Appendix C

Transportation Issues and Recommendations

By:

K L O A

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UIC UNIVERSITY OF ILLINOIS AT CHICAGO

Campus Master Plan

Transportation Issues and Recommendations

Prepared for:

The University of Illinois at Chicago

Prepared By:

KLOA
Kenig, Lindgren, O'Hara, Aboona, Inc.

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EXECUTIVE SUMMARY

Several vehicular and pedestrian conflict areas on the UIC campus were identified during the UIC campus master planning process by the UIC Transportation Committee or through field observations by KLOA, Inc. Preliminary recommendations were initially developed by KLOA to address these conflicts and improve traffic and pedestrian safety throughout campus. These preliminary recommendations, along with an overview of the master planned facilities, were presented to the Chicago Department of Transportation (CDOT) on November 23, 2009 at a meeting intended to obtain general comments on the viability and acceptance of the recommendations. Based on the feedback received at this meeting, the recommendations were revised and included in this summary report.

One of the most debated topics discussed in the Transportation Committee meetings related to the proposed closing of north-south streets (between Polk to Taylor streets) on the West Side of campus to divert traffic around the campus core area, improve pedestrian safety and increase green space. KLOA evaluated the potential closure of Wood Street, Paulina Street, Wolcott Avenue and Marshfield Avenue. The recommendations that came out of this evaluation, and are included in the Campus Master Plan, support the mid-block closures of Wolcott Avenue and Marshfield Avenue but suggest an alternative to closing either Wood Street or Paulina Street - the alternative being a context-sensitive solution of narrowing the street width from 40 feet wide to 24 feet, or 34 feet if bike lanes are incorporated into the design, and widening the parkway to expand pedestrian walkways, create space to improve streetscaping, reduce pedestrian crossing distances, and ultimately to calm traffic.

Through further discussions with UIC administrators, the recommendations reviewed with CDOT were prioritized and four (4) of the projects were determined to be the most important to immediately initiate further planning and engineering towards implementation in the very near term. These projects include:

1. Harrison Street/UIC-Halsted CTA station crosswalk consolidation and pedestrian signal installation
2. Halsted Street narrowing and mid-block pedestrian crossing consolidation
3. Roosevelt Road/Halsted Street intersection improvements and traffic signal upgrades
4. Wood Street/Taylor Street intersection improvements and new traffic signal installation

The remaining projects comprise the second level of priority and would be pursued over time during subsequent phases of plan implementation.

CDOT has jurisdiction over any changes to the public street system. The next step towards implementation of the first priority projects is for UIC to (1) establish the improvement projects to be pursued, (2) retain a traffic engineering consultant to prepare the required studies and/or plans that CDOT will need for the review and desired approval of the projects, and (3) to schedule a follow-up meeting with CDOT to initiate the project review process and coordination with other departments/agencies. At the same time, UIC should apprise the Ward 2 and Ward 25 Aldermen of the current status of the master planning project and the pending follow-up discussions with CDOT.

UIC CAMPUS MASTER PLAN
TRANSPORTATION ISSUES AND RECOMMENDATIONS

I. INTRODUCTION

Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) served as a Consultant to Booth Hansen, Ltd., the Architect and Planner of the University of Illinois at Chicago's (UIC) Campus Master Plan, to provide traffic planning services and assistance with the preparation of the transportation component of the Master Plan. The transportation component strives to achieve one of the goals of the Master Plan, to enhance the urban campus by strengthening campus circulation of pedestrians, bicycles and vehicular traffic.

The purpose of this report is to (1) summarize the traffic and pedestrian data collected by KLOA, (2) identify the traffic and pedestrian conflict areas for both the East and West Sides of campus, and (3) provide recommendations to address the conflicts and improve traffic and pedestrian safety throughout campus. The recommendations are prioritized and *next steps* actions are suggested toward implementation of the first priority projects, in keeping with an objective of the Master Plan's vision to create a framework for short term decision-making within the long term vision of the University's physical development.

II. BACKGROUND INFORMATION

Previous transportation studies conducted in the vicinity of the UIC campuses were reviewed to obtain background information, including:

- *Illinois Medical District (IMD) Master Plan,* April 7, 1997, prepared by The Lakota Group and Barton-Aschman Associates, Inc.
- *2004 Parking and Traffic Update to the IMD Master Plan,* prepared by KLOA, Inc.
- *Traffic Signal Warrant Study for the Taylor Street/Wood Street Intersection,* November 29, 2001, prepared by KLOA, Inc.
- *Traffic Impact Study for John H. Stroger, Jr. Hospital of Cook County*, May 2005, prepared by KLOA, Inc.
- Traffic Signal Warrant Study for Harrison Street Pedestrian Crossing (Morgan Street-Racine Avenue, July 31, 1996, prepared by Metro Transportation Group, Inc.
- *Pedestrian Safety Plan for Harrison Street Between Halsted Street and Morgan Street,* prepared by the Chicago Department of Transportation on July 30, 2008.
- *University of Illinois Medical Center at Chicago Hospital Expansion and Renovation CON Services, Master Design Stage B Submission,* December 18, 2008, prepared by SmithGroup.

- *Site Traffic Analysis for UIC South Campus Development*, August 1998, prepared by KLOA, Inc.

III. EXISTING TRAFFIC AND PEDESTRIAN CONDITIONS

Traffic and pedestrian data was collected throughout the campus area to be utilized in the analysis of the vehicular and pedestrian conflict locations. Data obtained included street geometrics, traffic controls, average daily traffic (24-hour) volumes, peak-hour traffic and pedestrian volumes, and vehicle queue observations.

Average daily traffic volumes were obtained from the Illinois Department of Transportation (IDOT) and used to develop the Traffic Flow Map shown in Figure 1. The map categorizes the streets in the campus area based on the volume of traffic carried over a 24-hour period. As shown, Roosevelt Road and Ashland Avenue each carry over 25,000 vehicles per day while Halsted Street, Damen Avenue and Ogden Avenue each carry from 15,000-25,000 vehicles per day. Other important streets in the campus area include Harrison Street, Polk Street, Taylor Street, Racine Avenue, Loomis Street, Paulina Street, and Wood Street, each carrying from 5,000-15,000 vehicles per day.

Peak-hour traffic and pedestrian volumes were collected by KLOA, Inc. at campus area intersections identified by UIC administrators as locations where vehicular and/or pedestrian conflicts are a concern. The volumes were collected during the weekday morning (7:00 to 9:00 A.M.) and evening (4:00 to 6:00 P.M.) peak commuting periods and during the midday period (11:00 A.M. to 1:00 P.M.). Supplemental peak-hour traffic and pedestrian volume information was obtained from the *Traffic Impact Study for John H. Stroger, Jr. Hospital of Cook County*.

From the traffic count data, the morning, midday, and evening peak hours were determined for analysis purposes. Figures 2 and 3 show the peak-hour traffic volumes for the East and West Sides of campus, respectively. Figures 4 and 5 show the peak-hour pedestrian volumes for the East and West Sides, respectively.

PROJECT:	TITLE:	PROJECT NO: 08-280
UNIVERSITY OF ILLINOIS AT CHICAGO	TRAFFIC FLOW MAP	KLOA
		FIGURE NO: 1

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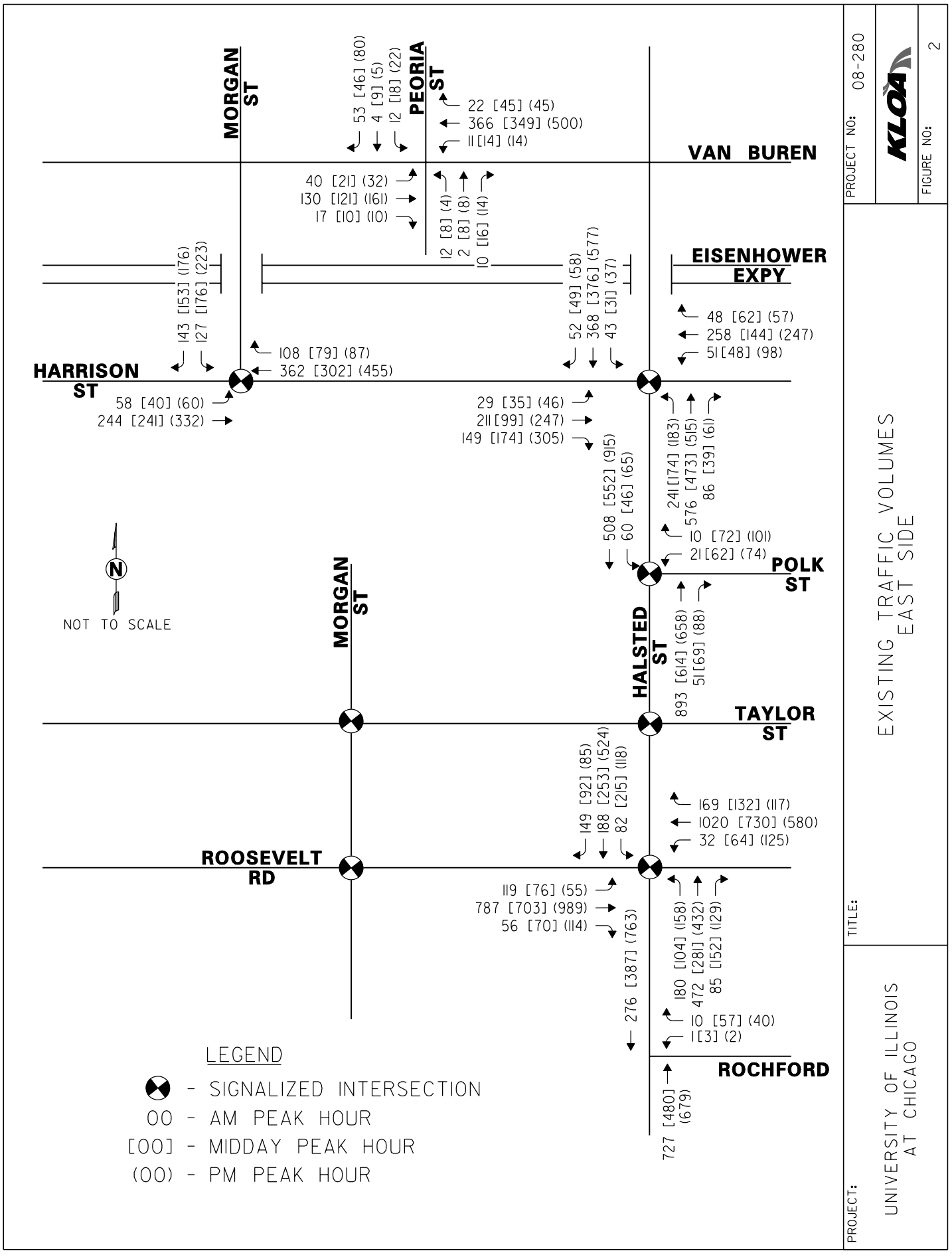
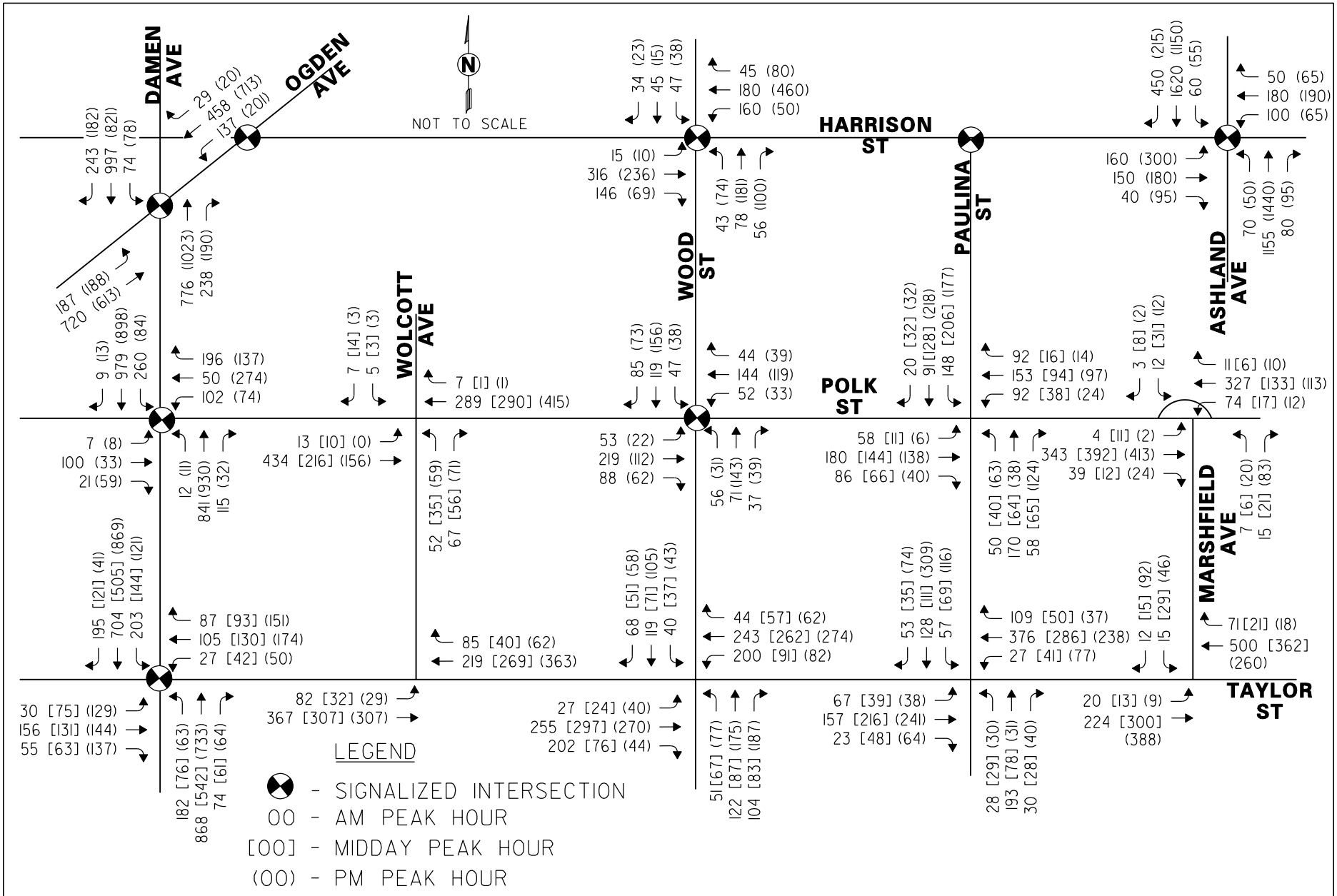
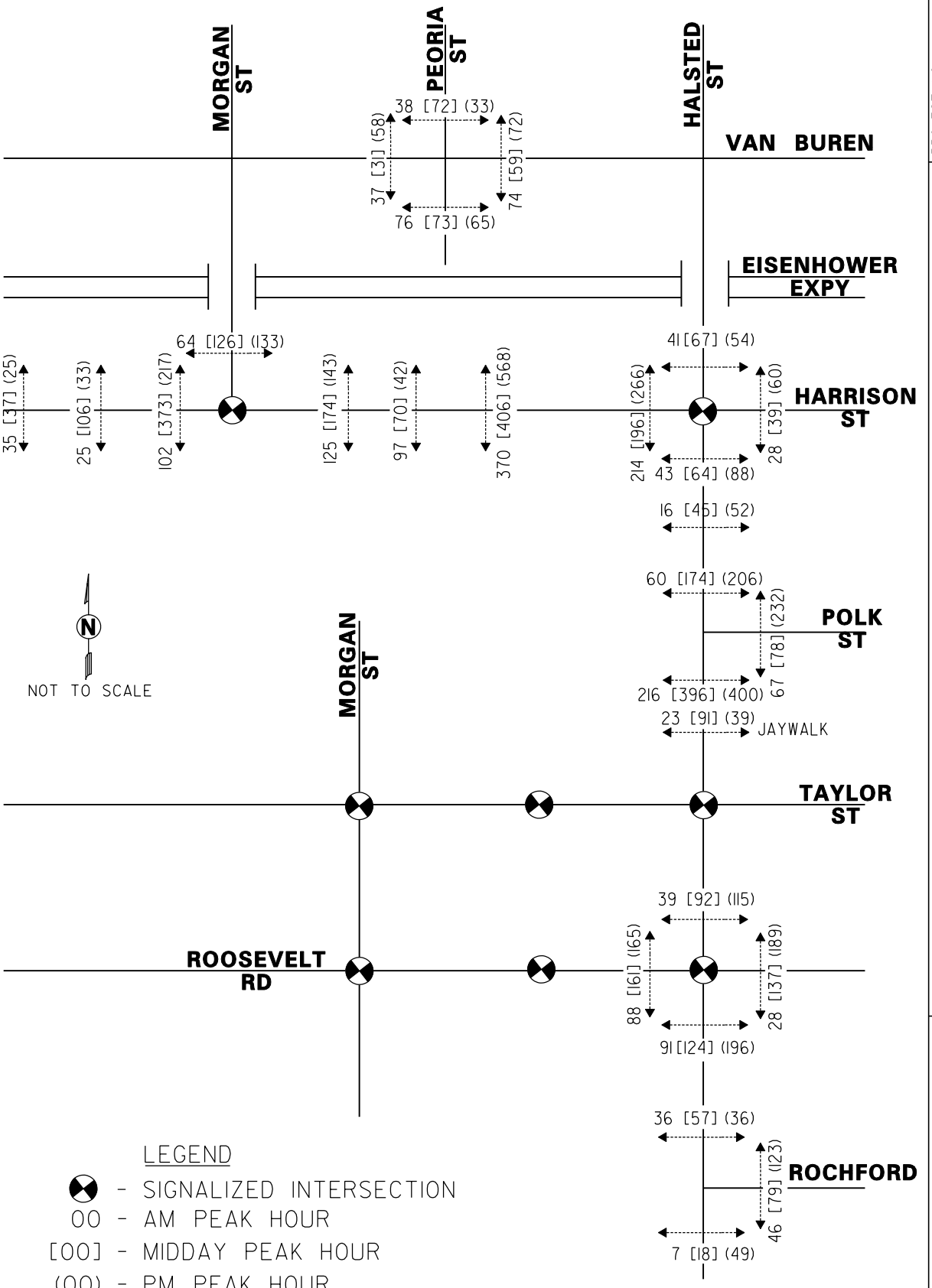

MORGAN ST
PEORIA ST
VAN BUREN
EISENHOWER EXPY
HARRISON ST
POLK ST
HALSTED ST
TAYLOR ST
ROOSEVELT RD
ROCHFORD
53 [46] (80)
4 [9] (5)
12 [18] (22)
22 [45] (45)
366 [349] (500)
11 [14] (14)
40 [21] (32)
130 [121] (161)
17 [10] (10)
12 [8] (4)
2 [8] (8)
10 [16] (14)
143 [153] (176)
127 [176] (223)
108 [79] (87)
362 [302] (455)
58 [40] (60)
244 [241] (332)
52 [49] (58)
368 [376] (577)
43 [31] (37)
48 [62] (57)
258 [144] (247)
51 [48] (98)
29 [35] (46)
211 [99] (247)
149 [174] (305)
508 [552] (915)
60 [46] (65)
241 [174] (183)
576 [473] (515)
86 [39] (61)
10 [72] (101)
21 [62] (74)
893 [614] (658)
51 [69] (88)
149 [92] (85)
188 [253] (524)
82 [215] (118)
169 [132] (117)
1020 [730] (580)
32 [64] (125)
119 [76] (55)
787 [703] (989)
56 [70] (114)
276 [387] (763)
180 [104] (158)
472 [281] (432)
85 [152] (129)
10 [57] (40)
1 [3] (2)
727 [480] (679)
N
NOT TO SCALE
LEGEND
- SIGNALIZED INTERSECTION
OO - AM PEAK HOUR
[OO] - MIDDAY PEAK HOUR
(OO) - PM PEAK HOUR
PROJECT NO: 08-280
FIGURE NO: 2
TITLE:
EXISTING TRAFFIC VOLUMES
EAST SIDE
PROJECT:
UNIVERSITY OF ILLINOIS
AT CHICAGO



PROJECT:	TITLE:	PROJECT NO: 08-280
UNIVERSITY OF ILLINOIS AT CHICAGO	EXISTING TRAFFIC VOLUMES WEST SIDE	KLOA
		FIGURE NO: 3



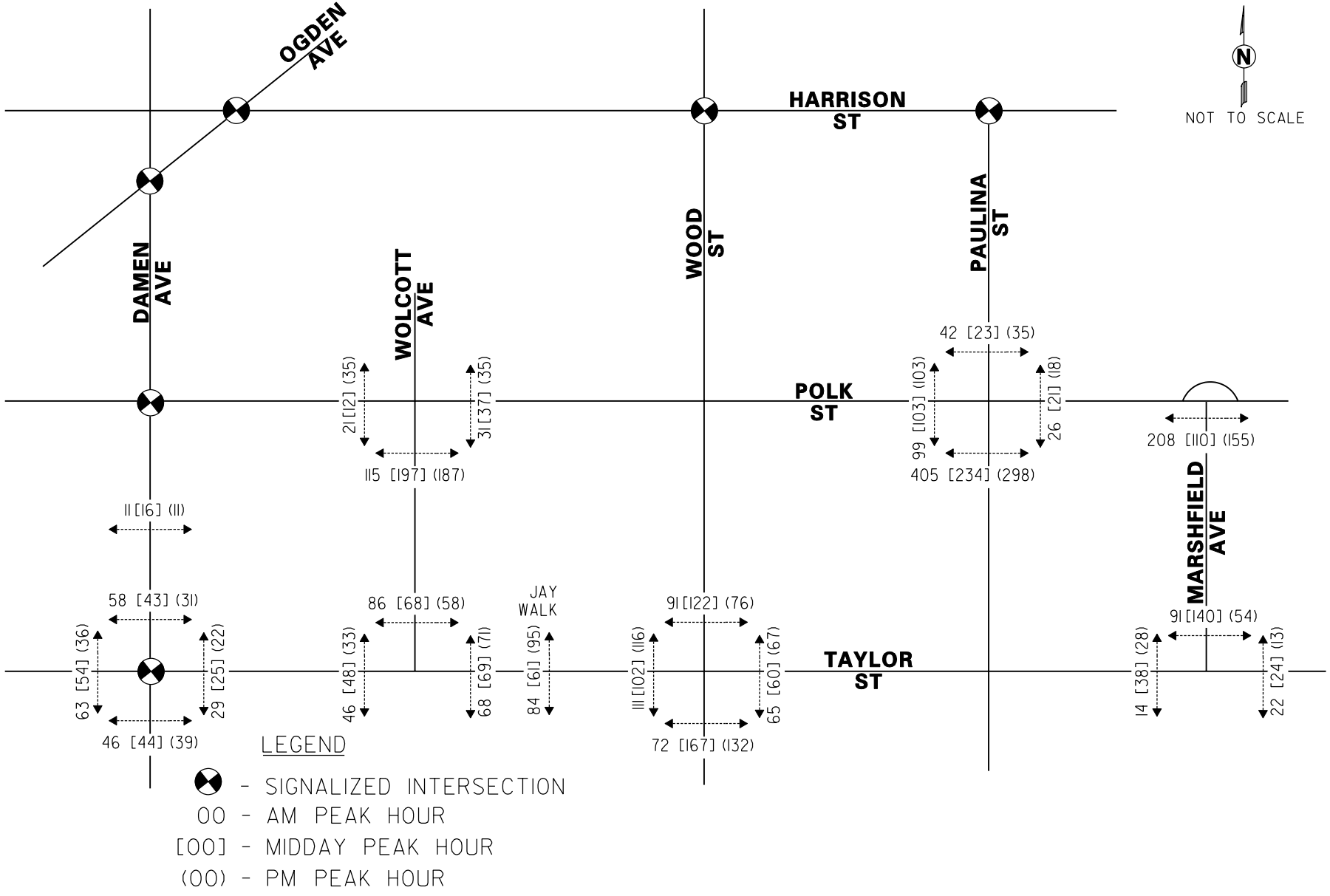
PROJECT NO: 08-280

KLOA

FIGURE NO: 4

TITLE: EXISTING PEDESTRIAN VOLUMES EAST SIDE

PROJECT: UNIVERSITY OF ILLINOIS AT CHICAGO



PROJECT:	TITLE:	PROJECT NO: 08-280
UNIVERSITY OF ILLINOIS AT CHICAGO	EXISTING PEDESTRIAN VOLUMES WEST SIDE	KLOA
		FIGURE NO: 5

IV. VEHICULAR AND PEDESTRIAN CONFLICT AREAS

Based on input received from UIC administrators serving on the Transportation Committee, along with field observations performed by KLOA, Inc., several vehicular and pedestrian conflict areas were identified to be addressed in the master planning process. These conflict areas were initially depicted on a global map of both sides of campus, as shown in Figure 6.

For each of the identified conflict locations, the issues creating the conflicts were described and a series of recommendations were developed to mitigate the issues. The recommendations include context-sensitive street design solutions that calm traffic, improve traffic operations, and increase safety for all street users, including motorists, transit users, pedestrians and bicyclists. A legend depicting examples of the various recommendations are shown in Figure 7.

To develop design solutions for conflicts at intersection locations, KLOA performed traffic capacity analysis and utilized traffic simulation. Input data for the traffic analysis included traffic controls, traffic and pedestrian volumes, truck and bus volumes, and street characteristics such as the number and type of travel lanes, bus stop locations, crosswalks, curb parking provisions, speed limits, etc.

In addition, a traffic evaluation was performed for the West Side of campus to determine the potential implications of closing selected north-south streets between Polk Street and Taylor Street, including Wood Street, Paulina Street, Wolcott Avenue and Marshfield Avenue. The evaluation was summarized in a memorandum dated May 21, 2009, which is included in a Supplemental Information Section at the end of this report for reference. The conclusions from the evaluation are:

1. The mid-block closing of Wolcott Avenue and Marshfield Avenue would cause minimal disruption to campus area traffic circulation and operations as long as local access is maintained to parking and service areas along these streets.

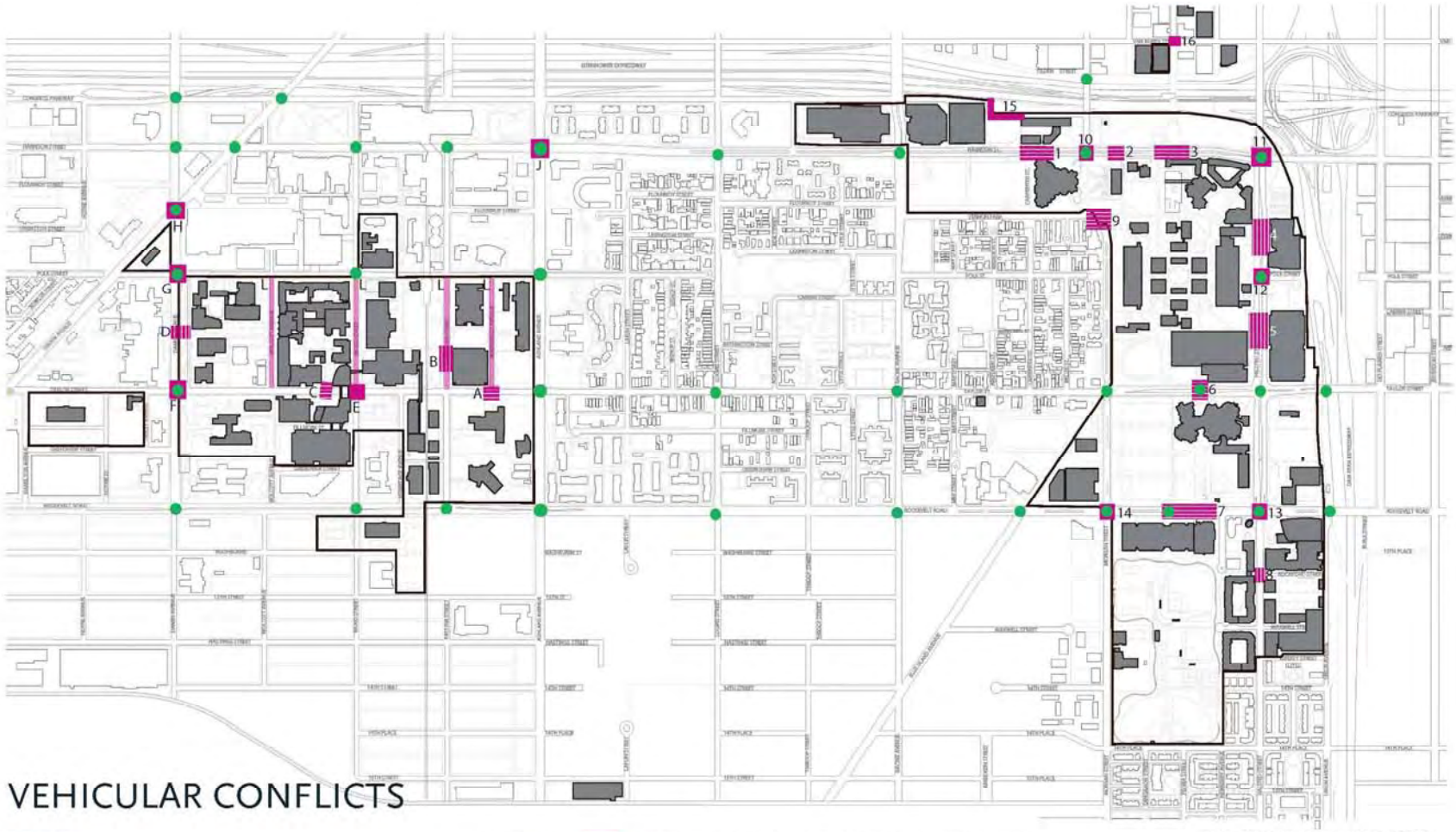
2. Closing Wood Street or Paulina Street to through traffic would impact traffic access to neighboring Illinois Medical District institutions, would be disruptive to emergency vehicle access to these institutions, would increase traffic volumes and cause greater traffic circulation on the remaining streets that traverse the West Side of UIC campus, would increase vehicular/pedestrian conflicts on these streets, and would, in turn, require street capacity upgrades on some of these streets. As an alternative to closing Wood Street and Paulina Street, other measures are recommended to calm traffic, improve access by bicycle, and create a safer, more attractive and pleasant environment for pedestrians, including narrowing the streets, creating bike lanes, and expanding the parkways to provide wider pedestrian paths and streetscaping opportunities.

For both the East and West Sides of campus, crosswalks are recommended to be replaced to increase their visibility to motorists. The preferred crosswalk design to be implemented at the intersections in the campus area is the international-style crosswalk, which has wide white longitudinal bars sometimes referred to as “zebra-striping”. An alternative crosswalk design that would be more unique to the UIC campus is to implement a customized paving treatment that

incorporates the UIC logo. Since many of these paving treatments can have tactile qualities that can also calm traffic, they have been recommended at the mid-block crosswalk on campus.

Several of the conflict areas noted in this report were at intersections that are near the UIC campus but not contiguous to the campus. As such, UIC should work with the City, Aldermen's offices, IMD, IMD member institutions and/or adjacent landowners to advocate the appropriate agencies/organizations to implement the recommended improvements.

The following summarizes the issues and recommendations for each of the identified conflict locations within the East and West Sides of campus. Figures 8 through 13 illustrate the locations for these recommendations.



PROJECT:	TITLE:	PROJECT NO: 08-280
UNIVERSITY OF ILLINOIS AT CHICAGO	VEHICULAR / PEDESTRIAN CONFLICT AREA	KLOA
		FIGURE NO: 6

LEGEND

- A NEW PEDESTRIAN/HAWK SIGNAL WITH COUNTDOWN INDICATORS
- B NEW TRAFFIC SIGNAL WITH PEDESTRIAN COUNTDOWN INDICATORS AND/OR LANE CHANNELIZATION
- C TRAFFIC SIGNAL UPGRADES WITH LEAD PEDESTRIAN INTERVAL
- D HIGH VISIBILITY CROSSWALK INTERNATIONAL STYLE OR CUSTOMIZED UIC PAVING TREATMENT
- E HIGH VISIBILITY MID-BLOCK CROSSWALK WITH FLASHING IN-PAVEMENT LIGHTING AND/OR CROSSWALK WARNING SIGN
- F INTERSECTION CURB EXTENSIONS
- G NARROW STREET W/ OR W/O BIKE LANES
- H NARROW STREET TO 2 TRAVEL LANES WITH MEDIAN & BIKE LANES
- J CORNER ISLAND & RAISED CROSSWALK
- K ADVANCE PEDESTRIAN WARNING SIGN
- L PEDESTRIAN COUNTDOWN INDICATORS W/ OR W/O AUDIBLE FEATURES AT EXISTING SIGNAL
- M RELOCATE BUS STOP TO FAR SIDE & ENHANCE TREATMENT

PROJECT:	TITLE:	PROJECT NO: 08-280
UNIVERSITY OF ILLINOIS AT CHICAGO	SAMPLE DESIGN SOLUTIONS	KLOA
		FIGURE NO: 7

East Side – North

Halsted Street / Harrison Street Intersection (see Figure 8)

Issues:

- Heavy pedestrian and traffic volumes at this intersection
- Some pedestrians get stranded crossing Harrison Street and Halsted Street

Recommended Design Solutions:

- Install pedestrian countdown signals with or without audible features
- Install raised crosswalks between corner islands and sidewalk (across right-turn lanes) on the northeast and northwest corners

Mid-Block Pedestrian Crossings on Harrison Street at UIC-Halsted CTA station (see Figure 8)

Issues:

- Multiple unprotected mid-block crossings in close proximity to each other
- Lack of crosswalks at pedestrian crossings
- High number of pedestrian-vehicle conflicts due to heavy pedestrian volumes (600+/hr)
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Eliminate east leg of the pedestrian path to/from the CTA station
- Consolidate the dual crosswalks on Harrison Street at the west leg of the pedestrian path from the CTA station into a single crosswalk with customized paving treatment that will need to be maintained by UIC. Close the existing curb ramps and build a single new curb ramp on each side of the street. Reconstruct the median with a single accessible curb ramp.
- Install HAWK (High-intensity Activated crossWalK) pedestrian signal with countdown indicators at the new consolidated crosswalk, with or without audible features
- Install advanced pedestrian warning signs
- Relocate bus stops on Harrison Street to the far side of the new consolidated crosswalk
- Enhance bus stop amenities with shelters and benches

Harrison Street / Morgan Street Intersection (see Figure 8)

Issues:

- High level of pedestrian-vehicle conflict due to continuous traffic movements across Harrison Street crosswalks
- Near-side bus stops in advance of crosswalks

PROJECT:	TITLE:	PROJECT NO: 08-280
UNIVERSITY OF ILLINOIS AT CHICAGO	RECOMMENDED DESIGN SOLUTIONS EAST SIDE - NORTH	KLOA
		FIGURE NO: 8

Recommended Design Solutions:

- Upgrade traffic signal equipment/phasing with a 5-head signal, green arrows and a lead pedestrian interval across Harrison Street.
- Install pedestrian countdown signals with or without audible features
- Install advanced pedestrian warning signs
- Replace parallel-line crosswalks with high-visibility, international style crosswalks
- Relocate bus stops on Harrison Street to the far side of the intersection
- Enhance bus stop amenities with shelters and benches

Peoria Street / Van Buren Street Intersection (see Figure 8)

Issue:

- Unprotected pedestrian crossings on Van Buren Street

Recommended Design Solution:

- Install advanced pedestrian warning signs
- Replace parallel-line crosswalks with high-visibility, international style crosswalks

Mid-Block Pedestrian Crossings on Harrison Street Between Morgan Street and Racine Avenue (see Figure 9)

Issues:

- Multiple unprotected mid-block crossings in close proximity to each other
- Some pedestrian crossings lack marked crosswalks
- High number of pedestrian-vehicle conflicts due to heavy pedestrian volumes

Recommended Design Solutions:

- Consolidate the mid-block pedestrian crossings to two locations; (1) between Behavioral Sciences Building and UIC Theatre, and (2) between Lot 1A and Lot 11
- Install high-visibility crosswalks with customized paving treatment on Harrison Street between Lots 1A and 11
- Install pedestrian crosswalk warning signs with pedestrian-actuated stutter-flashers and/or in-pavement lighting within the two crosswalks
- Modify the parking lot fence openings to direct pedestrians to the enhanced crosswalk between Lots 1A and 11 or the crosswalk at the Harrison Street/Racine Avenue intersection

PROJECT:	TITLE:	PROJECT NO: 08-280
UNIVERSITY OF ILLINOIS AT CHICAGO	RECOMMENDED DESIGN SOLUTIONS EAST SIDE - NORTH	KLOA
		FIGURE NO: 9

Harrison Street / Racine Avenue Intersection (see Figure 9)

Issues:

- Heavy pedestrian and traffic volumes at this intersection

Recommended Design Solutions:

- Replace pedestrian signals with pedestrian countdown signals with audible features
- Replace parallel-line crosswalks with high-visibility, international style crosswalks

East Side – Central

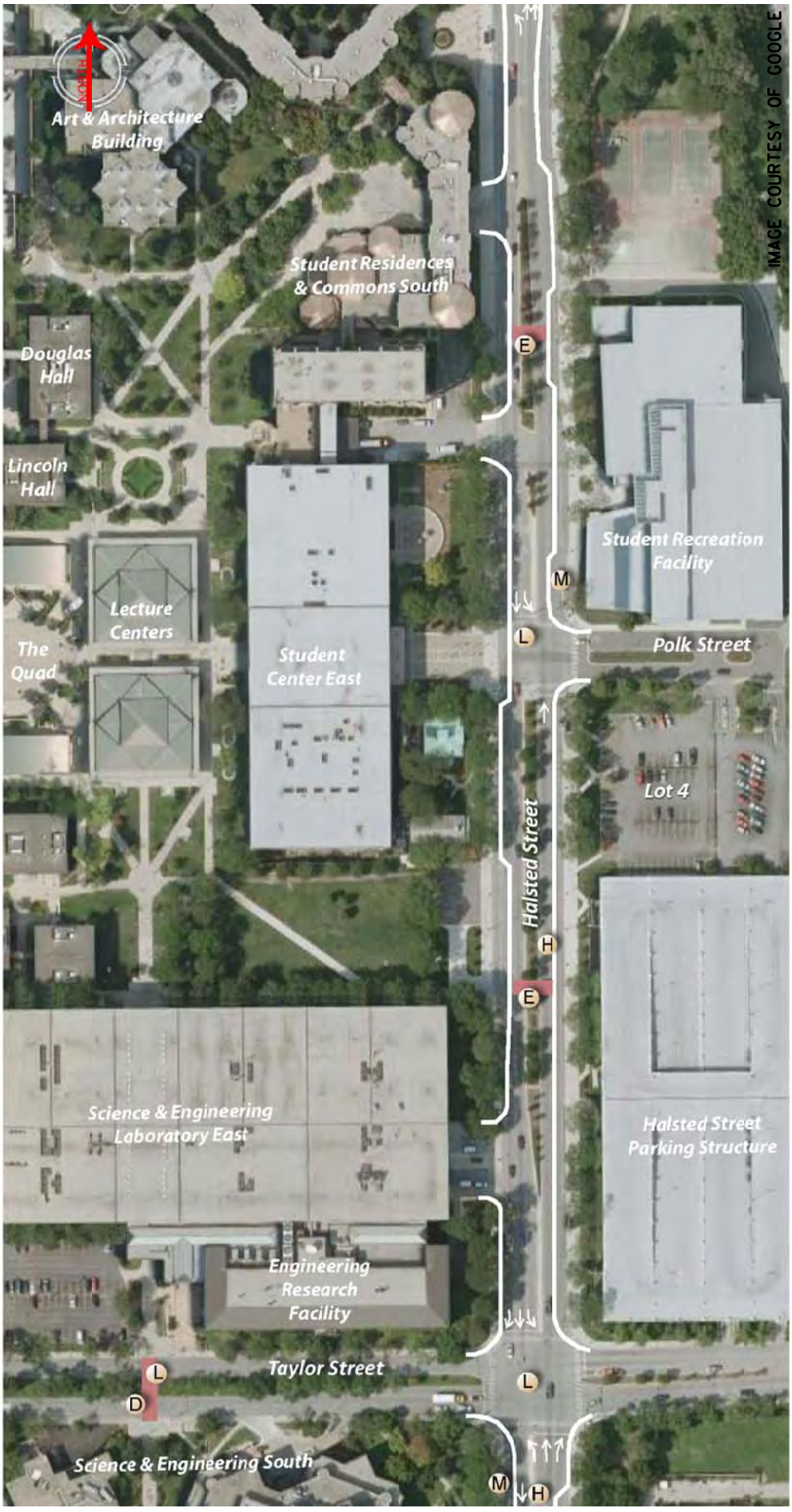
Mid-Block Pedestrian Crossings on Halsted Street between Harrison Street and Taylor Street (see Figure 10)

Issues:

- Multiple unprotected mid-block crossings due to mid-block building entries and low medians or median openings
- Lack of crosswalks at mid-block pedestrian crossings
- High number of pedestrian-vehicle conflicts with approximately 20 percent of pedestrians crossing mid-block

Recommended Design Solutions:

- Narrow Halsted Street to two travel lanes with bike lanes and building loading/bus stop turnouts, similar to the two-lane design of Halsted Street to the north of Harrison Street and south of Roosevelt Road and similar to the road narrowing project in the works by CDOT on Lawrence Avenue
- Maintain landscaped median
- Consolidate mid-block pedestrian crossings to two new locations: (1) north of Polk Street (between Student Recreation Facility and the Student Residence & Commons South), and (2) south of Polk Street (between Halsted Street Parking Structure and Science & Engineering Laboratory East)
- Implement high-visibility crosswalks with customized paving treatment and in-pavement lighting that flashes when a pedestrian is in crosswalk
- Install overhead flashing pedestrian crosswalk warning signs or post-mounted pedestrian crosswalk warning signs with pedestrian-actuated stutter-flashers



PROJECT: UNIVERSITY OF ILLINOIS AT CHICAGO

TITLE: RECOMMENDED DESIGN SOLUTIONS EAST SIDE - CENTRAL

PROJECT NO: 08-280

KLOA

FIGURE NO: 10

Halsted Street / Polk Street Intersection (see Figure 10)

Issues:

- Heavy pedestrian and traffic volumes at this intersection
- Some pedestrians get stranded crossing Halsted Street
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Install pedestrian countdown signals with or without audible features
- Narrow Halsted Street to two travel lanes, a center left-turn lane, bike lanes and building loading/bus stop turnouts.
- Relocate bus stops to far side of intersection

Halsted Street / Taylor Street Intersection (see Figure 10)

Issues:

- Heavy pedestrian and traffic volumes at this intersection
- Some pedestrians get stranded crossing Halsted Street
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Install pedestrian countdown signals with or without audible features
- Narrow Halsted Street to two travel lanes, a center left-turn lane, bike lanes and building loading/bus stop turnouts
- Relocate bus stops to far side of intersection

Pedestrian Signal on Taylor Street between Halsted Street and Morgan Street (see Figure 10)

Issues:

- Some pedestrians get stranded in the median crossing Taylor Street
- Worn crosswalk markings

Recommended Design Solutions:

- Replace pedestrian signals with countdown signals with or without audible features
- Replace crosswalk with a high-visibility crosswalk with customized paving treatment

East Side - South

Roosevelt Road / Halsted Street Intersection (see Figure 11)

Issues:

- Large corner radii creates long pedestrian crossing distances
- Some pedestrians get stranded in median crossing Roosevelt Road
- Eastbound traffic on Roosevelt Road queues through Halsted Street intersection
- Long traffic delays/queuing on northbound Halsted Street
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Optimize traffic signal timings and/or signal coordination along Roosevelt Road
- Narrow Halsted Street north of Roosevelt Road to two travel lanes, a center left-turn lane, bike lanes and building loading/bus stop turnouts
- Reduce the corner radii at the northeast and northwest corners of the intersection
- Replace pedestrian signals with pedestrian countdown signals with or without audible features
- Relocate bus stops to far side of intersection

Pedestrian Signal on Roosevelt Road at Physical Education Building (see Figure 11)

Issue:

- Unprotected mid-block pedestrian crossings on Roosevelt Road at the Flames Athletic Center

Recommended Design Solutions:

- Close the existing median opening at the Physical Education Building and remove existing pedestrian signal and crosswalk
- Install new HAWK pedestrian signal with countdown indicators, with or without audible features, at the main north-south pedestrian pathway opposite the Flames Athletic Center
- Construct a new opening in the Roosevelt Road median at the new signal location
- Install a high-visibility crosswalk with customized paving treatment at the new signal location
- Ensure advanced pedestrian warning signs are present
- Modify parking lot fence openings to direct pedestrians to the new signalized crossing or the existing signalized crossing at Morgan Street

PROJECT:	TITLE:	PROJECT NO: 08-280
UNIVERSITY OF ILLINOIS AT CHICAGO	RECOMMENDED DESIGN SOLUTIONS EAST SIDE - SOUTH	KLOA
		FIGURE NO: II

Roosevelt Road / Morgan Street Intersection (Figure 11)

Issues:

- Long traffic delays/queuing on Roosevelt Road
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Optimize signal timings and/or signal coordination along Roosevelt Road
- Replace pedestrian signals with pedestrian countdown signals with or without audible features
- Replace parallel-line crosswalks with high-visibility, international style crosswalks
- Relocate bus stops to far side of intersection

Halsted Street / Rochford Street Intersection (Figure 11)

Issues:

- Moderate number of unprotected pedestrian crossings at Rochford Street

Recommended Design Solutions:

- Replace parallel-line crosswalks with high-visibility, international style crosswalks

West Side

Marshfield Avenue between Taylor Street and Polk Street (see Figure 12)

Issues:

- Unprotected pedestrian crossing on Taylor Street
- Pedestrian corridor/green space desired
- Unwanted traffic circulation through campus

Recommended Design Solutions:

- Close Marshfield Avenue between Polk Street and the Paulina Street Parking Structure entrance and redevelop street space as green space (see attached Supplemental Information)
- Narrow remaining street section between Taylor Street and the parking structure entrance from 30 feet wide to 20 feet wide and expand parkway
- Remove the crosswalk on the east leg of Taylor Street at Marshfield Avenue
- Replace the parallel-line crosswalk on the west leg of Taylor Street with a high-visibility, international style crosswalk
- Install pedestrian crosswalk warning signs
- Construct curb extensions on Taylor Street
- Relocate bus stops to far side of intersection
- Enhance bus stop amenities with shelters and benches

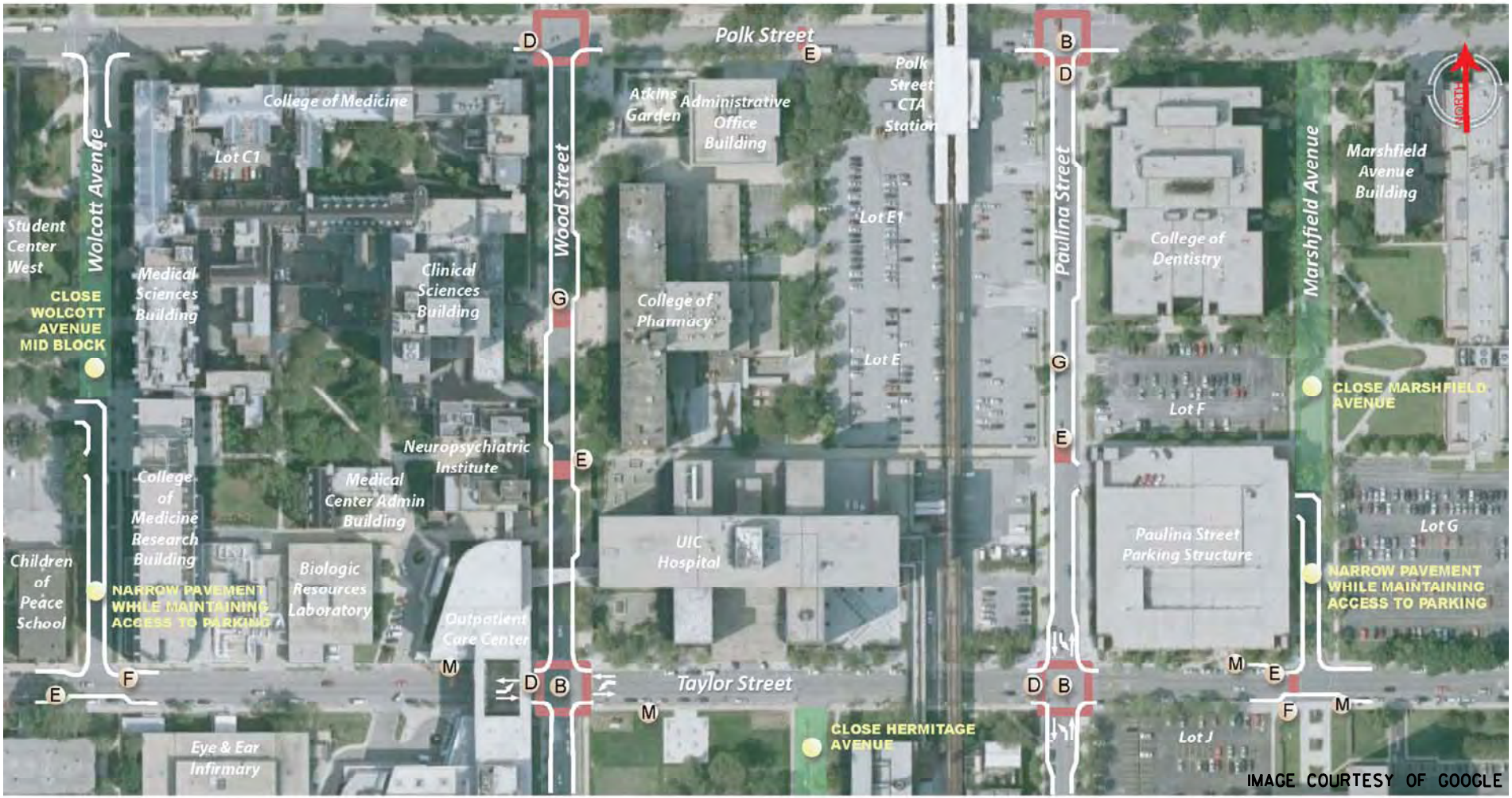
Mid-Block Pedestrian Crossings on Paulina Street between Taylor Street and Polk Street (see Figure 12)

Issues:

- Unprotected mid-block pedestrian crossings between the Paulina Street Parking Structure and the UIC Hospital
- Unwanted traffic circulation through campus

Recommended Design Solutions:

- Narrow Paulina Street from 40 feet to 24 feet, or 34 feet with marked bike lanes, and expand parkway
- Provide a loading area turnout in front of the College of Dentistry
- Install high-visibility crosswalk with customized paving treatment on Paulina Street at the parking structure north stair tower
- Install pedestrian crosswalk warning signs



PROJECT:	TITLE:	PROJECT NO: 08-280
UNIVERSITY OF ILLINOIS AT CHICAGO	RECOMMENDED DESIGN SOLUTIONS WEST SIDE	KLOA
		FIGURE NO: 12

Paulina Street / Polk Street Intersection (see Figure 12)

Issues:

- Heavy pedestrian volumes cross Paulina Street to/from CTA station
- Pedestrian volumes through the intersection warrant a traffic signal
- Unwanted traffic circulation through campus

Recommended Design Solutions:

- Narrow Paulina Street south of Polk Street and expand parkway
- Install a traffic signal with pedestrian countdown signals with or without audible features
- Replace the parallel-line crosswalks with high-visibility, international style crosswalks

Paulina Street / Taylor Street Intersection (see Figure 12)

Issues:

- Moderate pedestrian volumes cross Paulina Street
- Unwanted traffic circulation through campus
- Traffic volumes approaching thresholds warranting a traffic signal

Recommended Design Solutions:

- Monitor intersection traffic volumes. Install traffic signal when warranted.
- Narrow Paulina Street north of Taylor Street and expand parkway
- Re-stripe Paulina Street to provide dedicated left-turn lanes similar in design to the left-turn lanes on Taylor Street
- Replace parallel-line crosswalks with high-visibility international style crosswalks

Hermitage Avenue between Taylor Street and Roosevelt Road (see Figure 12)

Issues:

- New pedestrian corridor/green space desired with facilities redevelopment program

Recommended Design Solutions:

- As an initial step, close Hermitage Avenue from Taylor Street south to the UIC utility yard driveway and redevelop street space as green space.
- Ultimately, close Hermitage Avenue for the full block between Taylor Street and Roosevelt Road and convert street space to green space when the Illinois Center for Rehabilitation and Education building is acquired as a site for the new UIC hospital, the street is no longer needed as a construction staging area, and the existing utility plant is demolished and replaced.

Mid-Block Pedestrian Crossings on Polk Street at Livingston Way (see Figure 12)

Issues:

- Unprotected mid-block pedestrian crossing of Polk Street

Recommended Design Solutions:

- Install high-visibility crosswalk with customized paving treatment
- Install pedestrian crosswalk warning signs

Mid-Block Pedestrian Crossings on Wood Street between Taylor Street and Polk Street (see Figure 12)

Issues:

- Unprotected mid-block pedestrian crossings on Wood Street
- Unwanted traffic circulation through campus

Recommended Design Solutions:

- Narrow Wood Street from 40 feet to 24 feet, or 34 feet with marked bike lanes, and expand parkway
- Provide a loading area turnout in front of the UIC Hospital, College of Pharmacy and Clinical Sciences Building
- Install high-visibility crosswalk with customized paving treatment on Wood Street between the UIC Hospital and Neuropsychiatric Institute
- Install pedestrian crosswalk warning signs at this new crosswalk

Wood Street / Polk Street Intersection (see Figure 12)

Issues:

- Heavy pedestrian and traffic volumes at the Wood Street/Taylor Street intersection warrant a traffic signal
- Unwanted traffic circulation through campus

Recommended Design Solutions:

- Narrow Wood Street and expand parkway
- Replace parallel-line crosswalks with high-visibility, international style crosswalks

Wood Street / Taylor Street Intersection (see Figure 12)

Issues:

- Heavy pedestrian and traffic volumes at the Taylor Street/Wood Street intersection warrant a traffic signal, per the *Traffic Signal Warrant Study for the Taylor Street/Wood Street Intersection*, prepared by KLOA on November 29, 2001
- Unwanted traffic circulation through campus
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Install new traffic signal at the Wood Street/Taylor Street with pedestrian countdown signals with audible features
- Narrow Wood Street and expand parkway
- Re-stripe Taylor Street and modify parking lanes to provide a center left-turn lane at Wood Street
- Replace parallel-line crosswalks with high-visibility, international style crosswalks
- Relocate bus stops to far side of intersection

Wolcott Avenue between Taylor Street and Polk Street (see Figure 12)

Issues:

- Unwanted traffic circulation through campus
- Pedestrian corridor/green space desired

Recommended Design Solutions:

- Vacate Wolcott Avenue as a public right-of-way between Polk Street and Taylor Street
- Close Wolcott Avenue between the driveways to Lot C1 and Lot B2 and redevelop this space as a pedestrian corridor/green space
- Narrow the remaining street sections on Wolcott Avenue from 30 feet wide to 20 feet, convert them to two-way operation and expand the adjoining parkway
- Maintain access to Lot B2, the Children of Peace School parking lot and Lot C1
- Post a stop sign on Wolcott Avenue at Taylor Street
- Remove the crosswalk on the west leg of Taylor Street at Wolcott Avenue
- Replace the parallel-line crosswalk on the east leg of Taylor Street with a high-visibility, international style crosswalk
- Install pedestrian crosswalk warning signs at remaining crosswalk on Taylor Street

Ashland Avenue / Harrison Street Intersection (see Figure 13)

Issues:

- High degree of vehicular/pedestrian conflicts at this intersection
- Long traffic delays/queuing on Ashland Avenue
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Optimize traffic signal timings and/or signal coordination along Ashland Avenue
- Replace pedestrian signals with pedestrian countdown signals with or without audible features
- Replace the parallel-line crosswalks with high-visibility, international style crosswalks
- Relocate bus stops to far side of intersection
- Enhance bus stop amenities with shelters and benches

Ashland Avenue / Polk Street Intersection (see Figure 13)

Issues:

- High degree of vehicular/pedestrian conflicts at this intersection
- Long traffic delays/queuing on Ashland Avenue
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Optimize traffic signal timings and/or signal coordination along Ashland Avenue
- Replace pedestrian signals with pedestrian countdown signals with or without audible features
- Replace the parallel-line crosswalks with high-visibility, international style crosswalks
- Relocate bus stops to far side of intersection
- Enhance bus stop amenities with shelters and benches

Ashland Avenue / Taylor Street Intersection (see Figure 13)

Issues:

- High degree of vehicular/pedestrian conflicts at this intersection
- Long traffic delays/queuing on Ashland Avenue
- Near-side bus stops in advance of crosswalks

DAMEN AVENUE CORRIDOR

NORTH

ASHLAND AVENUE CORRIDOR

PROJECT:	TITLE:	PROJECT NO: 08-280
UNIVERSITY OF ILLINOIS AT CHICAGO	RECOMMENDED DESIGN SOLUTIONS WEST SIDE	KLOA
		FIGURE NO: 13

Recommended Design Solutions:

- Optimize traffic signal timings and/or signal coordination along Ashland Avenue
- Replace pedestrian signals with countdown signals with or without audible features
- Replace the parallel-line crosswalks with high-visibility, international style crosswalks
- Relocate bus stops to far side of intersection
- Enhance bus stop amenities with shelters and benches

Damen Avenue / Ogden Avenue Intersection

Issues:

- Long vehicle delays and queuing at the intersection, particularly for the southbound left-turn movement on Damen Avenue
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Implement traffic signal phasing modifications to include a southbound left-turn arrow
- Optimize traffic signal timings and/or coordination along Damen Avenue
- Replace pedestrian signals with countdown signals with or without audible features
- Replace the parallel-line crosswalks with high-visibility, international style crosswalks
- Relocate bus stops to far side of intersection
- Enhance bus stop amenities with shelters and benches

Damen Avenue / Polk Street Intersection (see Figure 13)

Issues:

- Long vehicle delays and queuing at the intersection, particularly for the southbound left-turn movement on Damen Avenue
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Implement traffic signal phasing modifications to include a southbound left-turn arrow
- Optimize traffic signal timings and/or coordination along Damen Avenue
- Replace pedestrian signals with pedestrian countdown signals with or without audible features
- Replace the parallel-line crosswalks with high-visibility, international style crosswalks
- Relocate bus stops to far side of intersection
- Enhance bus stop amenities with shelters and benches

Mid-Block Pedestrian Crossing on Damen Avenue between Polk Street and Taylor Street (see Figure 13)

Issues:

- Unprotected mid-block crossings between VA Hospital and UIC Medical Center
- High potential for pedestrian-vehicle conflicts due to heavy traffic and pedestrian volumes
- Existing pedestrian crosswalk warning signs lack effectiveness

Recommended Design Solutions:

- Consolidate the two mid-block pedestrian crossings into single crossing
- Maintain the high-visibility, international style crosswalk
- Install HAWK pedestrian signal with countdown indicators, with or without audible features, or post-mounted pedestrian crosswalk warning signs with stutter-flashers and/or pedestrian-actuated in-pavement lighting within the crosswalk

Damen Avenue / Taylor Street Intersection (see Figure 13)

Issues:

- Long vehicle delays and queuing at the intersection, particularly for the southbound left-turn movement on Damen Avenue
- Some pedestrians get stranded crossing Damen Avenue
- Near-side bus stops in advance of crosswalks

Recommended Design Solutions:

- Implement traffic signal phasing modifications to include a southbound left-turn arrow
- Optimize traffic signal timings and/or coordination along Damen Avenue
- Replace pedestrian signals with pedestrian countdown signals with or without audible features
- Replace the parallel-line crosswalks with high-visibility, international style crosswalks
- Relocate bus stops to far side of intersection

V. PRIORITIZATION OF RECOMMENDED IMPROVEMENTS

The urgency to address the vehicular and pedestrian conflict areas were categorized into two levels of priority based on input received from UIC administrators, the degree of concern regarding vehicular and pedestrian safety, and the economic realities of implementing the design solutions. Table 1 summarizes the prioritization of the recommended improvement projects. There are four (4) improvement projects that constitute the first level of priority with a goal of immediately initiating further planning and engineering towards implementation of these improvements in the very near term. The remaining projects comprise the second level of priority and would be pursued over time during subsequent phases of plan implementation.

VI. NEXT STEPS

The Chicago Department of Transportation (CDOT) has jurisdiction over the public streets that serve the UIC campus and CDOT is the lead agency that must approve any changes to the street system, with input from the Chicago Transit Authority (CTA), the Office of Emergency Management and Communications (OEMC), the Department of Revenue, the Chicago Fire Department, the Illinois Department of Transportation (IDOT), and the respective Aldermanic offices.

On November 24, 2009, representatives from UIC, Booth Hansen and KLOA met with CDOT staff to review the progress of the UIC Master Plan, discuss the proposed street improvements, and obtain insight from CDOT on the feasibility of the improvements or alternative options to be considered. These insights were then utilized in the final recommended set of street design solutions contained in the Master Plan.

At this time, to expedite the implementation of the first priority improvement projects, it is incumbent upon UIC to (1) establish the improvement projects to be pursued, (2) retain a traffic engineering consultant to prepare the required studies and/or plans that CDOT will need for the review and desired approval of the projects, and (3) to schedule a follow-up meeting with CDOT to initiate the project review process and coordination with other departments/agencies. At the same time, UIC should apprise the Ward 2 and Ward 25 Aldermen of the current status of the master planning project and the pending follow-up discussions with CDOT.

Table 1
PRIORITIZATION OF RECOMMENDED IMPROVEMENT PROJECTS

Project Location	Side of Campus
First Priority Projects	
Harrison St HAWK Signal and Crosswalk Consolidation at Peoria CTA Station	East
Roosevelt Rd/Halsted St Intersection Improvements & Signal Upgrades	East
Wood St/Taylor St Intersection Improvements & New Traffic Signal	West
Halsted St Narrowing & Mid-Block Pedestrian Crossing Consolidation	East
Second Priority Projects	
Harrison St/Halsted St Intersection Pedestrian Improvements	East
Harrison St/Morgan St Intersection Signal Modification & Pedestrian Improvements	East
Peoria St/Van Buren St Pedestrian Improvements	East
Harrison St Mid-Block Pedestrian Crossing Consolidation (Morgan-Racine)	East
Harrison St/Racine Ave Pedestrian Improvements	East
Halsted St/Polk St Intersection Pedestrian Improvements	East
Halsted St/Taylor St Intersection Pedestrian Improvements	East
Taylor St Pedestrian Signal & Crosswalk Upgrades (between Halsted & Morgan)	East
Relocated Pedestrian Signal/Crossing on Roosevelt Rd at Flames Athletic Center	East
Roosevelt Rd/Morgan St Intersection Signal Upgrades & Pedestrian Improvements	East
Halsted St/Rochford St Intersection Pedestrian Improvements	East
Marshfield Ave Closure (Polk-Paulina St Garage) & Narrowing (Garage-Taylor)	West
Marshfield Ave/Taylor St Intersection Pedestrian Improvements	West
Paulina St Narrowing & Mid-Block Pedestrian Crossing Consolidation	West
Paulina St/Polk St Intersection Signal Installation & Pedestrian Improvements	West
Paulina St/Taylor St Intersection Pedestrian Improvements	West
Hermitage Ave Closure (Taylor-Roosevelt Rd)	West
Polk St Pedestrian Crossing Improvements at Hermitage	West
Wood St Narrowing and Mid-Block Pedestrian Crossing Consolidation	West
Wolcott Ave Mid-Block Closure & Narrowing at Polk and Taylor	West
Ashland Ave/Harrison St Intersection Signal Upgrades & Pedestrian Improvements	West
Ashland Ave/Polk St Intersection Signal Upgrades & Pedestrian Improvements	West
Ashland Ave/Taylor St Intersection Signal Upgrades & Pedestrian Improvements	West
Damen Ave/Ogden Ave Intersection Signal Upgrades & Pedestrian Improvements	West
Damen Ave/Polk St Intersection Signal Upgrades & Pedestrian Improvements	West
Damen Ave Mid-Block Pedestrian Crossing Upgrades at VA Hospital	West
Damen Ave/Taylor St Intersection Signal Upgrades & Pedestrian Improvements	West

At the previous CDOT meeting, CDOT staff advised they would provide details on the CTA's plans for a future Bus-Rapid-Transit (BRT) line along Halsted Street as well as any information on the continued allowance of parking on Taylor Street within the IMD, which by ordinance has called for the removal of all on-street parking within the District. Prior to the CDOT follow-up meeting, UIC should seek this information, which will be of use in the follow-up discussions on the first priority projects.

It is anticipated that CDOT will request the following information pertaining to the four first priority projects:

Harrison Street/Peoria CTA Station Crosswalk Consolidation and Signal

- Traffic signal warrant study and traffic gap study for the new pedestrian traffic signal on Harrison Street
- Preliminary engineering plans for the new traffic signal, crosswalk consolidation, bus stop relocations, sidewalk removals and new crosswalk warning signage
- Final engineering (construction) plans

Halsted Street Narrowing and Mid-Block Pedestrian Crossing Consolidation

- Concept plan with more detailed traffic analysis containing intersection capacity analysis, traffic simulation, crash history, and auto, truck, bus and pedestrian volumes
- Preliminary engineering plans for the new traffic signal, crosswalk consolidation, bus stop relocations, sidewalk removals and new crosswalk warning signage
- Final engineering (construction) plans

Roosevelt Road/Halsted Street Intersection Improvements and Signal Upgrades

Traffic analysis and concept/engineering plans for this work would be combined with the submissions for the Halsted Street narrowing plan above.

Wood Street/Taylor Street Intersection Improvements and New Traffic Signal

- Traffic signal warrant study (previously completed by KLOA)
- Supplemental data such as crash history, updated traffic and pedestrian volumes
- Preliminary engineering plans for the new traffic signal, modified street channelization, pedestrian crossing enhancements and bus stop relocations
- Final engineering (construction) plans

SUPPLEMENTAL INFORMATION

Kenig, Lindgren, O'Hara, Aboona, Inc.

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MEMORANDUM TO: David Mann
Booth Hansen

FROM: Kelly K. Conolly
Consultant

Eric D. Russell, PTP
Principal

DATE: May 21, 2009

SUBJECT: West Side Street Closure Evaluation
University of Illinois at Chicago Master Plan
Chicago, Illinois

Kenig, Lindgren, O'Hara, Aboona, Inc. (KLOA, Inc.) is underway with the preparation of a comprehensive evaluation of traffic and pedestrian conflict areas on campus as part of the University of Illinois at Chicago master planning process. A key objective of this evaluation is to provide an opinion regarding the closure of four street blocks located on the west side of campus. **Figure 1** is an aerial photo of the streets under consideration for closure which are also listed below.

- *Wolcott Avenue* between Polk Street and Taylor Street
- *Wood Street* between Polk Street and Taylor Street
- *Paulina Street* between Polk Street and Taylor Street
- *Marshfield Avenue* between Polk Street and Taylor Street

The primary goal of the street closures is to create a more pedestrian-friendly campus environment with open space, pedestrian greenways, limited traffic, low travel speeds, and a minimal number of pedestrian-vehicle conflicts.

As requested, KLOA, Inc. has examined traffic and pedestrian conditions in the area and assessed the impact that the street closures, individually and in combination, would have on accessibility. The purpose of the memo is to present the findings and conclusions of the street closure evaluation, including the advantages and disadvantages of each street closure.

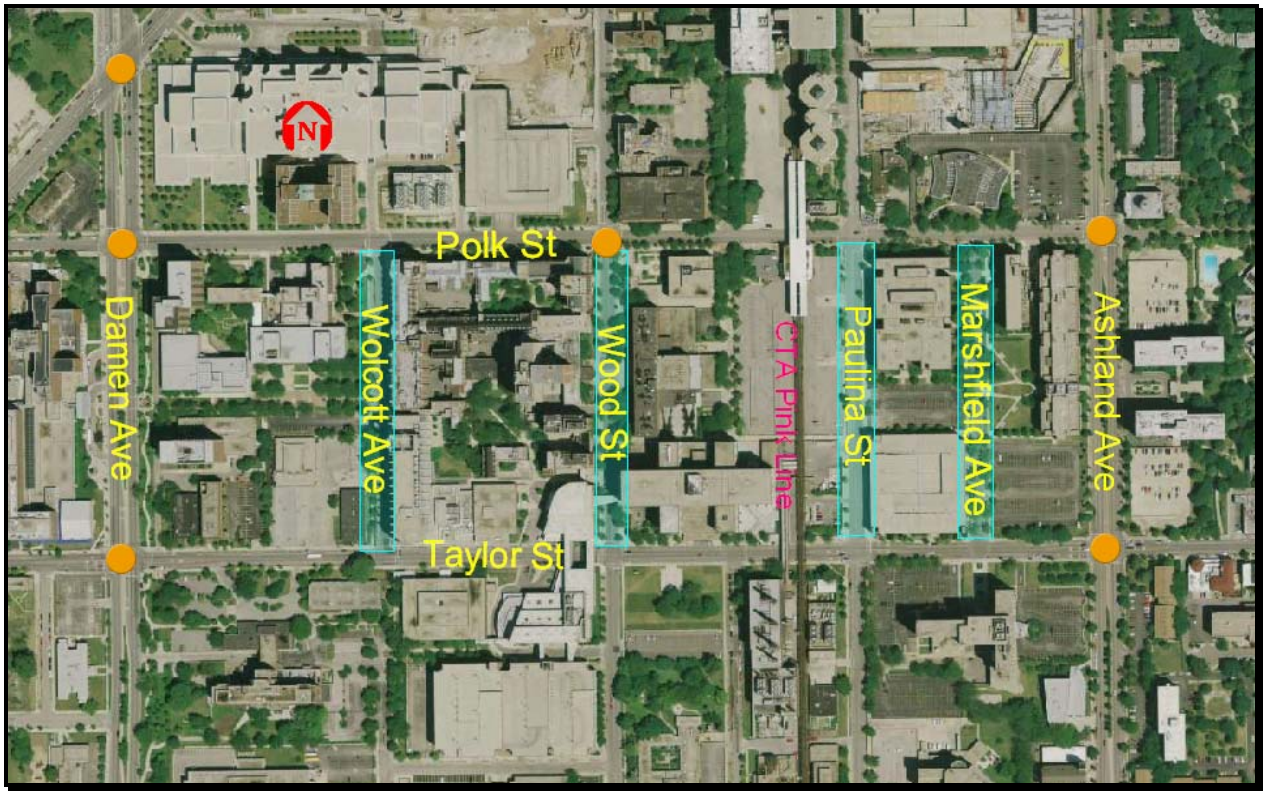

Figure 1
Aerial Photo of Street Closure Considerations

The following provides a description of each street including lane usage, traffic control devices, traffic volumes, and land access.

Wolcott Avenue is a one-way northbound street that extends between Polk Street and Taylor Street. It carries less than 2,000 vehicles per day and provides vehicular access to UIC Parking Lot B2 and a gated unnamed parking area. It is approximately 32 feet wide with parking prohibited on the street. At its intersection with Polk Street, Wolcott Avenue is under stop sign control.

Wood Street is a north-south two-way street that extends from Congress Parkway south past Roosevelt Road. It carries approximately 5,000 vehicles per day and, between Polk Street and Taylor Street, provides vehicular access to a service area between the Clinical Sciences Building and the Neuropsychiatric Institute. It is approximately 38 feet wide with parking prohibited on the street. Its intersection with Polk Street is signalized and its intersection with Taylor Street is under all-way stop control. A marked pedestrian crosswalk crosses Wood Street mid-block and traffic is under stop sign control at the crossing.

Paulina Street is a north-south two-way street that extends from Harrison Street to Roosevelt Road. It carries approximately 5,500 vehicles per day and, between Polk Street and Taylor Street, provides vehicular access to the UIC Hospital Emergency Room (exit on Paulina Street, entrance on Taylor Street), UIC Hospital Shipping and Receiving, Paulina Street Parking Structure, and UIC Parking

Lots E, E1, and F. It is approximately 40 feet wide with parking prohibited on the street. Its intersections with Polk Street and Taylor Street are both all-way stop controlled.

Marshfield Avenue is a north-south two-way street that extends between Polk Street and Taylor Street. It carries less than 2,000 vehicles per day and provides vehicular access to the Paulina Street Parking Structure, UIC Parking Lot G, and a service area for the College of Dentistry. It is approximately 30 feet wide with parking prohibited on the street. At its intersection with Polk Street and Taylor Street, Marshfield Avenue is under stop sign control.

The proposed street closures are anticipated to be in the form of a mid-block cul-de-sac. In this manner, local land access can be maintained from the north (Polk Street) and the south (Taylor Street) while through movements between Polk Street and Taylor Street would be eliminated.

Table 1 summarizes the advantages and disadvantages of each street closure/cul-de-sac. Based on the comparisons, it is KLOA's opinion that the closure of Wolcott Avenue and Marshfield Avenue would overall be advantageous to the UIC West Side. These advantages include enhancing pedestrian accessibility and safety by creating a campus-like environment with open space and pedestrian walkways free of vehicular conflict. This can be accomplished with limited impact to traffic operations on Damen Avenue, Wood Street, Paulina Street, Ashland Avenue, Polk Street and Taylor Street given the low traffic volumes to be rerouted.

Also based on the comparisons, it is KLOA's opinion that the disadvantages of closing Wood Street and Paulina Street outweigh the advantages for UIC and, as such, their cul-de-sac/closure is not recommended. Although the modifications to the two streets would allow for the creation of additional greenspace and pedestrian accommodations for the campus, the adverse impacts of reducing north-south travel options through the area is detrimental to the adjacent streets and would require street capacity and traffic control improvements that run counter to the objectives of the Master Plan. As an alternative to closing these streets, Complete Streets concepts could be implemented instead to provide a safer and more pleasant condition for pedestrians. Measures to consider include narrowing the streets, introducing curb bump-outs and high visibility crosswalks, and installing pedestrian countdown signals at Wood Street/Polk Street intersection. These elements will calm traffic movements, create a more pedestrian street scale, and reduce pedestrian crossing distances without eliminating the use of the street by through traffic.

Table 1
EVALUATION OF STREET CLOSURES ON WEST SIDE OF CAMPUS

Street to Cul-de-sac (between Polk and Taylor)	**Advantages**	**Disadvantages**
Wolcott Avenue	• Low volume of traffic to be rerouted • Limited impact to traffic operations at adjacent intersections and streets • Minimal disruption to campus vehicular accessibility • Enhances pedestrian accessibility and creates an opportunity for the existing pedestrian mall between Damen and Wolcott to be extended	• Would require conversion of Wolcott to two-way traffic resulting in an increased number of conflict points at intersections with Polk and Taylor
Wood Street	• Eliminates traffic-pedestrian conflicts at key mid-block pedestrian crossing location • Enhances pedestrian accessibility and creates an opportunity for an east-west pedestrian connection through West Side of UIC • Maintains local access for drop-off/pick-up/loading activities • Improves the operation of Wood/Taylor "hotspot" intersection by reducing the amount of traffic on Wood	• Volume of traffic to be rerouted increases Paulina traffic by 60% or more, likely causing traffic signal warrants to be met at Polk and Taylor • Impacts circulation for neighboring institutions including north-south access to the Stroger Hospital parking garage which is to be expanded • Disruptive to emergency vehicle accessibility which may be a safety concern of IMD and CDOT • Inconvenient for UIC traffic circulation with further interruption to overall street network continuity
Paulina Street	• Cul-de-sac significantly reduces or eliminates pedestrian-vehicle conflicts for heavy mid-block pedestrian volumes crossing Paulina • Enhances pedestrian accessibility and creates an opportunity for an east-west pedestrian connection through West Side of UIC • Maintains local access for drop-off/pick-up/loading activities	• Volume of traffic to be rerouted would more than double traffic on Wood requiring signalization of Taylor/Wood intersection • Reduces vehicular access route flexibility which will burden Taylor requiring possible lane modifications particularly if additional parking is developed along Paulina

Street to Cul-de-sac (between Polk and Taylor)	**Advantages**	**Disadvantages**
Paulina Street (con't)		• Disruptive to emergency vehicle accessibility which may be a safety concern of IMD and CDOT • Requires modifications to CDOT truck routes considering all truck loading activity to UIC hospital will enter/exit via Taylor • Inconvenient for UIC traffic circulation and parking access with further interruption to street continuity
Marshfield Avenue	• Low volume of traffic to be rerouted • Limited impact to traffic operations at adjacent intersections and streets • Minimal disruption to campus vehicular accessibility • Enhances pedestrian accessibility and creates an opportunity for an east-west pedestrian connection to be extended west of the Molecular Biology Laboratory	• Increases traffic on Paulina due to the elimination of access to and from the north via Marshfield for Paulina St parking garage traffic • Exacerbates vehicle-pedestrian conflicts at Marshfield/Taylor intersection

Opinion

Based on the comparisons presented in the table, the following conclusions are made.

- Close/cul-de-sac Wolcott Avenue and Marshfield Avenue from Polk Street to Taylor Street while maintaining local access to parking and service areas
- Maintain Wood Street and Paulina Street open to through traffic and instead implement street modifications to provide a safer and more pleasant condition for pedestrians