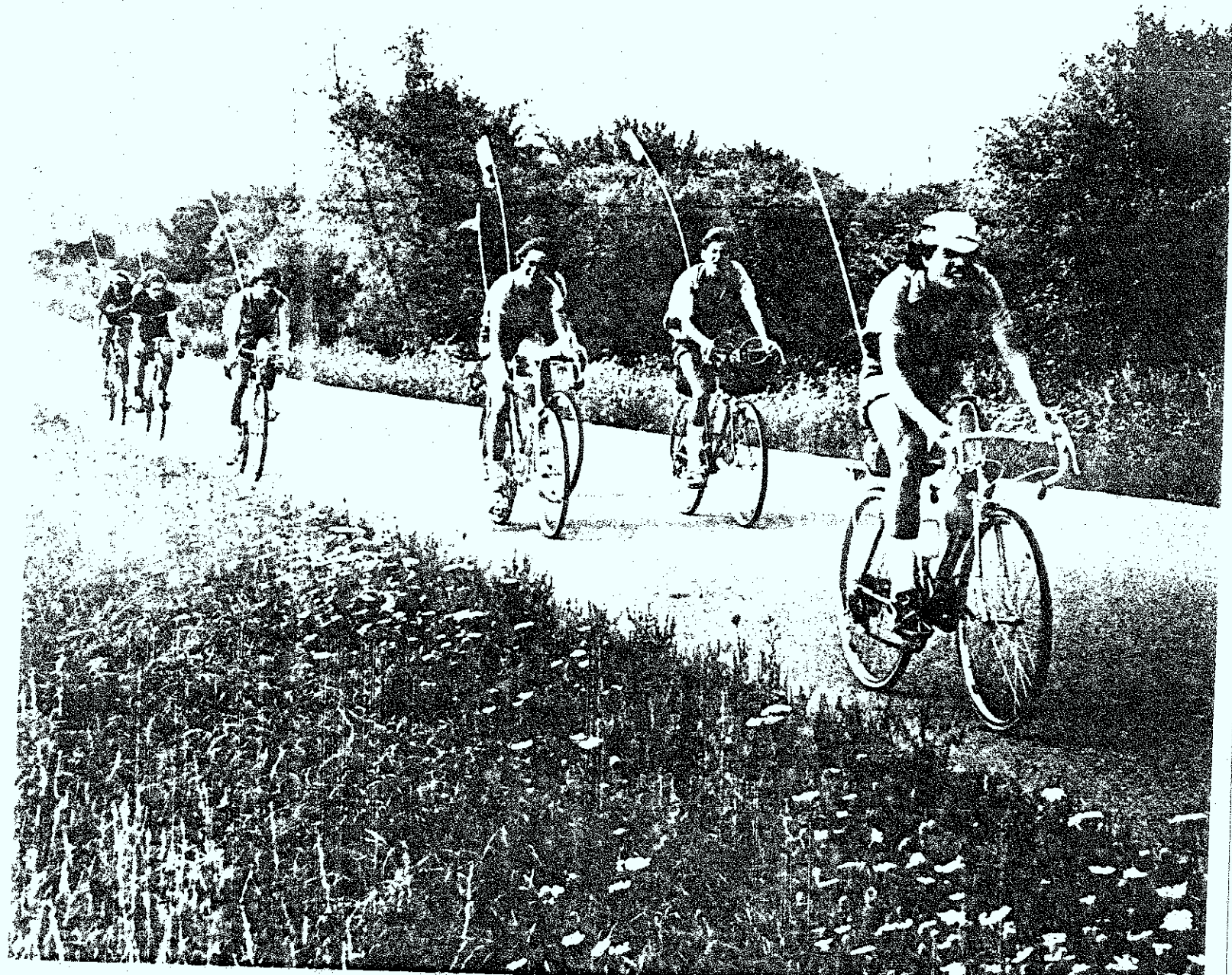


**BAY CITY  
AREA  
TRANSPORTATION  
STUDY  
BICYCLE PLAN**



## INTRODUCTION

The current bicycle "boom" which is being experienced in the United States is not the first. The bicycle boom of the 1890's happened because the bicycle represented a major recreational opportunity since many of the modern day sports were not yet popular. Another significant reason is because the automobile was not yet on the scene. However, with the technological improvements in rail and auto transportation the first boom dried out.

The current boom is easily the largest in history. Bicycling has become a very popular sport. For the years 1971 through 1974 more bicycles were sold than cars. The following factors have contributed to the current bicycle revival.

1. Concern about congestion and air pollution
2. Physical fitness
3. Social aspect that all members of the family can participate
4. Mobility factor, viable transportation mode
5. Government support

To deal with the growing need for bicycle awareness, a committee was established for the purpose of formulating a Bicycle Plan for the Bay City Area Transportation Study. Having an adopted plan not only identifies problem areas that need to be addressed, but also enables the local area to qualify for funding of projects from the Federal and State Departments of Transportation.

\*NUMBER OF BICYCLISTS IN BAY COUNTY

<u>AGE GROUP</u>	<u>POPULATION</u>	<u>% OWNING BIKES**</u>	<u>NO. OF BIKES</u>
0 - 13	35,213	37%	13,039
14 - 15	5,220	70%	3,654
16 - 17	4,895	45%	2,203
18 - 24	12,724	25%	3,181
25 - 34	14,007	31%	4,342
Over 35	45,280	15%	6,792
			Total 33,201

33,201 Bicycles

x 1.5 Riders per bike

49,800 Bicyclists in Bay County or approximately 42% of all County Residents

\* Using 1970 Census Data

\*\*Taken from Ann Arbor Bicycle Path Study, July, 1974

The above table indicates that bicycling is a major transportation mode for residents of Bay County and that efforts to enhance bicycle transportation is justified.

## BICYCLE REGISTRATION AND ORDINANCES

<u>AGENCY</u>	<u>REGISTRATION</u>	<u>ORDINANCE</u>
Bay City	Mandatory	Separate
Essexville	Voluntary	Separate
Hampton	Voluntary	U.V.C.
Bangor	None	U.V.C.
Monitor	None	U.V.C.
Frankenlust	None	U.V.C.
Portsmouth	None	U.V.C.
Kawkawlin	None	U.V.C.

U.V.C. - Uniform Vehicle Code

In Bay City, a bicyclist is required to have his bike registered. There is a 50¢ charge. If not, it may be impounded and a violation notice written. Essexville and Hampton have voluntary programs and the other local townships have no registration programs.

Bicycle registration programs are needed as they aid in recovering lost or stolen bikes and can immediately identify a victim of a bicycle accident if that person has no identification as is often true with youngsters. We recommend that all local agencies begin registration programs and to coordinate their programs with the appropriate law enforcement agency.

### ORDINANCES

The following is an excerpt from the City of Bay City Bicycle Ordinance: "A person operating a bicycle upon a roadway shall ride as near to the right side (not against traffic) of the roadway as practicable; where a usable and designated path for bicycles is provided adjacent to a roadway, a bicycle rider shall use that path and shall not use the roadway." This rule should be followed whenever and wherever one is biking.

The townships that use the Uniform Vehicle Code have the Bay County Sheriff's Department as the law enforcement agency, along with the State Police. Using the U.V.C. as their bicycle ordinance seems adequate at this time.

## GOALS AND OBJECTIVES

Within the framework of the Bicycle Plan, a clear and concise set of goals and objectives is necessary. From these statements, the plan is developed and the implementation of the plan is guided. Without these goals, the plan has no definite base. The accompanying objectives are actions needed to be taken to attain the stated goals.

1. Improve the safety of Bicyclists in Bay County.
  - A. Provide lateral separation between motor vehicles and bicycles by constructing separate bikeways on busy streets where there are no sidewalks or any feasible alternative routes, especially Center Avenue, Euclid Avenue and Wilder Road.
  - B. Increase bicyclist's knowledge of the rules of the road by setting up bicycle safety programs in the local schools and familiarizing all bicyclists with laws, ordinances and bicycle etiquette.
  - C. Increase motorists knowledge of bicycle operating characteristics and bicyclists rights and work with local driver education programs to help insure this.
  - D. Encourage local service organizations to sponsor bike safety clinics and bike-a-thons.
  - E. Encourage the local law enforcement agencies to increase enforcement of laws relating to bicycling.
  - F. Encourage the local law enforcement agencies to provide bicycle accident reports to local transportation officials (traffic engineers and transportation planners).
  - G. Improve street maintenance, especially sweeping the curb areas where dirt and debris easily accumulates.
  - H. Publicize and sign existing bikeways or routes to give notice to the bicyclist, motorist and pedestrian.

2. Improve Security of bicycles.

- A. Improve bicycle parking facilities to deter thievery, make sure all schools and parks have adequate parking and encourage local businesses and agencies (especially downtown merchants) to provide bicycle parking for their patrons as well as employees.
- B. Improve education of bicyclists on techniques of securing and locking their bikes.
- C. Encourage use of the bicycle registration program to improve law enforcement officials ability to recover and identify the owners of lost or stolen bicycles.

3. Improve access of bicyclists.

- A. Improve access to all schools, including Delta College and the Skill Center.
- B. Improve access to transportation mode change points, especially Bay Metro Central Passenger Station.
- C. Improve access to all parks, especially Veterans' Park and the Saginaw Riverfront areas.
- D. Improve access to major shopping center areas, especially Hampton Square Mall and North Point Plaza.
- E. Improve access to Downtown Bay City.
- F. Improve access to employment centers including Bay City Hall and Bay County Building and annexes.
- G. Establish local zoning and subdivision ordinances encouraging the private provision of bicycle facilities to improve access onto, through and out of residential areas.



4. Improve the riding environment of bicycling.

- A. Provide exclusive use areas (for bicycles only).
- B. Increase the opportunity to ride in scenic or natural areas.
- C. Reduce bicyclists exposure to noise and air pollution.
- D. Increase bicyclists comfort and convenience by providing rest stops at major attractors.

5. Establish the bicycle as a serious form of transportation.
  - A. Work with the local news media (Bay City Times, WBCM, WXOX) to develop articles and announcements on bicycling.
  - B. Encourage people to commute to work on bicycles, not only biking for recreational purposes.
  - C. Make sure that all transportation improvement programs consider bicycling during their development.

## BICYCLE SURVEY

The following survey was taken in order to get input from actual bicyclists. This information is very useful in the development of the Plan. It is recommended that other surveys take place in the future, especially along a bikeway route where an improvement is being contemplated. The surveys can determine which improvements should have highest priority.

The most important reason for bicycling is transportation. To save money was mentioned next and for exercise purposes followed. This indicates that bicycling is not a purely recreational activity anymore. It is a viable mode of transportation being increasingly used as a commuter vehicle.

RESULTS OF BICYCLE SURVEY

Date: June 13, 1980

Location: Eastside, Base of Vets' Bridge, north sidewalk, near the Transit Facility Garage.

14 bikers answered survey  
30 bikers didn't stop  
\*\*25 deliberately avoided survey point  
60 bikers on other side of the road.

1. Ages of Bikers

Under 10----- 1  
10 - 19 -----10  
20 - 29 ----- 9  
Over 40----- 4

2. Destination of Bikers

Veterans' Park-----8  
Community Center-----4  
Downtown-----5  
Pleasure Riding-----5  
Other-----2

3. When asked how often do you bicycle, the following results were given:

Everyday-----17  
4-6 days/wk----- 4  
1-3 days/wk----- 3

4. When asked where do you park you bike at your destination, the results were:

Light, Electrical Pole or Tree-----19  
Bicycle Rack----- 1  
Never leave out of sight, don't park---- 4

5. When asked if they felt safe crossing the bridge:

Yes----19  
No---- 5

6. When asked what is the most important reason why you bicycle:

Transportation-----10  
Exercise----- 5  
Save Money (especially gas)----- 9

7. When asked what bothers you most when bicycling:

Afraid of getting bike stolen-----5  
Afraid of being hit or run over-----17  
Too much starting and stopping----- 2

8. When asked where they prefer to ride:

Sidewalks----- 6  
Roadways-----18

9. General Comments included the following:

1. Crossing the bridge is very difficult.
2. Euclid Avenue is difficult to ride on or next to.
3. Center Avenue is difficult to ride along.
4. The road surfaces are very poor for bicycling.
- \*5. Curb cuts are needed in many areas.
- \*6. Bike racks are needed everywhere, especially in Vets' Park and shopping areas.

\* These two comments were made by nearly every biker.

\*\*It should be noted it is thought that those deliberately avoiding the survey station were concerned about not having their bicycle properly registered, therefore, getting a warning or having their bicycle impounded.

In order to plan for bikeways and bike facilities, an identification of major attractors of bicycling activity was undertaken. These include the following:

1. School and educational facilities
2. Park and recreation facilities
3. Commercial developments, shopping centers, downtown
4. Employment centers
5. Areas of enjoyable riding environment

The following list of bicycle attractors was used as input to the Plan.

## BAY CITY AREA BICYCLE ATTRACTORS

- \* 1 Bay City State Park
- 2 Bangor Schools Complex
- 3 Monitor Township Park
- 4 Bay-Arenac Skill Center
- 5 Handy High School
  
- 6 Y.W.C.A.
- 7 Defoe Park
- 8 Westside Business District
- \* 9 Vets' Park (Community Center)
- \*10 Middlegrounds (Boys' Club)
  
- 11 Coryell Field
- \*12 Delta College
- 13 Y.M.C.A.
- 14 Wenonah Park
- \*15 Downtown C.B.D.
  
- 16 Transit Station
- 17 Central High School
- 18 Carroll Park
- \*19 Fairgrounds
- 20 Essexville-Garber High School
  
- 21 Hampton Square Mall
- 22 Pondside Park
- 23 Memorial Parkway

\*Major Attractors

## BICYCLE ACCIDENTS

Data is often not available for bicycle accidents. However, using Bay City Police records and Michigan Accident Location Index (M.A.L.I.), a division of the Michigan State Police, an inventory of accidents was compiled for 1978, 1979 and thru May of 1980.

The locations of these accidents have been mapped to identify accident prone intersections or corridors. This data is used as a major factor when deciding whether a bikeway should follow one routing or another.



## BAY CITY BICYCLE ACCIDENT LOCATIONS 1978

<u>INTERSECTION</u>	<u>AGE OF VICTIMS</u>
John & Catherine	6
30th & Wilson	8
Saginaw & McKinley	18
Washington & 5th	16
Marquette & Truman	16
*Thomas & Dean	64
Madison & 18th	6
*7th & Water	16
Thomas & Wenona	10
24th & Lincoln	11
4th & Pendleton	12
34th & Michigan	14
Lafayette & Michigan	16
Midland & Catherine	20
Fisher & Chilson	12
Farragut & 17th	13
Litchfield & S. Union	5
*Thomas & Dean	16
Center & Washington	13
*7th & Water	14
7th & Adams	29
Smith & Loessel Ct.	10
Fulton & King	5
Madison & 11th	8, 8, 7
Trumbull & Center	15

25 Total Accidents, 27 person involved  
 21 of 25/84% occurred during May - September  
 \*More than one accident at this location

BICYCLE ACCIDENT LOCATIONS 1978

Bangor Township

1. Boy Scout & M-247
2. Lagoon Beach & State Park
3. Wheeler & State Park
4. Euclid & N. Union
5. Gies & Jenny
6. M-247 & Cramer
7. Wilder & Two Mile

Monitor Township

1. Wheeler & M-13
2. W. Pressler & N. Pressler
3. Salzburg & Euclid
4. Euclid & Fisher
5. Fairway & Parkway

Hampton Township

1. 4th & Ledyard
2. Center & Pine
3. Pensecola & Youngsditch
4. Center & Scheurman

Portsmouth Township

1. Broadway & McGraw
2. Trumbull & DeWyse
3. Bullock & Michigan
4. Cass & Farragut

Essexville

1. Woodside & Pine

BAY CITY BICYCLE ACCIDENT LOCATIONS 1979

<u>INTERSECTIONS</u>	<u>AGE OF VICTIMS</u>
Washington & Columbus	38
17th & Madison	13
Lincoln & 6th	15
Fremont & Garfield	10
Ionia & Erie	13
Madison & 13th	13
Broadway & 24th	48
McLellan & 16th	15
Jane & DeWitt	25
Park & Woodside	12
Kennedy Drive	49
Litchfield & Clara	15
Joseph & Murphy	7
Washington & McKinley	11, 12
Kennedy & Midland	19
14th & Jefferson	10
Water & Lafayette	16
Henry & Jane	28, 18
Madison & 19th	27
Fisher & Barclay	14
Farragut & 6th	8
Raymond & Calumet	7
Broadway & Lafayette	15
Vets' Bridge	18
Midland & Erie	18
Cass & Broadway	11
Fitzhugh & 35th	12
N. Union & Catherine	20
Elm & Bangor	N.A.
Private Roadway Accident	18

30 Total Accidents, 32 persons involved  
 26 of 30/87% occurred during May-September

BICYCLE ACCIDENT LOCATIONS 1979

BANGOR TOWNSHIP

1. M-247 & Kawkawlin River Drive
2. M-13 & Wheeler
3. M-247 & Boy Scout
4. M-247 & Beaver
5. W. Park Drive & Linden Park Drive

MONITOR TOWNSHIP

1. Fisher & Reinhardt
2. Monitor & Wilder

HAMPTON TOWNSHIP

1. Center & Ledyard
2. Princeton & Ridge

FRANKENLUST TOWNSHIP

1. Three Mile & M-84
2. Three Mile & Salzburg Road

PORTSMOUTH TOWNSHIP

1. Cass & Knight
2. Lincoln & Russell

ESSEXVILLE

1. Marshall & Villaire

BAY CITY BICYCLE ACCIDENT LOCATIONS 1980\*

<u>INTERSECTION</u>	<u>AGE OF VICTIMS</u>
Litchfield & Fulton	15
Lincoln & 22nd	15, 16
Lincoln & 11th	11, 10
Wenona & Compau	6
Center & Trumbull	11
16th & Madison	14

\* Thru May 16th  
6 Total Accidents, 8 persons involved

## BICYCLE PARKING

The availability of secure bicycle parking is a must for any bicycle trip; however, there is a deficiency of bicycle parking facilities throughout the Bay City Area. Bicycle parking is an essential element of this plan and must serve existing and potential bicycle users. The problem of securing a bicycle from theft is real and is shared by every individual bicyclist. The bicycle survey conducted for input to this plan resulted in the following: Bike racks are needed everywhere around Bay City, especially Vets' Park and shopping areas. Chaining bikes to light poles and trees is very common. Also, many bicyclists are afraid of getting their bikes stolen. In order to insure that there is adequate space allocated for bicycle parking, the following recommendations are made:

1. Require bicycle parking facilities to be incorporated into the building plans of commercial business and shopping center construction.
2. Individual business establishments to provide a minimum of five bicycle parking spaces (one small rack), and shopping centers to provide one bicycle parking space for each forty automobile parking spaces.
3. All public buildings (schools, federal, state and local government) provide adequate bicycle parking for the general public use as well as employees.
4. All parks and recreational areas (state, city, county, township) provide adequate bicycle parking facilities.
5. Provide bicycle parking at the Central Passenger Station and equip selected buses with racks to carry bikes or allow them on transit vehicles.
6. If bicycle parking is not provided, allow bikes in the public areas of buildings and private offices to avoid having to leave the bike unattended.

The most important criteria for bicycle parking is for the facility to be located immediately contiguous to the building entrance in high visibility areas. It should also be protected from the possibility of collision with automobiles or interference with pedestrian traffic. Again, its best to specify bicycle parking locations during the initial planning of buildings.

For agencies or businesses purchasing bicycle racks, the following criteria should be used:

1. Securing the bicycle in the rack is to be a simple operation.
2. The rack is to accommodate a wide range of bicycle types and locking mechanisms.

3. Securing the bike must be possible with only a user-supplied lock.
4. The appearance of the rack is to be aesthetically pleasing.
5. The racks should be securely anchored, but have the ability to be relocated.

Bike parking is ease, simple and inexpensive to implement relative to many other improvements being considered to enhance bicycling. With initiative and thought, bicycle parking can be provided to benefit the user and the community.

BICYCLE PARKING FACILITIES

HAMPTON MALL - One Rack In Front Of K-Mart, East End

PONDSIDE PARK - None

FAIRGROUNDS - None

CARROLL PARK - None

WENONAH PARK - None

TRANSIT STATION - None

DOWNTOWN (CBD) - None <sup>3</sup> *Battery Park - Davidson Bldg*

STATE PARK - None

YMCA - One Large Rack

Two Small Racks Near Madison Entrance

MIDDLEGROUNDS- None

BOY'S CLUB - Two Small Racks

COMMUNITY CENTER- Eleven Large Racks

VET'S PARK - One Small Rack By Tennis Courts  
None By The Ballfields

YWCA - One Small Rack

MONITOR PARK - None

SKILL CENTER - One Large Rack

DELTA COLLEGE - Some Racks, At Eastmain Entrance Only



## THE BIKEWAY SYSTEM

The basic premise behind bikeway identification is to provide for the safe and efficient movement of bicyclists throughout the area. One of the best ways to encourage bicycle use is to eliminate those conditions which currently discourage its use as a mode of transportation and recreation. Because most routes use existing facilities, streets and sidewalks, it becomes obvious that the most serious deterrent is the lack of curb cuts in many places. Many curb cuts have been installed, however, much remains to be done, especially on the westside.

For the purpose of this plan, bikeways are broken into segments. Each segment represents a small area where recommended improvements can be more easily implemented.

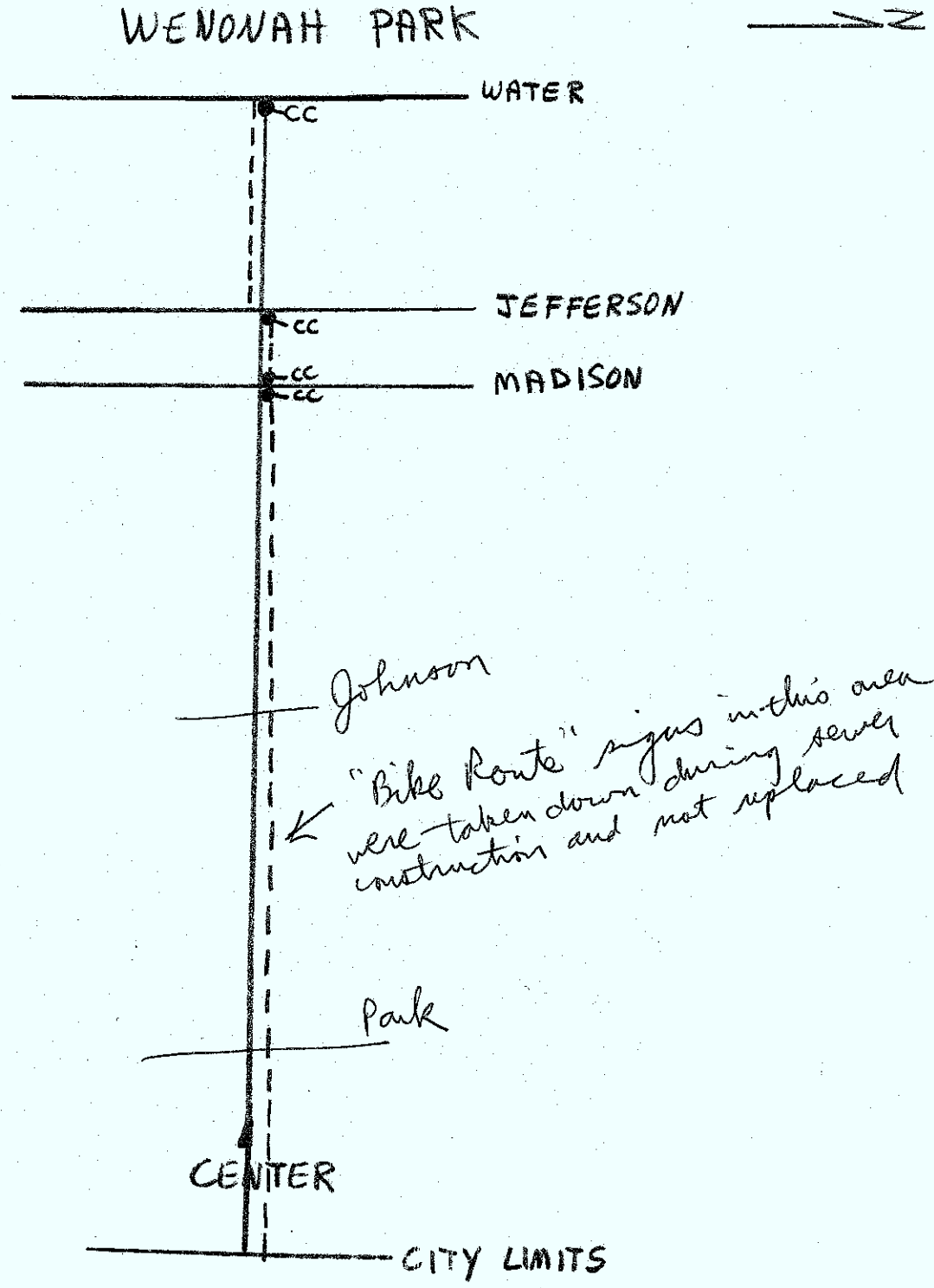
### EVALUATION CRITERIA

The following factors have been used when evaluating the possible use of a roadway or sidewalk as a bikeway facility. These are only guidelines:

1. Traffic volumes
2. Traffic speeds
3. Parking conditions
4. Pavement conditions
5. Sight distances
6. Truck traffic
7. Bus routes
8. Grade differences
9. Amenities
10. Time considerations
11. Number of intersections
12. Other

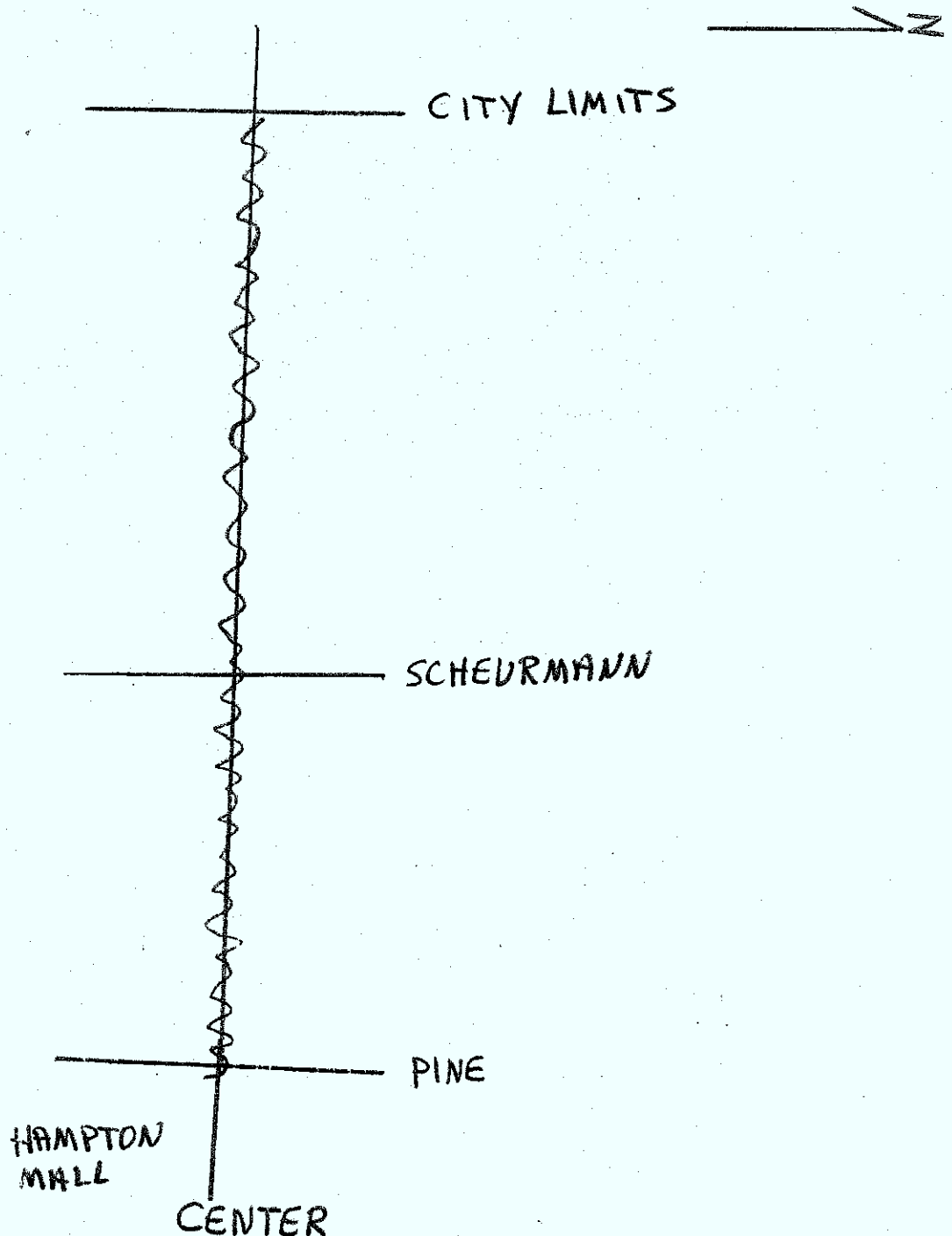
Segment 1: Center Avenue From Wenonah Park to The East City Limits

Starting at Wenonah Park a curb-cut is needed onto Water Street. Then proceed east on Center Avenue using the street until Jefferson Street. Get on the north sidewalk, a curb-cut is needed at Center and Jefferson (NE) and Center and Madison (NW & NE) and follow on the sidewalks to the east city limits and the end of Segment 1.



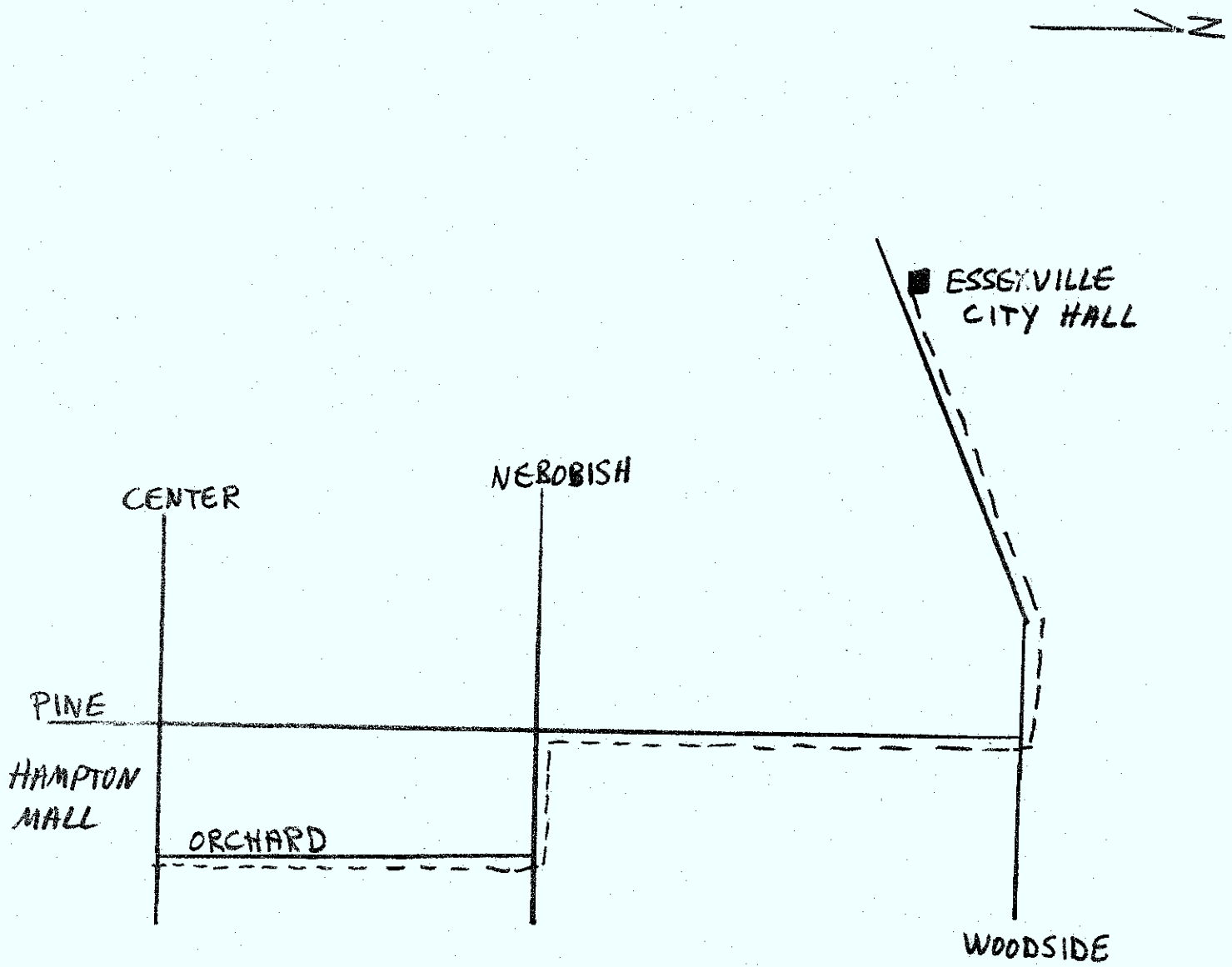
Segment 2: Center Avenue From East City Limits to Hampton Square Mall.

This segment present numerous problems to the bicyclist. Problems include high traffic volumes, no sidewalks, fences, railroad tracks and many commercial driveways. Because of time limitations, this plan recommends a separate non-motorized study be undertaken and possibly programmed into the Bay City Area Transportation Study's (BCATS) Unified Work Program. A joint effort from BCATS, Hampton Township and Michigan Department of Transportation is needed to study this segment to identify and remove the barriers which hamper bicycle travel.



Segment 3: Hampton Square Mall to Essexville City Hall

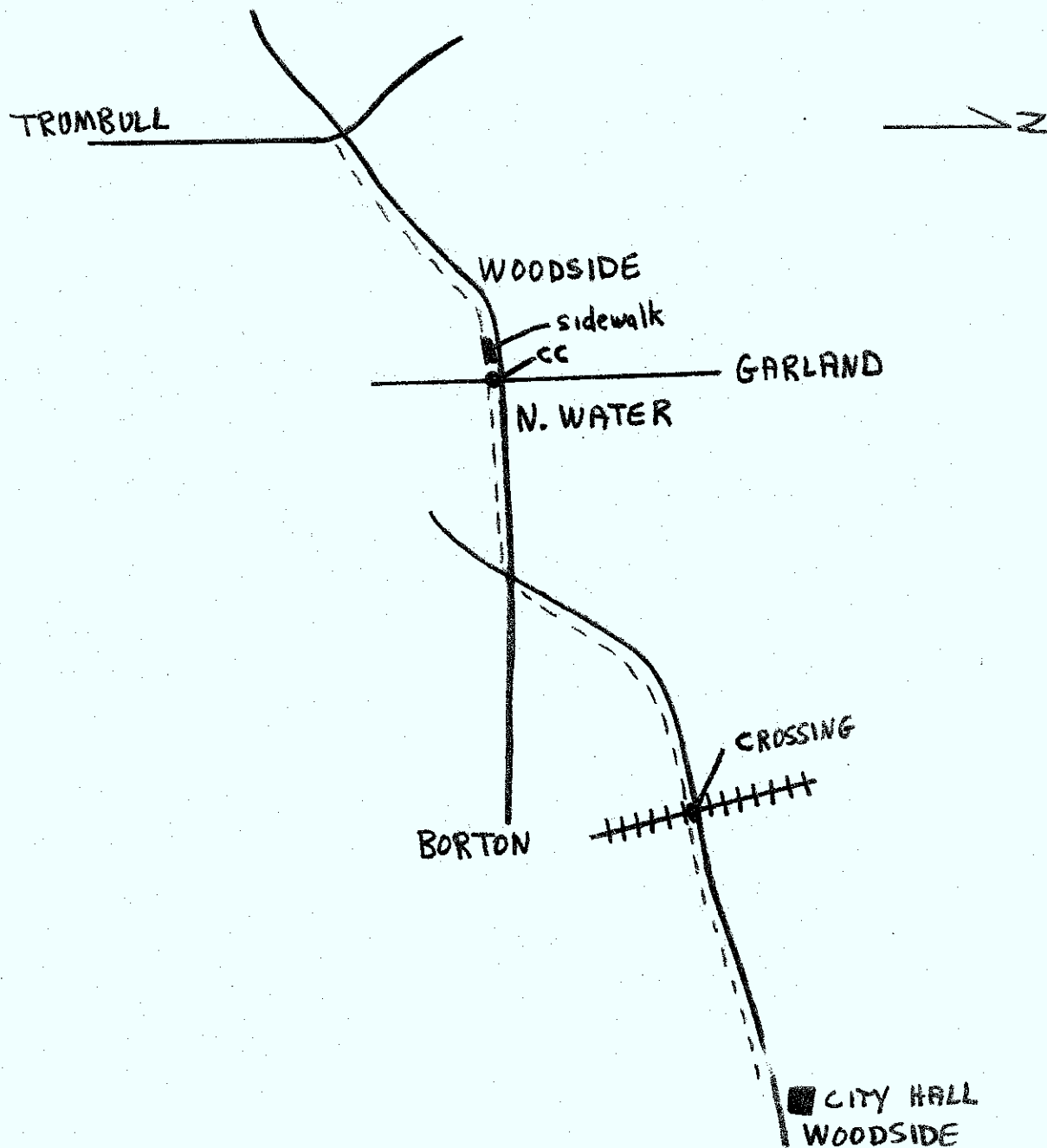
Leaving Hampton Mall, cross Center Avenue to Orchard Street. Orchard has a very good surface and very low volumes through a quiet residential area. Proceed north on Orchard to Nebobish, then left. Get on the north sidewalk to Pine Street, then right. Pine Street has sidewalks on both sides and are fine for riding. The roadway is also very adequate here. Continue on Pine to Woodside, then left. Proceed on the sidewalks or street to Essexville City Hall.



Segment 4: Essexville City Hall to Trumbull Avenue. Following Woodside Avenue and N. Water Street.

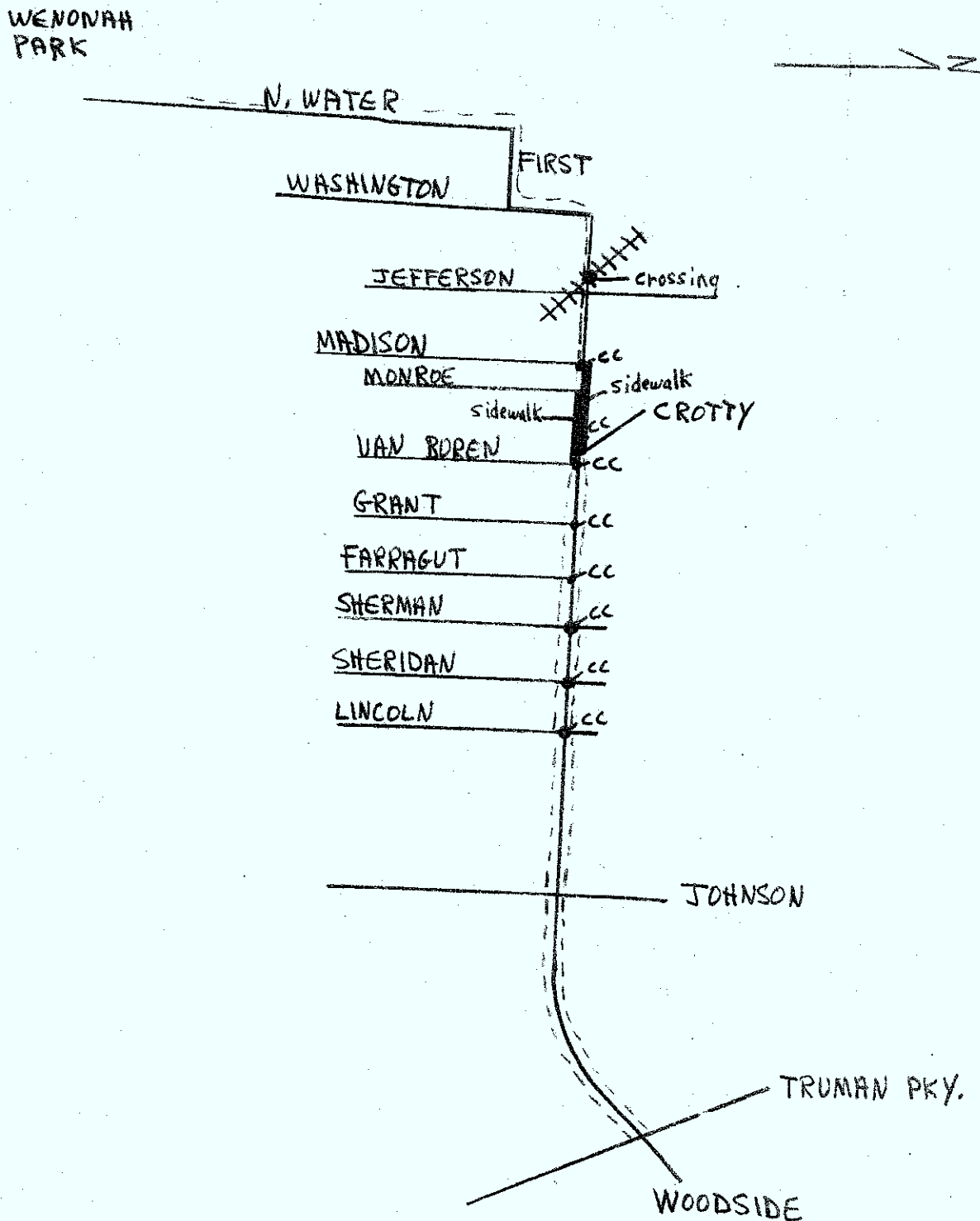
Use left side sidewalk along Woodside all the way to N. Water. No curb-cuts are needed; however, a railroad crossing improvement is needed at the Chessie System tracks.

At the N. Water-Borton-Woodside Intersection proceed west on the left sidewalk. A curb-cut is needed at Garland along with a short stretch of sidewalk replacement just west of Garland. Continue along here all the way to Trumbull Avenue.



Segment 5: From Trumbull Avenue on Woodside going West Use Both Sidewalks. Curb-cuts needed at Lincoln, Sheridan, Sherman, Farragut, Grant, VanBuren, Crotty and Madison.

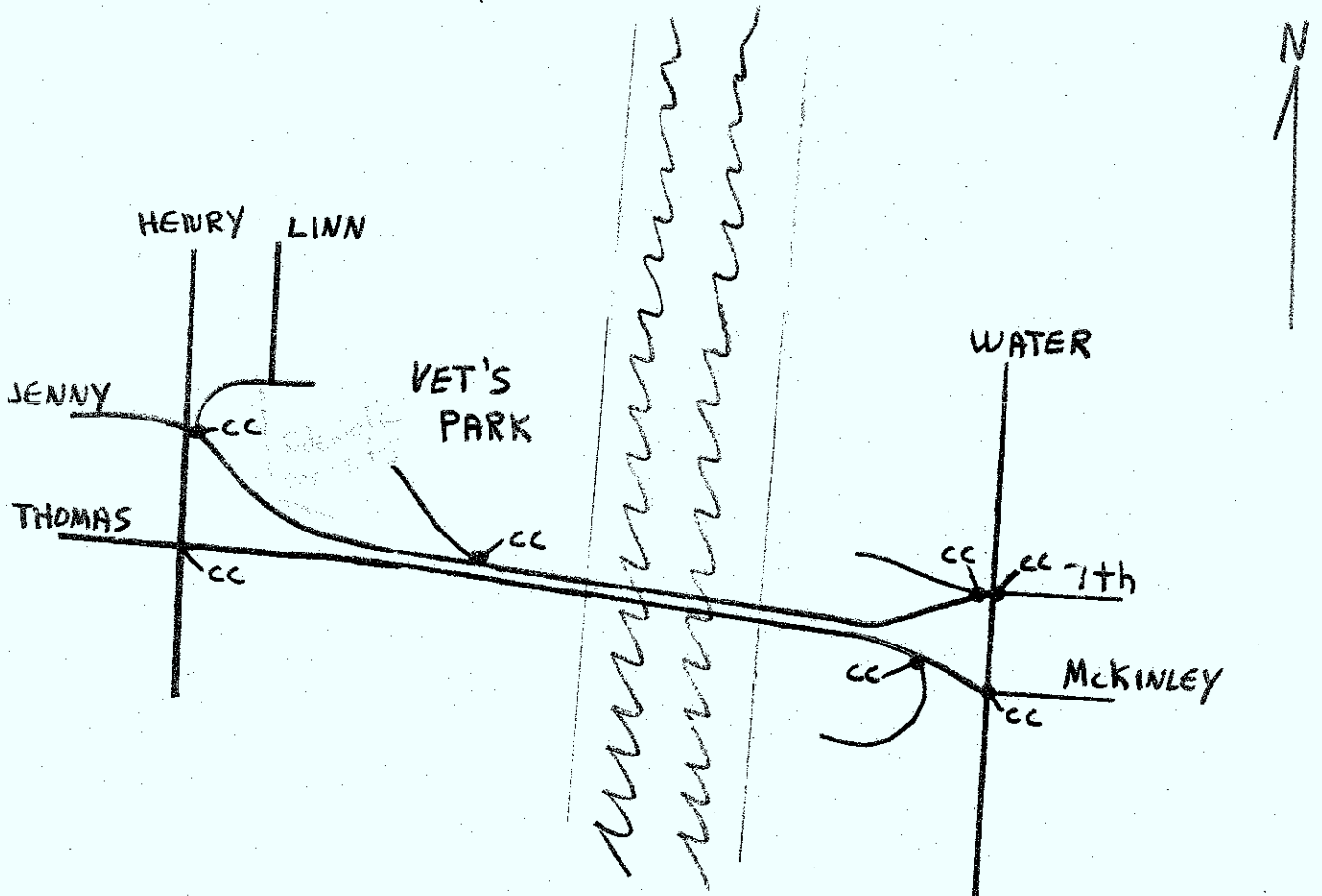
A complete new sidewalk is needed on the left side from Van Buren to Monroe and on the right side from Crotty to Madison. The traffic volume greatly decreases west of Madison, therefore riding on the street down to Washington is recommended. There is a railroad track improvement needed at Jefferson. One can take Washington Street to the Downtown or bypass by turning right on First Street to Water Street and follow Water to Wenonah Park.



Segment 6: Beginning at Water Street to Cross Vets' Bridge.

Right sidewalk, curb-cut needed at Wenonah Park Access Street, crossing over the Bridge a curb-cut is needed at Vets' Park Access Street and at the end of the bridgeway to gain access to Linn Street.

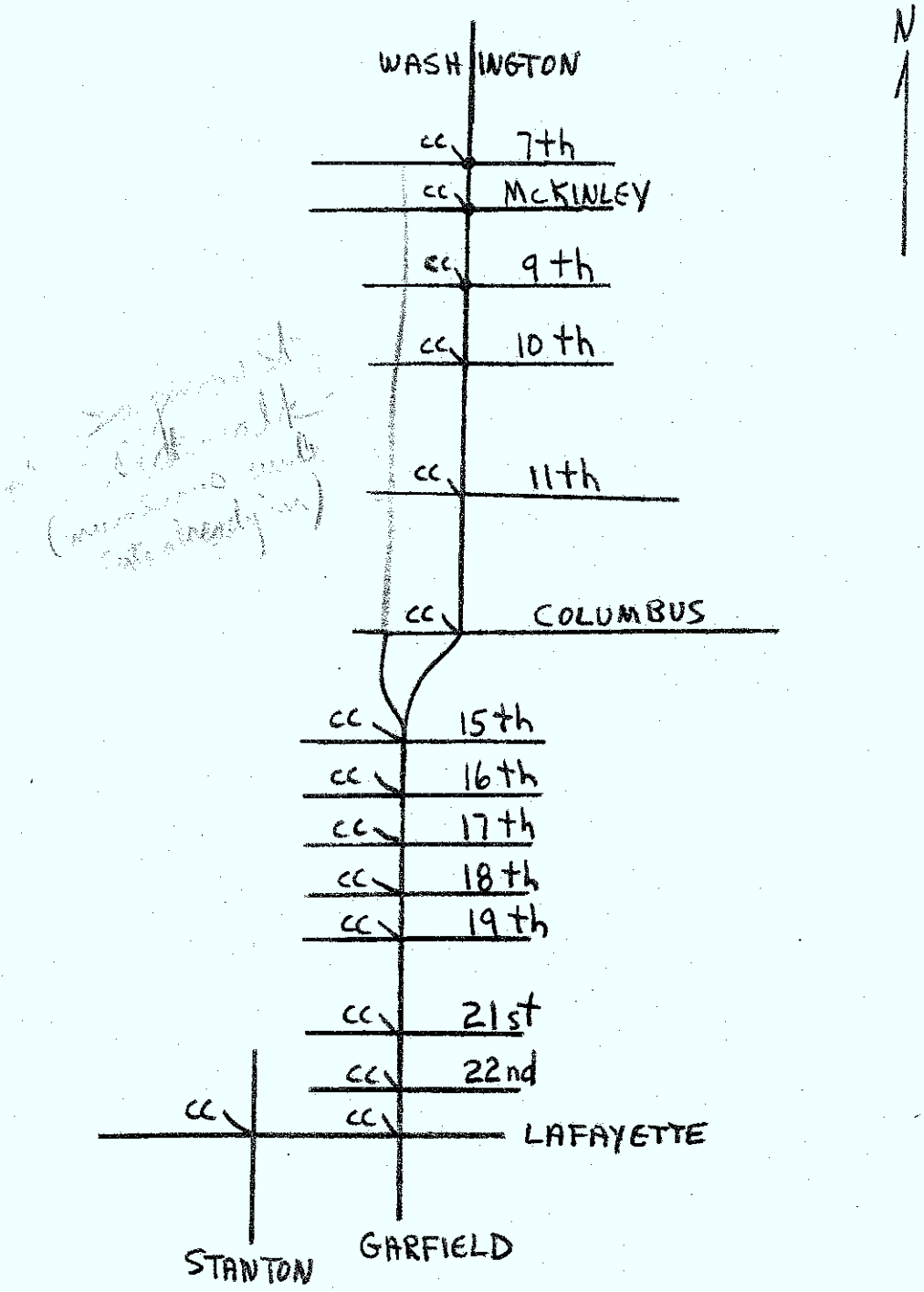
Left sidewalk, curb-cut at McKinley, at the underpass and on the westside at Henry Street.



Segment 7: Beginning at Washington and 7th, Going South.

Curb-cut needed at 7th, McKinley, 9th, 10th, 11th and at Columbus.

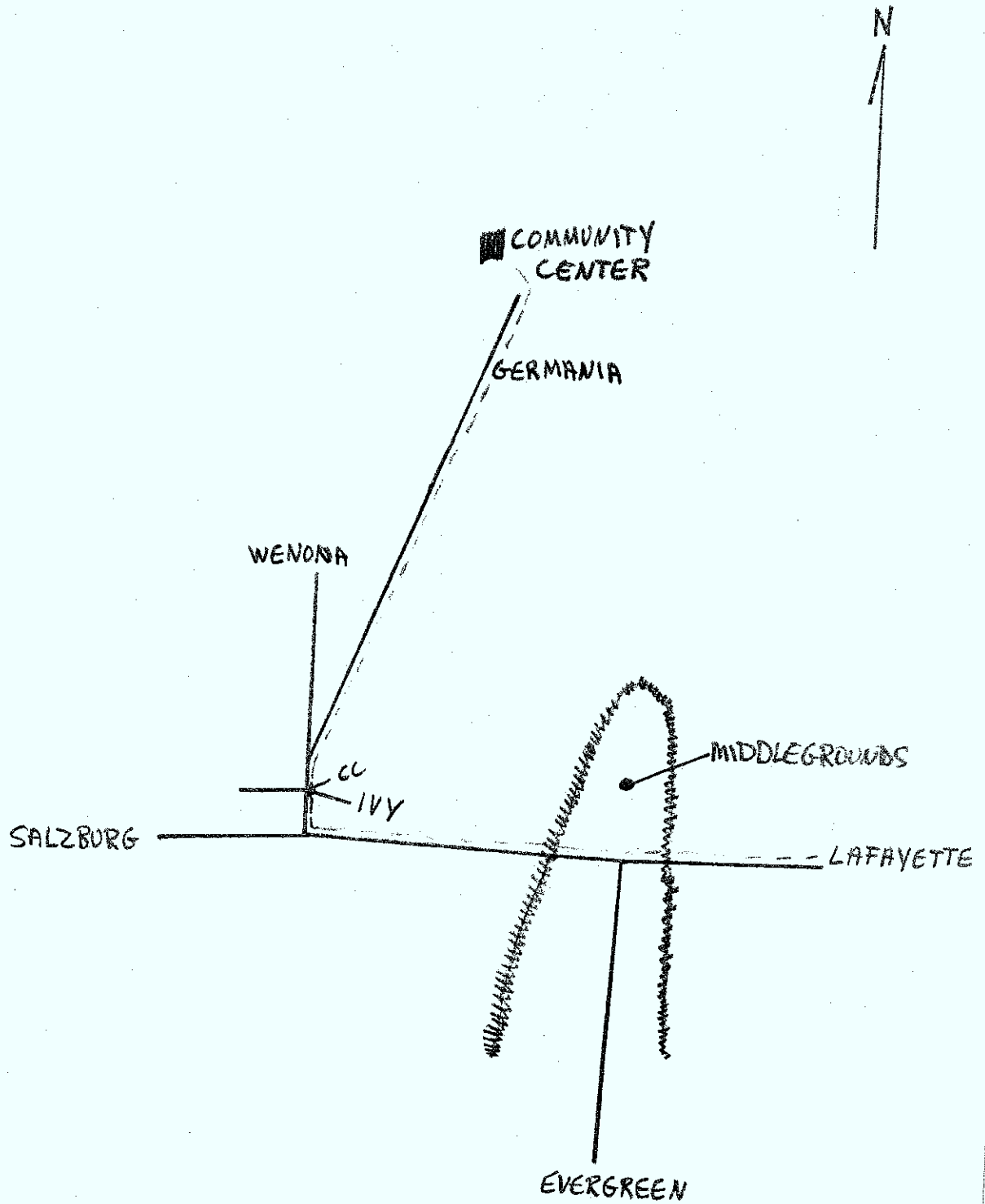
Then get on east sidewalk and proceed to Garfield or turn west on Columbus to Garfield. Going down Garfield curb-cuts are needed at 15th, 16th, 17th, 18th, 19th, 21st, 22nd and at the Garfield & Lafayette intersection. Also new sidewalk needed on vacant lot NW corner of Garfield and 21st; from Garfield proceed west on Lafayette, curb-cut is needed at Stanton Street.





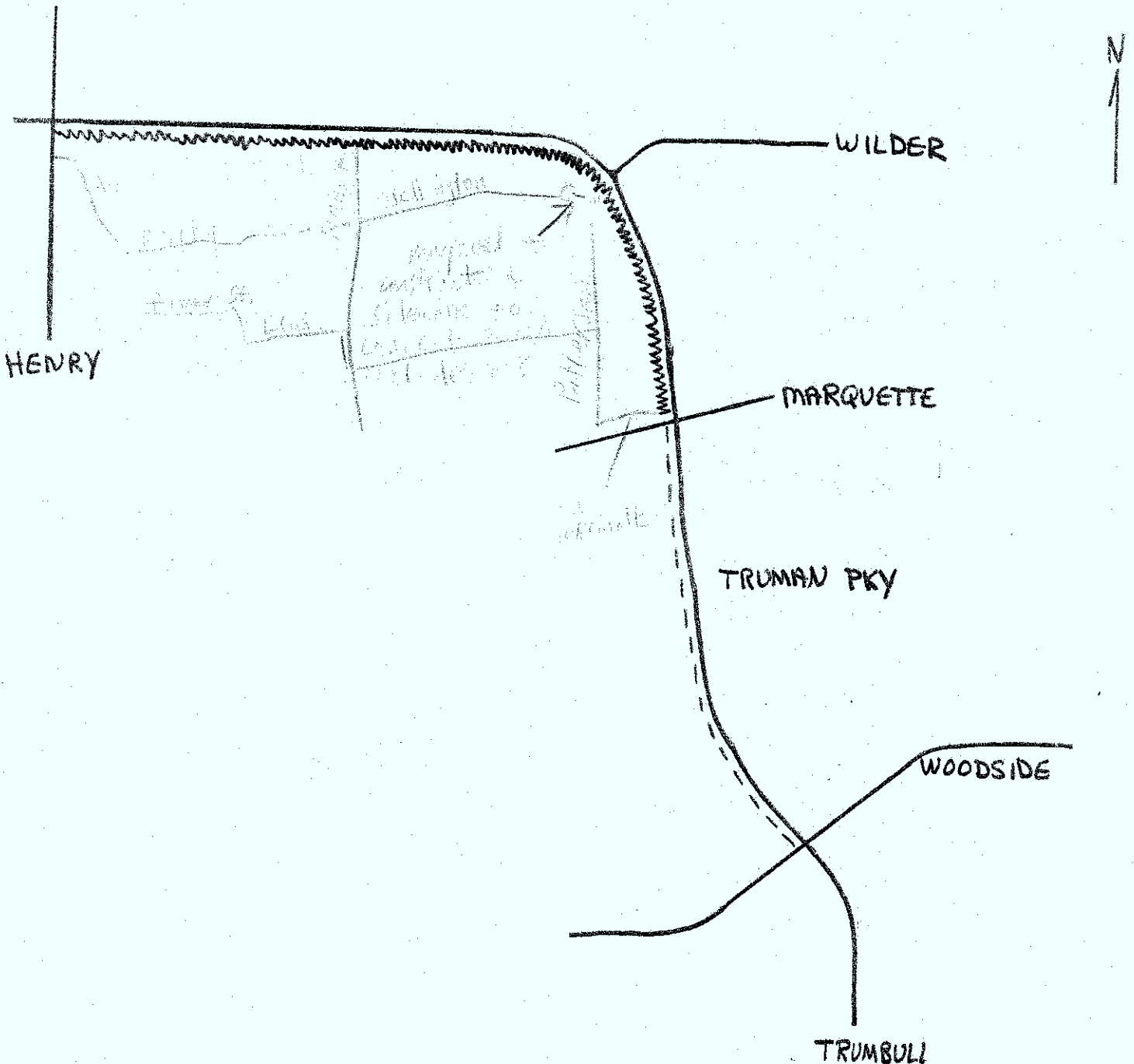
Segment 8: Lafayette Bridge To Community Center

Proceed over bridge to the westside. Turn right using sidewalk along Wenona. Curb-cut needed at Ivy Street. Proceed to Germania Avenue and follow on the roadway to the Community Center.



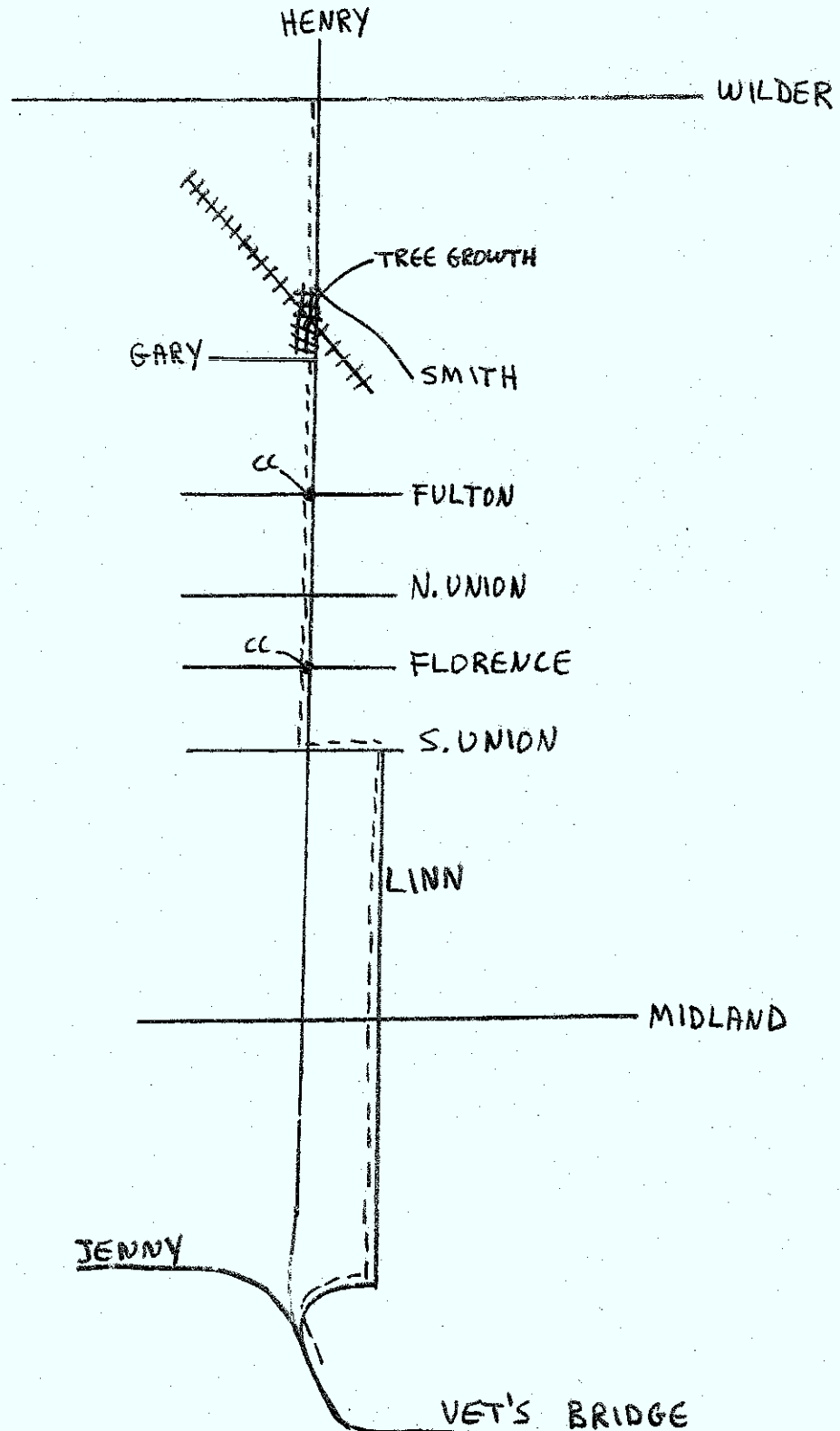
Segment 9: Beginning at Trumbull Avenue to cross Independence Bridge.

Use left sidewalk over bridge to Marquette Avenue. From Marquette Street proceeding on Truman Parkway and Wilder Road all the way to Henry Street there are no bike riding facilities except the roadway which has very high traffic volumes. This segment is in need of a separate off-road facility. The recommendation here is to construct a bikeway adjacent to the curb along the whole stretch from Marquette to Henry. This should be at least eight feet wide where possible to allow for two-way bicycle traffic.



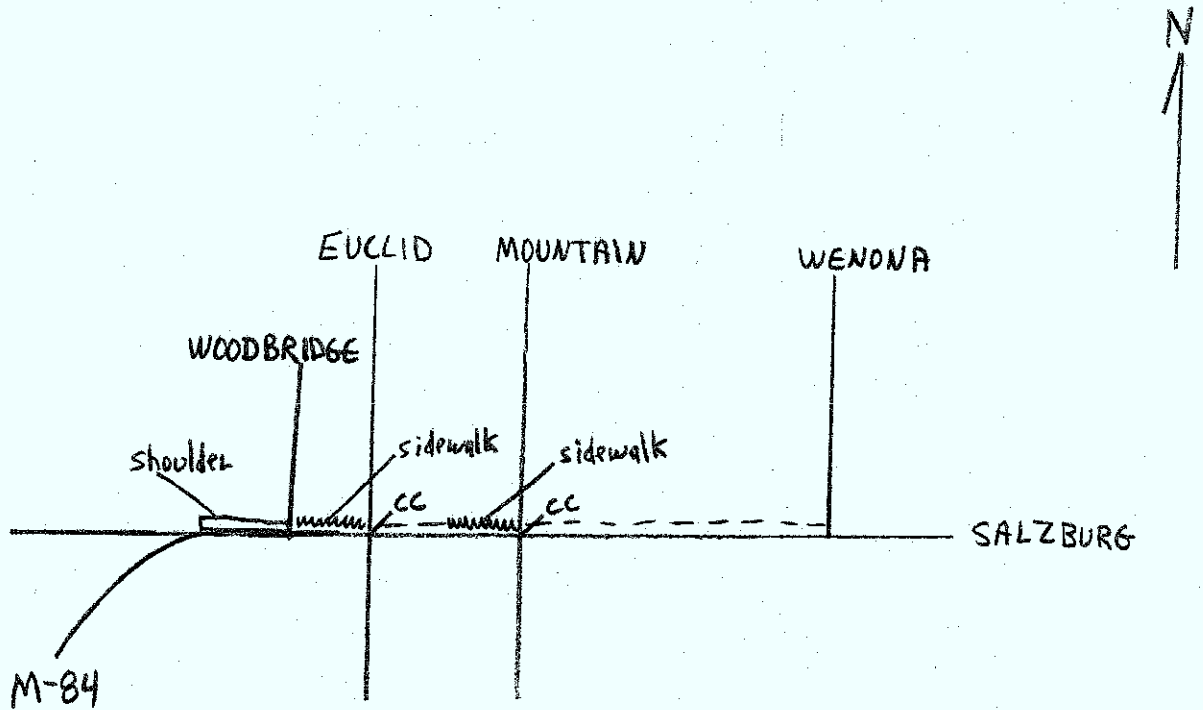
Segment 10: From Wilder-Henry Intersection to Vets' Bridge.

Use Henry Street roadway until Smith Street, then get on west sidewalk. From Smith to Gary Street the sidewalk has been engulfed by tree and bush growth; this needs to be cut back to allow a bicycle to pass. Keep on west sidewalk continuing south. A curb-cut is needed at Fulton Street and at Florence Street. Turn left on South Union Street to Linn Street. Use the roadway here all the way across Midland Street to the Vets' Bridge approach.



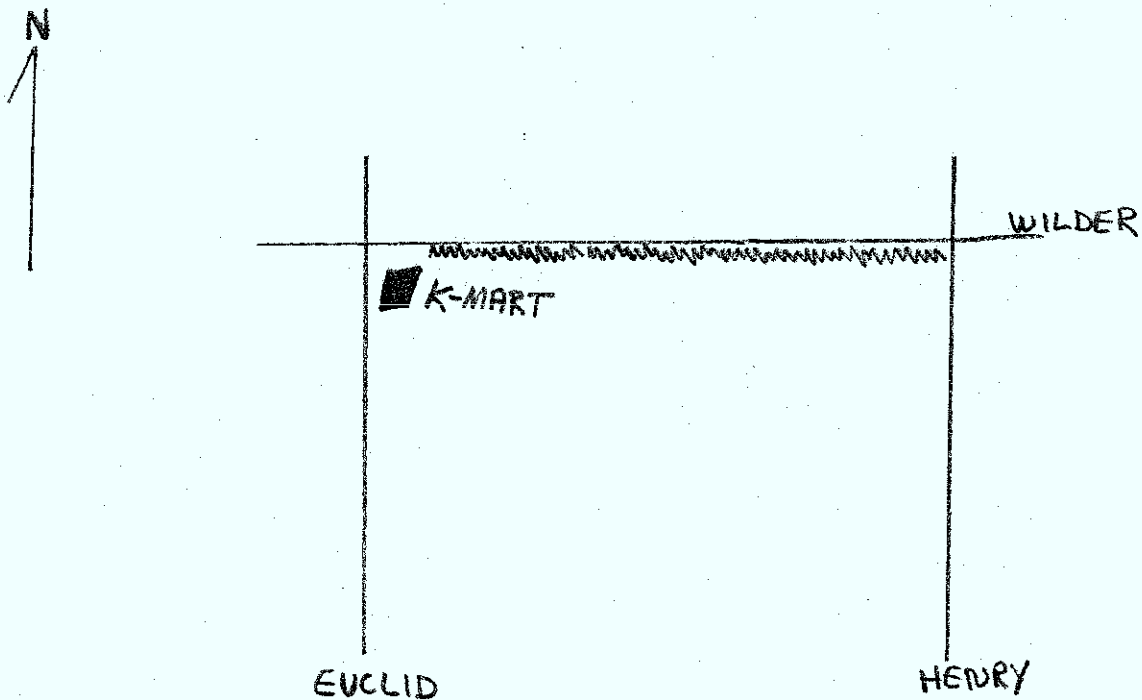
Segment 11: From Westside Lafayette Bridge to M-84 - Salzburg Intersection.

Use north sidewalk as proceeding westward. Curb-cut needed at Mountain Street and Euclid Avenue. New sidewalk needed from Mountain, 100 feet west, in front of Rays Supermarket. Also, from Euclid to Woodbridge, in front of the Bank. From Woodbridge to the M-84 curve at Salzburg the north shoulder of the roadway needs paving.



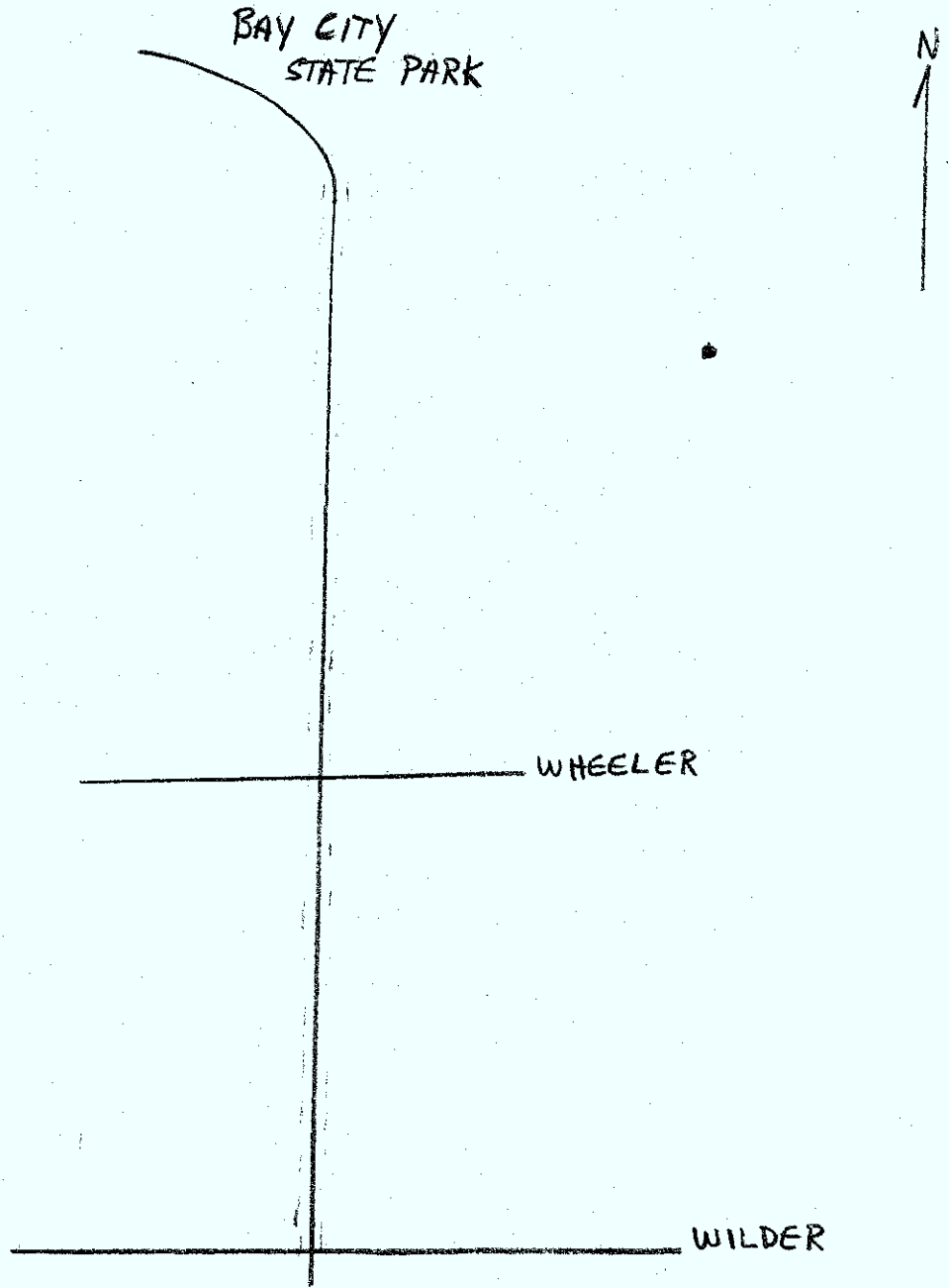
Segment 12: Wilder Road from Henry to Euclid

Along this roadway a separate off-road facility should be constructed along the south side of Wilder Road which would link with the bikeway system on Wilder Road east of Henry. It should accommodate two-way bike traffic and continue to the K-Mart Plaza area.



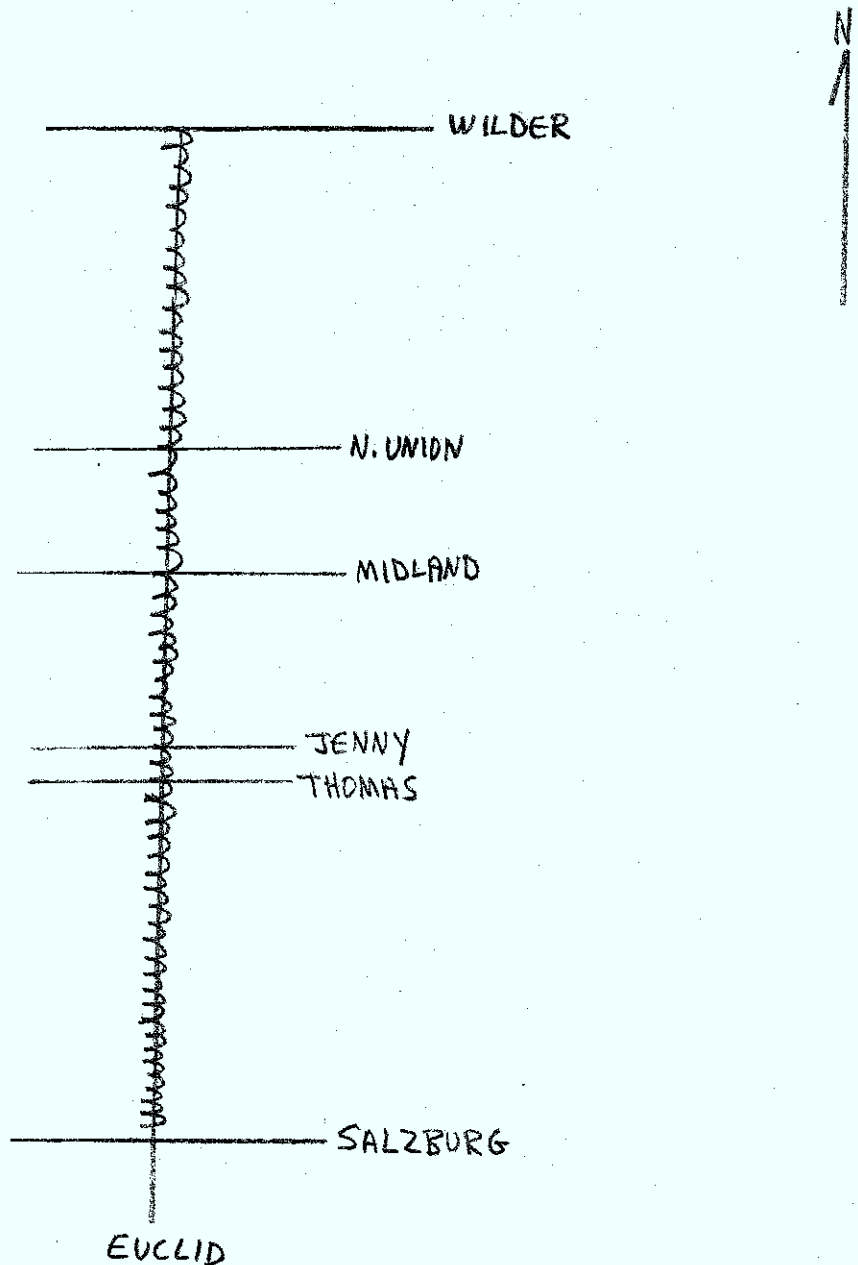
Segment 13: State Park Drive From Wilder To Bay City State Park

This highly traveled bike corridor is scheduled to have four feet wide shoulders constructed along the roadway. This would be returning State Park Drive to its original condition before the Sewer Project. This shoulder replacement project should do well to serve the needs of the bicyclists.



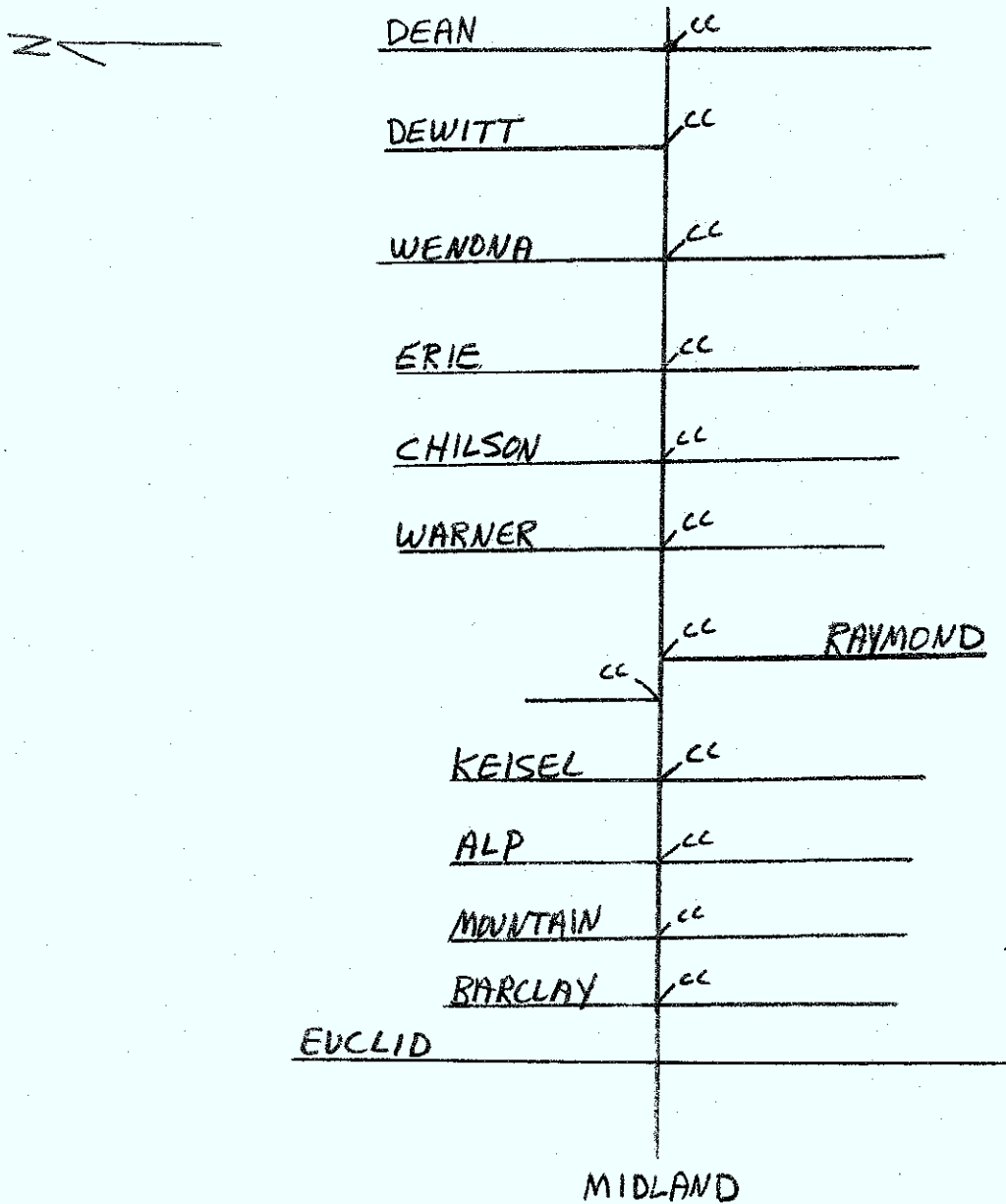
Segment 14: Euclid Avenue From Wilder To Salzburg

Again, this segment presents numerous problems to the bicyclist, much like Center Avenue. Therefore, it is recommended a separate non-motorized study be conducted along this segment. The local agencies involved here would be Bangor Township, Monitor Township, Bay City, BCATS, MDOT and the Bay County Road Commission. Programming this study in the Unified Work Program would seem appropriate here or as a Transportation System Management (TSM) study.



Segment 15: Midland Street from Dean to Euclid.

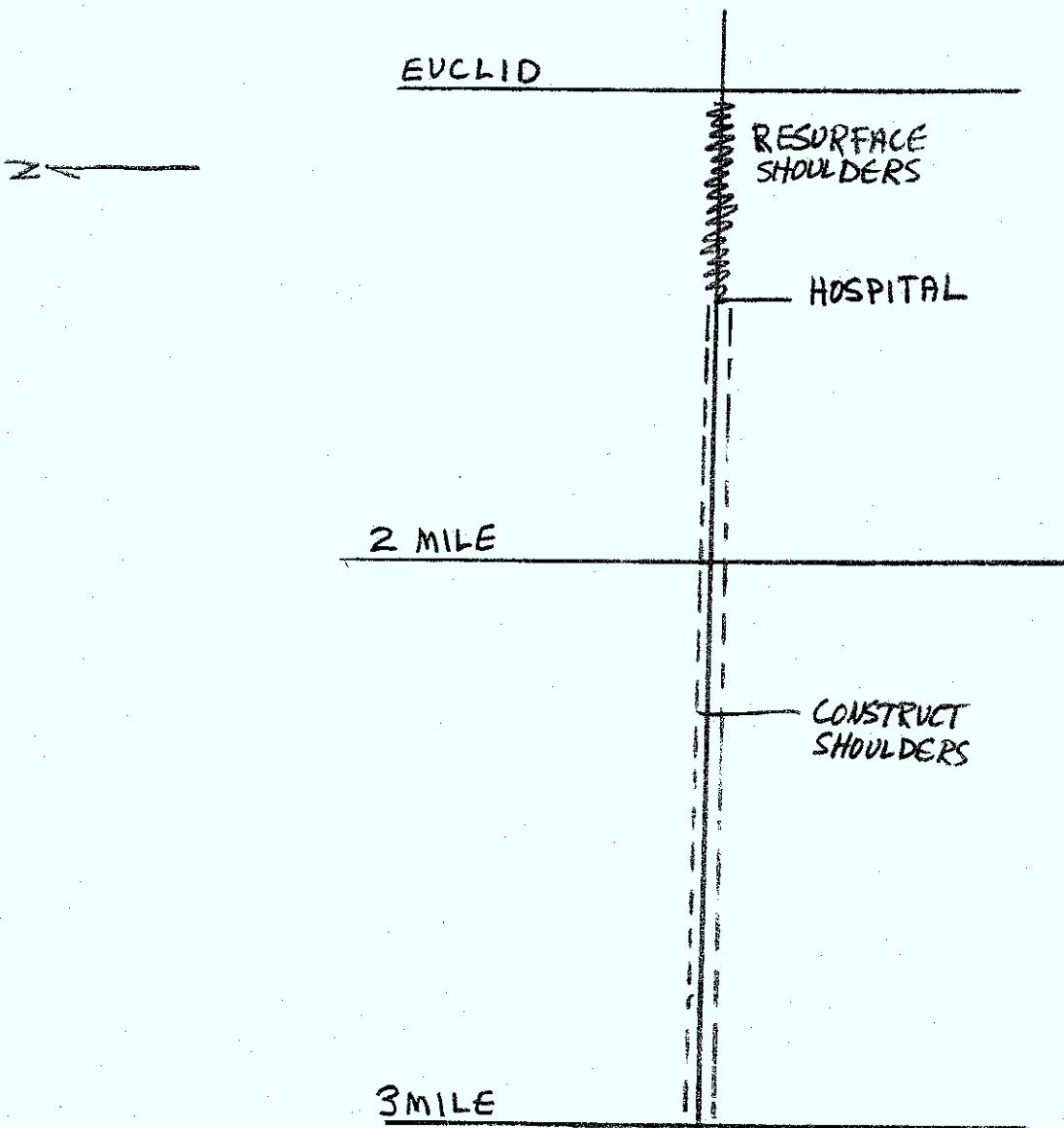
Proceed west on the sidewalks from Dean Street. Curb cuts are needed at Dean, DeWitt, Wenona, Erie, Chilson, Warner, Raymond, Keisel Alp, Mountain and Barclay.





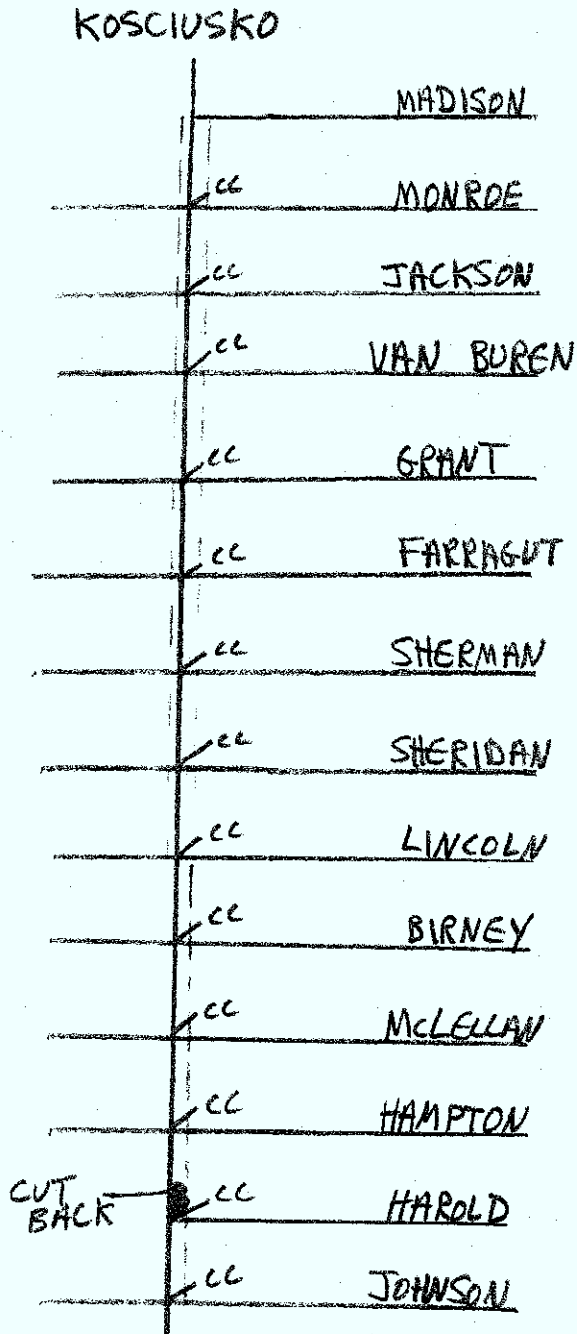
Segment 16 Midland Road from Euclid to Three Mile.

The shoulder is only in fair condition on Midland Road west to about the hospital entrance. This portion is in need of resurfacing. Continuing west, the construction of a shoulder area on both sides (four feet wide) is recommended to the Three Mile/Midland intersection.



Segment 17: Kosciusko from Madison to Johnson

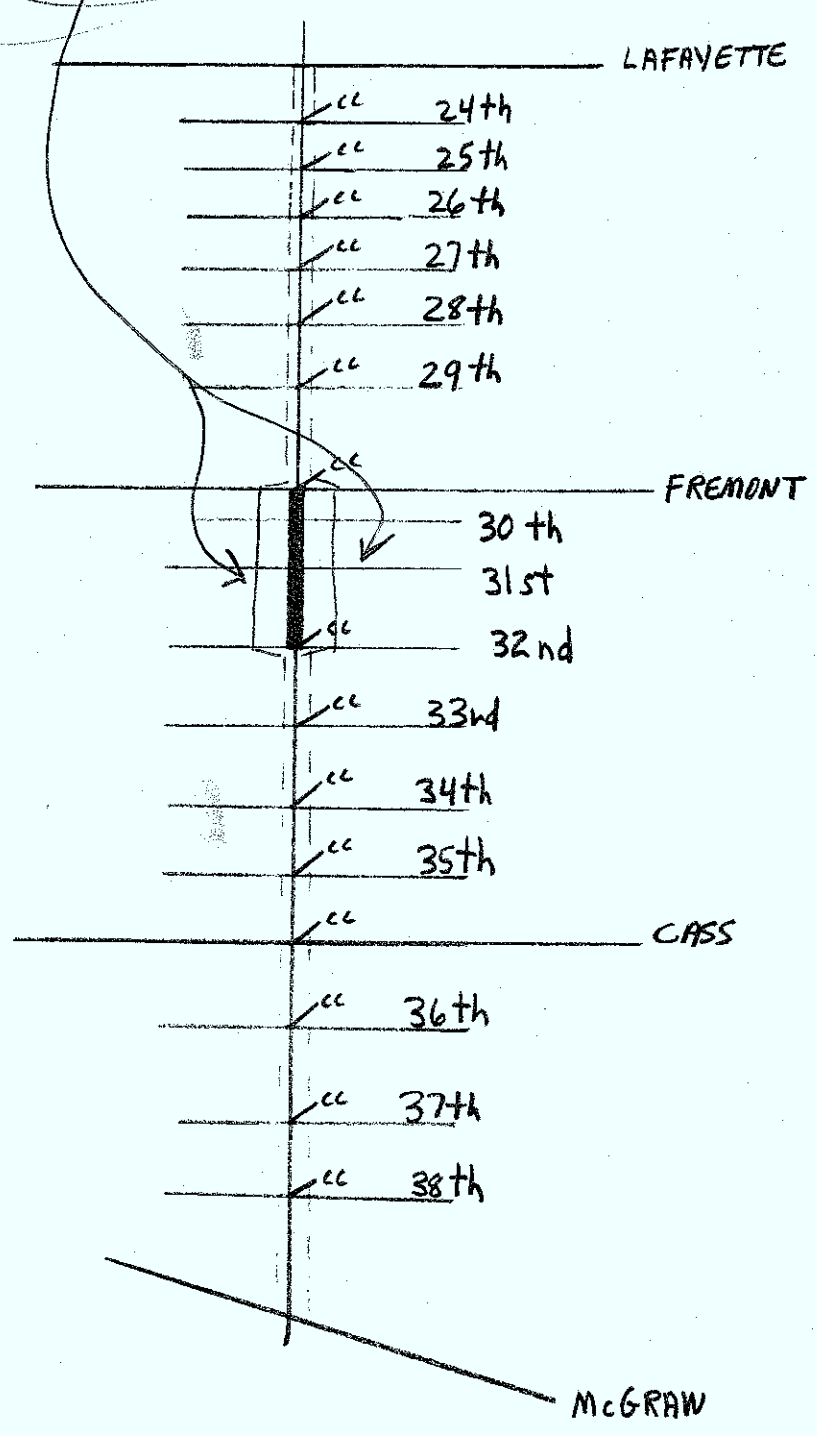
From Madison use both sidewalks to Lincoln Street. Curb cuts are needed at Monroe, Jackson, Van Buren, Grant, Farragut, Sherman, Sheridan and Lincoln. From Lincoln use the north sidewalk out to Johnson. Curb cuts are needed at Birney, McLellen, Hampton, Harold and Johnson. A growth of bushes needs to be cut back at Harold Street.



Segment 18: Broadway from Lafayette to McGraw.

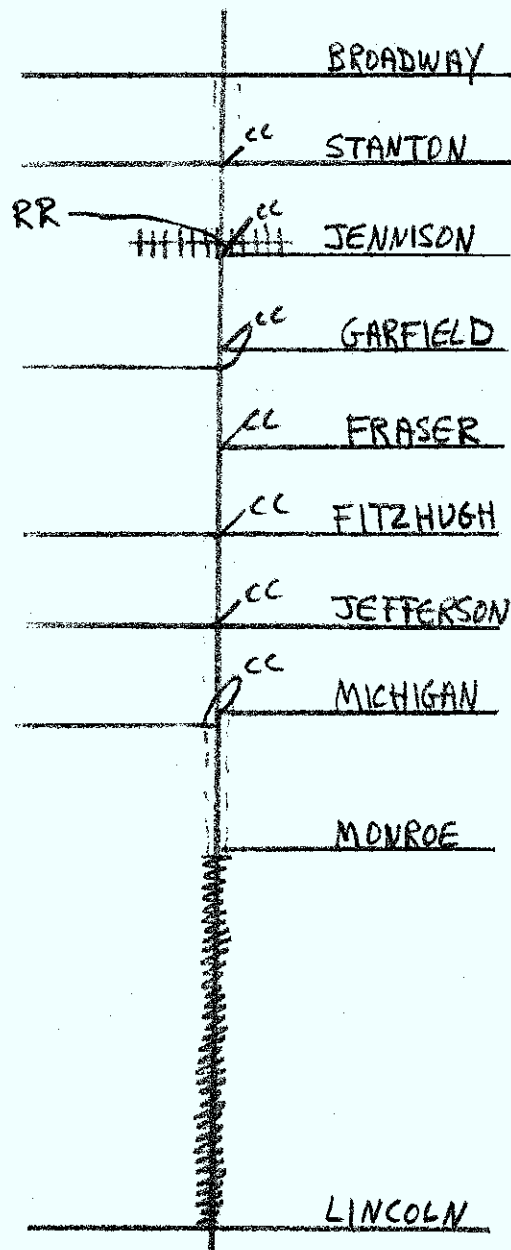
Proceeding south, curb cuts are needed at 24th, 25th, 26th, 27th, 28th, 29th, 33rd, 34th, 35th, Cass, 36th, 37th, and 38th. Between Fremont and 32nd (in the commercial area) the streets are adequate to provide for bicycle transportation. A conflict exists with pedestrians if the sidewalks are used here.

*- use alleys?*



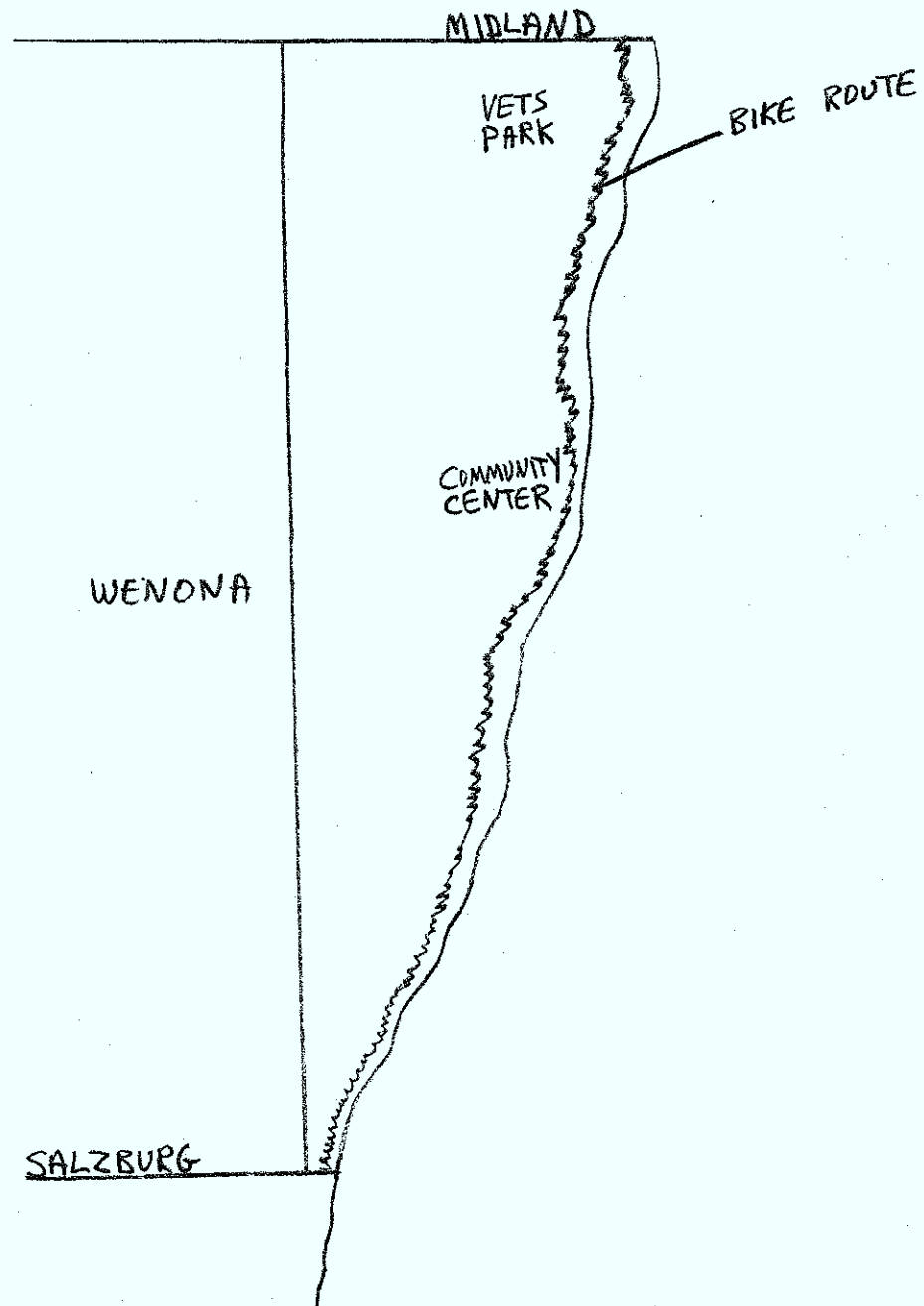
Segment 19; Cass Avenue from Broadway to Lincoln

Proceeding east, curb cuts needed at Stanton, Jennison, Garfield, Fraser, Fitzhugh, Jefferson and Michigan. From Monroe to Lincoln a resurfacing of the shoulder is needed. Also a rail crossing improvement at Jennison.



Segment 20: Bikeway Facility in the Veterans' Memorial Park  
Along the Riverfront from Midland to Salzburg  
Streets

As well as facilitating faster bicycle movement, this project also enables the bicyclist to enjoy the increasing pleasant development along the Saginaw River. This proposal entails the construction of an eight foot wide, two-way bicycle path thru Vets' Park past the ballfields and continuing by the Community Center Park up the riverfront to Salzburg Street.



Approximate costs to implement recommended improvements within each Segment.

<u>SEGMENT</u>	<u>COSTS</u>
1	\$ 600
2	--
3	0
4	850
5	6,100
6	1,300
7	9,000
8	150
9	75,000
10	800
11	5,200
12	25,000
13	--
14	--
15	6,500
16	25,000
17	6,400
18	7,000
19	5,900
20	<u>100,000</u>
TOTAL	\$ 274,800

## FINANCING CONSIDERATIONS

Potential sources for financing construction projects include the following:

1. Federal Highway Administration, Section 141 of the Surface Transportation Assistance Act of 1978. Four million annually nation wide, 25% local match.
2. Federal Aid Urban Systems (FAUS) Funds, about \$400,000 annually to the Bay City Area. Currently only being used for roadway projects; however, bicycle projects could qualify if approved by BCATS Policy Committee. 72% Federal, 28% Local
3. Michigan Act 51 of Public Acts of 1951 as amended 1978. Funds allocated from the Michigan Transportation Fund to counties, cities and villages. Not less than 1% of these funds shall be expended for non-motorized transportation. Approximately \$15,000 available annually in Bay County. This would be an excellent source for matching monies as required in # 1 and # 2 above.
4. Yearly appropriations from local cities, townships, county. Request local units to program monies each year into a bicycle capital improvements budget for projects identified in this Plan that are within their boundaries.
5. One-shot grant (matching ?) from Kautzler Foundation.

