

BROADWAY CORRIDOR LAND USE AND ACCESS MANAGEMENT PLAN QUINCY, ILLINOIS

Submitted to:
City of Quincy
Department of Planning & Development
City Hall Annex, 3rd Floor
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Submitted by:
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TABLE OF CONTENTS

ACKNOWLEDGMENTS

INTRODUCTION	1
Project Overview.....	2
Project Location.....	2
Project Goal.....	3
Project Principals.....	3
Project Process.....	4

INVENTORY AND ANALYSIS

Broadway Corridor Character Zones.....	7
Existing Land Use.....	7
Existing Zoning.....	8
Transportation System.....	12
Traffic Volumes.....	12
Signalized Intersection Capacity Analysis/Level of Service.....	13
Traffic Accidents.....	15

LAND USE RECOMMENDATIONS

Overall Concept.....	20
Use Types.....	20
Transportation System.....	22

ZONING RECOMMENDATIONS

Structure of Existing Zoning Ordinance.....	25
Establishment of an Overlay District.....	25
Use Districts.....	26
Commercial Frontage and Building Setback Requirements.....	27
Multi-Family/Mixed Use Frontage and Building Setback.....	27
Parking Setbacks.....	27

IMAGE AND AESTHETIC CHARACTER

Image and Aesthetic Character Guidelines.....	28
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ACCESS MANAGEMENT RECOMMENDATIONS

Access Management Guidelines.....	31
Summary of Possible Improvements to Broadway.....	31
Specific Future Conditions.....	33

APPENDIX A:	TEAM RESPONSE TO PUBLIC COMMENTS
APPENDIX B:	BROADWAY CORRIDOR NEWSLETTERS
APPENDIX C:	SUMMARY OF EXISTING AND APPLICABLE ZONING
APPENDIX D:	SUMMARY OF TRAFFIC DATA
APPENDIX E:	ACCESS MANAGEMENT PLAN
APPENDIX F:	SPECIFIC ACCESS CONDITIONS

LIST OF TABLES

<i>Table 1:</i>	<i>Summary of Stakeholders Issues.....</i>	<i>5</i>
<i>Table 2:</i>	<i>Level of Service.....</i>	<i>13</i>
<i>Table 3:</i>	<i>Accident Types.....</i>	<i>17</i>
<i>Table 4:</i>	<i>Recommended Improvements.....</i>	<i>31</i>
<i>Table 5:</i>	<i>Desirable Future Conditions.....</i>	<i>33</i>

LIST OF FIGURES

<i>Figure 1:</i>	<i>Site Location Map and Character Zones.....</i>	<i>2</i>
<i>Figure 2:</i>	<i>Existing Land Use Map.....</i>	<i>10</i>
<i>Figure 3:</i>	<i>Existing Zoning Map.....</i>	<i>11</i>
<i>Figure 4a:</i>	<i>Proposed Land Use Plan and Road Extensions.....</i>	<i>23</i>
<i>Figure 4b:</i>	<i>Proposed Land Use Plan and Road Extension.....</i>	<i>24</i>
<i>Figure 5:</i>	<i>Parking Screening Improvement Opportunities.....</i>	<i>29</i>
<i>Figure 6:</i>	<i>Corridor Image Improvement Opportunities.....</i>	<i>30</i>

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INTRODUCTION

Project Overview

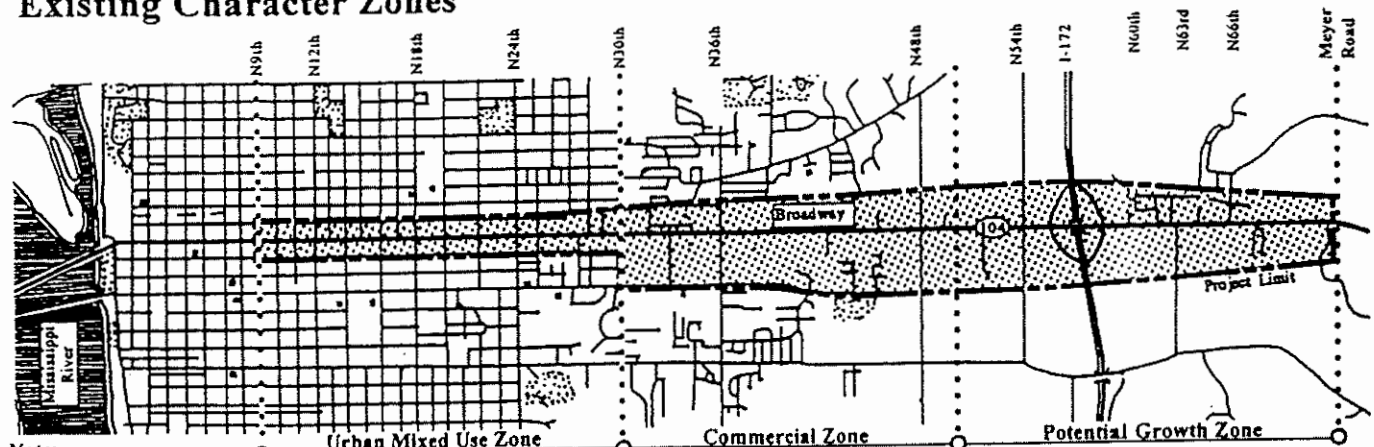
This report describes the land use and access management project process and recommendations for the Broadway Corridor Land Use and Access Management Plan initiated by the City of Quincy, Quincy Departments of Planning, Engineering and Public Works, in conjunction with the Illinois Department of Transportation, the Great River Economic Development Foundation (GREDF), and the Adams County Highway Department.

The Broadway Corridor Land Use and Access Management Plan is being pursued as a direct result of the growth guidelines described in the 1986 Comprehensive Plan for the City of Quincy. The Broadway Corridor Land Use and Access Management Plan represents a special opportunity for the Quincy community to articulate its vision for the future, and develop a planning road map to guide its growth.

Project Location

The Broadway Corridor is a 5.4-mile long project area and is defined by 9th Street on the west and Meyer Road at the 7200 block of Broadway on the east. See *Figure 1: Site Location Map and Character Zones*.

Existing Character Zones



Note:
The existing character of the corridor changes significantly within the project area; thus, recommendations will need to address these differences.

- relatively small scale compact residential/commercial mix
- shallow setbacks with alley access
- converted homes to businesses
- parking to side and rear
- segments with street trees
- 30-35 mph speed limit

- large lot commercial development
- large parking lots
- large distance between buildings
- national chain/franchise development
- lack of street trees
- 35-45 mph speed limit

- predominantly rural character
- existing development generally large lot
- 45-55 mph speed limit

AEA/JJR Team

Project Goal

To plan for the future land use and transportation system along the Broadway Corridor to create a safer arterial route, which provides acceptable site access and establishes an improved aesthetic character.

Project Principles

The following principles were established to provide a framework for the planning process.

Public Process:

- involve the local community in the preparation, design and implementation of the plan

Land Use/Economics:

- maintain and promote the Broadway Corridor as a viable commercial/mixed use district
- define the relationship between the Broadway Corridor and central business district (CBD); develop zoning and land use policies which positively influence the CBD

Circulation/Safety:

- maintain capacity of Broadway
- provide an improved pedestrian environment
- identify major street intersections with clear signage
- assess the current condition and create a balance between the local and through-traffic roles of Broadway
- assess traffic management strategies that would reduce the number and severity of accidents
- reduce/control the number of curb cuts to simplify circulation and minimize conflicts
- assess the desirability and feasibility of providing pedestrian-friendly crossings

Aesthetic Character/Policy:

- establish an Eastern Gateway along Broadway
- promote use of prominent street signs at major cross streets
- incorporate roadside landscaping
- minimize vast roadside parking lots with wide entrances
- encourage shallow building setbacks;
- encourage plantings to replace unnecessarily paved front and side lots
- promote the establishment of parking lot screening and interior-of-lot landscape criteria/guidelines
- promote the establishment of stronger signage guidelines
- consolidate/bury utility wires when feasible

Project Process

Throughout the planning process, the community, along with representatives from the City of Quincy, Illinois Departments of Planning, Engineering and Public Works, the Illinois Department of Transportation, the Great River Economic Development Foundation (GREDF), and the Adams County Highway Department were involved in a series of public meetings.

Following initial data gathering, inventory and analysis, a Stakeholders Meeting was held. Stakeholders were identified as individuals with a substantial stake in the outcome of the project, either personally or as representatives of a public or private sector group. The Stakeholders were asked to evaluate the preliminary findings and brainstorm alternative scenarios for the Corridor's future (see *Table 1: Summary of Stakeholders Issues.*) This input was then used to create a Consensus Land Use Plan, which was presented at Public Meeting One. Participants were asked to express verbal or written comments, which were reviewed and evaluated to identify commonly held ideas which strengthened the achievement of the project goals. These ideas, as summarized in *Appendix B: Team Response to Public Comments*, were incorporated into a Revised Land Use Plan, which was presented at Public Meeting Two for review and comment. Again, participants were asked to respond with written or verbal comments. Minor revisions were again incorporated based on the comments received. The Final Broadway Corridor Land Use and Access Management Plan was presented at Public Meeting Three.

Following the incorporation of the third round of public comments and planning team input, the Broadway Corridor Land Use and Transportation Access Management Plan (BCLUAMP) was presented to the Planning Commission and City Council for review and comment. At that point the City Council will have the opportunity to approve the plan and amend the City's Comprehensive Plan to include the BCLUAMP. Once incorporated into the Comprehensive Plan, all zoning modifications, site plan and subdivision proposals and other planning-related initiatives will be evaluated in the context of the BCLUAMP and required to comply with its contents.

TABLE 1: Summary of Stakeholders Issues
Stakeholders Workshop
5 - 6 March, 1997

Transportation

Improve Safety

- Consolidate and minimize curb cuts
- Encourage right-in right-out turning motions
- Minimize left turns at unsignalized street intersections
- Promote frontage roads/shared access driveways
- Define appropriate speeds

Improve Connections

- Develop 42nd Street between Broadway and Maine Street (possibly between Broadway and Columbus Avenue; possibly between Maine and State Streets)
- Extend Maine between 48th and 54th Streets
- Develop Columbus Avenue between 30th and 35th Streets
- Develop 39th Street between Broadway and Maine Street
- Develop East Oak Street between 48th and 54th Streets

Other Issues/Amenities

- Address pedestrian access (sidewalks, crossings and street furniture)
- Address bicycle access (bicycle lane, parking)
- Establish bus routes
- Improve the directional signage system
- Establish truck routes to divert flow around town (west and north edges)

Land Use

- Set a clear land use policy for designating commercial/residential areas
- Identify viable near term uses and appropriate long term use
- Target an appropriate balance of commercial development between the Broadway Corridor and the Central Business District (CBD).
- Identify areas for multi-family residential uses
- Address compatibility of commercial with existing residential use and scale
- Establish future road right of way needs and utility needs

Character/Image

- Establish gateways to Quincy
- Improve cross-street identification signage
- Establish landscape easement
- Establish a program for underground utility burial
- Establish architectural, landscape, parking, signage and lighting design guidelines for new and existing development
- Create a greenway corridor along Emery Creek
- Focus on the evaluation of both the functional and aesthetic design of proposed developments during the site plan review process
- Preserve historic character and structures

INVENTORY AND ANALYSIS

The Broadway Corridor is the City of Quincy's major east/west corridor. Recent years have shown a noticeable increase in traffic flow, and consistent demand for development. The combination of these two pressures intensified the desire for the City of Quincy to address the community's concerns surrounding land use, safety and vehicular access along the Broadway Corridor. To begin the planning process, an inventory and analysis of the study area was conducted.

Broadway Corridor Character Zones

Within the Broadway Corridor, three distinct character zones were identified as illustrated on Figure 1. These include the following areas with the listed attributes:

Urban Mixed Use Zone - 9th to 30th Streets

- relatively small scale residential/commercial mix
- shallow setbacks
- compact/dense development
- converted homes to businesses
- parking to side and rear
- frequent cross-streets with every sixth block signalized
- alley access
- segments with street trees
- 30 - 35 mph speed limit

Commercial Zone - 30th to 50th Streets

- large lot commercial development
- large parking lots
- large distance between buildings
- national chain/franchise development sites
- relatively few existing cross-streets with most signalized
- lack of street trees and other landscaping
- 35-45 speed limit

Potential Growth Zone - 50th Street to Meyer Road

- predominantly rural character
- existing development generally large lot commercial/industrial and rural residential
- very few existing cross-streets
- 45 - 55 mph speed limit

Existing Land Use

Existing land use along the corridor is dominated by commercial and residential uses, with some light industrial, institutional, undeveloped and agricultural uses as illustrated by Figure 2:

Existing Land Use Map. The study area extends beyond the city limits to include county land that is zoned by the City as a consequence of extra-territorial jurisdiction. Intended land uses prior to this study are recorded on the Year 2000 Plan, a document which will be modified to reflect the recommendations of this study once adopted.

Existing Zoning

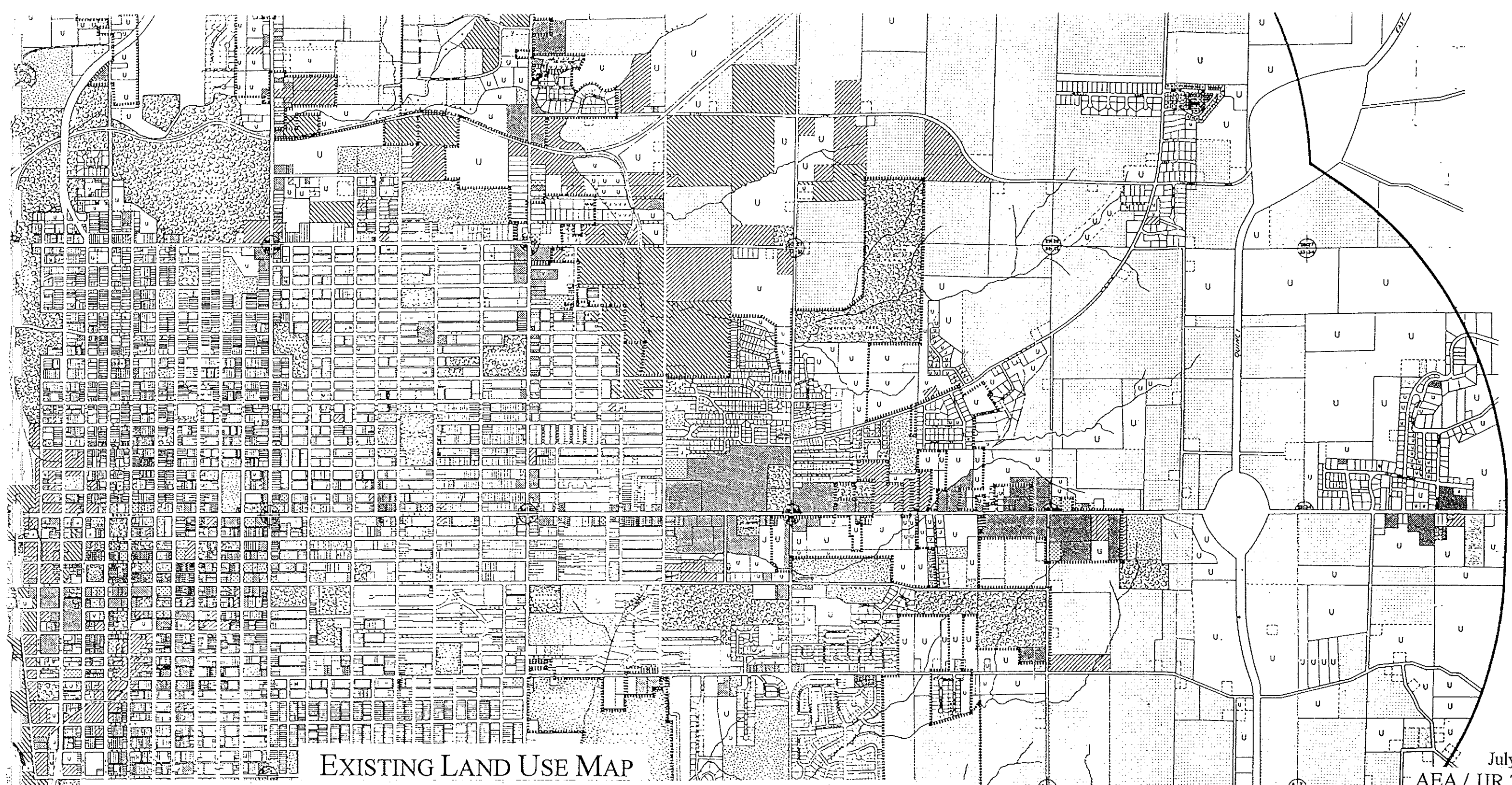
A land use plan targets areas for development; zoning is the means by which the land use plan for a community is implemented. Zoning serves to define the type of development that is appropriate within designated land use areas, and helps ensure that development takes place in a positive and orderly manner. The current zoning for the Broadway Corridor is illustrated in *Figure 3: Zoning Map*.

The purpose and intent of zoning for Quincy are outlined in the Municipal Code as follows (excerpt):

1. Promoting and protecting the public health, safety, morals, comfort, and general welfare of the city;
2. Providing adequate light and air;
3. Encouraging the most appropriate use of land throughout the city;
4. Conserving and enhancing the taxable value of land and buildings;
5. Preventing the overcrowding of land;
6. Avoiding undue concentration of population;
7. Fostering a more rational pattern of land use relationship between residential and non-residential uses;
8. Protecting residential and non-residential areas from harmful encroachments by incompatible uses;
9. Preventing such additions to and alterations of remodeling of existing buildings or structures as would not comply with the restrictions and limitations imposed herein;
10. Lessening congestion on the public streets;
11. Preserving and increasing the amenities of the city;
12. Providing for the gradual elimination of non-conforming uses character and value of desirable development in each district;
13. Protecting the air, water and land resources of the City from the hazards of pollution;
14. Preserving and maintaining the essential character of the City and existing amenities;
15. Preserving and protecting buildings, groups of buildings, neighborhoods and communities or distinguished architectural character and appearance;
16. Providing for the orderly and functional arrangement of land uses and buildings;
17. Establishing standards for the orderly development or redevelopment of neighborhoods, or functional and geographic parts of neighborhoods;
18. Securing for the public adequate locations for housing, employment, shopping, education and recreation;
19. Facilitating the adequate provision of transportation, utility systems, schools, parks and other public requirements;
20. Providing for orderly sequences of growth in neighborhoods and the community;

21. Promoting the economic diversity of the community and to enhance opportunities for participation in the economic and social system of the community;
22. Encouraging the construction and maintenance of a full range of housing opportunities;
23. Establishing a comprehensive land use regulation ordinance to serve the City of Quincy and the unincorporated territory within one and one-half miles of the corporate limits, based upon the community's development plans and overall City policies and objectives; and
24. To exercise the full power and authority granted it under the constitution of the State of Illinois and all applicable laws of said state or the United States as they pertain to zoning.

The five general district classifications include RU: Rural, RE: Resort, R: Residential, C: Commercial, M: Industrial. A majority of the Broadway Corridor is zoned Commercial with the balance being predominantly Residential to the west and Rural to the east. The zoning classifications currently found in each of the character zones are listed below. A descriptive summary of existing and applicable zoning for the Broadway Corridor is contained in *Appendix C*.














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EXISTING LAND USE MAP

BROADWAY CORRIDOR LAND USE & ACCESS MANAGEMENT PLAN

LEGEND

- | | | | |
|---|--------------------------------|---|------------------|
|  | SINGLE FAMILY RESIDENTIAL |  | LIGHT INDUSTRIAL |
|  | MULTI-FAMILY & MOBILE HOME |  | HEAVY INDUSTRIAL |
|  | RETAIL/SERVICE |  | AGRICULTURAL |
|  | OFFICE | U | UNDEVELOPED LAND |
|  | PUBLIC | V | VACANT BUILDING |
|  | INSTITUTIONAL /SPECIAL PURPOSE |  | CITY LIMIT |
| | |  | 1 1/2 MILE LIMIT |

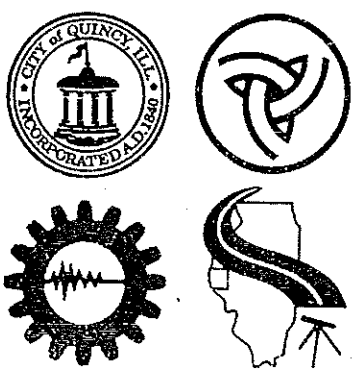
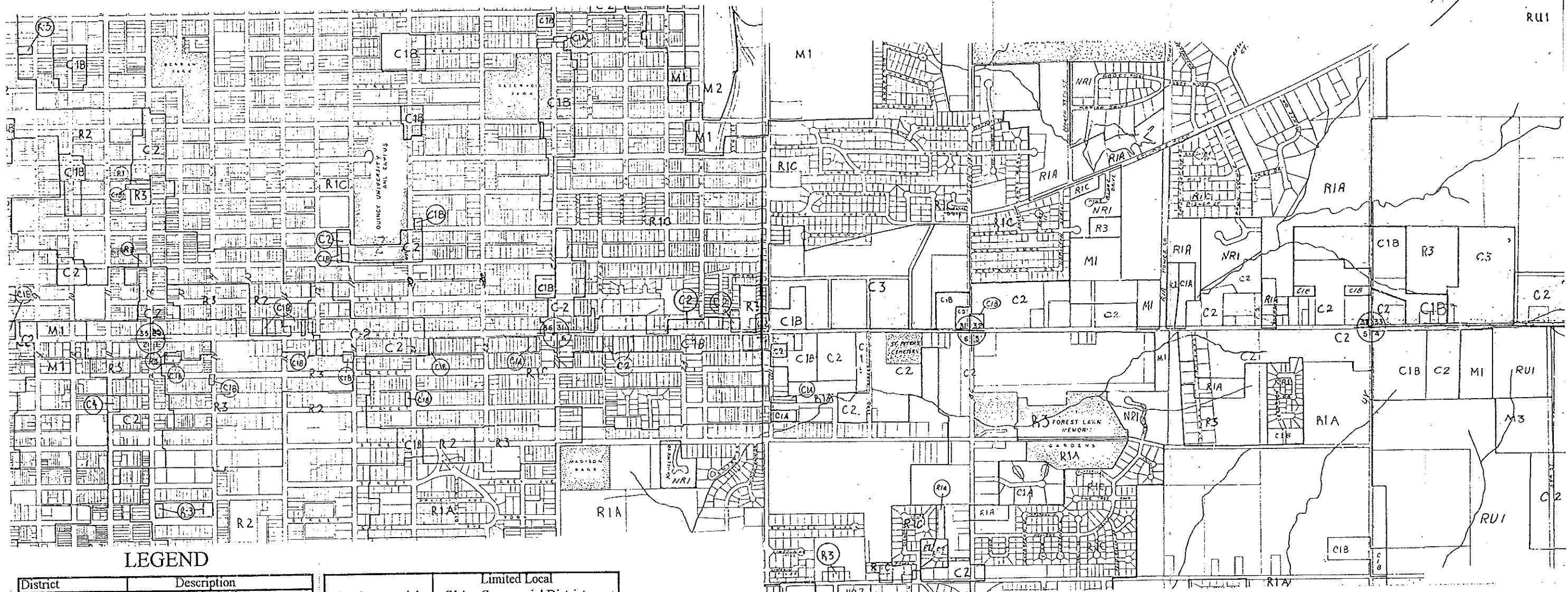


Figure 2

Quincy, Illinois



LEGEND

District	Description	
RU - Rural	RU1 Rural District	
R - Residential	RS Single - Family District	
	R1A Single - Family District	
	R1B Single - Family District	
	R1C Single - Family District	
	R2 Two - Family District	
	R3 Multi - Family District	
	Neighborhood Residential	Neighborhood Residential District
NR - Residential	NR1 Neighborhood Residential District	
	NR2 Neighborhood Residential District	
	NR3 Neighborhood Residential District	
C - Commercial	C1A Limited Local Commercial District	
	C1B Commercial District	
	C1C Washington Square	
	C2 Commercial District	
	C3 Planned Commercial	
	C4 & Central Business District	
	M1 & Light Industrial District	
	M - Industrial	M1 Light Industrial District
		M2 Heavy Industrial District
		M3 Planned Industrial

EXISTING ZONING MAP

BROADWAY CORRIDOR LAND USE & ACCESS MANAGEMENT PLAN

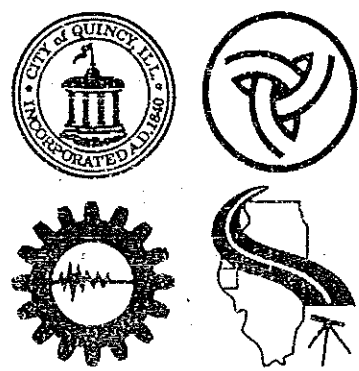
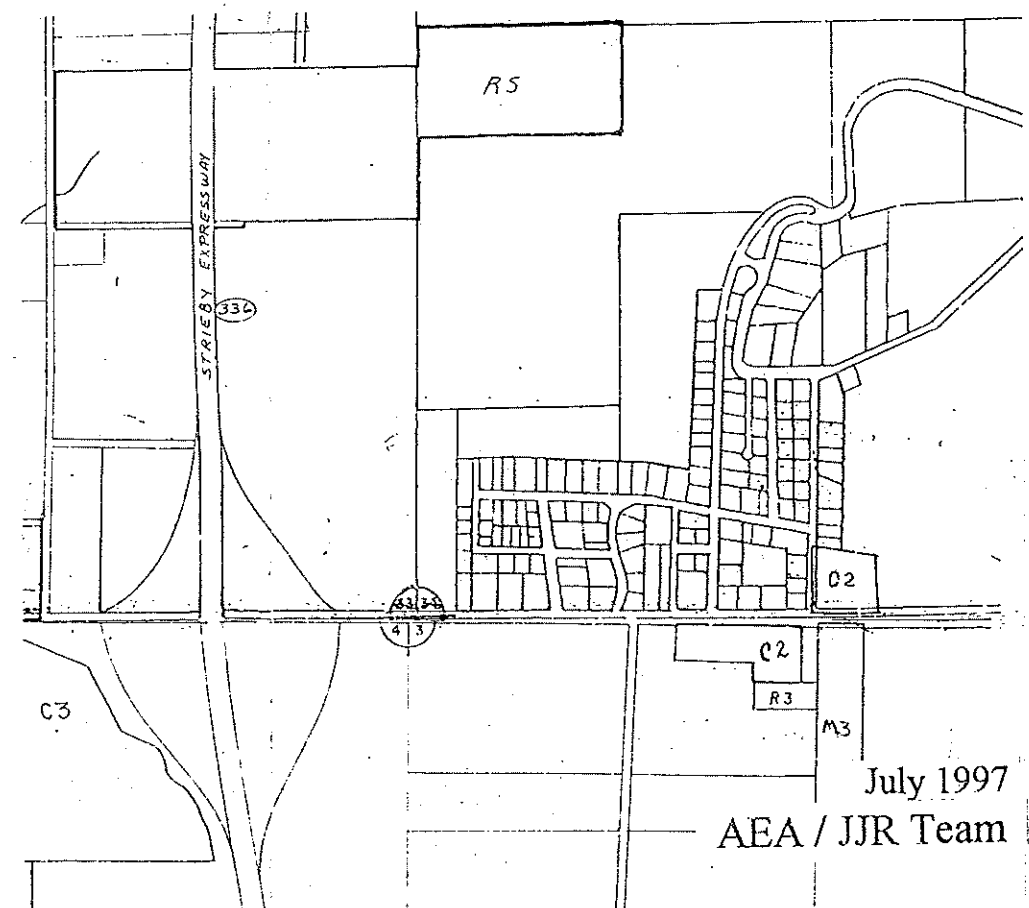


Figure 3 Quincy, Illinois



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Urban Mixed Use Zone - 9th to 30th Streets

In the westernmost portion of the study area, the zoning along Broadway is predominantly commercial (C2 and C1B) along Broadway with sections of residential (R1C and R3) along Broadway and behind the commercial zoning. Zoning Classifications: R1C, R2, R3, C1A, C2, and M1.

Commercial Zone - 30th to 50th Streets

In the central portion of the study area, the zoning is along Broadway is almost entirely commercial (C1B, C2, and C3) with some light industrial (M1); behind these to the north and south are residential classes (R1A, R3, and NR1). Zoning Classifications: R1A, R2, R3, NR1 C1B, C2, C3, and M1.

Potential Growth Zone - 50th Street to Meyer Road

In the easternmost portion of the study area, the zoning is predominantly commercial (C1B, C2, and C3) west of I 172, and predominantly rural (RU1) east of I 172. Zoning Classification: RU1, R3, C1B, C2, C3, M1, and M3.

Transportation System

Broadway is a designated State Highway SH104, and is classified as a Principal Arterial Highway. Arterials typically are an extension of a rural highway with high speeds; they are intended to move large volumes of traffic quickly. Arterials become attractive locations for commercial retail development, but they have restricted ability to serve abutting properties. The degree of development along Broadway, coupled with the relatively few reliever streets, increase the potential for accidents. Land use and access management guidelines for this corridor will enhance roadway capacity and increase potential for economic development.

Traffic Volumes

In 1996, Average Daily Traffic (ADT) volumes along the Broadway corridor from just west of 12th Street to just east of 36th Street ranged between 22,200 and 29,500 vehicles per day. In 1996, the “busiest” intersections along the Broadway corridor (i.e., those with the highest number of vehicles traveling through them) were:

- 12th Street - 36,250 entering vehicles per day,
- 24th Street - 39,000 entering vehicles per day,
- 30th Street - 36,500 entering vehicles per day, and
- 36th Street - 36,450 entering vehicles per day.

In 2006, ADT volumes are projected to increase to between 27,000 and 35,900 vehicles per day along the Broadway corridor from just west of 12th Street to just east of 36th Street. This represents a projected 22 percent increase in traffic volumes over the ten-year period. Near 33rd Street, ADT volumes on Broadway are projected to increase by 31 percent during the same ten-year period. In 2006, the intersections that are projected to be the “busiest” are:

- 12th Street - 42,750 entering vehicles per day,
- 24th Street - 48,250 entering vehicles per day,
- 30th Street - 43,350 entering vehicles per day, and
- 36th Street - 42,800 entering vehicles per day.

These increases in entering vehicles per day represent approximately an 18 percent increase in volumes for the 12th Street, 30th Street, and 36th Street intersections and almost a 24 percent increase in traffic volumes for the 24th Street intersection.

See Appendix D for additional information concerning traffic volumes.

Signalized Intersection Capacity Analysis / Level of Service Determination

The determination of current levels of service at the signalized intersections located within the study area is of primary importance in ascertaining where capacity problems currently exist. The methodology used in determining levels of service at signalized intersections can be found in Chapter 9 of the 1994 Highway Capacity Manual, Special Report No. 209, of the Transportation Research Board. With this methodology, the level of service at a signalized intersection is stated in terms of the average stopped delay experienced by each vehicle entering the signalized intersection during a 15-minute analysis period. Table 2 lists and describes each of the six levels of service that can occur at signalized intersections.

Table 2. Level of Service (LOS) Definitions for Signalized Intersections

<u>Level of Service</u>	<u>Vehicle Delay (seconds)</u>	<u>Description</u>
A	≤ 5.0	Free Flow / Insignificant Delays: Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	> 5.0 and ≤ 15.0	Stable Operation / Minimal Delays: Generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A.
C	> 15.0 and ≤ 25.0	Stable Operation / Acceptable Delays: May result from fair progression, longer cycle lengths, or both. Vehicles may wait through a cycle. Number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.
D	> 25.0 and ≤ 40.0	Approaching Unstable / Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, of high volume-to-capacity ratios. Many

E	> 40.0 and ≤ 60.0	Unstable Operation / Significant Delays: Considered by many agencies to be the limit of acceptable delay. Generally indicates poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.
F	≥ 60.0	Forced Flow / Excessive Delays: Considered to be unacceptable to most drivers. Often occurs with oversaturation, when arrival flow rates exceed capacity of intersection. Poor progression and long cycle lengths may also be contributing factors.

Source: Highway Capacity Manual, Transportation Research Board, Special Report No. 209, Washington D.C., 1994.

For determining the locations where deficiencies in capacity and level of service currently exist, a 15-minute time period is selected when traffic volumes entering the intersection are at their highest levels. For this analysis, a 15-minute period during the P.M. peak hours was analyzed for each of the signalized intersections.

The eight signalized intersections located within the study area were analyzed to determine the level of service currently being provided at each. Input for the analyses included:

Existing intersection geometric conditions:

- lane configurations,
- lane widths,
- turning restrictions,
- grades,
- parking conditions, and
- area type;

Existing traffic conditions:

- peak hour traffic volumes by movement,
- peak hour factors,
- percentage of heavy vehicles,
- pedestrian traffic, and
- parking activity;

Existing signalization conditions:

- cycle length,
- cycle splits, and
- phasing.

Under 1996 30th-highest-hour traffic volume loadings (the hour standardly used for these analyses), the analysis indicates that there were no signalized intersections within the study area that operated below LOS C during the most critical time period (the P.M. peak hour) when traffic volumes are typically the heaviest. The majority of signalized intersections (6 out of 7) operated between a low LOS B and a high LOS C during the P.M. peak hour. A "low" LOS B means average vehicle delays nearer to 15 seconds per vehicle than to 5 seconds per vehicle. A "high" LOS C means average vehicle delays nearer to 15 seconds per vehicle than to 25 seconds per vehicle. One intersection, Broadway and 25th, operated at a high LOS B during this time period.

Under 2006 30th-highest-hour traffic volume loadings, the analysis indicates that there will be no signalized intersections within the study area that operate below Level of Service D during the most critical time period (the P.M. peak hour) when traffic volumes are typically the heaviest. The majority of signalized intersections (6 out of 7) will operate between a middle Level of Service C and a high Level of Service D during the P.M. peak hour. One intersection, Broadway and 25th, will operate at a middle Level of Service B during this time period. See Appendix D for additional information concerning levels of service.

Certain intersection improvements can be made that will increase the level of service at the signalized intersections within the study area. See Access Management Recommendations for a summary of these possible improvements.

Traffic Accidents

Accident data for the study corridor was provided by the Illinois Department of Transportation. This data was for a four-year period from 1992 through 1995. Accident data was provided for eight (8) signalized intersections, eighteen (18) non-signalized intersections, and mid-block locations.

The data indicate that 429 accidents occurred at signalized and non-signalized intersections along the Broadway corridor from 9th Street to 48th Street. Of these 429 accidents, 70 percent were Property Damage Only (PDO) accidents and 30 percent were Personal Injury (PI) accidents. The total number of persons injured in the Personal Injury accidents was 196. There were no Fatality accidents during this time period.

Of the 429 accidents occurring in the study area during the four-year study period, a majority (91 percent) of the accidents could be categorized into three specific accident types: turning accidents (comprising 36 percent of the total), rear-end accidents (comprising 34 percent of the total), and angle accidents (comprising 21 percent of the total).

Of the 154 turning accidents, 71 percent occurred at signalized intersections. Of the 146 rear-end accidents, 84 percent occurred at signalized intersections. Of the 89 angle accidents, 67 percent occurred at signalized intersections. This is understandable, since the signalized locations have the highest traffic volumes and, therefore, the greatest number of vehicle conflicts.

The data indicate that there were 464 mid-block accidents within the Broadway corridor study area during the four-year time period from 1992 through 1995. A breakdown of these accidents by accident severity was not available from the Illinois DOT. Of the 464 mid-block accidents, the vast majority (82 percent) of the accidents could be categorized into three specific accident types: turning accidents (comprising 22 percent of the total), rear-end accidents (comprising 42 percent of the total), and angle accidents (comprising 19 percent of the total).

The accident data was analyzed in an effort to identify high-accident rate locations in the study area. Accident rates for intersections are based on the number of accidents occurring at an intersection during a certain time period divided by the number of vehicles entering that intersection on all of its approaches during that same time period. The intersection accident rate is expressed as: number of accidents per million entering vehicles.

Accident rates for mid-block locations are based on the number of accidents occurring within a selected length, or segment, of roadway during a certain time period divided by the following: the number of vehicles traveling along that segment of roadway during the same time period multiplied by the segment's length in miles. The mid-block accident rate is expressed as: number of accidents per million vehicles-miles of travel.

Generally, if traffic volume data is available, it is better to analyze accident data on the basis of comparing accident rates rather than comparing simply the number of accidents that are occurring. The following example illustrates why. An intersection with twice as many accidents as another might be considered to be a more hazardous location. However, if this intersection has four times as many vehicles entering it as the other, then the accident rate for this intersection would be one-half the accident rate of the other. In this case, the intersection with more accidents is actually less hazardous when analyzed on the basis of the number of vehicles utilizing the intersection.

Of the 26 intersections located along Broadway within the study corridor, six intersections were found to have accident rates significantly higher than the average accident rate for intersections of a comparable type found throughout the State of Illinois. Five of these six intersections are signalized. They are:

- 10th Street (non-signalized),
- 12th Street,
- 24th Street,
- 30th Street,
- 33rd Street, and
- 36th Street.

At these six intersections, 264 accidents occurred during the four-year period from 1992 to 1995. This represents 62 percent of the total number of intersection accidents occurring along the Broadway corridor in the study area during the study period. Of these 264 accidents, the vast majority (91 percent) of the accidents could be categorized into three specific accident types:

turning accidents (comprising 35 percent of the total), rear-end accidents (comprising 39 percent of the total), and angle accidents (comprising 17 percent of the total).

Other trends and patterns that analysis of the data for these six high accident rate intersections revealed are as follows:

- The majority of accidents (73 percent) occurred during dry pavement conditions.
- Eleven percent of the accidents occurred during the A.M. peak period: 8-11 A.M.
- Forty-one percent of the accidents occurred during the mid-day peak period: 11 A.M. - 3 P.M.
- Twenty-eight percent of the accidents occurred during the P.M. peak period: 3-7 P.M.
- Twenty percent of the accidents occurred on Fridays. (This is the day that typically experiences the highest traffic volumes during the week in an urban setting.)

With regard to mid-block accidents, there were five (5) segments of Broadway that were found to have accident rates significantly higher than the average accident rate for comparable facilities found throughout the State of Illinois. These segments are:

- from 10th Street to 14th Street,
- from just west of 18th Street to 500 feet east of 20th Street,
- from 24th Street to 600 feet east of 25th Street,
- from just west of 27th Street to 38th Street, and
- from 1000 feet west of 48th Street to 500 feet west of 54th Street.

As mentioned above, the most common type of accidents that are occurring in the study corridor (at both intersections and mid-block locations) are turning accidents, rear-end accidents, and angle accidents. Table 3 lists the most common causes of these types of accidents.

Table 3. Accident Types

<u>Type of Accident</u>	<u>Common Cause</u>
Angle	Relationship of control to design Poor visibility of traffic control devices Inadequate sight distance to intersection Poor visibility of approaching vehicles Improper type of control present Insufficient yellow change or all-red clearance intervals on signals Sun blindness Interference of commercial signing Poor placement of traffic control devices
Rear-end	Insufficient yellow change or all-red clearance

- intervals on signals
- Left turns from through lanes
- Inadequate left turn storage
- Wet pavement
- Poor visibility of intersection
- Poor relationship of signing to geometry
- Critical driveway entrance speeds too low
- Other unexpected elements

Turning

- Poor visibility of through movement
- Left turn congestion
- Roadway geometry limiting sight distance
- Inadequate traffic control measures

Discussions with City personnel, comments from citizens during public forums, and observations during the study indicate that often the cause of these three accident types at mid-block locations, appears to be related to 1) the numerous commercial driveways located along the Broadway corridor and 2) the physical characteristics of these driveways. These characteristics include 1) their location with respect to street intersections, other driveways on the same side of Broadway, and driveways on the opposite side of Broadway; 2) their frequency; and 3) their physical features (width, grade, turning radii, curb drop, etc.).

If driveways are located too closely to signalized intersections, the motorist often has difficulty exiting a site because of queued traffic blocking the driveway. This can be especially hazardous if the motorist is attempting to make a left turn, either through two lanes of queued traffic or into them.

Other difficulties can arise if a motorist is attempting to enter a driveway that is too close to a street intersection. Usually, at an intersection, the center lane of Broadway is designated as an exclusive left-turn lane, separated from opposing traffic by a double yellow center line. Traffic turning into a driveway near an intersection and moving in the same direction as the exclusive left-turn lane will stop at the driveway (not at the intersection) and wait for any oncoming traffic to clear. This can lead to the turning vehicle being rear-ended by a motorist who thought the vehicle was intending to turn farther downstream at the intersection. Motorists that are caught behind this turning vehicle and intend to turn left at the intersection are forced to weave back into the adjacent through lane, go around the turning vehicle, and dive back into the exclusive left turn lane.

Traffic turning into a driveway near an intersection and moving in the opposite direction as the exclusive left-turn lane will be forced to stop in the inside through lane downstream from the intersection and wait for the left-turn queue and any oncoming traffic to clear. This can lead to the turning vehicle being rear-ended by a motorist who was surprised by a vehicle stopping just downstream from the intersection. Motorists that are caught behind this turning vehicle are forced to weave into the outside through lane to go around the turning vehicle.

A high frequency of driveways, combined with short driveway spacing and driveways that are not aligned across from each other on opposite sides of Broadway can create a highly-complex driving environment with numerous vehicle conflict points. This can lead to driver confusion and poor decision-making, which often results in accidents.

Narrow driveways and driveways with high curbs, steep entrance grades, or inadequate turning radii will result in driveway entrance/exit speeds that are too low. Vehicles that must enter a driveway at low speeds are subject to rear-end accidents by following vehicles, and turning accidents by oncoming vehicles. Vehicles that must exit a driveway at low speeds are subject to angle accidents and rear-end accidents.

See Appendix D for additional information concerning traffic accidents.

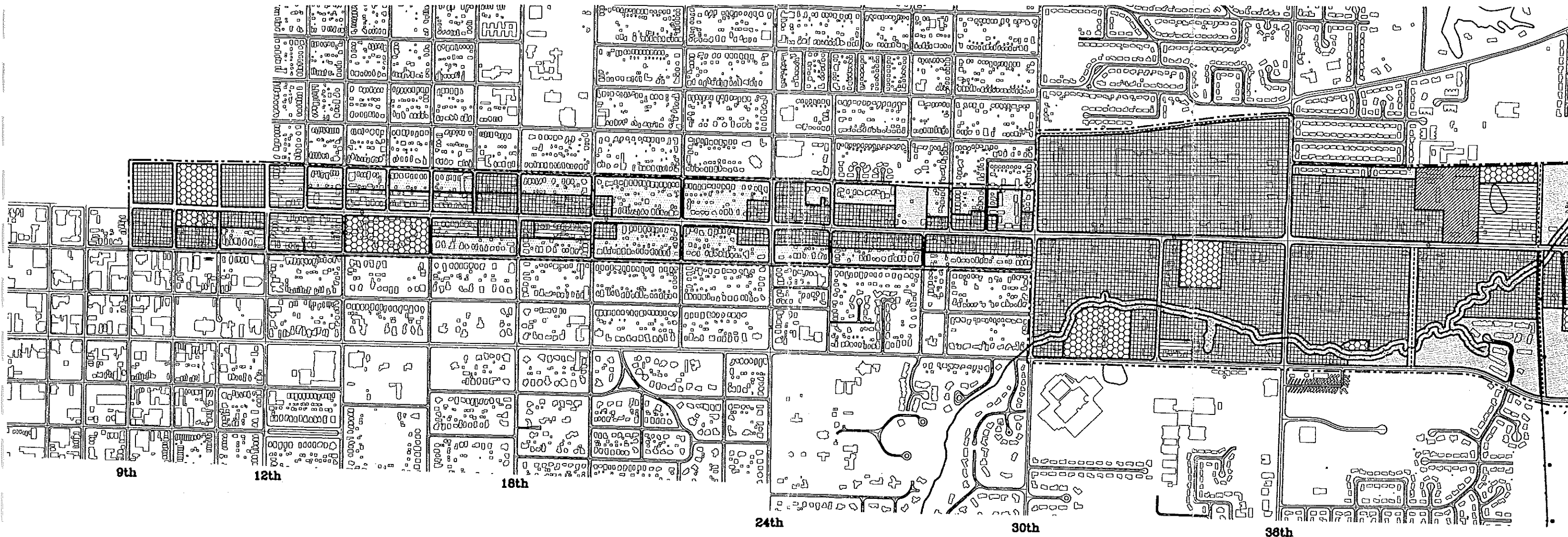










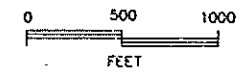


Figure 4a: Final Land Use and Road Extension Plan

BROADWAY CORRIDOR LAND USE & ACCESS MANAGEMENT PLAN

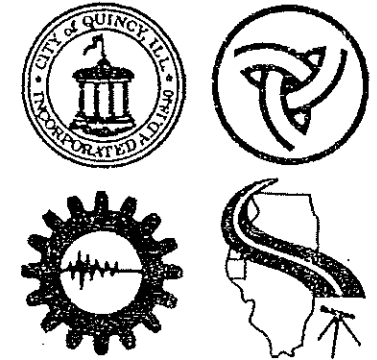
Quincy, Illinois

-  Single-Family Residential
-  Multi-Family Residential
-  Mixed Use
-  Commercial/Office
-  Business Park
-  Industrial
-  Institutional
-  Open Space
-  Proposed New Road
-  Project Boundary



August 1997

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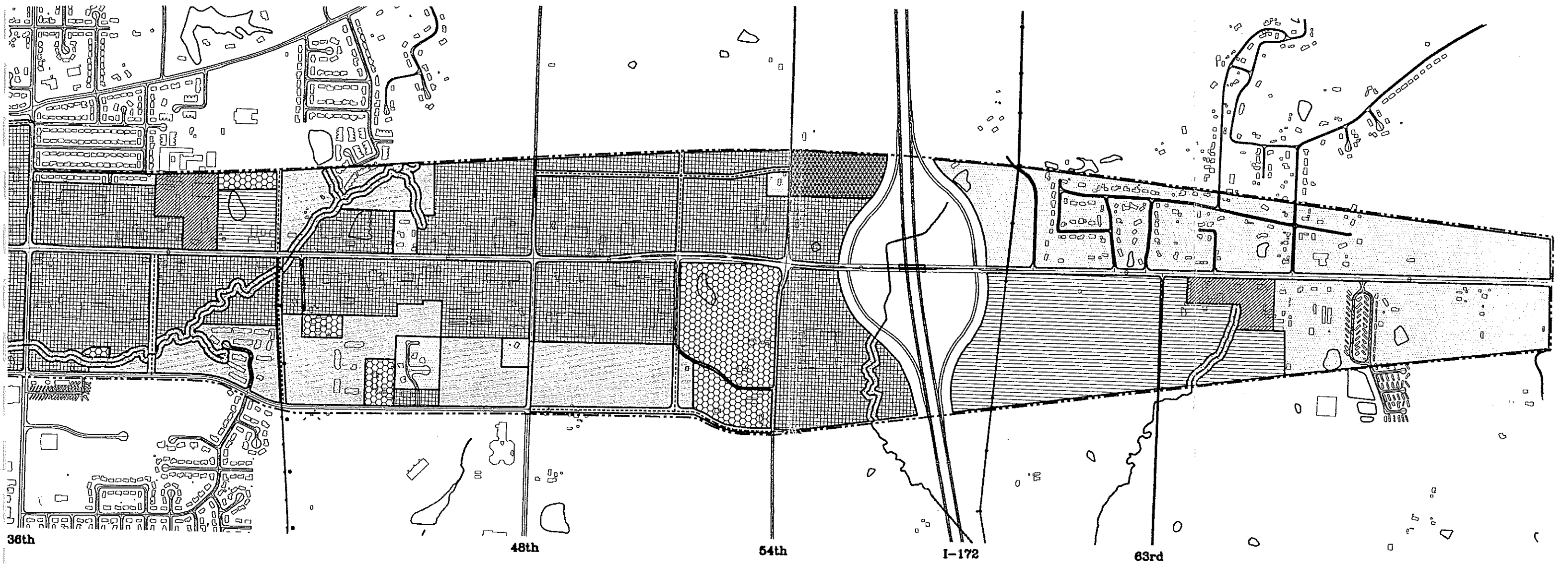
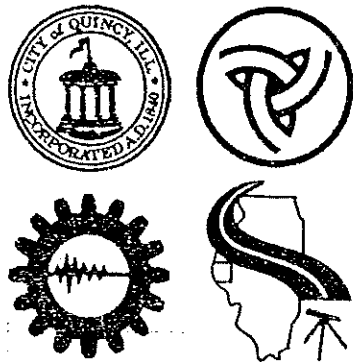












Figure 4b: Final Land Use and Road Extension Plan

BROADWAY CORRIDOR LAND USE & ACCESS MANAGEMENT PLAN

Quincy, Illinois



-  Single-Family Residential
-  Multi-Family Residential
-  Mixed Use
-  Commercial/Office
-  Business Park
-  Industrial
-  Institutional
-  Open Space
-  Proposed New Road
-  Project Boundary



August 1997

AEA / JJR Team

LAND USE RECOMMENDATIONS

Overall Concept

The land use pattern established by this study was strongly influenced by the existing pattern of use and community input. The pattern also reflects the character zones established during the inventory and analysis phase of the project. The land use recommendations are illustrated on *Figure 3: Land Use and Road Extension Plan*.

Use Types

Single-Family

Although controversial throughout the process, the continued use of portions of the Broadway Corridor for single-family housing is recommended. Single-family residential use is supported to a limited extent in the Urban Mixed Use Zone between Broadway and the alleys and to a greater extent between the alleys and both Vermont and Spring Streets. Predominantly single-family rural residential use of the area east of the area east of I-172 is also recommended.

Multi-Family Residential

Multi-family residential uses include cluster housing, townhomes, apartments and other marketing concepts which allow for a comparatively higher intensity of housing. This use is predominantly recommended along the proposed open space corridor where constraining topography may require a cluster concept to be cost-effective, and adjacent but behind commercial uses along Broadway facing onto Maine, East Oak and cross-streets east of 33rd Street.

Mixed Use

Mixed-use refers to a mix of uses including predominantly multi-family residential with commercial retail and office, with limited access from Broadway and preferred access from cross streets and alleys, and generous landscaping to buffer adjacent land uses from one another. This type of use is recommended to allow redevelopment of several areas surrounding Blessing Hospital west of 18th Street, and to accommodate a future mix of uses in a planned development east of I-172 south of Broadway. The likely mix of uses in the large area east of I-172 includes highway service commercial along Broadway and potentially a business park, multi-family development and/or golf course either singly or in combination.

Commercial

Commercial uses are dominant within the Broadway Corridor. The types of commercial development recommended differ from west to east along the Corridor reflecting established and improved patterns. Commercial retail and offices in the Urban Mixed Use Zone need to address issues of compatibility with regard to existing patterns of use, scale, character, setback, etc. Conversion of houses to non-residential uses should be strongly discouraged in areas identified for residential use.

In the Commercial Zone, commercial uses are dominant. However, both existing and proposed commercial uses will be strongly influenced by both access management and aesthetic recommendations. Existing patterns contribute to the congestion and safety concerns which currently cripple Broadway's ability to convey appropriate traffic volumes. Thus, it is recommended that the patterns be modified as follows:

- establish a 30-foot landscaped buffer along Broadway
- screen parking lots from unrelated uses and the road
- establish requirements for landscaping within parking lots
- modify the signage ordinance to reduce sign quantity, size and height maximums, consolidate signage within the same and adjacent developments and locate clustered signs at shared access points
- improve road signage, especially

It is further recommended that the above patterns also be established in the Potential Growth Zone as applicable.

Business Park

- located northwest of the I172 interchange to serve as an entry into Quincy
- accommodate low density development of business

Industrial

Only two areas have been identified for industrial use. Both are existing industrial uses that should be allowed to continue operations; however, no new industrial areas or expansions of industrial areas are recommended. Furthermore these industrial uses should be strongly encouraged to relocate to designated industrial parks to consolidate industrial uses and minimize conflict between adjacent uses. The area west of the proposed 42nd Street should eventually support commercial, multi-family or a mixed use concept. The area east of I-172 should eventually convert to single- or multi-family residential uses.

Institutional

Institutional uses within the corridor include Blessing Hospital, several cemeteries and a county facility. No new institutional uses are recommended, although, the Blessing Hospital area is expanding.

Open Space

Proposed open space is predominately along Emery Creek. There is broad community support for the establishment of an open space easement along Emery Creek (100-foot minimum width) to serve as a buffer between adjacent land uses, accommodate surface runoff in an open naturalistic drainage way, and provide wildlife habitat. Use of this easement as a multi-purpose trail will require additional planning; there is currently no community consensus regarding trail development, since some factions support and others oppose this use.

Transportation System

In order to alleviate local trips on Broadway that are not destined for locations on Broadway as well as improve interconnections with the existing road network, several new roads and road extensions are proposed herein. These transportation system improvements include:

- Columbus Avenue between 30th and 36th,
- 39th Street between Broadway and Maine,
- 42nd Street between Columbus and Maine,
- 52nd Street north of Broadway and south to Maine,
- East Oak Street between 48th and 54th, and
- Maine Street east to 54th then south aligned with 57th.

Although illustrated on *Figure 4a and 4b*, the alignments of these new roads and road extensions may be modified substantially during the planning process.

ZONING RECOMMENDATIONS

Structure of Existing Zoning Ordinance

The existing structure of the zoning code is Euclidean or Pyramidal. The concept of a pyramidal zoning ordinance is built on the assumption that there is one district with very strict use requirements. This land use district is at the top of the pyramid. This use at the top of the pyramid is typically single family residential. The other less-restrictive categories include all more-restrictive land uses higher on the pyramid. For example, the current zoning ordinance will allow the development of single family residential in any of the districts. However, heavy industrial is allowed in only one zoning district. This type of ordinance focuses to an extreme degree on defining all the potential uses that are or are not allowed in each district. Redirecting the focus of the zoning ordinance to the impact of acceptable uses upon the other uses in the district would be more desirable.

The City should consider rewriting its zoning code to focus upon the impact of uses within a district and how the uses affect other uses in each district. This modification will make the zoning ordinance a more useful tool to enable the City to plan for the future. Rewriting the ordinance would allow for districts such as the M1 District to fit more appropriately into the context of areas in which industrial uses are appropriate. M1 currently includes many uses that are not compatible with each other and often have severe impact on adjacent properties that could also be in M1. The uses within the districts should be based upon standards of performance.

The new ordinance should include a mixed-use category. This mixed-use category will be different from the current M1 category because the uses allowed in this district will be compatible with each other. This mixed-use category will be different from the current NR2 category because of a minimum area designation (2 acres), a planned development approach, access restrictions, and buffer requirements. The concept for this district is to allow owners of large continuous amounts of land along Broadway the flexibility to develop creative projects compatibly with adjacent land uses. Projects could include multi-family residential above commercial uses, a traditional downtown pattern. This new mixed-use district will help the property owners along western portions of the corridor overcome the physical limitations of the shallow property depths by encouraging the joint redevelopment of adjacent parcels. Further east, large tracts which can accommodate multiple uses within the same parcel will be encouraged to comprehensively plan for a compatible balance of uses including moderate service-oriented commercial, housing uses and potentially recreational open space.

Establishment of an Overlay District

It is recommended that an overlay zoning district which matches the study area boundary be created to facilitate the application of the land use, access management and aesthetic recommendations contained herein.

Use Districts

The land uses recommended by this plan can predominantly be accommodated by employing the same use districts as currently exist within the corridor; however, the mixed use concept as identified throughout this study will require an ordinance modification as described above. The Department of Planning and Development will designate zoning districts within the study area to yield the consensus land use recommendations as illustrated by *Figure 4a, 4b: Land Use and Road Extension Plan*.

Commercial Frontage and Building Setback Requirements

In order to establish more desirable patterns of land use and access, the following commercial frontages and building setbacks are recommended:

- in the Urban Mixed Use Zone, a minimum frontage of 90 feet along Broadway; minimum setback of zero feet
- in the Commercial Zone, a minimum frontage of 300 feet along Broadway minimum setback of 30 feet
- in the Potential Growth Zone, a minimum frontage of 300 feet along Broadway minimum setback of 30 feet
- in the entire corridor, a minimum side yard of zero feet adjacent to non-residential; a minimum side yard of 15 feet adjacent to residential

Multi-Family/Mixed Use Frontage and Building Setback Requirements

In order to establish more desirable patterns of land use and access, the following multi-family/mixed-use frontages and building setbacks are recommended:

- minimum frontage of 90 feet along Broadway
- in the Urban Mixed Use Zone a minimum setback of 0 feet
- in the Commercial Zone, a minimum setback of 30 feet
- in the Potential Growth Zone, a minimum setback of 30 feet
- in the entire corridor, a minimum side yard of 15 feet

Parking Setbacks

Parking setbacks currently vary substantially over the length of Broadway in the project area. The following guidelines which reflect the character and use differences along Broadway should be adopted as guidelines for parking setbacks.

- same as above setbacks: in the Urban Mixed Use Zone a minimum setback of 0 feet; in the Commercial Zone, a minimum setback of 30 feet; in the Potential Growth Zone, a minimum setback of 30 feet
- 30-foot landscaped buffer between parking lots and streets
- landscaping requirement within parking lots
- west of 30th, no parking in the front yard setback for all uses
- east of 30th parking strongly preferred to the rear and side yards for all uses.

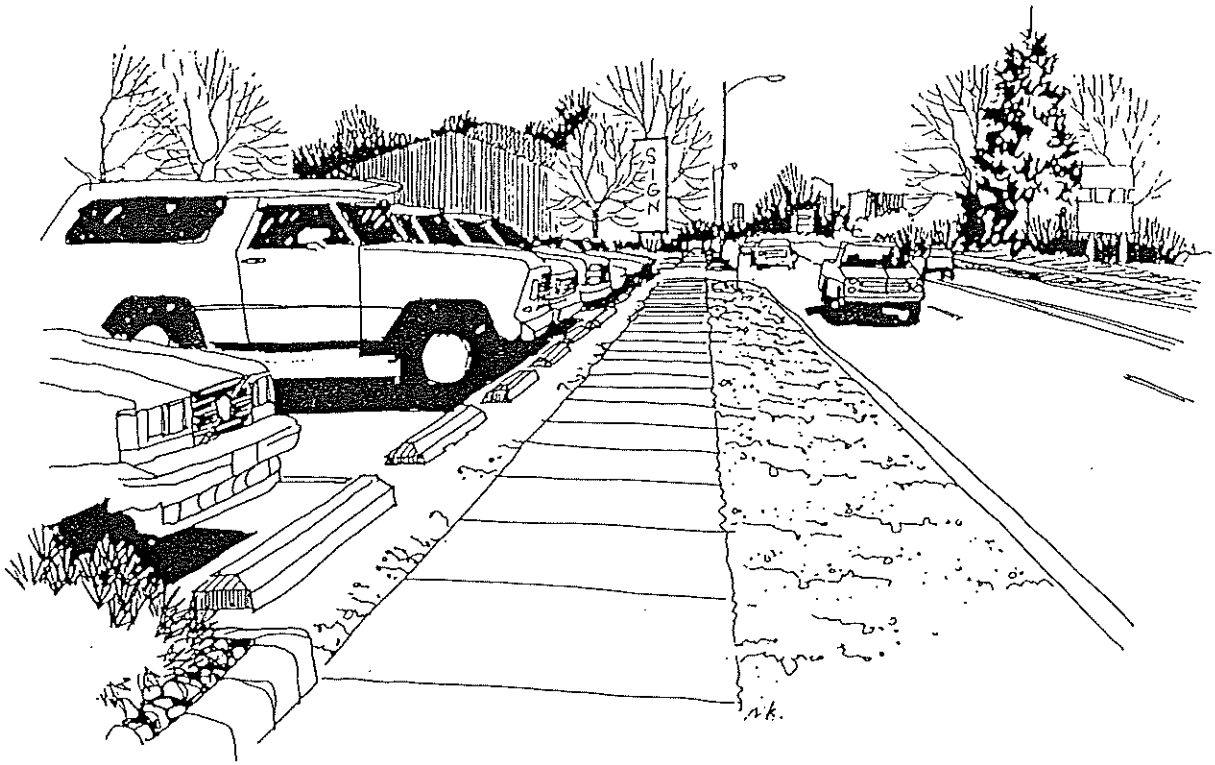
In addition to modifications to the setback and character of parking, the off street parking standards for number of parking spaces per square foot of a given use should be modified to reflect the differences of each character zone along Broadway. Businesses in the traditional downtown area, Urban Mixed-Use Zone, should not have to supply the same amount of parking that big box developers are required to provide at the east end of the corridor due to the substantially different clientele; the west being more pedestrian-oriented and the east being more automobile-oriented.

IMAGE AND AESTHETIC CHARACTER GUIDELINES

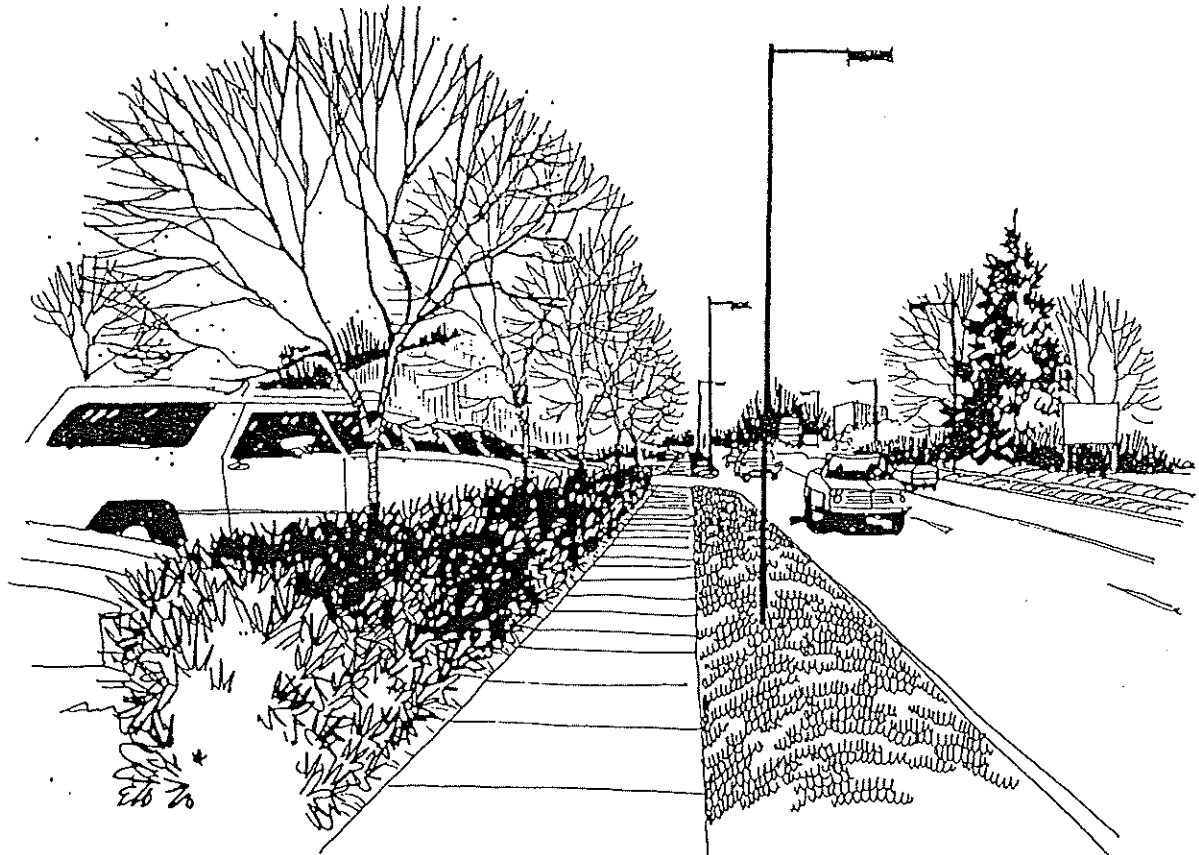
To transform Broadway into an appropriate gateway to Quincy that projects the historic, positive, high-quality image of the City, design guidelines for all development along the Broadway corridor should be adopted. These new policies should be written to include architectural, site-development, parking, signage, lighting and landscape standards for new and existing development. The concept of design guidelines was widely supported throughout the planning process as were the following recommendations:

- incorporate *sidewalks* to facilitate pedestrian access;
- consider *bicycle routes* and a multi-purpose trail to improve bicycle access;
- establish *bus routes*;
- establish *truck routes* to divert flow around town;
- improve the *directional signage* system;
- improve *cross-street identification signage*;
- establish *gateways* to Quincy using signage, landscaping and open space;
- create an open space *corridor* along Emery Creek and others to buffer adjacent land uses, accommodate surface runoff in an open naturalistic drainageway, and maintain wildlife habitat;
- establish a 30-foot *landscape easement* along streets;
- establish a program for *underground utility burial*;
- focus on the evaluation of both the functional and aesthetic design of proposed developments during the *site plan review process*;
- preserve *historic character* and structures.

See Figures 5 and 6 for recommendations.



Parking Lot Without Screening



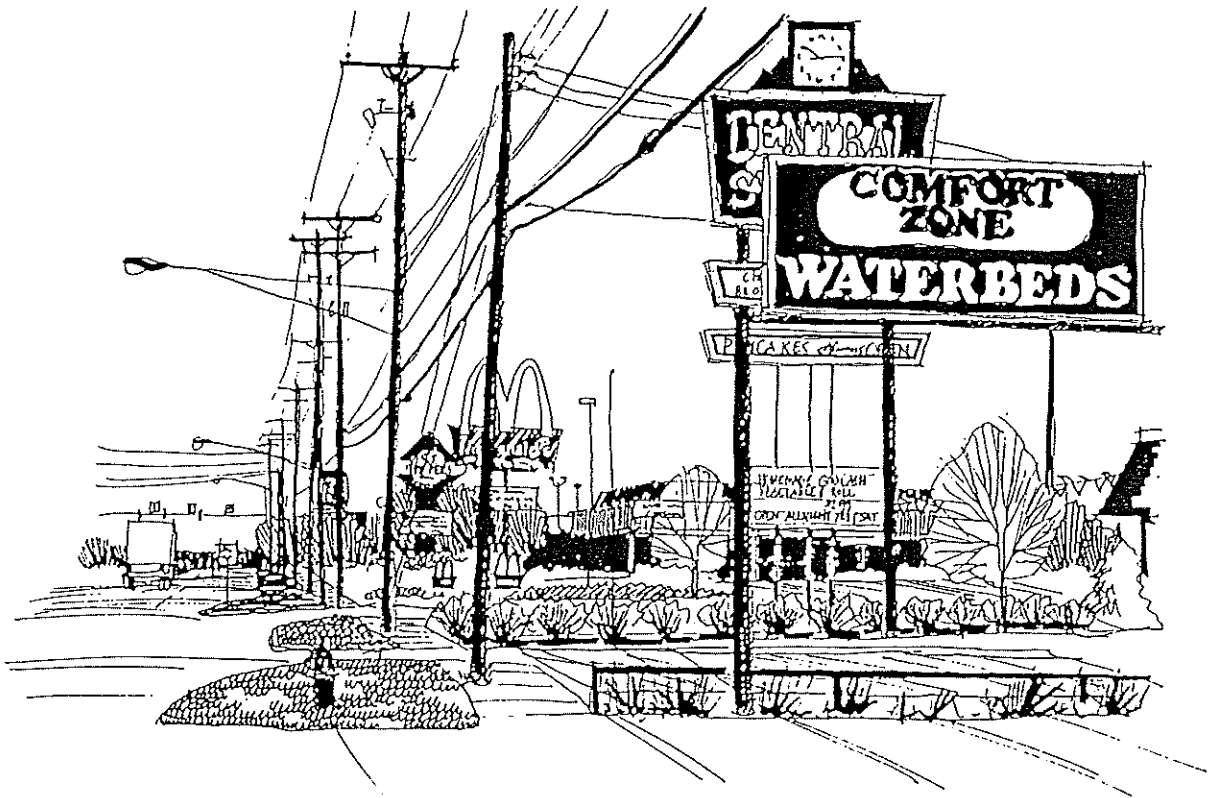
Parking Lot With Screening

Figure 5: Parking Screening Improvement Opportunities

BROADWAY CORRIDOR LAND USE & ACCESS MANAGEMENT PLAN

Quincy, Illinois



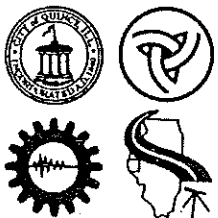


Corridor Image Without Aesthetic Character Recommendations



Corridor Image With Aesthetic Character Recommendations

Figure 6: Corridor Image Improvement Opportunities



BROADWAY CORRIDOR LAND USE & ACCESS MANAGEMENT PLAN

Quincy, Illinois

ACCESS MANAGEMENT RECOMMENDATIONS

Access Management Guidelines

The goal of contemporary access management is to improve traffic operations by managing the location, design, and operation of driveways, median openings, and street connections to a roadway. The purpose of access management is to provide reasonable access to properties abutting a roadway while, at the same time, providing both safety benefits and operational efficiency benefits to the roadway users. These benefits include the potential for 1) reducing access-related accidents and 2) preserving the efficiency of a roadway in terms of capacity and speed.

By preserving the level of service of existing roadways, public expenditures on additional roadways or additional traffic lanes (roadway widening) can be stabilized. By employing access management, the need to construct additional lanes or roadways may be delayed a number of years or avoided altogether.

Reducing the number and frequency of driveways and median openings can also improve the aesthetic character of the roadway corridor. The total area of concrete driveway expanse can be reduced and additional opportunities for landscaping (grass, flowers, shrubs, trees) can be increased.

Access management can also advance growth management objectives. It can assist in developing coordinated and consistent land use and transportation decisions. Access management can also assist in discouraging strip development along a roadway and promoting the clustering of land uses into unified developments with adequate connectivity among these land uses. This can discourage urban sprawl, maintain roadway levels of services, and preserve community character.

See Appendix E for the Access Management Plan recommended for the Broadway Corridor.

SUMMARY OF POSSIBLE IMPROVEMENTS TO BROADWAY

The following table (Table 4) provides a summary of possible improvements to Broadway Street and certain intersecting cross streets within the study corridor that will provide a Level or Service D (LOS D) or greater for all intersection approaches under 2006 30th-highest-hour traffic volume loadings.

Table 4. Recommended Improvements

12th Street -

Signal timing modifications only.

No geometric improvements necessary to maintain LOS D or greater.

18th Street -

Signal timing modifications only.

No geometric improvements necessary to maintain LOS D or greater.

24th Street -

Add exclusive right-turn lane to NB, EB, and WB approaches and provide exclusive/shared dual left-turn lanes on SB approach. This will require directional separation for NB and SB movements.

25th Street -

Signal timing modifications only.

No geometric improvements necessary to maintain LOS D or greater.

30th Street -

Widen NB and SB approach to provide exclusive right-turn lane on both approaches.

33rd Street -

Add exclusive right-turn lane to NB approach and increase length of exclusive right-turn lane on SB approach.

Modify mall entrance so that NB and SB left-turn lanes are directly opposite each other. Increase storage capacity (throat length) of mall approach, if possible.

36th Street -

Add exclusive right-turn lane to SB and EB approaches. (current preliminary plan)

Signal capacity and Level of Service analysis assumes an ideal saturation flow rate of 1900 vehicles per hour of green time per lane and assumes 2.0 sneakers at the end of each permitted left-turn movement.

Background cycle length is anticipated to be approximately 105 seconds.

No assumption made for closing certain existing commercial drives and re-routing traffic to signalized intersections.

No assumption made for constructing parallel routes or route segments adjacent to Broadway Street.

SPECIFIC FUTURE CONDITIONS

Desirable future conditions along the Broadway corridor shall be considered by the controlling agency when new developments are proposed along the corridor or when existing developments along the corridor undergo substantial changes. These “substantial changes” involve: (1) a change in land use or density, or (2) a 25% increase in floor area, employment, or traffic generation. These desirable future conditions may also be considered when accident experience at a specific location warrants their consideration. These desirable future conditions do not affect existing access drives where no substantial change is envisioned and where accident experience does not warrant their consideration. However, landowners are encouraged to comply.

Following is a list of improvements to be considered along the Broadway corridor. See appendix F using the legend in Table 5 for identified locations:

Table 5. DESIRABLE FUTURE CONDITIONS

A	COMBINE EXISTING DRIVEWAYS	J	TURN PROHIBITION
B	NARROW EXISTING DRIVEWAY(S)	K	BEST LOCATION FOR FUTURE DRIVEWAY WHEN CURRENTLY VACANT PROPERTY IS DEVELOPED
C	CLOSE EXISTING DRIVEWAY(S)	L	CURRENT CURB CUT GEOMETRY IS UNDESIRABLE
D	PROVIDE OR RETAIN ITERCONNECTION BETWEEN SITES	M	WIDEN EXISTING DRIVEWAY(S)
E	MAKE DRIVEWAY “RIGHT-IN, RIGHT-OUT”	N	CREATE TWO-WAY DRIVE FROM ONE-WAY DRIVE
F	PROVIDE SEPARATION OF DRIVEWAYS TO ADJOINING PROPERTIES	O	CREATE ONE-WAY DRIVE FROM TWO-WAY DRIVE
G	INSTALL NEW DRIVEWAY	P	DEFINE CURB - LEAVE OPEN FOR CIRCULATION
H	IMPROVE TURNING RADIUS	Q	RELOCATE DRIVE
I	REDUCE CONFLICTS BETWEEN DRIVE AND PARKING LOT		

APPENDIX A: TEAM RESPONSE TO PUBLIC COMMENTS

Team Response to Public Meeting 1 Comments

Many written responses were received following the Public Meeting held on 10 April 1997. The planning team evaluated all of the responses and have incorporated those which strengthened the achievement of the project goals. The following modifications to transportation, land use and aesthetic recommendations were made:

Transportation

- Confirmation that all of the new roads and road extensions suggested improve interconnections with the existing road network (Columbus Avenue between 30th and 36th, 39th Street between Broadway and Maine, 42nd Street between Columbus and Maine, 52nd Street north of Broadway and south to Maine, East Oak Street between 44th and 54th, and Maine Street east to 54th); although the alignments may be modified during the planning process.
- Realignment of the proposed extension of Maine Street east of 48th.
- Strong support for shared access, a reduced number of curb cuts, and use of side street intersections for left turns and crossing Broadway to enhance capacity and safety.

Land Use

- Mixed-use as illustrated on the map shall refer to a mix of uses including predominantly multi-family residential with commercial retail and office, developed in a comprehensive manner on sites larger than two acres, with limited access from Broadway and preferred access from cross streets and alleys, and generous landscaping to buffer adjacent residential uses and Broadway.
- Commercial use of the 900 Block north of Broadway to agree with the proposed downtown zoning; however, concern over the maintenance of the landmark-quality townhomes owned by Blessing Hospital in a use that will retain their structural integrity and character was identified as very important.
- Single-family residential use of the 1100 Block between the alley and Vermont Street.
- Single-family residential use of the 1300 Block between the alley and Spring Street.
- Single-family residential use of the 1600 and 1700 Blocks between the alley and Vermont Street; recommendation that the Prairie Farms Dairy should expand to the west along Broadway rather than south into a residential area.
- Commercial use of the southeast corner of 18th and Broadway; single-family residential use of the balance of the 1800 and 1900 Blocks between Broadway and Vermont Street.
- Strong confirmation of multi-family housing on undeveloped land north of Broadway between 26th and 28th Streets.
- Commercial use of the 2700, 2800, and 2900 Blocks of between Broadway and the alley; single-family use of the 2800 and 2900 between the alley and Vermont Street.
- Commercial use of the land east of the proposed 39th Street and south of Broadway south to a greenway/open space use along the creek.
- Open space use of the land northeast of the intersection of Broadway and the proposed 42nd Street.
- Open space and commercial use southeast of the intersection of Broadway and the proposed 42nd Street.
- Multifamily use of the land south of the commercial use in the 4400 Block of Broadway.
- Multi-family use northwest of the intersection of 52nd Street and the proposed extension of Maine Street.
- Business Park use of the land east of 54th Street north of the proposed commercial use north of Broadway.
- Multi-family use east of the commercial use east of 54th and south of the commercial south of Broadway.

Aesthetic Character

- Establishment of a greenway along Emery Creek (100-foot minimum width) to facilitate pedestrian and bicycle use.
- Confirmation of pursuing the goals of burying utility lines, strengthen the sign ordinance, and creating a landscaped easement along Broadway.
- Confirmation of establishment of sidewalks on both the north and south sides of Broadway.
- Confirmation of the recommendation to develop architectural, parking lot and landscape design guidelines.

Ament Engineering Associates, Inc. / JJR Incorporated Team

Team Response to Public Meeting 2 Comments

Many written responses were received following the Public Meeting held on 29 May 1997. The planning team evaluated all of the responses and have incorporated those which strengthened the achievement of the project goals. The following modifications to transportation, land use and aesthetic recommendations were made:

Transportation

- Although the need for 42nd Street was questioned by nearby residents, this new road continues to be recommended due to traffic analyses which support its ability to relieve traffic on Broadway.
- Realignment of the proposed extension of Maine Street east of 48th.
- Strong support for shared access, a reduced number of curb cuts, and use of side street intersections for left turns and crossing Broadway to enhance capacity and safety.

Land Use

- Mixed-use as illustrated on the map shall refer to a mix of uses including predominantly multi-family residential with commercial retail and office, developed in a comprehensive manner on sites larger than two acres, with limited access from Broadway and preferred access from cross streets and alleys, and generous landscaping to buffer adjacent residential uses and Broadway.
- Commercial use of the land east of the proposed 39th Street and south of Broadway south to an open space easement along the creek.
- Multi-family use east of the commercial use east of 54th and south of the commercial south of Broadway.

Aesthetic Character

- Establishment of an easement along Emery Creek (100-foot minimum width) to continue to buffer adjacent land uses, accommodate surface runoff in an open naturalistic drainageway, provide wildlife habitat; use of this easement as a multi-purpose trail will require additional planning - there is currently no community consensus since some factions support and others oppose this use.
- Confirmation of pursuing the goals of burying utility lines, strengthen the sign ordinance, and creating a landscaped easement along Broadway.
- Encourage the landscaped parkway character of 42nd Street.
- Confirmation of establishment of sidewalks on both the north and south sides of Broadway.
- Confirmation of the recommendation to develop architectural, parking lot and landscape design guidelines.

Ament Engineering Associates, Inc. / JJR Incorporated Team

Team Response to Public Meeting 3 Comments

Several written responses were received following the Public Meeting (presentation format) held on 26 June 1997. The planning team evaluated all of the responses and have incorporated those which strengthened the achievement of the project goals. The following modifications to transportation, land use and aesthetic recommendations were made:

Transportation

- Although the need for 42nd Street was questioned by nearby residents, this new road continues to be recommended due to traffic analyses which support its ability to relieve traffic on Broadway.

Land Use

- Mixed-use of the land between Broadway and the south alley, east of the commercial use at 18th to 20th Street.
- Mixed-use of the land northeast of the intersection of 33rd and Maine Streets.
- Commercial use of the land southeast of the intersection of 33rd Street and Emery Creek.
- Commercial use of the land north of Emery Creek and west of 36th Street.
- Commercial use of the land northeast of the intersection of 36th and Maine Streets.
- Commercial use of the land southwest of the intersection of the proposed 42nd Street and Emery Creek.
- Mixed-use of the land northwest of the intersection of the proposed 42nd Street and Broadway.
- Multi-family use of the land north of the intersection of the proposed 42nd Street and Emery Creek.
- Commercial use of the land along the northern project area boundary east and west of 48th Street.
- Mixed-use of the land southeast of the intersection of 63rd Street and Broadway.

Aesthetic Character

- Map modified to reflect establishment of a 100-foot minimum width conservation easement along Emery Creek and other creeks (centered on the creek).

Ament Engineering Associates, Inc./JJR Incorporated Team

APPENDIX B: BROADWAY CORRIDOR NEWSLETTERS

Broadway Corridor Land Use and Access Management Plan
Quincy, Illinois



BROADWAY CORRIDOR NEWSLETTER

Study to Evaluate Land Use, Safety and Access Issues Along Broadway Corridor

The City of Quincy is undertaking a planning study to address the community's concerns surrounding land use, safety and vehicular access along the Broadway Corridor. The Broadway Corridor is 5.4 miles long, and is defined by 9th Street on the west and Sunrise Terrace at the 7200 block of Broadway on the east.

The competitively-selected consultant team of Ament Engineering & Associates, Inc (traffic and engineering) and Johnson Johnson & Roy/Inc (planning and public participation) have contracted with the City to accomplish the following goals:

- Provide the City of Quincy with a current and accurate analysis of present traffic, circulation, land use and zoning patterns and conditions.
- Involve the public in the planning process.
- Identify recommended traffic, access, land use and zoning ordinance modifications.
- Provide a document and plan drawing which summarizes the consensus vision regarding future development and access along the Broadway Corridor to guide the City, property owners, developers and adjacent residents.

Stakeholders Workshop

Following initial data gathering, inventory and analysis, an interactive forum known as the Stakeholders Workshop will involve the public in building consensus about the future of the Broadway Corridor. Stakeholders are identified as individuals who have a substantial stake in the outcome of the project, either personally or as representatives of a public or private sector group. During the Workshop, the consultants will ask the Stakeholders for an evaluation of the preliminary findings and brainstorm alternative scenarios for the Corridor's future. They will actively work with the Stakeholders to create alternatives and craft a consensus vision for the Corridor. The consultants will summarize the workshop's results, but the Stakeholders themselves will create and validate the Corridor Plan.

Public Involvement - Why Participate?

We will hold at least two Public Meetings. The first will give an overview of the project goals, present the findings of the inventory and analysis conducted by the consultant team, and allow you to have direct, early input. The second will provide a first-hand look at the Preliminary Future Land Use Plan and recommended traffic and zoning ordinance modifications. Additionally, at any point during the study, written or verbal comments can be directed to the project contact person, Chuck Bevelheimer.

Public Participation Program

The City has developed a public participation program to encourage community involvement in this important effort. A wide range of methods are being used for public outreach:

- *Stakeholders Workshop*
- *Public Awareness Campaign via the Local News Media*
- *Newsletters and Direct Mailings*
- *Public Meetings*

Public Meeting 1: 10 April 1997

7:00 - 9:00 p.m.

Quincy Mall Community Room

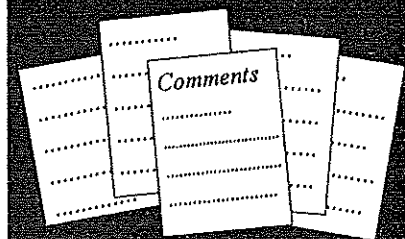
Public Meeting 2: 29 May 1997

7:00 - 9:00 p.m.

Quincy Mall Community Room

A public presentation of the Final Broadway Corridor Management Plan is anticipated in July 1997.

*We are listening -
let us know your concerns
and suggestions!*



Project Contact:

Chuck Bevelheimer
Director of Planning
City of Quincy
706 Maine - City Hall Annex
Quincy, Illinois 62301
217-228-4515

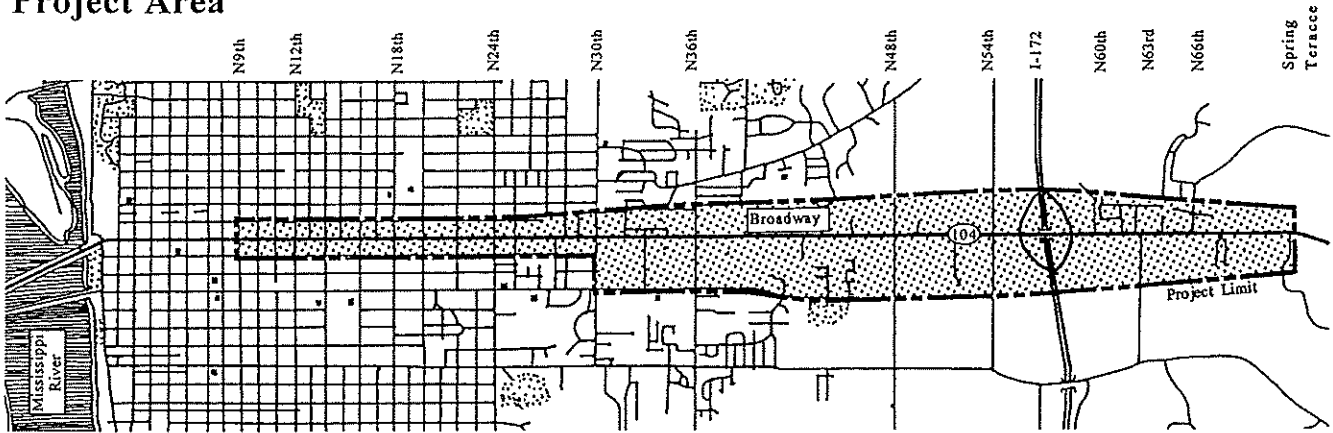
Questions & Answers

- Q. Who will be invited to participate in the Stakeholders Workshop?**
- A.** In order to maintain a manageable size and encourage give and take, a representative subset of the identified Stakeholders will be invited to participate. Invitees will include a sampling of individuals and representatives of organizations, agencies and groups. Even if you have not been invited to participate in the workshop, we recommend that you get involved by attending the public meetings for a clearer understanding of all

the issues. Please call 217-228-4515 to share your insights with the planning team.

- Q. What will be the products from this study?**
- A.** The Broadway Corridor Management Plan will have two parts. The first part, "Site Access Recommendations," will discuss traffic management issues. The second part will recommend changes in land use and zoning along Broadway. Both parts will be illustrated with maps and drawings.

Project Area



Project Sponsors:

This project is being jointly sponsored by the City of Quincy Departments of Planning, Engineering and Public Works; the Illinois Department of Transportation; the Great River Economic Development Foundation (GREDF); and the Adams County Highway Department.

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BROADWAY CORRIDOR NEWSLETTER

Stakeholders Workshop Provides Meaningful Input

As the City of Quincy embarks upon its planning study to address the community's concerns surrounding land use, safety and vehicular access along the Broadway Corridor, the Stakeholders Workshop was the initial event held to involve the community. The Workshop benefited from excellent participation, a broad range of expressed opinions, and a consensus building process which focused on the issues and developing a shared community vision for planning transportation, land use, and the aesthetic character of the Broadway Corridor.

Summary of Planning Goals

Transportation

- *Improve safety* by consolidating curb cuts, minimizing left turns, promoting frontage roads/shared access and defining appropriate speeds.
- *Improve connections* by developing key new streets such as 39th or 42nd; extending Maine Street to 54th Street; and extending Columbus Road west to 30th Street.
- Address issues such as *bus route* establishment, cross-street identification *signage*, redirection of *truck traffic* to perimeter routes, and *pedestrian and bicycle access*.
- Establish future road *right of way needs* and utility needs.

Land Use

- *Set a clear land use policy* for designating appropriate short and long term uses.
- Address issues of *scale, density, and compatibility* of adjacent uses.
- Target an *appropriate balance of commercial development* between Broadway and the Central Business District.

Character/Image

- *Establish gateways* to Quincy.
- Establish a program for *underground utility burial*.
- Develop architectural, landscape, parking, signage and lighting *design guidelines* for new and existing development.
- Focus on the evaluation of both the functional and aesthetic design of proposed developments during the *site plan review* process.
- Create a *greenway corridor* along Emery Creek.
- *Preserve historic* character and structures.

Public Participation

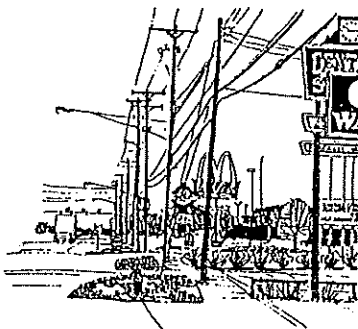
Public Meeting 1:
10 April 1997
7:00 - 9:00 p.m.
Quincy Mall Community Room

Public Meeting 2:
29 May 1997
7:00 - 9:00 p.m.
Quincy Mall Community Room

Final Presentation
July 1997
7:00 - 9:00 p.m.
Quincy Mall Community

Project Contact:

Chuck Bevelheimer
Director of Planning
City of Quincy
706 Maine Street - City Hall Annex
Quincy, Illinois 62301
217-228-4515



Before

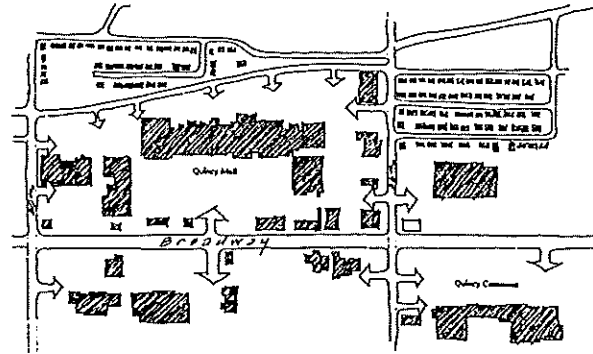


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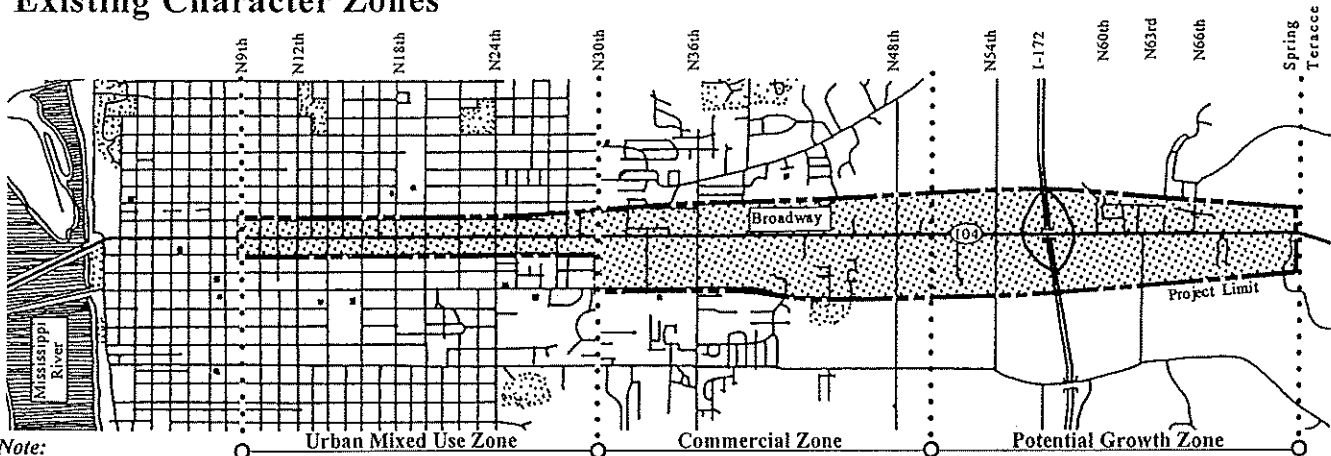
Questions & Answers

- Q. What types of information will be covered at the first Public Meeting?**
- A.** The first Public Meeting will allow participants to review the initial analysis and maps produced by the consultant team, along with a preliminary land use plan drawing resulting from input received during the Stakeholders Workshop. Members from the traffic and land use planning team (the City of Quincy, the Illinois DOT, the GREDF, the Adams County Highway Department, and the AEA/JJR team) will be available to address questions and receive input. Written comments addressing the content of the first public meeting can be hand-delivered or mailed by 17 April 1997 to Chuck Bevelheimer.



Commercial Zone
 Example of potential traffic access modifications.

Existing Character Zones



Note:

The existing character of the corridor changes significantly within the project area; thus, recommendations will need to address these differences.

- relatively small scale compact residential/commercial mix
- shallow setbacks with alley access
- converted homes to businesses
- parking to side and rear
- segments with street trees
- 30-35 mph speed limit

- large lot commercial development
- large parking lots
- large distance between buildings
- national chain/franchise development
- lack of street trees
- 35-45 mph speed limit

- predominantly rural character
- existing development generally large lot
- 45-55 mph speed limit

AEA/JJR Team

City of Quincy
 Department of Planning
 706 Maine Street - City Hall Annex
 Quincy, Illinois 62301

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BROADWAY CORRIDOR NEWSLETTER

Public Meeting Invites Citizen Input

The first of three public meetings was held on 10 April 1997, providing citizens with the opportunity to participate in the Broadway Corridor planning process. This meeting was part of the ongoing process to address the community's concerns surrounding land use, safety and vehicular access along the Broadway Corridor. The consultant team presented the project goals, the results of the Stakeholders Workshop, the inventory and analysis, the Land Use Plan and a summary of the Preliminary Access Management Plan.

The Public Meeting benefited from excellent attendance, in spite of adverse weather conditions, and a broad range of expressed opinions. In general, citizens support the proposed extension of Maine Street from 48th Street to 54th Street; the extension of Columbus Avenue behind Quincy Mall; and a north/south access road between Broadway and Maine Street east of Quincy Commons and west of Cardinal Terrace. Citizens are also in favor of the proposed aesthetic enhancement recommendations including the creation of a greenway along Emery Creek; the burial of overhead utilities; and the development of design guidelines for architecture, landscaping, signs and lighting. Land use issues, primarily related to residential areas along the corridor, received a wide range of feedback. Some believe the residential areas should remain intact, while others prefer that they be redeveloped for commercial use. The valuable input on all of these issues is being incorporated into the next phase of the planning process, and will be available for review during the second public meeting.

Preliminary Recommendations

Land Use and Zoning

A land use plan identifies appropriate land uses for an area. Zoning is the means by which the land use plan for a community is implemented. Zoning serves to define the type of development that is appropriate within designated land use areas, and helps ensure adequate and desirable locations for housing, employment, shopping, education and recreation.

As recognized by Quincy's citizens, prominent areas of the downtown offer a mixture of uses and a high level of aesthetic appeal. Where appropriate along the Broadway Corridor, a mixed use approach to land use and zoning would make it possible to live, work, shop and enjoy leisure activities within a walkable or relatively short distance, improving the quality of life for all. The success of a mixed-use area depends upon the size, appearance, and placement of buildings, and upon how well different uses work with each other. These are all matters which can be addressed through zoning codes and design guidelines.

Access Management

Control of access along Broadway is necessary to provide efficient and safe highway travel, and to utilize the full potential and intent of the highway. Access management addresses the problems of congestion, capacity loss and accidents without providing additional traffic lanes. The principles of access management include:

- Provide side or rear street access whenever possible
- Provide safe spacing of signalized and unsignalized intersections, corner clearances and median breaks
- Provide joint or shared, and cross access between adjacent properties
- Align access drives on opposite sides of a thoroughfare
- Minimize commercial strip development
- Provide at least two points of access to residential or commercial areas
- Provide suitable pedestrian, transit and emergency vehicle access
- Prohibit direct access to Broadway from individual residential or commercial units if alternate access is available

Public Participation

Public Meeting 2:

29 May 1997

7:00 - 9:00 p.m.

Quincy Mall Community Room

Final Presentation

26 June 1997

7:00 - 9:00 p.m.

Quincy Mall Community Room

Project Contact

Chuck Bevelheimer

Director of Planning

City of Quincy

706 Maine Street - City Hall Annex

Quincy, Illinois 62301

217-228-4515

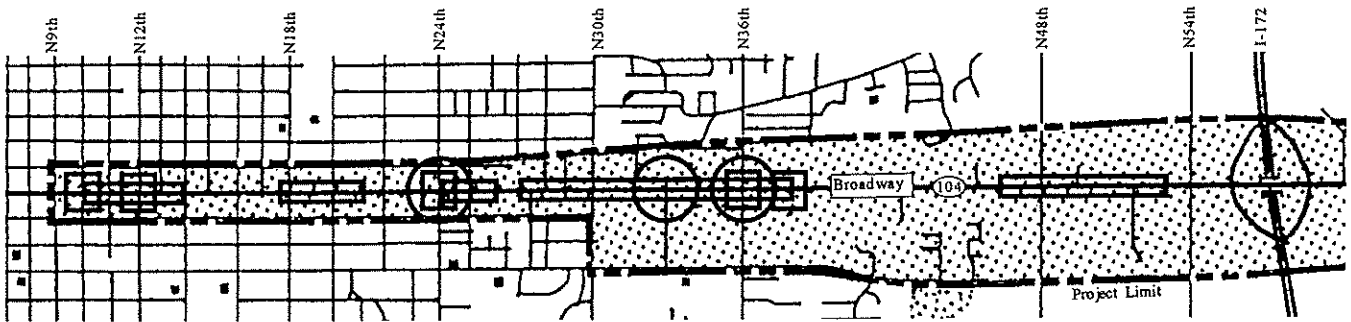
Questions & Answers

- Q. What type of information will be covered at the second Public Meeting?
- A. The second Public Meeting will allow participants to review the revised Land Use maps and Access Management Plan, which are a result of input received from the first Public Meeting and Stakeholders Meeting. In addition, proposed zoning code changes will be presented. Members from the traffic and land use planning team (the City of Quincy, the Illinois DOT, the GREDF, the Adams County Highway Department, and the AEA/JJR Team) will be available to address questions and receive input. Written comments addressing the content of the second public meeting can be hand-delivered or mailed by 13 June 1997 to Chuck Bevelheimer.



Citizens provide valuable input at Public Meeting One.

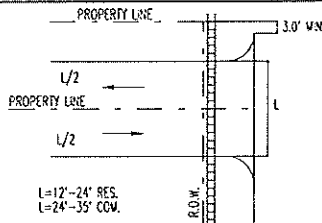
Access Management Evaluation



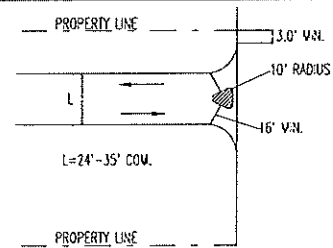
LEGEND:

- Intersections where improvements are recommended as a result of year 2006 traffic volumes
- Intersections where accident rates exceed critical values
- ▭ Roadway segments where accident rates exceed critical values

EXAMPLES OF ACCESS MANAGEMENT MODIFICATIONS



Shared Driveway



Right In/Out Driveway

Ament Engineering Associates, Inc./
JJR Incorporated Team

City of Quincy
Department of Planning
706 Maine Street - City Hall Annex
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APPENDIX C: SUMMARY OF EXISTING AND APPLICABLE ZONING

Broadway Corridor Land Use and Access Management Plan
Quincy, Illinois

Summary of Existing and Applicable Zoning

District	Specific District	Description	Allowable Uses
RU - Rural	RU1	Rural District	<p>Residential</p> <p style="padding-left: 20px;">Rural character single-family dwelling</p> <p>Recreation and Social Activities</p> <p style="padding-left: 20px;">Typical uses include trails, parks, country clubs, stables</p> <p>Agricultural Uses</p> <p style="padding-left: 20px;">Typical uses include farms, green houses, farm stands and nurseries</p> <p>Religious Uses</p> <p style="padding-left: 20px;">Typical uses include churches, convents, monasteries, rectories</p> <p>Educational Institutions</p> <p style="padding-left: 20px;">Typical uses include private and public schools</p>
R - Residential	RS	Single - Family District	<p>Residential Uses</p> <p style="padding-left: 20px;">Single-family dwellings based on lot size and other development criteria</p>
	R1A	Single - Family District	
	R1B	Single - Family District	
	R1C	Single - Family District	<p>Recreational and Social Facilities</p> <p style="padding-left: 20px;">Typical uses include country clubs, golf courses, parks and towers less than 35 feet</p> <p>Educational Institutions</p> <p style="padding-left: 20px;">Public and private schools with similar curriculum to public schools</p> <p>Public and Governmental Land and Buildings</p> <p style="padding-left: 20px;">Publicly owned and operated community buildings e.g. libraries</p>
	R2	Two - Family District	All uses permitted in RS, R1A, R1B and R1C, and in addition:

District	Specific District Description	Allowable Uses
		<p>Residential Uses</p> <p>Two-family dwellings</p>
R3	Multi - Family District	<p>All uses permitted in the R2 district, and in addition:</p> <p>Residential Uses</p> <p>Residential uses expand to boarding houses, group homes, lodging houses, multiple dwellings, tourist homes</p> <p>Recreational and Social Facilities</p> <p>Typical uses include private clubs, except skeet and gun clubs, fraternities or sororities</p> <p>Health, Medical & Other Charitable Institutions</p> <p>Typical uses include hospitals, not-for-profit charitable, educational, religious or philanthropic institutions and nursing, convalescent or rest homes</p>

District	Specific District Description	Allowable Uses
Neighborhood NR - Residential		<p>Purpose: The neighborhood residential districts are established as general residential districts which provide for a wide variety of dwelling accommodations.</p> <p>The NR2 district, additionally allows selected commercial uses.</p> <p>These districts are considered particularly appropriate for, but are not limited to, undeveloped areas of multiple acres intended for residential use, for deteriorating residential areas and for areas of transition between nonresidential areas and single-family areas.</p>
	Neighborhood Residential NR1 District	<p>Residential Uses</p> <p>Uses include a range of single-family, two-family and multiple-family dwellings not exceeding six units in any individual dwelling unit.</p>
	Neighborhood Residential NR2 District	<p>All uses permitted in the NR1 district, provided that the sale of alcoholic beverages shall not be permitted except by special permit, in addition to up to 10% of the land to be used for the type of commercial development allowed in the C1B category.</p> <p>Residential Uses</p> <p>Residential uses expand to group homes or half-way houses and multiple dwellings regardless of the number of units.</p> <p>Sale of Goods and Products Primarily at Retail</p> <p>Neighborhood scale uses such as bakeries, drug stores, gift shops, newsstands and restaurants</p> <p>Service Uses</p> <p>Neighborhood scale uses such as barber shops and dry cleaners</p>

District	Specific District Description	Allowable Uses
NR2	Neighborhood Residential District (Continued)	<p data-bbox="884 272 1188 305">Educational Institutions</p> <p data-bbox="963 315 1402 347">Dance and music schools / studios</p> <p data-bbox="884 396 1339 428">Health, Medical & Care Institutions</p> <p data-bbox="963 438 1499 470">Medical / dental related clinics and offices</p> <p data-bbox="884 519 1308 552">Offices Involving No Retail Sales</p> <p data-bbox="963 561 1808 634">Typical uses include accountant's offices, attorney's or law offices, Chamber of Commerce, real estate, insurance agencies.</p> <p data-bbox="884 683 1358 716">Special uses: Special permit required</p> <p data-bbox="963 725 1856 800">Typical uses include day care centers, nursing homes, bed & breakfast homes.</p>

District	Specific District Description	Allowable Uses
C - Commercial	Limited Local Commercial C1A District	<p data-bbox="879 272 1094 305">Residential Uses</p> <p data-bbox="963 315 1465 347">Single-family and two-family dwellings.</p> <p data-bbox="879 399 1455 431">Sale of Goods & Products Primarily at Retail</p> <p data-bbox="963 441 1121 474">Very limited</p> <p data-bbox="879 526 1188 558">Service Uses as Follows</p> <p data-bbox="963 568 1121 600">Very limited</p> <p data-bbox="879 652 1184 685">Educational Institutions</p> <p data-bbox="963 695 1398 727">Dance and music schools / studios</p> <p data-bbox="879 779 1335 812">Health, Medical & Care Institutions</p> <p data-bbox="963 821 1497 854">Medical / dental related clinics and offices</p> <p data-bbox="879 977 1304 1010">Offices Involving No Retail Sales</p> <p data-bbox="963 1019 1803 1094">Typical uses include accountant's offices, attorney's or law offices, Chamber of Commerce, real estate, insurance agencies.</p> <p data-bbox="963 1104 1850 1221">Towers less than 50 feet in height and located on the subject property not less than the tower height plus 5 additional feet from the nearest adjacent property line</p>

District	Specific District Description	Allowable Uses
C1B	Limited Local Commercial District	<p>Uses permitted in RS, R1A, R1B, R1C, R2, R3 and C1A, the following uses shall be permitted in addition to expanded uses and the sale of alcohol by special permit only.</p> <p>Sale of Goods and Products Primarily at Retail</p> <p>Expanded uses include larger scale uses which draw upon regional markets such as carpet and rug stores, catalog, department, furniture, garden supply, hardware, paint and wall paper, retail outlet and toy stores.</p> <p>Service Uses</p> <p>Expanded uses include larger scale uses which draw upon regional markets such as animal hospitals, banks, blueprinting and Photostatting establishments, newspaper distribution agencies, radio service and repair shops and savings and loans.</p>
C1C	Washington Square District	<p>In addition to uses permitted in C1A and C1B, the following uses are permitted, but not uses incorporated in RS, R1A, R1B, R1C and R2 (primarily single and two-family dwelling units).</p> <p>Residential</p> <p>Multi-family residential uses</p> <p>Sales of Goods and Products Primarily at Retail</p> <p>C1 and C2 uses in addition to bars, cocktail lounges, restaurants with entertainment, taverns, parks, churches, community buildings and schools.</p>

District	Specific District Description	Allowable Uses
C2	Commercial District	R1A, R1B, R1C, R2, R3, C1A, and C1B uses in addition to:
		Sales of Goods and Products Primarily at Retail
		Expanded uses include very large scale uses such as automobile sales and service, farm supplies, swimming pool sales and service, package liquor stores.
		Service Uses
		Expanded uses include very large scale uses such as automobile rentals, new and used car dealerships, parking lots, tire shops.
		Miscellaneous Uses
		Circuses, carnivals and similar entertainment limited to seven consecutive days, and recycling centers.
C3	Planned Commercial District	Plan is subject to review and approval by the council to integrate appropriate commercial uses which serve residential neighborhoods.

District	Specific District	Description	Allowable Uses
	C4 & M1	Central Business District & Light Industrial District	<p>Commercial</p> <p>Commercial uses permitted in any C district, but not uses from RS, R1A, R1B, R1C, and R2 districts.</p> <p>Manufacturing</p> <p>The production, processing, cleaning, testing or repair of uses and products such as apparel, auto painting, electric appliances, paper products, sign painting, tools and hardware, wholesale and warehousing buildings.</p> <p>Storage and vehicle washing facilities in M1 district only.</p> <p>Public and Community Service</p> <p>Representative uses include bus terminals, recreation buildings, water reservoirs.</p> <p>Residential Uses</p> <p>Work related residences, multiple dwellings in C4 only, single- and two-family units established prior to the effective date in C4 only.</p>
M - Industrial	M1	Light Industrial District	See above
	M2	Heavy Industrial District	Any use except churches, hospitals, schools and dwellings (except resident watchperson/caretaker). Special provisions for junk yards, potentially toxic materials, and adult uses.
	M3	Planned Industrial District	Any use permitted in the M1 district subject to approval by the council.
L - Landmark Status			Designations indicate the local historic or architectural significance of a property.

District	Specific District Description	Allowable Uses
H - Historic District		Designations indicate the local historic or architectural significance of a property.
	Planned Development	Special permits may be acquired for uses including day care, hospitals, nursing homes, cemeteries, airports, greenhouses, clinics, private recreation, theater, offices, campgrounds

Maximum/Minimum Zoning Restrictions

District	Specific District	Description	Height Limit	Minimum Front Yard in Feet	Minimum Lot Width in Feet	Minimum Lot Area in Square Feet	
RU -	Rural	<i>RU1</i>	<i>Rural District</i>	2 1/2 stories or thirty-five feet	50	150	43,560
RE -	Resort	RE1	Resort District	2 1/2 stories or thirty-five feet	25	50	5,000
R -	Residential	RS	Single - Family District	2 1/2 stories or thirty-five feet	40	100	20,000
		R1A	Single - Family District	2 1/2 stories or thirty-five feet	30	90	10,000
		R1B	Single - Family District	2 1/2 stories or thirty-five feet	25	75	8,000
		<i>RIC</i>	<i>Single - Family District</i>	2 1/2 stories or thirty-five feet	25	60	6,000
		<i>R2</i>	<i>Two - Family District</i>	2 1/2 stories or thirty-five feet	25	60	6,000
		<i>R3</i>	<i>Multi - Family District</i>	2 1/2 stories or thirty-five feet	25	60	5,000
NR -	Neighborhood Residential	<i>NR1</i>	<i>Neighborhood Residential District</i>	3 stories or forty-five feet			
		NR2	Neighborhood Residential District	3 stories or forty-five feet			
C -	Commercial	<i>C1A</i>	<i>Limited Local Commercial District</i>	2 1/2 stories or thirty-five feet	25	none	none
		<i>C1B</i>	<i>Limited Local Commercial District</i>	2 1/2 stories or thirty-five feet	25	none	none
		C1C	Washington Square District		none	none	none
		<i>C2</i>	<i>Commercial District</i>	3 stories or forty-five feet	25	none	none
		<i>C3</i>	<i>Planned Commercial District</i>		120	none	none
		C4	Central Business District	10 stories or one hundred twenty feet	none	none	none
M -	Industrial	<i>M1</i>	<i>Light Industrial District</i>	4 stories or sixty feet	25	none	none
		<i>M2</i>	<i>Heavy Industrial District</i>	6 stories or seventy-five feet	25	none	none
		<i>M3</i>	<i>Planned Industrial District</i>		30	none	none

APPENDIX D: SUMMARY OF TRAFFIC DATA

List of Tables

Table A-1: Intersection Accident Data and Analysis

Table A-2: High Accident Location Analysis

Table A-3: Mid-block Accident Data

Table A-4: Mid-block Accident Summary

List of Figures

Figure A-1 : 1996 Average Daily Traffic

Figure A-2 : 2006 Average Daily Traffic

Figure A-3a: Levels of Service at Signalized Intersections (1996)

Figure A-3b: Levels of Service at Signal Intersections (2006)

Figure A-3c: Levels of Service at Signalized Intersection (2006 With Improvements)

Figure A-4 : Intersection Accidents (By Type)

Figure A-5 : Intersection Accidents (By Year and Location)

Figure A-6 : Daily Entering Volumes (By Year and Location)

Figure A-7 : Average Daily Traffic and Total Number of Accidents (By Location)

Figure A-8 : Mid-block Accidents (By Type)

Figure A-9 : Mid-block Accidents - 30th Street to 36th Street (By Type)

Figure A-10: Maps of Locations Where Accidents Exceed Critical Rate

FIGURE D-1

1996 AVERAGE DAILY TRAFFIC

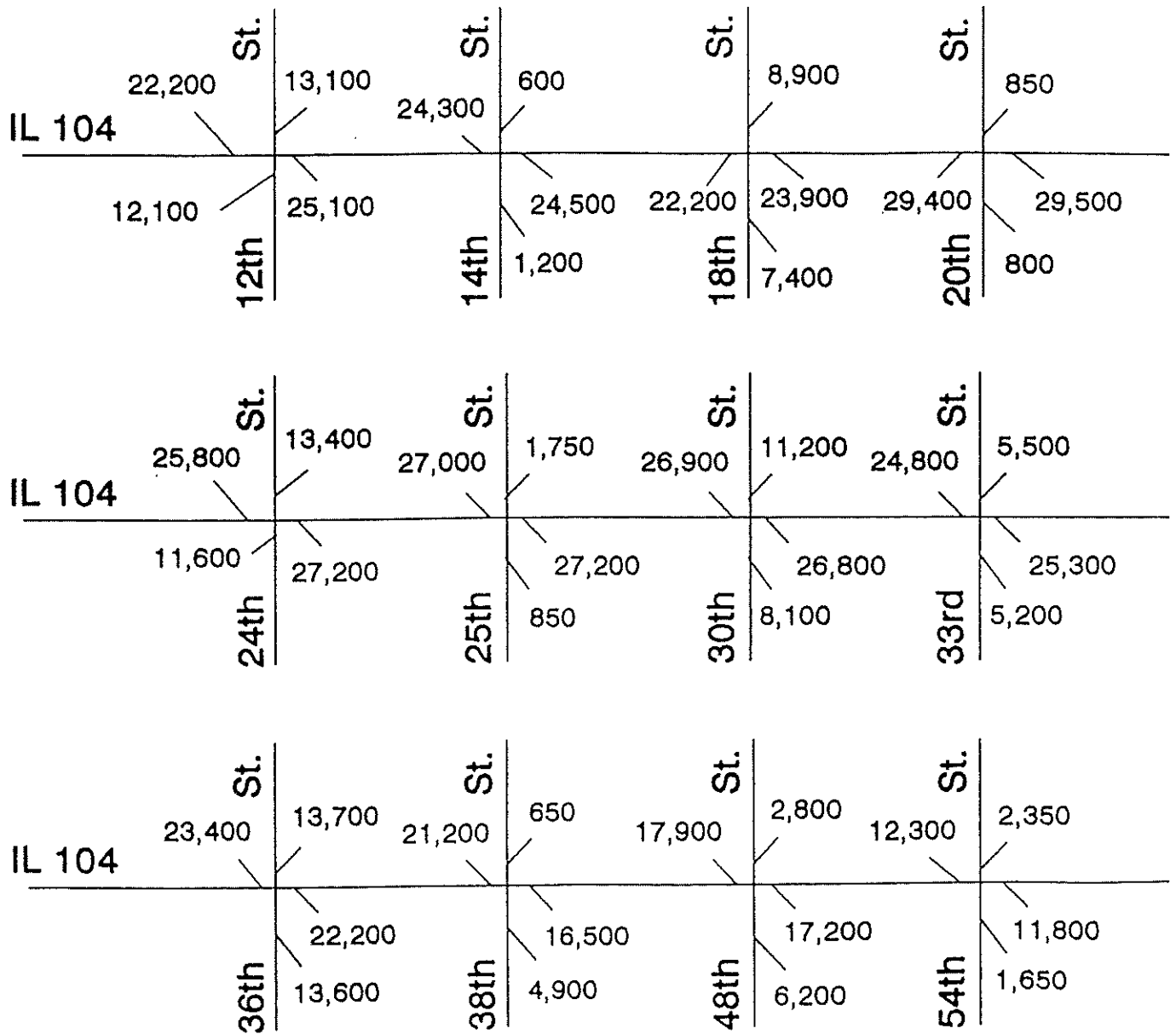


FIGURE D-2

2006 AVERAGE DAILY TRAFFIC

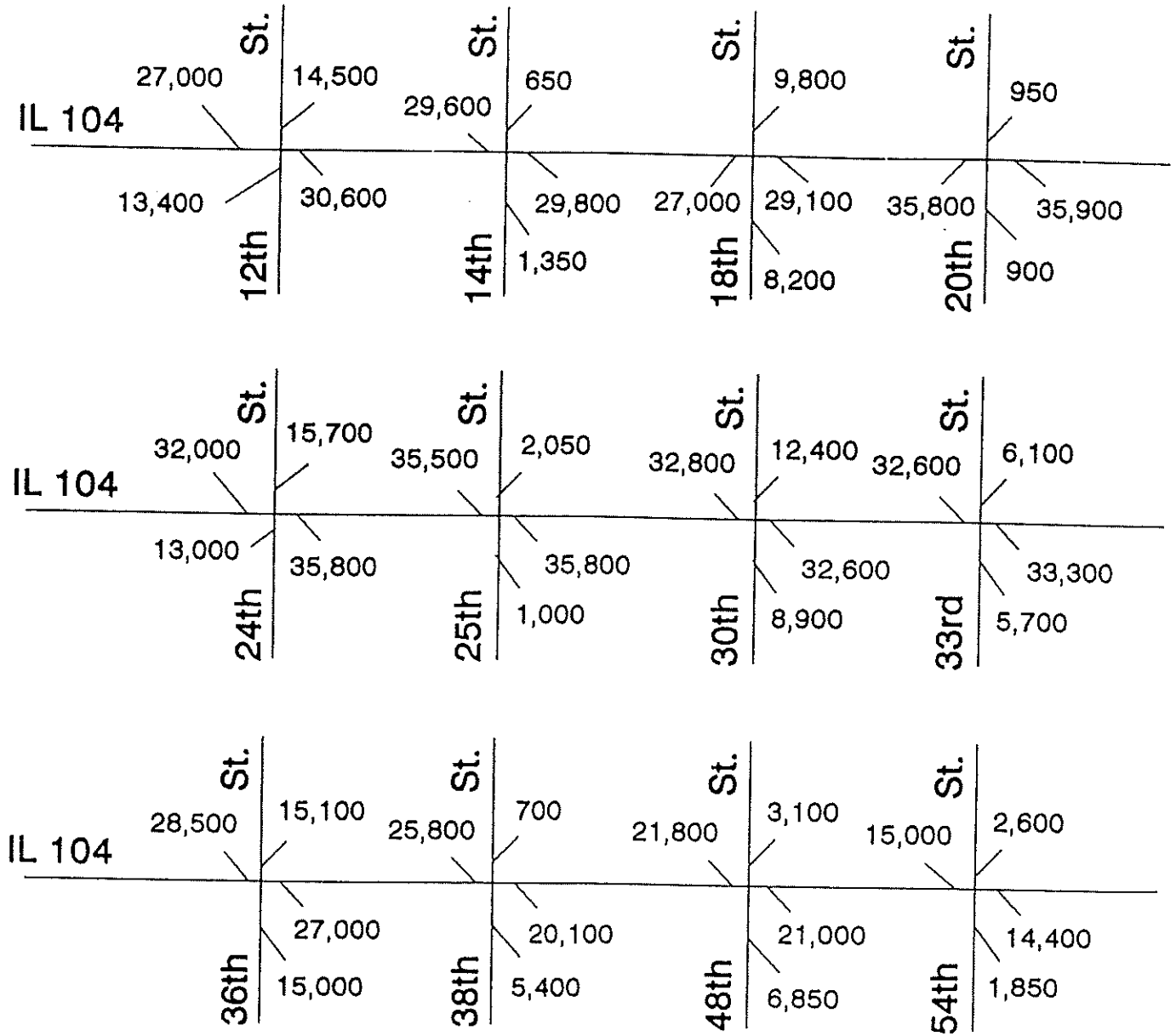
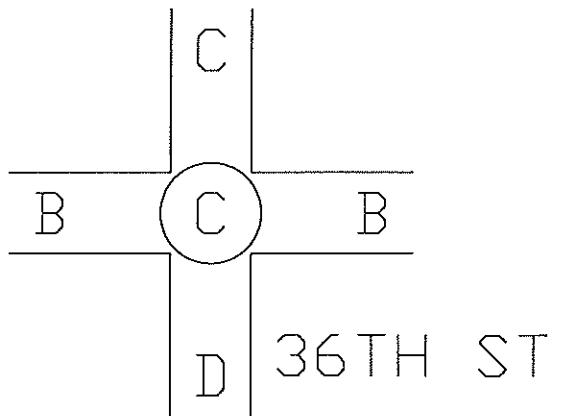
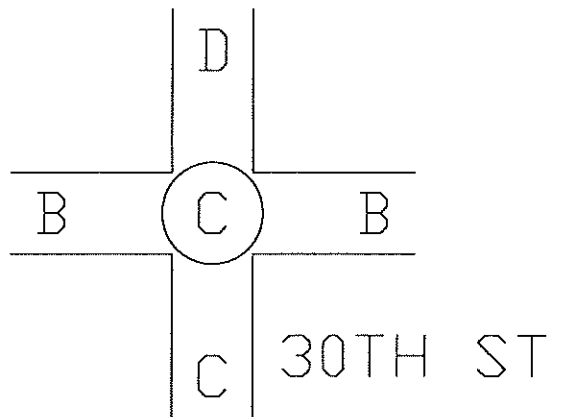
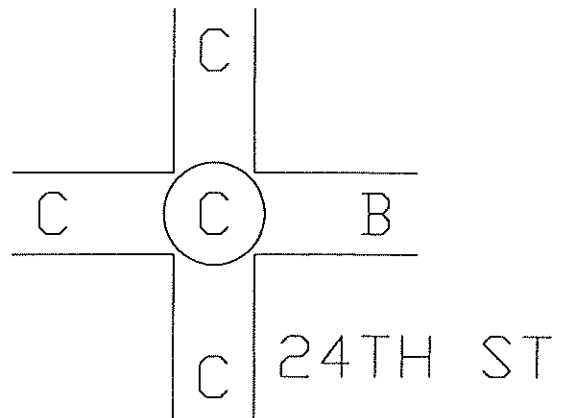
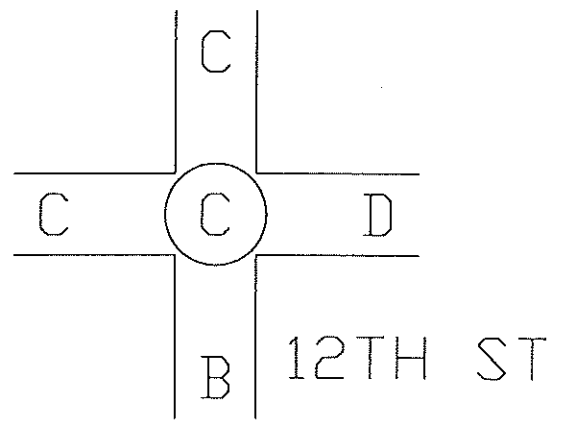
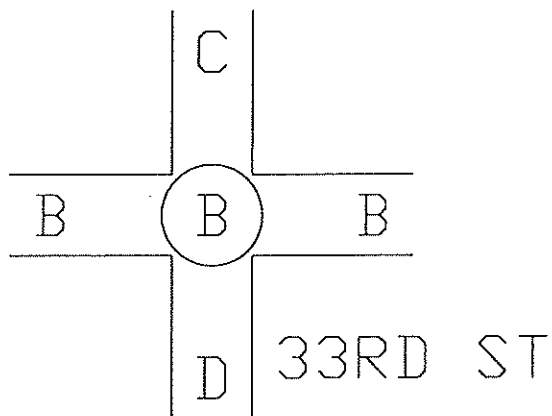
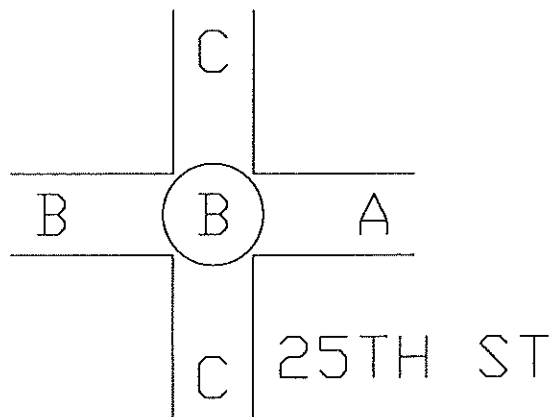
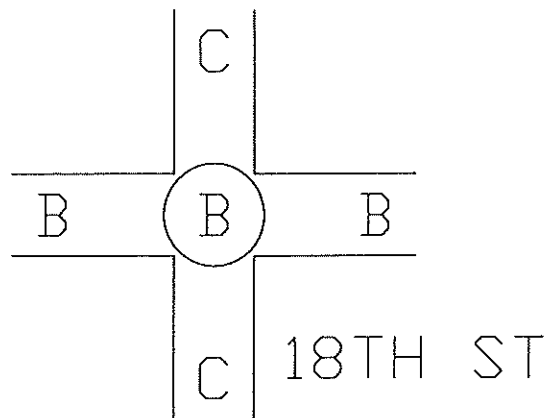
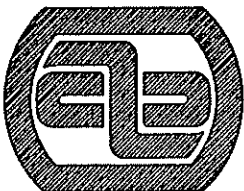


FIGURE D-3A
 LEVELS OF SERVICE
 AT SIGNALIZED INTERSECTIONS
 IN STUDY AREA
 1996 30TH HIGHEST HOUR
 TRAFFIC VOLUMES
 AND
 EXISTING CONDITIONS



Project No.
G1246LDS



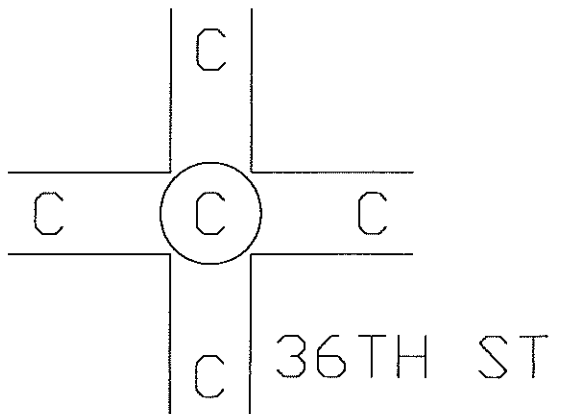
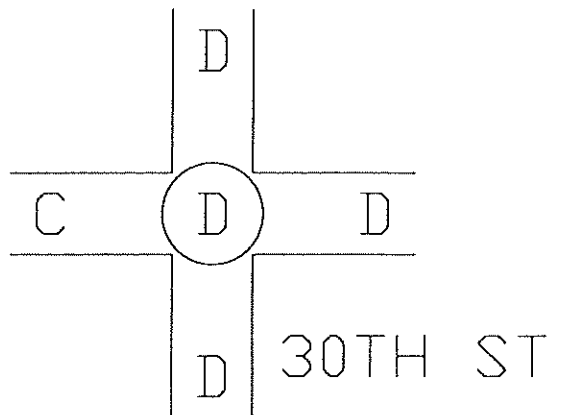
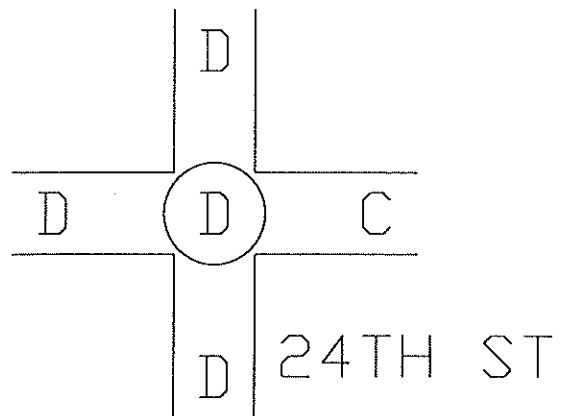
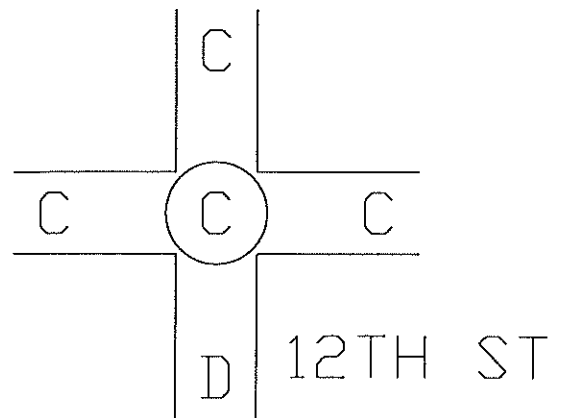
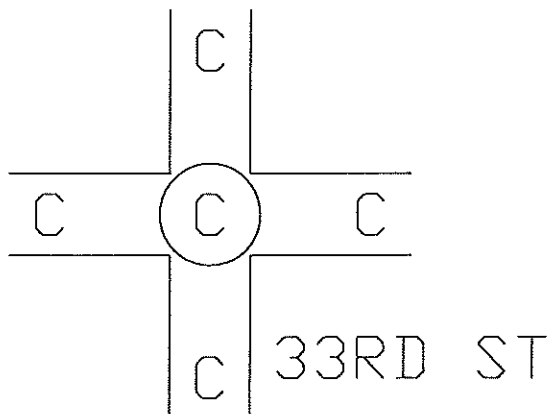
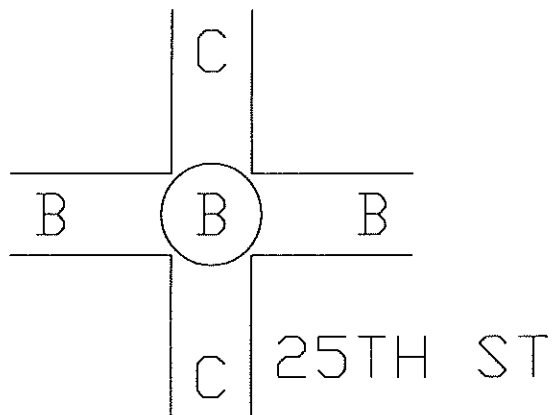
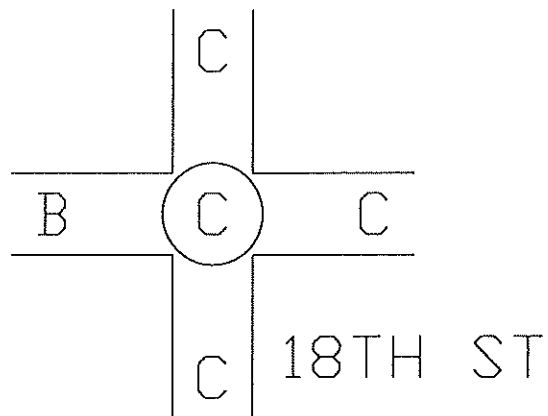
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 CEDAR RAPIDS, IOWA

Drawing Title:

BROADWAY CORRIDOR
 QUINCY, ILLINOIS

FIGURE D-3B
 LEVELS OF SERVICE
 AT SIGNALIZED INTERSECTIONS
 IN STUDY AREA

2006 30TH HIGHEST HOUR
 TRAFFIC VOLUMES
 AND
 EXISTING CONDITIONS



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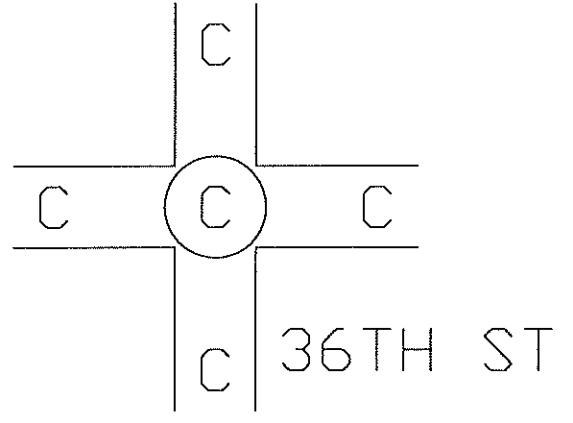
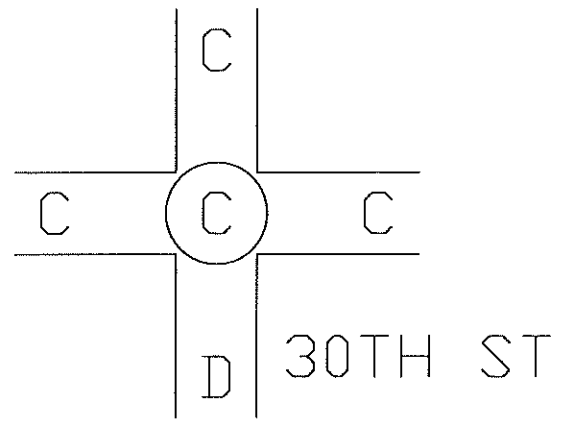
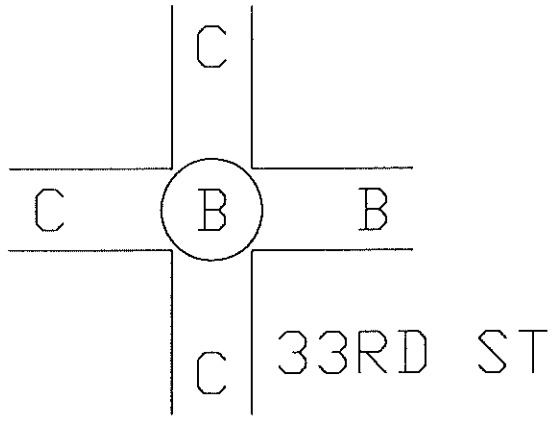
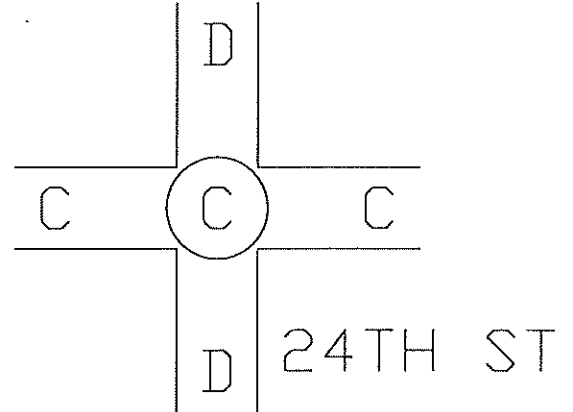
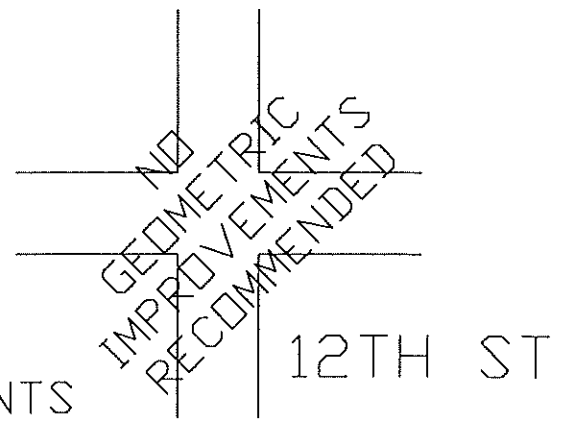
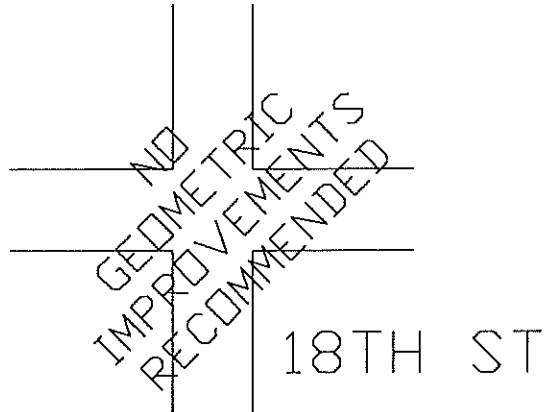
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BROADWAY CORRIDOR
 QUINCY, ILLINOIS

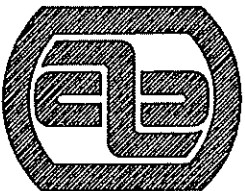
FIGURE D-3C
 LEVELS OF SERVICE
 AT SIGNALIZED INTERSECTIONS
 IN STUDY AREA

2006 30TH HIGHEST HOUR
 TRAFFIC VOLUMES

AND
 SELECTED GEOMETRIC IMPROVEMENTS



Project No.
 G1246LDS

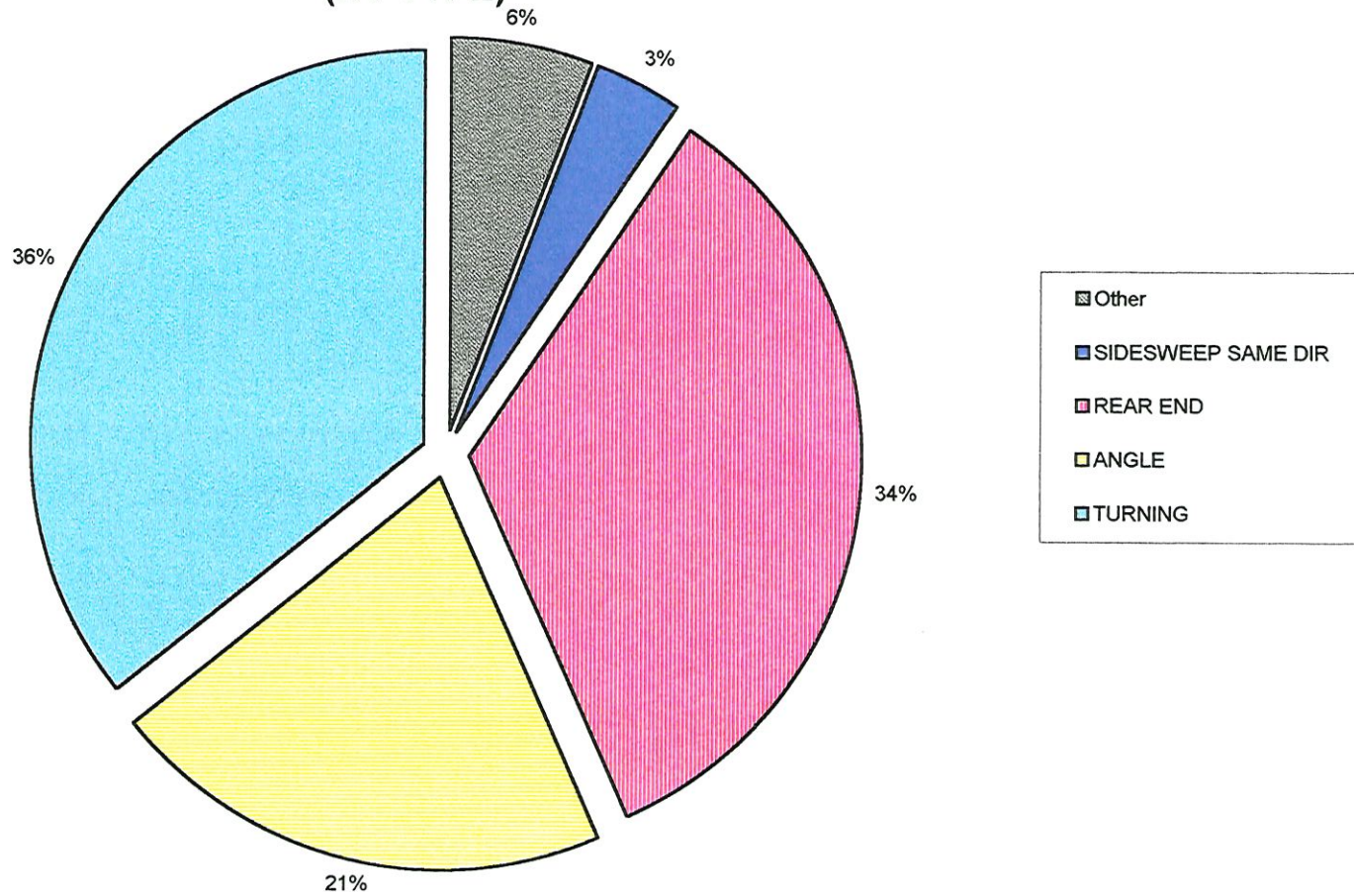


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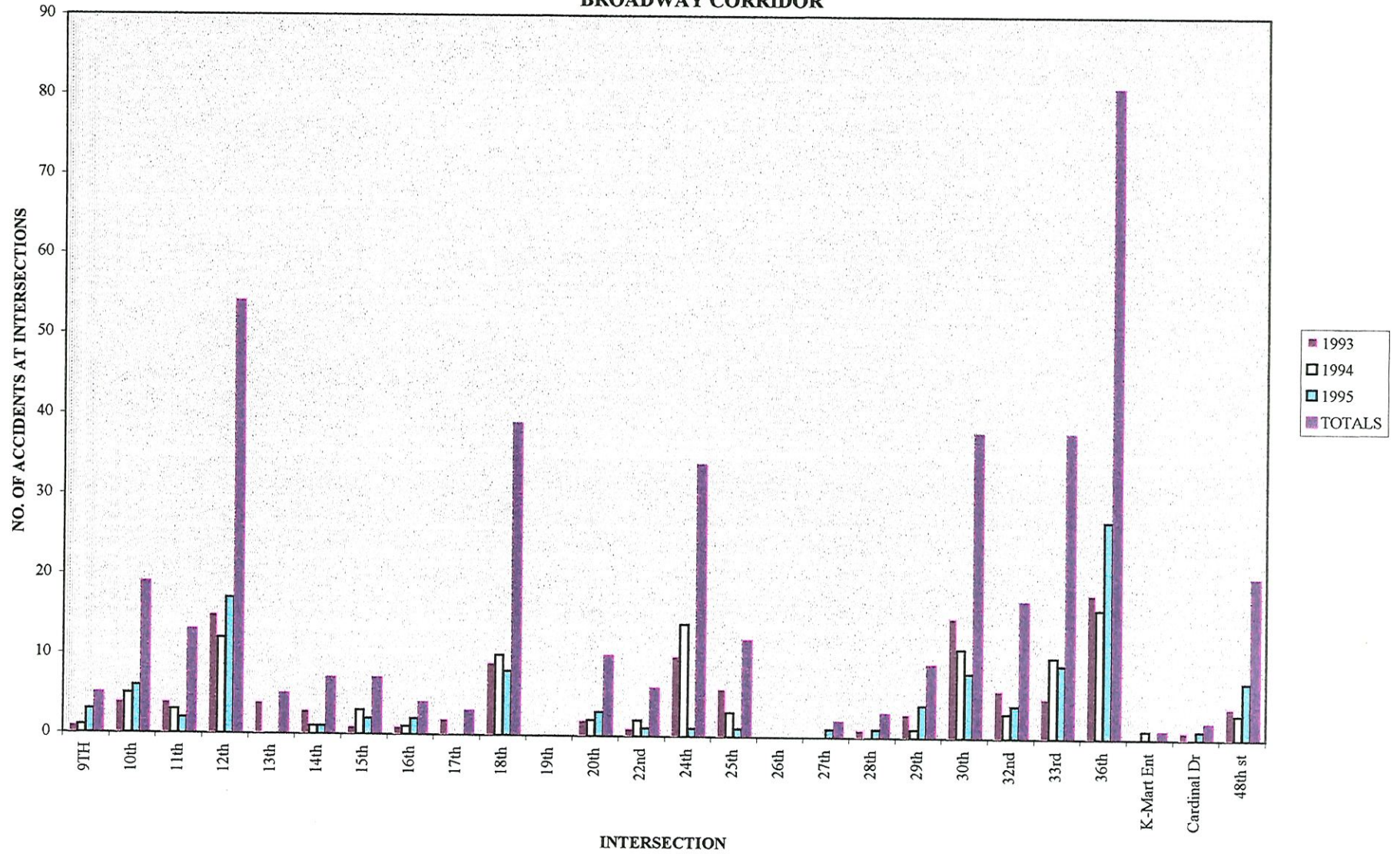
Drawing Title:

BROADWAY CORRIDOR
 QUINCY, ILLINOIS

FIGURE D-4
INTERSECTION ACCIDENTS (1992 - 1995)
BROADWAY CORRIDOR
(BY TYPE)



**FIGURE D-5
INTERSECTION ACCIDENTS
BROADWAY CORRIDOR**



**FIGURE D-6
DAILY ENTERING VOLUMES
BROADWAY CORRIDOR**

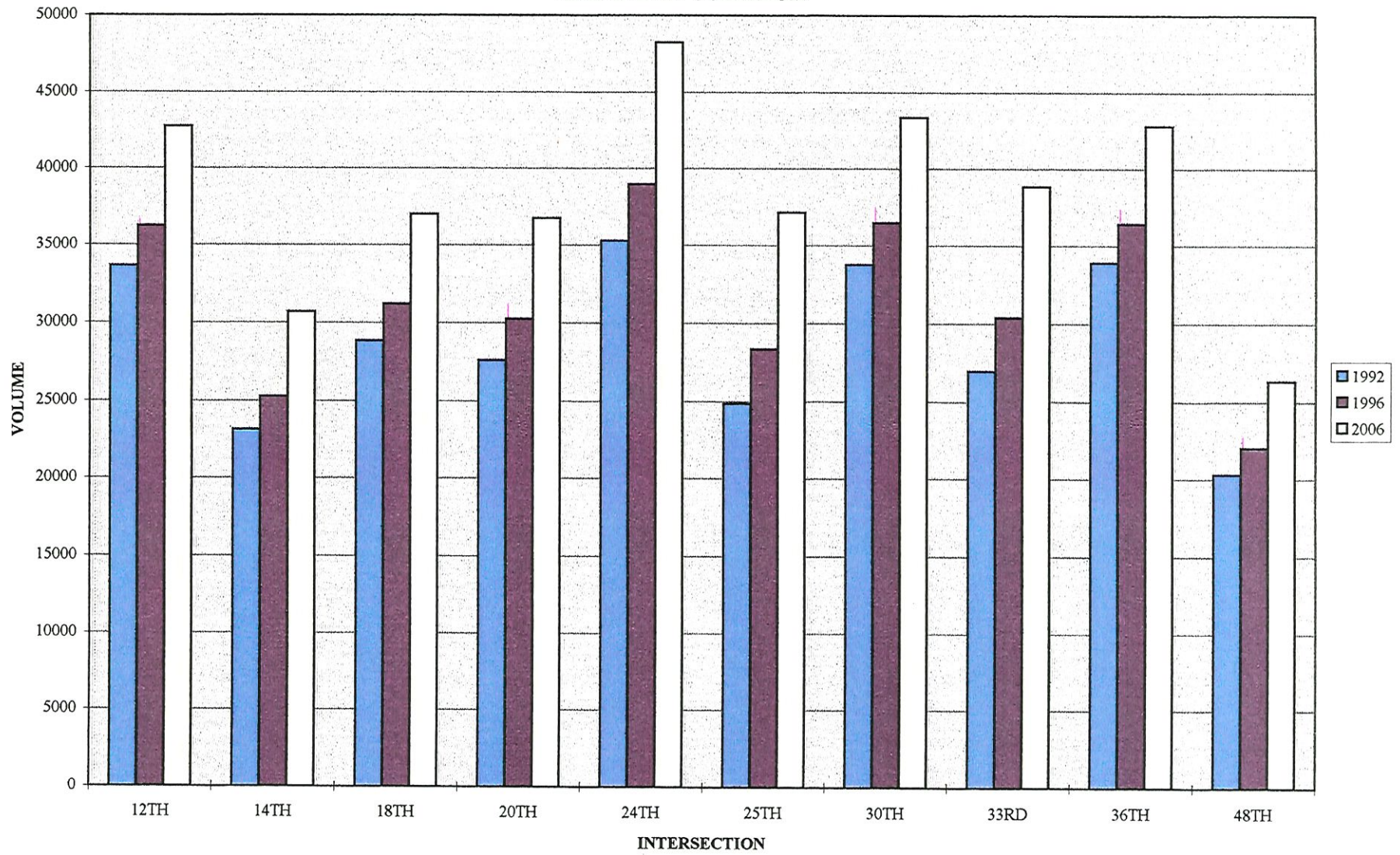
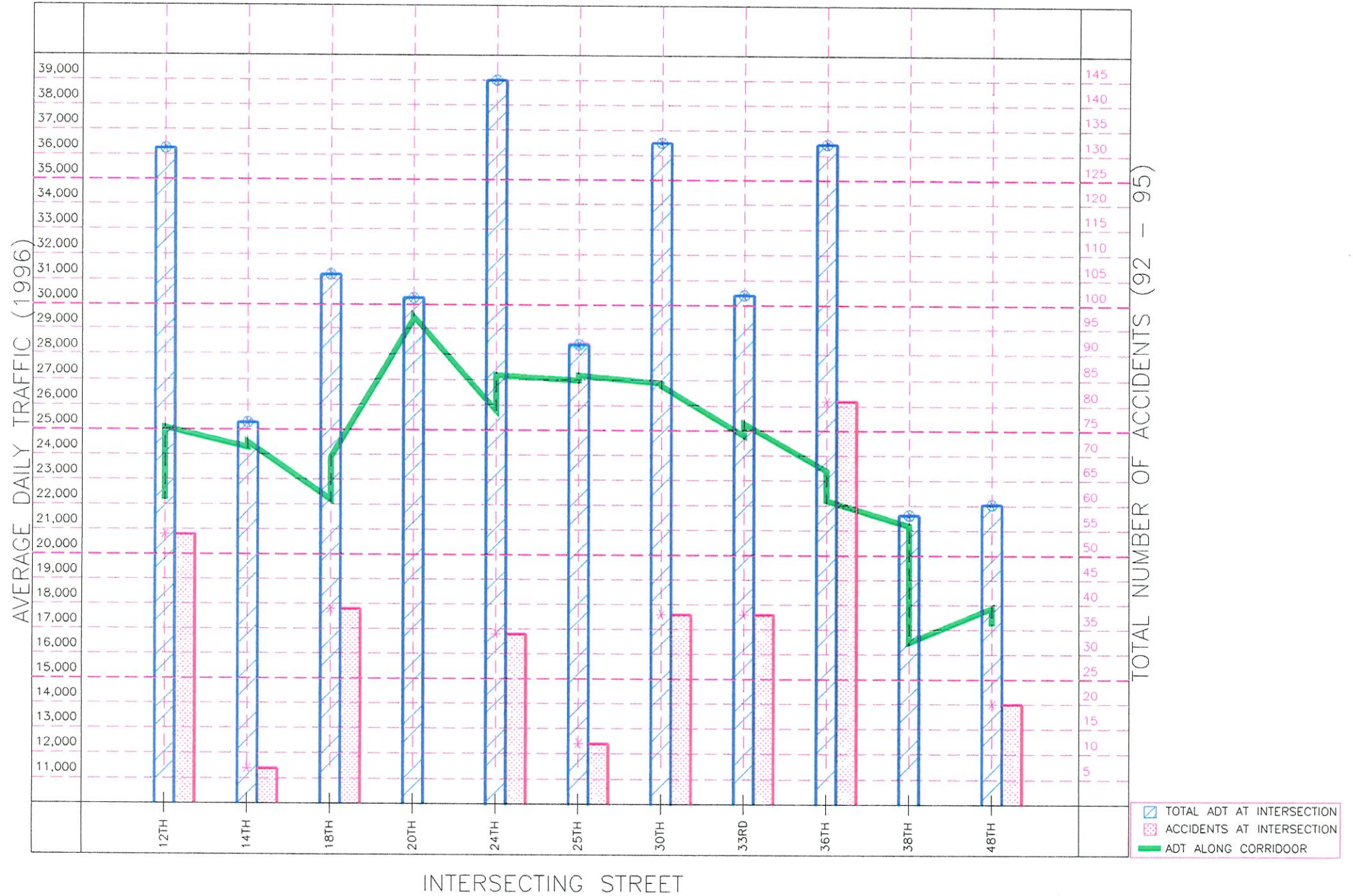


FIGURE D-7



**FIGURE D-8
MID-BLOCK ACCIDENTS
BROADWAY CORRIDOR (1992 - 1995)
(BY TYPE)**

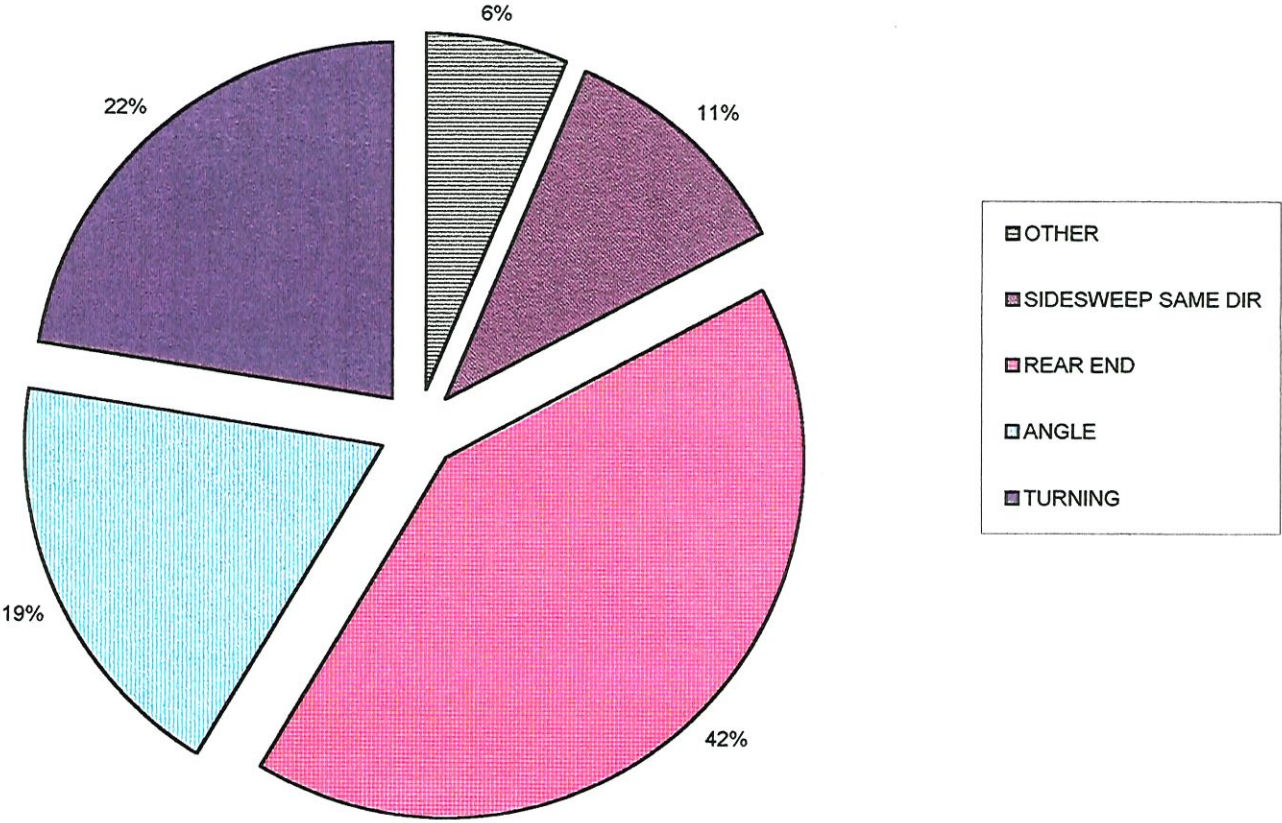
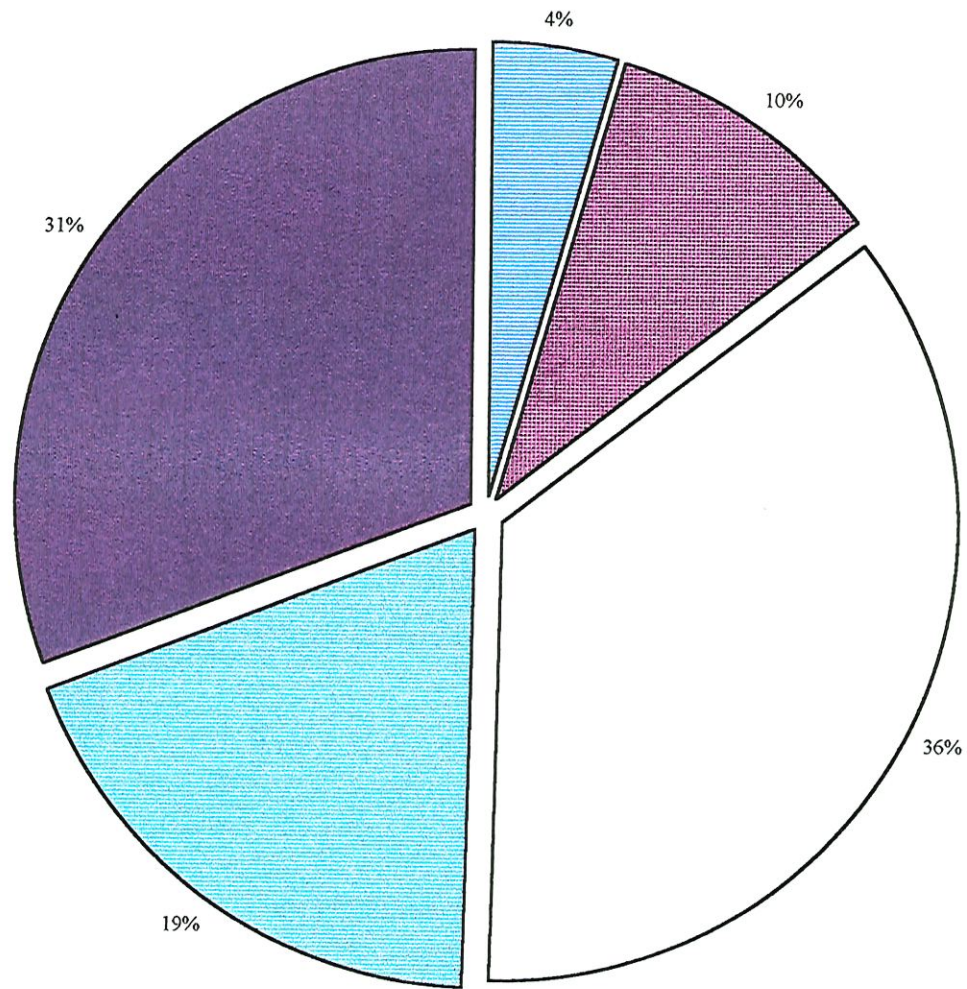


FIGURE D-9
MID-BLOCK ACCIDENTS (1992 - 1995)
BROADWAY CORRIDOR (30TH THROUGH 36TH)
(BY TYPE)



- OTHER
- SIDESWEEP SAME DIR
- REAR END
- ANGLE
- TURNING

Figure D-10: Map of Locations Where Accident Rates Exceed Critical Values

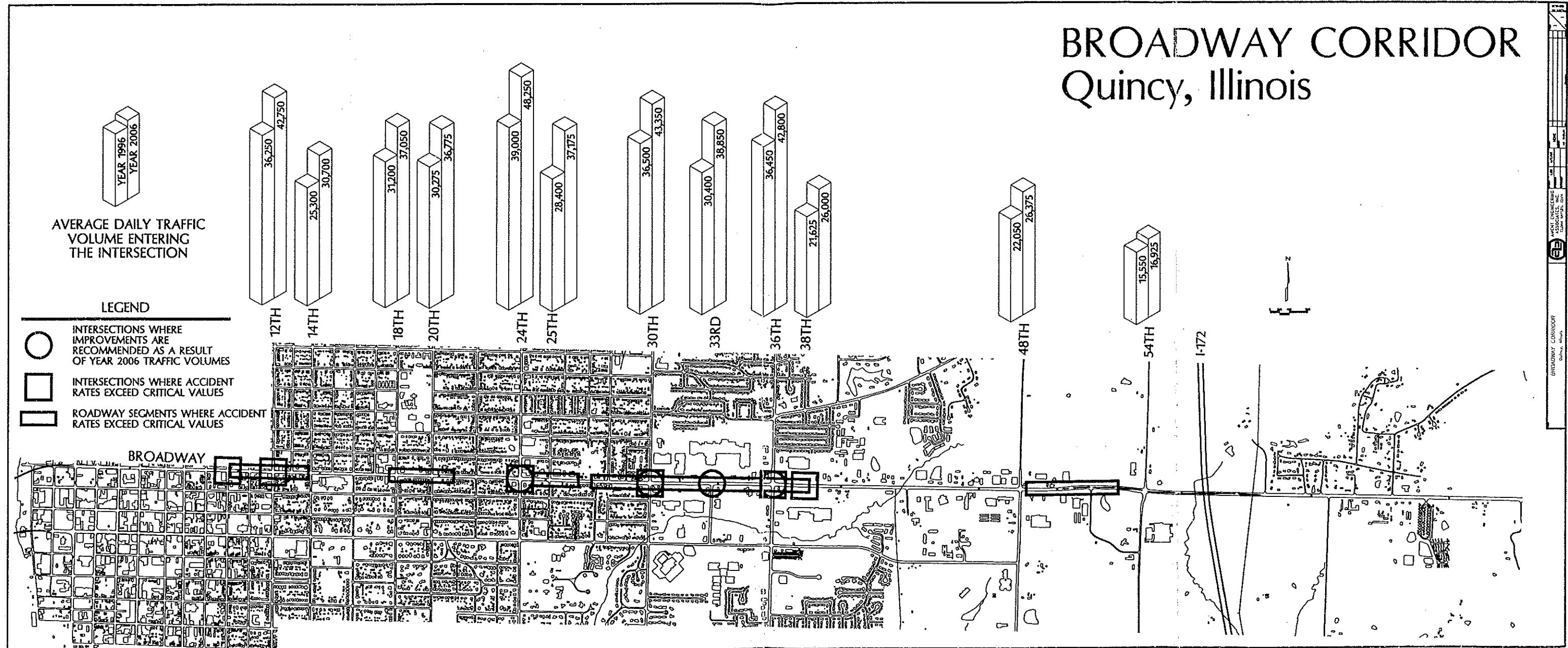


TABLE D-2 BROADWAY HIGH ACCIDENT LOCATION ANALYSIS

STREET	YEAR	TOTAL ACCIDENT	# VEH. DIR					TOTAL	CONDITION				HOUR			DAY								
			E	W	N	S	O		WET	DRY	ICE	O	8-11A	11-3P	3-7P	7P-	M	T	W	R	F	S	S	
10TH ST	1992	4	1	1	3	1		6		4									1	2				1
	1993	4		5		3		8		4			1							1	2			1
	1994	5	3		6	1		10		5			1		3	1	1	1	1	2				
	TOTALS	13	4	6	9	5	0	24	0	13	0	0	2	3	5	3	1	2	4	4	0	2	0	
	%		17	25	38	21	0	100	0	100	0	0	15	23	38	23	8	15	31	31	0	15	0	
12TH ST	1992	10	9	8	0	4		21	1	7	2		2	2	3	3	2	2	2	1	3	0	0	
	1993	15	9	5	6	6	1	27	2	13	0		2	6	2	5	1	1	2	2	3	4	2	
	1994	12	6	8	6	4		24	2	10	0		0	4	3	5	2	1	2	2	2	0	3	
	TOTALS	37	24	21	12	14	1	72	5	30	2	0	4	12	8	13	5	4	6	5	8	4	5	
	%		33	29	17	19	1	100	14	81	5	0	11	32	22	35	14	11	16	14	22	11	14	
24TH ST	1992	9	6	7	3	2		18	4	5	0		1	1	5	2	1	1	2	0	0	4	1	
	1993	10	8	7	1	5		21	2	8	0		1	5	3	1	0	0	0	1	5	3	1	
	1994	14	11	6	6	6		29	1	12	1		3	6	2	3	0	2	2	1	4	1	1	
	TOTALS	33	25	20	10	13	0	68	7	25	1	0	5	12	10	6	1	3	4	2	9	8	3	
	%		37	29	15	19	0	100	21	76	3	0	15	36	30	18	3	9	12	6	27	24	9	
30TH ST	1992	4	0	8	1	1		10	0	4	0		0	1	0	3	0	0	0	0	4	0	0	
	1993	15	13	3	6	10		32	8	6	1		0	8	3	4	6	4	1	0	2	0	2	
	1994	11	6	10	3	5		24	1	10	0		2	5	4	1	3	3	0	1	2	2	0	
	TOTALS	30	19	21	10	16	0	66	9	20	1	0	2	14	7	8	9	7	1	1	8	2	2	
	%		29	32	15	24	0	100	30	67	3	0	7	47	23	27	30	23	3	3	27	7	7	
33RD ST	1992	14	5	11	6	5	2	29	1	10	3		3	5	4	2	1	1	2	4	1	5	0	
	1993	5	1	5	5	1	0	12	2	3	0		1	4	0	0	0	3	1	0	1	0	0	
	1994	10	4	9	5	3	1	22	2	8	0		0	7	3	0	3	0	1	0	3	2	1	
	TOTALS	29	10	25	16	9	3	63	5	21	3	0	4	16	7	2	4	4	4	4	5	7	1	
	%		16	40	25	14	5	100	17	72	10	0	14	55	24	7	14	14	14	14	17	24	3	
36TH ST	1992	20	13	10	12	10	1	46	5	13	2		4	8	7	1	4	3	4	4	1	2	2	
	1993	18	20	5	8	3		36	5	11	1	1	0	12	3	3	3	1	4	0	5	3	2	
	1994	16	14	12	2	5		33	5	11	0		0	3	8	5	0	3	2	3	3	4	1	
	TOTALS	54	47	27	22	18	1	115	15	35	3	1	4	23	18	9	7	7	10	7	9	9	5	
	%		41	23	19	16	1	100	28	65	6	2	7	43	33	17	13	13	19	13	17	17	9	
TOTALS		196	129	120	79	75	5	408	41	144	10	1	21	80	55	41	27	27	29	23	39	32	16	
		%		32	29	19	18	1	100	21	73	5	1	11	41	28	20	14	14	15	12	20	16	8

**TABLE D-3 BROADWAY MID-BLOCK ACCIDENT DATA
(1995)**

TYPE OF INTER. CONTROL	LOCATION	OVETURNED	PEDESTRIAN	TRAIN	PEDALCYCLIST	ANIMAL	FIXED OBJECT	OTHER OBJECT	OTHER NON- COLLISION	PARKED VEHICLE	REAR END	HEAD ON	SIDESWEEP SMAE DIR	SIDESWEEP OPP DIR	ANGLE	TURNING	OTHER	TOTAL	FATALITY	P.I.	P.D.	TOTAL KILLED	TOTAL INJURED
	9TH-10TH										1							1					
	10TH-11TH												1					1					
	11TH-12TH				1						4	1						6					
	12TH-13TH										4				1	2		7					
	13TH-14TH										5				1			6					
	14TH-15TH																	0					
	15TH-16TH																	0					
	16TH-17TH					1					1			1				3					
	17TH-18TH										4		1					5					
	18TH-20TH										6				1	1		8					
	20TH-22ND										1							1					
	22ND-24TH										4							4					
	24TH-25TH										5		1		1	1		8					
	25TH-27TH										5			1				6					
	27TH-28TH										3							3					
	28TH-29TH										3							3					
	29TH-30TH										3		1		1	3		8					
	30TH-32ND										5		2		3	1		11					
	32ND-33RD										1		1		3	2		7					
	33RD-36TH										6				7	6		19					
	36TH-K-Mart										2		2		12	4	1	21					
	K-Mart-CARDINAL																	0					
	Cardinal-48TH						1				1		1		2	1		6					
	48TH --								1				1		5			7					
																		141					

TABLE D-4 BROADWAY MID-BLOCK ACCIDENT SUMMARY
(TOTALS: 1992, 1993, 1994, 1995)

LOCATION	TOTAL ACCIDENTS	DISTANCE (Mile)	1992 ADT	1996 ADT	GROWTH PER YEAR (ADT)	TOTAL 4-YEAR TRAFFIC (ADT)	RATIO ACCIDENT PER 1 MILLION VEH MILE	NO. OF CURB CUTS
12TH-14TH	32	0.157	22540	24700	540	34091000	5.98	16
14TH-18TH	20	0.35	21330	23350	505	32247750	1.77	23
18TH-20TH	35	0.146	24330	26650	580	36792000	6.52	12
20TH-24TH	31	0.36	25130	27650	630	38069500	2.26	41
24TH-25TH	17	0.108	23680	27100	855	36445250	4.32	12
25TH-30TH	58	0.417	24150	27050	725	36846750	3.77	42
30TH-33RD	69	0.242	23080	25800	680	35186000	8.10	12
33RD-36TH	67	0.261	21730	24350	655	33160250	7.74	9
36TH-48TH	83	0.792	17760	19450	422.5	26854875	3.90	58

APPENDIX E: ACCESS MANAGEMENT PLAN

PROPOSED ACCESS MANAGEMENT GUIDELINES for the BROADWAY CORRIDOR

1.01 INTRODUCTION

(A) Purpose and Intent

The purpose of access management is to:

- provide reasonable access to property along a roadway,
- maintain service levels, capacity, and safety along a roadway,
- provide a framework for future land development decisions,
- improve the site planning and design process,
- limit the number of conflict points, and adequately separate the conflict points.

Access management addresses these concerns without construction of additional traffic lanes.

The primary cause of traffic interruptions along Broadway is vehicles exiting and entering from businesses, residences, and other developments located along the highway. Control of access is necessary to provide efficient and safe highway operation and to utilize the full potential of the highway investment.

The following guidelines are intended to complement existing policies and requirements set forth in the comprehensive plan, zoning ordinances and development regulations.

These provisions shall apply to new developments and to existing developments that experience substantial changes. "Substantial change" shall involve: (1) a change in land use or density, or (2) a 25% increase in floor area, employment, or traffic generation. The provisions do not affect existing access drives where no substantial change is envisioned; however landowners are encouraged to comply.

(B) Basic Principles

Access Management design principles can be broken down into three general categories; Road System, Site Plan Review, and Subdivision Plan Review. The following summarize an approach for managing access along the Broadway Corridor:

1. Road System: (Section 1.02)

- a) Encourage access to properties via secondary cross streets whenever possible.
- b) Establish spacing standards for signalized and unsignalized intersections, corner (intersection) clearances, and median breaks.
- c) Encourage shared access or cross access between adjacent properties.
- d) Provide “frontage” or “backage” roads wherever acceptable.
- e) Align access drives on opposite sides of a route whenever possible to minimize left-turn conflicts.

2. Site Plan Review: (Section 1.03)

- a) Minimize commercial strip development paralleling highway.
- b) Preserve wide property frontages.
- c) Provide adequate space for utilities parallel to highway.
- d) Design from the “outside,” (i.e., from the public roadway into the development). Be cognizant of the community context.
- e) Provide safe stopping sight distance.
- f) Provide adequate storage space (“throat length”) on access drives.
- g) Provide suitable pedestrian, transit, and emergency vehicle access, where appropriate.
- h) Encourage driveway closures that do not restrict internal circulation.

3. Subdivision Plan Review: (Section 1.04)

- a) Set standards for flag-lots, outparcels, and lot width-to-depth ratios.
- b) Avoid residential or commercial subdivisions served by a single access. Generally, provide at least two points of access.
- c) Prohibit direct access to Broadway from individual residential or commercial units if alternate access is available.

(C) Definitions

1. Access - The ability to move vehicles to and from property abutting a highway.
2. Access Facility - A driveway, entrance, or side road approach facilitating vehicular movement between abutting property or right-of-way and a highway
3. Access Facility Types
 - a) Residential Entrance - Provides access to a single-family residence, or to not more than two single-family residences on adjacent properties served by a common entrance.
 - b) Commercial Entrance - Provides access to property being used by more than two single-family residences or for commercial or industrial purposes.
 - c) High Traffic Volume Commercial Entrance - Provides access to a development with substantially more trips than the average commercial generators. The developments are typically characterized by large parking areas, high-type access facilities, and traffic volumes of sufficient magnitude to have a pronounced effect on the safety and capacity of adjacent streets and highways.
4. Backage Road - See Reverse Frontage Road.
5. Driveway - An access facility that provides a direct connection for vehicular movements between abutting property and the highway.
6. Flag Lot - A lot shaped like a flag with long access "poles." Used for providing private access to internal lots within a development.
7. Frontage - The distance along the highway right-of-way line in front of an owner's property, which is normally determined by projecting perpendicular lines from the center line of the roadway to the corner points of the property on the right-of-way line.
8. Frontage Road - A public road, auxiliary to and normally located alongside and parallel to a highway, for the purposes of providing access to abutting property, maintaining local road continuity, and controlling access.

9. Median - The portion of a divided highway or divided driveway separating the lanes for traffic moving in opposite directions.
10. Outparcel - Lots on the perimeter of a larger parcel that break its frontage along the roadway. They are typically under the same ownership as the principal commercial facility.
11. Public Road - A road constructed on land acquired for or dedicated for right-of-way and accepted by a public agency.
12. Reverse Frontage Road - Similar to a frontage road, but typically located at the rear of the abutting property, away from the highway. Also called a backage road.
13. Right-of-Way Line - The boundary between the land acquired for or dedicated to highway use and the adjacent property.

1.02 ROAD SYSTEM

(A) Access Spacing and Corner Clearance Guidelines - Commercial / Residential

Access spacing standards form the cornerstone of access management regulations. These standards are supported by joint and cross access guidelines, subdivision access guidelines, and rear lot and reverse frontage regulations.

Corner clearance is defined as the minimum distance from a driveway edge to an intersecting side street edge (see Detail No. 1.02). Access spacing and corner clearance distances shall be measured between the closest edges of the two pavements and shall meet or exceed the Minimum access requirements given in Table 1.0

Table 1.0 (Access Spacing and Corner Clearance Requirements)

	Posted Speed (MPH)			
	30	35	40	45
Access Spacing (feet)	100	150	200	300
Corner Clearance (feet)	100	150	200	300

1. If access spacing cannot be achieved, joint-use drives and cross access easements may be required during the site plan review process.

2. Where no other alternatives exist, an access connection may be allowed along the property line farthest from the intersection. However, access may be limited to right-turn movements only.
3. Where no secondary access means are available, rear access drives or easements shall be provided with new developments.
4. Variations may be permitted where they would enhance roadway operations or safety.
5. Driveways on opposite sides of the arterial highway shall be aligned across from each other, or separated by the specified minimum access spacing above.
6. Safe stopping sight distance, given in Table 1.1, and intersection sight distance shall be provided for all driveways entering a public highway.

Table 1.1 (Stopping Sight Distance)

	Posted Speed (MPH)			
	30	35	40	45
Stopping Sight Distance (feet)	220	275	340	410

(B) Access Spacing and Corner Clearance Guidelines - High Traffic Volume Commercial

The important factors in developing an access plan for a high traffic commercial or industrial site are a determination of the potential traffic generated by the site, the directional distribution on the major transportation routes approaching and leaving the site, and the number, location, and usage of proposed accesses serving the site.

Accesses serving commercial and industrial developments represent an important element in the efficiency and safety of the roadway. In order to determine the impacts that such accesses will have on the road network, the anticipated traffic volumes generated by the site must be determined. These traffic volumes along with spacing and storage need to be taken into consideration.

1. Minimum spacing between high-volume commercial accesses servicing the same property shall be 440 feet. Minimum spacing between high-volume commercial accesses and intersecting side streets shall be 200 feet.

2. Adequate storage must be provided on the commercial site so that vehicles do not impede roadway capacity. Adequate storage space is a function of the demand volume, the average length of time needed to service each vehicle, and the number of service facilities (drive-up windows, drive-up lanes, tellers, pumps, etc.) available. Buildings on a site should be arranged to allow for maximum storage available.

C) Joint and Cross Access Guidelines

If need is determined adjacent commercial or office properties shall provide a cross access drive and pedestrian access between the sites. The following guides shall be applied where necessary.

1. Joint-use driveways and cross access shall incorporate:
 - a) A continuous service drive or cross access corridor that extends the entire length required to link adjacent driveways internally;
 - b) A design speed of 10 miles per hour, and sufficient width to accommodate two directional flow of automobiles, service vehicles, and loading vehicles;
 - c) Design features to make it clear that the abutting properties may be tied to the cross access drive;
 - d) A unified internal access and circulation system that includes coordinated or shared parking areas where feasible.
2. Shared parking areas shall permit a reduction in the number of parking spaces if it can be demonstrated that peak demands for the proposed land uses do not occur at the same times.
3. Property owners entering into joint access agreements shall:
 - a) Record a permanent easement with the deed allowing cross access to and from other properties served by the cross access drive;
 - b) Record an agreement with the deed that remaining access rights along the corridor will be dedicated to the controlling agency and that pre-existing driveways will be closed after the joint-use driveway is constructed;
 - c) Record a joint maintenance agreement with the deed defining maintenance responsibilities of all affected property owners.
4. The controlling agency may reduce the suggested separation of access points where they prove impractical if the following requirements are met:
 - a) Joint access driveways and cross access agreements are provided where feasible;
 - b) The site plan incorporates a unified access and circulation system;

- c) The property owner enters into a written agreement with the controlling agency, recorded in the deed, that the pre-existing connections will be closed after the joint-use driveway is provided.
5. The controlling agency may modify or waive the requirements of this section, where it is demonstrated that the characteristics or arrangement of abutting properties make a unified or shared access and circulation system impractical.

1.03. Site Plan Review Guidelines

Vehicular access points should be designed to provide for safety and to avoid potential traffic impacts. Site plan review should include the following criteria as presented by the applicant:

- The road system is designed to meet the projected traffic demand of the project.
- Access is properly placed in relation to sight distance, driveway spacing, operational capacity, and other related considerations, including opportunities for joint and cross access, and unified internal parking and circulation.
- Access is from side streets rather than the arterial whenever possible.
- Traffic movement within the site should be possible without having to use the peripheral road network or alleys.
- Accommodation of public transit access is incorporated.

When an access onto Broadway is proposed, a detailed geometric design plan shall be submitted to the controlling agency and shall include the following dimensional elements (see Detail No. 1.03A, 1.03B):

1. Total width of the entrance(s), lane widths, and intended lane usage.
2. Location of the entrance(s) along the highway by reference to highway stationing, or if stationing is not available, by a stated distance from a known landmark. (For example, 400 feet west of 48th Street.)
3. Location of traffic islands (raised, depressed, or painted) by reference to lengths along the highway or entrance baseline and offset distances from edge of highway or entrance.
4. Radii of all turning roadway curves, lengths of turning bays, turn lanes, taper ratios and lengths, and shoulder widths, as proposed.
5. The detail geometric plan shall also include curb details and pavement jointing details, where applicable.

6. A vertical profile of the entrance(s) approach to the highway, following slope guidelines.
7. Pavement and shoulder cross slope information to verify crossover crown controls and pavement drainage.
8. Adequate internal traffic circulation plan, as per joint and cross access guidelines. (See Section 1.02 C.)
9. A traffic access/impact study will be conducted whenever a proposed development will generate 100 or more added peak direction trips to or from the site during the adjacent roadway's peak hour. A localized safety or capacity deficiency may necessitate a study for the following reasons:
 - a) The existence of any current traffic problems in the area - such as a high-accident location, confusing intersection, or an intersection in need of a traffic signal.
 - b) The current or projected level of service of the roadway system adjacent to the development, which will be significantly affected.
 - c) The sensitivity of the adjacent neighborhoods or other areas that may be perceived as impacted.
 - d) The proximity of site drives to other drives or intersections.
 - e) The ability of the adjacent existing or planned roadway system to handle increased traffic, or the feasibility of improving the roadway system to handle increased traffic.
 - f) Other specific problems or deficiencies that may be affected by the proposed development or affect the ability of the development to be satisfactorily accommodated.

1.04 SUBDIVISION GUIDELINES TO CONTROL ACCESS ON BROADWAY

(A) Subdivision Access

Subdivisions with frontage along principal arterials shall be designed to provide shared street access with adjacent subdivisions. Only one access point shall be provided unless capacity or internal circulation supports two access points. Direct access to the arterial from individual one-and two-family dwelling units shall be prohibited.

(B) Reverse Frontage Road

Access to double frontage lots that front on both an arterial highway and parallel local roadway shall occur from the parallel local roadway. When a proposed residential subdivision would abut along an arterial highway, lots shall obtain access from a frontage road or interior local road. Access rights of these lots to the arterial highway shall be dedicated to the controlling agency, and recorded with the deed. If the back of a house is along the highway, a berm or buffer may be required at the rear of the lots, and located off of the public right-of-way.

(C) Flag Lots

Development of flag lots shall be prohibited if individual access is to be provided to each lot. Flag lots may be allowed if shared access easements and joint maintenance arrangements can be developed to allow consolidation of flag lot drives.

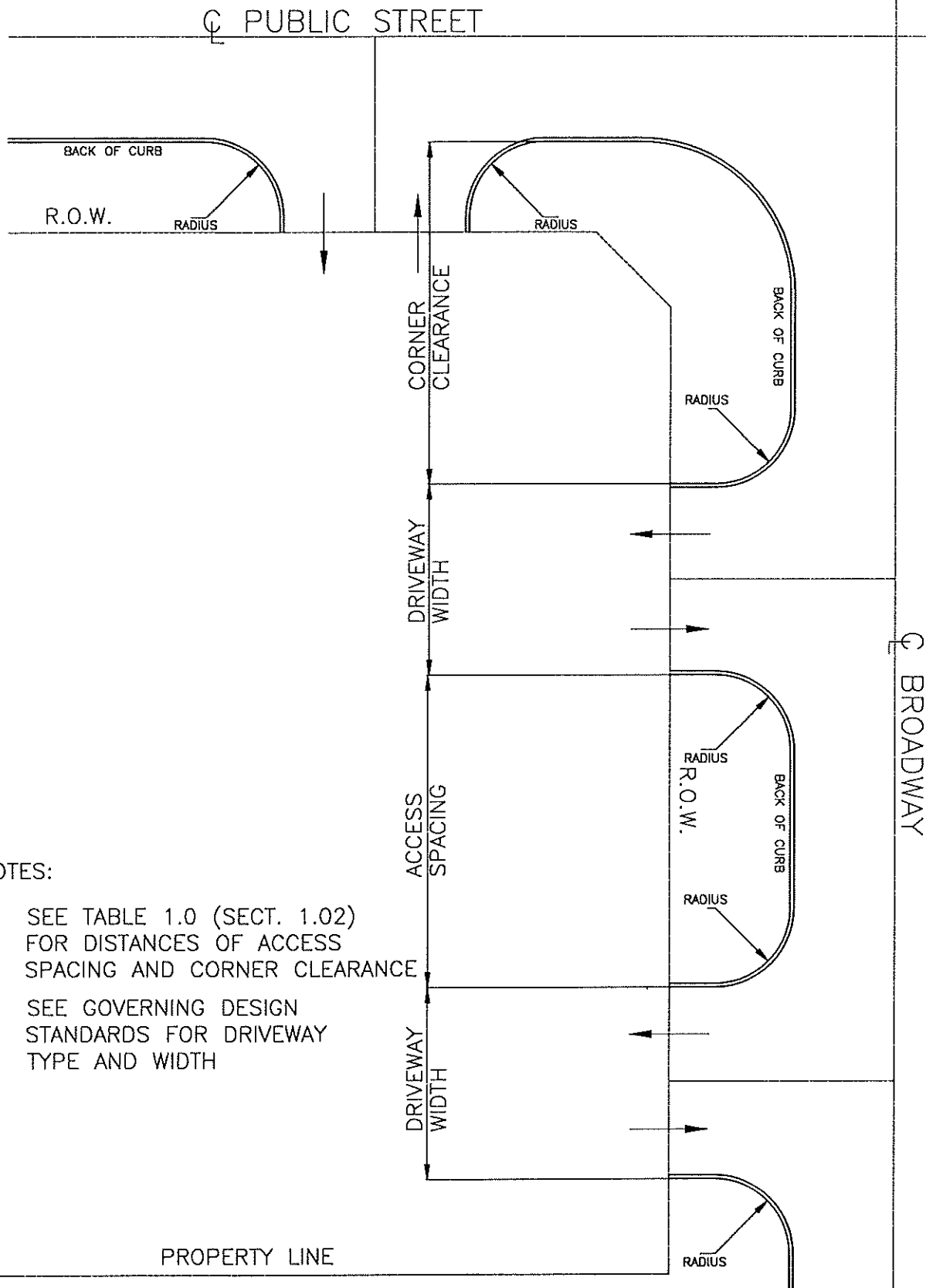
(D) Lot Width-to-Depth Ratio

To permit proper site design and to prevent the creation of irregularly-shaped parcels, the depth of any lot or parcel should not exceed three (3) times its width.

(E) Outparcels

Development sites under the same ownership, phased development plans, or properties consolidated for development shall be considered as a single property with regard to the number of access points allowed and access spacing standards.

ACCESS SPACING GUIDELINES

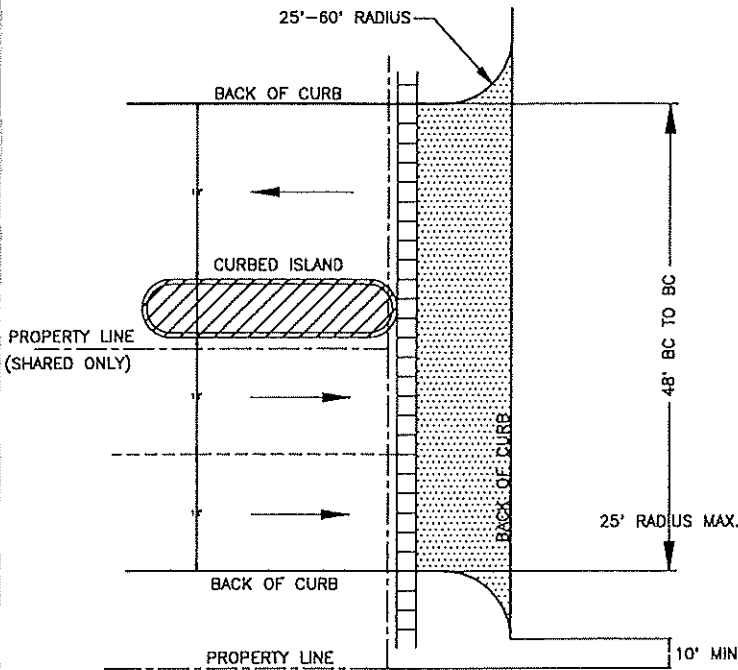


NOTES:

1. SEE TABLE 1.0 (SECT. 1.02) FOR DISTANCES OF ACCESS SPACING AND CORNER CLEARANCE
2. SEE GOVERNING DESIGN STANDARDS FOR DRIVEWAY TYPE AND WIDTH

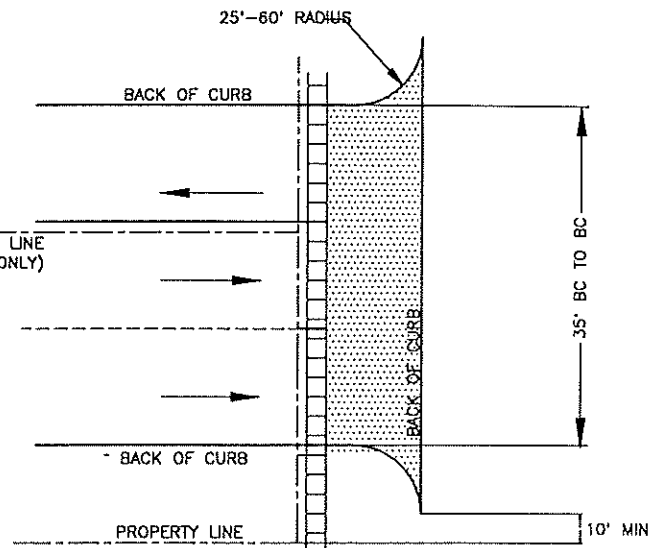
PROJECT NO. G1246.10	OF 1	SHEET NO. 1	DETAIL NO. 1.02 COMMERCIAL/RESIDENTIAL ACCESS SPACING	 AMENT ENGINEERING ASSOCIATES, INC. CEDAR RAPIDS, IOWA	DRAWN: MEA	5-1-97
					CHECKED:	
					REVIEWED:	
					SCALE: NONE	
				 JOHNSON, JOHNSON & ROY INC.	BOOK: N/A	

DRIVEWAY GUIDELINES



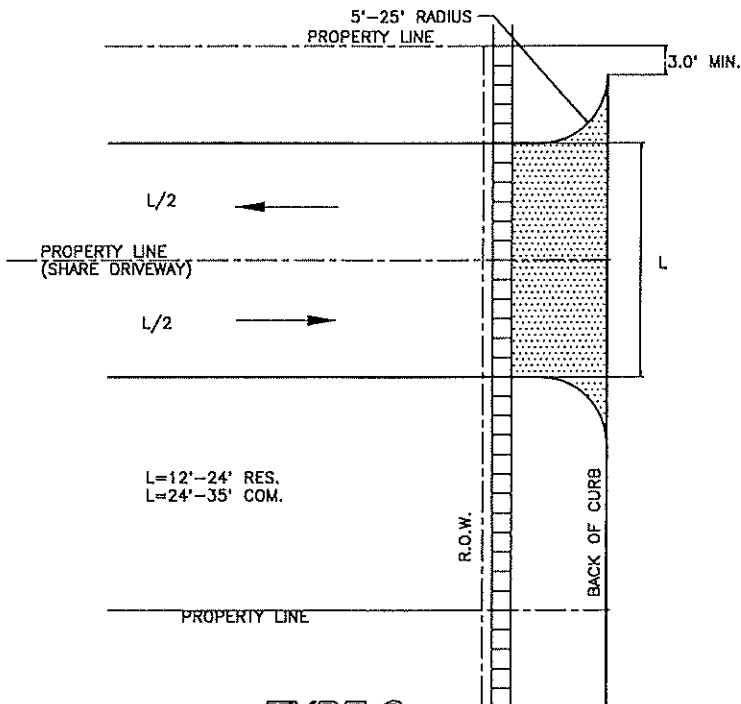
TYPE A

JOINT/COMMON COMMERCIAL PROPERTY DRIVEWAY WITH PAINTED OR RAISED MEDIAN (PERMANENT ACCESS EASEMENT NECESSARY)



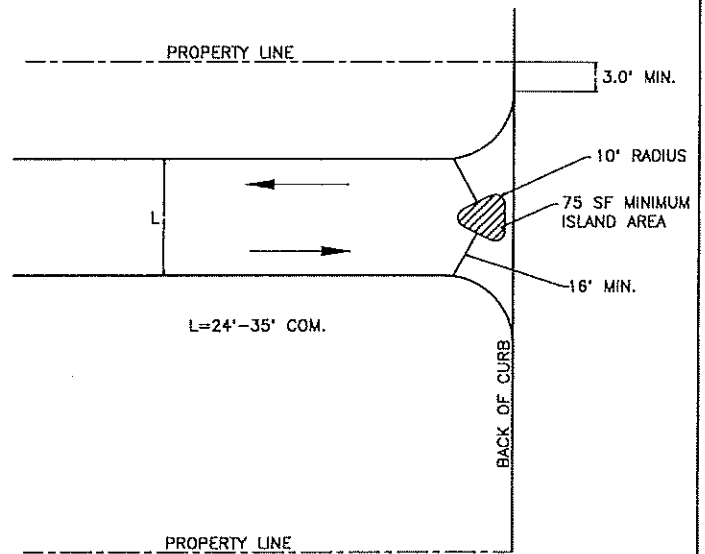
TYPE B

JOINT/COMMON COMMERCIAL PROPERTY DRIVEWAY (PERMANENT ACCESS EASEMENT NECESSARY)



TYPE C

SINGLE PROPERTY DRIVEWAY



TYPE D

RIGHT IN/OUT COMMERCIAL PROPERTY DRIVEWAY

PROJECT NO. G1246.10
OF 1
SHEET NO. 1

DETAIL NO. 1.03A
COMMERCIAL/RESIDENTIAL
DRIVEWAY DETAILS



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CEDAR RAPIDS, IOWA

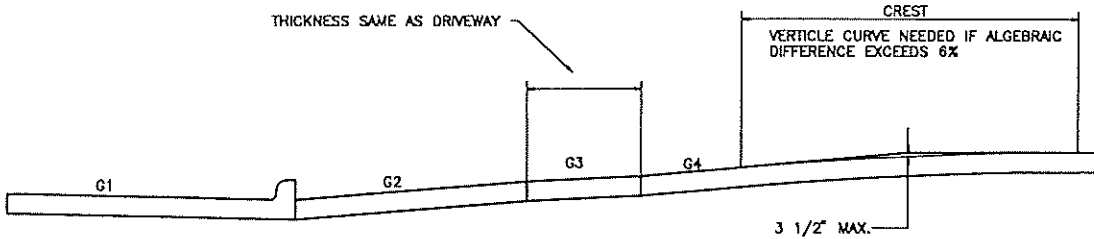


JOHNSON, JOHNSON & ROY INC.

DRAWN: MEA	5-1-97
CHECKED:	
REVIEWED:	
SCALE: NONE	
BOOK: N/A	

SLOPE GUIDELINES

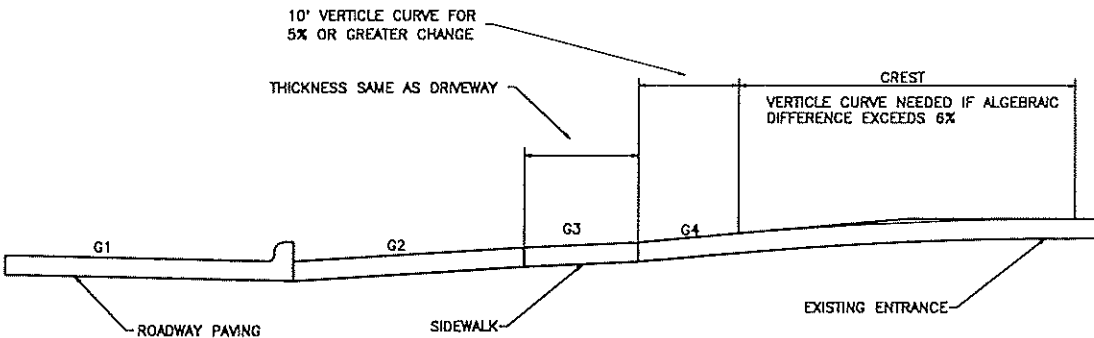
TYPICAL SECTION - COMMERCIAL ENTRANCE



SECTION - TYPICAL RESIDENTIAL ENTRANCE

1. G1 AND G2 - ALGEBRAIC DIFFERENCE BETWEEN G1 AND G2 SHALL NOT EXCEED 9%
2. G2 - MAXIMUM SLOPE 8%
3. G3 - MAXIMUM SLOPE 2%
4. G4 - MAXIMUM SLOPE 9%; IF ADDITIONAL SLOPE IS NEEDED BEYOND 9%, A VERTICLE CURVE MAY BE USED SO AS TO EXCEED THE ALGEBRAIC DIFFERENCE OF 6%.
5. IF THE ABOVE GRADE RESTRICTIONS REQUIRE A DEPRESSED SIDEWALK THROUGH THE DRIVEWAY, A TRANSITION SECTION SHALL BE PROVIDED BETWEEN THE NORMAL SIDEWALK GRADE AND THE DEPRESSED SECTION.

TYPICAL SECTION - RESIDENTIAL ENTRANCE



SECTION - TYPICAL RESIDENTIAL ENTRANCE

1. G1 AND G2 - ALGEBRAIC DIFFERENCE BETWEEN G1 AND G2 SHALL NOT EXCEED 12%.
2. G2 AND G3 AND/OR G4 - ALGEBRAIC DIFFERENCE NOT TO EXCEED 8%.
3. G2 - MAX SLOPE 6%
4. G3 - MAX SLOPE 2%
5. G4 - SLOPE (MAX 10%) - USE VERTICAL CURVE BETWEEN G3 AND G4 GRADE CHANGE IS 5% OR GREATER.

PROJECT NO.
G1246.10

OF 1

SHEET NO.
1

DETAIL NO. 1.03B
COMMERCIAL/RESIDENTIAL
ACCESS SLOPE DETAILS



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ASSOCIATES, INC.
CEDAR RAPIDS, IOWA

JJR/

JOHNSON, JOHNSON & ROY INC.

DRAWN: MEA	5-1-97
CHECKED:	
REVIEWED:	
SCALE: NONE	
BOOK: N/A	

APPENDIX F: SPECIFIC FUTURE ACCESS CONDITIONS



DESIRABLE FUTURE CONDITIONS

A	COMBINE EXISTING DRIVEWAYS	J	TURN PROHIBITION
B	NARROW EXISTING DRIVEWAY(S)	K	BEST LOCATION FOR FUTURE DRIVEWAY WHEN CURRENTLY VACANT PROPERTY IS DEVELOPED
C	CLOSE EXISTING DRIVEWAY(S)	L	CURRENT CURB CUT GEOMETRY IS UNDESIRABLE
D	PROVIDE OR RETAIN INTERCONNECTION BETWEEN SITES	M	WIDEN EXISTING DRIVEWAY(S)
E	MAKE DRIVEWAY "RIGHT-IN, RIGHT-OUT"	N	CREATE TWO-WAY DRIVE FROM ONE-WAY DRIVE
F	PROVIDE SEPARATION OF DRIVEWAYS TO ADJOINING PROPERTIES	O	CREATE ONE-WAY DRIVE FROM TWO-WAY DRIVE
G	INSTALL NEW DRIVEWAY	P	DEFINE CURB - LEAVE OPEN FOR CIRCULATION
H	IMPROVE TURNING RADII	Q	RELOCATE DRIVE
I	REDUCE CONFLICTS BETWEEN DRIVE AND PARKING LOT		

Beginning of Study Area

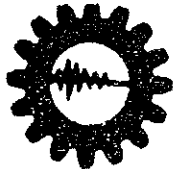
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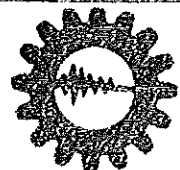
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Cedar Rapids, Iowa



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DESIRABLE FUTURE CONDITIONS

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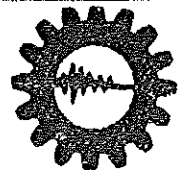


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DESIRABLE FUTURE CONDITIONS

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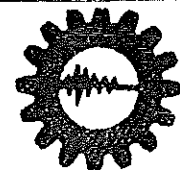
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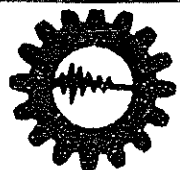


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Match line with map to west



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DESIRABLE FUTURE CONDITIONS	
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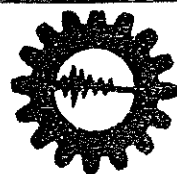


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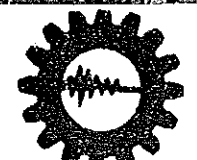
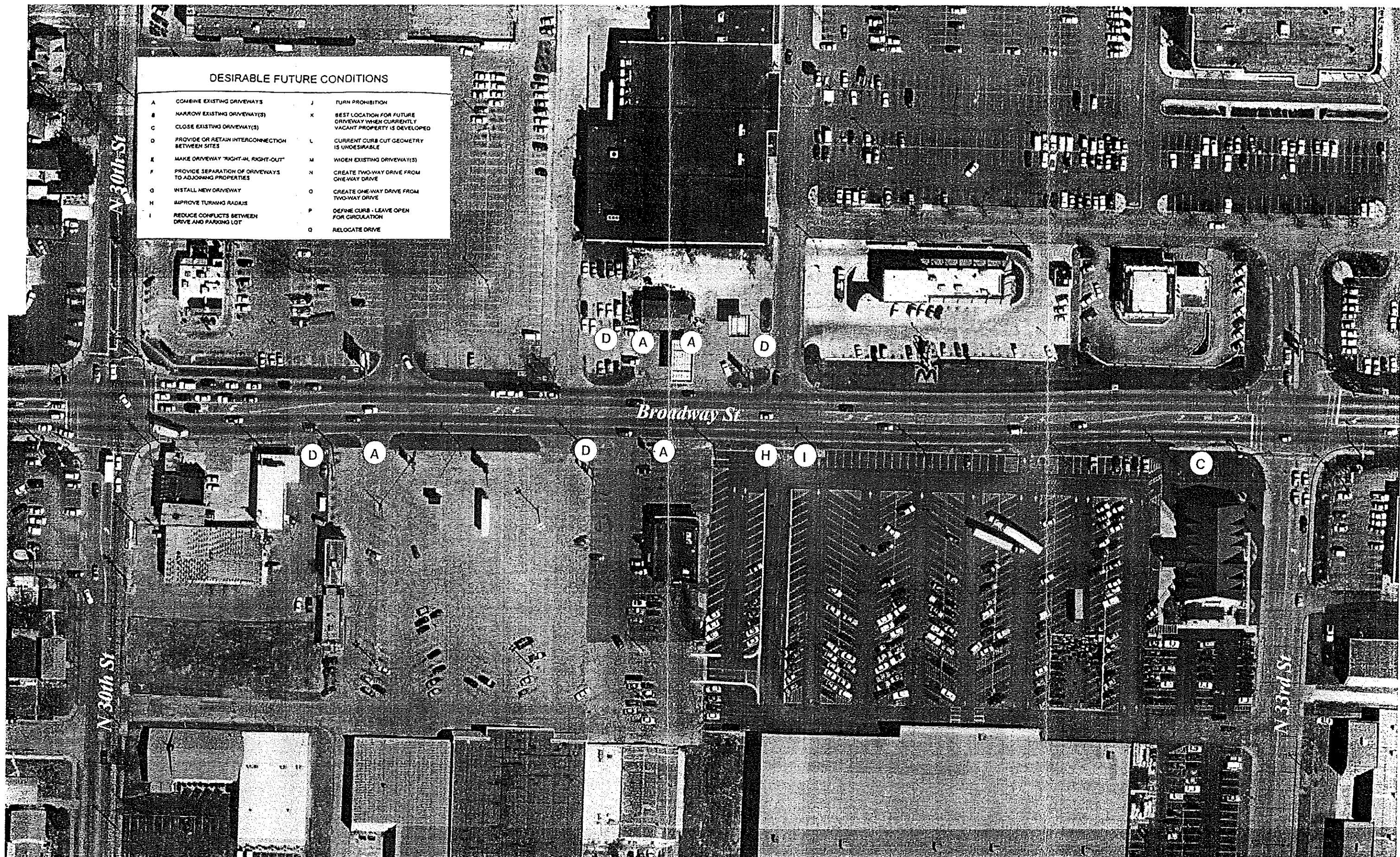
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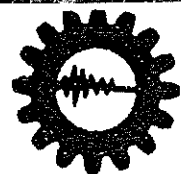
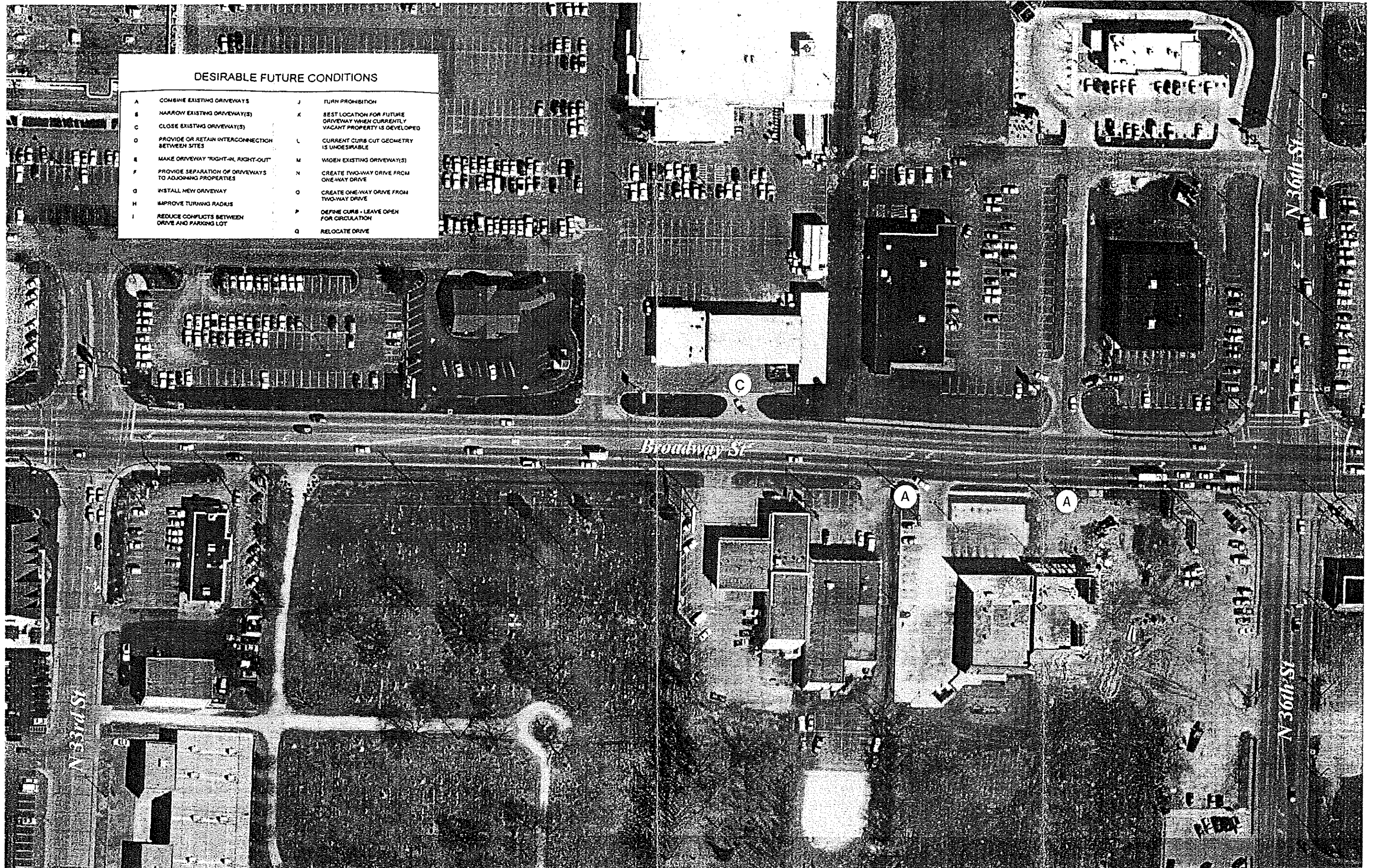
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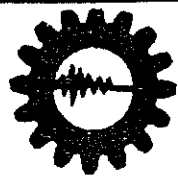
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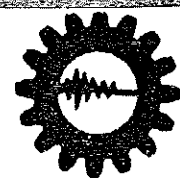
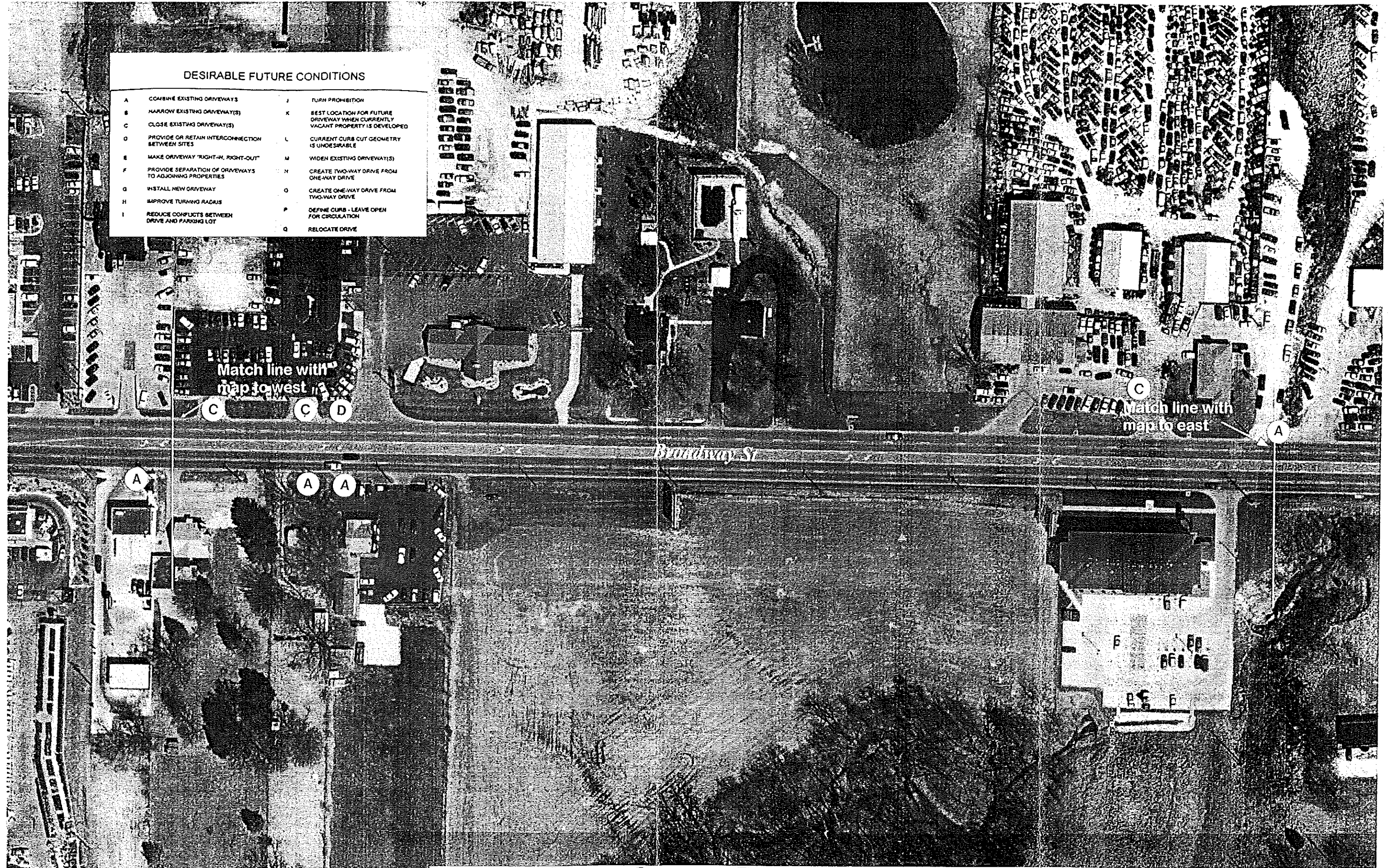
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Cedar Rapids, Iowa



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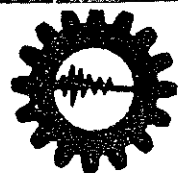
Match line with map to west

Match line with map to east

Broadway St

A

C



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Cedar Rapids, Iowa



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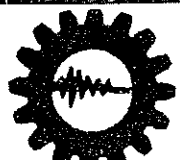
DESIRABLE FUTURE CONDITIONS

- | | | | |
|---|---|---|---|
| A | COMBINE EXISTING DRIVEWAYS | J | TURN PROHIBITION |
| B | NARROW EXISTING DRIVEWAY(S) | K | BEST LOCATION FOR FUTURE DRIVEWAY WHEN CURRENTLY VACANT PROPERTY IS DEVELOPED |
| C | CLOSE EXISTING DRIVEWAY(S) | L | CURRENT CURB CUT GEOMETRY IS UNDESIRABLE |
| D | PROVIDE OR RETAIN INTERCONNECTION BETWEEN SITES | M | WIDEN EXISTING DRIVEWAY(S) |
| E | MAKE DRIVEWAY "RIGHT-IN, RIGHT-OUT" | N | CREATE TWO-WAY DRIVE FROM ONE-WAY DRIVE |
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| G | INSTALL NEW DRIVEWAY | P | DEFINE CURB - LEAVE OPEN FOR CIRCULATION |
| H | IMPROVE TURNING RADIUS | Q | RELOCATE DRIVE |
| I | REDUCE CONFLICTS BETWEEN DRIVE AND PARKING LOT | | |

Match line with map to west

Broadway St

N 48th St



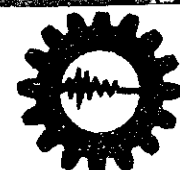
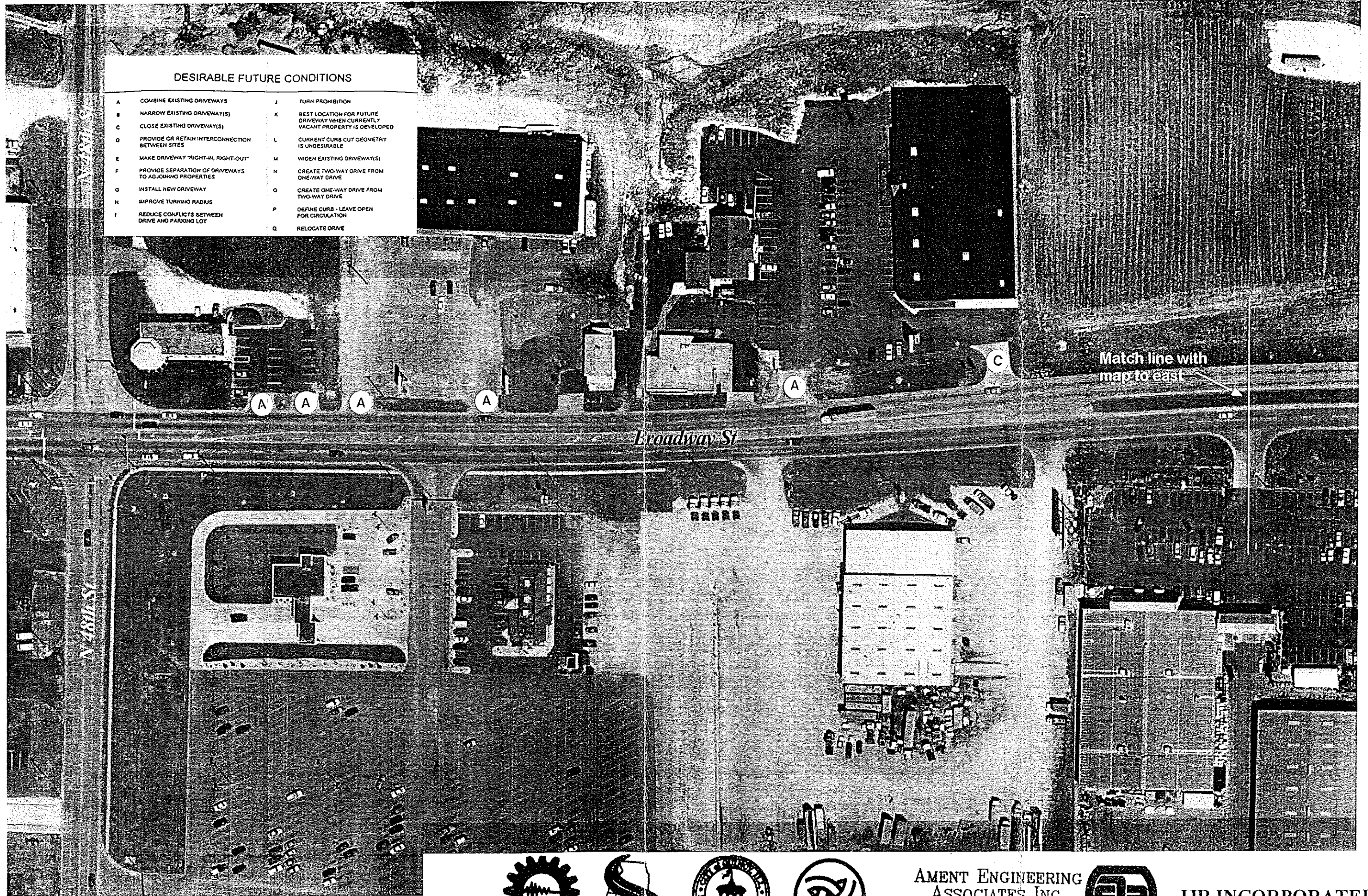
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Cedar Rapids, Iowa



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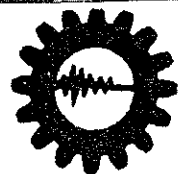
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Match line with map to west

Broadway St

N 5th St

N 54th St



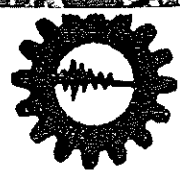
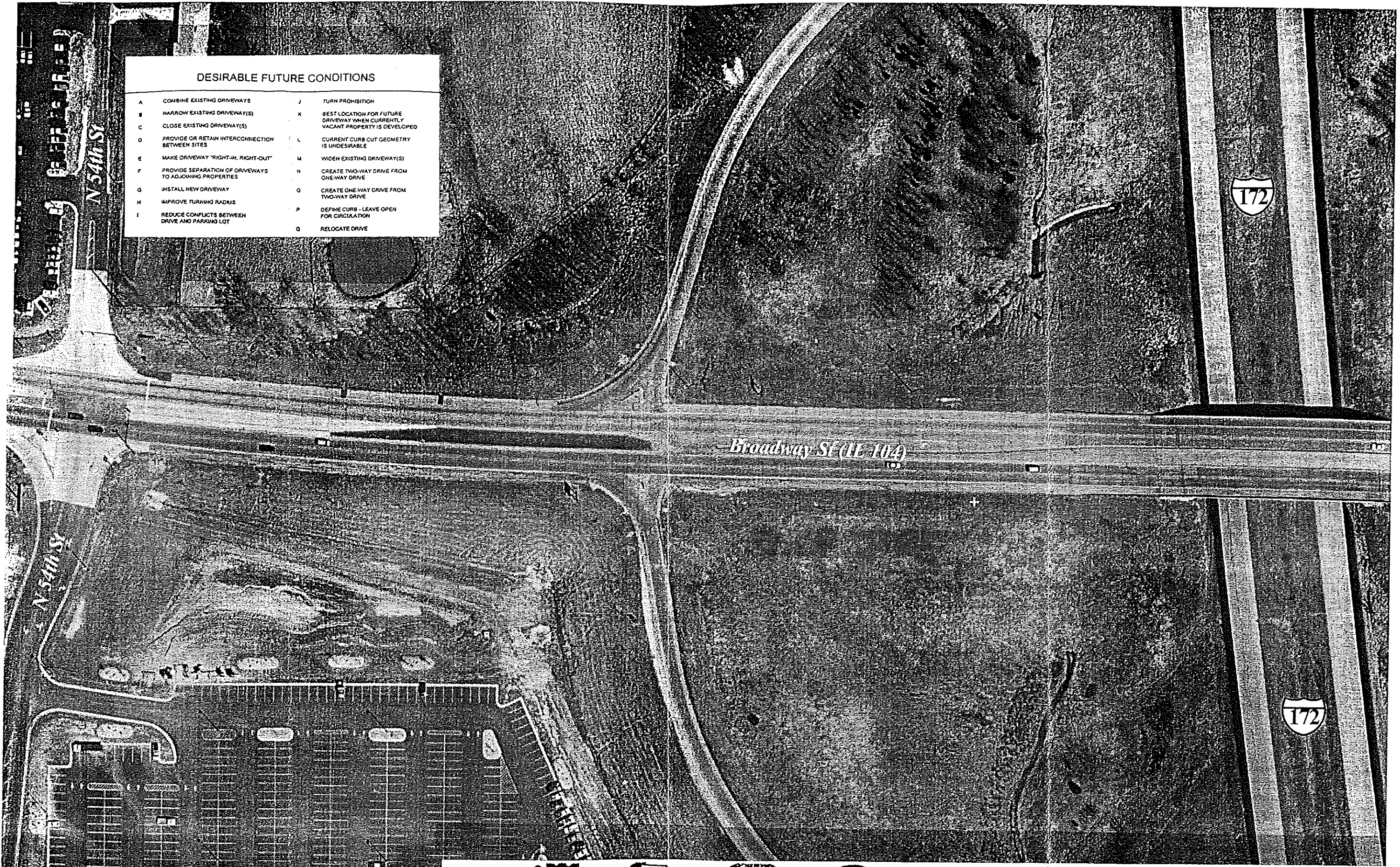
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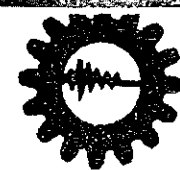
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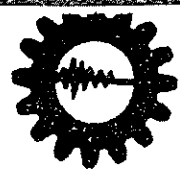
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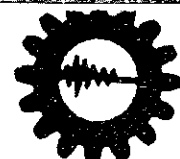
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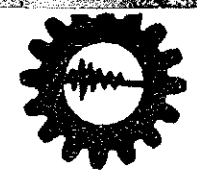
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N 60th St

Broadway St (IL 104)

Match line with map to east



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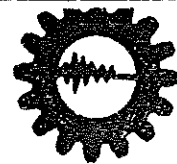
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Match line with map to west

End of Study Area

Broadway SE (IL 104)



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