

DEVELOPMENT CHARACTERISTICS

A city builds its future upon the foundation of existing development. Intensive surveys have, therefore, been undertaken so that the key development characteristics of Rensselaer may be understood and evaluated. Some important sound resources - building blocks for the future - have been identified. So too have a number of critical problems that require immediate attention and long-term public commitment for their remedy.

The following development characteristics are discussed in the pages to follow:

- o the pattern of development
- o key historic resources
- o existing land use
- o population distribution
- o housing
- o parks and other community facilities
- o transportation
- o available public utilities, particularly water and sewer

Land ownership information has also been compiled for the riverfront and is found at the end of this section.

the development pattern

Development considerations critical in Rensselaer in the 1800's cause the type of land use and the particular densities of development to be what they are today. The pattern of development is typical of industry-driven river valley communities that prospered in an era when the attractive advantage was a key riverfront location for trade and the mode of urban travel was restricted to either foot, the waterways, or the railroads.

The riverfront flat was developed for industrial, mercantile, and railroad activity. This early development restricted in large measure both its availability and its desirability for park, institutional or residential use. The working class, reliant upon the riverfront activity for its livelihood and its feet for its travel, settled in close proximity to the riverfront. This residential development occurred primarily on the bisected hillsides and less elevated sections of the plateau, and was supported by a strong north-south street pattern.

Later development, with the advent of the automobile, moved beyond the first ridge of the upland plateau. There, today, can be found the Eastland Park area of Rensselaer and the suburban communities of East and North Greenbush.

Communities, such as Rensselaer, which were influenced by this attractive advantage of the river valley, are now facing problems which are, rather simply stated, a result of this topographic influence. Steep slopes and narrow flood plains have increased flood hazards and the problems of air and water pollution. Existing congestion and limited space for expansion have caused these communities to be passed over as development spreads out into the flat and rolling plateau areas beyond the valley and its escarpment. Consequently, land values within have declined and new investment has, in most instances, been limited.

The residential development that occurred on relatively steep slopes as the result of the shortage of more easily-accessible level land suitable for building has become increasingly blighted in recent years. This property represents a decreasing taxable valuation in comparison with the increasing cost of providing full public maintenance and services. Many of these same structures are substandard and have become either vacant or tax delinquent property.

This problem, discussed later in this section, is not unique to Rensselaer, though perhaps in some instances it is more severe here.

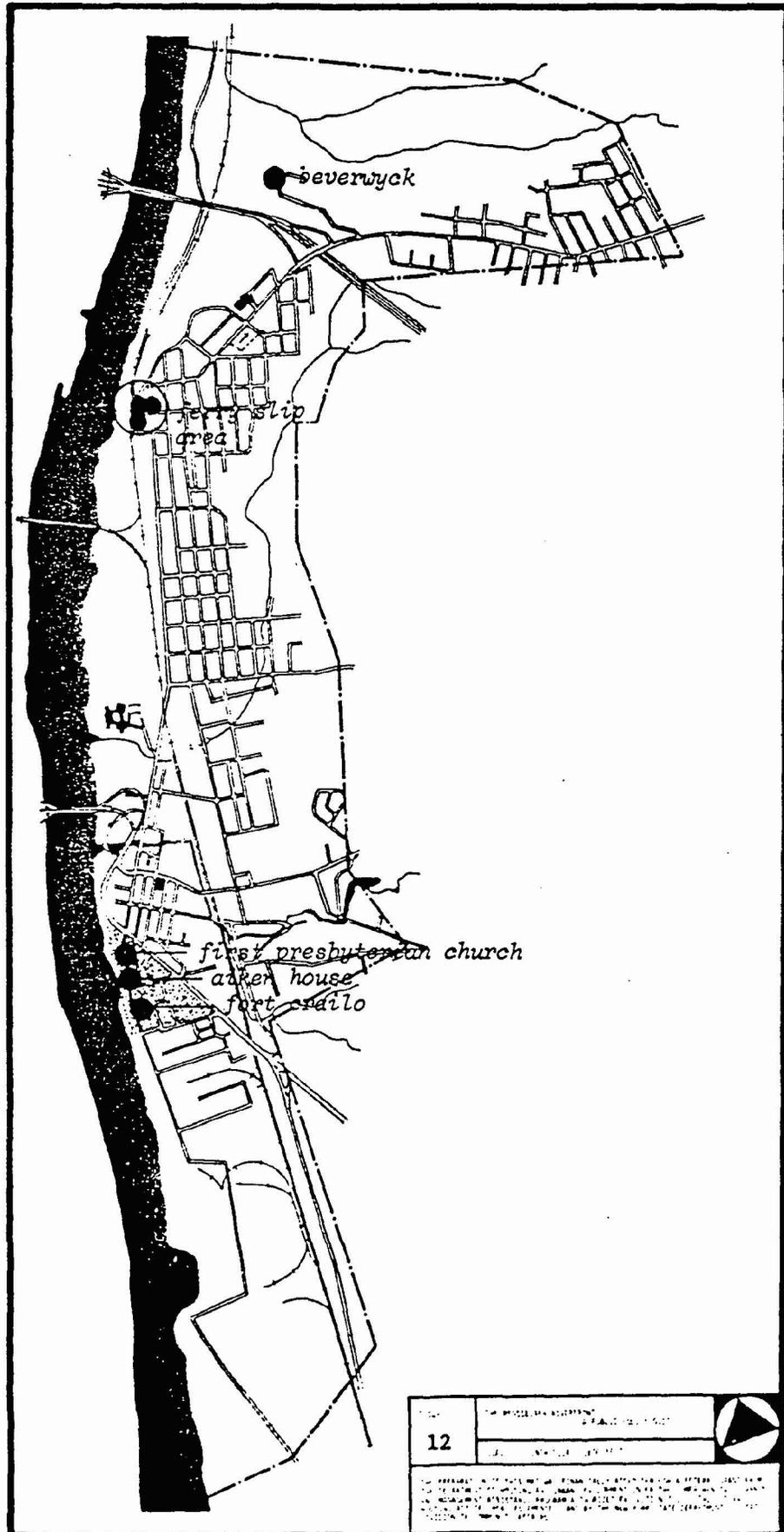
*historic
resources*

The City of Rensselaer is but a small part of the 1628 grant of lands of the first patroon, Kiliaen Van Rensselaer. The City itself was incorporated in 1897, long after much of its development, from the villages of East Albany, Greenbush and Bath-on-Hudson.

Surveys of key historic buildings throughout this region typically include three structures extant in Rensselaer. These are the Aiken House (1818), Fort Crailo (c. 1700), and Beverwyck (c. 1840). While the latter two structures are well maintained, and their future apparently is assured by virtue of ownership by the State of New York and the Franciscan Fathers, respectively, the Aiken House has a less certain future. The structure has suffered from fire, water and weather damage, been abandoned, and ravaged by vandals. Today it is little more than a shell.

Standing in private ownership at the corner of Broadway and Aiken Avenue, and having been constructed by William Aiken who was the founder of the Village of Greenbush, the Aiken House has been a long-standing

historic
resources



anchor in the "historic preserve," a residential neighborhood so provided for in the City's zoning ordinance. Other notable buildings in the historic preserve include the First Presbyterian Church and an outstanding row of mansard-roofed rowhouses along Riverside Avenue.

Some historic import has been attributed to part of the Bath-on-Hudson settlement in the north of the City, near the old ferry slip. In addition to the remains of the ferry slip, one of the older homes in Rensselaer, a modest stone structure at the corner of Central Avenue and Broadway, a Van Rensselaer manor house, and an old tavern are extant there. Considerable alteration of the original structures is evident. Documentation of the significance of the area and its structures is sparse at this time.

Location of these structures and districts is shown on Figure 12.

*existing
land use*

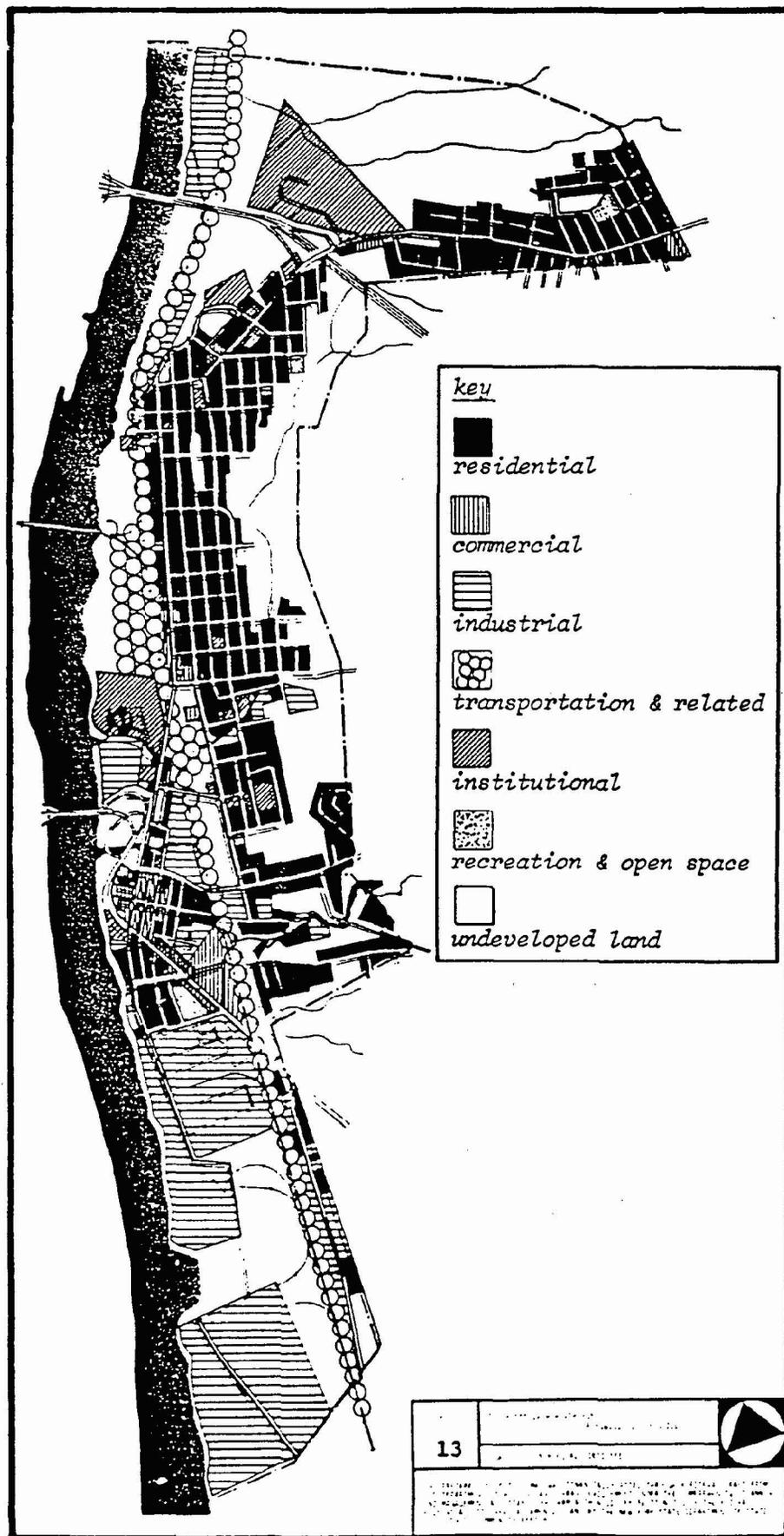
During the course of this study, a detailed land use survey was conducted and a detailed land use map drafted at a scale of 1" = 200'. This detailed land use information has been generalized for report purposes and is presented as Figure 13.

Seven principal land use functions occur in Rensselaer. Discussion of location, intensity and extensiveness of use is provided for each of the following functions:

- o Residential use
- o Commercial use
- o Industrial use
- o Transportation and related uses
- o Institutional use
- o Open space and recreational use
- o Undeveloped land

Residential use (300 acres, 18 percent of the City's land area) occurs in four primary areas of the City. To the south, east and north of the business district, primarily wood frame structures house nearly equal numbers of single-family, two-family and multiple-family units. Most of this residential development is sixty to a hundred years in age and developed at a density of five to ten structures per acre. East of the railroad, on the hillsides and in the ravines between Aiken Avenue and Partition Street, housing of similar age and construction occurs. Most of the development, however, is single-family, with perhaps twenty-five percent in two-family units and a very limited number of multiple units.

land use



Lot sizes tend to be larger, with increased private yard. New residential development has also occurred here, the Aiken Avenue Public Housing Project, the Mallview Apartments, and the Willow Ridge Apartment development, each at some twelve to sixteen units per acre. A 1960's residential subdivision occupies high ground east of Lawrence Street in the St. John's neighborhood. The third area extends from Partition Street north to Interstate 90 and from the railroad tracks east to the Hollow. Here, residential development of fifty to more than one hundred years' age is again primarily wood frame, and constructed at five to ten structures per acre. The structures are evenly distributed between one-family and two-family units, with a sprinkling of multiple units throughout, somewhat more so on the streets of lower elevation, particularly Broadway. The fourth area of residential development is the Eastland Park area developed since the 1930's in the northeast appendage of Rensselaer. Almost exclusively single-family housing occupies inner suburban-type lots of three to five dwelling units per acre.

Commercial use (40 acres, 2.5 percent of the City's land area) is found along the primary business streets, Broadway and Columbia Street. Broadway and, to a limited degree, Washington Street constitute the "central business district" between Columbia Street and Third Avenue. Additionally, a strip commercial center (the Joy-Grossman-Albany Public Market area) and the usual commercial strip gas stations, car wash and hamburger establishment are found along Columbia Turnpike. Neighborhood commercial establishments north of Third Avenue are found primarily near the intersections of Broadway and Partition Street and Washington Avenue and Third Street.

Industrial use (240 acres, 15 percent of the City's land area) occurs primarily to the south of Belmore Place, where the southernmost 7000 feet of Rensselaer Riverfront is devoted to industry. Proceeding south from Belmore Place, one would pass the lands of Winthrop Laboratories, GAF Corporation, the Port of Albany at Rensselaer, and the oil tank farm operations. Huyck Felt Corporation between Third Avenue and Herrick Street, Zappala Block on the riverfront between the Department of Transportation bridge ramp lands and the High School, and the Albany Woolen/Blue Line Terminal/Bult Printing business to the south of the residential area along Second Avenue all fringe the City's downtown district. Construction-related industry - equipment repair, warehousing and outdoor storage - is found at several locations east of

East Street. North of Partition Street, the only major industrial land uses are the Barnet Mills at the foot of Forbes Avenue and the gravel processing operations on the riverfront north of the Patroon Island Bridge.

Transportation and related uses (345 acres, 21 percent of the City's land) include the local street system, major highway rights-of-way owned by the State Department of Transportation for Interstate 90 and the Dunn Memorial Bridge ramps, and railroad properties. The railroad properties include not only the operating track of AMTRAK and the Troy-Greenbush Railroad, but additionally the AMTRAK passenger station along East Street between Partition and Herrick and the forty-two acre site of the turbotrain maintenance facility currently under construction on the riverfront to the north of the High School.

Institutional uses (142 acres, 9 percent of the City's land area) include all public and quasi-public uses. Included are the City Hall, five stations, the school sites, churches, cemeteries, and similar spaces. The largest institutional use in Rensselaer is the acreage controlled by the Franciscan Fathers immediately north of Interstate 90. The largest public parcel is the school site, central to the riverfront.

Open space and recreational uses (13 acres, or less than 1 percent of the City's land area) include eleven small neighborhood playgrounds and playfields throughout the City. Five acres of recreational use at the High School site is also included, as are three small "parks" located at Huyck Square, City Hall and opposite Fort Crailo.

Undeveloped land (585 acres, 35 percent of the City's land area) is generally distinguished by the feature of being also unbuildable due to its natural characteristics. Exceptions will be discussed in the OPPORTUNITIES section of this report.

These uses total some 1665 acres. Rensselaer's remaining 215 acres (some 11.5 percent of the total area within the corporate limits) is water surface, primarily the Hudson River.

A land use pattern present in Rensselaer, as it is in most older cities, is the phenomenon of mixed use. Land uses are not separated from one another by concrete barriers, but do in many instances, intermingle.

Often this occurrence is beneficial - for example, a park or a school or a neighborhood grocery store in a primarily residential area of residences on upper floors in a business district so that the district does not suffer from only a nine to five life. Sometimes, though, severe intrusion results - to the disbenefit of one or both of the uses. Vivid examples of such problem areas are found in Rensselaer: scattered industrial uses in primarily residential areas to the east of East Street and near upper Second Avenue, a number of residential structures lost in the sea of highway industrial (trucking, warehousing, and repair) uses along South Street, and residences having succumbed to the incompatibility of location immediately adjacent to a major traffic artery, Columbia Street.

*population
distribution*

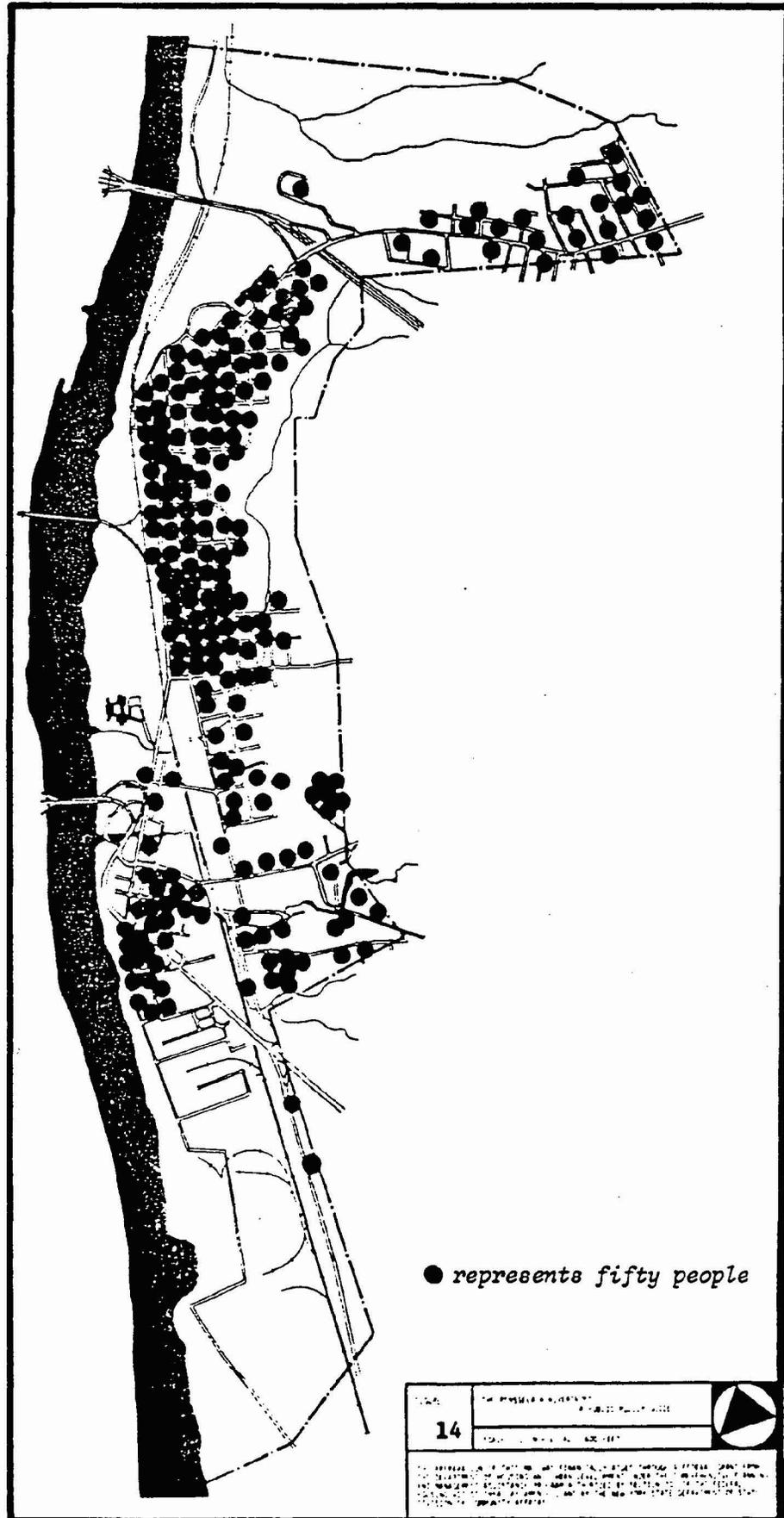
The varying intensity of residential development throughout the City is illustrated by a map of population distribution. Figure 14 has been drafted based upon the 1970 United States Census data for Rensselaer. The data have been updated in two locations where dramatic changes have occurred - the post-1970 opening of the Aiken Avenue Housing Project by the City's Housing Authority and the private sector's major contribution to the City's housing stock, the Willow Ridge Apartment complex.

Each dot on Figure 14 represents the center of a population of fifty persons. Such information is a particularly important consideration in allocating public resources. Experience holds, for example, that higher densities require higher levels of protective services, like fire and police protection. As a second example, major programs and facilities should be designed and located to be easily accessible to the greatest number of potential users.

A brief review of this population distribution map reinforces how little of the land in Rensselaer is used to house the City's residents. The concentration of population in the central area generally bounded on the south by Partition Street and on the north by Washington Avenue is clearly evident. So too are the lesser concentrations to the east of the business district and in the historic neighborhood south of Columbia Street. As contrasted to the density seen in the central area which housed approximately 5400 of Rensselaer's 10,136 residents in 1970, the lower suburban-like density of Eastland Park with its 1100 residents is apparent.

A final observation concerns the intimate relationship possible between a majority of Rensselaer's residents and the City's underutilized riverfront lands. 7700, or more than 75 percent live within a half mile of water's edge.

population
distribution



housing

The City Master Plan reported a 1967 field survey by Candeub Flessig and Associates of the condition of housing in Rensselaer which indicated that 679 units, or twenty percent, of the City's housing was in deteriorating condition and that 144 units, or four and two-tenths percent, was in dilapidated condition.

According to the 1970 Census, 112 dwelling units, or three and three-tenths percent of the housing stock, lacked some or all plumbing facilities. The 1970 Census further indicated that 102 units, or three and one-tenth percent, of the housing units were overcrowded. 2840 of 3411 dwelling units or some eighty-four percent, were constructed prior to 1939. Modern housing thus comprises only a small percentage of the total City housing stock, indicating that much of the housing in the City has extremely outdated electrical, heating insulation, and plumbing systems.

A generalized map of the areas of blight and substandard structures was also prepared by Candeub Flessig in 1967. This map served as the basis for a 1976 structure-by-structure survey of housing conditions. In the area generally bounded by Third Avenue on the south, Washington Avenue on the north, the Hudson River on the west and the City line on the east the following survey data were generated:

<u>No. Residential Structures</u>	<u>Percent</u>	<u>Condition</u>
510	43.	sound structure with reasonable maintenance
591	50.	minor rehabilitation required
71	6.	major rehabilitation required
9	1.	abandoned, removal required

Using the same survey, the following data can be reported for that section of this area west of Third Street, generally considered the area of highest concentration and most severe housing blight in the City. This survey information is shown on the following page.

As a contrast to the data given, the same 1976 survey classified less than one percent of the 370 residential structures within the City and east of Interstate 90 as requiring even minor rehabilitation.

<u>No. Residential Structures</u>	<u>Percent</u>	<u>Condition</u>
67	13.	sound structure with reasonable maintenance
386	75.	minor rehabilitation required
56	11.	major rehabilitation required
7	1.	abandoned, removal required

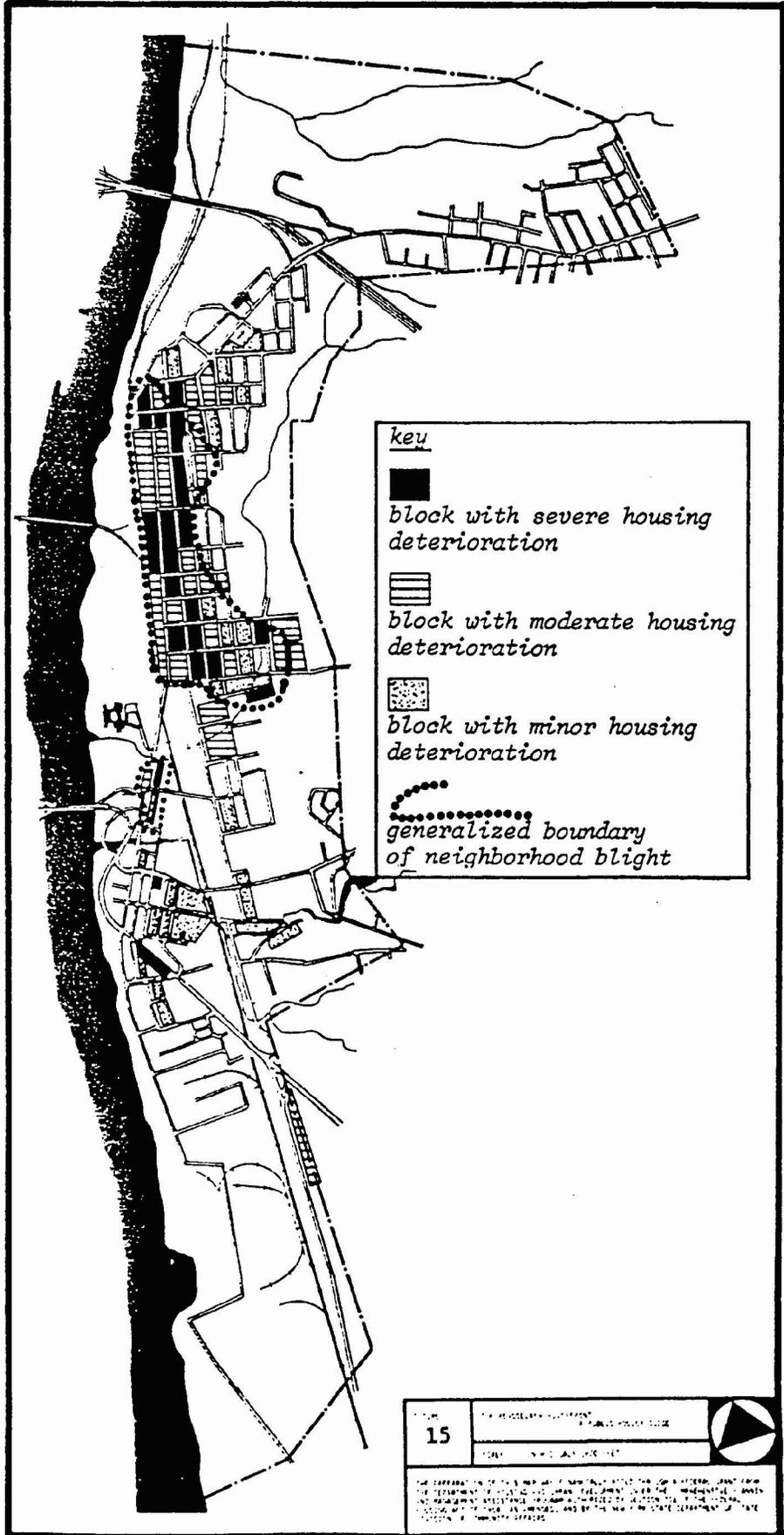
When compared to the data collected some nine years earlier by Candeub Flessig and Associates - including a review of the criteria employed - it is clear that an even greater, cancerous deterioration of Rensselaer's housing stock has occurred as the community has moved through the early 1970's.

Figure 15 summarizes this survey information on housing conditions in Rensselaer and illustrates the generalized areas of neighborhood blight.

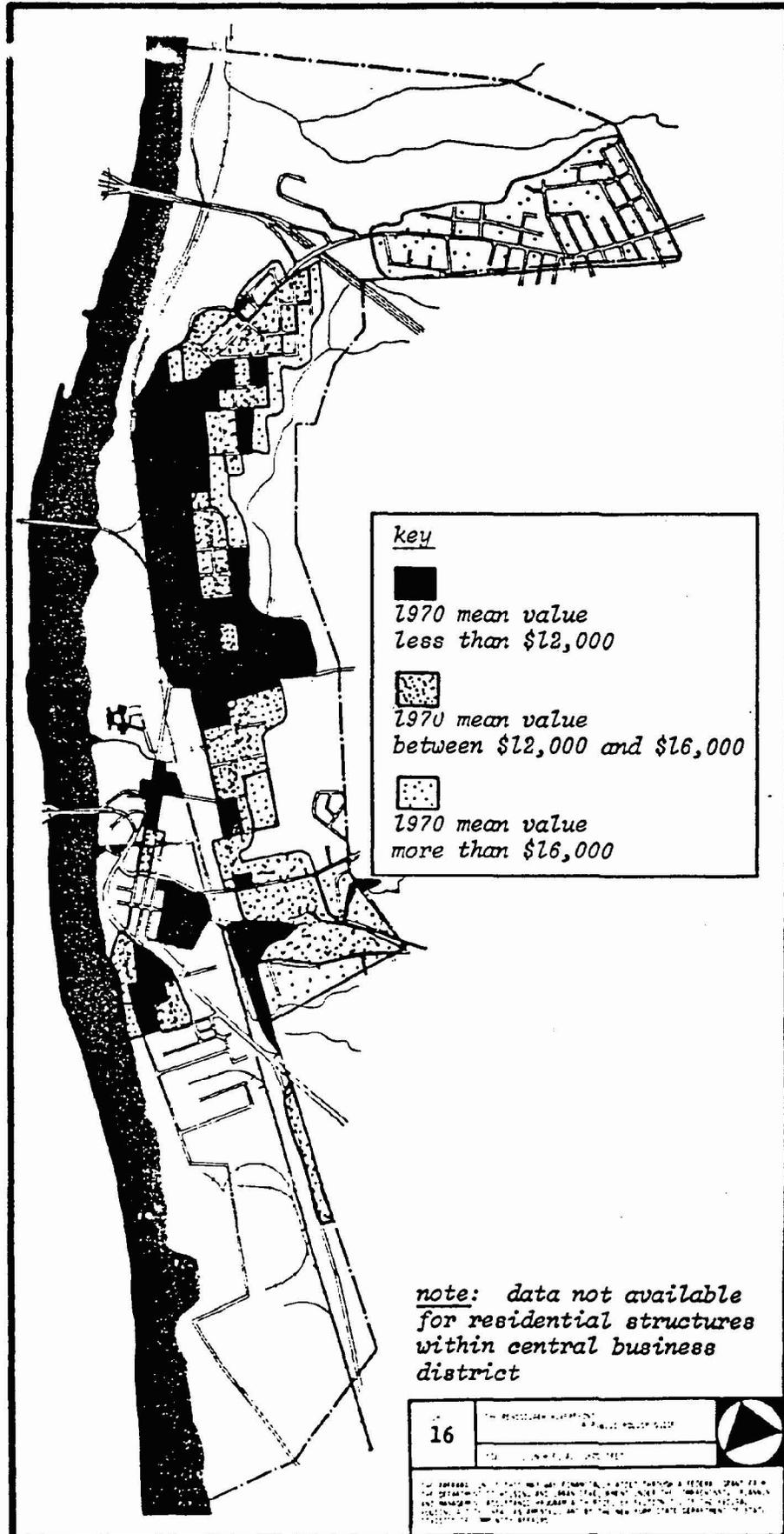
Mean, or average, residential property values were reported by the 1970 Census on a block-by-block basis for Rensselaer. These data, strongly paralleling the previously discussed survey information, have been mapped as Figure 16 and are summarized below:

- o Residential structures with a 1970 mean value in excess of \$16,000 are found throughout all blocks in Eastland Park, that area of the City east of Interstate 90. This mean value also occurs along the northwestern fringes of the Big Hollow and at five isolated block locations throughout the City, two blocks north of Washington Avenue, one block to the east of St. John's where new subdivision activity has occurred and at locations along High Street and Aiken Avenue.
- o Residential structures with a 1970 mean value of between \$12,000 and \$16,000 are found generally in the area south of Partition Street and east of East Street, along Third Street between Glen and Church Streets, and in the northern areas of Fourth and Fifth, Sixth, Seventh, Eighth and Ninth Streets. About one half of the "historic district" is also included in this group.

*housing condition/
neighborhood blight*



*mean residential
property value*



- o Residential structures with a 1970 mean value of less than \$12,000 are found generally between Partition Street and lower Washington Avenue, on Broadway near City Hall, and to the south and east of the business district.

The 1976 Housing and Community Development Act pre-application included other significant data with regard to residential property value in Rensselaer. Owner-occupied properties in the City were indicated by the 1970 Census as having a median value of \$13,200. This figure was the eighth lowest median value recorded among 155 New York State communities of at least 10,000 population. The median contract rent of \$68 per month tied Rensselaer for tenth lowest among the same 155 communities.

It is, of course, recognized that mean value is not solely an exact indicator of conditions, that it is more a combination of conditions and market. An extremely low mean value, such as Rensselaer's, does though substantiate the depressed state of both market demand for housing in Rensselaer and structural condition of housing in Rensselaer.

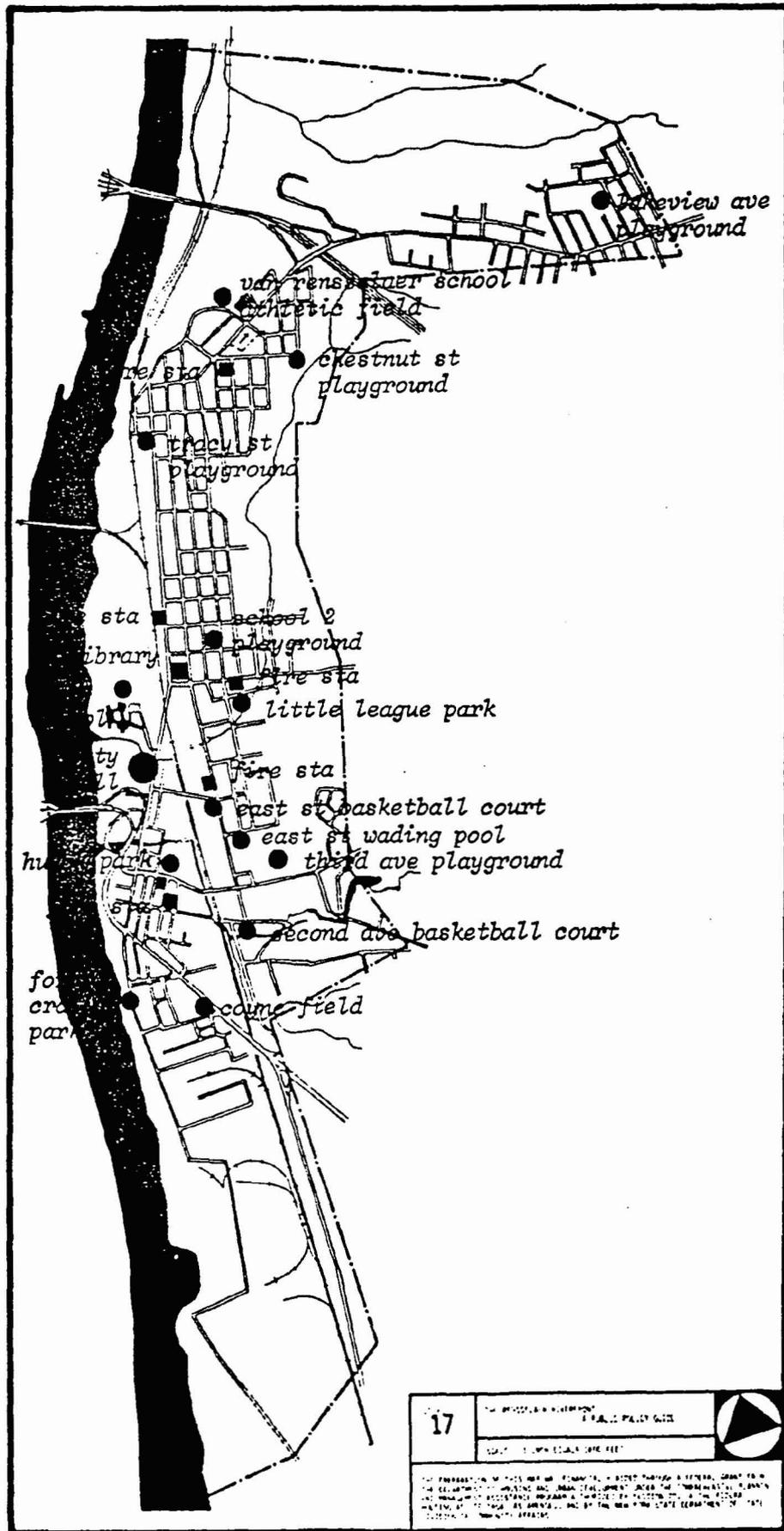
*parks and
other
community
facilities*

Parks and other community facilities in Rensselaer are mapped on Figure 17.

Eleven small neighborhood playgrounds and playfields are located throughout the City. Each is small, with limited outdoor sports and play equipment. These are presented below:

o	Little League Park Lawrence Street	Baseball	.5	acre
o	Coyne Field	softball/ limited playground	1.5	acres
o	Third Avenue Playground	playground/ playfield	.5	acre
o	Tracy Street Playground	playground	.25	acre
o	Chestnut Street Playground	playground	1.0	acre
o	Lakeview Avenue Playground	playground/ playfield	1.0	acre

parks/
community facilities



17	THE OFFICIALS REPORT	
	THE PUBLIC PLANNING	
<p>THE INFORMATION ON THIS MAP IS FOR INFORMATION ONLY. IT IS NOT TO BE USED FOR ANY OTHER PURPOSE. THE INFORMATION ON THIS MAP IS FOR INFORMATION ONLY. IT IS NOT TO BE USED FOR ANY OTHER PURPOSE.</p>		

- o School No. 2 playground .5 acre
- o East Street Basketball Court basketball .125 acre
- o East Street Wading Pool play area .5 acre
- o Second Avenue Basketball Court basketball .125 acre
- o Van Rensselaer School Athletic Field playground/ playfield 1.0 acre

The Rensselaer Junior-Senior High School site includes an additional five acres of recreational space, including the baseball field, football field, and tennis courts.

Three limited passive park spaces are found in the Rensselaer Huyck Square, adjacent to City Hall and along the riverfront at Fort Crailo. These total perhaps one and five-tenths acres. The small ornamental park opposite Fort Crailo is, in fact, Rensselaer's only riverfront recreational space.

transportation

The existing transportation facilities which serve Rensselaer may be discussed as five functional components:

- o major streets and highways
- o local streets
- o bus transportation
- o rail transportation
- o water transportation

Major streets and highways. Each of the major links in the system of streets and highways serving the City of Rensselaer and its immediate environs has been functionally classified by the New York State Department of Transportation in one of the following five categories:

- o Freeway (Interstate) - High-speed, high-capacity divided highway with access at interchanges only. Serves major through-traffic corridors and important travel corridors within the larger urban areas.
- o Principal arterial - Major street or road carrying high-volume, longer-distance traffic. Provides continuity to rural arterials entering the urban area. Traffic and parking controls should give priority to traffic service over land access.

- o Minor arterial - Interconnects principal arterials and serves important travel corridors not served by principal arterials. Provides continuity to the rural collector system and serves minor urban activity centers.
- o Collector - Collects traffic from local streets and channels it into the arterial system. Serves local traffic movements and land access but carries very little through traffic.
- o Local street - Street primarily for land access to residential, business, or other abutting property; carries no significant through traffic.

This Functional Highway Classification is mapped as Figure 18. These data form an integral component for evaluating projects for inclusion on the CDTC Transportation Improvement Program, as previously discussed.

Limited traffic volume information regarding the City of Rensselaer is also available from the State Department of Transportation. The 1974 DOT Traffic Volume Report includes the data on the following page, Figure 19.

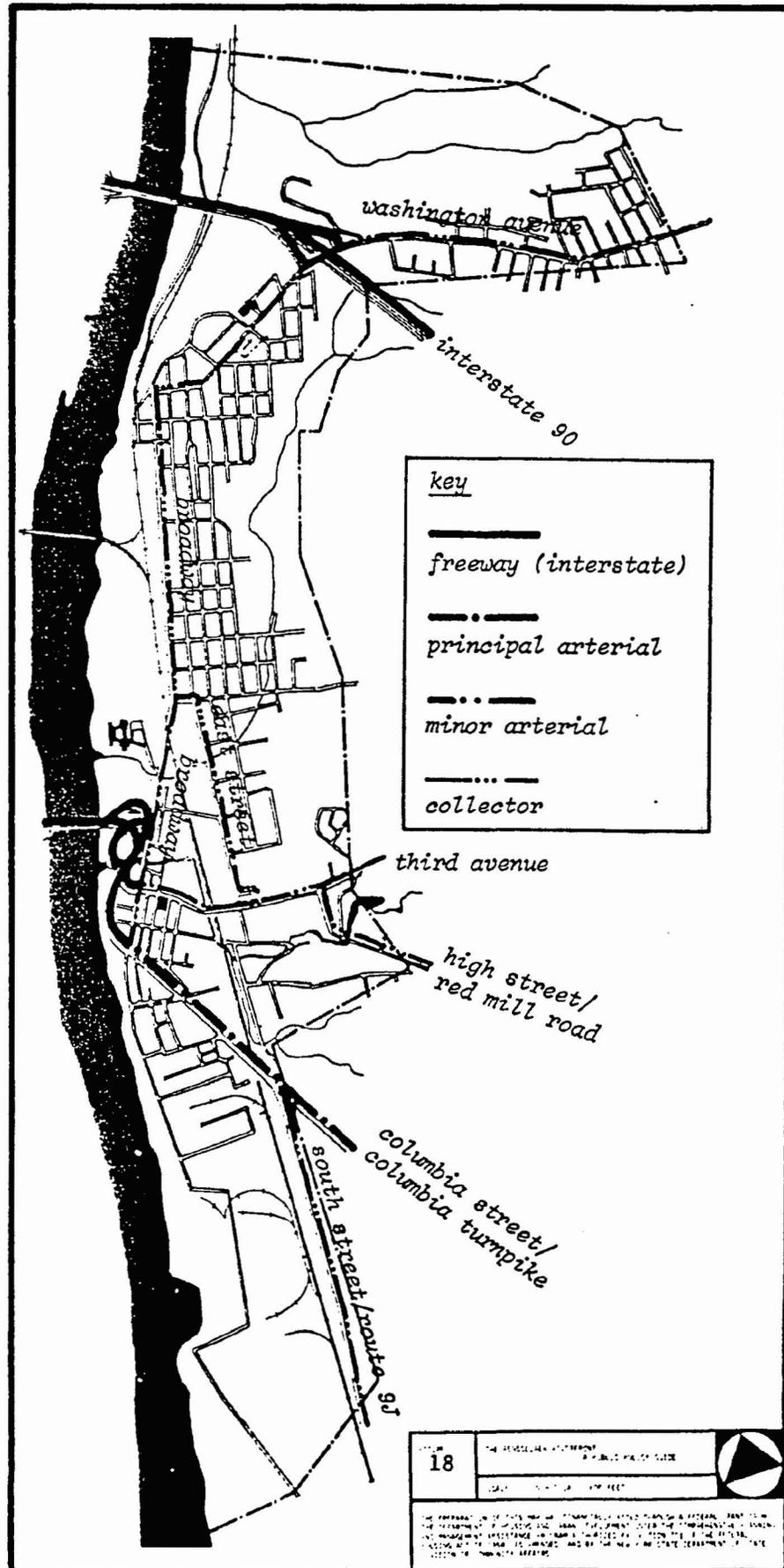
Two terms require definition. The first, AADT, is a total in both directions of "annual average daily trips" on a given section of highway; the second, Design Hour, is an estimate of the thirtieth highest hourly traffic volume in one direction during the prior year.

The City of Rensselaer assembles and maintains no traffic volume data. Therefore, it is impossible to further evaluate the available DOT data in terms of its impact on the local street network.

Local Streets. A strong north-south street pattern serves Rensselaer. Broadway, East Street, First Street and Third Street are the primary local collectors. Each functions less than adequately, with heavy duty traffic, narrow pavement width and parking generally on both sides of the street being major impediments to proper traffic flow. The localized street problems and deficiencies relate to individual areas of the City and are more fully discussed in the OPPORTUNITIES section of this report.

Bus Transportation. The City of Rensselaer is regularly served by the Capital District Transportation Authority. Primary bus routes in Rensselaer serve Washington Avenue, Broadway, Third Street, and the business district area. A special connection is provided to the AMTRAK Station

functional
highway
classification



18	THE UNIVERSITY OF MICHIGAN PUBLIC HEALTH SERVICE	
<small>THIS REPORT IS THE PROPERTY OF THE UNIVERSITY OF MICHIGAN. IT IS TO BE RETURNED TO THE OFFICE OF THE DIRECTOR, PUBLIC HEALTH SERVICE, UNIVERSITY OF MICHIGAN, ANN ARBOR, MICHIGAN 48106-1101. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE UNIVERSITY OF MICHIGAN.</small>		

FIGURE 19: TRAFFIC VOLUME DATA (DOT)

	<u>Count Year</u>	<u>AADT</u>	<u>Design Hour</u>
<u>Route 9</u>			
Sherwood Avenue to Rensselaer South City Line	1972	15,200	1,110
Rensselaer South City Line to 9J	1974	21,100	1,480
9J to Albany County Line	1974	25,800	1,820
<u>Route 9J</u>			
Hays Road to Rensselaer South City Line	1973	2,750	170
Rensselaer South City	1972	4,400	260
<u>Route 20</u>			
Rensselaer County Line to 9J	1974	25,800	1,820
9J to Rensselaer South City Line	1974	21,100	1,480
Rensselaer South City Line to Sherwood Avenue	1972	15,200	1,110
<u>Route 43</u>			
9 & 20 to Rensselaer East City Line	1972	5,950	440
Rensselaer East City Line to Route 151	1973	3,450	210
Route 151 to Route 4	1973	3,100	190
<u>Interstate 90</u>			
Rensselaer County Line to Exit 7	1974	35,100	3,720
Exit 7 to Rensselaer City Line	1974	16,500	1,750
Rensselaer City Line to Route 4	1974	16,500	1,750

on East Street. The areas served and the frequency of service are shown on Figure 20. Specific routing and scheduling is, of course, obtainable from CDTA. Local service may be considered good and generally improving. There is no out-of-town bus terminal currently serving Rensselaer or AMTRAK; connection must be made at Albany.

Rail Transportation. The Capital District's major rail passenger facility is located at Rensselaer on East Street. 1974 data compiled by the New York State Department of Transportation reports that eighteen percent of the 1974 New York City - Buffalo corridor traffic was handled at the Albany-Rensselaer Station. 129,977 passengers boarded at Rensselaer, while 130,943 disembarked. Estimates are that passenger traffic at Rensselaer has increased fifteen to twenty percent during the past two years.

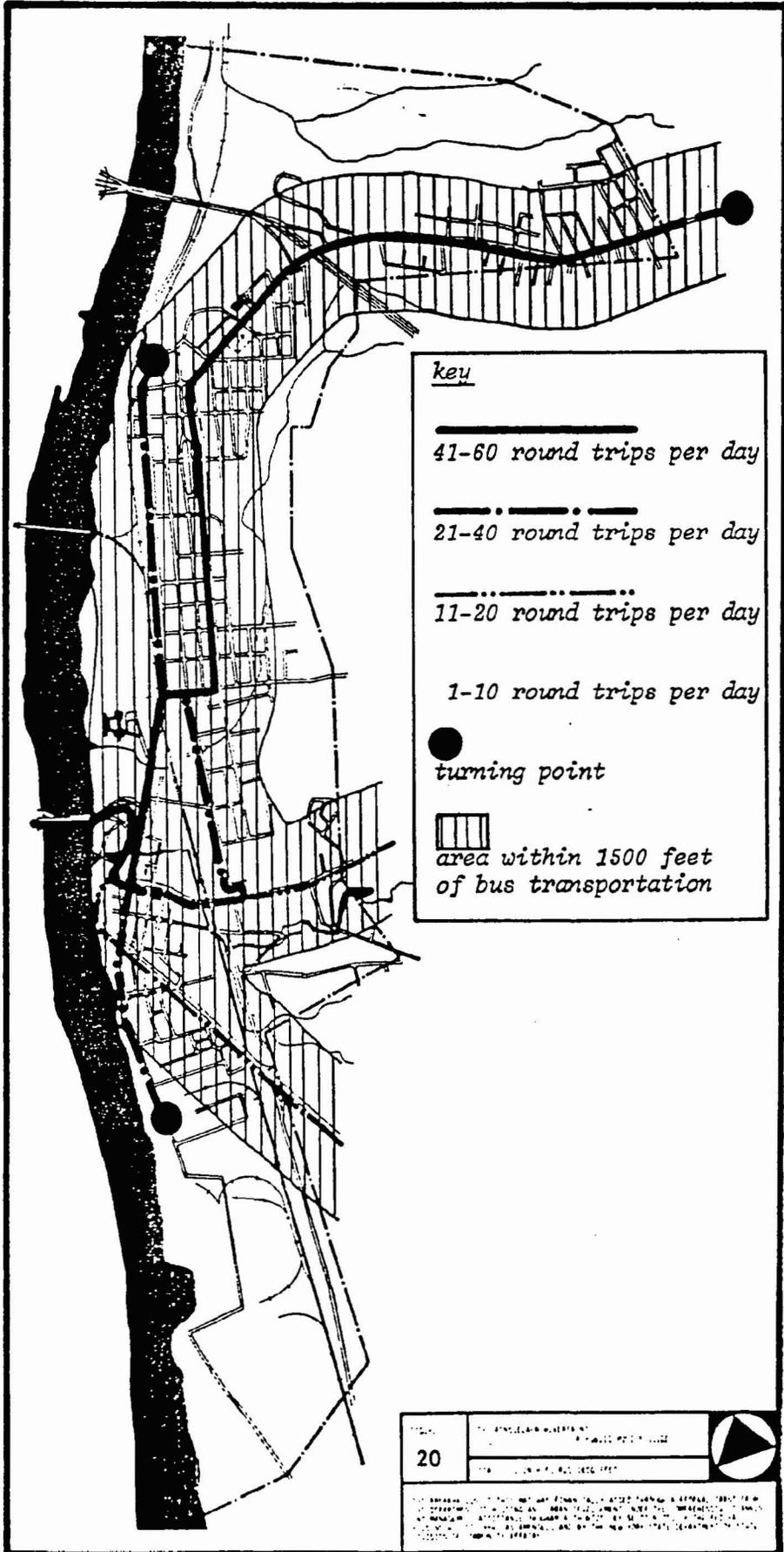
The long-term future of the AMTRAK Station at Rensselaer is uncertain. There is no written commitment to keep the station in Rensselaer, and several major problems exist at the current location - including inadequate and ill-maintained parking facilities, vandalism, a most minimally-designed station, and the problems of interconnection with other transportation modes. There are though no firm plans at this time to return the station to Albany, primarily because, when proposals to move it have been reviewed, suitable sites in Albany have not been found. The situation can be described as "wait and see" at this time; proposed parking improvements as provided for in the CDTC transportation improvement program and improved bus service, as proposed by CDTA could be the foundation for a growing commitment to Rensselaer. The future of this area is discussed under OPPORTUNITIES.

Rail freight service in Rensselaer is available to the City's industries and to the Port area.

Water Transportation. Major commercial water transportation serves the Port at Rensselaer and the oil tank farm. The Hudson River channel was dredged to a depth of thirty-two feet by the Corps of Engineers in 1965 allowing access by thirty-two foot draft ocean-going vessels. The current state of deterioration of the Port dock, particularly after the recent fire, reduces the possibilities here.

The Albany Yacht Club, located south of the DOT lands at Columbia Street, provides launching, docking and storage area for private recreational craft to its membership and friends.

bus transportation



key

—————
41-60 round trips per day

- - - - -
21-40 round trips per day

.....
11-20 round trips per day

—————
1-10 round trips per day

●
turning point

▨
area within 1500 feet
of bus transportation

20	THE UNIVERSITY OF ALABAMA AT TUSCALOOSA	
<small>THIS MAP WAS PREPARED BY THE UNIVERSITY OF ALABAMA AT TUSCALOOSA, ALABAMA, IN 1968. IT IS THE PROPERTY OF THE UNIVERSITY OF ALABAMA AT TUSCALOOSA AND IS LOANED TO YOU BY THE UNIVERSITY OF ALABAMA AT TUSCALOOSA. IT IS TO BE RETURNED TO THE UNIVERSITY OF ALABAMA AT TUSCALOOSA, 100 UNIVERSITY BLVD., TUSCALOOSA, ALABAMA 35686.</small>		

Recreational Transportation. The muscle power modes of bicycling and walking combine as a sixth functional transportation component. Though they exist informally, these modes have not been formally recognized to date in Rensselaer - like many other cities - except in the provision of sidewalks paralleling the City street system in the most densely developed areas.

*water supply
public
utilities*

The City of Rensselaer Public Water System and the Town of East Greenbush General Water District obtain their treated water supply from the City of Troy by means of a jointly owned thirty-six inch transmission main running south from the City of Troy along Route 4. Three metered connections serve the City of Rensselaer. A ten inch connection to the transmission line at Washington Avenue supplies the northern section of the City as well as some fifty homes in the Van Allen Park section of North Greenbush, a fourteen inch connection extends from a jointly-owned sixteen inch main on Third Avenue Extension and feeds the City's two million gallon storage facility in Rensselaer Heights and connects to the local distribution system on Third Street near Catherine Street, and the joint sixteen inch main is additionally metered at the City line and supplies the southern end of the City.

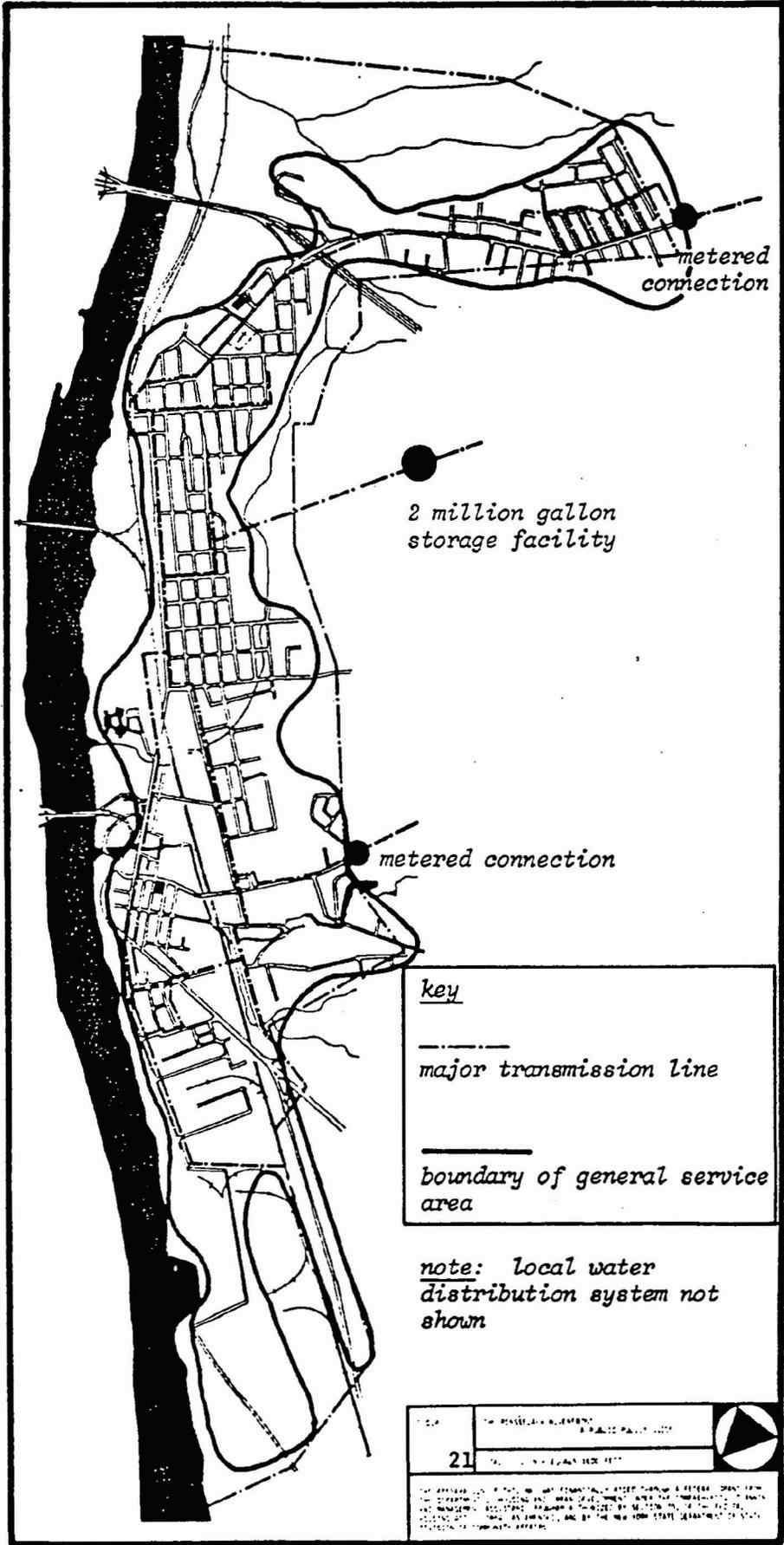
All water consumed by the Huyck Felt Corporation is purchased from the City of Rensselaer; both General Aniline and Film Corporation and Winthrop Laboratories purchase only water required for general sanitary purposes and obtain their process water from industrial water treatment plants on the Hudson River.

Improvements made to the water supply system during the past decade provide adequate pressure and capacity for normal and fire-fighting purposes throughout the City. No general or localized problems were identified during the course of this study; only normal maintenance is required.

The system currently supplies an average of 2.0 million gallons per day to users in the City of Rensselaer, about thirty percent of which is supplied to the three major industrial firms. The system's design capacity is adequate to satisfy a projected year 2000 requirement of 2.7 million gallons per day.

A map of the water system, including major transmission lines and general service area follows as Figure 21. The local gravity flow distribution system is not shown, for it is too intricate to include at report scale.

water supply system



key

major transmission line

boundary of general service area

note: local water distribution system not shown

21	THE MASSACHUSETTS PUBLIC HEALTH DEPARTMENT BUREAU OF WATER SUPPLY	
<p><small>THIS SERVICE MAP IS THE PROPERTY OF THE MASSACHUSETTS PUBLIC HEALTH DEPARTMENT. IT IS LOANED TO YOU FOR YOUR INFORMATION AND USE ONLY. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE MASSACHUSETTS PUBLIC HEALTH DEPARTMENT.</small></p>		

sewage disposal

The provision of an adequate municipal sewage disposal system consists of two major components: collection and treatment. Construction and long-term maintenance of a local sewage collection system is a responsibility of the City of Rensselaer; interception of locally-collected sewage and its treatment are the responsibilities of Rensselaer County Sewer District No. 1. The County Sewer District was created in 1968 and expanded to include Rensselaer in 1969, in response to actions of the New York State Department of Health placing several municipalities, including the City of Rensselaer, and several major industries under orders to abate pollution of the Hudson River.

Flow from the City's combined storm and sanitary sewers has traditionally emptied untreated into the Hudson River at some ten major outfall locations. Lesser quantities of combined untreated sewage have also been discharged to Mill Creek and Quackenderry Creek, particularly during periods of heavy or extended rainfall. The outfall sewer from the East Greenbush treatment plant, just east of the City limits, has also passed through the southern part of the City and been joined enroute to the Hudson by discharge from a twelve inch City sewer along South Street.

The County Sewer District has made substantial progress in attacking this problem since its creation. The District has been responsible for the design, financing and construction of a \$52 million system, bulwarked by advanced secondary waste treatment plant located along the Hudson some two miles north of the City in the Town of North Greenbush. The District has provided a system of intercepting sewers, pumping stations and force mains for conveyance of locally-collected sewage.

The treatment plant is expected to be operational prior to the conclusion of this study. Both the treatment plant and interceptor sewer facilities have been designed with sufficient reserve capacity to provide for future industrial and residential growth from throughout the District.

While the County Sewer District will intercept all pretreated process wastes from GAF and Winthrop Laboratories, the District has a design capacity to intercept only three and a half times average "dry weather flow" of the City's combined sewers. In extreme wet weather situations, there would thus be a surcharge to the system. This condition requires the

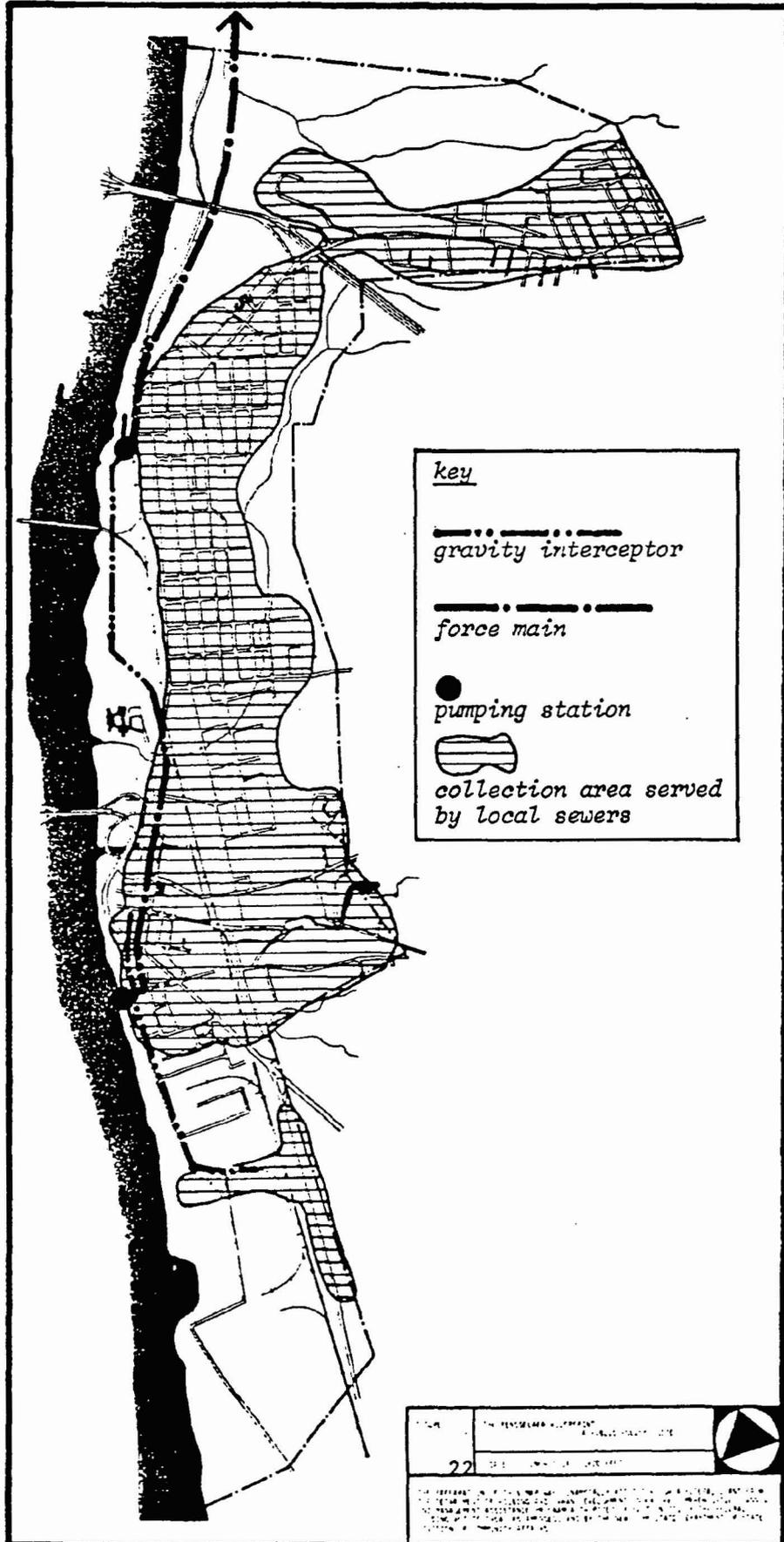
retention of the existing outfalls until such time that storm and sanitary sewers are separated. The planning implication is that there will remain some overflow discharge, though greatly diluted by stormwater, at these outfall locations some fifteen to twenty times annually.

Figure 22 illustrates the County interceptor system and tributary collection areas provided by the City. The City dry weather waste flows, including the pretreated wastes from GAF and Sterling Winthrop, formerly discharged to the Hudson River at points south of the Dunn Memorial Bridge, are now intercepted by a gravity interceptor sewer on Broadway and Riverside Avenue and conveyed to a pumping station at the corner of Riverside and Aiken Avenues. From the Aiken Avenue pumping Station the sewage is pumped through a twenty-four inch force main to a major outfall sewer at the foot of Partition Street. These flows from the Aiken Avenue pumping station, the flows from the Partition Street outfall, and wastes formerly discharged to the Hudson from sewers on Fowler Avenue, Central Avenue and Tracy Street are all conveyed by a forty-two inch gravity interceptor located between the railroad and the Hudson to a pumping station at the foot of Tracy Street. From Tracy Street all of the City's collected wastes are pumped to the treatment plant along the right-of-way of the Troy-Greenbush Railroad through a thirty-three inch diameter force main.

The City has a major commitment to face in the area of sewage disposal, that is, the requirement imposed by the Environmental Protection Agency that storm and sanitary sewers shall be separated at the earliest possible date. With such separation, development capacity in all areas served by the local collection system would be greatly increased and the need for retaining existing outfalls eliminated, thus improving both the quality of the Hudson and its recreational potential. A plan for such complete separation has been prepared by the City and approved by the Department of Environmental Conservation.

In addressing the issue of separation, it should be pointed out that the concept is certainly not a new one. The last major thrust of residential development in the City, in the area of Eastland Park, did, in fact, initially benefit from the installation of separate sanitary and storm sewers. Unfortunately, a vast number of storm inlets, foundation drains and roof drains have been indiscriminantly connected to the sanitary sewers and cross connections made between the storm and sanitary

sewage collection



key

gravity interceptor

force main

●
pumping station

▨
collection area served
by local sewers

NO. 22	THE HONOLULU WATERWORKS DEPARTMENT	
22	NO. 22	

THIS DRAWING IS THE PROPERTY OF THE HONOLULU WATERWORKS DEPARTMENT AND IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT THE WRITTEN PERMISSION OF THE HONOLULU WATERWORKS DEPARTMENT.

sewers to relieve surcharging during wet weather. As a result, sewers in Eastland Park, as in the remainder of the City, now function as a combined system.

The age of the City's storm and sanitary system, with many key parts reportedly dating back to the 1880's, the need for separation, and critical problems such as the inadequacy and lack of expansionary capacity of the City's twelve inch diameter trunk sewer along Washington Avenue and under I-90, all point to the need for detailed study and evaluation beyond the scope of this report.

*riverfront
ownership*

Tax maps prepared by the Rensselaer County Real Property Tax Office have been examined to identify the location, acreage and ownership of Rensselaer's riverfront acreage, generally those parcels west of the railroad tracks, or immediately related to these parcels.

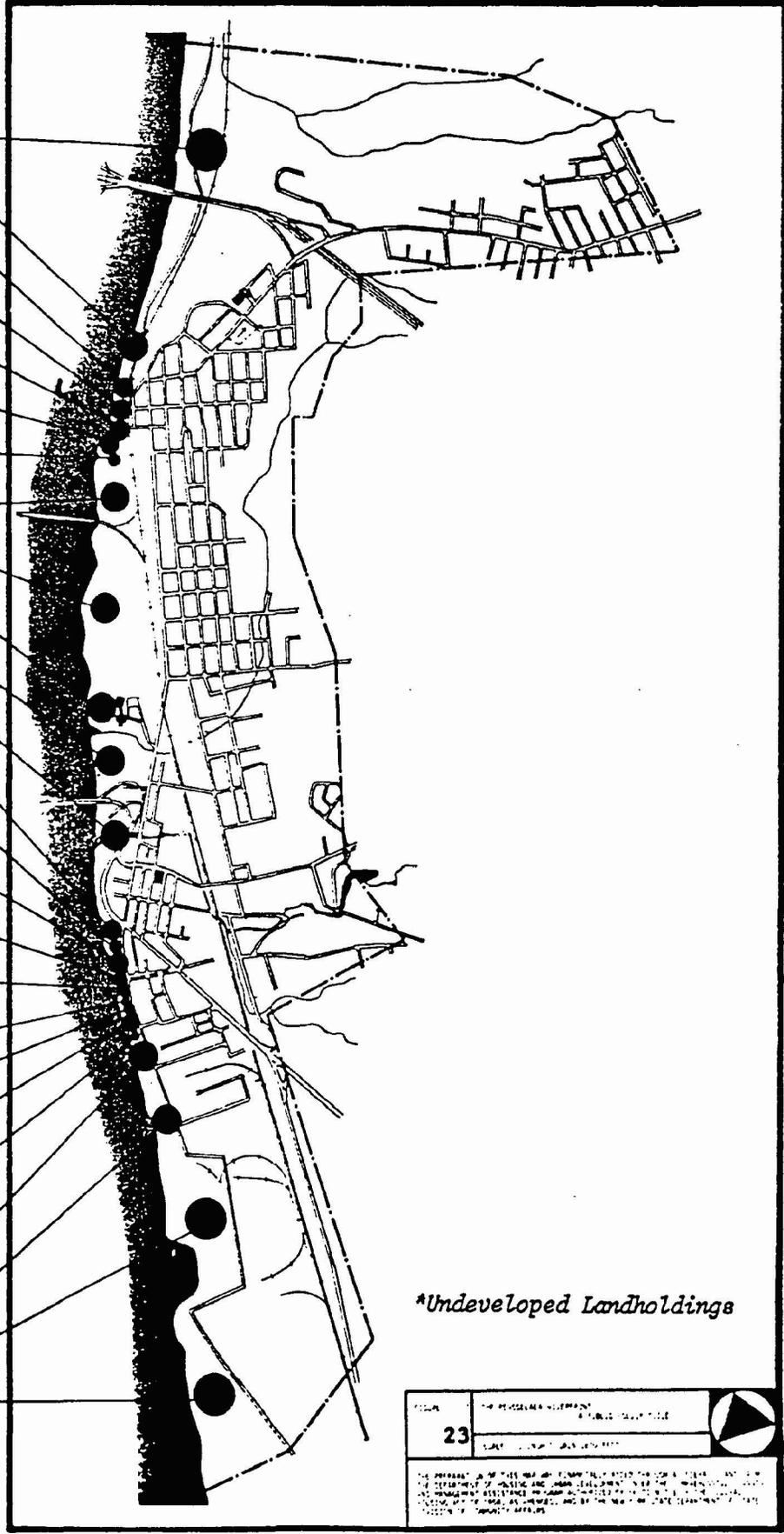
Figure 23 locates riverfront landholdings and indicates whether they are currently developed or undeveloped.

Moving from north to south directly along River's edge, the following ownership pattern has been established.

<u>Ownership</u>	<u>Distance (Riverfront)</u>	<u>Acreage</u>
A. RPI (Rensselaer Polytechnic Institute)	4450'	40.+
B. City of Rensselaer	810'	2.3
C. Inland Pollution Control	385'	1.5
D. City of Rensselaer	170'	.4
E. Private (residential)	200'	.9
F. Private	330'	2.5
G. City	105'	1.1
H. Private (3 parcels)	1310'	12.1
I. AMTRAK	1920'	37.5
J. City School District	1125'	14.3
K. Zappalla Block	950'	12.6
L. NYS DOT	1720'	8.2

riverfront
ownership

A
B*
C
D*
E
F*
G*
H*
I
J
K
L
M
N
O
P*
Q
R*
S
T*
U
V
W
X
Y



*Undeveloped Landholdings

FIGURE	THE MISSISSIPPI RIVERFRONT OWNERSHIP	
23	DATE: JANUARY 1964	
<small>THE PREPARATION OF THIS MAP WAS FINANCIAALLY ASSISTED THROUGH A GRANT FROM THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT UNDER THE HOUSING AND URBAN DEVELOPMENT ACT OF 1954 AND THE HOUSING AND URBAN DEVELOPMENT ACT OF 1961. THE STATE OF MISSISSIPPI HAS RECEIVED ASSISTANCE FROM THE U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT THROUGH THE HOUSING AND URBAN DEVELOPMENT ACT OF 1954 AND THE HOUSING AND URBAN DEVELOPMENT ACT OF 1961.</small>		

M.	Albany Yacht Club	410'	1.2
N.	Commercial trucking firm	140'	.6
O.	Private (residential, 12 parcels)	560'	2.0
P.	Aiken Avenue, r.o.w.	80'	.15
Q.	Rensselaer County Sewer District	228'	.5
R.	Private (2 parcels)	80'	.3
S.	Fort Crailo (State of New York)	70'	.25
T.	Private (11 parcels)	325'	1.3
U.	Private (residential)	67'	.3
V.	Winthrop Laboratories	900'	26.5
W.	General Aniline & Film Corporation	945'	63.3
X.	Port of Albany	2920'	48.0
Y.	Oil Tank Farms	2750'	99.4

Total riverfront shore is 22,950 feet, with 4138 feet in public ownership, 8990 feet owned and occupied by industrial users and 837 feet in residential use. 9500 feet are currently classified as undeveloped, including 1920' of AMTRAK's holdings for AMTRAK has verbally committed itself to use only property east of the County interceptor sewer for its industrial purposes.