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ANNUAL REPORT 1969



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Waterloo Metropolitan Area Transportation Study

Waterloo Metropolitan Area Transportation Study

1989
ANNUAL REPORT

Prepared By

METROPOLITAN PLANNING COMMISSION
OF BLACK HAWK COUNTY

In Cooperation With

IOWA HIGHWAY COMMISSION
AND
U.S. DEPARTMENT OF TRANSPORTATION
Bureau of Public Roads



METROPOLITAN PLANNING COMMISSION of Black Hawk County

Suite N; Russell Lamson Building; 209 West Fifth Street; Waterloo, Iowa 50701 Telephone: 319-233-5112

March 20, 1970

Member Agencies
Metropolitan Planning Commission
Black Hawk County, Iowa

Gentlemen:

We are pleased to transmit herewith the Annual Report for 1969 of the Metropolitan Planning Commission of Black Hawk County, Iowa.

- This report has been prepared in cooperation with the Iowa Highway Commission as part of a continuing cooperative planning program. The information contained in this report represents a summary of activities during the past year undertaken by the Metropolitan Planning Commission and the Iowa Highway Commission in matters relating to transportation planning.

The purpose of this report is to provide information on an annual basis relating to the updating process through which our governmental agencies are currently undertaking, in order that the adopted transportation plan for the Waterloo metropolitan area may be utilized most effectively.

Respectfully submitted,

D. F. Mirrielees
Chairman

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Robert L. Sieglaff, Vice Chairman
Darrell Porter, Secretary
Max E. Guernsey, Treasurer

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Richard King, Waterloo City Engineer
Henry Beisner, Cedar Falls City Engineer
Ray Stevenson, Black Hawk County Engineer
Del Rawlings, County Zoning Administrator
Melvin Manion, University of Northern Iowa

William McLaughlin, Iowa Development Commission
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R. M. Tutton, Iowa Highway Commission
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Introduction

During the last six years, officials in the Waterloo metropolitan area have been producing transportation and land development plans designed to guide their urban growth in accord with local needs and values.

These studies were stimulated by the Federal funds made available by the Highway Act of 1962. This legislation stated that eligibility for such funds required that the urban areas desiring such studies must conduct them in cooperation with State Highway Departments and the Federal Bureau of Public Roads.

The "comprehensive" and "cooperative" studies resulting from this unified effort of local, State, and Federal transportation agencies have been quite satisfying to local authorities. However, the valuable cooperative efforts produced by such studies did not end with the completion of the initial transportation and land use plans in 1968. Toward the end of the initial study, plans were made to make transportation planning a "continuing" effort among local, State, and Federal highway agencies. During 1969 the Metropolitan Planning Commission was involved with the updating and maintenance of data and plans as outlined in an Operations Plan for Continuing Transportation Planning.

This pamphlet reports on this year of continuing transportation planning activity. It is also intended to be a generalized progress report to the citizens of Black Hawk County informing them of local comprehensive planning activities since the completion of their Comprehensive Plan in 1968.

Employment

The Waterloo metropolitan area has traditionally maintained an employment mix dominated by manufacturing jobs. Changes during the last decade are modifying this condition toward a more balanced and diversified employment mix.

This urban area is now becoming a major regional retail shopping center with the opening of the Crossroads and College Square Shopping Centers. Other retail outlets are becoming more regional in nature in response to the shopping center trend. The decade of the seventies will undoubtedly see a fuller realization of this trend.

Employment diversification is also being supplemented by the increase in governmental employment which has increased almost 60 percent since 1964. Much of this increase is due to growth of regional educational institutions such as the University of Northern Iowa and the Hawkeye Institute of Technology. Employment in this sector will continue to grow if existing trends hold true.

Manufacturing employment will continue to provide the greatest number of jobs in the metropolitan area. This assumption is based upon the dominance of the John Deere Tractor Plant and supporting industries in the area. This condition will be enhanced considerably upon completion of the \$20,000,000 John Deere electric foundry to be constructed in 1970.

Manufacturing employment within the study area has increased about 45 percent since 1964. This rate of increase is expected to become somewhat greater during the next five years.

In discussing the employment situation in Black Hawk County, the "moonlighting" factor warrants serious consideration. Basically, it means that when one talks about employment he must justify his statements as referring to people employed or total jobs being filled. In the WMATS study the number of total jobs is 17 percent greater than the total number of people employed. Further discussion of this matter is contained in the Continuing Planning section of this report.

Population

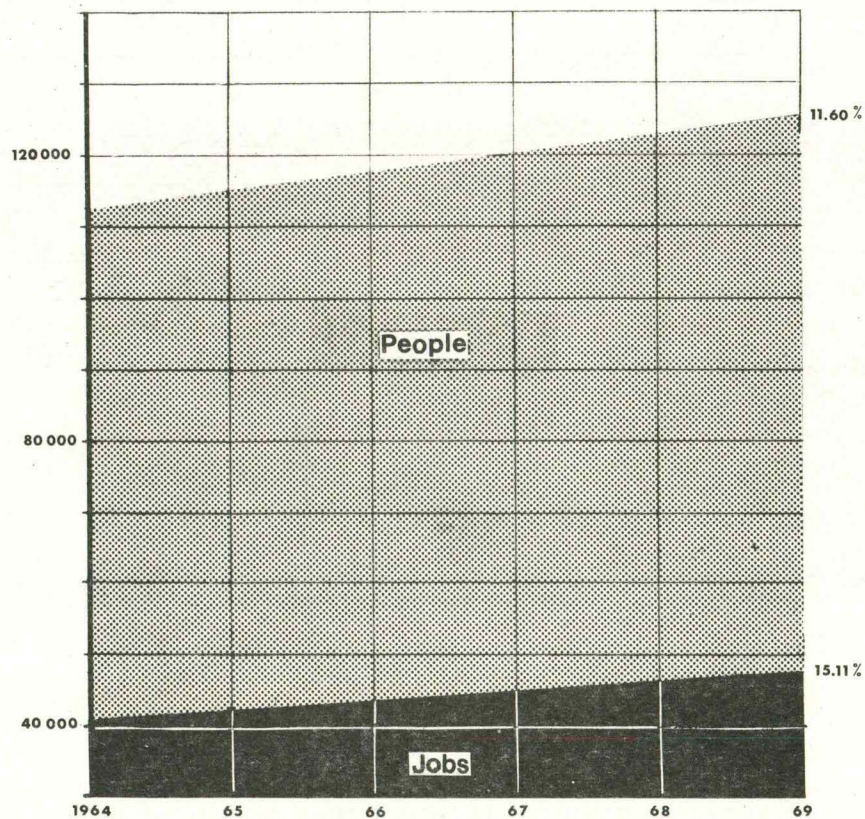
The WMATS study area has experienced population growth of 5.5 percent since the origin-destination survey of 1964. However, additional people have been brought into the study area due to the extension of the study area boundaries.

The City of Cedar Falls has been growing at the fastest rate--about 13 percent since 1965. Waterloo's rate of growth has been about 3 percent since 1965. Evansdale has remained stable or may have experienced a moderate loss of population during the same time period.

The largest growth sectors within the metropolitan area have been in areas south and west of both Waterloo and Cedar Falls. An exception to this would be the Greenbrier development in northwest Waterloo as well as a few mobile home courts. The areas of North Cedar and Raymond have also attracted significant new development.

The areas with the greatest propensity for development in the immediate future are those close to the Crossroads Shopping Center and along south Kimball Avenue in Waterloo and between Highway 20 and Twelfth Street west of Hudson Road in Cedar Falls.

There are two significant trends which may change both the location and density of our continued population growth in Black Hawk County. The trend toward mobile home living will tend to increase population density and direct it to large, permanent mobile home parks. However, the trend toward rural non-farm living will tend to disperse additional population growth at lower densities. It may also cause population projections for urban area cities to be revised downward. These trends will be discussed further in the Land Use section. Current population estimates and projections are contained in Figure No. 14 in the Appendix.



Population & Employment Growth
WMATS Study Area

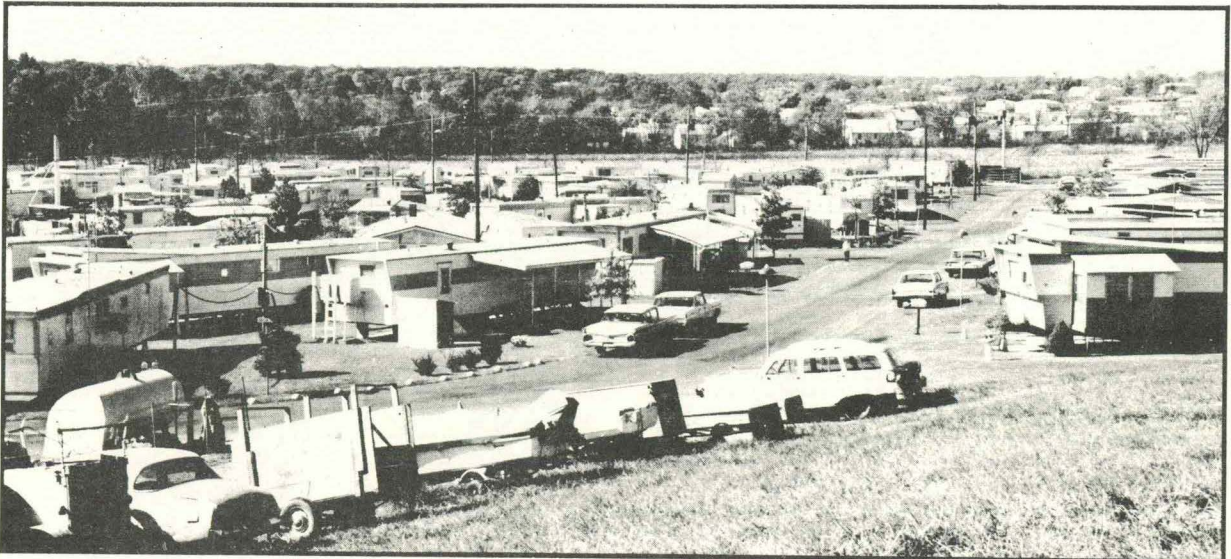
Land Use

Residential

All major land use changes since 1965 have occurred as anticipated in the Land Use Plan begun in that year.

Since the O & D Survey of 1964, there have been an additional 4,148 dwelling units constructed in the WMATS study area. The gross population density of the urban area is 746 people per square mile. Net residential density is currently 16 people per acre. It is estimated that about 175 acres of land has been developed for new residential use within the urban area from 1964 to January 1, 1969. This does not include former residential land redeveloped for apartment or dormitory use.

There are two settlement trends which may modify the traditional residential land use pattern. The first trend is the desire for more people to live in mobile homes. Currently there are very few licensed mobile home spaces in Black Hawk County which are not occupied. The Mobile Home Manufacturers Association estimates that mobile home sales for 1969 will be 400,000 units--an increase of 38 percent over 1968. In 1968, mobile homes accounted for 90 percent of all single unit housing constructed in the U.S. selling far under \$15,000.



Much of the housing need is being satisfied by large mobile home courts.

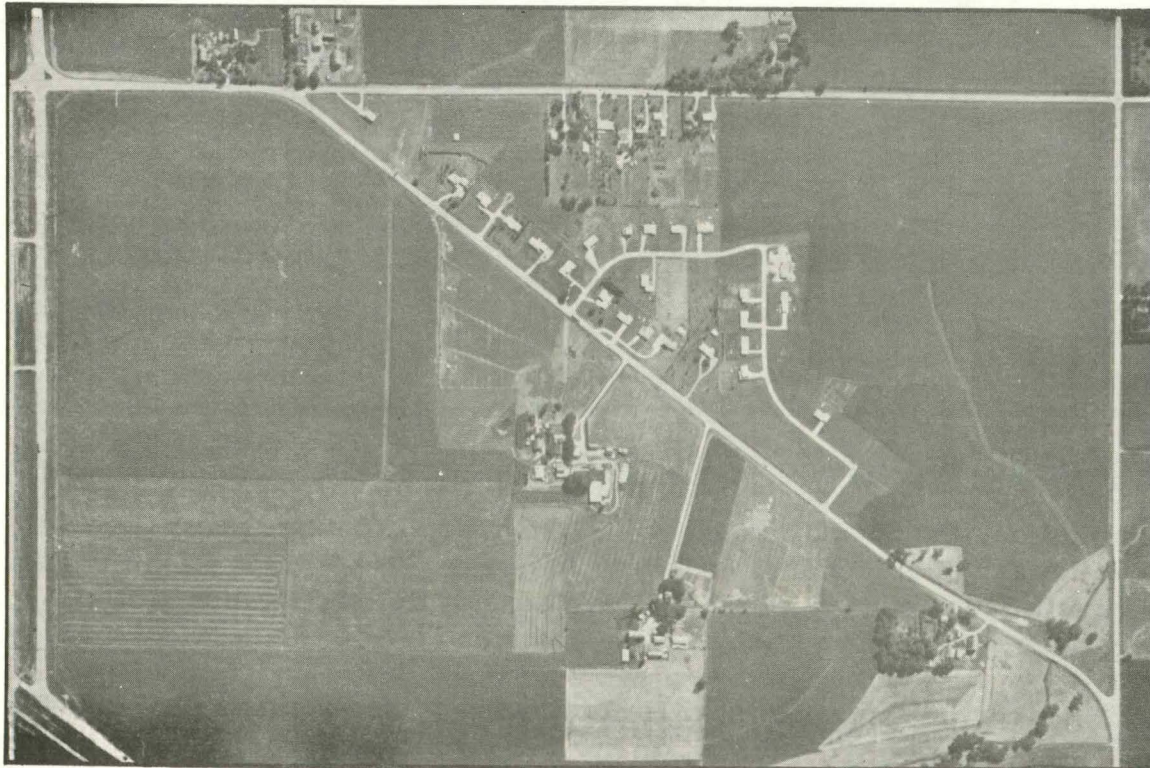
As of January, 1969, there were about 900 mobile homes in mobile home courts within the county, with all these being located within the study area. At the same time, these courts had 1,052 spaces ready for occupancy and another 400 spaces planned. Within the last year, a number of new mobile home courts have entered the planning or development stages.

If mobile home living becomes as popular as currently estimated, then residential land use patterns will experience changes in population distribution and density. Mobile home courts will tend to develop along major highways or arterial streets, close to adequate shopping facilities, and within reach of municipal utilities. Population densities will be somewhat higher in such courts. Such areas must be developed in close coordination with the provision and location of adequate community services and an adequate street system.

A second settlement trend which is becoming pronounced is the location of non-farm homes throughout rural parts of the county. More people are wanting to construct homes and raise families outside urban areas but within convenient commuting range to their job in the urban area.

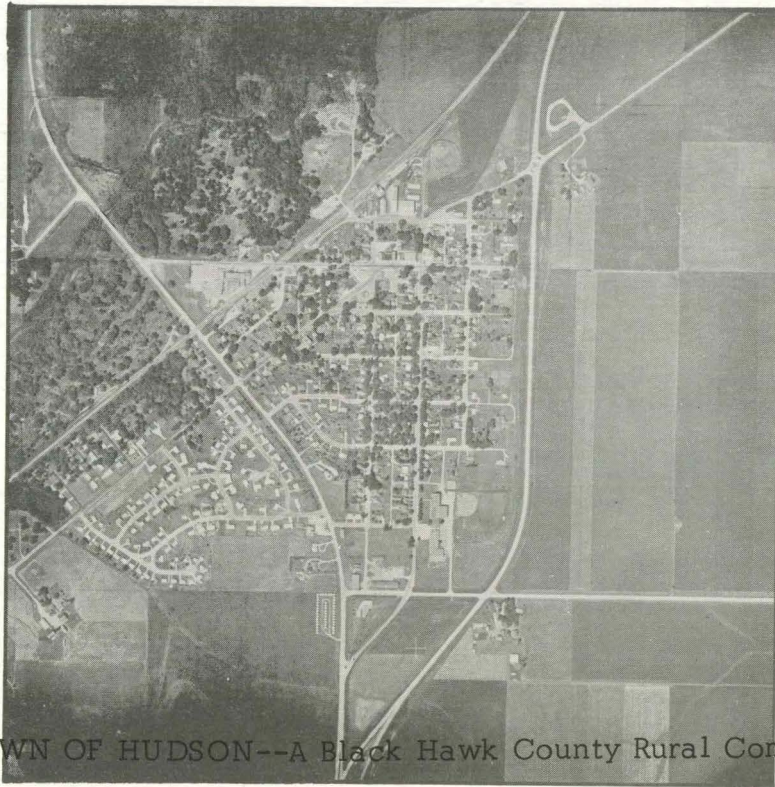
Within the last decade many rural subdivisions have been platted and developed. Many people are taking advantage of the relatively good scenery and timbered areas in the northwestern corner of the county for home building. Many acreages have been developed there recently in addition to subdivisions such as Turkey Foot Heights, Green Cedar Hills, Sylvan Acres, and Robey's Acres.

Other rural subdivisions include: Morrow Heights, Hennings Addition, Highway Addition, Cherry Wood, Lakewood Hills, Hudson Heights, and Mayer's Lake Addition.



A Rural Subdivision Near Waterloo

In addition to the development of rural subdivisions, the rural towns in the county are becoming more populated by people who work in the urban area. Furthermore, large mobile home courts are developing in adjacent counties close to the Black Hawk County border along major highways. Undoubtedly, most of the residents of these courts will be commuting to the Waterloo-Cedar Falls metropolitan area for jobs and services.



TOWN OF HUDSON--A Black Hawk County Rural Community

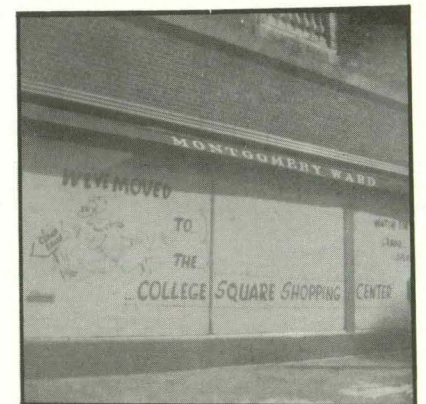
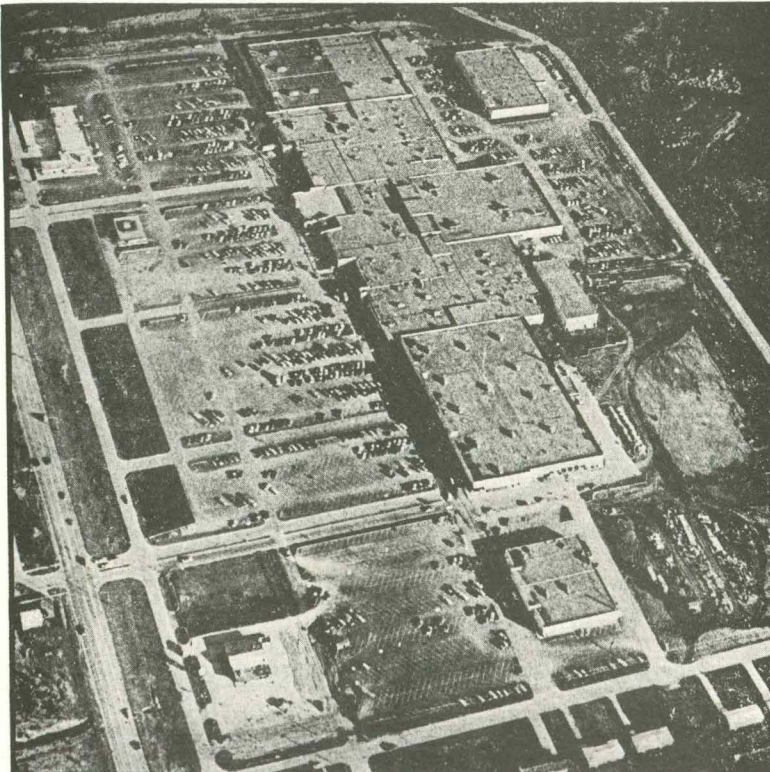
This decentralization trend has significant implications for the pattern of our future residential land use and population distribution. Because of this decentralization, the population growth within the incorporated urban area will be less for any given level of employment growth. The decentralization trend will be stimulated even more as freeways are constructed throughout the county. Moreover, the growth of rural towns and subdivisions will bring with it the corresponding need to provide adequate water and sewer facilities, streets, waste disposal, police protection, and other essential social and governmental services. It is hoped that this rural growth can be well planned and developed. However, an immediate problem is the necessity to provide new sources of taxes to assist in financing the required community services.

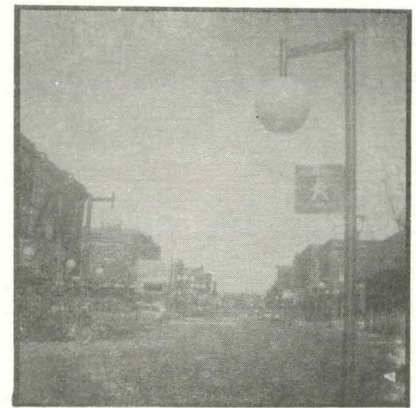
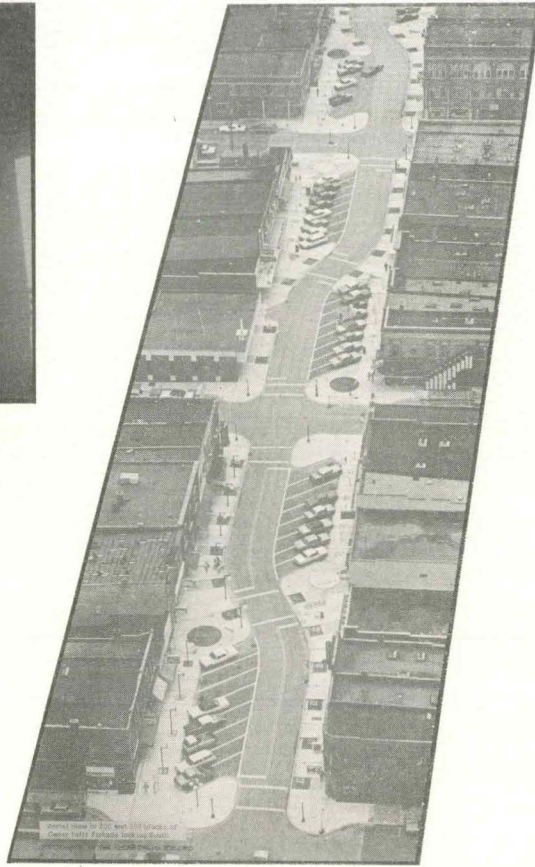
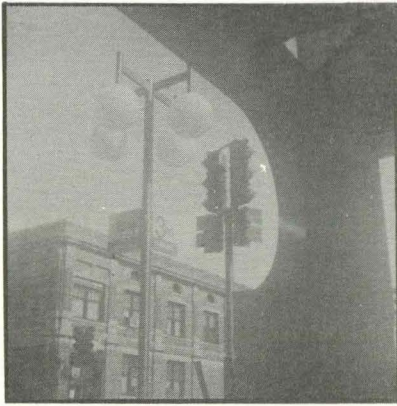
Commercial

Another significant land use change which has developed over the past year is the increasing vacancy rate of stores in the Waterloo central business district. This situation was given impetus by the availability of shopping center space in the fringe areas. Over a dozen businesses have left the CBD within the last year and others have just discontinued business. The closing of Penneys, Montgomery Ward, and Sears Roebuck contributed to the closing of many similar businesses which depend on the shopping traffic generated by these large retail outlets.

A number of vacant downtown buildings have been demolished and parking lots or riverfront greenbelt created in their place. The greenbelt corridor along the river is a very positive asset to the esthetic image of downtown. Of further benefit to the downtown area is the improvement of such buildings as Iowa Public Service Company, Walker's Shoe Store, and the demolition of other blighted buildings.

That part of the CBD on the west side of the river has experienced the greatest number of vacancies; whereas, the east side has remained fairly stable. It is anticipated that the west side will be redeveloped for services uses, offices, apartments, and convention facilities with the east side remaining the predominant retail portion of the CBD.





MAIN STREET PARKADE IN CEDAR FALLS

Industrial

Most major industries in the Waterloo urban area have implemented expansion programs since 1964, but there have been no significant new industrial developments in the area. However, the local John Deere Tractor Plant has been purchasing and redeveloping about 170 acres of land adjacent to their plant for the construction of a new electric foundry and supplementary uses. This facility is scheduled to be completed within two years. This will be the largest single industrial development project in the Waterloo area and one of the largest in the state.

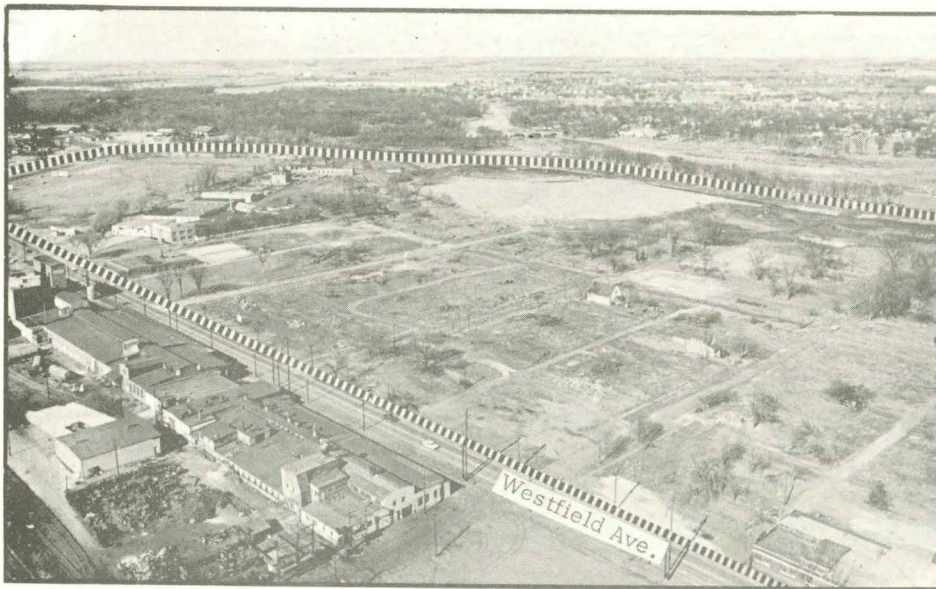
New concentrations of industrial land uses have been developing along Highway 63 southwest of Waterloo and on the south and east sides of the Waterloo Municipal Airport. These areas are expected to be the major future industrial development sectors in addition to similar but smaller sectors located at selected freeway interchange sites.

Transportation and Traffic Pattern

The improvements made on the local street and highway system during the last few years by Waterloo, Cedar Falls, and Evansdale, in cooperation with the Highway Commission, have complemented and conformed to the transportation plan finished two years ago.

The Developing Traffic Generation Pattern

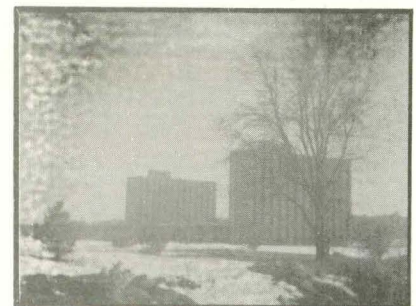
The land use pattern projected in the local Comprehensive Plan is shaping the pattern of traffic generation in the urban area. Such uses as the two new regional shopping centers, University of Northern Iowa, Waterloo Airport, and developing residential and industrial uses in southern Waterloo have generated increased traffic. Downtown Waterloo has experienced a decline in retail shopping traffic during the last year. Of continuing concern is the increasing traffic being generated on Highway 218 between Waterloo and Cedar Falls. This area is continuing to develop, thus making traffic movement and safety even more critical. The long delayed reconstruction of this route in 1970 should relieve much of the congestion and safety hazards.



High-rise dormitories at
University of Northern
Iowa






Dashed line shows part of area being redeveloped for new John Deere electric foundry.

The John Deere foundry development and the growing University will generate much of the additional traffic in the urban area.



Waterloo Metropolitan Area

LEGEND

-  EXISTING URBAN DEVELOPMENT
-  ESTIMATED GROWTH AREAS TO 1990
-  PROPOSED MAJOR TRAFFIC ROUTES
-  EXISTING MAJOR TRAFFIC GENERATORS
-  DEVELOPING OR PROJECTED LOCATIONS OF MAJOR TRAFFIC GENERATORS



Projected Urban Growth Pattern



To give some indication of the growth of traffic generated by developing or planned uses, the following data is given:

CROSSROADS SHOPPING CENTER

Site: 250 Acres - 60 Stores
Parking: 4,000 - 5,000 Cars
Floor Space: 878,574 sq. ft.
Total Planned Floor Space: 1,182,000 sq. ft.
Traffic Generation: 35,000 1st stage
50,000 eventual
2,000 Employees

NEW JOHN DEERE FOUNDRY

9 Acres of Floor Space
\$20,000,000 Building
150 Acre Site
1,000 - 2,000 Jobs

NEW WATERLOO HIGH SCHOOL

53 Acres
1,000 - 2,000 Students
\$4,300,000

HAWKEYE INSTITUTE OF TECHNOLOGY

320 Acres
\$7,000,000
Projected Enrollment: 5,000 Students

COLLEGE SQUARE SHOPPING CENTER

122 Acres
\$6,000,000
3,000 Parking Spaces
400,000 sq. ft.
1,000 Employees

UNIVERSITY OF NORTHERN IOWA

Projected Enrollment - 15,000+
10,000 Seat Coliseum
1,000 Units Married Student
Housing
4,500 Commuting Students
11,117 Parking Spaces
550 Acres - Present Size
180 Additional Acres to be
Purchased

ST. FRANCIS HOSPITAL

400 Beds
\$8,000,000 Building
800 Parking Spaces

Street and Highway Improvements

Programmed improvements to relieve traffic and safety problems on the local street system have continued to be implemented. However, various setbacks in the Highway Commission's programmed improvements have delayed long needed improvements to improve the traffic movement and safety throughout the metropolitan area.

The following table summarizes recent street and highway improvements in the Waterloo area.

RECENT ARTERIAL STREET AND HIGHWAY IMPROVEMENTS			
YEAR	PROJECT DESCRIPTION	LENGTH	COST
<u>WATERLOO</u>			
1968	Hammond Ave. Paving	1490 ft.	\$ 44,568
1968	New Fifth St. Bridge	630 ft.	1,050,000
1968	Park Ave. Bridge Repair	650 ft.	40,000
1968	Waterloo-Cedar Falls Freeway Study	--	77,283
1969	Ansborough Ave. Bridge	500 ft.	333,754
1969	Burton Ave. Paving	5230 ft.	94,330
1969	Hammond Ave. Paving	2942 ft.	101,626
1969	Ansborough Ave. Paving	4018 ft.	378,589
1969	Falls Ave. Paving	1959 ft.	105,550
1969	W. Parker St. Paving	2654 ft.	96,433
1969	Conger St. & Riehl St. Connection	2100 ft.	58,424
	TOTAL		\$ 2,380,557
<u>CEDAR FALLS</u>			
1968-69	Main St. Parkade	1600 ft.	\$ 421,793
1968	Arterial St. Paving	8400 ft.	110,000
1968	Resurfacing & Widening	3500 ft.	50,000
1968	South Main St. Bridge	42 ft.	45,119
1969	Arterial Street Paving	2800 ft.	52,000
1969	Resurfacing & Widening	2800 ft.	40,000
	TOTAL		\$ 718,912
<u>HIGHWAY COMMISSION</u>			
1968	Hwy. 21 Paving in Waterloo & County	11.0 miles	\$ 1,498,000
1968	U.S. 63 Reconstruction in Waterloo	5.0 miles	1,320,000
1968	New First Street Bridge	650 ft.	530,400
1968	U.S. 218 Bridge in North Cedar	1.1 miles	663,000
1969	Hwy. 57 Shoulder Widening in Waterloo	2.6 miles	26,000
1969	Hwy. 58 Reconstruction in Cedar Falls	1.1 miles	542,000
1969	U.S. 218 Resurfacing in Washburn	0.8 miles	33,000
	TOTAL		\$ 4,612,400
URBAN AREA TOTAL			\$ 7,711,869

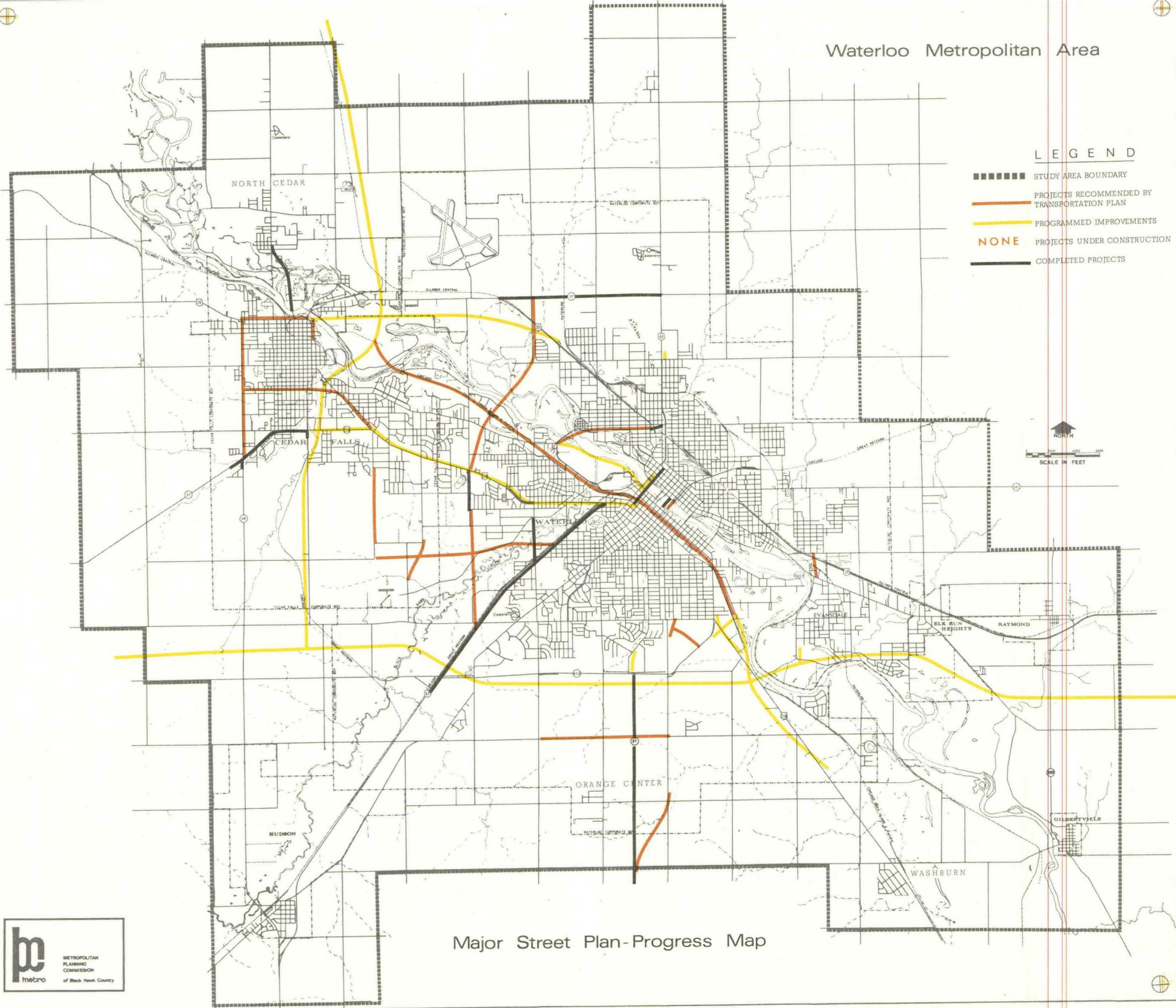
Waterloo Metropolitan Area

LEGEND

- STUDY AREA BOUNDARY
- PROJECTS RECOMMENDED BY TRANSPORTATION PLAN
- PROGRAMMED IMPROVEMENTS
- NONE PROJECTS UNDER CONSTRUCTION
- COMPLETED PROJECTS



Major Street Plan-Progress Map



Functional Street Classification

During 1969 the Metro staff, in cooperation with the City Engineering Departments of Waterloo and Cedar Falls, completed a functional classification of the urban street system.

This National Classification Study was a requirement under Section 17 of the 1968 Federal Aid Highway Act. Under this section, the U.S. Congress directed the Secretary of Transportation to report in January, 1970, the results of a systematic nation-wide functional highway classification study to be made in cooperation with State Highway Departments and local governments. This study was basically designed to compare existing Federal aid systems with logical functional usage of existing facilities to serve current travel demands.

TOPICS Program

In August of 1969 the Metro Planning Commission began preparation of a Traffic Operation Plan to Improve Capacity and Safety. This program was authorized by the 1968 Federal Aid Highway Act.

The program basically is intended to establish a Federal-Aid Primary Type II street system qualified for Federal aid. To date Federal aid is available only on Type I primary highways, secondary roads, and the interstate highway system. The Type II street system will consist mostly of local arterial or collector streets.

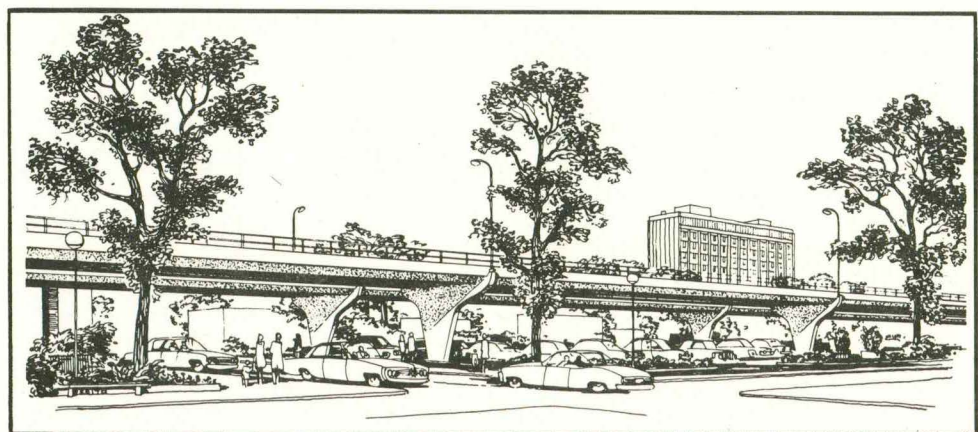
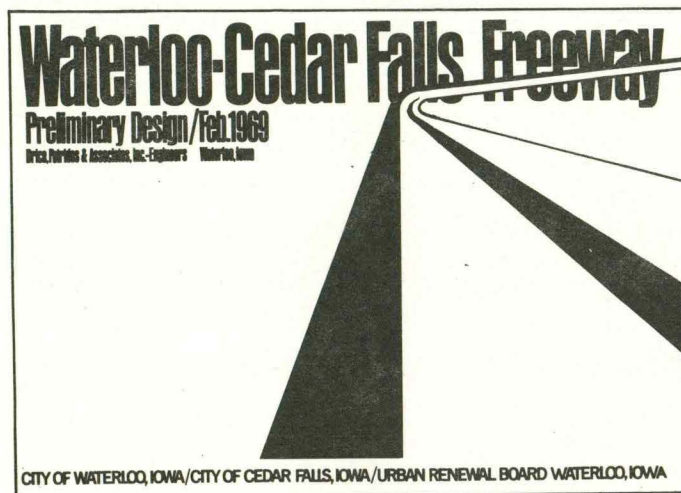
The preparation of the TOPICS plan involves four principal steps: (1) Designation of a Type II street system; (2) Completion of an area-wide general plan; (3) Preparation of an area-wide TOPICS plan, and (4) The preparation and submission of project priorities. TOPICS plan and priority projects for Waterloo, Cedar Falls, and Evansdale were submitted to the Highway Commission before the December 31, 1969, deadline, with final approval to be determined by the Bureau of Public Roads. Those projects approved for funding can expect up to a 50 percent reimbursement of the total project cost from the Highway Commission.

<u>WATERLOO</u>		
Priority No. 1	Traffic Signals for 11 intersections along proposed Highway 218 widening	\$ 348,778.00
Priority No. 2	Highways 218 and 412 improvements	505,100.00
Priority No. 3	Traffic signals for 4 intersections at Highways 218 and 412 improvements	96,367.00
	TOTAL	<u>\$ 950,245.00</u>
<u>CEDAR FALLS</u>		
Priority No. 1	Traffic signals for 7 intersections along proposed Highway 218 widening	\$ 201,400.00
Priority No. 2	Improvements on 4 arterial streets	61,400.00
	TOTAL	<u>\$ 262,800.00</u>
<u>EVANSDALE</u>		
Priority No. 1	Lafayette Road improvement	TOTAL \$ 61,657.75
	AREA-WIDE TOTAL	<u>\$ 1,274,702.75</u>

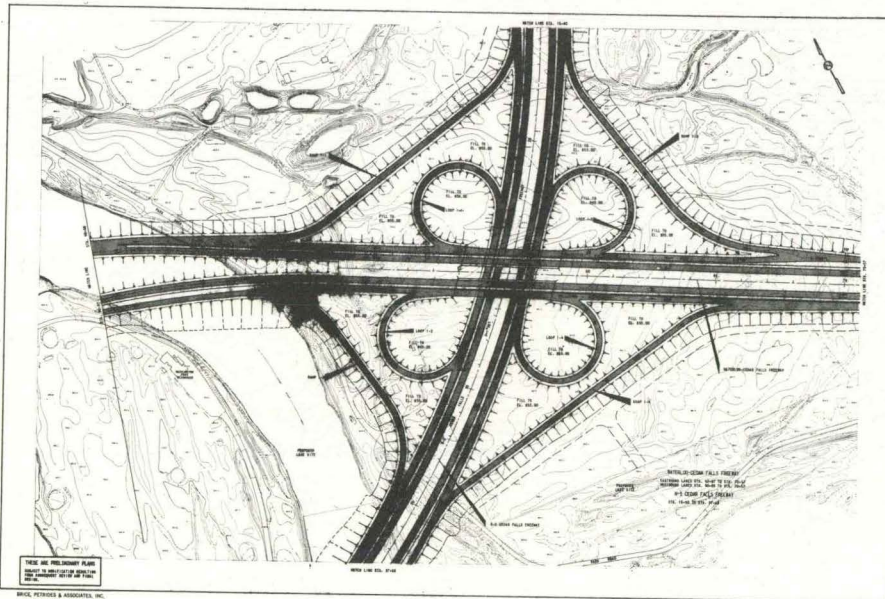
Waterloo-Cedar Falls Freeway Study

At the conclusion of the transportation plan completed in 1967, the Metropolitan Planning Commission took steps to implement the number one priority project recommended in that plan; e.g., a freeway between downtown Waterloo and Cedar Falls. The Commission hired the consulting engineering firm of Brice, Petrides & Associates, Inc., to prepare a freeway route study including design features, design criteria, location factors, alternative design considerations, structural data, estimates of project costs including properties affected by the design and set forth priorities of construction.

Their highly sophisticated study, conducted in cooperation with the Highway Commission and finished in 1969, furnished the ground work for a 8.3 mile, \$52,000,000 freeway which could be a logical extension of the interstate highway route already programmed into the City of Waterloo. This study was intended to furnish assistance to local, State, and Federal highway authorities in making policies and establishing priorities concerning transportation needs.



VIEW OF THE FREEWAY FROM WEST THIRD STREET
LOOKING TOWARD WATERLOO HOLIDAY INN



Interchange of Waterloo-Cedar Falls Freeway
with Proposed State Freeway No. 518

Urban Transportation Planning Activities
Highway Commission

During 1969 the Highway Commission has been responsible for or participated in the following planning activities:

1. Operations Plan
The Operations Plan for Continuing Urban Transportation Planning was revised and work scope sheets for 1969 were prepared. The Bureau of Public Roads approved the Plan on June 16, 1969.
2. Convert Transportation Study Tapes
The 1975 and 1990 total trip tapes prepared by Alan M. Voorhees and Associates, Inc., were converted to SYS/360 format. AMV 1990 network D-1 was coded in SYS/360 format and updated to WATSNET-1. This network represented the recommended transportation plan described in the final report of January, 1968.
3. Traffic Assignments
1975 and 1990 trips were assigned to WATSNET-2 which included the new location of #520 Freeway and U.S. 63 - U.S. 218 intersection modifications.
4. Traffic Counting
A cooperative traffic counting program was started in Waterloo. The city made 352 manual traffic counts at 143 locations during May - August, 1969. Highway Planning Surveys Department counted at 55 locations and is processing all of the field count data.

5. Financial Resources Study

The Urban Transportation Study staff developed study procedures to utilize available financial resource data. These methods were applied to the Waterloo area data, and a technical report is in draft form.

6. 1969 Network

Street name, node-link, administrative class, functional class, area type, parking and pavement width and traffic zone reproducible work maps were prepared. Node A, Node B, distance and speed data for the 1969 network was coded.

7. Information

A high altitude aerial photo of the study area was made on April 19, 1969. Diazo prints (scale of 1" = 2,000') are available for work map purposes.

Turning movement estimates for 1971-1991 were prepared for the interchanges along the #520 Freeway through the study area at the request of the Design Department.

Transit

The findings and recommendations of the metropolitan area transportation study concerning transit were published in August of 1967, with a supplementary study published in June of 1969.

The local transit system reached a serious financial dilemma in 1965, at which time the Waterloo Industrial Development Association (WIDA) took over the system. Since then this bus system has been making modifications in its operation to remain in existence. The City of Waterloo has assisted in this endeavor by contributing local money and securing a Federal grant to purchase 30 new busses at a total cost of \$487,000. The City of Cedar Falls also contributes \$5,000 per year to help support the transit system.

Currently this bus system accounts for two percent of all vehicle trips in the metro area. The two trip purposes which make up the largest proportion of bus trips are home to school trips and home to work trips which together make up 38 percent of all bus trips. This points out that travel by bus makes up only a very small part of the total and is even less significant if considered separately from school-bus travel which is subject to School Board policy which is difficult to predict for the future.

The Transit Company currently operates seven bus routes covering a total of 2,267 miles. These routes put about 72 percent of the metropolitan area population within a five minute walk or quarter of a mile of a bus line.

A review of the last four year's operation is summarized in the following table:

	Revenue Passengers	Transfer Passengers	Charter Miles	Net Profit or Loss
1966	1,274,460	160,754	10,264	\$ -395
1967	1,189,654	201,791	8,495	-43,982
1968	1,102,749	209,605	11,369	-55,173
1969	1,030,404	204,115	21,074	-44,023

Bus fares have recently been raised from 25 cents to 30 cents for adults including junior and senior high school students. Grade school children pay a 15 cent fare. Furthermore, the use of the exact fare collection system has only recently been put in use to collect these fares.

Raising fares alone will not create a healthy transit system. According to the transit study done in 1969, there must be more attention on the part of the transit company to the area of passenger relations and general public relations. Furthermore, transit's potential can be more fully realized if the residents of the community are made more aware of the transit service which is available to them. To help accomplish this, it has been suggested that maps and descriptions of bus routes be published and that shelters, benches, and other amenities be provided along bus routes.

The transit study completed in 1969 by the Alan M. Voorhees Company included short range and long range recommendations for the transit operations. The short range proposals included route changes, plans for fare increases, promotion of the charter bus service, public information programs, and various capital improvements. Also recommended was the purchase of some mini-busses for the downtown area. This idea has been tentatively delayed pending the recommendations of new downtown studies.

The long range recommendations are presented in the form of a ten-year improvement program (1970-1979) which includes new equipment, office and shop tools, stop signs, schedule holders, garage improvements, bus shelters and benches, organizational and operational changes, and schedule and routing changes.

Parking

Significant additions to the local parking facilities have been added during 1969. The City of Waterloo added about 150 new spaces in the CBD which gives a total of 1435 off-street municipal spaces in the downtown area. This will be adequate for the near future in light of declining retail floor space.

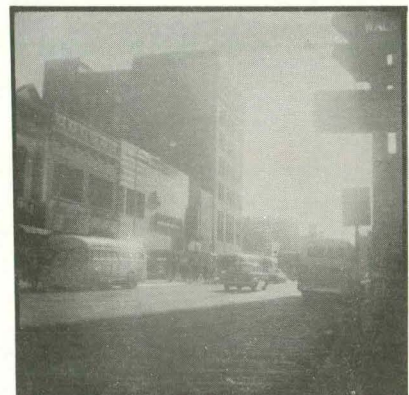
There have been no significant increase in the number of municipal parking spaces in the Cedar Falls CBD. Hundreds of additional spaces have been constructed, however, around University of Northern Iowa facilities recently developed.

The largest parking areas opened during the year were those at the Crossroads and College Square Shopping Centers. Total additional spaces at these two centers totals about 7,000 - 8,000.



A number of buildings in the Waterloo C. B. D., such as the old Sears building above, have been vacated and demolished to provide additional parking space and expand riverfront park and greenbelt areas.

Transit Company buses at E. 4th Street bus stops



Air Transportation

Air travel to or from the Waterloo metropolitan area is facilitated by the Waterloo Municipal Airport in addition to a couple small landing fields.

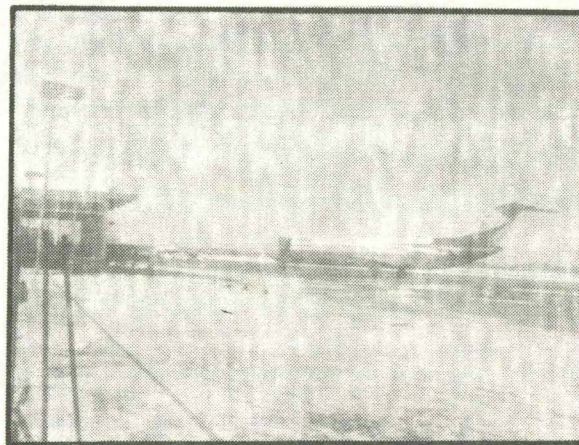
As in all other urban areas, passenger and cargo transportation by air is increasing rapidly. The total number of passengers served by the Municipal Airport in 1969 was 178,849--an increase of 83 percent since 1965. The number of flights during the same time have increased 50 percent. The table below illustrates this growth.

NUMBER OF FLIGHTS

	1965	1969
Air Carrier Service	14,963	13,597
Other Flights	53,546	88,827
TOTAL	68,509	102,424

The number of air carrier flights has decreased slightly because the use of larger planes permits the carrying of more passengers with less flights. To accommodate the larger jet craft being put into use, it was necessary to add a 1,000 foot extension on the NW/SE runway in 1967. An additional 1,000 foot extension is planned for the opposite end of the same runway in 1971 to create a runway 8,500 feet.

Other facilities proposed for the near future include a modern freight terminal, additional taxi-ways, more hangars, and an improved access road to the main terminal building.



An Ozark flight arriving at the Waterloo Municipal Airport

Community Controls and Value Factors

The last few years have seen the initiation or completion of many efforts designed to make our urban area a better place to live.

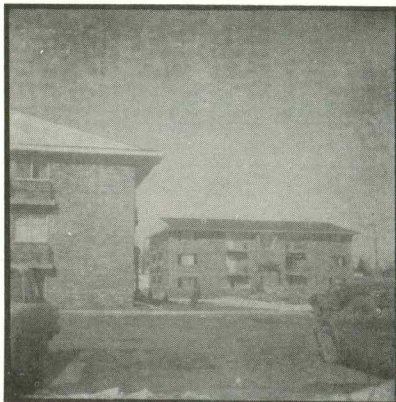
As a result of the model zoning ordinance proposed in the Comprehensive Plan, the cities of Waterloo, Cedar Falls, and Evansdale have begun revising their ordinances to conform with the modern uniform ordinance. Waterloo has already adopted the new ordinance, and the other communities are now completing their final revisions.

An important new element of the uniform ordinance is the provision of a "Planned Residence District." This permits developers to vary from the normal zoning requirements in the development of a parcel of land larger than 10 acres, provided the development proceeds according to a unified, pre-established plan reviewed by the Planning Commission. The development must, however, conform to general zoning requirements and applicable performance standards. This provision will stimulate the development of more imaginative and esthetic residential and commercial areas.

In response to a critical housing shortage in the area, the Waterloo City Council recently established a Housing Authority which will be charged with finding or providing housing for low income, elderly, or displaced persons.

The City of Evansdale has recently received funds to implement their Urban Renewal project. A significant part of the program has already begun with the construction of a government-financed apartment project sponsored by a non-profit corporation. A housing project for the elderly is currently under consideration. Complementing these efforts is the installation of the town's first sanitary sewer system and treatment plant.

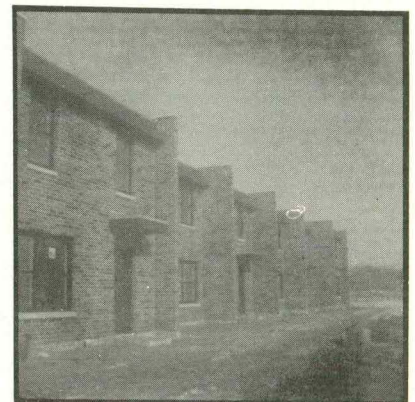
The Metropolitan Planning Commission will be assisting in the housing effort by undertaking a comprehensive housing study as required by the 1968 Housing Act.



Government-assisted housing projects sponsored by non-profit organizations

Waterloo

Evansdale



The position of low income, disadvantaged groups is also being improved by the efforts of such groups as the Human Rights Commission, Community Action Council, Head Start Programs, VISTA, and others.

Significant community benefit is being derived from the almost completed Westfield-Virden Urban Renewal Project. Land was made available for John Deere to develop a new electric foundry which will provide more jobs and puts this redeveloped land in a much better position on the tax rolls.

Local flood control planning has advanced to the point where money has been allocated for the construction of flood control devices along the Cedar River thus providing flood protection to many families and businesses formerly damaged every flood season. A Flood Plain Information Report for Black Hawk Creek was completed in 1969 which gives communities and developers information which will assist them in making decisions concerning the protection of existing and future developments. Flood control devices have been completed on Virden Creek on which flooding in previous years has caused great damage.

The City of Evansdale is currently working with the Corps of Engineers in the design of flood protection dikes along the Cedar River and Elk Run Creek.

City officials and businessmen in Cedar Falls have realized the value of maintaining the Central Business District as a viable, healthy market place of benefit to the entire community. To this end, the city and merchants have contributed money to construct a five-block "Parkade" on Main Street. The Parkade provides many of the amenities and comforts for the enjoyment of pedestrian shoppers. This facility will be completed in 1970.

The urban areas' park and open space facilities are being developed or acquired through programs of the Waterloo and Cedar Falls Park Boards and the County Conservation Board. Donations and Federal grants have helped

Survey Shows Public Likes 'Simple Activities'

Conservation Board Accepts Plan for Neighborhood Parks, Greenbelts

An ambitious five-year park development plan for Black Hawk county has been adopted in final form by the county conservation board. The plan, adopted in preliminary form 2 1/2 years ago, calls for expansion of the county's park system to help meet increasing population. It calls for more neighborhood parks to meet daily need for recreation and three major greenbelts, along major arteries, to provide enough park land and recreation facilities so ment for use by 1971.

The survey disclosed that "local interest in water based activities is increasing each year" and that 88 per cent of those responding to the poll "indicated that they prefer a quiet place with not too many people around when enjoying the outdoors."

Among participation sports, according to the survey, camping was highest on the list.

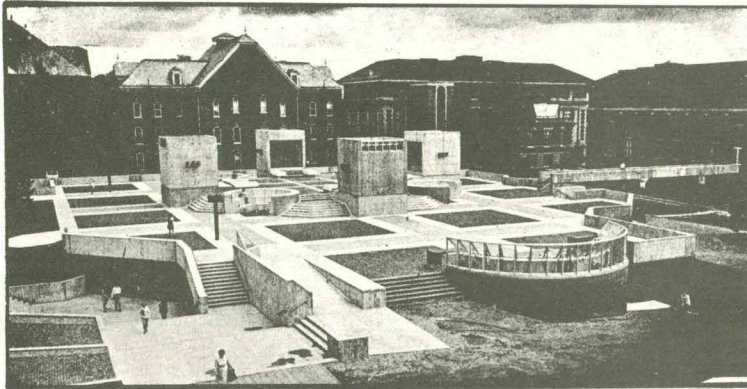
The plan on parks and open spaces endorses the concept of neighborhood parks tied in with neighborhood schools, saying it saves money and leads to "better neighborhood development." The plan proposes (full) development of greenbelts along the Cedar and Wapsipinicon rivers and Black Hawk creek. Also proposed are a "new auditorium . . . capable of handling indoor sports events, cultural and other civic . . . assessment on new residential . . . necessary in . . . concessions. The plan also invites "the private sector" to join in park acquisition and development. It states that because of the "price tag on its proposals, it does, however, say local, state and federal governments must share its costs. And it stresses that in financing the most basic facilities of local governments, it expects the cooperation of private individuals and capital.

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acquire much of the greenbelt along Black Hawk Creek. The Park Boards of both cities have received grants to develop a new major park in each community. All park authorities are currently cooperating with the Metro Planning Commission and the Iowa Natural Resources Council in studying the feasibility of constructing a 1500 acre lake development in the Cedar River flood plain between Waterloo and Cedar Falls.

The educational and cultural opportunities have been further developed in recent years. The University of Northern Iowa has been constructing many new facilities and offering new educational, entertainment, and cultural programs for its 10,000 students and the entire urban area.

The new 200 acre campus of the Hawkeye Institute of Technology has only recently begun development which will provide outstanding technical educational opportunities for the area.



New student union at the University of Northern Iowa

New campus of the Hawkeye Institute of Technology



The City of Waterloo passed a school bond issue in 1969 which involved a new \$4,000,000 high school to be built in the west end of the community. This facility along with new elementary schools will assure continuing quality of local educational systems.

To complement the new schools, the Metro Planning Commission, in cooperation with the Waterloo Chamber of Commerce and the City Planning Commission, is producing a sidewalk study designed to establish policies and programs to provide badly needed sidewalks for the safety of school children and other pedestrians.

Black Hawk County has recently decided to better the local environment by reducing air pollution and adopting measures to preserve clean air for the future. Acting through the County Health Board and in cooperation with the Metropolitan Planning Commission and Doerfer Laboratories, the county is undertaking a study of the existing air quality and will present recommendations for the prevention of air pollution.

In 1969 the County Board of Supervisors realized the value of controlling ground water pollution and eliminating health hazards caused by the proliferating of subdivisions using septic tanks. The county now requires rural subdivisions to use some method of centralized sewage collection and disposal.

Perhaps the most serious concern to city and county officials is the pressing financial condition which they are in. Local governments are finding it virtually impossible to keep up with the level of services and facilities desired by our increasingly affluent society because of unrealistic limits on local taxing powers. If urban areas are to maintain their high standards of living then newer progressive sources of taxes must be made available so cities can continue to provide an adequate level of area-wide services.

Continuing Transportation Planning

INTRODUCTION

The nature and scope of the local transportation planning process has been determined to a great extent by the Federal Aid Highway Act of 1962. This Act stated that transportation planning in metropolitan areas was to be a "cooperative, comprehensive, and continuing process." The WATERLOO METROPOLITAN AREA TRANSPORTATION STUDY (WMATS) completed in March of 1968 was, therefore, a product of cooperative and comprehensive planning. Beginning in January of 1969, the Metropolitan Planning Commission in cooperation with the Iowa Highway Commission commenced the continuing phase of the planning program.

OPERATIONS PLAN

The first task was the preparation of an OPERATIONS PLAN which was to outline the scope of the program, participant's responsibility, recommend staffing structure for its operation, and estimate its financial requirements. A preliminary operations plan was prepared in August of 1968 by the Highway Commission, and after discussion with the Metro staff, a final plan was available in January, 1969. The organizational structure of the continuing transportation planning program is illustrated in Figure No. 1.

The operations plan established a number of work items for the years 1969, 1970, and 1971. The work items for 1969 were later detailed in a number of "scope sheets" prepared by the Highway Commission and approved by the Metro Planning Commission on March 26, 1969. The 1969 work program has consisted generally of data maintenance and surveillance of land activity and socio-economic data to be used in a major plan review and reappraisal in 1971. A summary of the 1969 work items is listed in Figure No. 2.

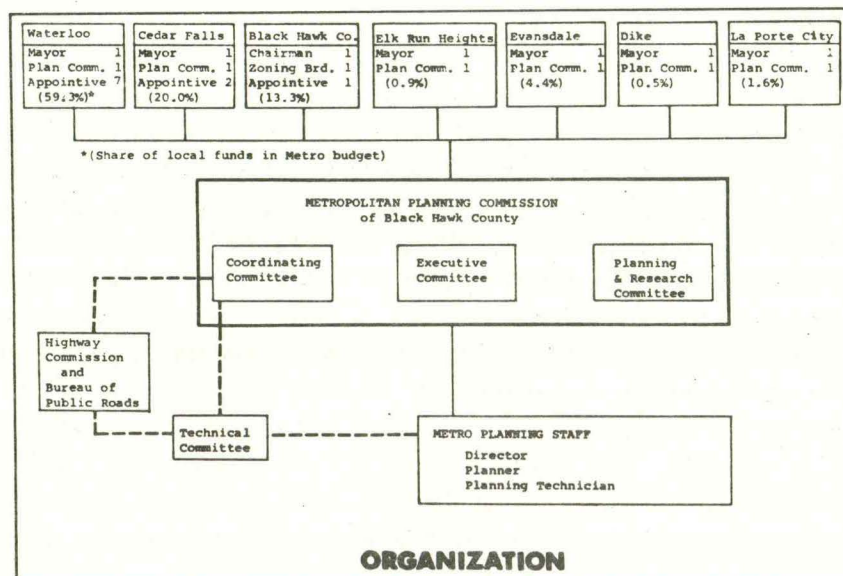


Figure 1

SUMMARY OF WORK - 1969				
	Responsibility		Preliminary	
	Local	State	Cost (Local)	Estimate (State)
1969 - 1. Public Information Program & Administration	METRO		\$8,000	
2. Summary of Building Permits	METRO		7,500	
3. Financial Resources Study	METRO	UTP	500	\$2,210
4. Update Trans. Study Street Inventory		UTP		1,300
5. Traffic Volume Count Program		HPS, UTP		1,250
6. Public Transportation Service Summary	METRO		1,000	
7. Surveillance of accidents, parking, zoning, land development	METRO		1,250	
8. Special traffic analysis service		UTP		3,510
9. Information Service - Transportation Study Data (Local Costs reflected in #1)	METRO	UTP		1,140
10. Annual Review and Report	METRO	UTP	<u>3,000</u>	<u>1,160</u>
			\$21,250	\$10,570

METRO = Metropolitan Planning Commission
 ISHC = Iowa State Highway Commission

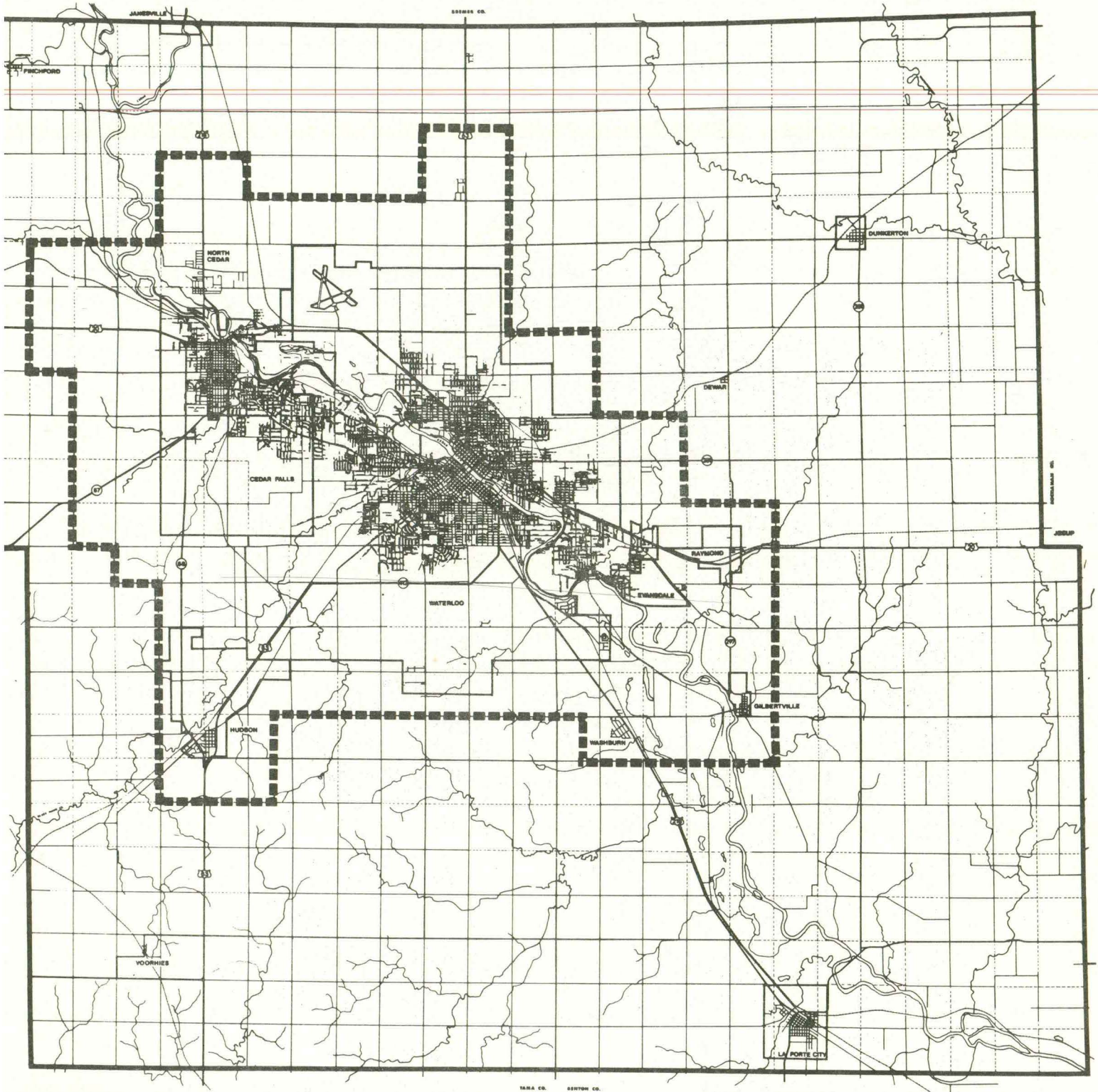
HPS = Highway Planning Surveys
 UTP = Urban Transportation Planning

Figure 2

ENLARGEMENT OF STUDY AREA

Prior to beginning the land activity update, it was determined by the Metro staff that the transportation study area should be enlarged. This was necessary to conform with the Bureau of Public Roads' Policy and Procedure Memorandum 50-9 which requires transportation studies to encompass all areas around existing cities likely to become developed within the next twenty years. A re-evaluation of the nature of urban growth and development indicated that the former study area was much too small. Consequently, 47.88 additional square miles were added to the study area. Most of the new area was in the southeast and southwest corners of the urban area. The communities of Hudson, Gilbertville, and Washburn were included in this new area. The total study area now contains 168.42 square miles. The enlarged area included seven new subzones (184-190) and 13 new districts (82-94). The map in Figure No. 3 illustrates the extent of the WMATS study area.

Black Hawk County, Iowa



METROPOLITAN
PLANNING
COMMISSION
of Black Hawk County

Waterloo Metropolitan Area Transportation Study

Figure 3

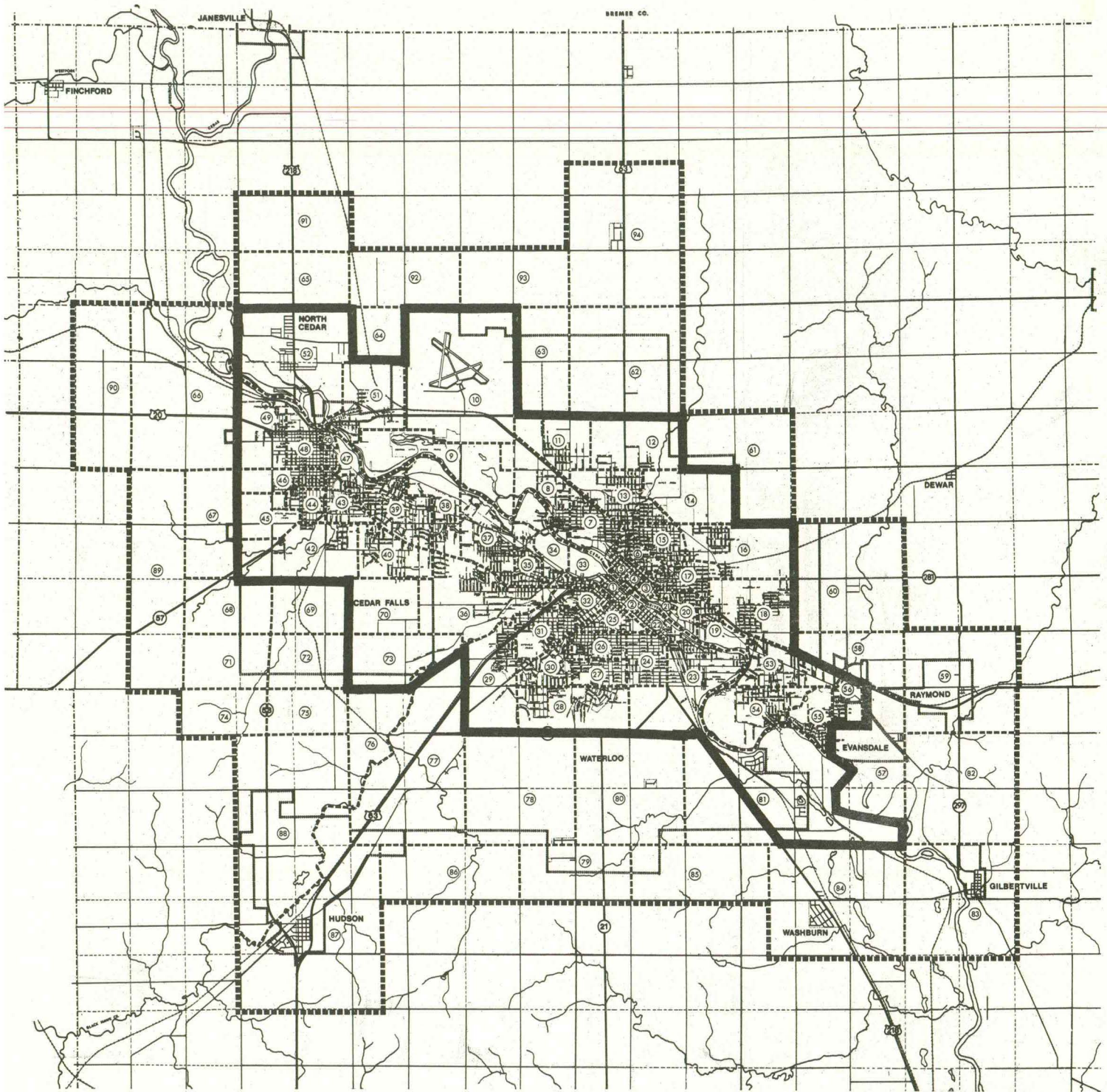
■■■■■■ Study Area Boundary

BASE MAP PREPARATION

With the changing of the study area, it became necessary to construct a series of new base maps. Prior to this, Metro was using base maps prepared by the Highway Commission and the Alan Voorhees & Associates consulting firm. The base maps prepared include those in the following list and illustrated in Figures 4-6.

- Figure No. 4: Transportation District Map
 - original scale: $1\frac{1}{2}" = 1$ mile
- Not Shown: Transportation Subzone Map
 - shows all houses in undeveloped rural areas
 - original scale: $2" = 1$ mile
 - not shown here
- Figure No. 5: Interior Transportation Study Area
 - original scale: $1" = \frac{1}{4}$ mile
- Figure No. 6: Traffic Assignment Network
 - original scale: $1" = 2,000$ feet

New subzone and districts, as well as additional node numbers, were added by the Metro staff to the expanded study area.



METROPOLITAN
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WATERLOO METROPOLITAN AREA TRANSPORTATION STUDY

Figure 4

STUDY AREA BOUNDARY
TRANSPORTATION DISTRICT BOUNDARY
CITY LIMITS BOUNDARY



DEVELOPED METROPOLITAN AREA

WATERLOO METROPOLITAN AREA TRANSPORTATION STUDY

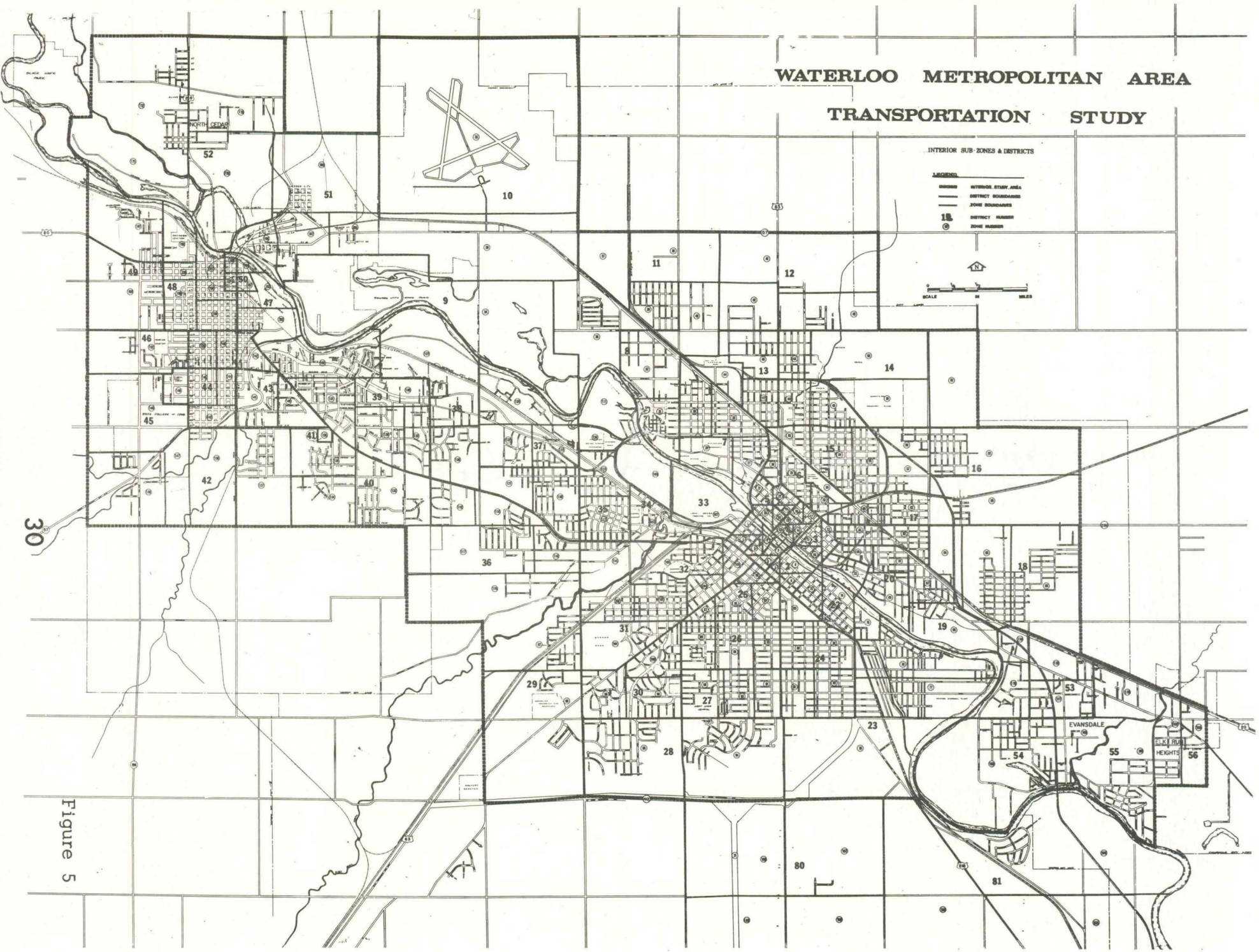
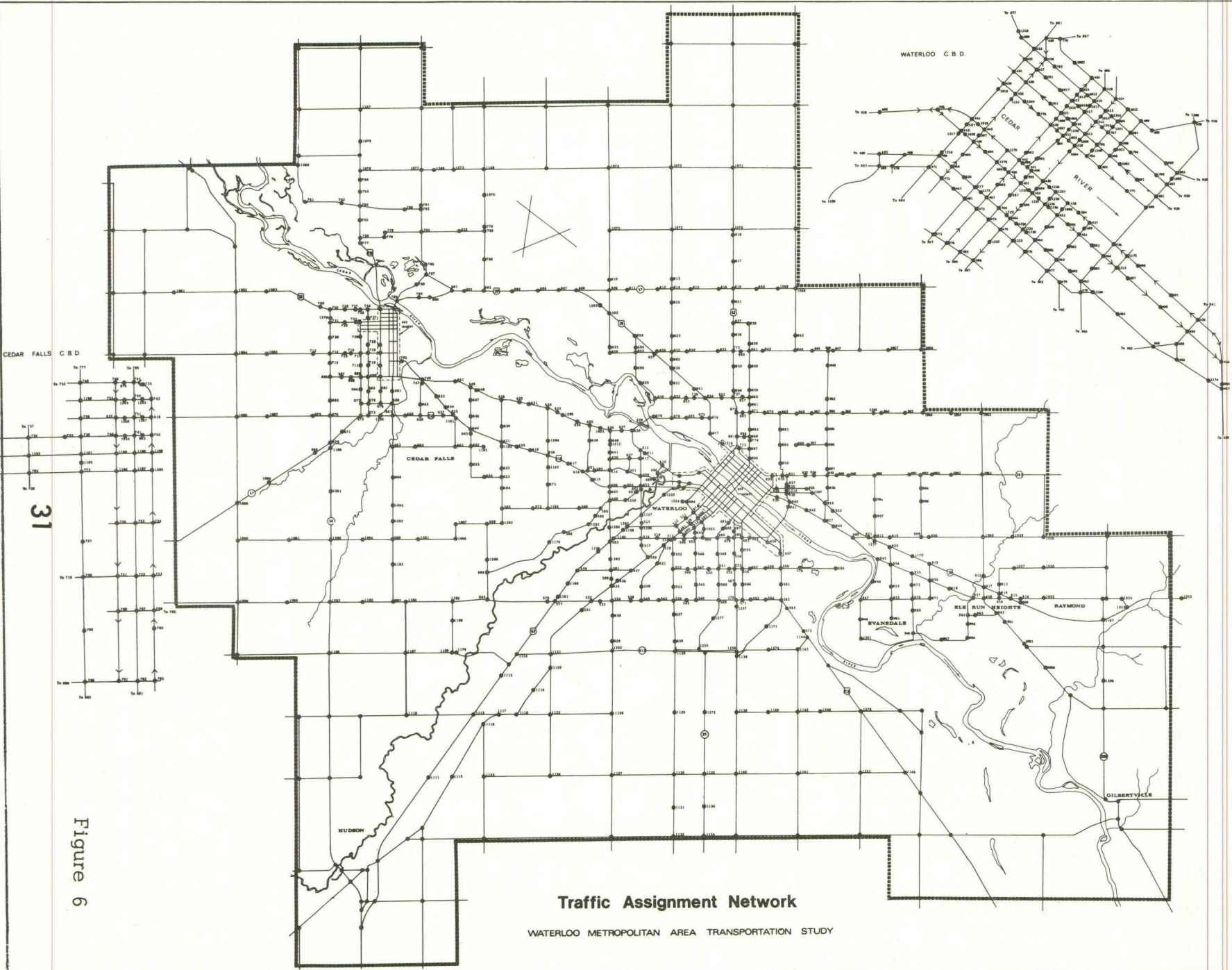


Figure 5

30



Traffic Assignment Network

WATERLOO METROPOLITAN AREA TRANSPORTATION STUDY

- LEGEND**
- Node
 - Node No.
 - Traffic Assignment Street Network
 - ▭ WMATS Study Area
 - Network Link




31

Figure 6

LAND ACTIVITY UPDATE

The principal land activity elements which were updated to January 1, 1969, were population, dwelling units, employment, and automobile ownership. The form in Figure No. 7 lists all the items which were updated for each subzone or district. These completed forms will constitute the LAND ACTIVITY RECORD for each year. All land activity data for 1964 was also transferred to these forms. An explanation of the updating technique for each land activity item is contained below.



METROPOLITAN
PLANNING
COMMISSION
of Black Hawk County

LAND ACTIVITY RECORD

WATERLOO METROPOLITAN AREA TRANSPORTATION STUDY

DISTRICT _____
 SUBZONE _____
 DATE _____

LAND ACTIVITY	CURRENT TOTAL	INCREASE FROM: _____	PERCENT INCREASE
DWELLING UNITS	_____	_____	_____
POPULATION ESTIMATE	_____	_____	_____
LABOR FORCE	_____	_____	_____
TOTAL EMPLOYMENT	_____	_____	_____
MANUFACTURING EMPLOYMENT	_____	_____	_____
RETAIL EMPLOYMENT	_____	_____	_____
OTHER EMPLOYMENT	_____	_____	_____
STUDENTS	_____	_____	_____
AUTOS	_____	_____	_____
PERSONS PER DWELLING UNIT	_____	_____	_____
AUTOS PER DWELLING UNIT	_____	_____	_____
GROSS POPULATION DENSITY	_____	_____	_____
RESIDENTIAL DENSITY*	_____	_____	_____

* Built-up residential areas including public, semi-public, and neighborhood commercial uses under five acres.

Figure 7

Dwelling Units - All building permits issued in Waterloo, Cedar Falls, Evansdale, and Elk Run Heights since August, 1964, were totaled and located in the appropriate subzone or district according to address. To obtain an accurate net total, all demolition permits were balanced against building permits. Similar permit data, obtained from the County Zoning office, was used for the unincorporated parts of the WMATS study area as well as the remainder of the county including smaller towns. All of the rural dwelling unit inventory was supplemented by personal inspections by a Metro staff member responsible for rural area planning and development matters.

Population - The current population for each subzone was determined by applying the 1964 "person-per-dwelling unit" factor to the current dwelling unit figures. A number of spot samples were taken in the rural parts of the study area and the remainder of the county to obtain person-per-dwelling unit factors which didn't exist in 1964. From these samples it was determined that a factor of 4.00 persons per dwelling unit would be used for the rural part of the study area, and a factor of 3.50 persons per dwelling unit would be used for the remainder of the county. The population of the study area as of January 1, 1969, was determined to be 125,350. This is an 11.6 percent increase. However, the study area increased 40 percent over the same period.

Labor Force - The labor force was determined by adding the number of unemployed to the total employment figure.

Total Employment (Jobs) - The base employment figure for the January 1, 1969, update was the 1968 average Black Hawk County employment of 56,220. This figure was compiled by the Iowa Employment Security Commission (IESC).

The employment breakdown was derived from the job categories appearing on page 4 of the March 1969, AREA EMPLOYMENT DEVELOPMENT bulletin of the IESC.

The employment figures in the 1964 Land Activity Record folder represent "employed persons" derived from the 1964 O & D Survey, whereas, the employment figures in the 1-1-64 Land Activity folder represent "total jobs." Seventeen percent of all jobs in the metro area are held by "moonlighters." On this basis, there would be 38,500 employed persons in the WMATS study area. Total jobs equal 46,400. Because of this difference in the definition of employment, the 1964 and 1969 employment figures cannot correctly be compared.

In 1964, total jobs in the WMATS study area were 36 percent of the study area population. For the 1969 update, this percentage was increased to 37 percent to conform to the State average. There were 46,400 total jobs in the WMATS study area as of 1-1-69. There are 10,500 jobs in the remainder of the county.

Employment changes for individual subzones was found by determining the difference between 1964 and current employment of a selected number of the largest area manufacturing and retail firms. Current employment was determined by telephone interview and by the fall, 1968, issue of the Directory of Manufacturers of the Waterloo Chamber of Commerce.

Students - Current student enrollment in urban and rural schools was determined by a telephone survey of all public and private schools in the spring of 1969.

Automobiles - Temporary help was employed to update automobile ownership. A 10 percent sample of 1968 auto registrations was platted by subzone on large scale metro and county base maps. The Black Hawk County Automobile Registrations book published by the Credit Bureau was used for this.

The other items on the land activity record form are arithmetic factors determined from the preceding information. Residential density could not be determined for 1969 since there was no accompanying land use survey from which to obtain a current measure of the amount of residential land by subzone. This will be done during the summer of 1970.

The summary data for all the preceding land activity items for Black Hawk County, the WMATS study area, and for the developed metro area appears in Figures 8, 9, and 10.



METROPOLITAN
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COMMISSION
of Black Hawk County

LAND ACTIVITY RECORD

Total Study Area

WATERLOO METROPOLITAN AREA TRANSPORTATION STUDY

DISTRICT 1-94

SUBZONE 1-190

DATE Jan. 1, 1969

168.42 sq. mi.

LAND ACTIVITY	CURRENT TOTAL	INCREASE FROM: Aug. 1964	PERCENT INCREASE
DWELLING UNITS	38,149	4,148	12.10%
POPULATION ESTIMATE	125,350	13,078	11.60
LABOR FORCE	47,700	6,201	14.90
TOTAL EMPLOYMENT (Jobs)	46,400 Jobs 38,500 Employed Persons	6,110 Jobs 4,942	15.11
MANUFACTURING EMPLOYMENT	20,320	2,120	11.10
RETAIL EMPLOYMENT	7,475	2,140	40.00
OTHER EMPLOYMENT	18,605	1,850	11.00
STUDENTS	41,269	7,297	21.4
AUTOS	56,424	13,769	32.27
PERSONS PER DWELLING UNIT	3.28	-0.22	-6.6
AUTOS PER DWELLING UNIT	1.47	+0.22	17.60
GROSS POPULATION DENSITY	746 p/sq.mi.	-174 p/sq.mi.	-18.91
RESIDENTIAL DENSITY*			

* Built-up residential areas including public, semi-public, and neighborhood commercial uses under five acres.

Figure 8



METROPOLITAN
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LAND ACTIVITY RECORD

Developed Study Area¹

WATERLOO METROPOLITAN AREA TRANSPORTATION STUDY

DISTRICT 1-56,70,73

SUBZONE 1-185

61.76 sq. mi.

DATE Jan. 1, 1969

LAND ACTIVITY	CURRENT TOTAL	INCREASE FROM:	PERCENT INCREASE
DWELLING UNITS	<u>35,515</u>	<u>2,435</u>	<u>7.30%</u>
POPULATION ESTIMATE	<u>115,938</u>	<u>7,101</u>	<u>6.50</u>
LABOR FORCE	<u>45,640</u>	<u>5,820</u>	<u>14.60</u>
TOTAL EMPLOYMENT (Jobs)	<u>44,424</u>	<u>5,450</u>	<u>14.00</u>
MANUFACTURING EMPLOYMENT	<u>19,600</u>	<u>2,000</u>	<u>11.30</u>
RETAIL EMPLOYMENT	<u>7,245</u>	<u>2,075</u>	<u>40.10</u>
OTHER EMPLOYMENT	<u>17,583</u>	<u>1,375</u>	<u>8.40</u>
STUDENTS	<u>39,080</u>	<u>5,908</u>	<u>17.8</u>
AUTOS	<u>51,280</u>	<u>10,739</u>	<u>26.48</u>
PERSONS PER DWELLING UNIT	<u>3.26</u>	<u>-0.03</u>	<u>-0.91</u>
AUTOS PER DWELLING UNIT	<u>1.53</u>	<u>+0.31</u>	<u>25.40</u>
GROSS POPULATION DENSITY	<u>1,877 p/sq.mi.</u>	<u> </u>	<u> </u>
RESIDENTIAL DENSITY*	<u>16 people per acre</u>	<u> </u>	<u> </u>

* Built-up residential areas including public, semi-public, and neighborhood commercial uses under five acres.

¹ See map on page 29.

Figure 9



METROPOLITAN
PLANNING
COMMISSION
of Black Hawk County

LAND ACTIVITY RECORD

Black Hawk County

WATERLOO METROPOLITAN AREA TRANSPORTATION STUDY

DISTRICT _____

SUBZONE _____

569.85 sq. mi.

DATE Jan. 1, 1969

LAND ACTIVITY	CURRENT TOTAL	INCREASE FROM: <u>Aug. 1964</u>	PERCENT INCREASE
DWELLING UNITS	41,135	3,135	8.20%
POPULATION ESTIMATE	135,801	4,501	3.40
LABOR FORCE	58,170	6,770	13.20
TOTAL EMPLOYMENT (Jobs)	47,200 <small>Employed Persons</small>	7,000 <small>Jobs</small>	18.00
MANUFACTURING EMPLOYMENT	20,400	2,200	12.00
RETAIL EMPLOYMENT	7,700	2,200	40.00
OTHER EMPLOYMENT	28,800	2,600	9.90
STUDENTS	43,045	2,045	4.99
AUTOS	61,766	7,884	14.77
PERSONS PER DWELLING UNIT	3.31	-0.14	-4.00
AUTOS PER DWELLING UNIT	1.501	1.10	7.10
GROSS POPULATION DENSITY	238.20 p/sq.mi.	7.85	3.41
RESIDENTIAL DENSITY*	_____	_____	_____

* Built-up residential areas including public, semi-public, and neighborhood commercial uses under five acres.

Figure 10

Traffic Accident Inventory - This inventory was begun during the summer of 1969. Traffic accident records for the years 1966 and 1968 from the cities of Waterloo, Cedar Falls, Evansdale, and Elk Run Heights were used. Only those accidents of more than \$50 property damage, and occurring only on the street assignment network, were inventoried. The Traffic Accident Inventory form appears in Figure No. 11. Accidents were recorded either by network link or node and catalogued numerically by street link and node number for each community.

There were a total of 3,177 accidents and \$1,435,357 property damage on the WMATS assignment network in 1968. To facilitate the analysis of this large number of accidents, summary forms such as the one in Figure No. 12 were used. Land and node accidents were summarized separately. The table in Figure No. 13 summarizes the 1968 accidents on the assignment network. Listings of the top ten accident locations for each community were also produced with the exception of Waterloo for which the top 20 accident locations were listed.

Accidents in the rural portion of the study area were inventoried through the use of records in the County Sheriff's office, Iowa Highway Patrol, and the communities of Raymond, Gilbertville, and Hudson.



METROPOLITAN
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COMMISSION
of Black Hawk County

TRAFFIC ACCIDENT INVENTORY

WATERLOO METROPOLITAN AREA TRANSPORTATION STUDY

NETWORK LINK _____
 NETWORK NODE _____
 MONTH (S) _____

Accident Location	Cause ¹	Surface ² Type	Property Damage	Time
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____
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① Cause 1. Speed Too Fast; 2. Failed to Yield; 3. Drove Left of Center;
 4. Improper Passing; 5. Passed Stop Sign; 6. Disregarded Traffic Signal;
 7. Followed Too Closely; 8. Made Improper Turn; 9. Other Improper Driving;
 10. Inadequate Brakes; 11. Improper Lights; 12. Had Been Drinking;
 13. Car Control

② Surface Type 1. Concrete; 2. Asphalt; 3. Oil; 4. Gravel; 5. Dirt; 6. Other

Figure 11

1968 TRAFFIC ACCIDENT INVENTORY
Summary Sheet

URBAN AREA

Community	Number of Accidents	Percent on WMATS System	Property Damage
Waterloo	2438	84.71%	\$ 952,767
Cedar Falls	527	66.45%	284,168
Evansdale	53	89.83%	34,063
Elk Run Heights	14	90.00%	13,149
North Cedar	51	92.00%	26,960
URBAN TOTAL	3032	84.59%	\$ 1,311,107

Average Property Damage Per Accident \$ 432.42
Percent of Total Urban Accidents Occurring on WMATS System: 84.59%

RURAL AREA

Gilbertville	9		\$ 5,540
Hudson	27		20,175
Raymond	10		8,160
Unincorporated	99		90,370
RURAL TOTAL	145		\$ 124,250

Average Property Damage Per Accident \$ 772.77

TOTAL WMATS SYSTEM - 1968

Number of Accidents	Total Property Damage
3177	\$ 1,435,357



METROPOLITAN
PLANNING
COMMISSION
of Black Hawk County

Figure 13

1970 UPDATE

The chart in Figure No. 14 lists the current population estimates and projections for 1970 as derived by the Metro staff. These projections are based upon the 1969 inventory in conjunction with percentage growth trends since the 1960 census. The 1970 estimate will be cross checked by the 1970 WMATS update and the 1970 Federal census.

The census will be extremely important and useful to transportation and land use planning, since it will provide accurate basic year land activity data.

The 1970 update may also see the addition of three or four more transportation subzones, thus expanding the boundaries of the "developed metropolitan area." No expansion of the WMATS study area boundary is anticipated in the near future.

The table in Figure No. 15 lists the work items comprising the 1970 continuing planning program of the Waterloo Metropolitan Area Transportation Study.

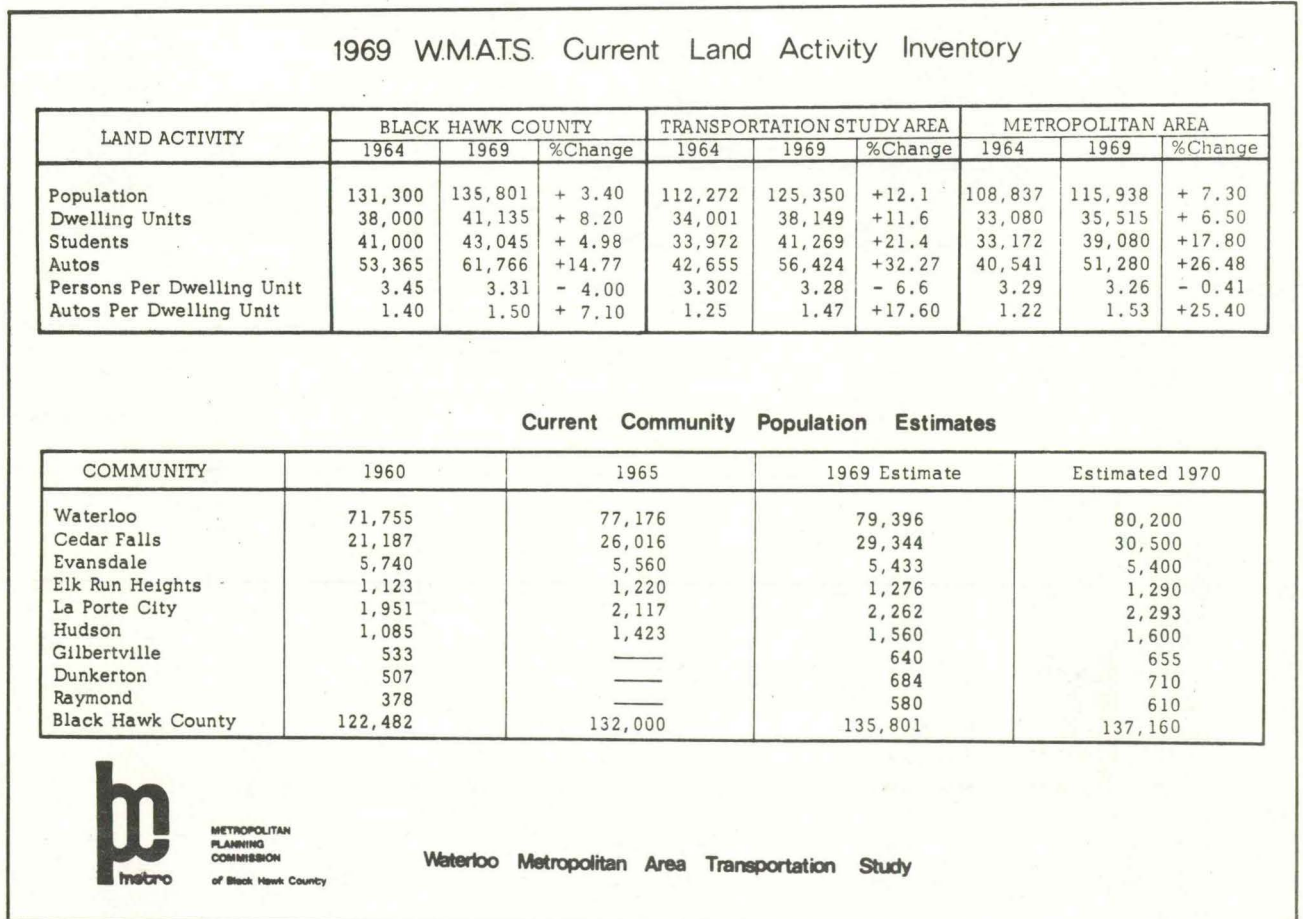


Figure 14

SUMMARY OF WORK - 1970				
	Responsibility		Preliminary	
	Local	State	Cost (Local)	Estimate (State)
1970 - 1. Update Land Use Survey	METRO		\$12,000	
2. Code and Edit Land Use Parcel File	METRO		13,000	
3. Annual Traffic Counts		HPS		\$ 700
4. Coverage Counts on Arterial - Collector System		HPS		8,350
5. Travel Time Survey		UTP		1,570
6. Accident Analysis Procedures	METRO		2,000	
7. Public Transportation Service Summary	METRO		1,250	
8. Surveillance of accidents, parking, zoning, land development	METRO		2,000	
9. Information Service - Transportation Study Data	METRO	UTP	6,000	3,140
10. Annual Review and Report	METRO	UTP	<u>3,000</u>	<u>1,160</u>
			\$39,250	\$14,920

Figure 15

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