

INFRASTRUCTURE

UTILITIES

STREETSCAPE IMPROVEMENTS

TRANSPORTATION NETWORK

PUBLIC TRANSPORTATION

OFF-STREET PARKING

PEDESTRIAN CONNECTORS

UTILITIES

Downtown Cleveland is served with five different utilities: water, sanitary and storm sewers, steam, above and below ground electrical facilities, and a natural gas system. Four public agencies and three private companies operate the various utility systems. Each utility was analyzed to assess the condition of the existing system and to determine requirements for maintenance, improvement, and relocation. In addition, each utility was asked to determine the impact of major proposed development projects on their existing facilities. Each utility reported that they could meet the projected demand of new developments without major expansions of existing facilities.

Background

The first utility lines in Cleveland were constructed in the late 1860s. The telegraph was in operation in Cleveland starting in 1847; however, it was not until 1879 that the first electric power lines were run for the Brush arc lamps that lit Public Square. These lamps were invented by Clevelander Charles F. Brush and were a forerunner of the Thomas Edison filament bulb. The first electric power lines in Cleveland for private use were run downtown in 1881. The installation of water and sewer lines began in the 1860s. The sewer system installed was a combined storm and sanitary sewer and remains this way today. The East Ohio Gas Company was founded in 1898 and began to supply natural gas in 1902. The last utility system to be started was the downtown steam service which was initiated in 1903.

The downtown is served by four publicly owned utilities including Cleveland Public Power, the City of Cleveland's Division of Water and Division of Water Pollution Control and the Northeast Ohio Regional Sewer District. The three private utility companies serving downtown are the Cleveland Electric Illuminating Company, the East Ohio Gas Company, and the Cleveland Thermal Energy Corporation.

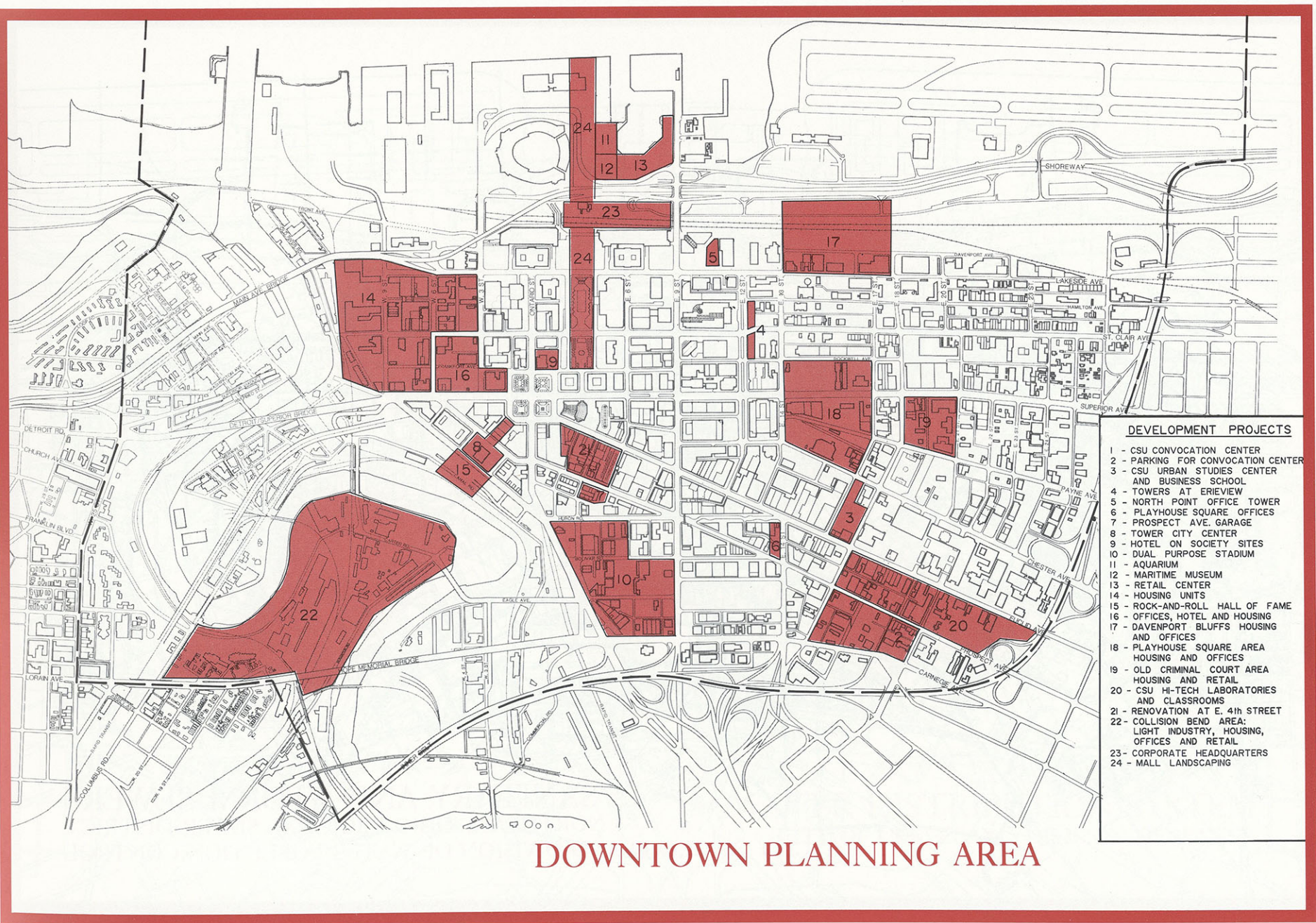
A series of maps on the following pages illustrates the existing lines of each utility company with a discussion of the existing conditions and any proposed improvements.

A list of twenty-four development projects which are currently in the planning stages were identified for downtown. The load for each utility was calculated for the individual development projects and the combined totals were used to determine the overall impact on each utility system. The study determined that all utilities have the overall capacity to meet the anticipated requirements. Some distribution systems will require upsizing, rehabilitation or replacement. Specific requirements and cost estimates cannot be established without field checks, but estimates of line size requirements for water and sewerage can be made based on accepted industry standards. As part of this study, required line sizes for water and sewerage were determined and compared to the existing line sizes, assuming the existing lines are operating at half their capacity when new. However, for steam, electricity, and natural gas, no approximate line size estimates are possible until the energy source for each site is selected.



Utility Reconstruction on Public Square

RAWER



- DEVELOPMENT PROJECTS**
- 1 - CSU CONVOCATION CENTER
 - 2 - PARKING FOR CONVOCATION CENTER
 - 3 - CSU URBAN STUDIES CENTER AND BUSINESS SCHOOL
 - 4 - TOWERS AT ERIEVIEW
 - 5 - NORTH POINT OFFICE TOWER
 - 6 - PLAYHOUSE SQUARE OFFICES
 - 7 - PROSPECT AVE. GARAGE
 - 8 - TOWER CITY CENTER
 - 9 - HOTEL ON SOCIETY SITES
 - 10 - DUAL PURPOSE STADIUM
 - 11 - AQUARIUM
 - 12 - MARITIME MUSEUM
 - 13 - RETAIL CENTER
 - 14 - HOUSING UNITS
 - 15 - ROCK-AND-ROLL HALL OF FAME
 - 16 - OFFICES, HOTEL AND HOUSING
 - 17 - DAVENPORT BLUFFS HOUSING AND OFFICES
 - 18 - PLAYHOUSE SQUARE AREA HOUSING AND OFFICES
 - 19 - OLD CRIMINAL COURT AREA HOUSING AND RETAIL
 - 20 - CSU HI-TECH LABORATORIES AND CLASSROOMS
 - 21 - RENOVATION AT E. 4th STREET
 - 22 - COLLISION BEND AREA: LIGHT INDUSTRY, HOUSING, OFFICES AND RETAIL
 - 23 - CORPORATE HEADQUARTERS
 - 24 - MALL LANDSCAPING

DOWNTOWN PLANNING AREA

LEGEND
--- Limits of Downtown Cleveland, as defined in the Civic Vision Program.

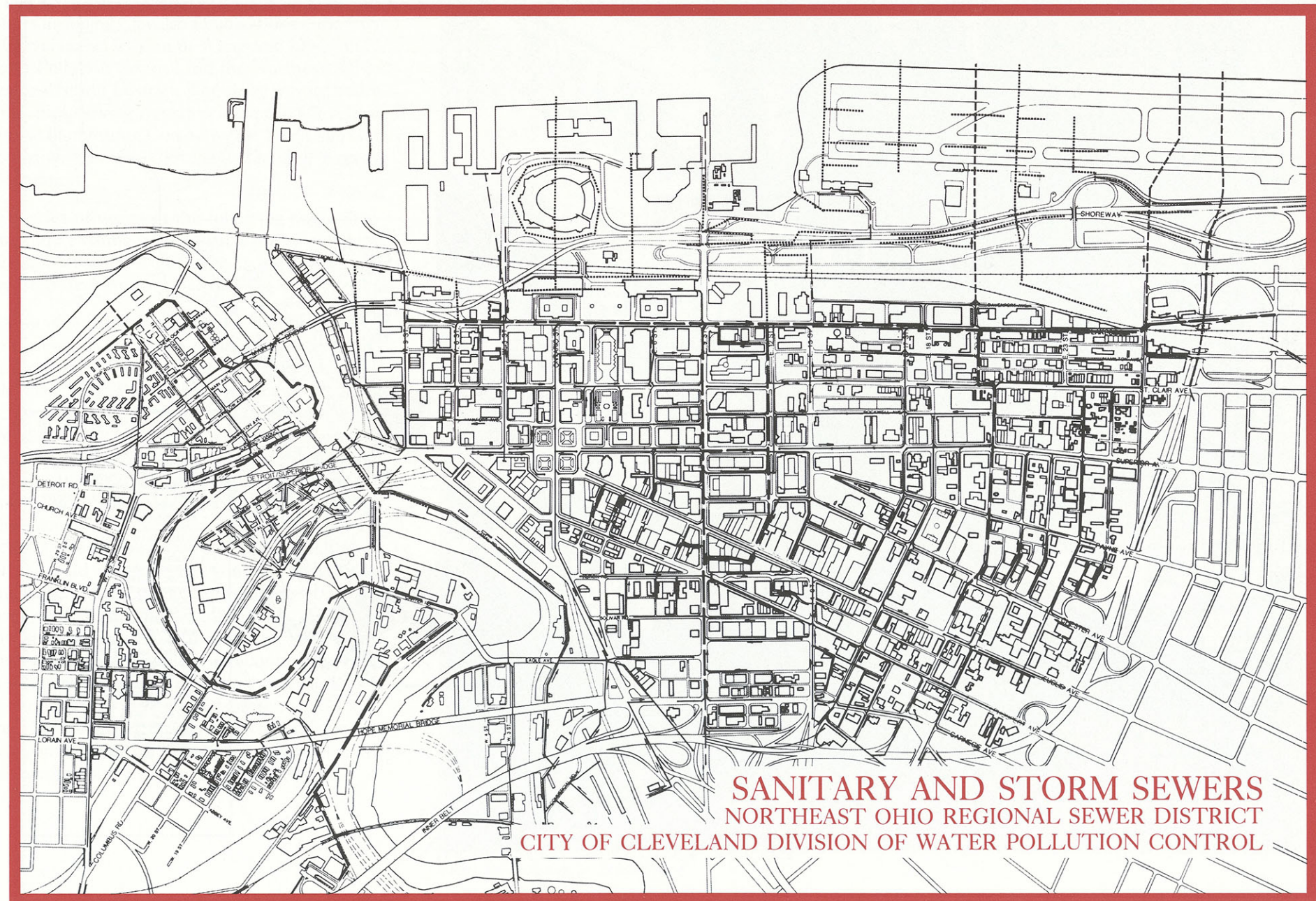
SEWER

The sewer system in downtown Cleveland consists mainly of combined sewers owned and maintained by the City of Cleveland's Division of Water Pollution Control. The interceptors which collect the flow and the treatment plants are owned and maintained by the Northeast Ohio Regional Sewer District (NEORS). Though many of the system's components are old and conditions vary significantly, it has been performing as designed. No overflow problems are encountered in the downtown area, except in the low-lying areas along the river where occasional high water levels flood the sewers. Downtown Cleveland is presently highly developed, and storm water runoffs are at a maximum. Since sanitary sewerage is a minimal component of the total combined sewerage, no capacity problems are anticipated from new development projects.

Most of the sewers in the downtown area are combined sewers, a result of design practices used at the time of construction (1860 to 1920). Sewers were constructed to convey stormwater, and sanitary flows were admitted to these conduits since the amount of sanitary flow is usually insignificant compared to the volume of storm flow. Sewer water was then spilled into Lake Erie or the Cuyahoga River. When sanitary sewerage treatment was instituted, the cost of separating storm and sanitary systems was uneconomical, so all sewerage from the combined sewers was diverted to the treatment plants.

At present, the system in downtown is functioning adequately as designed, and has the capacity to convey the 25-year design flood without overflow.

The treatment plants operated by the NEORS include three major wastewater treatment plants (Southerly, Westerly, and Easterly), and two smaller community plants (Berea and Strongsville "A") that will be abandoned when interceptor sewers now being constructed are complete. NEORS has recently invested \$689 million to upgrade their water pollution control facilities, and renovations at the major plants are essentially complete.



LEGEND

- Combined Sewers
- - - Interceptor Sewers
- - - Sanitary Sewers
- Storm Sewers
- . - . - Overflow Sewers

WATER

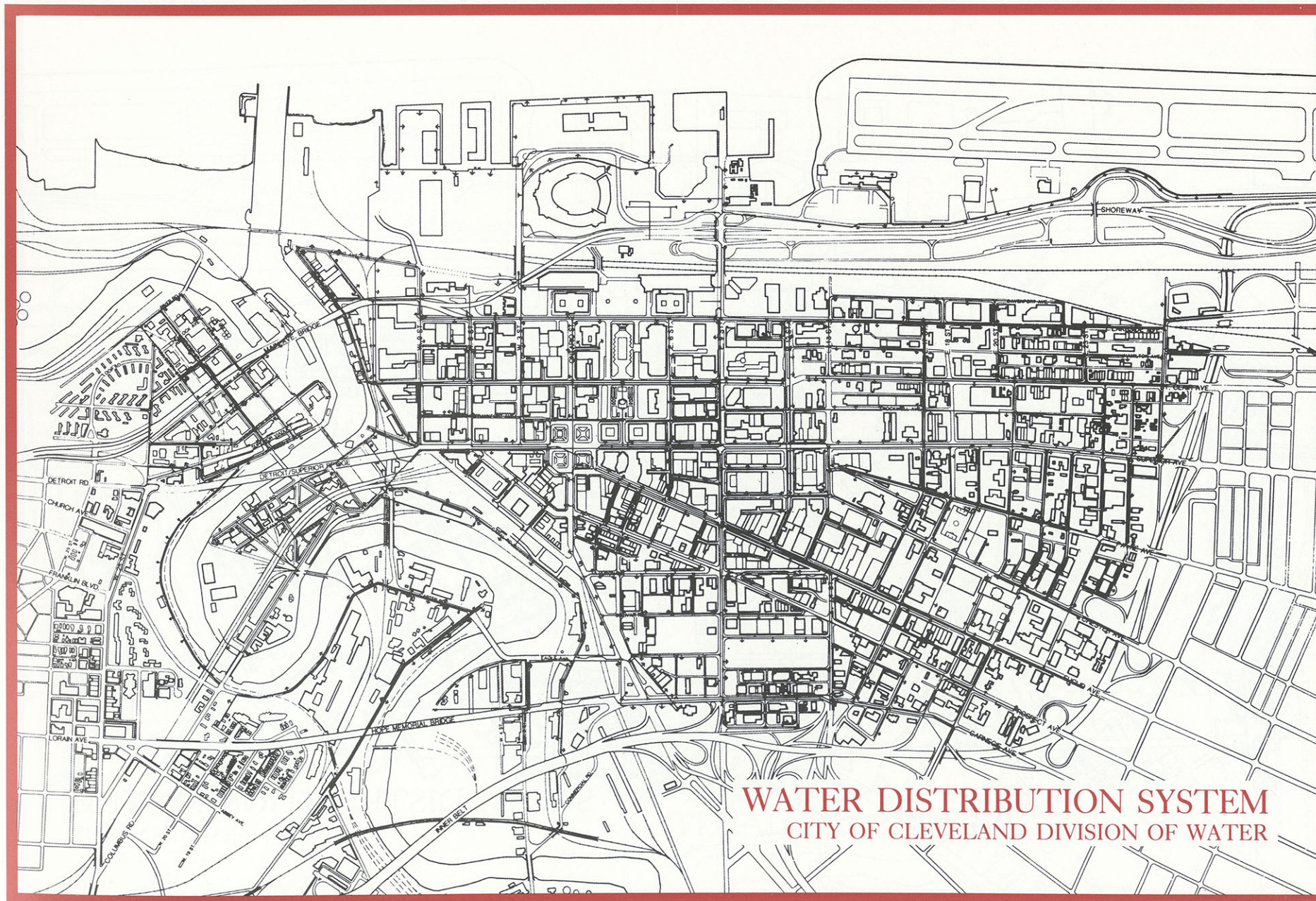
The City of Cleveland's Division of Water owns and maintains the water distribution system in downtown Cleveland. The existing pipeline network has sections which were laid as early as 1880. The water supply from the division's four filtration plants is ample. The downtown area is traversed by several large water mains which can be tapped as necessary to meet increased demand. Fresh water is obtained from crib intakes in Lake Erie and is treated at four filtration plants which currently have the following design capacities in millions of gallons per day (mgd):

Baldwin	175 mgd
Crown	50 mgd
Division	100 mgd
Nottingham	100 mgd
TOTAL	425 mgd

These capacities are nominal ones, and all plants could easily operate at 120% of their design capacity. This has not been necessary, since in recent years the peak demand has been about 350 mgd in the summer months, dropping to about 230 mgd in the winter.

Most of the pipeline in downtown was laid in the late 1800s and early 1900s. The primary deficiency in the downtown distribution system is low pressure caused partly by undersized lines and tuberculation which reduces effective pipe diameters and decreases flow. In addition, many of the water mains in this area are of 4" or 6" diameter, sizes rarely used in modern work. For new developments, the standard size used is 8" diameter pipe, with 12" diameter pipe considered optimal. The Division is currently implementing a rehabilitation program that will raise pressures in all downtown areas to acceptable levels.

The Division of Water is currently implementing a long-range Waterworks Capital Improvement Program to be performed by 1992. The Division has allocated \$2.5 million for the next two years. The program consists of examining the 4" and 6" lines; recommending replacement, cleaning, relining, or leaving as is; and performing the required work.



LEGEND

—▲— Watermain with Fire Hydrant

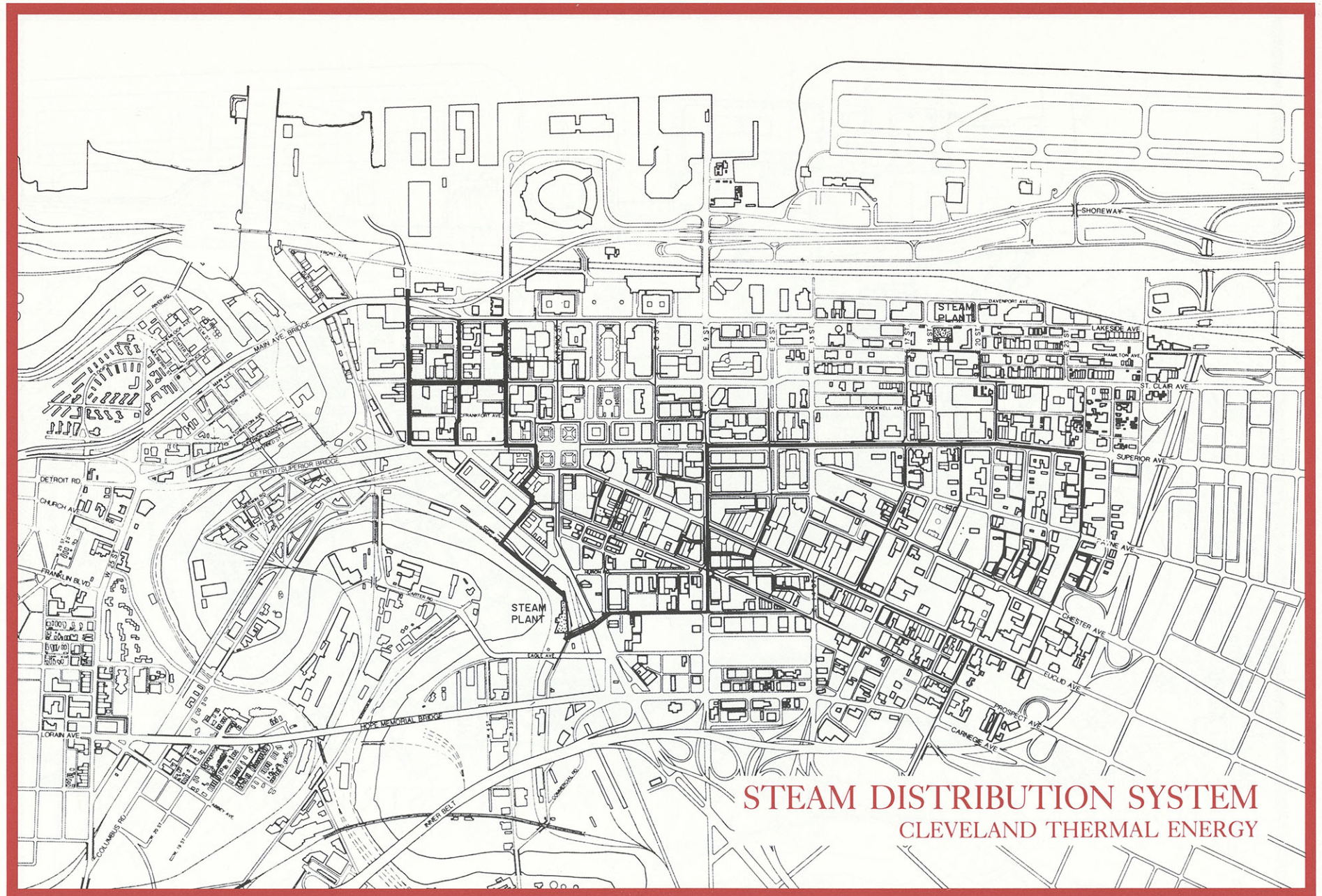
STEAM

The steam distribution system in downtown Cleveland was recently purchased from the Cleveland Electric Illuminating Company by Cleveland Thermal Energy Corporation, a company dedicated solely to the operation and distribution of steam. Thermal energy in the form of steam is produced in two downtown central power plants fired by fossil fuels and is distributed downtown through pressurized insulated underground pipelines consisting of 15 miles of main pipeline and four miles of secondary branches. The steam is circulated at three pressures: 150 psi, 60 psi and 22 psi, the lowest pressure being the one most commonly used to distribute steam to current customers.

The two steam plants, located on Canal Road and on Hamilton Avenue near East 20th Street, are in good condition with modern equipment that meets current EPA regulations. The steam is produced by five boilers in one of the plants and six boilers in the second one, for a combined capacity of 1,320,000 pounds per hour. The present system can support more than twice the current load and the plants can be expanded if required to meet increased needs.

Cleveland Thermal Energy Corporation is undertaking a program to expand its customer base and improve the physical condition and efficiency of the current system, at the same time looking for opportunities to service steam-driven chillers and install chilled water pipelines. Most of the existing pipeline has been in the ground for over 60 years. It is expected that significant resources will be earmarked to rehabilitate and replace existing pipelines and to lay additional pipelines beyond the current reach of the system when a new development project appears cost effective.

Cleveland Thermal Energy Corporation is subject to regulation by the Public Utilities Commission of Ohio.



STEAM DISTRIBUTION SYSTEM
CLEVELAND THERMAL ENERGY

LEGEND

— High Pressure Line

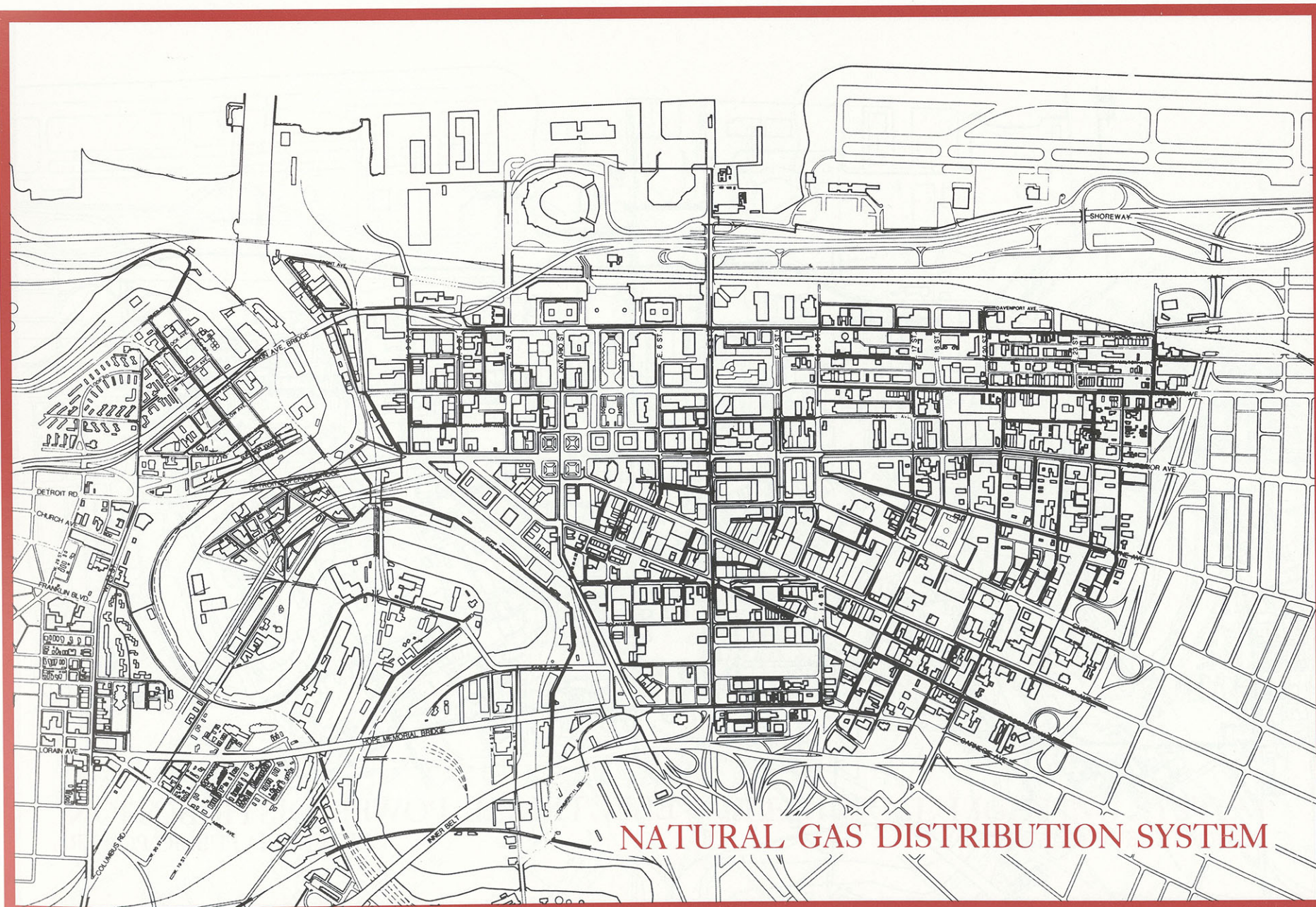
— Intermediate and Low Pressure Lines

NATURAL GAS

Downtown Cleveland has a well developed network for distribution of natural gas, owned by the East Ohio Gas Company (EOG), a subsidiary of the Consolidated Natural Gas Company (CNG).

Most of the gas distribution system in downtown Cleveland was installed between 1900 and 1950, and is maintained in good operating condition, meeting all regulatory requirements. Ample supplies of natural gas are available to EOG, and there are no restrictions on new services. Natural gas in downtown Cleveland is distributed at low, medium, intermediate or high pressure.

EOG is subject to regulation by the Public Utilities Commission of Ohio.



NATURAL GAS DISTRIBUTION SYSTEM

CLEVELAND PUBLIC POWER

Historical

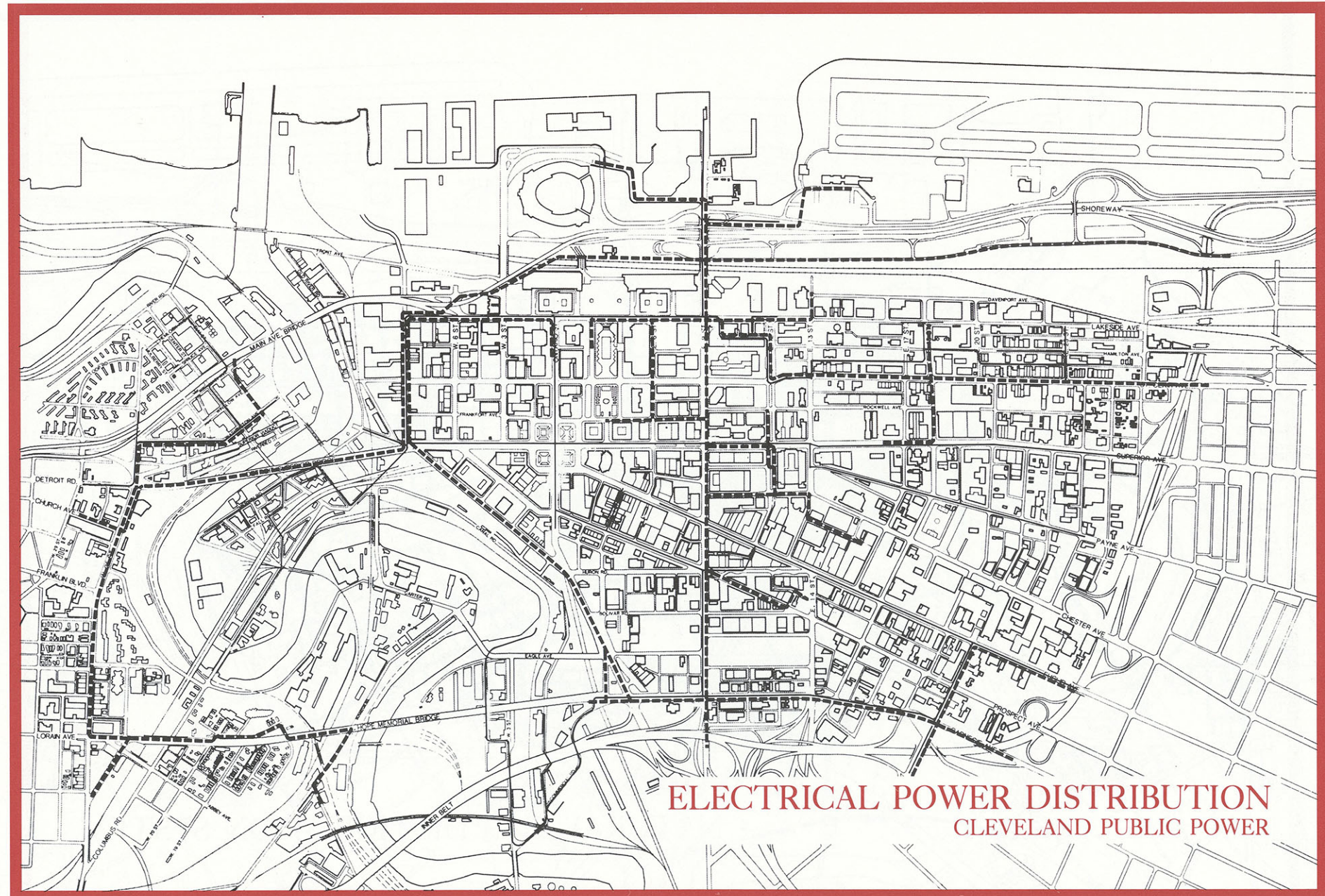
Between 1900 and 1910, the city acquired through annexation the electric facilities serving the villages of Collinwood and South Brooklyn. In 1911, the city borrowed \$2,000,000 to pay the cost of construction of its first generating plant, a 15,000 kwh steam-powered electric generating facility located at the East 53rd Street station. By 1947, the city, through the Division of Light and Power of the Department of Public Utilities, provided electric service to some 56,000 retail customers and sold approximately 307,000,000 kwh annually. The Division then served approximately 28% of the area in the city and approximately 20% of the electric consumers. During this time period, the remaining customer base was served by the Cleveland Electric Illuminating Company (CEI), an investor-owned utility serving Northeast Ohio.

Service Area

Cleveland Public Power (CPP) presently provides retail electric service in approximately 40% of the geographical area of the city and in some adjacent suburban areas. CPP has experienced steady growth in residential customers in recent years. For the years 1982 through 1986 the number of residential customers increased by 8.5%. In 1986, CPP serviced approximately 49,700 residential, commercial, municipal, and streetlighting customers.

Capacity

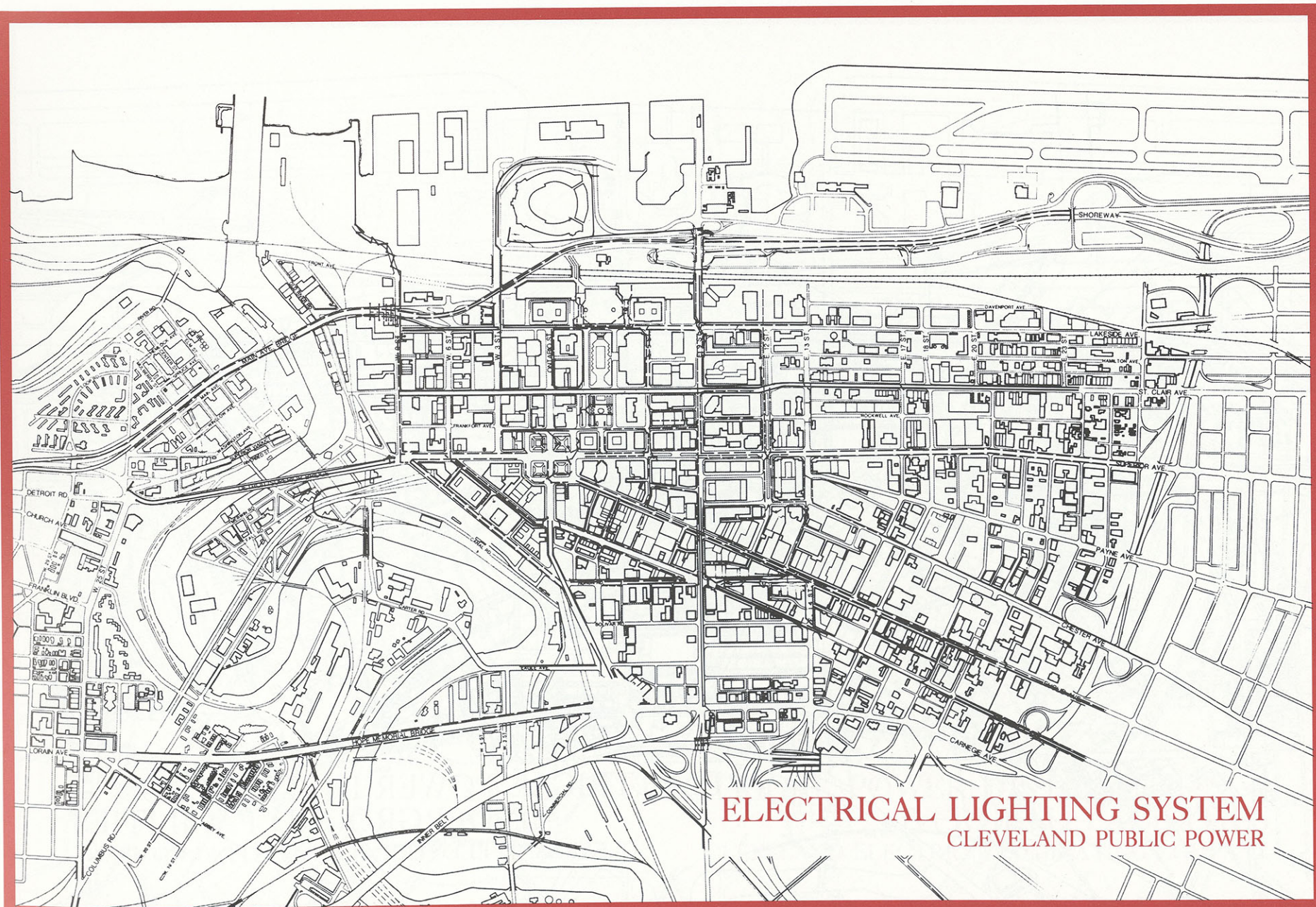
CPP purchases power from a variety of suppliers throughout the eastern United States. These



LEGEND

----- Transmission ——— Distribution

THE CLEVELAND ELECTRIC
ILLUMINATING COMPANY



ELECTRICAL LIGHTING SYSTEM
CLEVELAND PUBLIC POWER

LEGEND
—— Overhead Lighting - - - Whiteway Circuits

sources of power supply can be used for additional capacity as required for new development.

CPP owns a steam electric generating station located at its Lake Road Generating Plant comprised of six boilers and four steam turbines with an aggregate of nameplate generating capacity of 160 MW. This station was removed from service in 1977 and has been in an inactive status since that time. The condition of the units is such that repairs and rehabilitation would be required in order for the units to be started and operated to produce electricity. CPP intends to hold the Lake Road Plant in reserve at its present state of repair for the near-term future.

CPP has three oil/gas-fired combustion turbine generators. Two are installed at the West 41st Street Substation (36 MW, nameplate) and the other is installed at Collinwood Substation (18 MW, nameplate). These units are well maintained and regularly used by CPP for peaking and emergency purposes.

THE CLEVELAND ELECTRIC ILLUMINATING COMPANY

Historical

Cleveland Electric or its predecessor companies have served the Cleveland area for over a century. Throughout its history, CEI has continued to build plants to meet the needs of the expanding Northeast Ohio economy. In 1967, CEI became a charter member in a power pool created to provide greater reliability of service at a lower cost than the individual companies could achieve separately. In the 1970s, the power pool built five large coal-fired generating units and a nuclear unit and in the 1980s the power pool added two nuclear units. In 1986 CEI gained additional efficiencies by affiliating with The Toledo Edison Company under a new holding company, Centerior Energy Corporation.

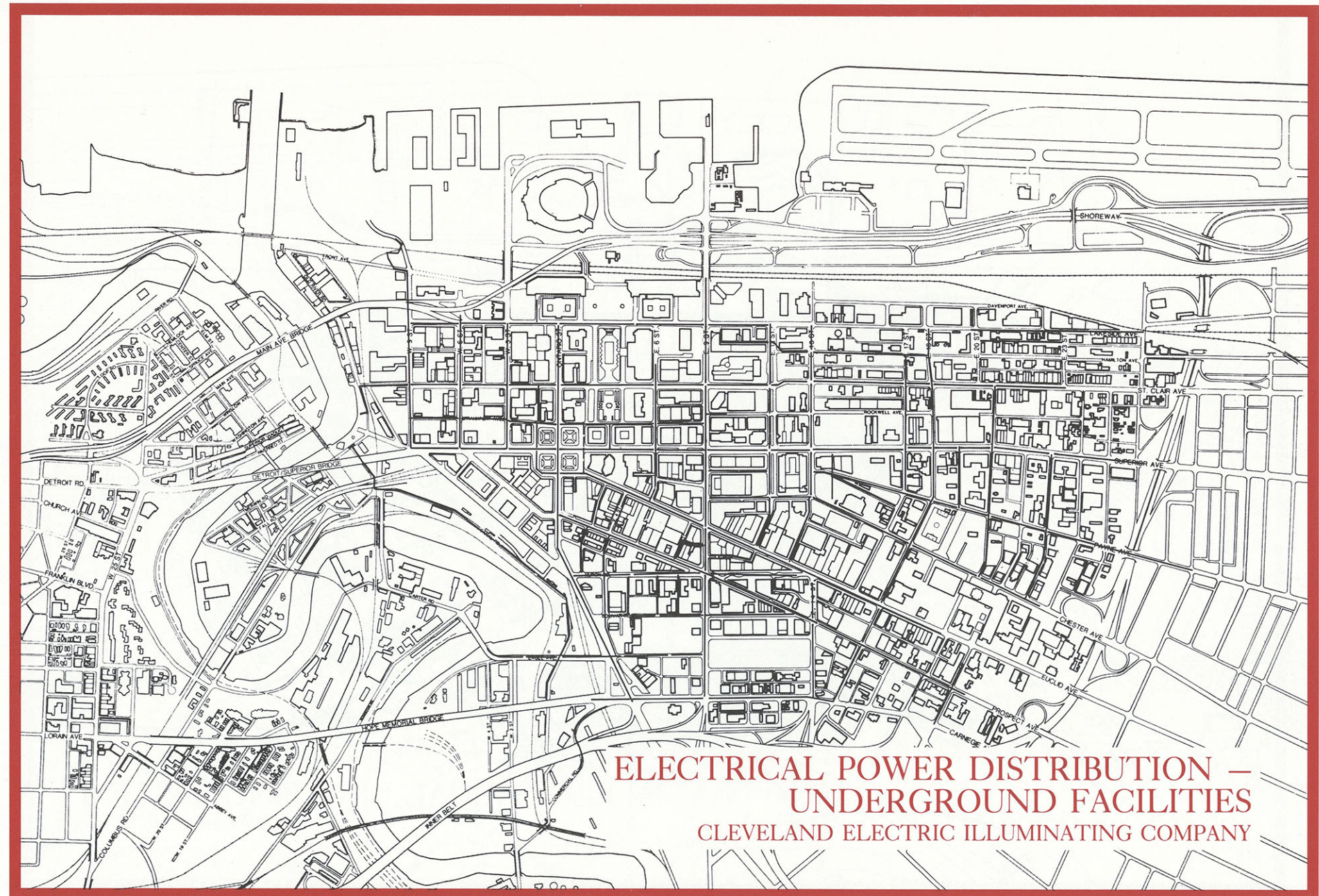
Service Area

CEI originally served an area of only one-quarter square mile; today it serves a 1,700-square mile area, covering practically all of Cuyahoga, Geauga, Lake and Ashtabula Counties.

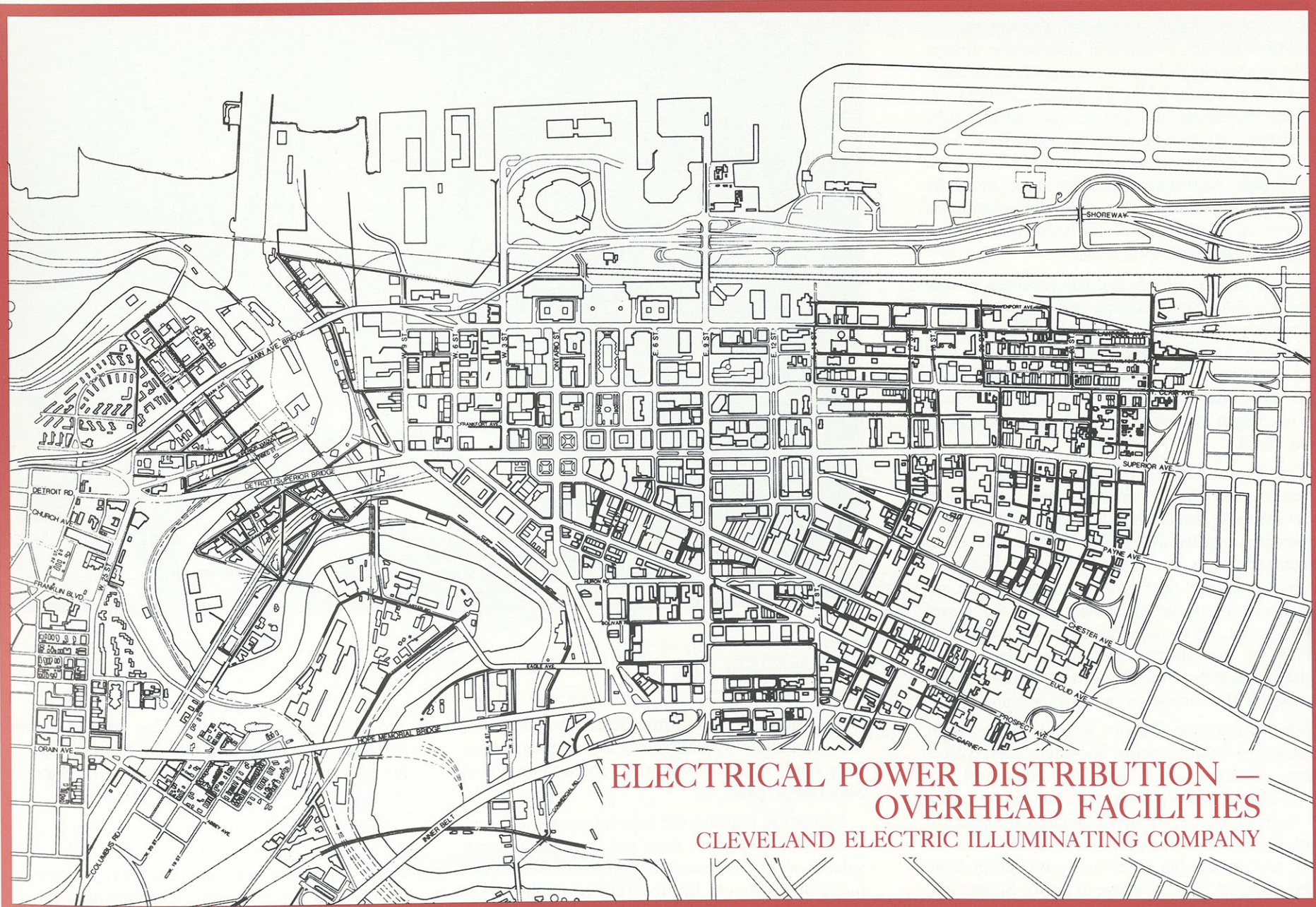
Customers

At the turn of the century, CEI served 1,900 customers; at year-end 1987, it served 727,154 customers (8,155 industrial, 64,978 commercial and 654,021 residential). The number of commercial customers has grown consistently, even during the recession of the early 1980s. Industrial and commercial customers account for 72 percent of the Company's kilowatt-hour sales.

CEI's 4,547 megawatts of generating capacity is jointly dispatched with the 2,150 megawatts of Toledo Edison capacity to assure adequate supplies of electricity to meet economic growth for at least the next decade without additional construction. A fully integrated generation, transmission and distribution system and a large engineering staff assure a reliable supply of electricity. The company is working to provide the new circuits, cables and service facilities needed to accommodate future growth in downtown Cleveland. A \$15 million underground cable circuit



STREETSCAPE IMPROVEMENTS



construction project is scheduled for completion in mid-1991. A new \$30 million substation is planned for completion in 1994. From 1988-92, CEI has budgeted \$1.3 billion to improve transmission and distribution facilities and to upgrade existing generating units.

ELECTRICAL POWER DISTRIBUTION — OVERHEAD FACILITIES CLEVELAND ELECTRIC ILLUMINATING COMPANY

STREETSCAPE IMPROVEMENTS

Downtown Cleveland contains a wide variety of streets, ranging from a winding cobblestone drive in the Flats to the broad avenues of the central business district and the great bridges across the Cuyahoga River. While all of these streets play a role in the downtown transportation network, they are, in a broader sense, not just for vehicles.

Streets rights-of-way include not only road surfaces, but also sidewalks, signs, streetlights, and in many cases, landscaping and street furniture. Together, these elements constitute "streetscape." The appearance of street rights-of-way and their ability to accommodate both pedestrian and vehicular use are important to the vitality of downtown. Poorly designed streetscape detracts from the design of adjoining buildings and hampers efforts aimed at economic revitalization, particularly in the retail sector. A well-designed streetscape establishes a strong, consistent visual image of downtown and gives those walking or driving through it a favorable impression.

While Cleveland has a number of visually attractive streetscapes which complement the adjoining buildings, downtown streetscape design, taken as a whole, lacks coherence and consistency. With the exception of Public Square, Tower City, and the Warehouse districts, no extensive, visually consistent streetscape improvements have been made in downtown. Outside these areas, most streetscape improvements have been made by individual building owners and developers and bear little or no relationship to the streetscape found in front of adjacent properties.

Public Square streetscape has received a complete and thorough treatment, including new, wider sidewalks with amenity strips, new lighting, signage, and street furniture, and extensive redesign and reinvestment in the public open spaces within each of the four quadrants. As a result, Public Square has once again assumed its proper role as Cleveland's front room.

The Tower City District likewise has received extensive and visually-consistent new streetscape. New sidewalks, featuring patterned paving materials, have been installed as have the historic Cleveland streetlight fixtures. Considerable attention was given in the design and development of streetscape improvements to the historic architecture in the Tower City District. As a result, the streetscape improvements in this district are appropriate to the architectural style of the district and provide a fitting setting for the individual buildings within it.

The Warehouse District is undergoing major streetscape improvements, including the replacement of deteriorated sidewalk vaults and the installation of new sidewalks with sandstone amenity strips and street furniture uniquely designed to evoke the commercial past of the district. In addition, new streetlights, street trees, and signage have been installed. As in the case of Public Square and Tower City, the Warehouse District streetscape has been designed to provide an attractive setting for the area's buildings and open spaces and to establish a clear visual identity for the district as a whole.



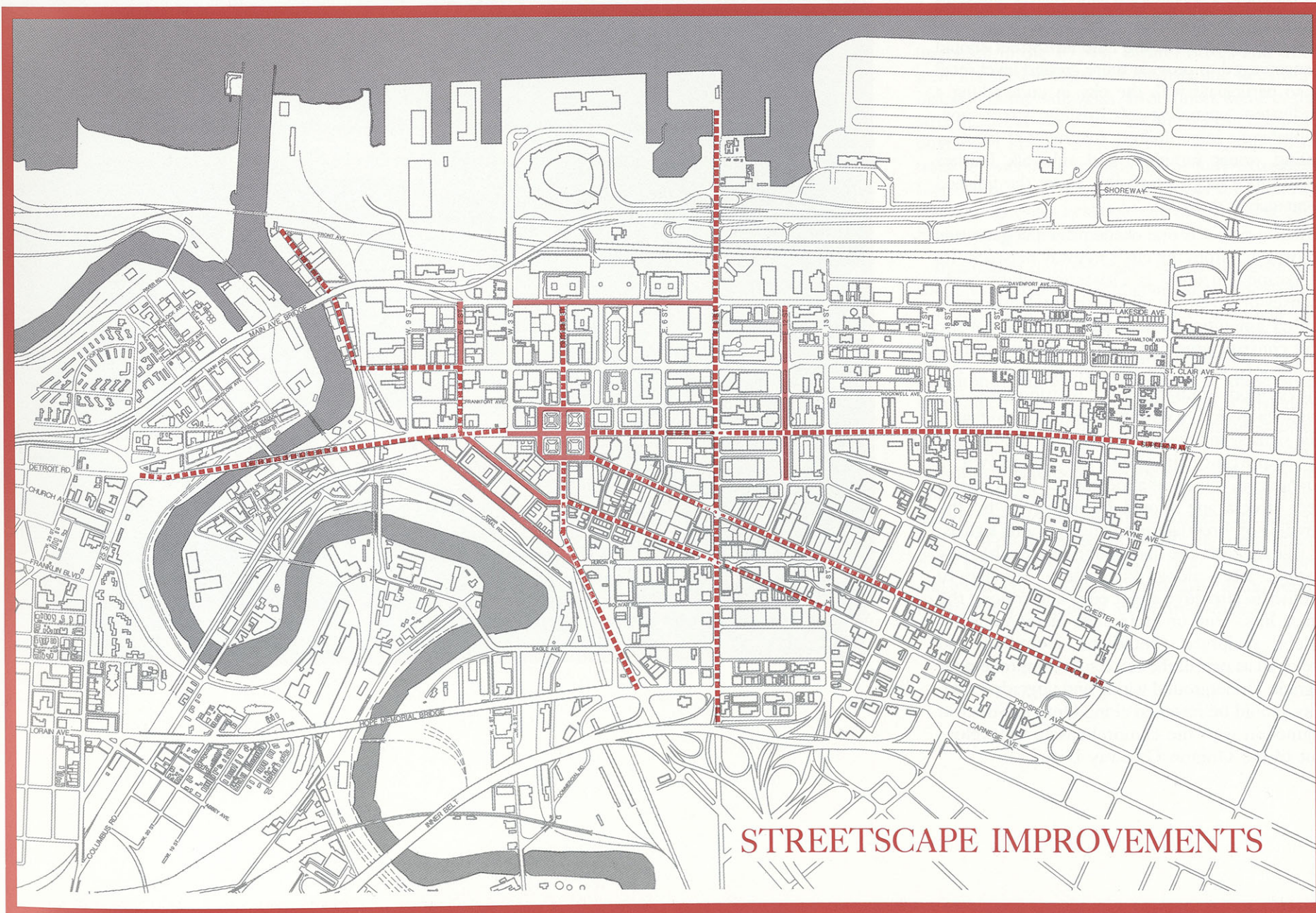
Public Square Landscaping And Streetscape Improvements

In addition to these district streetscape improvements, right-of-way landscaping improvements have been made on East 12th Street and on portions of Superior Avenue.

In order to improve the appearance of the downtown retail and office core and upgrade property values within it, coordinated streetscape improvements should be undertaken on the major downtown streets and in several downtown districts, and streetscape improvement programs already begun should be completed. Priority should be given to undertaking streetscape improvements on Euclid

and Prospect Avenues and on East 9th and Ontario Streets and in the Flats Oxbow Districts and to finishing improvements already begun on Superior Avenue and in the Warehouse District.

Euclid Avenue was once the grand avenue of downtown. Its continued stature as a major retail street warrants recreating an attractive and inviting streetscape. Euclid Avenue currently has cast iron street poles that are painted light blue and have been retrofitted with cobra-head light fixtures. Wiring for both streetlights and traffic signals is overhead. Signage on the poles is cluttered and



LEGEND

- Existing
- Proposed

uncoordinated. The general appearance of the avenue is of neglect. The sidewalk area for walking has been decreased by the placement of large tree planter pots along the curb. While the trees soften the appearance of the street, the planter pots are an obstruction to the free flow of pedestrian traffic and inconvenience people using the numerous Euclid Avenue bus lines. The planters themselves are completely exposed to the weather and provide a poor environment for the trees. As a result tree roots freeze in the winter and need constant watering in the summer.

Prospect Avenue between Ontario and East 9th Streets remains an important part of the downtown retail core. The quality of Prospect Avenue streetscape is very poor and reflects badly upon merchants trying to do business on the avenue. As in the case of Euclid Avenue, Prospect Avenue is characterized by old metal streetlight poles retrofitted with cobra-head fixtures, unsightly overhead wiring, cluttered signage, and unattractive sidewalk finishes. Prospect Avenue has a narrower right-of-way than Euclid Avenue and no attempt has been made to install planters. Like Euclid Avenue, Prospect Avenue is a major bus thoroughfare. Both the general clutter on the avenue and the absence of shelters or similar amenities inconvenience bus users.

Prospect Avenue should receive comprehensive streetscape improvements in connection with proposed future resurfacing of the street itself. Such improvements would not only benefit owners and merchants on Prospect Avenue, but would also benefit those on Euclid Avenue by making the contrast between the two streets less dramatic. At the present time, the difference in image between Prospect Avenue and Euclid Avenue is so great that it negatively impacts the marketability of space in the Colonial and Euclid Arcades and reflects badly upon retailing found on Euclid Avenue and in the Tower City District.

East 9th Street is the center of downtown's contemporary office district and most important north-south thoroughfare. With the opening of the Galleria at Erieview, East 9th Street takes on added importance as the major pedestrian connection between that shopping center and the other retailing on Euclid Avenue and in Tower City Center. Currently, the dominance of financial institutions and parking garages prevents any continuity of retailing on the street and presents a less than inviting atmosphere for shoppers. Existing streetscape does little to counteract this effect and, in fact, reinforces a sense of discontinuity. The existing streetscape of East 9th Street is characterized by a lack of uniformity; streetlight fixtures include both old metal poles retrofitted with cobraheads and new Erieview concrete poles; street trees and tree grates vary in type and placement; and existing signage and signalization give a cluttered appearance to several sections of the street.

In the spirit of encouraging pedestrian connections between major downtown retail areas, developers and building owners along East 9th Street should be encouraged to provide more ground level retail and to participate with the city in undertaking a coordinated upgrading of existing streetscape. Establishing a more uniform treatment of lighting, planting, street furniture, and sidewalk finishes will do much to give East 9th Street the finished appearance it deserves.

Ontario Street is one of the principal gateways to downtown from the city's freeway network. Its streetscape currently is characterized by wide expanses of pavement unrelieved by landscaping or other amenities. The eastern frontage of the street consists largely of poorly-designed surface parking lots while the western frontage is the undeveloped embankment overlooking the Cuyahoga River. Existing streetlights, signage, traffic signals, and overhead wiring combine to give this important approach to downtown a disorganized, unkempt appearance. The Ontario Street streetscape should be improved by the upgrading of streetlighting fixtures, traffic signals, and signage, and the installation of a double row of street trees along the eastern frontage to establish an attractive street edge and conceal the surface lots. One or more sites of monumental outdoor sculpture should be identified and developed as part of the streetscape improvement program. Underground wiring and upgraded sidewalks should be installed along Ontario Street in conjunction with the comprehensive redevelopment of the Ontario Gateway District.



Streetscape Improvements on West 6th Street in the Warehouse District

STREETLIGHTING IMPROVEMENTS



Superior Avenue Streetscape

Portions of the Superior Avenue streetscape between East 9th Street and Public Square were upgraded in the 1970s. Planter boxes and trees were installed in the street median, and trees were installed in the sidewalks. In addition, some of the streetlight fixtures and other street furniture were upgraded. This streetscape treatment, though attractive, was never completed or fully extended. Consistent streetscape treatment of the Superior Avenue right-of-way should extend from East 14th Street to West 6th Street.

In addition to these major streets and avenues, coordinated streetscape programs should be carried out in several downtown districts including the Warehouse District and Flats Oxbow, Playhouse Square, the Mall/Public Square and the Downtown Lakefront. Improvements in each of these areas should be designed to establish a clear, visual identity which defines and reinforces the unique qualities of each district within the context of the broader downtown. Efforts to develop streetscape designs uniquely appropriate to individual districts have already been undertaken in the Tower City District and on West 6th Street in the Warehouse District. Such attention to the nuances of an area's history and architecture should be encouraged in the design of streetscape for other downtown districts.

STREETLIGHTING IMPROVEMENTS

An important part of the streetscape in downtown are the streetlights. Streetlighting provides safety for pedestrians and vehicles at night, and the light poles and fixtures are visible streetscape elements during the day.

As lighting technology advanced over the years and fixtures became more efficient, many different types of poles and luminaires were installed downtown. In some areas, maintenance of poles, such as painting, or replacing outdated poles, has not been carried out on a routine basis.

An assessment of existing conditions of downtown streetlight poles and fixtures was undertaken in 1987. Subsequently a plan was developed for a more orderly approach to streetlight replacement.

A key finding of the survey was that eight different pole styles are currently used, but are not grouped consistently within certain areas. For example, the pole used at the National City Bank at Euclid Avenue and East 9th Street is not similar to the pole used immediately to either side of the site along Euclid Avenue.

This indicates that pole replacement efforts have not followed a plan. As a result, haphazard intermingling of pole styles has added to streetscape clutter. Further, some areas of downtown use wood poles or old steel poles that exhibit deferred maintenance.

Existing Poles

The eight major light pole styles in downtown include:

Erievew Pole: Made of prestressed concrete, light grey in color, this pole was first placed in the Erievew Urban Renewal Area and is now used only to replace damaged Erievew poles.

Sterner Pole: Made of aluminum, nearly black in color, these tapered, modern poles use the squared-off luminaire fixture.

Steel Pole: This pole, having a smooth tapered shaft, predominates on certain streets. Colors vary from street to street. These use cobrahead luminaires.

Trolley Pole: This is a steel pole with a tapered, fluted shaft. Also found in various colors, this pole lines Euclid Avenue. These use cobrahead luminaires.

Wood Pole: This consists of two types: plain wood poles serving solely as light poles, and telephone poles, which double in use. These use the cobrahead luminaire.

Historic Pole: This is a dark, tapered pole, shorter than the standard 35-foot pole, which is based on the historic Cleveland Streetlight used several generations ago. These vary slightly in style from place to place.

Pedestrian Pole: This is a 15-foot pole, light grey, which uses a flat "sombbrero" fixture. These poles are found exclusively in the Mall C and Mall B areas.

Recommendations

As the City of Cleveland undertakes new streetscape design projects, and/or routine pole replacement, it is recommended that fewer styles of poles and luminaires be used and that a plan be followed to locate selected styles. Reducing the number of poles will reduce costs by eliminating the need to stock varying styles and will help eliminate visual clutter.

Streetlight poles can also serve to unify street hardware, traffic signals, and sign appearance. Under an ongoing pole replacement program, efforts can be made to upgrade and unify these elements of downtown's streetscape.

It is recommended that pole styles installed by the public utility companies be limited to two types, the Erievew and Sterner poles. The utility companies are responsible for streetlighting, although most streetlights illuminate the complete sidewalk area. The utility companies have indicated that they would like to limit the number

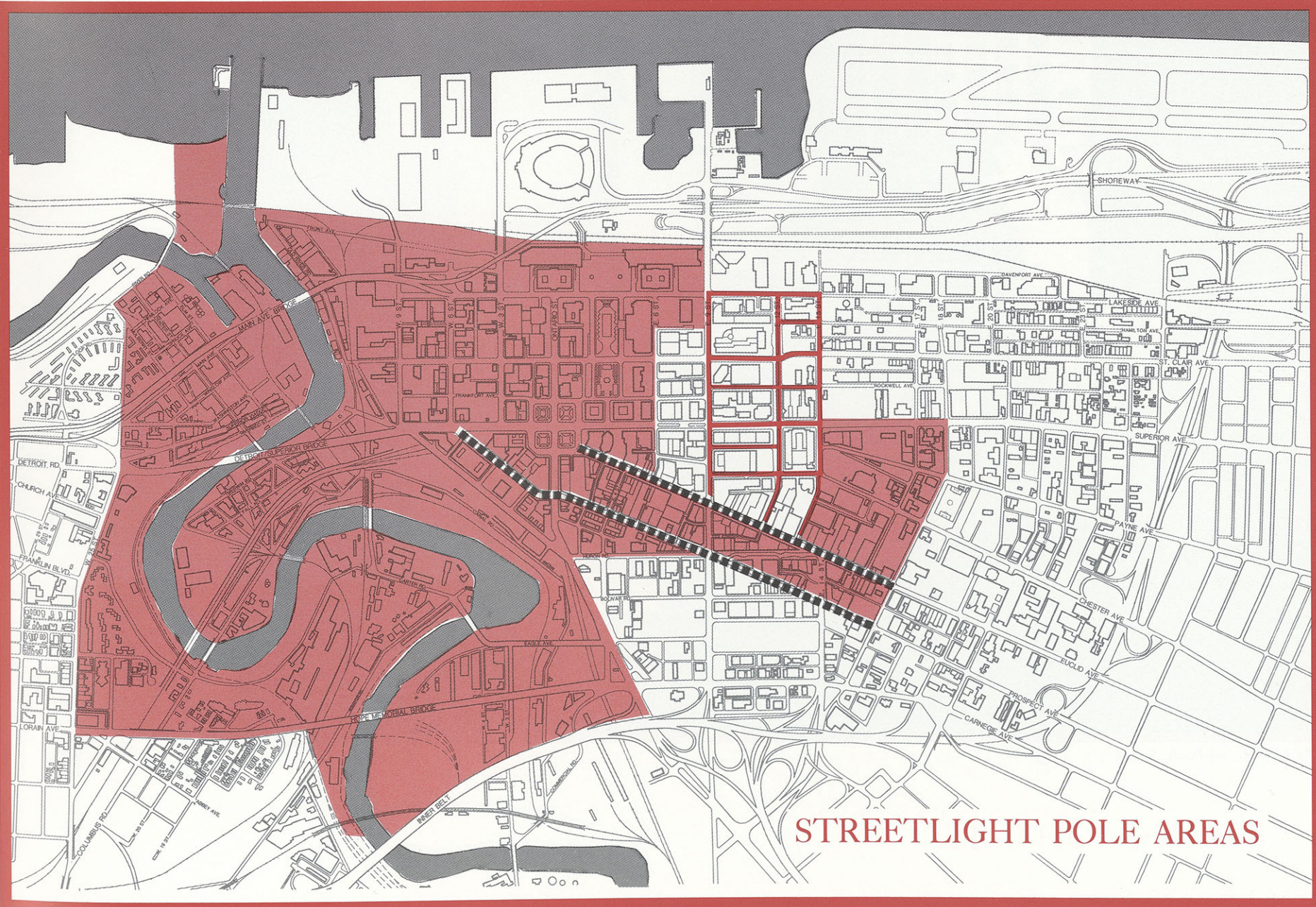


Public Square Streetlighting Using Historic and Sterner Poles

of poles and luminaire types they must stock, but that they are willing to supply power for decorative light fixtures that are owner-maintained. In effect,

the utility companies will supply general street illumination whereas private owners must provide any decorative lighting.

STREETLIGHT POLE NETWORK



Policies

- The downtown streetlight illumination supplied by the public utility companies should be limited to two designs, the Erievue and Sterner poles. This will enhance downtown's streetscape design by providing visual continuity. Both styles use underground wiring and are readily available.
- The Erievue pole should be located between East 9th Street and East 13th Street, from Euclid Avenue north to Lakeside Avenue. This pole should be used on both sides of the three north-south streets, East 9th, East 12th and East 13th. This area roughly coincides with the original Erievue I Urban Renewal Area. As funding permits, Erievue poles located in other portions of downtown should be removed and replaced with Sterner poles. Erievue Poles should be used to replace nonconforming poles within the designated area.
- All remaining portions of downtown should receive Sterner poles as replacement for Erievue poles and other types. The Sterner pole will unify the downtown core. Streets which have been identified for comprehensive streetscape design improvements, such as Euclid and Prospect avenues should be given priority for new streetlight fixtures.
- The Historic and Pedestrian poles may be used by property owners as specialty poles, but only to serve as sidewalk lighting. These styles may be most appropriately used in the Euclid/Prospect, Flats Oxbow, Playhouse Square, Tower City and Warehouse districts. Proposals for such lighting will be reviewed by the City of Cleveland on a case-by-case basis.

LEGEND

- Erievue Pole Consolidation Area
- Priority Streets for New Streetlight Poles and Luminaires

TRANSPORTATION NETWORK

The transportation network is a city's life-blood. Properly functioning highway, transit, and pedestrian networks enable people and goods to be transported with a minimum of effort. Accessibility to and mobility within downtown Cleveland are particularly important because of the large numbers of people that need to get to and from the offices, retail establishments, and other activities located there.

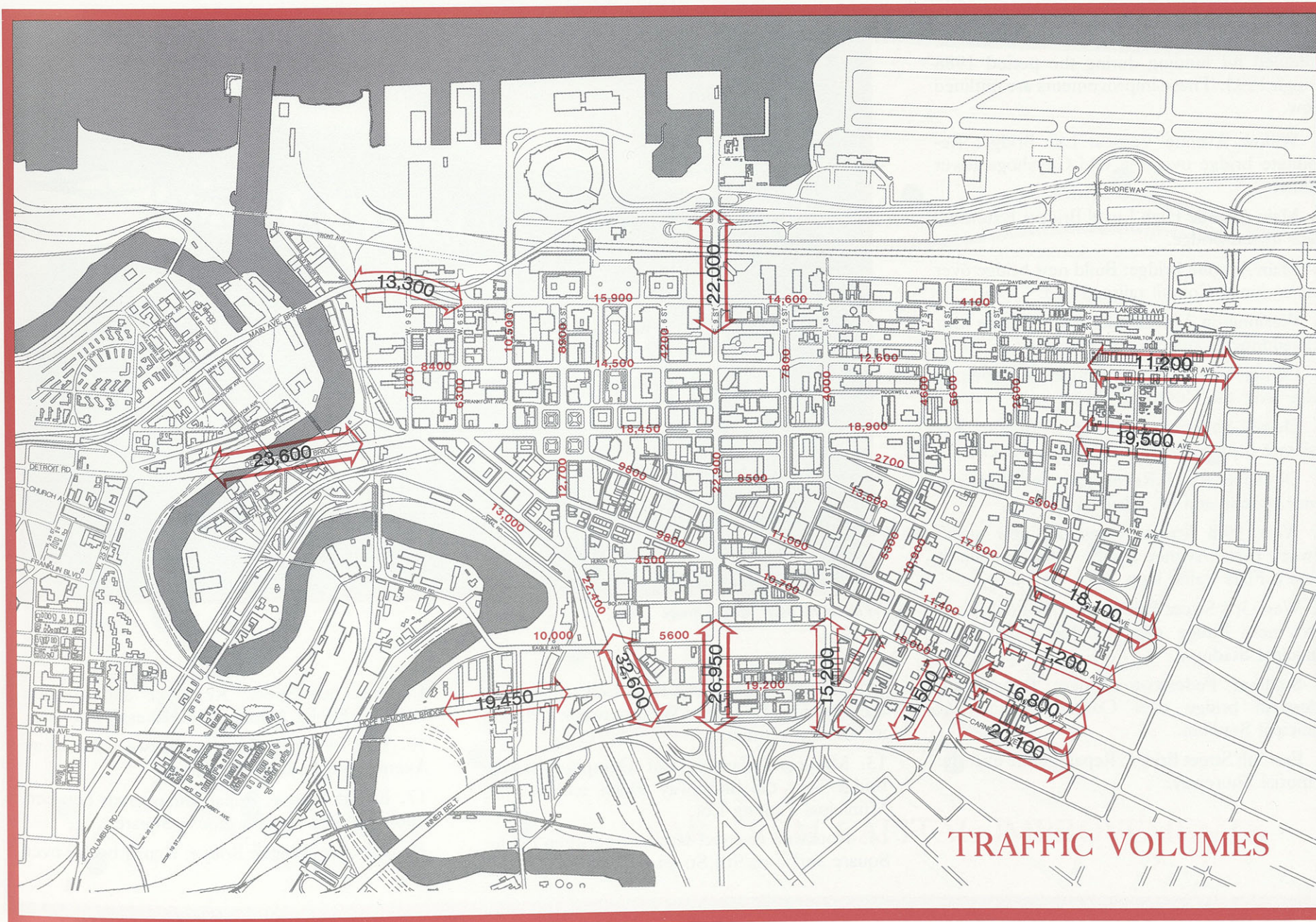
Over the years, Cleveland has evolved a system of major streets which radiate from the core area centered on Public Square. The transit system naturally followed those streets with streetcars, and later, buses. Today, downtown Cleveland is served by three interstate highways, I-71, I-77, and I-90, as well as by a number of principal local arteries including SR-2 (Memorial Shoreway). In addition, most of the Greater Cleveland Regional Transit Authority's bus routes as well as its entire rapid transit system focus on downtown.

When the transportation network becomes overloaded or otherwise unable to function properly, congestion increases, travel becomes more difficult, and the downtown area's competitiveness with other locations is weakened. Therefore, it is very important for the city to develop and maintain an efficient and comprehensive transportation network that will enable downtown Cleveland to function well and enhance its position as Ohio's largest commercial and employment center.



RTA Loop Bus on Public Square

TRAFFIC VOLUMES



Existing Conditions

Downtown Cleveland has always been the commercial and employment center of the region and has consistently good vehicular access via a number of corridors to the rest of the city and suburban locations. Numerous arteries, including three interstate highways, converge downtown and provide a series of gateways into the central business district.

The map to the left depicts traffic volumes on arterial streets and indicates the major gateways into the downtown area.

The figures show that Ontario Street at Carnegie Avenue, with 32,600 vehicles per day, is the most heavily travelled street into and out of downtown Cleveland. This is followed by East 9th Street at Carnegie Avenue and Superior Avenue at the Detroit-Superior Bridge. The heavy volumes in these locations are a result of the fact that drivers approaching the downtown area from the west and south have limited options due to geographic constraints. The numerous options for access from the Innerbelt (I-90) on the eastern edge of downtown results in several city streets carrying heavy volumes, but with no one standing out as the dominant traffic carrier.

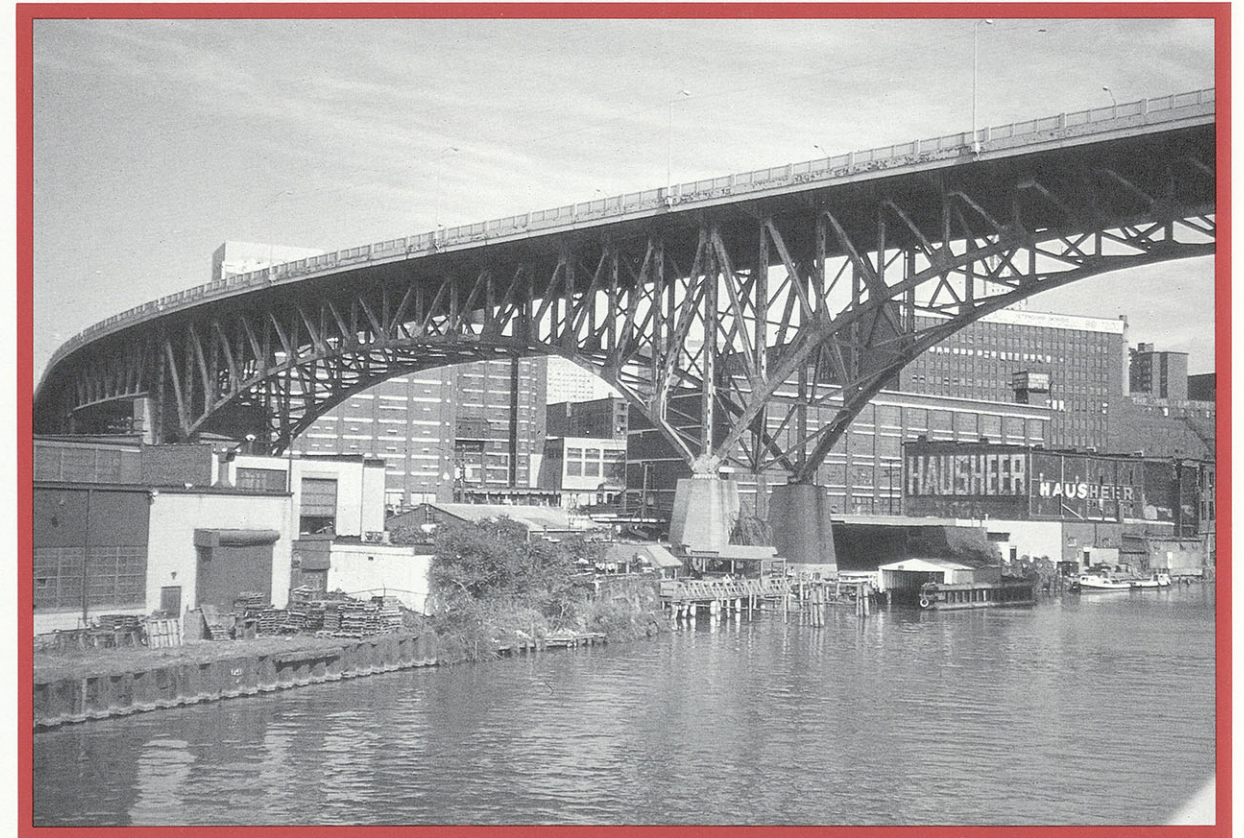
Despite the array of streets entering the area, downtown's streets are not without their problems. Euclid Avenue between East 13th and East 14th streets and East 9th Street at Carnegie Avenue are two examples of locations within downtown that are crowded and have numerous traffic accidents because of heavy volumes of automobile traffic. Anticipated new development within the downtown study area will only intensify such problems. Improvements that can be made to alleviate these and a variety of other traffic problems are addressed in other sections of this document.

NEAR-TERM CAPITAL IMPROVEMENTS

One of the most basic yet important elements in the improvement of the transportation network is the maintenance and replacement of existing facilities. Heavy traffic volumes and the use of road salt to combat ice and snow contribute to a continual decay of road surfaces and bridge superstructures. In addition, as new buildings are constructed in the downtown area, the existing transportation network will be burdened with more vehicles. Without periodic maintenance or replacement of these facilities, the system will eventually become unable to accommodate the demands placed upon it.

The map to the right depicts those downtown transportation facility improvements which are scheduled for funding during the period 1988 through 1993. These improvements are outlined below.

1. Willow Avenue Vertical Lift Bridge: Rehabilitate bridge over the Old Cuyahoga River channel.
2. Main Avenue High Level Bridge: Extensive repair to the bridge.
3. Main Avenue Bridge: Build new bridge over an abandoned Conrail railroad bed.
4. Washington Avenue: Build new bridge over an abandoned Conrail railroad bed.
5. Center Street Swing Bridge: Rehabilitate bridge over the Cuyahoga River.
6. Detroit-Superior High Level Bridge: Rehabilitate bridge over the Cuyahoga River.
7. Old River Road: Reconstruct road between Front Avenue and St. Clair Avenue.
8. West 10th Street: Construct new street between Front Avenue and St. Clair Avenue to create a Flats traffic loop.
9. West 3rd Street Bridge over Conrail: Construct new bridge over Conrail tracks near Municipal Stadium.
10. Stadium Pedestrian Bridge: Rehabilitate pedestrian bridge over Conrail tracks near Municipal Stadium.
11. East 9th Street Bridge: Repair bridge over the Memorial Shoreway.

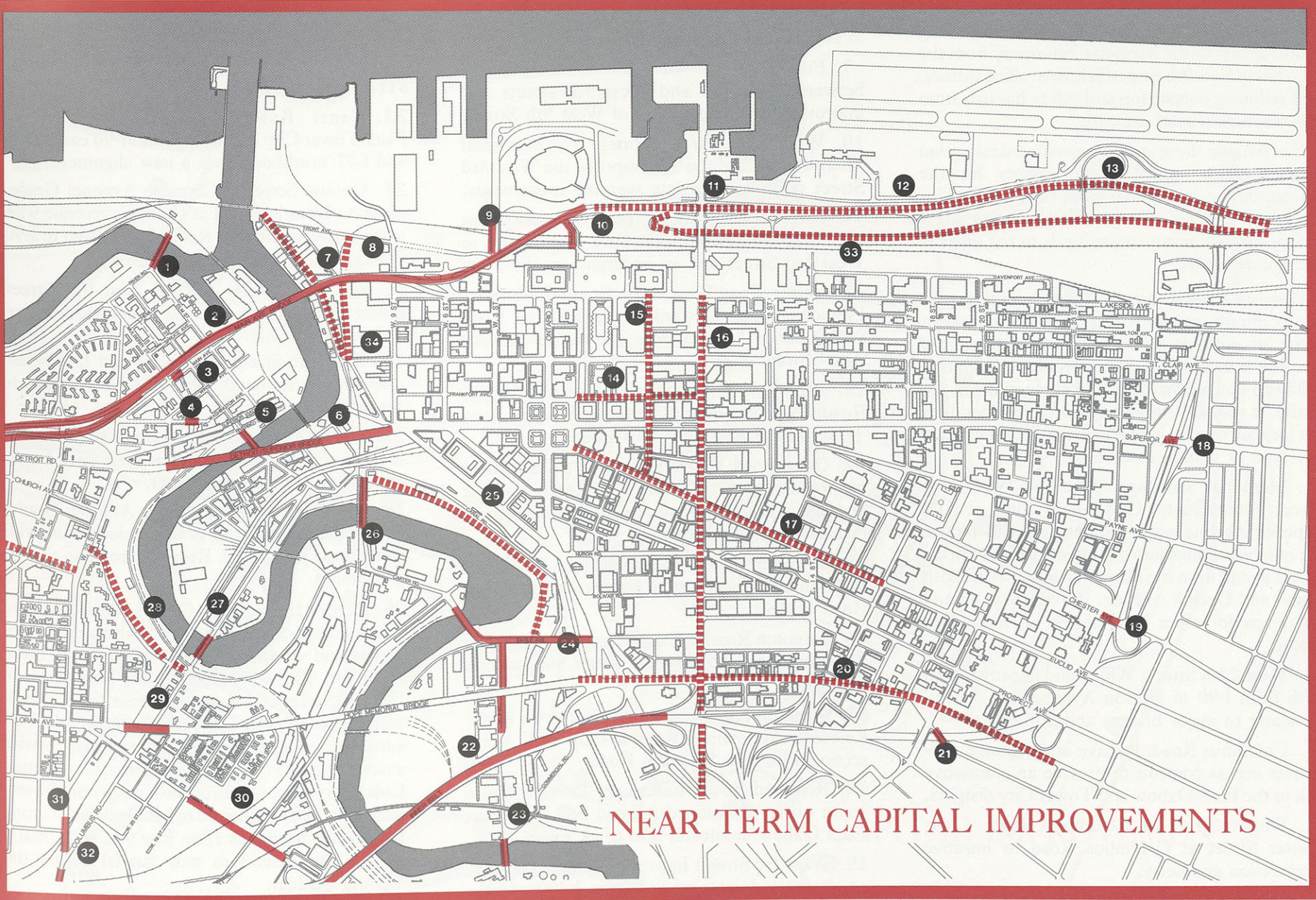


View of the Main Avenue Bridge

12. Shoreway Upgrading: Resurface and upgrade the Memorial Shoreway West between I-90 and its western terminus.
13. Municipal Parking Lot Overpass: Repair bridge over the Shoreway which accesses the Municipal Parking Lot.
14. Rockwell Avenue: Upgrade between Public Square and East 9th Street.

15. East 6th Street: Resurface and upgrade between Euclid Avenue and Lakeside Avenue.
16. East 9th Street: Resurface between Broadway Avenue and Lakeside Avenue.
17. Euclid Avenue: Repair and upgrade between Public Square and Playhouse Square.
18. Superior Avenue Bridge: Repair bridge over I-90.

LONG-TERM CAPITAL IMPROVEMENTS



NEAR TERM CAPITAL IMPROVEMENTS

LEGEND

- Bridge Repair
- Resurfacing or Reconstruction

19. Chester Avenue Bridge: Repair bridge over I-90.
20. Carnegie Avenue: Repave between the Hope Memorial Bridge and Martin Luther King, Jr. Drive.
21. Cedar Avenue Bridge: Repair bridge over I-90.
22. Innerbelt Bridge (Central Viaduct): Repair the Viaduct (I-90) over the Cuyahoga River.
23. West 3rd Street Lift Bridge: Repair the bridge over the Cuyahoga River.
24. Eagle Avenue Viaduct: Renovate the Viaduct to keep it in service until it can be completely reconstructed.
25. Canal Road: Rehabilitate Canal Road between the Eagle Avenue Viaduct and the Carter Road lift bridge.
26. Carter Road Lift Bridge: Rehabilitate the bridge over the Cuyahoga River.
27. Columbus Road Lift Bridge: Rehabilitate the bridge over the Cuyahoga River.
28. Franklin Boulevard: Resurface Franklin from Columbus Road to West 85th Street.
29. Lorain Avenue Bridge over RTA/Columbus Road: Rehabilitate bridge over the RTA tracks and Columbus Road.
30. Abbey Avenue Viaduct: Construct replacement viaduct over the N&W and Conrail railroads.
31. West 25th Street over RTA: Replace the bridge over the RTA tracks.
32. West 25th Street over Conrail and N&W railroads: Replace the bridge over the N&W and Conrail railroads.
33. South Marginal Road: Resurface between the Amtrak Station to East 55th Street.
34. St. Clair Avenue: Rebuild the railroad crossing at Old River Road.

LONG-TERM CAPITAL IMPROVEMENTS

Downtown Cleveland's long-range transportation needs go beyond maintaining and upgrading the existing street system. Portions of the transportation network will need to be altered to adequately service the growing needs of the area. In order to insure that these needs are addressed and corrective action is taken, a set of general goals has been developed.

One of the most important of these goals is to repair and upgrade the quality of the existing streets in the Flats Oxbow districts, and to provide new streets where appropriate. Some areas lack curbs and sidewalks and these must be installed to provide safe pedestrian walkways. As more people unfamiliar with Flats Oxbow come to patronize the establishments located there, access and circulation problems will increase. Capital improvements in the form of repair or reconstruction of certain street segments will be necessary if Flats Oxbow is to continue to develop successfully.

The Flats Oxbow districts are not the only areas in downtown where increasing traffic will cause circulation problems. New office development and projects such as the North Coast Harbor, Tower City Center, and the CSU Convocation Center, will add vehicles to the existing streets, some of which may not be equipped to handle increased traffic flow. The city must be prepared to improve the downtown street network to increase capacity and insure adequate accessibility.

Another overall goal of the transportation plan is the creation of better north-south connections through the downtown to improve access throughout downtown. Over the years Cleveland developed a street system where east-west movement was of primary concern. Since the construction of the Memorial Shoreway and the Innerbelt, the need for north-south connections has increased in importance. Unless major improvements are made, however, these arteries will be less than adequate to serve the new developments planned for the area.

Other major goals of the program include im-

proving connections from the Tower City Center and the Rock And Roll Hall of Fame And Museum developments to the freeway system, gaining better access to the Memorial Shoreway from the expanding East 9th Street/Erievue office district, and reducing congestion and safety hazards from the downtown road network.

To achieve these goals, a detailed description of long-range capital improvements for the transportation system has been developed. This list has been created to enable the city to target scarce capital improvement funds to the areas of the greatest need.

Described below are the long-range transportation improvements which will be required in order to achieve these goals and create the convenient and efficient transportation system that will keep downtown Cleveland competitive in the future. It should be noted that project order does not indicate relative importance nor does it indicate any type of ranking system.

1. Memorial Shoreway West and West 25th Street Intersection: Close curb cuts at Old Superior Avenue and Vermont Street to reduce the number of links into the intersection. Relocate ramps to and from the Shoreway under West 25th Street and Detroit Avenue. Provide new on and off ramps for other local access at West 29th Street.

2. West 25th Street: Widen and improve West 25th from I-90 to Detroit Avenue as a feeder-circulator to major bridges and downtown.

3. Columbus Road: Repave and improve with stricter access controls to provide an alternative link to the Flats Oxbow and Tower City districts.

4. Winter Street at Columbus Road: Close Winter Street at Columbus Road to improve intersection geometry.

5. Center Street: Develop streetscape, improve sidewalks, and upgrade utilities.

6. River Road: Extend street to provide access to new developments on Whiskey Island.

7. Old River Road: Repave Old River Road and repair sidewalks in conjunction with the con-

struction of West 10th Street.

8. West 11th Street: Vacate West 11th Street in concert with new development.

9. Front Avenue: Construct a new section between West 3rd and West 9th streets and improve Front Street west of West 9th Street.

10. West 3rd Street Ramp to Memorial Shoreway: Straighten and improve the West 3rd Street ramp to eliminate weaving movements.

11. Port of Cleveland Access to and from Memorial Shoreway: Construct new ramps to West 3rd Street and an underpass to the Port.

12. Carter Road/West 10th Street Extension: Provide a continuous link between Carter Road and Superior Avenue along the former Conrail right-of-way.

13. Access to Tower City Center from Canal Road: Provide new driveways and ramps from Tower City Center to Canal Road.

14. Canal Road: Widen and improve Canal Road to provide access to Tower City Center parking and an alternative route to the Flats Oxbow districts from the Innerbelt.

15. Scranton Road: Relocate Scranton Road onto the Conrail right-of-way to connect to the Carter Road Bridge.

16. Scranton Road at Eagle/Carter: Relocate old Scranton Road to provide better intersection geometry.

17. Scranton Road at relocated Scranton Road: Relocate old Scranton Road to form a "T" intersection with new Scranton Road.

18. Riverbed Street Extension: Provide a new street on an abandoned railroad bed for a west Flats Oxbow connector and truck route.

19. West 3rd Street: Improve West 3rd Street as an alternate downtown link from I-490 and the Clark-Quigley Road to the south.

20. Canal Road Underpass: Improve vertical and horizontal clearances and grades.

21. Relocated Eagle Avenue Viaduct: Reconfigure or relocate the Eagle Avenue Viaduct and its

connection to West 3rd Street.

22. Central Viaduct: Add west-bound lane(s) to the Central Viaduct to accommodate traffic merging from East 18th, East 9th and Ontario streets.

23. Canal Road Relocation: Provide a Flats/Tower City connector from I-90 eastbound and I-77 northbound via a new alignment.

24. Ontario Street at Carnegie Avenue: Grade-separate Ontario Street at Carnegie Avenue with some turns prohibited. Reconfigure ramp to I-90 westbound.

25. East 9th Street: Correct East 9th Street geometry to achieve constant street width where and when possible.

26. East 13th Street: Designate East 13th Street one-way northbound from Euclid Avenue to Superior Avenue.

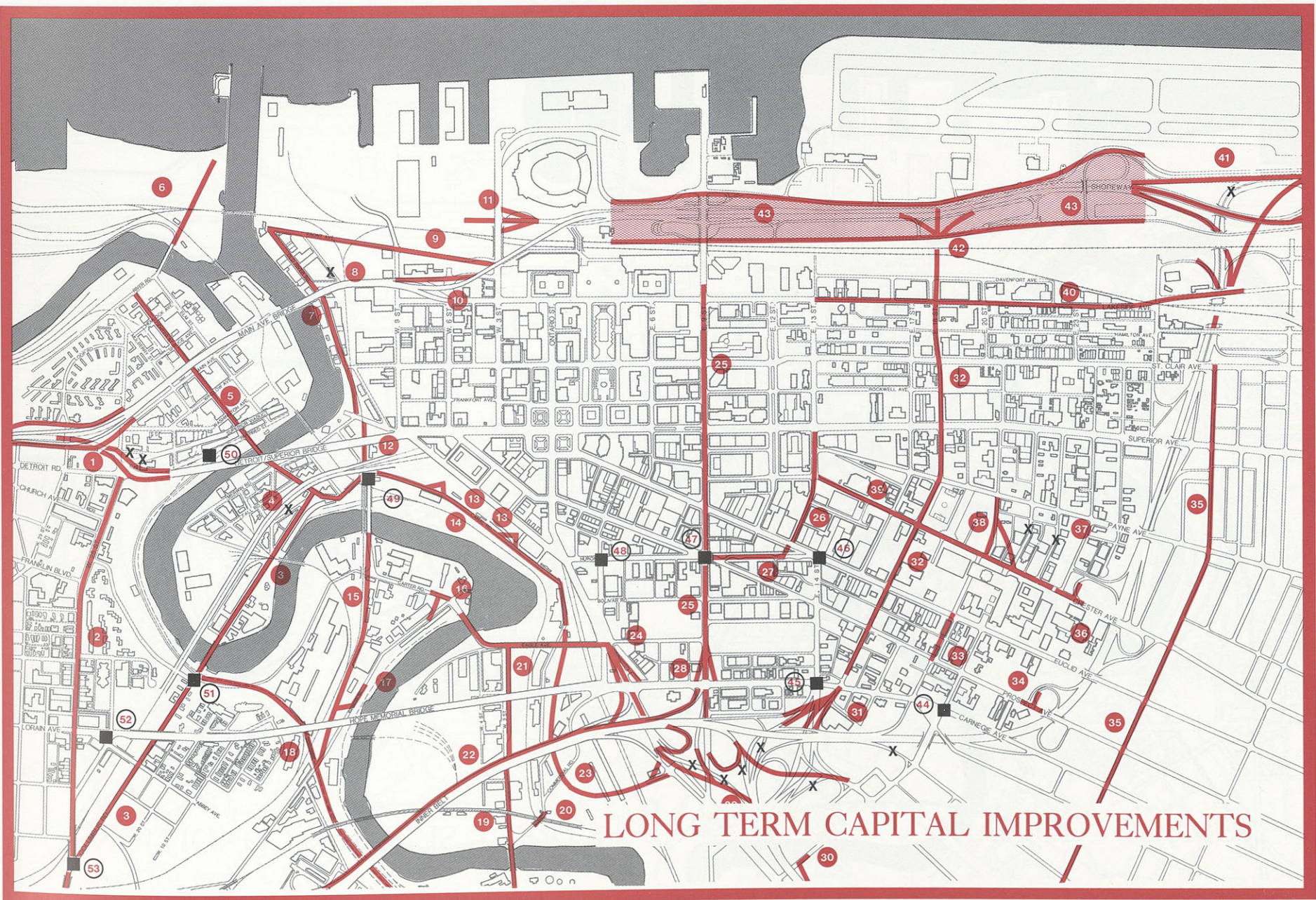
27. Huron Road: Relocate Huron Road so that it intersects Euclid Avenue at East 13th Street instead of at East 14th Street.

28. East 9th Street at Carnegie Avenue: Grade-separate East 9th Street at Carnegie Avenue with some turns prohibited. Reconfigure ramp to I-90 westbound.

29. Central Interchange: Close I-90 eastbound to I-77 southbound ramp and I-77 northbound to I-90 westbound ramp as I-490 will assume those functions. This will also allow the loop ramps to Ontario Street and East 9th Street to be rebuilt with improved radii. Close existing ramp from I-90 eastbound to East 22nd Street and replace it with a new ramp from I-90 to East 22nd at Community College Avenue. Construct new ramp north of and parallel to I-90 westbound to handle traffic entering the freeway from East 18th, East 9th, and Ontario streets and extend to new lane(s) across the Central Viaduct.

30. I-77 at East 22nd Street: Relocate I-77 northbound ramp to East 22nd Street.

31. I-90/I-77 at East 14th/East 18th streets: Relocate ramps connecting I-90 and I-77 with East 14th Street to instead connect with East 18th Street.



LEGEND

- Intersection Improvements
- x Street Closure
- Street or Bridge Improvements

- 32. East 18th Street: Widen and improve East 18th Street between Carnegie and Lakeside avenues.
- 33. East 21st Street: Relocate East 21st Street between Euclid and Prospect avenues to improve intersection geometry.
- 34. Prospect Avenue at I-90: Realign ramp to I-90 westbound to accept traffic from eastbound Prospect Avenue and provide a left turn lane.
- 35. East 30th Street: Widen and improve East 30th Street to provide supplementary access and circulation to eastern portions of downtown through better linkage of major arterials.
- 36. Chester Avenue at I-90: Add left turn capacity from eastbound Chester Avenue to East 25th Street and the I-90 westbound ramp.
- 37. East 22nd/East 23rd streets: Close streets between Payne and Chester avenues for Cleveland State University playfield expansion.
- 38. East 21st/East 22nd streets: Relocate East 21st Street and add a link from East 22nd Street.
- 39. Chester Avenue: Widen Chester Avenue between East 13th and East 24th streets and add a left turn lane.
- 40. Lakeside Avenue: Widen and improve Lakeside Avenue between East 13th Street and I-90.
- 41. I-90 at SR 2 (Innerbelt Curve): Reconstruct this currently dangerous interchange using one of four alternatives proposed by the Northeast Ohio Areawide Coordinating Agency.
- 42. East 18th Street at the Memorial Shoreway: Provide links between East 18th Street and the Shoreway north of Lakeside Avenue.
- 43. Memorial Shoreway: To enable the Shoreway to adequately serve the expanding office district and other uses that will require freeway access, large-scale improvements will be necessary. These improvements will include access to East 18th Street, changes to the Marginal Road system and the relocation of the existing ramps to and from the Shoreway.
- 44-53. These projects include improvements to various intersections throughout the planning area.

STREET SURFACE CONDITIONS

Street surface maintenance in downtown is a City of Cleveland responsibility. In September, 1987 the Engineering & Construction Division of the City of Cleveland conducted a survey to assess the general condition of street surfaces in the downtown. Division personnel drove each street to determine how well surfaces accommodated vehicular travel.

The survey results will be used to set priorities for reconstruction and maintenance of the downtown streets through the City's Capital Improvement Budget program. The following ratings were used in the survey:

Excellent: Newly or recently resurfaced; no problems found.

Good: Recently resurfaced or well-maintained; minor surface problems.

Fair: Not resurfaced recently; having noticeable surface problems, but fairly passable.

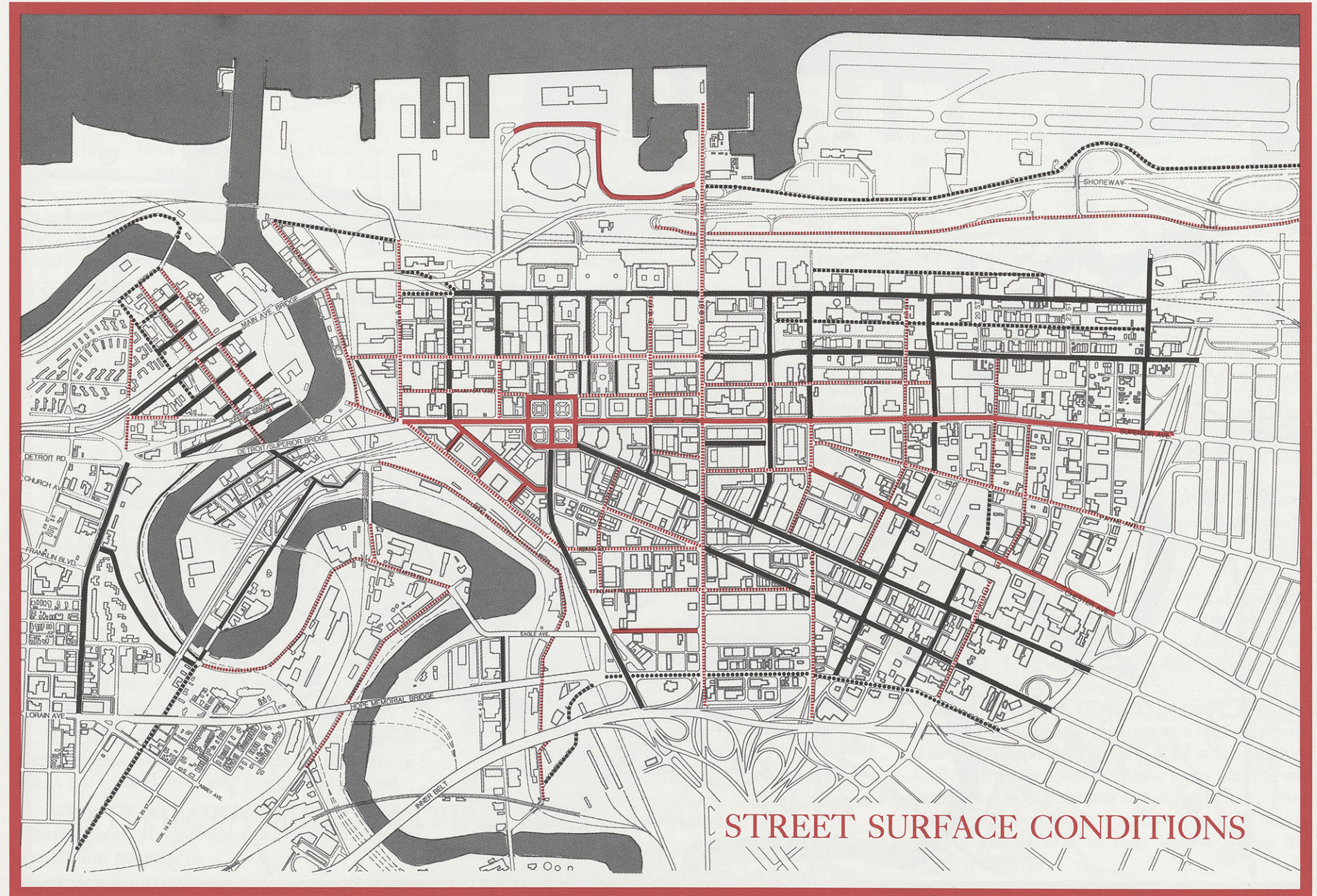
Poor: Very significant surface problems; consistently bumpy ride, yet passable.

Very Poor: Extremely difficult to pass; nonpassable; or nonexistent surface. (No streets were found in this condition).

Generally, the survey found downtown street surfaces to be in good to fair condition. Of the eight major east-west streets, two were in excellent condition, four in good condition and one in fair condition. Only one major east-west street, Carnegie Avenue, was in poor condition.

Nearly all of the major north-south streets were also in good to fair condition. Of the seven major north-south streets, four were in good condition and three were in fair condition.

West of the Cuyahoga River, streets are also in good-to-fair condition, with Mulberry Street being the only street rated as poor.



LEGEND

- | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Excellent | Good | Fair | Poor |
|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|

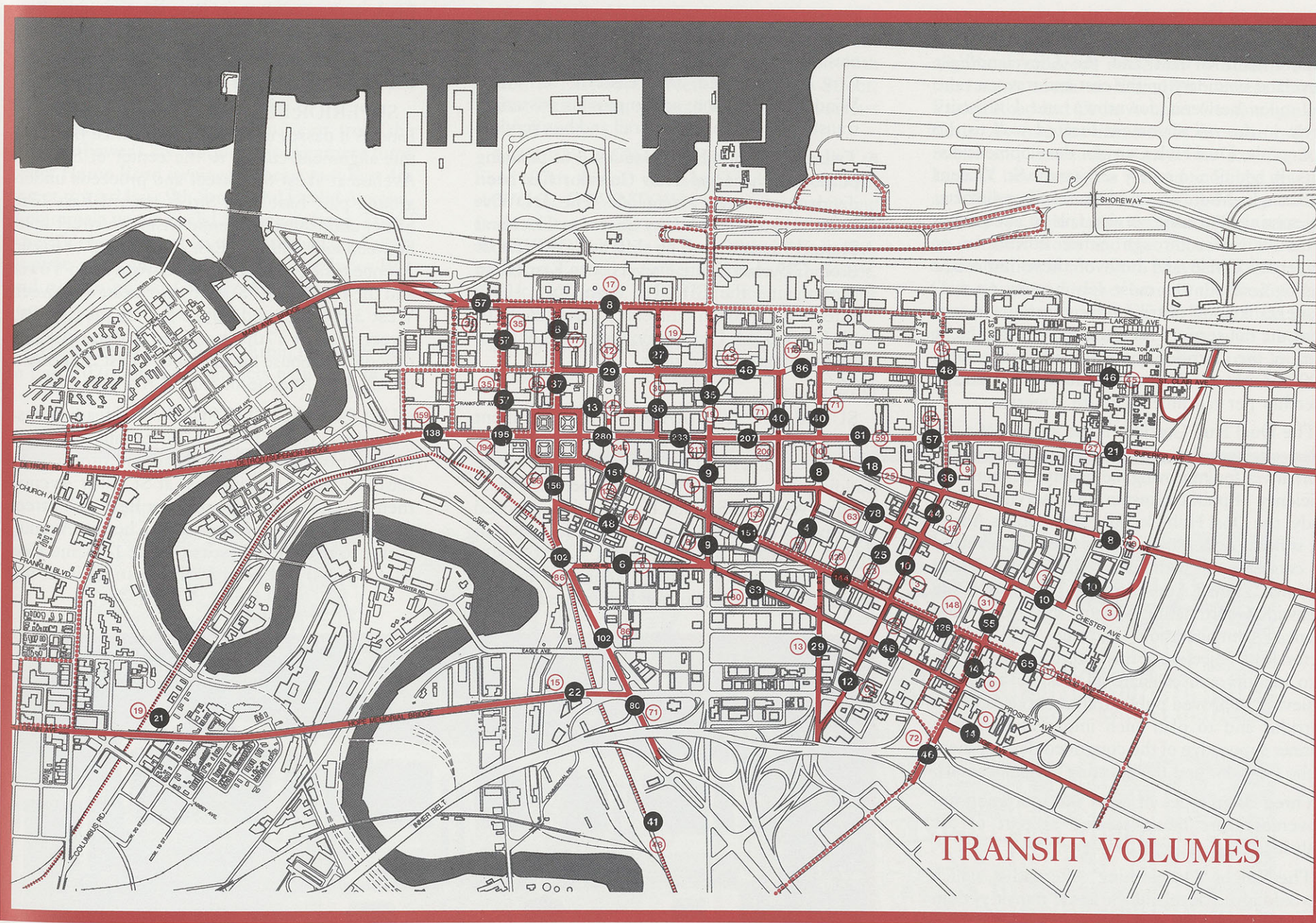
PUBLIC TRANSPORTATION

A good mass transportation system in a metropolitan area as large as Cleveland, is essential to the well-being of the region it serves. The ability to transport large numbers of people throughout an area in an efficient and safe manner is a key element in the overall transportation system. Not only does mass transit move people who do not have access to a private auto or who choose not to use one, it also conserves fuel, reduces toxic emissions and reduces the space needed to store autos. This is especially true in the central business district. Additionally, transit can also be a positive factor in the overall economic development of the areas it serves.

In metropolitan Cleveland, the mass transportation network has historically focused on Public Square. Like their streetcar predecessors, most of the buses that penetrate the core area enter downtown, circle through Public Square, and leave downtown on the same roadway. In addition, the region's three rapid transit routes converge in Tower City Center. Because downtown's only rapid transit station is located there, a system of five loop bus routes has been established to better distribute transit passengers throughout the downtown.

Both the rail rapid transit and the buses carry thousands of passengers into and out of downtown daily on regularly scheduled routes. These routes experience morning and afternoon peak periods which roughly approximate those of the private auto.

Because Public Square is the focal point for the transit system, the streets near it carry the highest bus volumes. Conversely, as the distance from Public Square increases, the volumes on the major arteries tend to decrease because of greater dispersal of buses as the routes enter the neighborhood areas. Euclid Avenue, Superior Avenue and Ontario Street have the highest bus volumes.



TRANSIT VOLUMES

LEGEND

- 21 A.M. Peak
- 80 Off Peak
- Loop Bus System

DUAL HUB CORRIDOR

The Dual Hub Corridor is the transportation and development corridor which includes downtown Cleveland, University Circle, and the neighborhoods and business districts between them. The Corridor extends approximately five miles from Tower City Center to the city line east of University Circle. The Corridor is the largest employment center in Northeast Ohio. Its businesses, institutions, and public agencies provide employment for more than 160,000 people, while the neighborhoods along the Corridor are home to 83,000 people.

The Dual Hub Corridor has experienced steady development and employment growth. In addition to downtown development, the Corridor has seen significant expansion of the Cleveland Clinic and University Hospitals campuses and has experienced new development and reinvestment in each of its major development districts: St. Vincent Quadrangle, Midtown Corridor, Doan Center, and University Circle. The adjoining neighborhoods of Central, Fairfax, and Hough have each seen reinvestment and the development of new market-rate housing and contemporary commercial development. The growth and development experienced throughout the Corridor in recent years is expected to continue and increase during the plan period.

The Dual Hub Corridor is Greater Cleveland's principal transportation corridor. Chester, Euclid, Carnegie, and Cedar avenues together carry significant traffic volumes and are the major routes between downtown Cleveland and the eastern suburbs. Bus service is likewise heavy in the Corridor. Bus routes using streets in the Corridor carried 128,000 people per day in 1987, or about 62% of the region's entire public transit ridership. Bus routes on Euclid and Carnegie avenues together carried 54,000 riders per day, and provide the principal public transit service in the Corridor.

In addition to bus lines, the Greater Cleveland Regional Transit Authority (GCRTA) operates rapid rail service between downtown and

University Circle. The Red Line, one of three rail lines serving the city, operates between Hopkins Airport on the west and the Cleveland/East Cleveland boundary on the east and traverses the five miles between downtown and University Circle in the rail alignment located well to the south of the Dual Hub Corridor development districts. In addition to poorly serving the St. Vincent Quadrangle, Midtown, and Doan Center districts, the existing Red Line service fails to adequately distribute riders through either downtown or University Circle and both of these important employment centers must rely heavily on supplemental loop or distributor bus systems to augment the rail service. As a result of its alignment south of the Corridor, the Red Line carries only 6,000 people per day, one of the lowest levels of ridership per rail mile in North America.

The Dual Hub Corridor is the subject of a detailed analysis designed to determine feasible alternatives for improving the quality, quantity and efficiency of public transportation services. This study, the Dual Hub Corridor Alternatives Analysis, is being undertaken by the City of Cleveland in cooperation with the Greater Cleveland Regional Transit Authority, the Northeast Ohio Areawide Coordinating Agency, the Urban Mass Transit Administration, and the local private sector. The objective of this Alternatives Analysis is to identify and evaluate all feasible means of achieving improved public transit services in the Corridor and to plan such improvements in a manner supportive of the continued development of the Corridor and the abutting neighborhoods.

Three Basic types of mass transportation improvements are being studied as part of the analysis:

- The Null or "Do Nothing" Alternative, which would give Cleveland the same transit system in the year 2000 as it has today.
- The Transportation Systems Management (TSM) Alternative, which is a package of lower-cost transit improvements which upgrade existing bus and rail services. Improvements include running buses on Euclid Avenue on

reserved or exclusive lanes; restricting parking on certain streets; relocating and improving existing Red Line rapid stations between Tower City Center and the eastern terminus, Windermere Station; and improving passenger transfers between existing rail and bus service.

- Twelve major Rail Alternatives. For planning purposes, the Dual Hub Corridor has been divided into three segments: The DOWNTOWN (from Tower City Center to Cleveland State University), The MID CORRIDOR (from Cleveland State University to East 107th Street), and the CIRCLE (from East 107th Street east through University Circle south to Shaker Square). Descriptions and maps of these segments are to the right.

Downtown

SUPERIOR AT-GRADE: This alignment curves under Huron Road and Superior Avenue from the existing Red Line west of the State Office Building then rises to street level between West 9th and West 6th Streets. It would then proceed on Superior Avenue turning south past East 13th Street toward East 17th Street and Chester Avenue or Euclid Avenue. Stations are located between West 3rd Street and Public Square at the

BP America Building, at East 9th Street, at East 12th Street, at East 17th Street and Chester Avenue to serve Playhouse Square, and at East 21st Street on Chester Avenue or Euclid Avenue.

SUPERIOR SUBWAY: From the current Red Line as it passes under the State Office Building, this alignment curves to the center of Superior Avenue at West 6th Street and proceeds underground past East 13th Street toward East 17th Street and Chester Avenue (rising to street level between East 18th and East 21st Streets) or Euclid Avenue (rising to street level between Fenn Tower and the Inner Belt). Stations are located between West 3rd Street and Public Square, at East 9th Street, at East 17th Street and Chester Avenue to serve Playhouse Square, and at East 21st Street on Chester Avenue or Euclid Avenue.

HURON/EAST 9TH SUBWAY: Heading east from the existing Tower City station, this alignment turns under Huron Road and proceeds to East 9th Street turning east at St. Clair Avenue then continues underground past East 13th Street toward East 17th Street and Chester Avenue (rising to street level between East 18th and East 21st Streets) or Euclid (rising to street level be-



Greater Cleveland Regional Transit Authority Rail System

THE FLATS OXBOW TROLLEY SYSTEM

tween Fenn Tower and the Inner Belt). Stations are located at East 9th Street and Euclid Avenue, on St. Clair Avenue between East 9th and East 12th Streets, at East 17th Street and Euclid Avenue, and at East 21st Street.

EUCLID SUBWAY: Heading east from the existing Tower City Station, this alignment turns under Huron Road turning northeast past East 4th Street toward East 9th Street and Euclid Avenue, then remain under Euclid Avenue to Fenn Tower where it rises to street level, continuing out Euclid Avenue or turning northeast past the Inner Belt and turn to go out Chester Avenue.

Mid Corridor

CHESTER AT-GRADE: From the Inner Belt to East 107th Street. Connects with each of the

DOWNTOWN segments, proceeding at street level along Chester Avenue, with stations about every half mile at East 30th Street, at East 40th Street, at East 55th Street, at East 70th Street, at East 79th Street, at East 93rd Street and at East 105th Street.

EUCLID AT-GRADE: From the Inner Belt to East 107th Street, this segment connects with each of the **DOWNTOWN** segments, proceeding at street level along Euclid Avenue with stations about every half mile at East 30th, at East 40th Street, at East 61st Street and East 70th Street, at East 79th Street, at East 93rd Street and at East 105th Street.

The Circle & Shaker Connector

EAST 107TH AT-GRADE & SHAKER

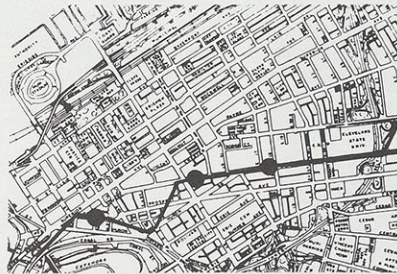
CONNECTOR: From East 107th Street on either of the **MID CORRIDOR** segments, the alignment proceeds southeast to Stearns Road then turns south at East 109th Street toward Fairhill Road and Cedar Avenue. Continuing along Cedar Avenue the line crosses over the railroad tracks and descends to meet the existing Red Line. A new station is located at Euclid Avenue and Stearns Road. On the existing line the current University Circle station at Cedar Glen is relocated to Adelbert Road and the Superior-East 120th Street station is moved to Mayfield Road. From Cedar Avenue, another branch, the Shaker Connector, continues along Fairhill Road, turns south on Martin Luther King, Jr. Drive with a station at Woodland Avenue then connects to the existing Shaker Lines in the vicinity of East 116th Street.

EUCLID AT-GRADE & SHAKER CONNECTOR: From either of the **MID CORRIDOR** segments, the alignment proceeds out Euclid Avenue, passes under the existing Red Line, turns north near East 120th Street and joins the existing Red Line at the Cleveland city limits. Stations are located at Abington Road and at East 118th Street on Euclid Avenue. At Stearns Road, another branch, the Shaker Connector, continues to East 109th Street then turns south toward Cedar Road. It then proceeds along Fairhill Road turning south on Martin Luther King, Jr. Drive connecting to the existing Shaker Lines in the vicinity of East 116th Street. Stations on the Shaker Connector are located at Stearns Road and Euclid Avenue and at Martin Luther King, Jr. Drive and Woodland Avenue.

DOWNTOWN



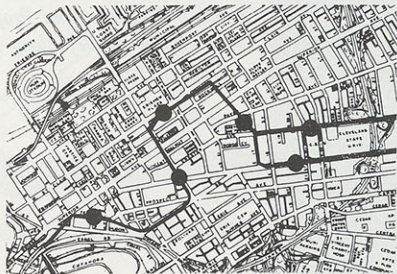
Superior At-Grade



Euclid Subway

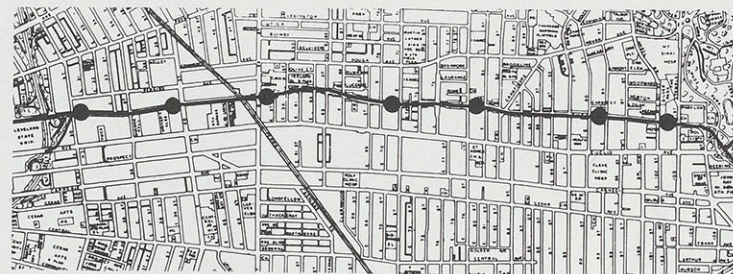


Superior Subway

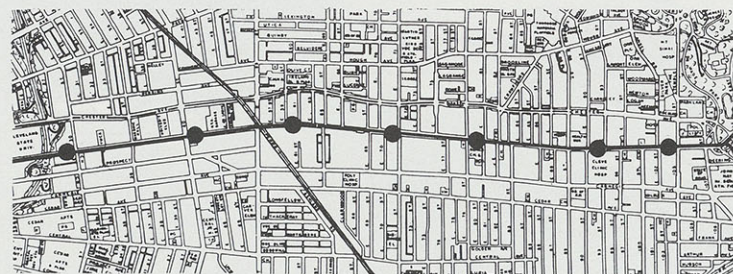


Huron/East 9th Subway

MID CORRIDOR



Chester At-Grade

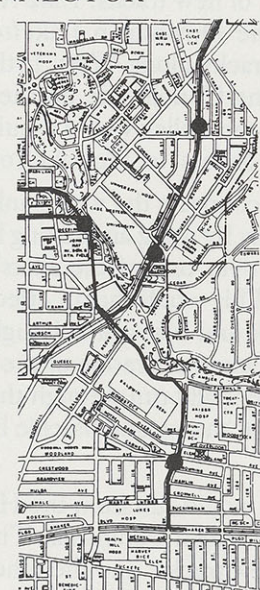


Euclid At-Grade

THE CIRCLE & THE SHAKER CONNECTOR



Euclid At-Grade



East 107th At-Grade

THE FLATS OXBOW TROLLEY SYSTEM

The Flats Oxbow trolley system is proposed to link Tower City Center with parts of the Flats Oxbow Districts, the Downtown Lakefront, and the Upper Cuyahoga River Valley. The system would allow people to take the RTA rapid downtown and then switch to the trolley system to go to the various destinations on a vehicle which in itself would be a tourist attraction.

At the center of the proposed trolley system is the Hub Site. Bounded by Superior Avenue, Old River Road, Center Street, and the extension of Carter Road, the Hub is the only place in the Flats where all the existing rail lines converge. All of the proposed trolley routes would run through this site making it the literal "hub" of the flats transportation system.

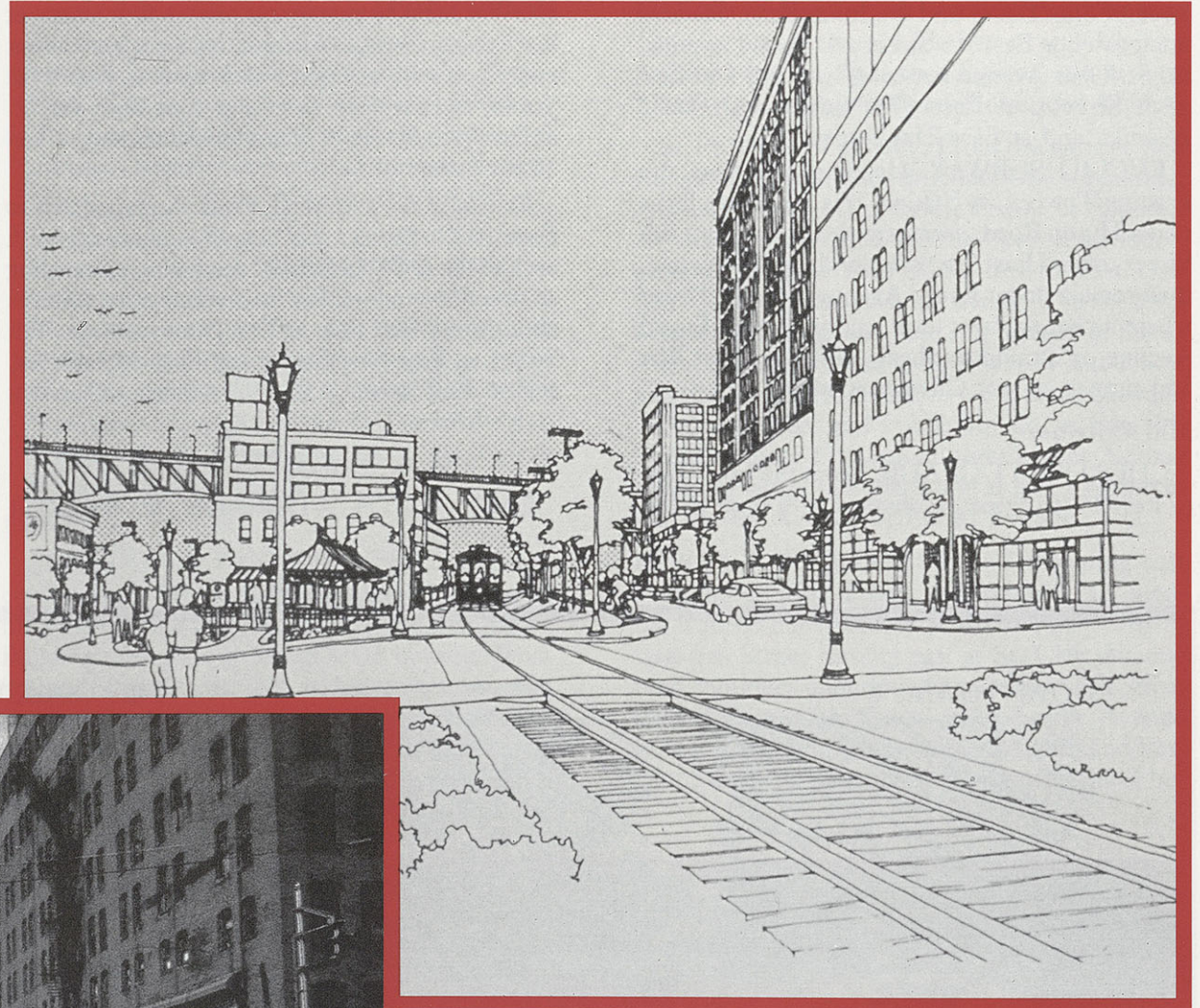
Four distinct routes are proposed to be developed through the Flats. These would either use existing railroad tracks or would require a minimum of new tracks. Line A connects Tower City to the Downtown Lakefront by using the existing tracks along West 10th Street north to the existing Conrail line on the lakefront. From this point the trolley would require a new separate track for access to the lakefront development.

Line B connects the west bank of the river with Tower City by using an existing line which crosses the river over one of the Flats' historic bascule bridges. This would be an effective route to the west bank and Nautica although it is dependent on the efficient operation of the bridge. This line could potentially run through the Nautica project and cross at the second bascule bridge to Whiskey Island.

Line C would run from the Hub Site down the Columbus Road Peninsula. This section would require new tracks, and then the line would cross the river at the existing lift bridge to the Scranton Road Peninsula, using the existing spur.

A fourth route, Line D, would accommodate the Cuyahoga Valley railroad line. This excursion steam train currently operates during the summer months from Rockside Road through the Cuyahoga Valley National Recreation area to downtown Akron. The train could be routed from the National Recreation area through the Flats to a stop in the vicinity of Tower City Center and the Rock and Roll Hall of Fame and Museum.

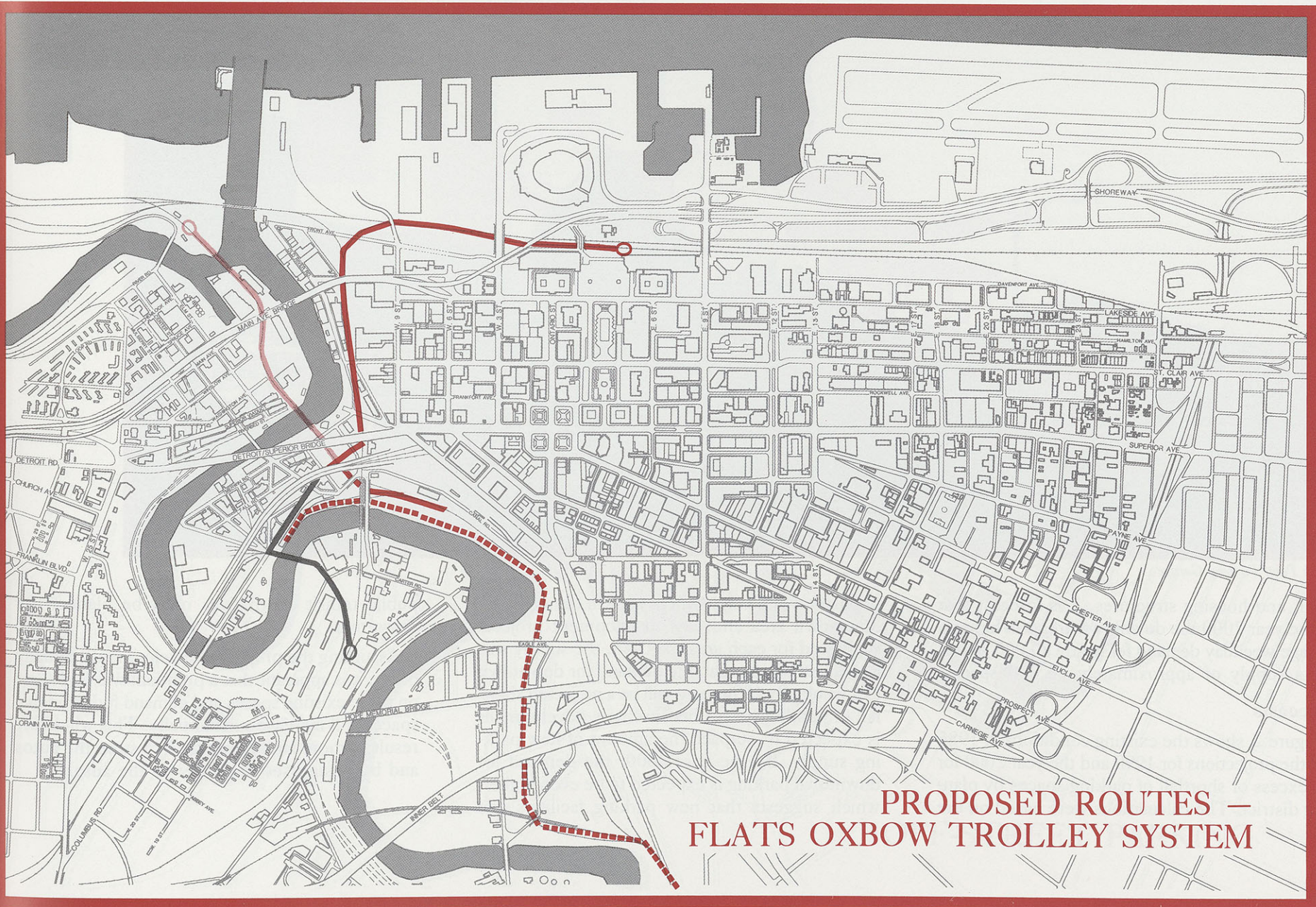
These trolley line routes could help relieve the traffic congestion in the Flats Oxbow Districts by providing a practical yet fun alternative to driving. New advances in trolley car design have eliminated the need for overhead catenaries, thus reducing both capital and operating costs and making the construction of such a system economically feasible.



*Existing Condition and Proposed
Alignment of Trolley along West 10th Street*

OFF-STREET PARKING

This is a preliminary map of the system. It is not intended to be used for construction or other purposes. It is subject to change without notice.



PROPOSED ROUTES — FLATS OXBOW TROLLEY SYSTEM

- LEGEND**
- Line A
 - Line B
 - Line C
 - Line D

OFF-STREET PARKING

Parking is a vital component of the overall transportation system. Its conditions, especially supply and demand, will affect the amount of building that can be accommodated within a given area in relation to the amount of parking available. The location and size of parking facilities also affect the mobility function of the street network for motor vehicles as well as pedestrians.

In 1985, there were a total of 57,440 parking spaces in the downtown area east of the Cuyahoga River. At that time, with the exception of a few areas such as the Old River Road vicinity, this was enough parking to satisfy the demand. However, with the construction of projected new office,

FIGURE 2: PARKING SPACES AVAILABILITY BY PLANNING DISTRICT

Planning District	1985		1990		2000	
	Spaces	Excess or (Shortfall)	Spaces	Excess or (Shortfall)	Spaces	Excess or (Shortfall)
1	2,500	2,290	2,500	2,290	2,500	2,290
*2	1,560	1,000	1,560	1,000	4,560	3,130
3	2,400	2,320	2,400	2,320	2,400	2,320
**4E	2,430	(420)	2,480	(720)	2,480	(720)
***4W	NA	NA	1,400	100	1,400	(400)
5	4,080	2,130	4,380	1,640	4,080	(410)
6	5,190	(5,430)	5,840	(4,780)	8,210	(2,610)
7	11,800	1,070	12,030	(1,070)	12,040	(2,960)
8	2,550	(100)	2,550	(100)	2,550	(100)
**9E	50	(30)	50	(30)	50	(30)
***9W	NA	NA	NA	NA	NA	NA
10	4,170	(740)	4,270	(2,140)	4,270	(7,620)
11	3,400	(1,990)	4,910	(3,180)	4,910	(3,180)
12	5,020	(1,390)	6,320	(1,490)	6,320	(1,910)
13	7,040	580	6,990	(1,320)	6,990	(1,320)
14	5,250	1,970	3,240	(40)	3,240	(40)
TOTAL	57,440	1,260	60,920	(7,520)	66,000	(13,560)

* Figures exclude stadium parking requirements.
 ** Data shown is for the east side of the Cuyahoga River only.
 *** Data shown is for the west side of the Cuyahoga River only.



North Point Parking Garage

retail, and housing structures, it is forecast that by the year 2000 the downtown area will have an average weekday demand for nearly 80,000 spaces but a supply of approximately 66,000 spaces.

Forecasts

Figure 2 shows the existing conditions in 1985 and the projections for 1990 and the year 2000 for the excess or shortfall of parking spaces by planning district. The calculations were based on the

population and employment growth trends in the downtown area and new development projects suggested for each area. In 1985, the supply was just slightly more than the demand for downtown as a whole. By 1990 there will be a projected shortfall of parking spaces because new development is expected to outpace the amount of new parking supply. By the year 2000, the demand for downtown parking is expected to be even higher, which suggests that new parking facilities and

public transit alternatives must be planned for downtown.

Assuming the projected developments actually occur, it is apparent that a premium will be placed on those existing spaces and demand for additional spaces will increase substantially. This will likely result in more land being used to store the autos and by businesses that cater to the auto.

PEDESTRIAN CONNECTORS

Need For Connectors

Cleveland has a rich heritage of including pedestrian connectors within and between its downtown buildings. Early buildings such as the three arcades and the Terminal Tower group, and later buildings such as the National City Center incorporated pedestrian connectors into their building design.

However, while there are many examples of such connectors in the downtown area, there currently exists no comprehensive pedestrian connector system. The connectors which do exist are fragmented, disjointed, and often at different levels.

Cleveland's location on the south shore of Lake Erie has provided it with a winter climate characterized by strong northerly winter winds and inclement weather. An environment such as this is not conducive to pedestrian circulation for other than essential trips. In addition, statistics show that 29% of the downtown retail sales volume can be attributed to downtown employees. It is important therefore that these customers be able to reach the retail establishments conveniently year-round. A unified pedestrian connector system would be a means by which people could circulate through the business district while avoiding inclement weather and heavy traffic.

Future Connectors

A comprehensive connector system should include important links between buildings and activity centers where pedestrian movement is currently heavy or where it should be fostered in the future.

It is apparent that, because there is presently only one rapid transit station downtown, new pedestrian connectors must be developed to link it to major employment and shopping areas in the Tower City Center and Euclid/Prospect districts. When these links are developed, an individual could arrive at Tower City Center by rail, bus, or auto and walk to a number of major office buildings and shops without experiencing inclem-

ent weather or crossing major traffic arteries at grade.

Another essential link in the proposed connector system would connect the Mall area and convention center to the North Coast Harbor development. Such a connector would enable pedestrians to cross over the Conrail railroad tracks, the Memorial Shoreway, and Erieside Avenue which currently inhibit pedestrian traffic in that area. Provision of this link would make the Downtown Lakefront District more accessible and therefore more attractive to downtown employees, conventioners, and visitors on a year-round basis.

Linking parking facilities with the office and retail core area is also an important function for a connector system to assume. Such links will enable parking to be convenient yet located farther from the core area where higher building densities and other land uses are desired.

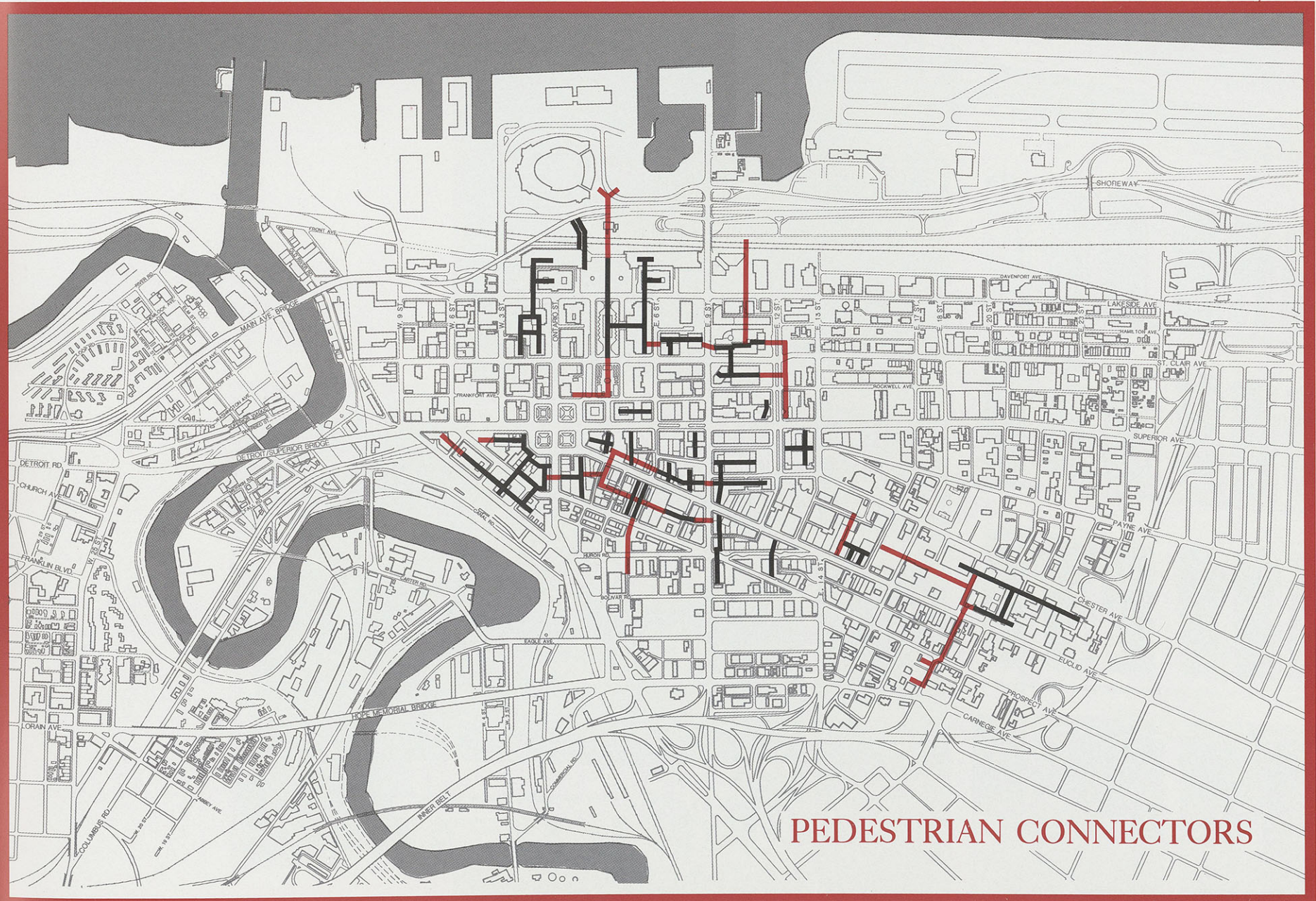
Other important links include connecting existing and future major hotels with the Convention Center to enhance the city's competitiveness in attracting conventions; connecting the Colonial and Euclid arcades with East 4th Street; and connecting The Galleria at Erieview to nearby office buildings.

The map to the right graphically depicts the existing and proposed connector segments that will together create a true pedestrian connector system. Major new links that will help to create this system should include: Mall C and the Convention Center to the North Coast Harbor development; new Erieview offices to the Galleria at Erieview; the Society Center block to the Convention Center; Playhouse Square parking garage to the Bulkley Building; the Higbee Company to the May Company; The May Company to the F. W. Woolworth Co. and the BP America garage; the Colonial Arcade, Euclid Arcade, and the E. 4th Street area; and the proposed campus expansion at Cleveland State University.

Pedestrian Connector between Ameritrust Tower and Parking Garage



Pedestrian Connector at C.S.U.



Policies

- Connectors shall link new developments to retail establishments, parking, and transit stations where possible.
- The connector system shall have a minimum of changes in level to encourage its use.
- Connectors shall have standard hours of operation and shared maintenance agreements should be encouraged.
- The connector system should be of materials, design, and scale compatible with existing buildings and streetscape, and should not detract from nearby buildings within the district.
- Signage shall be readily apparent and easily comprehended to encourage infrequent users to explore the connectors.

LEGEND

- Proposed
- Existing

PEDESTRIAN CONNECTORS



Renovated Hoyt Block in The Warehouse District