Will County Department of Highways
Caton Farm Road/Bruce Road Phase I Study

Traffic Conditions Report

February 2006

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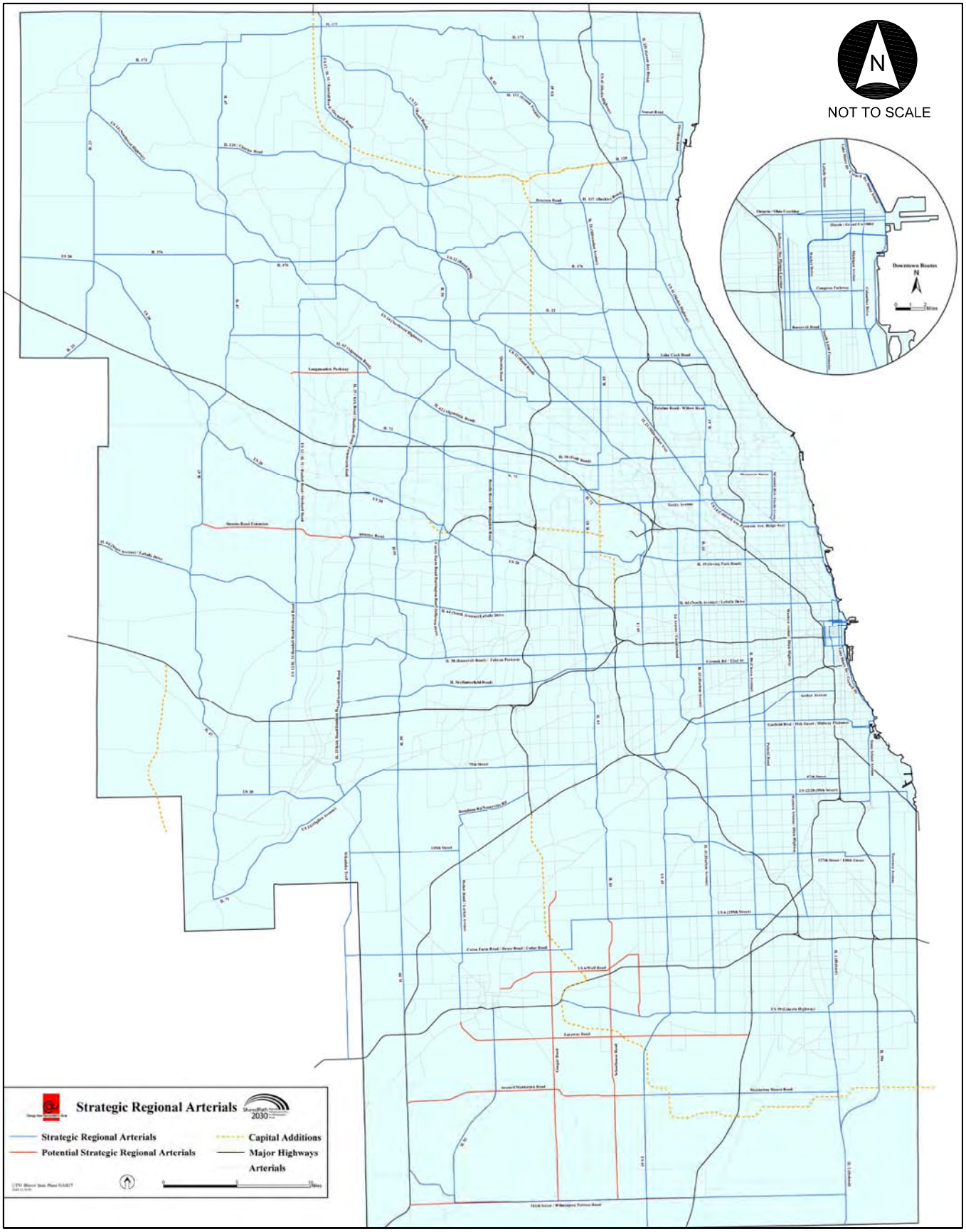
I. INTRODUCTION

Today's major highways were developed more than 100 years ago as trails and then farm-to-market roads. Through the years they were eventually expanded to become today's major arterial roadways. Thus, the location and spacing of most arterial roadways were based on the original rural travel needs and did not anticipate today's urban travel demands. For that reason, many principal arterial highways radiate from the City of Chicago like spokes of a wheel. Growth in the suburbs during the 50's and 60's was primarily residential in nature. Since most of the employment opportunities were located in Chicago, the radial arterial street network served the predominant travel demand. Major highway improvement efforts were undertaken to expand these radial arterial streets to meet increasing travel demands. In the 70's and 80's, significant growth occurred in the suburban ring around Chicago, most of which was a result of the migration of people and employment from the city. According to the Northeastern Illinois Planning Commission (NIPC), between 1970 and 1990, the population of the 6-county Chicago Region increased by only 4% but the urbanized area increased by approximately 33%. Will County is experiencing the pressure of this growth.

As a result of suburban development over the last three decades, travel patterns have changed dramatically. In addition to the need to travel between the suburbs and the City of Chicago, significant travel demand was created to travel between suburbs. The regional arterial street network was not well designed to handle these new travel patterns.
In the early 1990's, the Illinois Department of Transportation along with regional planning agencies recognized that the ability to expand the expressway system to meet long-distance travel needs is severely limited. The decentralized travel patterns also limit the ability of mass transit to efficiently serve this demand. Therefore, improving mobility on the existing arterial street system represents the most feasible and cost effective strategy to accommodate existing as well as future mobility needs. In order to serve this travel demand on arterial streets, a comprehensive network of roadways was developed to emphasize mobility while still recognizing land access needs. This arterial street system has been designated the Strategic Regional Arterial (SRA) System in the CATS 2030 Regional Transportation Plan. Exhibit I-1 shows the 2030 SRA network.

The Strategic Regional Arterial system is a 1,400-mile network of existing roadways in Northeastern Illinois and includes 146 routes in Cook and the five collar counties. The SRA System, part of the 2030 Regional Transportation Plan, was implemented to help ease urban congestion and improve regional mobility. It is intended to supplement the existing and proposed expressway facilities by accommodating a significant portion of long-distance, high volume automobile and commercial vehicle traffic in the region.



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2030 STRATEGIC REGIONAL ARTERIAL SYSTEM

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EXHIBIT I-1

Implementation of the SRA concepts and proposals will provide significant benefits to the region as a whole as well as to each of the communities through which SRA routes pass. The SRA System is a network of routes that is intended to attract a large percentage of the vehicular demand, thereby relieving smaller, lower tiered roadways from unwanted traffic. Ultimately, the SRA system will help to maintain or improve traffic safety and operation as well as the quality of life in many neighborhoods adjacent to these facilities.

The Caton Farm Road / Bruce Road / IL Route 7 corridor currently being studied is part of the greater U.S. Route 6 / IL Route 7 / Caton Farm Road / Bruce Road / Cedar Road SRA route. This full SRA route begins at IL Route 59 near Joliet, IL and continues approximately 40 miles east to IL Route 83 / Torrence Avenue in Calumet City, IL.

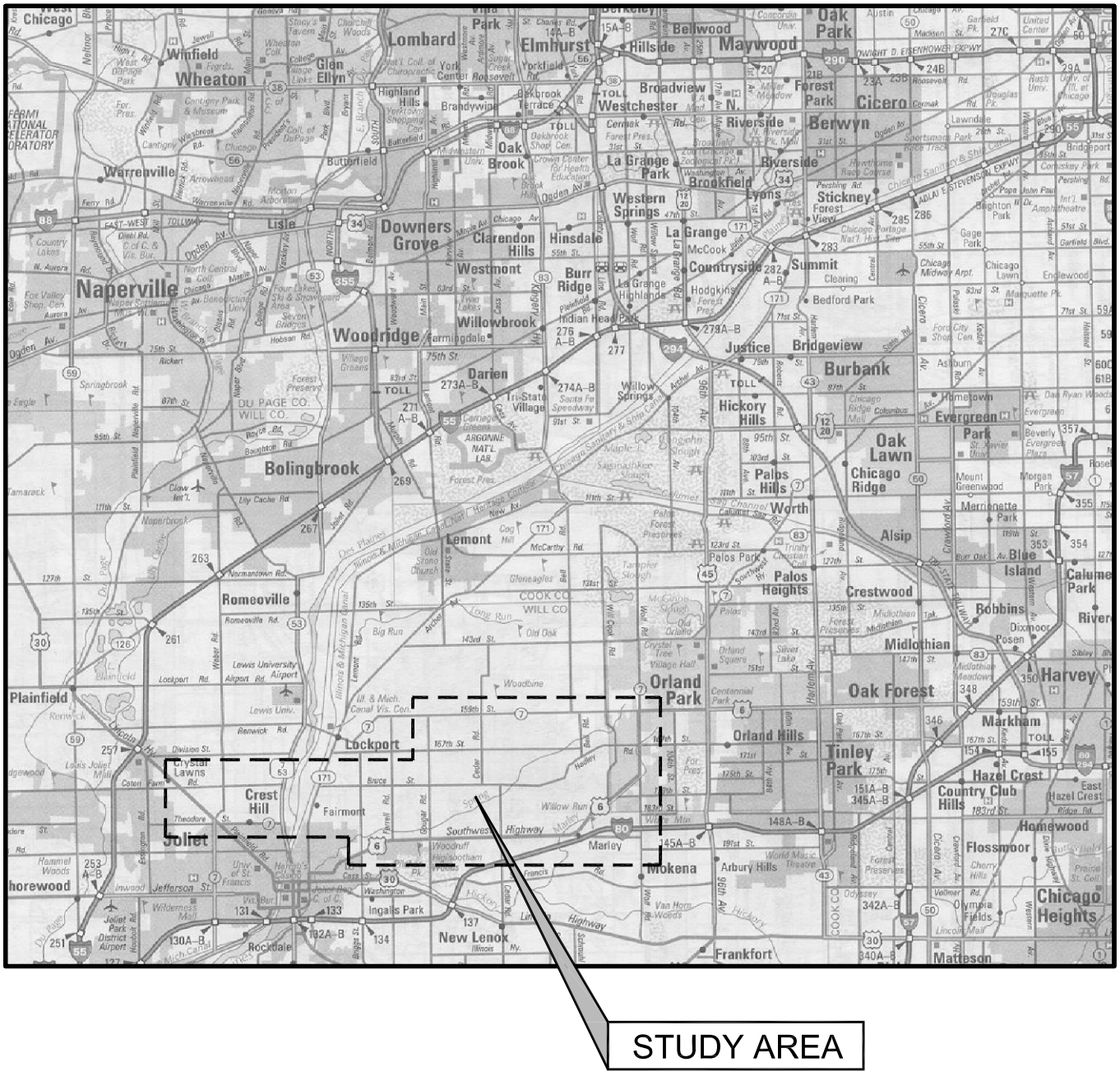
Will County, Illinois is among the fastest growing counties in the country. Population and employment are expected to increase significantly by the year 2030. According to the Will County 2020 Transportation Framework Plan, NIPC predicts a 4% annual increase in households and a 5.5% annual increase in employment through the year 2030. Together with the projected household and employment growth comes the need to plan for and to implement a transportation system that meets the demands of this growth.

The Will County 2020 Transportation Framework Plan, adopted December 21, 2000, is among the latest milestones in a series of events relating to transportation planning in Will County over the past 40 years. The Will County 2020 Transportation Framework Plan includes a number of Strategic Regional Arterial routes within Will County. Will County is currently working on the 2030 Transportation Plan, scheduled to be completed in the Spring of 2006.

The Caton Farm Road / Bruce Road Phase I Study was initiated by the Will County Department of Highways in May, 2001 to study the feasibility of implementing a portion of the improvements recommended in the Will County 2030 Transportation Framework Plan. Demand projections by the Chicago Area Transportation Study (CATS) evaluated in the 2030 Transportation Plan study *validated the need to create a higher-capacity, continuous east-west arterial connecting the west central and north central subareas of the county*.

The approximate limits of the Caton Farm Road / Bruce Road Phase I Study are Renwick Road and IL Route 7 / 159th Street to the north, Theodore Street and Rosalind Street to the south, Cedar Road to the east, and U.S. Route 30 and Gaylord Road to the west. This area represents a fairly significant portion of north-central Will County, and includes areas of the Village of Crest Hill, the City of Lockport, the Village of Homer Glen, the Village of New Lenox, and several unincorporated areas of Will County. Exhibit I-2 shows a location map of the study area.

NOT TO SCALE



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STUDY AREA LOCATION MAP

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EXHIBIT I-2

Several regionally significant transportation facilities exist within or near the study area. As shown on Exhibit I-2, interstate freeways in the vicinity include I-80, which skirts the southern boundary of the study area, and the Proposed I-355 Extension, which generally runs in a north-south direction in the vicinity of Gougar Road. Interchanges to I-355 are proposed at IL Route 7 and at U.S. Route 6. IL Route 53 and IL Route 171 are two major arterials that run along the west and the east sides of the Des Plaines River, respectively. IL Route 7 generally runs in an east-west direction along the northern edge of the study area and connects IL Route 53 to IL Route 171 via a two-lane bridge in downtown Lockport. U.S. Route 30 runs in a northwest-southeast direction and intersects Caton Farm Road at the west edge of the study area. Several other arterials complement the regionally significant arterials and are laid out in a grid pattern across the study area including Gaylord Road, Weber Road, Briggs Street, Farrell Road, Gougar Road, Cedar Road, 159th Street, 167th Street, Theodore Street, Rosalind Street and Caton Farm and Bruce Roads. A number of railways cross the study area including the E.J. & E. Railroad, the Santa Fe Railroad, and the Heritage Corridor Metra Railroad. The Chicago Sanitary and Ship Canal runs along the Des Plaines River and the I & M Canal in a north-south direction.

One of the recommendations of the Will County 2020 Transportation Framework Plan is the development of a four-lane continuous roadway along Caton Farm Road, Bruce Road, Cedar Road, and IL Route 7, with a new bridge over the Des Plaines River connecting Caton Farm Road to a new Bruce Road alignment (as proposed in the 1991 Lockport Township study).

According to this plan, the most immediate need for this corridor is the new Des Plaines River bridge. The existing two-lane IL Route 7 bridge in Lockport is presently the only major river crossing between Ruby Street in Joliet and the recently rebuilt 135th Street in Romeoville, a distance of seven miles. Carrying roughly 22,000 vehicles per day, the IL Route 7 bridge is operating at or beyond its capacity during peak hours. A new crossing between Lockport and Joliet is needed to accommodate continued growth in Joliet, Lockport, and Homer Township.

This Traffic Conditions Report presents the methods by which traffic data has been collected and summarizes that data. It then provides an overview of the travel demand forecasting process, documents the methods by which the forecasted data has been developed, summarizes the results of the traffic modeling and provides recommendations as to which improvement options are likely to best serve the communities and the region as a whole and thus should be studied further. Transportation modeling software (EMME/2) was used to replicate the existing traffic operation as well as to predict future "No-Action" traffic volumes on the area street network. The modeling software was also used to evaluate a number of improvement options for implementing the Caton Farm Road/Bruce Road/Cedar Road/IL Route 7 section of the greater SRA corridor.

II. EXISTING TRAFFIC CONDITIONS

A. Data Collection

In order to fully evaluate the existing traffic conditions and patterns within the study area, the following data was collected. Once the count data was collected, the traffic counts were reduced to a useable format and analyzed to provide a cohesive network of existing traffic volumes to be used as a basis for further studies.

- 24-hour directional tube counts at the following 36 locations:
  - 151st Street, east of Will-Cook Road
  - 151st Street, west of Bell Road
  - 151st Street, east of Gougar Road
  - 163rd Street, east of Gougar Road
  - 167th Street, east of Parker Road
  - 167th Street, west of Briggs Street
  - 179th Street, west of Will-Cook Road
  - 187th Street, west of Townline Road
  - Bruce Road, east of Farrell Road
  - Bruce Road, west of McCarron Road
  - Bruce Road, east of Cedar Road
  - Bruce Road, east of Briggs Street
  - Caton Farm Road, west of Gaylord Road
  - Caton Farm Road, west of Weber Road
  - Caton Farm Road, east of Weber Road
  - Caton Farm Road, west of IL Route 53/IL Route7
  - Weber Road, south of Caton Farm Road
  - Weber Road, north of Caton Farm Road
  - Cedar Road, south of Bruce Road
  - Cedar Road, north of 167th Street
  - Cedar Road, north of Laraway Road
  - Division Street, east of Gaylord Road
  - Farrell Road, north of U.S. Route 6
  - Francis Road, west of Schoolhouse Road
  - Francis Road, east of Clinton Street
  - Gougar Road, north of 167th Street
  - IL Route 7, northeast of 3rd Street
  - IL Route 7, west of Gougar Road
  - IL Route 7, west of Leach Drive
  - IL Route 7, east of Cedar Road
  - IL Route 53/IL Route 7, north of Caton Farm Road
  - IL Route 53/IL Route 7, south of Caton Farm Road

- IL Route 171, north of Bruce Road
- IL Route 171, south of Oak Street
- IL Route 171, north of Thornton Street
- Schoolhouse Road, south of Francis Road
- U.S. Route 6, north of Hass Road
- U.S. Route 6, east of Henderson Avenue
- U.S. Route 30, northwest of Caton Farm Road
- U.S. Route 30, southeast of Caton Farm Road
- Rosalind Street, west of Briggs Street
- Will-Cook Road, north of IL Route 7
- Woodruff Road, east of IL Route 171

- 7-day directional tube counts at the following locations:
  - Bruce Road, east of Lawrence Avenue
  - Caton Farm Road, east of Grandview Avenue

- 2-hour manual counts during both the A.M. and P.M. peak hours at the following 34 intersections (Peak Hour diagrams are provided in Appendix A):
  - Renwick Road & Gaylord Road
  - Renwick Road & Weber Road
  - Renwick Road & IL Route 53/IL Route 7
  - IL Route 7 & IL Route 171
  - IL Route 7 & Gougar Road
  - IL Route 7 & Cedar Road
  - IL Route 7/159th Street & Parker Road
  - IL Route 7/159th Street & Bell Road
  - IL Route 7/159th Street & U.S. Route 6/Wolf Road
  - 167th Street & Will-Cook Road
  - Caton Farm Road & Gaylord Road & U.S. Route 30
  - Caton Farm Road & Weber Road
  - Caton Farm Road & Oakland Avenue
  - Caton Farm Road & IL Route 53/IL Route 7
  - Bruce Road & IL Route 171
  - Bruce Road & Briggs Street
  - Bruce Road & Farrell Road
  - Bruce Road & Gougar Road
  - Bruce Road & Cedar Road (East and West intersections)
  - Chicago-Bloomington Road & Parker Road
  - Oak Avenue & Briggs Street
  - U.S. Route 6 & IL Route 171
  - U.S. Route 6 & Briggs Street
  - U.S. Route 6 & Gougar Road
  - U.S. Route 6 & Cedar Road
  - U.S. Route 6 & Parker Road
  - U.S. Route 6 & Wolf Road
  - 187th Street & Wolf Road
  - U.S. Route 30 & IL Route 171
  - U.S. Route 30 & Briggs Street

- U.S. Route 30 & Gougar Road
- U.S. Route 30 & Cedar Road
- Briggs Street & Division Street
- Cedar Road & 167th Street
- Larkin Avenue & U.S. Route 30

B. Traffic Volumes

In the development of planning studies, two types of traffic volumes are utilized as a basis for the provision of roadway improvements: *Average Daily Traffic (ADT)* volumes and *Peak Hour* volumes.

Average Daily Traffic

ADT volumes are frequently used as the basis for highway planning and general observations of trends. For example, ADT volumes can give the planning engineer an indication of the needed capacity of a roadway, in terms of number of lanes (e.g., two-lane, four-lane or six-lane). Average Daily Traffic is a 24-hour count of all of the vehicles that cross a given point in a roadway segment, in both directions. This data is usually collected through the conduct of a 24-hour directional tube count. Average Daily Traffic counts were performed at a number of locations throughout the study area and are listed above.

Peak Hour Traffic

The second type of volumes used in planning studies are those which occur during the peak periods of travel, or "peak hours". The peak hour is the single hour in the day during which the maximum volume of traffic occurs on a given facility. While the public may be more familiar with Average Daily Traffic volumes, it is the peak hour volume (often called the *Design Hourly Volume*, or *DHV*) that is used for more detailed roadway design purposes. For example, peak hour traffic volumes help the engineer to determine proper turning lane storage bay lengths at intersections or to rate the performance of intersections. Two-way peak hour volumes are also used to give an indication of needed capacity with respect to number of lanes.

Over the course of a year, the 365 daily peak hour volumes may be ranked in order of decreasing volume. Traditionally, the 30th highest peak hour of a full-year traffic count has been used in the design of roadways and intersections. It is generally considered uneconomic to provide additional capacity to accommodate demand that occurs only a few times (less than 30) per year. In urbanized areas, due to the strong component of repetitive daily commuter traffic, the 30th maximum peak hour commonly approaches the point as being the same as the 100th or even 200th maximum hour. The 30th peak hour has been found to be consistent with the "typical" peak hour period. To gather data representing the "typical" peak hour period, traffic counts are performed on non-holiday weekdays. Mondays and Fridays are generally not considered typical weekdays. In addition, count periods are chosen that avoid special events or unusually adverse weather conditions. Peak hour counts are typically performed at roadway intersections during both the A.M. and P.M. peak periods, or "rush hours". Counts for this study were performed in accordance with these guidelines

and count locations are listed above. Peak Hour count intersection diagrams are provided in Appendix A of this report.

The two-way peak hour traffic on a given intersection leg can be used to estimate the Average Daily Traffic volume on that roadway segment, and vice-versa. In urban and suburban areas, the two-way peak hour traffic volume is generally between 6% and 10% of the Average Daily Traffic volume. In other words, 6% to 10% of the traffic over an entire day occurs during a peak one-hour period.

C. Historic Traffic Volumes

Traditionally, in the suburban region surrounding Chicago, traffic volumes have increased steadily due to the regional growth in population and employment. This pattern is evident on Table II-1, which shows Average Annual Daily Traffic volumes for a number of selected roadways in Lockport and Homer Townships. These numbers were obtained from traffic volume maps published by IDOT. A number of observations can be made.

- **The total number of vehicles on the selected roadways listed increased from 63,675 vehicles to 200,150 vehicles (214% increase) over the 39 years between 1965 and 2004. This amounts to a 2.9% annualized growth rate.**

- **Between 1982 and 1999, the total volume increased from 87,325 vehicles to 200,150 vehicles (129% increase). The annualized growth rate was 3.8% per year over this recent 22-year period.**

- **Between 1982 and 2004, the volume on Bruce Road alone increased from 375 vehicles to 2,500 vehicles, a 9.0% annualized growth rate.**

- **The volume on the IL Route 7 bridge has remained relatively steady since 1991, while most of the other roadways have steadily increased. This suggests that the two-lane bridge is operating at or above capacity.**

D. Illinois Department of Transportation Design Criteria

To ensure adequate safety and traffic flow operation, IDOT provides maximum desirable two-way Design Hourly Volumes in vehicles per hour (vph) for two-lane and four-lane roadways as follows:

- Two-Lane Roadway: DHV < 1250 vph
- Four-Lane Roadway: 1250 vph $\leq$ DHV $\leq$ 2050 vph
- Six-Lane Roadway: DHV > 2050 vph

*Annual Average 24 Hour Traffic Volumes, For the indicated Roadways **

Roadway's Name East / West Roads	Year 1965	Year 1968	Year 1978	Year 1982	Year 1987	Year 1991	Year 1995	Year 1999	Year 2004
IL Rt 7 @ Bridge	10,100	8,800	27,600	17,900	17,900	26,000	25,500	21,200	27,000
IL Rt 7 @ Cedar Rd	4,350	3,150	6,900	6,200	9,500	10,200	14,000	14,700	16,500
Renwick Road	175	150	3,600	5,700	5,600	8,200	8,500	13,200	14,700
135th Street Bridge	2,150	4,600	6,000	7,000	2,200	1,700	0	13,400	13,800
143rd Street	1,200	1,400	2,250	1,800	3,750	2,500	2,500	3,300	3,400
151st Street	100	100	N/A	125	150	1,550	N/A	3,800	3,400
Division Street	250	275	650	250	250	325	4,100	4,300	5,200
Bruce Road	200	225	N/A	375	375	750	1,100	2,000	2,500
US Route 6	4,400	3,100	2,350	2,000	2,600	4,800	7,800	6,000	5,800
Caton Farm Road	2,250	1,050	5,500	5,300	5,400	6,500	6,900	9,700	7,300
Total	**25,175**	**22,850**	**54,850**	**46,650**	**47,725**	**62,525**	**70,400**	**91,600**	**99,600**

North / South Roads	Year 1965	Year 1968	Year 1978	Year 1982	Year 1987	Year 1991	Year 1995	Year 1999	Year 2004
Weber Road	75	75	N/A	1,300	1,550	15,200	20,200	23,900	22,200
Illinois Route 53	16,600	15,000	27,200	13,800	14,000	18,600	20,900	25,300	22,500
Illinois Route 171	14,100	13,700	21,000	13,100	13,400	13,200	14,800	15,000	14,200
Briggs Street	5,900	3,450	5,300	5,900	7,300	6,300	7,500	8,200	7,800
Farrell Road	100	175	N/A	375	425	800	1,200	1,950	1,750
Gougar Road	175	175	N/A	150	175	225	1,900	3,850	6,900
Cedar Road	900	1,150	2,800	3,500	5,600	6,400	6,700	8,500	9,800
Bell Road	650	1,200	3,350	2,550	4,850	10,000	14,900	15,100	15,400
Total	**38,500**	**34,925**	**59,650**	**40,675**	**47,300**	**70,725**	**88,100**	**101,800**	**100,550**

* Based on information obtained from traffic volume maps published by IDOT

Using the trend that the two-way peak hour volume is 6% to 10% of the Average Daily Traffic, the maximum desirable ADT for a two-lane facility is about 15,000 vpd (vehicles per day) and the maximum desirable ADT for a four-lane facility is about 32,000 vpd.
Roadway segments carrying more than about 32,000 vpd should desirably be six-lane roadways.

Though most arterial roadways in the study area are only two lanes wide, the existing traffic demands (with the exception of those on two-lane portions U.S. Route 30 and on IL Route 7) are still well below the desirable capacity of a two-lane roadway.

E. Existing Traffic Patterns

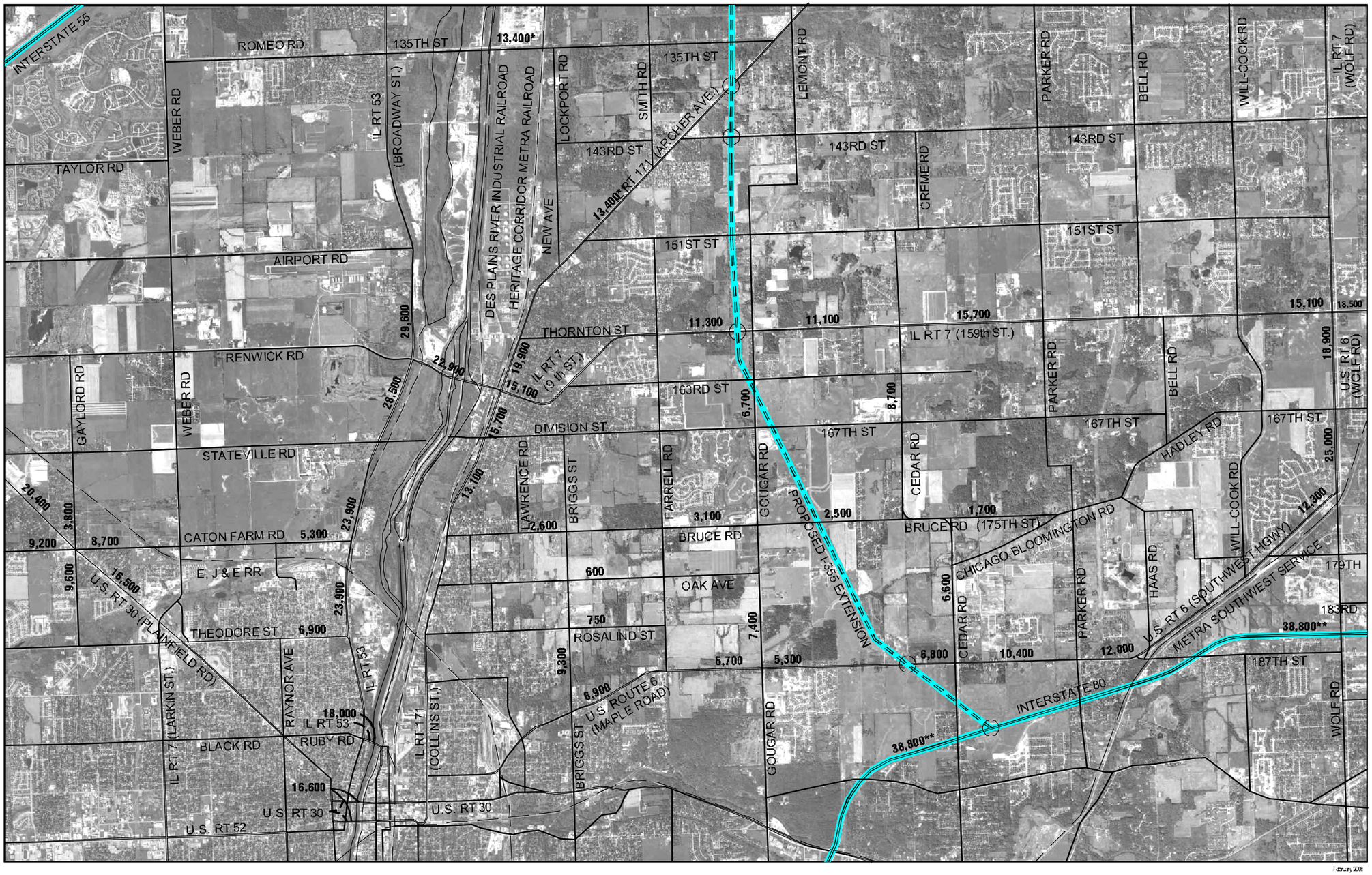
Exhibit II-1 shows 2004 existing ADT volumes for the study area based on both 24-hour traffic counts and peak hour intersection counts. A number of conclusions may be drawn from this exhibit.

- The Des Plaines River creates a significant barrier to east-west traffic circulation. The IL Route 7 bridge provides the only crossing within a 7-mile stretch of the river.

- The magnitude of traffic volumes on area roadways indicate that travel in the study area is predominantly north-south rather than east-west. This is due in part to the barrier to east-west travel that is created by the river as well as to the locations of employment and commercial centers.

- On either side of the river, the existing arterial streets are arranged in a fairly well developed grid system. The grid system provides a number of alternative routes for most trips and thus spreads out traffic demand so no one roadway is overburdened with traffic compared to another..

- Though most arterial roadways in the study area are only two lanes wide, the existing traffic demands (with the exception of those on two-lane portions of U.S. Route 30 and on IL Route 7) are still well below the desirable capacity of a two-lane roadway.



February 2008

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One Mile
SCALE

LEGEND

- Minor Arterial or Collector Route
- Principal Arterial Route
- Interstate Route
- Proposed Interstate Route
- Proposed Interchange

XX,XXX 2004 Existing Average Daily Traffic Volume

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CFB

Caton Farm- Bruce Road ■ Phase I S.I.u.y

EXISTING
2004 AVERAGE DAILY TRAFFIC (ADT) VOLUMES

EXHIBIT II-1

III. OVERVIEW OF TRAVEL DEMAND FORECASTING

All of us probably have some level of familiarity with modeling and forecasting. Perhaps as a child you played with or built models of cars, houses, ships or planes. Today you may check the local weather forecast (a statistical model) to help you decide what to do or what to wear tomorrow. A commonality between both of these examples is the illustration they present of a model as something that describes the structure or behavior of a real life counterpart. So it is in travel demand forecasting. Instead of plastic or wood, however, computers, databases and statistical models are used to describe travel behavior. With travel demand forecasting, we can simulate current or future travel behavior as well as estimate how travel behavior may respond if changes occur to either the supply of, or demand for, transportation services.

In the northeastern Illinois region, there are two key agencies involved in the development and maintenance of the region's travel demand forecasting system. The two agencies are the Chicago Area Transportation Study (CATS) and the Northeastern Illinois Planning Commission (NIPC).

Throughout the nation, large metropolitan areas are required by federal law to designate a Metropolitan Planning Organization (MPO). In our region, local elected officials and the Governor of Illinois have designated CATS (the CATS Policy Committee) as the MPO for northeastern Illinois. As the MPO, CATS has two primary responsibilities. These are the development of the long-range Regional Transportation Plan (RTP) and the short-range regional Transportation Improvement Program (TIP). CATS uses travel demand forecasting in its efforts to assess the impacts of proposed transportation projects, systems and polices on travel behavior and air quality. As part of this program, CATS is responsible for the management of databases that describe the characteristics of the region's transportation system, e.g., the number of lanes on existing roads, descriptions of proposed projects, bus routes and train schedules, as well as the demand for transportation services, e.g., travel patterns, number of trips and choices between different modes of travel.

CATS uses a wide variety of techniques and sources of information to help it describe our transportation system and understand our travel behavior, e.g., how often we travel, what modes of travel we prefer, where we go, and the route we take to get there. Examples of these techniques include: regional household travel surveys (in which all members in selected households record their trips for a given travel day), U. S. Census data, truck trip surveys, surveys of trips coming into and leaving the region, traffic counts on arterials and expressways, and data on the use of transit facilities.

NIPC, while not directly responsible for travel demand forecasting, does produce a key input to this process. NIPC develops socioeconomic forecasts of population, households and employment for the northeastern Illinois region. NIPC's forecast development process includes the participation of officials throughout the region, land use modeling to examine the

interaction between land use and transportation facilities, and review by municipal and county officials to assess consistency with local land use and development plans. A key end product of the process are forecasts of population, households and employment for over 15,000 geographic quarter-sections (an area approximately 0.25 square miles in size) in the region. Currently, these forecasts have a planning horizon of 2030.

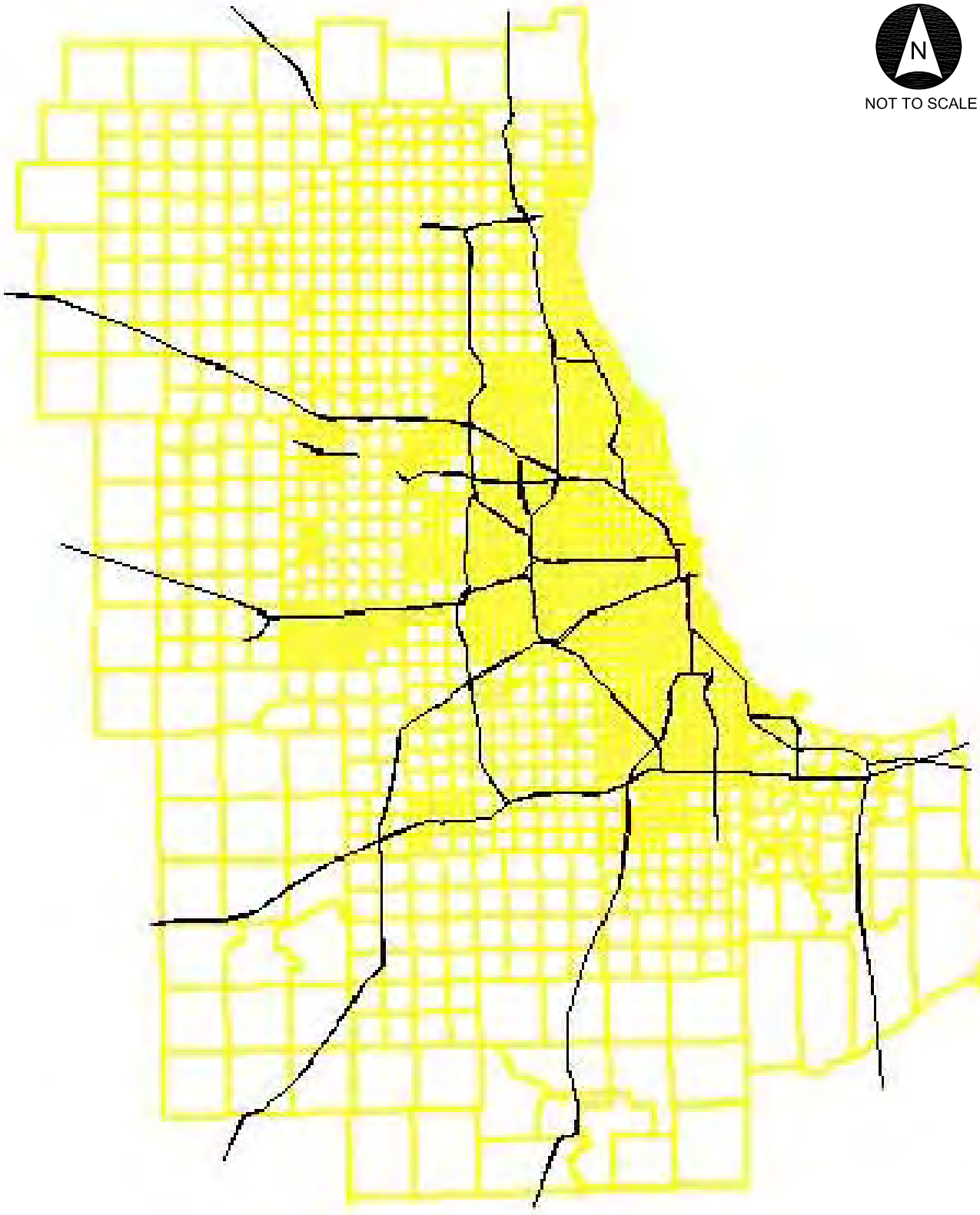
As is the case with CATS, NIPC also relies upon a wide variety of data to support its forecast process. Among these are census data, information on utility meter connections, building permit data, information on national and regional economic trends, local land use plans, and private development proposals.

All of these data are taken by CATS and put into a format that can be understood by the travel demand forecasting computer programs. The socioeconomic forecasts are aggregated into 1,790 traffic zones. (Each traffic zone represents a unique area within the northeastern Illinois region - see Exhibit III-1.) The information on the region's transportation system is depicted as a series of links and nodes as shown on Exhibit III-2. Within the program each link represents a portion of a facility such as a roadway or rail line. The program's database is used to note the characteristics of that segment such as the number of lanes or link travel time. Nodes may represent places where either streets intersect or the characteristics of a facility change, e.g., increase or decrease in number of lanes. A network of links and nodes represents the roadway system throughout the region and is used by the program to allow trips to move from one traffic zone to another. Exhibit III-3 shows the entire CATS regional roadway network.

In a region like northeastern Illinois, the size of these databases can grow to be quite impressive. For example, the 1,790 traffic zones means that the regional modeling system maintained by CATS must track travel between 3,204,100 origin-destination pairs. This travel occurs on a regional roadway network that is depicted by over 39,000 links and 13,000 nodes.

The travel demand models themselves are statistical formulae that are used to establish the relationships between socioeconomic and transportation network data as they relate to the demand for travel. The four basic types of travel demand models are:

- **Trip Generation** - The number of trips that are attracted to and produced by each traffic zone is determined.
- **Trip Distribution** - The number of trips that will travel from each zone in the region to every other zone in the region is estimated.
- **Mode Choice** - The method, e.g., auto or transit, that a trip will utilize when moving from one zone to another.
- **Trip Assignment** - The route that will be taken by trips moving between zones using a given mode.



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REGIONAL TRAFFIC ANALYSIS ZONES

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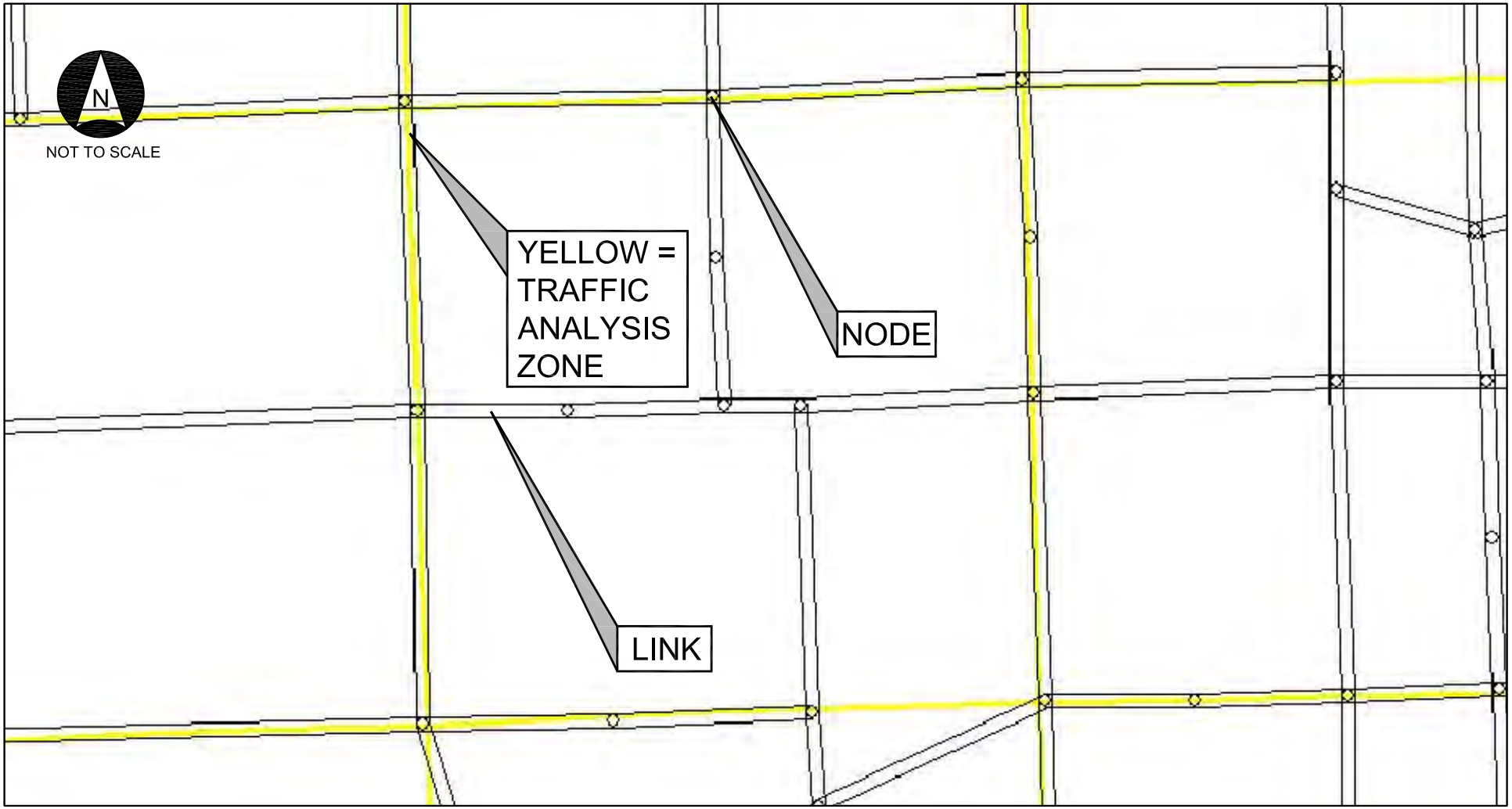
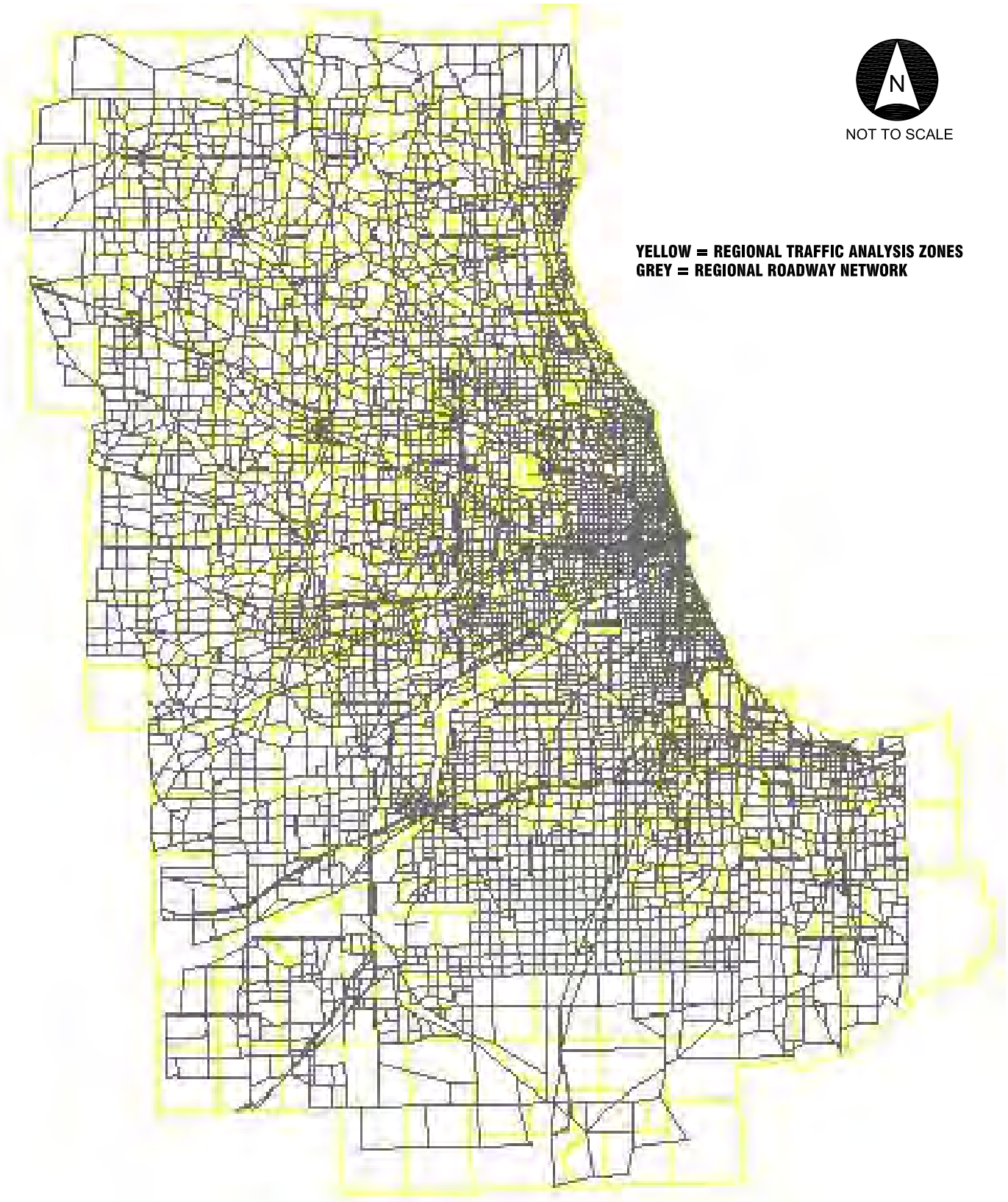
EXHIBIT III-1



TRANSPORTATION NETWORK: SAMPLE LINKS AND NODES

EXHIBIT III-2



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Caton Farm - Bruce Road Phase I Study

REGIONAL ROADWAY NETWORK

CIVILTECH

EXHIBIT III-3

The application of these models results in a great amount of information regarding travel patterns that can be used to assess the ability of the transportation system to meet regional travel needs. This information can also be used to evaluate the response of the system to changing network conditions or regional development patterns. Two important outputs from the application of travel demand forecasting systems are trip tables and forecasts of demand for transportation facilities. Trip tables provide information on the number of trips that move between zones for a given set of assumptions regarding socioeconomic and network characteristics. An example of a trip table is shown on Exhibit III-4. The forecasts of demand tell us how many trips we can expect to use roadways or transit lines. The possible uses of the information generated by the process are numerous and varied. Travel demand forecasting can be used to examine the impact of changes in the transportation network and regional development on travel patterns, levels of congestion or demand for selected facilities. Some other uses for travel demand forecasting are listed in Exhibit III-5.

Sample Trip Table

ORIGIN ZONES	DESTINATION ZONES								
	1	2	3	4	5	6	…	N	**Total**
1									
2									
3				A					
4									
5									
6									B
⋮									
N									
Total		C							

N = The number of zones in the network.
A = The number of trips that go from zone 3 to zone 4.
B = The total number of trips that originate from zone 6.
C = The total number of trips destined for zone 2.

Various Uses of Travel Demand Modeling

- **Make forecasts.**
  - Estimate the volume of traffic that will use an improved or new roadway.
  - Estimate the volume of traffic resulting from growth and development.
- **Evaluate plans.**
  - Do proposed improvements address problems or needs?
  - Which set of proposed improvements does the best job?
- **Understand interactions within the system.**
  - How do trips use the network to get from point A to point B?
  - What are the impacts on other roads from the proposed improvement?
- **Understand how the system operates.**
  - What are the origins and destinations of trips using a specific facility?
  - How does traffic during different times of the day differ?
  - Will we cause problems elsewhere with this improvement?
- **Aid decision making.**
  - What are the impacts of all proposed improvements on traffic patterns and congestion?
  - Which improvement may have the largest impact on our problems?
  - What is the cost effectiveness of the proposed actions?

IV. TRAVEL DEMAND FORECASTING METHODOLOGY

The travel demand forecasting methodology used in the Caton Farm Road / Bruce Road Phase I Study was comprised of the following steps:

- Establish study area boundaries,
- Extract study area network and trip table,
- Validate the study area network and trip table to replicate observed traffic movements (2002 base scenario),
- Extract 2030 study area network and trip tables,
- Develop a 2030 project No-Action scenario,
- Develop 2030 project improvement scenarios for each improvement option to be tested,
- Develop 2030 trip table,
- Run traffic assignments for all project improvement scenarios using 2030 trip tables, and,
- Compare the results of the project improvement scenarios to the 2030 project No-Action and 2004 base scenarios.

The travel demand forecasting conducted for this study utilized trip tables and transportation networks provided by the Chicago Area Transportation Study (CATS). These data were generated for the 2000 Conformity Analysis that was undertaken by CATS to support the development of the 2030 Regional Transportation Plan Update and the 2006 - 2011 Transportation Improvement Program (TIP).

Civiltech Engineering received (from CATS) EMME/2 data banks containing transportation networks and trip tables for the entire CATS analysis region. (EMME/2 is the name of the travel demand forecasting software used by CATS.) This region includes the counties of Lake, McHenry, Cook, DuPage, Kankakee, Kane, Kendall, Grundy, and Will counties in Illinois, and Lake County in Indiana and parts of other Illinois, Indiana and Wisconsin counties buffering the region. Exhibits III-1 and III-3 (in Section III) illustrate the CATS analysis region and roadway network, respectively. The travel demand forecasting methodology used for the Caton Farm Road / Bruce Road Phase I Study was developed and implemented by Civiltech Engineering using the EMME/2 travel demand forecasting software.

Establish study area boundaries

The definition of the study area was based on the following sources of information: results of a select link analysis, geographic scope of the improvement options to be tested, location of major roadways, and other available information on travel patterns in the area.

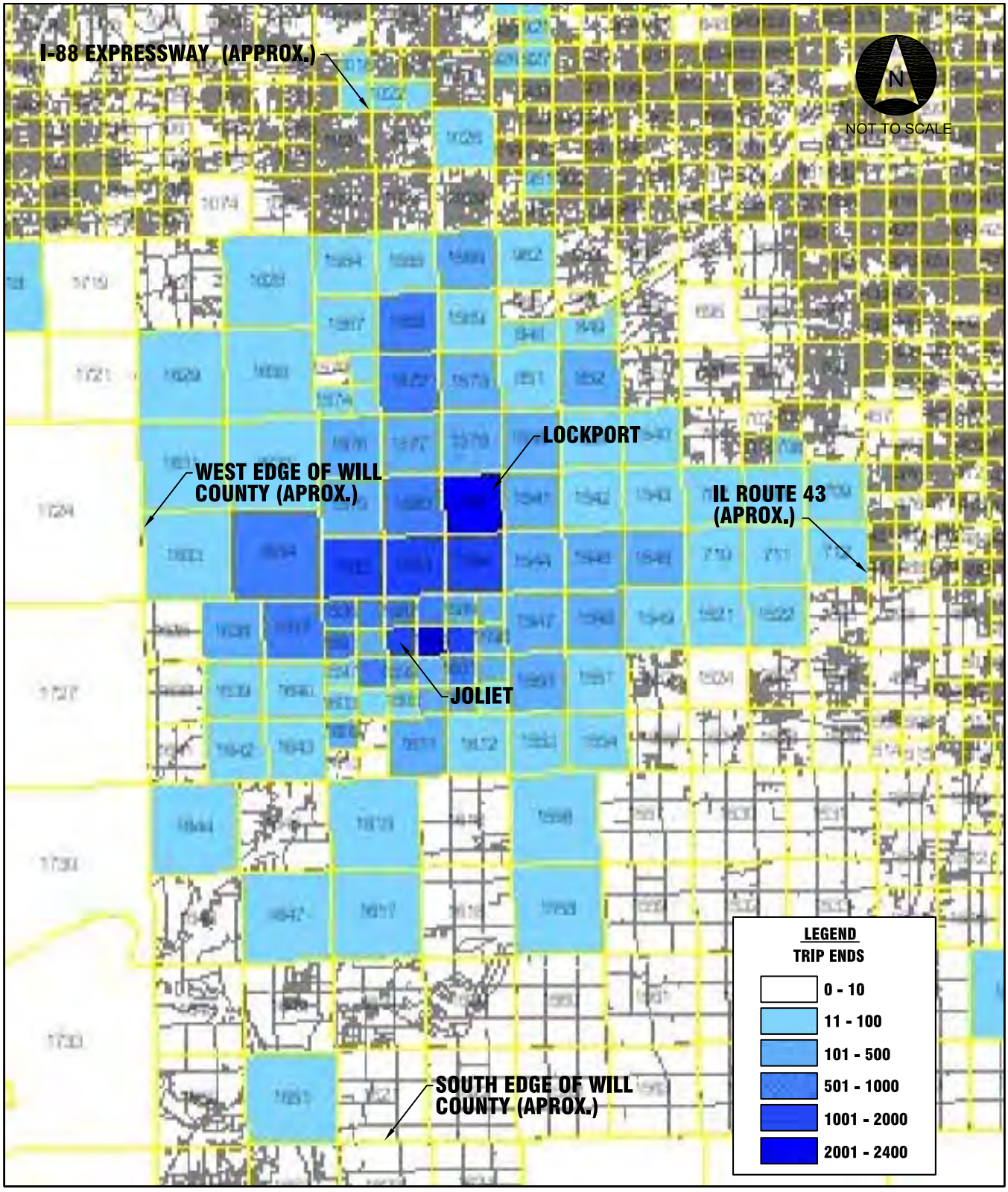
A select link analysis is a special type of assignment that focuses on trips that use a particular part of the network or specific roadway. The result of this type of assignment is a trip table containing only those trips that use the selected facilities. Using this type of analysis the origins and destinations of trips using the selected facilities can be identified. For this study two select link analyses were run. The first was run on the existing IL Route 7 bridge in Lockport and the U.S. Route 30 bridges in Joliet, using the regional network and trip tables for 2000. The second was run with the 2030 networks and trip tables using the same bridges as before in addition to the bridge at Caton Farm - Bruce Road that is included in the 2030 RTP Update.

From the resulting trip tables, the largest zones, in terms of the number of trips using the selected roadways – the above mentioned bridge segments – were identified. These zones were plotted over the regional network and are shown on Exhibit IV-1. This exhibit shows the results of the select link analysis. The pattern that emerges can be interpreted as a "market area" for the selected bridges. The darker the shade of blue, the higher the concentration of trip origins and destinations. This type of plot was used as an initial indication of the appropriate geographic size of the study area.

Second, the study area was defined in such a way as to include any roadway involved in an improvement option. For example, the consideration of IL Route 6 as part of an improvement option required that the study area encompass a large enough area to the south and east to include this option. The study area was also defined to include portions of major expressways near the project area, e.g., I-80, I-55 and the I-355 extension. Consideration of these factors, and any other available information on local travel patterns, led to the identification of the study area depicted in Exhibit IV-2. This area is bounded roughly on the north by I-88, on the south by southern border of Will County, on the east by IL Route 43, and on the west by the western border of Will County.

Extract study area network and trip table

Having identified the study area, the next step in the process was to extract from the full CATS regional network and trip table a network and trip table that corresponded to the study area. To accomplish this, first the network nodes and links that lie within the study area were identified. Then a traffic assignment was run that results in a trip table that includes all trips that either: have both trip ends within the study area; have one trip end within the study area; or that pass through the study area. This was accomplished in EMME/2 using a traversal assignment. This network and trip table were then extracted from the regional database and saved for use in a smaller study area database.



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Traffic Conditions Report

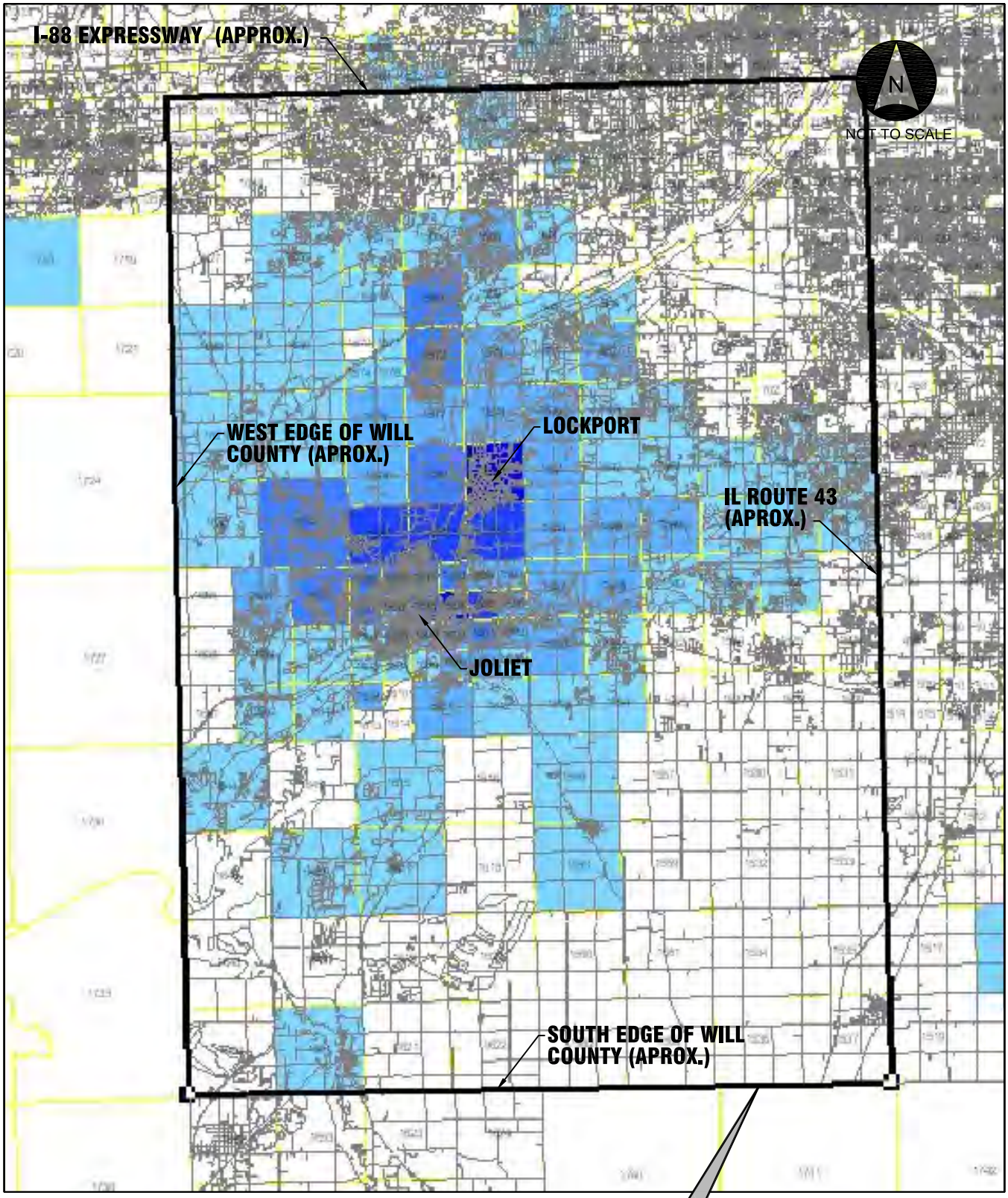
Will County Department of Highways

Caton Farm - Bruce Road Phase I Study

CIVILTECH

SELECT LINK ANALYSIS RESULTS PM PEAK PERIOD (2 HOURS)

EXHIBIT IV-1



February 2006

Traffic Conditions Report

Will County Department of Highways

Caton Farm - Bruce Road ■ Phase I Study

TRAVEL DEMAND MODEL STUDY AREA

CIVILTECH

EXHIBIT IV-2

The creation of the study area network had two major benefits. First, it allowed resources to be focused on that area most likely to be impacted by the improvements being considered as part of this study. Second, it significantly increased efficiency in the use of computing resources, reducing the computer processing time required to generate a traffic assignment from four hours to approximately ten minutes. From this point forward the modeling effort progressed using the study area network and trip tables that were focused on the Caton Farm Road / Bruce Road / IL Route 7 / U.S. Route 6 corridors and the surrounding areas.

Validate the study area network and trip table to replicate observed traffic movements (2004 base scenario)

The next step in the process was to assess the ability of the base year networks and trip table to replicate observed traffic patterns. This is called network validation. For this study, the validation process was carried out on a 2004 base network and trip table for the PM peak period.

During validation, highway assignments are performed and the results compared to observed counts. Adjustments are then made to correct major differences between modeled and observed traffic volumes. These adjustments take the shape of modification to the network database that will increase or decrease the amount of traffic being assigned to specific facilities. After some adjustments are made, another traffic assignment is run, the results examined and further adjustments made, if necessary. The iterative validation process continues until the 2004 base network modeled volumes and the observed volumes (from traffic counts) come to an acceptable level of agreement. In addition, an O-D matrix adjustment technique was applied. This procedure resulted in small adjustments to the trip table in order to further improve the agreement between modeled and observed traffic volumes.

Extract 2030 study area network and trip tables

Upon completion of network validation, work began on the development of the planning horizon year networks and trip tables. This effort began with 2030 regional networks and trip tables received from CATS. The 2030 network used in this study was from the CATS 2030 Regional Transportation Plan (RTP) Update. This network and corresponding trip tables are built on the assumption that the network represents the regional transportation system after implementation of the 2030 RTP. Included are the 2030 RTP transit and highway projects, improvements to the Strategic Regional Arterial (SRA) and Strategic Regional Transit (SRT) systems, and expansion of the local suburban bus system[1].

One difference in the treatment of the 2004 and 2030 networks is the result of there being no opportunity for 2030 network validation, i.e., there are no observed 2030 traffic volumes. However, while it is not possible to validate the 2030 network, it is possible to carry the validation changes made to the 2004 base network over to the 2030 network. Thus, the set of changes that resulted from the base year validation effort were applied to the 2030 network.

Develop a 2030 project No-Action scenario, and develop 2030 project

[1] For additional information on the 2030 Regional Transportation Plan visit the CATS web site at www.catsmpo.com.

improvement scenarios for each improvement option to be tested

The 2030 network included the 2030 project No-Action network and the 2030 Build option networks. In this case six build options were modeled. The project No-Action network reflects how we expect the transportation system to look in 2030 excluding any of the improvement options being considered as a part of the Bruce Road/Caton Farm Road Phase I Study.

The network and trip tables used in this study reflect improvements called for in the 2030 RTP. Among the transit and highway projects included in the 2030 RTP several were within or near the study area boundaries, including:

- Outer Circumferential Commuter Rail Corridor,
- Extension of the Southwest Service Metra Line to Manhattan, IL,
- Construction of the I-355 Extension to I-80,
- Add lanes to I-80 from U.S. 45 to I-55,
- Add lanes to I-55 from Naperville Road to U.S. Route 6
- Add lanes to U.S. Route 30 from Williams Street to IL Route 43 and from IL Route 59 to Larkin Avenue,
- Add lanes to 143rd Street from IL Route 171 to Wolf Road
- Add lanes to Bell Road from IL Route 7 to 131st Street,
- Add lanes to 159th Street from I-355 to 94th Avenue, and
- Add lanes to 135th Street from IL Route 171 to New Avenue.

Also included are improvements to the SRA and SRT systems and local suburban bus expansion.

The 2030 "build" networks reflect each of the improvement options under consideration as a part of this study. There is one build network for each option modeled and the coding of each improvement option starts with a copy of the 2030 project No-Build scenario. This ensures that the only difference between the project No-Action and build networks are the improvements being tested and that when the scenarios are evaluated, the results can be attributed to the proposed improvement and not to other network changes. Starting with the project No-Action network, links were added, modified or deleted as required to represent a particular option as accurately as possible.

Develop 2030 trip table

IDOT requires that the geometric design of a highway should be developed to accommodate expected traffic volumes over a 20-year design period, beginning at the completion of construction. The 2030 trip tables and networks support only an 18-year planning horizon beyond the base year traffic data. In order to better accommodate a 20-year design life, a Design Year of 2030 was selected for this effort. This required the development of traffic forecasts for 2030. It should be noted that a project of this magnitude may require a future update of the design traffic volumes, therefore, the 2030 projections may be on the low side.

Run traffic assignments for all project improvement scenarios using 2030 trip tables, and compare the results to the 2030 project No-Action and 2001 base scenarios

Following the coding of all improvement options, assignments were run for each option as well as the project No-Action network. This resulted in design year P.M. peak hour volumes being developed for every roadway link and intersection in the network for each option. The peak hour volumes were then factored to develop 2030 Average Daily Traffic (ADT) volumes for each of the options. Each improvement option was then evaluated as to its impact on traffic in the Caton Farm Road / Bruce Road Phase I study area.

V. 2030 PROJECT NO-ACTION TRAFFIC CONDITIONS

The 2030 Project No-Action scenario represents a prediction of the traffic conditions that would exist on study area roadways in the year 2030 if none of the various corridor improvement options that are part of this study are implemented. This scenario quantifies the consequences of doing no corridor improvement in the face of long range local and regional change. The Project No-Action scenario includes a complete analysis of the future traffic conditions and provides a basis by which the merits of all of the "Build" options can be evaluated.

The Project No-Action scenario limits transportation improvements within the immediate study area to those which are normally part of the existing traffic and maintenance program as well as those that are part of the 2030 Regional Transportation Plan Update. For example, street repairs would continue to be made and traffic signals would be adjusted as necessary to accommodate future traffic demands. The add lane improvements located in Will County that are part of the 2030 Regional Transportation Plan Update are contained in the Project No-Action network (as well as all "Build" improvement options) and are listed below.

- Construction of the I-355 Extension to I-80,
- Add lanes to I-80 from U.S. 45 to I-55,
- Add lanes to I-55 from Naperville Road to U.S. Route 6
- Add lanes to U.S. Route 30 from Williams Street to IL Route 43 and from IL Route 59 to Larkin Avenue,
- Add lanes to 143rd Street from IL Route 171 to Wolf Road
- Add lanes to Bell Road from IL Route 7 to 131st Street,
- Add lanes to 159th Street from I-355 to 94th Avenue, and
- Add lanes to 135th Street from IL Route 171 to New Avenue.

It is important to note that northeastern Illinois in general and Will County in particular are expected to experience growth by the year 2030. Current forecasts by the Northeastern Illinois Planning Commission (NIPC) indicate that the population of northeastern Illinois will increase by nearly 24% over the 2000 Census figure. Forecasts for Will County significantly exceed the regional rate. The population of Will County is expected to increase nearly 121% over 2000 levels. Of the six county northeastern Illinois region (Cook, DuPage, Kane, Lake, McHenry, and Will), Will County is expected to experience the most dramatic increase.

A major misconception that often arises when corridor improvement studies such as the Caton Farm Road/Bruce Road study are brought to the public is that many believe that selecting the "Project No-Action" alternative means "no change". With the expected population, household, and employment increases in Will County will come substantial increases in traffic demand on the existing street network, even if no or limited capacity improvements are implemented beyond the implementation of the 2030 RTP.

Exhibit V-1 shows 2030 projected ADT volumes for the study area for the Project No-Action option. A number of observations may be made from gathered information and this exhibit.

- The Northern Will County area is poised to experience dramatic population and employment growth over the next 25 years. With that change will come substantial increases in traffic demand on the existing street network.

- The expressway improvements that are proposed as part of the 2030 RTP will provide significant capacity benefits in the study area. If and when constructed, improvements to I-55, I-80 and the I-355 extension will accommodate an important proportion of the future travel demand.

- Though the 2030 model shows growth in east-west trips in the study area, north-south is still the predominant travel direction. In fact, a "select link" analysis of trips over the Des Plaines river bridges indicates that more trip origins and destinations are located north and south of the bridges than east and west.

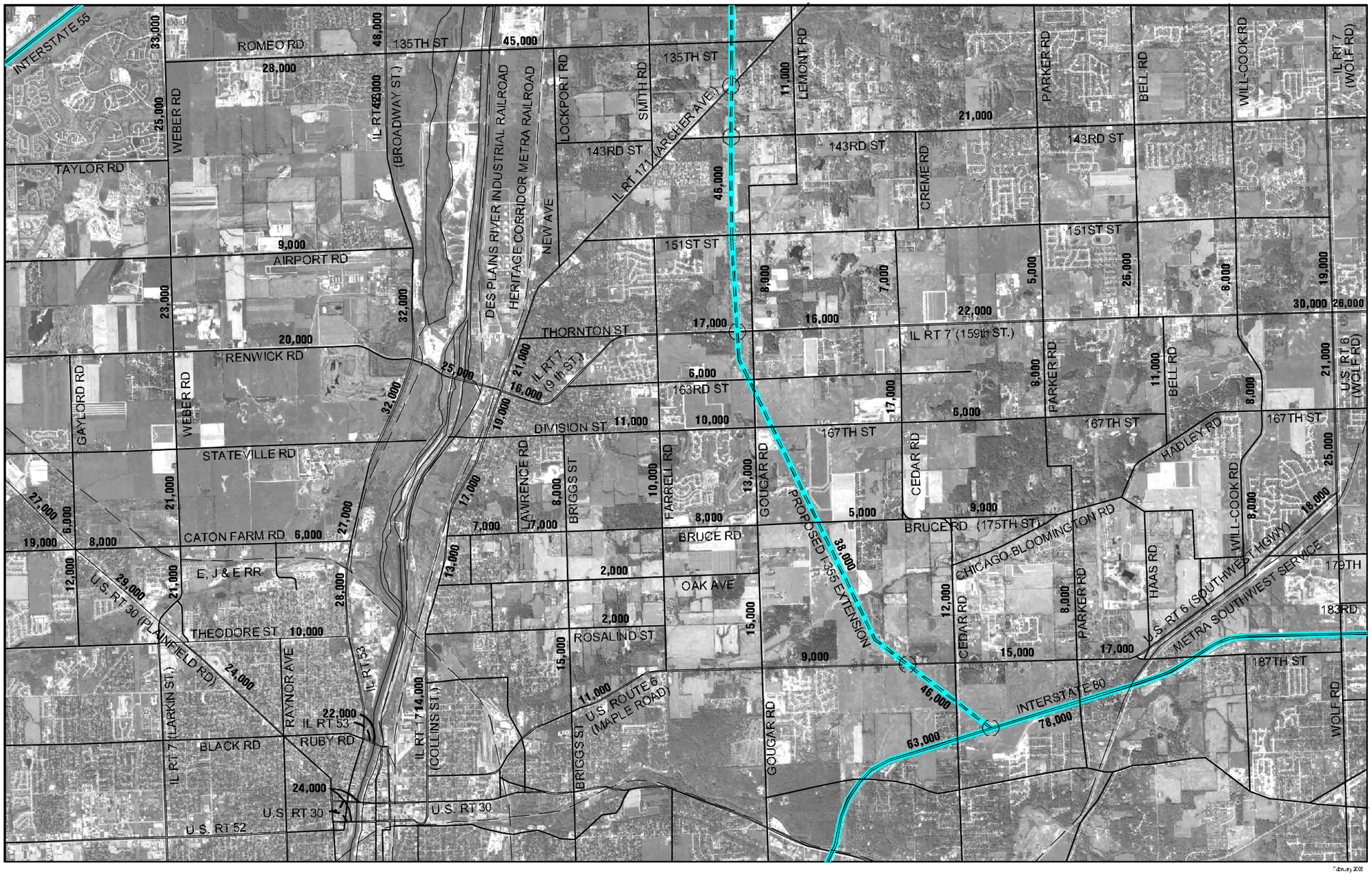
- Whether serving purely east-west trips or as a link in north-south trips, travel demand crossing the Des Plaines River bridges is projected to increase by almost 64% over the 2004 existing volumes even if no new river bridge is constructed.

- Because of the arterial grid system, area-wide growth in travel demand is forecast to spread out over a number of roadways in the study area. As a result, future travel demand will exceed the desirable capacity of only a few area arterial roadways. The remaining arterials are forecast to have sufficient lane capacity to safely and efficiently accommodate future travel demand.

- The traffic data clearly show that "No-Action" does not mean "no change". Travel demand on the river crossings in 2030 under the No-Action scenario is expected to be 64% greater than that under the 2004 Existing conditions. This is a 2.0% annualized increase over that period.

- Even with the 2030 RTP improvements, there will be a number of arterial roadways where forecast travel demand will exceed desirable capacity. Using IDOT urban design criteria for 4-lane roadways (i.e. Design Hourly Volume (DHV) in excess of 1250 vph), roadways with ADT's in excess of about 15,000 vpd warrant 4-lane cross sections to provide adequate traffic safety and operation. Travel demand in excess of about 32,000 vpd warrants a 6-lane cross section (i.e. DHV in excess of 2050 vph). Based upon that criteria, the following roadway segments would be subject to travel demand in excess of desirable capacity under the Project No-Action scenario:

Roadway	Segment Limits
North-South Roadways	
Weber Road	North of 135th Street
IL Route 53	Division Street to north of 135th Street
Gougar Road	U.S. Route 6 to 175th Street
Wolf Road	Southwest Highway to 143rd Street
Briggs Street	U.S. Route 6 to Bruce Road
East-West Roadways	
135th Street	IL Route 53 to Lockport Road
Renwick Road / IL Route 7	Weber Road to Farrell Road
Caton Farm Road	West of U.S. Route 30
U.S. Route 6	Cedar Road to Wolf Road



CIVILTECH

N

One Mile

SCALE

LEGEND

- Minor Arterial or Collector Route
- Principal Arterial Route
- Interstate Route
- Proposed Interstate Route
- Proposed Interchange
- Modeled Improvements Included as part of the 2030 Regional Transportation Plan
- XX,XXX 2030 Existing Average Daily Traffic Volume

February 2008

Traffic Conditions Report

Will County Department of Highways

CFB

Caton Farm- Bruce Road Phase I Study

PROJECT NO-ACTION
2030 PROJECTED AVERAGE DAILY TRAFFIC (ADT) VOLUMES

EXHIBIT V-1

VI. 2030 BUILD TRAFFIC CONDITIONS: AN EVALUATION OF ALTERNATIVES

The purpose of this project is to provide a transportation system improvement that will address capacity, operational, and safety deficiencies; and satisfy projected 2030 travel demands within a regional corridor extending between Caton Farm Road at U.S. Route 30 and IL Route 7 (159th Street) at Cedar Road. Specifically, the proposed system improvements should accommodate population and employment growth, provide improved system linkage by providing a new bridge over the Des Plaines River, accommodate projected transportation demand, optimize modal interrelationships and increase travel safety in the study area. Toward that end, a number of alternatives were developed that may meet these goals. A list of the options along with a brief description is provided in Table VI-1. In addition, Exhibits B-1 through B-9 contain schematics of each alternative.

Future roadway transportation network models were developed as described in Section IV of this report for the alternatives. The transportation network demand modeling completed as part of this study produced design year P.M. peak hour volumes for every roadway link and intersection in the network for each modeled option. The peak hour volumes were factored to develop 2030 Average Daily Traffic (ADT) volumes for each of the options. From these data, it was possible to evaluate each of the improvement options as to their capacity benefit in the river crossings corridors and surrounding study area.

Following is a brief discussion of the effects of each of the “Build” options on traffic volumes and patterns. Average Daily Traffic maps for the study area for each alternative are provided in Appendix B of this report. Table VI-2, located at the end of this section, summarizes the ADT volumes on a number of key roadway segments for each option.

SUMMARY OF ALTERNATIVES

Alternative	Description
2030 No-Action Alternative	No improvements to study area except those contained in the 2030 Regional Transportation Plan.
Bridge Only Alternative	No-Action Alternative plus a new Des Plaines River bridge within the study area.
Theodore - Rosalind Corridor	
Theodore -Gougar Alignment	• New Des Plaines River bridge • Widening Theodore Street, Rosalind Street and Gougar Road to 4-lane roadways.
Theodore - Wolf Alignment	• New Des Plaines River bridge • Widening Theodore Street, Rosalind Street, Gougar, U.S. Route 6 and Wolf Road to 4-lane roadways.
Caton Farm - Oak Corridor	
Oak - Gougar Alignment	• New Des Plaines River bridge • Widening Caton Farm Road, Oak Avenue and Gougar Road to 4-lane roadways.
Oak - Middle Alignment	• New Des Plaines River bridge • Widening Caton Farm Road and Oak Avenue to 4-lane roadways. • New 4-lane roadway between Oak Avenue and 159th Street.
Oak - Cedar Alignment	• New Des Plaines River bridge • Widening Caton Farm Road, Oak Avenue, and Cedar Road to 4-lane roadways.
Caton Farm - Bruce Corridor	
Bruce - Gougar Alignment	• New Des Plaines River bridge • Widening Bruce Road, Caton Farm Road and Gougar Road to 4-lane roadways.
Bruce - Middle Alignment	• New Des Plaines River bridge • Widening Caton Farm Road and Bruce Road to 4-lane roadways. • New 4-lane roadway between Bruce Road and 159th Street.
Bruce - Cedar Alignment	• New Des Plaines River bridge • Widening Caton Farm Road, Bruce Road and Cedar Road to 4-lane roadways.

Summary of Alternatives
Table VI-1

AVERAGE DAILY TRAFFIC VOLUMES
ON SELECT ROADWAY SEGMENTS
(Vehicles Per Day)

Alternative	New Bridge	IL Route 7 Bridge	Ruby Street Bridge	Caton Farm Road	Bruce Road	Oak Avenue	Theodore Street	Rosalind Street	Gougar Road	Cedar Road
2004 Existing	N/A	22,900	18,000	5,300	2,600	600	6,900	750	6,700	8,700
2030 No-Action	N/A	25,000	22,000	6,000	7,000	2,000	10,000	2,000	13,000	17,000
Bridge Only	32,000	17,000	17,000	%	%	%	%	%	13,000	17,000
Theodore - Rosalind Corridor										
Theodore - Gougar	34,000	20,000	14,000	5,000	4,000	2,000	28,000	17,000	18,000	8,000
Theodore - Wolf	34,000	20,000	14,000	5,000	4,000	2,000	28,000	17,000	15,000	12,000
Caton Farm - Oak Corridor										
Oak - Gougar	36,000	17,000	17,000	28,000	5,000	25,000	10,000	2,000	18,000	14,000
Oak - Middle	36,000	17,000	17,000	28,000	5,000	25,000	10,000	2,000	8,000	8,000
Oak - Cedar	36,000	17,000	17,000	28,000	5,000	25,000	10,000	2,000	15,000	15,000
Caton Farm - Bruce Corridor										
Bruce - Gougar	36,000	17,000	17,000	28,000	25,000	2,000	10,000	2,000	22,000	8,000
Bruce - Middle	36,000	17,000	17,000	28,000	25,000	2,000	10,000	2,000	8,000	6,000
Bruce - Cedar	36,000	17,000	17,000	28,000	25,000	2,000	10,000	2,000	15,000	15,000

% Traffic volumes vary considerable based upon Bridge Corridor.

Average Daily Traffic Volumes
Table VI-2

A. Bridge Only Alternative

This alternative consists of only constructing a new 4-lane Des Plaines River bridge. This new bridge could be located in any of the three river crossing corridors and the results on the area roadways would be comparable. It has been assumed for this analysis that the new bridge connects Caton Farm on the west side of the river to Bruce Road on the east side of the river, as shown on Exhibit B-1. No other roadway capacity improvements beyond the base 2030 RTP are included in this scenario. Following is a summary of the expected traffic impacts of this alternative on the area street network.

- When compared to the Project No-Action scenario, the impact of this alternative is limited to the area of the arterial street network between Gougar Road and Gaylord Road on the east and west, and to the area between Renwick Road and Rosalind Street on the north and south. Impacts are also seen at all of the existing river crossings between 135th Street and the Joliet bridges. Outside of that area of influence, this alternative is nearly identical to the No-Action scenario.

- Within the area of influence, the effect of this alternative is to shift traffic demand from the existing bridges to the new river crossing. Between 20 and 30 percent of the existing traffic demand on each of the existing bridges would divert to the new bridge. The impact of this diversion, however, would be felt along the 2-lane portions of the approach roadways adjacent to the bridge. These approach roadway segments would experience traffic demand in excess of their desirable capacities.

- The new Des Plaines River bridge will carry a significant volume of traffic under this alternative despite the lack of capacity on the approach roadways. Using IDOT design criteria, the proposed bridge would need to be 6 lanes wide to provide adequate safety and operation through the design year.

- The heavy traffic volumes forecast for the new bridge appear to dissipate within a couple of miles either side of the river. This is because NIPC has forecast relatively dense development adjacent to the river as well as because a number of north-south trips would use the new bridge to traverse the river.

- The following roadway segments would be subject to travel demand in excess of desirable capacity under this improvement scenario:

Roadway	Segment Limits
North-South Roadways	
Weber Road	North of 135th Street
IL Route 53	Renwick Road to north of 135th Street
Briggs Street	U.S. Route 6 to Bruce Road
Gougar Road	U.S. Route 6 to Bruce Road
Wolf Road	Southwest Highway to 143rd Street

Cedar Road	Bruce Road to 159th Street

East-West Roadways

Renwick Road/IL Route 7	Weber Road to IL Route 171
Caton Farm-Bruce Road	West of U.S. Route 30
Caton Farm-Bruce Road	Weber Road to Farrell Road
U.S. Route 6	Cedar Road to Wolf Road

B. Theodore Street - Rosalind Street Corridor

1. Theodore - Gougar Alignment

This alternative consists of constructing a new 4-lane Des Plaines River bridge connecting Theodore Street on the west to Rosalind Street on the east. In concert with the new bridge, portions of Theodore Street, Rosalind Street and Gougar Road would be widened to four lanes, as shown on Exhibit B-2. Specifically, the four-lane improvement would extend on Theodore Street from U.S. Route 30 to IL Route 53, on Rosalind Street from IL Route 171 to Gougar Road, and on Gougar Road from Rosalind Street to 159th Street. Following is a summary of the expected traffic impacts of this alternative on the area street network.

- The new Des Plaines River bridge will attract large volumes of traffic which otherwise would use nearby river bridges. With construction of this alternative, future traffic volumes would be 16% less on the 135th Street Bridge, 35% less on the Joliet bridges and 20% less on the IL Route 7 bridge compared to the Project No-Action scenario.

- The new Des Plaines River bridge will carry a significant volume of traffic under this alternative. Using IDOT design criteria, the proposed bridge would need to be 6 lanes wide to provide adequate safety and operation through the design year.

- The following roadway segments would be subject to travel demand in excess of desirable capacity under this improvement scenario:

Roadway	Segment Limits
North-South Roadways	
Weber Road	North of 135th Street
IL Route 53	Renwick Road to north of 135th Street
U.S. Route 30	Caton Farm Road to Black Road
U.S. Route 6	Wolf Road to Street to 151st Street
Gougar Road	U.S. Route 6 to Bruce Road
Wolf Road	Southwest Highway to 143rd Street
Briggs Street	U.S. Route 6 to Bruce Road

East-West Roadways

Renwick Road / IL Route 7	Weber Road to Farrell Road
U.S. Route 6	Cedar Road to Wolf Road

- With construction of a new river bridge, it is expected that traffic volumes on IL Route 7 through downtown Lockport initially would decrease; but would grow back over the next 20 years to nearly today's level assuming no steps are taken to discourage through-traffic in the downtown.

- Construction of this alternative would reduce travel demand on Cedar Road between Bruce Road and 159th Street by as much as 53% compared to the Project No-Action scenario. However, there will be little impact on future travel demand on other arterial highways located within the Village of Homer Glen between IL Route 7 and U.S. Route 6.

2. Theodore - Wolf Alignment

This alternative consists of constructing a new 4-lane Des Plaines River bridge connecting Theodore Street on the west to Rosalind Street on the east, as shown on Exhibit B-3. In concert with the new bridge, portions of Theodore Street, Rosalind Street, Gougar Road and U.S. Route 6 would be widened to four lanes. Specifically, the 4-lane improvement would extend on U.S. Route 30 from Caton Farm Road to Theodore Street and then east on Theodore Street to Il Route 53. East of the river, the improvement would extend from the intersection of IL Route 171 and Rosalind Street east to Gougar Road, turn south on Gougar Road to U.S. Route 6. At U.S. Route 6 the improvement to travel east and then north on Wolf Road to 159th Street. Following is a summary of the expected traffic impacts of Option N on the area street network.

- West of Gougar Road, the impacts of this alternative would be nearly identical to the impacts of the Theodore - Gougar Alignment when compared to the Project No-Action scenario.

- East of Gougar Road, the future traffic demands are spread over a number of arterial streets. Traffic volumes in this portion of the study area are nearly identical to the Project No-Action scenario except for travel demand on U.S. Route 6, which would increase.

- This alternative will have little impact on future travel demand on other arterial highways located within the Village of Homer Glen between IL Route 7 and U.S. Route 6.

- The following roadway segments would be subject to travel demand in excess of desirable capacity under this improvement scenario:

Roadway	Segment Limits
North-South Roadways	
Weber Road	North of 135th Street
IL Route 53	Renwick Road to north of 135th Street
U.S. Route 30	Division Street to Gaylord Road
Gougar Road	U.S. Route 6 to Bruce Road
Cedar Road	Bruce Road to 159th Street
East-West Roadways	
Renwick Road / IL Route 7	Weber Road to IL Route 171

C. Caton Farm -Oak Corridor

1. Oak - Gougar Alignment

This alternative consists of constructing a new 4-lane Des Plaines River bridge connecting Caton Farm Road on the west to Oak Avenue on the east as shown on Exhibit B-4. In concert with the new bridge, portions of Caton Farm Road, Oak Avenue and Gougar Road would be widened to four lanes. Specifically, the four-lane improvement would extend on Caton Farm Road from U.S. Route 30 to IL Route 53, on Oak Avenue from IL Route 171 to Gougar Road and then turn north to connect with 159th Street. Following is a summary of some of the expected traffic impacts of this alternative on the area street network.

- The new Des Plaines River bridge will attract significant volumes of traffic which otherwise would use nearby river bridges. With construction of this alternative, future traffic volumes would be 29% less on the 135th Street Bridge, 24% less on the Joliet bridges and 32% less on the IL Route 7 bridge compared to the Project No-Action scenario. Traffic volumes would also be reduced through downtown Lockport.

- The new Des Plaines River bridge will carry a significant volume of traffic under this alternative. Using IDOT design criteria, the proposed river bridge would need to be 6 lanes wide to provide adequate safety and operation through the design year.

- The following roadway segments would be subject to travel demand in excess of desirable capacity under this improvement scenario:

Roadway	Segment Limits
North-South Roadways	
Weber Road	North of 135th Street
IL Route 53	Renwick Road to north of 135th Street
U.S. Route 30	Division Street to Gaylord Road
Wolf Road	Southwest Highway to 143rd Street
Briggs Street	U.S. Route 6 to Oak Avenue

Gougar Road	U.S. Route 6 to Oak Avenue
East-West Roadways	
Renwick Road / IL Route 7	Weber Road to IL Route 171
Caton Farm-Oak Avenue	IL Route 53 to IL Route 171
U.S. Route 6	Cedar Road to Wolf Road

- With construction of a new river bridge, it is expected that traffic volumes on IL Route 7 through downtown Lockport initially would decrease; but would grow back over the next 20 years to nearly today's level assuming no steps are taken to discourage through-traffic in the downtown.

- Construction of this alternative would reduce travel demand on Cedar Road between Bruce Road and 159th Street by 18% compared to the Project No-Action scenario. This option, however, will have little impact on future travel demand on other arterial highways located within the Village of Homer Glen between IL Route 7 and U.S. Route 6.

2. Oak - Middle Alignment

This alternative consists of constructing a new 4-lane Des Plaines River bridge connecting Caton Farm Road on the west to Oak Avenue on the east as shown on Exhibit B-5. In concert with the new bridge, portions of Caton Farm Road and Oak Avenue would be widened to four lanes. Specifically, the four-lane improvement would extend on Caton Farm Road from U.S. Route 30 to IL Route 53, on Oak Avenue from IL Route 171 to east of I-355 and then turn north on a new alignment and connect to 159th Street near Cedar Road. Following is a summary of the expected traffic impacts of this option on the area street network.

- The impacts of this alternative would be nearly identical to the impacts of the Oak-Gougar alignment when compared to the Project No-Action scenario. One notable difference is on the segment of Gougar Road between Bruce Road and 159th Street. With construction of the new 4-lane frontage road east of the tollway, Gougar Road could remain a 2-lane roadway through the 2030 design year.

- Construction of this alternative would reduce travel demand on Cedar Road between Bruce Road and 159th Street by as much as 53% compared to the Project No-Action scenario. This alternative, however, will have little impact on future travel demand on other arterial highways located within the Village of Homer Glen between IL Route 7 and U.S. Route 6.

- This alternative would have the same roadway segments subject to travel demand in excess of desirable capacity as the Oak-Gougar alignment.

- Construction of this alternative would reduce travel demand on Cedar Road

between Bruce Road and 159th Street by 53% compared to the Project No-Action scenario. This option, however, will have little impact on future travel demand on other arterial highways located within the Village of Homer Glen between IL Route 7 and U.S. Route 6.

3. Oak - Cedar Alignment

This alternative consists of constructing a new 4-lane Des Plaines River bridge connecting Caton Farm Road on the west to Oak Avenue on the east as shown on Exhibit B-6. In concert with the new bridge, portions of Caton Farm Road and Oak Avenue would be widened to four lanes. Specifically, the four-lane improvement would extend on Caton Farm Road from U.S. Route 30 to IL Route 53, on Oak Avenue from IL Route 171 to east of I-355 and then turn north onto Cedar Road and extend to 159th Street. Following is a summary of the expected traffic impacts of this option on the area street network.

- The impacts of this alternative would be nearly identical to the impacts of the Oak-Gougar alternative when compared to the Project No-Action scenario except that more traffic would be drawn to Cedar Road and less to Gougar Road.

- The following roadway segments would be subject to travel demand in excess of desirable capacity under this improvement scenario:

Roadway	Segment Limits
North-South Roadways	
Weber Road	North of 135th Street
IL Route 53	Renwick Road to north of 135th Street
U.S. Route 30	Division Street to Gaylord Road
Gougar Road	U.S. Route 6 to 159th Street
Wolf Road	Southwest Highway to 143rd Street
East-West Roadways	
Renwick Road / IL Route 7	Weber Road to IL Route 171
Caton Farm-Oak Avenue	IL Route 53 to IL Route 171
U.S. Route 6	Cedar Road to Wolf Road

D. Caton Farm Road - Bruce Road Corridor

1. Bruce - Gougar Alignment

This alternative consists of constructing a new 4-lane Des Plaines River bridge connecting Caton Farm Road on the west to a relocated Bruce Road on the east as shown on Exhibit B-7. In concert with the new bridge, portions of Caton Farm Road, Bruce Road and Gougar Road would be widened to four lanes. Specifically, the four-lane improvement would extend on

Caton Farm Road from U.S. Route 30 to IL Route 53, on Bruce Road from IL Route 171 to Gougar Road, and on Gougar Road from Bruce Road to IL Route 7 (159th Street). Following is a summary of the expected traffic impacts of this alternative on the area street network.

- The new Des Plaines River bridge will attract significant volumes of traffic which otherwise would use nearby river bridges. With construction of this alternative, future traffic volumes would be 29% less on the 135th Street Bridge, 24% less on the Joliet bridges and 32% less on the IL Route 7 bridge compared to the Project No-Action scenario. Traffic volumes would also be reduced through downtown Lockport.

- The new Des Plaines River bridge will carry a significant volume of traffic. Using IDOT design criteria, the proposed river bridge would need to be 6 lanes wide to provide adequate safety and operation through the design year.

- The following roadway segments would be subject to travel demand in excess of desirable capacity under this G improvement scenario:

Roadway	Segment Limits
North-South Roadways	
Weber Road	North of 135th Street
IL Route 53	Renwick Road to north of 135th Street
U.S. Route 30	Division Street to Gaylord Road
Wolf Road	Southwest Highway to 143rd Street
East-West Roadways	
Renwick Road / IL Route 7	Weber Road to IL Route 171
Caton Farm-Bruce Road	IL Route 53 to IL Route 171
U.S. Route 6	Cedar Road to Wolf Road

- With construction of a new river bridge, it is expected that traffic volumes on IL Route 7 through downtown Lockport initially would decrease; but would grow back over the next 20 years to nearly today's level assuming no steps are taken to discourage through-traffic in the downtown.

- Construction of this alternative would reduce travel demand on Cedar Road between Bruce Road and 159th Street by as much as 53% compared to the Project No-Action scenario. This alternative however, will have little impact on future travel demand on other arterial highways located within the Village of Homer Glen between IL Route 7 and U.S. Route 6.

2. Bruce - Middle Alignment

This alternative consists of constructing a new 4-lane Des Plaines River bridge connecting Caton Farm Road on the west to a relocated Bruce Road on the east as shown on Exhibit B-8.

In concert with the new bridge, portions of Caton Farm Road and Bruce Road would be widened to four lanes. Specifically, the 4-lane improvement would extend on Caton Farm Road from U.S. Route 30 to IL Route 53 and on Bruce Road from IL Route 171 to the proposed I-355 overpass where it would turn north on a new alignment to a connection with IL Route 7 (159th Street). Following is a summary of the expected traffic impacts of this alternative on the area street network:

- The impacts of this alternative would be nearly identical to the impacts of the Bruce-Gougar alignment when compared to the Project No-Action scenario. The only notable difference is on the segment of Gougar Road between Bruce Road and 159th Street. With construction of the new 4-lane frontage road east of the tollway, Gougar Road could remain a 2-lane roadway through the 2030 design year.

- Construction of this alternative would reduce travel demand on Cedar Road between Bruce Road and 159th Street by as much as 65% compared to the Project No-Action scenario. This alternative, however, will have little impact on future travel demand on other arterial highways located within the Village of Homer Glen between IL Route 7 and U.S. Route 6.

- This alternative would have the same roadway segments subject to travel demand in excess of desirable capacity as the Bruce-Gougar alignment.

3. Bruce - Cedar Alignment

This alternative consists of constructing a new 4-lane Des Plaines River bridge connecting Caton Farm Road on the west to a relocated Bruce Road on the east as shown on Exhibit B-9. In concert with the new bridge, portions of Caton Farm Road, Bruce Road and Cedar Road would be widened to four lanes. Specifically, the 4-lane improvement would extend on Caton Farm Road from U.S. Route 30 to IL Route 53 and on Bruce Road from IL Route 171 to Cedar Road, and on Cedar Road to a connection with IL Route 7 (159th Street). Following is a summary of the expected traffic impacts on the area street network:

- The impacts of this alternative would be nearly identical to the impacts of the Bruce-Gougar alternative when compared to the Project No-Action scenario except that more traffic would be drawn to Cedar Road and less to Gougar Road.

- The following roadway segments would be subject to travel demand in excess of desirable capacity under this improvement scenario:

Roadway	Segment Limits
North-South Roadways	
Weber Road	North of 135th Street
IL Route 53	Renwick Road to north of 135th Street
U.S. Route 30	Division Street to Gaylord Road

Gougar Road	U.S. Route 6 to 159th Street
Wolf Road	Southwest Highway to 143rd Street

East-West Roadways

Renwick Road / IL Route 7	Weber Road to IL Route 171
Caton Farm-Bruce Road	IL Route 53 to IL Route 171
U.S. Route 6	Cedar Road to Wolf Road

VII. CONCLUSIONS

The Caton Farm Road / Bruce Road Phase I Study was initiated by the Will County Department of Highways in May, 2001 to study the feasibility of implementing a portion of the improvements recommended in the Will County 2020 Transportation Framework Plan. Demand projections by the Chicago Area Transportation Study (CATS) evaluated in the 2030 Transportation Plan study *validated the need to create a higher-capacity, continuous east-west arterial connecting the west central and north central subareas of the county*.

Historically, in the suburban region surrounding Chicago, traffic volumes have increased steadily due to the regional growth in population and employment. This pattern has been evident on roadways in the Lockport and Homer Township area over the past several decades. Based on regional forecasts of future population and employment, Lockport and Homer Townships, and the greater Will County area will continue to experience dramatic change over the next 20 years. With that change will come substantial increases in traffic demand on the existing street network, even if no or limited capacity improvements are implemented.

The primary goal of the Caton Farm / Bruce Road Phase I Study is to identify and implement feasible improvements which will meet long term east-west transportation needs in the vicinity of the Caton Farm Road / Bruce Road corridor. Specifically, the proposed system improvements should accommodate population and employment growth, provide improved system linkage by providing a new bridge over the Des Plaines River, accommodate projected transportation demand, optimize modal interrelationships and increase travel safety in the study area. Toward that end, a number of alternatives were developed that may meet these goals.

Transportation modeling software (EMME / 2) was used to replicate the existing operation as well as to predict future “Project No-Action” traffic volumes on the area street network. The modeling software was also used to evaluate a number of improvement options for meeting long term east-west transportation needs in the Caton Farm Road / Bruce Road corridor as well as other river crossing corridors. This report presented the methods by which data was collected and summarized that data. It then provided overview of the travel demand forecasting process, documented the methods by which the forecasted data has been developed, summarized the results of the traffic modeling and provided recommendations as to which improvement options are likely to provide traffic congestion relief and thus should be studied further.

Following are the major conclusions of this traffic study:

1. Though most arterial roadways in the study area are only two lanes wide, the existing traffic demand on many of these facilities is still well below the desirable capacity of a two-lane roadway.

2. The Des Plaines River creates a significant barrier to east-west traffic circulation. The IL Route 7 bridge provides the only crossing within a 8-mile stretch of the river. The existing bridge presently carries approximately 22,000 vehicles per day and already operates at or near its capacity during peak hours.

3. The Northern Will County area is poised to experience dramatic population and employment growth over the next 20 to 25 years. With that change will come substantial increases in traffic demand on the existing street network.

4. There are a number of significant transportation improvements proposed for the Northern Will County area as part of the 2030 Regional Transportation Plan. Even with construction of the 2030 RTP improvements, however, there will be a number of arterial roadways whose forecast travel demand will exceed their desirable capacity.

5. The Project No-Action traffic data clearly show that “No-Action” does not mean “no change”. A number of key two-lane roadways that exist in the area will likely need to be widened to four lanes based on IDOT criteria, even if none of the improvement options studied in this report are implemented, in order to provide adequate traffic safety and operation.

6. By 2030, travel demand crossing all of the Des Plaines River bridges in the study area is projected to increase by almost 65% even if no new river bridge is constructed. Daily traffic volume on the IL Route 7 bridge is projected to increase by 10% under the Project No-Action scenario.

7. A new Des Plaines River bridge will attract significant volumes of traffic which otherwise would use nearby river bridges. Network modeling for each of the build options indicated a new bridge would carry between 32,000 and 36,000 vehicles per day, the majority of which would be drawn from nearby river bridges.

8. A new Des Plaines River bridge, under any of the improvement options except the Bridge Only Alternative, will provide traffic congestion relief in the central hub of the City of Lockport compared to the Project No-Action scenario. Because the Bridge Only Alternative has inadequate approach roadways, a significant amount of traffic still passes through central Lockport, resulting in 2030 traffic volumes roughly comparable to Project No-Action levels.

9. Under the Bridge Only Alternative, the forecast traffic volume on Bruce Road between IL Route 171 and Farrell Road is great enough to still warrant widening to four lanes.

10. Under the Bridge Only Alternative, the forecast traffic volume on Caton Farm Road between Weber Road and IL Route 53 is great enough to still warrant widening to four lanes.

11. The typical effect of widening any roadway segment to 4 lanes is to attract traffic volumes away from nearby parallel two-lane roadways. Thus, a roadway widening project can have a net positive effect on a widespread area provided the impacts of the widening on abutting properties can be adequately addressed.

12. The western portion of the Village of Homer Glen (again, within the area bounded by 159th Street, Wolf Road, U.S. Route 6 and Cedar Road) will experience roughly the same future travel demand on minor arterial streets regardless of whether any of the proposed improvement options are constructed or not. That is to say, traffic forecasts for any single roadway segment for each of the build options as well as for the Project No-Action scenario are close enough in magnitude that observers would have difficulty discerning any meaningful differences in traffic volumes between the various alternates.

13. Although the Theodore-Gougar; Theodore-Wolf; Oak-Gougar and Bruce-Gougar alternatives carry traffic volumes comparable to the other options, the ability to turn the heavy through-traffic volumes left and right at 90-degree signalized intersections to follow the proposed alignments must be carefully evaluated.

14. Under some of the alternatives, enough traffic is drawn away from existing north-south routes to prevent parallel routes from needing to be widened. Following is a summary of the number of lanes required on Gougar Road and Cedar Road between Bruce Road and 159th Street under each of the improvement alternatives:

Alternative	Gougar Road	Cedar Road
No-Action	2 lanes	4 lanes
Bridge Only	2 lanes	4 lanes
Theodore-Gougar	4 lanes	2 lanes
Theodore-Wolf	4 lanes	2 lanes
Oak-Gougar	4 lanes	4 lanes
Oak-Middle	2 lanes	2 lanes
Oak-Cedar	4 lanes	4 lanes
Bruce-Gougar	4 lanes	2 lanes
Bruce-Middle	2 lanes	2 lanes
Bruce-Cedar	4 lanes	4 lanes

VIII. UPCOMING STUDY PROCESS

These options will be studied in detail to refine their designs, determine design features to minimize harm and mitigate impacts, quantify their socioeconomic and environmental impacts, and estimate their costs. The studies will include the following:

- **Geometric Design Studies** - These studies will include refinement of horizontal roadway geometrics and development of vertical roadway geometrics as needed for each option to identify right-of-way acquisition requirements. Design alternates will be investigated for each option which would minimize displacements and right-of-way acquisition.

- **Structural Design Studies** - Structural design studies will be performed for options which require bridges or retaining walls to identify the type, size, location and estimated construction cost of each major structure.

- **Drainage Studies** - Drainage requirements will be investigated for each option to identify flood plain encroachments and potential mitigation plans.

- **Environmental and Socioeconomic Consequences** - Analyses will be performed to identify the likely environmental and socioeconomic consequences of each option, as well as the means to mitigate, if possible, any adverse impacts. An environmental consequences matrix which compares the qualitative and quantitative impacts of each option will be prepared for use in the evaluation process by the TCC. The analyses will include the following potential impact areas:

  - Archaeological, Historical and Architectural Resources.
  - Section 4(f) and Section 106 Lands
  - Threatened and Endangered Species
  - High Quality Habitats
  - Wetlands
  - Water Quality
  - Socioeconomic Factors
  - Land Use
  - Aesthetics
  - Permits
  - Flood Plains
  - Highway Noise
  - Indirect Effects
  - Compatibility with Local and Regional Planning

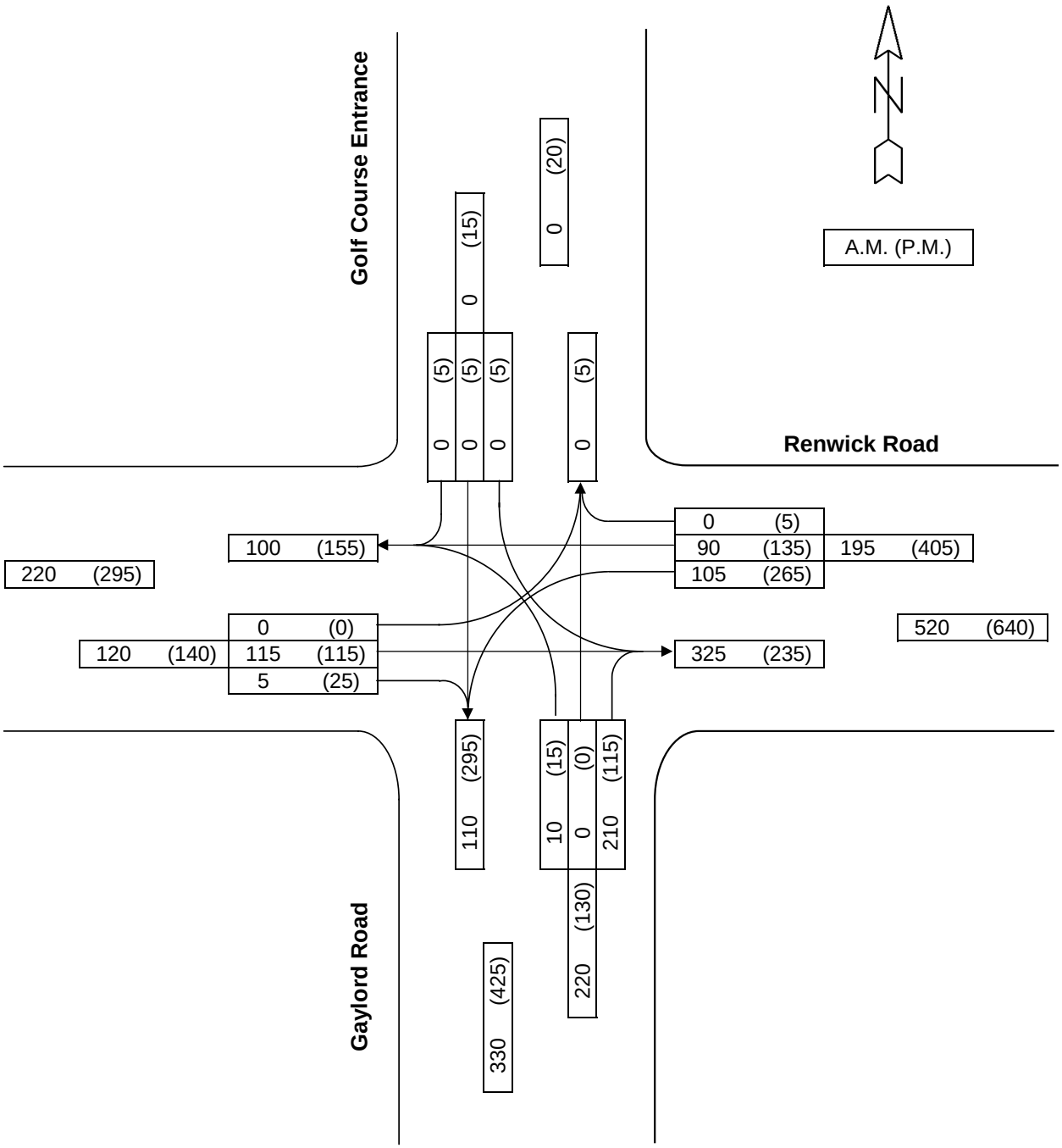
- **Right-of-Way Acquisition Cost Analyses** - "Windshield" appraisals of the value of major land parcels to be acquired for each option will be prepared by a certified real estate appraiser. These costs will be combined with cost estimates for partial takes and relocation expenses to estimate the cost of acquiring right-of-way needed for each option.

- **Construction Cost Estimates -** Order of magnitude construction cost estimates will be developed for each option.

Appendix A

Existing Traffic Counts
Intersection Peak Hour Diagrams

Exhibit	Intersection
A-1	Renwick Road & Gaylord Road
A-2	Renwick Road & Weber Road
A-3	Renwick Road & IL Route 53/IL Route 7
A-4	IL Route 7 & IL Route 171
A-5	IL Route 7 & Gougar Road
A-6	IL Route 7 & Cedar Road
A-7	IL Route 7/159th Street & Parker Road
A-8	IL Route 7/159th Street & Bell Road
A-9	IL Route 7/159th Street & U.S. Route 6/Wolf Road
A-10	167th Street & Will-Cook Road
A-11	Caton Farm Road & Gaylord Road & U.S. Route 30
A-12	Caton Farm Road & Weber Road
A-13	Caton Farm Road & Oakland Avenue
A-14	Caton Farm Road & IL Route 53/IL Route 7
A-15	Bruce Road & IL Route 171
A-16	Bruce Road & Briggs Street
A-17	Bruce Road & Farrell Road
A-18	Bruce Road & Gougar Road
A-19a	Bruce Road & Cedar Road (West intersection)
A-19b	Bruce Road & Cedar Road (East intersection)
A-20	Chicago-Bloomington Road & Parker Road
A-21	Oak Avenue & Briggs Street
A-22	U.S. Route 6 & IL Route 171
A-23	U.S. Route 6 & Briggs Street
A-24	U.S. Route 6 & Gougar Road
A-25	U.S. Route 6 & Cedar Road
A-26	U.S. Route 6 & Parker Road
A-27	U.S. Route 6 & Wolf Road
A-28	187th Street & Wolf Road
A-29	U.S. Route 30 & IL Route 171
A-30	U.S. Route 30 & Briggs Street
A-31	U.S. Route 30 & Gougar Road
A-32	U.S. Route 30 & Cedar Road
A-33	Briggs Street & Division Street
A-34	Cedar Road & 167th Street
A-35	Larkin Avenue & U.S. Route 30

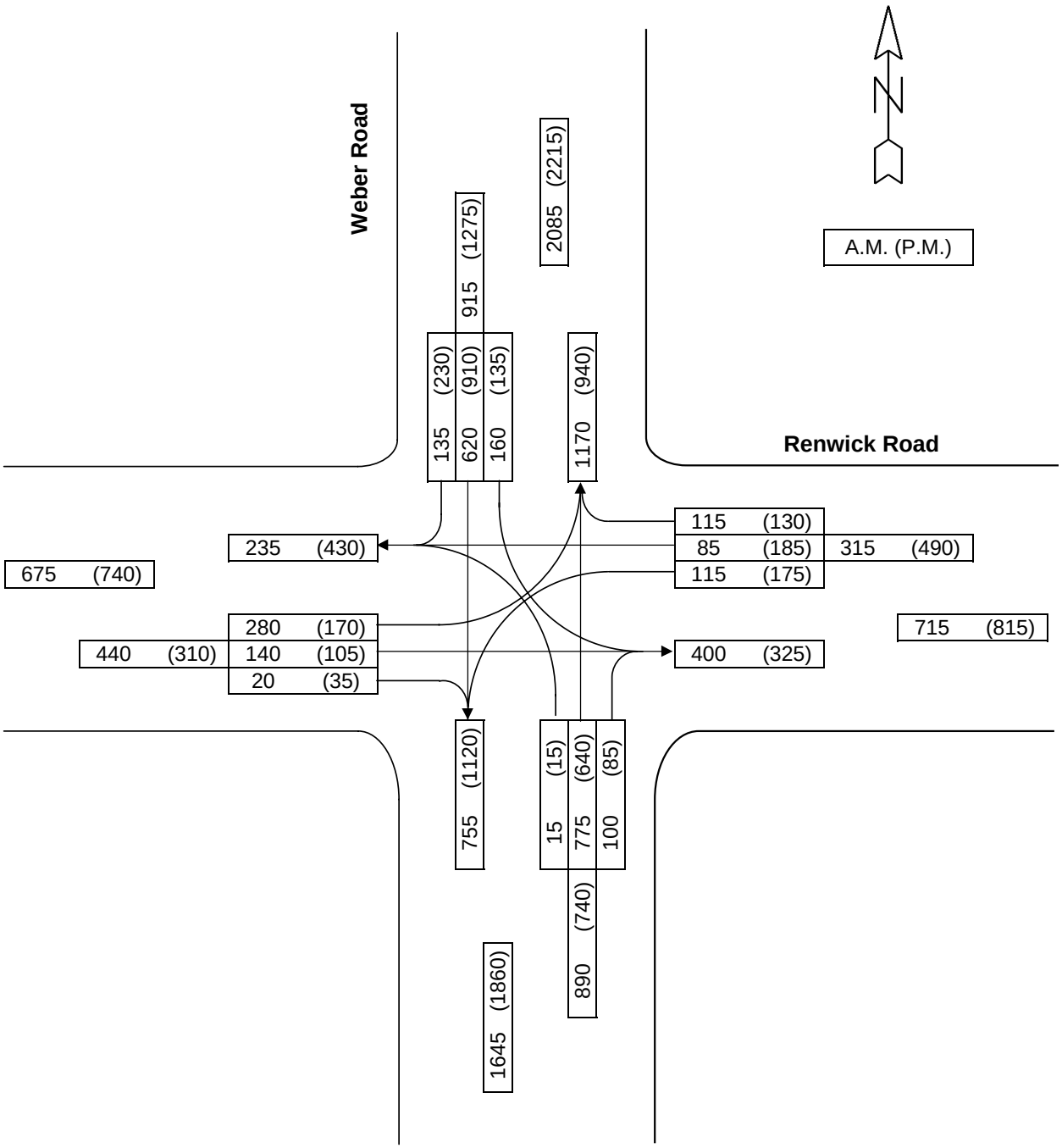


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
5/14/2002

RENWICK ROAD & GAYLORD ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

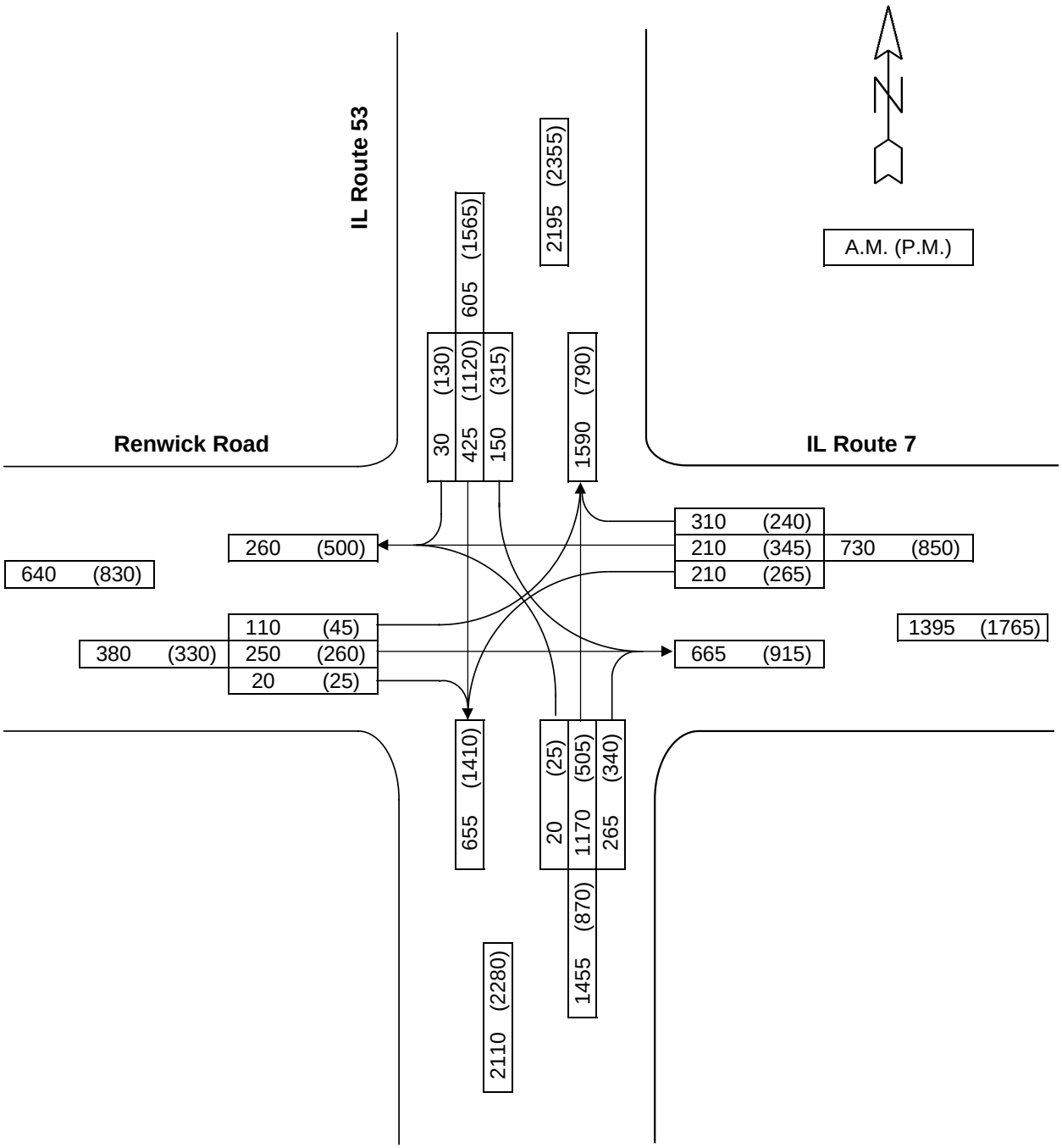
Exhibit A-1



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
5/14/2002

RENWICK ROAD & WEBER ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

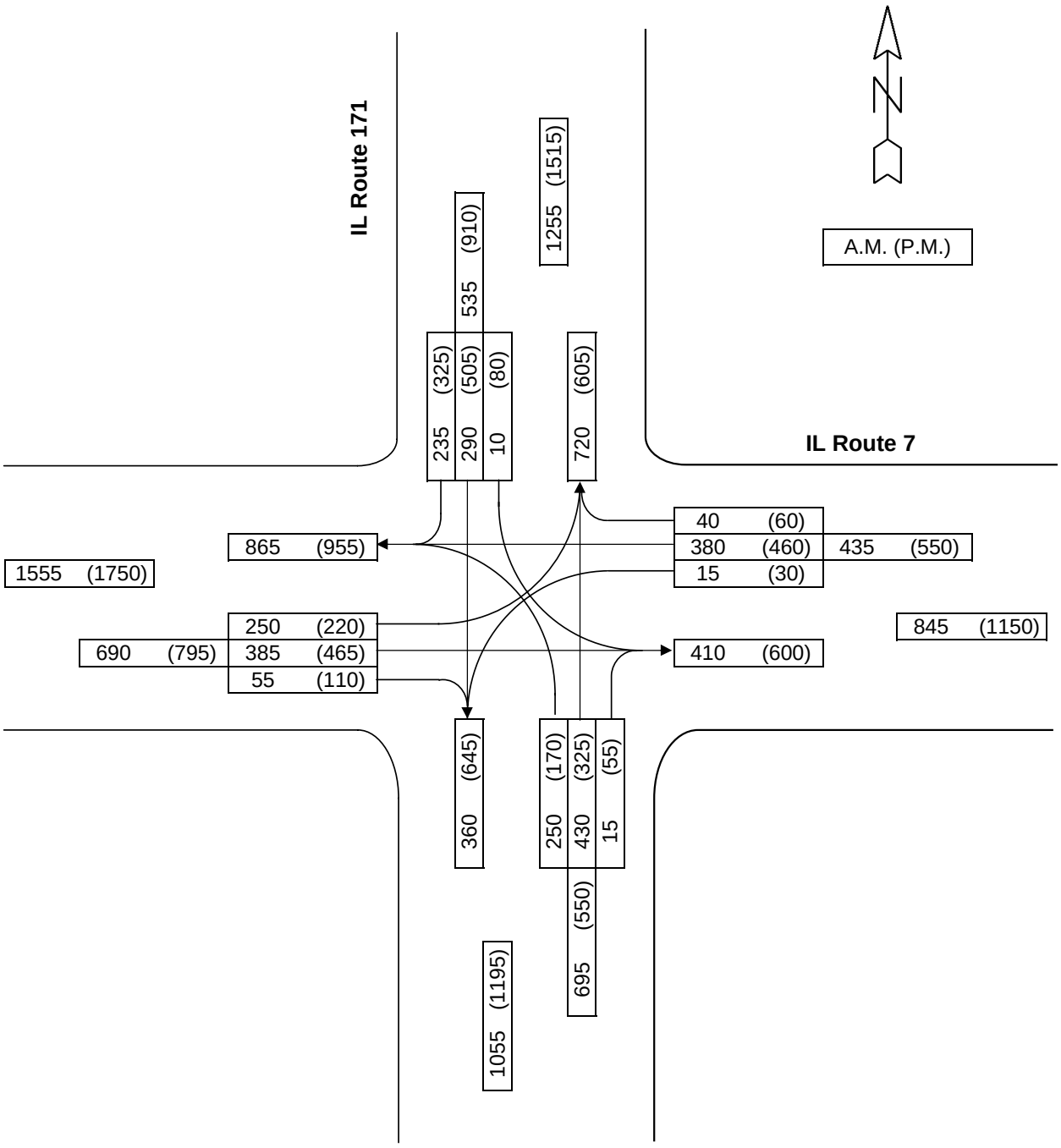
Exhibit A-2



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
5/15/2002

RENWICK ROAD & IL ROUTE 53/IL ROUTE 7
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-3



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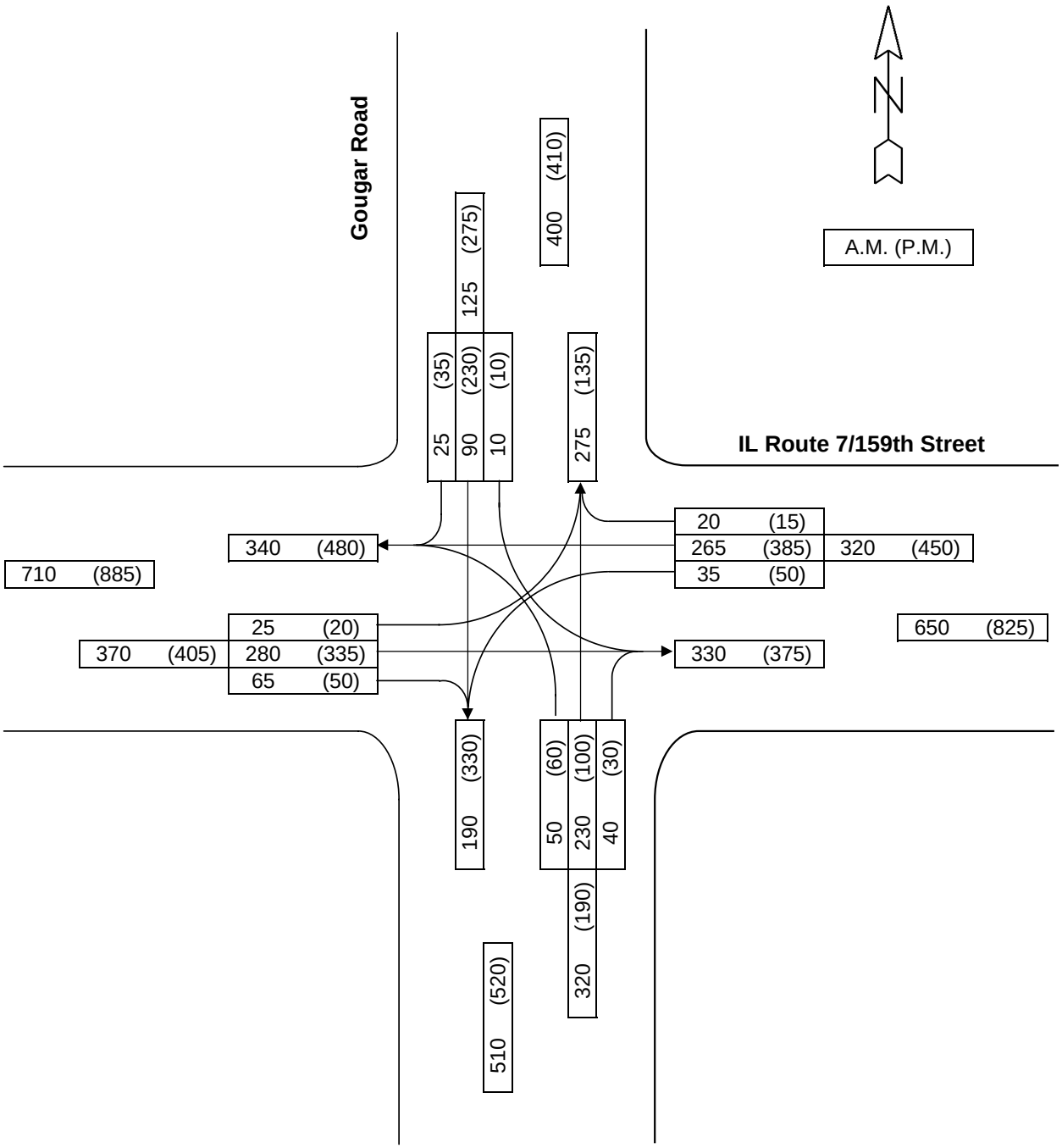
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
10/8/2002

IL RT 171 & IL RT 7
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-4

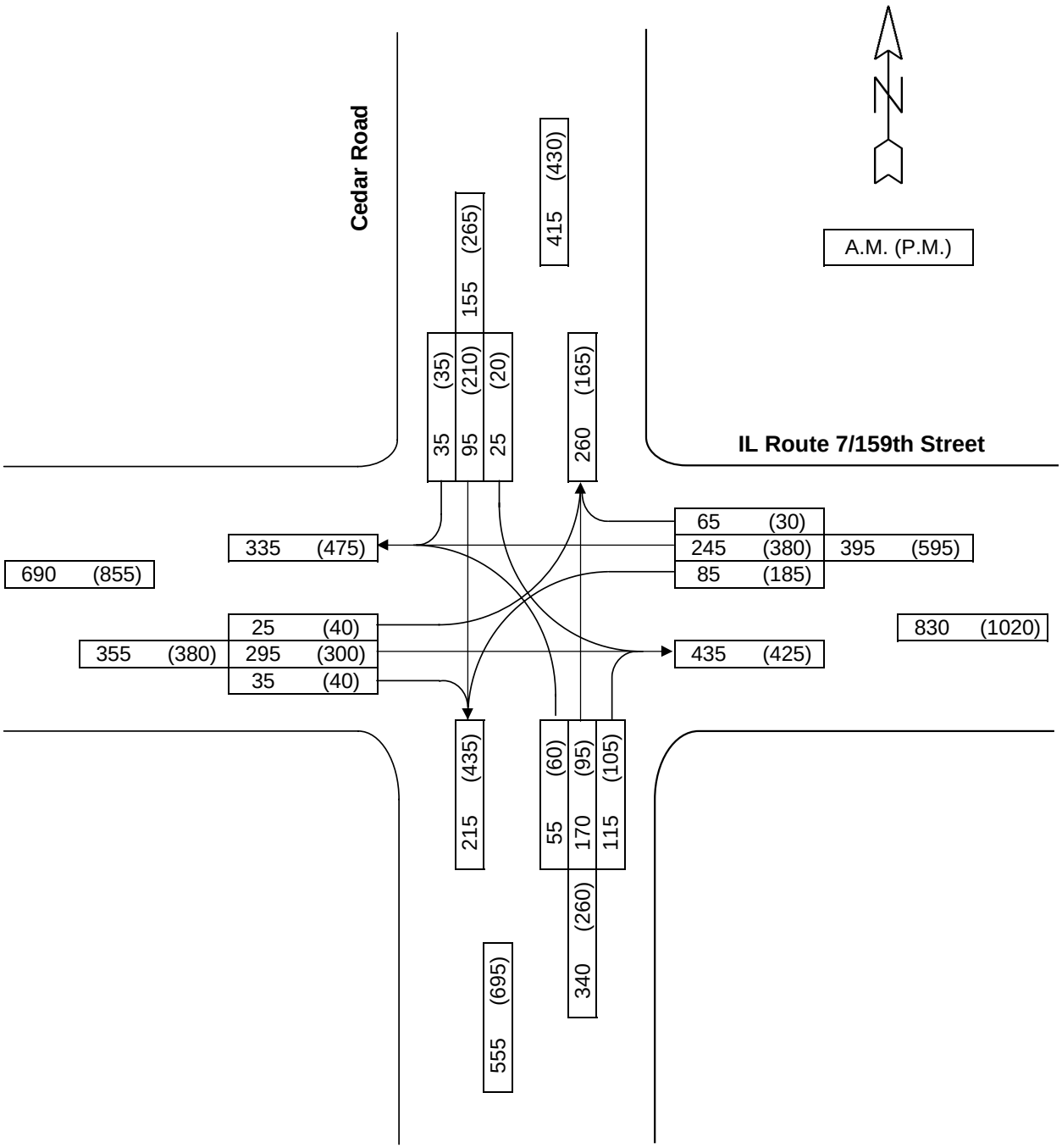


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
7/20/2001 A.M. 7/23/2001 P.M.

IL ROUTE 7/159TH STREET & GOUGAR ROAD
2001 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-5



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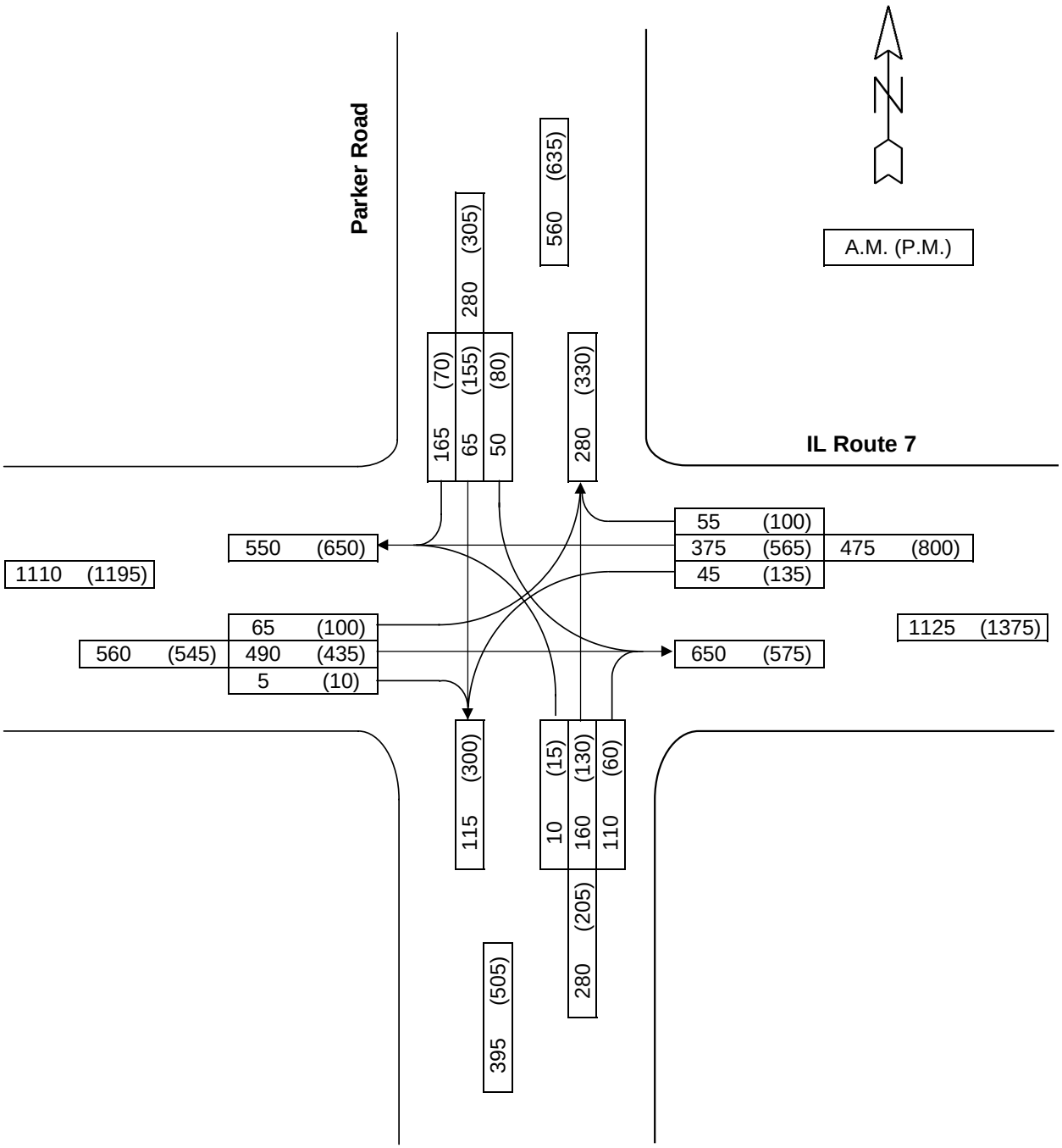
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
7/20/2001 A.M. 7/23/2001 P.M.

IL ROUTE 7/159TH STREET & CEDAR ROAD
2001 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-6



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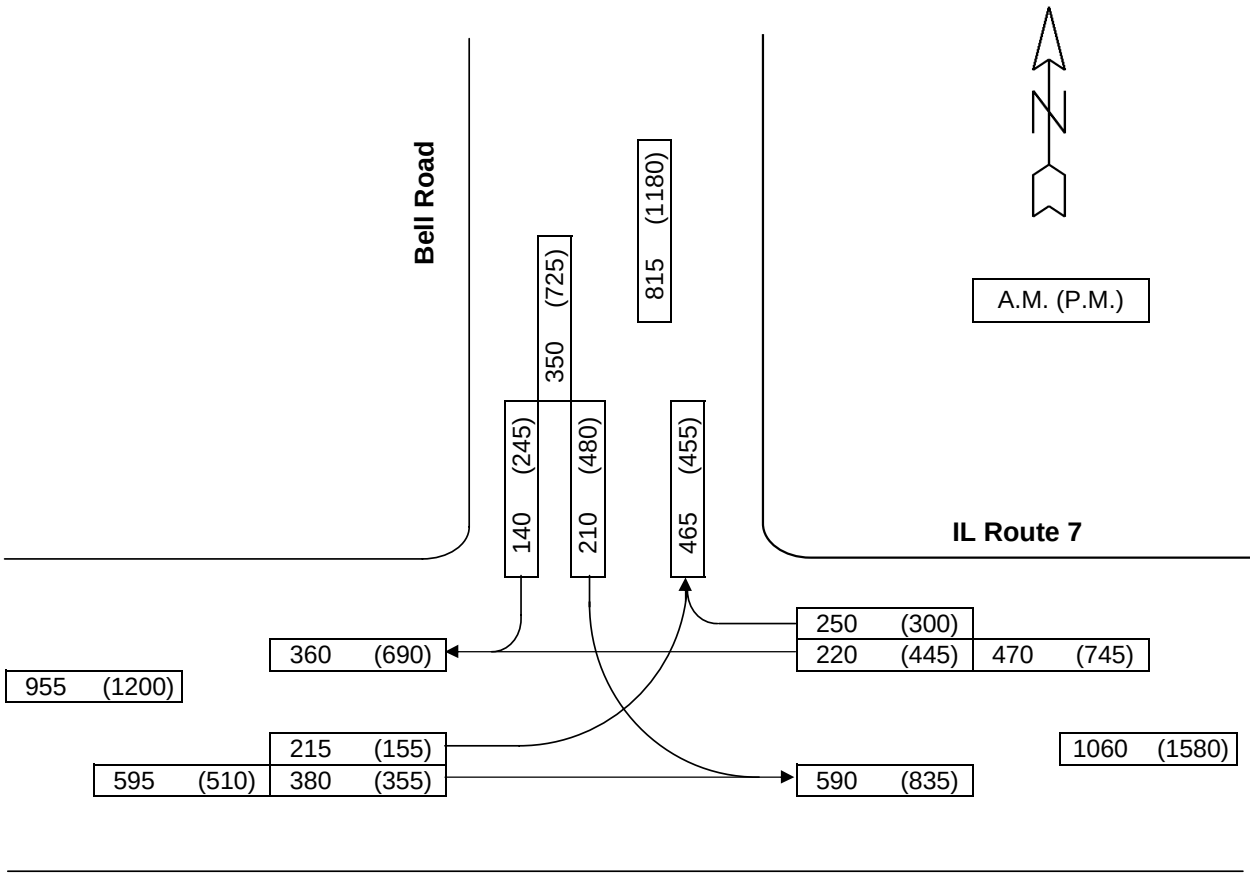
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
5/16/2002 A.M., 5/21/2002 P.M.

IL ROUTE 7 & PARKER ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-7

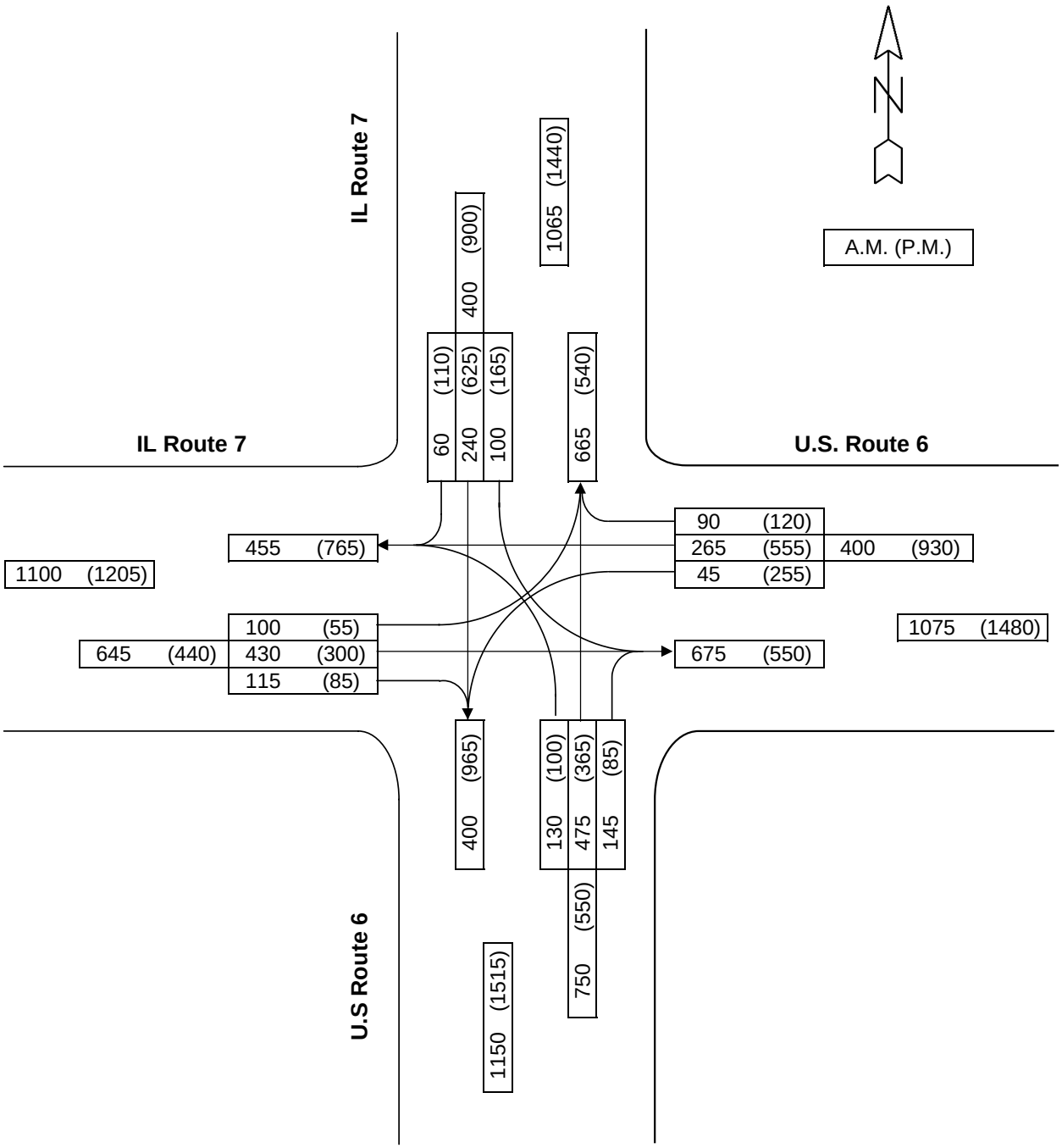


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
7/09/2002 A.M., 7/8/2002 P.M.

IL ROUTE 7 & BELL ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-8



PEAK HOURS:
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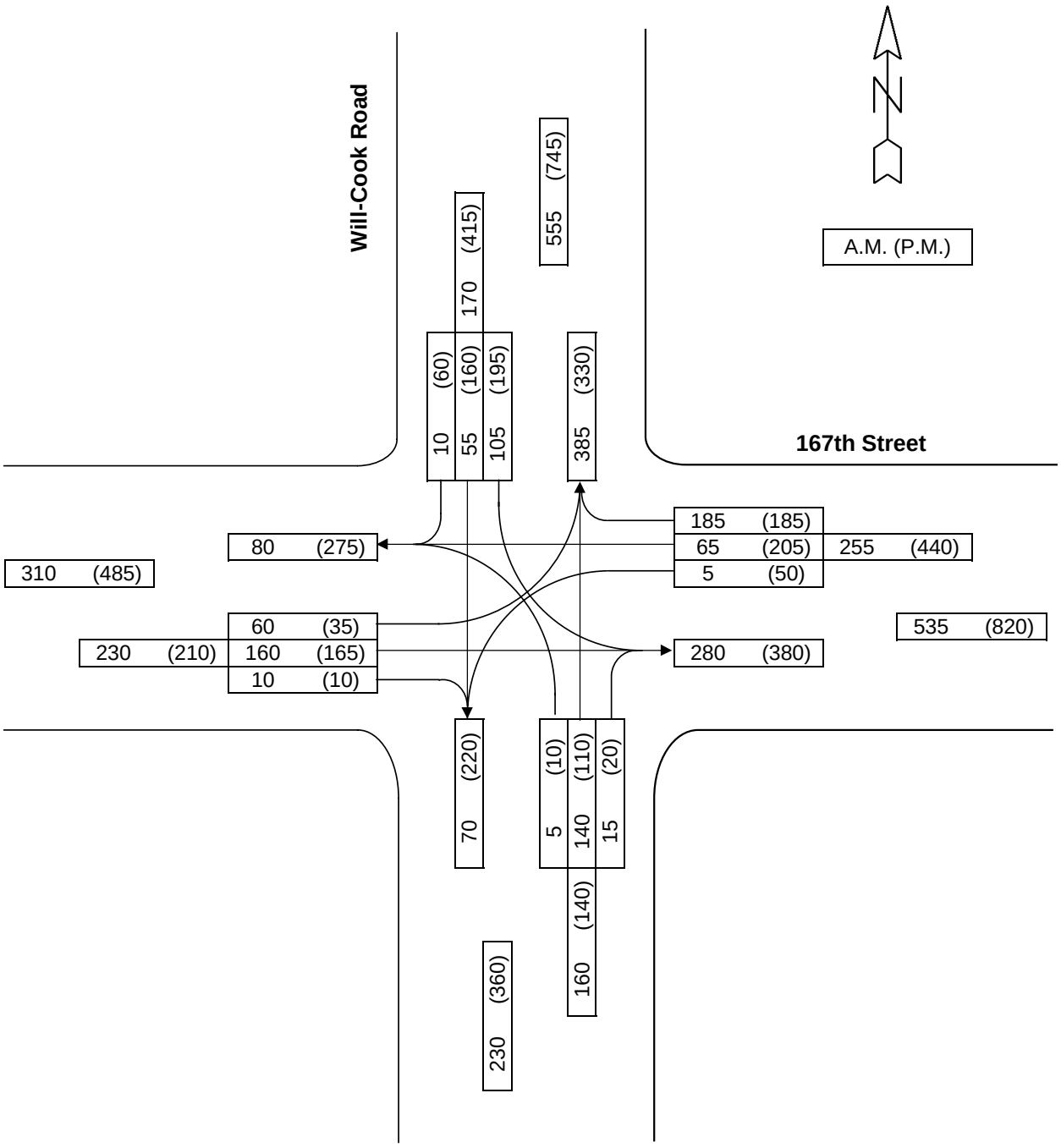
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/25/2002 A.M., 7/8/2002 P.M.

IL ROUTE 7 & U.S. ROUTE 6
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-9



PEAK HOURS:
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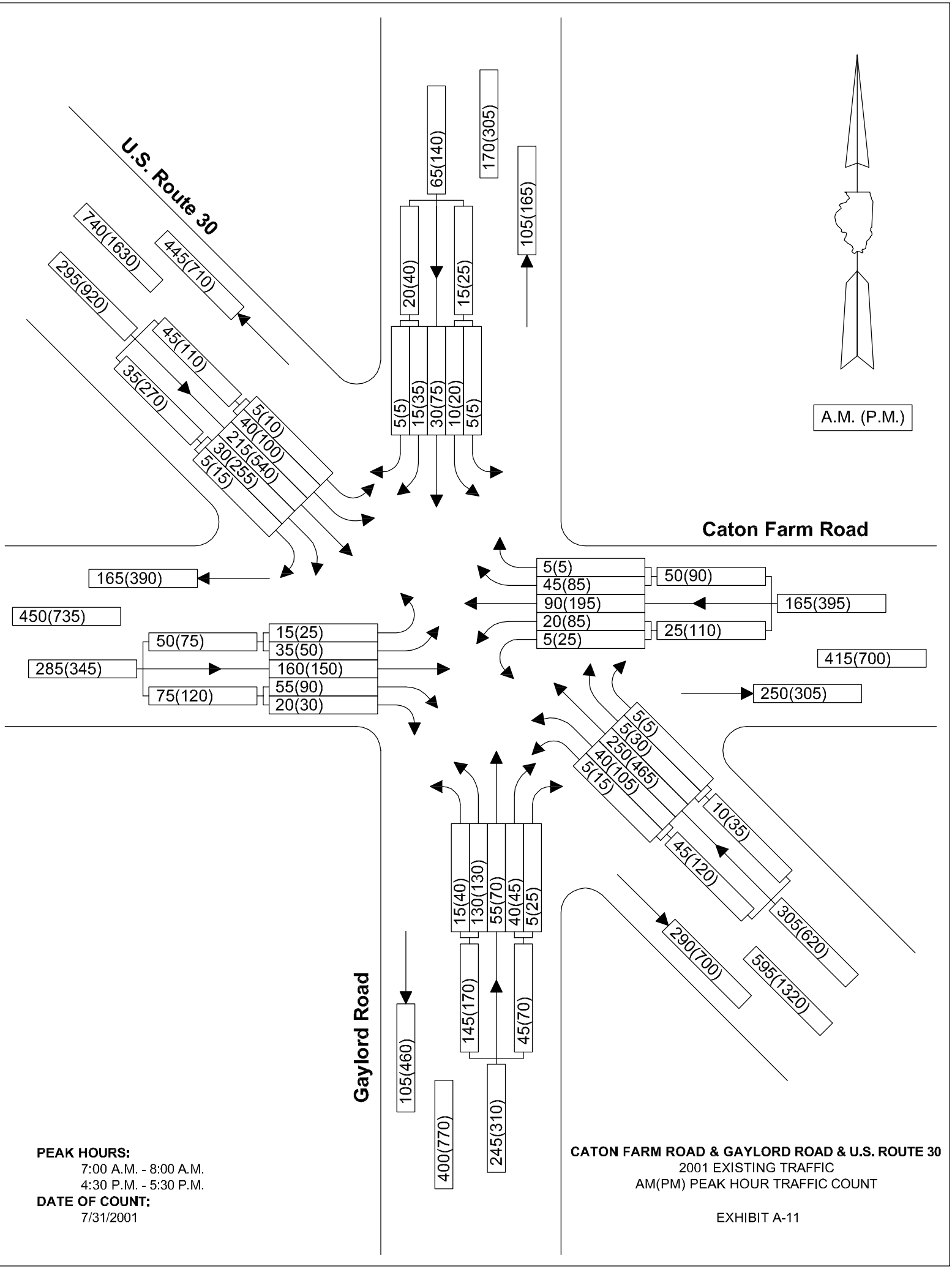
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/11/2002 A.M., 7/11/2002 P.M.

167TH STREET & WILL-COOK ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-10

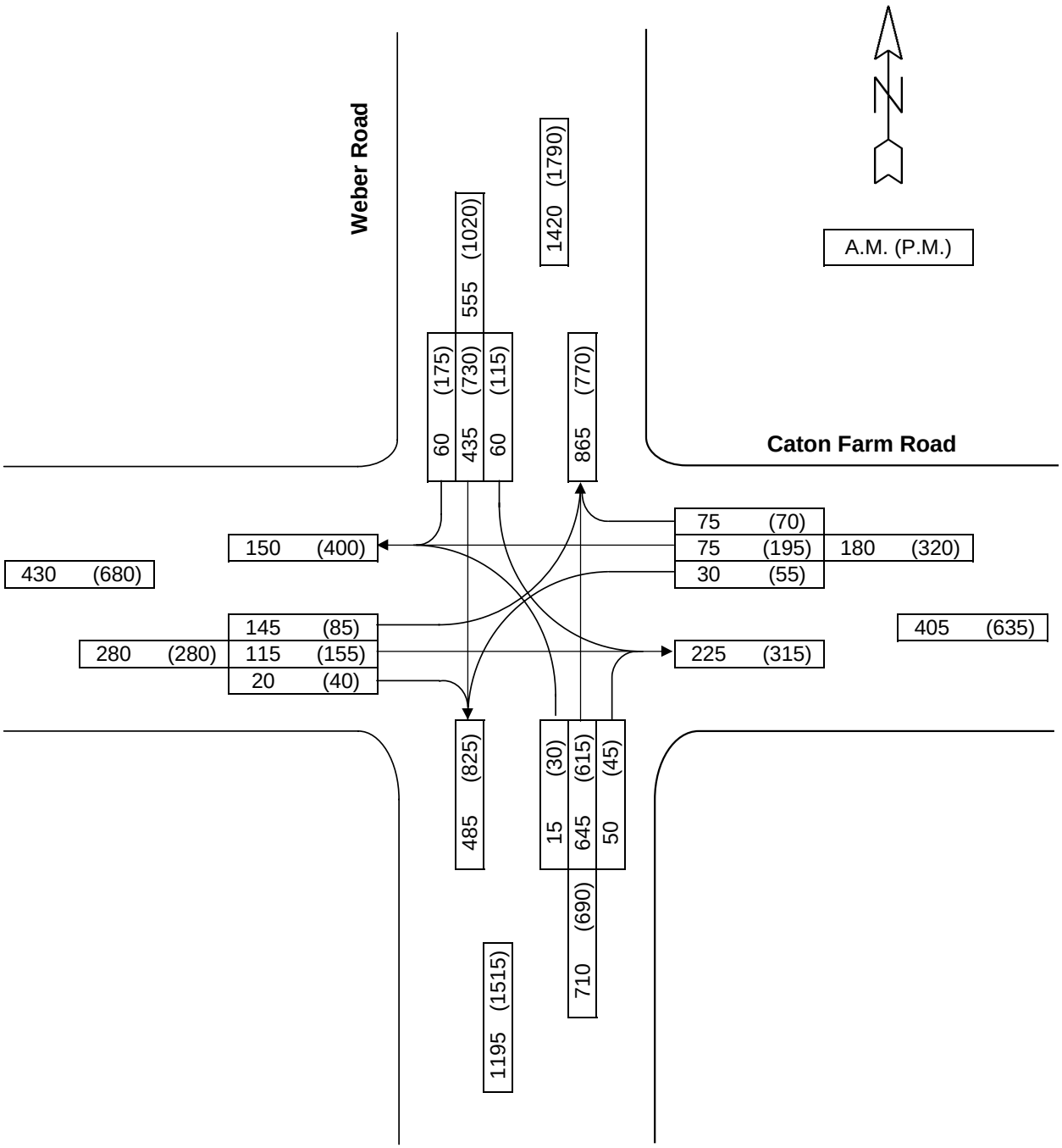


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
7/31/2001

CATON FARM ROAD & GAYLORD ROAD & U.S. ROUTE 30
2001 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

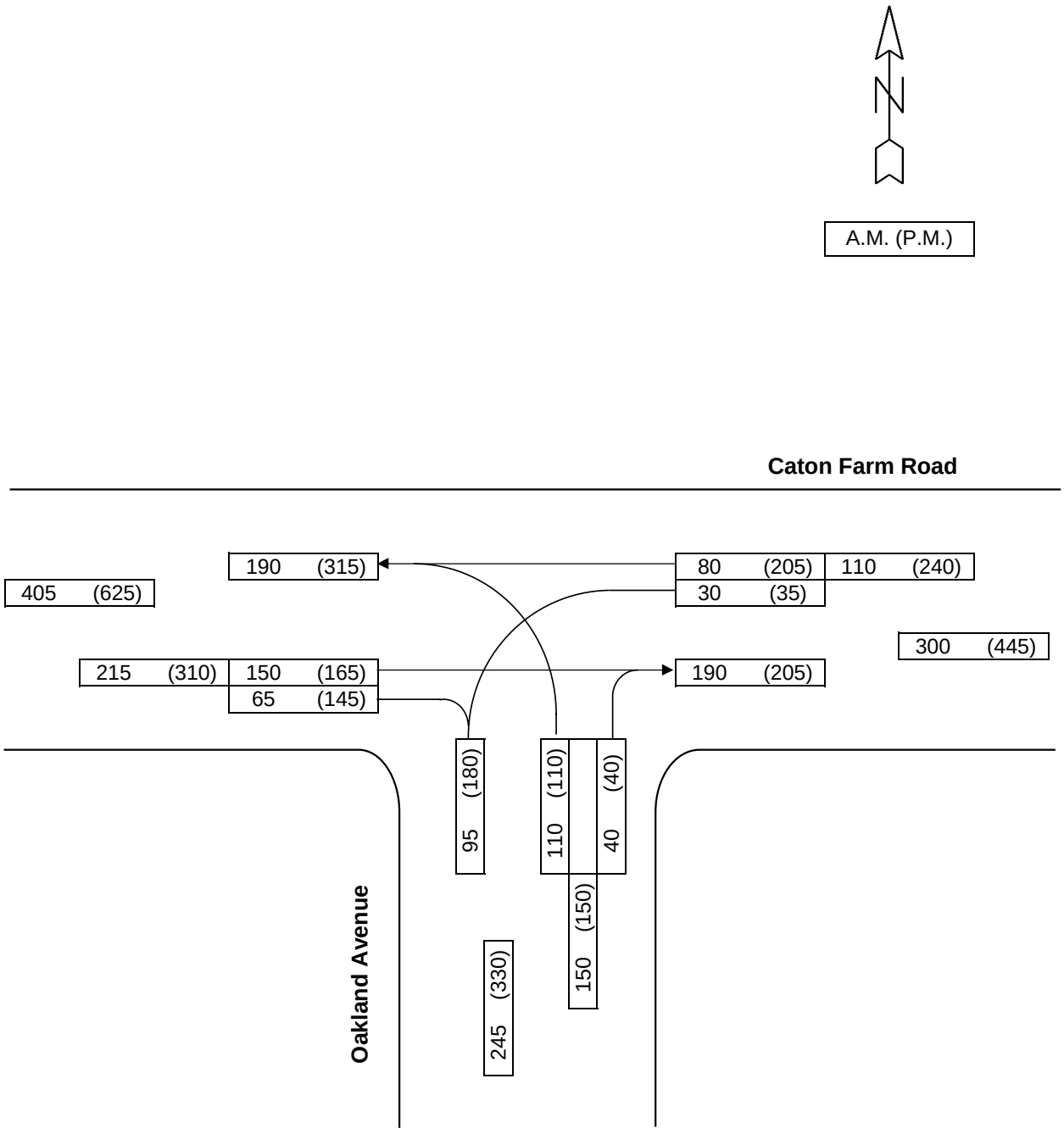
EXHIBIT A-11



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
7/24/2001

CATON FARM ROAD & WEBER ROAD
2001 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

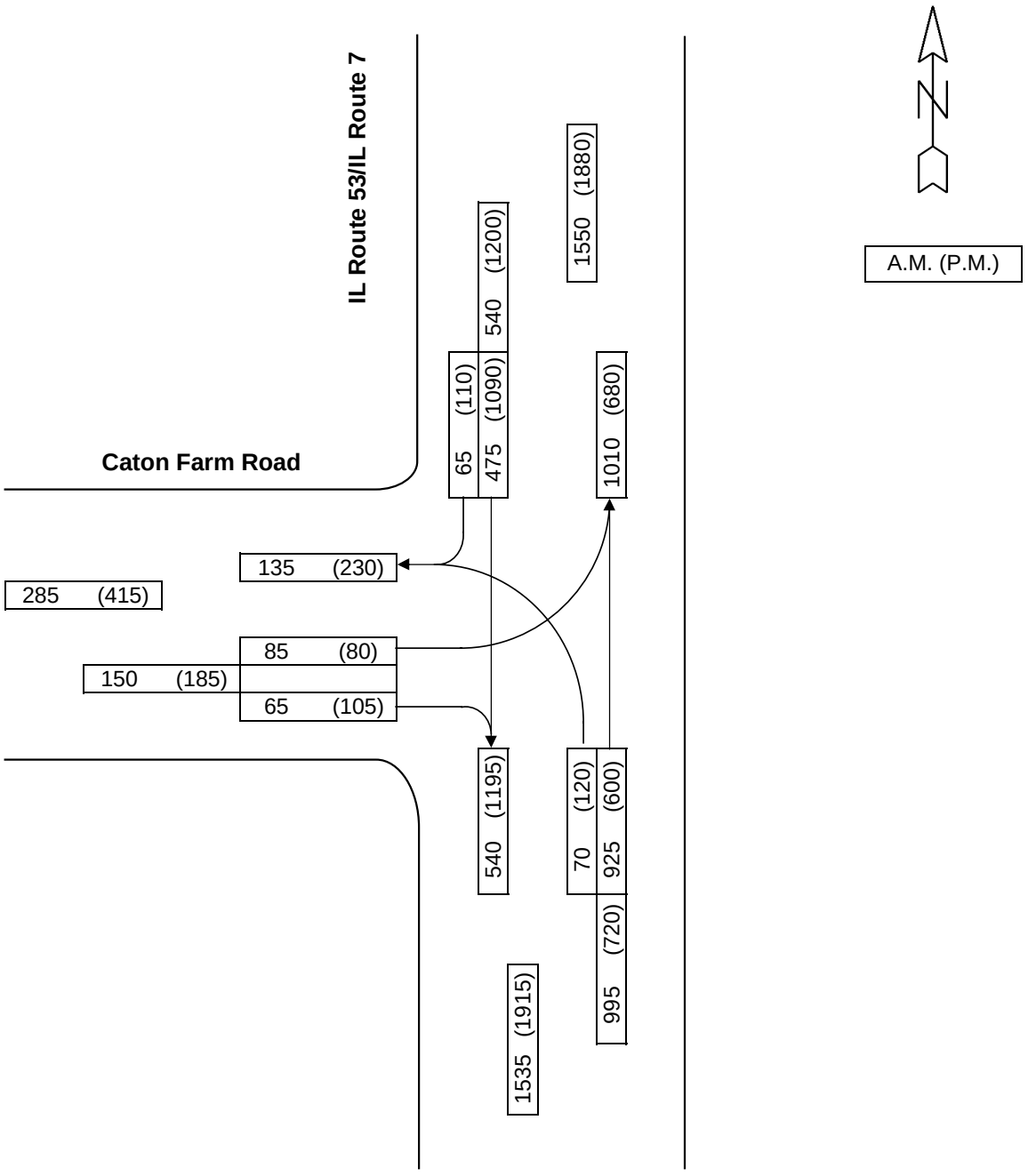
Exhibit A-12



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
7/24/2001

CATON FARM ROAD / OAKLAND AVENUE
2001 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

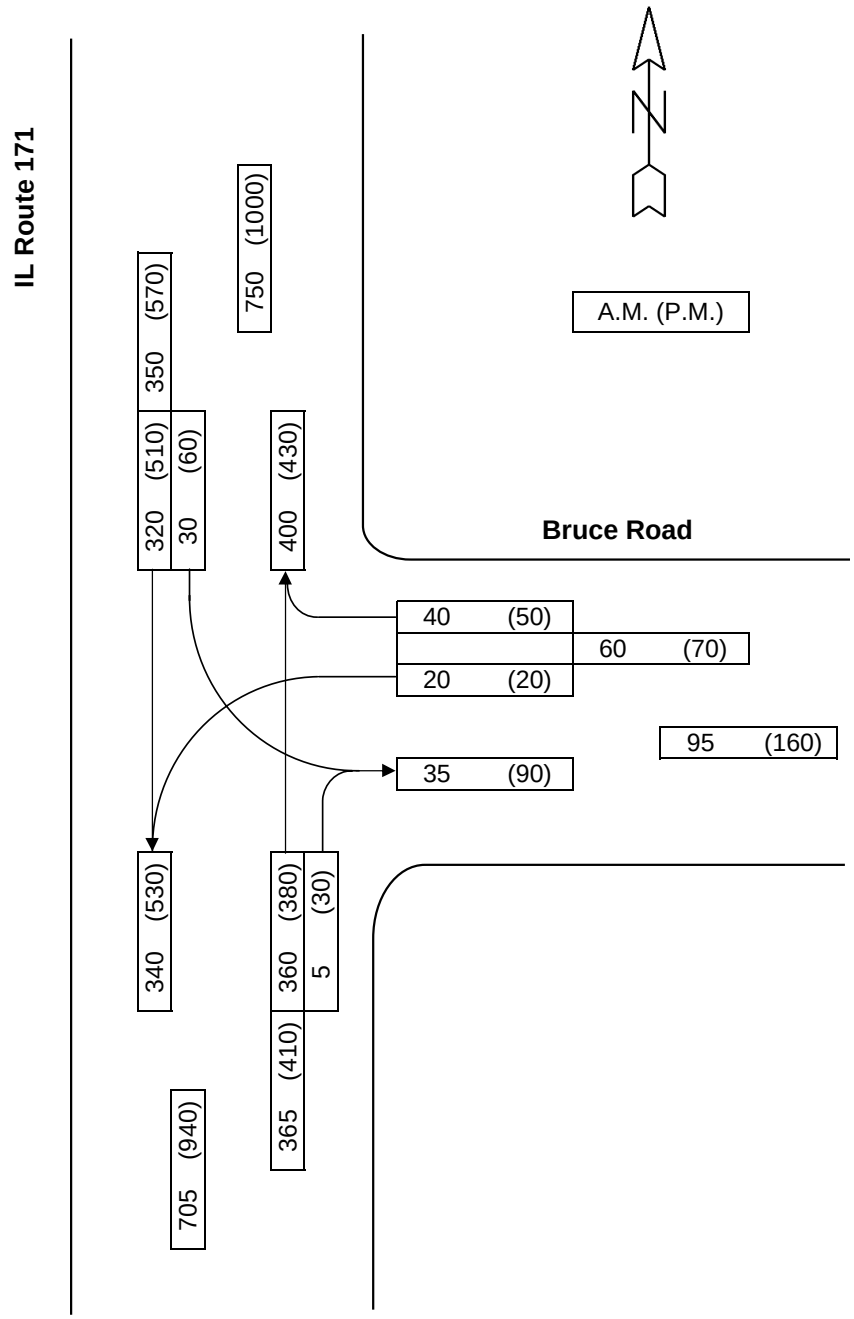
Exhibit A-13



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
7/25/2001

CATON FARM ROAD & IL ROUTE 53/IL ROUTE 7
2001 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

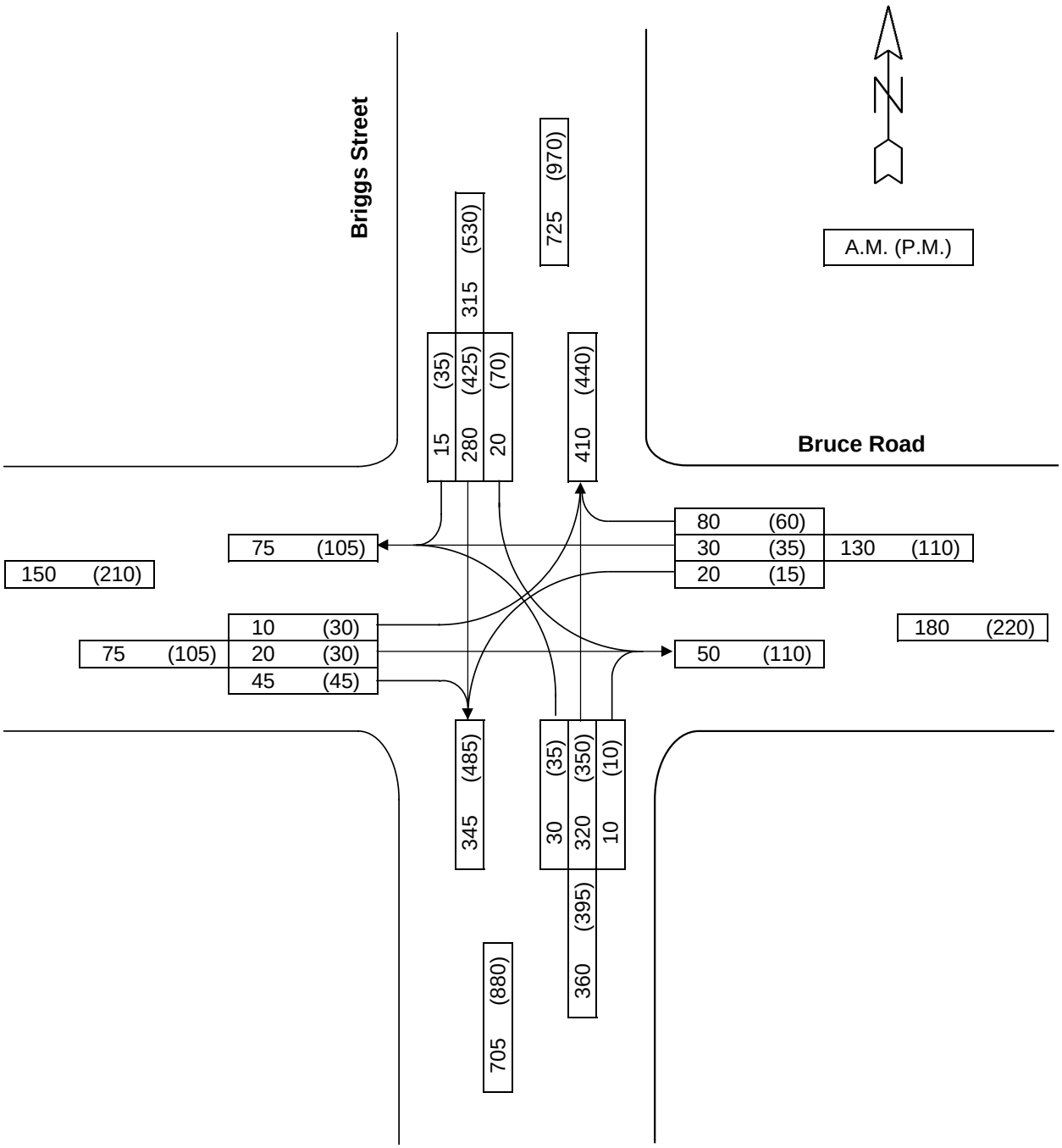
Exhibit A-14



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
7/18/2001

BRUCE ROAD & IL ROUTE 171
2001 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-15

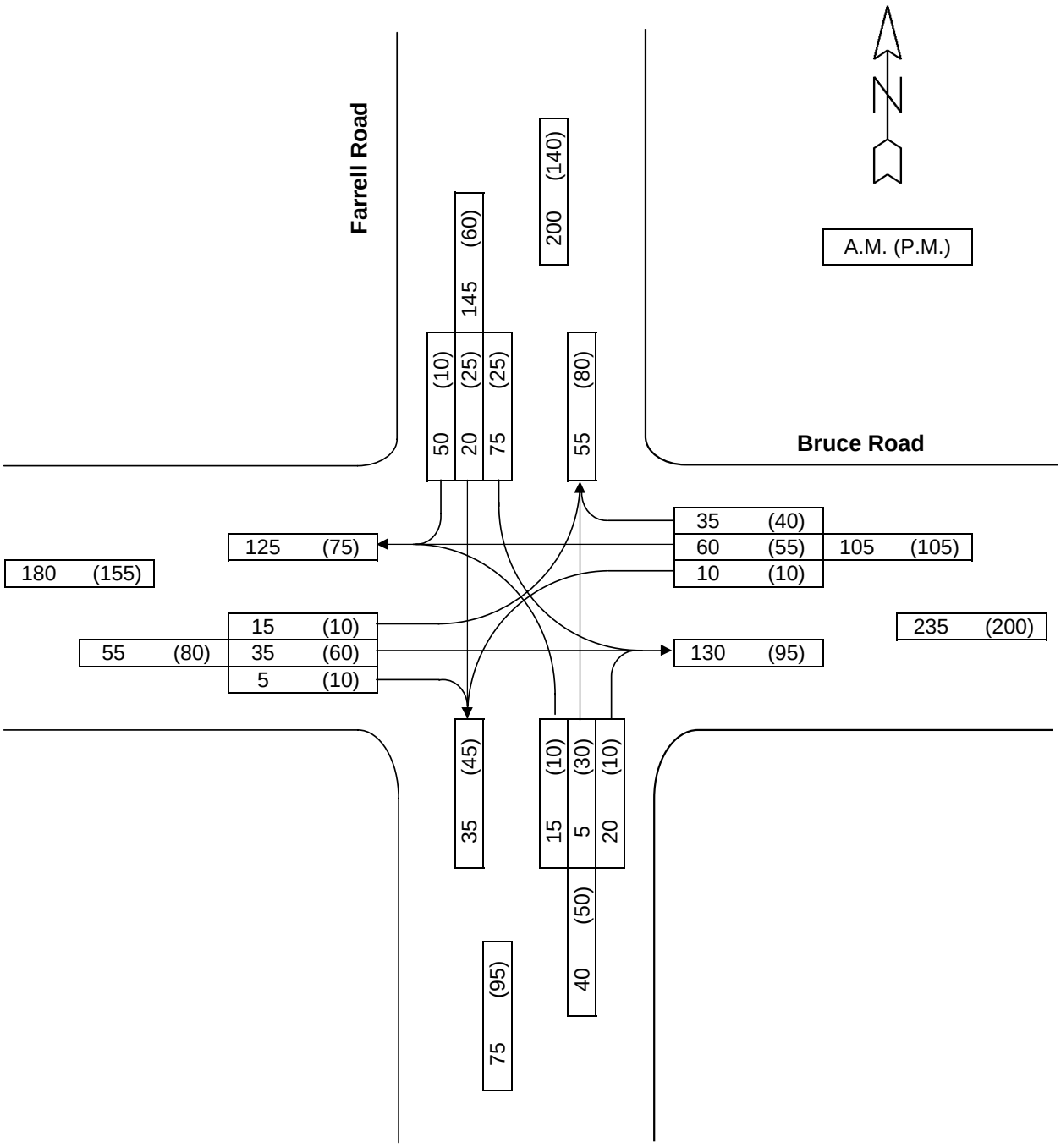


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
7/19/2001

BRUCE ROAD & BRIGGS STREET
2001 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-16

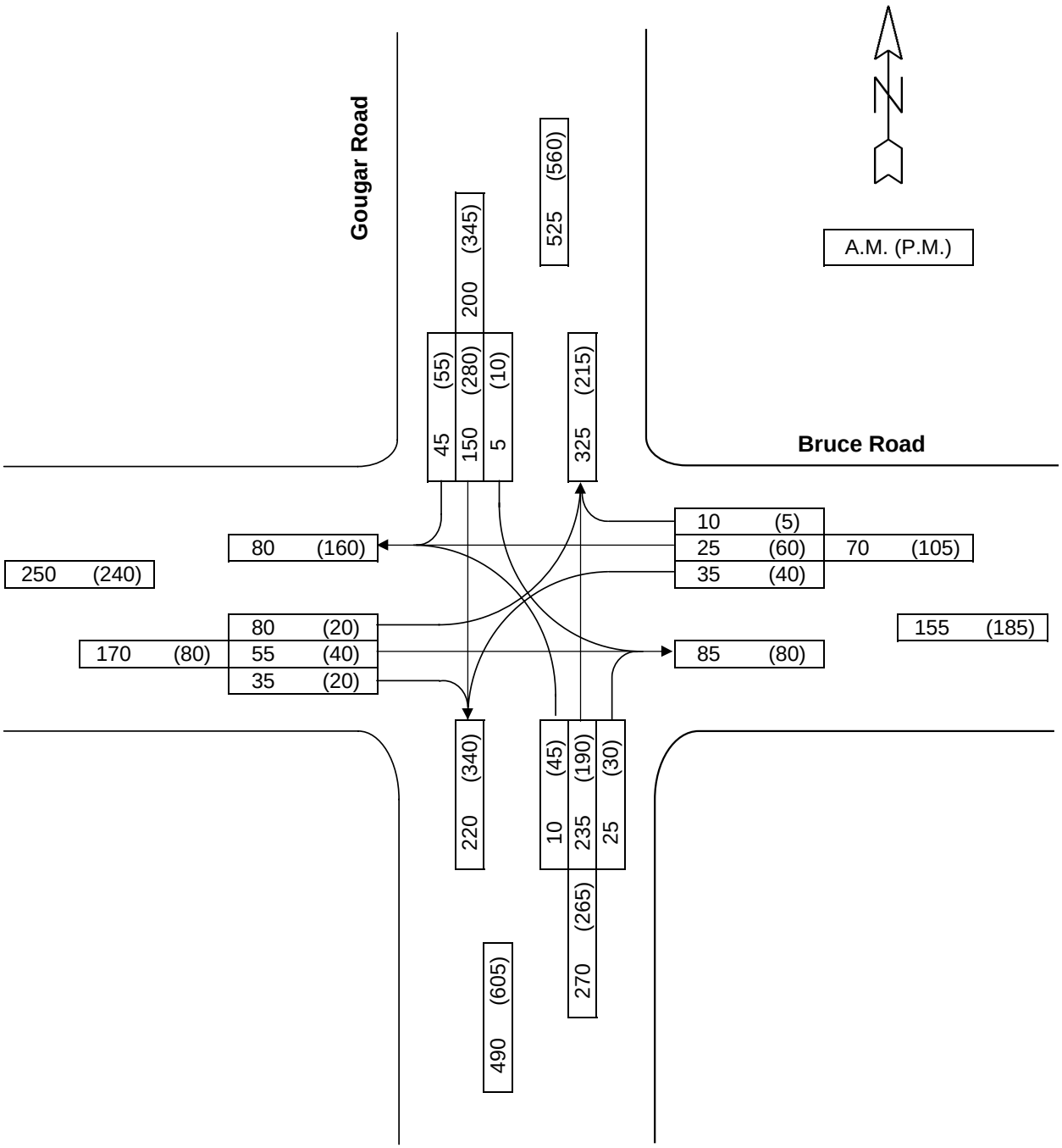


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
7/19/2001 A.M., 7/17/2001 P.M.

BRUCE ROAD & FARRELL ROAD
2001 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-17

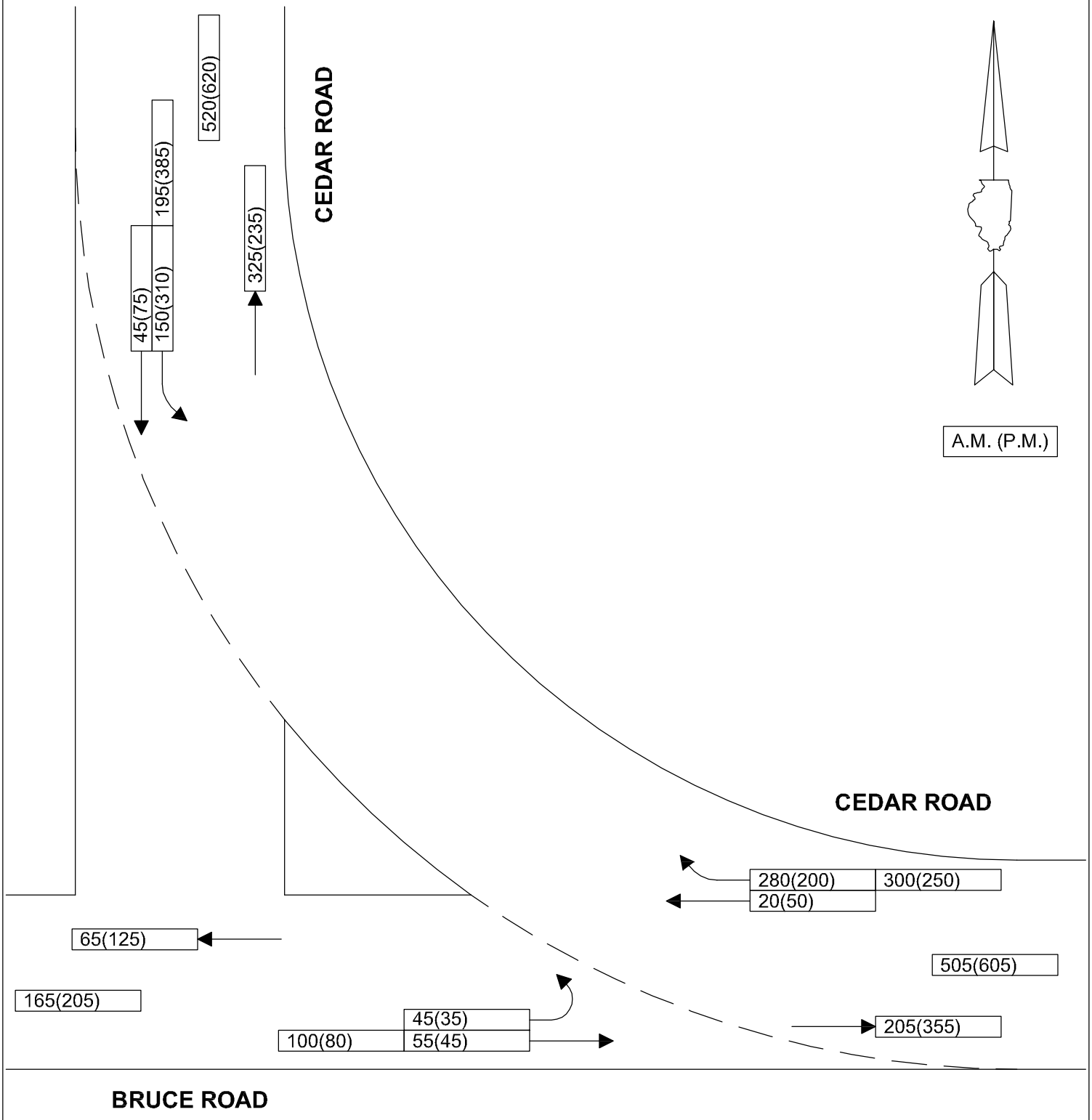


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
7/18/2001 A.M. 7/17/2001 P.M.

BRUCE ROAD & GOUGAR ROAD
2001 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

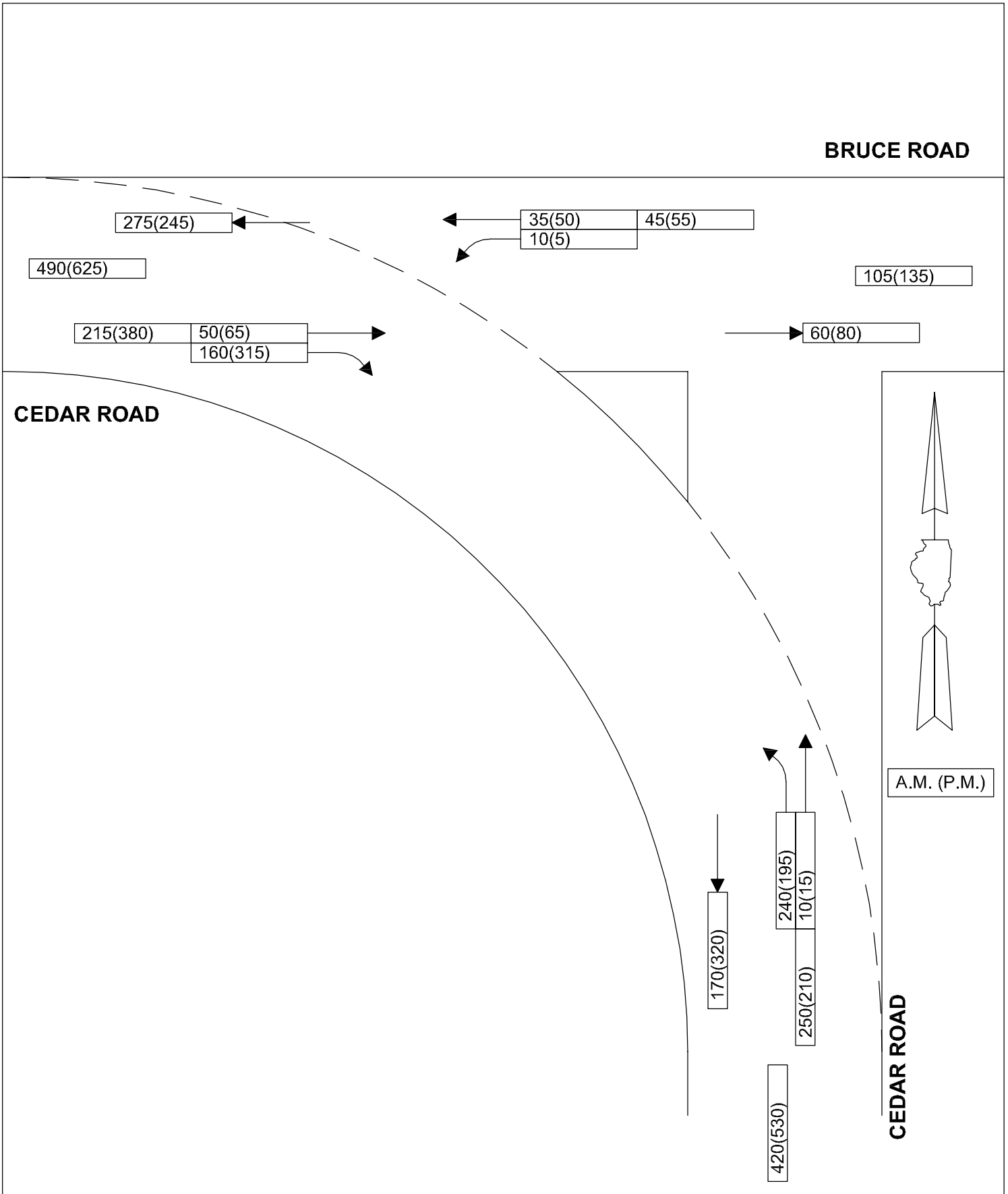
Exhibit A-18



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
7/26/2004

BRUCE ROAD & CEDAR ROAD (WEST INTERSECTION)
2004 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

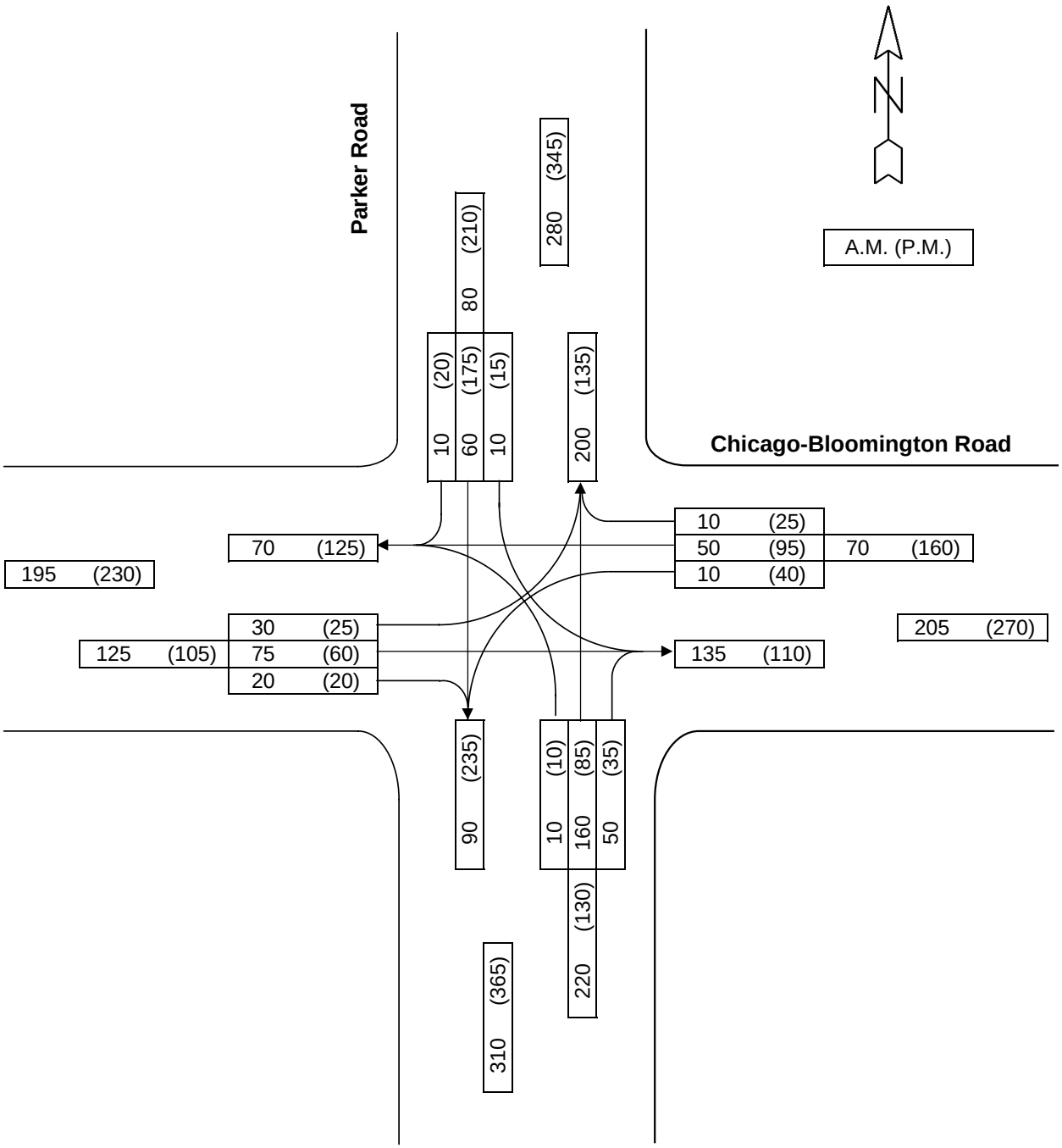
EXHIBIT A-19a



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
7/25/2004

BRUCE ROAD & CEDAR ROAD (EAST INTERSECTION)
2004 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

EXHIBIT A-19b

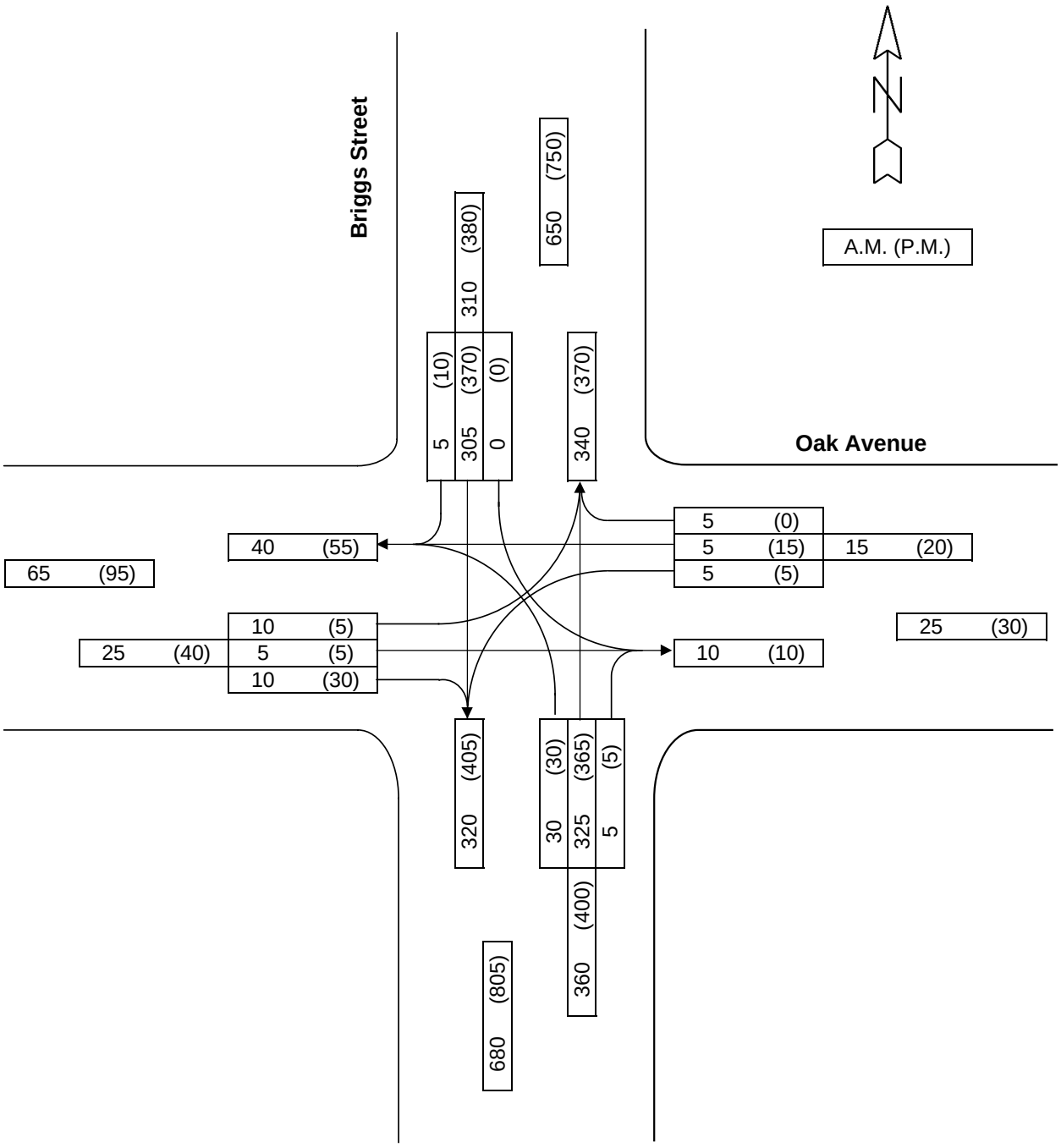


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
5/16/2002 A.M., 5/21/02 P.M.

CHICAGO-BLOOMINGTON ROAD & PARKER ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-20

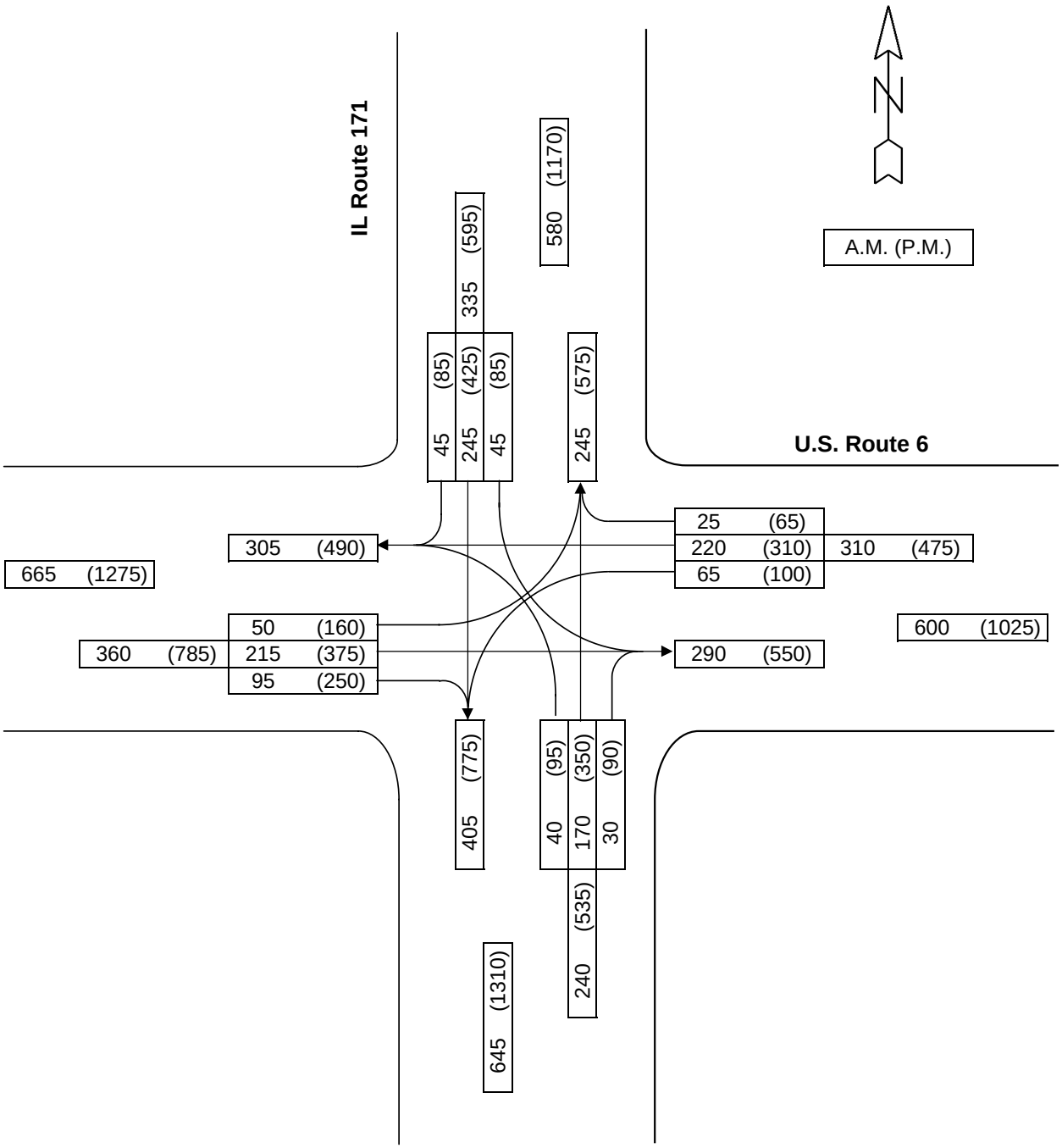


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/12/2002 A.M., 6/26/02 P.M.

OAK AVENUE & BRIGGS STREET
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-21

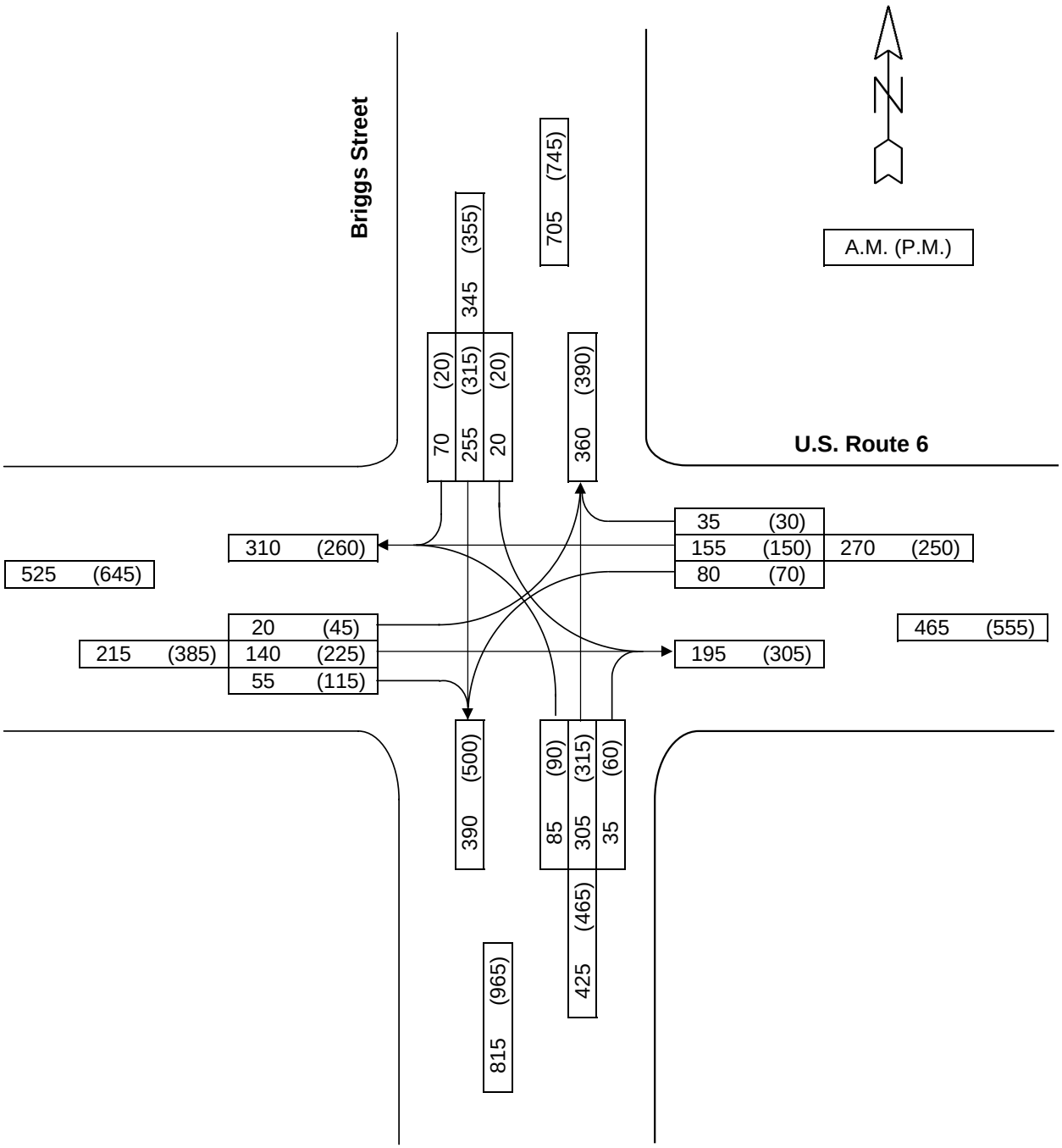


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/13/2002 A.M., 7/1/2002 P.M.

U.S. ROUTE 6 & IL ROUTE 171
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-22

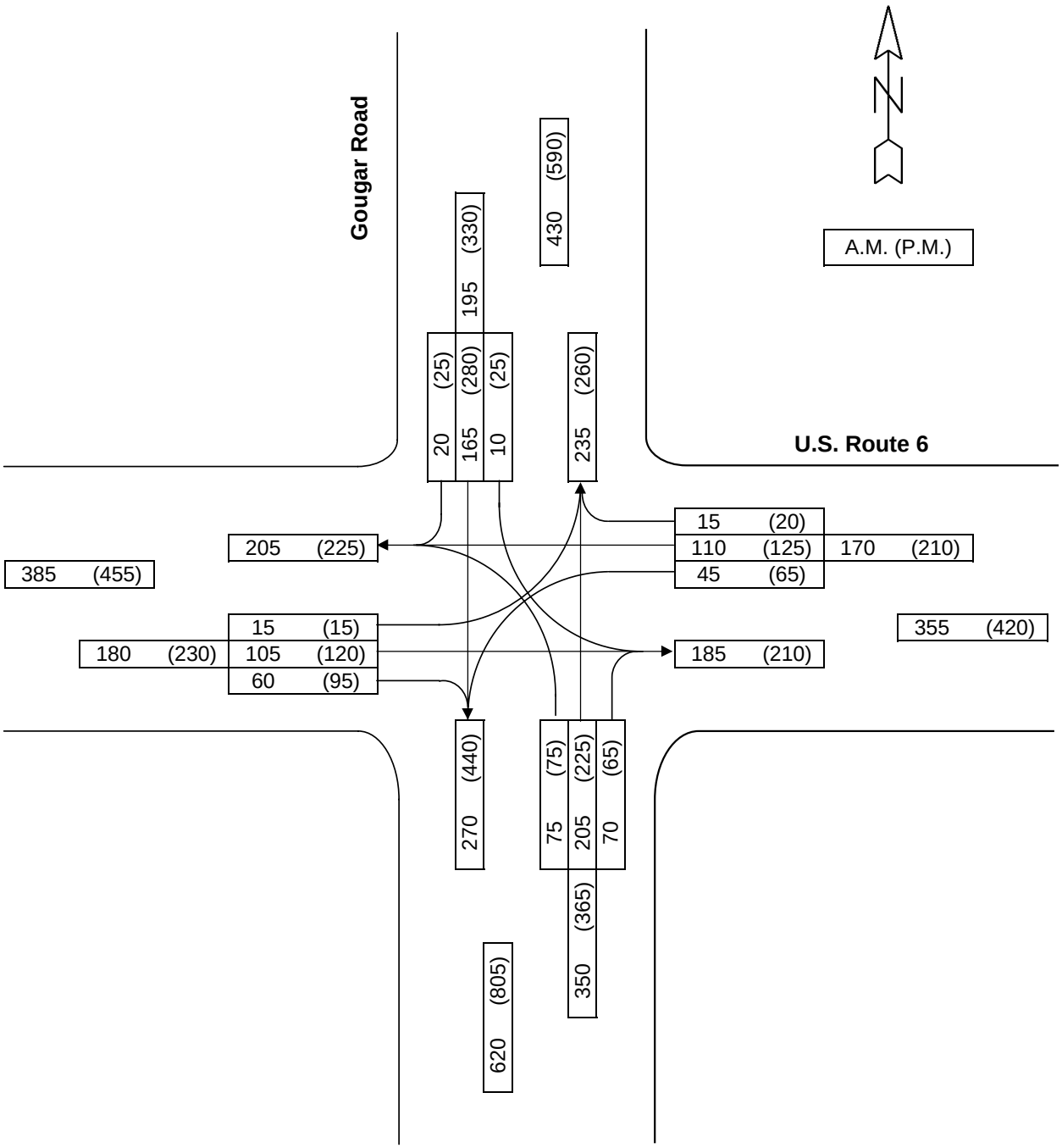


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/18/2002 A.M., 6/26/2002 P.M.

U.S. ROUTE 6 & BRIGGS STREET
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-23

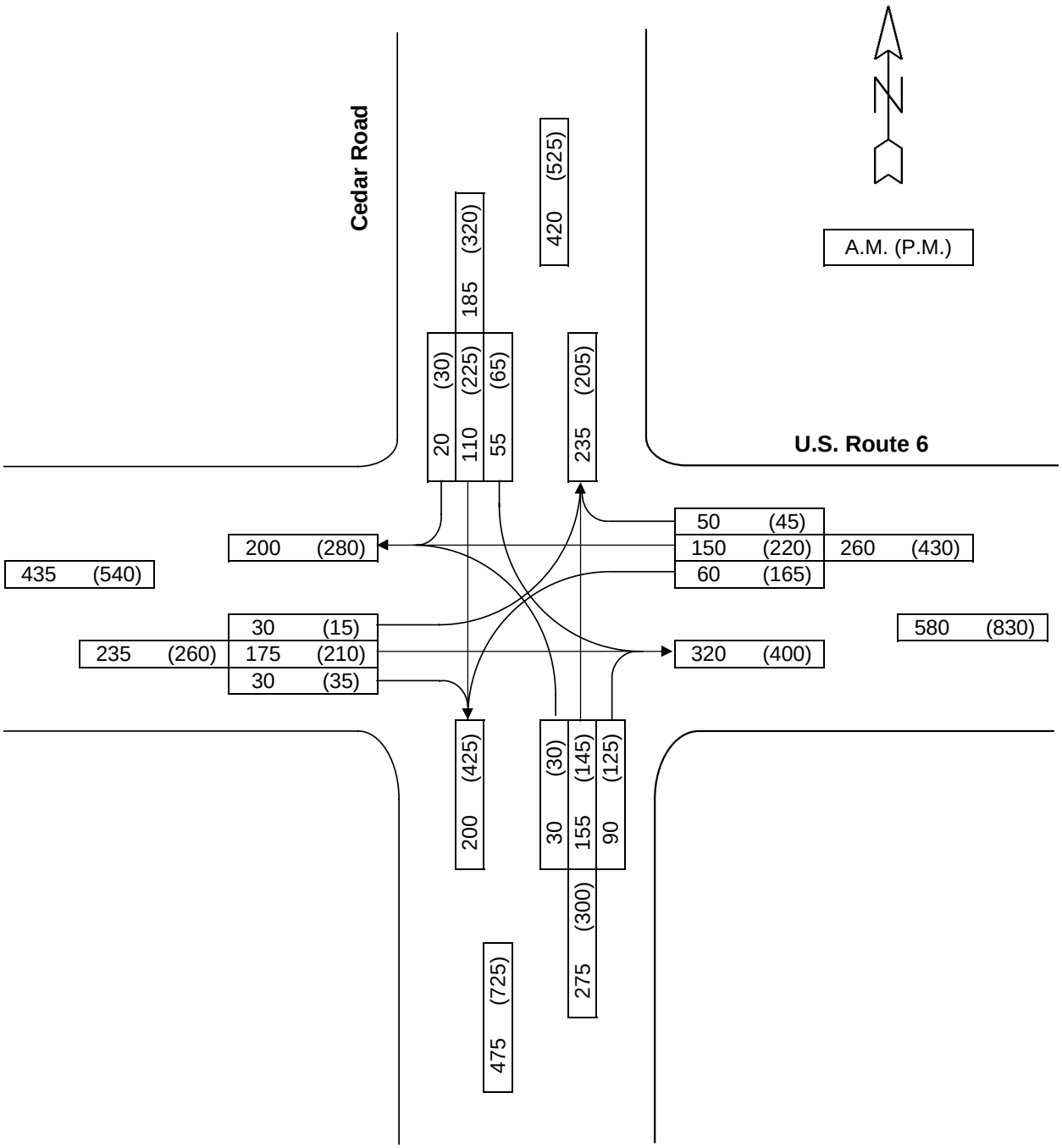


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/14/2002 A.M., 6/20/2002 P.M.

U.S. ROUTE 6 & GOUGAR ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

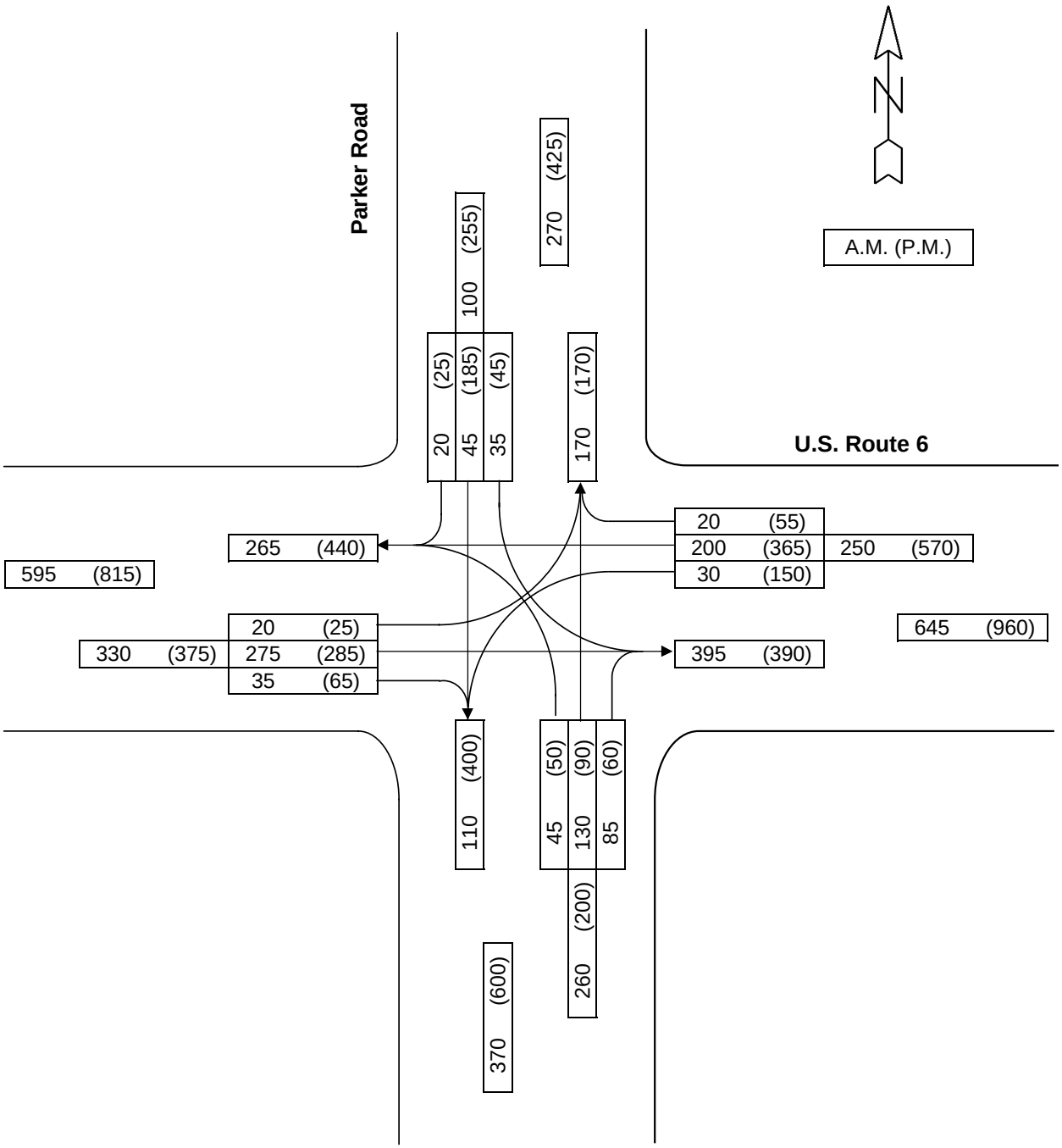
Exhibit A-24



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
6/21/2002 A.M., 6/27/2002 P.M.

U.S. ROUTE 6 & CEDAR ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-25

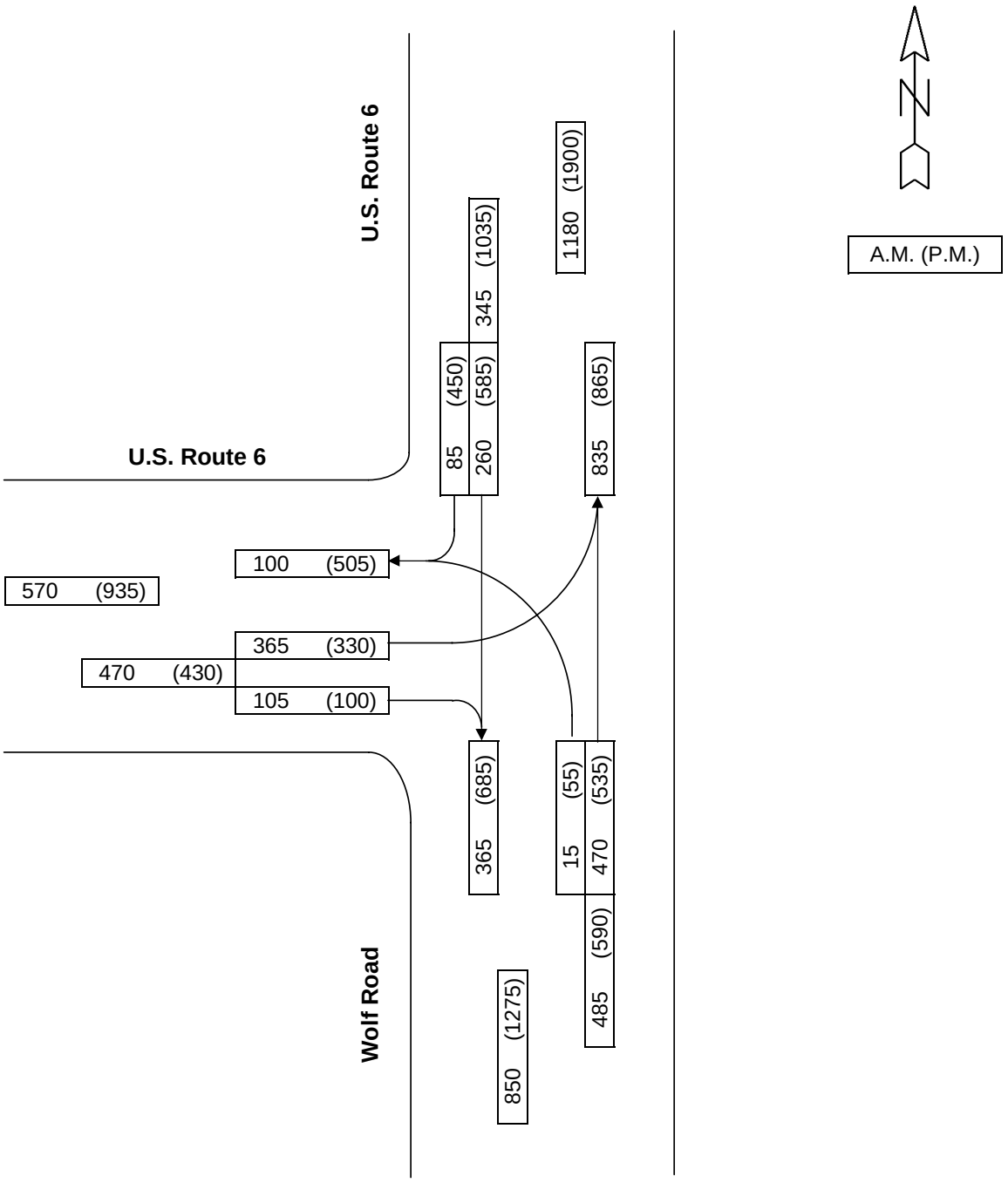


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/19/2002 A.M., 7/10/2002 P.M.

U.S. ROUTE 6 & PARKER ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-26

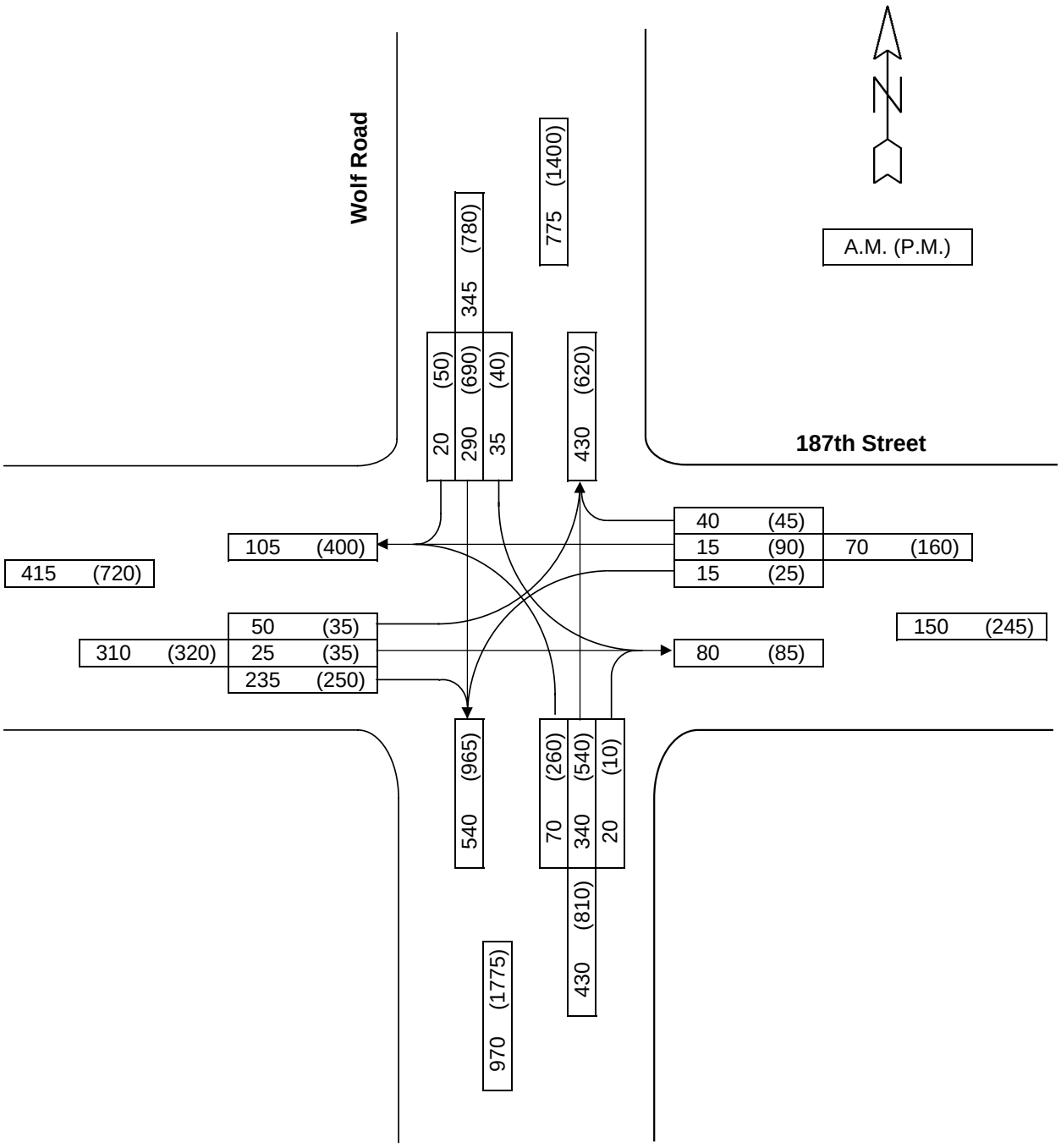


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/25/2002 A.M., 7/10/2002 P.M.

U.S. ROUTE 6 & WOLF ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-27

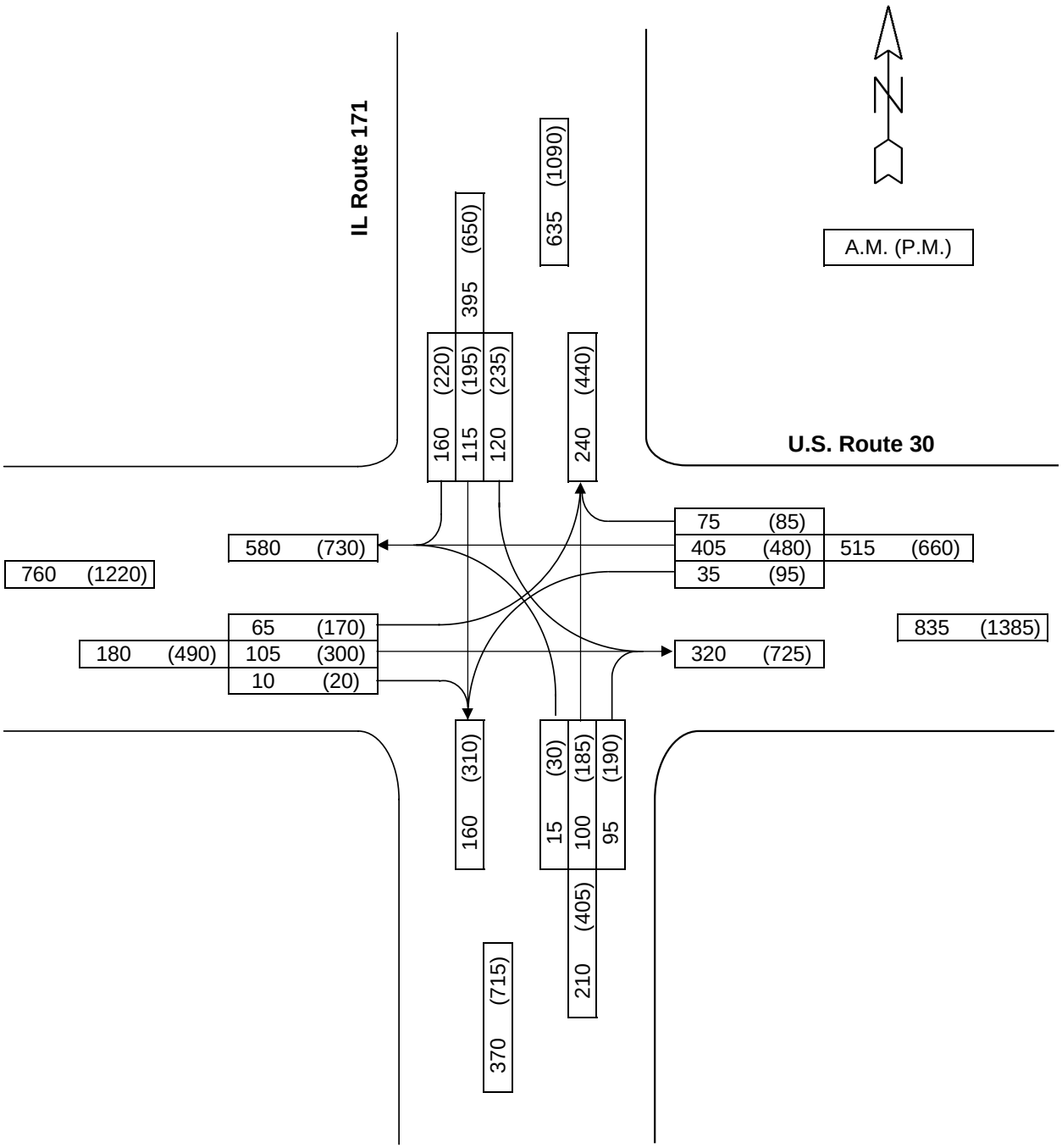


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
7/03/2002 A.M., 7/10/2002 P.M.

187TH STREET & WOLF ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-28

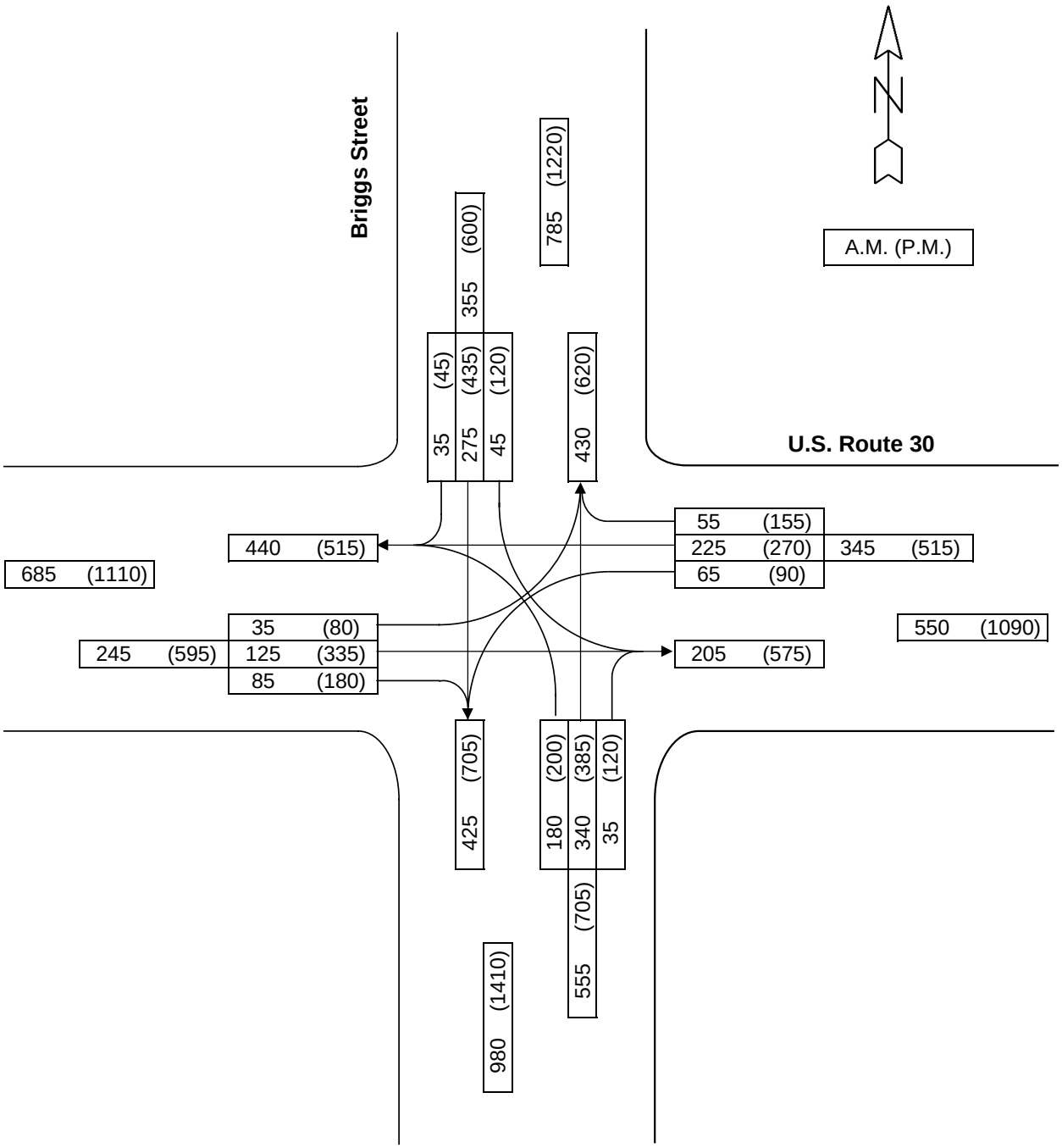


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
7/3/2002 A.M., 6/18/2002 P.M.

U.S. ROUTE 30 & IL ROUTE 171
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-29

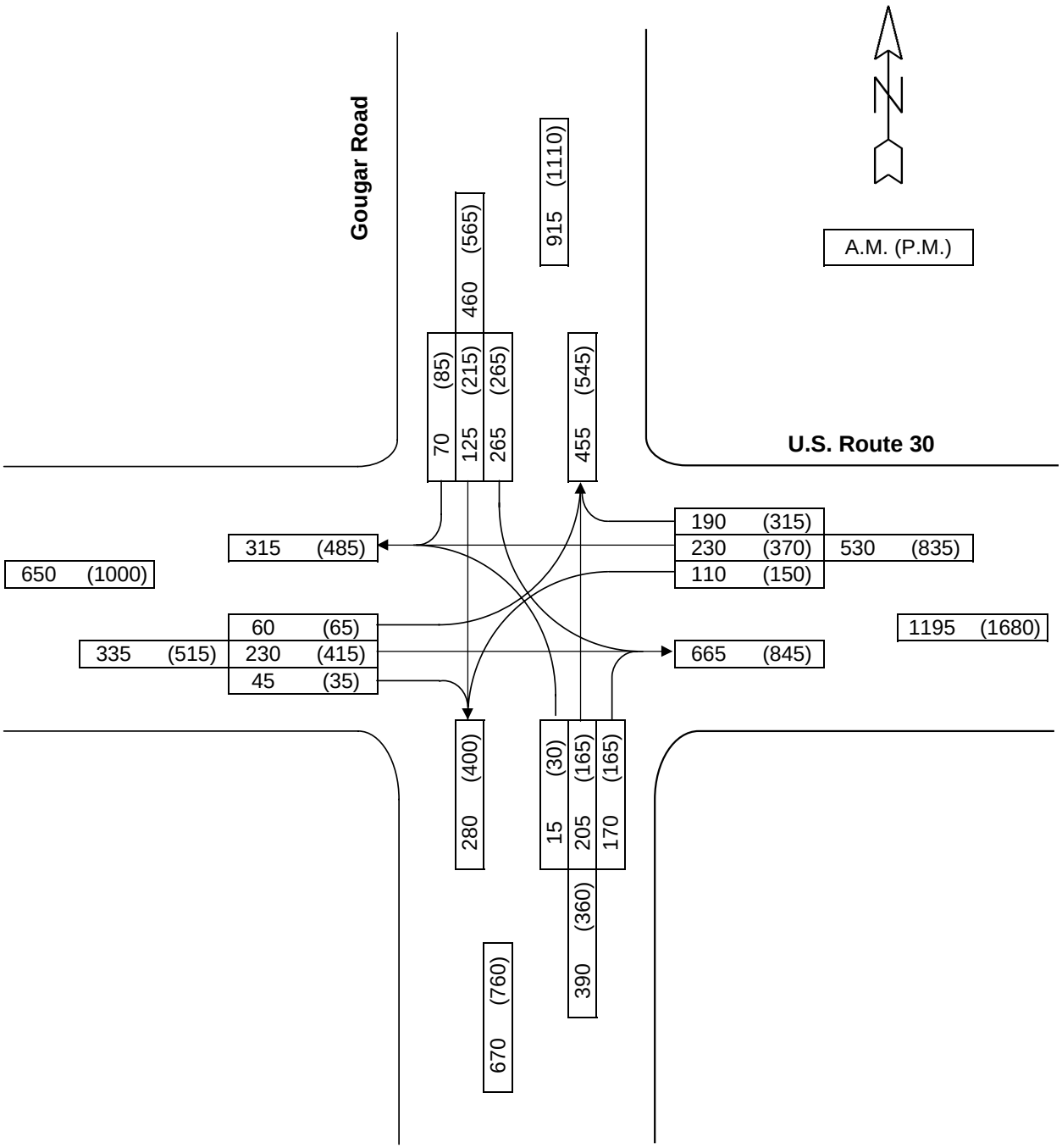


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
7/2/2002 A.M., 6/18/2002 P.M.

U.S. ROUTE 30 & BRIGGS STREET
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-30

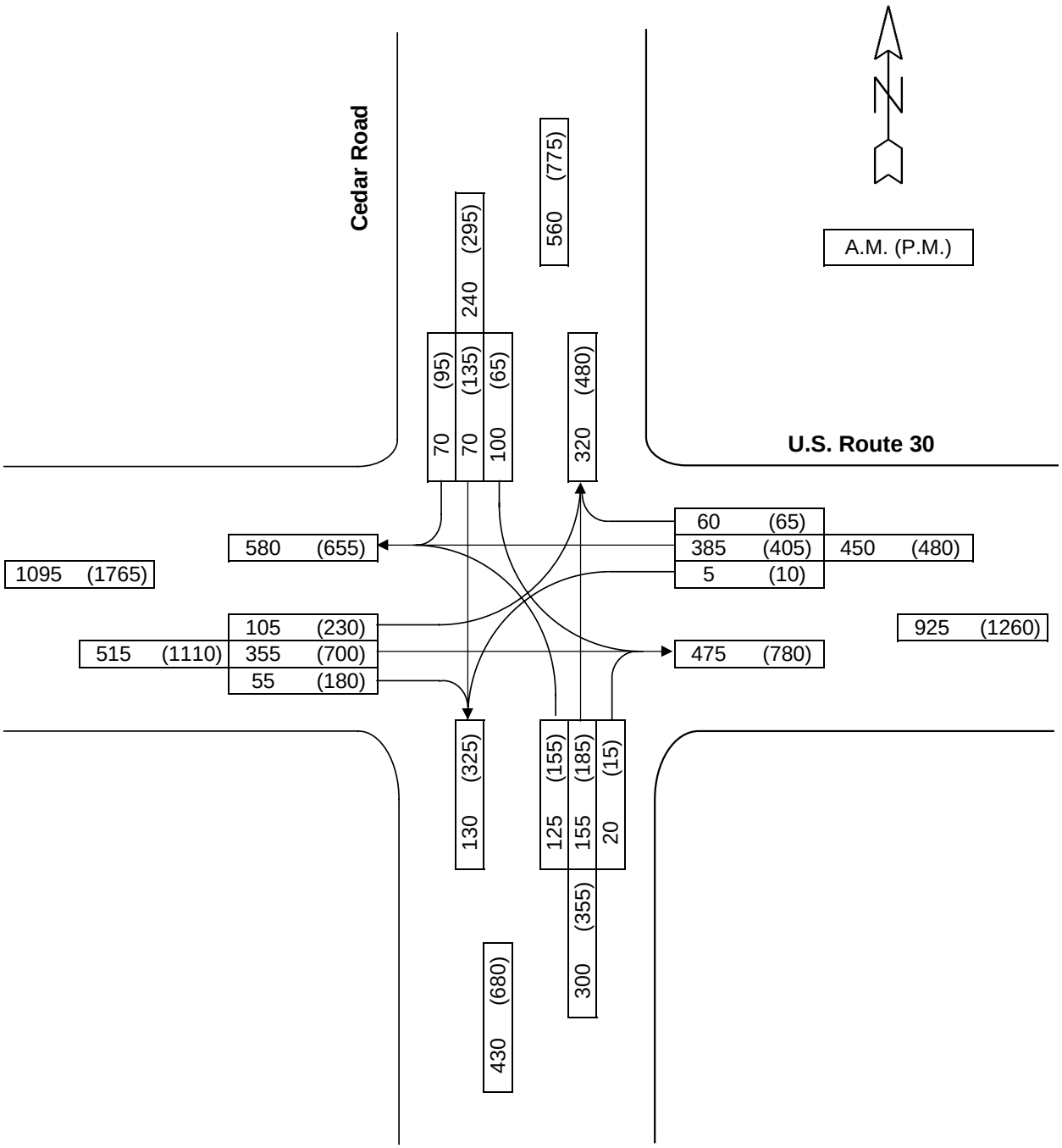


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/20/2002 A.M., 6/27/2002 P.M.

U.S. ROUTE 30 & GOUGAR ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-31

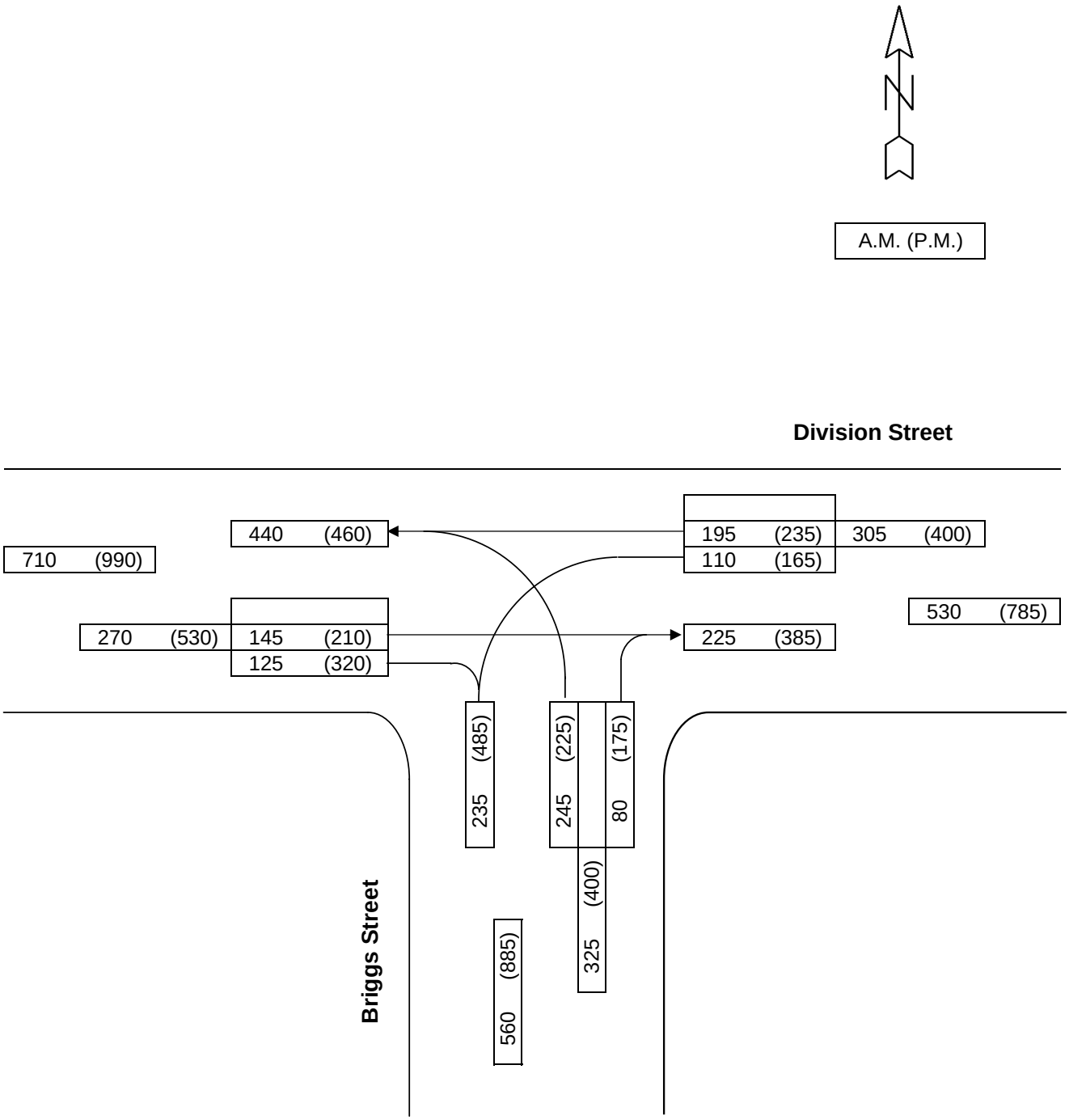


PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/20/2002 A.M., 6/27/2002 P.M.

U.S. ROUTE 30 & CEDAR ROAD
2002 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

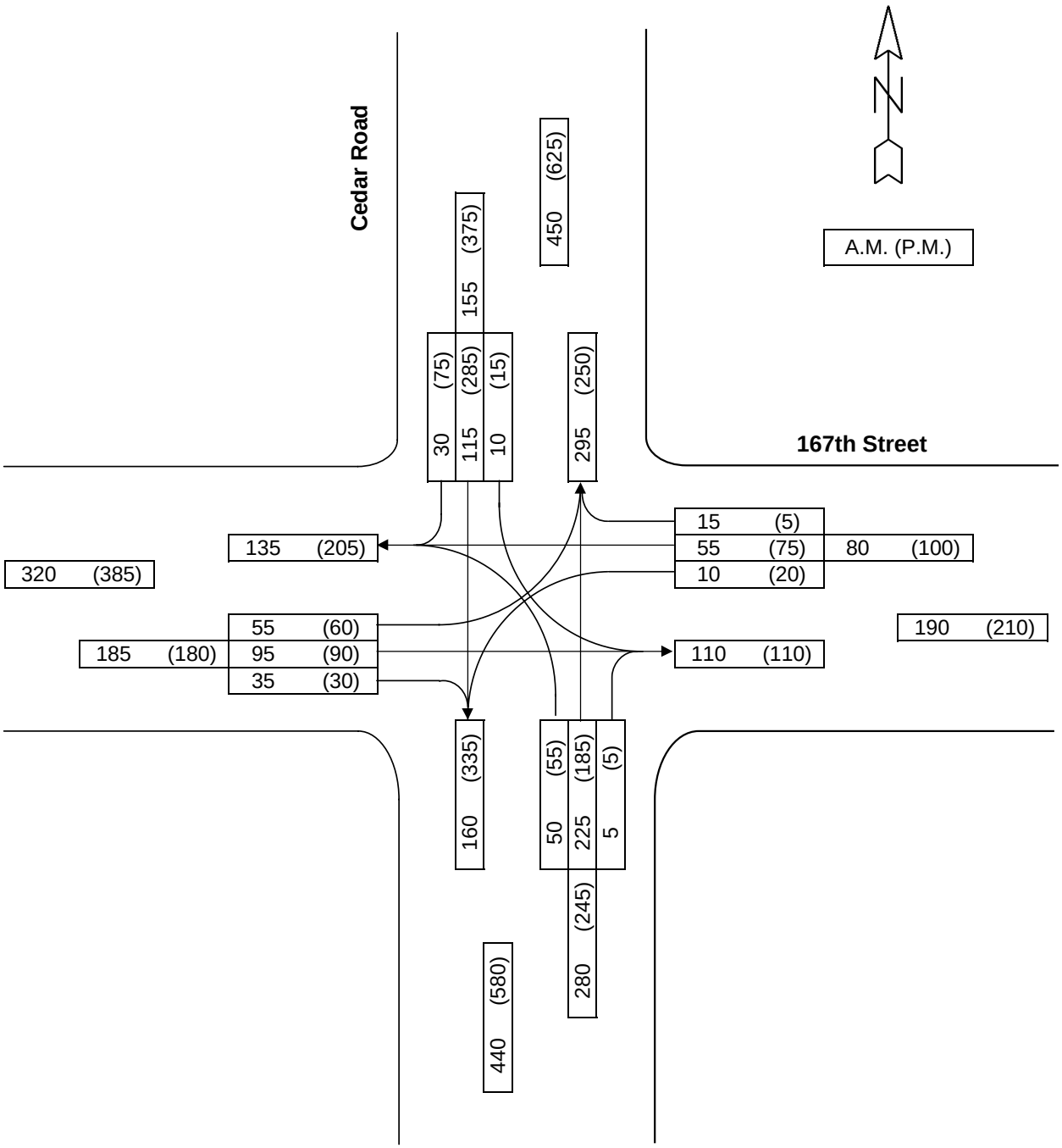
Exhibit A-32



PEAK HOURS:
7:00 A.M. - 8:00 A.M
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
6/23/2004

BRIGGS STREET & DIVISION STREET
2004 EXISTING TRAFFIC
AM (PM) PEAK HOUR TRAFFIC

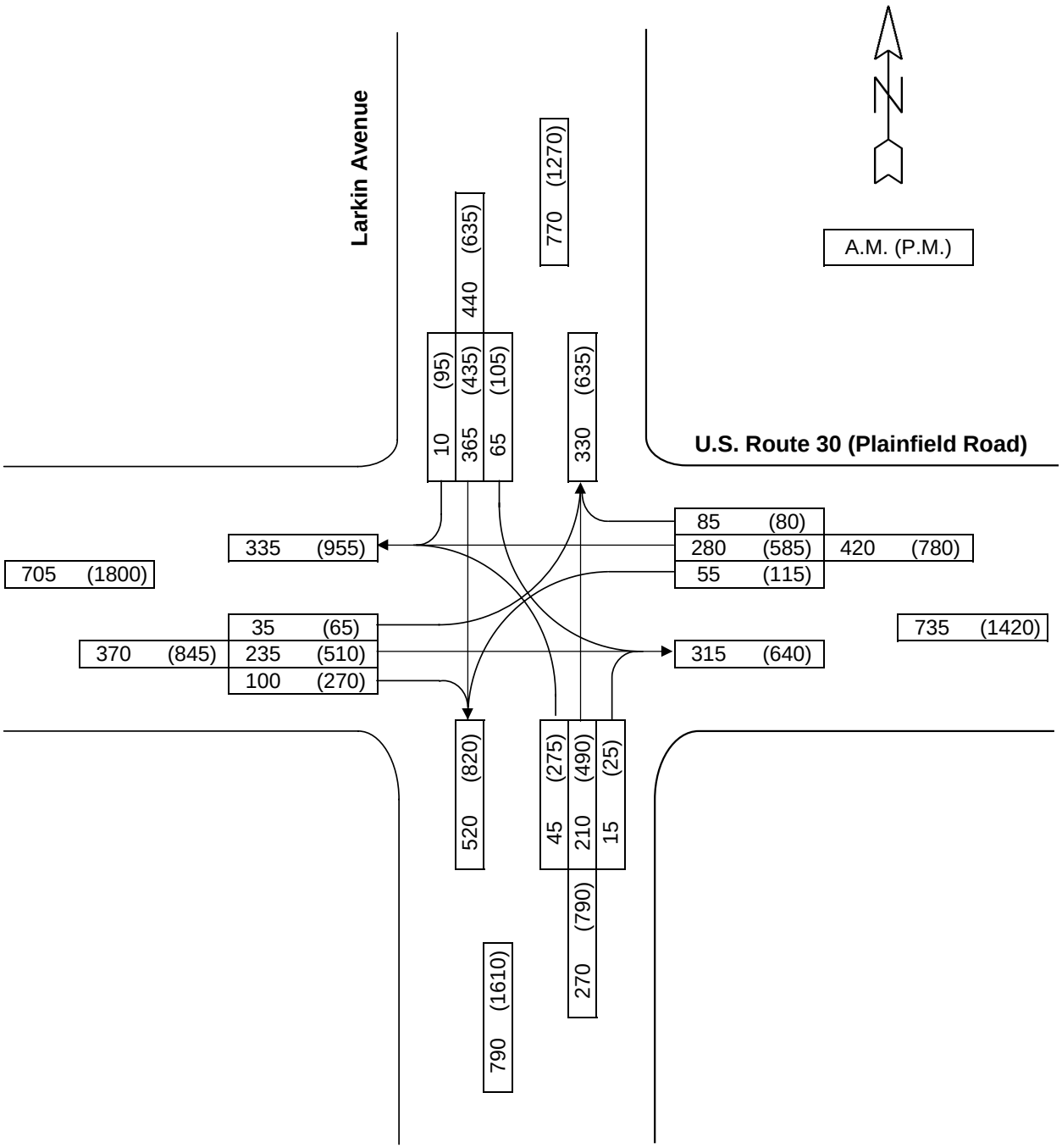
EXHIBIT A-33



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.
DATE OF COUNT:
6/17/2004

CEDAR ROAD & 167TH STREET
2004 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-34



PEAK HOURS:
7:00 A.M. - 8:00 A.M.
4:30 P.M. - 5:30 P.M.

DATE OF COUNT:
6/24/2004

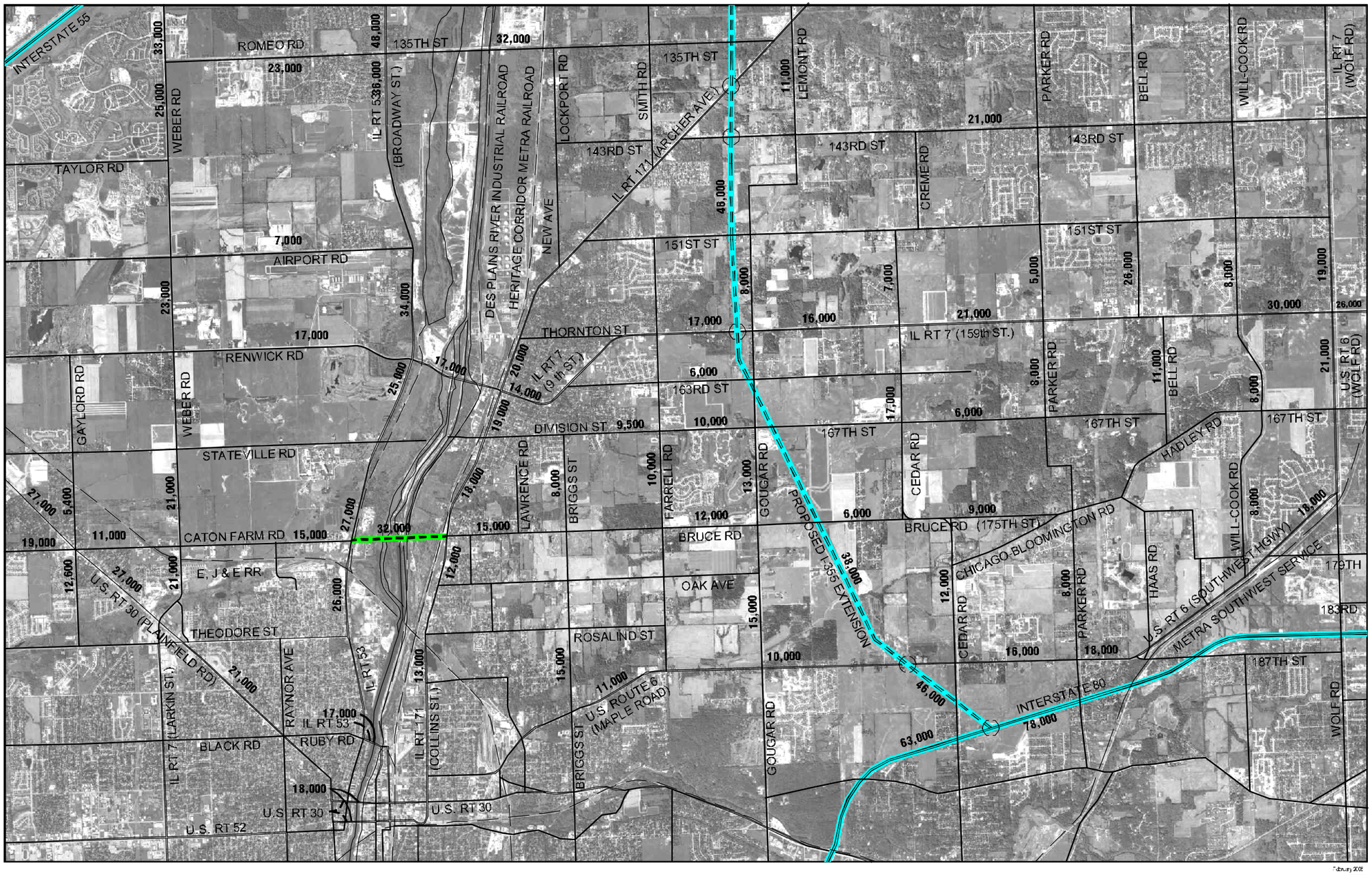
LARKIN AVENUE & U.S. ROUTE 30
2004 EXISTING TRAFFIC
AM(PM) PEAK HOUR TRAFFIC COUNT

Exhibit A-35

Appendix B

2030 Projected Average Daily Traffic Volumes for the "Build" Options

Exhibit	Option
B-1	Bridge Only Alternative
Theodore Street - Rosalind Street Corridor	
B-2	Theodore - Gougar Alignment
B-3	Theodore - Wolf Alignment
Caton Farm Road - Oak Avenue Corridor	
B-4	Oak - Gougar Alignment
B-5	Oak - Middle Alignment
B-6	Oak - Cedar Alignment
Caton Farm Road - Bruce Road Corridor	
B-7	Bruce - Gougar Alignment
B-8	Bruce - Middle Alignment
B-9	Bruce - Cedar Alignment



LEGEND

- Minor Arterial or Collector Route
- Principal Arterial Route
- Interstate Route
- Proposed Interstate Route
- Proposed Interchange
- Modeled Improvements that are part of the 2030 Regional Transportation Plan
- Corridor Alternate Under Study
- XX,XXX 2030 Projected Average Daily Traffic Volume

One Mile

SCALE

CIVILTECH

February 2008

Traffic Conditions Report

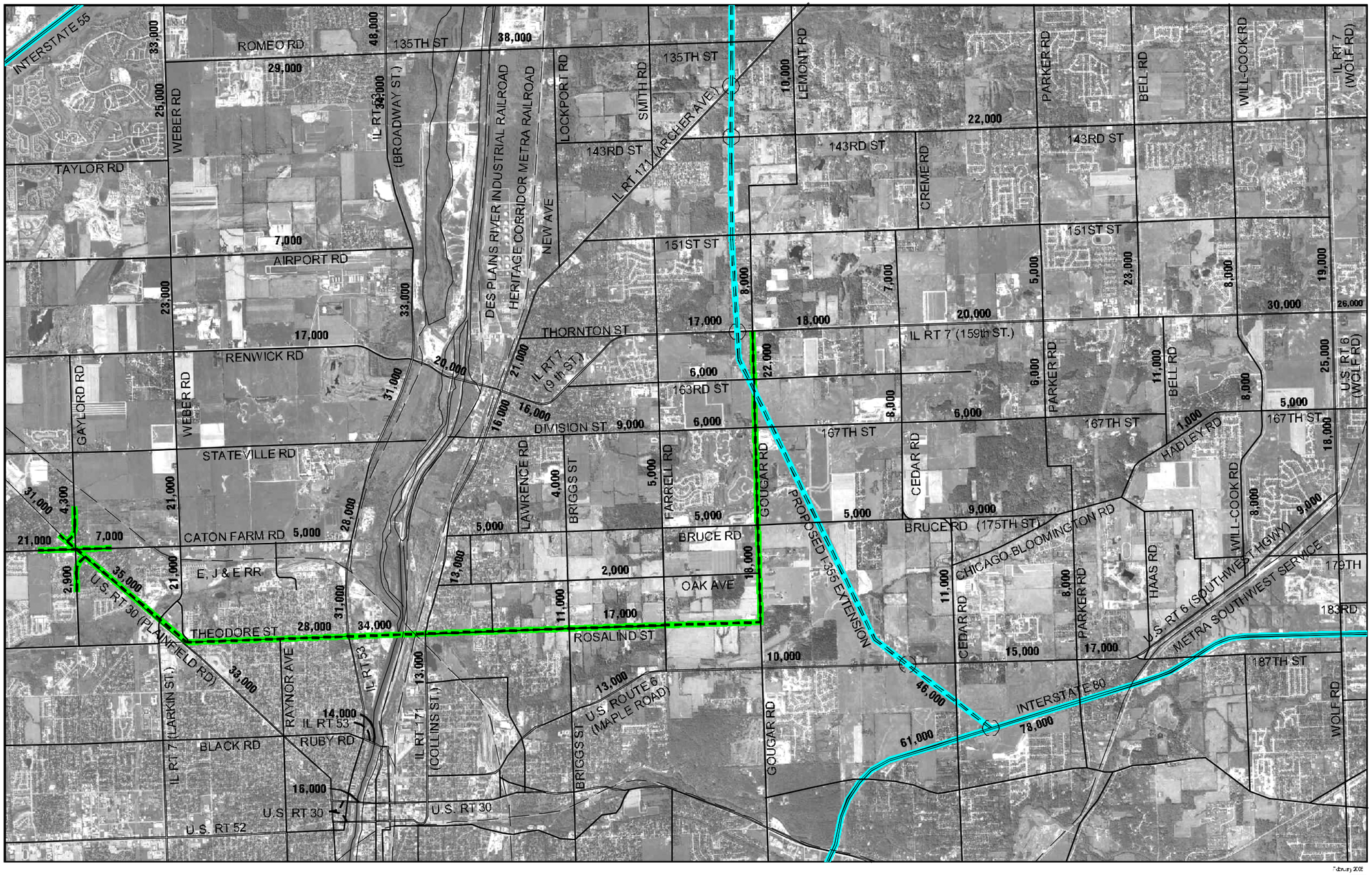
Will County Department of Highways

CFB

Caton Farm - Bruce Road Plates 1 & 1 of 1

CATON FARM ROAD - BRUCE ROAD CORRIDOR
2030 PROJECTED AVERAGE DAILY TRAFFIC (ADT) VOLUMES
BRIDGE ONLY ALTERNATIVE

EXHIBIT B-1



LEGEND

- Minor Arterial or Collector Route
- Principal Arterial Route
- Interstate Route
- Proposed Interstate Route
- Proposed Interchange
- Modeled Improvements that are part of the 2030 Regional Transportation Plan
- Corridor Alternative Under Study
- XX,XXX 2030 Projected Average Daily Traffic Volume

One Mile

SCALE

CIVILTECH

February 2008

CFB

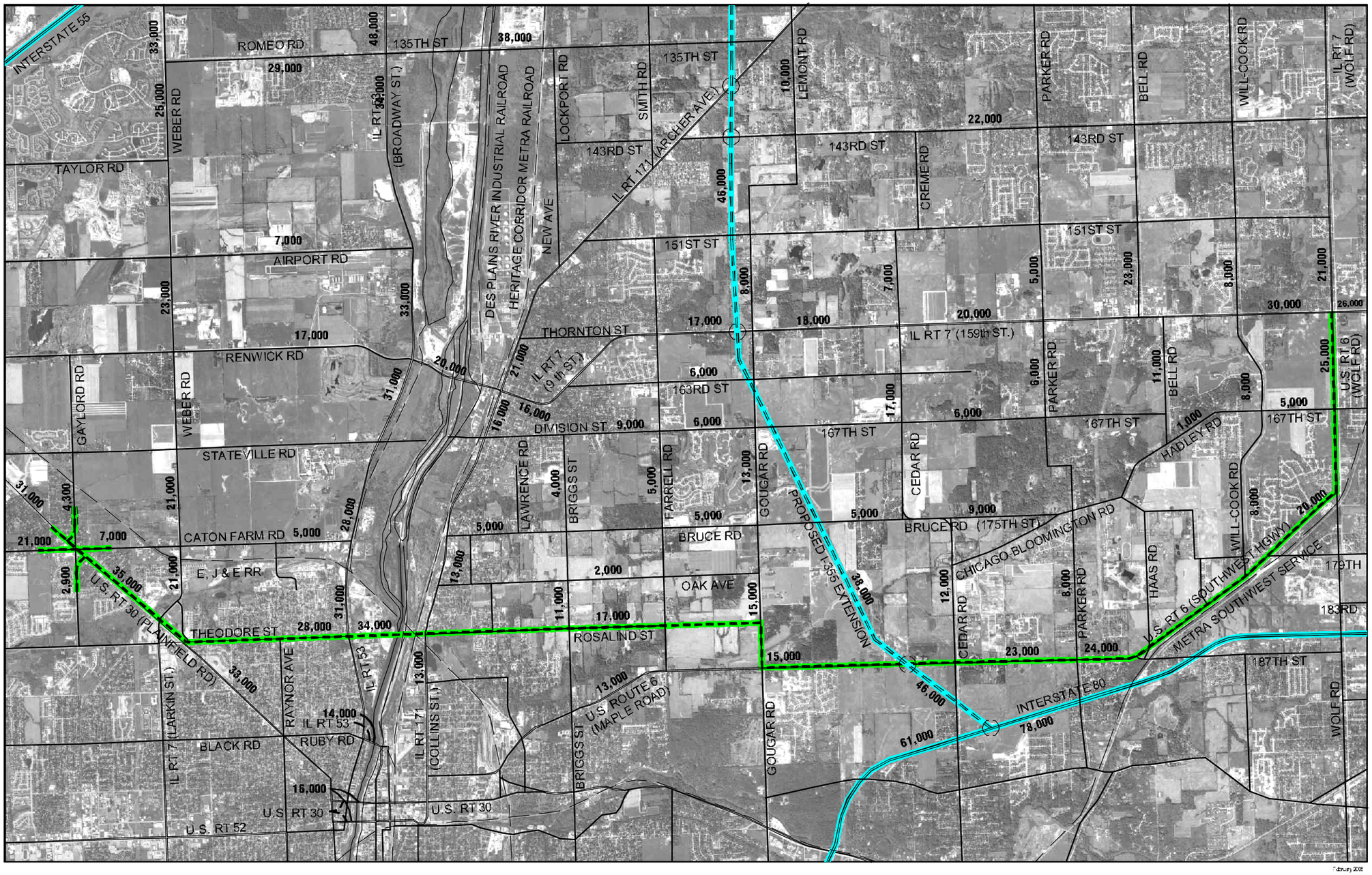
Cedar Farm - Bruce Road Passo IS Loop

Traffic Conditions Report

Will County Department of Highways

THEODORE STREET - ROSALIND STREET CORRIDOR
2030 PROJECTED AVERAGE DAILY TRAFFIC (ADT) VOLUMES
THEODORE - GOUGAR ALIGNMENT

EXHIBIT B-2



LEGEND

- Minor Arterial or Collector Route
- Principal Arterial Route
- Interstate Route
- Proposed Interstate Route
- Proposed Interchange
- Modeled Improvements that are part of the 2030 Regional Transportation Plan
- Corridor Alternative Under Study
- XX,XXX 2030 Projected Average Daily Traffic Volume

One Mile SCALE

CIVILTECH

February 2008

Traffic Conditions Report

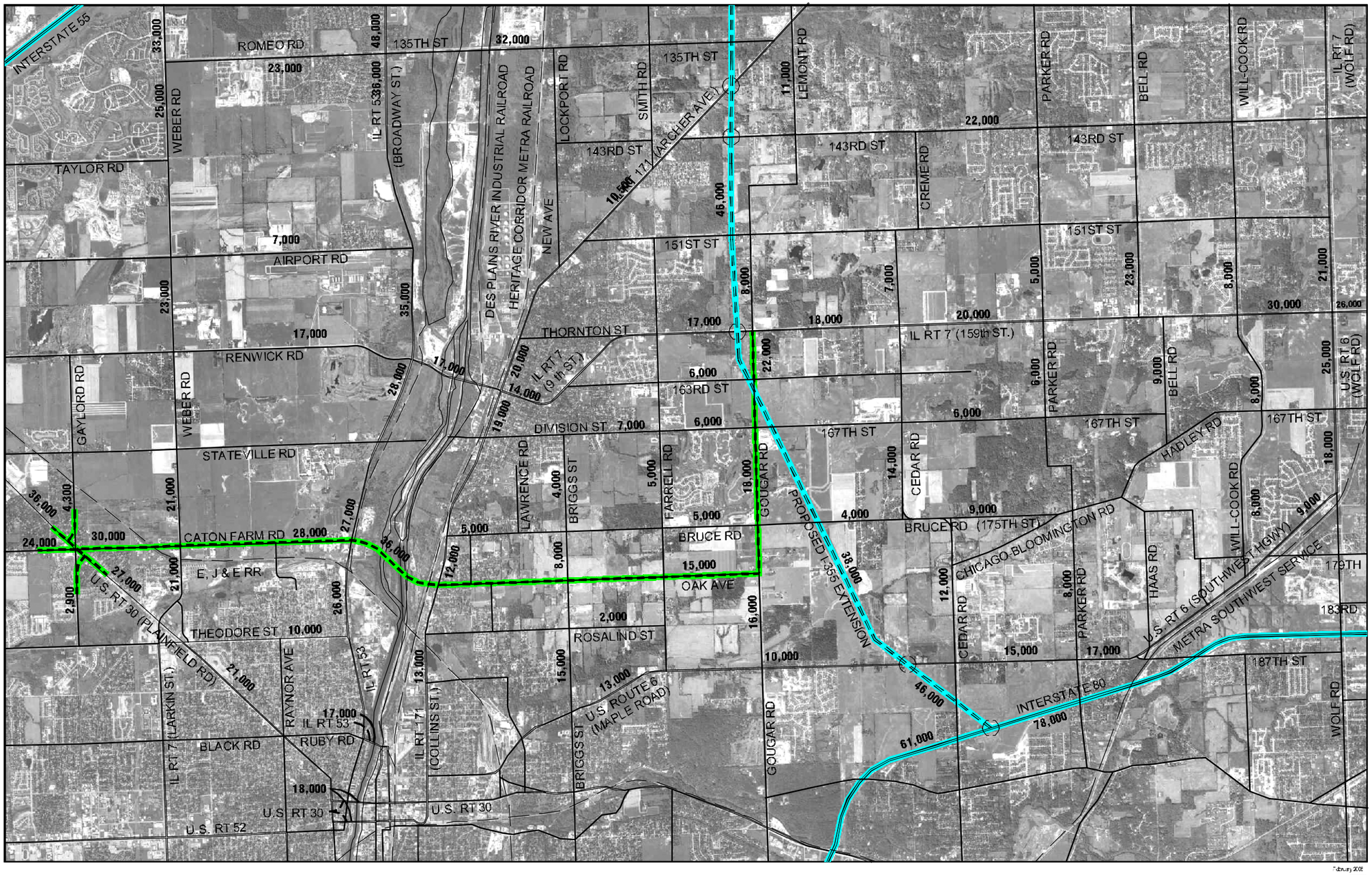
Will County Department of Highways

CFB

Cabin Farm - Bruce Road Passo ISI Loy

THEODORE STREET - ROSALIND STREET CORRIDOR
2030 PROJECTED AVERAGE DAILY TRAFFIC (ADT) VOLUMES
THEODORE - WOLF ALIGNMENT

EXHIBIT B-3



LEGEND

- Minor Arterial or Collector Route
- Principal Arterial Route
- Interstate Route
- Proposed Interstate Route
- Proposed Interchange
- Modeled Improvements that are part of the 2030 Regional Transportation Plan
- Corridor Alternative Under Study
- XX,XXX 2030 Projected Average Daily Traffic Volume

One Mile

SCALE

February 2008

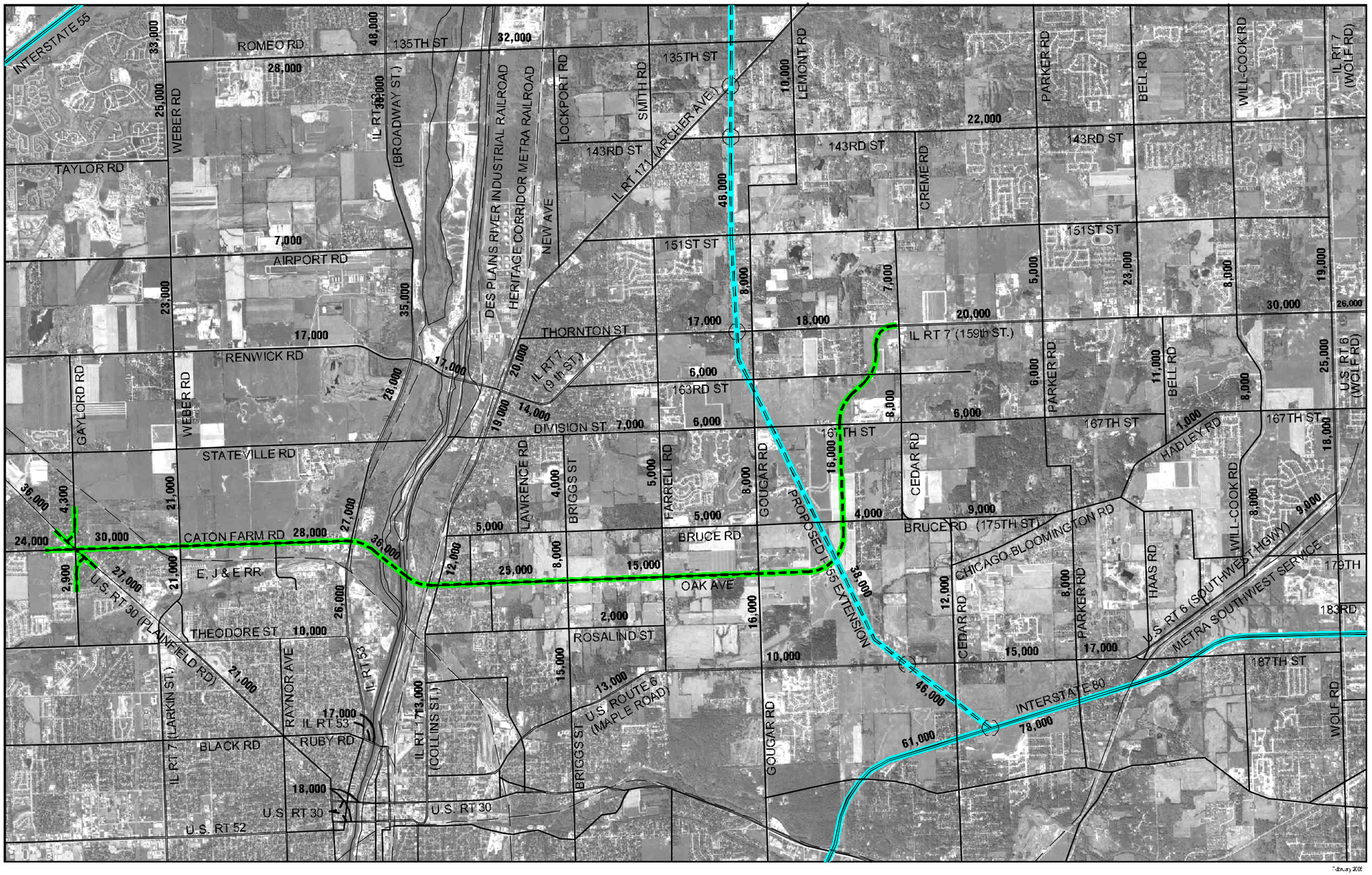
Traffic Conditions Report

Will County Department of Highways

Caton Farm - Bruce Road Peotone-Beecher Road

CATON FARM ROAD - OAK AVENUE CORRIDOR
2030 PROJECTED AVERAGE DAILY TRAFFIC (ADT) VOLUMES
OAK - GOUGAR ALIGNMENT

EXHIBIT B-4



LEGEND

- Minor Arterial or Collector Route
- Principal Arterial Route
- Interstate Route
- Proposed Interstate Route
- Proposed Interchange
- Modeled Improvements that are part of the 2030 Regional Transportation Plan
- Corridor Alternative Under Study
- XX,XXX 2030 Projected Average Daily Traffic Volume

N

One Mile

SCALE

CIVILTECH

February 2008

CFB

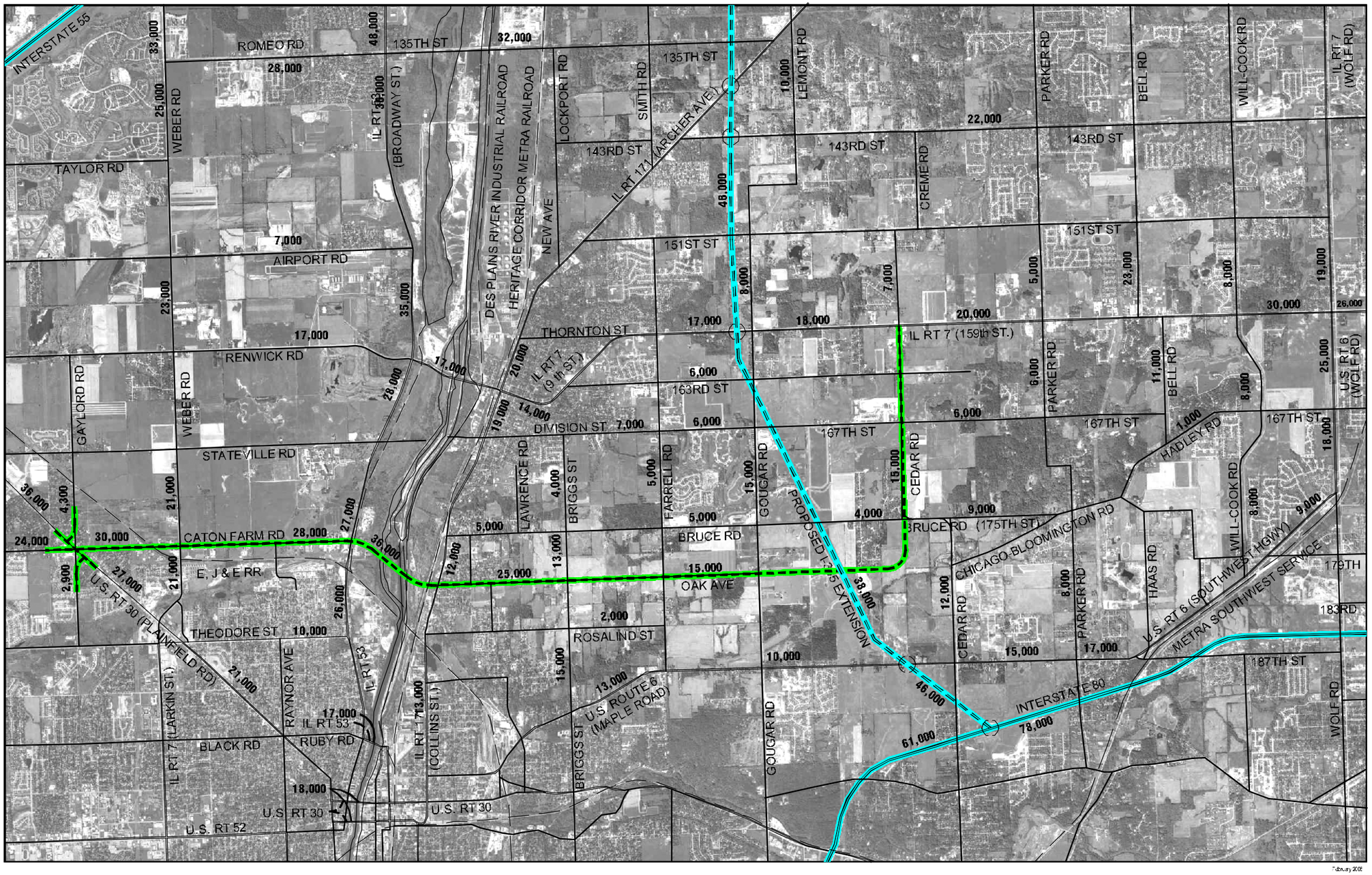
Caton Farm - Bruce Road Phase I Study

Traffic Conditions Report

Will County Department of Highways

CATON FARM ROAD - OAK AVENUE CORRIDOR
2030 PROJECTED AVERAGE DAILY TRAFFIC (ADT) VOLUMES
OAK - MIDDLE ALIGNMENT

EXHIBIT B-5



February 2008

LEGEND

- Minor Arterial or Collector Route
- Principal Arterial Route
- Interstate Route
- Proposed Interstate Route
- Proposed Interchange
- Modeled Improvements that are part of the 2030 Regional Transportation Plan
- Corridor Alternative Under Study
- XX,XXX 2030 Projected Average Daily Traffic Volume

CIVILTECH

One Mile

SCALE

Traffic Conditions Report

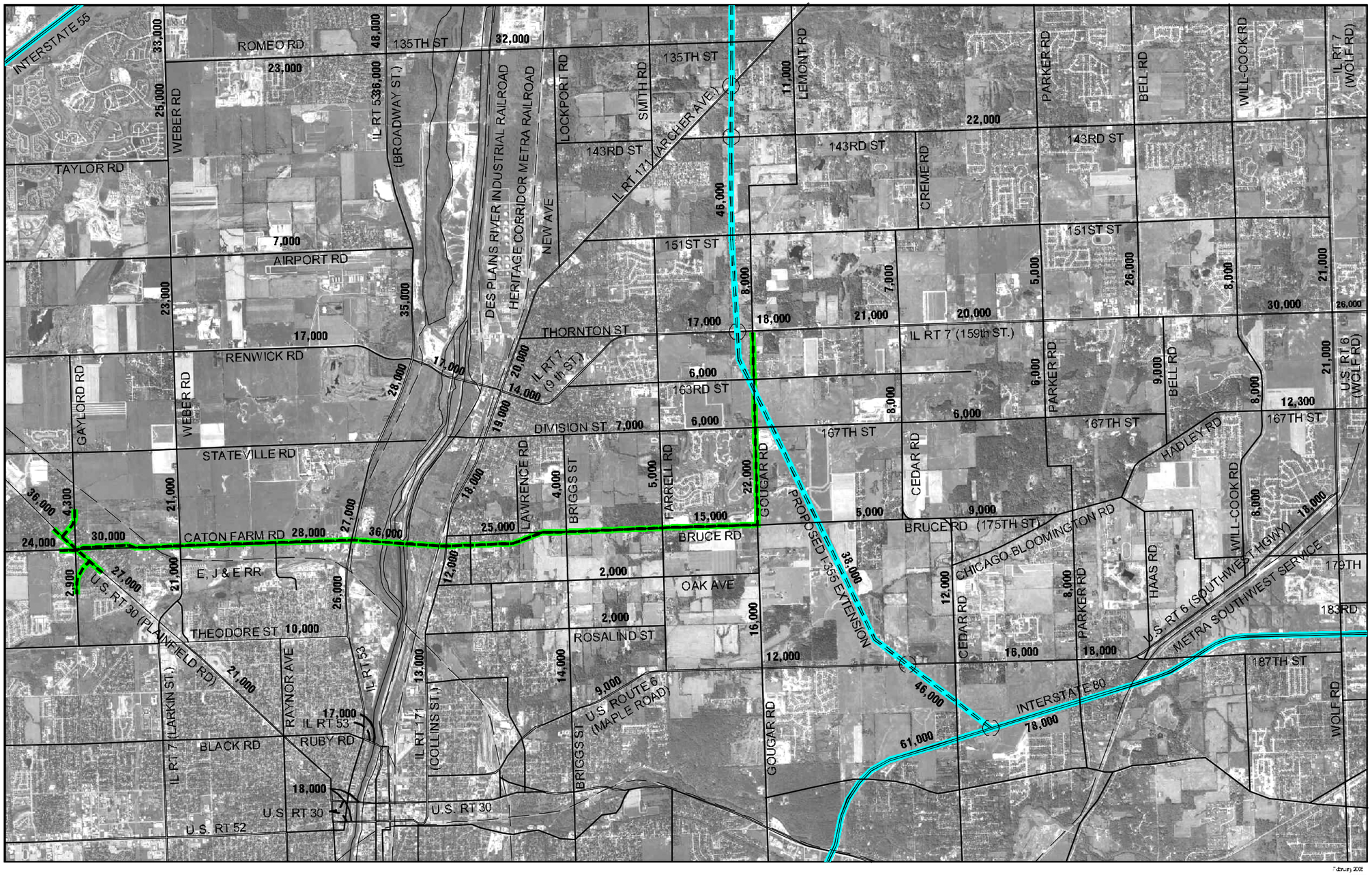
Will County Department of Highways

CFB

Caton Farm - Bruce Road Phase I Study

CATON FARM ROAD - OAK AVENUE CORRIDOR
2030 PROJECTED AVERAGE DAILY TRAFFIC (ADT) VOLUMES
OAK - CEDAR ALIGNMENT

EXHIBIT B-6



LEGEND

- Minor Arterial or Collector Route
- Principal Arterial Route
- Interstate Route
- Proposed Interstate Route
- Proposed Interchange
- Modeled Improvements that are part of the 2030 Regional Transportation Plan
- Corridor Alternate Under Study
- XX,XXX 2030 Projected Average Daily Traffic Volume

CIVILTECH

One Mile

SCALE

February 2008

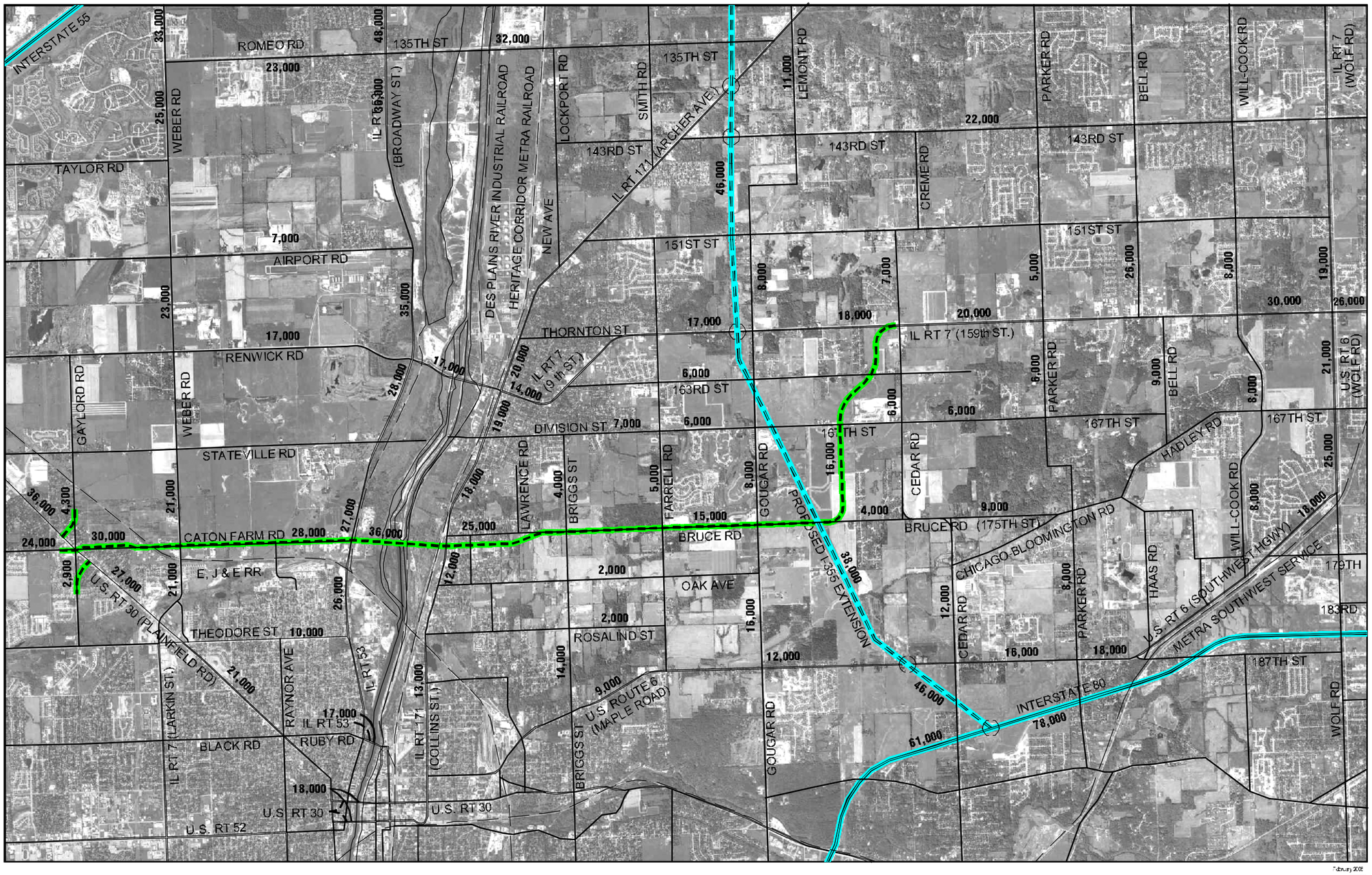
Traffic Conditions Report

Will County Department of Highways

Caton Farm - Bruce Road Plano IS Loy

CATON FARM ROAD - BRUCE ROAD CORRIDOR
2030 PROJECTED AVERAGE DAILY TRAFFIC (ADT) VOLUMES
BRUCE - GOUGAR ALIGNMENT

EXHIBIT B-7



LEGEND

- Minor Arterial or Collector Route
- Principal Arterial Route
- Interstate Route
- Proposed Interstate Route
- Proposed Interchange
- Modeled Improvements that are part of the 2030 Regional Transportation Plan
- Corridor Alternate Under Study
- XX,XXX 2030 Projected Average Daily Traffic Volume

One Mile

SCALE

CIVILTECH

February 2008

CFB

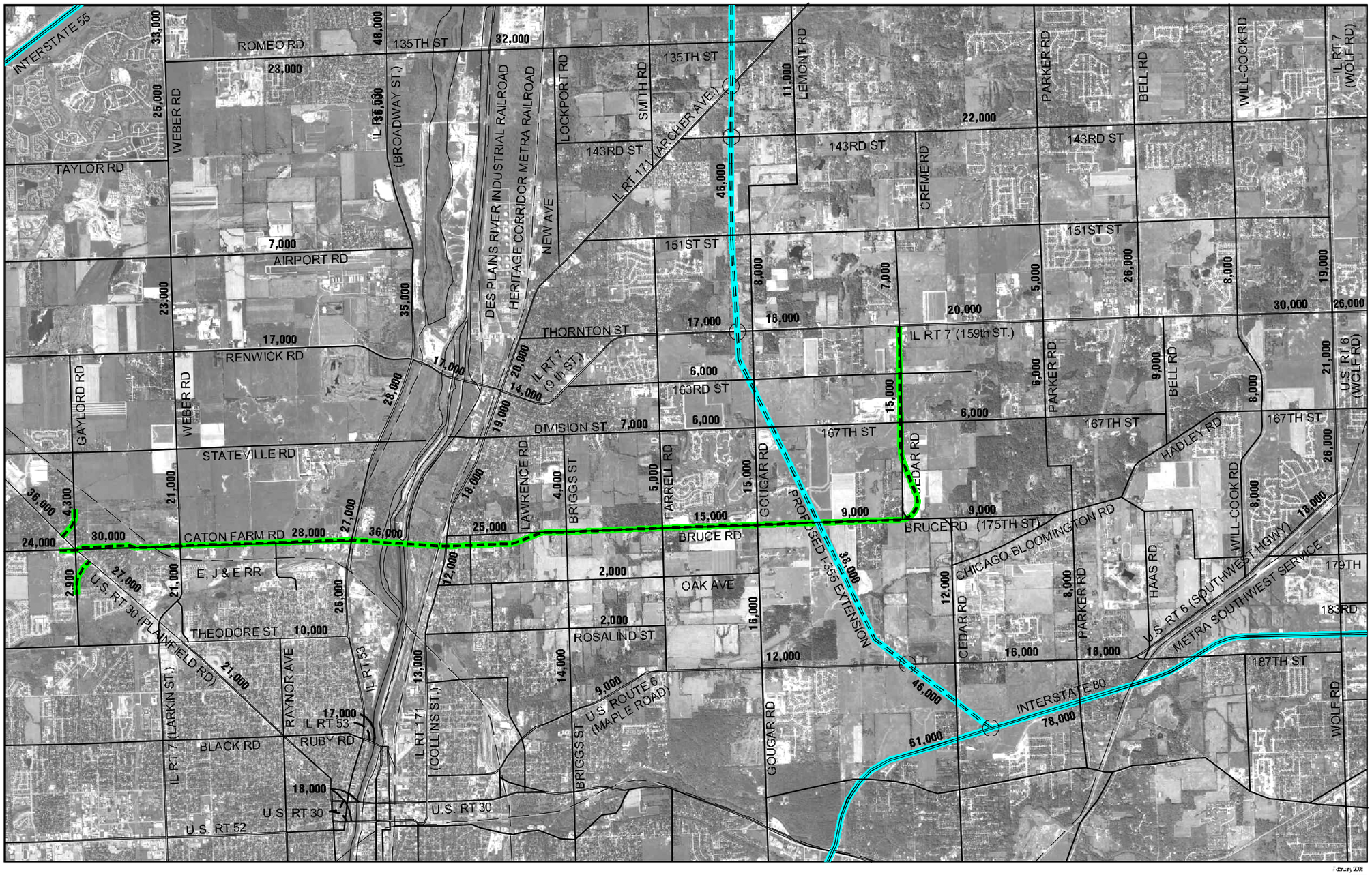
Caton Farm - Bruce Road Plano IS Loop

Traffic Conditions Report

Will County Department of Highways

CATON FARM ROAD - BRUCE ROAD CORRIDOR
2030 PROJECTED AVERAGE DAILY TRAFFIC (ADT) VOLUMES
BRUCE - MIDDLE ALIGNMENT

EXHIBIT B-8



February 2008

CIVILTECH

One Mile
SCALE

Traffic Conditions Report

Will County Department of Highways

Caton Farm - Bruce Road Phase I Study

CATON FARM ROAD - BRUCE ROAD CORRIDOR
2030 PROJECTED AVERAGE DAILY TRAFFIC (ADT) VOLUMES
BRUCE - CEDAR ALIGNMENT

EXHIBIT B-9