THEN STANDARD U-CHANNEL POSTS SHALL BE USED.

B. SIGNS ERECTED IN RURAL DISTRICTS SHALL BE MOUNTED AT A HEIGHT OF AT LEAST FIVE FEET. IN BUSINESS, COMMERCIAL AND RESIDENTIAL DISTRICTS, THE CLEARANCE TO THE BOTTOM OF THE SIGN SHOULD BE AT LEAST SEVEN FEET. THE HEIGHT OF THE BOTTOM OF A SECONDARY SIGN MOUNTED BELOW ANOTHER SIGN MAY BE ONE FOOT LESS THAN THE APPROPRIATE HEIGHT SPECIFIED ABOVE.

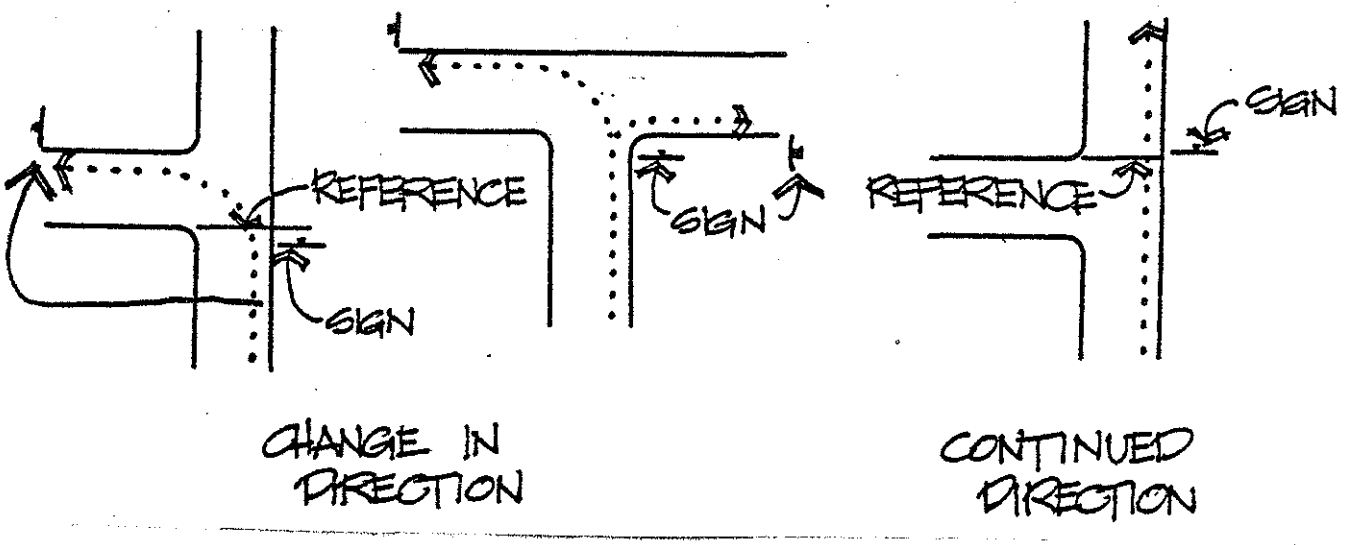
C. SIGNS SHOULD HAVE THE MAXIMUM PRACTICAL LATERAL CLEARANCE FROM THE EDGE OF THE TRAVELED WAY FOR THE SAFETY OF MOTORISTS WHO MAY LEAVE THE ROADWAY AND STRIKE THE SIGN SUPPORTS. ADVANTAGE SHOULD BE TAKEN OF EXISTING GUARDRAIL AND OTHER CONDITIONS TO MINIMIZE THE EXPOSURE OF SIGN SUPPORTS TO TRAFFIC.

   NORMALLY, SIGNS SHOULD NOT BE CLOSER THAN SIX FEET FROM THE EDGE OF THE SHOULDER, OR IF NONE, TWELVE FEET FROM THE EDGE OF THE TRAVELED WAY. IN URBAN AREAS, A LESSER CLEARANCE MAY BE USED WHERE NECESSARY. A CLEARANCE OF ONE FOOT FROM THE CURB FACE IS PERMISSIBLE WHERE SIDEWALK WIDTH IS LIMITED OR EXISTING POLES ARE CLOSE TO THE CURB.

D. AT FOUR-WAY INTERSECTIONS, SIGNS WHICH INDICATE CHANGE IN DIRECTION SHALL BE LOCATED ON THE RIGHT SIDE AND ON THE CORNER NEAREST TO THE ONCOMING APPROACH. SIGNS WHICH INDICATE CONTINUED DIRECTION STRAIGHT AHEAD SHOULD BE LOCATED ON THE RIGHT SIDE AND ON THE CORNER FARTHEST FROM THE ONCOMING APPROACH.



AT 3-WAY INTERSECTIONS SIGNS SHOULD BE LOCATED AS DESCRIBED ABOVE BUT USING THE STREET CORNERS ON THE OPPOSITE SIDE OF THE ROAD AS REFERENCE WHERE NECESSARY.



E. THERE SHOULD BE 10 BIKE ROUTE SIGNS PER MILE PLUS ONE AT EVERY CHANGE IN DIRECTION.

GRATES: THE PRESENCE OF DRAINAGE GRATES ALSO REPRESENTA A VERY SIGNIFICANT SAFETY HAZARD TO BICYCLISTS. IN MANY CASES, THE EXISTING CONFIGURATION OF SUCH GRATES ALLOWS THE WHEEL OF A LIGHTWEIGHT BICYCLE TO BECOME ENTRAPPED RESULTING IN SEVERE FALLS AND POSSIBLE INJURY. THERE ARE SEVERAL GRATE DESIGNS WHICH COULD ACCOMMODATE THE BICYCLE; HOWEVER, THE KENTUCKY DEPARTMENT OF TRANSPORTATION STANDARD GRATE SPECIFICATION IS ACCEPTABLE. RAISED OR DEPRESSED GRATES ALONG BIKEWAYS SHOULD BE REMOUNTED FLUSH WITH THE ADJACENT PAVEMENT AND PERIODIC MAINTENANCE SHOULD BE PROVIDED TO PREVENT THE ACCUMULATION OF DEBRIS.

BIKEWAY VERSUS TRAFFIC: IN TRYING TO RELATE THE TYPE OF BIKEWAY TO BE USED TO THE ANTICIPATED ROADWAY TRAFFIC, DEFINITIVE CRITERIA ARE NOT AVAILABLE. THIS IS PARTIALLY DUE TO VARIATIONS IN LOCAL TRAFFIC CONDITIONS, AVAILABLE RIGHT-OF-WAY AND ROADWAYS, AND CHANGING TRAFFIC PATTERNS.

THE FOLLOWING CRITERIA, HOWEVER, ARE OFFERED AS REASONABLE CONDITIONS IN WHICH VARIOUS BIKEWAY CLASSES SHOULD OCCUR RELATIVE TO ROADWAY TRAFFIC CONDITIONS:

CLASS III - SHARED ROADWAYS (A ROADWAY WHICH IS OFFICIALLY DESIGNATED AND MARKED AS A BICYCLE ROUTE, BUT WHICH IS OPEN TO MOTOR VEHICULAR AND PEDESTRIAN TRAVEL AND UPON WHICH NO BICYCLE LANE IS DESIGNATED.)

. ROADWAY TRAFFIC SPEED NOT IN EXCESS OF 25-30 MPH.

- Average Daily Traffic (ADT) volume up to 2,000 vehicles/day in the lane shared by the bicyclist where roadway traffic speed is 25 MPH or less and where the width of the shared lane is 12 feet or more.

- Average Daily Traffic (ADT) volume up to 1,000 vehicles/day in the lane shared by the bicyclist where roadway traffic speed is 25-30 MPH and where the width of the shared lane is 10 feet or more.

- Sidewalk which is shared by pedestrians.

CLASS II - BICYCLE LANES (A PORTION OF A ROADWAY WHICH HAS BEEN DESIGNATED FOR PREFERENTIAL OR EXCLUSIVE USE BY BICYCLES. IT IS DISTINGUISHED FROM THE PORTION OF THE ROADWAY FOR MOTOR VEHICULAR TRAFFIC BY A PAINT STRIPE OR SIMILAR DEVICE.)

- Roadway traffic speed between 30-35 MPH.

- Average Daily Traffic (ADT) volumes 2,000 to 4,000 vehicles/day in the lane adjacent to the bikeway.

CLASS II- PROTECTED BICYCLE LANES (A PORTION OF A ROADWAY WHICH HAS BEEN DESIGNATED FOR PREFERENTIAL OR EXCLUSIVE USE BY BICYCLES. IT IS SEPARATED FROM THE PORTION OF THE ROADWAY FOR MOTOR VEHICULAR TRAFFIC BY A CURB OR SIMILAR PROTECTIVE DEVICE.)

- Road traffic speed between 35-45 MPH.

- Average Daily Traffic (ADT) volumes up to 6,000 vehicles/day in the lane adjacent to the bikeway.

CLASS I - BICYCLE TRAILS (ADJACENT TO ROADWAY) (A SEPARATE TRAIL OR PATH WHICH IS FOR THE EXCLUSIVE USE OF BICYCLES AND/OR PEDESTRIANS. WHERE SUCH A TRAIL OR PATH FORMS A PART OF A HIGHWAY IT IS SEPARATED FROM THE MOTOR VEHICLE ROADWAY BY AN OPEN SPACE OR BARRIER.

- Roadway traffic speed in excess of 45 MPH.

- Average Daily Traffic (ADT) volumes in excess of 6,000 vehicles/day in the lane adjacent to the bikeway.

Class II and Class III Bikeways generally provide travelways on each side of the roadway in the same direction as the moving lane of traffic. Class I bikeways, because of the added expense of new right-of-way and construction, generally provide a two-way bikeway on one side of the roadway or right-of-way.

In cases where major arterials or collectors must be used to provide continuity to the system, maximum possible safety should be afforded the rider with Class II protected lanes being the minimum acceptable facility.

THE CLASS II - PROTECTED BIKEWAYS WILL REQUIRE A BARRIER BETWEEN THE VEHICULAR AND BICYLCE TRAFFIC IN ACCORD WITH THE ADOPTED DESIGN PRINCIPLES AND STANDARDS FOR HIGH TRAFFIC VOLUMES AND HIGH SPEED ROADWAYS. THE BARRIER WILL RESULT IN A GREATER INCREASE IN SAFETY, PSYCHOLOGICAL COMFORT AND SUBSEQUENT UTILIZATION. A SELECTED STANDARD SHOULD BE ADOPTED BY THE BIKEWAY PLANNING COMMITTEE FOR USE IN THE LOUISVILLE AREA.

BIKEWAY LIGHTING: ILLUMINATION OF BICYCLE FACILITIES IS NECESSARY FOR MAINTAINING MINIMUM LEVELS OF VISIBILITY, SECURITY AND SAFETY. LITTLE DATA PRESENTLY EXIST ON THE APPROPRIATE OR MINIMUM LEVELS OF ILLUMINATION REQUIRED FOR BICYCLE FACILITIES. THE FOLLOWING ARE SUGGESTED GUIDELINES FOR THE USE OF LIGHTING AND THE LEVELS OF LIGHTING NECESSARY FOR MAINTAINING A SAFE CYCLING SITUATION:

- AREAS OF HIGH NIGHTTIME USE AND UNUSUAL PHYSICAL CHARACTERISTICS.
- AT STREET INTERSECTIONS WITH BIKEWAYS, THE LEVEL OF ILLUMINATION SHOULD APPROXIMATE THE SUM OF THE AVERAGE LEVELS OF ILLUMINATION ON THE TWO INTERSECTING FACILITIES.
- BIKE PATHS LOCATED IN ISOLATED, WOODY AREAS SHOULD RECEIVE ADDITIONAL ILLUMINATION AS SHOULD TUNNELS AND UNDERPASSES.
- SPECIAL LIGHTING SHOULD HIGHLIGHT POTENTIAL HAZARDS SUCH AS DRAINAGE GRATES OR OBSTRUCTIONS NEAR THE PATH. APPROXIMATELY 0.9 FOOTCANDLES SHOULD BE PROVIDED ON OFF-STREET AS WELL AS ON-STREET BIKEWAYS TO MAINTAIN ADEQUATE VISIBILITY, SAFETY, AND SECURITY.
- TRANSITIONAL LIGHTING FROM AREAS OF ADEQUATE LIGHTING TO AREAS OF NO LIGHTING, AND VICE VERSA, SHOULD BE PROVIDED FOR A DISTANCE OF 300 FEET.

BICYCLE STORAGE FACILITIES: LOCAL ZONING AND SUBDIVISION REGULATIONS SHOULD BE AMENDED TO INCLUDE PROVISIONS FOR ADEQUATE BICYCLE PARKING AND STORAGE FACILITIES. THE REVISED ORDINANCES SHOULD INCLUDE: A)PROVISION FOR NUMBER OF BICYCLE PARKING SPACES BASED ON A PARTICULAR LAND USE; B) AN ACCEPTABLE DESIGN STANDARD

FOR BICYCLE PARKING FACILITIES; AND C) THE LOCATION CRITERIA FOR BICYCLE PARKING SPACES. THE FOLLOWING GUIDELINES ARE SUGGESTED FOR INCORPORATION INTO THE DESIGN STANDARDS:

NUMBER OF SPACES REQUIRED - SINCE VERY LITTLE ANALYSIS TO DATE HAS BEEN DONE ON ESTABLISHING ADEQUATE NUMBER OF SPACES REQUIRED, THE NUMBERS SUGGESTED ARE MINIMUM GUIDES BASED ON TELEPHONE SURVEYS OF EXISTING BICYCLE USE IN TENNESSEE CONDUCTED BY BARTON-ASCHMAN ASSOCIATES, INC. MORE ANALYSIS OF USER TRENDS AND POSSIBLE REVISION OF THESE SUGGESTED STANDARDS SHOULD BE MADE AS BICYCLE USE INCREASES.

TABLE II-1

LAND USE	UNIT OF MEASUREMENT	MINIMUM STANDARD
MULTI-FAMILY APARTMENT	RESIDENTS	1 SPACE/25 RESIDENTS
OFFICE (LOW VISITATION)	EMPLOYEE	1 SPACE/100 EMPLOYEES
ELEMENTARY & SECONDARD SCHOOLS	PUPIL	3 SPACES/100 PUPILS
COMMERCIAL & SERVICE BUILDINGS	SQUARE FEET	1 SPACE/500 GROSS SQUARE FEET.

DESIGN - MANY MANUFACTURERS AND DESIGNS OF BICYCLE LOCKING DEVICES EXIST ON THE MARKET TODAY WITH VARYING PRICES AND DEGREE OF SECURITY. THE FOLLOWING IS OFFERED AS A PERFORMANCE GUIDE FOR AN ACCEPTABLE LOCKING DEVICE. THE BICYCLE PARKING/STORAGE FACILITY: A) SHALL BE BOLTED FIRMLY TO A PERMANENT STRUCTURE OR ANCHORED PERMANENTLY TO THE GROUND; AND B) SHALL PERMIT THE FRAME AND BOTH WHEELS OF THE BICYCLE TO BE SECURELY LOCKED. BICYCLE LOCKERS, WHICH PROVIDE FULL ENCLOSURE OF THE BICYCLE, SHOULD BE USED FOR TOTAL SECURITY FOR THE BICYCLE, COMPONENTS AND ACCESSORIES WHERE THE BICYCLE IS PARKED FOR AN EXTENDED PERIOD OF TIME. SUGGESTED LOCATIONS ARE APARTMENT COMPLEXES, SCHOOLS, PARKS, PLACES OF EMPLOYMENT, TRANSIT STOPS AND CERTAIN BUSINESS ESTABLISHMENTS, SUCH AS THEATERS. BICYCLE RACKS WHICH DO NOT PROVIDE ACCESSORY AND COMPONENT SECURITY OR WEATHER PROTECTION ARE ACCEPTABLE FOR SHORT TERM PARKING, PROVIDED THE RACKS ARE PLACED CLOSE TO ENTRANCES AND WITHIN VIEW OF PERSONS WITHIN THE ESTABLISHMENT.

LOCATION: BICYCLE PARKING AND STORAGE FACILITIES SHOULD BE LOCATED AS CLOSE TO THE STRUCTURE THEY ARE TO SERVE AS POSSIBLE. THESE FACILITIES SHOULD ALSO BE READILY ACCESSIBLE TO THE STREET SYSTEM AND BIKEWAY APPROACH. BICYCLE PARKING FACILITIES IN AUTOMOBILE PARKING GARAGES SHOULD BE AT GROUND LEVEL AND VISIBLE TO THE PARKING GARAGE ATTENDANT.

INTERSECTION SIGNALIZATION: LITTLE OR NO DATA EXISTS FOR DETERMINING AT WHAT VOLUME BICYCLE TRAFFIC CROSSING A ROAD INTERSECTION WARRANTS THE NEED FOR SPECIAL SIGNALIZATION. THE FOLLOWING GUIDELINES SHOULD BE CONSIDERED IN LOCATING BIKEWAY ROUTES AND THEIR RELATION TO SPECIAL SIGNALIZATION AT INTERSECTIONS:

BIKEWAYS THAT CROSS HEAVILY TRAVELED, MAJOR STREETS AND HIGHWAYS AT GRADE, SHOULD DO SO AT SIGNALIZED INTERSECTIONS.

BIKEWAYS WHICH EXPERIENCE HEAVY BIKE USE OR THE POTENTIAL FOR HEAVY USE SHOULD BE SIGNED TO INDICATE TO THE RIDER THE USE OF A SIGNALIZED INTERSECTION.

SINCE THE GREATEST HAZARD TO BICYCLING OCCURS AT INTERSECTIONS, SPECIAL CONSIDERATION SHOULD BE GIVEN TO ESTIMATING BICYCLE TRAFFIC AT SELECTED INTERSECTIONS TO JUSTIFY THE INSTALLATIONS OF SIGNALIZATION TECHNIQUES AT PROBLEM AREAS.

SOME SIGNALIZATION TECHNIQUES WHICH MIGHT BE EMPLOYED FOR BICYCLE AS WELL AS PEDESTRIAN TRAFFIC ARE:

THE INTRODUCTION OF AN ALL RED PHASE IN THE TRAFFIC SIGNAL TO CLEAR THE INTERSECTION OF SLOWER OPERATING BICYCLISTS.

THE INTRODUCTION OF SPECIAL 'LEAD' PHASES FOR BICYCLE MOVEMENTS THROUGH THE INTERSECTION.

THE USE OF PEDESTRIAN SIGNAL ACTUATORS FOR LOW VOLUME STREETS AND BIKEWAYS CROSSING HEAVILY USED ARTERIALS AND HIGHWAYS.

POTENTIAL BICYCLE FACILITIES

THE FOLLOWING IS A DISCUSSION OF POTENTIAL OPPORTUNITIES FOR THE LOCATION OF BICYCLE FACILITIES IN THE LOUISVILLE-JEFFERSON COUNTY AREA.

BICYCLE FACILITIES MAY BE DIVIDED INTO TWO BASIC GROUPS: BIKEWAY CORRIDORS AND STORAGE FACILITIES.

BIKEWAY CORRIDORS

BIKEWAY CORRIDORS ARE GENERALLY MADE UP OF TWO GROUPS: LINEAR SYSTEMS AND INTERNAL SYSTEMS. LINEAR SYSTEMS CONSIST OF THE FOLLOWING TYPES:

WATER COURSES: CANAL BANKS, STREAM AND RIVER BANKS, TOWPATHS, AND FLOOD PLAINS PROVIDE EXCELLENT OPPORTUNITIES FOR BIKEWAY AND PATH DEVELOPMENT. WATERWAYS, AGAIN, ARE CONTINUOUS AND OFTEN TIMES WIND THROUGH URBAN AREAS PROVIDING GOOD RECREATIONAL OPPORTUNITIES. THE NATURAL SETTING OF WATER COURSES PERMITS THE DEVELOPMENT OF SCENIC ROUTES WITH MINIMAL EFFORT. GRADES ALONG WATER COURSES ARE ALMOST ALWAYS SUITABLE FOR BIKEWAY DEVELOPMENT.

SEVERAL STREAMS AND FLOOD CONTROL CANALS THROUGHOUT THE LOUISVILLE AREA OFFER EXCELLENT OPPORTUNITIES FOR CLASS I RECREATIONAL AND UTILITARIAN BIKEWAY ROUTES. BEARGRASS CREEK FROM EVA BANDMAN PARK TO BRECKENRIDGE LANE, AS WELL AS PORTIONS OF SOUTH FORK BEARGRASS CREEK THROUGH CALVARY CEMETERY TO LOUISVILLE ZOOLOGICAL GARDENS, OFFER OPPORTUNITIES FOR CLASS I ROUTES THROUGH URBAN PORTIONS OF THE COMMUNITY.

IN THE SOUTHERN PORTION OF THE COUNTY THE NORTHERN DITCH, SOUTHERN DITCH, SLOP DITCH, AND FISHPOOL CREEK ARE EXCELLENT WATER COURSES SUITABLE FOR BIKE ROUTE DEVELOPMENT. THE WATER COURSES WERE CONSTRUCTED MANY YEARS AGO FOR FLOOD CONTROL PURPOSES. THEIR RIGHTS-OF-WAY ARE SUFFICIENT TO MAINTAIN FROM 12 TO 20 FEET OF FLAT SURFACE AT THE TOP OF THE DITCH. IN ALMOST ALL CASES THESE LANDS ARE RESTRICTED AND FENCED FROM ADJOINING PROPERTY OWNERS. THUS, THEY ARE FREE FROM OBSTRUCTIONS TO PEDESTRIANS AND CYCLISTS.

CONSTRUCTION OF A BIKEWAY IN THIS SITUATION WOULD INVOLVE MINIMAL GRADING, APPLICATION OF A BITUMINOUS SURFACE, A LOW GUARDRAIL TYPE FENCE ADJACENT TO THE DITCH SIDE, AND LANDSCAPING.

STREETS AND TRANSIT CORRIDORS: THE MOST OBVIOUS AND EASILY DEVELOPED BIKEWAY CORRIDORS ARE THOSE ALONG OR WITHIN EXISTING STREET RIGHTS-OF-WAY. THE JOINT USE OF THESE RIGHTS-OF-WAY IS IMPORTANT IN THAT THEY ARE ALREADY EXISTING, ARE GENERALLY CONTINUOUS, CONNECT ALL MAJOR PUBLIC FACILITIES, AND NEARLY ALWAYS REFLECT A PARTICULAR LEVEL OF TRAVEL DEMAND IN THE AREA.

ALTHOUGH COMPLETELY SEPARATE BIKEWAY RIGHTS-OF-WAY ARE THE SAFEST AND MOST AESTHETICALLY PLEASING, THEY ARE ALSO MORE EXPENSIVE. SHARED RIGHTS-OF-WAY CAN BE MADE RELATIVELY SAFE, CAN OFFER INTERESTING VIEWS, CAN BE EXTREMELY UTILITARIAN, AND CAN BE DEVELOPED AT CONSIDERABLE SAVINGS TO THE PUBLIC AT THE INITIAL ROAD BUILDING STAGE.

THE UTILIZATION OF RIGHTS-OF-WAY OF PROPOSED STREET AND HIGHWAY PROJECTS IN THE LOUISVILLE-JEFFERSON COUNTY AREA OFFERS A GREAT OPPORTUNITY FOR DEVELOPING SHARED BIKEWAY FACILITIES WITH OTHER TRANSPORTATION MODES.

FIGURE II-1 DEPECTS PROPOSED ARTERIAL AND COLLECTOR STREET IMPROVEMENTS IN THE LOUISVILLE AREA AS WELL AS EXISTING AND PROPOSED TRANSIT AUTHORITY OF RIVER CITY (TARC) PARK N' RIDE LOCATIONS. THE PARK N' RIDE LOCATIONS ARE PRIME SITES FOR BICYCLE STORAGE FACILITIES.

UTILITY EASEMENTS: UTILITY COMPANY EASEMENTS ARE SIMILAR TO RAILROAD RIGHTS-OF-WAY IN THAT THEY ARE USUALLY LONG AND CONTINUOUS AND WILL OFFER THE RIDER AN OPPORTUNITY FOR A DAY-LONG RIDE INTERCONNECTING MANY DIFFERENT PARTS OF THE COMMUNITY. (FIGURE II-2) HOWEVER, THE DISADVANTAGES ARE THAT THEY ARE ONLY EASEMENTS OVER PRIVATE PROPERTY AND MIXED OWNERSHIP PROBLEMS MAY DETER DEVELOPMENT. BECAUSE OF THE MIXED USE, THE TRAIL MAY BE RESTRICTED BY THE EXISTING DEVELOPMENT ABUTTING THE EASEMENT AND FENCES CROSSING THE EASEMENT. UTILITY EASEMENTS SHOULD NOT BE OVERLOOKED, THOUGH, AS POSSIBLE BIKEWAY TRAILS, ESPECIALLY IN RURAL AREAS OR WHERE COMMON OWNERSHIP AND USE EXISTS ON EITHER SIDE OF THE EASEMENT.

THE LOUISVILLE GAS AND ELECTRIC COMPANY IS THE AGENCY RESPONSIBLE FOR DEVELOPING AND MAINTAINING THESE RIGHTS-OF-WAY IN THE LOUISVILLE-JEFFERSON COUNTY AREA. CLOSE CONTACT SHOULD BE MAINTAINED WITH THIS AGENCY FOR SUPPORT IN DEVELOPING FUTURE BIKEWAY FACILITIES IN OUTLYING AREAS OF THE COMMUNITY AS THE NEED AND DEMAND MAY ARISE.

ABANDONED RAILROAD RIGHTS-OF-WAY: SINCE 1916, NEARLY 50,000 MILES OF RAILROAD TRACK HAVE BEEN ABANDONED OR FALLEN INTO DISUSE IN THE UNITED STATES. IN 1974, THE INTERSTATE COMMERCE COMMISSION HAD 340 ABANDONMENT

Jefferson County Bikeway Plan

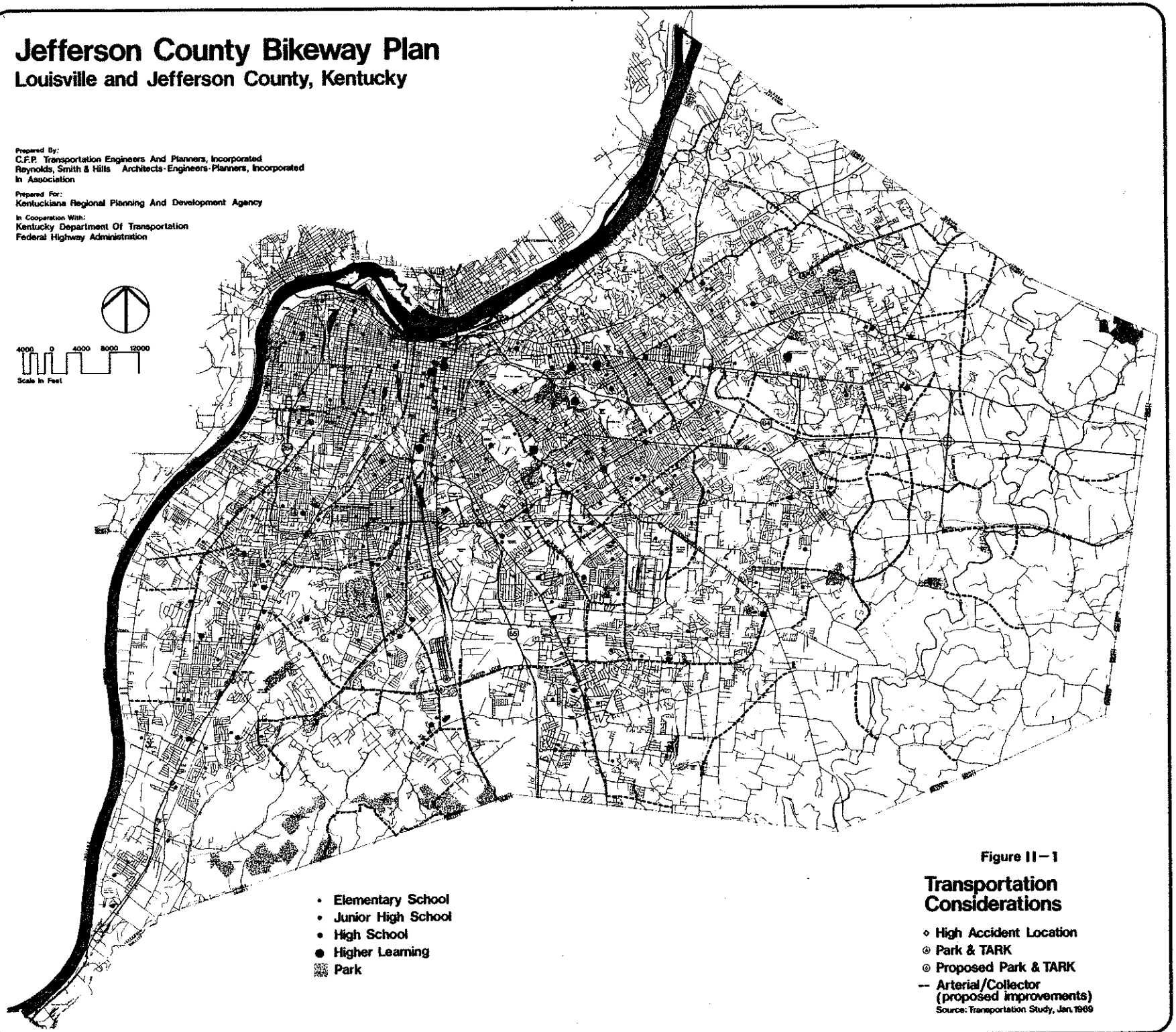
Louisville and Jefferson County, Kentucky

Prepared By:
C.F.P. Transportation Engineers And Planners, Incorporated
Reynolds, Smith & Hills Architects-Engineers-Planners, Incorporated
In Association

Prepared For:
Kentuckiana Regional Planning And Development Agency

In Cooperation With:
Kentucky Department Of Transportation
Federal Highway Administration

4000 0 4000 8000 12000
Scale In Feet



- Elementary School
- Junior High School
- High School
- Higher Learning
- Park

Figure II-1

Transportation Considerations

- High Accident Location
- Park & TARK
- Proposed Park & TARK
- Arterial/Collector (proposed improvements)

Source: Transportation Study, Jan. 1969

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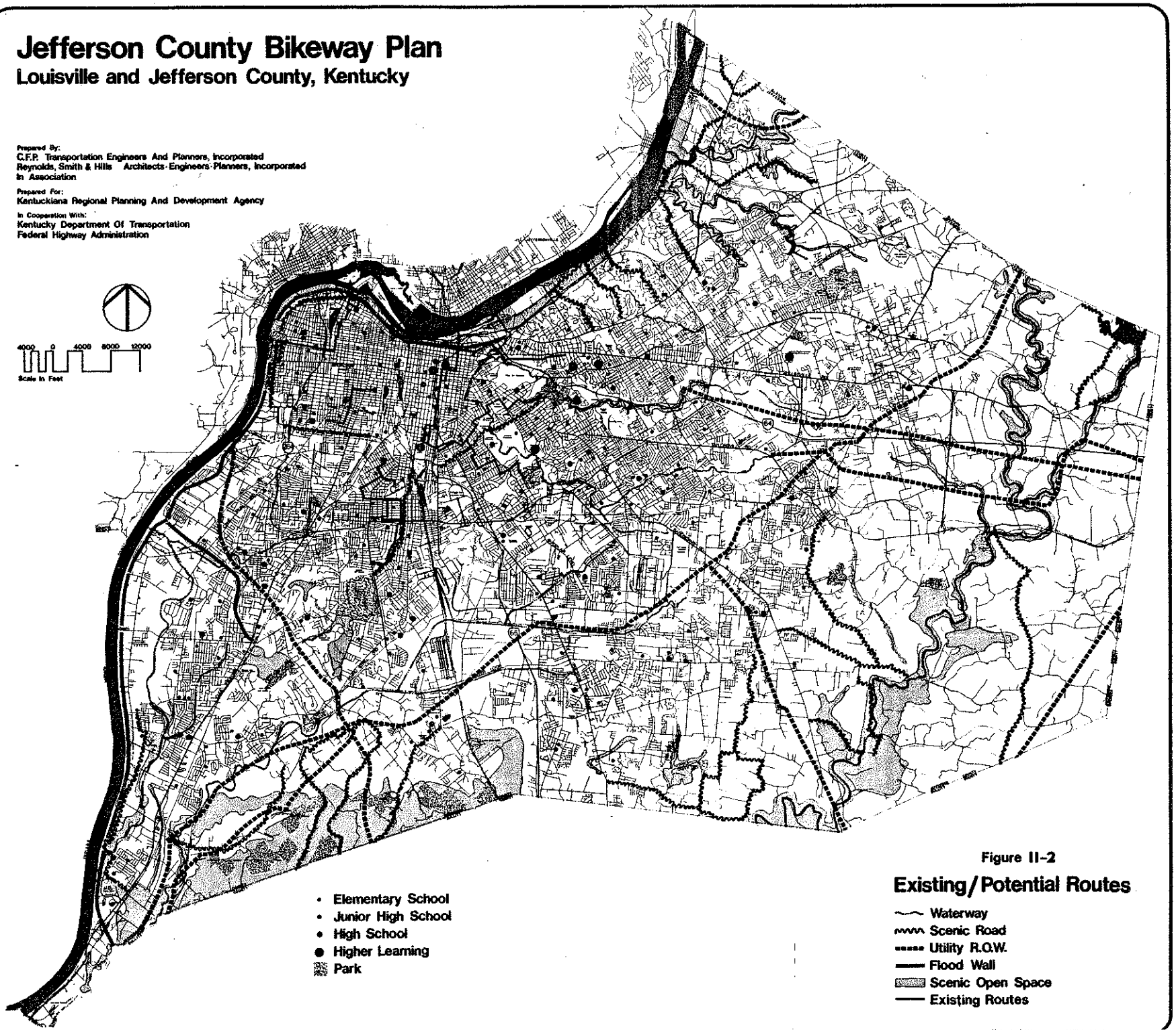

Figure II-2

Existing/Potential Routes

REQUESTS INVOLVING 7,000 MILES OF TRACK. THE UNUSED RIGHTS-OF-WAY OFTEN BECOME A PROBLEM BECAUSE OF THEIR LOCATION, NARROWNESS, AND LACK OF AESTHETIC APPEAL. HOWEVER, THESE LANDS PRESENT A GREAT OPPORTUNITY FOR THE DEVELOPMENT OF BIKEWAYS. THE MAJOR ADVANTAGE OF RAILROAD RIGHTS-OF-WAY IS THAT THEY ARE LONG, CONTINUOUS AND UNOBSTRUCTED STRIPS OF LAND WITH MINIMAL GRADES.

AN INVESTIGATION OF RAILROAD RIGHTS-OF-WAY IN THE LOUISVILLE AREA INDICATED THAT THERE ARE NO ABANDONED SEGMENTS OF RIGHT-OF-WAY SUITABLE FOR BIKEWAY DEVELOPMENT. IN ADDITION, THERE WERE NO ACTIVE RAIL SEGMENTS WHICH COULD BE USED DUE TO THE LACK OF RIGHT-OF-WAY ON EITHER SIDE OF THE TRACK. HOWEVER, RAIL RIGHTS-OF-WAY SHOULD NOT BE OVERLOOKED AS POTENTIAL BIKE ROUTES IF AND WHEN THEY DO BECOME AVAILABLE.

SCENIC ROADS: IN THE OUTLYING AREAS OF THE COUNTY AND NEAR THE OHIO RIVER THERE ARE MANY SCENIC ROADWAYS WHICH ARE EXCELLENT AREAS FOR PLEASURABLE BICYCLING. A MAJOR DRAWBACK TO MANY OF THESE AREAS IS THE LACK OF SUFFICIENT ROADWAY AND RIGHT-OF-WAY WIDTH IN KEEPING WITH THE ESTABLISHED STANDARDS. THE VOLUMES, HOWEVER, ARE SO SIGNIFICANTLY LOW THAT MAJOR IMPROVEMENTS TO THE EXISTING ROADWAY WOULD NOT BE JUSTIFIED.

A SECOND TYPE OF BIKEWAY CORRIDOR IS THE INTERNAL SYSTEM. INTERNAL SYSTEM CORRIDORS CONSISTS OF THE FOLLOWING TYPES OF AREAS:

UNIVERSITIES AND COLLEGES: DUE TO THE LACK OF ADEQUATE AUTOMOBILE PARKING FACILITIES AND INCREASED TRAFFIC CONGESTION ON MANY CAMPUSES, MANY UNIVERSITIES HAVE CONSTRUCTED A SYSTEM OF BIKEWAYS TO ENCOURAGE STUDENTS TO BICYCLE TO AND FROM CLASSROOMS AND DORMITORIES. THE RECENT INCREASED DEMAND FOR ON-CAMPUS HOUSING HAS ALSO INCREASED THE RELEVANCE OF PROVIDING INTERNAL CAMPUS BIKEWAY ROUTES.

THE UNIVERSITY OF LOUISVILLE, SOUTHERN BAPTIST THEOLOGICAL SEMINARY, AND BELLARMINE COLLEGE ARE SIGNIFICANT CAMPUSES AND HAVE POTENTIALLY HIGH BICYCLE PATRONAGE TO WARRANT INVESTIGATION OF BIKE ROUTE EXTENSIONS AND ADEQUATE STORAGE FACILITIES FOR BIKES ON CAMPUS.

PARK AREAS: PUBLIC PARKS PROVIDE AN IDEAL PLACE FOR THE DEVELOPMENT OF A BIKEWAY AND TRAIL SYSTEMS. THE PRIMARY CONSIDERATIONS SHOULD BE SUITABLE TERRAIN AND ADEQUATE SITE SIZE TO PERMIT THE DEVELOPMENT OF A TRAIL OF REASONABLE LENGTH. THE TRAIL SERVES NOT ONLY AS A MEANS OF RECREATION BUT ALSO A MEANS OF CONNECTING VARIOUS PARK FACILITIES.

SHAWNEE, IROQUOIS, WAVERLY, SENECA, CHEROKEE, CHENOWETH, E. P. SAWYER AND THE LOUISVILLE ZOOLOGICAL GARDENS ARE SIGNIFICANT URBAN AND REGIONAL PARKS WORTHY OF INTERNAL BICYCLING FACILITIES. IN ADDITION THERE ARE MANY URBAN AND CITY PARKS WHICH SHOULD BE UTILIZED IN MAKING CONNECTIONS BETWEEN VARIOUS SEGMENTS OF THE BIKE ROUTES.

NEW COMMUNITIES: WITH A TREND TOWARD LARGE SCALE PLANNED UNIT DEVELOPMENTS (PUD) AS 'SELF CONTAINED' COMMUNITIES, THE OPPORTUNITY EXISTS FROM THE BEGINNING TO INCORPORATE BIKEWAY AND PEDESTRIAN SYSTEMS AS PART OF THE COMMUNITY. THESE SYSTEMS CAN SERVE AS A MEANS OF RECREATION AS WELL AS PURPOSEFUL TRIP CARRIERS TO SCHOOLS, SHOPPING CENTERS, AND EVEN EMPLOYMENT CENTERS. AN ADVANTAGE IS THAT MANY OF THE CONFLICTS BETWEEN BIKES AND AUTOMOBILES CAN BE ELIMINATED OR REDUCED BY EARLY PLANNING AND CONSTRUCTION. SUBDIVISION REGULATIONS SHOULD ENCOURAGE SUCH OPPORTUNITIES IN ALL NEW MAJOR SUBDIVISIONS AND PLANNED COMMUNITIES.

IN ORDER TO MAINTAIN CONTINUITY OF THE PROPOSED BIKEWAY SYSTEM AND TO INSURE INTERCONNECTION BETWEEN NEIGHBORHOODS, SEVERAL ROUTES HAVE BEEN SUGGESTED FOR ROUTING THROUGH MAJOR INTERNAL SYSTEM AREAS. THE FOLLOWING IS A LIST OF THE MAJOR INTERNAL SYSTEMS AND THE CONNECTING ROADS AT EITHER END:

- BOBBY NICHOLS GOLF COURSE (PUBLIC) - PROVIDE CONNECTION FROM WAVERLY HILLS GERIATRIC CENTER AT PARALEE STREET AND DIXIE HIGHWAY, THROUGH THE GOLF COURSE AND CONNECTING WITH WAVERLY PARK (PUBLIC) ON ARNOLDTOWN ROAD.

- KENTUCKY FAIR AND EXPOSITION CENTER - PROVIDE CONNECTION THROUGH THE FAIR GROUNDS FROM BRADLEY AVENUE ON THE NORTH TO PHILLIPS LANE ON THE SOUTH WITH OUTLET TO THE EAST AT THE HART AVENUE ENTRANCE.

- V.A. HOSPITAL - PROVIDE CONNECTION THROUGH V.A. HOSPITAL GROUNDS FROM THE COUNTRY CLUB ROAD ENTRANCE GATE TO THE RIVERWOOD DRIVE ENTRANCE. A GATE AT THE COUNTY CLUB ENTRANCE BLOCKS VEHICULAR TRAFFIC. THERE IS, HOWEVER, A PEDESTRIAN GATE WHICH IS SUFFICIENT TO PERMIT BICYCLE TRAFFIC.

- LOUISVILLE DOWNS - PROVIDE CONNECTION THROUGH THE PARKING LOT ALONG THE WESTERN BOUNDARY OF LOUISVILLE DOWNS FROM BREITENSTEIN AVENUE ON THE NORTH TO BREITENSTEIN AVENUE ON THE SOUTH. THERE ARE GATES AT EACH END WHICH PROHIBIT THRU VEHICULAR TRAFFIC. A PEDESTRIAN GATE WOULD PERMIT BICYCLE TRAFFIC.

WHERE A BIKEWAY LEADS THROUGH A PARK OR SCHOOL SITE, IT IS RECOMMENDED THAT SUCH FACILITY BE USED TO PROVIDE SAFE ACCESS THROUGH THE AREA IN LIEU OF A STREET. CONTACT SHOULD BE MADE WITH THE APPROPRIATE REPRESENTATIVE FROM EACH OF THE ABOVE MENTIONED MAJOR FACILITIES TO SECURE THE NECESSARY APPROVALS AND STIPULATIONS FOR OBTAINING THE REQUIRED ACCESS.

STORAGE FACILITIES

THE SECOND GROUP OF BICYCLE FACILITIES IS STORAGE FACILITIES. STORAGE FACILITIES INCLUDE BIKE RACKS, PARKING PADS, AND EVEN COVERED OR ENCLOSED STORAGE AREAS. THE NEED FOR THIS TYPE OF FACILITY AND THE DEGREE OF STORAGE CAPABILITY WILL INCREASE WITH THE USE OF THE BIKEWAY SYSTEM AND THE PARTICULAR TRIP ATTRACTION.

STORAGE FACILITIES SHOULD BE INSTALLED AT ALL MAJOR TRAFFIC AND TRIP GENERATORS SUCH AS SHOPPING CENTERS, SCHOOLS, PARKS, LIBRARIES, PUBLIC BUILDINGS, MAJOR OFFICE AND EMPLOYMENT CENTERS, AND EXISTING AUTOMOBILE PARKING GARAGES AND LOTS IN THE CENTRAL BUSINESS DISTRICT.

FIGURE II-3 DEPICTS THE MAJOR GENERATORS AND TRIP DESTINATION POINTS WHERE STORAGE FACILITIES MAY BE REQUIRED.

Jefferson County Bikeway Plan

Louisville and Jefferson County, Kentucky

ACTIVITY CENTERS

Prepared By:
C.F.P. Transportation Engineers And Planners, Incorporated
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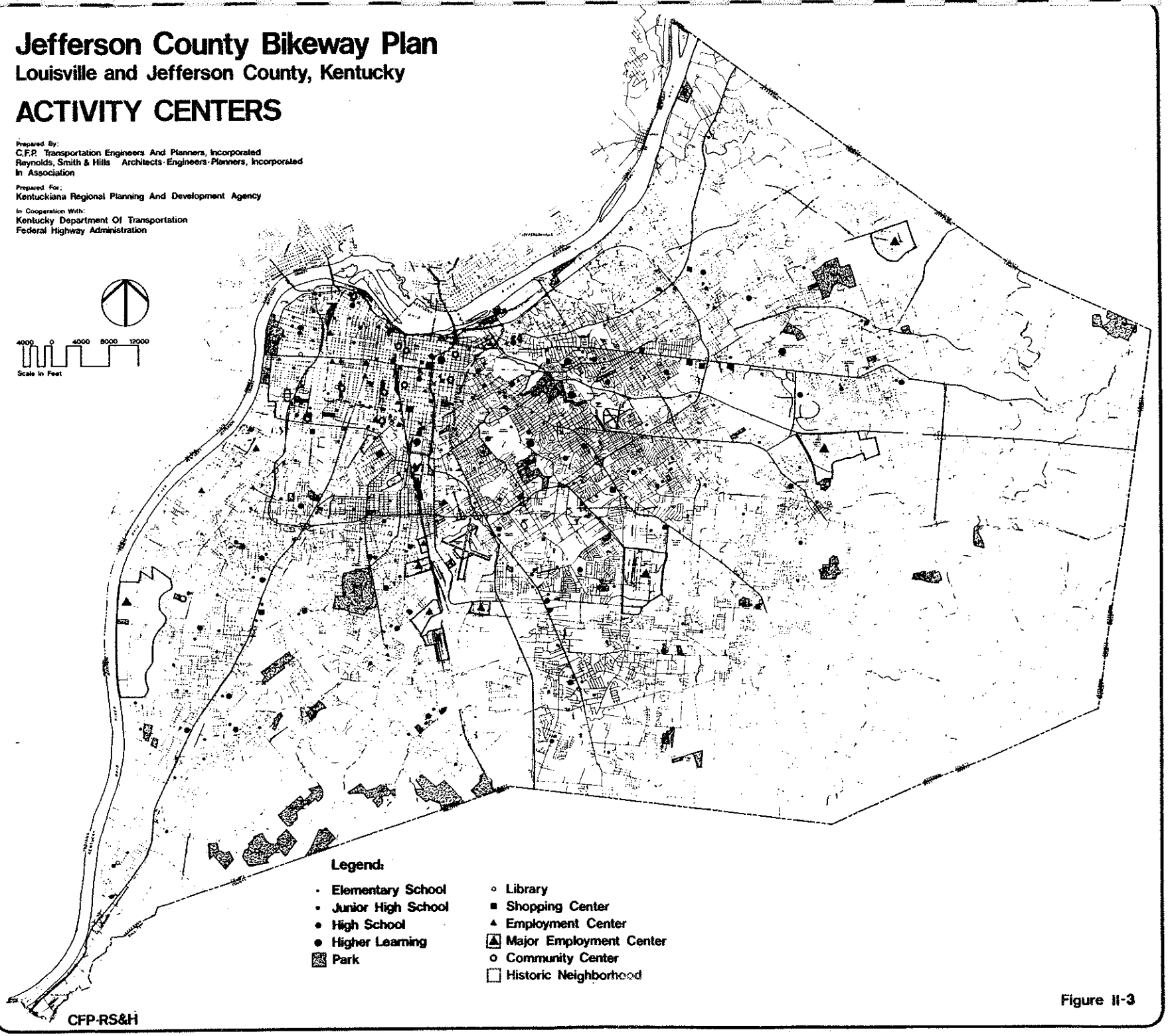

CFP-RS&H

Figure II-3

GOALS, OBJECTIVES, AND POLICIES

THE BIKEWAY PLANNING COMMITTEE ADOPTED FIVE GOALS THAT SHOULD BE USED FOR BIKEWAY PLANNING AND IMPLEMENTATION IN THE LOUISVILLE AREA. THESE GOALS ARE CONSISTENT WITH THE PROBLEMS, NEEDS, AND ISSUES IDENTIFIED BY THE PUBLIC AT VARIOUS MEETINGS HELD IN LOUISVILLE AND JEFFERSON COUNTY.

THE GOALS AND OBJECTIVES GENERATED BY THE BIKEWAY PLANNING COMMITTEE UNDER THE SUPERVISION OF THE LOUISVILLE & JEFFERSON COUNTY PLANNING COMMISSION, PROVIDE GENERAL DIRECTION FOR GUIDING THE DECISION MAKING OF ELECTED OFFICIALS. THE GOALS AND OBJECTIVES, HOWEVER, MUST BE FOLLOWED BY MORE SPECIFIC POLICIES, PROGRAMS, ACTIONS, RECOMMENDATIONS, AND STANDARDS SO THAT THE MECHANISMS ARE PRESENT FOR CARRYING OUT THE ACHIEVEMENT OF THE GOALS.

THE FOLLOWING ARE SPECIFIC POLICIES AND ACTIONS WHICH SHOULD BE PURSUED BY THE BIKEWAY PLANNING COMMITTEE AND THE CITIZENS OF THE LOUISVILLE AREA BASED ON THE STATED GOALS AND OBJECTIVES:

GOAL I: DEVELOP A COMPREHENSIVE, BALANCED, AND INTEGRATED BICYCLING TRANSPORTATION SYSTEM THAT SERVES THE BICYCLING NEEDS OF JEFFERSON COUNTY IN A DIRECT, SAFE, AND CONVENIENT MANNER

OBJECTIVE A: ADEQUATELY SERVE ALL TYPES OF BICYCLE USERS (COMMUTERS, TOURISTS, RACERS, EXERCISERS, UTILITARIANS, NOVICES, EXPERTS, ETC.).

POLICIES:

- ENCOURAGE THE DEVELOPMENT OF BIKEWAY ROUTES WHICH ARE INTERCONNECTED, CONTINUOUS, AND PROVIDE DIRECT ROUTES BETWEEN MAJOR DESTINATIONS AND GENERATORS.
- DEVELOP INFORMATION BROCHURES FOR SPECIFIC ROUTES WHICH WOULD BE BEST SUITED FOR RACERS, COMMUTERS, NOVICES, AND CHILDREN.
- PROMOTE ADEQUATE STORAGE FACILITIES FOR COMMUTERS AT MAJOR DESTINATIONS SUCH AS EMPLOYMENT CENTERS, SHOPPING CENTERS, RECREATION SITES, AND PUBLIC FACILITIES.
- PROVIDE LOW VOLUME TRAFFIC ROUTES FOR NOVICES AND CHILDREN.
- PROVIDE LONG BIKEWAYS FOR EXERCISERS AND EXPERTS.

- PLAN FOR THE PROVISION AND DEVELOPMENT OF A VELODROME AND RACEWAY FOR RACERS AND EXPERT CYCLISTS AS WELL AS FOR PROMOTION OF BICYCLE SAFETY.

- PROVIDE BIKEWAY LOOPS THROUGH HISTORIC DISTRICTS FOR TOURISTS AND SIGHTSEERS.

OBJECTIVE B: IMPROVE BICYCLIST ACCESSIBILITY TO RESIDENTIAL AREAS, EDUCATIONAL FACILITIES, EMPLOYMENT CENTERS, SHOPPING CENTERS, PARKS, RECREATION AREAS, AND HISTORIC AREAS.

POLICIES:

- PROVIDE SAFE AND CONVENIENT ROUTES WHICH SERVE AND CONNECT RESIDENTIAL NEIGHBORHOODS WITH THE ARTERIAL BIKEWAY SYSTEM.

- PROVIDE SAFE AND DIRECT ACCESS TO PARKS, SCHOOLS, AND EDUCATIONAL FACILITIES WITH ADEQUATE STORAGE FACILITIES.

- PROVIDE BIKE ROUTES TO MAJOR EMPLOYMENT CENTERS AND SHOPPING CENTERS WITH ADEQUATE STORAGE FACILITIES AT EACH.

OBJECTIVE C: ADEQUATELY SERVE ALL TYPES OF BICYCLE MOVEMENTS (INTER-URBAN, INTER-COMMUNITY, INTER-NEIGHBORHOOD, AND INTRA-NEIGHBORHOOD).

POLICIES:

- PROVIDE CONTINUOUS BIKE ROUTES WHICH SERVE NEIGHBORHOODS AS WELL AS MAJOR CONNECTORS BETWEEN COMMUNITIES.

- GIVE PRIORITY TO BIKEWAYS THAT WILL JOIN SEPARATED PORTIONS OF EXISTING LOUISVILLE BIKEWAY ROUTES.

- COORDINATE BIKEWAY ROUTES IN JEFFERSON COUNTY WITH POTENTIAL OR EXISTING ROUTES IN INDIANA AND OTHER KENTUCKY COUNTIES.

- KIPDA SHOULD WORK WITH CITIZENS AND GOVERNMENTAL GROUPS IN ALL COMMUNITIES WITHIN THE AREA TO COORDINATE BIKEWAY PLANNING AND DEVELOPMENT EFFORTS.

OBJECTIVE D: CREATE AN INTERCONNECTED AND CONTINUOUS SYSTEM.

POLICIES:

- THE IMPLEMENTING AGENCY SHOULD GIVE PRIORITY TO THE MARKING OR CONSTRUCTION OF BIKEWAYS THAT WILL JOINT SEPARATED SEGMENTS OF LOUISVILLE'S EXISTING BIKEWAYS.

- KIPDA SHOULD ENCOURAGE PUBLIC WORKS AND THE KENTUCKY DEPARTMENT OF TRANSPORTATION TO CONSTRUCT BIKEWAYS IN CONJUNCTION WITH ALL IMPROVEMENTS ON STREETS DESIGNATED FOR BIKEWAY DEVELOPMENT.

- KIPDA SHOULD COORDINATE WITH PUBLIC WORKS DEPARTMENTS AND THE KENTUCKY DEPARTMENT OF TRANSPORTATION ON ALL FUTURE HIGHWAYS AND BRIDGES THAT ARE PROPOSED AS PART OF THE TRANSPORTATION PLAN TO ASSURE THAT FUTURE ROAD PLANS INCORPORATE PROPOSED BIKEWAY FACILITIES.

- THE SUBDIVISION REGULATIONS SHOULD BE AMENDED TO REQUIRE THE CONSTRUCTION OR DESIGNATION OF BIKEWAYS IN ALL NEW DEVELOPMENTS WHERE THEY WOULD FORM A LOGICAL EXTENSION, CONTINUATION, OR LINK BETWEEN AN EXISTING OR PROPOSED BIKEWAY.

- THE ADOPTION OF A CAPITAL IMPROVEMENT PROGRAM DESCRIBING A SOURCE OF FUNDS BY THE LOUISVILLE-JEFFERSON COUNTY TRAFFIC ENGINEERING DEPARTMENT IN COOPERATION WITH THE METROPOLITAN PARK AND RECREATION BOARD WOULD HELP INSURE A CONTINUOUS AND INTERCONNECTED SYSTEM.

OBJECTIVE E: <u>MAKE BICYCLE PLANNING AN INTEGRAL PART OF THE COMPREHENSIVE, MULTI-MODAL, COORDINATED, AND CONTINUING METROPOLITAN TRANSPORTATION PLANNING PROCESS.</u>

POLICIES:

- THE KIPDA TRANSPORTATION ADVISORY COMMITTEE SHOULD APPOINT ONE OF ITS MEMBERS TO THE BIKEWAY COMMITTEE.

- THE BIKEWAY COMMITTEE SHOULD BE DESIGNATED AS A SUBCOMMITTEE OF THE TRANSPORTATION COORDINATING COMMITTEE AND THE TRANSPORTATION ADVISORY COMMITTEE TO MONITOR BIKEWAY PLANNING AND IMPLEMENTATION ACTIVITIES IN LOUISVILLE AND JEFFERSON COUNTY.

- BIKEWAY PLANNING ACTIVITIES SHOULD BE INCORPORATED INTO THE UNIFIED WORK PROGRAM OF KIPDA.

- THE BIKEWAY IMPLEMENTATION PROGRAM SHOULD BE INTEGRATED INTO THE TRANSPORTATION IMPROVEMENT PROGRAM OF KIPDA.

OBJECTIVE F: PROVIDE AN ADEQUATE INTERFACE WITH OTHER MODES OF TRANSPORTATION.

POLICIES:

- KIPDA SHOULD WORK WITH TARC (TRANSIT AUTHORITY OF RIVER CITY) TO ENCOURAGE AND EFFECT ADEQUATE BIKE PARKING AND STORAGE FACILITIES AT PARK N' RIDE LOCATIONS WHERE APPROPRIATE.

- KIPDA SHOULD WORK WITH AND ENCOURAGE TARC TO PROVIDE BIKE TRAILERS ON BUSES WHERE DEMANDS WARRANT.

OBJECTIVE G: REMOVE PHYSICAL BARRIERS TO BICYCLE TRAVEL.

POLICIES:

- PUBLIC WORKS DEPARTMENTS SHOULD INCORPORATE CURB CUTS AND SIDEWALKS ALONG PROPOSED BIKEWAYS WITH GRATES WHICH RUN PERPENDICULAR TO THE CURB OR ARE NOT HAZARDOUS TO BICYCLE TRAVEL WHEN CONTINUING WORK PROGRAMS INVOLVE STREET GUTTERS OR WHEN A PARTICULAR FACILITY IN THE BIKEWAY PROGRAM IS FUNDED.

- PUBLIC WORKS DEPARTMENTS AND THE KENTUCKY DEPARTMENT OF TRANSPORTATION SHOULD INCORPORATE SUFFICIENT WIDTH IN ALL NEW BRIDGE DESIGNS TO ALLOW SAFE CROSSING BY BIKES.

OBJECTIVE H: INTEGRATE PLANNED AND EXISTING FACILITIES INTO A SYSTEM IN ORDER TO PREVENT THE DUPLICATION OF FACILITIES.

POLICIES:

- KIPDA SHOULD INCORPORATE THE COMPREHENSIVE BIKEWAY PLAN FOR LOUISVILLE-JEFFERSON COUNTY INTO THE LOUISVILLE METROPOLITAN TRANSPORTATION PLAN.

- THE LOUISVILLE-JEFFERSON COUNTY PLANNING COMMISSION (LJCPC) SHOULD INCLUDE THE BIKEWAY PLAN INTO THE LOUISVILLE-JEFFERSON COUNTY COMPREHENSIVE PLAN.

- LJCPC AND LOCAL LEGISLATIVE BODIES SHOULD REVISE SUBDIVISION AND ZONING ORDINANCES IN JEFFERSON COUNTY TO REQUIRE THE DEVELOPMENT OF PROPOSED BIKEWAY FACILITIES IN CONFORMANCE WITH APPROVED STANDARDS WHEN SUCH FACILITIES APPEAR IN THE COMPREHENSIVE BIKEWAY PLAN.

- KIPDA SHOULD ENCOURAGE DEVELOPMENT REVIEW AGENCIES SUCH AS LOUISVILLE-JEFFERSON COUNTY DEPARTMENT OF TRAFFIC ENGINEERING, THE PUBLIC

WORKS DEPARTMENT, AND STATE DEPARTMENT OF TRANSPORTATION TO REVIEW DEVELOPMENT PLANS TO ASSURE INTEGRATION OF PROPOSED BIKEWAY FACILITIES AS SET FORTH IN THE COMPREHENSIVE BIKEWAY PLAN.

OBJECTIVE I: ENCOURAGE THE MULTIPLE USE OF PUBLIC RIGHTS-OF-WAY FOR BIKEWAY FACILITIES.

POLICIES:

- KIPDA SHOULD INCORPORATE THE BIKEWAY PLAN INTO THE LOUISVILLE METROPOLITAN TRANSPORTATION PLAN, LOUISVILLE-JEFFERSON COUNTY PLANNING COMMISSION (LJCPC) AND THE LOUISVILLE-JEFFERSON COUNTY COMPREHENSIVE PLAN.

- KIPDA, THE PUBLIC WORKS DEPARTMENT AND TRAFFIC ENGINEERING SHOULD ENCOURAGE THE KENTUCKY DEPARTMENT OF TRANSPORTATION TO INCORPORATE THE BIKEWAY PLAN INTO NEW HIGHWAY PROJECTS.

- KIPDA SHOULD ENCOURAGE INCORPORATION OF THE BIKEWAY FACILITY CAPITAL IMPROVEMENT PROGRAM INTO THE URBANIZED AREA TRANSPORTATION IMPROVEMENT PROGRAM AND THE KENTUCKY DEPARTMENT OF TRANSPORTATION STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM.

- KIPDA AND LJCPC SHOULD ENCOURAGE THE DEVELOPMENT OF BIKEWAY FACILITIES IN ACCORDANCE WITH THE ADOPTED COMPREHENSIVE BIKEWAY PLAN IN CONJUNCTION WITH OTHER PUBLIC WORKS PROJECTS SUCH AS FLOODWALLS, DRAINAGE DITCH CONSTRUCTION, CREEK REALIGNMENTS, AND OTHER FLOOD PROTECTION PROJECTS, AND UTILITY CONSTRUCTION PROJECTS.

- WHEN AND IF RAILROAD RIGHTS-OF-WAY ARE ABANDONED, KIPDA SHOULD REVISE THE COMPREHENSIVE BIKEWAY PLAN WHERE APPROPRIATE.

OBJECTIVE J: PROVIDE ADEQUATE SUPPORT FACILITIES FOR BICYCLE ROUTES.

POLICIES:

- FOLLOWING DETAILED DEMAND OR USER INVENTORY, THE PARK AND RECREATION BOARD SHOULD PROVIDE ADEQUATE BICYCLE PARKING, RESTROOM FACILITIES, AND REST AREAS AT KEY RECREATION FACILITIES ALONG THE BIKEWAY ROUTES.

- LOCAL GOVERNMENTS SHOULD ENCOURAGE EMPLOYERS AND PUBLIC AGENCIES TO PROVIDE ADEQUATE STORAGE FACILITIES AT MAJOR COMMUTER DESTINATION POINTS AFTER SPECIFIC USER ANALYSIS INVENTORY HAS BEEN UNDERTAKEN.

- THE PARKS AND RECREATION BOARD SHOULD INVESTIGATE THE POSSIBLE PROVISION OF BICYCLE RENTAL CONCESSIONS AT MAJOR PARKS AND TOURIST ATTRACTIONS.

- KIPDA SHOULD PUBLISH DETAILED MAPS, AT THE CONCLUSION OF THE STUDY, OF SPECIFIC ROUTES SHOWING THE LOCATION OF ATTRACTIONS AND FACILITIES ALONG THE WAY.

GOAL II: MAKE BICYCLING SAFER IN JEFFERSON COUNTY

OBJECTIVE A: <u>DEVELOP A BIKEWAY SYSTEM THAT WILL MINIMIZE, TO THE EXTENT FEASIBLE, THE TRAFFIC FLOW CONFLICTS BETWEEN BICYCLISTS AND MOTORISTS, BICYCLISTS AND PEDESTRIANS, AND BICYCLISTS AND OTHER BICYCLISTS.</u>

POLICIES:

- THE BIKEWAY PLAN AND THE IMPLEMENTING AGENCY SHOULD PROVIDE PHYSICAL SEPARATION BETWEEN BICYCLES AND MOTORISTS WHEN DICTATED BY WIDTH, TRAFFIC VOLUMES, SPEED, OR BICYCLE DEMAND.

- THE GUIDELINES FOR THE DEVELOPMENT OF BIKEWAYS PREPARED BY THE KENTUCKY DIVISION OF TRANSPORTATION AND ADDITIONAL STANDARDS RECOMMENDED IN THE BIKEWAY PLAN SHOULD BE USED BY IMPLEMENTING AGENCIES FOR THE DESIGN AND CONSTRUCTION OF ALL BIKEWAYS.

- THE BIKEWAY PLAN SHOULD REQUIRE BIKEWAYS ON THE STREETS TO BE ONE-WAY SO THAT BICYCLISTS WILL RIDE WITH THE FLOW OF TRAFFIC.

- THE BIKEWAY PLAN SHOULD PROVIDE BIKEWAYS ON BOTH SIDES OF A STREET EXCEPT IN THE CASE OF ONE-WAY STREETS.

- THE PRESENT ORDINANCE PROHIBITING THE USE OF SIDEWALKS BY BICYCLISTS SHOULD BE AMENDED TO PERMIT THE DESIGNATION OF PARTICULAR SIDEWALKS AS BIKEWAYS AND TO PERMIT THE USE OF ANY SIDEWALK BY BICYCLISTS UNLESS DESIGNATED AS OFF LIMITS TO BICYCLISTS.

- LJCPC SHOULD, THROUGH THE USE OF SUBDIVISION REGULATIONS AND PLAN REVIEW, ENCOURAGE STREET DESIGNS IN NEW RESIDENTIAL DEVELOPMENTS THAT DISCOURAGE FAST MOVING THROUGH TRAFFIC.

OBJECTIVE B: INCREASE MOTORIST AND PEDESTRIAN KNOWLEDGE OF THEIR APPROPRIATE RELATIONSHIP TO THE BICYCLIST IN TRAFFIC FLOW, OF BICYCLIST OPERATING CHARACTERISTICS, AND BICYCLIST'S RIGHTS.

POLICIES:

- THE STATE BUREAU OF VEHICLE REGULATION, DIVISION OF DRIVER LICENSE, SHOULD AMEND THE DRIVERS MANUAL AND THE MOTOR VEHICLE OPERATOR'S LICENSE EXAMINATION TO INCLUDE QUESTIONS ON BICYCLE SAFETY AND MOTORISTS RESPONSIBILITY TO BICYCLISTS IN TRAFFIC, AND VICE VERSA.

- USE NEWSPAPER, TELEVISION, AND RADIO COVERAGE TO INFORM MOTORISTS, CYCLISTS, AND PEDESTRIANS OF THE BIKE SAFETY RULES.

OBJECTIVE C: INCREASE THE BICYCLIST'S KNOWLEDGE OF SAFE BICYCLE OPERATION AND OF THEIR PROPER PLACE IN TRAFFIC FLOW.

POLICIES:

- THE JEFFERSON COUNTY BOARD OF EDUCATION SHOULD ENCOURAGE AND EXPAND THE BICYCLE SAFETY EDUCATION PROGRAM IN THE PUBLIC SCHOOLS.

- THE BIKEWAY COMMITTEE SHOULD ENCOURAGE SAFETY EDUCATION AND REGISTRATION PROGRAMS BY SERVICE CLUBS, THE PUBLIC DEPARTMENT, AND BICYCLE CLUBS.

- THE BIKEWAY COMMITTEE SHOULD SPONSOR NEWSPAPER, TELEVISION, AND RADIO SPOT ANNOUNCEMENTS ON SAFE BICYCLING RULES.

- THE BIKEWAY COMMITTEE SHOULD ENCOURAGE THE FORMATION OF BICYCLE CLUBS THAT PROMOTE SAFE CYCLING.

OBJECTIVE D: GIVE ADEQUATE CONSIDERATION TO THE SAFETY OF THE BICYCLIST IN THE DESIGN AND CONSTRUCTION OF PUBLIC WORKS IMPROVEMENTS. SAFETY INCLUDES THE REDUCTION OR PREVENTION OF HARM FROM FIXED FEATURES OF THE BIKEWAY AND FROM OTHER INDIVIDUALS.

POLICIES:

- EACH PUBLIC WORKS DEPARTMENT SHOULD CONSIDER THE SAFETY OF BICYCLISTS IN THE IMPLEMENTATION OF PROJECTS UNDER THEIR DIRECTION.

- PUBLIC WORKS DEPARTMENTS SHOULD DEVELOP A PROGRAM TO REPLACE PARALLEL STORM GRATES WITH GRATES WHICH DO NOT PRESENT A HAZARD TO CYCLIST.

- THE TRAFFIC ENGINEERING DEPARTMENT SHOULD REVIEW THE SIGN LOCATION STANDARDS TO SEE THAT THEY DO NOT PRESENT A HAZARD TO CYCLISTS.

- PUBLIC WORKS DEPARTMENTS SHOULD DEVELOP A PROGRAM TO CONSTRUCT CURB CUTS BETWEEN THE SIDEWALK AND STREET AT NEW CONSTRUCTION SITES OR AT THE TIME OF ROUTE DESIGNATION.

- THE BIKEWAY COMMITTEE SHOULD DRAFT AND RECOMMEND AN ORDINANCE REQUIRING CURB CUTS BETWEEN STREET AND SIDEWALK AT ALL NEW CONSTRUCTION SITES IN THE COMMUNITY.

OBJECTIVE E: <u>INCREASE ENFORCEMENT OF TRAFFIC LAWS RELATING TO THE BICYCLISTS, THE MOTORIST, AND THE PEDESTRIAN.</u>

POLICIES:

- INVESTIGATE THE INSTITUTION OF PEER COURT ENFORCEMENT SYSTEM AT THE GRAMMAR SCHOOL LEVEL FOR YOUTH OFFENDERS WHO RECEIVE TRAFFIC CITATIONS. SCHOOL CROSSING GUARDS AND STUDENTS WOULD FORM THE COURT SYSTEM.

- ENCOURAGE THE POLICE DEPARTMENT TO ENFORCE THE LAW RELATING TO BICYCLISTS AND MOTORISTS EQUALLY.

OBJECTIVE F: <u>IMPROVE THE MAINTENANCE (INCLUDING SURFACE, SIGNING, AND DEBRIS REMOVAL) OF BICYCLE ROUTES.</u>

POLICIES:

- DEFINE CLEARLY WHO OR WHAT AGENCY IS RESPONSIBLE FOR BIKEWAY MAINTENANCE.

OBJECTIVE G: <u>REDUCE SAFETY HAZARDS ON BICYCLE ROUTES.</u>

POLICIES:

- PUBLIC WORKS DEPARTMENTS, TRAFFIC ENGINEERING AND THE KENTUCKY DEPARTMENT OF TRANSPORTATION SHOULD PROVIDE SPECIAL LIGHTING ON BIKE ROUTES TO AUGMENT EXISTING STREET LIGHTING AS SUGGESTED IN THE DESIGN STANDARDS.

- ENCOURAGE THE TRAFFIC ENGINEERING DEPARTMENT TO REVIEW THE SIGN LOCATION STANDARDS TO SEE THAT THEY DO NOT PRESENT A HAZARD TO CYCLISTS.

- ENCOURAGE PUBLIC WORKS AND SANITATION DEPARTMENTS TO PROVIDE INCREASED MAINTENANCE OF BIKEWAYS TO KEEP THEM FREE OF GLASS, LOOSE GRAVEL AND SAND, AND POTHOLES WHERE IT MAY BECOME A PROBLEM.

- ENCOURAGE PUBLIC WORKS DEPARTMENTS TO REPLACE PARALLEL DRAIN GRATES WITH GRATES WHICH ARE NOT A HAZARD TO THE CYCLIST WHERE PUBLIC WORKS PROJECTS ARE IMPLEMENTED ALONG THE PROPOSED BIKEWAY FACILITIES OR FUNDING IS PROVIDED FOR DEVELOPMENT OF SUCH A BIKEWAY FACILITY.

OBJECTIVE H: ENCOURAGE THE USE OF ADEQUATE SAFETY EQUIPMENT BY THE BICYCLIST, THE MAINTENANCE OF THE BICYCLE IN SAFE WORKING ORDER, AND THE USE OF PROPERLY DESIGNED BICYCLES.

POLICIES:

- THE BIKEWAY COMMITTEE SHOULD ENCOURAGE THE JEFFERSON COUNTY BOARD OF EDUCATION TO EXPAND THE BICYCLE SAFETY PROGRAM IN THE PUBLIC SCHOOLS.

- THE BIKEWAY COMMITTEE SHOULD PROMOTE AND ENCOURAGE SERVICE CLUBS, PTA'S, COLLEGES, AND POLICE ORGANIZATIONS TO CONDUCT BICYCLING EVENTS FOR THE PURPOSES OF BICYCLE REGISTRATION AND TEACHING SAFE BICYCLING.

- KIPDA SHOULD ENCOURAGE THE CITY AND COUNTY TO AMEND THE TRAFFIC CODE OF LOUISVILLE-JEFFERSON COUNTY TO INCLUDE THE PROPER SAFETY EQUIPMENT REQUIRED ON BICYCLES.

GOAL III: INSURE THE EFFICIENT AND EFFECTIVE UTILIZATION OF RESOURCES TO SERVE THE BICYCLING NEEDS OF THE COMMUNITY

OBJECTIVE A: PROVIDE AN ADEQUATE LEVEL OF FUNDING FOR BICYCLE FACILITY CONSTRUCTION AND OPERATION.

POLICIES:

- KIPDA SHOULD INVESTIGATE PUBLIC ATTITUDE TOWARD AND POTENTIAL REVENUES FROM AN ANNUAL BICYCLE LICENSING AND REGISTRATION FEE. THE FEES COLLECTED SHOULD BE USED FIRST TO OFFSET THE COST OF INITIATING THE LICENSING AND REGISTRATION PROGRAM AND THEN FOR THE EXCLUSIVE USE OF BICYCLE IMPROVEMENTS AND CONSTRUCTION.

- LOCAL GOVERNMENT SHOULD USE THE FUNDS COLLECTED BY BICYCLE REGISTRATION FEES AS THE LOCAL SHARE FOR MATCHING WITH BUREAU OF OUTDOOR RECREATION (BOR), AND FEDERAL HIGHWAY ADMINISTRATION (FHWA) FUNDS.

- BICYCLE IMPROVEMENT COSTS SHOULD BE INCORPORATED INTO THE METROPOLITAN TRANSPORTATION IMPROVEMENT PROGRAM AND LOCAL GOVERNMENT GENERAL BUDGETS.

- THE LOCAL UNITS OF GOVERNMENT SHOULD CONSIDER REQUESTING THE STATE LEGISLATURE TO SET ASIDE A PORTION (1/2 TO 1 PERCENT) OF THE STATE GASOLINE SALES TAX FOR USE ON BIKEWAY FACILITIES, CONSTRUCTION AND MAINTENANCE. THIS WOULD ASSURE A CONTINUED SOURCE OF INCOME FROM A KNOWN SOURCE. IT WOULD ALSO BE APPLIED TO A FACILITY WHICH IS DESIGNED TO RELIEVE ROAD CONGESTION.

- LOUISVILLE-JEFFERSON COUNTY SHOULD ENCOURAGE THE GOVERNOR TO CONTINUE ALLOCATING STATE FUNDS FOR BIKEWAY DEVELOPMENT.

OBJECTIVE B: <u>INTEGRATE CITIZENS, INTEREST GROUPS, AND BIKEWAY USERS INTO THE PLANNING, DEVELOPMENT, AND PROGRAMMING DECISION-MAKING PHASES.</u>

POLICIES:

- KIPDA SHOULD RETAIN AND STRENGTHEN THE BIKEWAY COMMITTEE BEYOND THE LENGTH OF THE STUDY PERIOD TO HELP COORDINATE COMMUNITY AWARENESS AND EDUCATION PROGRAMS, AND TO MAINTAIN A HIGH LEVEL OF INTEREST IN THE PROGRAM.

- ONE YEAR FROM IMPLEMENTATION OF THE STUDY RECOMMENDATIONS, KIPDA SHOULD CONDUCT SURVEYS OF BIKE USERS AND THE GENERAL PUBLIC TO DETERMINE THE EFFECTS OF PUBLICITY AND ATTITUDES TOWARD BICYCLING.

- KIPDA SHOULD ENCOURAGE THE TRANSPORTATION ADVISORY COMMITTEE TO APPOINT A MEMBER TO THE BIKEWAY COMMITTEE.

OBJECTIVE C: <u>DEVELOP GUIDELINES FOR THE EFFECTIVE EXPENDITURE OF LIMITED BIKEWAY FUNDS FOR CAPITAL IMPROVEMENT.</u>

POLICIES:

- THE LOUISVILLE-JEFFERSON COUNTY DEPARTMENT OF TRAFFIC ENGINEERING SHOULD BE DESIGNATED AS THE COORDINATING AGENCY FOR ALL BIKEWAY CONSTRUCTION AND MAINTENANCE PROJECTS BY

GOVERNMENTAL AGENCIES AND KIPDA SHOULD BE DESIGNATED THE COORDINATING AGENCY FOR ALL LONG-RANGE PLANNING ASSOCIATED WITH THE BIKEWAY PLAN.

- KIPDA SHOULD CREATE AND ANNUALLY UPDATE A BICYCLE FACILITIES CAPITAL IMPROVEMENT PROGRAM.

- KIPDA SHOULD REVIEW AND UPDATE, AT LEAST EVERY FIVE YEARS, THE LONG-RANGE BICYCLE FACILITIES PROGRAM.

OBJECTIVE D: <u>INSURE THE COORDINATED DEVELOPMENT AND MAINTENANCE OF THE BIKEWAY SYSTEM AND SUPPORT FACILITIES.</u>

POLICIES:

- LOUISVILLE-JEFFERSON COUNTY SHOULD ENCOURAGE AN INDIVIDUAL OR DIVISION WITHIN THE TRAFFIC ENGINEERING DEPARTMENT TO BE RESPONSIBLE FOR COORDINATING AND CARRYING OUT MAINTENANCE AND DEVELOPMENT OF BIKEWAYS ALONG STREET RIGHT-OF-WAY.

- ESTABLISH CLEAR RESPONSIBILITY WITHIN THE DEPARTMENTS OF SANITATION, PUBLIC WORKS AND PARKS AND RECREATION FOR MAINTENANCE OF BIKEWAYS.

OBJECTIVE E: <u>ENCOURAGE THE INTEGRATED DEVELOPMENT OF BICYCLE FACILITIES IN CONJUNCTION WITH PUBLIC WORKS AND PRIVATE DEVELOPMENT.</u>

POLICIES:

- LOUISVILLE-JEFFERSON COUNTY SHOULD ENCOURAGE THAT AN INDIVIDUAL OR DIVISION WITH THE TRAFFIC ENGINEERING DEPARTMENT BE RESPONSIBLE FOR CARRYING OUT DEVELOPMENT, AND MAINTENANCE OF BIKEWAYS IN CONFORMANCE WITH THE PLANS AND STANDARDS.

- LJCPC SHOULD RECOMMEND AND LOCAL LEGISLATIVE BODIES SHOULD ADOPT REVISED SUBDIVISION AND ZONING REGULATIONS THAT REQUIRE THE DEVELOPMENT OF BIKEWAY ROUTES AND STORAGE FACILITIES IN NEW PRIVATE DEVELOPMENTS, SUCH AS SHOPPING CENTERS AND LARGE SCALE RESIDENTIAL PROJECTS WHEN BICYCLE ROUTES AND STORAGE FACILITIES ARE IDENTIFIED OR ARE LOGICAL EXTENSIONS OF THE PROPOSED ROUTE SYSTEM AS IDENTIFIED IN THE ADOPTED COMPREHENSIVE BICYCLE PLAN FOR LOUISVILLE-JEFFERSON COUNTY.

OBJECTIVE F: DEVELOP GUIDELINES FOR EFFICIENT MAINTENANCE OF BICYCLE FACILITIES.

POLICIES:

- ENCOURAGE THE APPOINTMENT OF AN INDIVIDUAL OR DIVISION WITH THE PUBLIC WORKS DEPARTMENT, SANITATION DEPARTMENT, AND PARKS AND RECREATION DEPARTMENT TO CARRY OUT ROUTINE MAINTENANCE.
- THE SANITATION AND PUBLIC WORKS DEPARTMENTS SHOULD DEVELOP MAINTENANCE SCHEDULES FOR SWEEPING STREETS AND GUTTERS ON MARKED BIKE ROUTES.

GOAL IV: IMPROVE THE RIDING ENVIRONMENT TO ENCOURAGE THE USE OF THE BICYCLE BY INTERESTED INDIVIDUALS

OBJECTIVE A: DEVELOP A DIRECT, CONTINUOUS BIKEWAY SYSTEM.

POLICIES:

- KIPDA AND LOCAL GOVERNMENTS SHOULD GIVE PRIORITY TO THE DEVELOPMENT OF BIKEWAYS THAT WILL LINK UP SEPARATED PORTIONS OF THE EXISTING SYSTEM.
- KIPDA AND LOCAL GOVERNMENTS SHOULD GIVE PRIORITY TO THE DEVELOPMENT OF BIKEWAYS THAT SERVE INTENSELY USED COMMUTER ROUTES.
- TRAFFIC ENGINEERING AND PUBLIC WORKS DEPARTMENTS SHOULD REQUIRE THE CONSTRUCTION OF BIKEWAYS IN CONJUNCTION WITH ALL IMPROVEMENTS OF STREETS DESIGNATED FOR BIKEWAY DEVELOPMENT.

OBJECTIVE B: INCREASE BICYCLING COMFORT AND CONVENIENCE THROUGH THE PROVISION OF ADEQUATE SUPPORT FACILITIES SUCH AS RACKS, LOCKERS, SHOWERS, RESTROOMS, REST STOPS, HOTELS, ETC.

POLICIES:

- THE LJCPC AND LOCAL GOVERNMENTS SHOULD CONSIDER AMENDING THE ZONING AND SUBDIVISION ORDINANCES OF LOUISVILLE-JEFFERSON COUNTY TO REQUIRE BICYCLE PARKING AND STORAGE FACILITIES FOR NEW LARGE-SCALE COMMERCIAL, INDUSTRIAL, OR RESIDENTIAL PROJECTS WHICH ARE ANTICIPATED TO GENERATE A LARGE NUMBER OF BICYCLE RIDERS AND WHEN SUCH FACILITIES ARE RECOMMENDED IN THE COMPREHENSIVE BICYCLE FACILITY PLAN.

- LOUISVILLE-JEFFERSON COUNTY SHOULD ENCOURAGE THE INSTALLATION OF PARKING STORAGE FACILITIES AT ALL PUBLIC BUILDINGS WITH HIGH EMPLOYMENT OR PATRONAGE AFTER QUANTIFYING THE DEMAND FOR PARKING.

- THE JEFFERSON COUNTY BOARD OF EDUCATION SHOULD INSTALL BICYCLE PARKING AND STORAGE FACILITIES AT SCHOOLS AFTER QUALIFYING THE DEMAND.

- LJCPC AND LOCAL LEGISLATIVE BODIES SHOULD CONSIDER AN AMENDMENT TO THE PARKING REQUIREMENTS FOR COMMERCIAL, INDUSTRIAL, AND RESIDENTIAL USES WHEN IT CAN BE DEMONSTRATED THAT THE PROVISION OF BICYCLE STORAGE FACILITIES WILL REDUCE THE DEMAND FOR AUTOMOBILE PARKING SPACE.

OBJECTIVE C: <u>IMPROVE THE MAINTENANCE OF BICYCLE ROUTES.</u>

POLICIES:

- LOUISVILLE-JEFFERSON COUNTY SHOULD REQUIRE THAT AN INDIVIDUAL OR DIVISION WITH PUBLIC WORKS, RECREATION, OR TRAFFIC ENGINEERING BE ASSIGNED THE RESPONSIBILITY FOR COORDINATING AND CARRYING OUT MAINTENANCE ALONG BIKEWAYS.

OBJECTIVE D: <u>PROVIDE AN ADEQUATE INTERFACE WITH OTHER MODES OF TRANSPORTATION.</u>

POLICIES:

- KIPDA SHOULD WORK WITH THE METROPOLITAN TRANSPORTATION STUDY AND THE VARIOUS TRANSIT COMPANIES TO PROVIDE STORAGE AND LOCKER FACILITIES WHERE APPROPRIATE.

- ENCOURAGE THE INCORPORATION OF BIKEWAYS INTO PROPOSED STATE AND LOCAL ROAD PROJECTS WHERE BIKEWAYS ARE PROPOSED IN THE BIKEWAY PLAN.

OBJECTIVE E: <u>REMOVE PHYSICAL BARRIERS TO BICYCLE TRAVEL.</u>

POLICIES:

- PUBLIC WORKS AND THE KENTUCKY DEPARTMENT OF TRANSPORTATION SHOULD PROVIDE SPECIAL LIGHTING ON BIKE ROUTES TO AUGMENT EXISTING STREET LIGHTING WHERE HEAVY BICYCLE TRAFFIC EXISTS, WHERE NIGHTTIME ACTIVITIES EXIST, AND WHERE BICYCLING MAY BE AN IMPORTANT MODE OF TRAVEL, OR WHERE BICYCLING IS A SIGNIFICANT ACTIVITY.

- ENCOURAGE PUBLIC WORKS TO PROVIDE INCREASED MAINTENANCE OF BIKEWAYS TO KEEP THEM FREE OF GLASS, LOOSE GRAVEL AND SAND, AND POTHOLES WHERE IT MAY BECOME A PROBLEM.

- ENCOURAGE PUBLIC WORKS TO PROVIDE CURB CUTS AT SIDEWALK INTERSECTIONS AND REPLACE PARALLEL DRAIN GRATES WITH GRATES WHICH ARE NOT A HAZARD TO THE CYCLIST WHEN PUBLIC WORKS PROJECTS ARE IMPLEMENTED ALONG THE PROPOSED BIKEWAY FACILITIES OR FUNDING IS PROVIDED FOR DEVELOPMENT OF SUCH A BIKEWAY FACILITY.

OBJECTIVE F: PROVIDE ADEQUATE INFORMATION ON BICYCLE FACILITIES TO THE PUBLIC.

POLICIES:

- KIPDA SHOULD PUBLISH DETAILED FLYER MAPS WITH INFORMATION ON BIKE ROUTES, REST FACILITIES, RULES OF THE ROAD, SERVICE SHOPS AND POINTS OF INTEREST FOR COMMUTERS AND TOURISTS.

- KIPDA WITH THE HELP OF THE CHAMBER OF COMMERCE SHOULD SOLICIT PUBLIC SERVICE ANNOUNCEMENTS ON TELEVISION, NEWSPAPER, AND RADIO CONCERNING NEW BIKEWAYS IN THE LOUISVILLE AREA.

- THE BIKEWAY COMMITTEE SHOULD SOLICIT PUBLIC SERVICE ANNOUNCEMENTS ON TELEVISION, NEWSPAPER, AND RADIO CONCERNING NEW BIKEWAYS IN THE LOUISVILLE AREA.

OBJECTIVE G: ENCOURAGE ACTIONS TO PROMOTE THE USE OF THE BICYCLE.

POLICIES:

- THE BIKEWAY COMMITTEE SHOULD SPONSOR AND PROMOTE A 'RIDE-A-BIKE' DAY TO ENCOURAGE ALL RESIDENTS, PUBLIC OFFICIALS, AND CHILDREN TO RIDE A BIKE TO WORK, TO SCHOOL, OR TO PLAY.

- THE BIKEWAY COMMITTEE SHOULD ENCOURAGE BICYCLE CLUBS WHICH PROMOTE SAFE CYCLING.

- THE BIKEWAY COMMITTEE SHOULD ENCOURAGE THE JEFFERSON COUNTY SCHOOL BOARD TO IMPLEMENT BICYCLE SAFETY EDUCATION IN THE ELEMENTARY AND MIDDLE SCHOOL GRADES.

OBJECTIVE H: REDUCE THE IMPACT OF ADVERSE ENVIRONMENTAL CONDITIONS ON BICYCLING.

POLICIES:

. FOLLOWING THE COMPLETION OF THE BIKEWAY STUDY, KIPDA SHOULD ADOPT AND RECOMMEND TO LOUISVILLE-JEFFERSON COUNTY THE ADOPTION OF THE BIKEWAY STUDY AS A TOOL FOR THE CREATION OF THE BIKEWAY SYSTEM AND THE CONTINUED IMPLEMENTATION OF THE PROGRAM.

GOAL V: IMPROVE BICYCLE SECURITY

OBJECTIVE A: PROVIDE ADEQUATE BICYCLING, PARKING, AND STORAGE FACILITIES TO DETER THEFT.

POLICIES:

. LJCPC AND KIPDA SHOULD ENCOURAGE THE INSTALLATION OF STORAGE AND PARKING FACILITIES AT ALL NEW COMMERCIAL, INDUSTRIAL, AND RESIDENIAL DEVELOPMENTS AFTER ANALYSIS OF BICYCLE PARKING DEMAND ESTIMATES.

OBJECTIVE B: GIVE CONSIDERATION TO SECURITY IN THE LOCATION OF BICYCLE PARKING AND STORAGE FACILITIES.

POLICIES:

. KIPDA AND THE BIKEWAY COMMITTEE SHOULD UNDERTAKE A DETAILED ANALYSIS AND EVALUATION OF THE VARIOUS SECURITY DEVICES OFFERED ON THE MARKET.

. LJCPC, WITH THE ASSISTANCE OF THE BIKEWAY COMMITTEE, SHOULD MAINTAIN AN INVENTORY OF ACCEPTABLE SECURITY DEVICES AND DESIGN STANDARDS FOR EASY REFERENCE TO BUILDERS AND DEVELOPERS.

OBJECTIVE C: IMPROVE THE ABILITY TO IDENTIFY ALL BICYCLES AND THEIR OWNERS.

POLICIES:

. LOUISVILLE-JEFFERSON COUNTY SHOULD INITIATE A BICYCLE REGISTRATION AND LICENSING PROGRAM TO HELP DETER THEFT AND AID IN RECOVERY.

. LOUISVILLE-JEFFERSON COUNTY SHOULD RECOMMEND AND ENCOURAGE A STATE-WIDE BICYCLE REGISTRATION AND LICENSING PROGRAM.

. THE BIKEWAY COMMITTEE SHOULD ENCOURAGE BICYCLE CLUBS AND CIVIC ORGANIZATIONS TO SPONSOR REGISTRATION AND LICENSING PROGRAMS.

LONG-RANGE BIKEWAY ALTERNATIVES

THE PURPOSE OF THE LONG-RANGE BIKEWAY PLAN IS TO DEVELOP AN ARTERIAL BIKEWAY ROUTING SCHEME FOR THE LOUISVILLE-JEFFERSON COUNTY AREA. SUCH A PLAN IS DESIGNED TO IDENTIFY THE MAJOR CORRIDOR LOCATIONS AND THE SUGGESTED TYPE OF BIKEWAY BASED ON THE DESIGN STANDARDS. THE ROUTING SCHEMES IN ALL CASES ATTEMPT TO PROVIDE RECREATIONAL OPPORTUNITIES, AS WELL AS OTHER MEANINGFUL TRIPS, BY LINKING MAJOR EMPLOYMENT CENTERS, RECREATION, SHOPPING, AND EDUCATION FACILITIES IN THE URBAN AREA. EACH SCHEME IS DESIGNED TO PROVIDE THE CYCLIST WITH A DIRECT, SAFE, AND PLEASANT ROUTE IN WHICH TO USE THE BICYCLE. THE ALTERNATIVES DO NOT ATTEMPT TO IDENTIFY EVERY POSSIBLE NEIGHBORHOOD ROUTE, BUT RATHER ATTEMPT TO LINK NEIGHBORHOODS IN A CONTINUOUS AND INTERCONNECTED SYSTEM.

THE DEVELOPMENT OF THE LONG-RANGE BIKEWAY ALTERNATIVES INVOLVED CONSIDERABLE INTERACTION BETWEEN THE BIKEWAY COMMITTEE AND THE CONSULTANT. THREE DISTINCTIVE LONG-RANGE CONCEPTS WERE DEVELOPED. EACH WAS DESIGNED TO FULFILL VARYING ASPECTS OF BIKEWAY DEVELOPMENT BASED ON A VARIANCE IN BIKEWAY TYPES. IN ADDITION, THE CRITERIA FOR THE SELECTION AND EVALUATION OF ALTERNATIVE BIKEWAY CONCEPTS WERE PRESENTED TO THE COMMITTEE FOR THEIR REVIEW AND APPROVAL.

THE FOLLOWING IS A BRIEF DESCRIPTION OF EACH LONG-RANGE BIKEWAY ALTERNATIVE WITH A BREAKDOWN BY CLASS OF THE ESTIMATED MILEAGE:

ALTERNATIVE A: ALTERNATIVE A PROPOSES THE UTILIZATION OF PRIMARILY EXISTING STREETS AND ROAD RIGHTS-OF-WAY FOR THE DESIGNATION OF CLASS II AND CLASS III BIKEWAYS. SOME OF THE ADVANTAGES OF THIS ALTERNATIVE ARE:

- COMPARED TO THE COST OF PROVIDING CLASS I AND CLASS II BIKEWAYS, THE COST IS RELATIVELY LOW.
- THE DESIGNATION OR DEVELOPMENT OF NEW ROUTES IS NOT DEPENDENT ON OUTSIDE FORCES OR ON THE DEVELOPMENT OF ASSOCIATED PROJECTS.

SOME OF THE DISADVANTAGES ARE:

- MANY RESIDENTIAL THROUGH STREETS ARE EXTREMELY NARROW AND FUTURE TRAFFIC VOLUMES MAY NECESSITATE RELOCATING ROUTES.
- THE VARIETY OF NEW AND DIFFERENT ROUTES IS LACKING. ANY RESIDENTIAL STREET MIGHT QUALIFY FOR A BIKE ROUTE.
- FUTURE EXPANSION OF THE SYSTEM IS DEPENDENT PRIMARILY ON RESIDENTIAL STREETS.

- THERE ARE GREATER OPPORTUNITIES FOR CONFLICTS WITH AUTOMOBILE TRAFFIC AND LESS PROTECTION FOR RIDERS.

- ROUTES ARE SOMEWHAT MORE CIRCUITOUS IN ORDER TO ARRIVE AT SAFE CONTINUOUS ROUTES.

ALTERNATIVE A PROPOSES 270 MILES OF BIKE ROUTES. OF THIS TOTAL, 11 MILES ARE CLASS I, 111 MILES ARE CLASS II AND IIP, AND 149 MILES ARE CLASS III.

ALTERNATIVE B: ALTERNATIVE B PROPOSES THE UTILIZATION OF POTENTIAL CLASS I ROUTES AS A MAJOR CONSIDERATION IN THE DEVELOPMENT OF THE LONG-RANGE BIKEWAY SYSTEM. SOME OF THE MAJOR POTENTIAL CLASS I CORRIDORS ARE AS FOLLOWS:

- THE BEARGRASS CREEK FROM EVA BANDMAN PARK TO THE MALL AT SHELBYVILLE ROAD AND I-264.

- SOUTHERN PARKWAY FROM TAYLOR BOULEVARD NORTH TO OAKDALE AVENUE.

- SOUTHERN DITCH FROM OUTER LOOP SOUTHWESTWARD TOWARD DIXIE HIGHWAY.

- FISHPOOL CREEK FROM FARMAN PARK PLAYGROUND NORTH TO SOUTHERN DITCH.

- NORTHERN DITCH FROM FERN VALLEY ROAD TO ITS INTERSECTION WITH SOUTHERN DITCH.

- BIG RUN FROM DIXIE HIGHWAY NORTH TO CANE RUN AND CAMP GROUND ROAD.

SOME OF THE ADVANTAGES OF THIS ALTERNATIVE ARE:

- CLASS I BIKEWAYS ALONG DRAINAGE DITCHES MAY BE CAPABLE OF BEING CONSTRUCTED AT A REDUCED SAVINGS SINCE THE RIGHT-OF-WAY IS ALREADY IN PUBLIC OWNERSHIP.

- THE RIGHT-OF-WAY ALONG THE DRAINAGE DITCHES IS OF SUFFICIENT SIZE AND QUALITY TO PRESENT MINIMAL CONSTRUCTION PROBLEMS AND UNOBSTRUCTED BIKEWAYS.

- THE BIKEWAYS INTERCONNECT NEIGHBORHOODS AND COMMUNITIES.

- THE BIKEWAYS PERMIT LONG, SCENIC AND SAFE RIDING FREE FROM VEHICULAR TRAFFIC, EXCEPT AT CROSS STREETS.

- THE BIKEWAYS UTILIZE JOINT DEVELOPMENT OF PUBLIC PROPERTY.

- THE DEVELOPMENT OF THE BIKEWAY COULD ENCOURAGE VISUAL IMPROVEMENT OF SOME OF THE AREAS WITH LANDSCAPING.

SOME OF THE DISADVANTAGES ARE:

- CONSTRUCTION COSTS WOULD BE HIGHER THAN CLASS II OR III AND THEREFORE MIGHT TAKE LONGER TO SECURE THE NEEDED FUNDS, THUS POSTPONING NEEDED BIKEWAYS.

- BIKEWAYS WOULD BE (IN SOME CASES) SOMEWHAT REMOVED FROM EMERGENCY HELP.

- BIKEWAYS ARE SOMEWHAT REMOVED FROM MAIN CONCENTRATIONS OF PEOPLE.

- NECESSARY FUNDING LEVELS MAY BE MORE DEPENDENT ON FEDERAL OR STATE OR LOCAL TAXATION METHODS.

ALTERNATIVE B PROPOSES 315 MILES OF BIKEWAYS. OF THIS TOTAL, 75 MILES ARE CLASS I, 87 MILES ARE CLASS II AND IIP, AND 153 MILES ARE CLASS III.

ALTERNATIVE C: ALTERNATIVE C PROPOSES THE UTILIZATION OF PROPOSED ARTERIAL AND COLLECTOR ROAD IMPROVEMENTS FOR THE DEVELOPMENT OF CLASS II AND CLASS III BIKEWAYS. THE ROAD IMPROVEMENT PROJECTS ARE FROM THE LOUISVILLE METROPOLITAN AREA TRANSPORTATION STUDY COMPLETED IN 1969. THE FINAL CLASS DETERMINATION WOULD BE MADE AT THE ROAD DESIGN STAGE. SOME OF THE ADVANTAGES TO THIS ALTERNATIVE ARE:

- JOINT USE OF PLANNED PUBLIC IMPROVEMENTS FOR THE DEVELOPMENT OF BIKEWAYS.

- DEVELOPMENT OF RELATIVELY SAFE BIKEWAYS ALONG MAJOR DESIRE TRAVEL LINES.

- A SIGNIFICANT COST SAVINGS BY INCORPORATING BIKEWAYS INTO EARLY PHASE OF ROAD DESIGN RATHER THAN ADDING AT A LATER DATE.

- BIKEWAYS PERMIT INTERCONNECTION OF NEIGHBORHOODS AND CONTINUOUS ROUTES THROUGH THE COMMUNITY.

- BIKEWAY DEVELOPMENT ALONG PROPOSED ARTERIALS MAY BE USEFUL IN UPGRADING THE AESTHETIC AND ENVIRONMENTAL QUALITY OF THE AREA IT TRAVERSES.

SOME OF THE DISADVANTAGES ARE:

- PROPOSED ROADWAY IMPROVEMENTS AND THEREFORE BIKEWAY ROUTES ARE SUBJECT TO LONG-RANGE PROGRAMMING AND CONTROL BY OUTSIDE FORCES, SUCH AS HIGHWAY DEPARTMENTS AND FEDERAL FINANCING.

ALTERNATIVE C PROPOSES 320 MILES OF BIKEWAYS. OF THIS TOTAL, 21 MILES ARE CLASS I, 175 MILES ARE CLASS II AND IIP, AND 124 MILES ARE CLASS III.

CRITERIA FOR THE SELECTION OF ALTERNATIVES

IN ORDER TO ASSESS THE RELATIVE MERITS OF ANY SEGMENT OR COMPLETE ALTERNATIVE BIKEWAY SCHEME IN THE INITIAL PLANNING STAGES, AS WELL AS IN THE FUTURE, EVALUATION CRITERIA HAVE BEEN DEVELOPED. THE CRITERIA STATEMENTS WERE DEVELOPED BY THE CONSULTANT BASED ON THE GOALS AND OBJECTIVES APPROVED BY THE BIKEWAY PLANNING COMMITTEE, THE RECOMMENDED POLICIES, AND RECOGNIZED AND ACCEPTED TRENDS IN THE SELECTION AND USE OF BIKEWAY ROUTES. THE CRITERIA WERE ALSO DEVELOPED ON THE BASIS OF EXISTING AND PROPOSED LAND USE PATTERNS, FUTURE TRANSPORTATION PLANS, POTENTIAL DEVELOPMENT AND FUNDING SOURCES, IMPROVEMENT TO URBAN AESTHETICS, SERVICE TO MAJOR ACTIVITY AND EMPLOYMENT CENTERS, AND JOINT USE OF LINEAR CORRIDORS AND PLANNED DEVELOPMENTS.

THE SEVEN CRITERIA STATEMENTS WERE WEIGHTED BY THE CONSULTANT WITH THE SAME RELATIVE RANKING AS THE FIVE GOAL STATEMENTS SELECTED BY THE BIKEWAY PLANNING COMMITTEE. THE CRITERIA STATEMENTS WERE GIVEN A TOTAL VALUE SCORE OF 70 POINTS.

THE FOLLOWING ARE THE CRITERIA AND THE WEIGHTS SELECTED BY THE CONSULTANT FOR USE IN EVALUATING THE ALTERNATIVES:

- BIKEWAYS SHOULD SERVE RECREATION AND UTILITY TRANSPORTATION NEEDS BY LINKING PARKS, AND OTHER RECREATION FACILITIES, SHOPPING CENTERS, SCHOOLS, EMPLOYMENT CENTERS, PUBLIC FACILITIES, AND POINTS OF HISTORICAL OR LOCAL INTEREST. (18)

- BIKEWAYS SHOULD BE CONTINUOUS AND INTERCONNECTED AS POSSIBLE TO PROVIDE FOR THE NEEDS OF ALL TYPES OF CYCLISTS AND TO CREATE A CONTINUOUS NETWORK THROUGHOUT THE LOUISVILLE AREA. (14)

- BIKEWAYS SHOULD SERVE FUTURE LAND USE AREAS CONSISTENT WITH THE COMPREHENSIVE LAND USE PLAN, METROPOLITAN TRANSPORTATION PLAN, AND MAJOR COMMITTED DEVELOPMENTS FOR THE COUNTY. (7)

- WHERE EXISTING STREETS ARE USED, THEY SHOULD BE EVALUATED ON THE BASIS OF SERVICE, TRAFFIC VOLUME, SPEED LIMITS, PAVEMENT WIDTH, PARKING AND HAZARDS TO SAFE CYCLING. (9)

- CORRIDORS AND INTERSECTIONS WITH HIGH INCIDENCES OF TRAFFIC ACCIDENTS SHOULD BE AVOIDED OR GIVEN PRIORITY FOR SEPARATE BIKEWAY DEVELOPMENT. (8)

- THE COST OF DEVELOPMENT AND EXTENSION OF BIKEWAY ROUTES SHOULD BE MINIMIZED BY JOINT DEVELOPMENT AND FUNDING WITH ADJACENT PROJECTS OF ALL TYPES INCLUDING PROPOSED ROAD IMPROVEMENTS, PRIVATE DEVELOPMENTS, AND UTILITY TYPE CORRIDORS. (9)

- BIKEWAYS SHOULD BE USED AS POSITIVE TOOLS TO IMPROVE THE ENVIRONMENT OF THE AREA THEY TRAVERSE, THROUGH THE USE OF LANDSCAPING AND OTHER VISUAL TREATMENTS WHERE SCENIC OR NATURAL AMENITIES DO NOT ALREADY EXIST. (5)

THE CONSULTANT REVIEWED AND EVALUATED EACH ALTERNATIVE AGAINST EACH CRITERION STATEMENT TO DETERMINE WHETHER IT DID OR DID NOT SATISFY A PARTICULAR CRITERION STATEMENT. IF THE ALTERNATIVE WAS POSITIVE OR BENEFICIAL TOWARD ACHIEVING A PARTICUAR CRITERION, THE ALTERNATIVE WAS GIVEN A 3; OF THE ALTERNATIVE WAS NEUTRAL OR HAD NO EFFECT, IT RECEIVED A 2; IF THE ALTERNATIVE WAS NEGATIVE TOWARD ACHIEVING THE CRITERION, IT RECEIVED A 1.

THIS WAS COMPLETED FOR EACH ALTERNATIVE, EVALUATING IT AGAINST EACH CRITERION STATEMENT. THEN THE WEIGHTED AVERAGE FOR EACH CRITERION WAS MULTIPLIED BY THE SCORE FOR THE ALTERNATIVE, RELATIVE TO THAT PARTICULAR CRITERION STATEMENT. THE RESULTANTS WERE THEN ADDED TO GIVE A TOTAL SCORE FOR EACH ALTERNATIVE.

TABLE II-2 EVALUATION CRITERIA

CRITERIA	ALTERNATIVE A	ALTERNATIVE B	ALTERNATIVE C
'WAYS SHOULD SERVE RECREATION AND UTILITY TRANS-ATION NEED S BY LINKING PARKS, AND OTHER RECREA-' FACILITIES, SHOPPING CENTERS, SCHOOLS, EMPLOY-' CENTERS, PUBLIC FACILITIES, TARC LOTS AND TS OF HISTORICAL OR LOCAL INTEREST (10)	THIS ALTERNATIVE PROVIDES GOOD NORTH-SOUTH ACCESS TO A NUMBER OF FACILITIES, HOWEVER, EAST-WEST CONNECTIONS IN THE SOUTHERN AND EASTERN PORTIONS OF THE COUNTY ARE LACKING. FACILITIES BEING SERVED BY ALTERNATE A INCLUDE 92 SCHOOLS, 32 PARKS, 7 MAJOR SHOPPING CENTERS, 6 EMPLOYMENT CENTERS, AND 8 TARC LOTS. (2)36	THIS ALTERNATIVE PROVIDES GOOD NORTH-SOUTH CIRCULATION, HOWEVER, AS IN ALTERNATIVE A, EAST-WEST CIRCULATION IS LACKING SOUTH OF STANDIFORD FIELD AND WITHIN THE EASTERN PORTION OF THE COUNTY. ALTERNATIVE B PROVIDES DIRECT ACCESS TO 108 SCHOOLS, 37 PARKS, 12 SHOPPING CENTERS, 9 EMPLOYMENT CENTERS AND 8 TARC LOTS. (3)84	THIS ALTERNATIVE PROVIDES GOOD NORTH-SOUTH CIRCULATION AND REASONABLY GOOD EAST-WEST CIRCULATION EXCEPT FOR THE AREA SOUTH OF THE AIRPORT. THE CONCEPT GIVES DIRECT ACCESS TO 80 SCHOOL SITES, 7 MAJOR EMPLOYMENT CENTERS, 34 PARKS AND RECREATION AREAS, 8 MAJOR SHOPPING CENTERS AND 6 TARC LOTS. (2)36
'WAYS SHOULD BE CONTINUOUS AND INTERCONNECTED OSSIBLE TO PROVIDE FOR THE NEEDS OF ALL TYPES YCLISTS AND TO CREATE A CONTINUOUS NETWORK UGHOUT THE LOUISVILLE AREA. (14)	THIS ALTERNATE PROVIDES FAIRLY CONTINUOUS ROUTES ALTHOUGH SOMEWHAT MORE CIRCUITOUS THAN ALTERNATIVES B AND C. THE REASON FOR THIS IS THE PREDOMINANT USE OF EXISTING STREETS WHICH CAUSE BIKE ROUTES TO SEEK STREETS HAVING LOW TRAFFIC VOLUMES. (2)28	THIS ALTERNATIVE UTILIZES MANY OF THE FLOOD CONTROL CANALS IN THE SOUTHERN PORTION OF THE COUNTY. AS A RESULT, THERE ARE OPPORTUNITIES TO CREATE SEVERAL LONG AND UNINTERRUPTED CLASS I BIKE ROUTES. THESE TYPES OF ROUTES BEST SERVE THE RECREATIONAL AND TOURING CYCLIST. (2)28	THIS ALTERNATIVE PROPOSED UTILIZING MANY OF THE SCHEDULED ROAD IMPROVEMENTS AS THE BASIS FOR BIKEWAY DEVELOPMENT. SUCH AN APPROACH OFFERS MANY OPPORTUNITIES TO DEVELOP LONG, RELATIVELY UNINTERRUPTED CLASS II BIKEWAYS. THESE ROUTES TEND TO BENEFIT THE COMMUTER OR UTILITARIAN BIKE USER. (3)42
WAYS SHOULD SERVE FUTURE LAND USE AREAS CON-ENT WITH THE COMPREHENSIVE LAND USE PLAN, OPOLITAN TRANSPORTATION PLAN AND MAJOR ITTED DEVELOPMENTS FOR THE COUNTY. (7)	THIS ALTERNATIVE SERVES FUTURE GROWTH AREAS OF THE SOUTHWEST, SOUTH AND EASTERN PORTIONS OF THE COUNTY WITH A GOOD NETWORK OF CLASS III BIKE ROUTES. THIS IS THE AREA OF THE COUNTY WHERE FUTURE GROWTH IS MOST LIKELY TO OCCUR. HOWEVER IT DOES NOT TAKE INTO ACCOUNT THE TRANSPORTATION PLAN FOR THE COUNTY. (1) 7	THIS ALTERNATIVE SERVES THE GROWTH AREAS OF THE COUNTY AS DESCRIBED IN ALTERNATIVE A, BUT LIKE A, IT DOES NOT TAKE INTO ACCOUNT THE TRANSPORTATION PLANS OF THE COUNTY. (1) 7	THIS ALTERNATIVE LIKE A AND B SERVES THE EASTERN AND SOUTHERN PORTIONS OF THE COUNTY WHERE GROWTH IS LIKELY TO OCCUR. HOWEVER, ALTERNATE C DOES TAKE INTO CONSIDERATION THE TRANSPORTATION SCHEMES PROPOSED FOR THE COUNTY. (3)12
E EXISTING STREETS ARE USED, THEY SHOULD BE UATED ON THE BASIS OF SERVICE, TRAFFIC ME, SPEED LIMITS, PAVEMENT WIDTH, PARKING HAZARDS TO SAFE CYCLING. (9)	THIS ALTERNATIVE EMPHASIZES THE USE OF EXISTING STREETS TO FORM THE BULK OF THE PROPOSED SYSTEM. THESE STREETS WERE SELECTED BY EVALUATING THEM ON THE BASIS OF TRAFFIC VOLUME, SPEED LIMITS, SERVICE AND PAVEMENT WIDTH; HOWEVER, WITH 149 MILES OF CLASS III BIKEWAYS UTILIZING THESE STREETS, THERE HAS TO REMAIN A POTENTIAL DANGER TO THE CYCLING PUBLIC. (1) 9	ALTHOUGH THE EMPHASIS FOR THIS ALTERNATIVE WAS ON THE UTILIZATION OF CLASS I ROUTES, CLASS III BIKEWAYS COMPRISING 159 MILES ARE A SIGNIFICANT PORTION OF THE SYSTEM. THE CLASS III ROUTES WERE EVALUATED ON THE BASIS OF VOLUME, SPEED SERVICE AND PAVEMENT WIDTH. AGAIN, THE POTENTIAL DANGER TO CYCLIST ON A CLASS III FACILITY MUST BE CONSIDERED. (1) 9	THIS ALTERNATIVE PROPOSES USING MANY OF THE SCHEDULED ROAD IMPROVEMENTS TO THE ARTERIAL AND COLLECTOR ROAD SYSTEM AS THE BASIS FOR BIKEWAY DEVELOPMENT. ALTHOUGH THE BIKEWAYS WOULD BE INCORPORATED INTO THE DESIGN OF THE NEW FACILITY THESE ROADS BY THEIR NATURE WILL CARRY HIGHER VOLUMES OF TRAFFIC AND THE INCIDENCE OF TRAFFIC ACCIDENTS IS LIKELY TO BE HIGHER. (2)1
IDORS AND INTERSECTIONS WITH HIGH INCIDENCES RAFFIC ACCIDENTS SHOULD BE AVOIDED OR GIVEN RITY FOR SEPARATE BIKEWAY DEVELOPMENT. (8)	THE MAJORITY OF THIS ALTERNATIVE IS COMPRISED OF CLASS III AND CLASS II BIKEWAYS ALONG PRIMARILY LOCAL STREETS WHERE TRAFFIC VOLUMES ARE LEAST. ALTHOUGH THE POTENTIAL DOES EXIST FOR CONFLICTS WITH AUTOMOBILE TRAFFIC ALL INTERSECTIONS WITH HIGH INCENDENCE OF TRAFFIC ACCIDENTS HAVE BEEN AVOIDED. (2)16	SINCE 25% OF THE MILEAGE OF THIS ALTERNATIVE IS COMPRISED OF CLASS I BIKEWAYS THERE IS LESS POTENTIAL FOR CONFLICTS BETWEEN MOTORISTS AND CYCLISTS. THE REMAINING MILEAGE IS MADE UP OF CLASS III AND II BIKEWAYS. THESE ROUTES ARE ON LOCAL STREETS AND WERE SELECTED FOR THEIR LOW TRAFFIC VOLUMES. AS IN ALTERNATIVE A ALL HIGH ACCIDENT INTERSECTIONS HAVE BEEN AVOIDED. (3)24	
COST OF DEVELOPMENT AND EXTENSION OF BIKEWAY ES SHOULD BE MINIMIZED BY JOINT DEVELOPMENT FUNDING WITH ADJACENT PROJECTS OF ALL TYPES UDING PROPOSED ROAD IMPROVEMENTS, PRIVATE LOPMENTS, AND UTILITY TYPE CORRIDORS. (9)	SINCE THE BASIC FRAMEWORK FOR THIS ALTERNATIVE IS THE USE OF LOCAL, LOW VOLUME STREETS THE EXTENSIVE OF BIKEWAYS IS DEPENDENT TO A GREAT EXTENT ON PRIVATE SUBDIVISION DEVELOPMENT. ALTHOUGH THE COST OF THESE ROUTES MAY BE BORNE IN PART BY A DEVELOPER THE RESULTANT BIKEWAY SYSTEM IS NOT ONE WHICH SERVES THE BEST INTEREST OF THE CYCLIST. THIS SYSTEM PROVIDES LOCAL NEIGHBORHOOD TRAVEL BUT NOT INTRA-NEIGHBORHOOD OR UTILITARIAN TYPE TRAVEL NEEDS. THE ALTERNATIVE HAS BEEN FORCED TO USE CIRCUITOUS NEIGHBORHOOD ROUTES TO FIND LOW VOLUME STREETS. THE COST OF ALTERNATIVE A IS ESTIMATED AT $5,820,831 OR $20,741/MILE. THE BULK OF THE COST IN THIS ALTERNATIVE ALL MADE UP OF ROAD WIDENING PROJECTS WHICH WOULD BE NECESSARY TO IN ORDER TO USE MANY OF THE COUNTY ROADS. THE BULK OF THE COST OF THIS ALTERNATIVE WOULD BE THE RESPONSIBILITY OF LOCAL GOVERNMENT. (1) 9	THIS ALTERNATIVE PROPOSED USING MANY OF THE FLOOD-CONTROL CANALS IN THE SOUTHERN PORTION OF THE COUNTY AS A MAJOR COMPONENT OF THE PLAN. THESE CANALS AND UTILITY TYPE CORRIDORS PROVIDE GOOD OPPORTUNITIES FOR CLASS I BIKEWAY DEVELOPMENT. HOWEVER, THE COST FOR DEVELOPING THE BIKEWAY IS STILL THE RESPONSIBILITY OF THE LOCAL GOVERNMENT. THE COST FOR DEVELOPING THE BIKEWAY MAY BE OFFSET WITH UP TO AS MUCH AS 80% OF THE COST BEING BORNE THROUGH FEDERAL AND STATE RECREATION PROGRAMS. THE COST OF ALTERNATIVE B IS ESTIMATED AT $6,486,917 OR $20,593/MILE. APPROXIMATELY $2,390,000 OF THE COST OF THIS ALTERNATIVE COULD BE SHARED WITH OTHER AGENCIES (BOR-FHWA). (2)10	SINCE MANY OF THE PROPOSED ROAD IMPROVEMENT PROJECTS ARE A PART OF THE METROPOLITAN TRANSPORTATION STUDY AND ARE ON THE FEDERAL AID SYSTEM, THEY ARE ELIGIBLE FOR FEDERAL AND STATE FUNDING (70% FEDERAL, 15% STATE AND 15% LOCAL). THESE BIKEWAYS WILL BEST SERVE THE CYCLING PUBLIC IN THAT THEY ARE CONTINUOUS, INTER-CONNECT NEIGHBORHOODS, SERVE PROPOSED GROWTH AREAS OF THE COUNTY AND REFLECT A SPECIFIC TRAVEL LINE DESIRE. BY INCORPORATING BIKEWAYS INTO THESE ROAD PROJECTS A DUAL PURPOSE CAN BE SERVED, 1) BY PROVIDING RELATIVELY SAFE AND CONVENIENT BIKEWAYS, AND 2) BY AIDING IN RELIEVING AUTOMOBILE TRAFFIC THROUGH ANOTHER MODE OF TRAVEL. THE COST OF THE ALTERNATIVE IS ESTIMATED AT $6,074,803 OR $21,483/MILE. ALTHOUGH THE MOST EXPENSIVE OF THE THREE ALTERNATIVES, APPROXIMATELY $3,540,000 OF THE COST MAY BE SHARED WITH OTHER AGENCIES (BOR-FHWA). (3)12
WAYS SHOULD BE USED AS POSITIVE TOOLS TO IM-E THE ENVIRONMENT OF THE AREA THEY TRAVERSE, UGH THE USE OF LANDSCAPING AND OTHER VISUAL TMENTS WHERE SCENIC OR NATURAL AMENITIES DO ALREADY EXIST. (5)	SINCE THE BULK OF THE PROPOSED BIKEWAY PLAN IN THIS ALTERNATIVE IS ALONG EXISTING STREETS IN THE FORM OF CLASS III FACILITIES THERE EXISTS LITTLE OPPORTUNITY TO IMPROVE THE VISUAL QUALITY OF THE AREA THEY TRAVERSE. (1) 9	ALTHOUGH SOME OF THE PROPOSED CLASS I BIKEWAYS ARE LOCATED ALONG SCENIC AREAS ALREADY MANY ARE PROPOSED ALONG RATHER UNATTRACTIVE DRAINAGE AND UTILITY CORRIDORS. BY INCORPORATING BIKEWAYS INTO THESE AREAS CONSIDERABLE OPPORTUNITY EXISTS FOR UPGRADING THEM BOTH VISUALLY AND FUNCTIONALLY BY INTRODUCING LANDSCAPE MATERIAL. THE ADDITION OF THE JIKEWAY ADDS A NEW DIMENSION TO THE URBAN FABRIC OF THE COMMUNITY. (3)18	INCORPORATING THE BIKEWAYS INTO THE DESIGN OF THE PROPOSED ROAD PROJECTS AS A CLASS II FACILITY WOULD NOT NECESSARILY IMPROVE THE VISUAL QUALITY OF THE AREA THEY TRAVERSE. HOWEVER, ON THOSE PROJECTS WHERE THE BIKEWAY WOULD BE BUILT WITHIN THE RIGHT-OF-WAY BUT OFF THE ROADWAY CONSIDERABLE OPPORTUNITY DOES EXIST TO IMPROVE THE VISUAL QUALITY OF THE RIGHT-OF-WAY. TWO EXAMPLES OF THIS WOULD BE ALONG THE WATERSON EXPRESSWAY (PROPOSED TO BE RECONSTRUCTED) AND THE JEFFERSON FREEWAY - BOTH LIMITED ACCESS FACILITIES WHERE CLASS I BIKEWAYS WOULD BE REQUIRED. (2)10
	110	108	170

RECOMMENDED ALTERNATIVES: EACH OF THE PROPOSED ALTERNATIVES OFFER GOOD SERVICE TO THE MANY SCHOOL SITES, EMPLOYMENT CENTERS, TARC PARK'N'RIDE LOTS, AND TO THE MANY RECREATION AREAS OF THE COUNTY. THE RELATIVE COSTS PER MILE ARE ABOUT THE SAME FOR EACH, I.E. $21,000 PER MILE OF BIKEWAY. THE EVALUATION BY THE CONSULTANT INDICATES THAT ALTERNATIVE C BEST FULFILLS THE DESIRES OF THE COMMITTEE IN OVERALL DEVELOPMENT COST, SERVICE, SAFETY AND JOINT DEVELOPMENT POTENTIAL.

IT IS RECOMMENDED THAT ALTERNATIVE C FORM THE BASIS FOR ARRIVING AT THE FINAL LONG-RANGE PLAN AND THAT WHEREVER POSSIBLE CLASS I BIKEWAYS FROM ALTERNATIVE B SUPPLEMENT THE SYSTEM. THE REFINEMENT OF THESE TWO ALTERNATIVES ALONG WITH THE APPROPRIATE CLASS I AND II ROUTES FROM ALTERNATIVE A WILL PRODUCE A LONG-RANGE PLAN WHICH BEST MEETS THE GOAL OF THE COMMITTEE.

THE MOST SIGNIFICANT ELEMENT OF THE COSTS INVOLVED THE WIDENING OF EXISTING ROADS TO ACCOMMODATE EVEN A CLASS III FACILITY. IT WAS DETERMINED THAT SINCE THE GREATER COST OF WIDENING THE ROAD INVOLVED THE INSTALLATION OF CURB AND GUTTER SECTIONS, WIDENING SHOULD TAKE PLACE ON ONE SIDE OF THE STREET ONLY. BY PROVIDING AN ADDITIONAL 8 FEET OF PAVEMENT, CURB AND GUTTER, AND METAL BUTTONS 10 FEET ON CENTER, AN EFFECTIVE CLASS II PROTECTED FACILITY COULD BE BUILT CHEAPER THAN IF WIDENING TOOK PLACE ON BOTH SIDES OF THE STREET.

THE FOLLOWING IS THE COSTS/MILE FOR EACH OF THE VARIOUS CLASS SEGMENTS. FURTHER DISCUSSION OF CONSTRUCTION COST ESTIMATES MAY BE FOUND ON PAGE 80.

CLASS III	$400/MILE
CLASS II (STRIPING ONLY)	$883
CLASS IIP (WIDENING/CURB AND GUTTER)	66,355
CLASS II (ROAD IMPROVEMENTS)	32,313
CLASS I	31,680

THE TOTAL COSTS FOR EACH ALTERNATIVE IS LISTED BELOW.

ALTERNATIVE A	271 MILES	$5,620,831
ALTERNATIVE B	315 MILES	$6,486,917
ALTERNATIVE C	320 MILES	$6,874,803

LONG-RANGE PLAN

FOLLOWING THE SELECTION OF A LONG-RANGE ALTERNATIVE BY THE BIKEWAY PLANNING COMMITTEE AND KIPDA, JEFFERSON COUNTY WAS EXAMINED IN MORE DETAIL IN ORDER TO FURTHER DEFINE AND IDENTIFY THOSE STREETS WITH HIGH POTENTIAL FOR USE AS BIKEWAYS. THOSE SPECIAL OPPORTUNITIES IDENTIFIED AS POTENTIAL AND UNUSUAL BIKEWAYS ALONG THE OHIO RIVER, THE FLOOD CONTROL CANALS IN THE SOUTHERN PORTION OF THE COUNTY, THROUGH MAJOR PARKS AND IN CONJUNCTION WITH THE MANY MAJOR ROAD IMPROVEMENT PROJECTS WERE ALSO INVESTIGATED. IN ADDITION, ROUTES WERE FURTHER SELECTED WHICH BEST REFLECTED THE GOALS AND OBJECTIVES ADOPTED BY THE BIKEWAY COMMITTEE AND WHICH PROVIDED THE MOST EFFICIENT AND COMPLETE SERVICE TO THE MANY SCHOOLS, PARKS, SHOPPING CENTERS, EMPLOYMENT AREAS AND AREAS OF SPECIAL INTEREST IN JEFFERSON COUNTY.

THE BIKEWAY PLAN, WHICH IS ILLUSTRATED IN FIGURE II-4, SHOULD BE VIEWED AS AN ULTIMATE PLAN FOR BIKEWAY DEVELOPMENT. IN ADDITION THIS REPORT IDENTIFIES THREE DEVELOPMENT PHASES THAT MAY BE COMPLETED DURING THE NEXT 25 YEARS. AN IMMEDIATE ACTION PROGRAM TO BE CARRIED OUT DURING 1976-1977 BY THE CITY OF LOUISVILLE PROPOSES THE DESIGNATION AND CONSTRUCTION OF ALMOST 54 MILES OF BIKEWAYS. THE MOST SIGNIFICANT OF THESE IS THE BEARGRASS CREEK BIKEWAY, A ROUTE ALONG THE BANKS AND FLOOD PLAIN OF THE MIDDLE FORK BEARGRASS CREED. A SHORT-RANGE PROGRAM IS DESIGNED TO BE IMPLEMENTED BY 1985. OVER 150 MILES OF BIKEWAYS WILL BE DEVELOPED IN LOUISVILLE AND SUBURBAN JEFFERSON COUNTY DURING THIS STAGE. A LONG-RANGE PROGRAM, WHICH EXTENDS TO THE YEAR 2000, PROPOSES BIKEWAYS THAT WILL SERVE 108 SCHOOLS, 37 RECREATION AREAS AND 21 MAJOR EMPLOYMENT AND SHOPPING CENTERS IN LOUISVILLE AND JEFFERSON COUNTY. ALMOST 300 ADDITIONAL RULES OF BIKEWAYS ARE PROPOSED FOR THE PERIOD FROM 1985 TO 2000.

THREE TYPES OF BIKEWAYS ARE PROPOSED IN FUTURE PLANS. THE FIRST IS THE CLASS I BIKE TRAIL OR PATH, A SEPARATE FACILITY FOR THE EXCLUSIVE USE OF BICYCLES; 125 MILES OF EXCLUSIVE BIKE PATHS ARE PLANNED FOR THE ENTIRE COUNTY OVER THE 25 YEAR PERIOD. SAFETY IS A PARAMOUNT CONSIDERATION IN DETERMINING THE KIND OF BIKEWAY TO BE BUILT. A BIKE TRAIL IS RECOMMENDED, FOR EXAMPLE, ALONG A DESIRED CORRIDOR WHEN THERE IS HEAVY AUTO TRAFFIC ON ADJACENT ROADS OR WHEN TRAFFIC SPEEDS ARE IN EXCESS OF 45 MILES PER HOUR.

THE SECOND TYPE OF BIKEWAY IS THE CLASS II BICYCLE LANE, A SEPARATE LANE ON A ROADWAY OR A PORTION OF A SIDEWALK WHICH HAS BEEN DESIGNATED FOR PREFERENTIAL OR EXCLUSIVE USE OF BICYCLES. IT IS SEPARATED FROM THE PORTION OF THE ROAD USED BY CARS BY A PAINT STRIPE, CURB OR TRAFFIC BUTTONS. SEPARATE BICYCLE LANES ARE NECESSARY WHEN TRAFFIC SPEEDS ARE FROM 30 TO 45 MILES PER HOUR. ABOUT 119 MILES OF BICYCLE LANES ARE PLANNED THROUGHOUT THE COUNTY BY 2000.

THE THIRD TYPE OF BIKEWAY, AND THE MOST COMMON AND LEAST EXPENSIVE TYPE, IS THE SHARED ROADWAY, A ROADWAY WHICH IS OFFICIALLY DESIGNATED AND MARKED AS A BICYCLE ROUTE, BUT WHICH IS OPEN TO AUTO TRAFFIC AND UPON WHICH NO BIKE LANE IS DESIGNATED. STREET CONDITIONS AND ROADWAY WIDTH ARE CONSIDERED IN ADDITION TO TRAFFIC VOLUME AND SPEED IN SELECTING SHARED ROADWAYS. THE BIKEWAY NETWORK WILL INCLUDE ABOUT 260 MILES OF SHARED ROADWAYS BY 2000.

COST OF IMPLEMENTING THE ENTIRE PROPOSED BIKEWAY NETWORK IS ESTIMATED AT OVER $10 MILLION. IMPROVEMENTS PROPOSED FOR THE FIRST FIVE YEARS ARE TAGGED AT $1,681,561. COSTS VARY CONSIDERABLY ACCORDING TO THE TYPE OF FACILITY CONSTRUCTED AND, AS THE PLAN IS IMPLEMENTED, ALTERNATIVES TO THE PROPOSED BIKEWAYS COULD RAISE OR LOWER PROJECT COSTS. IT SHOULD BE POINTED OUT THAT THE DESIGNATION OF ROUTES IN THE PLAN DOES NOT COMMIT FUNDS FOR THE CONSTRUCTION OF THESE BIKEWAYS. LOCAL SUPPORT FOR THE PLAN AND THE INTEGRATION OF THE PLAN INTO OTHER PLANNING AND IMPLEMENTATION EFFORTS WILL BE NEEDED TO HELP INSURE ADEQUATE FUNDS FOR FUTURE CONSIDERATION.

APPROXIMATELY 15 MILES OF UNDESIGNATED CLASS BIKEWAYS ARE PLANNED IN THE COUNTY. THESE BIKEWAY CORRIDORS ARE IN RELATIVELY UNDEVELOPED PORTIONS OF THE COUNTY AND CONNECT ALREADY DEVELOPED AREAS AND PROPOSED BIKEWAYS. BY DESIGNATING THESE CORRIDORS EARLY IN THE PLANNING PROCESS, LOCAL OFFICIALS WILL BE ABLE TO ESTABLISH A BIKEWAY THAT PROVIDES THE MOST PROTECTION TO THE CYCLIST AND STILL BE COMPATIBLE WITH FUTURE DEVELOPMENT PLANS OF THE AREA.

IN ADDITION TO THE DESIGNATION OF LONG-RANGE ROUTE CORRIDORS THROUGHOUT LOUISVILLE AND JEFFERSON COUNTY, THE BIKEWAY PLAN OUTLINES THE ROLE OF THE VARIOUS LOCAL AND STATE GOVERNMENTS IN IMPLEMENTING THE PLAN, POTENTIAL FUNDING SOURCES AND PUBLIC EDUCATION PROGRAMS RELATED TO SAFETY AND ENFORCEMENT OF BIKE RELATED LAWS.

THE FOLLOWING TABLE IS A BREAKDOWN BY CLASS AND TYPE OF CONSTRUCTION OF THE FUTURE BIKEWAY CORRIDORS IN ALL OF JEFFERSON COUNTY.

TABLE II-3
RECOMMENDED MILEAGE BY TYPE
LONG-RANGE PLAN (ULTIMATE BIKEWAY DEVELOPMENT PLAN)

CLASS	LENGTH IN MILES	
	ULTIMATE PLAN	2000 PLAN
FUTURE CORRIDORS	15	-
CLASS I	126	125
CLASS II STRIPING ONLY	26	48
CLASS II PROTECTED/WIDENING	145	71
CLASS III	281	259
	593	503

Jefferson County Bikeway Plan

Louisville and Jefferson County, Kentucky

Prepared By:
C.F.P. Transportation Engineers And Planners, Incorporated
Reynolds, Smith & Hills Architects·Engineers·Planners, Incorporated
In Association

Prepared For:
Kentuckiana Regional Planning And Development Agency

In Cooperation With:
Kentucky Department Of Transportation
Federal Highway Administration

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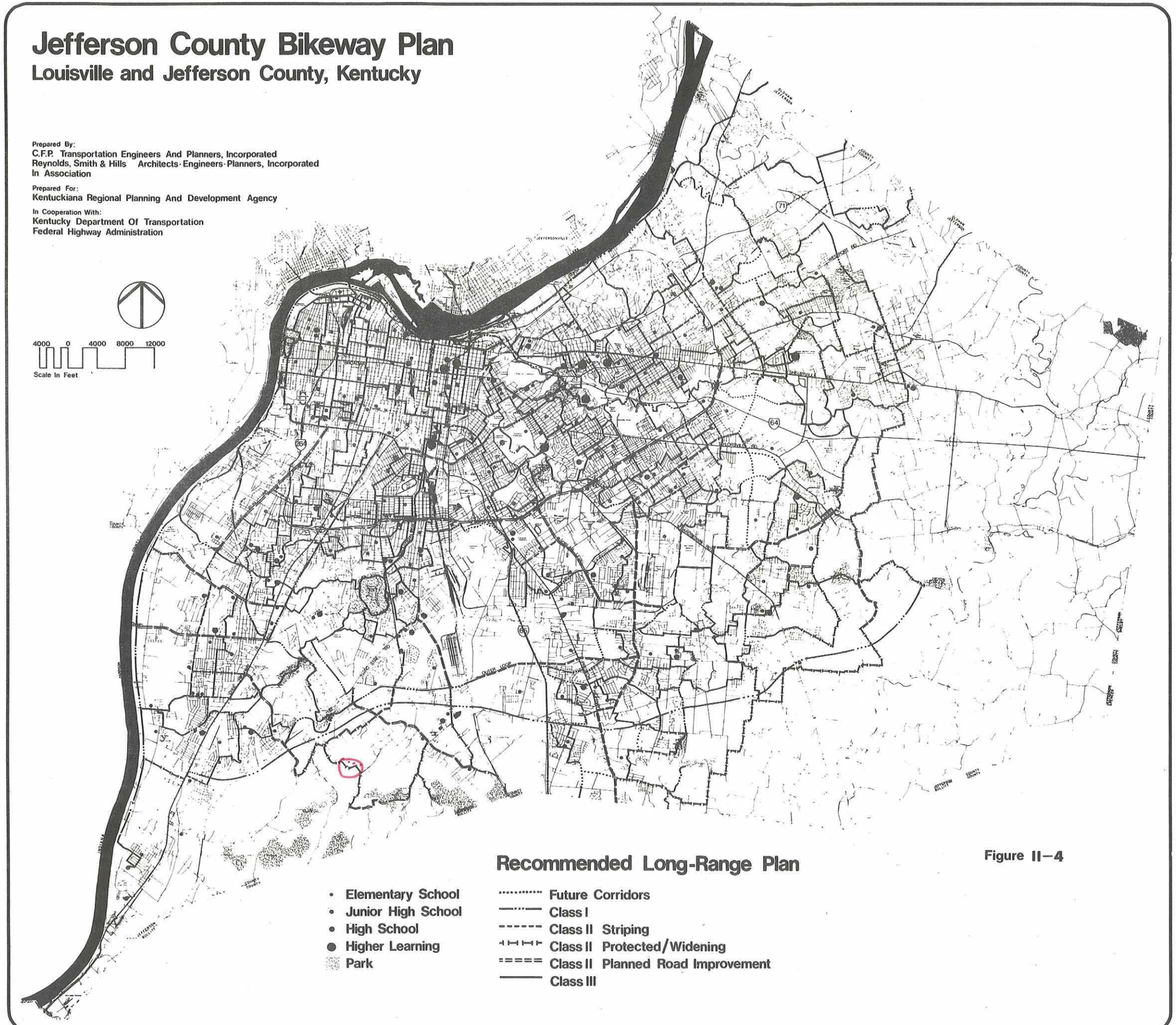
Scale In Feet



Recommended Long-Range Plan

- Elementary School
- Junior High School
- High School
- Higher Learning
- Park

- Future Corridors
- Class I
- Class II Striping
- Class II Protected/Widening
- Class II Planned Road Improvement
- Class III

Figure II–4

Jefferson County Bikeway Plan

Louisville and Jefferson County, Kentucky

Prepared By:
C.F.P. Transportation Engineers And Planners, Incorporated
Reynolds, Smith & Hills Architects-Engineers-Planners, Incorporated
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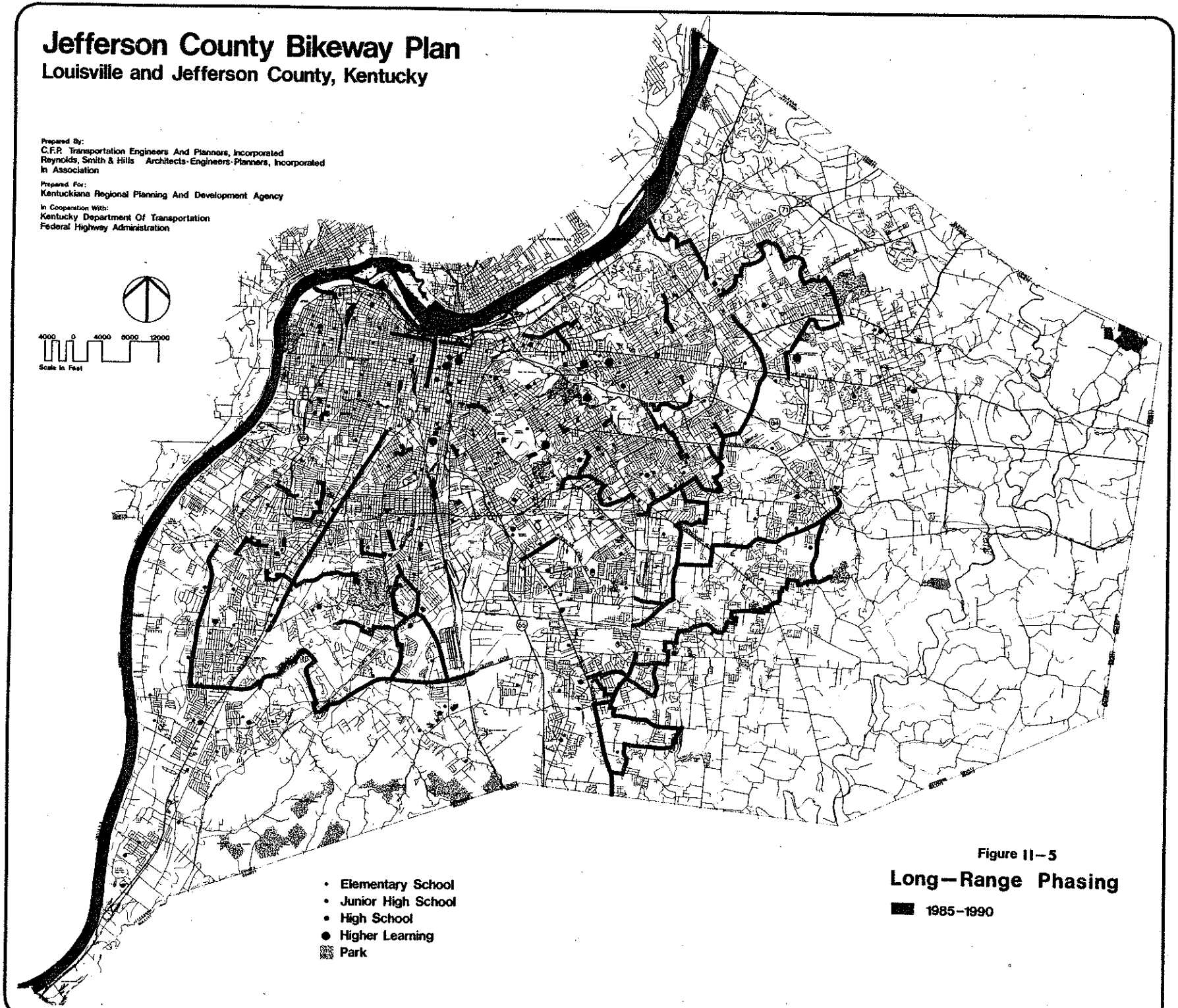

Figure II-5

Long-Range Phasing

1985-1990

- CLASS I FACILITIES ALONG THE RIVER IN THE NORTHERN PORTION OF THE COUNTY AS AN EXTENSION OF THE RIVER ROAD ROUTES.

- CLASS I FACILITIES ALONG THE MIDDLE AND SOUTH FORKS OF BEARGRASS CREEK.

- CLASS I FACILITY ALONG SOUTHERN DITCH FROM MANSLICK ROAD TO THE NORTH FORK OF SOUTHERN DITCH.

- CLASS II FACILITY IN THE HURSTBOURNE-ST. REGIS PARK AREA TYING LYNDON LANE INTO THE HIKES LANE ROUTE.

- CLASS II FACILITY AS PART OF A PROPOSED ROAD IMPROVEMENT ALONG OLD SHEPHERDSVILLE ROAD, MANSLICK ROAD AND PRESTON HIGHWAY.

- CLASS II AND III FACILITIES FROM JEFFERSTOWN SOUTHEAST TO THE EXPANDED MCNEELY LAKE PARK.

THE FIRST PHASE HAS A TOTAL OF APPROXIMATELY 120 MILES AT A COST OF $1,989,400 (SEE FIGURE II-5).

TABLE II-4
RECOMMENDED MILEAGE BY TYPE
1985 - 1990

CLASS	LENGTH IN MILES
CLASS I	19.3
CLASS II STRIPING ONLY	23.0
CLASS II PROTECTED/WIDENING	12.0
CLASS II PLANNED ROAD IMPROVEMENTS	13.0
CLASS III	52.5
	119.8

YEARS 1990 - 1995: THIS STAGE COMPLETES THE BIKEWAY NETWORK WITHIN THE SHORT-RANGE PROGRAM AND ALSO PROVIDES MAJOR BIKEWAY FACILITIES IN THE OUTER PORTIONS OF THE COUNTY. MAJOR EXPENDITURES OCCUR AS FOLLOWS:

- CLASS I FACILITIES ALONG SLOP DITCH BEGINNING AT PETERSBURG PARK TO PRESTON HIGHWAY AND ALONG A CREEK BEGINNING AT GILMORE LANE AND BREITENSTEIN AVENUE RUNNING SOUTH TO THE SLOP DITCH BIKEWAY.

- CLASS I BIKEWAY BEGINNING AT HIGHVIEW PARK SOUTH ALONG PENNSYLVANIA RUN CREEK TO MCNEELEY PARK.

Jefferson County Bikeway Plan

Louisville and Jefferson County, Kentucky

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Scale In Feet

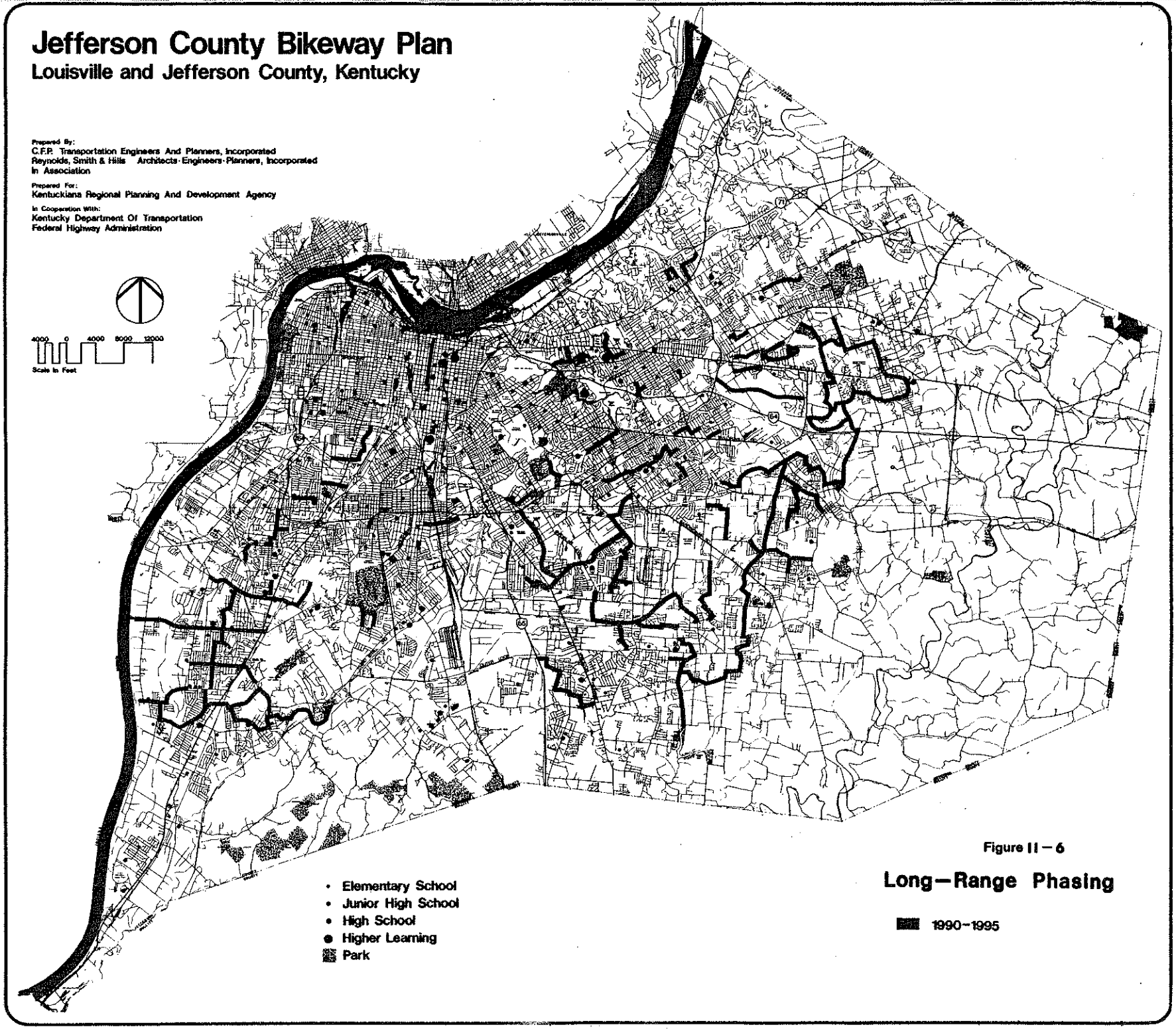

Figure II – 6

Long–Range Phasing

1990–1995

- CLASS II FACILITIES AS PART OF A PROPOSED ROAD IMPROVEMENT ALONG LOWER HUNTERS TRACE BEGINNING AT DIXIE HIGHWAY WEST TO CANE RUN ROAD, AND ALONG GREENWOOD ROAD BEGINNING AT DIXIE HIGHWAY WEST TO RIVER VIEW PARK.

THE SECOND PHASE HAS A TOTAL OF 113 MILES AT A COST OF APPROXIMATELY $1,997,000 (SEE FIGURE II-6).

TABLE II-5
RECOMMENDED MILEAGE BY TYPE
1990 - 1995

CLASS	LENGTH IN MILES
CLASS I	20.1
CLASS II STRIPING ONLY	8.1
CLASS II PROTECTED/WIDENING	13.5
CLASS II PLANNED ROAD IMPROVEMENTS	5.8
CLASS III	65.4
	112.9

YEARS 1995 - 2000: THIS STAGE CONFINES ITSELF TO THE OUTER AREAS OF THE COUNTY PROVIDING ACCESSIBILITY TO OUTLYING PARKS AND OUTLYING SCENIC AREAS. A MAJOR CLASS I FACILITY IS PLANNED ALONG THE RIVER IN THE SOUTHWESTERN PORTION OF THE COUNTY RUNNING SOUTH TO WATSON LANE.

THE THIRD PHASE HAS A TOTAL OF 65.5 MILES AT A COST OF AROUND $1,989.900 (SEE FIGURE II-7).

TABLE II-6
RECOMMENDED MILEAGE BY TYPE
1995 - 2000

CLASS	LENGTH IN MILES
CLASS I	23.9
CLASS II STRIPING ONLY	10.0
CLASS II PROTECTED/WIDENING	13.8
CLASS II PLANNED ROAD IMPROVEMENTS	6.9
CLASS III	10.9
	65.5

Jefferson County Bikeway Plan

Louisville and Jefferson County, Kentucky

Prepared By:
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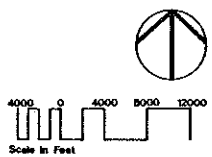

Figure II-7

Long-Range Phasing

TABLE II-7
RECOMMENDED MILEAGE - LONG-RANGE PHASE

PHASING PERIOD	MILEAGE	ESTIMATED CONSTRUCTION COST
1985 - 1990	119.8	$1,989,400
1990 - 1995	112.9	$1,997,000
1995 - 2000	65.5	$1,989.900
	298.2	$5,976,300

THE FOLLOWING TABLE COMPARES THE WARRANTED LONG RANGE BIKEWAY MILEAGE BY SECTOR WITH THE RECOMMENDED MILEAGE IN THE ULTIMATE DEVELOPMENT PLAN. THE WARRANTED MILEAGE WAS CALCULATED BASED ON THE DEMAND ESTIMATE FORMULAS DISCUSSED IN CHAPTER I (SEE FIGURE I-7 FOR MAP OF SECTORS) AND THE PROJECTED POPULATION BY SECTOR FOR THE YEAR 2000. IT SHOULD BE NOTED THAT NEARLY 70% OF THE ESTIMATED DEMAND MILEAGE IS SATISFIED IN THE LONG RANGE DEVELOPMENT PROGRAM.

TABLE II-8

BIKEWAY MILEAGE BY SECTOR

LONG RANGE PLAN
(ULTIMATE BIKEWAY DEVELOPMENT)

SECTOR	WARRANTED MILEAGE	RECOMMENDED MILEAGE	PERCENT OF WARRANTED MILEAGE
1	37	24	65
2	77	63	82
3	34	26	76
4	41	31	76
5	21	21	100
6	48	37	77
7	176	82	47
8	118	69	58
9	145	107	74
10	105	91	87
11	63	42	67
TOTAL	865	593	69

PHASE III TECHNICAL MEMORANDUM

- Short-Range Bikeway Planning Considerations
- The Short-Range Program
- Short-Range Implementation
- Recommended Bikeway Cross-sections and Costs

LOUISVILLE/JEFFERSON COUNTY BIKEWAY STUDY

CFP Transportation Engineers and Planners, Inc.
Reynolds, Smith and Hills
Architects-Engineers-Planners, Inc.

INTRODUCTION

THIS PHASE OF THE STUDY IS PRIMARILY DESIGNED TO:

1. PREPARE AN IMMEDIATE ACTION PROGRAM WHICH REQUIRES MINIMUM CAPITAL OUTLAY,

2. ESTABLISH SHORT-RANGE LOCATION OF BIKEWAY FACILITIES,

3. PREPARE BIKEWAY FACILITIES DESIGNS, AND

4. RECOMMEND ACTIONS FOR ADMINISTRATION AND MAINTENANCE OF THE PROPOSED SHORT-RANGE BIKEWAY SYSTEM.

A SPENDING CEILING OF $400,000 PER YEAR WAS ESTABLISHED BY KIPDA ACCORDING TO THE PROCEDURE DESCRIBED ON PAGE 62. IN ORDER TO REMAIN WITHIN THE SPENDING CONSTRAINT, IT WAS FOUND EARLY IN THE STUDY THAT BIKEWAYS IN THE RURAL PORTION OF THE COUNTY WERE NOT ECONOMICALLY FEASIBLE IN THE SHORT-RANGE FUTURE DUE TO EXTENSIVE CONSTRUCTION NEEDS. FIGURE III-1 ILLUSTRATES THE AREA THAT WAS GIVEN INTENSIVE STUDY FOR PREPARATION OF THE SHORT-RANGE IMPLEMENTATION PROGRAM.

Jefferson County Bikeway Plan

Louisville and Jefferson County, Kentucky

SHORT RANGE STUDY AREA

Prepared By:
C.F.P. Transportation Engineers And Planners, Incorporated
Reynolds, Smith & Hills Architects·Engineers·Planners, Incorporated
In Association

Prepared For:
Kentuckiana Regional Planning And Development Agency

In Cooperation With:
Kentucky Department Of Transportation
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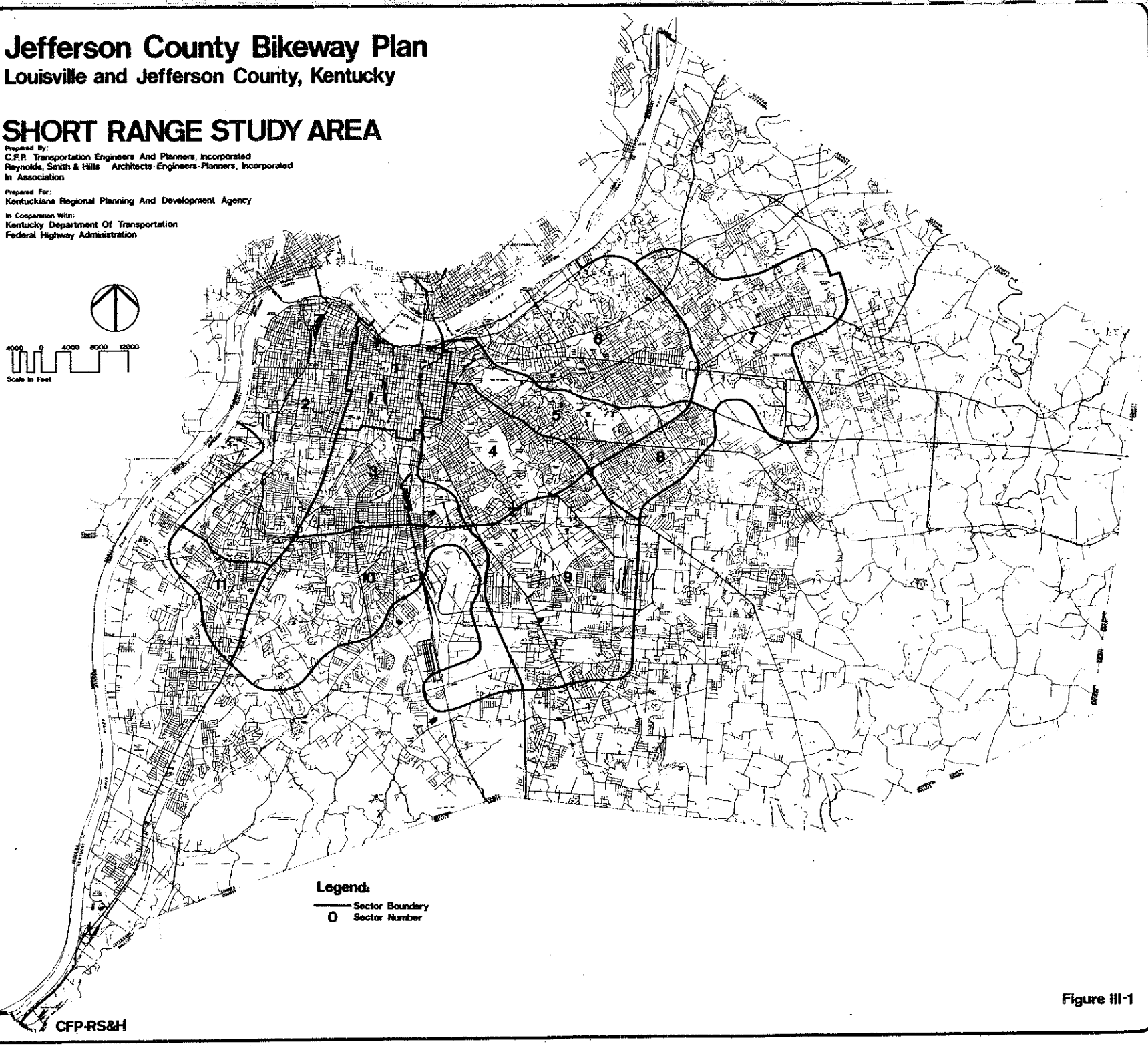

CFP·RS&H

Figure III-1

SHORT-RANGE BIKEWAY PLANNING CONSIDERATIONS

LOUISVILLE ENJOYS A GENERALLY FAIR CLIMATE WITH AN AVERAGE ANNUAL TEMPERATURE OF 58 DEGREES. THERE IS, HOWEVER, AN AVERAGE OF 20 DAYS PER YEAR WITH A MAXIMUM TEMPERATURE OF 32 DEGREES OR LESS. THERE IS AN AVERAGE OF 124 DAYS A YEAR WITH MORE THAN A TRACE OF PRECIPITATION AND 5 OF THESE DAYS HAVE ONE INCH OR MORE OF SNOW OR ICE.

THE SHORT-RANGE STUDY AREA IS GENERALLY CHARACTERIZED BY TERRAIN WITH ZERO TO 15 PERCENT DEGREE OF SLOPE. APPROXIMATELY ONE-HALF OF THE SHORT-RANGE STUDY AREA IS CHARACTERIZED BY ZERO TO FIVE PERCENT DEGREE OF SLOPE.

THE TOPOGRAPHY, CULTURAL ACTIVITIES, HISTORICAL SITES, PUBLIC PARKS AND MAJOR EDUCATIONAL INSTITUTIONS HAVE COLLECTIVELY GENERATED A SOCIAL AND ECONOMIC ENVIRONMENT SUITED TO BICYCLING AND OTHER OUTDOOR ACTIVITIES. WHILE THERE IS A LATENT DEMAND FOR BICYCLE FACILITIES, NARROW STREETS, HEAVY TRAFFIC VOLUMES, NATURAL BARRIERS AND HIGH SPEED ARTERIALS HAVE DISCOURAGED BICYCLING OUTSIDE OF CONFINED RESIDENTIAL NEIGHBORHOODS.

PHYSICAL CONSTRAINTS

THE PRIMARY BARRIERS TO BICYCLING ARE EXPRESSWAYS, MAJOR ARTERIALS, THE OHIO RIVER AND PARTS OF BEARGRASS CREEK. THESE CONSTRAINTS TEND TO CONCENTRATE THE AREA'S AUTO TRAFFIC IN A FEW MAJOR CORRIDORS. BICYCLING MUST ALSO BE ACCOMPLISHED WITHIN THESE CONSTRAINTS. ROADWAY WIDTHS, SPEED LIMITS, AND TRAFFIC VOLUMES ALSO BECOME CONTROLLING FACTORS IN SELECTION OF THE ROUTE AND THE TYPE OF BIKEWAY IMPROVEMENTS THAT WILL MEET ACCEPTABLE SAFETY STANDARDS. ALONG I-264, I-65, AND I-64 MAJOR INTERCHANGES HAVE HIGH TRAFFIC VOLUMES. THUS, IT BECAME NECESSARY TO IDENTIFY THOSE STREETS WHICH CROSS THE EXPRESSWAYS AND HAVE RELATIVELY LOW TRAFFIC VOLUMES. IT ALSO BECAME NECESSARY TO IDENTIFY LOW VOLUME STREETS WHICH CROSS THE WIDER PORTIONS OF BEARGRASS CREEK AND MAJOR ARTERIALS.

ACTIVITY CENTERS

ONE OF THE PRIMARY OBJECTIVES OF THE STUDY WAS TO DEVELOP A BIKEWAY PLAN WHICH WOULD LINK THE PRIMARY EMPLOYMENT, COMMERCIAL, RECREATIONAL AND EDUCATIONAL CENTERS WITH RESIDENTIAL NEIGHBORHOODS. EARLY IN THE STUDY THESE ACTIVITY CENTERS WERE ESTABLISHED AND PLOTTED ON WORKING MAPS ON WHICH BICYCLE ROUTES WERE BEING INVESTIGATED (SEE FIGURE II-3).

MAJOR TRIP GENERATORS INCLUDE ELEMENTARY, MIDDLE AND HIGH SCHOOLS AS WELL AS THE MAJOR COLLEGES IN THE AREA. THE COLLEGES INCLUDE THE UNIVERSITY OF LOUISVILLE, BELLARMINE COLLEGE, JEFFERSON COMMUNITY COLLEGE, LOUISVILLE PRESBYTERIAN SEMINARY, SOUTHERN BAPTIST SEMINARY AND SPALDING COLLEGE.

THE POTENTIAL FOR EXPANDED USE OF BICYCLES TO THESE INSTITUTIONS IS SUBSTANTIAL.

THE OHIO RIVER, ESPECIALLY IN THE DOWNTOWN AREA, COUPLED WITH SHAWNEE AND CHICKASAW PARKS PROVIDES A BICYCLING ENVIRONMENT THAT WOULD SERVE A RECREATIONAL NEED AS WELL AS PROVIDE AN ALTERNATIVE ROUTE TO GET TO THE CENTRAL BUSINESS DISTRICT. ANOTHER AREA WHERE A BIKEWAY WOULD SERVE SEVERAL INTERESTS IS IN THE VICINITY OF THE U.S. NAVAL ORDNANCE PLANT, IROQUOIS PARK AND CHURCHILL DOWNS.

OTHER MAJOR TRIP GENERATORS INCLUDE CHEROKEE PARK, E. P. SAWYER PARK, COX PARK, LOUISVILLE ZOO, OXMOOR MALL, HOLIDAY MANOR AND GENERAL ELECTRIC. IF A BIKEWAY SYSTEM TO LINK POTENTIAL TRIP DESTINATIONS WHILE MINIMIZING BICYCLE AND AUTOMOBILE CONFLICTS WERE DEVELOPED AND IMPLEMENTED, A VAST INCREASE IN BIKE TRIPS TO THESE HISTORIC, RECREATIONAL, EDUCATIONAL AND BUSINESS SITES COULD OCCUR.

BICYCLING CHARACTERISTICS

WHEN CONSIDERING THE BICYCLE AS A VIABLE MEANS OF TRANSPORTATION, IT MUST BE REALIZED THAT CERTAIN LIMITATIONS TO ITS USE AND ACCEPTANCE EXIST. SAFETY AND TRAFFIC REGULATIONS ARE OF IMMEDIATE CONCERN TO THE BICYCLIST DURING BOTH RECREATIONAL AND COMMUTER TRAVEL. WEATHER, DISTANCE AND STORAGE OF VEHICLES ARE ALSO LIMITATIONS WHICH MUST BE ACCEPTED OR OVERCOME TO ACHIEVE MAXIMUM UTILIZATION. THE KEY PROBLEMS ASSOCIATED WITH BICYCLING ARE:

1. SAFETY,
2. SECURITY,
3. ACCESS, AND
4. RIDING ENVIRONMENT.

SAFETY - BICYCLE ACCIDENTS CAN BE CATEGORIZED INTO TWO BASIC TYPES:

1. COLLISIONS - WHICH INCLUDE COLLISIONS OF THE BICYCLE WITH BOTH STATIONARY AND MOVING OBJECTS SUCH AS AUTOMOBILES, PARKED AND IN TRAFFIC, AND

2. FALLS - WHICH ARE DUE TO THE BICYCLISTS LOSING CONTROL OF THEIR VEHICLE AS A RESULT OF THEIR REACTION TO UNFORESEEABLE HAZARDS OR THEIR PHYSICAL INABILITY TO CONTROL THEIR BICYCLE.

ALTHOUGH FALLS ARE BY FAR THE MOST FREQUENT, COLLISIONS ACCOUNT FOR THE MAJORITY OF FATALITIES AND MAJOR INJURIES. THE OPENING OF A PARKED CAR DOOR INTO THE PATH OF A CYCLIST IS OFTEN CITED AS ONE OF THE GREATEST DANGERS OF URBAN CYCLING. IN ADDITION, CATCH BASIN GRATES, CRACKS IN PAVEMENTS, LOOSE DIRT AND GRAVEL,

WET STREETS, CURVES AND FIXED OBJECTS ARE HAZARDOUS TO THE CYCLISTS. THE AGE AND EXPERIENCE OF BICYCLISTS ARE IMPORTANT FACTORS IN THE BICYCLIST'S PERCEPTION OF TRAFFIC HAZARDS AND HIS ABILITY TO CONTROL THE VEHICLE IN A TRAFFIC SITUATION. THUS, IT CAN BE CONCLUDED THAT A BIKEWAY PROGRAM MUST BE DESIGNED FOR THE CYCLIST WITH LESS THAN AVERAGE RIDING SKILL. THIS WAS A PRIMARY CONSIDERATION IN THE DEVELOPMENT AND ADOPTION OF THE BIKEWAY STANDARDS ADOPTED BY THE BIKEWAY PLANNING COMMITTEE.

EARLY EDUCATION (PRIOR TO DRIVER EDUCATION PROGRAMS) IS STRONGLY RECOMMENDED BY THE BICYCLE INSTITUTE OF AMERICA AS A DETERRENT TO THE HIGH ACCIDENT RATE FOR YOUNGSTERS UNDER THE AGE OF FOURTEEN. IT HAS ALSO BEEN FOUND THAT ONE IN FOUR BICYCLES INVOLVED IN ACCIDENTS ON A NATIONAL LEVEL IS MECHANICALLY DEFECTIVE. INSPECTION PROGRAMS, BICYCLING EDUCATION AND REGISTRATION PROGRAMS CAN RESULT IN REDUCED ACCIDENTS AND MORE USE OF FACILITIES DUE TO IMPROVED SAFETY.

SECURITY - ACCORDING TO RECORDS OF THE CITY OF LOUISVILLE APPROXIMATELY 1,375 BICYCLES WERE RECORDED AS STOLEN IN 1974. THIS COMPARES TO 939 FROM 1973, A 46% INCREASE. NATIONAL SURVEYS HAVE SHOWN THAT, ON THE AVERAGE, ONLY TWENTY-FIVE PERCENT OF BICYCLES ARE RECOVERED. ON THIS BASIS, AND ASSUMING THAT AN AVERAGE BICYCLE, INCLUDING ACCESSORIES, IS WORTH ABOUT $100 IT CAN BE ESTIMATED THAT RESIDENTS IN THE CITY OF LOUISVILLE LOST NEARLY $103,100 IN 1974 DUE TO BICYCLE THEFT. THERE ARE ALSO COSTS INVOLVED IN THE ATTEMPTED RECOVERY OF BICYCLES AND REPAIRS TO VANDALIZED BIKES. THE PERCEIVED FEAR OF BICYCLE LOSS IS CONSIDERED A MAJOR DETERRENT TO BICYCLE USE.

SOME SECURITY SYSTEMS ARE PROVIDED BY THE SHORT-RANGE PROGRAM, HOWEVER, IN ORDER TO HAVE A MORE COMPREHENSIVE SECURITY PROGRAM IT IS RECOMMENDED THAT ACTIONS OUTLINED IN THE GOALS AND OBJECTIVES BE PURSUED.

ACCESS - A PURPOSEFUL BICYCLE TRIP WILL BE ENCOURAGED IF SAFE AND DIRECT ACCESS TO MAJOR DESTINATIONS IS PROVIDED. BECAUSE OF HEAVY TRAFFIC VOLUMES, SPEED AND ROADWAY WIDTHS, MANY ROADS ARE BASICALLY UNSAFE FOR BICYCLING; THUS, THE BICYCLIST IS DENIED ACCESS TO PRIMARY DESTINATIONS. WHILE THE COMMUTER BICYCLIST WOULD PREFER TO USE THE MOST DIRECT ROUTE WITH THE BEST SURFACES, I.E., ARTERIAL AND COLLECTOR STREETS, MOTORISTS HAVE THE SAME DESIRE AND GENERATE HIGH TRAFFIC VOLUMES AND SPEED ON THESE ROADWAYS.

WHILE ONLY TWO TO FOUR PERCENT OF BICYCLE TRIPS ARE MADE TO WORK OR SCHOOL,[1] THESE GENERALLY OCCUR DURING PEAK TRAFFIC

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1 THE NORTH CAROLINA BICYCLE FACILITY AND PROGRAM HANDBOOK, BARTON-ASCHMAN ASSOCIATES, INC., APRIL, 1975.

TABLE III-1

BIKEWAY MILEAGE
SHORT-RANGE STUDY AREA

SECTOR	EXISTING MILEAGE	RECOMMENDED MILEAGE	TOTAL	WARRANTED MILEAGE
1	3.31	14.80	18.11	44
2	7.29	40.78	48.07	118
3	5.67	15.10	20.77	43
4	7.00	22.27	29.27	48
5	2.08	19.34	21.42	27
6	1.51	32.40	33.91	40
7	-	12.31	12.31	28
8	-	4.97	4.97	23
9	-	15.53	15.53	70
10	3.50	20.89	24.39	80
11	-	6.13	6.13	23
TOTAL	30.36	204.52	234.88	544

HOURS. SINCE SEPARATE BIKE PATHS DO NOT NOW EXIST, TRAFFIC CONDITIONS ARE THE PRIMARY LIMITATION FOR CONVENIENCE AND SAFE BICYCLE ACCESS TO MAJOR ACTIVITY CENTERS.

RIDING ENVIRONMENT - THE RECREATIONAL BICYCLIST USUALLY ACCOUNTS FOR BETWEEN 60 AND 70 PERCENT[2] OF ALL BICYCLING, AND WHILE A DIRECT ROUTE TO DESTINATIONS IS NOT OF PRIMARY IMPORTANCE, A SCENIC AND AESTHETICALLY PLEASING SURROUNDING IS IMPORTANT. THUS, WHILE CIRCUITOUS LOCAL STREETS WITH MINIMUM TRAFFIC VOLUMES WILL SATISFY SAFETY STANDARDS, THEY OFTEN DO NOT ACHIEVE ONE OF THE PRIMARY TRIP OBJECTIVES - A PLEASING ENVIRONMENT. THE RECREATIONAL BICYCLISTS WOULD PREFER BIKEWAYS SEPARATED FROM THE AUTOMOBILE VISUALLY AS WELL AS PHYSICALLY. THERE IS A VERY HIGH POTENTIAL USE OF SUCH FACILITIES IN THE LOUISVILLE AREA. THE COST AND RIGHT-OF-WAY REQUIREMENTS LIMIT SUCH DEVELOPMENT IN THE SHORT-RANGE PROGRAM (TEN YEAR PERIOD), ALTHOUGH THERE ARE MANY LONG-RANGE PROPOSALS FOR UTILIZATION OF FLOOD WALLS, DRAINAGE DITCHES, ABANDONED OR LITTLE USED RAILROADS AND UTILITY RIGHTS-OF-WAY FOR SEPARATED BIKEWAYS. IN ADDITION, NEW HIGHWAYS, THROUGH SPECIAL DESIGN, CAN PROVIDE A COMPLETE SEPARATION OF BIKEWAY AND ROADWAY.

DEMAND LEVEL ESTIMATES

BASED ON THE DEMAND ESTIMATING METHODOLOGY, WARRANTED MILEAGE FOR EACH SECTOR IS SHOWN IN TABLE III-1 ALONG WITH EXISTING, RECOMMENDED AND TOTAL MILEAGE. COST CONSTRAINTS LIMITED THE SHORT-RANGE PROGRAM TO 234.93 MILES, SOME 309 MILES LESS THAN THAT CONSIDERED WARRANTED UNDER IDEAL BIKING CONDITIONS; HOWEVER, SUBSTANTIAL ADDITIONAL MILEAGE IS RECOMMENDED IN THE LONG-RANGE PHASE.

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2 IBID

THE SHORT-RANGE PROGRAM

THE RECOMMENDED SHORT-RANGE BIKEWAY PLAN SHOWN IN FIGURE III-2 IS THE RESULT OF AN INTERACTION OF IDEAS AND PROPOSALS BETWEEN THE CONSULTANT, TECHNICAL STAFF AND THE BIKEWAY PLANNING COMMITTEE. THE PLAN ACHIEVES THE OVERALL GOALS AND OBJECTIVES ADOPTED BY THE COMMITTEE WHILE CONFORMING TO THE MORE SPECIFIC BIKEWAY DESIGN PRINCIPLES AND STANDARDS ADOPTED FOR USE IN THE STUDY.

THE PROPOSED NETWORK CONSISTS OF THOSE BIKING FACILITIES NEEDED TO FORM A CONTINUOUS SYTEM TO WHICH FUTURE SUBSYSTEMS MAY BE ADDED. IT IS DESIGNED FOR IMPLEMENTATION WITHIN A TEN YEAR PLANNING PERIOD WITH IDENTIFIED FUNDING SOURCES AND IMPLEMENTATION AGENCIES.

THE IMMEDIATE ACTION PLAN

A KEY ELEMENT OF THE PLAN IS THE IMMEDIATE ACTION PORTION TO BE IMPLEMENTED BY JUNE 30, 1977 (SEE FIGURE III-3). THIS CONSISTS OF 53.78 MILES IN THE FOLLOWING CATEGORIES:

CLASS I - BICYCLE PATH COMPLETELY SEPARATED FROM ROADWAY. THE PATH MAY OCCUR ON ROADWAY RIGHT-OF-WAY OR WITHIN ITS OWN EXCLUSIVE RIGHT-OF-WAY.

CLASS II - A DELINEATED LANE OF A ROADWAY OR SIDEWALK DESIGNATED FOR USE BY BICYCLES.

CLASS II PROTECTED - A LANE OF A ROADWAY SEPARATED FROM TRAFFIC BY USE OF A BARRIER. THE LANE IS DESIGNATED FOR BICYCLE USE ONLY.

CLASS III - A FACILITY SHARED WITH VEHICULAR TRAFFIC THAT IS DESIGNATED AS SUCH BY SIGNS ONLY.

CLASS III SIDEWALK - A BICYCLE PATH ON THE SIDEWALK DESIGNATED BY SIGNS ONLY.

THE FOLLOWING MILEAGE IS RECOMMENDED FOR EACH TYPE:

TABLE III-2
RECOMMENDED MILEAGE BY TYPE
IMMEDIATE ACTION PLAN

CLASS I	3.99 MILES
CLASS II	1.88
CLASS II PROTECTED	0.51
CLASS III	46.80
CLASS III SIDEWALK	0.60
	53.78 MILES

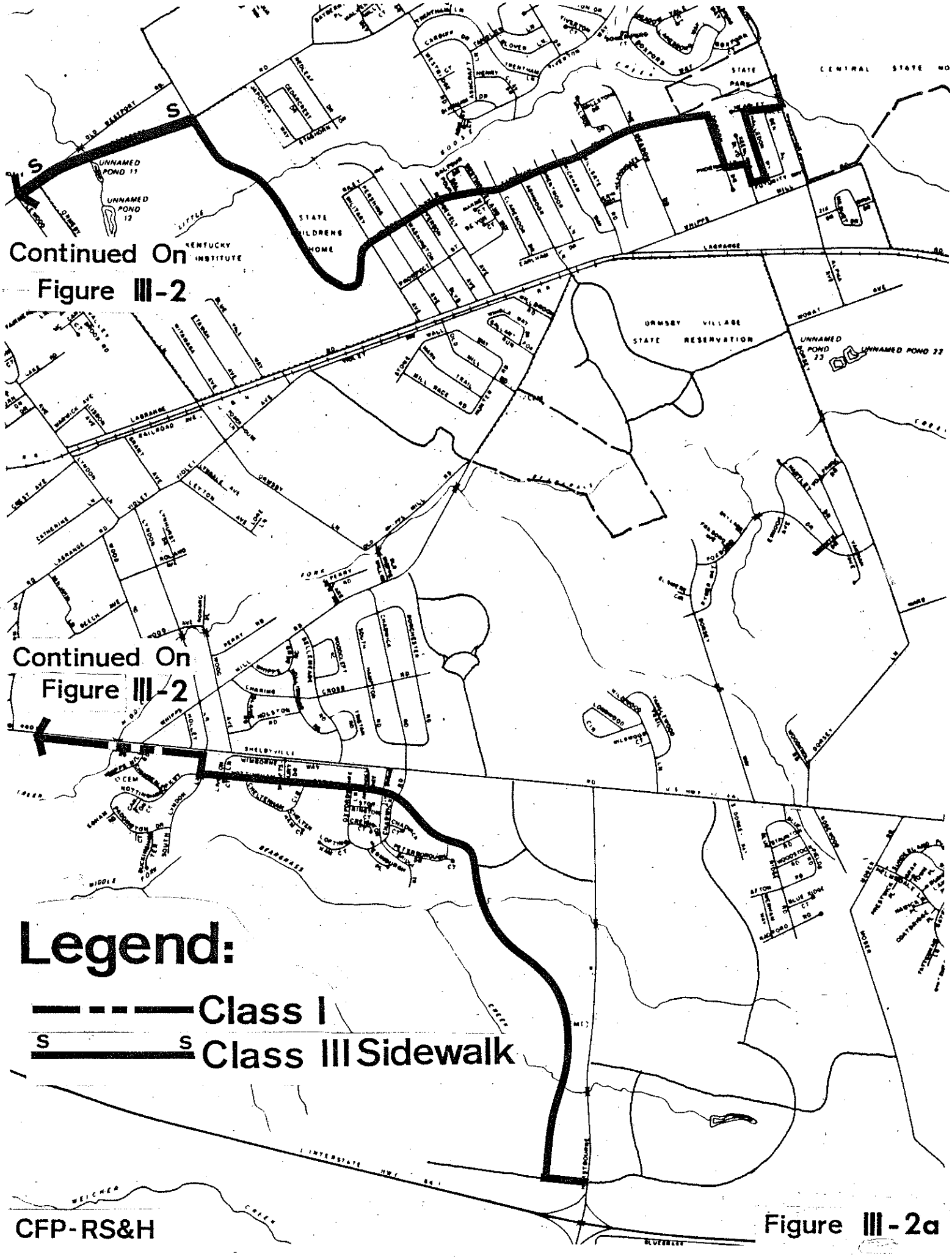

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Figure III-2a

THE BIKEWAY FACILITY TABULATIONS FOR THE IMMEDIATE ACTION PLAN ARE SHOWN IN APPENDIX TABLE A-5.

SECTOR 1 - THE RECOMMENDED IMMEDIATE ACTION PLAN FOR SECTOR 1 CONSISTS OF 9.3 MILES OF CLASS III PATHS. IT IS ALSO RECOMMENDED THAT THE SPEED LIMIT ALONG KENTUCKY STREET FROM 8TH STREET TO 16TH STREET AND MAGNOLIA AVENUE FROM 11TH STREET TO THE ALLEY BETWEEN 2ND AND 3RD STREETS BE LOWERED TO 30 MPH. VEHICLE OPERATION ON KENTUCKY STREET FROM 8TH STREET TO 9TH STREET SHOULD BE CHANGED TO TWO-WAY.

FOR BICYCLE SECURITY, BIKE LOCKERS ARE RECOMMENDED TO BE INSTALLED AT THE NINE (9) FOLLOWING SITES: LOUISVILLE FREE PUBLIC LIBRARY, RIVER CITY MALL (NORTH AND SOUTH ENDS), JEFFERSON COMMUNITY COLLEGE, UNIVERSITY OF LOUISVILLE MEDICAL CENTER, JEFFERSON COUNTY COURTHOUSE, CONVENTION CENTER, AND THE BELVEDERE.

SECTOR 2 - THE RECOMMENDED IMMEDIATE ACTION PLAN FOR SECTOR 2 CONSISTS OF 0.2 MILES OF CLASS II LANES AND 18.15 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE PLAN TOTALS 18.35 MILES. IT IS ALSO RECOMMENDED THAT THE SPEED LIMIT BE LOWERED TO 30 MPH AT THE FOLLOWING LOCATIONS: NORTHWESTERN PARKWAY FROM PORTLAND AVENUE TO VERMONT AVENUE, PORTLAND AVENUE FROM NORTHWESTERN PARKWAY TO 29TH STREET, BANK STREET FROM 38TH STREET TO NORTHWESTERN PARKWAY, CYPRESS STREET FROM DUMESNIL STREET TO DIXDALE AVENUE.

SECTOR 3 - THE RECOMMENDED IMMEDIATE ACTION PLAN FOR SECTOR 3 CONSISTS OF 0.55 MILES OF CLASS II LANES AND 3.45 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE PLAN TOTALS 4.0 MILES.

SECTOR 4 - THE RECOMMENDED IMMEDIATE ACTION PLAN FOR SECTOR 4 CONSISTS OF 0.04 MILES OF CLASS I PATHS; 0.98 MILES OF CLASS II LANES; AND 4.25 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE PLAN TOTALS 5.27 MILES.

SECTOR 5 - THE RECOMMENDED IMMEDIATE ACTION PLAN FOR SECTOR 5 CONSISTS OF 0.27 MILES OF CLASS II LANES AND 5.3 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE PLAN TOTALS 5.57 MILES. IT IS ALSO RECOMMENDED THAT THE SPEED LIMIT ALONG WENZEL STREET FROM WASHINGTON STREET TO MARSHALL STREET BE LOWERED TO 30 MPH.

SECTOR 9 - THE RECOMMENDED IMMEDIATE ACTION PLAN FOR SECTOR 9 CONSISTS OF 2.25 MILES OF CLASS I PATHS.

SECTOR 10 - THE RECOMMENDED IMMEDIATE ACTION PLAN FOR SECTOR 10 CONSISTS OF 1.70 MILES OF CLASS I PATHS; 0.39 MILES OF CLASS II LANES; AND 6.95 MILES OF CLASS III ROUTES. IT IS ALSO RECOMMENDED THAT THE SPEED LIMIT ALONG ALLMOND AVENUE FROM THE ALLEY ADJACENT TO WATTERSON EXPRESSWAY TO SOUTHERN HEIGHTS AVENUT BE LOWERED TO 30 MPH.

Jefferson County Bikeway Plan

Louisville and Jefferson County, Kentucky

SHORT RANGE PROGRAM

Prepared By:
C.F.P. Transportation Engineers And Planners, Incorporated
Reynolds, Smith & Hills Architects·Engineers·Planners, Incorporated
In Association

Prepared For:
Kentuckiana Regional Planning And Development Agency

In Cooperation With:
Kentucky Department Of Transportation
Federal Highway Administration

2000 0 2000 4000 6000
Scale In Feet

- Class I
- Class II
- Class II Protected
- Class II Road Widening
- Class II Protected Road Widening
- Class II Sidewalk
- Class III
- Class III Sidewalk
- Demonstration Project

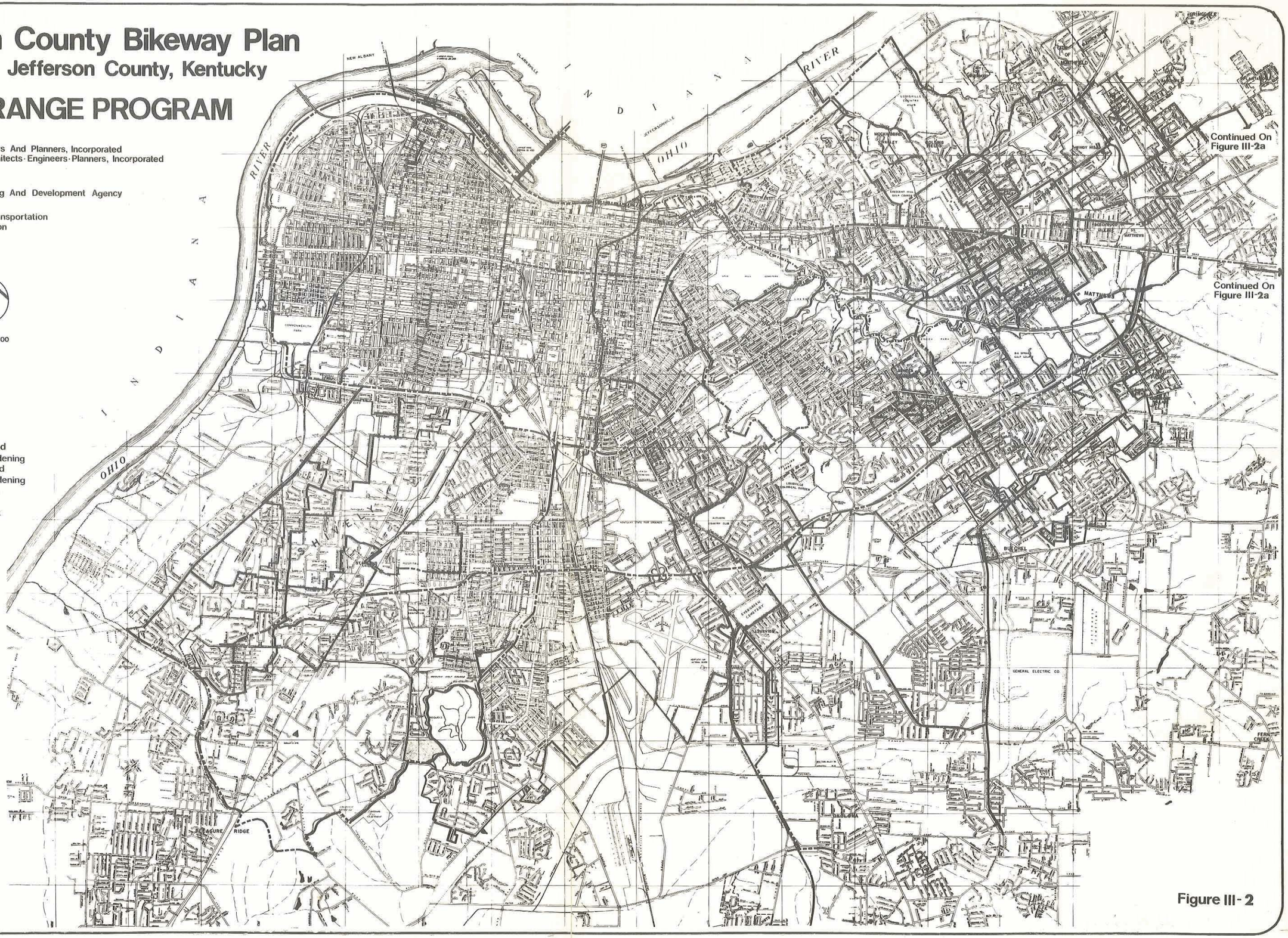

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Figure III-2

Jefferson County Bikeway Plan

Louisville and Jefferson County, Kentucky

IMMEDIATE ACTION PROGRAM

Prepared By:
C.F.P. Transportation Engineers And Planners, Incorporated
Reynolds, Smith & Hills Architects-Engineers-Planners, Incorporated
In Association

Prepared For:
Kentuckiana Regional Planning And Development Agency

In Cooperation With:
Kentucky Department Of Transportation
Federal Highway Administration

2000 0 2000 4000 6000
Scale ' Feet

Legend:

- Existing Routes
- Class II
- Class II Protected
- Class II Protected Road Widening
- Class III
- Class III Sidewalk
- Class I

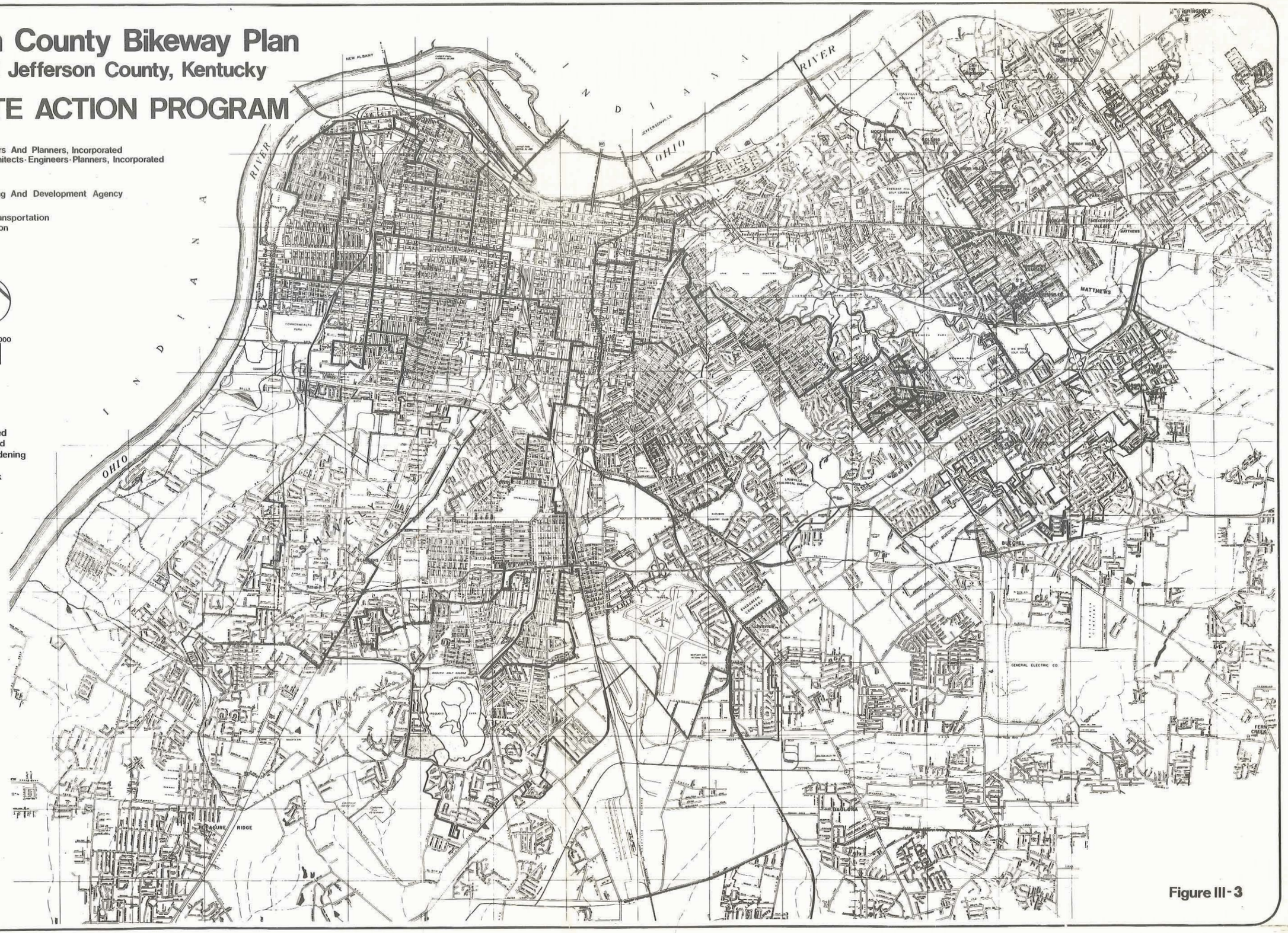

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Figure III-3

THE 1985 PLAN

THE PROPOSED 1985 NETWORK EXCLUDING THE IMMEDIATE ACTION PLAN, CONSISTS OF 150.74 MILES IN THE FOLLOWING CATEGORIES:

TABLE III-3
RECOMMENDED MILEAGE BY TYPE
1985 PLAN
(EXCLUDING IMMEDIATE ACTION PLAN)

CLASS I	55.55 MILES
CLASS II	0.60
CLASS II SIDEWALK	5.18
CLASS III	57.42
CLASS III SIDEWALK	25.39
DEMONSTRATION PROJECT	6.60
TOTAL	150.74 MILES

THE PHASING SCHEDULE FOR THE 1985 PLAN IS SHOWN IN FIGURE III-4.

THE BIKEWAY FACILITY TABULATIONS FOR THE 1985 PLAN ARE ALSO SHOWN IN APPENDIX TABLE A-5. THIS TABLE PROVIDES A DETAILED LIST OF EXISTING AND RECOMMENDED CROSS-SECTION AND COST ESTIMATES FOR EACH SEGMENT OF THE PLAN.

SECTOR 1 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 1 CONSISTS OF 2.8 MILES OF CLASS I PATHS, 1.85 MILES OF CLASS II LANES AND 0.85 MILES OF FEDERAL BIKEWAY DEMONSTRATION PROJECT WHERE THE CLASS IS UNKNOWN. THE COMPLETED ROUTE PLAN TOTALS 5.5 MILES. TWO BIKE LOCKERS AT EACH OF THREE PARK 'N' RIDE LOCATIONS ARE RECOMMENDED.

SECTOR 2 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 2 CONSISTS OF 7.57 MILES OF CLASS I PATHS, 0.61 MILES OF CLASS II LANES AND 14.35 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE PLAN TOTALS 22.43 MILES. TWO BIKE LOCKERS AT EACH OF FIVE PARK 'N' RIDE LOCATIONS ARE RECOMMENDED.

SECTOR 3 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 3 CONSISTS OF 8.25 MILES OF CLASS I PATHS, 0.75 MILES OF CLASS II LANES AND 2.15 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE PLAN TOTALS 11.15 MILES. TWO BIKE LOCKERS AT EACH OF FIVE PARK 'N' RIDE LOCATIONS ARE RECOMMENDED.

SECTOR 4 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 4 CONSISTS OF 10.72 MILES OF CLASS I PATHS, 0.45 MILES OF CLASS II LANES AND 5.83 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE PLAN TOTALS 17.0 MILES. TWO BIKE LOCKERS AT EACH OF TWO PARK 'N' RIDE LOCATIONS ARE RECOMMENDED.

SECTOR 5 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 5 CONSISTS OF 5.22 MILES OF CLASS I PATHS, 2.8 MILES OF CLASS III ROUTES, AND 5.75 MILES OF THE FEDERAL BIKEWAY DEMONSTRATION PROJECT. THE COMPLETED ROUTE PLAN TOTALS 13.77 MILES. TWO BIKE LOCKERS AT THE PARK 'N' RIDE LOCATION ARE RECOMMENDED.

SECTOR 6 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 6 CONSISTS OF 0.68 MILES OF CLASS I PATHS, 0.5 MILES OF CLASS II LANES, AND 22.22 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE PLAN TOTALS 33.25 MILES. TWO BIKE LOCKERS AT EACH OF THREE PARK 'N' RIDE LOCATIONS ARE RECOMMENDED.

SECTOR 7 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 7 CONSISTS OF 1.39 MILES OF CLASS I PATHS, 0.37 MILES OF CLASS II LANES, AND 10.55 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE PLAN TOTALS 11.81 MILES.

SECTOR 8 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 8 CONSISTS OF 4.97 MILES OF CLASS III ROUTES.

SECTOR 9 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 9 CONSISTS OF 2.99 MILES OF CLASS I PATHS AND 10.3 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE PLAN TOTALS 13.29 MILES. TWO BIKE LOCKERS AT EACH OF THREE PARK 'N' RIDE LOCATIONS ARE RECOMMENDED.

SECTOR 10 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 10 CONSISTS OF 3.82 MILES OF CLASS I PATHS, 0.6 MILES OF CLASS II LANES, AND 7.43 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE TOTALS 11.85 MILES.

SECTOR 11 - THE RECOMMENDED ROUTE PLAN FOR SECTOR 11 CONSISTS OF 3.12 MILES OF CLASS I PATHS, 0.65 MILES OF CLASS II LANES, AND 2.36 MILES OF CLASS III ROUTES. THE COMPLETED ROUTE TOTALS 6.13 MILES.

DUAL MODE CONSIDERATIONS

TWO BICYCLE/TRANSIT INTEGRATION PROPOSALS WERE CONSIDERED. ONE WAS TO PLACE BIKE RACKS ON BUSES AND THE OTHER WAS TO PLACE BIKE LOCKERS AT OUTLYING BUS STOPS. THE LATTER OF THE TWO PROPOSALS WAS SELECTED FOR IMPLEMENTATION WITH BIKE LOCKERS PROVIDED AT PARK 'N' RIDE LOCATIONS TO ACCOMMODATE INTERFACE WITH THE TRANSIT SYSTEM.

Jefferson County Bikew

Louisville and Jefferson County, K

STAGED DEVELOPMENT PROGRAM

Prepared By:
C.F.P. Transportation Engineers And Planners, Incorporated
Reynolds, Smith & Hills Architects·Engineers·Planners, Incorporated
In Association

Prepared For:
Kentuckiana Regional Planning And Development Agency

In Cooperation With:
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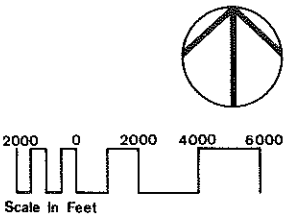

Legend:

- Existing Routes
- Year 1
- Year 2
- Year 3
- Year 4
- Year 5
- Year 6-10

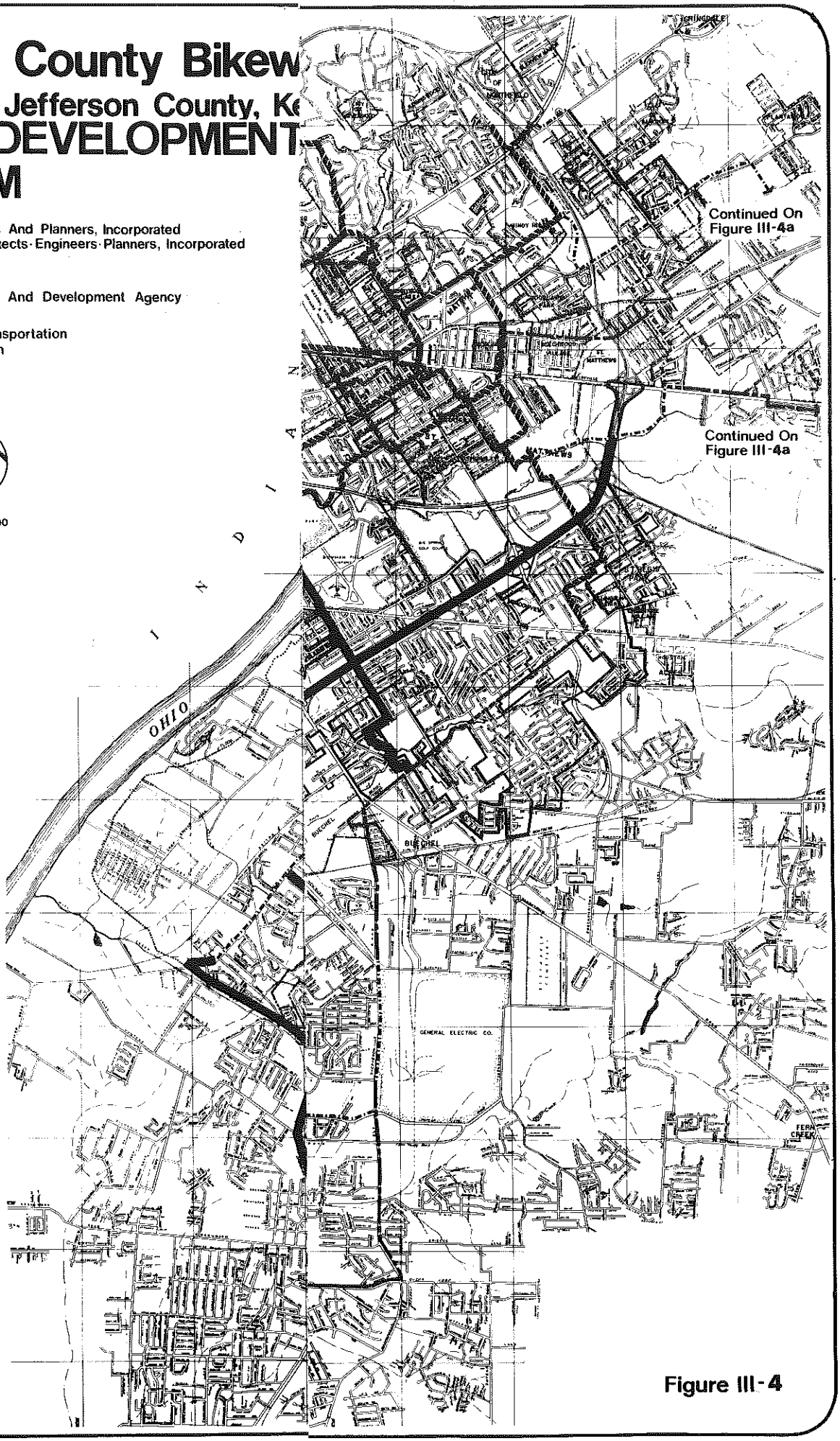

Figure III-4

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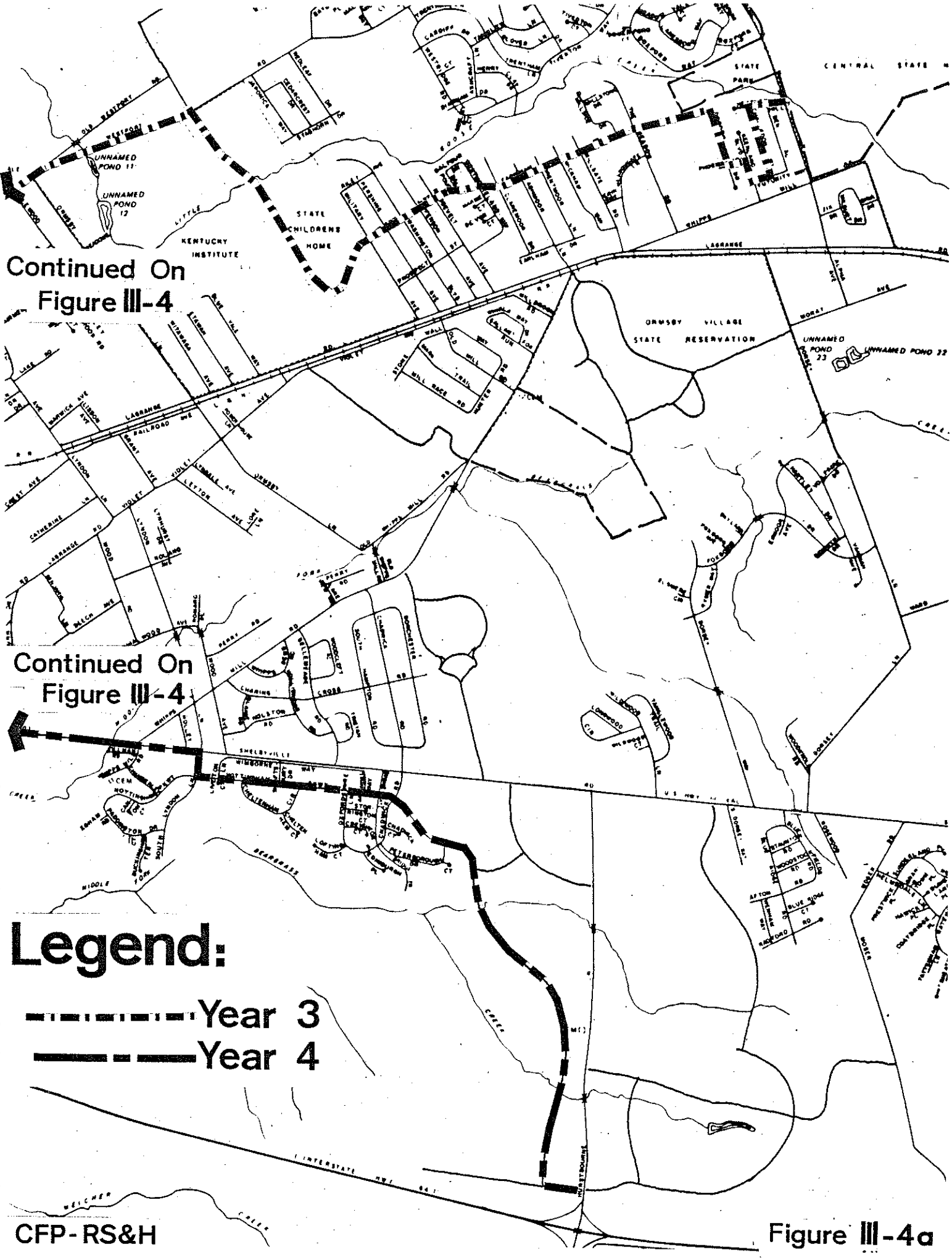

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Figure III-4a

TABLE III-4

SUMMARY OF
IMMEDIATE ACTION AND SHORT-RANGE PROGRAMS
BY SECTOR

Sector	Bikeway Type I (Miles)	Bikeway Type II (Miles)	Bikeway Type III (Miles)	Demonstration Project (Miles)	Total (Miles)	Construction Cost
1	2.80	1.85	9.30	.85	14.80	$ 133,506
2	7.47	.81	32.50		40.78	304,207
3	8.25	1.30	5.55		15.10	340,697
4	10.76	1.43	10.08		22.27	384,003
5	5.22	.27	8.10	5.75	19.34	785,801
6	9.68	.50	22.22		32.40	862,761
7	1.39	.37	10.55		12.31	171,800
8			4.97		4.97	14,800
9	5.23		10.30		15.53	198,060
10	5.52	.99	14.38		20.89	165,827
11	3.12	.65	2.36		6.13	140,211
					204.52	$3,501,673
				Change Speed Limit Signs		300
						$3,501,973

SHORT-RANGE IMPLEMENTATION

STAGED DEVELOPMENT PROGRAM

ONE OF THE PRIMARY CONSIDERATIONS IN IMPLEMENTATION IS TO PHASE A SYSTEM SUCH AS A BIKEWAY SO THAT THE PROJECT CAN BE BUILT WHEN MONEY IS AVAILABLE. IN THE SHORT-RANGE PROGRAM INDEPENDENT SECTIONS AND SYSTEMS ARE PROPOSED IN YEARS ONE (1) THROUGH FIVE (5). OTHER PARTS OF THE SYSTEM ARE GROUPED TOGETHER FOR IMPLEMENTATION DURING YEARS SIX (6) THROUGH TEN (10). RECOMMENDED MILEAGE BY YEAR OF IMPLEMENTATION AND CLASS OF BIKEWAY FOR THE SHORT-RANGE SYSTEM IS SHOWN IN TABLE III-5.

TABLE III-6
SHORT-RANGE STAGED
DEVELOPMENT PROGRAM

	CLASS								
YEAR	I	II	II PROTECTED	II SIDEWALK	III	III SIDEWALK	DEMO	TOTAL	COST
1*	3.99	1.88	.51	-	46.80	0.60	-	53.78	$ 175,361
2	-	-	-	-	-	3.40	6.60	10.00	416,180
3	1.36	-	-	0.37	5.69	11.13	-	18.55	343,355
4	2.19	-	-	-	3.24	5.70	-	11.13	365,765
5	8.25	0.50	-	2.10	19.90	3.11	-	33.86	380,900
6-10	43.75	0.10	-	2.71	28.59	2.05	-	77.20	1,820,412
TOTAL	59.54	2.48	.51	5.18	104.22	25.99	6.60	204.52	$3,501,973

* IMMEDIATE ACTION PLAN (INCLUDES CHANGING SPEED LIMIT SIGNS - $300)

RECOMMENDED BIKEWAY CROSS-SECTIONS AND COSTS

THE RECOMMENDED CROSS-SECTIONS FOR EACH SECTION OF THE PLAN IS PROVIDED IN THE BIKEWAY FACILITIES TABULATION (APPENDIX TABLE A-5) BY CODE NUMBER AND ARE ILLUSTRATED IN FIGURE III-5. SEVERAL SECTIONS ARE RECOMMENDED FOR VARIOUS PORTIONS OF THE PLAN DEPENDING ON STREET WIDTHS AND AVAILABLE RIGHT-OF-WAY. THE HIGHEST TYPE BIKEWAY IS CLASS I REQUIRING PROVISION FOR AN EIGHT FOOT, TWO-WAY PAVEMENT. CLASS II SECTIONS VARY FROM THE PROTECTED CROSS-SECTIONS II-B, II-E AND II-H TO UNPROTECTED, BUT MARKED CLASS II SECTIONS. WHERE WIDENING IS REQUIRED TO ACHIEVE THE NECESSARY WIDTH FOR BIKEWAY PROTECTION, IT IS SO INDICATED BY THE SPECIFIC SECTION RECOMMENDATION. VARIOUS CLASS III TREATMENTS ARE PROVIDED BY SECTIONS III-A THROUGH III-J.

RIGHT-OF-WAY AND PAVEMENT WIDTHS INDICATED IN THE SECTIONS ARE MINIMUM AND WIDER WIDTHS ARE ENCOURAGED IN ORDER TO PROVIDE A SAFER AND MORE COMFORTABLE RIDE. THE WIDER BIKEWAY WIDTHS COULD BE PROVIDED WHEN ROADWAYS ARE IMPROVED AND WIDENED AT VERY LITTLE ADDITIONAL COST, AND IN MOST CASES, NO ADDITIONAL RIGHT-OF-WAY. IN NO INSTANCES HAVE THE MINIMUM SPECIFIC CROSS-SECTIONS VIOLATED THE DESIGN PRINCIPLES AND STANDARDS ADOPTED BY THE BIKEWAY PLANNING COMMITTEE.

CONSTRUCTION COST ESTIMATES - COST ESTIMATES FOR THE PLAN WERE PREPARED FROM AN ANALYSIS OF THE IMPROVEMENTS RECOMMENDED FOR EACH SECTION LISTED IN APPENDIX TABLE A-5. CONSTRUCTION UNIT COSTS FURNISHED BY THE REYNOLDS, SMITH AND HILLS COST ESTIMATING DEPARTMENT ARE SHOWN IN TABLE III-6. THESE UNIT COST ESTIMATES INCLUDE THE COST OF ACTUAL CONSTRUCTION AND ENGINEERING. THE UNIT COSTS FOR STANDARD CROSS-SECTIONS DO NOT INCLUDE, HOWEVER, COSTS FOR CURB CUTS, SIGNS, STENCILS, LIGHTING, LANDSCAPING OR RIGHT-OF-WAY. THE COST OF ADDITIONAL RIGHT-OF-WAY IS CONSIDERED MINOR, AS CLASSES II AND III FACILITIES WOULD BE LOCATED WHOLLY WITHIN EXISTING OR FUTURE RIGHTS-OF-WAY.

RIGHT-OF-WAY COSTS FOR CLASS I BIKEWAYS SHOULD BE OBTAINED THROUGH APPRAISALS FOLLOWING COMPLETION OF DESIGN DRAWINGS. THE COSTS OF A CLASS I BIKEWAY IS BASED UPON THE FOLLOWING INDIVIDUAL COSTS PER LINEAR FOOT: CLEAR AND GRUB @ 17¢; PREPARE BASE @ 53¢; INSTALL 6" BASE, INCLUDING MATERIAL @ $1.75; INSTALL 1-1/2" TO 2" ASPHALT PAVEMENT @ $1.65; BACKFILL @ $1.70; AND DRAINAGE @ 26¢. THE TOTAL COST PER LINEAR OF $6.00, OR $32,000 PER MILE IS CONSIDERED A VERY CONSERVATIVE ESTIMATE OF COST. THE INDIVIDUAL COSTS LISTED ABOVE FOR A CLASS I FACILITY REFLECT COSTS FOR A WELL-DRAINED, SANDY SOIL IN AN AREA OF GENTLE TERRAIN. ANY SPECIAL SITE CONDITIONS SUCH AS CLAY SOIL OR RUGGED TERRAIN, WILL INCREASE THESE CONSERVATIVE COST ESTIMATES. COST ESTIMATES FOR RECENT CLASS I BIKEWAY DEVELOPMENT IN KENTUCKY SUGGESTS THAT THE UNIT COSTS FOR SUCH FACILITIES MAY BE AS HIGH AS $65,000 PER MILE IN CERTAIN INSTANCES. THE PHASING OF BIKEWAY PLAN MUST BE ADUSTED AS THESE AND OTHER COSTS DIFFICULTIES MAY BECOME APPARENT DURING IMPLEMENTATION OF THE PLAN.

TABLE III-4

UNIT CONSTRUCTION COSTS

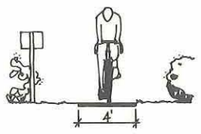
STANDARD CROSS-SECTIONS*

CLASS IA THROUGH IJ	$32,000/MI.
CLASS IIA, IIC, IID, IIF (STRIPING, EXISTING ROAD OR SIDEWALK)	883/MI.
CLASS IIB, IIE (PROTECTED, EXISTING ROAD)	9,754/MI.
CLASS IIG (STRIPING, ROADWIDENING)	66,000/MI.
CLASS IIH (PROTECTED, ROADWIDENING - CURB AND GUTTER)	116,000/MI.
CLASS IIIA THROUGH IIIE (EXISTING ROADWAY)	400/MI.
CLASS IIIF, EXISTING III-G (SIDEWALK, EXISTING)	260/MI.
CLASS IIIH (SIDEWALK, NEW CONSTRUCTION)	32,000/MI.
CLASS IIIJ (SIDEWALK, EACH ADDITIONAL 1 FOOT WIDTH W/NEW CONSTRUCTION)	5,800/MI.

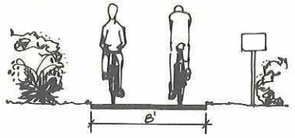
* SEE FIGURE III-6

ADDITIONAL COSTS

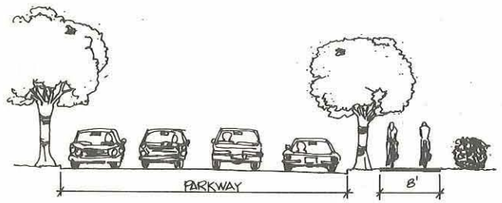
CURB CUT (EXISTING SIDEWALK)	$150.00 EACH
CURB CUT (NEW SIDEWALK)	100.00 EACH
SIGNS	40.00 EACH
STENCILS	25.00 EACH



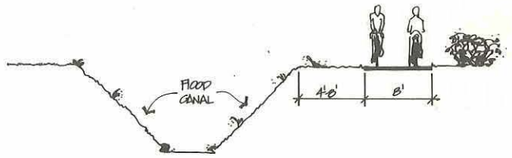
I·A



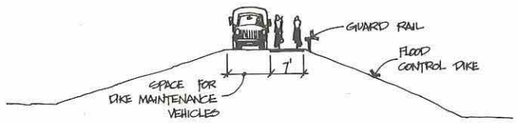
I·B



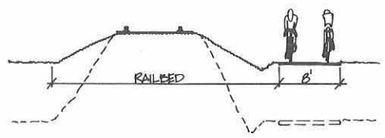
I·C



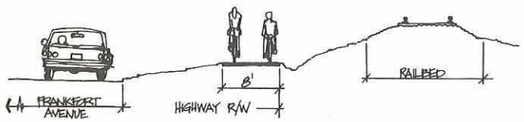
I·D



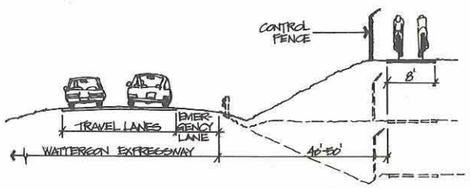
I·E



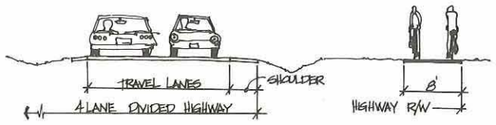
I·F



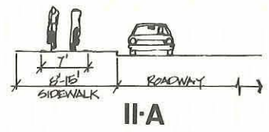
I·G



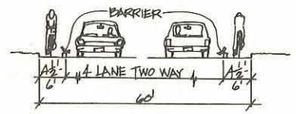
I·H



I·J

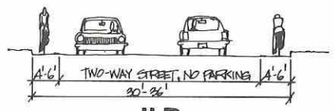


II·A



II·B

II·C

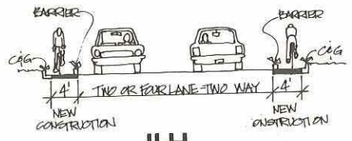


II·D

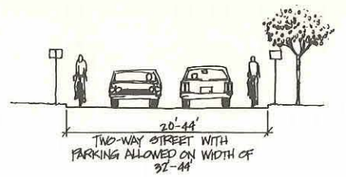
II·E

II·F

II·G



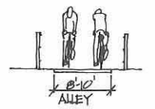
II·H



III·A

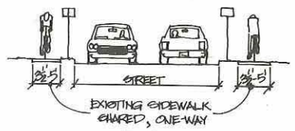
III·B

III·C



III·D

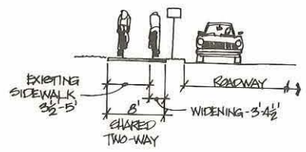
III·E



III·F

III·G

III·H



III·J

RECOMMENDED CROSS SECTIONS

Jefferson County Bikeway Plan

Figure III-5

CFP·RS&H

PHASE IV TECHNICAL MEMORANDUM

LONG-RANGE BIKEWAY PROGRAM
LOUISVILLE BIKEWAY STUDY

- Strategies for Implementing the Bikeway Program
- Potential Funding Sources
- Coordination and Programming Considerations
- Legislative Proposals
- Education and Enforcement Proposals

CFP Transportation Engineers and Planners
Reynolds, Smith and Hills
Architects-Engineers-Planners, Incorporated

STRATEGIES FOR IMPLEMENTING THE BIKEWAY PROGRAM

THE FIRST THREE PHASES IN THE DEVELOPMENT OF THE BIKEWAY STUDY HAVE DEALT WITH THE FOLLOWING ELEMENTS: GOALS, OBJECTIVES, AND RELATED POLICIES; DESIGN PRINCIPLES AND STANDARDS; AN ASSESSMENT OF POTENTIAL BIKEWAY FACILITIES AND HIGH USE AREAS IN THE LOUISVILLE-JEFFERSON COUNTY AREA; AND PLANS FOR BIKEWAY DEVELOPMENT.

THIS PHASE OF THE STUDY DEALS WITH THE STRATEGIES AND RESPONSIBILITIES OF VARIOUS JURISDICTIONS IN THE LOUISVILLE-JEFFERSON COUNTY AREA IN DEVELOPING THE BIKEWAY PROGRAM. SOME TOPICS TO BE DISCUSSED IN THIS PHASE INCLUDE:

- POTENTIAL FUNDING SOURCES
- COORDINATION AND PROGRAMMING CONSIDERATIONS
- LEGISLATIVE PROPOSALS
- EDUCATION AND ENFORCEMENT PROPOSALS

POTENTIAL FUNDING SOURCES

AS PREVIOUSLY MENTIONED, THE PRIME RESPONSIBILITY FOR DEVELOPING AND MAINTAINING A BIKEWAY SYSTEM RESTS WITH THE LOCAL UNITS OF GOVERNMENT. THE SUCCESSFUL STAGING (OR PROGRAMMING) OF A PLAN WILL BE HIGHLY RELATED TO THE RESOURCES (PRINCIPALLY FUNDING OPTIONS AND AMOUNTS) THAT THE LOCAL GOVERNMENT CAN UTILIZE. THEREFORE, THE INVESTIGATION OF FUNDING SOURCES AND AMOUNTS WHICH MIGHT BECOME AVAILABLE WITHIN VARIOUS TIME FRAMES WILL BE ESSENTIAL TO PLAN STAGING. THE FOLLOWING IS A BIOGRAPHICAL SKETCH OF FEDERAL, STATE, AND LOCAL AGENCIES INVOLVED WITH PROMOTING AND FINANCING BICYCLE FACILITIES. LOUISVILLE-JEFFERSON COUNTY SHOULD RECOGNIZE, HOWEVER, THAT AVAILABLE FUNDING SOURCES WILL VARY FROM YEAR TO YEAR AS NEW LEGISLATION IS PASSED AND EXISTING FUNDING SOURCES ARE EXHAUSTED.

FEDERAL AND STATE FUNDING SOURCES: FEDERAL ASSISTANCE TAKES MANY FORMS AND, RECOGNIZING THE GENERAL LACK OF PROGRAMS FOR COMPREHENSIVE BIKEWAY FACILITY FUNDING, LOUISVILLE-JEFFERSON COUNTY WILL NEED TO TAKE ADVANTAGE OF SEVERAL AVAILABLE FUNDING SOURCES. THE MOST SIGNIFICANT PROGRAMS ARE DISCUSSED BELOW.

FEDERAL-AID HIGHWAY FUNDS: THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) IS A MAJOR SOURCE OF POTENTIAL FINANCIAL ASSISTANCE. BIKEWAY FUNDS FROM THE HIGHWAY TRUST FUND ARE AVAILABLE EITHER FOR PART OF LARGER PROJECT PLANNING AND CONSTRUCTION OR AS SEPARATE FUNDS. THE USE OF THESE FUNDS IS AT THE DISCRETION OF THE KENTUCKY DEPARTMENT OF TRANSPORTATION, BUT USE OF ONE CATEGORY OF MONEY, THE URBAN SYSTEM FUND, MUST BE INITIATED BY LOCAL OFFICIALS.

THE LAW DEFINES TWO TYPES OF BIKEWAYS: INCIDENTAL AND INDEPENDENT.

> INCIDENTAL BIKEWAYS - THESE ARE BUILT AS AN INTEGRAL PART OF HIGHWAY CONSTRUCTION PROJECTS, WITH THE BIKEWAY FACILITY LOCATED WHOLLY WITHIN THE LEGAL RIGHT-OF-WAY OF THE HIGHWAY. FEDERAL FUNDING FOR INCIDENTAL BIKEWAYS IS AVAILABLE FOR THOSE HIGHWAYS WHICH ARE PART OF THE FEDERAL-AID SYSTEM. THE SHARE OF THE TOTAL COST WILL BE THE SAME AS FOR OTHER FEDERAL-AID HIGHWAY PROJECTS (90 PERCENT FOR INTERSTATE AND 70 PERCENT FOR ALL OTHER CATEGORIES). THERE IS NO LIMITATION ON THE USE OF AVAILABLE FUNDS FOR INCIDENTAL BIKEWAYS.
>
> INDEPENDENT BIKEWAYS - THESE BIKEWAYS ARE FUNDED THROUGH A PROVISION OF THE LAW WHICH PROVIDES UP TO A MAXIMUM OF 2.5 MILLION DOLLARS PER STATE PER YEAR (45 MILLION DOLLARS NATIONALLY) FOR THEIR

CONSTRUCTION. THESE BIKEWAYS ARE NOT PART OF A HIGHWAY CONSTRUCTION PROJECT, BUT ARE LOCATED INSIDE OR OUTSIDE OF EXISTING HIGHWAY RIGHT-OF-WAY. THE INDENEPDENT BIKEWAY MUST SERVE THE SAME CORRIDOR AS THAT SERVED BY THE ROADWAY WHICH IS PART OF THE FEDERAL-AID SYSTEM. INTERSTATE FUNDS ARE NOT ALLOWED FOR INDEPENDENT BIKEWAYS. THUS, 70 PERCENT OF THE TOTAL COST OF THESE PROJECTS COULD BE PROVIDED. THE ADMINISTERING STATE AGENCY IS THE KENTUCKY DEPARTMENT OF TRANSPORTATION.

STATE GENERAL FUND: THE STATE OF KENTUCKY'S 1976-1978 BUDGET PROVIDES $2 MILLION IN NON-RECURRING GENERAL FUND MONEY, UNDER CERTAIN CONDITIONS, FOR THE PLANNING, LAND ACQUISITION AND CONSTRUCTION OF BIKEWAYS AND RELATED FACILITIES. THESE FUNDS CAN BE USED TO MATCH ON A 50-50 BASIS, THE LOCAL SHARE OF FEDERALLY ASSISTED PROJECTS (E.G. 70% FEDERAL, 15% STATE, AND 15% LOCAL). THESE SAME FUNDS CAN BE USED FOR NON-FEDERALLY ASSISTED PROJECTS ON A 70% STATE AND 30% LOCAL MATCHING BASIS.

FEDERAL-AID HIGHWAY AMENDMENT ACT OF 1974 - DEMONSTRATION PROJECT: THIS ACT AUTHORIZED THE APPROPRIATION OF $6 MILLION IN FISCAL YEAR 1976 FROM THE U.S. GENERAL FUND. THIS PROGRAM IS INTENDED TO PROVIDE FUNDING FOR BIKEWAY DEMONSTRATION PROJECTS OF NATIONAL INTEREST IN PROMOTING BICYCLING AS A SAFE AND VIABLE ALTERNATIVE MODE OF TRANSPORTATION FOR COMMUTER AND/OR RECREATIONAL USE IN URBANIZED AREAS OF OVER 50,000 POPULATION. THE FEDERAL SHARE UNDER THIS LAW IS 80 PERCENT OF THE TOTAL COST OF THE PROJECT. ELIGIBLE PROJECTS INCLUDE BICYCLE LANES, BICYCLE PATHS, SUPPORT FACILITIES, BICYCLE TRAFFIC CONTROL DEVICES, SHELTERS, AND PARKING FACILITIES. THE ADMINISTERING STATE AGENCY IS THE KENTUCKY DEPARTMENT OF TRANSPORTATION.

FEDERAL HIGHWAY SAFETY FUNDS: THE FEDERAL HIGHWAY SAFETY ACT PROVIDES ONE OF THE BEST SOURCES OF FUNDING FOR BICYCLE SAFETY PROGRAMS. ALTHOUGH SEVERAL HIGHWAY RELATED SAFETY PROGRAMS ARE ELIGIBLE FOR THESE FUNDS, PRIORITY HAS RECENTLY BEEN GIVEN TO BICYCLE AND PEDESTRIAN SAFETY PROGRAMS. THE ADMINISTERING STATE AGENCY IS THE KENTUCKY DEPARTMENT OF TRANSPORTATION.

DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT: THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974 (88 STAT.,633) PROVIDES FUNDING POSSIBILITIES FOR TRAIL AND BIKEWAY FACILITIES. THE NEW LAW CONSOLIDATES MANY OF THE PREVIOUS CATEGORICAL GRANT PROGRAMS OF HUD - INCLUDING OPEN SPACE AND NEIGHBORHOOD FACILITIES GRANTS - INTO A TOTAL GRANT THAT MAY BE USED FOR A WIDE RANGE OF COMMUNITY FACILITIES WITHIN METROPOLITAN AREAS OR AREAS HAVING A HIGHLY URBAN CHARACTER. FUNDS ARE PROVIDED FOR THREE GENERAL PURPOSES: 1) TO ELIMINATE OR PREVENT SLUMS AND BLIGHT WHERE SUCH CONDITIONS OR NEEDS EXIST; 2) TO PROVIDE HOUSING FOR LOW AND MODERATE INCOME PERSONS; AND 3) TO IMPROVE

AND UPGRADE COMMUNITY FACILITIES AND SERVICES WHERE NECESSARY. THEREFORE, BIKEWAY PROJECTS MUST BE AN INTEGRAL PART OF AN OVERALL COMMUNITY IMPROVEMENT PROJECT TO QUALIFY FOR FUNDING. THESE FUNDS, HOWEVER, MAY BE USED AS THE LOCAL SHARE FOR MATCHING WITH BOR AND FHWA FUNDS WHEN AVAILABLE.

DEPARTMENT OF INTERIOR: FUNDS FOR THE ACQUISITION OF LAND AND DEVELOPMENT OF OUTDOOR RECREATION FACILITIES ARE AUTHORIZED BY THE LAND AND WATER CONSERVATION ACT OF 1965. THESE FUNDS ARE ADMINISTERED THROUGH THE BUREAU OF OUTDOOR RECREATION AND EACH STATE'S APPOINTED LIAISON OFFICER. FUNDS ARE AVAILABLE TO PUBLIC AGENCIES ON A 50-50 MATCHING BASIS. EACH STATE IS REQUIRED TO HAVE A STATEWIDE COMPREHENSIVE OUTDOOR RECREATION PLAN WHICH SETS FORTH THE OUTDOOR RECREATION NEEDS OF THE STATE AND RECOMMENDS PRIORITY ACTION FOR MEETING THOSE NEEDS. PRIORITIES FOR FUNDING ARE DETERMINED AT THE REGIONAL LEVEL. THESE FUNDS ARE RECOMMENDED FOR USE PRIMARILY ON CLASS I AND CLASS II PROTECTED BIKEWAYS WHERE CONSTRUCTION IS REQUIRED.

GENERAL SERVICES ADMINISTRATION: THE GSA IS RESPONSIBLE FOR DESIGN, CONSTRUCTION, SPACE MODIFICATIONS, AND LEASING OF FEDERAL PUBLIC BUILDINGS. IN THIS REGARD, THE GSA HAS RECENTLY ISSUED PROPERTY MANAGEMENT REGULATIONS RELATIVE TO FEDERAL EMPLOYEES PARKING. AMONG OTHER THINGS, THE REGULATIONS REQUIRE THAT AGENCIES RESERVE AREAS WITHIN PARKING FACILITIES FOR THE USE OF BICYCLES. ALTHOUGH MONIES ARE NOT ACTUALLY AVAILABLE FROM THE GSA FOR THE DEVELOPMENT OF BIKEWAY FACILITIES, COORDINATION WITH THE AGENCY CAN BENEFIT THE LOCAL BIKEWAY PROGRAM BY PROVIDING PASSAGE THROUGH GSA ADMINISTERED PROPERTIES AND IN PROVIDING STORAGE FACILITIES AT POTENTIALLY HIGH USE AREAS. AN EXAMPLE OF THIS APPLICATION IS THE PROPOSED ROUTE THRU THE VETERANS ADMINISTRATION HOSPITAL GROUNDS IN NORTHEAST LOUISVILLE.

ENVIRONMENTAL PROTECTION AGENCY: ALTHOUGH NO DIRECT FINANCIAL ASSISTANCE IS AVAILABLE AT PRESENT, THE EPA HAS REQUIRED THAT SOME CITIES WITH HIGH AIR POLLUTION PREPARE ACTION PLANS, INCLUDING THE PROVISION OF BIKEWAYS, TO REDUCE AUTOMOBILE USAGE. IN ADDITION, SECTION 201(F) OF THE 1972 WATER POLLUTION CONTROL ACT STATES THAT THE ADMINISTRATOR SHALL ENCOURAGE WASTE TREATMENT MANAGEMENT WHICH COMBINES 'OPEN SPACE' AND RECREATIONAL CONSIDERATIONS WITH SUCH MANAGEMENT. THIS ACT IS IMPORTANT IN THAT THE LANDS AND EASEMENTS ACQUIRED FOR WASTE TREATMENT PLANTS AND SEWAGE COLLECTION SYSTEMS MAY ALSO BE USED FOR PUBLIC OPEN SPACE. THESE LANDS ARE LINEAR IN NATURE AND PROVIDE EXCELLENT OPPORTUNITIES FOR DEVELOPMENT OF CLASS I BIKEWAYS.

TWO OTHER SOURCES WHICH ARE NOT AVAILABLE AT THIS TIME IN KENTUCKY, OFFER CONSIDERABLE POTENTIAL FOR REVENUE GENERATION. THESE ARE THE GASOLINE SALES TAX AND BICYCLE REGISTRATION FEES.

GASOLINE SALES TAX: AT THE STATE LEVEL, A PORTION OF THE GASOLINE TAXES COLLECTED FOR STATE HIGHWAY FUNDS MIGHT BE SET ASIDE FOR THE MANDATORY AND EXCLUSIVE USE OF BICYCLE AND PEDESTRIAN FACILITIES. THE STATE OF OREGON HAS INITIATED SUCH A PROGRAM WITH ONE PERCENT (1%) OF THE STATE'S HIGHWAY FUNDS GOING FOR BIKE ROUTES AND PEDESTRIAN TRAILS. OTHER STATES ARE PROPOSING SUCH LEGISLATION. AS A MEANS OF FINANCING LONG-RANGE BICYCLE FACILITY PROGRAMS, THE GASOLINE SALES TAX WOULD BE A VERY RELIABLE SOURCE.

BICYCLE REGISTRATION FEES: ANOTHER DEPENDABLE LONG-RANGE FUNDING SOURCE IS A STATE-WIDE BICYCLE REGISTRATION SYSTEM. COLORADO HAS PROPOSED SUCH A SYSTEM WITH LICENSING AND A FEE OF $3.00 WHICH, AFTER ADMINISTRATIVE COSTS ARE DEDUCTED, WOULD BE TRANSFERRED INTO A SPECIAL FUND FOR CONSTRUCTION AND MAINTENANCE OF BIKEWAYS.

BOTH THE GASOLINE SALES TAX AND REGISTRATION FEES WOULD REQUIRE STATE LEGISLATIVE ACTION WHICH IS DISCUSSED IN GREATER DETAIL IN THE LEGISLATIVE PROPOSALS SECTION OF THIS REPORT.

LOCAL FUNDING SOURCES: BESIDES FEDERAL AND STATE GRANTS AND PROGRAMS, A NUMBER OF LOCAL GOVERNMENTS MAY ENACT THEIR OWN LEGISLATION TO ASSIST IN THE ACQUISITION AND DEVELOPMENT OF BIKEWAY FACILITIES. AMONG THE OPTIONS OPEN TO CITIES AND COUNTIES FOR RAISING FUNDS ARE THE FOLLOWING:

GENERAL OPERATING FUNDS: GENERAL OPERATING FUNDS FROM EITHER THE CITY OR COUNTY ARE PERHAPS THE MOST COMMON SOURCE OF BIKEWAY FUNDS. THESE FUNDS MIGHT BE ADMINISTERED THROUGH EITHER THE METROPOLITAN PARK AND RECREATION BOARD, THE CITY AND COUNTY WORKS DEPARTMENTS OR CITY AND COUNTY DEPARTMENT OF TRAFFIC ENGINEERING. IN ANY CASE, EACH AGENCY SHOULD COORDINATE WITH THE OTHER AND WITH THE KENTUCKIANA REGIONAL PLANNING AND DEVELOPMENT AGENCY (KIPDA) REGARDING THE PLANNING, LOCATION, AND INSTALLATION OF BIKEWAY FACILITIES. SINCE THERE ARE MANY PROJECTS AND DEPARTMENTS COMPETING FOR THESE LIMITED REVENUES, APPROPRIATIONS FOR BICYCLE FACILITIES AND PROGRAMS WILL MOST LIKELY VARY FROM YEAR TO YEAR.

BOND ISSUE: GENERAL OBLIGATION BONDS BACKED BY AD VALOREM TAXES ARE ANOTHER SOURCE OF FUNDS BOTH AT THE STATE AND LOCAL LEVEL. SINCE THESE BONDS REQUIRE A LOCAL REFERENDUM, THERE MUST BE CONSIDERABLE PUBLIC SUPPORT FOR THE PROJECT. BOND FUNDING ALSO REQUIRES MAKING INTEREST PAYMENTS WHICH CAN BECOME EXPENSIVE. THEY WOULD, THEREFORE, BE APPROPRIATE ONLY TO FINANCE PROJECTS WHICH REQUIRE LARGE INITIAL CAPITAL INVESTMENTS.

SPECIAL ASSESSMENTS: A SPECIAL TAX ASSESSMENT FOR BIKEWAY CONSTRUCTION IS OFTEN FOUND TO BE MORE POLITICALLY ACCEPTABLE THAN TAX INCREASES OR BOND ISSUES. SINCE A SPECIAL ASSESSMENT IS GENERALLY MADE ON SPECIFIC PROPERTIES, AND BIKEWAYS USUALLY BENEFIT A WIDER AREA THAN CONTIGUOUS PROPERTIES, IT IS SOMETIMES DIFFICULT TO IDENTIFY THE PROPERTIES FOR A SPECIAL ASSESSMENT. IN SELECTED INSTANCES WHERE THE BENEFIT CAN BE CLEARLY ESTABLISHED, A SPECIAL ASSESSMENT OF AT LEAST PARTIAL COST MIGHT BE APPROPRIATE. THIS FUNDING PROCEDURE WOULD LIKELY HAVE ITS HIGHEST APPEAL IN THOSE AREAS WHERE POTENTIAL BIKING INTEREST IS HIGH AND EXISTING SAFE FACILITIES ARE MINIMAL.

BICYCLE REGISTRATION FEES: WHILE THE PRIMARY PURPOSE OF BICYCLE REGISTRATION IS FOR INCREASED SECURITY, AN ADDITIONAL FEE BEYOND THE COST OF ADMINISTERING THE PROGRAM COULD BE INSTITUTED AND EARMARKED FOR BIKEWAY DEVELOPMENT. SUCH AN INCREASED FEE COULD, HOWEVER, ACT AS A DETERRENT TO REGISTRATION AND UNDERMINE THE PURPOSE OF BICYCLE REGISTRATION. IF THE FEE IS UNACCEPTABLE, THE PROGRAM COULD RESULT IN INCREASED ENFORCEMENT AND ADMINISTRATIVE COSTS. EVEN WITH THESE DISADVANTAGES, IT REMAINS THE BEST POTENTIAL REVENUE SOURCE DIRECTLY RELATED TO THE USER. IT IS POSSIBLE THAT STATEWIDE BICYCLE REGISTRATION, AS DISCUSSED ABOVE, WILL PRECLUDE THIS LOCAL ACTION.

USER FEES: A PRIME SOURCE OF GENERATING LOCAL BIKEWAY FACILITIES REVENUES IS THROUGH USER FEES. THIS TYPE OF REVENUE GENERATION TENDS TO BE MORE PALATABLE TO THE GENERAL PUBLIC SINCE THE USER IS PAYING DIRECTLY FOR A SERVICE FOR WHICH HE BENEFITS. THIS FEE MAY TAKE THE FORM OF THE RIDER PAYING FOR PUBLIC PARKING AND STORAGE SPACE OR PAYING A TAX AT THE TIME OF REGISTRATION BASED ON EITHER SIZE OR COST OF THE BICYCLE. AGAIN, THERE IS THE POSSIBILITY THAT AN EXCESSIVE FEE WOULD ACT AS A DETERRENT TO THE USE OF THE FACILITIES OR PROGRAMS BEING PROVIDED. TO AVOID THIS POTENTIAL DETERRENT, USER FEES SHOULD BE CONSIDERED A SECONDARY FUNDING SOURCE WITH THE FEE KEPT FAIRLY LOW.

PRIVATE CONTRIBUTIONS: DONATION OF LAND, SERVICES, EQUIPMENT AND CASH BY INDIVIDUALS AND PRIVATE INTEREST GROUPS OR ORGANIZATIONS SHOULD BE CONSIDERED AND PROMOTED. THOSE CIVIC GROUPS AND OTHER AGENCIES WITH SPECIAL INTERESTS IN RECREATION OR IN PRESERVATION WOULD BE VIABLE SOURCES FOR LAND GIFTS OR FINANCIAL CONTRIBUTIONS, AND SHOULD BE CONTACTED BY THE APPROPRIATE LOCAL OFFICIAL WITH A SPECIFIC PROJECT IN MIND.

SERVICES MAY BE AVAILABLE FROM A VARIETY OF LOCAL GROUPS SUCH AS BIKE CLUBS, BOY SCOUTS, PTA'S, KIWANIS AND LIONS CLUBS. THESE CIVIC GROUPS SHOULD BE PROVIDED WITH COPIES OF THE BIKEWAY FACILITIES PROGRAM INCLUDING FUNDING AND IMPLEMENTATION STRATEGIES. PRIVATE CONTRIBUTIONS MUST BE VIEWED AS UNEXPECTED AND TEMPORARY ASSISTANCE.

LOCAL COMMUNITY DEVELOPERS: AN EXCELLENT WAY TO SECURE INTERNAL BIKEWAY SYSTEMS THAT ARE COMPATIBLE WITH LOCAL STANDARDS AND THAT ARE NATURAL EXTENSIONS OF THE LOCAL SYSTEM IS TO WORK CLOSELY WITH LOCAL PLANNERS AND DEVELOPERS IN THE EARLY STAGES OF DEVELOPMENT APPROVAL. THIS TYPE OF FACILITY CAN BE A SELLING POINT FOR THE DEVELOPER, AS WELL AS A MECHANISM FOR EXTENDING COMMUNITY OPEN SPACE AND RECREATIONAL FACILITIES AT VERY LITTLE DIRECT COST TO THE COMMUNITY.

COORDINATION AND PROGRAMMING CONSIDERATIONS

AFTER THE BIKEWAY PLAN IS DEVELOPED, THERE ARE A NUMBER OF ACTIVITIES AFFECTING COORDINATION AND LONG-RANGE PROGRAMMING OF THE PLAN. THESE ACTIVITIES WILL INVOLVE COORDINATION AT BOTH THE REGIONAL AND LOCAL LEVEL.

REGIONAL ACTIVITIES: REGIONAL ACTIVITIES INCLUDE THE COORDINATION AND REVIEW OF FEDERAL, STATE AND LOCAL DEVELOPMENT ACTIVITIES TO SEE THAT THEY ARE CONSISTENT WITH LOCAL AND REGIONAL PLANS AND POLICIES. THE FOLLOWING REGIONAL ACTIVITIES EXIST NOW AND SHOULD BE FULLY UTILIZED TO ENHANCE THE DEVELOPMENT OF BICYCLE FACILITIES.

A-95 REVIEW PROCESS - THE KENTUCKIANA REGIONAL PLANNING AND DEVELOPMENT AGENCY (KIPDA) HAS THE AUTHORITY AND RESPONSIBILITY FOR MANAGEMENT OF THE A-95 PROCEDURE THAT PROVIDES FOR REVIEW AND COMMENT ON MAJOR PUBLIC WORKS PROJECTS WHICH INVOLVE THE EXPENDITURE OF FEDERAL FUNDS. SPECIAL ATTENTION SHOULD BE GIVEN TO THOSE PROJECTS WHICH COULD ENHANCE THE DEVELOPMENT OF BIKEWAY FACILITIES - EITHER ROUTES OR STORAGE AREAS. PROJECTS SUCH AS THE PROPOSED BEARGRASS CREEK DEMONSTRATION BIKE ROUTE, MAJOR PARK DEVELOPMENTS AND IMPROVEMENTS TO THE TRANSIT FACILITIES OF THE TRANSIT AUTHORITY OF RIVER CITY (TARC) ARE SUCH OPPORTUNITIES FOR BIKEWAY DEVELOPMENT.

LOUISVILLE METROPOLITAN TRANSPORTATION STUDY - WORKING THROUGH KIPDA AND THE KENTUCKY DOT, CONSIDERABLE EFFORTS CAN BE MADE TO COORDINATE AND INCORPORATE BIKEWAY FACILITIES INTO FUTURE HIGHWAY PROJECTS PRIOR TO FINAL DESIGN. THE BIKEWAY PLANNING COMMITTEE SHOULD CONTINUE TO INSURE THAT TRANSPORTATION AND RECREATION BIKING NEEDS ARE MET BY CONVERTING THE PRESENT BIKEWAY PLANNING COMMITTEE TO A SUBCOMMITTEE OF THE TRANSPORTATION COORDINATING COMMITTEE.

LOCAL ACTIVITIES: LOCAL ACTIVITIES SHOULD BE CONCERNED WITH THE BUDGETING OF CONSTRUCTION AND MAINTENANCE OF BICYCLE FACILITIES AS WELL AS SAFETY, EDUCATION, REGISTRATION AND LEGISLATIVE POLICIES.

COMMUNICATIONS SHOULD BE ESTABLISHED BETWEEN LOCAL BICYCLE INTEREST GROUPS AND SELECTED PUBLIC DEPARTMENTS TO SEE THAT CONSTRUCTION, MAINTENANCE, EDUCATION PROGRAMS AND REGISTRATION LAWS ARE COORDINATED. THE BIKEWAY PLANNING COMMITTEE AND KIPDA SHOULD HAVE A MAJOR ROLE IN COORDINATING THESE EFFORTS AND PROMOTING THE BIKEWAY PLAN. THE FOLLOWING LOCAL ACTIVITIES COULD BE UTILIZED TO FACILITATE THE DEVELOPMENT OF BICYCLE FACILITIES WITHIN THE LOUISVILLE-JEFFERSON COUNTY AREA.

BIKEWAY PLANNING COMMITTEE: FOR THE DEVELOPMENT OF THE LOUISVILLE-JEFFERSON COUNTY BIKEWAY STUDY, A BIKEWAY PLANNING COMMITTEE WAS ESTABLISHED. THIS COMMITTEE IS COMPOSED OF REPRESENTATIVES FROM BICYCLE GROUPS, GOVERNMENT AGENCIES, SPECIAL INTEREST GROUPS AND INTERESTED CITIZENS IN THE LOUISVILLE-JEFFERSON COUNTY AREA. THIS COMMITTEE HAS PROVED TO BE OF SIGNIFICANT ASSISTANCE IN MONITORING THE WORK OF THE CONSULTANT AND PROVIDING VALUABLE CITIZEN INPUT. THE BIKEWAY PLANNING COMMITTEE SHOULD BE RETAINED AS MENTIONED EARLIER TO CONTINUE TO STIMULATE, MONITOR, AND COMMENT ON MAJOR OPPORTUNITIES FOR BICYCLE DEVELOPMENT AS THEY OCCUR IN THE COUNTY. SINCE THE COMMITTEE HAS BEEN INVOLVED IN THE DEVELOPMENT OF THE PLAN, THEY WILL BE MOST FAMILIAR WITH ITS CONTENTS AND RECOMMENDATIONS AND CAN SERVE AS A VALUABLE MONITOR FOR SEEING THAT THE PLAN IS IMPLEMENTED.

CAPITAL IMPROVEMENTS BUDGETING: SINCE LOUISVILLE-JEFFERSON COUNTY PREPARES BUDGETS ON AN ANNUAL BASIS, PROGRAMMING OF ANY BIKEWAY NETWORK SHOULD REFLECT THIS ANNUAL BUDGETING PROCESS. PARTICULARLY IMPORTANT ON AN ANNUAL BASIS WILL BE THE INCLUSION OF THOSE BIKEWAY NETWORK ELEMENTS WHICH CAN SEIZE UPON LOW-COST OPPORTUNITIES SUCH AS INCLUDING A BIKE PATH WITHIN A PROPOSED ROAD OR STREET. IT WOULD ALSO BE USEFUL TO STAGE BIKEWAY IMPROVEMENTS WITHIN THE CAPITAL BUDGETING TIME FRAME.

ONE WAY TO SECURE AND PROGRAM THE NEEDED FUNDS FOR IMPLEMENTATION OF A BIKEWAY PROGRAM ON A YEAR-TO-YEAR BASIS IS TO COORDINATE AND WORK WITH LOCAL PLANNING DEPARTMENTS. THE FUNDS NEEDED FOR MAJOR BIKEWAY IMPROVEMENTS ARE USUALLY OF SUCH A MAGNITUDE THAT PROJECTS WOULD BE CLASSIFIED AS A CAPITAL IMPROVEMENT TO THE RECREATIONAL RESOURCES OF THE COMMUNITY. THROUGH THE CAPITAL IMPROVEMENT BUDGETARY PROCESS, PROPER COORDINATION BETWEEN ALL DEPARTMENTS OF LOUISVILLE AND JEFFERSON COUNTY WILL INSURE THAT FUNDS ARE NOT WASTED OR DUPLICATED AND THAT REQUESTS FOR FUNDS ARE PROPERLY PROGRAMMED AND BUDGETED BY THE GOVERNING BODY.

IMPLEMENTATION AND MAINTENANCE RESPONSIBILITIES: ONE OF THE LAST STEPS IN PLAN IMPLEMENTATION INVOLVES THE ASSIGNMENT OF IMPLEMENTATION RESPONSIBILITY WITHIN SELECTED PUBLIC DEPARTMENTS. IN ADDITION, ORDINANCES ARE NECESSARY TO ENCOURAGE THE PRIVATE PROVISION OF BICYCLE FACILITIES AND TO REGULATE THE USE OF THE BICYCLE. SUGGESTED AMENDMENTS TO THE ZONING AND SUBDIVISION REGULATIONS WHICH ADDRESS THIS ASPECT OF IMPLEMENTATION ARE DISCUSSED IN THE SECTION ENTITLED LEGISLATIVE PROPOSALS.

IT IS RECOMMENDED THAT THE FOLLOWING PUBLIC ORGANIZATIONS BE ASSIGNED THE PRIMARY BIKEWAY DEVELOPMENT RESPONSIBILITIES:

- LOUISVILLE AND JEFFERSON COUNTY METROPOLITAN PARK AND RECREATION BOARD
- LOUISVILLE AND JEFFERSON COUNTY DEPARTMENT OF TRAFFIC ENGINEERING
- LOUISVILLE PUBLIC WORKS AND SERVICES CABINET, DEPARTMENT OF OPERATIONS AND MAINTENANCE
- JEFFERSON COUNTY BOARD OF EDUCATION
- JEFFERSON COUNTY WORKS DEPARTMENT
- KENTUCKY DEPARTMENT OF TRANSPORTATION

IN MOST CASES, THE PUBLIC WORKS DEPARTMENT AND THE TRAFFIC ENGINEERING DEPARTMENT SHOULD BE ASSIGNED THE RESPONSIBILITY FOR CONSTRUCTING AND MARKING BICYCLE FACILITIES. OTHER DEPARTMENTS WOULD TYPICALLY BE ASSIGNED RESPONSIBILITIES IN THE PROVISION OF NON-PHYSICAL PROGRAMS (SUCH AS SAFETY EDUCATION) AND THE ENFORCEMENT OF LAWS AFFECTING THE BICYCLIST.

MAINTENANCE: IT IS RECOMMENDED THAT THE CITY OF LOUISVILLE PUBLIC WORKS AND SANITATION DEPARTMENTS AND THE JEFFERSON COUNTY PUBLIC WORKS DEPARTMENT MAINTAIN THE BIKEWAYS NOT IN PARKS AND THE PARKS DEPARTMENT MAINTAIN BIKEWAYS IN PARKS. VEHICLES SIMILAR TO THOSE IN USE ON THE RIVER CITY MALL WILL BE NEEDED SINCE IN MANY CASES THE CLASS I BIKEWAYS ARE TOO NARROW FOR A NORMAL SIZED VEHICLE TO USE AND EVEN IF A LARGER MAINTENANCE VEHICLE WAS USED IT WOULD BLOCK THE BIKEWAY. THE CLASS III AND UNPROTECTED CLASS II BIKEWAYS SHOULD BE KEPT CLEAR OF BROKEN GLASS AND OTHER DEBRIS BY REGULAR USE OF A STREET-SWEEPER. CLASS II PROTECTED BIKEWAYS SHOULD BE LESS OF A PROBLEM AS THE BARRIER WILL KEEP MUCH OF THE DEBRIS OUT OF THE PATH.

LEGISLATIVE PROPOSALS

A SIGNIFICANT ASPECT OF THIS STUDY INVOLVED THE INVESTIGATION OF A REVIEW OF EXISTING KENTUCKY STATE STATUTES, THE MUNICIPAL CODE OF LOUISVILLE, THE MUNICIPAL TRAFFIC CODE, AND THE LOUISVILLE-JEFFERSON COUNTY ZONING AND SUBDIVISION REGULATIONS. THE PROPOSALS CONTAINED IN THE REPORT RELATE PRIMARILY TO STATE AND LOCAL LEGISLATIVE CHANGES REGARDING THE OPERATION OF BICYCLES, REGISTRATION AND LICENSING PROGRAMS, FUNDING FOR CONSTRUCTION AND MAINTENANCE OF BIKEWAYS, AND SUGGESTED DEVELOPMENT REQUIREMENTS FOR PRIVATE DEVELOPERS. PROGRAMS RELATED TO SAFETY EDUCATION PROPOSALS ARE CONTAINED IN A LATER SECTION.

OPERATION OF BICYCLES: THERE EXISTS A WIDE VARIETY OF REGULATIONS REGARDING THE OPERATION OF BICYCLES AS WELL AS THE RESPONSIBILITY OF DRIVERS AND CYCLISTS TO ONE ANOTHER. THIS UNCERTAINTY BY BOTH MOTORISTS AND CYCLISTS CONTRIBUTES GREATLY TO THE PROBLEM LOCAL POLICE DEPARTMENTS EXPERIENCE WHEN ENFORCING THESE REGULATIONS.

IF TRAFFIC CONDITIONS AND THE OPERATION OF BICYCLES ARE TO IMPROVE, MOTOR VEHICLE LAWS MUST BE APPLIED IN A WAY WHICH NEITHER CONFLICTS WITH THE DEFINITION OF THE BICYCLE AS AN 'EQUAL' VEHICLE NOR CONFUSES THE BICYCLIST, THE MOTORIST, OR THE ENFORCEMENT OFFICER. FURTHERMORE, UNLESS ALL THE RULES OF THE ROAD THAT AFFECT THE BICYCLIST ARE ACTIVELY AND UNIFORMLY ENFORCED, THE EFFECTIVENESS OF BICYCLE FACILITIES AND OTHER PROGRAMS IN PROVIDING INCREASED LEVELS OF SAFETY, SECURITY, AND AMENITY WILL BE REDUCED.

THE ADOPTION OF THAT PORTION OF THE UNIFORM VEHICLE CODE AND MODEL TRAFFIC ORDINANCE RELATED TO BICYCLE OPERATIONS (SEE APPENDIX) IS SUGGESTED FOR INVESTIGATION BY LOUISVILLE-JEFFERSON COUNTY FOR THE PURPOSE OF IMPROVING THE LOCAL TRAFFIC ORDINANCES AND PROVIDING BETTER ENFORCEMENT OF BICYCLE RELATED REGULATORY MEASURES. THIS MODEL CODE OUTLINES THE RESPONSIBILITIES AND OBLIGATIONS OF BOTH MOTORISTS AND CYCLISTS. THE CODE SPELLS OUT THE OPERATION AND SAFETY EQUIPMENT REQUIRED ON BICYCLES. IN ADDITION, IT ALLOWS THE USE OF BICYCLES ON SIDEWALKS EXCEPT WHERE PROHIBITED BY LOCAL ORDINANCE. THIS IS AN IMPORTANT POINT IN LOUISVILLE BECAUSE THE GENERAL LACK OF ADEQUATE STREET WIDTH AND RIGHT-OF-WAY, AND RELATIVELY HIGH TRAFFIC VOLUMES PRECLUDE THE USE OF MANY STREETS AS BIKEWAYS.

REGISTRATION AND LICENSING PROGRAMS: THE LOUISVILLE-JEFFERSON COUNTY AREA CURRENTLY HAS NO LOCAL LEGISLATION REQUIRING THE REGISTRATION AND LICENSING OF BICYCLES. THE PRIMARY PURPOSE OF REGISTRATION IS TO DETER THIEVERY AND TO AID IN THE IDENTIFICATION AND RETRIEVAL OF STOLEN BICYCLES. A SECONDARY PURPOSE OF REGISTRATION IS AS AN AID IN THE GENERATION OF REVENUES FOR BIKEWAY DEVELOPMENT. A THIRD BENEFIT TO BE DERIVED FROM REGISTRATION OF BICYCLES IS THAT IT GIVES AN ACCURATE ESTIMATE OF GROWTH OF

BICYCLE OWNERSHIP IN THE AREA. IT BECOMES A VEHICLE FOR DETERMINING WHERE BICYCLE FACILITIES PLANNING SHOULD OCCUR AND WHERE BICYCLE IMPROVEMENTS SHOULD BE MADE FIRST.

IT IS RECOMMENDED THAT LOUISVILLE-JEFFERSON COUNTY INVESTIGATE THE INITIATION OF A REGISTRATION AND LICENSING LAW FOR BICYCLES. TO MINIMIZE THE INCONVENIENCES AND TO ENCOURAGE SUCH A LAW, A TWO-YEAR LICENSE MAY BE APPROPRIATE. SUCH A LAW COULD BE ADMINISTERED BY THE COMMISSIONERS OF THE SINKING FUND SO THAT FEES COLLECTED MAY BE USED AT THE LOCAL LEVEL.

THE FOLLOWING ADMINISTRATIVE PROCEDURES SHOULD BE CONSIDERED:

- NEW BICYCLES REGISTERED AND LICENSED THROUGH THE COOPERATION OF BICYCLE DEALERS AT THE TIME OF INITIAL SALE.

- OLD BICYCLES, PRIVATE SALES, AND NEW BIKES BROUGHT INTO THE AREA ARE REGISTERED THROUGH THE COMMISSIONER OF THE SINKING FUND IN THE SAME MANNER AS THE LAW NOW APPLIES TO TRUCKS AND TRAILERS.

- REGISTRATION FORMS TO BE COMPLETED IN FOUR PARTS AND ONE COPY SUPPLIED TO THE STATE DEPARTMENT OF MOTOR VEHICLES (IF A STATEWIDE REGISTRATION PROGRAM IS ENACTED), ONE COPY TO THE TRAFFIC BUREAU OF THE POLICE DEPARTMENT, ONE AT THE PLACE OF REGISTRATION AND ONE TO THE OWNER.

IN ORDER TO STRENGTHEN THE LOCAL REGISTRATION AND LICENSING LAW, LOUISVILLE AND JEFFERSON COUNTY SHOULD CONSIDER INVESTIGATING THE ATTITUDES TOWARD A STATEWIDE REGISTRATION LAW AIMED AT DETERRING THEFT ACROSS STATE AND COUNTY LINES.

<u>LEGISLATION FOR FUNDING CONSTRUCTION AND MAINTENANCE OF BIKEWAYS</u>: SINCE THE PLANNING AND DEVELOPMENT OF BIKEWAYS IS PRIMARILY A LOCAL MATTER, IT IS IMPERATIVE THAT LOUISVILLE-JEFFERSON COUNTY INVESTIGATE THE LEGISLATIVE OPTIONS NECESSARY FOR RAISING FUNDS LOCALLY. THESE FUNDS MAY BE USED TO AUGMENT OR MATCH VARIOUS FEDERAL OR STATE AID PROGRAMS. IN ADDITION TO THE FEES COLLECTED FROM THE REGISTRATION AND LICENSING OF BICYCLES, THE CITY AND COUNTY SHOULD INVESTIGATE THE APPROPRIATENESS AND PUBLIC ACCEPTANCE OF A LOCAL TAX ON THE SALE OF ALL NEW BICYCLES WITHIN THE COUNTY. THE TAX WOULD BE COLLECTED BY THE DEALER AT THE TIME OF PURCHASE, THE PROCEEDS GOING TO THE SINKING FUND TO BE USED FOR BIKEWAYS AND RELATED PROGRAMS.

ANOTHER SUBSTANTIAL AND CONTINUING SOURCE OF REVENUE FOR BIKEWAY DEVELOPMENT WOULD BE A GASOLINE SALES TAX. IT IS RECOMMENDED THAT THE STATE LEGISLATURE CONSIDER PROGRAMMING A PORTION OF THE GASOLINE SALES TAX FOR BIKEWAY FACILITY PLANNING AND IMPLEMENTATION. THE LAW SHOULD PROVIDE FOR THESE FUNDS (ONE-HALF OF ONE

PERCENT OF THE COLLECTED GASOLINE SALES TAX) TO BE USED AS ONE-HALF OF THE LOCAL MATCHING REQUIREMENTS FOR FHWA URBAN FUNDS ALLOWED FOR BIKEWAY CONSTRUCTION UNDER THE 1973 HIGHWAY ACT. THE ACT SHOULD STIPULATE THAT FUNDS MUST BE MATCHED WITH LOCAL AREA FUNDS WITHIN A SPECIFIED PERIOD OF TIME LEST THEIR AVAILABILITY BE TERMINATED AND DIVERTED TO THE HIGHWAY CONSTRUCTION PROGRAM.

SUBDIVISION AND ZONING REGULATION REVISIONS: LOCAL ZONING ORDINANCES AND SUBDIVISION REGULATIONS CAN BE OF ASSISTANCE IN THE PROVISION AND DESIGN OF BIKEWAYS AND RELATED FACILITIES. FOR EXAMPLE, SUBDIVISION REGULATIONS OFTEN PERMIT OR REQUIRE THE DEDICATION OF LAND FOR PUBLIC OPEN SPACE. THE DEDICATION OF LAND FOR BICYCLE FACILITIES OR BIKEWAY CORRIDORS COULD BE INCLUDED AS PART OF THE OPEN SPACE REQUIREMENT. HOWEVER, WHEN BIKEWAY FACILITIES WHICH ARE PART OF AN ADOPTED COMPREHENSIVE PLAN FALL WITHIN A PROPOSED DEVELOPMENT, THE DEVELOPER SHOULD BE REQUIRED TO DEDICATE LAND FOR THESE FACILITIES. AS AN INCENTIVE, DEVELOPERS MAY BE PERMITTED TO INCREASE THE ALLOWABLE DENSITY WITHIN A DEVELOPMENT. ANOTHER POSSIBILITY WOULD BE CASH PAYMENTS BY SUBDIVISION DEVELOPERS TO BE USED FOR BIKEWAYS AND RELATED FACILITIES. THIS TYPE OF ASSISTANCE GIVES LOCAL GOVERNMENT THE OPPORTUNITY TO ESTABLISH BICYCLE FACILITIES WHERE THEY ARE MOST NEEDED.

IT IS SUGGESTED THAT CONSIDERATION BE GIVEN TO REVISING THE LOUISVILLE-JEFFERSON COUNTY METROPOLITAN SUBDIVISION REGULATIONS TO INCLUDE THE FOLLOWING:

- INCLUDE THE TERM BIKEWAY UNDER GENERAL PROVISIONS AND DEFINITIONS. IT MAY BE DEFINED AS A DESIGNATED BIKE ROUTE.

- INCLUDE INCENTIVES IN THE FORM OF REDUCED PARKING REQUIREMENTS OR INCREASED DENSITY TO BUILDERS AND DEVELOPERS TO PROVIDE BIKEWAY SIGNING, STORAGE FACILITIES AND SEPARATE SYSTEMS IN FUTURE DEVELOPMENTS.

- INCORPORATE BICYCLE FACILITY DESIGN STANDARDS.

THERE ARE A NUMBER OF DESIGN STANDARDS FOR BIKEWAYS, ALL OF WHICH WERE DISCUSSED IN THE DESIGN STANDARDS SECTION OF THIS REPORT. OF THESE STANDARDS, THE FOLLOWING WOULD BE APPROPRIATE FOR INCLUSION IN THE SUBDIVISION REGULATIONS. THEY ARE: 1) MINIMUM WIDTHS, 2) MAXIMUM GRADES, AND 3) VERTICAL AND LATERAL CLEARANCES.

THE ZONING DISTRICT REGULATIONS FOR LOUISVILLE-JEFFERSON COUNTY COULD ALSO BE REVISED TO MORE ADEQUATELY PROVIDE FOR BIKEWAYS AND RELATED FACILITIES. THE FOLLOWING ARE SUGGESTED FOR CONSIDERATION IN THE PRESENT ZONING ORDINANCE:

- INCLUDE THE TERM BIKEWAY IN SECTION 2, DEFINITIONS. IT MAY BE DEFINED AS A DESIGNATED BIKE ROUTE.

- REQUIRE SECURE OFF-STREET PARKING FACILITIES FOR BICYCLES AS SUGGESTED IN THE DESIGN STANDARDS SECTION OF THIS REPORT.

- DEVELOPMENTS THAT ARE REQUIRED TO PROVIDE CAR PARKING SHOULD, WHERE APPLICABLE, BE REQUIRED TO PROVIDE FUNCTIONALLY ADEQUATE BICYCLE PARKING.

EDUCATION AND ENFORCEMENT PROPOSALS

A MAJOR FACTOR IN REDUCING BICYCLE ACCIDENTS AND CREATING A SAFER RIDING ENVIRONMENT IS THE INITIATION OF SPECIFIC BICYCLE SAFETY EDUCATION AND ENFORCEMENT PROGRAMS. THESE TWO ITEMS ARE CONSIDERED MAJOR TOOLS IN IMPLEMENTING A SUCCESSFUL ON-GOING BIKEWAY PROGRAM.

SAFETY EDUCATION: BICYCLE SAFETY EDUCATION PROGRAMS SHOULD RECOGNIZE AND INVOLVE ALL AGE GROUPS - FROM GRAMMAR SCHOOL CHILDREN, PRE-DRIVING AGE YOUNGSTERS, TO YOUNG ADULTS AND BEYOND. SAFETY EDUCATION COURSES FOR CYCLISTS AND MOTORISTS SHOULD BE STRESSED ABOVE PUNITIVE ENFORCEMENT PROGRAMS IN ORDER TO GAIN THE FULL SUPPORT OF THE PUBLIC. SOME OF THE SAFETY EDUCATION PROGRAMS WHICH SHOULD BE FURTHER CONSIDERED ARE:

CLASSROOM INSTRUCTION: THROUGH THE JEFFERSON COUNTY SCHOOL BOARD, CLASSROOM INSTRUCTION MAY BE OFFERED TO CHILDREN AT GRAMMAR SCHOOL AND MIDDLE SCHOOL LEVELS EITHER IN FORMAL CLASSROOM SITUATIONS OR IN PHYSICAL EDUCATION CLASSES. SINCE THE MAJORITY OF BICYCLE RIDERS ARE IN THIS AGE GROUP, THIS IS AN EXCELLENT WAY TO REACH THEM. THERE ARE, HOWEVER, DRAWBACKS TO THIS PROGRAM INCLUDING LACK OF SCHOOL HOUR INSTRUCTION TIME AND LACK OF TEACHERS WHO ARE ADEQUATELY TRAINED IN THE USE OF BICYCLES. THESE QUESTIONS SHOULD BE INVESTIGATED WITH THE BOARD.

ROAD-E-OS: ANOTHER METHOD WHICH MAY BE USED OUTSIDE THE CLASSROOM SITUATION TO REACH SCHOOL AGE CHILDREN IS THE BICYCLE ROAD-E-OS. THESE MAY BE SPONSORED BY CIVIC GROUPS, POLICE DEPARTMENTS, OR SCHOOL PTA'S TO ENCOURAGE AND PROMOTE SAFETY EDUCATION AND PROFICIENCY IN THE USE OF BICYCLES. THE PROGRAMS ARE VOLUNTARY ACTIVITIES WHICH MAY REACH ONLY A SMALL PORTION OF THE BICYCLING POPULATION.

ALTHOUGH ROAD-E-OS HAVE TRADITIONALLY BEEN GEARED TO THE YOUNGER CYCLISTS, BICYCLE CLUBS, CIVIC GROUPS, AND LARGE EMPLOYERS MAY WISH TO PROMOTE SUCH AN ACTIVITY FOR ADULTS INTERESTED IN CYCLING. THE PROGRAM CAN PROMOTE EDUCATION OF THE LAWS, ENCOURAGE THE USE OF BICYCLES, REDUCE THEFT AND ACCIDENTS, AND INCREASE PROFICIENCY.

DRIVER EDUCATION: A PRIME METHOD OF EDUCATING FUTURE DRIVERS AS TO THEIR RELATIONSHIP WITH CYCLISTS IS THROUGH THE DRIVERS EDUCATION COURSES IN HIGH SCHOOL. THIS OFFERS FORMAL CLASSROOM INSTRUCTION TO YOUNG DRIVERS.

ANOTHER WAY TO REACH OLDER DRIVERS IS THROUGH THE DRIVERS LICENSE TESTING PROGRAM. FORMAL QUESTIONS COULD BE INCORPORATED INTO THE DRIVERS LICENSE MANUAL AND TEST.

THE MEDIA: ANOTHER IMPORTANT ASPECT OF INFORMING AND EDUCATING THE PUBLIC IS THROUGH THE VARIOUS MEDIA - RADIO, TV, AND NEWSPAPERS. THESE DEVICES HAVE SEVERAL ADVANTAGES: A) MOST PEOPLE CAN BE REACHED BY THESE MEDIA, AND B) THE COST PER CAPITA IS EXTREMELY LOW. THE PRINCIPLE ADVANTAGE OF SUCH A PROGRAM IS THAT IT CAN STIMULATE INTERST, AND REDUCE MASS IGNORANCE OF NEW PROGRAMS AND OPPORTUNITIES.

ENFORCEMENT PROGRAMS: PROPOSED PUBLIC EDUCATION PROGRAMS AND LEGISLATION WILL HAVE LIMITED EFFECT WITHOUT ENFORCEMENT PROGRAMS. ENFORCEMENT PROGRAMS WILL HELP IMPROVE BICYCLE SAFETY AND SECURITY AND HEIGHTEN PUBLIC AWARENESS OF BICYCLE AND RELATED MOTOR VEHICLE OPERATING CONDITIONS AND REQUIREMENTS. HOWEVER, SUBSTANTIAL ENFORCEMENT PROGRAMS CAN BE EXPENSIVE, PARTICULARLY IN TERMS OF REQUIRED MANPOWER. IT IS ALSO POSSIBLE THAT THE 'PUNISHMENT' ETHIC MAY HAVE LITTLE POLITICAL SUPPORT, ESPECIALLY AS IT RELATES TO YOUNG CHILDREN. THERE ARE A NUMBER OF METHODS WHICH COULD BE USED TO ENFORCE BICYCLE REGULATIONS, INCLUDING TICKETING, FINES, BICYCLE IMPOUNDMENT, POINTS ON DRIVERS LICENSES, PEER COURTS, AND REQUIRED BICYCLE SAFETY EDUCATION. ENFORCEMENT TECHNIQUES WHICH ENCOURAGE A POSITIVE RATHER THAN A NEGATIVE ATTITUDE TOWARD BICYCLING REGULATIONS, CAN BECOME AN EFFECTIVE EDUCATIVE MEASURE. THIS CONCEPT SHOULD BE APPLIED PARTICULARLY TO VERY YOUNG VIOLATORS, WHERE IGNORANCE AND CARELESSNESS HAVE RESULTED IN A VIOLATION. IT IS IMPORTANT TO NOTE, HOWEVER, THAT CERTAIN PUNITIVE MEASURES SHOULD APPLY TO CHILDREN SO THAT THE OBJECTIVES OF INCREASED SAFETY AND SECURITY CAN BE REALIZED FOR THE CHILD AS WELL AS THE ADULT BICYCLIST. THE FOLLOWING ARE SUGGESTED FOR INVESTIGATION AND ASOPTION:

FINES: FINES ARE APPROPRIATE FOR MINOR TRAFFIC VIOLATIONS BY ADULTS, SUCH AS RIDING ON STREETS WITHOUT A LICENSE, FAILURE TO REGISTER A BICYCLE, OR FAILURE TO PARK OR LOCK A BICYCLE PROPERLY. HOWEVER, FINES SHOULD NOT BE USED FOR CHILDREN SINCE A FINE'S IMPACT WOULD BE ON THE CHILD'S PARENTS RATHER THAN THE CHILD HIMSELF.

BICYCLE IMPOUNDMENT: BICYCLE IMPOUNDMENT COULD BE USED FOR MAJOR VIOLATIONS OR MULTIPLE VIOLATIONS BY EITHER ADULTS OR CHILDREN. HOWEVER, SINCE THIS IS A VERY SEVERE PUNISHMENT, ESPECIALLY FOR THE TRANSPORTATION-ORIENTED BICYCLIST, IT SHOULD BE USED SPARINGLY.

PEER COURTS: PEER COURTS ARE AN IMPORTANT CONCEPT IN PUNITIVE MEASURES SINCE THEY OFFER AN EFFECTIVE ALTERNATIVE WAY IN WHICH TO ENFORCE REGULATIONS ON CHILDREN. THESE 'COURTS' CAN BE MADE UP OF ADULTS, BUT SEEM TO HAVE MORE IMPACT IF THEY ARE COMPOSED OF THE PEERS OF THOSE BEING 'TRIED.' COURT MEMBERS MIGHT BE PREVIOUS VIOLATORS, INDIVIDUALS SELECTED BY SCHOOL OR NEIGHBORHOOD ELECTIONS, ETC. THIS TECHNIQUE COULD BE APPROPRIATELY USED FOR MAJOR VIOLATIONS BY CHILDREN, MULTIPLE MINOR OFFENSES, AND VIOLATIONS RESULTING IN ACCIDENTS. PUNITIVE MEMBERS MIGHT INCLUDE BICYCLE OPERATOR TESTING, REQUIRED EDUCATION, 'SERVICE FINES' (FOR EXAMPLE, SPENDING A WEEKEND CLEARING DEBRIS FROM A BIKEWAY), BICYCLE

IMPOUNDMENT, OR THEME WRITING.

REQUIRED BICYCLE SAFETY EDUCATION: THIS WOULD ALSO BE APPROPRIATE FOR MAJOR VIOLATIONS RESULTING IN ACCIDENTS. THIS TYPE OF ENFORCEMENT COULD BE USED WITH BOTH CHILDREN AND ADULTS AND IS IMPORTANT BECAUSE IT IS EDUCATIVE AS WELL AS PUNITIVE.

APPENDIX

UNIFORM VEHICLE CODE

AND

MODEL TRAFFIC ORDINANCE

(THOSE SECTIONS PERTAINING TO BICYCLE OPERATIONS HAVE BEEN EXTRACTED FROM THE CODE FOR BREVITY.)

SUPPLEMENT II

1976

NATIONAL COMMITTEE

ON

UNIFORM TRAFFIC LAWS AND ORDINANCES

CHAPTER 1

WORDS AND PHRASES DEFINED

1-105 - BICYCLE. - EVERY VEHICLE PROPELLED SOLELY BY HUMAN POWER UPON WHICH ANY PERSON MAY RIDE, HAVING TWO TANDEM WHEELS, EXCEPT SCOOTERS AND SIMILAR DEVICES. (REVISED, 1975.)

1-158 - ROADWAY. - THAT PORTION OF A HIGHWAY IMPROVED, DESIGNATED OR ORDINARILY USED FOR VEHICULAR TRAVEL, EXCLUSIVE OF THE SIDEWALK, BERM OR SHOULDER EVEN THOUGH SUCH SIDEWALK, BERM OR SHOULDER IS USED BY PERSONS RIDING BICYCLES OR OTHER HUMAN POWERED VEHICLES. IN THE EVENT A HIGHWAY INCLUDES TWO OR MORE SEPARATE ROADWAYS THE TERM 'ROADWAY' AS USED HEREIN SHALL REFER TO ANY SUCH ROADWAY SEPARATELY BUT NOT TO ALL SUCH ROADWAYS COLLECTIVELY. (REVISED, 1975.)

1-184 - VEHICLE. - EVERY DEVICE IN, UPON OR BY WHICH ANY PERSON OR PROPERTY IS OR MAY BE TRANSPORTED OR DRAWN UPON A HIGHWAY, EXCEPTING DEVICES USED EXCLUSIVELY UPON STATIONARY RAILS OR TRACKS. (REVISED, 1975.)

ARTICLE XII
OPERATION OF BICYCLES AND OTHER HUMAN-POWERED VEHICLES

11-1202 - TRAFFIC LAWS APPLY TO PERSONS ON BICYCLES AND OTHER HUMAN POWERED VEHICLES.

EVERY PERSON PROPELLING A VEHICLE BY HUMAN POWER OR RIDING A BICYCLE SHALL HAVE ALL OF THE RIGHTS AND ALL OF THE DUTIES APPLICABLE TO THE DRIVER OF ANY OTHER VEHICLE UNDER CHAPTERS 10 AND 11, EXCEPT AS TO SPECIAL REGULATIONS IN THIS ARTICLE AND EXCEPT AS TO THOSE PROVISIONS WHICH BY THEIR NATURE CAN HAVE NO APPLICATION. (REVISED, 1975.)

11-1203 - RIDING ON BICYCLES.

(A) DELETED IN 1975.

(B) NO BICYCLE SHALL BE USED TO CARRY MORE PERSONS AT ONE TIME THAN THE NUMBER FOR WHICH IT IS DESIGNED OR EQUIPPED, EXCEPT THAT AN ADULT RIDER MAY CARRY A CHILD SECURELY ATTACHED TO HIS PERSON IN A BACK PACK OR SLING. (REVISED, 1975.)

11-1204 - CLINGING TO VEHICLES.

(A) NO PERSON RIDING UPON ANY BICYCLE, COASTER, ROLLER SKATES, SLED, OR TOY VEHICLE SHALL ATTACH THE SAME OR HIMSELF TO ANY (STREETCAR OR) VEHICLE UPON A ROADWAY. (RELETTERED, 1975.)

(B) THIS SECTION SHALL NOT PROHIBIT ATTACHING A BICYCLE TRAILER OR BICYCLE SEMITRAILER TO A BICYCLE IF THAT TRAILER OR

SEMITRAILER HAS BEEN DESIGNED FOR SUCH ATTACHMENT. (NEW SUB-SECTION, 1975.)

11-1205 - RIDING ON ROADWAYS AND BICYCLE PATHS.

(B) PERSONS RIDING BICYCLES UPON A ROADWAY SHALL NOT RIDE MORE THAN TWO ABREAST EXCEPT ON PATHS OR PARTS OF ROADWAYS SET ASIDE FOR THE EXCLUSIVE USE OF BICYCLES. PERSONS RIDING TWO ABREAST SHALL NOT IMPEDE THE NORMAL AND REASONABLE MOVEMENT OF TRAFFIC AND, ON A LANED ROADWAY, SHALL RIDE WITHIN A SINGLE LANE. (REVISED, 1975.)

11-1206 - CARRYING ARTICLES.

NO PERSON OPERATING A BICYCLE SHALL CARRY ANY PACKAGE, BUNDLE OR ARTICLE WHICH PREVENTS THE USE OF BOTH HANDS IN THE CONTROL AND OPERATION OF THE BICYCLE. A PERSON OPERATING A BICYCLE SHALL KEEP AT LEAST ONE HAND ON THE HANDLEBARS AT ALL TIMES. (REVISED, 1975.)

11-1207 - LAMPS AND OTHER EQUIPMENT ON BICYCLES.

THIS SECTION WAS REVISED AND MOVED IN 1975 TO UVC CHAPTER 12 COMMENCING AT SECTION 12-701.

11-1207 - LEFT TURNS.

(A) A PERSON RIDING A BICYCLE INTENDING TO TURN LEFT SHALL FOLLOW A COURSE DESCRIBED IN 11-601 OR IN SUBSECTION (B).

(B) A PERSON RIDING A BICYCLE INTENDING TO TURN LEFT SHALL APPROACH THE TURN AS CLOSE AS PRACTICABLE TO THE RIGHT CURB OR EDGE OF THE ROADWAY. AFTER PROCEEDING ACROSS THE INTERSECTING ROADWAY, THE TURN SHALL BE MADE AS CLOSE AS PRACTICABLE TO THE CURB OR EDGE OF THE ROADWAY ON THE FAR SIDE OF THE INTERSECTION. AFTER TURNING, THE BICYCLIST SHALL COMPLY WITH ANY OFFICIAL TRAFFIC CONTROL DEVICE OR POLICE OFFICER REGULATING TRAFFIC ON THE HIGHWAY ALONG WHICH HE INTENDS TO PROCEED.

(C) NOTWITHSTANDING THE FOREGOING PROVISIONS, THE STATE HIGHWAY COMMISSION AND LOCAL AUTHORITIES IN THEIR RESPECTIVE JURISDICTIONS MAY CAUSE OFFICIAL TRAFFIC CONTROL DEVICES TO BE PLACED AND THEREBY REQUIRE AND DIRECT THAT A SPECIFIC COURSE BE TRAVELED BY TURNING BICYCLES, AND WHEN SUCH DEVICES ARE SO PLACED, NO PERSON SHALL TURN A BICYCLE OTHER THAN AS DIRECTED AND REQUIRED BY SUCH DEVICES. (NEW SECTION, 1975.)

11-1208 - TURN AND STOP SIGNALS.

(A) EXCEPT AS PROVIDED IN THIS SECTION, A PERSON RIDING A BICYCLE SHALL COMPLY WITH 11-604.

(B) A SIGNAL OF INTENTION TO TURN RIGHT OR LEFT WHEN REQUIRED SHALL BE GIVEN CONTINUOUSLY DURING NOT LESS THAN THE LAST 100 FEET TRAVELED BY THE BICYCLE BEFORE TURNING, AND SHALL

BE GIVEN WHILE THE BICYCLE IS STOPPED WAITING TO TURN. A SIGNAL BY HAND AND ARM NEED NOT BE GIVEN CONTINUOUSLY IF THE HAND IS NEEDED IN THE CONTROL OR OPERATION OF THE BICYCLE.

11-1209 - BICYCLES AND HUMAN POWERED VEHICLES ON SIDEWALKS.

(A) A PERSON PROPELLING A BICYCLE UPON AND ALONG A SIDEWALK, OR ACROSS A ROADWAY UPON AND ALONG A CROSSWALK, SHALL YIELD THE RIGHT OF WAY TO ANY PEDESTRIAN AND SHALL GIVE AUDIBLE SIGNAL BEFORE OVERTAKING AND PASSING SUCH PEDESTRIAN.

(B) A PERSON SHALL NOT RIDE A BICYCLE UPON AND ALONG A SIDEWALK, OR ACROSS A ROADWAY UPON AND ALONG A CROSSWALK, WHERE SUCH USE OF BICYCLES IS PROHIBITED BY OFFICIAL TRAFFIC-CONTROL DEVICES.

(C) A PERSON PROPELLING A VEHICLE BY HUMAN POWER UPON AND ALONG A SIDEWALK, OR ACROSS A ROADWAY UPON AND ALONG A CROSSWALK, SHALL HAVE ALL THE RIGHTS AND DUTIES APPLICABLE TO A PEDESTRIAN UNDER THE SAME CIRCUMSTANCES. (NEW SECTION, 1975.)

11-1210 - BICYCLE PARKING.

(A) A PERSON MAY PARK A BICYCLE ON A SIDEWALK UNLESS PROHIBITED OR RESTRICTED BY AN OFFICIAL TRAFFIC CONTROL DEVICE.

(B) A BICYCLE PARKED ON A SIDEWALK SHALL NOT IMPEDE THE NORMAL AND REASONABLE MOVEMENT OF PEDESTRIAN OR OTHER TRAFFIC.

(C) A BICYCLE MAY BE PARKED ON THE ROADWAY AT ANY ANGLE TO THE CURB OR EDGE OF THE ROADWAY AT ANY LOCATION WHERE PARKING IS ALLOWED.

(D) A BICYCLE MAY BE PARKED ON THE ROADWAY ABREAST OF ANOTHER BICYCLE OR BICYCLES NEAR THE SIDE OF THE ROADWAY AT ANY LOCATION WHERE PARKING IS ALLOWED.

(E) A PERSON SHALL NOT PARK A BICYCLE ON A ROADWAY IN SUCH A MANNER AS TO OBSTRUCT THE MOVEMENT OF A LEGALLY PARKED MOTOR VEHICLE.

(F) IN ALL OTHER RESPECTS, BICYCLES PARKED ANYWHERE ON A HIGHWAY SHALL CONFORM WITH THE PROVISIONS OF ARTICLE 10 REGULATING THE PARKING OF VEHICLES. (NEW SECTION, 1975.)

11-1211 - BICYCLE RACING

(A) BICYCLE RACING ON THE HIGHWAYS IS PROHIBITED BY 11-808 EXCEPT AS AUTHORIZED IN THIS SECTION.

(B) BICYCLE RACING ON A HIGHWAY SHALL NOT BE UNLAWFUL WHEN A RACING EVENT HAS BEEN APPROVED BY STATE OR LOCAL AUTHORITIES ON ANY HIGHWAY UNDER THEIR RESPECTIVE JURISDICTIONS. APPROVAL OF BICYCLE HIGHWAY RACING EVENTS SHALL BE GRANTED ONLY UNDER CONDITIONS WHICH ASSURE REASONABLE SAFETY FOR ALL RACE PARTICIPANTS, SPECTATORS AND OTHER HIGHWAY USERS, AND WHICH PREVENT UNREASONABLE SAFETY FOR ALL RACE PARTICIPANTS, SPECTATORS AND OTHER HIGHWAY USERS, AND WHICH PREVENT UNREASONABLE INTERFERENCE WITH TRAFFIC FLOW WHICH WOULD SERIOUSLY INCONVENIENCE OTHER HIGHWAY USERS.

(c) By agreement with the approving authority, participants in an approved bicycle highway racing event may be exempted from compliance with any traffic laws otherwise applicable thereto, provided that traffic control is adequate to assure the safety of all highway users. (New section, 1975.)

Article VII - Bicycles (New, 1975)

12-701 - Application of chapter to bicycles.

No provision in this chapter shall apply to bicycles nor to equipment for use on bicycles except as to provisions in this article or unless a provision has been made specifically applicable to bicycles or their equipment. (New, 1975.)

12-702 - Head lamp required at night.

Every bicycle in use at the times described in 12-201 shall be equipped with a lamp on the front emitting a white light visible from a distance of at least 500 feet to the front. (Former section 11-1207 (a); Revised and Repositioned, 1975.)

12-703 - Rear reflector required at all times.

Every bicycle shall be equipped with a red reflector of a type approved by the department which shall be visible for 600 feet to the rear when directly in front of lawful lower beams of head lamps on a motor vehicle. (Former section 11-1207 (a); Revised and Repositioned,1975.)

12-704 - Side reflector or light required at night.

Every bicycle when in use at the times described in 12-201 shall be equipped with reflective material of sufficient size and reflectivity to be visible from both sides for 600 feet when directly in front of lawful lower beams of head lamps on a motor vehicle, or in lieu of such reflective material, with a lighted lamp visible from both sides from a distance of at least 500 feet. (New, 1975.)

12-705 - Additional lights or reflectors authorized.

A bicycle or its rider may be equipped with lights or reflectors in addition to those required by the foregoing sections. (New, 1975.)

12-706 - Brake required.

Every bicycle shall be equipped with a brake or brakes which will enable its driver to stop the bicycle within 25 feet from a speed of 10 miles per hour on dry, level, clean pavement. (Former section 11-1207 (c), Revised and Repositioned, 1975.)

12-707 - SIRENS AND WHISTLES PROHIBITED.

A BICYCLE SHALL NOT BE EQUIPPED WITH, NOR SHALL ANY PERSON USE UPON A BICYCLE, ANY SIREN OR WHISTLE. (FORMER SECTION 11-1207 (B), REVISED AND REPOSITIONED, 1975.)

12-708 - BICYCLE IDENTIFYING NUMBER.

A PERSON ENGAGED IN THE BUSINESS OF SELLING BICYCLES AT RETAIL SHALL NOT SELL ANY BICYCLE UNLESS THE BICYCLE HAS AN IDENTIFYING NUMBER PERMANENTLY STAMPED OR CAST ON ITS FRAME. (NEW, 1975.)

12-709 - INSPECTING BICYCLES.

A UNIFORMED POLICE OFFICER MAY AT ANY TIME UPON REASONABLE CAUSE TO BELIEVE THAT A BICYCLE IS UNSAFE OR NOT EQUIPPED AS REQUIRED BY LAW, OR THAT ITS EQUIPMENT IS NOT IN PROPER ADJUSTMENT OR REPAIR, REQUIRE THE PERSON RIDING THE BICYCLE TO STOP AND SUBMIT THE BICYCLE TO AN INSPECTION AND SUCH TEST WITH REFERENCE THERETO AS MAY BE APPROPRIATE. (NEW, 1975.)

FIGURE A-1

LOUISVILLE/JEFFERSON COUNTY ELEMENTARY SCHOOL BICYCLING SURVEY

Check or circle the best answer to each question.

1. DO YOU HAVE A BICYCLE? ☐ 1 YES ☐ 2 NO

2. SINCE SEPTEMBER HAVE YOU RIDDEN YOUR BIKE TO SCHOOL?

IF YES, WHY? ☐ 1 YES

1 ☐ Exercise
2 ☐ Only way to get here
3 ☐ It's faster
4 ☐ It's fun
5 ☐ Other reason _____

If other reason, explain _____

IF NO, WHY? ☐ 2 NO

1 ☐ I don't have a bike
2 ☐ Bike might be stolen
3 ☐ It's too dangerous
4 ☐ Bad weather
5 ☐ It's too far
6 ☐ Other reason _____

If other reason, explain _____

3. DO WE NEED BIKE LOCKERS HERE AT SCHOOL? ☐ 1 YES ☐ 2 NO

IF YES, WHERE WOULD YOU PUT BIKE LOCKERS?

☐ 1 Inside Building ☐ 2 Outside Building

4. IF YOU HAD A SAFE PLACE TO KEEP YOUR BIKE AT SCHOOL, WOULD YOU BIKE TO SCHOOL? ☐ 1 YES ☐ 2 NO

5. WHAT IS YOUR HOME ADDRESS?

Street & No. _____ ZIP _____

FIGURE A-2

LOUISVILLE/JEFFERSON COUNTY HIGH SCHOOL BICYCLING SURVEY

This survey is being conducted by KIPDA - the Kentuckiana Regional Planning and Development Agency, a public planning agency, to help prepare a plan to improve bicycle facilities and programs in the City of Louisville and all of Jefferson County.

Your answers will help our staff assess current bicycle use in the area, potential for biking, and public attitudes toward biking. Thank you for your cooperation.

INSTRUCTIONS: CHECK APPROPRIATE BOX OR COMPLETE EACH QUESTION AS INDICATED.

1. DO YOU HAVE A BICYCLE?

☐ Yes (1) ☐ No (2)

2. SINCE SEPTEMBER WHAT IS THE MOST YOU HAVE RIDDEN YOUR BICYCLE TO SCHOOL IN ANY MONTH?

☐ None (0) ___ Times.

3. IF YOU DO RIDE A BIKE TO SCHOOL, WHY? (CHECK ONE REASON ONLY.)

1 ___ Exercise
2 ___ No Other Vehicle Available
3 ___ Easier to Get Around--It's Faster
4 ___ Energy Conservation
5 ___ Economical
6 ___ Other_____
(If "Other", Specify.)

4. IF YOU DON'T RIDE A BIKE TO SCHOOL, WHY? (CHECK ONE REASON ONLY.)

1 ___ Bike Not Available
2 ___ Takes Too Long
3 ___ Too Dangerous
4 ___ No Bike Routes
5 ___ Danger of Theft
6 ___ Other_____
(If "Other", Specify.)

FIGURE A-2
(CONTINUED)

4(B). IF YOU DON'T RIDE TO SCHOOL ON A BIKE, WOULD YOU IF THE ABOVE CONDITIONS WERE CORRECTED?

☐ Yes (1) ☐ No (2) ☐ Not Applicable (3)

5. WOULD YOU PAY A FEE TO PAY FOR BICYCLE REGISTRATION?

☐ Yes (1) ☐ No (2)

6. WOULD YOU PAY A FEE TO PAY FOR BICYCLING IMPROVEMENTS?

☐ Yes (1) ☐ No (2)

7. WHAT IS YOUR HOME ADDRESS? (PLEASE INCLUDE HOUSE OR BLOCK NUMBER.)

Street & No._____Zip_____

8. LIST PLACES YOU TRAVEL TO BY BICYCLE, BY STREET ADDRESS OR NAME OF PLACE.

_____

_____

_____

_____

9. LIST STREETS WHERE YOU WOULD LIKE TO RIDE YOUR BICYCLE BUT DON'T BECAUSE OF THE TRAFFIC.

_____

_____

_____

_____

10. DO WE NEED BIKE LOCKERS HERE AT SCHOOL?

☐ Yes (1) ☐ No (2)

If Yes, Where Should They Be Located?_____

_____

FIGURE A-3

LOUISVILLE/JEFFERSON COUNTY
COLLEGE BICYCLING SURVEY

This survey is being conducted by KIPDA - the Kentuckiana Regional Planning and Development Agency, a public planning agency, to help prepare a plan to improve facilities and programs in the City of Louisville and all of Jefferson County.

Your answers will help our staff assess current bicycle use in the area, potential for biking, and public attitudes toward biking. Thank you for your cooperation.

INSTRUCTIONS: CHECK APPROPRIATE BOX OR COMPLETE EACH QUESTION AS INDICATED.

1. DO YOU OWN A BICYCLE?

☐ Yes (1) ☐ No (2)

2. HOW FAR DO YOU LIVE FROM CAMPUS?

1 ☐ Less Than 1 Mile
2 ☐ 1-2 Miles
3 ☐ 2-3 Miles
4 ☐ 3-4 Miles
5 ☐ More Than 4 Miles

3. SINCE SEPTEMBER WHAT IS THE MOST YOU HAVE RIDDEN YOUR BICYCLE TO CAMPUS IN ANY MONTH?

☐ None (1) ☐ Times (2)

4. IF YOU DO RIDE A BIKE TO CAMPUS, WHY? (CHECK ONE REASON ONLY.)

☐ Exercise
☐ No Other Vehicle Available
☐ Easier to Get Around--It's Faster
☐ Energy Conservation
☐ Economical
☐ Other_____
(If "Other", Specify.)

5(A). IF YOU DON'T RIDE A BIKE TO CAMPUS, WHY? (CHECK ONE REASON ONLY.)

1 ☐ Bike Not Available
2 ☐ Takes Too Long
3 ☐ Bad Weather
4 ☐ Too Dangerous
5 ☐ No Bike Routes
6 ☐ Danger of Theft
7 ☐ Too Hard
8 ☐ Other_____
(If "Other", Specify.)

5(B). IF YOU DON'T COMMUTE TO CAMPUS ON A BIKE, WOULD YOU IF THE ABOVE CONDITIONS WERE CORRECTED?

☐ Yes (1) ☐ No (2) ☐ Not Applicable (3)

6. WOULD YOU PAY A FEE TO PAY FOR BICYCLE REGISTRATION?

☐ Yes (1) ☐ No (2)

7. WOULD YOU PAY A FEE TO PAY FOR BICYCLING IMPROVEMENTS

☐ Yes (1) ☐ No (2)

8. WHAT IS YOUR HOME ADDRESS? (PLEASE INCLUDE HOUSE OR BLOCK NUMBER.)

Street and No._____Zip_____

9. LIST PLACES YOU TRAVEL TO BY BICYCLE, BY STREET ADDRES OR NAME OF PLACE.

_____

_____

_____

_____

10. LIST STREETS WHERE YOU WOULD LIKE TO RIDE YOUR BICYCLE BUT DON'T BECAUSE OF THE TRAFFIC.

_____

_____

_____

_____

11. IS THERE A NEED FOR SECURE BIKE LOCKING FACILITIES ON CAMPUS?

☐ Yes (1) ☐ No (2)

If Yes, Where Should They be Located?_____

_____

FIGURE A-4

LOUISVILLE/JEFFERSON COUNTY
EMPLOYEE BICYCLING SURVEY

This survey is being conducted by KIPDA - the Kentuckiana Regional Planning and Development Agency, a public planning agency, to help prepare a plan to improve bicycle facilities and programs in the City of Louisville and all of Jefferson County.

Your answers will help our staff assess current bicycle use in the area, potential for biking, and public attitudes toward biking. Thank you for your cooperation.

INSTRUCTIONS: CHECK APPROPRIATE BOX OR COMPLETE EACH QUESTION AS INDICATED.

1. DO YOU OWN A BICYCLE?

☐ 1 Yes ☐ 2 No

2. HOW FAR DO YOU LIVE FROM THIS LOCATION?

1 ☐ Less Than 1 Mile
2 ☐ Between 1 & 2 Miles
3 ☐ Between 2 & 3 Miles
4 ☐ Between 3 & 4 Miles
5 ☐ More Than 4 Miles
6 ☐ Don't Know

3. DID YOU USE A BICYCLE FOR THIS TRIP?

☐ Yes ☐ No

A. If Yes, Why?

1 ☐ Exercise
2 ☐ No Other Vehicle Available
3 ☐ Easier to Get Around
4 ☐ Energy Conservation
5 ☐ Economical
6 ☐ Other_____ (If "Other", Specify

B. If No, Why?

1 ☐ Bicycle Not Available
2 ☐ Bad Weather
3 ☐ Bicycle Takes Too Long
4 ☐ Bicycle Too Dangerous
5 ☐ Danger of Theft
6 ☐ Too Hard
7 ☐ Other_____ If "Other", Specify

C. IF NO, WOULD YOU HAVE RIDDEN A BICYCLE IF THE ABOVE CONDITIONS ARE CORRECTED?

☐ 1 Yes ☐ 2 No

4. WHEN WAS THE LAST TIME YOU RODE A BICYCLE?

1 ☐ This Week
2 ☐ This Month
3 ☐ Within the Last 6 Months
4 ☐ Within the Last Year
5 ☐ Longer Than 1 Year
6 ☐ Never

5. WHAT IS YOUR SEX?

☐ 1 Male ☐ 2 Female

6. WHAT IS YOUR AGE?

1 ☐ Under 10
2 ☐ 10 - 16
3 ☐ 16 - 19
4 ☐ 20 - 24
5 ☐ 25 - 34
6 ☐ 35 - 44
7 ☐ 45 - 59
8 ☐ 60 or Over

7. WHAT IS YOUR HOME ADDRESS? (PLEASE INCLUDE YOUR HOUSE OR BLOCK NUMBER)

Street & No._____ Zip_____

8. WHAT DO YOU CONSIDER TO BE SECURE AND WEATHER PROTEC BICYCLE PARKING? (CHECK AS MANY AS APPLY.)

1 ☐ Inside Building
2 ☐ Outside Building
3 ☐ Sheltered Bike Locking Facility
4 ☐ Bike Locker
5 ☐ Bike Rack
6 ☐ Other_____ (If "Other", Specify)

9. WOULD YOU PAY A FEE TO PAY FOR BICYCLE REGISTRATION?

☐ 1 Yes ☐ 2 No

10. WOULD YOU PAY A FEE TO PAY FOR BICYCLING IMPROVEMENTS

☐ 1 Yes ☐ 2 No

FOR MORE INFORMATION CONTACT:
KIPDA
505 West Ormsby Avenue
Louisville, Kentucky 40203
Phone: 587-3804

FIGURE A-5

LOUISVILLE/JEFFERSON COUNTY
SHOPPER BICYCLING SURVEY

This survey is being conducted by KIPDA - the Kentuckiana Regional Planning and Development Agency, a public planning agency, to help prepare a plan to improve bicycle facilities and programs in the City of Louisville and all of Jefferson County.

Your answers will help our staff assess current bicycle use in the area, potential for biking, and public attitudes toward biking. Thank you for your cooperation.

INSTRUCTIONS: CHECK APPROPRIATE BOX OR COMPLETE EACH QUESTION AS INDICATED.

1. DO YOU OWN A BICYCLE?

☐ 1 Yes ☐ 2 No

2. HOW FAR DO YOU LIVE FROM THIS LOCATION?

1 ☐ Less Than 1 Mile
2 ☐ Between 1 & 2 Miles
3 ☐ Between 2 & 3 Miles
4 ☐ Between 3 & 4 Miles
5 ☐ More Than 4 Miles
6 ☐ Don't Know

3. WHICH STORE DID YOU VISIT FIRST? (Check One Only.)

1 ☐ Drug Store
2 ☐ Grocery Store
3 ☐ Restaurant
4 ☐ Bank
5 ☐ Clothing Store
6 ☐ Hardware Store
7 ☐ Specialty Shop
8 ☐ Other (Specify)_____

4. DID YOU USE A BICYCLE FOR THIS TRIP?

☐ 1 Yes ☐ 2 No

A. If Yes, Why?
1 ☐ Exercise
2 ☐ No Other Vehicle Available
3 ☐ Easier to Get Around
4 ☐ Energy Conservation
5 ☐ Economical
6 ☐ Other_____ If "Other", Specify

B. If No, Why?
1 ☐ Bicycle Not Available
2 ☐ Bad Weather
3 ☐ Bicycle Takes Too Long
4 ☐ Bicycle Too Dangerous
5 ☐ Danger of Theft
6 ☐ Too Hard
7 ☐ Other_____ If "Other", Specify

C. IF NO, WOULD YOU HAVE RIDDEN A BICYCLE IF THE ABOVE CONDITIONS ARE CORRECTED?

☐ 1 Yes ☐ 2 No

5. WHEN WAS THE LAST TIME YOU RODE A BICYCLE?

1 ☐ This Week
2 ☐ This Month
3 ☐ Within the Last 6 Months
4 ☐ Within the Last Year
5 ☐ Longer Than 1 Year
6 ☐ Never

6. WHAT IS YOUR SEX?

☐ 1 Male ☐ 2 Female

7. WHAT IS YOUR AGE?

1 ☐ Under 10
2 ☐ 10 - 16
3 ☐ 16 - 19
4 ☐ 20 - 24
5 ☐ 25 - 34
6 ☐ 35 - 44
7 ☐ 45 - 59
8 ☐ 60 or over

8. WHAT IS YOUR HOME ADDRESS? (PLEASE INCLUDE YOUR HOUSE OR BLOCK NUMBER.)

Street & No._____Zip_____

9. WHAT DO YOU CONSIDER TO BE SECURE AND WEATHER PROTECT BICYCLE PARKING? (CHECK AS MANY AS APPLY.)

1 ☐ Inside Building
2 ☐ Outside Building
3 ☐ Sheltered Bike Locking Facility
4 ☐ Bike Locker
5 ☐ Bike Rack
6 ☐ Other_____ If "Other", Specify

10. WOULD YOU PAY A FEE TO PAY FOR BICYCLE REGISTRATION?

☐ 1 Yes ☐ 2 No.

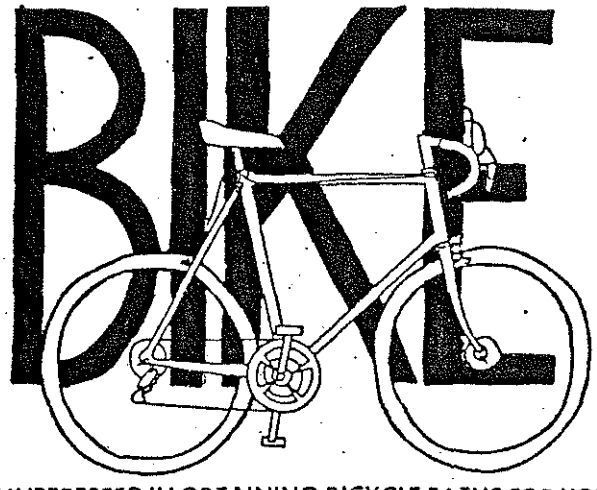
11. WOULD YOU PAY A FEE TO PAY FOR BICYCLING IMPROVEMENTS?

☐ 1 Yes ☐ 2 No

FOR MORE INFORMATION CONTACT:
KIPDA
505 West Ormsby Avenue
Louisville, Kentucky 40203
Phone: 587-3804

FIGURE A-6

NEWSPAPER MAILBACK BICYCLING SURVEY



IF YOU ARE INTERESTED IN OBTAINING BICYCLE PATHS FOR YOUR NEIGHBORHOOD, PLEASE COMPLETE THIS SURVEY. YOUR RESPONSE WILL AID THE PREPARATION OF A BIKEWAY PLAN WHICH WILL QUALIFY LOUISVILLE AND JEFFERSON COUNTY FOR FEDERAL FUNDS FOR BIKEWAY FACILITIES.

1. INCLUDING YOURSELF, HOW MANY PEOPLE ARE CURRENTLY LIVING IN YOUR HOUSEHOLD?

   _____

2. HOW MANY BICYCLES ARE OWNED IN YOUR HOUSEHOLD?

   _____

3. FOR WHAT PURPOSE ARE THEY MOST FREQUENTLY USED: (CHECK ONLY ONE.)

   _____ Trips to work
   _____ Trips to school
   _____ Trips to stores
   _____ Recreational use
   _____ Other_____
   If "Other", please specify.

4. WHAT ARE THE AGES OF BIKE RIDERS IN YOUR HOUSEHOLD?

   _____

5. WHAT IS NEEDED MOST TO INCREASE BICYCLE USE IN THE LOUISVILLE AREA? (CHECK ONLY ONE.)

   _____ Safe and secure locations to park bicycles
   _____ Marked bike routes on local streets
   _____ Bike paths separated from automobile traffic
   _____ Safe bike paths for children
   _____ Scenic bike trails for recreational use
   _____ Safety education for bicycle users
   _____ Safety education for motorists
   _____ Other_____
   If "Other", please specify

6. WOULD YOU PAY A FEE FOR BICYCLE REGISTRATION?

   ____ YES ____ NO

7. WOULD YOU PAY A FEE TO HELP PAY FOR BICYCLING IMPROVEMENTS?

   ____ YES ____ NO

8. WHAT IS YOUR HOME ADDRESS?
   (PLEASE INCLUDE YOUR HOUSE OR BLOCK NUMBER.)

STREET_____ ZIP_____

PLEASE RETURN YOUR COMPLETED SURVEY FORM TO:

BIKEWAY PLANNER
KIPDA
505 West Ormsby Avenue
Louisville, Kentucky 40203

TABLE A-1

ANALYSIS OF EXTENDED BICYCLE USER SURVEY

PART I

1. Including yourself, how many persons are currently living in your household?

22	1 person
36	2 persons
31	3 persons
39	4 persons
23	5 persons
11	6 persons
1	7 persons
2	8+ persons
5	No answer
170	Total

2. How many members of the household are male?
What are their ages? Not tabulated

3. How many members of the household are female?
What are their ages? Not tabulated

4. What is your household gross income?

3	Less than $3,999
12	$4,000 to $7,999
22	$8,000 to $11,999
16	$12,000 to $14,999
58	$15,000 to $24,999
39	$25,000 and over
20	No Response
170	TOTAL

5. How many of the following vehicles are owned by you or a member of the household?

a. Auto, pick-up truck, or motorcycle?

7	0
46	1
75	2
36	3 or more
6	No Response
170	TOTAL

b. Bicycles

2	0
21	1
56	2
88	3 or more
3	No response
170	TOTAL

TABLE A-1
(CONTINUED)

ANALYSIS OF EXTENDED BICYCLE USER SURVEY

PART I

6. Place of Residence

Area and O.D. Zone		
Central Louisville	01-76	5
Western Louisville	77-136	1
Southern Louisville	137-168	6
Southeast Louisville	169-200	16
East Highlands Louisville	201-220	17
Eastern Louisville	221-259	38
Western Jefferson County	260-286	3
Southwest Jefferson County	287-351	4
Southern Jefferson County	352-406	4
Southeastern Jefferson County	407-454	9
Eastern Jefferson County	455-571	55
Other Areas		6
Area not reported		6
	TOTAL	170

7. How many members of the household ride a bicycle?

32 - 1 person
55 - 2 persons
27 - 3 persons
31 - 4 persons
13 - 5 persons
5 - 6 persons
0 - 7 persons
2 - 8+ persons
5 - No response
170 - TOTAL

PART II

1. What is your age?

4 - 5-9
9 - 10-14
14 - 15-19
22 - 20-24
75 - 25-34
35 - 35-44
8 - 45-59
1 - 60 and over
2 - No response
170 - TOTAL

TABLE A-I
(CONTINUED)

ANALYSIS OF EXTENDED BICYCLE USER SURVEY

PART II

2. What is your sex?

104	- Male
63	- Female
3	- No Response
170	- TOTAL

3. Ranking of types of transportation normally used during a typical week. A 1 ranking applies to the type of transportation used most frequently, a 2 represents the second most frequently used mode, and so on. Any type not used was to be left blank by the survey participant.

Type of Transportation	1	2	3	4	5	6	Type Not Used or No Response
Auto, pickup, motorcycle	119	23	11	8	-	-	9
Public transit	9	11	9	36	7	-	98
School bus	6	8	2	3	15	1	135
Bicycle	37	71	43	6	-	-	13
Walking	3	45	75	12	1		34
Other(carpool, running, hitchhiking	1	1	-	2	-	1	165

4. For non-recreational bicycle trips (trips to work, school, or shopping), which do you prefer to use?

120	- Local Streets (low traffic volume)
38	- Arterial streets (high traffic volume)
3	- Both types
9	- No response
170	- TOTAL

5. Do you belong to a bicycle club or organization?

Yes	74
No	91
No Response	5
TOTAL	170

TABLE A-1
(CONTINUED)

ANALYSIS OF EXTENDED BICYCLE USER SURVEY

PART II

If yes, what organization?

Louisville Wheelmen	52
Louisville Area Bicycling Assoc.	6
River City Road Club	4
Other Organization	1
More Than One Organization	9
No Response	2
TOTAL	74

6. Do you ride your bicycle to a public transit park-n-ride lot or coach stop?

Yes	3
No	163
No Response	4
TOTAL	170

TABLE A-1
(CONTINUED)

7. From your experience when riding a bicycle, how dangerous do you find the following conditions?

Condition	Most Dangerous			Moderately Dangerous			Slightly Dangerous			Not Dangerous			No Response		
	Total	Club Members	Others	Total	Club Members	Others	Total	Club Members	Others	Total	Club Members	Others	Total	Club Members	Others
Bicyclist making left turn	33	15	18	70	27	43	49	26	23	14	6	8	4	0	4
Car door opening	40	20	20	50	26	24	58	23	35	18	5	13	4	0	4
Lack of visibility to motorists	56	22	34	78	36	42	28	14	14	4	2	2	4	0	4
Being hit from behind	64	19	45	61	33	28	33	18	15	8	4	4	4	0	4
Narrow roads	80	32	48	49	22	27	25	14	11	11	5	6	5	1	4
Car turning right abruptly	61	28	33	57	23	34	39	17	22	8	6	2	5	0	5
Drainage ditches along road	25	13	12	36	14	22	72	28	44	29	18	11	8	1	7
Drainage grate openings	47	31	16	50	25	25	51	14	37	18	4	14	4	0	4
Berbis along edge of road	37	21	16	55	26	29	51	19	32	21	8	13	6	0	6
Cars not respecting biker's right-of-way	117	52	65	33	16	17	12	5	7	3	1	2	5	0	5
Underpasses or Overpasses	13	7	6	45	24	21	49	20	29	55	22	33	8	1	7
Other	18	11	7	6	2	4	1	0	1	0	0	0	145	61	84

There are 170 total respondents, of which 74 persons are bicycle club members. The remaining 96 persons are either not club members (91 persons) or did not indicate definitely their membership in a bicycle club (5 persons). Other conditions cited as dangerous include: speed of motorists; dogs; rough pavement; pedestrians between parked cars; auto fumes; traffic lights timing too long; any intersection, inconsiderate motorists; railroad crossings; failure of cyclists to follow traffic rules; and buses.

TABLE A-1
(CONTINUED)

8. To what extent do each of the following factors inhibit you from using your bicycle for non-recreational trips?

Factor	Most Inhibiting			Moderately Inhibiting			Slightly Inhibiting			Not Inhibiting			No Response		
	Total	Club Members	Others	Total	Club Members	Others	Total	Club Members	Others	Total	Club Members	Others	Total	Club Members	Other
Lack of shower facilities at destination	11	7	4	18	9	9	26	13	13	102	43	59	13	2	11
Accident Risk	57	16	41	26	6	20	30	18	12	46	32	14	11	2	9
Lack of bicylce racks at destination	32	20	12	38	16	22	43	21	22	46	15	31	11	2	9
Lack of weather protected security devices or structures at destination	40	25	15	40	18	22	37	15	22	40	15	25	13	1	12
Danger of theft or damage	73	41	32	36	14	22	32	10	22	19	8	11	10	1	9
Too much starting and stopping	4	1	3	23	4	19	44	23	21	86	45	41	13	1	12
Poorly timed traffic signals	6	2	4	14	6	8	51	26	25	87	39	48	12	1	11
Exposure to pollution	9	4	5	32	17	15	48	24	24	69	28	41	12	1	11
Other	34	14	20	10	2	8	2	2	0	2	0	2	122	56	66

There are 170 total respondents, of which 74 persons are bicycle club members. The remaining 96 persons are either not club members (91 persons) or did not indicate definitely their membership in a bicycle club (5 persons). Other factors cited as inhibiting include: time; weather; dangerous traffic; no facilities on which to ride; distance; narrow roads; lack of carrying space on bicycle; dogs; motorist education; and inconsiderate motorists.

TABLE A-1
(CONTINUED)

SURVEY RESPONSES WHICH INCLUDED SOME DATA ON BICYCLE TRIPS BY PURPOSE

Purpose of trip	Responses
Work	60
School	22
Shop, etc.	79
Recreation site, etc.	70
Exercise	119
Touring	69
Visits	71
Other	13
ALL SURVEY RESPONSES	170

TABLE A-I
(CONTINUED)

PLACE OF RESIDENCE AND TYPICAL TRIP DESTINATIONS OF BICYCLISTS

Place, by area and O.D. Zone		Residence of all Respondents	Residence of citizen members of BPC and persons attending problem I.D. meetings	Reported destination of bicycle trips, by purpose.					
				Work	School	Shop	Recreation Sites	Visits	Touring
Central Louisville	01-76	5	1	28	1	4	2	–	2
Western Louisville	77-136	1	1	1	–	2	–	1	1
Southern Louisville	137-168	6	4	5	13	10	2	–	–
Southeast Louisville	169-200	16	8	–	–	5	3	5	–
East Highlands Louisville	201-220	17	7	5	–	4	22	1	2
Eastern Louisville	221-259	38	17	6	5	9	2	5	1
Western Jefferson Co.	260-286	3	–	–	–	1	–	2	–
Southwest Jefferson Co.	287-351	4	1	2	–	1	3	2	2
Southern Jefferson Co.	352-406	4	2	1	–	–	2	4	–
Southeast Jefferson Co.	407-454	9	3	3	–	2	–	3	–
Eastern Jefferson Co.	455-571	55	12	3	3	21	14	10	–
Indiana		3	2	–	–	1	–	–	3
Oldham Co.		–	–	–	–	–	–	–	3
Bullitt Co.		–	–	–	–	–	–	–	1
Outside Louisville area		3	–	–	–	–	–	–	–
Places not reported		6	1						
TOTAL SURVEY RESPONSES		170	59						
TOTAL REPORTED DESTINATIONS				54	22	60	50	33	15
TOTAL OF SURVEY RESPONDENTS WHO PROVIDED SOME DATA ON BICYCLE TRIPS BY PURPOSE CITED ABOVE BUT WHO MAY NOT HAVE INCLUDED A REPORTED DESTINATION.				60	22	79	70	71	69

TABLE A-1
(CONTINUED)

LENGTH OF BICYCLE TRIPS BY PURPOSE

Trip Purpose	Total of Persons Reporting Trip Activity	Reported Trip Distance in Miles									
		Less Than 1.0	1.0 to 1.9	2.0 to 2.9	3.0 to 3.9	4.0 to 4.9	5.0 to 5.9	6.0 to 9.9	10.0 to 19.9	20 or More	Not Reported
Work	60	0	1	9	8	8	11	10	9	1	13
School	22	3	4	3	1	3	1	3	3	0	1
Shop	79	10	26	10	12	4	6	2	0	0	9
Recreation site	70	3	12	10	4	3	8	8	7	1	14
Exercise/ride neighborhood	118	6	5	14	12	7	21	1	10	7	35
Touring	69	1	2	2	2	2	2	1	20	23	14
Visits	71	7	11	10	4	2	12	7	6	0	12
Other	13	-	2	1	1	-	1	-	1	6	1

TABLE A-1
(CONTINUED)

NUMBER OF BICYCLE TRIPS BY PURPOSE

Purpose	Total of Persons Reporting Trip Activity	Reported Round Trips Per Month					
		Less Than 5	5 to 9	10 to 14	15 to 19	20 or More	Not Reported
Work	60	13	10	9	6	18	4
School	22	7	2	5	4	4	0
Shop	79	28	22	14	2	11	2
Recreation site	70	35	18	5	5	5	2
Exercise/ride neighborhood	118	30	25	17	12	30	4
Touring	69	42	17	5	2	2	1
Visits	71	41	14	4	3	9	0
Other	13	3	0	2	0	7	1

TABLE A-1
(CONTINUED)

REPORTED ROUND TRIPS FROM HOME TO WORK, BY DISTANCE FROM HOME TO WORK

Estimated one-way distance from home to work in miles	All Responses *	Number of round trips per week							Number of round trips per month					
		1	2	3	4	5	More than 5	Not Reported	Less than 5	5 to 9	10 to 14	15 to 19	20 or more	Not Reported
less than 1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1.1 to 2.0	3	-	-	1	-	1	1	-	-	-	1	-	2	-
2.1 to 3.0	12	1	1	-	1	9	-	-	1	1	-	1	9	-
3.1 to 4.0	10	1	-	3	1	2	-	3	1	1	3	-	4	1
4.1 to 5.0	10	1	2	2	1	-	-	4	3	3	2	1	-	1
5.1 to 7.5	8	3	1	1	2	1	-	-	2	2	-	3	1	-
7.6 to 10.0	7	1	1	1	1	1	-	2	3	1	1	1	1	-
10.1 to 20.0	7	-	2	-	-	1	-	4	3	1	-	-	1	2
Not reported	3	-	-	2	-	-	-	1	-	1	2	-	-	
ALL RESPONSES	60	7	7	10	6	15	1	14	13	10	9	6	18	4

* Includes all survey respondents who provided some data on bicycle trips to work.

TABLE A-2

HIGH SCHOOL BICYCLING SURVEY

List of streets where people travel by bicycle

Garrs Lane
Crums Lane
Knight Avenue
Westport Road
Briarwood
Redleaf Drive
Westcreek
Murray Hill
Brownsboro Vista
Hounz Lane
Murphy Lane
Rammers
Breckenridge Lane
Morton Avenue
Bardstown Road
Oak Street
Mulberry Street
Payne Street
Kentucky Street
South Louisville
Brook Street
First Street
St. Catherine Street
Christie Avenue
Scotty
Fourth Street
Top Hill Road
41st Street
15th Street
16th Street
18th Street
River Road
Edith Road
Keni Court
Duncan
Rowan
Market Street
Frankfort Avenue
Hillcrest
Southwick
Fifth Street
Highland Avenue
Schiller Avenue
Frankfort Avenue
Hite Avenue
Hikes Lane
Klondike Lane
Eastern Parkway
Hill Road
Jefferson Street
Main Street
Washington Street
Franklin Street
Story Avenue
River Road
Paul Avenue
Lester Avenue
Woodruff
Bicknell
Hazelwood
Ratcliff
Wingfield
Beau Brummel
Harrison Lane
Mitchell Hill Road
Jefferson Hill Road
Broadway
23rd Street
2nd Street
Parkhill
17th Street
Zorn Avenue
James Street
Emily
Alford
26th Street
Bank Street
South Hite
Beecher Terrace

TABLE A-2
(CONTINUED)

HIGH SCHOOL BICYCLING SURVEY

List of streets where people would like to ride a bicycle, but don't because of the traffic (question 9).

Dixie Highway
Crums Lane
Manslick Road
Cane Run Road
I 264
Preston Highway
Garrs Lane
Broadway
Shelbyville Road
I 65
I 71
Brownsboro Road
Westport Road
Lyndon Lane
LaGrange Road
Goose Creek Road
Whipps Mill Road
I 64
Wall Street
2nd Street
Bardstown Road
Wood Road
Norwood Drive
Hounz Lane
26th Street
Texas Avenue
Mellwood Avenue
St. Catherine Street
Oleanda
7th Street
Taylor Blvd.
Southern Parkway
Bicknell
Berry Blvd.
Algonquin Parkway
7th Street Road
Camden Avenue
Walnut Street
Madison
Clay Street
Morton Avenue
Story Avenue
Grinstead Drive
Goss Avenue
Barret Avenue
Shelby Street
Eastern Parkway
Baxter Avenue
Kentucky Street
Logan
Breckenridge Street
Poplar Level Road
Chestnut Street
Jackson Street
Burnett
Oak Street
Goss Avenue
Hickory
Hoertz
Newburg Road
Alder Avenue
Lexington Road
Taylorsville Road
Eastern Parkway
Jefferson Street
Market Street
Main Street
U.S. 42
Hill Street
Ellison Avenue
18th Street
Madison Avenue
Finzer
Floyd Street

TABLE A-2
(CONTINUED)

HIGH SCHOOL BICYCLING SURVEY

List of streets where people would like to ride a bicycle, but don't because of the traffic (question 9), cont.

3rd Street
Rockford Lane
Southland Terrace
Newcut Road
Squires Drive
Central Avenue
Winkler Avenue
Outer Loop
National Turnpike
Jefferson Hill Road
Keys Ferry Road
Herberts Lane
Minors Lane
Fairdale Road
Montana Avenue
Baird
Parkway
Bank Street
26th Street
Portland Avenue
Frankfort Avenue
Liberty
Cane Run Road
Greenwood
Zorn Avenue
South Park Road
Old Third Street Road

TABLE A-3

COLLEGE BICYCLING SURVEY

List of streets where people would like to travel, but do not because of the traffic:

001	Fourth Street	017	Eastern Parkway
002	Broadway	018	Cherokee Road
003	Preston Highway	019	Breckinridge Lane
004	Old Shepherdsville Road	020	Westport Road
005	Bardstown Road	021	Old Brownsboro Road
006	Taylorsville Road	022	Brownsboro Road
007	Browns Lane	023	Poplar Level Road
008	Third Street	024	Trevillian Way
009	Fifth Street	025	Algonquin Parkway
010	Second Street	026	Chestnut Street
011	Taylor Boulevard	027	Walnut Street
012	Seventh Street	028	Fegenbush Lane
013	Dixie Highway	029	Douglass Boulevard
014	Shelbyville Road	030	Hikes Lane
015	Newburg Road	031	Frankfort Avenue
016	Lexington Road		

COLLEGE BIKEWAY SURVEY

Alphabetical list of streets where people would like to travel, but do not because of the traffic:

025	Algonquin Parkway	021	Old Brownsboro Road
005	Bardstown Road	004	Old Shepherdsville Road
019	Breckinridge Lane	023	Poplar Level Road
002	Broadway	003	Preston Highway
007	Browns Lane	014	Shelbyville Road
022	Brownsboro Road	011	Taylor Boulevard
018	Cherokee Road	006	Taylorsville Road
026	Chestnut Street	024	Trevillian Way
013	Dixie Highway	027	Walnut Street
029	Douglass Boulevard	020	Westport Road
017	Eastern Parkway	010	Second Street
028	Fegenbush Lane	008	Third Street
031	Frankfort Avenue	001	Fourth Street
030	Hikes Lane	009	Fifth Street
016	Lexington Road	012	Seventh Street
015	Newburg Road		

(CONTINUED)

COLLEGE BIKEWAY SURVEY

List of streets people travel to by bicycle:

Sixth Street

Bardstown Road

Newburg Road

Chestnut Street

Frankfort Avenue

Lexington Road

Brownsboro Road

TABLE A-4

BIKEWAY SIGN CHARACTERISTICS AND STANDARDS

SOURCE: BICYCLING IN TENNESSEE

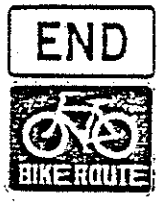
	Approximate Furnished and Installed Unit Cost (Includes Post Where Appropriate)	Location/ Spacing Frequency
	$21	10-20/mile
	$2 no post	At selected sites where routes change direction
	$30	Selected sites leading to routes
	$25	50' ahead of route terminus or "start"
("BIKE PARKING")	$22	Selected sites
	$33	50' ahead of all intersections
("WATCH FOR BIKES")	$30	50' ahead of selected sites including driveways, intersections, etc.
	$29	Selected sites where bicycles are prohibited

TABLE A-4
(CONTINUED)

Sign Type	Approximate Furnished and Installed Unit Cost (Includes Post Where Appropriate)	Location/ Spacing Frequency
	$22	Selected sites
	$30	Selected sites
	$19	Selected sites
("NO MOTOR VEHICLES")	--	Selected bikeway entr locations
("MOTOR DRIVEN CYCLES PROHIBITED")	$28	Selected bikeway entr locations
	$35	50' ahead of selecte intersection sites
	$32	Beginning of selected bikeway segments

NOTE: Costs based on the following factors for standard and non-standard signs: sign cost $2.00/square foot
post cost $15.00 each
lettering for non-standard signs $.02 each for 1" to $0.60 each for 14"

TABLE A-5

SECTOR # 1

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Alley Adjacent Oak Street	Clay Street	Hancock Street	.10	-	III-D	2	-	-	$ 80	1
Alley Adjacent Ormsby Avenue	1st Street	Alley Adjacent 2nd Street	.05	-	III-D	1	-	-	40	1
Alley Adjacent 2nd Street	Ormsby Avenue	Alley Adjacent Ormsby Avenue	.05	-	III-D	1	-	-	40	1
Alley Between 2nd and 3rd Streets	Burnett Avenue	Avery Avenue	.45	-	III-D	4	-	-	160	1
Alley Between 2nd and 3rd Streets	Magnolia Avenue	Burnett Avenue	.10	-	III-D	2	-	-	80	1
Alley Between 2nd and 3rd Streets	Ormsby Street	Magnolia Avenue	.25	-	III-D	2	-	-	80	1
Broadway	Vine Street	Shelby Street	1.85	25,000-35,000	II-A	12	-	36	7,514	5
Class I Ohio Riverfront Development	-	-	1.80	-	I-B	2	-	-	57,680	6-10
Clay Street	Gwendolyn Street	Alley Adjacent Oak Street	.10	-	III-A	2	-	-	80	1
Clay Street	Shelby Parkway	Gwendolyn Street	.10	-	III-A	2	-	-	80	1
Dumesnil Street [1]	16th Street	11th Street	.50	-	III-A	4	-	-	1,660	1
Federal Bikeway Demonstration Project	Preston Street	2nd Street	.85	-	-	-	-	-	53,060	2
Garvin Place	Zane Street	Ormsby Avenue	.40	-	III-A	4	-	-	160	1
Gwendolyn Street	Clay Street	Shelby Street	.10	-	III-E	1	-	-	40	1
Hancock Street	Alley Adjacent Oak Street	Chestnut Street	.90	-	III-A	8	-	-	160	1
Kentucky Street	9th Street	8th Street	.08	3,000-4,000	III-C	2	-	-	80	1
Kentucky Street	13th Street	9th Street	.37	3,000-4,000	III-A	4	-	-	160	1
Kentucky Street	16th Street	13th Street	.30	-	III-A	2	-	-	80	1
Madison Street	Hancock Street	Wenzell Street	.45	-	III-A	4	-	-	160	1
Magazine Street	19th Street	13th Street	.55	500-800	III-A	6	-	-	240	1
Magnolia Avenue	11th Street	Alley Between 2nd and 3rd Streets	.75	-	III-A	8	-	-	320	1
Ormsby Avenue	Alley Between 2nd and 3rd Streets	Alley Adjacent 2nd Street	.10	-	III-A	2	-	-	80	1
Ormsby Avenue	Alley Adjacent 2nd Street	1st Street	.05	-	III-E	1	-	-	40	1

[1] Railroad Crossing Required

TABLE A-5 (Continued)

SECTOR # 1

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs Bike Route	Signs Bike X-ing	Curb Cuts	Constr. Cost	Year
Ormsby Avenue	Garvin Place	Alley Between 2nd and 3rd Streets	.20	-	III-A	2	-	-	$ 160	1
Ormsby Avenue	1st Street	Preston Street	.20	2,000	III-A	2	-	-	80	1
Pennsylvania Railroad Bridge [1]	-	-	1.00	-	I-B	2	-	-	7,122	6-10
Prentice Street	Dixie Highway	16th Street	.25	-	III-A	2	-	-	80	1
Shelby Parkway	Clay Street	Shelby Street	.10	-	III-E	1	-	-	40	1
Zane Street	8th Street	Garvin Place	.30	-	III-A	4	-	-	160	1
1st Street	Ormsby Avenue	Alley Adjacent Ormsby Avenue	.05	8,000	III-B	2	-	-	80	1
8th Street [2]	Kentucky Street	Zane Street	.10	-	III-J	2	-	2	2,830	1
11th Street	Dumesnil Street	Magnolia Street	.30	-	III-A	2	-	-	80	1
13th Street	Magazine Street	Kentucky Street	.55	-	III-A	6	-	-	240	1
16th Street	Prentice Street	Dumesnil Street	.30	-	III-A	4	-	-	80	1
16th Street	Prentice Street	Kentucky Street	.10	-	III-A	2	-	-	80	1
19th Street	Bank Street	I-64	.15	-	III-A	2	-	-	80	1
19th Street	Cedar Street	Bank Street	.60	-	III-A	6	-	-	240	1
19th Street	Cedar Street	Magazine Street	.35	-	III-A	2	-	-	80	1

SUMMARY

Miles 14.80

Bikeway Construction	$133,506
Bike Racks	
Bike Lockers	$ 900
TOTAL	$134,406

[1] Railroad Easement Necessary
[2] Widen Sidewalk

TABLE A-5 (Continued)

SECTOR # 2

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Accasia Drive	Mercer Lane	Sunflower Avenue	.30	-	III-A	2	-	-	$ 80	6-10
Algonquin Pakway	Winnrose Avenue	Dixie Highway	2.70	7,300-16,000	I-C	18	18	16	91,470	6-10
Amy Avenue	Herman Street	River Park Drive	.30	-	III-A	4	-	-	80	1
Auburn Avenue	Candor Avenue	Savage Drive	.50	-	III-A	4	-	-	160	6-10
Bank Street	Northwestern Parkway	43rd Street	.10	1,800	III-B	1	-	-	40	1
Bank Street	33rd Street	29th Street	.30	3,800	III-B	1	-	-	40	1
Bank Street	38th Street	33rd Street	.55	2,000-3,800	III-B	3	-	-	120	1
Bank Street	38th Street	43rd Street	.30	1,900	III-B	2	-	-	80	1
Bohne Avenue	37th Street	34th Street	.20	-	III-A	2	-	-	80	1
Burrel Drive	Garrs Lane	Farnsley Road	1.10	-	III-A	10	-	-	400	6-10
Candor Avenue	Garrs Lane	Auburn Avenue	.30	-	III-A	2	-	-	80	6-10
Cane Run Road	Alquonquin Parkway	Rockford Lane	4.00	7,800-18,000	III-G	28	-	28	5,321	3
Catalpa	Southern Avenue	Hill Street	.10	-	III-A	4	-	-	160	1
Cedar Street	19th Street	24th Street	.50	-	III-A	2	-	-	80	1
Cedar Street	30th Street	24th Street	.50	-	III-A	4	-	-	160	1
Charlotte Ann Drive	Tara Gale Drive	Lynnview Drive	.10	-	III-A	2	-	-	80	6-10
Class I Ohio Riverfront Development	Shawnee Park	Second Street	3.97	-	I-B	2	-	-	127,120	6-10
Class I	Savage Drive	Rockford Lane	.80	-	I-B	-	-	-	27,180	6-10
Crums Lane	Park Row	Glenhurst Avenue	.03	13,000	II-H	2	-	-	3,560	6-10
Cypress Street	Dumesnil Street	Hill Street	.25	-	III-A	4	-	-	160	1
Cypress Street	Hill Street	Dixdale Avenue	.55	2,600	III-A	6	-	-	240	1
Cypress Street	Plantation Drive	Dixdale Avenue	.20	2,500	III-A	2	-	-	80	6-10
Dixie Highway	Heaton Road	Sadie Avenue	.05	25,000-47,000	II-G	2	-	-	3,380	6-10
DuValle Drive	34th Street	32nd Street	.20	-	III-A	2	-	-	80	1
Edgin Avenue	Edgin Court	Mercer Lane	.20	-	III-A	2	-	-	80	6-10
Edgin Court	Savage Avenue	Edgin Avenue	.15	-	III-A	2	-	-	80	6-10
Farnsley Road	Burrel Drive	Mildred Drive	.05	4,800	III-A	2	-	-	80	6-10
Fern Lea Drive	Mary Catherine Drive	Ralph Avenue	.35	-	III-A	4	-	-	80	6-10
Fitzgerald Drive	Ralph Avenue	Millers Lane	.60	-	III-A	4	-	-	160	6-10
Garland Avenue	38th Street	38th Street (offset)	.05	-	III-A	2	-	-	80	1
Garrs Lane	Glenhurst Lane	Candor Avenue	.15	-	III-A	2	-	-	80	6-10
Glenhurst Avenue	Crums Lane	Garrs Lane	.40	-	III-A	4	-	-	160	6-10

TABLE A-5 (Continued)

SECTOR # 2

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs Bike Route	Signs Bike X-ing	Curb Cuts	Constr. Cost	Year
Greenwood Avenue	Southwestern Parkway	38th Street	.75	-	III-A	8	-	-	$ 320	1
Greenwood Avenue	32nd Street	Dixie Highway	1.15	-	III-A	10	-	-	400	1
Greenwood Avenue	38th Street	32nd Street	.55	-	III-A	4	-	-	160	1
Heaton Road	Kendall Avenue	Dixie Highway	.55	-	III-A	4	-	-	160	6-10
Herman Street	38th Street	Amy Avenue	.10	-	III-A	2	-	-	80	1
Hill Street	Catalpa	Cypress Street	.20	5,900	II-F	2	-	-	356	1
Jefferson Street	24th Street	25th Street	.05	-	III-A	2	-	-	80	1
Kendall Avenue	Spen Lea Road	Heaton Road	.25	-	III-A	2	-	-	80	6-10
Kingswood Way	Wessel Road	Cane Run Road	.40	-	III-A	4	-	-	160	6-10
Lynn Lea Road	Savage Drive	Spen Lea Road	.15	-	III-A	2	-	-	80	6-10
Lynnview Drive	Charlotte Ann Drive	Cane Run Road	.40	-	III-A	4	-	-	160	6-10
Magazine Street	24th Street	19th Street	.50	-	III-A	4	-	-	160	1
Magazine Street	32nd Street	24th Street	.75	-	III-A	6	-	-	240	1
Mary Catherine Drive	Burrel Drive	Fern Lea Drive	.40	3,300	III-A	4	-	-	160	6-10
Mercer Lane	Edgin Avenue	Accasia Drive	.30	-	III-A	2	-	-	80	6-10
Mildred Drive	Farnsley Road	Pioneer Road	.35	-	III-A	4	-	-	160	6-10
Millers Lane	Fitzgerald Drive	Plantation Drive	.33	8,100	II-G	2	-	-	21,860	6-10
Northwestern Parkway	Bank Street	Portland Avenue	1.00	2,000-3,400	III-B	4	-	-	160	1
Northwestern Parkway	Western Parkway	Bank Street	.95	2,600-3,800	III-A	8	-	-	320	1
Northwestern Parkway	26th Street	23rd Street	.20	-	III-A	2	-	-	80	1
Park Road	Dixie Highway	Park Row	.40	-	III-A	4	-	-	160	6-10
Park Row	Park Road	Crums Lane	.15	-	III-A	2	-	-	80	6-10
Pioneer Road	Mildred Road	Fern Lea Drive	.40	-	III-A	4	-	-	160	6-10
Plantation Drive	Millers Lane	Cypress Street	.25	-	III-A	2	-	-	80	6-10
Portland Avenue	Northwestern Parkway	29th Street	.35	3,800-4,000	III-B	2	-	-	80	1
Ralph Avenue	Fern Lea Drive	Fitzgerald Drive	.55	-	III-A	6	-	-	240	6-10
Rowan Street	Boone Park	25th Street	.50	-	III-A	4	-	-	160	1
Rowan Street	29th Street	25th Street	.45	-	III-A	4	-	-	160	1
River Park Drive	Amy Avenue	38th Street	.05	3,000	III-A	2	-	-	80	1
Savage Drive	Garrs Lane	Lynn Lea Road	.70	-	III-A	6	-	-	240	6-10
Slevin Street	25th Street	28th Street	.30	-	III-A	2	-	-	80	1
Spen Lea Road	Kendall Avenue	Class I Mill Creek	.05	-	III-A	2	-	-	80	6-10
Southern Avenue	Catalpa	32nd Street	.30	-	III-A	4	-	-	160	1
Southern Avenue	32nd Street	37th Street	.40	-	III-A	4	-	-	160	1

TABLE A-5 (Continued)

SECTOR # 2

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Sunflower Avenue	Accasia Drive	Tara Gale Drive	.20	-	III-A	2	-	-	$ 80	6-10
Tara Gale Drive	Sunflower Drive	Charlotte Ann Drive	.20	-	III-A	2	-	-	80	6-10
Wessel Road	Pioneer Road	Kingswood Way	.25	-	III-A	2	-	-	80	6-10
Western Parkway	Northwestern Parkway	Shawnee Terrace	.20	-	III-A	2	-	-	80	1
Western Parkway	Shawnee Terrace	Vermont Avenue	.20	-	III-A	2	-	-	80	1
Woodlawn Avenue	32nd Street	Cypress Street	.50	-	III-A	6	-	-	240	1
24th Street	Cedar Street	Jefferson Street	.10	-	III-A	2	-	-	80	1
24th Street	Magazine Street	Cedar Street	.35	-	III-A	4	-	-	160	1
25th Street	Jefferson Street	Rowan Street	.30	-	III-A	4	-	-	160	1
25th Street	Rowan Street	Slevin Street	.20	-	III-A	2	-	-	80	1
30th Street	Magazine Street	Madison	.15	1,500	III-A	2	-	-	80	1
32nd Street	Broadway	Greenwood Avenue	.50	-	III-A	4	-	-	160	1
32nd Street	Broadway	Magazine Street	.20	-	III-A	2	-	-	80	1
32nd Street	DuValle Drive	32nd Street	.30	-	III-A	2	-	-	80	1
32nd Street	Greenwood Avenue	Woodlawn Avenue	.55	-	III-A	6	-	-	240	1
32nd Street	Woodlawn Avenue	Southern Avenue	.15	-	III-A	2	-	-	80	1
33rd Street	Northwestern Parkway	Bank Street	.15	-	III-A	2	-	-	80	1
34th Street	DuValle Drive	Bohne Avenue	.10	-	III-A	2	-	-	80	1
35th Street	Algonquin Parkway	Bohne Avenue	.20	6,400	II-G	2	-	3	13,280	6-10
37th Street	Southern Avenue	Bohne Avenue	.30	-	III-A	2	-	-	80	1
38th Street	Broadway	Garland Avenue	.25	-	III-A	4	-	-	80	1
38th Street	Bank Street	Herman Street	.85	-	III-A	10	-	-	400	1
38th Street	Garland Avenue	Greenwood Avenue	.20	-	III-A	2	-	-	80	1
38th Street	River Park Drive	Broadway	.35	-	III-A	4	-	-	80	1

SUMMARY

Miles 40.78

Bikeway Construction	$304,207
Bike Racks	
Bike Lockers	$ 1,500
TOTAL	$305,707

TABLE A-5 (Continued)

SECTOR #3

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Algonquin Parkway	Dixie Highway	Colorado Street	1.40	7,300-16,000	I-C	18	18	16	$50,850	6-10
Alley Adjacent Berry Boulevard	Lester Avenue	Lentz Avenue	.10	-	III-D	2	-	-	80	6-10
Alley Adjacent Watterson Expressway	Brook Street	Allmond Avenue	.05	-	III-D	2	-	-	80	1
Alley Adjacent Watterson Expressway	Pedestrian Bridge	Cliff Avenue	.05	-	III-D	2	-	-	80	1
Alley Adjacent 5th Street	Heywood Avenue	Central Avenue	.10	-	III-D	2	-	-	80	1
Avery Avenue	Floyd Street	Alley Between 2nd and 3rd Streets	.40	-	II-F	4	-	-	613	1
Avery Avenue	4th Street	Alley Between 2nd and 3rd Streets	.15	-	II-F	2	-	-	262	1
Brook Street	Collins Court	Alley Near Watterson Expressway	.65	-	III-A	6	-	-	240	1
Burton Avenue	9th Street	Rodman Street	.15	-	III-A	2	-	-	80	1
Class I Nichols Hospital	Southern Heights Avenue	Manslick Road	.40	-	I-B	-	-	-	13,030	6-10
Cliff Avenue	Alley Adjacent Watterson Expressway	Florence Avenue	.05	-	III-A	2	-	-	80	1
Collins Court	Grant Street	Brook Street	.15	-	III-A	2	-	-	80	1
Colorado Avenue	4th Street	Rodman Street	.30	3,000	III-A	2	-	-	80	1
Crums Lane	Manslick Road	Seventh Street Road	.45	-	II-H	4	-	-	52,360	6-10
Eastern Parkway	Third Street	Kentucky Turnpike	.55	10,000	I-C	-	-	5	19,765	5
Eastern Parkway Extension	Third Street	Algonquin Parkway	.80	-	I-C	-	-	-	25,830	6-10
Eicher Road	Seventh Street Road	Dixie Highway	.10	-	III-A	2	-	-	80	6-10
Grant Street	Scanlon Street	Collins Court	.15	-	III-A	2	-	-	80	1
Heywood Avenue	Rodman Street	Alley Adjacent 5th Street	.20	-	III-A	2	-	-	80	1
Lentz Avenue	Alley Adjacent Berry Boulevard	Southern Heights Avenue	.50	-	III-A	4	-	-	160	6-10
Lester Avenue	Longfield Avenue	Alley Adjacent Berry Boulevard	.10	-	III-A	2	-	-	80	6-10
Manslick Road	Near Manslick Court	Crums Lane	.10	11,000	II-H	2	-	-	6,680	6-10
Rodman Street	Burton Street	Heywood Avenue	.05	3,100	III-A	2	-	-	80	1

TABLE A-5 (Continued)

SECTOR # 3

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Rodman Street	Colorado Avenue	Heywood Avenue	.55	3,100	III-A	6	-	-	$ 240	1
Scanlon Avenue	2nd Street	Grant Street	.05	-	III-A	2	-	-	80	1
Seventh Street Road	Crums Lane	Eicher Road	.20	12,000	II-A	2	-	1	230	6-10
Southern Heights Avenue	Lentz Avenue	Nichols Hospital Property	.40	-	III-A	4	-	-	160	6-10
Southern Parkway [1]	Third Street	Watterson Expressway	.75	8,000-15,000	I-B	-	-	-	8,031	6-10
Third Street	Southern Parkway	Eastern Parkway	.95	17,000-33,000	III-J	6	-	-	16,770	6-10
Watterson Expressway [2]	Illinois Central Railroad	Kentucky Turnpike	4.35	50,000-97,000	I-B	6	-	-	139,440	6-10
2nd Street	Central Avenue	Scanlon Avenue	.20	-	III-A	2	-	-	80	1
4th Street [3]	Avery Avenue	Colorado Avenue	.50	9,000	III-F	2	-	4	4,756	1
9th Street	Central Avenue	Burton Avenue	.05	-	III-A	2	-	-	80	1

SUMMARY

Miles 15.1

Bikeway Construction	$ 340,697
Bike Racks	
Bike Lockers	$ 1,500
TOTAL	$ 342,197

[1] Resurface portion of existing access road.
[2] Purchase of private property may be necessary.
[3] Resurface sidewalks (2 sides).

TABLE A-5 (Continued)

SECTOR # 4

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs Bike Route	Signs Bike X-ing	Curb Cuts	Constr. Cost	Year
Alley (east-west)	Logan Street	Shelby Street	.10	-	III-D	2	-	-	$ 80	1
Baxter Avenue	Rosewood Avenue	Tyler Park Drive	.07	10,800	II-D	2	-	-	150	1
Broadway	Vine Street	13th Street	.25	25,000-35,000	II-A	2	-	6	1,200	5
Burnett Avenue	Class I Connector	Texas Avenue	.80	4,900	III-H	6	-	-	8,043	6-10
Burnett Avenue	Floyd Street	Preston Street	.10	-	II-A	2	-	1	80	6-10
Cardinal Road	Nightingale Road	Union Avenue	.70	-	III-A	6	-	-	240	6-10
Christy Avenue	Edward Street	Alley Adjacent Cherokee Parkway	.25	-	III-A	6	-	-	240	1
Class I Beargrass Creek Louisville Zoo[1]	Ellison Avenue	Louisville Zoo	3.21	-	I-B	8	-	-	103,660	6-10
Class I Bellarmine College[2]	Beargrass Creek	Sheffield Boulevard	.56	-	I-B	4	-	-	18,080	6-10
Class I Burnett Avenue Connector[3]	Burnett Avenue	Burnett Avenue	.05	-	I-B	2	-	-	3,680	6-10
Class I Watterson Expressway[4]	Beargrass Creek	Illinois Central Railroad	3.55	50,000-97,000	I-B	6	-	-	129,840	6-10
Clay Street	Ormsby Avenue	Shelby Parkway	.10	-	III-A	2	-	-	80	1
Curtiss Avenue	Lucas Street	Class I Watterson Expressway	.10	-	III-A	2	-	-	80	6-10
Dandridge	Shelby Parkway	Ellison Avenue	.05	-	III-A	2	-	-	80	1
Dundee Road	Bardstown Road	Woodbourne Avenue	.25	-	III-A	4	-	-	160	1
Dundee Road	Woodbourne Avenue	Emerson Avenue	.30	-	III-A	2	-	-	80	1
Eastern Parkway	Kentucky Turnpike	Bardstown Road	3.35	10,000-28,000	I-C	-	-	45	110,005	6-10
Edenside Avenue	Tyler Park Drive	Norris Place	.10	-	III-A	2	-	-	80	1
Edwards Street	Christy Avenue	Rufer Avenue	.40	-	III-A	4	-	-	160	1
Edward Street	St.Anthony's Place	Christy Avenue	.20	-	III-A	2	-	-	80	1

1 Purchase or Easement of Private Property Necessary

2 Purchase or Easement of Private Property Necessary

3 Railroad Easement and Crossing Necessary

4 Purchase of Private Property Necessary

TABLE A-5 (Continued)

SECTOR # 4

Street	From	To	Length	Traffic Volume (ADT)	Recommendations: Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Ellison Avenue	Dandridge	Spratt Street	.30	-	III-A	2	-	-	$ 80	1
Emerson Avenue	King's Highway	Dundee Road	.90	1900	III-A	8	-	-	320	1
Fayette Avenue	Union AVenue	Morgan Street	.45	-	III-A	4	-	-	160	6-10
Highland Avenue	Vine Street	Schiller Avenue	.10	2900	III-A	2	-	-	80	5
Illinois Avenue	Trevillian Way	Class I Watterson Expressway	.70	-	III-A	6	-	-	240	6-10
Lucas Street	Roosevelt Avenue	Curtiss Avenue	.10	-	III-A	2	-	-	80	6-10
Morgan Street	Fayette Avenue	Roosevelt Avenue	.30	-	III-A	2	-	-	80	6-10
Nightingale Road	Audubon Parkway	Cardinal Road	.40	-	III-A	4	-	-	160	6-10
Norris Place[1]	Edenside Avenue	Rutherford Avenue	.83	6700	II-D	8	-	4	2,336	1
Norris Place	Sheffield Boulevard	Rutherford Avenue	.10	-	II-D	2	-	-	218	6-10
Oriole Drive	Hess Lane	Cardinal Road	.45	-	III-A	4	-	-	160	6-10
Ormsby Avenue	Preston Street	Clay Street	.20	-	III-A	2	-	-	80	1
Pindell Avenue	McKinley Avenue	Hess Lane	.20	-	III-A	2	-	-	80	6-10
Roosevelt Avenue	Morgan Street	Lucas Street	.30	-	III-A	2	-	-	80	6-10
Rutherford Avenue	Norris Place	Bardstown Road	.50	-	III-A	4	-	-	160	1
Schiller Avenue	Highland Avenue	Ellison Avenue	.45	-	III-A	4	-	-	160	5
Sheffield Boulevard	Bellarmine College	Norris Place	.10	-	III-A	2	-	-	80	6-10
Shelby Parkway	Logan Street	Dandridge Avenue	.10	-	III-A	2	-	-	80	1
Shelby Street	Alley North of Shelby	Parkway to Gwendolyn Street	.05	10,900	II-C	1	-	-	110	1
Shelby Street	Shelby Parkway	Alley North of Shelby Parkway	.03	10,900	II-C	1	-	-	91	1
St. Anthony's Place	Rubel Avenue	Edward Street	.05	-	III-A	2	-	-	80	1
Tyler Park Connector	-	-	.04	-	I-A	2	-	-	2,510	1
Tyler Park Drive	Baxter Avenue	Edenside Avenue	.25	-	III-A	2	-	-	80	1
Union Avenue	Cardinal Road	Fayette Avenue	.05	-	III-A	2	-	-	80	6-10
Vine Street	Broadway	Swan Street	.18	-	III-A	2	-	-	80	5
Vine Street	Swan Street	Highland Avenue	.45	-	III-A	4	-	-	160	5
Woodbourne Avenue	Dundee Road	Dundee Road	.20	-	III-A	2	-	-	80	1

SUMMARY

Miles 22.27

Bikeway Construction	$384,003
Bike Racks	
Bike Lockers	$ 600
TOTAL	$384,603

1 Sidewalk Construction Necessary in Area Between Eastern Parkway and Edenside

TABLE A-5 (Continued)

SECTOR # 5

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Alley Adjacent Cherokee Parkway	Christy Avenue	Longest Avenue	.75	-	III-A	8	-	-	$ 320	1
Baxter Avenue	Chestnut Street	Lexington Road	.12	8,000	II-B	2	-	-	1,425	1
Bon Air Avenue [1]	Taylorsville Road	Watterson Expressway	.60	-	III-A	6	-	-	250,240	6-10
Cherokee Park Road	Demonstration Project	Cherokee Parkway	.85	-	III-A	8	-	-	320	5
Cherokee Road	Spring Drive	Cherokee Parkway	1.10	-	III-A	10	-	-	400	1
Chestnut Street	Marshall Street	Baxter Avenue	.05	6,400	III-A	2	-	-	80	1
Class I Seneca Park	I-64	Seneca Park Road	.73	-	I-B	2	-	-	23,440	4
Class I Seneca Park	Seneca Park Drive	Taylorsville Road	.94	-	I-B	6	-	-	30,320	6-10
Class I Watterson Expressway [2]	Beargrass Creek	Bardstown Road	3.15	50,000-97,000	I-B	4	-	-	100,960	6-10
Dorothy Avenue	Woodford Place	Douglass Boulevard	.10	-	III-A	2	-	-	80	1
Doulgass Boulevard	Bardstown Road	Dorothy Avenue	.20	3,000	III-A	2	-	-	80	1
Doulgass Boulevard	Dorothy Avenue	Millvale Road	.50	-	III-A	4	-	-	160	1
Eastern Parkway	Bardstown Road	Daniel Boone Statue Cherokee Park	.40	10,000-28,000	I-C	-	-	4	13,795	6-10
Federal Bikeway Demonstration Project	Preston Street	Old Cannons Lane	5.75	-	-	-	-	-	358,939	2
Grinstead Drive	Etley Avenue	Alley Paralleling Cherokee Road	1.00	10,300	III-F	6	-	22	3,540	2
King's Highway	Taylorsville Road	Emerson Avenue	.10	-	III-A	2	-	-	80	1
Lexington Road	Baxter Avenue	Barrett Avenue	.15	-	II-D	2	-	-	262	1
Maple Road	Demonstration Project	Alta Vista Road	.35	-	III-A	4	-	-	160	5
Marshall Street	Wenzell Street	Chestnut Street	.10	-	III-A	2	-	-	80	1
Millvale Road	Douglass Boulevard	Woodbourne Avenue	.20	-	III-A	2	-	-	80	1
Rubel Avenue	Broadway	St. Anthony's Place	.05	-	III-A	2	-	-	80	1
Rubel Avenue	Lexington Road	Broadway	.20	-	III-A	2	-	-	80	1
Spring Drive	Village Drive	Cherokee Road	.45	-	III-A	4	-	-	160	1
Spring Drive	Woodford Place	Village Drive	.10	-	III-A	2	-	-	80	1
Valletta Road	Woodbourne Avenue	Taylorsville Road	.50	-	III-A	4	-	-	160	1

[1] Bikeway Bridge Required
[2] Purchase of Private Property May Be Necessary

TABLE A-5 (Continued)

SECTOR # 5

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Village Drive	Bardstown Road	Spring Drive	.15	-	III-A	2	-	-	$ 80	1
Wenzell Street	Marshall Street	Madison Street	.10	-	III-A	2	-	-	80	1
Wenzell Street	Washington Street	Marshall Street	.40	-	III-A	4	-	-	160	1
Woodbourne Avenue	Millvale Road	Valletta Road	.15	-	III-A	2	-	-	80	1
Woodford Place	Spring Drive	Dorothy Avenue	.10	-	III-A	2	-	-	80	1

SUMMARY

Miles 19.34

Bikeway Construction	$785,801
Bike Racks	
Bike Lockers	$ 300
TOTAL	$786,101

TABLE A-5 (Continued)

SECTOR # 6

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs Bike Route	Signs Bike X-ing	Curb Cuts	Constr. Cost	Year
Alta Vista Road	Maple Road	Lexington Road	.30	-	III-A	4	-	-	$ 160	5
Alton Road	Sherrin Avenue	Hubbards Lane	.33	-	III-A	2	-	-	80	5
Ambridge Drive	Westport Road	Rudy Lane	.66	-	III-A	6	-	-	240	3
Apache Road	Travois Road	Rudy Lane	.60	-	III-A	6	-	-	240	5
Beal's Branch Drive	The Garden Drive	Willis Avenue	.30	-	III-A	2	-	-	80	5
Berkshire Avenue	Brookhaven Avenue	Richland Avenue	.35	-	III-A	4	-	-	80	5
Blenheim Road	Hubbard Lane	Class I at end of Blenheim Road	.70	-	III-A	6	-	-	240	4
Brookhaven Avenue	Brown's Lane	Berkshire Avenue	.10	-	III-A	2	-	-	80	5
Brownsboro Road	Rudy Lane	Highway 42	.35	12,000-16,000	III-H	4	-	-	11,360	4
Brown's Lane	Alton Road	Watterson Expressway	.98	8,000	III-H	10	-	-	31,760	5
Commanche Trail	Indian Crest	Travois Road	.55	-	III-A	6	-	-	240	5
Cannons Lane	Old Cannons Lane	Hydiffe Avenue	.01	7,500	III-H	2	-	-	400	5
Central Avenue	Alley Adjacent 5th Street	2nd Street	.20	3,900	III-A	2	-	-	80	1
Chippewa Road	Brownsboro Road	Druid Hills Road	.10	-	III-A	2	-	-	80	5
Class I Beargrass Creek [1]	Browns Lane	Watterson Expressway	.86	-	I-B	2	-	-	227,600	3
Class I Beargrass Creek	Eva Bandman Park	Spring Street	1.25	-	I-D	-	-	-	40,500	5
Class I [2]	Blenheim Road	Warwick Avenue	.30	-	I-B	2	-	-	209,680	4
Class I Crescent Hill Golf Course & Louisville Water Company	Zorn Avenue	Brownsboro Road	.80	-	I-B	-	-	-	26,390	5
Class I Frankfort Avenue [3]	Ewing Avenue	St. Matthews Avenue	2.60	6,000-14,000	I-G	-	-	-	85,965	5
Class I River Road [4]	Beargrass Creek	Indian Hills Trail Road	2.70	6,000-9,000	I-B	-	-	-	89,165	5
Class I Seneca Park	Rock Creek Drive	I-64	.27	-	I-B	4	-	-	8,800	4
Class I Zorn Avenue	Mellwood	Madelle Avenue	.90	9,000	I-J	-	-	-	29,880	6-10
Dayton Avenue	Cannons Lane	Iola Road	.15	-	III-A	2	-	-	80	5

[1] Bikeway Bridge Required
[2] Bikeway Bridge Required
[3] Railroad Easement May Be Necessary
[4] Railroad Easement May Be Required

TABLE A-5 (Continued)

SECTOR # 6

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs Bike Route	Signs Bike X-ing	Curb Cuts	Constr. Cost	Year
Dayton Avenue	Iola Avenue	Sherrin Avenue	.60	-	III-A	6	-	-	$ 240	5
Druid Hills Road	Chippewa Road	Oread Road	.40	-	III-A	4	-	-	160	5
Fairlawn Road	Wilmington Road	Class I on Frankfort Avenue	.45	-	III-A	4	-	-	80	5
Galt Avenue	Grinstead Drive	Rowland Avenue	.20	-	III-A	2	-	-	80	5
Galt Avenue	Rowland Avenue	Frankfort Avenue	.20	-	III-A	2	-	-	80	5
The Garden Drive	Lexington Road	Beal's Branch Drive	.40	3,700	III-A	4	-	-	80	5
Grinstead Drive	Upland Road	Galt Avenue	.05	6,000	III-H	2	-	2	2,130	5
Hubbards Lane	Alton Lane	Norbourne Boulevard	.50	-	III-A	4	-	-	160	5
Hubbard Lane [1]	Massie Avenue	Norbourne Boulevard	1.10	7,600	III-H	8	-	10	37,020	4
Hycliffe Avenue	Cannons Lane	Iola Road	.17	-	III-A	2	-	-	80	5
Indian Hills Trail Road	River Road	Old Brownsboro Road	2.00	1,300-2,000	III-A	20	-	-	800	5
Iola Road	Dayton Avenue	Wilmington Road	.20	-	III-A	2	-	-	80	5
Iola Road	Norbourne Boulevard	Dayton Avenue	.45	-	III-A	4	-	-	160	5
Lexington Road [2]	Alta Vista Road	Upland Road	.10	16,000	III-H	2	-	2	3,730	5
Lotis Way	Oread Road	Old Brownsboro Road	.10	-	III-A	2	-	-	80	5
Madelle Avenue	Class I Zorn Avenue (offset)	Zorn Avenue	.10	-	III-A	2	-	-	80	5
Massie Avenue	St. Matthews Avenue	Hubbard Lane	.70	-	III-A	8	-	-	320	5
Mellwood	Mockingbird Valley Road	Class I Zorn Avenue	.30	-	III-A	2	-	-	80	5
Meridian Avenue	Willis Avenue	Nanz Avenue	.18	-	III-A	2	-	-	80	5
Mockingbird Valley Road	River Road	Mellwood	.30	700	III-A	2	-	-	80	5
Nanz Avenue	Meridian Avenue	Sherrin Avenue	.18	-	III-A	2	-	-	80	5
Norbourne Lane	Hubbards Lane	Iola Road	1.05	-	III-A	10	-	-	400	5
Old Brownsboro Road	Brownsboro Road	Brownsboro Road (Loop)	.50	-	III-A	4	-	-	160	5
Old Cannons Lane	Demonstration Project	Cannons Lane	.45	-	III-A	4	-	-	160	5
Oread Road	Druid Hills Road	Lotis Way	.20	-	III-A	2	-	-	80	5

[1] Purchase of Private Property May Be Necessary
[2] Purchase of Private Property Necessary

TABLE A-5 (Continued)

SECTOR # 6

Street	From	To	Length	Traffic Volume (ADT)	Recommendations: Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Reservoir Avenue	Class I Frankfort Avenue	Zorn Avenue	.25	-	III-A	2	-	-	$ 80	5
Richland Avenue	Berkshire Avenue	Taylorsville Road	.40	-	III-A	4	-	-	80	5
Rock Creek Drive	Class I Seneca Park	Cannons Lane	.60	-	III-A	6	-	-	240	5
Rowland Avenue	Galt Avenue	Galt Avenue (connector)	.03	-	III-A	2	-	-	80	5
Rudy Lane	Apache Road	Brownsboro Road	.25	-	III-A	4	-	-	160	5
Rudy Lane	Brownsboro Lane	Hubbard Lane	1.55	2,100-7,500	III-H	16	-	-	50,240	5
Sherrin Avenue	Nanz Avenue	Alton Road	.85	-	III-A	8	-	-	320	5
Stilz Avenue	Class on Frankfort Avenue	Lexington Road	.50	7,400	II-D	4	-	-	701	5
St. Matthews Avenue	Druid Hills Road	Shelbyville Road	1.05	1,000	III-A	10	-	-	400	5
Travois Road	Commanche Trail	Apache Road	.10	-	III-A	2	-	-	80	5
Upland Road	Lexington Road	Grinstead Drive	.50	-	III-A	4	-	-	160	5
Westwind-Eastwind Road	Brownsboro Road	Indian Crest	.60	-	III-A	6	-	-	240	5
Willis Avenue	Shelbyville Road	Meridian Avenue	.03	-	III-A	2	-	-	80	5
Wilmington Road	Iola Road	Fairlawn Road	.05	-	III-A	2	-	-	80	5
Zorn Avenue	Madelle Avenue	Reservoir Avenue	.45	-	III-A	4	-	-	160	5

SUMMARY

Miles 32.40

Bikeway Construction	$862,761
Bike Racks	
Bike Lockers	$ 900
TOTAL	$863,661

TABLE A-5 (Continued)

SECTOR # 7

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Brownsboro Road	Herr Lane	U.S. 42	.37	12,000-16,000	II-H	2	-	-	$ 24,500	3
Central Avenue	Washburn Avenue	Girard Drive	.25	-	III-A	2	-	-	80	3
Chaliedon Way	Futurity Way	Headley Hill	.20	-	III-A	2	-	-	80	3
Class I Beargrass Creek	Watterson Expressway	Oxmoor Mall	.50	-	I-B	2	-	-	16,080	3
Dogoon Drive	Farnham Road	Phoenix Trail	.20	-	III-A	2	-	-	80	3
Forest Lane	Norwood Drive	Lagrange Road	.05	-	III-A	2	-	-	80	3
Futurity Way	Keeneland Boulevard	Chaliedon Way	.10	-	III-A	2	-	-	80	3
Girard Drive	Central Avenue	Westport Road	.40	-	III-A	4	-	-	160	3
Headley Hill	Chaliedon Way	Hounz Lane	.05	-	III-A	2	-	-	80	3
Herr Lane	Brownsboro Road	Westport Road	1.2	7,200	III-A	12	-	-	40,605	4
Keeneland Boulevard	Phoenix Trail	Futurity Way	.05	-	III-A	2	-	-	80	3
LaGrange Road[1]	Washburn Avenue	Forest Lane	.10	11,000-14,000	III-H	2	-	-	3,280	3
Lyndon Lane	Shelbyville Road	Nottingham Parkway	.05	-	III-A	2	-	-	80	4
Norwood Drive	Shelbyville Road	Forest Lane	.30	-	III-A	2	-	-	80	3
Nottingham Parkway	Lyndon Lane	Hurstbourne Lane	2.19	-	III-A	21	-	-	840	4
Oxmoor Mall	Class I	Shelbyville Road	.20	-	III-A	2	-	-	80	3
Pershing Avenue	Prospect Street	Wilson Street	.15	-	III-A	2	-	-	80	3
Phoenix Trail	Dogoon Drive	Keeneland Boulevard	.05	-	III-A	2	-	-	80	3
Prospect Street	School District Property	Pershing Avenue	.10	-	III-A	2	-	-	80	3
School District Property	Westport High School	Prospect Street	1.13	-	III-A	12	-	-	480	3
Shelbyville Road	Oxmoor Mall	Lyndon Lane	.89	25,000-48,000	I-J	2	-	-	28,560	4
Warwick Avenue	Class I	Washburn Avenue	.30	-	III-A	2	-	-	80	4
Washburn Avenue	Central Avenue	LaGrange Road	.70	1,900	III-A	6	-	-	240	3
Westport Road[2]	Ambridge Drive	Westport High School	1.68	9,000	III-H	16	-	-	55,455	3
Wilson Street & Farnham Road	Pershing Avenue	Dogoon Drive	1.1	-	III-A	12	-	-	480	3

SUMMARY

Miles 12.31	
Bikeway Construction	$171,800
Bike Racks	
Bike Lockers	
TOTAL	$171,800

1 Purchase of Private Property May be Necessary

2 Purchase of Private Property Necessary

TABLE A-5 (Continued)

SECTOR # 8

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Autumn Way	Meadow Drive	Lisbon Lane	.20	-	III-A	2	-	-	$ 80	6-10
Bon Air Avenue	Watterson Expressway	Meadow Drive	.50	-	III-A	6	-	-	240	6-10
Brown's Lane	Watterson Expressway	Brookhaven Avenue	.42	8000	III-H	4	-	-	13,600	5
Downing Way	Lisbon Lane	Hikes Lane	.30	-	III-A	2	-	-	80	6-10
Hikes Lane	Taylorsville Road	Bardstown Road	2.4	9000-16,000	III-G	16	-	-	640	2
Lisbon Lane	Autumn Way	Downing Way	.10	-	III-A	2	-	-	80	6-10
Meadow Drive	Bon Air Avenue	Autumn Way	.20	-	III-A	2	-	-	80	6-10

SUMMARY

Miles 4.97

Bikeway Construction	$14,800
Bike Racks	
Bike Lockers	
TOTAL	$14,800

TABLE A-5 (Continued)

SECTOR # 9

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Class I Kentucky Turnpike	Outer Loop	Fern Valley Road	1.70	38,000	I-B	2	-	-	$ 54,630	6-10
Class I Kentucky Turnpike	Standiford Lane	Class I Watterson Expressway	.66	40,000	I-B	2	-	-	21,275	6-10
Dearing Avenue	Sunden Avenue	Norton Avenue	.50	-	III-A	2	-	-	80	6-10
Grade Lane	Skyway Drive	Class I Preston Highway	.20	-	III-H	2	-	-	6,780	6-10
Nancy Lee Drive	Norman Circle	Skyway Drive	.05	-	III-A	2	-	-	80	6-10
Norman Circle	Standiford Lane	Nancy Lee Drive	.25	-	III-A	2	-	-	80	6-10
Norton Avenue	Dearing Avenue	Fern Valley Road	.85	-	III-A	8	-	-	640	6-10
Outer Loop	Lentz Lane	Shepherdsville Road	2.25	11,000-18,000	I-B	-	-	-	74,765	1
Outer Loop	Minor Lane	Lentz Lane	.62	13,000-15,000	I-B	2	-	-	19,920	6-10
Poplar Level Road	Watterson Expressway	Shepherdsville Road	3.85	6,900-19,000	III-G	26	-	34	6,140	3
Preston Highway	Grade Lane	Sunden Avenue	.10	42,000	III-H	2	-	-	6,630	6-10
Shepherdsville Road	Newburg Road	Hikes Lane	1.35	6,300-9,000	III-G	14	-	14	2,660	4
Shepherdsville Road	Newburg Road	Rangeland Road	1.00	15,000	III-G	6	-	10	1,740	3
Shepherdsville Road	Poplar Level Road	Outer Loop	1.70	17,000-19,000	III-G	16	-	12	2,400	4
Skyway Drive	Nancy Lee Drive	Grade Lane	.25	-	III-A	2	-	-	80	6-10
Standiford Lane	Class I Kentucky Turnpike	Norman Circle	.05	-	III-A	2	-	-	80	6-10
Sunden Avenue	Class I Preston Highway	Dearing Avenue	.15	-	III-A	2	-	-	80	6-10

SUMMARY

Miles 15.53

Bikeway Construction	$198,060
Bike Racks	
Bike Lockers	$ 900
TOTAL	$198,960

TABLE A-5 (Continued)

SECTOR # 10

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Allmond Avenue	Alley Adjacent Watterson Expressway	Southern Heights Avenue	.10	-	III-A	2	-	-	$ 80	1
Arling Avenue	Taylor Boulevard	Churchman Avenue	.55	-	III-A	4	-	-	160	6-10
Arnoldstown Road	Class I Waverly Park	Rica Road	.25	4,600	II-H	2	-	-	16,588	6-10
Ashland Avenue	Bellevue Avenue	Cliff Avenue	.10	-	III-A	2	-	-	80	1
Badger Avenue	1st Street	Wabash Place	.15	-	III-A	2	-	-	80	1
Beacon Hills Drive	Swakon Lane	Sanders Lane	.15	-	III-A	2	-	-	80	1
Bellevue Avenue	Southern Heights	Ashland Avenue	.30	-	III-A	2	-	-	80	1
Bicknell Avenue	Picadilly Avenue	Churchman Avenue	.75	-	III-A	8	-	-	320	1
Bluegrass Avenue	Churchman Avenue	Manslick Road	.35	8,000	II-B	2	-	-	3,600	1
Brookline Avenue	Sixth Street	Taylor Boulevard	.40	-	III-A	4	-	-	160	6-10
Cardinal Hill Road	Class I Anthony Church Road	Class I Manslick Road	1.23	-	III-A	6	-	-	240	6-10
Churchman Avenue	Arling Avenue	Bluegrass Avenue	.40	-	III-A	4	-	-	160	6-10
Churchman Avenue	Bicknell Avenue	Bluegrass Avenue	.30	-	III-A	2	-	-	80	1
Class I Anthony Church Road	Cardinal Hill Road	Rica Road	.20	-	I-B	2	-	-	6,480	6-10
Class I Manslick Road	Cardinal Hill Road	Iroquois Park Road	.20	10,000	I-B	2	-	-	6,630	6-10
Class I Railroad [1]	St. Andrews Church Road	Class I Waverly Park	.20	-	I-F	2	-	-	6,480	6-10
Class I Waverly Park [2]	Class I Railroad	Arnoldstown Road	1.51	-	I-B	2	-	-	48,400	6-10
Cliff Avenue	Ashland Avenue	(Across Pedestrian Bridge) Alley Adjacent Watterson Expressway	.30	-	III-A	2	-	-	80	1
Del Mar Lane	Sadie Avenue	Naneen Drive	.20	-	III-A	2	-	-	80	1
Estate Drive	Hobart Drive	Knight Road	.20	-	III-A	2	-	-	80	1
Hobart Drive	Manslick Road	Naneen Drive	.20	-	III-A	2	-	-	80	1
Hobart Drive	Naneen Drive	Estate Drive	.20	-	III-A	2	-	-	80	1

[1] Railroad Easement
[2] Open Space

TABLE A-5 (Continued)

SECTOR # 10

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Iroquois Park	Manslick Road	Taylor Boulevard	3.90	-	III-A	12	-	-	$ 480	6-10
Knight Road	Estate Drive	Swakon Lane	.05	-	III-A	2	-	-	80	1
Lone Oak Trail	Southland Boulevard	Southland Boulevard (offset)	.05	-	III-A	2	-	-	80	1
Manslick Road	Bluegrass Avenue	Hobart Drive	.04	13,000	II-H	2	-	-	4,720	1
Naneen Drive	Del Mar Lane	Hobart Drive	.30	-	III-A	2	-	-	80	1
Outer Loop	Grade Lane	Kentucky Turnpike	1.70	11,000-18,000	I-A	-	-	-	55,255	1
Picadilly Avenue	Ashland Avenue	Bicknell Avenue	.25	-	III-A	2	-	-	80	1
Rica Road	St. Anthony's Church Road	Arnoldstown Road	.55	-	III-A	2	-	-	80	6-10
Sadie Avenue	Dixie Highway	Sanders Lane	.30	-	III-A	2	-	-	80	6-10
Sadie Avenue	Sanders Lane	Del Mar Lane	.25	-	III-A	2	-	-	80	1
Sanders Lane	Swakon Lane	Sadie Avenue	.35	-	III-A	4	-	-	160	1
Southland Boulevard	Lone Oak Trail	New Cut Road	.35	-	III-A	4	-	-	160	1
Southland Boulevard	Wabash Place	Lone Oak Trail	1.00	2,000-4,200	III-A	10	-	-	400	1
Southern Heights	6th Street	Bellevue Avenue	.15	-	III-A	2	-	-	80	1
Southern Heights	Allmond Avenue	1st Street	.15	-	III-A	2	-	-	80	1
Southern Parkway [1]	Watterson Expressway	Taylor Boulevard	1.71	8,000-15,000	I-B	-	-	-	13,194	6-10
St. Andrews Church Road	Dixie Highway	Railroad	.10	-	III-A	2	-	-	80	6-10
Swakon Lane	Knight Road	Beacon Hills Drive	.10	-	III-A	2	-	-	80	1
Taylor Boulevard	Brookline Avenue	Iroquois Park	.35	12,000	II-A	2	-	-	80	6-10
Wabash Place	Badger Avenue	Southland Boulevard	.40	-	III-A	4	-	-	160	1
1st Street	Southern Heights	Badger Avenue	.60	-	III-A	6	-	-	240	1

SUMMARY

Miles 20.89	
Bikeway Construction	$ 165,827
Bike Racks	
Bike Lockers	
TOTAL	$ 165,827

[1] Resurface portion of existing access road.

TABLE A-5 (Continued)

SECTOR # 11

Street	From	To	Length	Traffic Volume (ADT)	Recommendations					
					Section	Signs: Bike Route	Signs: Bike X-ing	Curb Cuts	Constr. Cost	Year
Briargate Street	Duane Avenue	Wellworth Avenue	.20	-	III-A	2	-	-	$ 80	6-10
Cane Run Road	Rockford Lane	Terry Road	.50	7,800-18,000	III-G	2	-	4	680	3
Class I along Floodwall	River Road	Dixie Highway	3.12	-	I-E	-	-	-	101,180	6-10
Dexter Street	Wellworth Avenue	Graston Avenue	.10	-	III-A	2	-	-	80	6-10
Duane Avenue	Rockford Avenue	Briargate Street	.20	-	III-A	2	-	-	80	6-10
Graston Avenue	Dexter Street	Lampter Avenue	.05	-	III-A	2	-	-	80	6-10
Lampter Avenue	Graston Avenue	Lewiston Drive	.20	-	III-A	2	-	-	80	6-10
Lewiston Drive	Lampter Avenue	Angela Merici High School	.25	-	III-A	2	-	-	80	6-10
Paddock Lane	Swaps Lane	Class I along Floodwall	.43	-	III-A	2	-	-	80	6-10
River Road	Cane Run Road	Class I along Floodwall	.20	7,000	II-H	2	-	-	23,280	6-10
Rockford Lane	Class I	Western High School	.20	10,000-14,000	II-G	2	-	-	80	6-10
Swaps Lane	Upper Hunter's Trace	Paddock Lane	.03	-	III-A	2	-	-	80	6-10
Upper Hunter's Trace	Wellworth Avenue	Swaps Lane	.25	6,500	II-G	2	-	-	14,191	6-10
Wellworth Avenue	Briargate Street	Upper Hunter's Trace	.40	-	III-A	4	-	-	160	6-10

SUMMARY

Miles 6.13

Bikeway Construction	$ 140,211
Bike Racks	
Bike Lockers	
TOTAL	$ 140,211

GUIDELINES FOR THE DEVELOPMENT

OF

BIKEWAYS

Prepared by

Division of Urban and Regional Planning

Office of Transportation Planning

Kentucky Department of Transportation

In Cooperation With

U.S. Department Of Transportation

Federal Highway Administration

July , 1975

APPROVED

Transportation Planning Engineer
Office of Transportation Planning

C. G. Grayson

C. G. Grayson

DATE: 7/15/75

Secretary of Transportation

John C. Roberts

John C. Roberts

DATE: 7-16-75

TABLE OF CONTENTS

GUIDELINES FOR THE DEVELOPMENT OF BIKEWAYS

I. PURPOSE

The purpose of this document is to prescribe guidelines for the development of bicycle facilities through the Kentucky Department of Transportation.

II. SCOPE

With the resurgence of interest in the bicycle for recreation and transportation and with the advent of the energy crisis, it is evident that governmental units at all levels need to become involved in bikeway development. The following guidelines have been established to provide a means by which local areas can obtain assistance in bikeway development through the Kentucky Department of Transportation.

This document addresses planning, designing, funding and maintaining bicycle facilities. The scope of these guidelines apply solely to bikeways to be used by non-motorized bikes, propelled solely by human power.

III. AUTHORITY

This document is issued under Executive Order 74-483 (July 1, 1974) which states in part:

> "The Office (Office of Transportation Planning) shall be responsible for policy recommendations and long-range planning for the full spectrum of transportation alternatives in the Commonwealth. The primary functions of the office shall include studies and recommendations of the best means of providing a cohesive multi-model transportation system for the citizens of the Commonwealth".

IV. DEFINITIONS

The types of bicycle facilities that are discussed and their definitions as used herein are as follows:

Bicycle Route, Bicycle Way, or Bikeway - Any road, street, path or way which in some manner is specifically designated as being open to bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

Bicycle Trail (Class I Facility) - A separate trail or path which is for the exclusive use of bicycles and/or pedestrians. Where such a trail or path forms a part of a highway it is separated from the motor vehicle roadway by an open space or barrier. Pedestrians will be allowed to use the trail unless specifically prohibited.

Bicycle Lane (Class II Facility) - A portion of a roadway which has been designated for preferential or exclusive use by bicycles. It is distinguished from the portion of the roadway for motor vehicular traffic by a paint stripe, curb or other similar device.

Shared Roadway (Class III Facility) - A roadway which is officially designated and marked as a bicycle route but which is open to motor vehicular and pedestrian travel and upon which no bicycle lane is designated.

V. PLANNING AND LOCATION

Planning for Bikeways begins with an assessment of bicycle traffic potentials and an inventory of existing bikeway facilities. These planning efforts can be done as part of an overall comprehensive transportation planning process for an area or as a single-purpose study of the needs for bicycle facilities.

The Planning phase does not end once the needs identification stage is reached; next follows the route location phase. The general route corridors are established, preferably following closely the travel desire lines between points of origin and destination. Specific locations of facilities are then determined taking into account compatibility with land uses, aesthetic quality, topography, and environmental considerations.

Responsibility for planning and locating most bicycle facilities will primarily be that of local governmental units since most bicycle travel is for relatively short trips entirely within a single urban area. However, where multi-county or statewide bicycle routes are contemplated, their planning and location will properly be the responsibility of the Department and/or Area Development Districts. The Division of Transportation Facilities Planning will prepare the necessary Route Planning Study and Environmental Impact Statement (if required) for bikeways to be constructed in conjunction with conventional highway construction or improvement projects, or for independent bikeways to be constructed on Department right-of-way. The local area will be responsible for preparing these documents for bikeways to be constructed off Department right-of-way. In all cases the local area will be responsible for supplying the necessary data for these reports and the Division of Urban & Regional Planning will be responsible for their review and approval before they are submitted for Federal approval.

Throughout the planning and location process, full use shall be made of all opportunities to involve the public in the identification of alternatives, of impacts and priorities in the decision making process.

A. Travel Estimates

Potential bicycle usage for new facilities presently is difficult to estimate, particularly in areas where bicycle facilities do not exist. In such cases, almost all travel will be of the generated type, and because it does not exist anywhere prior to the construction of the facility, there are few clues for making accurate latent demand determinations. However, an estimate of bicycle usage is needed for several reasons; first, as an aid in determining if the facility is justified; second, to determine the class of facility, i.e., trail, lane, or shared roadway; and third, as an aid in determining the design requirements for the facility. The extent of detail utilized in making the traffic estimate and the degree of accuracy required for the results depend on the purpose to be served by the bicycle facility or facilities and the cost thereof. The local area requesting aid in construction of a bikeway is responsible for providing an estimate of bicycle usage.

B. Warrants for Type of Facility

Once an estimate of the expected bicycle travel is made, a determination must be made as to whether or not the demand is sufficient to justify the cost involved. Also, the safety and capacity of a proposed system must be considered where bicycles are to share facilities designed mainly to accomodate other transportation modes, i.e., a highway pavement. Warrants for determining when separate bikeways are justified are based on the relationship between motor vehicular and bicycle volumes.

As a general guide, a separated bicycle facility should be provided where; (a) the average bicycle volume on a nice day in June is 200 or more per day in conjunction with motor vehicular volumes of 2,000 vehicles per day or more, or (b) where the same bicycle volumes will be in conjunction with motor vehicular speeds of 40 mph or higher. In some cases, consideration for bicycle trails should be given for lower traffic volumes.

In addition to the above criteria, available space, cost of the facilities, and other means of providing for bicycles (such as alternate routes) should be taken into consideration when determining the need for a separate bicycle facility.

C. Aesthetic Considerations

Bicycle facilities should be so located as to take advantage of scenic views such as those provided by an outstanding natural feature, park, or historic monument wherever consistent with the basic needs.

Locations, wherever possible, should closely follow existing ground contours, however, slopes along bicycle facilities shall be gentle, grassed where trees do not exist, and well rounded where sloped planes intersect. Ditches should preferably not be on steep grades and should have flat side slopes in order to prevent unsightly erosion.

D. Environmental Aspects

Bicycle travel does not generate air or noise pollution. Such travel has a favorable effect on the quality of the environment where its use is substituted for motorized transportation. While the bicycle itself does not have an adverse effect on the environment this is not necessarily true of the users nor of the facilities for accommodation of bicycles. Facilities that are not carefully planned, constructed and adequately maintained may receive little use, may become littered to the extent of constituting a public nuisance, and may introduce features which adversely affect the visible landscape and the environment in general. It must be recognized that bicyclists using bicycle routes that are part of or close to motorways will be subject to the pollution effects of vehicle emmissions.

E. Location of Bicycle Facilities

The location of a bicycle facilitiy should be a logical outgrowth of the planning process where information is gained and analyzed relative to probable use or purpose of trips to be served, i.e., whether the predominant use will be for commuter, recreational, or neighborhood type travel.

The desired routes of bicyclists should be definitely established and bicycle facilities should be located as near as possible to their desire lines. Generally, these will coincide with desire lines for commuting by auto or public transportation. If public transportation is to be utilized, the location of the bicycle facility must be carefully coordinated with transfer facilities for that mode.

Regardless of the type of trip that the route is to serve, existing land use plays an important part in determining the proper location of bicycle facilities. It has a considerable influence on the route's attractiveness for bicycling and the availability of space that can be set aside for bicycle use.

Terrain is also a major consideration in the location of a trail because it affects the length and steepness of grades that can be economically provided on the trail. Bicycle routes with long steep upgrades or a series of steep upgrades are undesirable to the users. Where a direct bicycle routing in rough terrain will result in excessively long or steep grades, an alternate location with a more desirable profile should be sought unless the provision of gentle grades is feasible through construction.

In locating a bicycle trail or a network of bicycle trails, land use maps should be carefully studied and locations should be selected that best serve the travel needs, consistent with land use, and the availability of suitable locations.

VI. BIKEWAY DESIGN

The following criteria are to be used in the design considerations of bikeways and in judging the acceptability of designs submitted by local organizations, agencies, etc. For the most part, the criteria reflects two aspects of design.

1. Absolute minimum design standards which will allow for adequate function of the facilitiy, and

2. Optimum design standards which have been proven to provide the most efficient bikeways. Any standard between the two is acceptable, but sound engineering judgement is necessary in order to determine whether the minimum or the optimum guidelines should be used. Such judgement should be based on anticipated use, cost, feasibility of construction and, adaptability to the site. Design criteria below the minimum may be used in highly unusual circumstances if adequately justified and approved by the State Highway Engineer and the Federal Highway Administration (if there is Federal participation in the project).

A. Location Within Highway Right-of-Way

Bicycle Trails

Where a bicyle trail utilizes the highway right-of-way and generally parallels the vehicular roadway, it should be located as far from the travelled way as practicable in order to minimize the conflicts between bicyclists and motorists. The desirable minimum distance between the roadway and bicycle trail shall be based on the roadway posted speed limit, as follows:

a. 0-25 MPH - Trail may be located immediately adjacent to roadway making use of a visual barrier,

b. 25-35 MPH - Trail separated by desirably eight (8) feet and a visual barrier,

c. 35-45 MPH - Trail separated by desirably fifteen (15) feet and a visual barrier,

d. 45 MPH or greater-Maximum practical separation required, thirty (30) feet minimum desirable separation.

Physical barriers (guardrail, ditches, unmountable curb, etc.) should be considered and may be required if desirable separations cannot be met.

Bicycle Lanes

The bicycle lane is distinguished from other types of bicycle routes in that it is intended for the preferential or exclusive use of bicyclists. It is developed within the cross section of a vehicular roadway, usually in the outside lane adjacent to he curb. The bicycle lane shall be delineated by means of pavement markings or curbs.

Design of bicycle lanes in urban areas can be extremely complex, and should be fully investigated prior to commitment of implementation.

Shared Roadways

The shared roadway differs from the bicycle lane in that no portion of the roadway is set aside for the exclusive use of bicycles. The shared roadway has no barrier - either symbolic or physical - to delineate a portion of the roadway for bicycles. The bicycle route shall be identified by posted signs along the roadway and sometimes by words or symbols painted on the pavement where such indications are needed to give route guidance to unfamiliar cyclists and to alert motorists. On lightly travelled residential streets such markings may be unnecessary.

B. Geometrics

1. Design Speed

Studies have shown that most bicyclists travel within a range of 7-15 mph, with the average between 10-11 mph. However, even on slight downgrades, average speeds on the order of 20 mph and above have been observed. Accordingly, the design speed shall be 20 mph for bikeways with grades between +3% and - 7%, 30 mph where grades are steeper than -7% and 15 mph on one-way climbing grades greater than +3%.

2. Curvature

The minimum radius of curvature must be consistent with the design speed of the bicycle facility. The design values shown in Table 1 are applicable where token or no superelevation is provided. Where more than token superelevation is provided these values may be reduced somewhat.

TABLE 1
DESIGN RADII

DESIGN SPEED MPH	DESIGN RADIUS (FEET)
10	15
15	35
20	70
25	90
30	125

3. Grades

Where feasible, bikeways shall be constructed flush with existing grades. Otherwise grades will conform to the following standards:

a. Bikeway gradient should never exceed 10% for extended distances.

b. 5% grade - Maximum length 300 feet, preferable maximum length 100 feet.

c. 2% grade - Maximum length 1500 feet, preferable maximum length 500 feet.

4. Slight Distance

Design values for stopping sight distance on bicycle facilities may be computed in the same manner as for highways*. Design values of stopping sight distance for various design speeds and rates of grade are provided in Table 2. These are based on a coefficient of skid resistance of 0.25 and a perception-reaction time of 2.5 seconds. A skid resistance factor of 0.25 is suitable for bicycles equipped with good brakes on a single wheel while operating on paved surfaces. Longer sight distances should be used for unpaved bikeways.

TABLE 2

DESIGN STOPPING SIGHT DISTANCES FOR BICYCLES

Design Speed MPH	Stopping Sight Distances for Downhill Gradients of: 0% Feet	5% Feet	10% Feet	15% Feet
10	50	50	60	70
15	85	90	100	130
20	130	140	160	200
25	175	200	230	300
30	230	260	310	400

For simplicity, the criteria to be applied in measuring stopping sight distance on a bicycle facility shall be assumed to be the same as those used for highway design, namely an eye height of 3.75 fee. and an object height of 6 inches. The height of an adult bicyclist's eye as he rides his bicycle would normally be greater than 3.75 feet but a lower object may be pertinent.

5. Widths and Clearances

The minimum and desirable bikeway widths are shown in Table 3.

TABLE 3

BIKEWAY SURFACE WIDTHS

Number of Lanes	Minimum Width, Feet	Desirable Width, Feet
1	3.5	6.0
2	7.0	8.0
3	10.5	12.5
4	14.0	17.0

*See A Policy on Geometric Design of Ruaral Highways, 1965, American Association of State Highway Officials, pages 134-140.

Adjustments to Basic Bikeway Widths

Condition	Additional Width, Feet Minimum	Desirable
Raised curb on one side	0.5	1.0
Raised curb on both sides	1.0	2.0
Parked cars adjacent	2.0	2.0

In order to satisfy the bicyclist's requirement for safe and comfortable maneuvering, there shall be a minimum horizontal clearance of 1.0 feet and desirably 2.0 feet between the edge of the bikeway and any tree, pole, barrier or other obstruction. For the same reason, the vertical clearance from the bikeway surface to any overhead obstruction shall be a minimum of 8.5 feet and desirably 10 feet. However, it is emphasized that these minimum widths and clearances are based solely on the bicyclists needs and often are not sufficient to accomodate construction or maintenance vehicles or to provide for drainage facilities and other necessary appurtenances. Accordingly, the above minimum values may have to be adjusted, as necessary, to provide for these considerations.

6. Cross Section Criteria

Using the width and clearance considerations presented in the previous section, cross sectional criteria for each type of bicycle route are summarized under the following three headings:

Bicycle Trails - The cross section of a bicycle trail is readily developed using the information presented previously. The minimum widths, as provided in Table 3, along with the recommended vertical and horizontal clearances, are directly applicable. It may be necessary to adjust these minimum widths to accomodate any maintenance vehicles which are expected to utilize the trail. Normally, widths for two-lane operation will be adequate for both one-way and two-way facilities.

Bicycle Lanes - Bicycle lanes desirably should be restricted to one-way operation. The minimum widths and lateral clearances for bicycle lanes depend on the location of the lane within the roadway and the parking conditions.

Where the bicycle lane is between the curb and parking lane, the minimum width shall be 3.5 feet (one-lane minimum, Table 3) plus a 0.5 foot clearance to the curb and a 2 foot allowance for car door openings, or a total width of 6.0 feet. A preferred arrangement where parking is allowed, is to place the bicycle lane between the parking lane and travelled way. Here the minimum width shall be 3.5 feet (one-lane minimum) plus a 2 foot allowance for car door openings or a total of 5.5 feet. This type of bicycle lane shall be delineated by pavement markings at the edges of the parking lane and the outside motor vehicle lane.

For the bicycle lane arrangement where parking is not allowed and the bicycle lane is between the curb and travelled way, the minimum width shall be 3.5 feet (one-lane minimum) plus a 0.5 foot clearance to the curb or a total of 4.0 feet. Where a two-way bicycle lane is provided, the minimum width is 7.0 foot (two-lane minimum) plus a 0.5 foot clearance or 7.5 feet.

Shared Roadways - A street shall be designated as a bicycle route for operation as a shared roadway only in those cases where the width of the outer lane is greater than 10 feet where volumes are light (less than 1000 VPD), or greater than 12 feet where volumes are heavier. Where parking is to be accomodated, the combined width of the outer lane of the travelled way plus the parking lane shall total at least 22 feet.

7. Curve Widening

Because bicyclists tend to lean to the inside of a turn, consideration must be given to widening curves on bike trails. Curves with a radius of 100 feet or less shall be widened on two-way trails. The amount of widening will increase as the central angle of the curve increases; however, the maximum widening shall be four feet.

8. Superelevation

Consideration must be given to superelevating the bikeway pavement. The amount of superelevation required shall be determined in the design phase of each bikeway project.

C. Roadway Structure

Bicycle lanes and shared roadways normally will utilize existing pavements. These surfaces more than adequately meet bicycle and maintenance vehicle requirements. Where a roadway is widened to include a bicycle lane, the added pavement shall be constructed according to approved street standards for automobile traffic.

The basic condition for determining a bicycle trail's roadway structure is that it be of sufficient depth to support the wheel loads of bicycles and riders as well as maintenance vehicles or other types of motor vehicles which may use or cross the facility.

D. Bridges, Culverts, and Other Drainage

A bridge designed exclusively to carry a bicycle trail over a natural barrier or across a highway shall have a minimum usable width of 8 feet. Structures designed for pedestrian live loadings are satisfactory for bicycle loadings.

For proper drainage the surface of the trail shall be sloped transversely at a rate of from one-fourth inch (0.02 foot per foot) to three-eights inch per foot. This slope may be to one side or crowned. Where the bicycle trail is constructed on the side of a hill, a drainage ditch of suitable dimensions shall be placed on the uphill side to intercept the hillside drainage. Where necessary, catch basins with drains shall be provided to carry the intercepted water across the trail. In especially wet areas, underdrains may be necessary.

For bicycle lanes and shared roadways, the existing street drainage system is usually sufficient. However, a factor which must be considered is the hazard presented by drainage grates along the proposed route. In many existing instances, such grates consist of bars running parallel to the curb with separations of three-fourths inch or more between bars into which a bicycle wheel may drop thus throwing the rider. At existing installations, parallel bar grates should be replaced with other designs, such as bars perpendicular to the curb, diagonal bar grates or welded cross strips on the parallel bars to minimize the bicycle hazards of the grate. This must be done in a manner so as not to substantially reduce the ability of the inlet to intercept water. Where these solutions are not feasible at existing installations, the grate shall be clearly marked with warning stripes and provisions shall be made for bicycles to bypass the grate without intruding into the motorized traffic lanes, or warning signs should be erected to supplement pavement markings and minimize the hazard.

E. Intersections and Crossings

Wherever a bicycle lane is carried across an at-grade street intersection, some form of channelization with specific routings for bicycles should be provided to minimize the number of possible conflict points between bicycles, motor vehicles, and pedestrians within the intersection. Such channelization must also be considered when (1) shared roadways intersect cross streets, (2) where bicycle and motor vehicle traffic is heavy, (3) where motor vehicle speeds are in excess of 30 mph, and (4) where there is a heavy percentage of motor vehicles making right turns out of the shared roadway.

Channelization will consist of some form of striping or marking which clearly delineates the path which bicycles must take in crossing the intersection. In most cases the crossing should be adjacent to – but striped separately from the pedestrian crosswalk.

F. Grade Separation Structures

The most effective way to prevent conflicts between bicyclists and motor vehicle traffic at intersections is to provide a grade separation. Some type of grade separation shall be provided wherever a bicycle trail crosses a highway with full control of access, and where the combination of vehicular volumes and speeds and bicycle volumes would warrant some type of physical separation. Where these conditions exist, and the provision of a grade separation structure is not feasible, the bicycle trail shall be rerouted.

In the design of the bicycle overpass, all of the bicyclist's requirements with respect to grade, turning radius, width, cross slopes and speed shall be considered. The structure roadway shall have a minimum width of 8 feet to allow adequate room for stopping and passing maneuvers. Ramp grades generally need to be steeper than elsewhere but shall not exceed 15 percent, desirably they should be in the range of 5-10 percent. Parapet barriers shall be designed to provide adequate side protection. Screens, similar to the type which is provided on pedestrian overpasses, shall be used where incidents of dropped objects can be expected without such protection. Where the overpass is removed from other highway structures, the minimum vertical clearance of the overpass shall be 17 feet over the roadway which is higher than the minimum clearance required for vehicular structures due to the fact that bicycle structures are less resistant to impact if struck by an over-height vehicle. The structure, approach and appurtenances shall be designed in such a manner that bicyclists are physically prevented from crossing the vehicular roadway at grade.

G. Trails on Highway Bridges

Where separate bicycle trails are located parallel to a highway there are some conditions where it is necessary to carry the trails across a highway structure. On controlled access highways with high volumes of vehicle traffic, the trail shall be carried outside the normal bridge shoulder and separated from the shoulder by a physical barrier (concrete barrier, railing or fence). The widths in Table 3 are applicable in determining the bikeway section on the bridge. On minor low-speed highways, where vehicular volumes are not great and the roadway shoulder is carried across the structure, the bridge shoulder can be utilized for the trail. In such a case, it must be adequately signed and marked to inform both the bicyclists and motorists that the bridge is being shared by both transportation modes.

H. Traffic Control Devices on Streets and Highways

Because the Kentucky Revised Statutes require that bicyclists obey all traffic control devices applicable to motorists, the existing traffic control system including signs, markings, and signals is an important consideration in the location and design of bicycle routes. The existing

system of signs and markings shall be properly integrated with the system provided for bicycle operation, so that the total system is not confusing and will command the respect of both motorists and bicyclists. This may involve the relocation of some existing signs so that they are more easily viewed by the bicyclist.

The signal system for the street or highway network must be considered in the planning of bicycle routes. Routes that must cross heavily travelled arterials where grade separations are not feasible shall do so at signalized intersections. Here some modification in the signal phasing or control mechanism may be necessary to insure the safe and effective flow of bicyclists. At low-volume intersections utilizing semiactuated controllers, it may be necessary to provide special "pedestrian type" detectors for bicyclists because the motor vehicle detectors normally will not detect bicycles.

I. Bikeway Signing and Marking

Proper signing and marking installations are needed elements to insure the safe and efficient operation of all types of bicycle routes. Signs and markings are necessary to warn bicyclists of hazardous conditions or obstacles, to delineate bicycle right-of-way, to exclude undesired vehicles from the route, and to warn motorists and pedestrians of the presence of bicycle traffic. To insure uniformity and to be recognizable, the standard signs and markings shown in the Manual on Uniform Traffic Control Devices* shall be used.

Standard signs which are included in the 1971 edition of MUTCD consist of the following:

1. BIKE ROUTE (D11-1, white on green) - This sign may be used for designating either a bicycle trail, bicycle lane or shared roadway. When necessary, a supplementary sign with a directional arrow may be placed below the BIKE ROUTE sign.

2. BIKE-X-ING (W11-1, black on yellow) - This sign is used for warning motorists in advance of a point where an officially designated bike route crosses a roadway.

3. NO BICYCLES (R5-6, red over black on white), and MOTOR DRIVE CYCLES PROHIBITED (R5-10, black on white) - These are selective exclusive signs that regulate types of traffic which may or may not enter a particular roadway.

4. Any standard warning sign for bicyclists which is relevant to separate bicycle trails may be considered (STOP AHEAD, WINDING ROAD, etc.).

The following principles shall be applied in the design of signing along bicycle routes:

1. Adequate signing shall be provided at all decision points along the route. Such signing may consist of signs informing the bicyclists of upcoming directional changes and confirmation signs to insure that route direction has been properly comprehended.

2. Route or guide signs shall be provided at regular intervals so that newcomers are informed that they are travelling on an officially designated bicycle route and all bicyclists are properly advised of the route.

3. Adequate motorists warning signs shall be posted wherever a bicycle route crosses a roadway, when a bicycle route begins or ends, or at any other points where large numbers of bicycles may be encountered, as indicated in the MUTCD.

4. Warning signs informing bicyclists of potential hazards shall be positioned along all types of bicycle trails not less than 100 feet in advance of the hazardous condition.

*Manual on Uniform Traffic Control Devices for streets and Highways, National Joint Committee on Uniform Traffic Control Devices, U. S. Government Printing Office, 1971.

VII. MAINTENANCE

The Department will assume routine maintenance of those bikeways occupying DOT right-of-way except where the city, county or some other agency has assumed maintenance of the highway or where special considerations merit some other arrangement. If any right-of-way containing a bikeway is returned to the city or county, the responsibility for the maintenance of this trail, lane, or shared roadway is also included in the transfer. In cities, with which the Department has a Maintenance and Traffic Contract, the Department will assume routine maintenance for only the highway pavement, which at times may include a bicycle lane or function as a shared roadway. Any bike trail on right-of-way not owned by the Department must be maintained by a local government body or agency.

VIII. FUNDING

In the Federal-Aid Highway Act of 1973 Congress authorized Federal support for bikeways. Some state monies are also available as indicated below.

A. Planning

Section 112 of the 1973 Federal-Aid Highway Act apportioned planning funds (PL Funds) to be made available by the State to the metropolitan planning organizations for comprehensive transportation planning. These funds may be used for bikeway planning provided they are made part of the urbanized area's unified work program and approved by the appropriate Transportation Policy Committee. These funds are available on an 80% Federal, 10% State and 10% local funding basis.

Another source of funds for bikeway planning is the Department's Regional Transportation Planning Program. These funds are available on a 70% State - 30% local matching basis when it has been shown that there is sufficient justification for a bikeway planning study.

B. Design

Funds for the design of bike facilities may come from the same funding sources and have the same apportionment ratio as construction funds.

C. Construction

The Federal-Aid Highway Act of 1973 allotted $120 million of the Federal-Aid Highway Construction Funds for bikeways over the next three years--$40 million per year nationwide with a $2 million ceiling per state. The provisions of the Act permit, at the discretion of the states, the use of Federal-Aid Highway funds, other than Interstate, for construction of independent bicycle facilities. These funds are available on 70% Federal-30% local matching basis.

The Kentucky Department of Transportation will share in the cost of constructing a bicycle facility only if it accomodates bicycle traffic that would have normally used a state highway route. The Department will share on a 50-50 basis the local matching cost of such bicycle facilities which qualify for and obtain Federal bikeway funds.

Bikeways may also be constructed as incidental features of conventional highway projects and financed with the same types of Federal-Aid funds as the basic highway project, including Interstate projects. These projects are not subject to the above funding limitations for independent bikeway or walkway projects. Funds for these bikeways are available on the same matching basis as the highway projects.

The construction of bicycle facilities may be approved as either incidental features of highway construction projects for motor vehicular traffic or as independent bikeway construction projects provided all the following conditions are satisfied:

1. The proposed facility shall meet the requirements of the Federal Highway Administration's Federal-Aid Highway Program Manual, Volume 6, Chapter I, Section I, Subsection I.

2. The facility will not impair the safety of motorists, bicyclists or pedestrians.

3. The facility will be accessible to users or will form a segment located and designed pursuant to an overall plan.

4. A public agency has formally agreed to:

   a. Operate and maintain the facility

   b. Ban all motorized vehicles other than maintenance vehicles.

5. It is reasonably expected that the facility will have sufficient use in relation to cost to justify its construction and maintenance.

IX. APPLICATION FOR PLANNING, CONSTRUCTION OR DESIGNATION OF A BIKEWAY FACILITY

If the appropriate local agency should desire assistance in planning or constructing a bicycle facility, an application should be forwarded to the Director, Division of Urban and Regional Planning, for review and comment. The Division of Urban and Regional Planning, in cooperation with local officials, shall develop a preliminary report justifying the need for a planning study or showing the feasibility of the proposed facility together with preliminary cost estimates.

The preliminary report shall be reviewed by the appropriate State and Federal personnel, and a decision made regarding State and Federal participation in the proposal. The city and/or county shall be notified when such a decision is made.

If the decision is made to proceed with the project, programming and scheduling steps will be taken in accordance with man power and fund availability to bring the project to completion.

Should a local jurisdiction desire to implement a bicycle lane or shared roadway on a state maintained route, at their expense, they must have written approval from the Department. All requests should be submitted in writing through the appropriate District Engineer. No approval shall be granted by the District without receiving prior written approval from the Central Office Division of Traffic. The route must be appropriately signed and marked and any unsafe features must be corrected.

X. REFERENCES

The Planning and Design criteria presented herein represent a practical adoption of those criteria promuglated in the AASHTO "Guide for Bicycle Routes" dated November, 1973.

For additional guidelines relating to the signing of bicycle routes, refer to:

"Manual on Uniform Traffic Control Devices for Streets and Highways," developed by AASHTO and the National Joint Committee on uniform traffic control devices, adopted by the Federal Highway Administration, 1971.

For additional information relating to planning and designing bikeways see:

"Bikeway Planning Criteria and Guidelines", prepared by the Institute of Transportation and Traffic Engineering, University of California, Los Angeles, April 1972. "Bikeway Design", prepared by Oregon State Highway Division, Salem, Oregon, January, 1974.

For information on structure loadings see:

"AASTO Standard Specifications for Highway Bridges".