DATE: June 13, 1991

SUBJECT: Resolution No. 91.32 adopting the Tempe Bicycle Plan, June 1991 revisions.

PREPARED BY: Mary O'Connor, Transportation Planner

REVIEWED BY: Jim Jones, Public Works Director

COMMENTS:

Approve Resolution No. 91.32 which provides for formal adoption of the Tempe Bicycle Plan, June 1991 revisions.

HISTORY & FACTS:

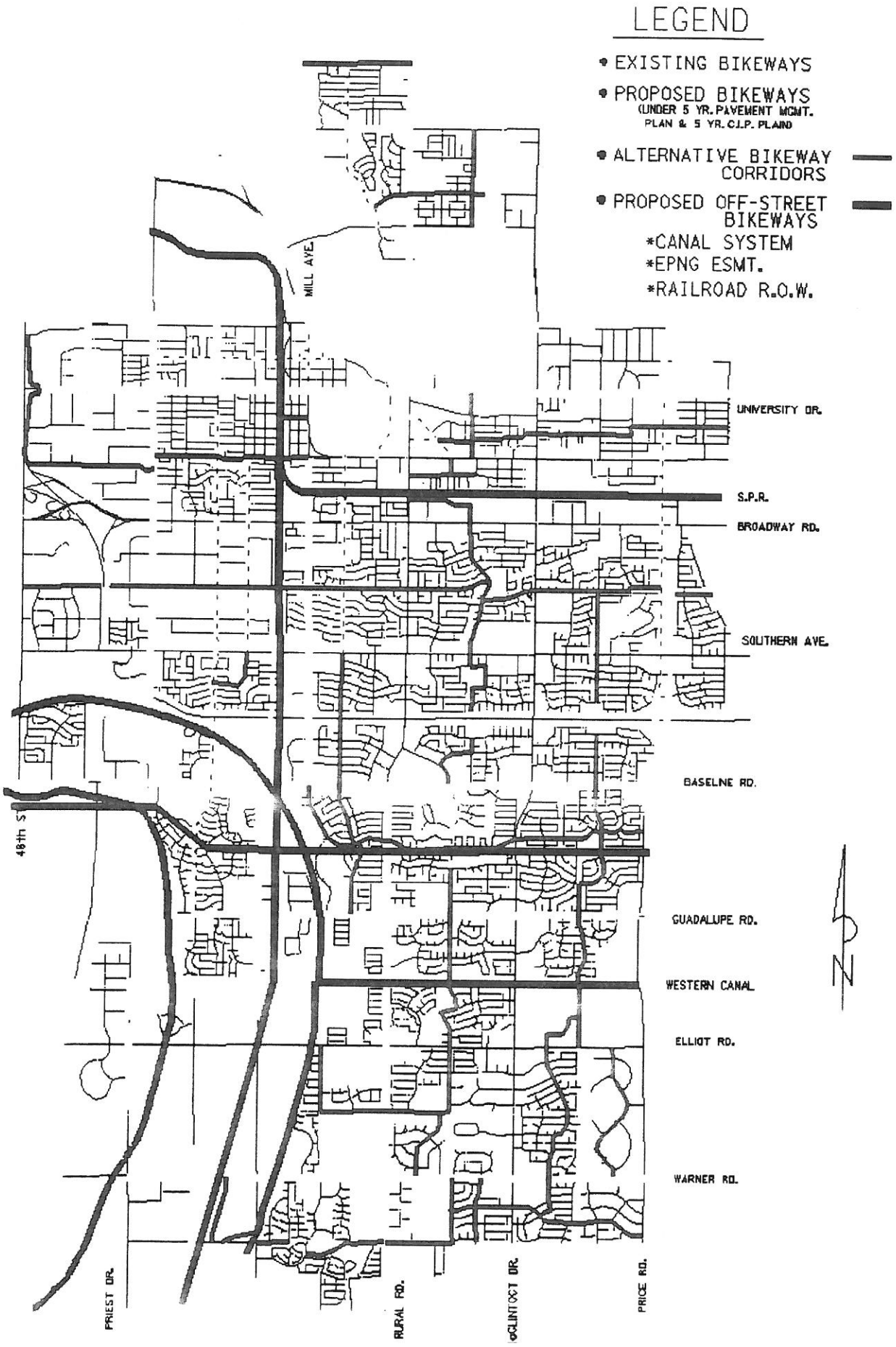
The first bicycle plan for the City of Tempe was the Tempe Bikeway Plan adopted by the City Council in September 1973. The 1973 Bikeway Plan was prepared after extensive study by the Planning (now Community Development) Department, including a questionnaire, review of other cities' policies, bicycle accident statistics, funding alternatives, and an examination of design requirements. This comprehensive plan was the first such plan for the metropolitan area and was nationally recognized, particularly for the innovative "comic book" format of the document which became a supplement to the Tempe General Plan.

One of the recommendations of the original Bikeway Plan was the formation of a citizen bicycle task force to encourage citizen participation in planning and promoting bicycle safety education and public awareness programs. The task force became the Tempe Bicycle Advisory Committee, established by ordinance in 1986 as a subcommittee of the Parks and Recreation Board. Past accomplishments of the Committee and staff have been the development of the Tempe Bikeway System Map, revisions to the Tempe City Code, annual safety campaigns, participation in the Governor's Arizona Bicycle Task Force and Maricopa County Bicycle Committee, and a 1988-89 study to aid in the update of the 1973 Bikeway Plan.

From November 1990 to the present, the Bicycle Advisory Committee has prepared a draft update of the 1973 Bikeway Plan. This draft plan has been presented for review by various affected committees/commissions (Parks and Recreation Board, Transportation Committee, Rio Salado Advisory Commission, and Planning and Zoning Commission). Public presentations on the plan, if adopted by the City Council this month, will take place in the fall to coincide with the publication of a revised Tempe Bikeway System Map and the kickoff of the annual bicycle safety campaign. Staff is also recommending including the revised Bicycle Plan in the current General Plan update.

The 1991 Bicycle Plan goals do not significantly differ from the original Tempe Bikeway Plan. The major changes are an increased emphasis on cycling as a form of transportation and deletion of the eight-foot sidewalk as the prototype for bicycle facilities. The committee

CITY OF TEMPE
BIKEWAYS



is also proposing a set of recommended facilities guidelines, an annual work program and report to the Council on committee accomplishments, and ordinance changes to reflect the current staffing/organization structure for the committee. The committee and staff recommended that the current ordinance be changed to reflect their current staffing relationship with Public Works and to eliminate the subcommittee relationship with the Parks and Recreation Board. The council action to set a public hearing date for the proposed ordinance change will go to the City Council for adoption along with the resolution for adoption of the revised Bicycle Plan. The Parks and Recreation Board recommended approval of this change at their May 14, 1991 meeting.

FISCAL NOTE:

The plan emphasizes providing new bicycle facilities in the most cost-effective manner, through incorporating those facilities in the design of private development and in the City's own standard street design. In the next five years, new on-street bicycle facilities will be provided wherever possible, primarily through adding edgeline striping in resurfacing projects included in the five year pavement management program. Additional facilities, such as canal bank and railroad rights of way and crossings, will also be proposed as part of subsequent years' CIP budgets. Current staffing and volunteer efforts by the committee determine the level of education and safety programs; the committee will report on its progress to the City Manager and City Council annually in a review of Committee accomplishments. Funds were requested in the FY 1991-92 budget for printing of the Tempe Bikeway System Map.

RECOMMENDATION:

It is recommended that the Mayor and City Council adopt Resolution 91.32, which will allow the City to adopt the Tempe Bicycle Plan, June 1991 revisions.

Jim Jones

DATE: June 13, 1991

SUBJECT: Set a public hearing on ordinance changes recommended by the Tempe Bicycle Advisory Committee to Tempe City Code, Article VI., Section 7-61, regarding organization structure of the committee.

PREPARED BY: Mary O'Connor, Transportation Planner

REVIEWED BY: Jim Jones, Public Works Director

COMMENTS:

Set a public hearing for July 25, 1991 on ordinance changes recommended by the Tempe Bicycle Advisory Committee to Tempe City Code, Article VI., Section 7-61, regarding organization structure of the committee.

HISTORY & FACTS:

When the Tempe Bicycle Advisory Committee was established in 1986, it was as a subcommittee of the Parks and Recreation Board, with staffing provided by the Community Services Department. This relationship is identified in current Tempe City Code under Chapter 7, Article VI., Section 7-61., which defines the organization structure for the committee. Section 7-65 (b) also identifies the Community Services Director or his authorized representative as secretary to the committee.

In May 1990, staffing of the Bicycle Advisory Committee was turned over to the Public Works Department. This staffing change was a result of earlier Council direction in November 1989 to create a Transportation Planner position in Public Works and to include bicycle issues within the scope of its responsibility. Since their September 1990 meeting, all administrative support to the Bicycle Advisory Committee has been provided by Public Works. Various other City departments (Community Services, Community Development, Police, City Attorney), as well as staff from ASU, RPTA and Maricopa County, also participate in committee activities.

While preparing revisions to the 1973 Tempe Bikeway Plan which are being presented to the City Council for approval via Resolution No. 91.32 dated June 13, 1991, the committee and staff also prepared recommended revisions to the ordinance. The recommendations include:

1) replacing references to the parks and recreation board with "city departments and other city boards and commissions" to allow the committee to make recommendations to other city boards and commissions and staff departments which have responsibilities outside of recreation (such as transportation, planning and zoning, Rio Salado).

2) deleting the requirement that the ASU student representative to the committee be appointed by Associated Students.

3) replacing all references to the community services department as the designated staff representative with the public works department.

4) providing that the committee prepare and submit an annual report to the city manager and city council.

FISCAL NOTE:

Administrative support to the committee has been provided by Public Works since September 1990. This recommended ordinance change has no fiscal impact.

RECOMMENDATION:

It is recommended that a public hearing be set for July 25, 1991 on the ordinance changes proposed by the Tempe Bicycle Advisory Committee.

Jim Jones

TEMPE BICYCLE ADVISORY COMMITTEE
BICYCLE PLAN WORK SESSION
THURSDAY, APRIL 4, 1991

Action Items (all to be completed by May 1991 mtg)	Who Does?	Status
Update inventory of existing facilities, lane widths, and striping plans; field check any streets identified for which data is not available	Traffic	Complete except for 4/4 disc.
Develop "achievable" five year facilities plan:		
- Review five year pavement management program to determine which facilities can be added through resurfacing/shrinking of inside lanes; also review CIP and other planned construction	Traffic, Pub. Works	Complete; see list attached
- Determine which corridors/proposed facilities require cooperation with other groups and set Committee policy for prioritizing these corridors and resolving. Examples: discussions with ASU re campus access/ROW (e.g., Spence); agreement with neighborhood associations for removal of on-street parking; railroad ROW; Rio Salado Advisory Commission concurrence with Rio Salado facilities	Committee, staff	For disc. 4/4/91
- Determine policy on whether to sign neighborhood streets as bicycle routes when parking is not removed and no additional space is added	Committee, staff	For disc. 4/4/91
- Prepare map of existing and proposed facilities; include arterial, collector and neighborhood routes plus off street facilities (canal banks, etc.)	Staff with Committee review	Draft for review and comment 4/4/91
Develop "desirable" long range facilities plan (20 year planning horizon):		
- Identify desirable corridors which cannot be achieved in five year resurfacing or construction programs but may occur longer term as conditions change	Committee, staff	For disc. 4/4/91
- Identify regional corridors (connections to other Valley communities) for input to MAG Regional Bicycle Plan	Committee, staff	For disc. 4/4/91
Prepare map of long-range desirable corridors and regional connections	Staff with Committee review	For disc. 4/4/91

NOTE: The two maps discussed above will be part of the adopted bicycle plan. Information regarding existing facilities will also be used to prepare the revised Tempe Bikeway System Map for printing after July 1991. Staff recommends that a common logo graphic (designed by City of Tempe Community Relations staff) be used for the Bicycle Plan, Bikeway System Map, and bicycle safety campaigns. Graphic will be available for review in May.

Streets identified for additional bicycle facilities through resurfacing, shrinking inside lanes, planned construction, or signage (collector/neighborhood streets):

Arterial streets (See Note 1)

48th Street
52nd Street
Priest Dr
Mill Avenue Bridge
Rio Salado Parkway (See Note 2)
University Dr
Baseline
Guadalupe Rd
Warner Rd

Collector/neighborhood streets (See Note 3)

McKellips
Grove Parkway
Hardy Dr
McAllister/Stadium Dr
Kyrene Rd
Weber Dr
River Parkway

Note 1: Additional arterial streets were previously identified by the committee as desirable for adding new bicycle facilities. Staff review of the lane widths of these streets indicated that lane width would not meet the minimum standards for wide outside curb lanes (with or without edgeline stripes). Addition of bicycle facilities along these streets is not practicable in the short term because it would require extensive right of way acquisition, major street widening, or removal of recently-added improvements. The streets are Washington, Mill, Apache, Broadway, Southern, Elliot, Rural and McClintock. It is recommended that these be shown as desired corridors in the long-range (20 year) time frame.

Note 2: Added width on unbuilt sections of Rio Salado Parkway to achieve more than a 14' wide outside curb lane requires concurrence of Rio Salado Advisory Commission.

Note 3: The following additional collector/residential streets currently have on-street parking allowed: Continental, Thirteenth Street (west of Hardy), Fourteenth Street, Knox, Dartmouth/Lakeshore/Cornell, Alameda, Spence, Country Club Way, Lemon (east of Terrace), and Terrace (south of Apache).

Note 4: Recreational/off street corridors which may also be shown on the short term map because they do not involve right of way acquisition are: Rio Salado recreational paths, connections to Indian Bend Wash system, canal bank paths (Western and Tempe), and the El Paso Natural Gas easement. Southern Pacific Railroad right-of-way may also be shown if the committee desires because it would involve a negotiated agreement for use rather than acquisition cost.

CITY OF TEMPE

MEMORANDUM

TO: Jim Jones, Director of Public Works
Stephen Mirretti, Chief Magistrate
Police Department, Traffic Bureau
Terry Pandel, Safety Officer
Bob Harness, Claims Officer
Mary O'Connor, Transportation Planner

FROM: Harvey Friedson, Traffic Engineer

SUBJECT: 1989 Bicycle & Pedestrian Accident Study

DATE: May 20, 1991

Transmitted herewith for your information is a copy of the 1989 Bicycle and Pedestrian Accident Study conducted for Tempe.

H. Friedson
Harvey Friedson

HF/DW:cyg

Enclosure

TRAFFIC INVESTIGATION

1989

BICYCLE AND PEDESTRIAN

ACCIDENTS

PREPARED BY

DAVID WALKER

SENIOR TRAFFIC ENGINEERING TECHNICIAN

CITY OF TEMPE
PUBLIC WORKS DEPARTMENT
TRAFFIC ENGINEERING DIVISION
MAY 1991

Subject and Location:

This is a traffic engineering study conducted to analyze all bicycle and pedestrian accidents which occurred within the City of Tempe during the calendar year 1989. Bicycle and pedestrian accidents which may have occurred on the Superstition (S. R. 360) and Maricopa - Pima (I-10) Freeways or on the Arizona State University campus are not included in this report. There were 247 bicycle accidents and 52 pedestrian accidents in 1989. A comparison of the number of bicycle and pedestrian accidents in 1989 to those of previous years reveals the percentage of pedestrian accidents to the total number of traffic accidents within the City has dropped to the same level as 1985, which was 0.9%. The percentage of bicycle accidents has decreased significantly over the past three years (see Table I).

TABLE I

YEAR	NO. OF BICYCLE ACCIDENTS	% OF TOTAL ACCIDENTS	NO. PEDESTRIAN ACCIDENTS	% OF TOTAL ACCIDENTS	TOTAL ACCIDENTS
1986	313	5.8	52	1.0	5,419
1987	332	5.7	74	1.3	5,817
1988	254	4.4	80	1.4	5,834
1989	247	4.3	52	0.9	5,693

Bicycle and pedestrian accident reports were reviewed, evaluated, and compiled as to street classification, severity, month of occurrence, time of day and day of week of occurrence, probable fault, and probable cause.

Street Classification:

One hundred and sixty-seven of the 247 bicycle accidents (68%) and 26 of the 52 pedestrian accidents (50%) occurred at intersections. The remaining 32 per cent of the bicycle accidents and 50 per cent of the pedestrian accidents occurred at mid-block locations.

A. Intersection Accidents:

There were 142 bicycle accidents and 23 pedestrian accidents occurring at an intersection with an arterial street. The highest concentration of bicycle accidents with 59 occurred at the intersections of both an arterial and a collector street. The highest concentration of pedestrian accidents with 9 occurred at the intersections of an arterial and an arterial street. (See Table II.)

TABLE II

INTERSECTION TYPE	BICYCLE		PEDESTRIAN	
	NO.	%	NO.	%
ARTERIAL - ARTERIAL	37	22	9	35
ARTERIAL - COLLECTOR	59	35	8	30
ARTERIAL - LOCAL	46	28	6	23
COLLECTOR - COLLECTOR	9	5		
COLLECTOR - LOCAL	11	7	2	8
LOCAL - LOCAL	5	3	1	4
TOTAL:	167	100%	26	100%

B. Mid-Block Locations:

Sixty-five of the 80 bicycle accidents and 21 of the 26 pedestrian accidents occurring at mid-block locations occurred on arterial streets (see Table III).

TABLE III

MID-BLOCK LOCATIONS	BICYCLE		PEDESTRIAN	
	No.	%	No.	%
Arterial	65	81	21	81
Collector	7	9	3	11
Local	8	10	2	8
TOTAL:	80	100%	26	100%

Two hundred and seven bicycle accidents (84%) and 44 pedestrian accidents (85%) occurred at an intersection with an arterial street or mid-block on an arterial street. The general area of the Arizona State University campus and the downtown area once again experienced the highest concentration of both bicycle and pedestrian accidents. Bicycle accidents also showed some concentrations in the area of high traffic volume generators (see Attachments 'A' and 'B').

The intersection of Apache Boulevard at McClintock Drive experienced the greatest concentration of bicycle accidents with 7 occurring. Pedestrian accidents showed no concentration at any one location, but were scattered throughout the city.

Ninety-five per cent of the bicycle accidents and ninety-six per cent of the pedestrian accidents resulted in death or bodily injury. Severity of accidents involving bicyclists and pedestrians is shown in Table IV.

TABLE IV

SEVERITY	BICYCLE		PEDESTRIAN	
	No.	%	No.	%
Fatal	2	1	3	6
Injured	233	94	47	90
Uninjured	12	5	2	4

Month of Occurrence:

Bicycle accidents were concentrated in the early Spring and Fall while pedestrian accidents were concentrated in the late Fall and early Winter (see Table V and VI).

TABLE V

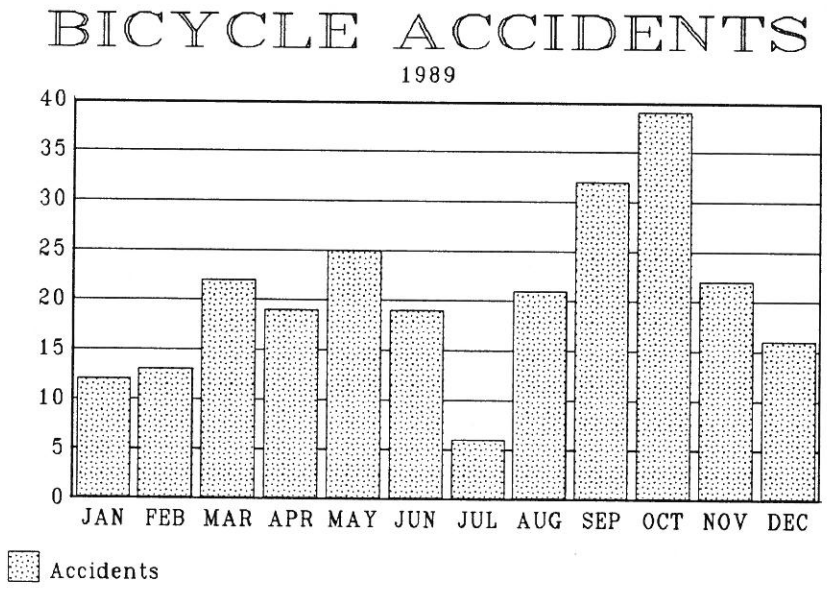
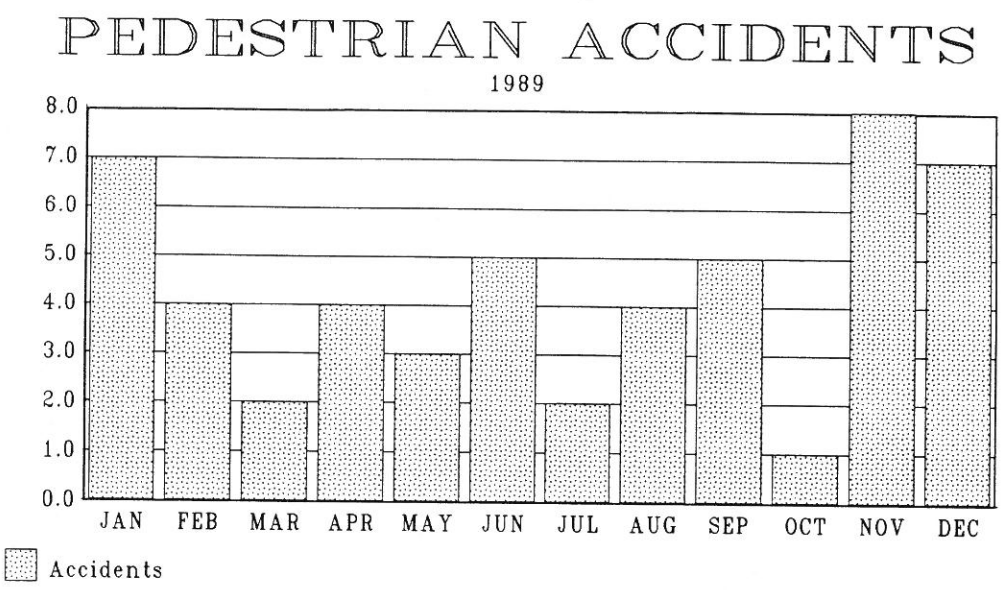


TABLE VI



Time of Day and Day of Week:

The time of occurrence for the bicycle or pedestrian accidents has be rounded to the nearest hour. This practice was used to maintain consistency with the previous summaries prepared over the past 15 years.

Bicycle accidents were concentrated primarily in the afternoon hours with 4:30 p.m. to 5:30 p.m. being the most critical hour with 34 accidents occurring. Tuesday was the most critical day for bicycle accidents with 51 occurring (see Table VII).

Pedestrian accidents were scattered throughout the day with 9:30 p.m. to 10:30 p.m. being the most critical hour with 6 accidents occurring. Saturday was the most critical day for pedestrian accidents with 12 occurring (see Table VIII).

Probable Fault:

The probable fault lies with the bicyclist in 67 per cent of the bicycle accidents and lies with the pedestrian in 62 per cent of the pedestrian accidents (see Table IX).

TABLE VII

TIME OF DAY	DAY OF WEEK							TOTAL
	MON.	TUE.	WED.	THU.	FRI.	SAT.	SUN.	
MIDNIGHT								
1:00		1			1	3	1	6
2:00								
3:00					1			1
4:00								
5:00				1				1
6:00			1	1		1		3
7:00	1	4	1	2	1		1	10
8:00	2	7	4	5	2			20
9:00	2	2		3	4			11
10:00	1	1	2	3	2			9
11:00	1	1	1	1	1			5
NOON	1	2	1	2	2	5		13
1:00	1	4	2	4	2	1		14
2:00	1	2		1	3	5	2	14
3:00	4	3	6	2	2	2		19
4:00	5	6	2	1	5	1	2	22
5:00	5	4	9	8	4	3	1	34
6:00	4	7	4	4	1	3	2	25
7:00	1	2	4	1	2	3		13
8:00	1		1		3	1		6
9:00	1	5	1		3	1		11
10:00	1		1	1		1	1	5
11:00				2	3			5
TOTAL	32	51	40	42	42	30	10	247

NUMBER OF BICYCLE ACCIDENTS

TABLE VIII

TIME OF DAY	DAY OF WEEK							TOTAL
	MON.	TUE.	WED.	THU.	FRI.	SAT.	SUN.	
MIDNIGHT					1	1		2
1:00						2	1	3
2:00						1	1	2
3:00								
4:00								
5:00								
6:00								
7:00		1	1	1				3
8:00		1						1
9:00					1			1
10:00			1			1		2
11:00				1		1		2
NOON	1		1		2	1		5
1:00					1		1	2
2:00		2						2
3:00			1	1			1	3
4:00			2	3				5
5:00	1	1					1	3
6:00							1	1
7:00			1					1
8:00					1	1	1	3
9:00	2				1			3
10:00	1		1		1	3		6
11:00						1	1	2
TOTAL	5	5	8	6	8	12	8	52

NUMBER OF PEDESTRIAN ACCIDENTS

TABLE IX*

PROBABLE FAULT	BICYCLE ACCIDENT	PEDESTRIAN ACCIDENT
Motorist Appeared To Be At Fault	77	17
Bicyclist or Pedestrian Appeared To Be At Fault	166	32

*Table IX excludes four bicycle accidents and three pedestrian accidents where it is unknown who was at fault.

Probable Cause:

All bicycle and pedestrian accident reports were reviewed and analyzed to determine the probable causes on the part of the motorist, bicyclist, and pedestrian, and the findings are summarized in Table X.

There were 99 bicycle accidents in which bicyclists were riding against the flow of vehicular traffic. These accidents accounted for 40 per cent of the total bicycle - vehicle accidents and 60 per cent of the accidents where the bicyclist was the probable cause of the accident. Riding against traffic was involved in ten other accidents, but was not the primary cause. A breakdown of these accidents reveals that bicyclists riding against the flow of vehicular traffic and colliding with a vehicle which was exiting a driveway resulted in 39 accidents while bicyclists riding against traffic and colliding with a vehicle at a cross street resulted in 60 accidents. Bicyclists riding against traffic on the sidewalk accounted for 90 accidents, see Table XI.

A concentration of bicycle accidents again occurred on the one mile segment of Rural Road from University Drive to Broadway Road, which accounted for 16 bicycle accidents. An analysis of the accidents showed that bicyclists were at fault in 11 of the accidents; riding against traffic was noted as the probable cause in 8 of those accidents.

The second highest location was the one mile segment of Mill Avenue from 13th Street to 1st Street which accounted for 14 bicycle accidents. The bicyclist was at fault in eight of those accidents and five involved bicyclists riding against traffic. The third highest location was the one mile segment of University Drive from Farmer Avenue to Rural Road which accounted for 11 bicycle accidents. The bicyclist was at fault in nine of those accidents and four involved bicyclists riding against traffic.

Fifty percent of the bicycle accidents which occurred in Tempe happened within a one mile radius of ASU.

A check of the Police Department records showed that five bicycle/bicycle and one bicycle/pedestrian collision occurred. All involved injuries which resulted in the Police being notified. Three of the bicycle/bicycle collisions resulted from a bicyclist who was

riding against traffic colliding head-on with a bicyclist who was riding with traffic. One collision occurred in the bike lane on the street and the other two occurred on the sidewalk. The fourth collision involved two bicyclists riding with traffic on the street when one bicyclist over took the other and ran into the back of the other bicycle. The fifth incident occurred on the College Avenue/SR 360 pedestrian overpass when two bicyclists riding on the overpass collided head-on. The overpass is posted for no bicycle riding or skating allowed.

The one bicycle/pedestrian accident occurred when a five year old pedestrian, crossing at an unmarked crosswalk was struck by a bicycle which was being ridden with traffic in the curb lane. The pedestrian failed to yield to the bicycle which was too close to stop.

It is unknown how many of these types of accidents occur because, unless they result in serious injury, the Police are not notified. The greatest potential for these types of collisions is on the ASU campus, which is outside the City Of Tempe jurisdiction and therefore are never reported to any of the city agencies. Additionally, under state and federal guide lines, unless a motorized vehicle is involved in the collision the incident is not considered a traffic accident and is not included in the accident data base.

An analysis of the bicycle accidents by age and sex found that 71% of the accidents involved male bicyclists and 29% female bicyclists. The group composed of males age 15 to 34 was involved in 50% of the bicycle accidents. See Attachment C.

TABLE X

PROBABLE CAUSE	BICYCLE - AUTO ACCIDENT		PEDESTRIAN - AUTO ACCIDENT	
	NO.	%	NO.	%
FAILURE TO YIELD:				
MOTORIST	43	18	14	27
BICYCLIST OR PEDESTRIAN	25	10	16	31
BICYCLIST RIDING AGAINST TRAFFIC FLOW	99	40		
DISREGARDED SIGNAL OR STOP SIGN:				
MOTORISTS	5	2	1	2
BICYCLIST OR PEDESTRIAN	17	7	3	6
PEDESTRIAN FAILURE TO USE CROSSWALK			11	21
IMPROPER PASSING OR TURNING:				
MOTORIST	19	8	1	2
BICYCLIST OR PEDESTRIAN	10	4	0	0
NO LIGHT ON BICYCLE AT NIGHT	10	4		
FOLLOWING TOO CLOSE OR SPEED:				
MOTORIST	5	2	1	2
BICYCLIST OR PEDESTRIAN	1	0	0	0
MISCELLANEOUS OR UNKNOWN	13	5	5	9
TOTAL:	247	100%	52	100%

TABLE XI

LOCATION	BICYCLE RIDING AGAINST TRAFFIC			
	ON STREET	ON SIDEWALK	UNKNOWN	TOTAL
NON-SIGNALIZED INTERSECTION	2	24	0	26
SIGNALIZED INTERSECTION	3	29	2	34
DRIVEWAY	2	37	0	39
TOTAL	7	90	2	99

Pedestrian accidents were not concentrated at any one intersection, but it was noted that they did seem to concentrate within or near crosswalks where 23 (44%) occurred (see Table XII). Right-turn-on-red accidents accounted for six accidents, up considerably from yearly average of two in the previous years. Motorists were at fault in five of the right-turn-on-red pedestrian accidents.

An analysis of the pedestrian accidents by age and sex found that 74% of the accidents involved male pedestrians and 26% female pedestrians. The group composed of males age 25 to 44 was involved in 25% of the pedestrian accidents. See Attachment C.

During the review of the accident reports it was noticed that if the bicyclist or pedestrian gave a statement to the investigating officer, they generally indicated that they saw the vehicle but that bicycles or pedestrians always have the right of way. They then rode or walked in front of the vehicle because they had the right to.

TABLE XII

LOCATION		AT FAULT		
		PEDESTRIAN	MOTORIST	TOTAL
MARKED CROSSWALK	SIGNALIZED	6	11	17
	NONSIGNALIZED	0	3	3
WITHIN 100' OF MARKED CROSSWALK	SIGNALIZED	1	0	1
	NONSIGNALIZED	2	0	2
TOTAL		9	14	23

Summary:

1. The percentage of pedestrian accidents remained relatively constant while bicycle accidents decreased significantly when compared to total accidents for the past 4 years.

2. Eighty-four per cent of the bicycle accidents and 85 per cent of the pedestrian accidents occurred at an arterial intersection or on an arterial street.

3. Bicycle and pedestrian accidents appear to have their greatest concentrations in the general area of the Arizona State University campus, the downtown area, and in the area of some high traffic generators (neighborhood shopping centers and schools).

4. Ninety-five per cent of all bicycle accidents and 96 per cent of all pedestrian accidents resulted in personal injury or death.

5. Bicycle and pedestrian accidents were concentrated primarily in the early Spring and Fall while pedestrian accidents were concentrated in the late Fall and early Winter.

6. Bicycle accidents were concentrated primarily in the afternoon hours with 4:30 p.m. to 5:30 p.m. being the most critical hour. The most critical day of the week for bicycle accidents was Tuesday.

7. Pedestrian accidents were scattered throughout the day with 9:30 p.m. to 10:30 p.m. being the most critical hour. The most critical day of the week for pedestrian accidents was Saturday.

8. The probable fault in 62 per cent of the bicycle accidents lies with the bicyclist and lies with the pedestrian in 62 per cent of the pedestrian accidents.

9. Riding against the traffic flow by bicyclists was the greatest probable cause in bicycle accidents. Those riding on the sidewalk accounted for 90 of the 99 bicycle accidents in this category.

10. Failure to yield to oncoming traffic by the pedestrian was the single most probable causes for pedestrian accidents.

11. Males age 15 to 34 account for 50% of the bicycle accidents and males age 25 to 44 account for 25% of the pedestrian accidents.

12. Fifty percent of the bicycle accidents which occurred in Tempe happen within a one mile radius of ASU.

RECOMMENDATIONS:

1. That consideration be given to working through the Mayor's Safety Committee to help create a city wide publicity campaign on bicycle and pedestrian safety.

2. That consideration be given to requesting the City's liaisons on the Mayor's Bicycle Committee to work with the ASU representatives on the committee to

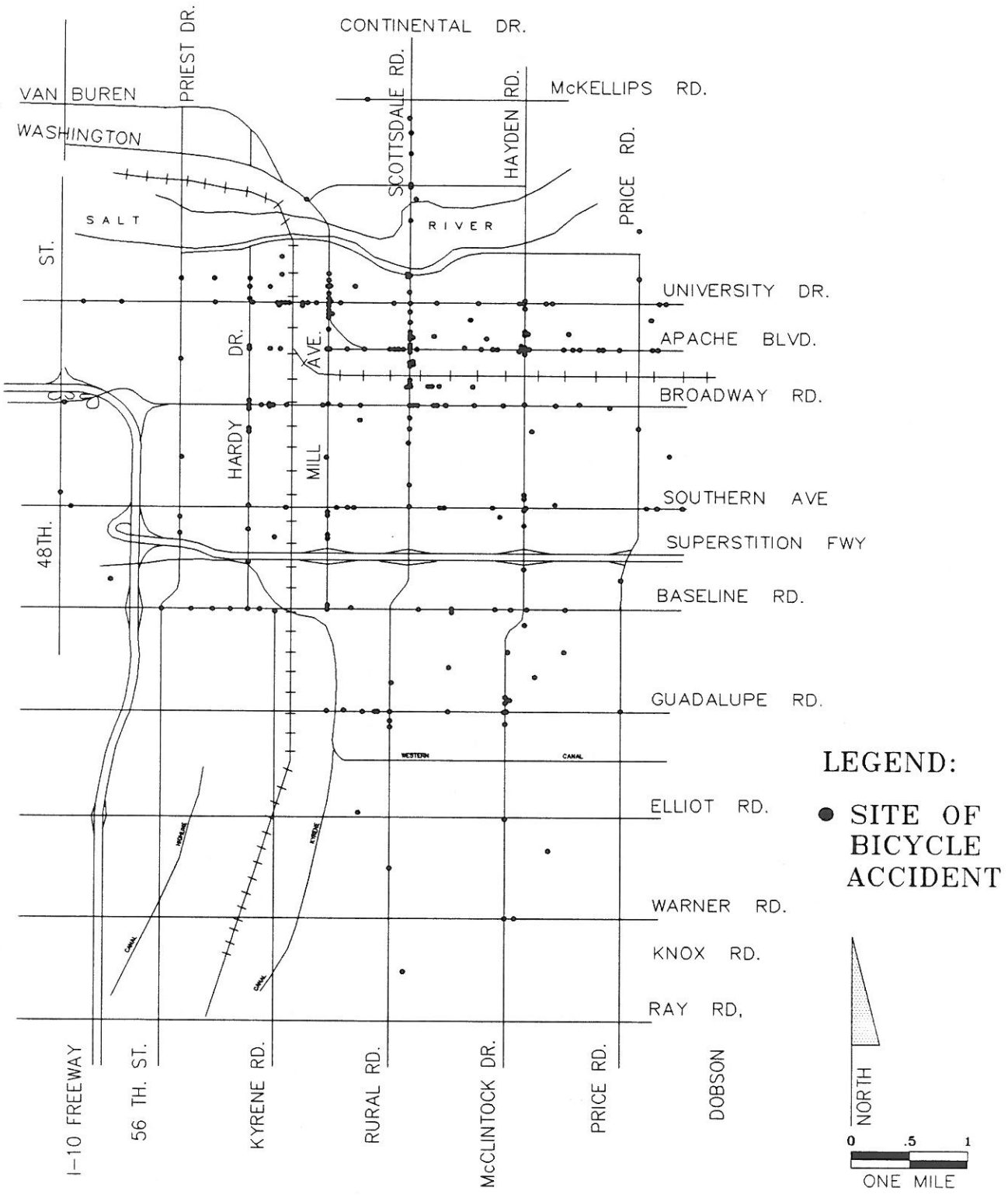
create a program concerning bicycle and pedestrian safety designed for the ASU population.

3. That consideration be given to distributing the bicycle and pedestrian accident studies to all the high schools within the city so the information contained in this report could be included in their Driver's Ed. classes. Presently only Mr. Barnett, who teaches Driver's Ed. at McClintock High School, does this.

4. That consideration be given to formation of a committee or discussion group representing Courts, Police Department's Public Information Office and Traffic Bureau, and Traffic Engineering to discuss problems with interpretation, enforcement, and in-service training programs concerning bicycle and pedestrian rights and duties. An education and enforcement program can only be effective when all these groups work together to provide a consistent application and interpretation of the rules.

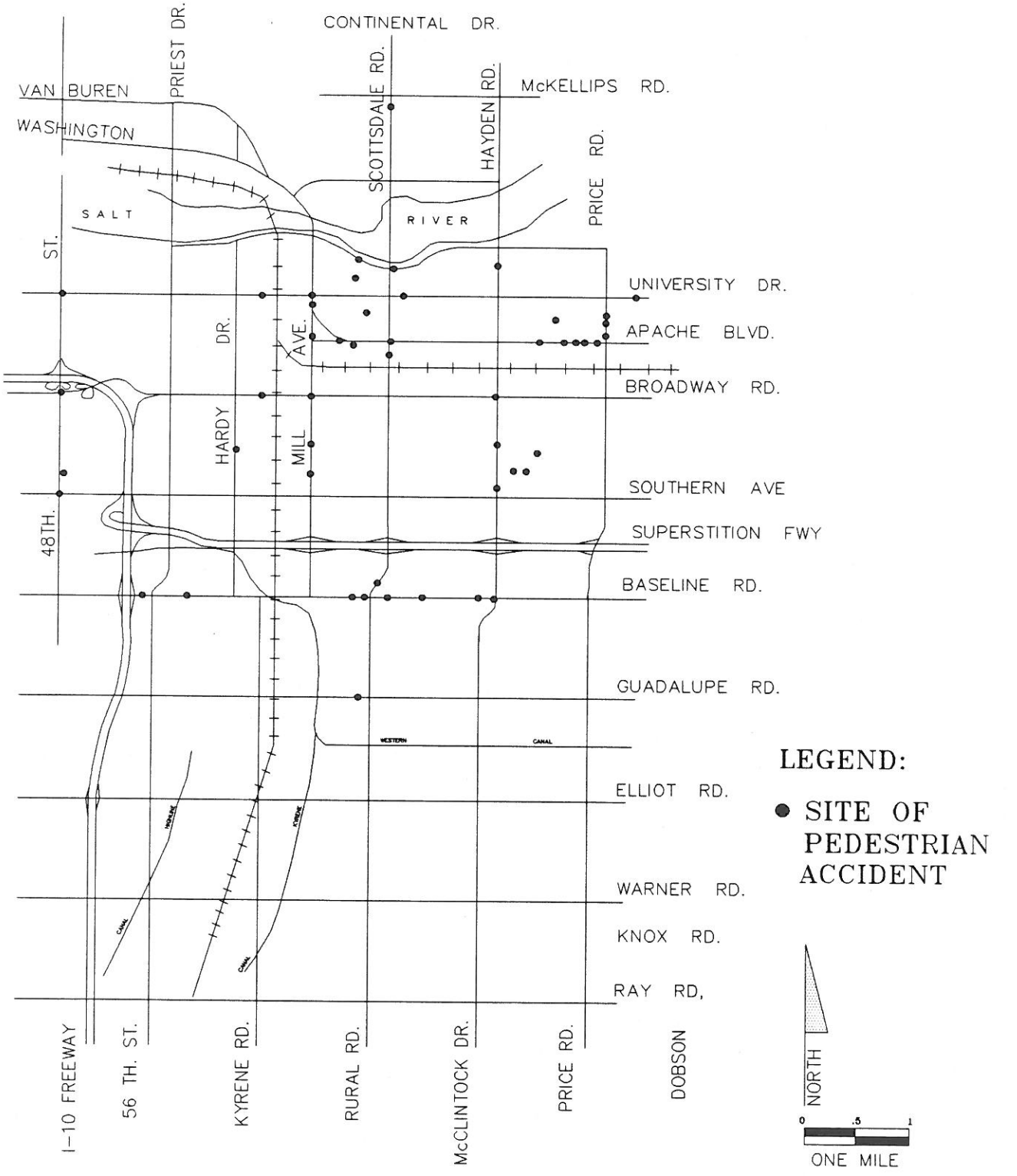
5. That consideration be given by the Police Department to continue its selective enforcement program for bicycles riding against traffic.

1989 BICYCLE ACCIDENT LOCATIONS



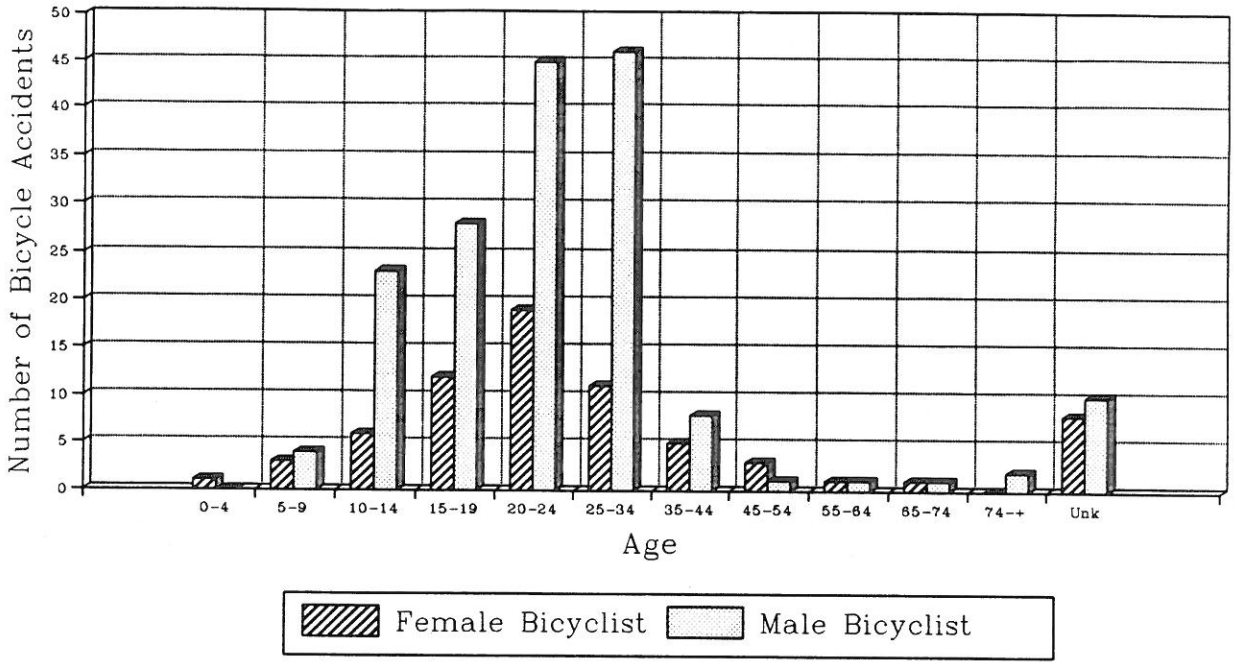
ATTACHMENT A

1989 PEDESTRIAN ACCIDENT LOCATIONS

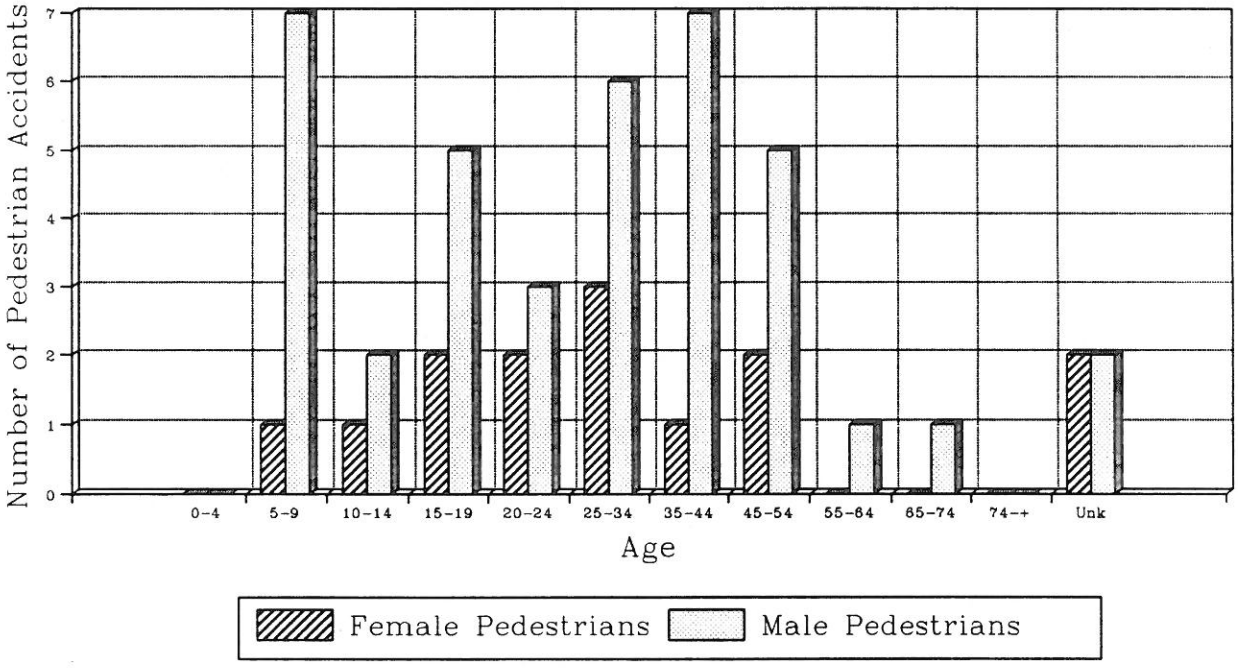


ATTACHMENT B

1989 Bicycle Accidents
Sorted by Age and Sex



1989 Pedestrian Accidents
Sorted by Age and Sex



ATTACHMENT C

ATTACHMENT D

BICYCLE / PEDESTRIAN ACCIDENTS COMPARED BY AGE

AGE	PEDESTRIAN ACCIDENTS						BICYCLE ACCIDENTS						CITY WIDE POPULATION					
	ALL PEDESTRIAN ACCIDENTS		MALE		FEMALE		ALL BICYCLE ACCIDENTS		MALE		FEMALE		ALL		MALE		FEMALE	
	Number of Accidents	*% of All Pedestrian Accidents*	*Number of Accidents*	*% of All Pedestrian Accidents*	*Number of Accidents*	*% of All Pedestrian Accidents*	*Number of Accidents*	*% of All Bicycle Accidents*	*Number of Accidents*	*% of All Bicycle Accidents*	*Number of Accidents*	*% of All Bicycle Accidents*	*Number of Persons in Age Group City Wide*	*% of Total Population City Wide*	*Number of Males in Age Group City Wide*	*% of Total Population City Wide*	*Number of Females in Age Group City Wide*	*% of Total Population City Wide*
0-4	0	0.00	0	0.00	0	0.00	1	0.42	0	0.00	1	0.42	8,089	6.10	4,053	3.05	4,036	3.04
5-9	8	15.09	7	13.21	1	1.89	7	2.93	4	1.67	3	1.26	7,555	5.69	3,869	2.92	3,686	2.78
10-14	3	5.66	2	3.77	1	1.89	29	12.13	23	9.62	6	2.51	7,641	5.76	3,912	2.95	3,729	2.81
15-19	7	13.21	5	9.43	2	3.77	40	16.74	28	11.72	12	5.02	14,307	10.78	7,279	5.49	7,028	5.30
20-24	5	9.43	3	5.66	2	3.77	64	26.78	45	18.83	19	7.95	22,799	17.18	12,397	9.34	10,402	7.84
25-34	9	16.98	6	11.32	3	5.66	57	23.85	46	19.25	11	4.60	27,664	20.85	14,915	11.24	12,749	9.61
35-44	8	15.09	7	13.21	1	1.89	13	5.44	8	3.35	5	2.09	18,605	14.02	9,377	7.07	9,228	6.96
45-54	7	13.21	5	9.43	2	3.77	4	1.67	1	0.42	3	1.26	10,868	8.19	5,493	4.14	5,375	4.05
55-64	1	1.89	1	1.89	0	0.00	2	0.84	1	0.42	1	0.42	7,582	5.71	3,792	2.86	4,060	3.06
65-74	1	1.89	1	1.89	0	0.00	2	0.84	1	0.42	1	0.42	4,753	3.58	2,157	1.63	2,596	1.96
75-+	0	0.00	0	0.00	0	0.00	2	0.84	2	0.84	0	0.00	2,809	2.12	1,050	0.79	1,759	1.33
UNK	4	7.55	2	3.77	2	3.77	18	7.53	10	4.18	8	3.35	0	0.00	0	0.00	0	0.00
TOTAL	53	100.00	39	73.58	14	26.41	239	100.01	169	70.72	70	29.30	132,672	99.98	68,294	51.48	64,648	48.74

Percentages may not equal 100% due to rounding. Population data from 1985 Special Census.