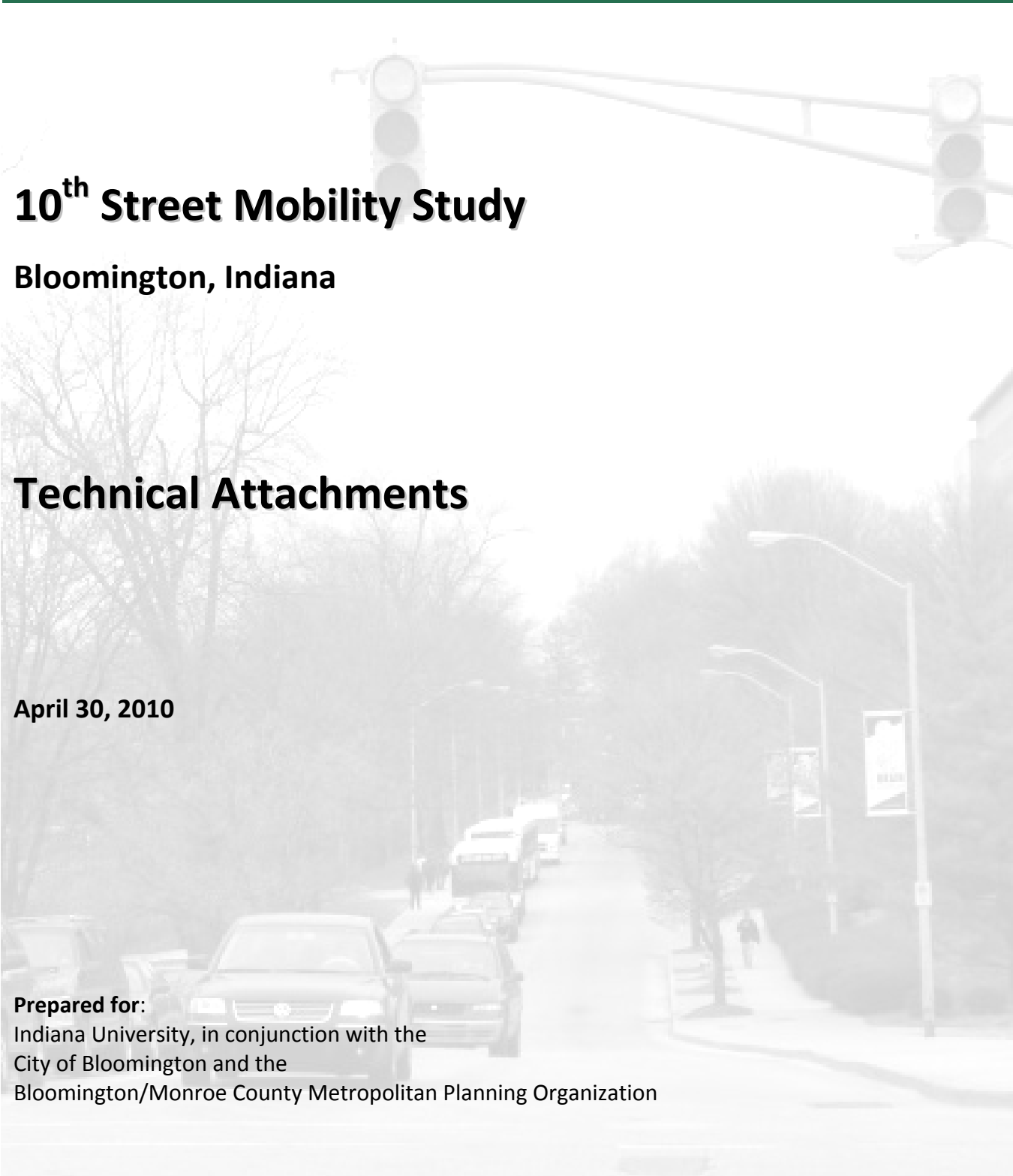




10th Street Mobility Study

Bloomington, Indiana

Technical Attachments

April 30, 2010

Prepared for:

Indiana University, in conjunction with the
City of Bloomington and the
Bloomington/Monroe County Metropolitan Planning Organization



GOROVE / SLADE ASSOCIATES, INC.
Transportation Planners and Engineers



Bledsoe Riggert Guerrettaz
LAND SURVEYING • CIVIL ENGINEERING

Prepared by:



Gorove/Slade Associates, Inc.

1140 Connecticut Avenue
Suite 700
Washington, DC 20036
Tel: 202.296.8625
Fax: 202.758.1276

3914 Centreville Road
Suite 330
Chantilly, VA 20151
Tel: 703.787.9595
Fax: 703.787.9905

7001 Heritage Village Plaza
Suite 220
Gainesville, VA 20155
Tel: 703.787.9595
Fax: 703.787.9905



1351 West Tapp Road
Bloomington, IN 47403
Tel: 812.336.8277
Fax: 812.336.0817

www.groveslade.com

This document, together with the concepts and designs presented herein, as an instrument of services, is intended for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization by Gorove/Slade Associates, Inc., shall be without liability to Gorove/Slade Associates, Inc.

TABLE OF CONTENTS

Technical Attachment 1: Cost Estimate

Technical Attachment 2: Public Input

- Online Survey

- First Set of Workshops: April 16, 2009

- Second Set of Workshops: September 10, 2009

- Third Set of Workshops: March 11, 2010

- CAC Bus-Only Resolution

- Comments on the 10th Street Campus Mobility Study

Technical Attachment 3: Data Collection

- Vehicle and Pedestrian Data Collection

- Transit Ridership

Technical Attachment 4: Capatiy Analysis Results

- Level of Service Definitions

- Simulation Results

TECHNICAL ATTACHMENT 1: COST ESTIMATE

Project Name: Indiana University - Bloomington North Campus Traffic Study 1 Way Pair
Project No.: 6541
Prepared By: Daniel Butler - Bledsoe Riggert Guerretaz, Inc.
Date: 09.10.09 - **Revised 03.09.10**

Preliminary Opinion of Probable Cost for Site Work

Schematic Engineer's Estimate

General Costs

No.	Description	Quantity	Unit	Unit Price	Cost
1	Mobilization / Demobilization	1	LS	20,000.00	20,000.00
2	Layout	1	LS	40,000.00	40,000.00
				Subtotal	60,000.00

Selective Site Demolition/Relocation

No.	Description	Quantity	Unit	Unit Price	Cost
3	Demolition - Concrete Pavement	38,490	SF	1.85	71,206.50
4	Demolition - Brush Removal	1	LS	1,000.00	1,000.00
5	Demolition - Tree Clearing and Grubbing	4	ACRE	5,600.00	19,600.00
6	Demolition - Retaining Wall and Footing	1	LS	10,000.00	10,000.00
7	Demolition - Sign Removal	50	EA	35.00	1,750.00
8	Demolition/Relocation - Light Pole	25	EA	1,500.00	37,500.00
9	Demolition - Fencing	2,200	LF	3.00	6,600.00
10	Demolition - Concrete Curb	3,500	LF	7.50	26,250.00
11	Demolition - Storm Piping	0	LF	10.00	-
12	Demolition - Saw Cut Asphalt	4,300	LF	2.00	8,600.00
13	Demolition - Asphalt Pavement	24,667	SYD	5.00	123,336.50
14	Demolition - Storm Structure	0	EA	400.00	-
15	Demolition - House and Foundation, Haul Away	16	EA	20,000.00	320,000.00
16	Relocation - Power Pole and Power Lines	0			-
17	Relocation - Gas Conduit along Fee Lane area	1	LS	17,500.00	17,500.00
18	Construction - Stormwater Pollution Prevention - Concrete Washout	5	EA	250.00	1,250.00
19	Construction - Temporary Stone Access Road	1	EA	1,000.00	1,000.00
20	Construction - SP3 - Gravel Curb Inlet Protection	25	EA	35.00	875.00
21	Construction - Stormwater Pollution Prevention - Silt Fence	11,000	LF	1.50	16,500.00
22	Construction - SP3 - Gravel Donut Drop Inlet Protection	25	EA	35.00	875.00
23	Construction - Tree Protection	8,000	LF	1.50	12,000.00
				Subtotal	675,843.00

Site Improvement

No.	Description	Quantity	Unit	Unit Price	Cost
24	Sidewalk - Concrete Pavement	69,000	SF	4.50	310,500.00
25	Sidewalk - City of Bloomington Handicap Ramps Type G/H	24	EA	2,500.00	60,000.00
26	Sidewalk - City of Bloomington Handicap Ramps Type E	40	EA	3,500.00	140,000.00
27	Sidewalk - 4" #53 Stone	1,687	TON	18.00	30,366.00
28	Retaining Wall	0	SF	25.00	-
29	Retaining Wall Footing	0	LF	25.00	-
30	Roads - 6" Standing Curb	29,300	LF	18.00	527,400.00
31	Roads - Asphalt Tack Coat	29,450	SYD	0.50	14,725.00
32	Roads - 1 1/2" Asphalt Pavement Surface	2,429	TON	65.00	157,885.00
33	Roads - 10.7" (2.7" Intermediate Course) Asphalt Pavement Base	17,331	TON	60.00	1,039,860.00
34	Roads - 6" #53 Stone	9,718	TON	18.00	174,924.00
35	Roads - Reinforced Concrete Pavement	0	SF	8.50	-
36	Roads - City of Bloomington Pavement Patch	8,200	SF	9.50	77,900.00
37	Site - Signage	60	EA	350.00	21,000.00
38	Roads - Thermo-Plastic and Reflectorizing Beads Pavement Marking - Street Markings (Solid)	38,345	LF	5.00	191,725.00
39	Roads - Thermo-Plastic and Reflectorizing Beads Pavement Marking - Symbol Marking (Bike Lane, Turn Lane Arrow, ONLY sign, etc.)	114	EA	1,100.00	125,400.00
40	Roads - Thermo-Plastic and Reflectorizing Beads Pavement Marking - Stop Bar	1,050	LF	16.00	16,800.00
41	Roads - Raised Snowplowable Pavement Markers - NTG HIGHWAY MARKERS, 'H960 LOW PROFILE, AMBER, TWO-WAY REFLECTION'	256	EA	50.00	12,800.00
42	Site - Shrubs	0	EA	10.00	-
43	Site - Street Trees	385	EA	150.00	57,750.00
44	Site - Sodding	12,830	SYD	5.50	70,565.00
				Subtotal	3,029,600.00

Traffic Signals Along New Law Lane

No.	Description	Quantity	Unit	Unit Price	Cost
45	14th Street and Dunn Street New Signals	1	LS	200,000.00	200,000.00
46	14th Street and Indiana Avenue New Signals	1	LS	200,000.00	200,000.00
47	14th Street and Woodlawn Avenue New Signals	1	LS	200,000.00	200,000.00
48	14th Street/Law Lane and Fee Lane New Signals	1	LS	200,000.00	200,000.00
49	Law Lane and Jordan Avenue New Signals, Demo. Old Signals	1	LS	225,000.00	225,000.00
50	Law Lane and Union Street New Signals	1	LS	200,000.00	200,000.00
				Subtotal	1,225,000.00

Traffic Signals Along Existing 10th Street

No.	Description	Quantity	Unit	Unit Price	Cost
51	10th Street and Union Street New Signals/ Demo. Old Signals	1	LS	225,000.00	225,000.00
52	10th Street and Sunrise Drive New Signals/ Demo. Old Signals	1	LS	225,000.00	225,000.00
53	10th Street and Jordan Avenue New Signals/ Demo. Old Signals	1	LS	225,000.00	225,000.00
54	10th Street and Fee Lane New Signals/ Demo. Old Signals	1	LS	225,000.00	225,000.00
55	10th Street and Woodlawn Avenue New Signals/ Demo. Old Signals	1	LS	225,000.00	225,000.00
56	10th Street and Indiana Avenue New Signals/ Demo. Old Signals	1	LS	225,000.00	225,000.00
				Subtotal	1,350,000.00

Site Drainage/Utilities

No.	Description	Quantity	Unit	Unit Price	Cost
57	Storm - Manholes W/ Lid	30	EA	3,500.00	105,000.00
58	Storm - Inlet W/ Casting	164	EA	3,200.00	524,800.00
59	Storm - 18" HDPE Pipe (average pipe size)	15,296	LF	30.00	458,880.00
60	Storm - Rip Rap Outfall	20	EA	400.00	8,000.00
61	Storm - End Sections	20	EA	300.00	6,000.00
				Subtotal	1,102,680.00

Site Grading

No.	Description	Quantity	Unit	Unit Price	Cost
62	Earthwork - Clearing, Stripping, and Grading	0	CY	10.00	-
63	Earthwork - Grading/Bulk Excavation/Cut and Fill	40,000	CY	10.00	400,000.00
64	Earthwork - Imported Fill	0	CY	10.00	-
65	Utility - Adjust Existing Casting	30	EA	500.00	15,000.00
66	Fine Grade, Fertilize, Seed and Straw Disturbed Areas	17,000	SYD	0.95	16,150.00
67	Utility - Rock Removal	0	CYD	150.00	-
68	Miscellaneous	1	LS		787,427.30
				Subtotal	1,218,577.30

Total	8,661,700
Contingency (10%)	866,170
Rounded	9,527,900.00

Project Name: Indiana University - Bloomington North Campus Traffic Study 2 Way Pair
Project No.: 6541
Prepared By: Daniel Butler - Bledsoe Riggert Guerrettaz, Inc.
Date: 09.10.09 - **Revised 03.09.10**

Preliminary Opinion of Probable Cost for Site Work

Schematic Engineer's Estimate

General Costs

No.	Description	Quantity	Unit	Unit Price	Cost
1	Mobilization / Demobilization	1	LS	20,000.00	20,000.00
2	Layout	1	LS	40,000.00	40,000.00
				Subtotal	60,000.00

Selective Site Demolition/Relocation

No.	Description	Quantity	Unit	Unit Price	Cost
3	Demolition - Concrete Pavement	38,490	SF	1.85	71,206.50
4	Demolition - Brush Removal	1	LS	1,000.00	1,000.00
5	Demolition - Tree Clearing and Grubbing	4	ACRE	5,600.00	19,600.00
6	Demolition - Retaining Wall and Footing	1	LS	10,000.00	10,000.00
7	Demolition - Sign Removal	50	EA	35.00	1,750.00
8	Demolition/Relocation - Light Pole	25	EA	1,500.00	37,500.00
9	Demolition - Fencing	2,200	LF	3.00	6,600.00
10	Demolition - Concrete Curb	3,500	LF	7.50	26,250.00
11	Demolition - Storm Piping	0	LF	10.00	-
12	Demolition - Saw Cut Asphalt	4,300	LF	2.00	8,600.00
13	Demolition - Asphalt Pavement	24,667	SYD	5.00	123,336.50
14	Demolition - Storm Structure	0	EA	400.00	-
15	Demolition - House and Foundation, Haul Away	16	EA	20,000.00	320,000.00
16	Relocation - Power Pole and Power Lines	0			-
17	Relocation - Gas Conduit along Fee Lane area	1	LS	17,500.00	17,500.00
18	Construction - Stormwater Pollution Prevention - Concrete Washout	5	EA	250.00	1,250.00
19	Construction - Temporary Stone Access Road	1	EA	1,000.00	1,000.00
20	Construction - SP3 - Gravel Curb Inlet Protection	25	EA	35.00	875.00
21	Construction - Stormwater Pollution Prevention - Silt Fence	11,000	LF	1.50	16,500.00
22	Construction - SP3 - Gravel Donut Drop Inlet Protection	25	EA	35.00	875.00
23	Construction - Tree Protection	8,000	LF	1.50	12,000.00
				Subtotal	675,843.00

Site Improvement

No.	Description	Quantity	Unit	Unit Price	Cost
24	Sidewalk - Concrete Pavement	69,000	SF	4.50	310,500.00
25	Sidewalk - City of Bloomington Handicap Ramps Type G/H	24	EA	2,500.00	60,000.00
26	Sidewalk - City of Bloomington Handicap Ramps Type E	40	EA	3,500.00	140,000.00
27	Sidewalk - 4" #53 Stone	1,687	TON	18.00	30,366.00
28	Retaining Wall	0	SF	25.00	-
29	Retaining Wall Footing	0	LF	25.00	-
30	Roads - 6" Standing Curb	29,300	LF	18.00	527,400.00
31	Roads - Asphalt Tack Coat	49,100	SYD	0.50	24,550.00
32	Roads - 1 1/2" Asphalt Pavement Surface	4,050	TON	65.00	263,250.00
33	Roads - 10.7" (2.7" Intermediate Course) Asphalt Pavement Base	28,895	TON	60.00	1,733,700.00
34	Roads - 6" #53 Stone	16,203	TON	18.00	291,654.00
35	Roads - Reinforced Concrete Pavement	0	SF	8.50	-
36	Roads - City of Bloomington Pavement Patch	8,200	SF	9.50	77,900.00
37	Site - Signage	60	EA	350.00	21,000.00
38	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Street Markings (Solid)	32,234	LF	5.00	161,170.00
39	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Symbol Marking (Bike Lane, Turn Lane Arrow, ONLY sign, etc.)	164	EA	1,100.00	180,400.00
40	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Stop Bar	1,050	LF	16.00	16,800.00
41	Roads - Raised Snowplowable Pavement Markers - NTG HIGHWAY MARKERS, H960 LOW PROFILE, AMBER, TWO-WAY REFLECTION	256	EA	50.00	12,800.00
42	Site - Shrubs	0	EA	10.00	-
43	Site - Street Trees	385	EA	150.00	57,750.00
44	Site - Sodding	12,830	SYD	5.50	70,565.00
				Subtotal	3,979,805.00

Traffic Signals

No.	Description	Quantity	Unit	Unit Price	Cost
45	14th Street and Dunn Street New Signals	1	LS	220,000.00	220,000.00
46	14th Street and Indiana Avenue New Signals	1	LS	220,000.00	220,000.00
47	14th Street and Woodlawn Avenue New Signals	1	LS	220,000.00	220,000.00
48	14th Street/Law Lane and Fee Lane New Signals	1	LS	220,000.00	220,000.00
49	Law Lane and Jordan Avenue New Signals, Demo. Old Signals	1	LS	250,000.00	250,000.00
50	Law Lane and Union Street New Signals	1	LS	220,000.00	220,000.00
				Subtotal	1,350,000.00

Site Drainage/Utilities

No.	Description	Quantity	Unit	Unit Price	Cost
51	Storm - Manholes W/ Lid	30	EA	3,500.00	105,000.00
52	Storm - Inlet W/ Casting	164	EA	3,200.00	524,800.00
53	Storm - 18" HDPE Pipe (average pipe size)	15,296	LF	30.00	458,880.00
54	Storm - Rip Rap Outfall	20	EA	400.00	8,000.00
55	Storm - End Sections	20	EA	300.00	6,000.00
				Subtotal	1,102,680.00

Site Grading

No.	Description	Quantity	Unit	Unit Price	Cost
56	Earthwork - Clearing, Stripping, and Grading	0	CY	10.00	-
57	Earthwork - Grading/Bulk Excavation/Cut and Fill	40,000	CY	10.00	400,000.00
58	Earthwork - Imported Fill	0	CY	10.00	-
59	Utility - Adjust Existing Casting	30	EA	500.00	15,000.00
60	Fine Grade, Fertilize, Seed and Straw Disturbed Areas	17,000	SYD	0.95	16,150.00
61	Utility - Rock Removal	0	CYD	150.00	-
62	Miscellaneous	1	LS		759,947.80
				Subtotal	1,191,097.80

Total	8,359,426
Contingency (10%)	835,943
Rounded	9,195,400.00

Project Name: Indiana University - Bloomington North Campus Traffic Study 2 Way Pair - 65' R.O.W. Collector Cross Section
Project No.: 6541
Prepared By: Daniel Butler - Bledsoe Riggert Guerrettaz, Inc.
Date: 03.09.10

Preliminary Opinion of Probable Cost for Site Work

Schematic Engineer's Estimate

Project Summary Page

Phase Costs						
No.	Description	Quantity	Unit	Unit Price	Cost	
1	Phase No. 1 -- North Dunn Street to North Fee Lane	1	LS	3,754,200.00	3,754,200.00	
2	Phase No. 2 -- North Fee Lane to North Union Street	1	LS	2,744,500.00	2,744,500.00	
3	Phase No. 3 -- North Union Street to Improvements of East 10th Street	1	LS	1,462,700.00	1,462,700.00	
Subtotal					7,961,400.00	
					Total	7,961,400.00
					Rounded	7,960,000.00

Project Name: Indiana University - Bloomington North Campus Traffic Study 2 Way Pair - 65' R.O.W. Collector Cross Section
Project No.: 6541
Prepared By: Daniel Butler - Bledsoe Riggert Guerretaz, Inc.
Date: 03.09.10

Preliminary Opinion of Probable Cost for Site Work

Schematic Engineer's Estimate

Phase No. 1 -- North Dunn Street to North Fee Lane

General Costs

No.	Description	Quantity	Unit	Unit Price	Cost
1	Mobilization / Demobilization	1	LS	7,000.00	7,000.00
2	Layout	1	LS	13,000.00	13,000.00
				Subtotal	20,000.00

Selective Site Demolition/Relocation

No.	Description	Quantity	Unit	Unit Price	Cost
3	Demolition - Concrete Pavement	4,200	SF	1.85	7,770.00
4	Demolition - Brush Removal	0	LS	1,000.00	-
5	Demolition - Tree Clearing and Grubbing	0.5	ACRE	5,600.00	2,800.00
6	Demolition - Retaining Wall and Footing	1	LS	10,000.00	10,000.00
7	Demolition - Sign Removal	22	EA	35.00	770.00
8	Demolition/Relocation - Light Pole	13	EA	1,500.00	19,500.00
9	Demolition - Fencing	300	LF	3.00	900.00
10	Demolition - Concrete Curb	400	LF	7.50	3,000.00
11	Demolition - Storm Piping	0	LF	10.00	-
12	Demolition - Saw Cut Asphalt	560	LF	2.00	1,120.00
13	Demolition - Asphalt Pavement	14,800	SYD	5.00	74,000.00
14	Demolition - Storm Structure	0	EA	400.00	-
15	Demolition - House and Foundation, Haul Away	11	EA	20,000.00	220,000.00
16	Relocation - Power Pole and Power Lines	0			-
17	Relocation - Gas Conduit along Fee Lane area	1	LS	17,500.00	17,500.00
18	Construction - Stormwater Pollution Prevention - Concrete Washout	2	EA	250.00	500.00
19	Construction - Temporary Stone Access Road	1	EA	1,000.00	1,000.00
20	Construction - SP3 - Gravel Curb Inlet Protection	11	EA	35.00	385.00
21	Construction - Stormwater Pollution Prevention - Silt Fence	3,667	LF	1.50	5,500.50
22	Construction - SP3 - Gravel Donut Drop Inlet Protection	11	EA	35.00	385.00
23	Construction - Tree Protection	3,000	LF	1.50	4,500.00
				Subtotal	369,630.50

Site Improvement

No.	Description	Quantity	Unit	Unit Price	Cost
24	Sidewalk - Concrete Pavement	25,000	SF	4.50	112,500.00
25	Sidewalk - City of Bloomington Handicap Ramps Type G/H	4	EA	2,500.00	10,000.00
26	Sidewalk - City of Bloomington Handicap Ramps Type E	24	EA	3,500.00	84,000.00
27	Sidewalk - 4" #53 Stone	611	TON	18.00	10,998.00
28	Retaining Wall	0	SF	25.00	-
29	Retaining Wall Footing	0	LF	25.00	-
30	Roads - 6" Standing Curb	6,300	LF	18.00	113,400.00
31	Roads - Asphalt Tack Coat	14,800	SYD	0.50	7,400.00
32	Roads - 1 1/2" Asphalt Pavement Surface	1,221	TON	65.00	79,365.00
33	Roads - 2.5" Asphalt Pavement Intermediate Course	2,035	TON	60.00	122,100.00
34	Roads - 8" Asphalt Pavement Base	6,512	TON	60.00	390,720.00
35	Roads - 8" #53 Stone	6,512	TON	18.00	117,216.00
36	Roads - Reinforced Concrete Pavement	0	SF	8.50	-
37	Roads - City of Bloomington Pavement Patch	2,800	SF	9.50	26,600.00
38	Site - Signage	24	EA	350.00	8,400.00
39	Roads - Thermo-Plastic and Reflectorizing Beads Pavement Marking - Street Markings (Solid)	13,600	LF	5.00	68,000.00
40	Roads - Thermo-Plastic and Reflectorizing Beads Pavement Marking - Symbol Marking (Bike Lane, Turn Lane Arrow, ONLY sign, etc.)	68	EA	1,100.00	74,800.00
41	Roads - Thermo-Plastic and Reflectorizing Beads Pavement Marking - Stop Bar	288	LF	16.00	4,608.00
42	Roads - Raised Snowplowable Pavement Markers - NTG HIGHWAY MARKERS, 1960 LOW PROFILE, AMBER, TWO-WAY REFLECTION	60	EA	50.00	3,000.00
43	Site - Shrubs	0	EA	10.00	-
44	Site - Street Trees	145	EA	150.00	21,750.00
45	Site - Sodding	4,300	SYD	5.50	23,650.00
				Subtotal	1,278,507.00

Traffic Signals

No.	Description	Quantity	Unit	Unit Price	Cost
46	14th Street and Dunn Street New Signals	1	LS	220,000.00	220,000.00
47	14th Street and Indiana Avenue New Signals	1	LS	220,000.00	220,000.00
48	14th Street and Woodlawn Avenue New Signals	1	LS	220,000.00	220,000.00
49	14th Street/Law Lane and Fee Lane New Signals	1	LS	220,000.00	220,000.00
				Subtotal	880,000.00

Site Drainage/Utilities

No.	Description	Quantity	Unit	Unit Price	Cost
50	Storm - Manholes W/ Lid	11	EA	3,500.00	38,500.00
51	Storm - Inlet W/ Casting	59	EA	3,200.00	188,800.00
52	Storm - 18" HDPE Pipe (average pipe size)	5,820	LF	30.00	174,600.00
53	Storm - Rip Rap Outfall	12	EA	400.00	4,800.00
54	Storm - End Sections	12	EA	300.00	3,600.00
				Subtotal	410,300.00

Site Grading

No.	Description	Quantity	Unit	Unit Price	Cost
55	Earthwork - Clearing, Stripping, and Grading	0	CY	10.00	-
56	Earthwork - Grading/Bulk Excavation/Cut and Fill	13,000	CY	10.00	130,000.00
57	Earthwork - Imported Fill	0	CY	10.00	-
58	Utility - Adjust Existing Casting	15	EA	500.00	7,500.00
59	Fine Grade, Fertilize, Seed and Straw Disturbed Areas	7,000	SYD	0.95	6,650.00
60	Utility - Rock Removal	0	CYD	150.00	-
61	Miscellaneous	1	LS		310,300.00
				Subtotal	454,450.00

Total	3,412,900.00
Contingency (10%)	341,290.00
Rounded	3,754,200.00

Project Name: Indiana University - Bloomington North Campus Traffic Study 2 Way Pair - 65' R.O.W. Collector Cross Section
Project No.: 6541
Prepared By: Daniel Butler - Bledsoe Riggert Guerrettaz, Inc.
Date: 03.09.10

Preliminary Opinion of Probable Cost for Site Work

Schematic Engineer's Estimate

Phase No. 2 -- North Fee Lane to North Union Street

General Costs

No.	Description	Quantity	Unit	Unit Price	Cost
1	Mobilization / Demobilization	1	LS	7,000.00	7,000.00
2	Layout	1	LS	13,000.00	13,000.00
				Subtotal	20,000.00

Selective Site Demolition/Relocation

No.	Description	Quantity	Unit	Unit Price	Cost
3	Demolition - Concrete Pavement	14,400	SF	1.85	26,640.00
4	Demolition - Brush Removal	1	LS	1,000.00	1,000.00
5	Demolition - Tree Clearing and Grubbing	1.75	ACRE	5,600.00	9,800.00
6	Demolition - Retaining Wall and Footing	0	LS	10,000.00	-
7	Demolition - Sign Removal	18	EA	35.00	630.00
8	Demolition/Relocation - Light Pole	13	EA	1,500.00	19,500.00
9	Demolition - Fencing	400	LF	3.00	1,200.00
10	Demolition - Concrete Curb	2,100	LF	7.50	15,750.00
11	Demolition - Storm Piping	0	LF	10.00	-
12	Demolition - Saw Cut Asphalt	1,400	LF	2.00	2,800.00
13	Demolition - Asphalt Pavement	4,950	SYD	5.00	24,750.00
14	Demolition - Storm Structure	0	EA	400.00	-
15	Demolition - House and Foundation, Haul Away	0	EA	20,000.00	-
16	Relocation - Power Pole and Power Lines	0			-
17	Relocation - Gas Conduit along Fee Lane area	0	LS	17,500.00	-
18	Construction - Stormwater Pollution Prevention - Concrete Washout	2	EA	250.00	500.00
19	Construction - Temporary Stone Access Road	1	EA	1,000.00	1,000.00
20	Construction - SP3 - Gravel Curb Inlet Protection	15	EA	35.00	525.00
21	Construction - Stormwater Pollution Prevention - Silt Fence	3,700	LF	1.50	5,550.00
22	Construction - SP3 - Gravel Donut Drop Inlet Protection	15	EA	35.00	525.00
23	Construction - Tree Protection	3,000	LF	1.50	4,500.00
				Subtotal	114,670.00

Site Improvement

No.	Description	Quantity	Unit	Unit Price	Cost
24	Sidewalk - Concrete Pavement	26,000	SF	4.50	117,000.00
25	Sidewalk - City of Bloomington Handicap Ramps Type G/H	14	EA	2,500.00	35,000.00
26	Sidewalk - City of Bloomington Handicap Ramps Type E	8	EA	3,500.00	28,000.00
27	Sidewalk - 4" #53 Stone	640	TON	18.00	11,520.00
28	Retaining Wall	0	SF	25.00	-
29	Retaining Wall Footing	0	LF	25.00	-
30	Roads - 6" Standing Curb	5,800	LF	18.00	104,400.00
31	Roads - Asphalt Tack Coat	12,500	SYD	0.50	6,250.00
32	Roads - 1 1/2" Asphalt Pavement Surface	1,030	TON	65.00	66,950.00
33	Roads - 2.5" Asphalt Pavement Intermediate Course	1,718	TON	60.00	103,080.00
34	Roads - 8" Asphalt Pavement Base	5,500	TON	60.00	330,000.00
35	Roads - 8" #53 Stone	5,500	TON	18.00	99,000.00
36	Roads - Reinforced Concrete Pavement	0	SF	8.50	-
37	Roads - City of Bloomington Pavement Patch	6,000	SF	9.50	57,000.00
38	Site - Signage	24	EA	350.00	8,400.00
39	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Street Markings (Solid)	13,500	LF	5.00	67,500.00
40	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Symbol Marking (Bike Lane, Turn Lane Arrow, ONLY sign, etc.)	42	EA	1,100.00	46,200.00
41	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Stop Bar	348	LF	16.00	5,568.00
42	Roads - Raised Snowplowable Pavement Markers - NTG HIGHWAY MARKERS, 'H960 LOW PROFILE, AMBER, TWO-WAY REFLECTION'	62	EA	50.00	3,100.00
43	Site - Shrubs	0	EA	10.00	-
44	Site - Street Trees	132	EA	150.00	19,800.00
45	Site - Sodding	4,300	SYD	5.50	23,650.00
				Subtotal	1,132,418.00

Traffic Signals

No.	Description	Quantity	Unit	Unit Price	Cost
46	Law Lane and Jordan Avenue New Signals, Demo. Old Signals	1	LS	250,000.00	250,000.00
47	Law Lane and Union Street New Signals	1	LS	220,000.00	220,000.00
				Subtotal	470,000.00

Site Drainage/Utilities

No.	Description	Quantity	Unit	Unit Price	Cost
48	Storm - Manholes W/ Lid	12	EA	3,500.00	42,000.00
49	Storm - Inlet W/ Casting	60	EA	3,200.00	192,000.00
50	Storm - 18" HDPE Pipe (average pipe size)	5,820	LF	30.00	174,600.00
51	Storm - Rip Rap Outfall	12	EA	400.00	4,800.00
52	Storm - End Sections	12	EA	300.00	3,600.00
				Subtotal	417,000.00

Site Grading

No.	Description	Quantity	Unit	Unit Price	Cost
53	Earthwork - Clearing, Stripping, and Grading	0	CY	10.00	-
54	Earthwork - Grading/Bulk Excavation/Cut and Fill	10,000	CY	10.00	100,000.00
55	Earthwork - Imported Fill	0	CY	10.00	-
56	Utility - Adjust Existing Casting	15	EA	500.00	7,500.00
57	Fine Grade, Fertilize, Seed and Straw Disturbed Areas	7,000	SYD	0.95	6,650.00
58	Utility - Rock Removal	0	CYD	150.00	-
59	Miscellaneous	1	LS		226,800.00
				Subtotal	340,950.00

Total	2,495,000.00
Contingency (10%)	249,500.00
Rounded	2,744,500.00

Project Name: Indiana University - Bloomington North Campus Traffic Study 2 Way Pair - 65' R.O.W. Collector Cross Section
Project No.: 6541
Prepared By: Daniel Butler - Bledsoe Riggert Guerrettaz, Inc.
Date: 03.09.10

Preliminary Opinion of Probable Cost for Site Work

Schematic Engineer's Estimate

Phase No. 3 -- North Union Street to Improvements of East 10th Street

General Costs

No.	Description	Quantity	Unit	Unit Price	Cost
1	Mobilization / Demobilization	1	LS	7,000.00	7,000.00
2	Layout	1	LS	13,000.00	13,000.00
<i>Subtotal</i>					<u>20,000.00</u>

Selective Site Demolition/Relocation

No.	Description	Quantity	Unit	Unit Price	Cost
3	Demolition - Concrete Pavement	4,100	SF	1.85	7,585.00
4	Demolition - Brush Removal	1	LS	1,000.00	1,000.00
5	Demolition - Tree Clearing and Grubbing	1.75	ACRE	5,600.00	9,800.00
6	Demolition - Retaining Wall and Footing	0	LS	10,000.00	-
7	Demolition - Sign Removal	10	EA	35.00	350.00
8	Demolition/Relocation - Light Pole	9	EA	1,500.00	13,500.00
9	Demolition - Fencing	1,500	LF	3.00	4,500.00
10	Demolition - Concrete Curb	500	LF	7.50	3,750.00
11	Demolition - Storm Piping	0	LF	10.00	-
12	Demolition - Saw Cut Asphalt	480	LF	2.00	960.00
13	Demolition - Asphalt Pavement	1,500	SYD	5.00	7,500.00
14	Demolition - Storm Structure	0	EA	400.00	-
15	Demolition - House and Foundation, Haul Away	0	EA	20,000.00	-
16	Relocation - Power Pole and Power Lines	0			-
17	Relocation - Gas Conduit along Fee Lane area	0	LS	17,500.00	-
18	Construction - Stormwater Pollution Prevention - Concrete Washout	2	EA	250.00	500.00
19	Construction - Temporary Stone Access Road	1	EA	1,000.00	1,000.00
20	Construction - SP3 - Gravel Curb Inlet Protection	15	EA	35.00	525.00
21	Construction - Stormwater Pollution Prevention - Silt Fence	3,700	LF	1.50	5,550.00
22	Construction - SP3 - Gravel Donut Drop Inlet Protection	10	EA	35.00	350.00
23	Construction - Tree Protection	2,000	LF	1.50	3,000.00
<i>Subtotal</i>					<u>59,870.00</u>

Site Improvement

No.	Description	Quantity	Unit	Unit Price	Cost
24	Sidewalk - Concrete Pavement	9,600	SF	4.50	43,200.00
25	Sidewalk - City of Bloomington Handicap Ramps Type G/H	12	EA	2,500.00	30,000.00
26	Sidewalk - City of Bloomington Handicap Ramps Type E	6	EA	3,500.00	21,000.00
27	Sidewalk - 4" #53 Stone	215	TON	18.00	3,870.00
28	Retaining Wall	0	SF	25.00	-
29	Retaining Wall Footing	0	LF	25.00	-
30	Roads - 6" Standing Curb	2,100	LF	18.00	37,800.00
31	Roads - Asphalt Tack Coat	3,777	SYD	0.50	1,888.50
32	Roads - 1 1/2" Asphalt Pavement Surface	312	TON	65.00	20,280.00
33	Roads - 2.5" Asphalt Pavement Intermediate Course	520	TON	60.00	31,200.00
34	Roads - 8" Asphalt Pavement Base	1,661	TON	60.00	99,660.00
35	Roads - 8" #53 Stone	1,661	TON	18.00	29,898.00
36	Roads - Reinforced Concrete Pavement	0	SF	8.50	-
37	Roads - City of Bloomington Pavement Patch	1,000	SF	9.50	9,500.00
38	Site - Signage	18	EA	350.00	6,300.00
39	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Street Markings (Solid)	4,400	LF	5.00	22,000.00
40	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Symbol Marking (Bike Lane, Turn Lane Arrow, ONLY sign, etc.)	40	EA	1,100.00	44,000.00
41	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Stop Bar	130	LF	16.00	2,080.00
42	Roads - Raised Snowplowable Pavement Markers - NTG HIGHWAY MARKERS, 'H960 LOW PROFILE, AMBER, TWO-WAY REFLECTION'	104	EA	50.00	5,200.00
43	Site - Shrubs	0	EA	10.00	-
44	Site - Street Trees	52	EA	150.00	7,800.00
45	Site - Sodding	4,300	SYD	5.50	23,650.00
<i>Subtotal</i>					<u>439,326.50</u>

Traffic Signals

No.	Description	Quantity	Unit	Unit Price	Cost
46	10th Street Intersection New Signals	1	LS	220,000.00	220,000.00
<i>Subtotal</i>					<u>220,000.00</u>

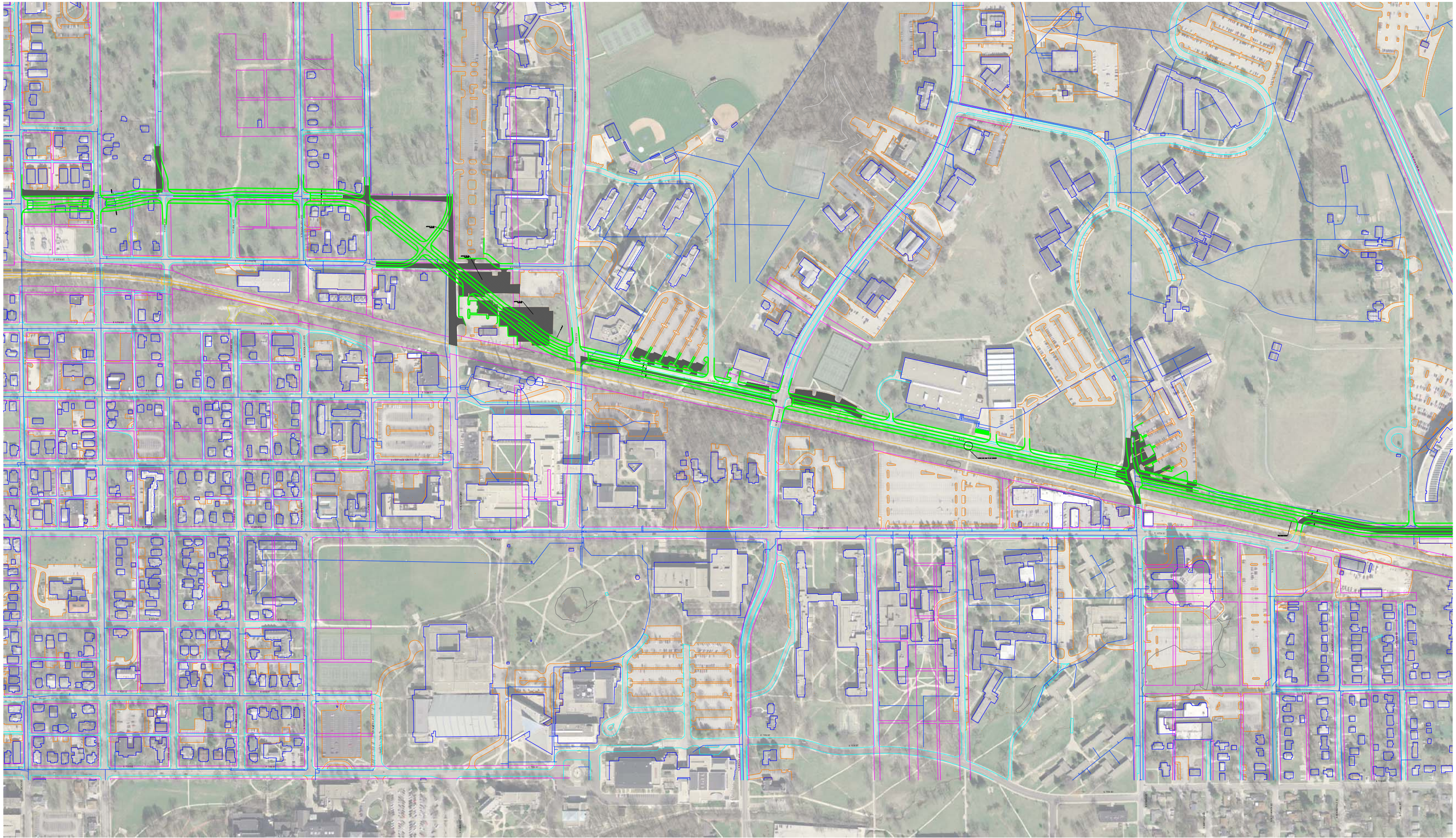
Site Drainage/Utilites

No.	Description	Quantity	Unit	Unit Price	Cost
47	Storm - Manholes W/ Lid	9	EA	3,500.00	31,500.00
48	Storm - Inlet W/ Casting	42	EA	3,200.00	134,400.00
49	Storm - 18" HDPE Pipe (average pipe size)	4,800	LF	30.00	144,000.00
50	Storm - Rip Rap Outfall	8	EA	400.00	3,200.00
51	Storm - End Sections	8	EA	300.00	2,400.00
<i>Subtotal</i>					<u>315,500.00</u>

Site Grading

No.	Description	Quantity	Unit	Unit Price	Cost
52	Earthwork - Clearing, Stripping, and Grading	0	CY	10.00	-
53	Earthwork - Grading/Bulk Excavation/Cut and Fill	14,000	CY	10.00	140,000.00
54	Earthwork - Imported Fill	0	CY	10.00	-
55	Utility - Adjust Existing Casting	15	EA	500.00	7,500.00
56	Fine Grade, Fertilize, Seed and Straw Disturbed Areas	7,000	SYD	0.95	6,650.00
57	Utility - Rock Removal	0	CYD	150.00	-
58	Miscellaneous	1	LS		120,900.00
<i>Subtotal</i>					<u>275,050.00</u>

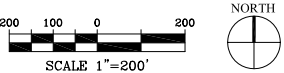
Total	1,329,700.00
Contingency (10%)	132,970.00
Rounded	<u>1,462,700.00</u>



**The roadway alignment is conceptual in nature and is not to be interpreted as literal impacts on property. This alignment was solely used for the purposes of calculating costs.

2 WAY PAIR - 65' RIGHT-OF-WAY

NORTH CAMPUS AREA STUDY



Project Name: Indiana University - Bloomington North Campus Traffic Study 2 Way Pair - 80' R.O.W. Arterial Cross Section
Project No.: 6541
Prepared By: Daniel Butler - Bledsoe Riggert Guerrettaz, Inc.
Date: 03.09.10

Preliminary Opinion of Probable Cost for Site Work

Schematic Engineer's Estimate

Project Summary Page

Phase Costs					
No.	Description	Quantity	Unit	Unit Price	Cost
1	Phase No. 1 -- North Dunn Street to North Fee Lane	1	LS	4,155,400.00	4,155,400.00
2	Phase No. 2 -- North Fee Lane to North Union Street	1	LS	3,020,300.00	3,020,300.00
3	Phase No. 3 -- North Union Street to Improvements of East 10th Street	1	LS	1,543,200.00	1,543,200.00
Subtotal					8,718,900.00
				Total	8,718,900.00
				Rounded	8,720,000.00

Project Name: Indiana University - Bloomington North Campus Traffic Study 2 Way Pair - 80' R.O.W. Arterial Cross Section
Project No.: 6541
Prepared By: Daniel Butler - Bledsoe Riggert Guerretaz, Inc.
Date: 03.09.10

Preliminary Opinion of Probable Cost for Site Work

Schematic Engineer's Estimate

Phase No. 1 -- North Dunn Street to North Fee Lane

General Costs

No.	Description	Quantity	Unit	Unit Price	Cost
1	Mobilization / Demobilization	1	LS	7,000.00	7,000.00
2	Layout	1	LS	13,000.00	13,000.00
				Subtotal	20,000.00

Selective Site Demolition/Relocation

No.	Description	Quantity	Unit	Unit Price	Cost
3	Demolition - Concrete Pavement	4,200	SF	1.85	7,770.00
4	Demolition - Brush Removal	0	LS	1,000.00	-
5	Demolition - Tree Clearing and Grubbing	0.5	ACRE	5,600.00	2,800.00
6	Demolition - Retaining Wall and Footing	1	LS	10,000.00	10,000.00
7	Demolition - Sign Removal	22	EA	35.00	770.00
8	Demolition/Relocation - Light Pole	13	EA	1,500.00	19,500.00
9	Demolition - Fencing	300	LF	3.00	900.00
10	Demolition - Concrete Curb	400	LF	7.50	3,000.00
11	Demolition - Storm Piping	0	LF	10.00	-
12	Demolition - Saw Cut Asphalt	560	LF	2.00	1,120.00
13	Demolition - Asphalt Pavement	14,800	SYD	5.00	74,000.00
14	Demolition - Storm Structure	0	EA	400.00	-
15	Demolition - House and Foundation, Haul Away	12	EA	20,000.00	240,000.00
16	Relocation - Power Pole and Power Lines	0			-
17	Relocation - Gas Conduit along Fee Lane area	1	LS	17,500.00	17,500.00
18	Construction - Stormwater Pollution Prevention - Concrete Washout	2	EA	250.00	500.00
19	Construction - Temporary Stone Access Road	1	EA	1,000.00	1,000.00
20	Construction - SP3 - Gravel Curb Inlet Protection	11	EA	35.00	385.00
21	Construction - Stormwater Pollution Prevention - Silt Fence	3,667	LF	1.50	5,500.50
22	Construction - SP3 - Gravel Donut Drop Inlet Protection	11	EA	35.00	385.00
23	Construction - Tree Protection	3,000	LF	1.50	4,500.00
				Subtotal	389,630.50

Site Improvement

No.	Description	Quantity	Unit	Unit Price	Cost
24	Sidewalk - Concrete Pavement	25,000	SF	4.50	112,500.00
25	Sidewalk - City of Bloomington Handicap Ramps Type G/H	4	EA	2,500.00	10,000.00
26	Sidewalk - City of Bloomington Handicap Ramps Type E	24	EA	3,500.00	84,000.00
27	Sidewalk - 4" #53 Stone	611	TON	18.00	10,998.00
28	Retaining Wall	0	SF	25.00	-
29	Retaining Wall Footing	0	LF	25.00	-
30	Roads - 6" Standing Curb	6,300	LF	18.00	113,400.00
31	Roads - Asphalt Tack Coat	20,200	SYD	0.50	10,100.00
32	Roads - 1 1/2" Asphalt Pavement Surface	1,667	TON	65.00	108,355.00
33	Roads - 2.5" Asphalt Pavement Intermediate Course	2,778	TON	60.00	166,680.00
34	Roads - 8" Asphalt Pavement Base	8,889	TON	60.00	533,340.00
35	Roads - 8" #53 Stone	8,933	TON	18.00	160,794.00
36	Roads - Reinforced Concrete Pavement	0	SF	8.50	-
37	Roads - City of Bloomington Pavement Patch	2,800	SF	9.50	26,600.00
38	Site - Signage	24	EA	350.00	8,400.00
39	Roads - Thermo-Plastic and Reflectorizing Beads Pavement Marking - Street Markings (Solid)	18,600	LF	5.00	93,000.00
40	Roads - Thermo-Plastic and Reflectorizing Beads Pavement Marking - Symbol Marking (Bike Lane, Turn Lane Arrow, ONLY sign, etc.)	68	EA	1,100.00	74,800.00
41	Roads - Thermo-Plastic and Reflectorizing Beads Pavement Marking - Stop Bar	288	LF	16.00	4,608.00
42	Roads - Raised Snowplowable Pavement Markers - NTG HIGHWAY MARKERS, 1960 LOW PROFILE, AMBER, TWO-WAY REFLECTION	104	EA	50.00	5,200.00
43	Site - Shrubs	0	EA	10.00	-
44	Site - Street Trees	145	EA	150.00	21,750.00
45	Site - Sodding	4,300	SYD	5.50	23,650.00
				Subtotal	1,568,175.00

Traffic Signals

No.	Description	Quantity	Unit	Unit Price	Cost
46	14th Street and Dunn Street New Signals	1	LS	220,000.00	220,000.00
47	14th Street and Indiana Avenue New Signals	1	LS	220,000.00	220,000.00
48	14th Street and Woodlawn Avenue New Signals	1	LS	220,000.00	220,000.00
49	14th Street/Law Lane and Fee Lane New Signals	1	LS	220,000.00	220,000.00
				Subtotal	880,000.00

Site Drainage/Utilities

No.	Description	Quantity	Unit	Unit Price	Cost
50	Storm - Manholes W/ Lid	11	EA	3,500.00	38,500.00
51	Storm - Inlet W/ Casting	59	EA	3,200.00	188,800.00
52	Storm - 18" HDPE Pipe (average pipe size)	5,820	LF	30.00	174,600.00
53	Storm - Rip Rap Outfall	12	EA	400.00	4,800.00
54	Storm - End Sections	12	EA	300.00	3,600.00
				Subtotal	410,300.00

Site Grading

No.	Description	Quantity	Unit	Unit Price	Cost
55	Earthwork - Clearing, Stripping, and Grading	0	CY	10.00	-
56	Earthwork - Grading/Bulk Excavation/Cut and Fill	15,000	CY	10.00	150,000.00
57	Earthwork - Imported Fill	0	CY	10.00	-
58	Utility - Adjust Existing Casting	15	EA	500.00	7,500.00
59	Fine Grade, Fertilize, Seed and Straw Disturbed Areas	9,000	SYD	0.95	8,550.00
60	Utility - Rock Removal	0	CYD	150.00	-
61	Miscellaneous	1	LS		343,400.00
				Subtotal	509,450.00

Total	3,777,600.00
Contingency (10%)	377,760.00
Rounded	4,155,400.00

Project Name: Indiana University - Bloomington North Campus Traffic Study 2 Way Pair - 80' R.O.W. Arterial Cross Section
Project No.: 6541
Prepared By: Daniel Butler - Bledsoe Riggert Guerrettaz, Inc.
Date: 03.09.10

Preliminary Opinion of Probable Cost for Site Work

Schematic Engineer's Estimate

Phase No. 2 -- North Fee Lane to North Union Street

General Costs

No.	Description	Quantity	Unit	Unit Price	Cost
1	Mobilization / Demobilization	1	LS	7,000.00	7,000.00
2	Layout	1	LS	13,000.00	13,000.00
				Subtotal	20,000.00

Selective Site Demolition/Relocation

No.	Description	Quantity	Unit	Unit Price	Cost
3	Demolition - Concrete Pavement	16,700	SF	1.85	30,895.00
4	Demolition - Brush Removal	1	LS	1,000.00	1,000.00
5	Demolition - Tree Clearing and Grubbing	1.75	ACRE	5,600.00	9,800.00
6	Demolition - Retaining Wall and Footing	0	LS	10,000.00	-
7	Demolition - Sign Removal	18	EA	35.00	630.00
8	Demolition/Relocation - Light Pole	13	EA	1,500.00	19,500.00
9	Demolition - Fencing	400	LF	3.00	1,200.00
10	Demolition - Concrete Curb	2,100	LF	7.50	15,750.00
11	Demolition - Storm Piping	0	LF	10.00	-
12	Demolition - Saw Cut Asphalt	1,400	LF	2.00	2,800.00
13	Demolition - Asphalt Pavement	5,850	SYD	5.00	29,250.00
14	Demolition - Storm Structure	0	EA	400.00	-
15	Demolition - House and Foundation, Haul Away	0	EA	20,000.00	-
16	Relocation - Power Pole and Power Lines	0			-
17	Relocation - Gas Conduit along Fee Lane area	0	LS	17,500.00	-
18	Construction - Stormwater Pollution Prevention - Concrete Washout	2	EA	250.00	500.00
19	Construction - Temporary Stone Access Road	1	EA	1,000.00	1,000.00
20	Construction - SP3 - Gravel Curb Inlet Protection	15	EA	35.00	525.00
21	Construction - Stormwater Pollution Prevention - Silt Fence	3,700	LF	1.50	5,550.00
22	Construction - SP3 - Gravel Donut Drop Inlet Protection	15	EA	35.00	525.00
23	Construction - Tree Protection	3,000	LF	1.50	4,500.00
				Subtotal	123,425.00

Site Improvement

No.	Description	Quantity	Unit	Unit Price	Cost
24	Sidewalk - Concrete Pavement	26,000	SF	4.50	117,000.00
25	Sidewalk - City of Bloomington Handicap Ramps Type G/H	14	EA	2,500.00	35,000.00
26	Sidewalk - City of Bloomington Handicap Ramps Type E	8	EA	3,500.00	28,000.00
27	Sidewalk - 4" #53 Stone	640	TON	18.00	11,520.00
28	Retaining Wall	0	SF	25.00	-
29	Retaining Wall Footing	0	LF	25.00	-
30	Roads - 6" Standing Curb	5,800	LF	18.00	104,400.00
31	Roads - Asphalt Tack Coat	15,900	SYD	0.50	7,950.00
32	Roads - 1 1/2" Asphalt Pavement Surface	1,320	TON	65.00	85,800.00
33	Roads - 2.5" Asphalt Pavement Intermediate Course	2,187	TON	60.00	131,220.00
34	Roads - 8" Asphalt Pavement Base	6,998	TON	60.00	419,880.00
35	Roads - 8" #53 Stone	7,000	TON	18.00	126,000.00
36	Roads - Reinforced Concrete Pavement	0	SF	8.50	-
37	Roads - City of Bloomington Pavement Patch	6,000	SF	9.50	57,000.00
38	Site - Signage	24	EA	350.00	8,400.00
39	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Street Markings (Solid)	19,600	LF	5.00	98,000.00
40	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Symbol Marking (Bike Lane, Turn Lane Arrow, ONLY sign, etc.)	42	EA	1,100.00	46,200.00
41	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Stop Bar	348	LF	16.00	5,568.00
42	Roads - Raised Snowplowable Pavement Markers - NTG HIGHWAY MARKERS, 'H960 LOW PROFILE, AMBER, TWO-WAY REFLECTION'	104	EA	50.00	5,200.00
43	Site - Shrubs	0	EA	10.00	-
44	Site - Street Trees	132	EA	150.00	19,800.00
45	Site - Sodding	4,300	SYD	5.50	23,650.00
				Subtotal	1,330,588.00

Traffic Signals

No.	Description	Quantity	Unit	Unit Price	Cost
46	Law Lane and Jordan Avenue New Signals, Demo. Old Signals	1	LS	250,000.00	250,000.00
47	Law Lane and Union Street New Signals	1	LS	220,000.00	220,000.00
				Subtotal	470,000.00

Site Drainage/Utilities

No.	Description	Quantity	Unit	Unit Price	Cost
48	Storm - Manholes W/ Lid	12	EA	3,500.00	42,000.00
49	Storm - Inlet W/ Casting	60	EA	3,200.00	192,000.00
50	Storm - 18" HDPE Pipe (average pipe size)	5,820	LF	30.00	174,600.00
51	Storm - Rip Rap Outfall	12	EA	400.00	4,800.00
52	Storm - End Sections	12	EA	300.00	3,600.00
				Subtotal	417,000.00

Site Grading

No.	Description	Quantity	Unit	Unit Price	Cost
53	Earthwork - Clearing, Stripping, and Grading	0	CY	10.00	-
54	Earthwork - Grading/Bulk Excavation/Cut and Fill	12,000	CY	10.00	120,000.00
55	Earthwork - Imported Fill	0	CY	10.00	-
56	Utility - Adjust Existing Casting	15	EA	500.00	7,500.00
57	Fine Grade, Fertilize, Seed and Straw Disturbed Areas	8,000	SYD	0.95	7,600.00
58	Utility - Rock Removal	0	CYD	150.00	-
59	Miscellaneous	1	LS		249,600.00
				Subtotal	384,700.00

Total	2,745,700.00
Contingency (10%)	274,570.00
Rounded	3,020,300.00

Project Name: Indiana University - Bloomington North Campus Traffic Study 2 Way Pair - 80' R.O.W. Arterial Cross Section
Project No.: 6541
Prepared By: Daniel Butler - Bledsoe Riggert Guerrettaz, Inc.
Date: 03.09.10

Preliminary Opinion of Probable Cost for Site Work

Schematic Engineer's Estimate

Phase No. 3 -- North Union Street to Improvements of East 10th Street

General Costs

No.	Description	Quantity	Unit	Unit Price	Cost
1	Mobilization / Demobilization	1	LS	7,000.00	7,000.00
2	Layout	1	LS	13,000.00	13,000.00
				Subtotal	20,000.00

Selective Site Demolition/Relocation

No.	Description	Quantity	Unit	Unit Price	Cost
3	Demolition - Concrete Pavement	4,100	SF	1.85	7,585.00
4	Demolition - Brush Removal	1	LS	1,000.00	1,000.00
5	Demolition - Tree Clearing and Grubbing	1.75	ACRE	5,600.00	9,800.00
6	Demolition - Retaining Wall and Footing	0	LS	10,000.00	-
7	Demolition - Sign Removal	10	EA	35.00	350.00
8	Demolition/Relocation - Light Pole	9	EA	1,500.00	13,500.00
9	Demolition - Fencing	1,500	LF	3.00	4,500.00
10	Demolition - Concrete Curb	500	LF	7.50	3,750.00
11	Demolition - Storm Piping	0	LF	10.00	-
12	Demolition - Saw Cut Asphalt	480	LF	2.00	960.00
13	Demolition - Asphalt Pavement	1,500	SYD	5.00	7,500.00
14	Demolition - Storm Structure	0	EA	400.00	-
15	Demolition - House and Foundation, Haul Away	0	EA	20,000.00	-
16	Relocation - Power Pole and Power Lines	0			-
17	Relocation - Gas Conduit along Fee Lane area	0	LS	17,500.00	-
18	Construction - Stormwater Pollution Prevention - Concrete Washout	2	EA	250.00	500.00
19	Construction - Temporary Stone Access Road	1	EA	1,000.00	1,000.00
20	Construction - SP3 - Gravel Curb Inlet Protection	15	EA	35.00	525.00
21	Construction - Stormwater Pollution Prevention - Silt Fence	3,700	LF	1.50	5,550.00
22	Construction - SP3 - Gravel Donut Drop Inlet Protection	10	EA	35.00	350.00
23	Construction - Tree Protection	2,000	LF	1.50	3,000.00
				Subtotal	59,870.00

Site Improvement

No.	Description	Quantity	Unit	Unit Price	Cost
24	Sidewalk - Concrete Pavement	9,600	SF	4.50	43,200.00
25	Sidewalk - City of Bloomington Handicap Ramps Type G/H	12	EA	2,500.00	30,000.00
26	Sidewalk - City of Bloomington Handicap Ramps Type E	6	EA	3,500.00	21,000.00
27	Sidewalk - 4" #53 Stone	215	TON	18.00	3,870.00
28	Retaining Wall	0	SF	25.00	-
29	Retaining Wall Footing	0	LF	25.00	-
30	Roads - 6" Standing Curb	2,100	LF	18.00	37,800.00
31	Roads - Asphalt Tack Coat	5,000	SYD	0.50	2,500.00
32	Roads - 1 1/2" Asphalt Pavement Surface	413	TON	65.00	26,812.50
33	Roads - 2.5" Asphalt Pavement Intermediate Course	688	TON	60.00	41,280.00
34	Roads - 8" Asphalt Pavement Base	2,200	TON	60.00	132,000.00
35	Roads - 8" #53 Stone	4,400	TON	18.00	79,200.00
36	Roads - Reinforced Concrete Pavement	2,200	SF	8.50	18,700.00
37	Roads - City of Bloomington Pavement Patch	1,000	SF	9.50	9,500.00
38	Site - Signage	18	EA	350.00	6,300.00
39	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Street Markings (Solid)	4,400	LF	5.00	22,000.00
40	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Symbol Marking (Bike Lane, Turn Lane Arrow, ONLY sign, etc.)	40	EA	1,100.00	44,000.00
41	Roads - Thermo-Plastic and ReflectORIZING Beads Pavement Marking - Stop Bar	130	LF	16.00	2,080.00
42	Roads - Raised Snowplowable Pavement Markers - NTG HIGHWAY MARKERS, 'H960 LOW PROFILE, AMBER, TWO-WAY REFLECTION'	104	EA	50.00	5,200.00
43	Site - Shrubs	0	EA	10.00	-
44	Site - Street Trees	52	EA	150.00	7,800.00
45	Site - Sodding	4,300	SYD	5.50	23,650.00
				Subtotal	556,892.50

Traffic Signals

No.	Description	Quantity	Unit	Unit Price	Cost
46	10th Street Intersection New Signals	1	LS	220,000.00	220,000.00
				Subtotal	220,000.00

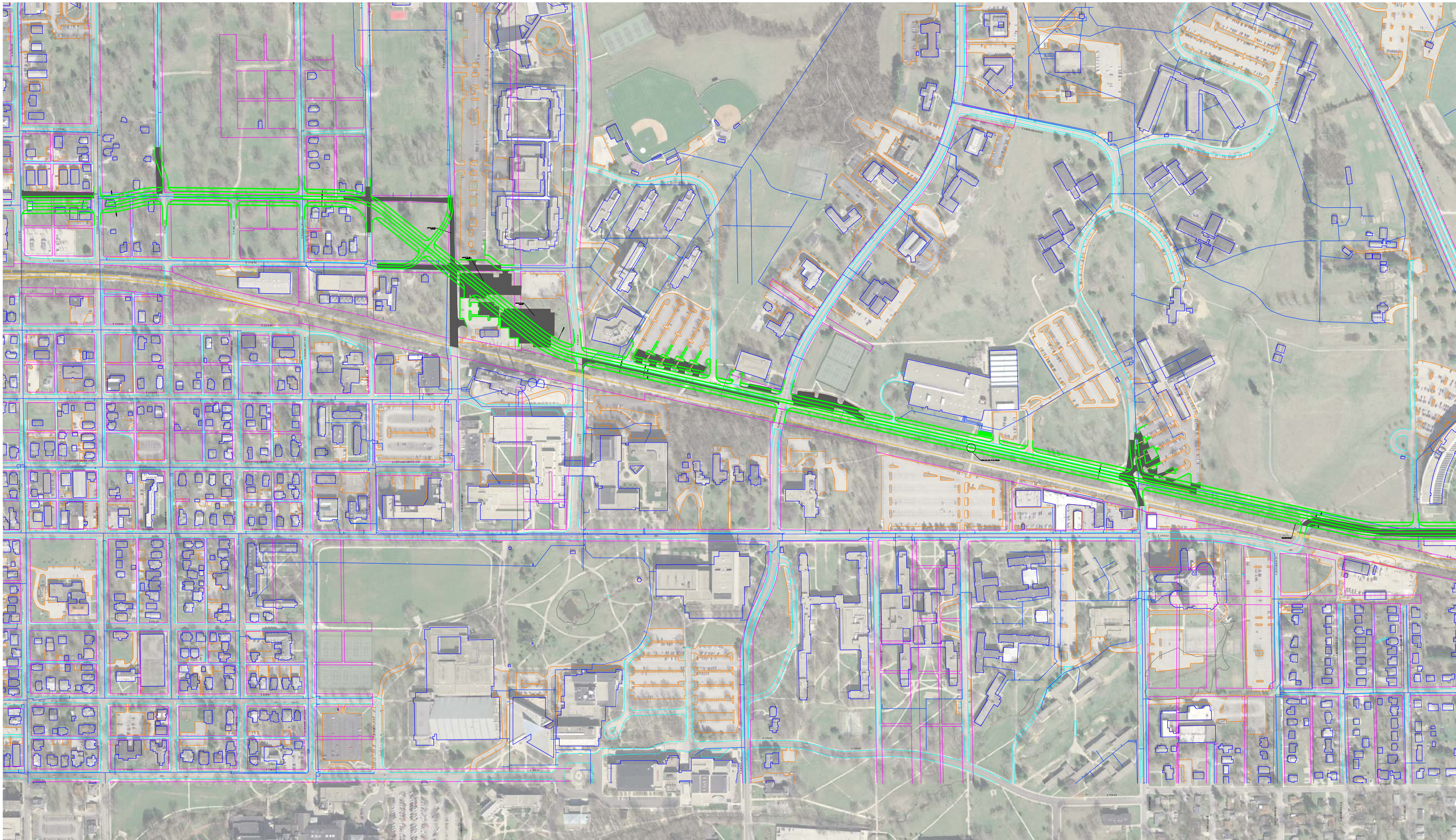
Site Drainage/Utilities

No.	Description	Quantity	Unit	Unit Price	Cost
47	Storm - Manholes W/ Lid	9	EA	3,500.00	31,500.00
48	Storm - Inlet W/ Casting	42	EA	3,200.00	134,400.00
49	Storm - 18" HDPE Pipe (average pipe size)	2,400	LF	30.00	72,000.00
50	Storm - Rip Rap Outfall	8	EA	400.00	3,200.00
51	Storm - End Sections	8	EA	300.00	2,400.00
				Subtotal	243,500.00

Site Grading

No.	Description	Quantity	Unit	Unit Price	Cost
52	Earthwork - Clearing, Stripping, and Grading	0	CY	10.00	-
53	Earthwork - Grading/Bulk Excavation/Cut and Fill	16,000	CY	10.00	160,000.00
54	Earthwork - Imported Fill	0	CY	10.00	-
55	Utility - Adjust Existing Casting	15	EA	500.00	7,500.00
56	Fine Grade, Fertilize, Seed and Straw Disturbed Areas	8,000	SYD	0.95	7,600.00
57	Utility - Rock Removal	0	CYD	150.00	-
58	Miscellaneous	1	LS		127,500.00
				Subtotal	302,600.00

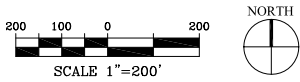
Total	1,402,900.00
Contingency (10%)	140,290.00
Rounded	1,543,200.00



**The roadway alignment is conceptual in nature and is not to be interpreted as literal impacts on property. This alignment was solely used for the purposes of calculating costs.

2 WAY PAIR - 80' RIGHT-OF-WAY

NORTH CAMPUS AREA STUDY



TECHNICAL ATTACHMENT 2: PUBLIC INPUT

Online Survey

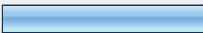
10th Street Campus Mobility Study

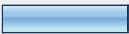
1. Which statement best describes you:			
		Response Percent	Response Count
I am a full-time student		9.8%	4
I am a part-time student		0.0%	0
I am a full-time employee		75.6%	31
I am a part-time employee		4.9%	2
I am unemployed or retired		7.3%	3
None of the above		2.4%	1
answered question			41
skipped question			0

2. If you are a student, are you a student at Indiana University (Bloomington Campus)?			
		Response Percent	Response Count
Yes		7.9%	3
No		5.3%	2
I am not a student		86.8%	33
answered question			38
skipped question			3

3. If you are an employee, are you employed by Indiana University?			
		Response Percent	Response Count
Yes		36.6%	15
No		46.3%	19
I am not employed		17.1%	7
		answered question	41
		skipped question	0

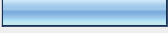
4. What form of transportation do you currently use the most within the study area?			
		Response Percent	Response Count
Motorized Vehicle (Drive)		75.6%	31
Bicycle		4.9%	2
Transit/Bus		7.3%	3
Walk		12.2%	5
		answered question	41
		skipped question	0

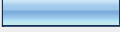
5. How often do you use this form of transportation within the study area (referring to your response to Question 4)?			
		Response Percent	Response Count
Several Times a Day		30.0%	12
Daily		27.5%	11
Weekly		25.0%	10
Occasionally (a few times per month)		12.5%	5
Rarely (a few times per year)		5.0%	2
Never		0.0%	0
		answered question	40
		skipped question	1

6. Why do you use this form of transportation the most within the study area (referring to your response to Question 4)?			
		Response Percent	Response Count
It's the most convenient		31.7%	13
It's the cheapest		2.4%	1
It's the fastest		17.1%	7
It's the safest		0.0%	0
Other (please specify)		48.8%	20
		answered question	41
		skipped question	0

7. Which statement best describes most of your trips to/through the study area:			
		Response Percent	Response Count
I travel to the study area (i.e. Campus is my destination for school/work or where I live)		41.5%	17
I travel through the study area (i.e. I use 10th Street to get across town)		58.5%	24
	answered question		41
	skipped question		0

8. Which direction are you typically coming from when traveling to the study area?			
		Response Percent	Response Count
I come into campus from the north		5.0%	2
I come into campus from the south		25.0%	10
I come into campus from the east		35.0%	14
I come into campus from the west		35.0%	14
	answered question		40
	skipped question		1

9. What is typically your destination when you leave the study area?			
		Response Percent	Response Count
My destination is north of the study area		20.0%	8
My destination is south of the study area		22.5%	9
My destination is east of the study area		35.0%	14
My destination is west of the study area		22.5%	9
	answered question		40
	skipped question		1

10. If you use a bicycle for transportation, which of the following facilities do you feel comfortable riding on (check all that apply):			
		Response Percent	Response Count
streets shared with automobile traffic (riding in a vehicular travel lane)		15.8%	6
bike lanes (painted lane on a road for bicycle use)		36.8%	14
paths with mixed bike and pedestrian traffic (a path separated from the road but used by people walking and biking)		31.6%	12
bike only paths (a path separated from the road to be used by bicyclists only)		39.5%	15
I don't use a bicycle within the study area		47.4%	18
	answered question		38
	skipped question		3

11. What is the best attribute within the study area?			
		Response Percent	Response Count
An active campus environment		43.6%	17
Landscaping and other natural features		10.3%	4
The built environment/campus architecture		15.4%	6
The mix of uses and different destinations		12.8%	5
Mobility and accessibility		5.1%	2
Nothing		7.7%	3
Other (please specify)		5.1%	2
		answered question	39
		skipped question	2

12. What form of transportation do you use the least within the study area?			
		Response Percent	Response Count
Motorized Vehicle (Drive)		19.5%	8
Bicycle		22.0%	9
Transit/Bus		51.2%	21
Walk		7.3%	3
		answered question	41
		skipped question	0

13. Please rank which forms of transportation should receive the most attention and funding in the future in the study area:

	Most Attention & Funding			Least Attention & Funding	Rating Average	Response Count
Motorized Vehicle (Drive)	40.0% (16)	7.5% (3)	7.5% (3)	45.0% (18)	2.58	40
Transit/Bus	17.9% (7)	33.3% (13)	35.9% (14)	12.8% (5)	2.44	39
Walk	17.9% (7)	28.2% (11)	30.8% (12)	23.1% (9)	2.59	39
Bicycle	25.0% (9)	30.6% (11)	25.0% (9)	19.4% (7)	2.39	36
	<i>answered question</i>					41
	<i>skipped question</i>					0

14. Do you think any restrictions on transportation in the study area are needed?

		Response Percent	Response Count
Yes		31.6%	12
No		68.4%	26
	<i>answered question</i>		38
	<i>skipped question</i>		3

15. If yes, then which form of transportation would you restrict or limit access to?

		Response Percent	Response Count
Motorized Vehicle (Drive)		26.3%	10
Bike		2.6%	1
Transit/Bus		5.3%	2
Walk		2.6%	1
Not Applicable (I don't think forms of transportation should be restricted)		63.2%	24
	<i>answered question</i>		38
	<i>skipped question</i>		3

16. List the top three transportation/mobility concerns for the study area?

	Top Priority	Second Priority	Third Priority	Rating Average	Response Count
Pedestrian safety	64.0% (16)	28.0% (7)	8.0% (2)	1.44	25
Pedestrian mobility/accessibility	33.3% (6)	50.0% (9)	16.7% (3)	1.83	18
Bicycle safety	16.7% (3)	50.0% (9)	33.3% (6)	2.17	18
Bicycle mobility/accessibility	16.7% (3)	38.9% (7)	44.4% (8)	2.28	18
Automobile safety	0.0% (0)	66.7% (2)	33.3% (1)	2.33	3
Automobile mobility/accessibility/congestion	59.1% (13)	13.6% (3)	27.3% (6)	1.68	22
Transit safety	0.0% (0)	0.0% (0)	100.0% (4)	3.00	4
Transit mobility/accessibility	0.0% (0)	28.6% (4)	71.4% (10)	2.71	14
None	0.0% (0)	0.0% (0)	0.0% (0)	0.00	0
	answered question				41
	skipped question				0

17. The 10th Street area has been identified since the 1960's as needing transportation improvements. Many of the same conditions and issues resonate today. Regardless of your knowledge or understanding of these ideas which would you see as the most appropriate for this study to further investigate as a possible solution to your concerns?

		Response Percent	Response Count
One-way Pairs (create a parallel one-way pair road network with 10th street – similar to the 3rd Street and Atwater Avenue)		32.5%	13
Two-way Pairs (create a parallel two-way road network with 10th street – build a new two-way road to the north of 10th Street)		17.5%	7
Restricted Access (restrict or limit access along 10th street for some users and increase access/capacity for other users)		22.5%	9
Road widening within the study area (widen 10th street to accommodate more vehicles and users)		7.5%	3
Road widening outside of the study area (widen different roads to take pressure off 10th Street)		5.0%	2
Do Nothing		0.0%	0
Other (please specify)		15.0%	6
	answered question		40
	skipped question		1

18. Please provide any additional comments you would like to express regarding the study area:

	Response Count
	24
	answered question
	24
	skipped question
	17

First Set of Workshops: April 16, 2009

● Pros - opportunities, good things, etc

Dunn at Rail tracks - Opportunity for crossing
17th + Fee - intersection improved

Greenspace c. 17th

Circulation loop Dunn + Indiana - Opportunity

Opportunity for more Park n Ride @ stadium

10th is 2-way flow

10th opportunity for Bus Rapid Transit or Transit corridor

Reopen 7th to bus traffic - opportunity

● Cons - issues, concerns

Accidents at 13th / Indiana

10th / Indiana - Congestion, difficult turns

Dunn / 17th - Pedestrian Crossings

10th / Fee - Pedestrians / Vehicular turning

Fee / Low Lane - Turning vs. Ped traffic, Constrained Geometry

17th + Walnut Congestion

Cut through traffic in Neighborhood

10th St. Viaduct geometry, Pedestrian Concerns

Down zoning Prospects along 14th St.

Transit / Pedestrian Treatments @ Library

Lack of East-West Bicycle Corridor

Pedestrian + Campus Community UNfriendly Corridor

Pedestrian Crossings @ 10th + Bypass - lack of accommodation

Bus turning Geometry @ Woodlawn / 10th

Int. just east of 10th / Bypass, Dark, Bus stop



AM



Study Area
Boundary

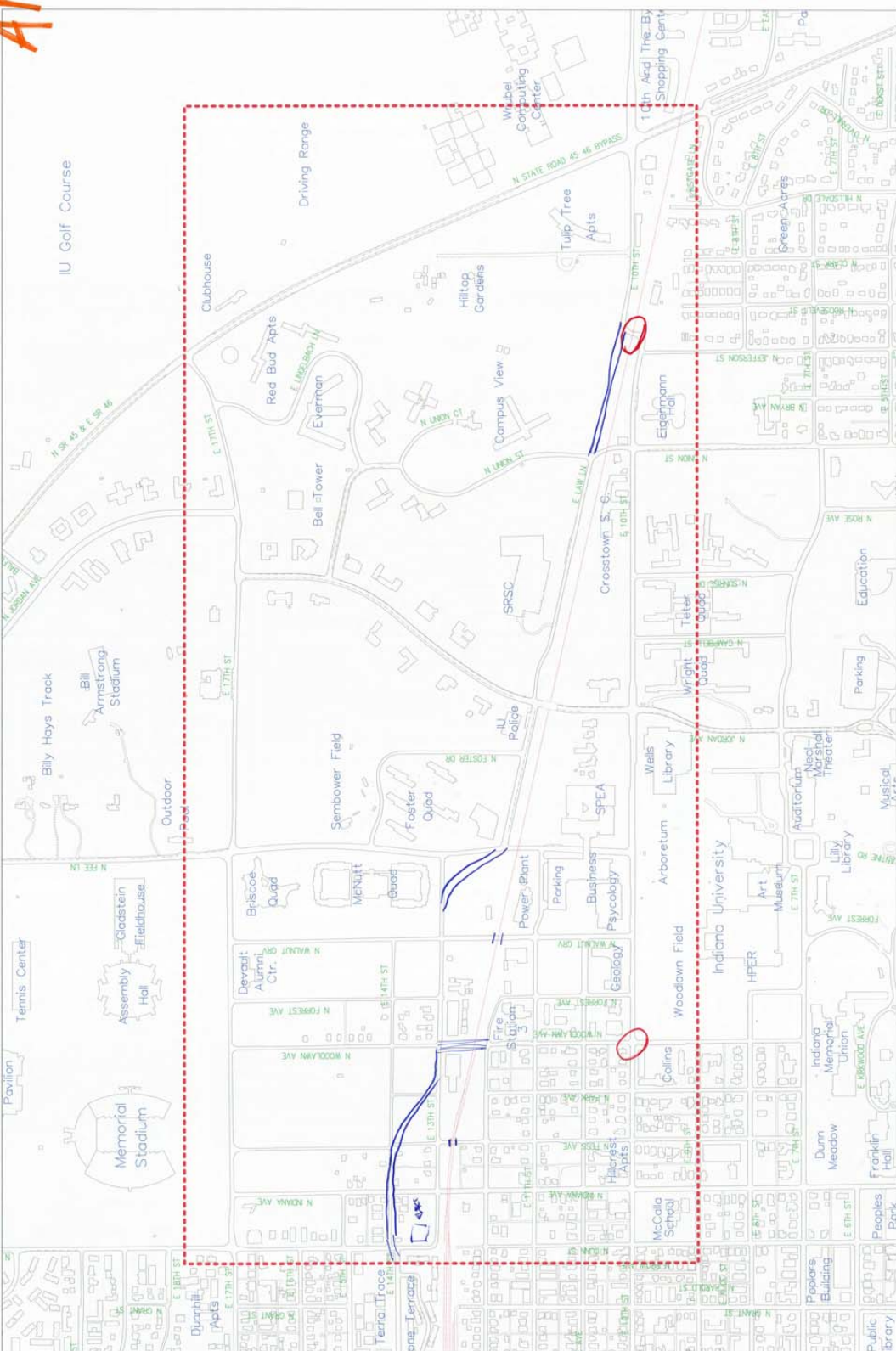


TnorcampD
Apr 15 2009

Apr 15, 2009

City of Bloomington
ITS Department

Geographic Information System



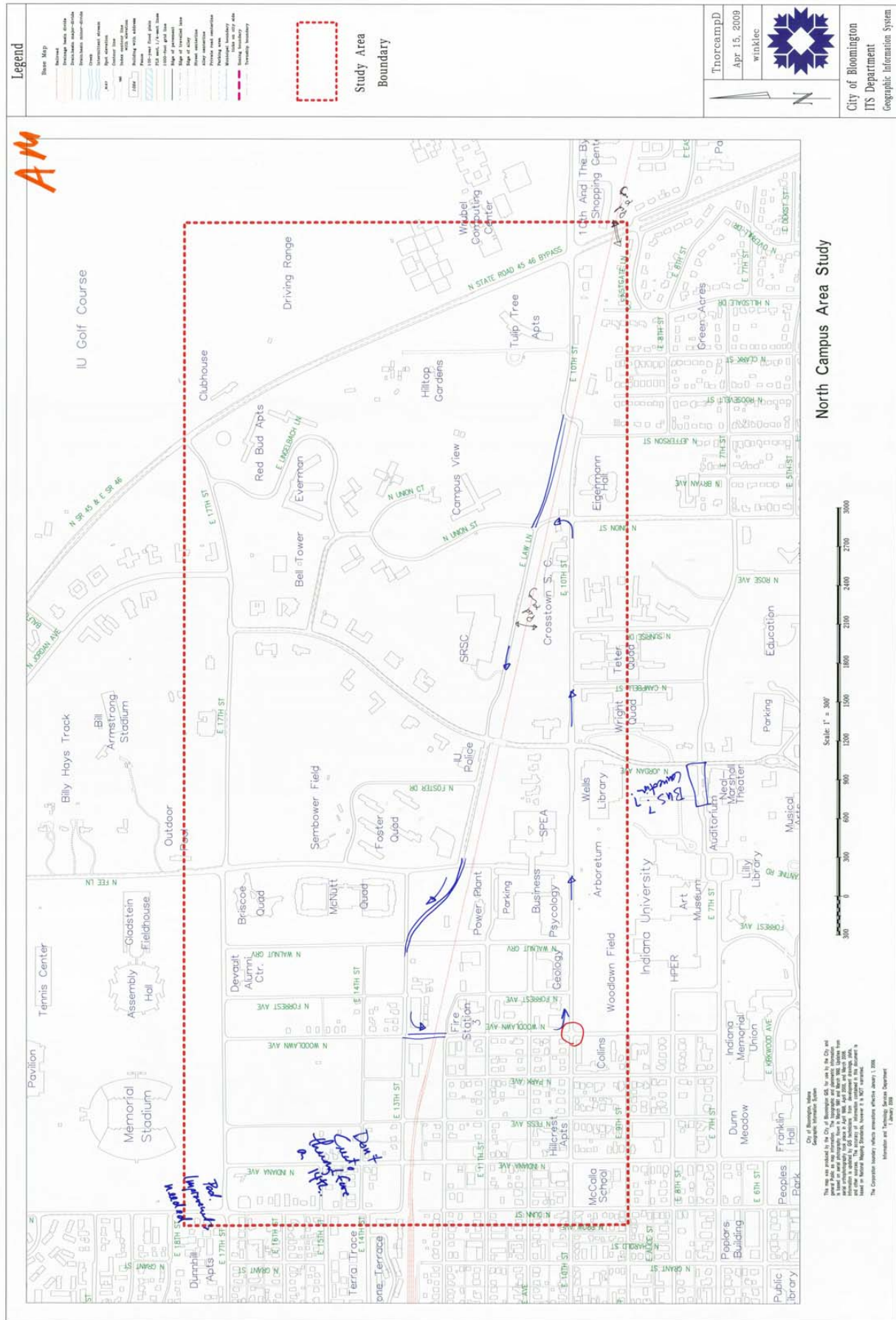
North Campus Area Study



This map was produced by the City of Birmingham GIS, for use by the City and general public as map information. The geographic and geospatial information is based on aerial photography from a March 1991 and March 1992 Update from aerial orthorectification just prior to April 1991, April 2001, and March 2004. Information is updated by GIS technicians from development drawings, plans, and other sources. The accuracy of information contained in this document is based on National Mapping Standards. However, it is NOT warranted.

City of Birmingham, Indiana
Geographic Information Systems

City Corporation boundary reflects amendments effective January 1, 2010



Avoid 10th all day - particularly peaks

Rail overpass is traffic calming

Rail ROW - used for path
- passenger rail

Law Blvd - ²~~4~~ lane alignment w/ bike + ped

Close Ross bridge + open Woodlawn

Local traffic more than thru - generate issues

Issues getting out onto bypass

Incentivize non-SOV

(unify BT & campus
bus to improve
bus service & then
we won't need so
much car capacity!)

- ^{10th} peds crossing in
front of SPET -
there is a mid-block
crosswalk there, but
pedestrian right-of-way
is not enforced

- lack of good bus
options for getting
from downtown / other parts
of city to northeast / bypass
area on bus
- good bus service on
10th

PM

● Cons - issues, concerns, etc

PM

Traffic Congestion on 10th / Fee

North-South Connections across tracks - lack of connection @ Woodlawn,

13th / Indiana Crashes - high accident location

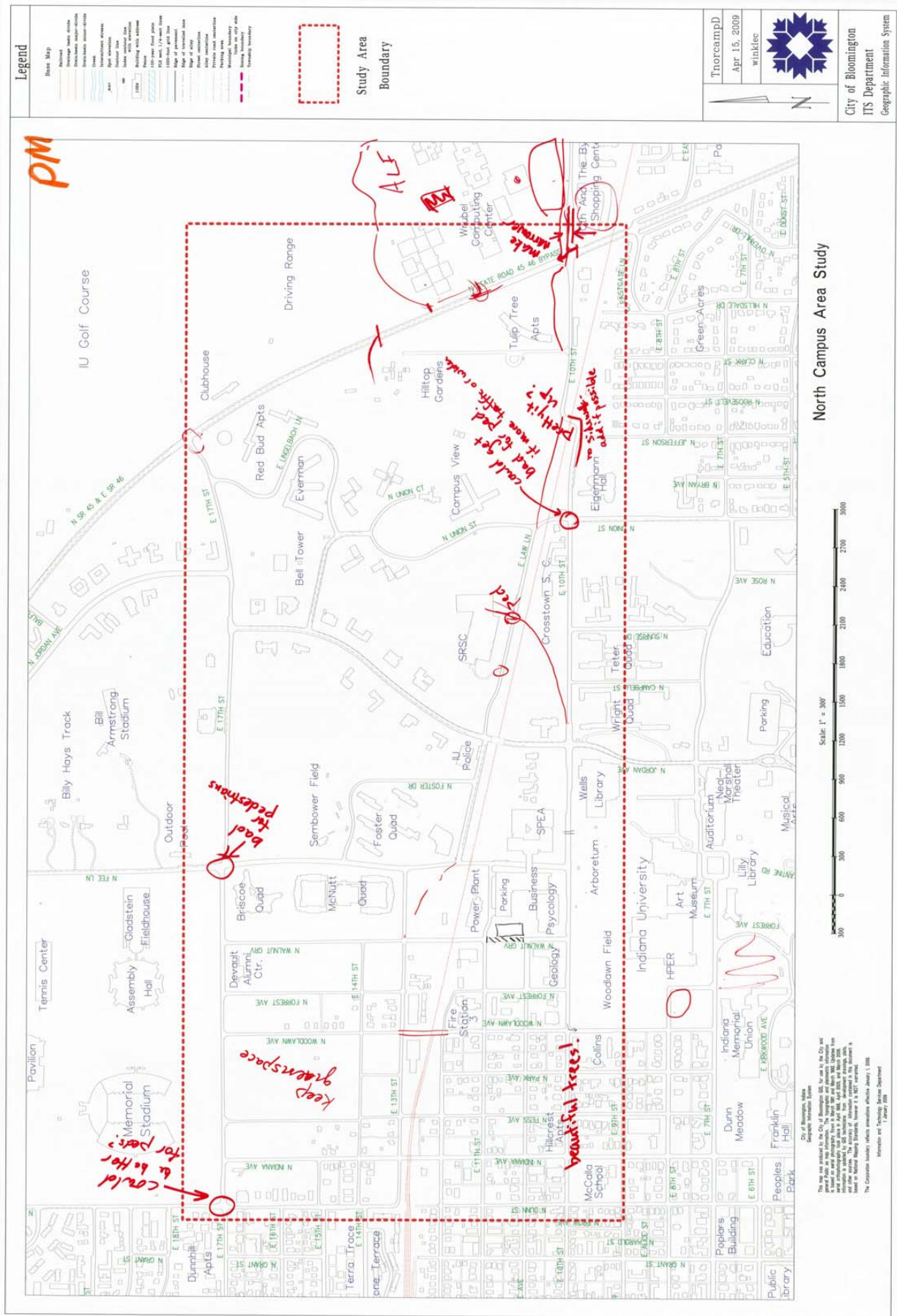
No^{e-w} bike routes (according to map) north of 7th st.

Intersection at 10th & Bypass terrible for pedestrians

- northbound on east side: crosswalk button does not work
- westbound on north side: huge turn radius means cars turning right do not see pedestrians in crosswalk & routinely start to turn when people are crossing
- no crosswalk on south side (all four sides should be crossable)

10th St Rail overpass - can't fit hybrid or articulated buses

Bypass generally unsafe for bikes & pedestrians - quite a few IU employees work on far side & could use alternative transportation more easily if it were safer



Second Set of Workshops: September 10, 2009

Please fill out each box with a  or  or 

1 way 10th
2 way 13th
2 way 14th
Alt 3

Goal	Alternative 1: One-way Streets	Alternative 2: Two-way Streets
Improve Mobility of Vehicles East-west connectivity, north-south connectivity, block circulation, flexibility, intuitiveness		
Improve Mobility of Transit Corridor travel times, ease of routing, ease of stop placement, flexibility, intuitiveness for riders		
Improve Mobility of Pedestrians Amount of sidewalks, delay at intersections, ease of crossings, reduction of mobility barriers		
Improve Mobility of Bicycles Quantity and quality of facilities, ease of routing		
Enhance Safety Travel speeds, conflict points, user behavior, emergency access		

#11

change 14 street connection
to 13th St connection
to eliminate Private Property
encroachment.

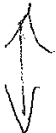
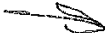
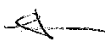
If full lane stop light at
R/R track then stop light
at Indiana + R/R track
should be OK

Terry Skene
251-9926544

22

Please fill out each box with a ↓ , ↔ or ↑

Paul & Jack +
Collins

<u>Goal</u>		<u>Alternative 1:</u> <u>One-way Streets</u>	<u>Alternative 2:</u> <u>Two-way Streets</u>
Improve Mobility of Vehicles East-west connectivity, north-south connectivity, block circulation, flexibility, intuitiveness			
Improve Mobility of Transit Corridor travel times, ease of routing, ease of stop placement, flexibility, intuitiveness for riders			
Improve Mobility of Pedestrians Amount of sidewalks, delay at intersections, ease of crossings, reduction of mobility barriers			
Improve Mobility of Bicycles Quantity and quality of facilities, ease of routing			
Enhance Safety Travel speeds, conflict points, user behavior, emergency access			

(2)

Paul & Jack & Calleen

- if 2 way option must have round about at confluence of streams at N Jefferson
- round about extremely important with any of the alternatives



Please fill out each box with a , , or 

<u>Goal</u>		<u>Alternative 1:</u> <u>One-way Streets</u>	<u>Alternative 2:</u> <u>Two-way Streets</u>
Improve Mobility of Vehicles East-west connectivity, north-south connectivity, block circulation, flexibility, intuitiveness			
Improve Mobility of Transit Corridor travel times, ease of routing, ease of stop placement, flexibility, intuitiveness for riders			
Improve Mobility of Pedestrians Amount of sidewalks, delay at intersections, ease of crossings, reduction of mobility barriers			
Improve Mobility of Bicycles Quantity and quality of facilities, ease of routing			
Enhance Safety Travel speeds, conflict points, user behavior, emergency access			

with all due respect to the "transit only" for 10th Street,
some/may are thru traffic getting from the far side/outside
campus to the other/outside campus. Bus transit is
not where these people are at.

If 10th is bus only, it should include 2 way bicycle,
if no bicycles allowed on 2 way Lane lane.

- Possibly eliminate Dunn (S. of 14th), 13th (W of Indiana) to
remove a conflict point from 13th/Indiana
- Biggest red. difference is in crossings, but E/W movement
- Thruway roads @ 10th/Woodlawn is a probs for buses
- A very positive vote for 10th St ^{*bikes} bus only!
- R. Martin: Alt 3 = 1-way 10th, 2-way (Lan)/14th

Please fill out each box with a ↓ , ↔ or ↑

<u>Goal</u>		<u>Alternative 1:</u> <u>One-way Streets</u>	<u>Alternative 2:</u> <u>Two-way Streets</u>
Improve Mobility of Vehicles East-west connectivity, north-south connectivity, block circulation, flexibility, intuitiveness		↓	↑
Improve Mobility of Transit Corridor travel times, ease of routing, ease of stop placement, flexibility, intuitiveness for riders		↓	↑
Improve Mobility of Pedestrians Amount of sidewalks, delay at intersections, ease of crossings, reduction of mobility barriers		↓	↔
Improve Mobility of Bicycles Quantity and quality of facilities, ease of routing		↓	↑
Enhance Safety Travel speeds, conflict points, user behavior, emergency access		↓	↑

- prioritize mixed use along any choice/all roads; down to the sidewalk level that would serve the pedestrian and offer more retail options

- with extension of Law would need to address safety at Fee (currently safer because of the disconnect)

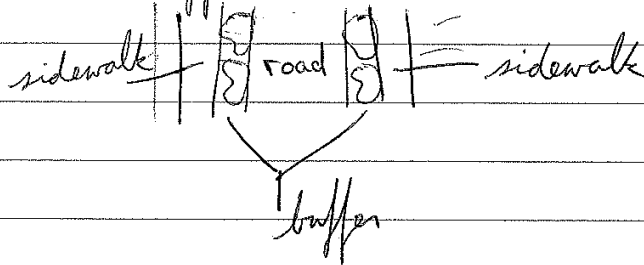
Please fill out each box with a  ,  or 

<u>Goal</u>		Alternative 1: <u>One-way Streets</u>	Alternative 2: <u>Two-way Streets</u>
Improve Mobility of Vehicles East-west connectivity, north-south connectivity, block circulation, flexibility, intuitiveness		 speed  access issue  drawback	
Improve Mobility of Transit Corridor travel times, ease of routing, ease of stop placement, flexibility, intuitiveness for riders		allows for better turning onto thoroughfare  limits adaptation	 no need for rerouting  more modifiable
Improve Mobility of Pedestrians Amount of sidewalks, delay at intersections, ease of crossings, reduction of mobility barriers	?	 speed of vehicles ? how do plans address pedestrian crossing?	(N-S)
Improve Mobility of Bicycles Quantity and quality of facilities, ease of routing		lanes don't require widening of street	 lanes require widening
Enhance Safety Travel speeds, conflict points, user behavior, emergency access		? how are crossings addressed in each?  speed of vehicles	 decreased vehicle speed

three

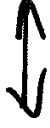
~~two~~ thoughts:

- ① include buffers between sidewalks + streets



- ② better (smoother) pavement on 10th street would make biking easier and safer
- ③ need to think also about changing amount of traffic (i.e. changing when and how often people drive)

Please fill out each box with a  ,  or  compared to current

<u>Goal</u>	<u>Alternative 1:</u> <u>One-way Streets</u>	<u>Alternative 2:</u> <u>Two-way Streets</u>
Improve Mobility of Vehicles East-west connectivity, north-south connectivity, block circulation, flexibility, intuitiveness		 (probably)
Improve Mobility of Transit Corridor travel times, ease of routing, ease of stop placement, flexibility, intuitiveness for riders		
Improve Mobility of Pedestrians Amount of sidewalks, delay at intersections, ease of crossings, reduction of mobility barriers		
Improve Mobility of Bicycles Quantity and quality of facilities, ease of routing		 would improve w/ bike lane on 10th
Enhance Safety Travel speeds, conflict points, user behavior, emergency access		

- Why not 12th Street (instead of 14th)?
- Restrict 10th like 7th street is currently?
- There will be a lot of traffic dumped into the West end neighborhood w/ either alternative
- Explain more details about measures of effectiveness, so we can associate benefits w/ costs (i.e., is this really worth the \$ spent?)
- If we restrict cars from 10th, it just moves the problem north to the new road
 - ↳ Is there enough bus services to justify this on 10th?
- May use for no improvement at all & the AAs negatively impact hblld
- Does doing nothing better meet goals of City in terms of the reduction of auto use?

at College

10th ends - 17th doesn't, improve 17th
 Block of 10th from (Woodlawn to Jordan)
 Can ~~do st~~ ^{do st} to vehicles

Can 10th St. be improved with no change otherwise? Widened with more turn lanes?

Reconsidered Cottage Grove or 12th St. instead of 14th
 OR Connect Dunn to 17th St. and bypass 14th St.

- we must prioritize alternative transportation on 10th St. This is the middle of campus - should cater to local traffic.
- Need separate bike lane on 10th St.
 (along)

* 10th St. as H.O.V. Corridor.

Rx: Incentivize carpooling, transit use + other alternatives to the S.O.V. Let reduce vehicular traffic to increase mobility!

This moves more people and takes the focus off of making it convenient for S.O.V.'s to move from pt. A to pt B.

Third Set of Workshops: March 11, 2010

10th Street Mobility Study

Thank you for your interest in this study! Please use the **back** of this form to provide any comments or suggestions on the study. Some suggestions on possible feedback:

- What phase should be implemented first?
 - Dunn to Fee
 - Fee to Union
 - Union to the Bypass
- Which interim measures should be implemented in the short-term?
- Other Suggestions

YES!!! I would like to be notified when the final study is available online:

Contact Information:

10th Street Mobility Study

Thank you for your interest in this study! Please use the **back** of this form to provide any comments or suggestions on the study. Some suggestions on possible feedback:

- What phase should be implemented first?
 - Dunn to Fee
 - Fee to Union
 - ☒ Union to the Bypass
- Which interim measures should be implemented in the short-term?
- Other Suggestions

*get the buses out
without using
the underpass*

YES!!! I would like to be notified when the final study is available online:

Contact Information: S.

Good to see complete streets considered!

We own the property at

904 E. 14th St. We

use it as investment property.

We bought it in 1976.

*What will happen to our
property?*

Consider closing the road
13th turning into Indiana around
the power substation.
The visibility by the RR
overpass is extremely poor.

① I recall from the workshops, that both construction alternatives increased congestion ~~in~~ north west of the study area. I would like to see impacts of this project from denn town to 14th to 16th bypass also considered. This is already a densely populated area.

② The presentation was very good. I would hope there is more discussion of alt's vs the do nothing option in the final report.

Thanks for picking #2 instead of #1!
Interim - I'd like to see signs
accompanying crosswalks, educating
drivers about the need to yield
to pedestrians in mid-block crosswalks

I am very pleased to see that one-way
streets are not being encouraged.
Please continue the focus on limiting
speeds along this corridor! The volume
of pedestrian traffic guarantees fatalities
if vehicular speeds are too high.

THE CROSSWALKS ARE A GOOD IDEA, BUT THERE NEEDS TO BE BETTER COMMUNICATION TO VEHICULAR + BICYCLE TRAFFIC, SUCH AS FLASHING LIGHTS, THAT WOULD ENCOURAGE THESE MODES OF TRANSPORTATION TO RESPECT THESE PEDESTRIAN TRAFFIC.

CAC Bus-Only Resolution



CAC RESOLUTION FY 2010-02

RESOLUTION RECOMMENDING A BUS ONLY 10TH STREET CORRIDOR SCENARIO AS PART OF THE NORTH CAMPUS AREA STUDY as agreed upon by the Citizens Advisory Committee (CAC) of the Bloomington/Monroe County Metropolitan Planning Organization (MPO) on August 26, 2009.

WHEREAS, the MPO is the organization designated by the Governor of Indiana as the Metropolitan Planning Organization responsible for carrying out, with the State of Indiana, the provisions of 23 U.S.C. 134, and capable of meeting the requirements thereof for the Bloomington, Indiana urbanized area; and

WHEREAS, the MPO is responsible for ensuring that the Bloomington, Indiana urbanized area's transportation planning program is continuing, comprehensive, and coordinated between the MPO and other public and civic organizations throughout the planning process; and

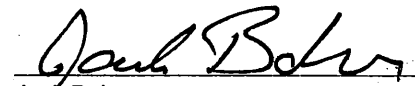
WHEREAS, the MPO has initiated the North Campus Area Study as detailed in the FY2009 – FY 2010 Unified Planning Work Program, under Element 202 Short Range Studies, that will study and evaluate current and future transportation conditions for all modes of travel and make recommendations for improvements that would address mobility issues within the study area; and

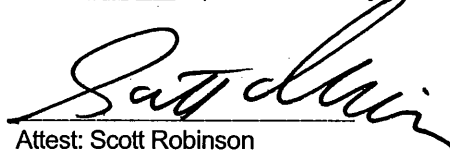
WHEREAS, the principal goal of the CAC is to foster and develop citizens' awareness of transportation policy and planning, therefore continually providing the MPO with civic guidance on these on-going activities.

NOW, THEREFORE, BE IT RESOLVED:

- (1) That the Citizens Advisory Committee hereby recommends a Bus Only Scenario for the 10th Street Corridor be included in the North Campus Area Study; and
- (2) That this resolution shall be forwarded to the consultants and all relevant public officials conducting work associated with the North Campus Area Study.

PASSED by the Citizens Advisory Committee by a vote of 5 - 2, upon this 26th day of August, 2009.


Jack Baker
Chair, Citizens Advisory Committee
Bloomington/Monroe County MPO


Attest: Scott Robinson
Long Range/Transportation Manager
Bloomington/Monroe County MPO

Comments on the 10th Street Campus Mobility Study

Comments from David Gray

With the selection of the two-way option, I have to rethink all my comments. Most of the following comments concern private auto, bus & other motor vehicle traffic.

At the far west, outside the “study area,” signals will be needed at Walnut & 14th & probably at College & 14th. The one on Walnut will cause trouble with sight distance due to the railroad bridge. But if signals are not installed, traffic on College will not choose to turn east on 14th (as it is so difficult to cross Walnut), preferring to continue to 10th. This reduces some of the purpose of building 14th/Law, which is to take pressure off 10th. Without the Walnut light, westbound traffic on 14th will soon learn that getting to College to turn south is too difficult, and will revert to using 10th, again, failing to relieve the load on 10th St.

It would be good if Dunn St could be carried across the railroad, at grade, allowing it to be made one-way south from 17th St to 2nd St, and Indiana Ave one-way north from 3rd St to 17th St. 13th St should be closed between Dunn & Indiana, and used only for access to the electric substation. 13th St east of Indiana should be made into a cul-de-sac, so traffic going to Indiana from the east must use the new 14th St. If an at-grade railroad crossing at Dunn St cannot be negotiated, these two changes to 13th St should still be made, and Dunn should tee at 14th St.

On the “Pros/Opportunities” page, I think it is unlikely that the University will want to reopen 7th St, even for bus-only traffic. Trading the Walnut Grove railroad crossing for a new one on Woodlawn will help with fire department access from the Woodlawn station to places north of the railroad, and may allow some new bus routing options.

On the “Cons/Issues” page, with the two-way option selected, bus turns from northbound Woodlawn to eastbound 10th St are still a problem. The University simply needs to give up a little land on the southeast corner for ROW, so the curb radius can be increased. Some bus routes might continue up Woodlawn to the new Law Ln before turning east.

The pedestrian unfriendliness at 10th & the Bypass may be improved with the Bypass widening project; anyway, it’s beyond the scope of this study. (As is the dark bus stop further east – so put up a light!)

The street configuration at the railroad underpass at the east end will be a real challenge. I know that the design of intersections is not a part of this study, but the various options need to be considered. I would make Jefferson St meet 10th St at a right-turn-only tee; traffic northbound on Jefferson could then go east on 10th or west on Law, after passing under the railroad. Traffic wanting to go west on 10th would soon learn to come up the major street, Union. (Traffic going east on 10th could also turn south on Jefferson, but I would make no provision for westbound-on-10th to turn south onto Jefferson. Union St should be the preferred route.)

It would be good if two eastbound lanes could be continued all the way to the Bypass; at this intersection, Law could be fed into the left one and 10th into the right. The problem here is that some traffic that came up Jefferson will want to head west, needing to cross the Law Ln stream. (No traffic eastbound on 10th should need to turn west on Law – except as a result of navigational error.) If a roundabout is installed on the north side of the railroad, it will probably require two bridges under the tracks, considerably increasing the expense.

Adding in a new road from the north is an added complication. The road to Tulip Tree apartments should be relocated to come to this intersection, as cars and especially busses leaving Tulip Tree have difficulty turning either direction on 10th.

One option that would be pretty hard to sell would be for 10th, Law & Union to form a large roundabout. A big disadvantage to this layout is traffic eastbound on Law would have to turn south on Union, then east on 10th, then pass

under the railroad at the east end before turning east again. That does not sound like a great option, though it would certainly encourage westbound traffic to use Law Ln.

I am disappointed in Alternative 2's intersection capacity grades of E & F at three of the most important intersections, and a lot more B grades, compared with Alternative 1's As.

When it comes down to detail design, bus stops on 10th & Law/14th MUST have pull-offs. And it is best to place the stops after signals, so there are breaks in the traffic flow for them to pull out into. The IU B bus that leaves the Library bus stop (on the south side of 10th St) and has to get into the left turn lane to go up Jordan causes the most problems.

As for staging: if the east part is built first, drivers will learn that it drops them in the middle of nowhere. They will return to using 10th St, and won't change even when the new parts are done. I would work from the west to east.

PS: 14th St at the west end of the area has a 30' ROW. The project would work best if 3 houses on the south side were taken.

**Robert W Milroy
417 E. Cottage Grove
Bloomington, IN 47408
(812) 332-1337**

SEP 28 2009

September 25, 2009

City of Bloomington Planning Department
P.O. Box 100
Bloomington, IN 47402

Attn: Raymond Hess
Senior Transportation Planner

Dear Mr. Hess:

My name is Bill Milroy and I attended the MPO meeting on Wednesday, September 23, 2009 as a member of the Old Northeast Neighborhood Association. As you may know the members of this organization are concerned with the proposal to make 10th Street one way or convert 10th Street to a bus only street. At a meeting of our association on Monday, September 21, 2009 our membership felt that this conversion would be a mistake. I believe our organization felt that this would increase traffic on other streets such as Cottage Grove as well as creating other traffic problems. I can tell you from personal experience Cottage Grove is already heavily traveled and may be near capacity now especially during commuter times. I believe that our organization would favor of the options listed the option referred to as the two pair-two way option or to leave the 10th street and 14th street situation as it is currently. I am writing to you with our opinion as you indicated comments of residents not taken in the public meetings could be sent to you to include in communications with the consultants.

I also want to thank you for personally explaining to me how I may be a member of the Citizens Advisory Committee of MPO. I will review the information you gave me and will consider making application.

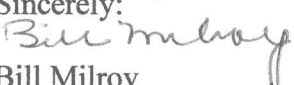
If you wish to contact me you may use the address and phone number in the letterhead of this letter. You may also contact for further information: Jerry Stasny

Horn Properties
509 East Cottage Grove
Bloomington, IN 47402-0183
(812) 339-4676

Jerry is a neighbor and friend and both he and I are interested in issues affecting our neighborhood.

Thanks again for your help.

Sincerely:


Bill Milroy

TECHNICAL ATTACHMENT 3: DATA COLLECTION

Vehicle and Pedestrian Data Collection

In order to determine the peak hour turning movement traffic volumes for the existing conditions as stated in previous sections, traffic counts were collected. Several data sources were used to obtain existing vehicular turning movement counts, as well as pedestrian counts, including the following:

- HCS software print-outs containing turning movement data from the City of Bloomington 1998 Traffic Modernization by A&F Engineering Co, Inc.;
- Turning movement counts from the City of Bloomington 2007 17th & Fee/Jordan Project;
- Turning movement counts performed by Gorove/Slade on Tuesday – Thursday, March 17 – 19, 2009; Wednesday, April 1, 2009; Wednesday, April 8, 2009; Wednesday-Thursday, April 22-23, 2009; from 7:00 am to 10:00 am and from 3:00 pm to 6:00 pm; and

Intersection data includes vehicular turning movement counts and pedestrian crossings at most intersections in the study area. A few of the intersections collected also included bicycle counts as well.

HCS: Signalized Intersections Release 3.2

Inter: 20
Analyst: JTR
Date: 7/5/00
E/W St: 10TH ST

City/St: BLOOMINGTON, IN
Proj #: 99103
Period: AM PEAK
N/S St: FEE LN

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	80	292			294	149				98		51
Lane Width	12.0	12.0			12.0	12.0				12.0		12.0
RTOR Vol						74						25

Duration 0.25 Area Type: All other areas

Phase Combination		Signal Operations							
		1	2	3	4	5	6	7	8
EB Left	P					NB Left			
Thru	P					Thru			
Right						Right			
Peds						Peds			
WB Left						SB Left	P		
Thru	P					Thru			
Right	P					Right	P		
Peds						Peds			
NB Right						EB Right			
SB Right						WB Right			
Green		24.0	20.0				15.0		
Yellow		3.0	3.0				3.0		
All Red		1.0	0.0				1.0		
Cycle Length: 70.0		secs							

Intersection Performance Summary

Appr/	Lane	Adj Sat	Ratios		Lane Group		Approach	
Lane	Group	Flow Rate						
Grp	Capacity	(s)	v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	225	657	0.40	0.343	22.6	C		
T	639	1863	0.51	0.343	21.2	C	21.5	C
Westbound								
T	639	1863	0.51	0.343	21.2	C	20.3	C
R	543	1583	0.15	0.343	16.5	B		
Northbound								
Southbound								
L	379	1770	0.29	0.214	24.9	C		
							24.4	C
R	339	1583	0.09	0.214	22.5	C		
Intersection Delay = 21.4					(sec/veh)	Intersection LOS = C		

HCS: Signalized Intersections Release 3.2

Inter: 20
 Analyst: JTR
 Date: 7/5/00
 E/W St: 10TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: AM PEAK
 N/S St: FEE LN

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	0	1	1	0	0	0	1	0	1
LGConfig	L	T			T	R				L		R
Volume	98	473			399	256				251		165
Lane Width	12.0	12.0			12.0	12.0				12.0		12.0
RTOR Vol						123						82

Duration 0.25 Area Type: All other areas

		Signal Operations							
Phase Combination		1	2	3	4	5	6	7	8
EB	Left	P				NB	Left		
	Thru	P					Thru		
	Right						Right		
	Peds						Peds		
WB	Left					SB	Left	P	
	Thru	P					Thru		
	Right	P					Right	P	
	Peds						Peds		
NB	Right					EB	Right		
SB	Right					WB	Right		
Green		24.0	20.0				15.0		
Yellow		3.0	3.0				3.0		
All Red		1.0	0.0				1.0		
Cycle Length: 70.0		secs							

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	157	458	0.69	0.343	42.2	D		
T	639	1863	0.82	0.343	32.5	C	34.2	C
Westbound								
T	639	1863	0.69	0.343	25.9	C	23.9	C
R	543	1583	0.27	0.343	17.9	B		
Northbound								
Southbound								
L	379	1770	0.74	0.214	37.7	D		
							34.5	C
R	339	1583	0.27	0.214	24.9	C		
Intersection Delay = 30.5					(sec/veh)	Intersection LOS = C		

HCS: Signalized Intersections Release 3.2

Inter: 19
 Analyst: JTR
 Date: 7/5/00
 E/W St: 10TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: AM PEAK
 N/S St: INDIANA AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	1	0	1	0	1
LGConfig	LT			TR			L TR			L R		
Volume	25	349		243	8		19	106	97	41		103
Lane Width	12.0			12.0			12.0	12.0		12.0		12.0
RTOR Vol				2			24			51		

Duration	0.25	Area Type: All other areas										
		Signal Operations										
Phase Combination		1	2	3	4	5	6	7	8			
EB	Left	P	P			NB	Left	P				
	Thru	P	P				Thru	P				
	Right						Right	P				
	Peds						Peds					
WB	Left					SB	Left	P				
	Thru		P				Thru					
	Right		P				Right	P				
	Peds						Peds					
NB	Right					EB	Right					
SB	Right					WB	Right					
Green		30.0	30.0					30.0				
Yellow		3.0	3.0					3.0				
All Red		1.0	1.0					1.0				
Cycle Length:		102.0	secs									

Intersection Performance Summary

Appr/ Lane Grp	Lane Group	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
	Capacity		v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	1144	1824	0.36	0.627	10.1	B	10.1	B
Westbound								
TR	491	1670	0.56	0.294	35.1	D	35.1	D
Northbound								
L	521	1770	0.04	0.294	25.9	C		
TR	514	1749	0.39	0.294	30.9	C	30.4	C
Southbound								
L				0.294				
R	466	1583	0.12	0.294	26.9	C		
Intersection Delay =					(sec/veh)	Intersection LOS =		

HCS: Signalized Intersections Release 3.2

Inter: 19
 Analyst: JTR
 Date: 7/5/00
 E/W St: 10TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: PM PEAK
 N/S St: INDIANA AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	1	0	1	0	1
LGConfig	LT			TR			L TR			L R		
Volume	35	398		509	33		114	300	175	80		262
Lane Width	12.0			12.0			12.0 12.0			12.0 12.0		
RTOR Vol				8			44			131		

Duration	0.25		Area Type: All other areas									
			Signal Operations									
Phase Combination			1	2	3	4		5	6	7	8	
EB	Left	P	P				NB	Left	P			
	Thru	P	P					Thru	P			
	Right							Right	P			
	Peds							Peds				
WB	Left						SB	Left	P			
	Thru		P					Thru				
	Right		P					Right	P			
	Peds							Peds				
NB	Right						EB	Right				
SB	Right						WB	Right				
Green		30.0	30.0						30.0			
Yellow		3.0	3.0						3.0			
All Red		1.0	1.0						1.0			
Cycle Length:		102.0	secs									

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LT	1114	1775	0.43	0.627	10.9	B	10.9	B
Westbound								
TR	490	1665	1.21	0.294	149.2	F	149.2	F
Northbound								
L	521	1770	0.24	0.294	28.5	C		
TR	523	1778	0.92	0.294	58.0	E	51.8	D
Southbound								
L				0.294				
R	466	1583	0.31	0.294	29.7	C		
Intersection Delay =				(sec/veh)	Intersection LOS =			

HCS: Signalized Intersections Release 3.2

Inter: 21
 Analyst: JTR
 Date: 7/5/00
 E/W St: 10TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: AM PEAK
 N/S St: JORDAN AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	0	1	1	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	41	203	144	79	393	27	92	83	29	38	163	32
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			36			7			7			8

Duration 0.25 Area Type: All other areas

Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left		A			NB Left	P						
Thru		P			Thru	P						
Right		P			Right	P						
Peds					Peds							
WB Left		A			SB Left	P						
Thru		P			Thru	P						
Right		P			Right	P						
Peds					Peds							
NB Right					EB Right							
SB Right					WB Right							
Green		5.0	28.0			20.0						
Yellow		3.0	3.0			3.0						
All Red		1.0	1.0			1.0						
Cycle Length:	65.0	secs										

Intersection Performance Summary

Appr/	Lane	Adj Sat	Ratios		Lane Group		Approach	
Lane	Group	Flow Rate	v/c	g/C	Delay	LOS	Delay	LOS
Grp	Capacity	(s)						
Eastbound								
L	425		0.11	0.569	7.6	A		
TR	761	1766	0.45	0.431	15.1	B	14.2	B
Westbound								
L	515		0.17	0.569	7.2	A		
TR	796	1849	0.58	0.431	17.0	B	15.5	B
Northbound								
L	326	1059	0.31	0.308	19.7	B		
TR	555	1805	0.21	0.308	17.5	B	18.5	B
Southbound								
L	391	1271	0.11	0.308	16.7	B		
TR	562	1826	0.37	0.308	19.4	B	19.0	B

Intersection Delay = 16.2 (sec/veh) Intersection LOS = B

HCS: Signalized Intersections Release 3.2

Inter: 21
Analyst: JTR
Date: 7/5/00
E/W St: 10TH ST

City/St: BLOOMINGTON, IN
Proj #: 99103
Period: PM PEAK
N/S St: JORDAN AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	0	1	1	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	57	389	199	82	425	64	125	260	86	111	292	75
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			50			16			21			19

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination	1	2	3	4	5	6	7	8
EB Left	A	A			NB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
WB Left	A	A			SB Left	P		
Thru		P			Thru	P		
Right		P			Right	P		
Peds					Peds			
NB Right					EB Right			
SB Right					WB Right			
Green	5.0	28.0			20.0			
Yellow	3.0	3.0			3.0			
All Red	1.0	1.0			1.0			
Cycle Length:	65.0	secs						

Intersection Performance Summary

Appr/Lane	Lane Group	Adj Sat Flow Rate	Ratios		Lane Group		Approach	
Grp	Capacity	(s)	v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	375		0.17	0.569	8.4	A		
TR	769	1785	0.78	0.431	23.4	C	22.0	C
Westbound								
L	321		0.28	0.569	9.8	A		
TR	790	1835	0.66	0.431	19.1	B	17.8	B
Northbound								
L	179	582	0.78	0.308	47.9	D		
TR	556	1807	0.65	0.308	25.2	C	31.5	C
Southbound								
L	199	646	0.62	0.308	32.8	C		
TR	559	1818	0.69	0.308	26.6	C	28.1	C

Intersection Delay = 24.3 (sec/veh) Intersection LOS = C

HCS: Signalized Intersections Release 3.2

Inter: 22
 Analyst: JTR
 Date: 7/5/00
 E/W St: 10TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: AM PEAK
 N/S St: SUNRISE DR

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	2	190	10	3	437	17	6	3	2	1	3	4
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	2			4			0			1		

Duration	0.25		Area Type: All other areas									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left	P				NB Left	A						
Thru	P				Thru	A						
Right	P				Right	A						
Peds					Peds							
WB Left	P				SB Left	A						
Thru	P				Thru	A						
Right	P				Right	A						
Peds					Peds							
NB Right					EB Right							
SB Right					WB Right							
Green	29.0								12.0			
Yellow	3.0								3.0			
All Red	1.0								1.0			
Cycle Length:		49.0		secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay LOS		Delay LOS	
Eastbound								
LTR	984	1662	0.23	0.592	5.2	A	5.2	A
Westbound								
LTR	987	1668	0.51	0.592	7.7	A	7.7	A
Northbound								
LTR	363	1481	0.03	0.245	14.1	B	14.1	B
Southbound								
LTR	376	1536	0.02	0.245	14.1	B	14.1	B

Intersection Delay = 7.1 (sec/veh) Intersection LOS = A

HCS: Signalized Intersections Release 3.2

Inter: 22
 Analyst: JTR
 Date: 7/5/00
 E/W St: 10TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: PM PEAK
 N/S St: SUNRISE DR

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	13	504	44	17	487	29	31	15	14	24	5	9
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	11			7			3			2		

Duration 0.25 Area Type: All other areas

Signal Operations

Phase Combination				1	2	3	4	5	6	7	8	
EB	Left	P						NB	Left	A		
	Thru	P							Thru	A		
	Right	P							Right	A		
	Peds								Peds			
WB	Left	P						SB	Left	A		
	Thru	P							Thru	A		
	Right	P							Right	A		
	Peds								Peds			
NB	Right							EB	Right			
SB	Right							WB	Right			
Green		29.0								12.0		
Yellow		3.0								3.0		
All Red		1.0								1.0		
Cycle Length: 49.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	970	1639	0.63	0.592	9.6	A	9.6	A
Westbound								
LTR	965	1630	0.61	0.592	9.2	A	9.2	A
Northbound								
LTR	342	1397	0.18	0.245	14.9	B	14.9	B
Southbound								
LTR	332	1357	0.12	0.245	14.6	B	14.6	B

Intersection Delay = 9.8 (sec/veh) Intersection LOS = A

HCS: Signalized Intersections Release 3.2

Inter: 23
 Analyst: JTR
 Date: 7/7/00
 E/W St: 10TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: AM PEAK
 N/S St: UNION ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	1	0	0	1	0
LGConfig	LTR			LTR			L TR			LTR		
Volume	16	154	27	35	342	58	106	75	26	46	64	15
Lane Width	12.0			12.0			12.0 12.0			12.0		
RTOR Vol	7			14			6			4		

Duration 0.25 Area Type: All other areas

Phase Combination		Signal Operations							
		1	2	3	4	5	6	7	8
EB Left	P					NB Left	P		
Thru	P					Thru	P		
Right	P					Right	P		
Peds						Peds			
WB Left	P					SB Left	P		
Thru	P					Thru	P		
Right	P					Right	P		
Peds						Peds			
NB Right						EB Right			
SB Right						WB Right			
Green	41.0						16.0		
Yellow	3.0						3.0		
All Red	1.0						1.0		
Cycle Length: 65.0		secs							

Intersection Performance Summary

Appr/Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	997	1581	0.21	0.631	5.6	A	5.6	A
Westbound								
LTR	1006	1595	0.47	0.631	7.8	A	7.8	A
Northbound								
L	247	1002	0.48	0.246	27.4	C		
TR	444	1804	0.24	0.246	20.9	C	24.3	C
Southbound								
LTR	351	1425	0.38	0.246	23.5	C	23.5	C

Intersection Delay = 13.0 (sec/veh) Intersection LOS = B

HCS: Signalized Intersections Release 3.2

Inter: 23
 Analyst: JTR
 Date: 7/7/00
 E/W St: 10TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: PM PEAK
 N/S St: UNION ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	1	1	0	0	1	0
LGConfig	LTR			LTR			L	TR		LTR		
Volume	21	368	99	25	342	67	117	128	64	131	186	37
Lane Width	12.0			12.0			12.0	12.0		12.0		
RTOR Vol	25			17			16			9		

Duration 0.25 Area Type: All other areas

Phase Combination		Signal Operations							
		1	2	3	4	5	6	7	8
EB Left	P					NB Left	P		
	Thru	P				Thru	P		
	Right	P				Right	P		
	Peds					Peds			
WB Left	P					SB Left	P		
	Thru	P				Thru	P		
	Right	P				Right	P		
	Peds					Peds			
NB Right						EB Right			
SB Right						WB Right			
Green		41.0					16.0		
Yellow		3.0					3.0		
All Red		1.0					1.0		
Cycle Length: 65.0		secs							

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay LOS		Delay LOS	

Eastbound

LTR 1006 1595 0.51 0.631 8.4 A 8.4 A

Westbound

LTR 998 1582 0.46 0.631 7.8 A 7.8 A

Northbound

L 115 466 1.13 0.246 147.8 F
 TR 440 1787 0.44 0.246 23.9 C 73.5 E

Southbound

LTR 211 856 1.82 0.246 411.5 F 411.5 F

Intersection Delay = 112.5 (sec/veh) Intersection LOS = F

HCS: Signalized Intersections Release 3.2

Inter: 26
 Analyst: JTR
 Date: 7/7/00
 E/W St: 10TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: AM PEAK
 N/S St: WOODLAWN AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	1	431	59	65	226	3	10	14	60	7	57	12
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	15			1			15			3		

Duration	0.25		Area Type: All other areas									
Signal Operations												
Phase Combination		1	2	3	4	5	6	7	8			
EB	Left		P			NB	Left	A				
	Thru		P				Thru	A				
	Right		P				Right	A				
	Peds						Peds					
WB	Left	P	P			SB	Left	A				
	Thru	P	P				Thru	A				
	Right	P	P				Right	A				
	Peds						Peds					
NB	Right					EB	Right					
SB	Right					WB	Right					
Green		20.0	30.0					25.0				
Yellow		3.0	3.0					3.0				
All Red		1.0	1.0					1.0				
Cycle Length:		87.0		secs								

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	570	1653	0.93	0.345	51.0	D	51.0	D
Westbound								
LTR	930	1498	0.35	0.621	9.0	A	9.0	A
Northbound								
LTR	421	1466	0.18	0.287	23.5	C	23.5	C
Southbound								
LTR	464	1613	0.17	0.287	23.4	C	23.4	C

Intersection Delay = 33.2 (sec/veh) Intersection LOS = C

HCS: Signalized Intersections Release 3.2

Inter: 26
Analyst: JTR
Date: 7/7/00
E/W St: 10TH ST

City/St: BLOOMINGTON, IN
Proj #: 99103
Period: PM PEAK
N/S St: WOODLAWN AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	12	603	78	105	466	10	49	98	119	27	104	24
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	19			2			30			6		

Duration 0.25 Area Type: All other areas

		Signal Operations							
Phase Combination	1	2	3	4	5	6	7	8	
EB Left		P			NB Left	A			
Thru		P			Thru	A			
Right		P			Right	A			
Peds					Peds				
WB Left		P	P		SB Left	A			
Thru		P	P		Thru	A			
Right		P	P		Right	A			
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green		20.0	30.0			25.0			
Yellow		3.0	3.0			3.0			
All Red		1.0	1.0			1.0			
Cycle Length: 87.0		secs							

Intersection Performance Summary

Appr/	Lane	Adj Sat	Ratios		Lane Group	Approach	
Lane	Group	Flow Rate					
Grp	Capacity	(s)	v/c	g/C	Delay LOS	Delay LOS	
Eastbound							
LTR	563	1633	1.33	0.345	189.1 F	189.1 F	
Westbound							
LTR	898	1447	0.72	0.621	16.2 B	16.2 B	
Northbound							
LTR	414	1441	0.63	0.287	30.1 C	30.1 C	
Southbound							
LTR	437	1521	0.38	0.287	25.4 C	25.4 C	

Intersection Delay = 90.1 (sec/veh) Intersection LOS = F

HCS: Signalized Intersections Release 3.2

Inter: 24
 Analyst: JTR
 Date: 7/7/00
 E/W St: LAW LN

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: AM PEAK
 N/S St: JORDAN AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	15	57	46	39	90	18	42	65	25	46	164	15
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	11			4			6			4		

Duration 0.25 Area Type: All other areas

		Signal Operations							
Phase Combination		1	2	3	4	5	6	7	8
EB	Left	P				NB	Left	P	
	Thru	P					Thru	P	
	Right	P					Right	P	
	Peds						Peds		
WB	Left	P				SB	Left	P	
	Thru	P					Thru	P	
	Right	P					Right	P	
	Peds						Peds		
NB	Right					EB	Right		
SB	Right					WB	Right		
Green		22.0					35.0		
Yellow		3.0					3.0		
All Red		1.0					1.0		
Cycle Length: 65.0		secs							

Intersection Performance Summary

Appr/ Lane Grp	Lane Group	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
	Capacity		v/c	g/C	Delay LOS		Delay LOS	
Eastbound								
LTR	516	1526	0.23	0.338	16.5 B	16.5	B	
Westbound								
LTR	507	1499	0.31	0.338	17.5 B	17.5	B	
Northbound								
LTR	763	1417	0.18	0.538	8.2 A	8.2	A	
Southbound								
LTR	830	1541	0.30	0.538	9.1 A	9.1	A	

Intersection Delay = 12.3 (sec/veh) Intersection LOS = B

HCS: Signalized Intersections Release 3.2

Inter: 24
 Analyst: JTR
 Date: 7/7/00
 E/W St: LAW LN

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: PM PEAK
 N/S St: JORDAN AVE

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	0	0	1	0	0	1	0
LGConfig	LTR			LTR			LTR			LTR		
Volume	61	183	111	37	88	49	70	225	44	70	292	32
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	28			12			11			8		

Duration 0.25 Area Type: All other areas

		Signal Operations							
Phase Combination		1	2	3	4	5	6	7	8
EB	Left	P				NB Left	P		
	Thru	P				Thru	P		
	Right	P				Right	P		
	Peds					Peds			
WB	Left	P				SB Left	P		
	Thru	P				Thru	P		
	Right	P				Right	P		
	Peds					Peds			
NB	Right					EB Right			
SB	Right					WB Right			
Green		22.0				35.0			
Yellow		3.0				3.0			
All Red		1.0				1.0			
Cycle Length:		65.0 secs							

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	497	1469	0.73	0.338	28.0	C	28.0	C
Westbound								
LTR	486	1436	0.37	0.338	18.4	B	18.4	B
Northbound								
LTR	754	1401	0.48	0.538	11.6	B	11.6	B
Southbound								
LTR	787	1462	0.55	0.538	12.5	B	12.5	B

Intersection Delay = 17.3 (sec/veh) Intersection LOS = B

HCS: Signalized Intersections Release 3.2

Inter: 31
 Analyst: JTR
 Date: 7/7/00
 E/W St: 17TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: AM PEAK
 N/S St: DUNN ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	1	1	0	1	1	0
LGConfig	LTR			LT R			L TR			L TR		
Volume	49	375	10	6	139	67	9	33	22	181	85	17
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	2			10			5			4		

Duration	0.25		Area Type: All other areas									
Signal Operations												
Phase Combination	1	2	3	4	5	6	7	8				
EB Left	P				NB Left	P						
Thru	P				Thru	P						
Right	P				Right	P						
Peds					Peds							
WB Left	P				SB Left	P						
Thru	P				Thru	P						
Right	P				Right	P						
Peds					Peds							
NB Right					EB Right							
SB Right					WB Right							
Green	25.0						32.0					
Yellow	3.0						3.0					
All Red	1.0						1.0					
Cycle Length: 65.0 secs												

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
LTR	612	1591	0.78	0.385	27.3	C	27.3	C
Westbound								
LT	703	1827	0.23	0.385	14.3	B	13.9	B
R	609	1583	0.10	0.385	13.2	B		
Northbound								
L	630	1280	0.02	0.492	8.5	A		
TR	870	1768	0.06	0.492	8.8	A	8.7	A
Southbound								
L	661	1342	0.30	0.492	11.0	B		
TR	899	1827	0.12	0.492	9.2	A	10.4	B

Intersection Delay = 18.6 (sec/veh) Intersection LOS = B

HCS: Signalized Intersections Release 3.2

Inter: 31
 Analyst: JTR
 Date: 7/7/00
 E/W St: 17TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: PM PEAK
 N/S St: DUNN ST

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	0	1	0	0	1	1	1	1	0	1	1	0
LGConfig	LTR			LT R			L TR			L TR		
Volume	26	314	13	19	454	236	34	141	26	210	136	60
Lane Width	12.0			12.0			12.0			12.0		
RTOR Vol	3			118			6			15		

Duration 0.25 Area Type: All other areas

		Signal Operations							
Phase Combination		1	2	3	4	5	6	7	8
EB Left	Thru	P				NB Left	P		
	Right	P				Thru	P		
	Peds					Right	P		
						Peds			
WB Left	Thru	P				SB Left	P		
	Right	P				Thru	P		
	Peds					Right	P		
						Peds			
NB Right						EB Right			
SB Right						WB Right			
Green		25.0					32.0		
Yellow		3.0					3.0		
All Red		1.0					1.0		
Cycle Length: 65.0		secs							

Intersection Performance Summary

Appr/ Lane	Lane Group	Adj Sat Flow Rate	Ratios		Lane Group		Approach	
Grp	Capacity	(s)	v/c	g/C	Delay LOS		Delay LOS	
Eastbound								
LTR	612	1590	0.64	0.385	21.3 C		21.3 C	
Westbound								
LT	701	1822	0.75	0.385	24.5 C		22.4 C	
R	609	1583	0.22	0.385	14.2 B			
Northbound								
L	576	1171	0.07	0.492	8.9 A			
TR	900	1828	0.20	0.492	9.8 A		9.6 A	
Southbound								
L	591	1200	0.39	0.492	12.4 B			
TR	883	1793	0.23	0.492	10.0+ B		11.3 B	

Intersection Delay = 17.7 (sec/veh) Intersection LOS = B

HCS: Signalized Intersections Release 3.2

Inter: 32
 Analyst: JTR
 Date: 7/7/00
 E/W St: 17TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: AM PEAK
 N/S St: FEE LN

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	0	1	1	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	31	243	97	20	160	33	51	36	11	44	114	32
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			24			8			3			8

Duration	0.25	Area Type: All other areas										
		Signal Operations										
Phase Combination		1	2	3	4	5	6	7	8			
EB	Left	P				NB	Left	P				
	Thru	P					Thru	P				
	Right	P					Right	P				
	Peds						Peds					
WB	Left	P				SB	Left	P				
	Thru	P					Thru	P				
	Right	P					Right	P				
	Peds						Peds					
NB	Right					EB	Right					
SB	Right					WB	Right					
Green		40.0						40.0				
Yellow		3.5						3.5				
All Red		1.0						1.0				
Cycle Length:		89.0	secs									

Intersection Performance Summary

Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	502	1118	0.07	0.449	14.2	B		
TR	808	1798	0.43	0.449	18.5	B	18.1	B
Westbound								
L	376	837	0.06	0.449	14.2	B		
TR	820	1825	0.25	0.449	15.9	B	15.8	B
Northbound								
L	551	1225	0.10	0.449	14.5	B		
TR	814	1811	0.06	0.449	14.0	B	14.3	B
Southbound								
L	607	1351	0.08	0.449	14.3	B		
TR	815	1814	0.19	0.449	15.3	B	15.0	B

Intersection Delay = 16.4 (sec/veh) Intersection LOS = B

HCS: Signalized Intersections Release 3.2

Inter: 32
 Analyst: JTR
 Date: 7/7/00
 E/W St: 17TH ST

City/St: BLOOMINGTON, IN
 Proj #: 99103
 Period: PM PEAK
 N/S St: FEE LN

SIGNALIZED INTERSECTION SUMMARY

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	0	1	1	0	1	1	0	1	1	0
LGConfig	L	TR		L	TR		L	TR		L	TR	
Volume	79	430	151	29	339	56	164	130	22	69	104	76
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
RTOR Vol			38			14			5			19

Duration 0.25 Area Type: All other areas

Phase Combination		Signal Operations							
		1	2	3	4	5	6	7	8
EB Left	P					NB Left	P		
Thru	P					Thru	P		
Right	P					Right	P		
Peds						Peds			
WB Left	P					SB Left	P		
Thru	P					Thru	P		
Right	P					Right	P		
Peds						Peds			
NB Right						EB Right			
SB Right						WB Right			
Green		40.0					40.0		
Yellow		3.5					3.5		
All Red		1.0					1.0		
Cycle Length: 89.0		secs							

Intersection Performance Summary

Intersection Performance Summary								
Appr/ Lane Grp	Lane Group Capacity	Adj Sat Flow Rate (s)	Ratios		Lane Group		Approach	
			v/c	g/C	Delay	LOS	Delay	LOS
Eastbound								
L	317	705	0.28	0.449	17.6	B		
TR	811	1804	0.74	0.449	26.4	C	25.3	C
Westbound								
L	180	401	0.18	0.449	16.8	B		
TR	823	1832	0.52	0.449	19.9	B	19.6	B
Northbound								
L	527	1173	0.35	0.449	17.8	B		
TR	822	1830	0.20	0.449	15.3	B	16.6	B
Southbound								
L	542	1206	0.14	0.449	15.0	B		
TR	793	1764	0.23	0.449	15.7	B	15.5	B

Intersection Delay = 20.7 (sec/veh) Intersection LOS = C



City of Bloomington

Engineering Dept.

401 N. Morton Street
Bloomington, IN 47404

Counter: TDC-12

Counted By: Eli

Weather: Clear

Other: 17th & Fee/Jordan Project

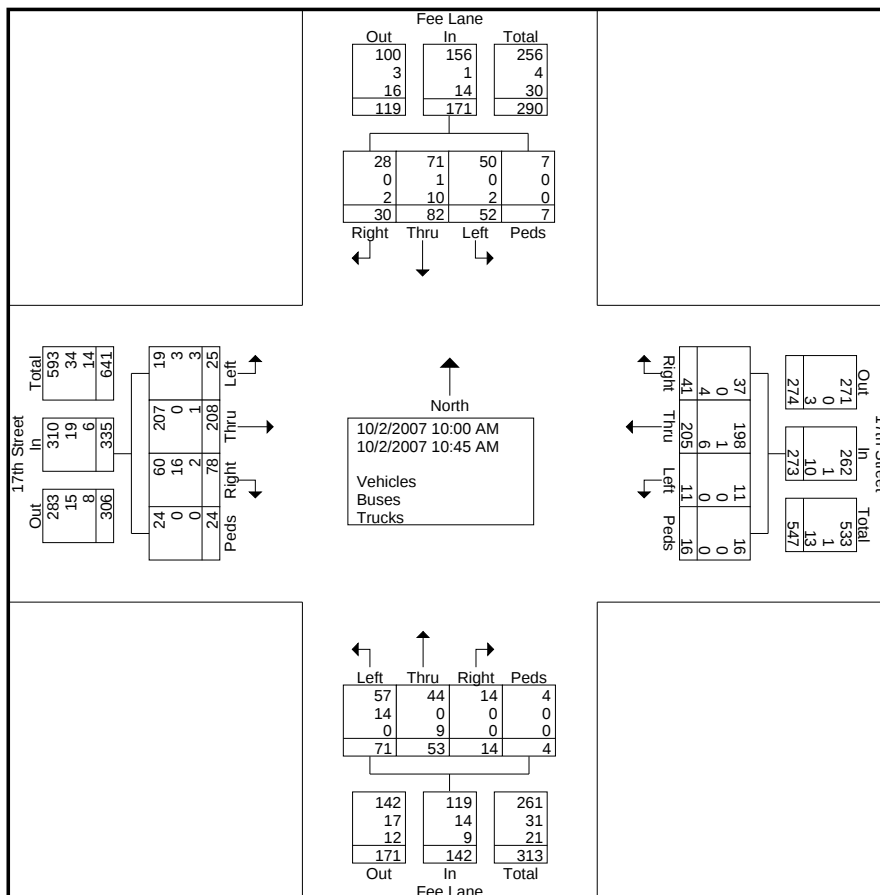
File Name : 17th & Fee AM 10-02-07

Site Code : 10020701

Start Date : 10/2/2007

Page No : 1

Groups Printed- Vehicles - Buses - Trucks																					
Start Time	Fee Lane Southbound					17th Street Westbound					Fee Lane Northbound					17th Street Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
10:00 AM	12	20	6	1	39	3	42	9	6	60	20	15	5	1	41	7	56	11	10	84	224
10:15 AM	12	8	8	4	32	2	36	9	6	53	18	13	2	0	33	4	35	12	3	54	172
10:30 AM	16	27	5	2	50	4	57	9	2	72	17	12	2	1	32	5	54	17	3	79	233
10:45 AM	12	27	11	0	50	2	70	14	2	88	16	13	5	2	36	9	63	38	8	118	292
Total	52	82	30	7	171	11	205	41	16	273	71	53	14	4	142	25	208	78	24	335	921
Grand Total	52	82	30	7	171	11	205	41	16	273	71	53	14	4	142	25	208	78	24	335	921
Apprch %	30.4	48	17.5	4.1		4	75.1	15	5.9		50	37.3	9.9	2.8		7.5	62.1	23.3	7.2		
Total %	5.6	8.9	3.3	0.8	18.6	1.2	22.3	4.5	1.7	29.6	7.7	5.8	1.5	0.4	15.4	2.7	22.6	8.5	2.6	36.4	
Vehicles	50	71	28	7	156	11	198	37	16	262	57	44	14	4	119	19	207	60	24	310	847
% Vehicles	96.2	86.6	93.3	100	91.2	100	96.6	90.2	100	96	80.3	83	100	100	83.8	76	99.5	76.9	100	92.5	92
Buses	0	1	0	0	1	0	1	0	0	1	14	0	0	0	14	3	0	16	0	19	35
% Buses	0	1.2	0	0	0.6	0	0.5	0	0	0.4	19.7	0	0	0	9.9	12	0	20.5	0	5.7	3.8
Trucks	2	10	2	0	14	0	6	4	0	10	0	9	0	0	9	3	1	2	0	6	39
% Trucks	3.8	12.2	6.7	0	8.2	0	2.9	9.8	0	3.7	0	17	0	0	6.3	12	0.5	2.6	0	1.8	4.2





City of Bloomington

Engineering Dept.

401 N. Morton Street
Bloomington, IN 47404

Counter:

Counted By: Sheryl

Weather: Cold

Other: 4th & Washington Area Study

File Name : 17th & Fee PM 10-11-07

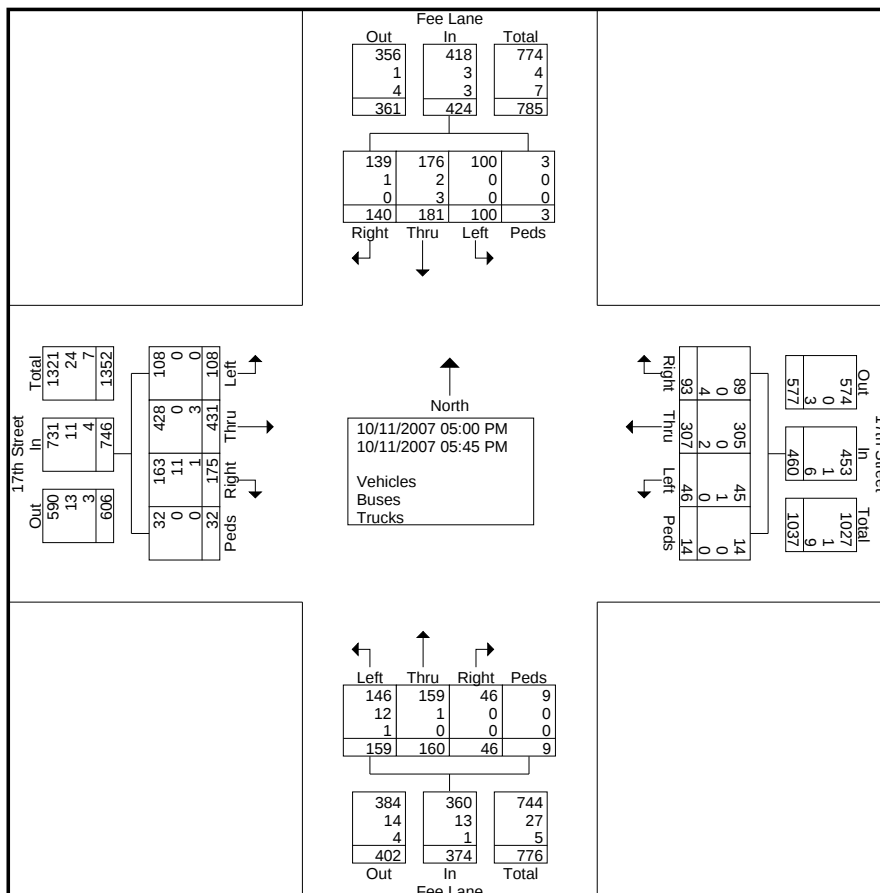
Site Code : 10110702

Start Date : 10/11/2007

Page No : 1

Groups Printed- Vehicles - Buses - Trucks

	Fee Lane Southbound					17th Street Westbound					Fee Lane Northbound					17th Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
05:00 PM	34	63	40	1	138	14	86	19	2	121	34	35	4	2	75	22	98	34	4	158	492
05:15 PM	27	38	31	1	97	13	85	22	4	124	46	46	9	3	104	25	120	55	10	210	535
05:30 PM	24	47	40	1	112	9	68	27	5	109	45	43	17	0	105	39	115	44	9	207	533
05:45 PM	15	33	29	0	77	10	68	25	3	106	34	36	16	4	90	22	98	42	9	171	444
Total	100	181	140	3	424	46	307	93	14	460	159	160	46	9	374	108	431	175	32	746	2004
Grand Total	100	181	140	3	424	46	307	93	14	460	159	160	46	9	374	108	431	175	32	746	2004
Apprch %	23.6	42.7	33	0.7		10	66.7	20.2	3		42.5	42.8	12.3	2.4		14.5	57.8	23.5	4.3		
Total %	5	9	7	0.1	21.2	2.3	15.3	4.6	0.7	23	7.9	8	2.3	0.4	18.7	5.4	21.5	8.7	1.6	37.2	
Vehicles	100	176	139	3	418	45	305	89	14	453	146	159	46	9	360	108	428	163	32	731	1962
% Vehicles	100	97.2	99.3	100	98.6	97.8	99.3	95.7	100	98.5	91.8	99.4	100	100	96.3	100	99.3	93.1	100	98	97.9
Buses	0	2	1	0	3	1	0	0	0	1	12	1	0	0	13	0	0	11	0	11	28
% Buses	0	1.1	0.7	0	0.7	2.2	0	0	0	0.2	7.5	0.6	0	0	3.5	0	0	6.3	0	1.5	1.4
Trucks	0	3	0	0	3	0	2	4	0	6	1	0	0	0	1	0	3	1	0	4	14
% Trucks	0	1.7	0	0	0.7	0	0.7	4.3	0	1.3	0.6	0	0	0	0.3	0	0.7	0.6	0	0.5	0.7





City of Bloomington

Engineering Dept.

401 N. Morton Street

Bloomington, IN 47404

Counter: TDC-12

Counted By: Eli

Weather: Cold

Other: 17th & Fee/Jordan Project

File Name : 17th & Jordan N AM 10-09-07

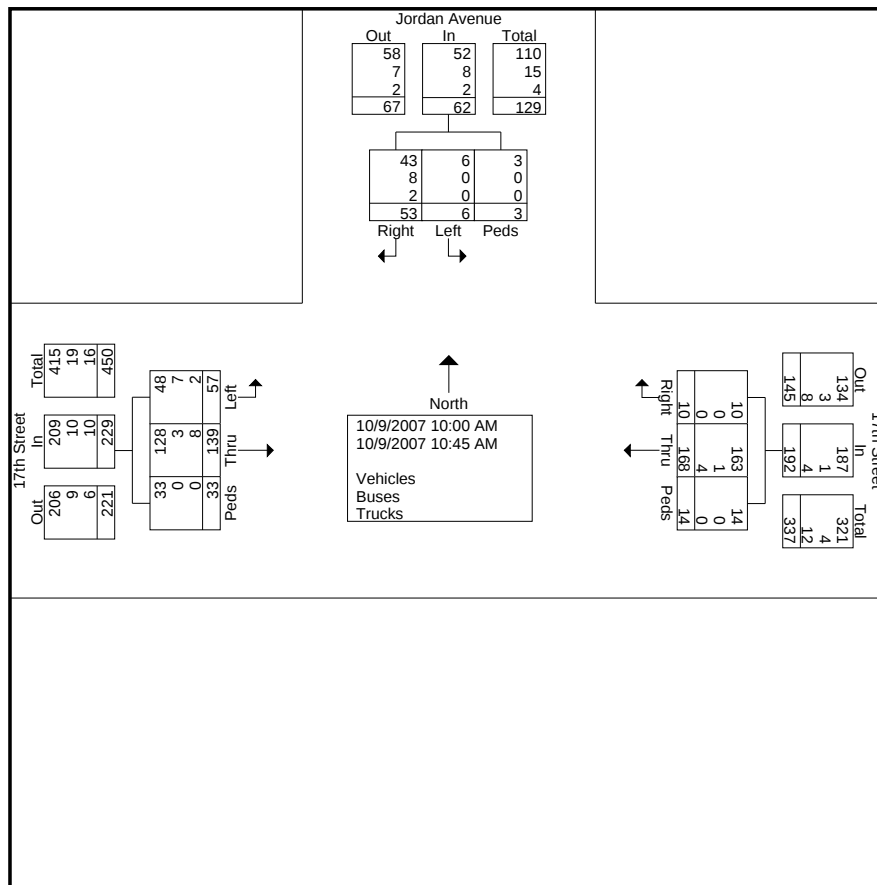
Site Code : 10090701

Start Date : 10/9/2007

Page No : 1

Groups Printed- Vehicles - Buses - Trucks

	Jordan Avenue Southbound				17th Street Westbound				17th Street Eastbound				
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
10:00 AM	3	14	0	17	25	2	1	28	16	39	3	58	103
10:15 AM	0	10	1	11	30	3	1	34	11	31	6	48	93
10:30 AM	3	11	1	15	47	2	3	52	17	29	13	59	126
10:45 AM	0	18	1	19	66	3	9	78	13	40	11	64	161
Total	6	53	3	62	168	10	14	192	57	139	33	229	483
Grand Total	6	53	3	62	168	10	14	192	57	139	33	229	483
Apprch %	9.7	85.5	4.8		87.5	5.2	7.3		24.9	60.7	14.4		
Total %	1.2	11	0.6	12.8	34.8	2.1	2.9	39.8	11.8	28.8	6.8	47.4	
Vehicles	6	43	3	52	163	10	14	187	48	128	33	209	448
% Vehicles	100	81.1	100	83.9	97	100	100	97.4	84.2	92.1	100	91.3	92.8
Buses	0	8	0	8	1	0	0	1	7	3	0	10	19
% Buses	0	15.1	0	12.9	0.6	0	0	0.5	12.3	2.2	0	4.4	3.9
Trucks	0	2	0	2	4	0	0	4	2	8	0	10	16
% Trucks	0	3.8	0	3.2	2.4	0	0	2.1	3.5	5.8	0	4.4	3.3





City of Bloomington

Engineering Dept.

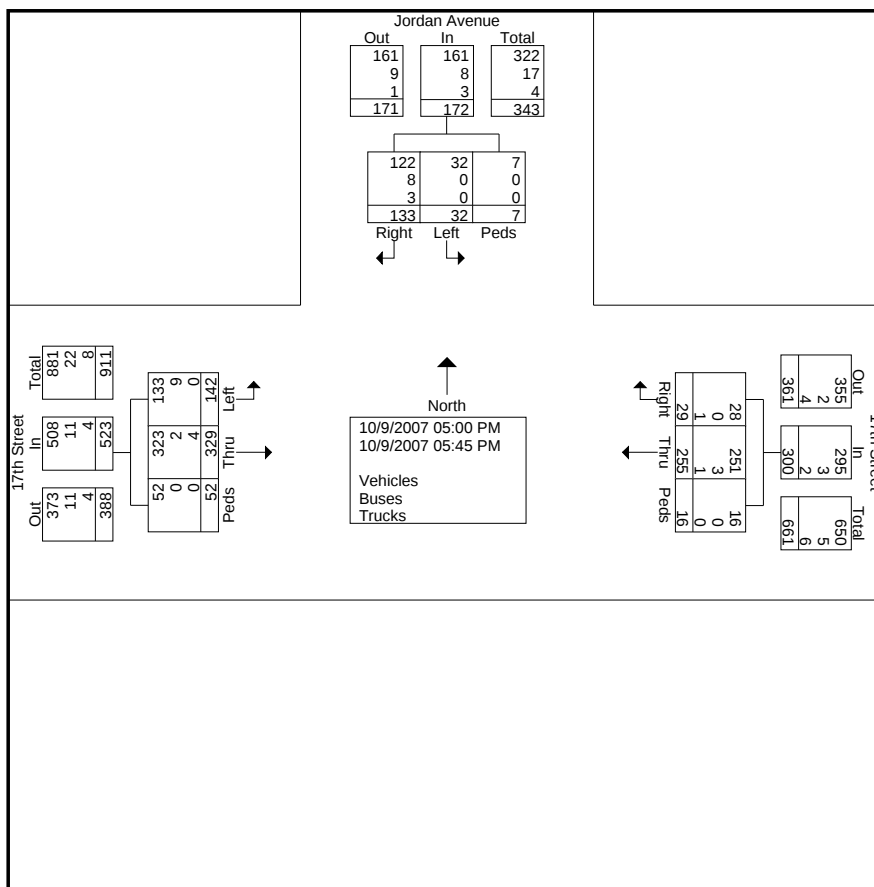
401 N. Morton Street
Bloomington, IN 47404

Counter:
Counted By: Sheryl
Weather: Cold
Other: 17th & Fee/Jordan Project

File Name : 17th & Jordan N 10-09-07 PM
Site Code : 10090702
Start Date : 10/9/2007
Page No : 1

Groups Printed- Vehicles - Buses - Trucks

	Jordan Avenue Southbound				17th Street Westbound				17th Street Eastbound				
Start Time	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Int. Total
05:00 PM	10	46	0	56	62	6	9	77	36	58	8	102	235
05:15 PM	9	34	1	44	67	7	0	74	43	97	13	153	271
05:30 PM	10	26	4	40	62	8	2	72	32	94	14	140	252
05:45 PM	3	27	2	32	64	8	5	77	31	80	17	128	237
Total	32	133	7	172	255	29	16	300	142	329	52	523	995
Grand Total	32	133	7	172	255	29	16	300	142	329	52	523	995
Apprch %	18.6	77.3	4.1		85	9.7	5.3		27.2	62.9	9.9		
Total %	3.2	13.4	0.7	17.3	25.6	2.9	1.6	30.2	14.3	33.1	5.2	52.6	
Vehicles	32	122	7	161	251	28	16	295	133	323	52	508	964
% Vehicles	100	91.7	100	93.6	98.4	96.6	100	98.3	93.7	98.2	100	97.1	96.9
Buses	0	8	0	8	3	0	0	3	9	2	0	11	22
% Buses	0	6	0	4.7	1.2	0	0	1	6.3	0.6	0	2.1	2.2
Trucks	0	3	0	3	1	1	0	2	0	4	0	4	9
% Trucks	0	2.3	0	1.7	0.4	3.4	0	0.7	0	1.2	0	0.8	0.9





City of Bloomington

Engineering Dept.

401 N. Morton Street
Bloomington, IN 47404

Counter: TDC-12

Counted By: Eli

Weather: Clear

Other: 17th & Fee/Jordan Project

File Name : 17th & Jordan South 10-04-07 AM

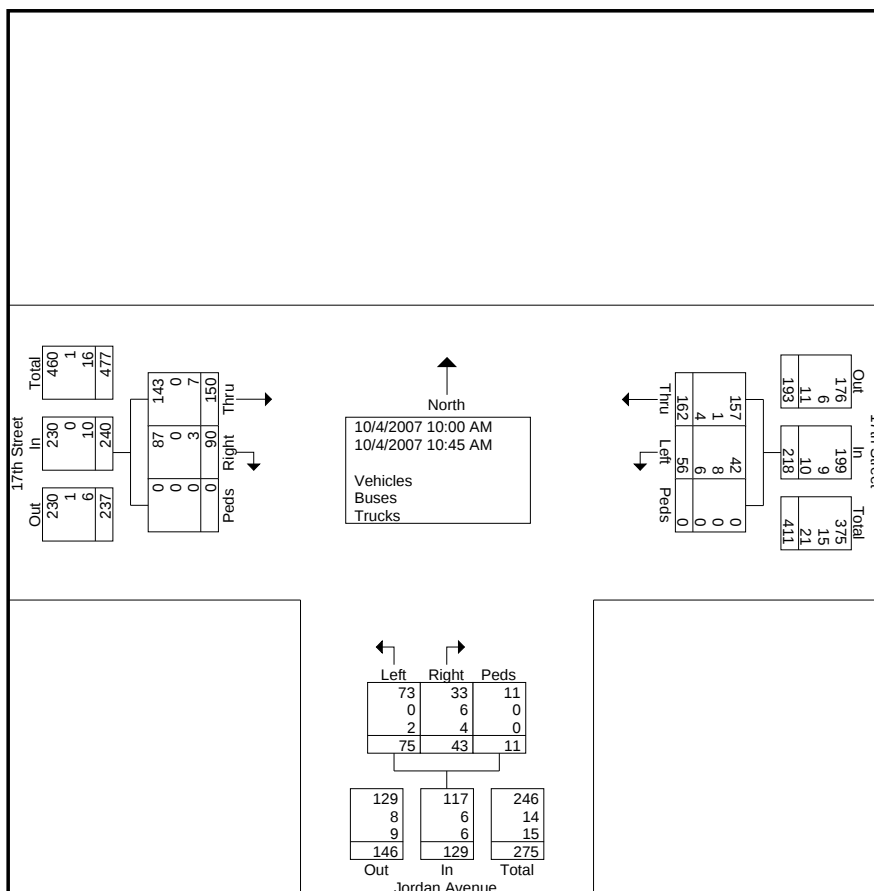
Site Code : 10040701

Start Date : 10/4/2007

Page No : 1

Groups Printed- Vehicles - Buses - Trucks

	17th Street Westbound				Jordan Avenue Northbound				17th Street Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
10:00 AM	15	32	0	47	15	5	4	24	33	19	0	52	123
10:15 AM	15	35	0	50	21	14	2	37	33	23	0	56	143
10:30 AM	9	48	0	57	14	9	2	25	34	16	0	50	132
10:45 AM	17	47	0	64	25	15	3	43	50	32	0	82	189
Total	56	162	0	218	75	43	11	129	150	90	0	240	587
Grand Total	56	162	0	218	75	43	11	129	150	90	0	240	587
Apprch %	25.7	74.3	0		58.1	33.3	8.5		62.5	37.5	0		
Total %	9.5	27.6	0	37.1	12.8	7.3	1.9	22	25.6	15.3	0	40.9	
Vehicles	42	157	0	199	73	33	11	117	143	87	0	230	546
% Vehicles	75	96.9	0	91.3	97.3	76.7	100	90.7	95.3	96.7	0	95.8	93
Buses	8	1	0	9	0	6	0	6	0	0	0	0	15
% Buses	14.3	0.6	0	4.1	0	14	0	4.7	0	0	0	0	2.6
Trucks	6	4	0	10	2	4	0	6	7	3	0	10	26
% Trucks	10.7	2.5	0	4.6	2.7	9.3	0	4.7	4.7	3.3	0	4.2	4.4





City of Bloomington

Engineering Dept.

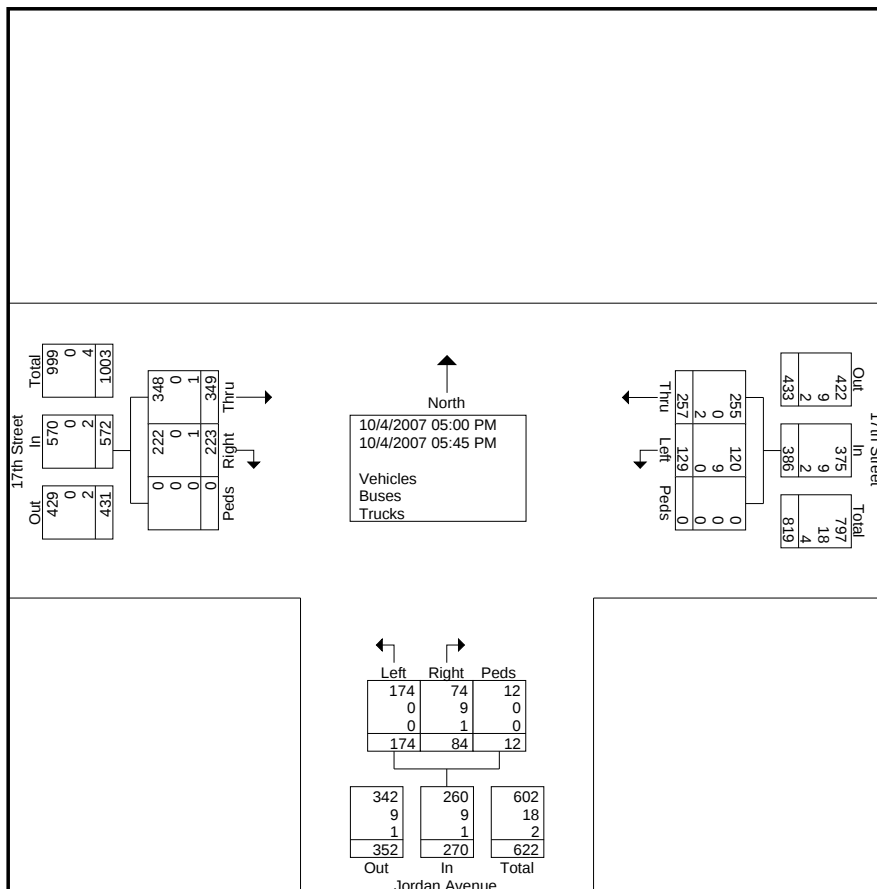
401 N. Morton Street
Bloomington, IN 47404

Counter: TDC-12
Counted By: Sheryl
Weather: Clear
Other: 17th & Fee/Jordan Project

File Name : 17th & jordan south 10-04-07 pm
Site Code : 10040702
Start Date : 10/4/2007
Page No : 1

Groups Printed- Vehicles - Buses - Trucks

	17th Street Westbound				Jordan Avenue Northbound				17th Street Eastbound				
Start Time	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Thru	Right	Peds	App. Total	Int. Total
05:00 PM	28	60	0	88	45	20	3	68	55	47	0	102	258
05:15 PM	27	77	0	104	49	22	6	77	99	55	0	154	335
05:30 PM	24	58	0	82	52	16	1	69	101	70	0	171	322
05:45 PM	50	62	0	112	28	26	2	56	94	51	0	145	313
Total	129	257	0	386	174	84	12	270	349	223	0	572	1228
Grand Total	129	257	0	386	174	84	12	270	349	223	0	572	1228
Apprch %	33.4	66.6	0		64.4	31.1	4.4		61	39	0		
Total %	10.5	20.9	0	31.4	14.2	6.8	1	22	28.4	18.2	0	46.6	
Vehicles	120	255	0	375	174	74	12	260	348	222	0	570	1205
% Vehicles	93	99.2	0	97.2	100	88.1	100	96.3	99.7	99.6	0	99.7	98.1
Buses	9	0	0	9	0	9	0	9	0	0	0	0	18
% Buses	7	0	0	2.3	0	10.7	0	3.3	0	0	0	0	1.5
Trucks	0	2	0	2	0	1	0	1	1	1	0	2	5
% Trucks	0	0.8	0	0.5	0	1.2	0	0.4	0.3	0.4	0	0.3	0.4



Index Sheet for Turning Movement Count Spreadsheet

Project Name: IU North Campus
Project #: 2202-002
Location: Indiana

Work sheet numbers	Southbound	Westbound	Northbound	Eastbound	Count Date	Control Type	Free Approaches	Counters Name
1	N. Fee Ln.	E. 10th St.	N. Fee Ln.	E. 10th St.	3/19/2009			
2	N. Jefferson St.	E. 10th St.	N. Jefferson St.	E. 10th St.	4/8/2009			
3	N. Union St.	E. 10th St.	N. Union St.	E. 10th St.	3/18/2009			
4	N. Fee Ln.	E. 13th St.	N. Fee Ln.	E. 13th St.	3/18/2009			
5	N. Woodlawn Ave.	E. 13th St.	N. Woodlawn Ave.	E. 13th St.	3/18/2009			
6	N. Dunn St.	E. 14th St.	N. Dunn St.	E. 14th St.	3/18/2009			
7	N. Indiana Ave.	E. 14th St.	N. Indiana Ave.	E. 14th St.	3/19/2009			
8	N. Woodlawn St.	E. 14th St.	N. Woodlawn St.	E. 14th St.	3/19/2009			
9	N. State Road 45 46 Bypass	E. 17th St.	N. State Road 45 46 Bypa	E. 17th St.	3/19/2009			
10	N. Walnut Grove Ave.	E. 17th St.	N. Walnut Grove Ave.	E. 17th St.	3/17/2009			
11	N. Woodlawn Ave.	E. 17th St.	N. Woodlawn Ave.	E. 17th St.	3/19/2009			
12	N. Union St.	E. Law Ln.	N. Union St.	E. Law Ln.	4/1/2009			
13	N. Walnut Grove Av.	E. 13th Street	N. Walnut Grove Av.	E. 13th Street	4/22/2009			
14	N. Indiana Avenue	E. 13th Street	N. Indiana Avenue	E. 13th Street	4/23/2009			
15	N. Fee Lane	E. Law Lane	N. Fee Lane	E. Law Lane	4/22/2010			
16	SR 45/46 Bypass	E. 10th Street	SR 45/46 Bypass	E. 10th Street	4/22/2009			
17		0	0	0	1/0/1900			
18		0	0	0	1/0/1900			
19		0	0	0	1/0/1900			
20		0	0	0	1/0/1900			

System peak hour

AM 8:45 AM to 9:45 AM
PM 5:00 PM to 6:00 PM

Special Notes:

Gorove/Slade Associates

Project Name :	IU North Campus
Project # :	2202-002
Location :	Indiana
Date Source:	Gorove/Slade Associates

Intersection:

AM PEAK	Direction: Roadway: Movement:	Southbound			Westbound			Northbound			Eastbound		
		N. Fee Ln.			E. 10th St.			N. Fee Ln.			E. 10th St.		
		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left

7:00 AM to 7:15 AM		7	0	8	3	15	17	0	3	0	0	0	0
7:15 AM to 7:30 AM		7	0	6	2	9	16	0	3	0	0	0	24
7:30 AM to 7:45 AM		10	0	9	2	30	30	0	17	0	0	0	32
7:45 AM to 8:00 AM		14	0	28	10	35	51	0	51	0	0	0	61
8:00 AM to 8:15 AM		16	0	16	6	41	69	0	3	0	0	0	62
8:15 AM to 8:30 AM		7	0	24	3	23	58	0	13	0	0	0	66
8:30 AM to 8:45 AM		7	0	19	5	28	59	0	29	0	0	0	57
8:45 AM to 9:00 AM		10	0	29	8	31	79	0	117	0	0	0	69
9:00 AM to 9:15 AM		14	0	22	34	56	66	0	60	0	0	0	68
9:15 AM to 9:30 AM		20	0	39	66	67	69	0	89	0	0	0	67
9:30 AM to 9:45 AM		23	0	24	11	20	60	0	27	0	0	0	70
9:45 AM to 10:00 AM		15	0	35	20	28	69	0	73	0	0	0	61

PM PEAK	Direction: Roadway: Movement:	Southbound			Westbound			Northbound			Eastbound		
		N. Fee Ln.			E. 10th St.			N. Fee Ln.			E. 10th St.		
		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left

3:00 PM to 3:15 PM		12	0	47	25	21	79	0	65	0	0	0	102
3:15 PM to 3:30 PM		12	0	42	63	36	79	0	258	0	0	0	97
3:30 PM to 3:45 PM		22	0	44	54	25	87	0	171	0	0	0	103
3:45 PM to 4:00 PM		38	0	55	59	53	78	0	158	0	0	0	101
4:00 PM to 4:15 PM		25	0	38	13	46	88	0	38	0	0	0	117
4:15 PM to 4:30 PM		17	0	53	25	22	84	0	84	0	0	0	119
4:30 PM to 4:45 PM		24	0	43	17	44	92	0	61	0	0	0	106
4:45 PM to 5:00 PM		28	0	55	22	32	78	0	50	0	0	0	100
5:00 PM to 5:15 PM		30	0	71	29	60	99	0	100	0	0	0	96
5:15 PM to 5:30 PM		36	0	84	35	59	93	0	116	0	0	0	77
5:30 PM to 5:45 PM		41	0	73	27	51	115	0	85	0	0	0	109
5:45 PM to 6:00 PM		22	0	50	6	38	54	0	21	0	0	0	117

PEAK HOURS	Direction: Roadway: Movement:	Southbound			Westbound			Northbound			Eastbound		
		N. Fee Ln.			E. 10th St.			N. Fee Ln.			E. 10th St.		
		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left

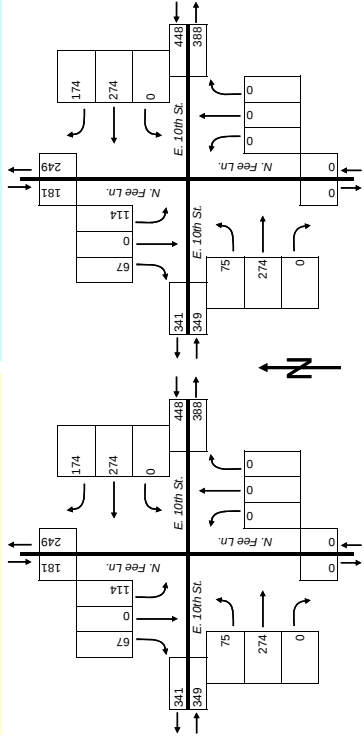
AM INTERSECTION PEAK HOUR		0	114	119	174	274	0	293	0	0	0	274	75
PM INTERSECTION PEAK HOUR		67	0	119	202	385	0	351	0	0	0	381	80
AM SYSTEM PEAK HOUR		135	0	283	418	520	461	587	654	478	490	568	676
PM SYSTEM PEAK HOUR		67	0	114	174	274	0	293	0	0	0	274	75
AM PEAK HOUR		129	0	278	418	520	461	587	654	478	490	568	676
PM PEAK HOUR		67	0	114	174	274	0	293	0	0	0	274	75

FACTORS	Direction: Roadway: Movement:	Southbound			Westbound			Northbound			Eastbound		
		N. Fee Ln.			E. 10th St.			N. Fee Ln.			E. 10th St.		
		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left

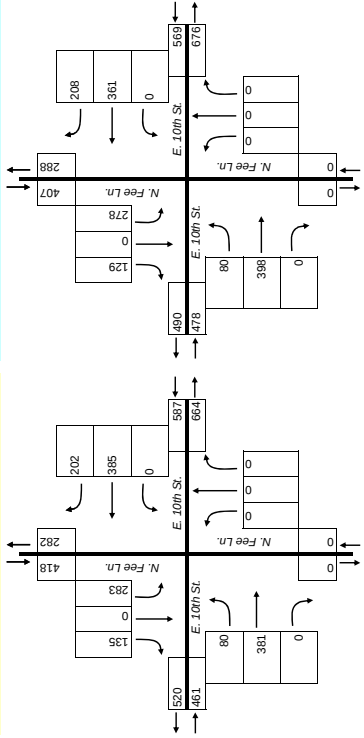
AM PEAK HOUR		0.73	0.00	0.73	0.65	0.87	0.00	N/A	0.00	0.00	0.98	0.72	N/A
PM PEAK HOUR		0.79	0.00	0.63	N/A	0.87	0.78	0.00	0.00	0.00	0.85	0.87	N/A
Overall AM PEAK HOUR FACTOR		=			0.87			Overall PM PEAK HOUR FACTOR			=		
AM Period Intersection Volume:		2295			3956			PM Period Intersection Volume:			3956		

Date of Counts:	Thursday, March 19, 2009
AM Weather Conditions:	Mild, Clear
PM Weather Conditions:	Mild, Clear

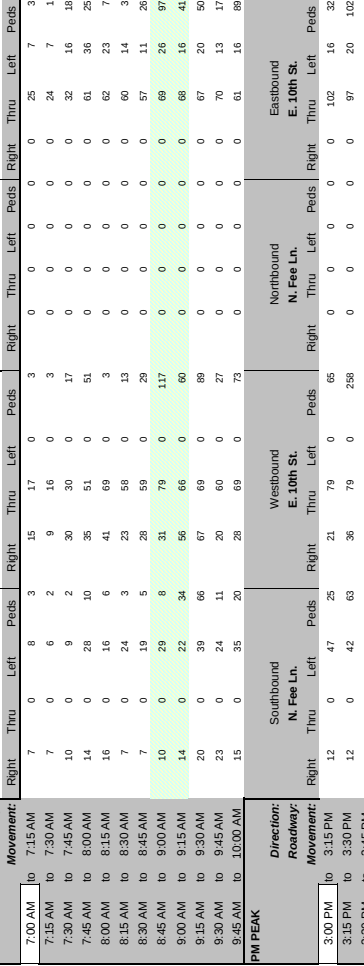
AM INTERSECTION PEAK VOLUMES



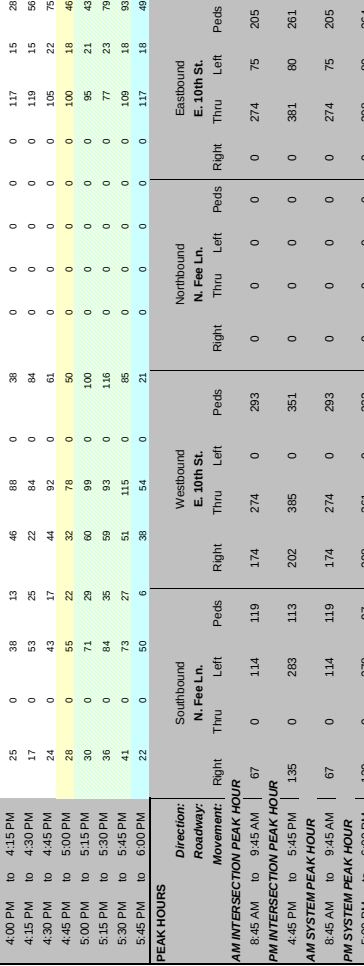
PM INTERSECTION PEAK VOLUMES



AM SYSTEM PEAK VOLUMES



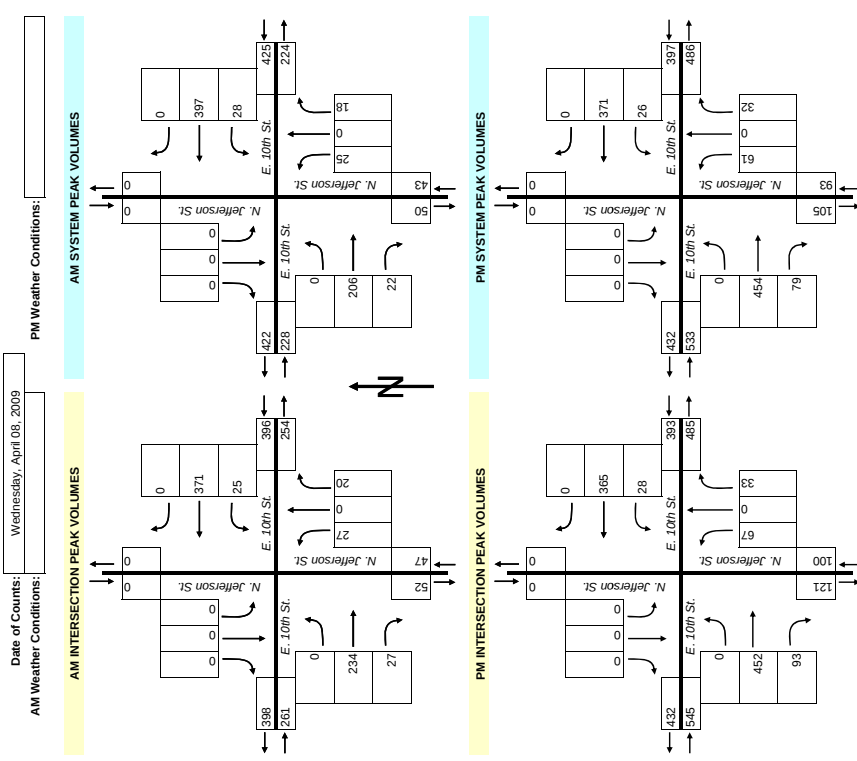
PM SYSTEM PEAK VOLUMES



Gorove/Slade Associates

Project Name: IU North Campus
 Project #: 2202-002
 Location: IU North Campus
 Indiana
 Data Source: Gorove/Slade Associates

Intersection:		Southbound				Westbound				Northbound				Eastbound			
		N. Jefferson St.				E. 10th St.				N. Jefferson St.				E. 10th St.			
		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM PEAK																	
Direction: Roadway: Movement:																	
to 7:15 AM		0	0	0	1	0	36	2	0	1	0	4	0	3	21	0	0
to 7:30 AM		0	0	0	2	0	53	2	0	6	0	6	2	3	29	0	0
to 7:45 AM		0	0	0	4	0	77	2	0	5	0	7	0	6	20	0	0
to 8:00 AM		0	0	0	2	0	112	14	0	5	0	7	0	5	44	0	0
to 8:15 AM		0	0	0	2	0	125	15	0	5	0	1	0	7	45	0	0
to 8:30 AM		0	0	0	2	0	76	13	1	4	0	6	2	5	32	0	2
to 8:45 AM		0	0	0	3	0	85	6	0	5	0	10	0	3	52	0	1
to 9:00 AM		0	0	0	6	0	100	9	0	4	0	6	1	2	37	0	1
to 9:15 AM		0	0	0	6	0	132	5	0	4	0	5	3	3	52	0	2
to 9:30 AM		0	0	0	7	0	98	4	0	6	0	8	0	6	51	0	4
to 9:45 AM		0	0	0	5	0	72	10	1	4	0	6	0	11	66	0	0
to 10:00 AM		0	0	0	8	0	74	6	0	6	0	8	0	7	65	0	1
PM PEAK																	
Direction: Roadway: Movement:																	
to 3:15 PM		0	0	0	3	0	73	5	0	4	0	4	0	9	83	0	0
to 3:30 PM		0	0	0	9	0	77	3	0	11	0	10	1	8	87	0	1
to 3:45 PM		0	0	0	6	0	69	2	0	11	0	12	0	10	111	0	0
to 4:00 PM		0	0	0	12	0	88	5	0	12	0	14	1	14	107	0	6
to 4:15 PM		0	0	0	8	0	81	9	0	13	0	18	1	18	115	0	4
to 4:30 PM		0	0	0	4	0	64	7	1	5	0	11	5	14	88	0	0
to 4:45 PM		0	0	0	6	0	68	7	2	6	0	13	0	21	109	0	0
to 5:00 PM		0	0	0	4	0	94	6	0	7	0	12	0	24	100	0	0
to 5:15 PM		0	0	0	9	0	84	10	0	11	0	16	1	26	119	0	0
to 5:30 PM		0	0	0	9	0	120	3	1	11	0	23	1	23	120	0	0
to 5:45 PM		0	0	0	7	0	67	9	0	4	0	16	0	20	113	0	0
to 6:00 PM		0	0	0	6	0	100	4	0	6	0	6	3	10	102	0	0
PEAK HOURS																	
Direction: Roadway: Movement:																	
to 9:00 AM to 10:00 AM		0	0	0	26	0	371	25	1	20	0	27	3	27	234	0	7
AM INTERSECTION PEAK HOUR																	
to 4:45 PM to 5:45 PM		0	0	0	29	0	365	28	1	33	0	67	2	93	452	0	0
PM INTERSECTION PEAK HOUR																	
to 8:45 AM to 9:45 AM		0	0	0	24	0	397	28	1	18	0	25	4	22	205	0	7
AM SYSTEM PEAK HOUR																	
to 5:00 PM to 6:00 PM		0	0	0	31	0	371	26	1	32	0	61	5	79	454	0	0
PM SYSTEM PEAK HOUR																	
PEAK HOUR FACTORS																	
AM PEAK HOUR		0.00	0.00	0.00	N/A	0.00	0.75	0.70	N/A	0.75	0.00	0.78	N/A	0.50	0.78	0.00	N/A
PM PEAK HOUR		0.00	0.00	0.00	N/A	0.00	0.77	0.65	N/A	0.73	0.00	0.66	N/A	0.76	0.95	0.00	N/A
Overall AM PEAK HOUR FACTOR																	
Overall PM PEAK HOUR FACTOR																	
AM Period Intersection Volume:		1527				PM Period Intersection Volume:				2162				Overall PM PEAK HOUR FACTOR = 0.85			



Date of Counts: Wednesday, April 08, 2009
 AM Weather Conditions:
 PM Weather Conditions:

AM INTERSECTION PEAK VOLUMES

PM INTERSECTION PEAK VOLUMES

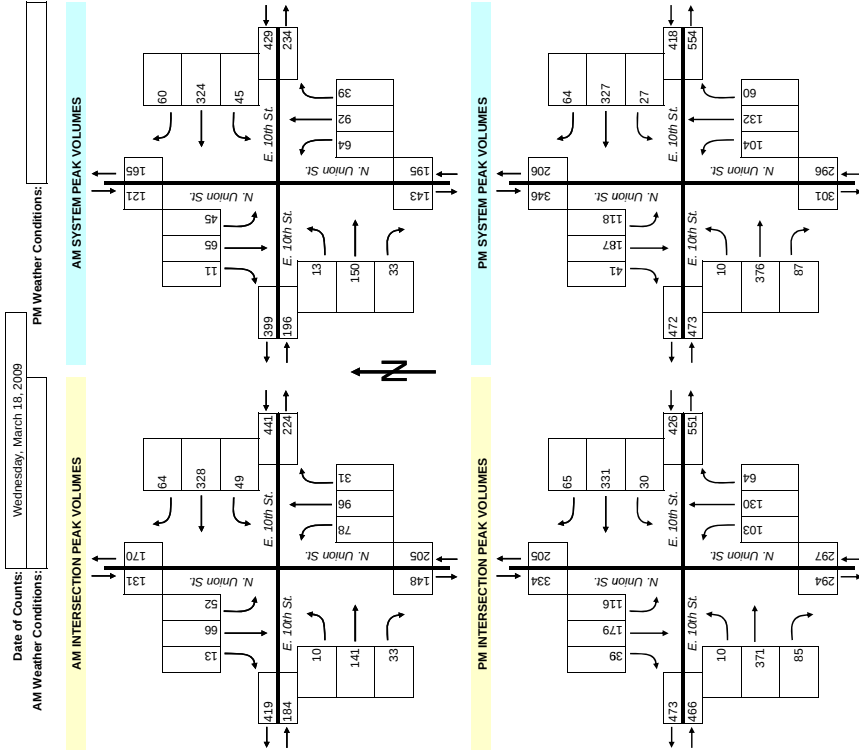
AM SYSTEM PEAK VOLUMES

PM SYSTEM PEAK VOLUMES

Gorove/Slade Associates

Project Name : IU North Campus
 Project Number: 2202-002
 Location: Indiana
 Data Source: Gorove/Slade Associates

Intersection:		Southbound N. Union St.				Westbound E. 10th St.				Northbound N. Union St.				Eastbound E. 10th St.			
Direction: Roadway: Movement:		Right		Thru		Left		Right		Thru		Left		Right		Thru	
		0	3	2	5	4	31	4	4	3	8	6	3	4	18	1	0
AM PEAK	7:00 AM to 7:15 AM	0	7	6	4	12	34	10	7	2	10	5	4	5	20	0	0
	7:15 AM to 7:30 AM	3	6	5	6	58	7	7	6	11	18	9	3	14	3	2	0
	7:30 AM to 7:45 AM	4	18	14	3	19	72	12	8	8	13	23	0	8	38	2	1
	7:45 AM to 8:00 AM	4	18	8	3	14	70	5	5	10	13	17	4	5	44	4	1
	8:00 AM to 8:15 AM	1	11	11	6	14	58	10	5	8	20	8	7	8	28	2	1
	8:15 AM to 8:30 AM	3	12	16	5	13	57	9	11	5	23	22	8	9	27	1	3
	8:30 AM to 8:45 AM	3	20	13	6	19	103	20	7	8	18	21	18	8	38	1	2
	8:45 AM to 9:00 AM	4	21	8	9	13	96	12	12	12	27	15	15	12	39	4	7
	9:00 AM to 9:15 AM	3	13	15	10	19	72	8	13	6	28	20	6	4	36	4	0
	9:15 AM to 9:30 AM	1	11	9	9	9	53	5	22	13	19	8	14	9	36	4	2
PM PEAK	9:30 AM to 9:45 AM	4	12	6	3	16	68	14	21	6	19	18	24	14	52	1	2
	9:45 AM to 10:00 AM																
	3:00 PM to 3:15 PM	5	30	18	9	9	50	5	9	12	20	17	15	15	76	1	11
	3:15 PM to 3:30 PM	0	19	16	6	11	67	9	18	8	23	9	33	19	71	4	3
	3:30 PM to 3:45 PM	2	21	18	11	10	70	9	40	18	22	20	61	17	79	9	10
	3:45 PM to 4:00 PM	9	32	24	19	13	56	6	80	16	26	23	52	10	73	0	20
	4:00 PM to 4:15 PM	4	26	25	5	6	80	7	9	11	20	10	27	26	96	5	7
	4:15 PM to 4:30 PM	2	19	18	3	19	73	6	13	12	21	22	24	17	77	2	3
	4:30 PM to 4:45 PM	1	31	29	5	18	74	5	6	14	22	19	12	20	81	5	1
	4:45 PM to 5:00 PM	5	25	25	20	13	72	6	14	16	22	21	15	21	78	2	5
PEAK HOURS	5:00 PM to 5:15 PM	9	39	21	10	14	92	7	11	19	29	29	19	22	97	6	6
	5:15 PM to 5:30 PM	13	64	34	13	18	90	10	22	13	38	26	37	25	87	1	2
	5:30 PM to 5:45 PM	12	51	36	16	20	77	7	15	16	41	27	23	17	108	1	7
	5:45 PM to 6:00 PM	7	33	27	14	12	68	3	27	12	24	22	18	23	83	2	6
AM INTERSECTION PEAK HOUR		Southbound N. Union St.				Westbound E. 10th St.				Northbound N. Union St.				Eastbound E. 10th St.			
8:30 AM to 9:30 AM		Right		Thru		Left		Right		Thru		Left		Right		Thru	
PM INTERSECTION PEAK HOUR		Right		Thru		Left		Right		Thru		Left		Right		Thru	
5:00 PM to 6:00 PM		Right		Thru		Left		Right		Thru		Left		Right		Thru	
AM SYSTEM PEAK HOUR		Right		Thru		Left		Right		Thru		Left		Right		Thru	
8:45 AM to 9:45 AM		Right		Thru		Left		Right		Thru		Left		Right		Thru	
PM SYSTEM PEAK HOUR		Right		Thru		Left		Right		Thru		Left		Right		Thru	
5:00 PM to 6:00 PM		Right		Thru		Left		Right		Thru		Left		Right		Thru	
PEAK HOUR FACTORS		Right		Thru		Left		Right		Thru		Left		Right		Thru	
AM PEAK HOUR		Right		Thru		Left		Right		Thru		Left		Right		Thru	
PM PEAK HOUR		Right		Thru		Left		Right		Thru		Left		Right		Thru	
Overall AM PEAK HOUR FACTOR		Right		Thru		Left		Right		Thru		Left		Right		Thru	
Overall PM PEAK HOUR FACTOR		Right		Thru		Left		Right		Thru		Left		Right		Thru	
AM Period Intersection Volume:		Right		Thru		Left		Right		Thru		Left		Right		Thru	
PM Period Intersection Volume:		Right		Thru		Left		Right		Thru		Left		Right		Thru	
Overall PM PEAK HOUR FACTOR		Right		Thru		Left		Right		Thru		Left		Right		Thru	
Overall AM PEAK HOUR FACTOR		Right		Thru		Left		Right		Thru		Left		Right		Thru	
Overall PM PEAK HOUR FACTOR		Right		Thru		Left		Right		Thru		Left		Right		Thru	

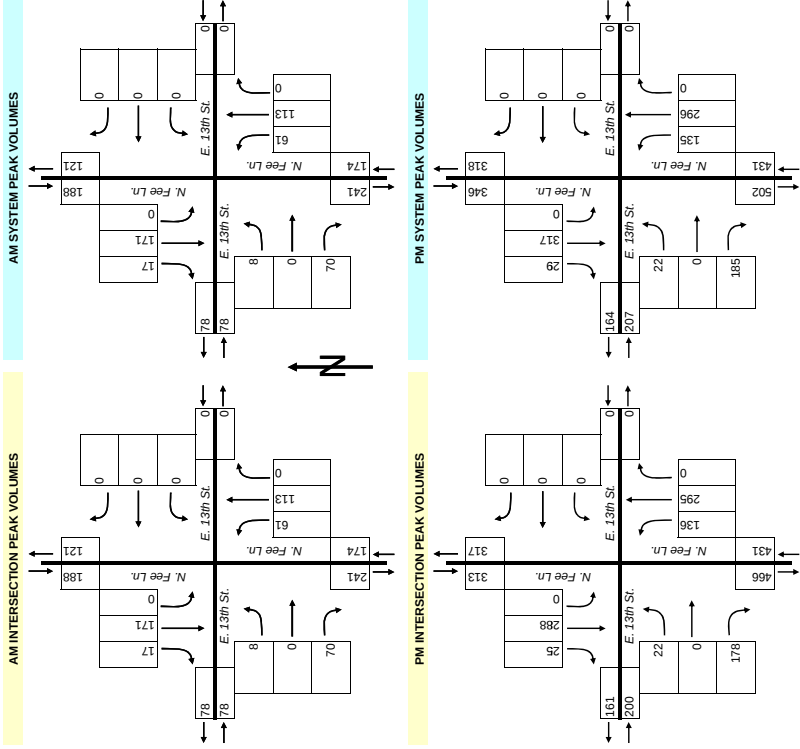


Gorove/Slade Associates

Project Name : IU North Campus
 Project Number : 2202-002
 Location : Indiana
 Data Source : Gorove/Slade Associates

Intersection:													
Direction: Roadway: Movement:	Southbound N. Fee Ln.			Westbound E. 13th St.			Northbound N. Fee Ln.			Eastbound E. 13th St.			Peds
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	
7:00 AM to 7:15 AM	0	11	0	0	0	0	0	9	1	0	0	0	0
7:15 AM to 7:30 AM	2	36	0	0	0	0	0	11	2	0	14	0	9
7:30 AM to 7:45 AM	0	45	0	1	0	0	7	0	21	11	0	17	0
7:45 AM to 8:00 AM	3	67	0	5	0	0	24	0	19	8	0	22	0
8:00 AM to 8:15 AM	4	49	0	2	0	0	9	0	15	13	0	12	0
8:15 AM to 8:30 AM	0	37	0	5	0	0	7	0	21	6	0	7	0
8:30 AM to 8:45 AM	4	30	0	8	0	0	5	0	16	9	0	7	0
8:45 AM to 9:00 AM	5	39	0	11	0	0	10	0	23	11	1	21	0
9:00 AM to 9:15 AM	2	37	0	9	0	0	27	0	27	15	0	21	0
9:15 AM to 9:30 AM	7	56	0	22	0	0	52	0	31	17	0	17	0
9:30 AM to 9:45 AM	3	39	0	6	0	0	3	0	32	18	0	11	0
9:45 AM to 10:00 AM	0	28	0	7	0	0	8	0	21	20	0	19	0
PM PEAK													
Direction: Roadway: Movement:	Southbound N. Fee Ln.			Westbound E. 13th St.			Northbound N. Fee Ln.			Eastbound E. 13th St.			Peds
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Peds
3:00 PM to 3:15 PM	1	41	0	2	0	0	6	0	35	10	1	19	1
3:15 PM to 3:30 PM	5	49	0	2	0	0	40	0	35	16	2	17	0
3:30 PM to 3:45 PM	3	56	0	8	0	0	47	0	43	25	3	30	0
3:45 PM to 4:00 PM	4	46	0	2	0	0	19	0	66	30	0	32	0
4:00 PM to 4:15 PM	4	53	0	1	0	0	17	0	92	28	4	30	0
4:15 PM to 4:30 PM	4	34	0	9	0	0	19	0	43	23	2	25	0
4:30 PM to 4:45 PM	4	47	0	44	0	0	14	0	55	30	4	32	0
4:45 PM to 5:00 PM	5	44	0	33	0	0	6	0	54	19	0	26	0
5:00 PM to 5:15 PM	7	88	0	36	0	0	24	0	97	30	1	38	0
5:15 PM to 5:30 PM	6	73	0	22	0	0	47	0	79	37	4	59	0
5:30 PM to 5:45 PM	7	83	0	25	0	0	0	0	65	41	2	55	0
5:45 PM to 6:00 PM	9	73	0	33	0	0	14	0	55	18	4	33	0
PEAK HOURS													
Direction: Roadway: Movement:	Southbound N. Fee Ln.			Westbound E. 13th St.			Northbound N. Fee Ln.			Eastbound E. 13th St.			Peds
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Peds
8:45 AM to 9:45 AM	17	171	0	48	0	0	0	113	61	1	70	0	8
AM INTERSECTION PEAK HOUR													
PM INTERSECTION PEAK HOUR													
5:00 PM to 6:00 PM	25	288	0	116	0	0	0	295	136	7	178	0	22
AM SYSTEM PEAK HOUR													
8:45 AM to 9:45 AM	17	171	0	48	0	0	0	113	61	1	70	0	8
PM SYSTEM PEAK HOUR													
5:00 PM to 6:00 PM	29	317	0	116	0	0	0	296	135	11	185	0	22
PEAK HOUR FACTORS													
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	
AM PEAK HOUR	0.61	0.76	0.00	N/A	0.00	0.00	0.00	N/A	0.00	0.88	0.85	0.83	0.00
PM PEAK HOUR	0.81	0.90	0.00	N/A	0.00	0.00	0.00	N/A	0.00	0.76	0.82	N/A	0.00
Overall AM PEAK HOUR FACTOR				= 0.85						Overall PM PEAK HOUR FACTOR			= 0.91
AM Period Intersection Volume:	1051						PM Period Intersection Volume:			2229			

Date of Counts: Wednesday, March 18, 2009
 AM Weather Conditions:
 PM Weather Conditions:



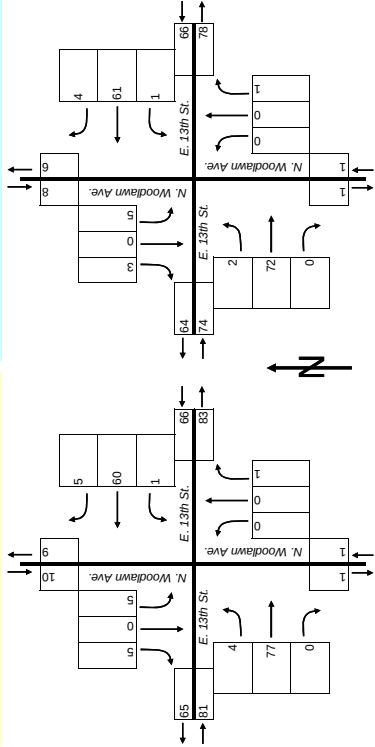
Gorove/Slade Associates

Project Name : IU North Campus
 Project Number: 2202-002
 Location: Indiana
 Data Source: Gorove/Slade Associates

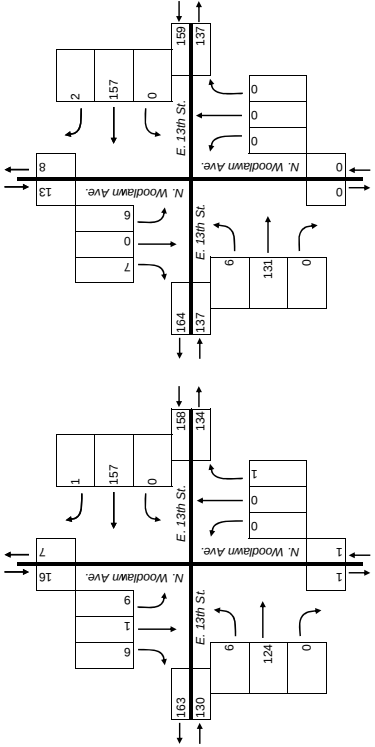
Intersection:												
Direction: Roadway: Movement:	Southbound N. Woodlawn Ave.			Westbound E. 13th St.			Northbound N. Woodlawn Ave.			Eastbound E. 13th St.		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
7:00 AM to 7:15 AM	0	0	0	0	3	0	0	1	0	0	0	9
7:15 AM to 7:30 AM	1	1	1	1	4	0	0	1	0	0	1	0
7:30 AM to 7:45 AM	0	2	2	0	5	0	0	0	0	1	0	0
7:45 AM to 8:00 AM	1	1	0	1	14	0	0	1	0	0	27	0
8:00 AM to 8:15 AM	0	3	1	1	6	0	0	0	0	0	25	1
8:15 AM to 8:30 AM	1	0	0	1	2	0	0	0	0	0	14	0
8:30 AM to 8:45 AM	1	0	0	1	7	0	1	0	0	0	22	0
8:45 AM to 9:00 AM	0	2	4	2	25	0	0	0	0	0	20	1
9:00 AM to 9:15 AM	0	0	2	5	0	14	1	0	0	1	0	19
9:15 AM to 9:30 AM	0	0	1	3	0	11	0	0	0	0	13	0
9:30 AM to 9:45 AM	1	0	1	3	0	11	0	0	0	0	13	0
9:45 AM to 10:00 AM	2	0	0	5	3	10	0	2	0	0	25	2
AM PEAK												
Direction: Roadway: Movement:	Southbound N. Woodlawn Ave.			Westbound E. 13th St.			Northbound N. Woodlawn Ave.			Eastbound E. 13th St.		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
3:00 PM to 3:15 PM	4	0	0	3	2	17	0	0	1	1	10	3
3:15 PM to 3:30 PM	4	0	1	4	2	23	0	0	1	2	9	0
3:30 PM to 3:45 PM	2	0	2	9	3	16	0	1	0	0	23	0
3:45 PM to 4:00 PM	1	0	1	5	0	29	0	2	0	0	34	1
4:00 PM to 4:15 PM	2	0	2	3	0	56	0	2	0	0	30	0
4:15 PM to 4:30 PM	2	0	0	6	2	21	0	2	0	0	11	2
4:30 PM to 4:45 PM	1	0	0	4	0	27	0	0	0	0	14	1
4:45 PM to 5:00 PM	1	1	4	6	0	25	0	0	1	0	0	19
5:00 PM to 5:15 PM	3	0	2	2	0	53	0	0	0	0	32	2
5:15 PM to 5:30 PM	1	0	0	7	1	46	0	1	0	0	43	3
5:30 PM to 5:45 PM	1	0	3	4	0	33	0	2	0	0	30	1
5:45 PM to 6:00 PM	2	0	1	1	1	25	0	0	0	1	26	0
PM PEAK												
Direction: Roadway: Movement:	Southbound N. Woodlawn Ave.			Westbound E. 13th St.			Northbound N. Woodlawn Ave.			Eastbound E. 13th St.		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
9:00 AM to 10:00 AM	5	0	5	17	5	60	1	2	1	0	0	77
10:00 AM to 11:00 AM	6	1	9	19	1	157	0	3	1	0	0	124
11:00 AM to 12:00 PM	3	0	5	18	4	61	1	0	1	0	0	72
AM SYSTEM PEAK HOUR												
5:00 PM to 6:00 PM	7	0	6	14	2	157	0	3	0	0	0	131
6:00 PM to 7:00 PM												
PM SYSTEM PEAK HOUR												
PEAK HOUR FACTORS												
AM PEAK HOUR	0.38	0.00	0.63	N/A	0.50	0.61	0.25	N/A	0.25	0.00	0.00	0.50
PM PEAK HOUR	0.58	0.00	0.50	N/A	0.50	0.74	0.00	N/A	0.00	0.00	0.00	0.76
Overall AM PEAK HOUR FACTOR	= 0.72			= 0.72			= 0.72			= 0.82		
Overall PM PEAK HOUR FACTOR	= 0.82			= 0.82			= 0.82			= 0.82		
AM Period Intersection Volume:	385			723			723			723		

Date of Counts: Wednesday, March 18, 2009
 AM Weather Conditions:
 PM Weather Conditions:

AM INTERSECTION PEAK VOLUMES



PM INTERSECTION PEAK VOLUMES

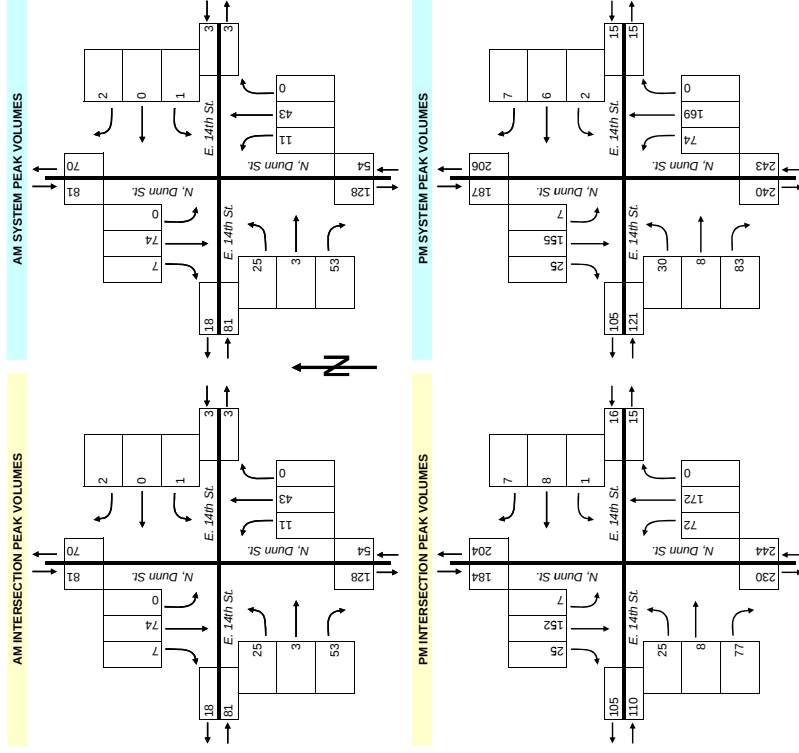


GorovSlade Associates

Project Name : IU North Campus
 Project Number: 2202-002
 Location: Indiana
 Data Source: GorovSlade Associates

Intersection:		Southbound N. Dunn St.			Westbound E. 14th St.			Northbound N. Dunn St.			Eastbound E. 14th St.		
Direction: Roadway:	Movement:	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM PEAK													
7:00 AM to 7:15 AM		0	4	0	0	0	2	0	0	0	0	5	1
7:15 AM to 7:30 AM		2	11	0	0	0	0	0	5	0	0	10	0
7:30 AM to 7:45 AM		0	9	2	0	0	0	0	6	2	0	7	3
7:45 AM to 8:00 AM		2	21	0	0	0	1	0	9	1	0	34	8
8:00 AM to 8:15 AM		1	8	2	0	0	0	0	1	5	0	15	0
8:15 AM to 8:30 AM		3	12	0	0	0	0	0	1	4	0	6	1
8:30 AM to 8:45 AM		0	12	0	2	0	1	0	2	1	0	8	2
8:45 AM to 9:00 AM		1	31	0	0	0	0	0	14	1	1	17	0
9:00 AM to 9:15 AM		4	19	0	0	2	0	0	9	4	0	21	1
9:15 AM to 9:30 AM		0	12	0	1	0	0	0	9	4	0	10	1
9:30 AM to 9:45 AM		2	12	0	0	0	0	0	11	2	1	5	1
9:45 AM to 10:00 AM		1	22	1	0	0	0	0	9	3	0	11	0
PM PEAK													
3:00 PM to 3:15 PM		9	18	0	0	1	1	0	17	7	0	11	2
3:15 PM to 3:30 PM		4	17	1	0	0	0	0	28	12	0	16	2
3:30 PM to 3:45 PM		5	30	3	1	2	4	0	1	31	19	1	20
3:45 PM to 4:00 PM		7	32	1	0	3	0	2	1	32	16	0	17
4:00 PM to 4:15 PM		5	25	1	1	3	0	1	0	35	16	1	12
4:15 PM to 4:30 PM		4	18	3	1	2	3	0	1	26	5	0	12
4:30 PM to 4:45 PM		5	27	1	2	2	0	4	0	33	11	0	15
4:45 PM to 5:00 PM		5	33	0	2	2	2	0	0	24	11	1	10
5:00 PM to 5:15 PM		3	42	3	1	2	2	0	0	52	22	0	17
5:15 PM to 5:30 PM		6	42	3	0	0	3	0	0	49	18	2	31
5:30 PM to 5:45 PM		11	35	1	0	3	1	1	3	47	21	0	19
5:45 PM to 6:00 PM		5	35	0	1	2	0	1	0	21	13	1	16
PEAK HOURS													
Direction: Roadway:	Movement:	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM INTERSECTION PEAK HOUR													
8:45 AM to 9:45 AM		7	74	0	1	2	0	1	0	43	11	2	53
PM INTERSECTION PEAK HOUR													
5:00 PM to 6:00 PM		25	152	7	3	7	8	1	3	0	172	72	3
AM SYSTEM PEAK HOUR													
8:45 AM to 9:45 AM		7	74	0	1	2	0	1	2	0	43	11	2
PM SYSTEM PEAK HOUR													
5:00 PM to 6:00 PM		25	155	7	2	7	6	2	3	0	169	74	3
PEAK HOUR FACTORS													
Direction: Roadway:	Movement:	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM PEAK HOUR		0.44	0.60	0.00	N/A	0.25	0.00	0.25	N/A	0.00	0.77	0.69	0.63
PM PEAK HOUR		0.57	0.92	0.58	N/A	0.58	0.50	0.50	N/A	0.00	0.81	0.84	0.67
Overall AM PEAK HOUR FACTOR		= 0.75			= 0.75			= 0.75			= 0.88		
Overall PM PEAK HOUR FACTOR		= 0.75			= 0.75			= 0.75			= 0.88		
AM Period Intersection Volume:		537			537			537			537		
PM Period Intersection Volume:		537			537			537			537		

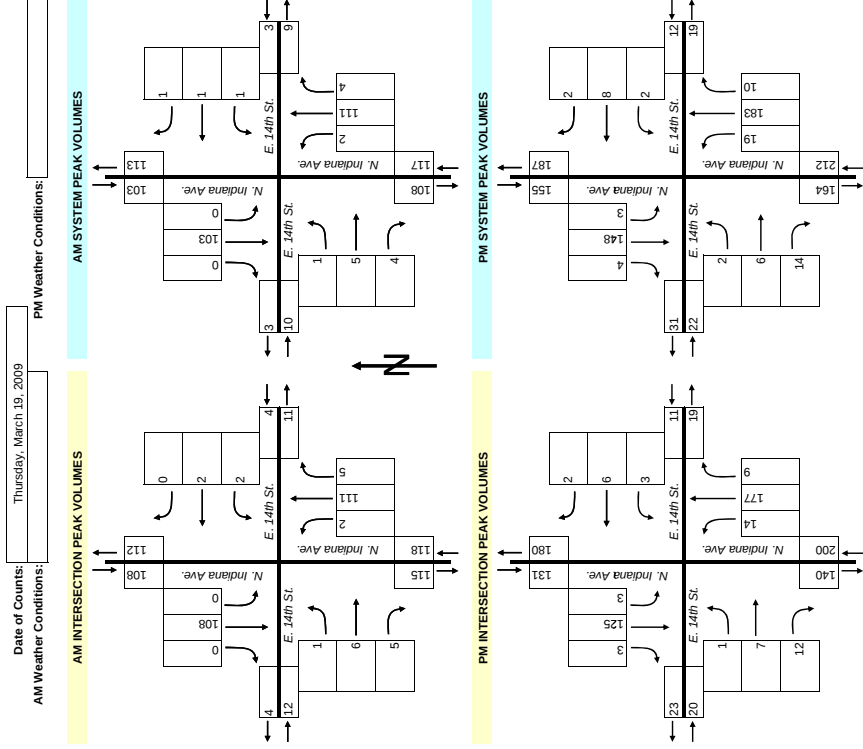
Date of Counts: Wednesday, March 18, 2009
 AM Weather Conditions: PM Weather Conditions:



Gorove/Shade Associates

Project Name	IU North Campus
Project Number	2202-002
Project Location	Indiana
Data Source	Gorove/Shade Associates

Intersection:	Southbound N. Indiana Ave.				Westbound E. 14th St.				Northbound N. Indiana Ave.				Eastbound E. 14th St.			
	Right		Left		Right		Left		Right		Left		Right		Left	
	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds	Thru	Peds
AM PEAK																
Direction: Roadway: Movement:																
7:00 AM to 7:15 AM	0	9	0	0	0	0	0	0	0	6	0	0	0	0	2	0
7:15 AM to 7:30 AM	0	24	0	1	0	0	0	4	0	16	0	0	0	0	0	2
7:30 AM to 7:45 AM	0	13	0	1	0	0	0	2	2	13	0	4	0	2	0	0
7:45 AM to 8:00 AM	0	32	0	0	0	0	0	2	3	17	0	1	2	2	0	1
8:00 AM to 8:15 AM	0	16	0	0	0	0	1	0	1	13	2	1	2	1	0	1
8:15 AM to 8:30 AM	0	15	0	0	0	1	0	1	0	21	2	2	0	0	0	1
8:30 AM to 8:45 AM	0	15	0	0	1	1	1	1	1	19	0	0	1	1	0	1
8:45 AM to 9:00 AM	0	28	0	0	0	0	0	0	2	33	0	1	1	1	1	2
9:00 AM to 9:15 AM	0	34	0	0	0	0	4	1	28	1	0	1	1	1	0	5
9:15 AM to 9:30 AM	0	31	0	1	0	1	1	1	31	1	2	2	3	0	7	
9:30 AM to 9:45 AM	0	10	0	0	1	0	0	0	0	19	0	0	0	0	0	1
9:45 AM to 10:00 AM	0	8	0	0	0	0	0	0	1	23	0	1	0	0	1	5
PM PEAK																
Direction: Roadway: Movement:																
3:00 PM to 3:15 PM	0	18	0	0	1	1	0	0	0	34	2	0	0	1	0	1
3:15 PM to 3:30 PM	0	24	0	1	0	1	0	0	0	34	2	0	0	1	1	1
3:30 PM to 3:45 PM	0	26	0	1	1	1	0	0	0	34	3	1	1	1	1	2
3:45 PM to 4:00 PM	0	37	1	2	0	0	0	4	1	47	1	3	2	1	0	2
4:00 PM to 4:15 PM	2	21	0	2	2	4	2	2	0	41	4	1	2	3	0	4
4:15 PM to 4:30 PM	1	27	0	0	1	1	0	0	2	37	6	1	1	1	0	3
4:30 PM to 4:45 PM	1	17	2	0	0	0	1	0	0	33	4	0	1	1	1	1
4:45 PM to 5:00 PM	0	20	0	0	0	0	1	2	1	33	2	0	0	1	0	2
5:00 PM to 5:15 PM	2	44	0	0	0	3	1	1	1	42	1	0	2	0	0	0
5:15 PM to 5:30 PM	1	37	3	1	2	1	0	0	3	60	8	2	4	4	0	1
5:30 PM to 5:45 PM	0	24	0	0	0	2	1	4	4	42	3	5	6	2	1	1
5:45 PM to 6:00 PM	1	43	0	0	0	2	0	0	2	39	7	0	2	0	1	1
PEAK HOURS																
Direction: Roadway: Movement:																
8:30 AM to 9:30 AM	0	108	0	1	0	2	2	6	5	111	2	3	5	6	1	15
PM INTERSECTION PEAK HOUR																
5:00 PM to 6:00 PM	3	125	3	1	2	6	3	7	9	177	14	7	12	7	1	4
AM SYSTEM PEAK HOUR																
8:45 AM to 9:45 AM	0	103	0	1	1	1	1	5	4	111	2	3	4	5	1	15
PM SYSTEM PEAK HOUR																
5:00 PM to 6:00 PM	4	148	3	1	2	8	2	5	10	183	19	7	14	6	2	3
PEAK HOUR FACTORS																
AM PEAK HOUR	0.00	0.76	0.00	N/A	0.25	0.25	0.25	N/A	0.50	0.84	0.50	N/A	0.50	0.42	0.25	N/A
PM PEAK HOUR	0.50	0.84	0.25	N/A	0.25	0.67	0.50	N/A	0.63	0.76	0.59	N/A	0.58	0.38	0.50	N/A
Overall AM PEAK HOUR FACTOR	= 0.82				= 0.82				Overall PM PEAK HOUR FACTOR				= 0.82			
AM Period Intersection Volume:	523				PM Period Intersection Volume:				950							



Date of Counts: Thursday, March 19, 2009

AM Weather Conditions: PM Weather Conditions:

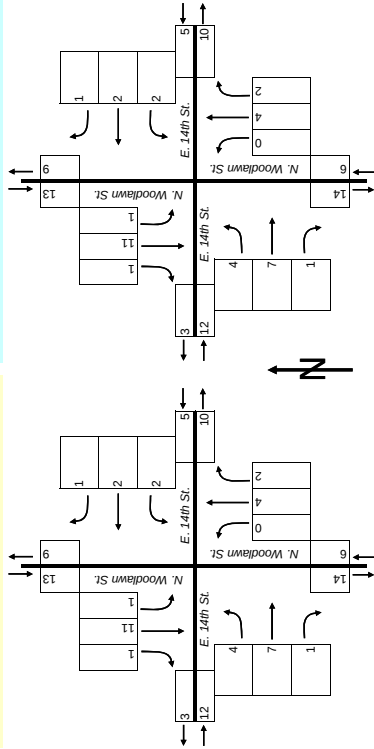
Gorove/Slade Associates

Project Name
IU North Campus
Project Number IU North Camp
2202-002
Project Location
Indiana
Data Source
Gorove/Slade Associates

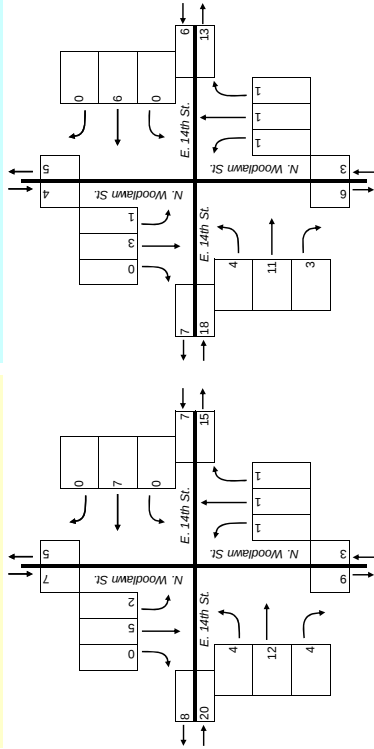
Intersection:		Southbound N. Woodlawn St.			Westbound E. 14th St.			Northbound N. Woodlawn St.			Eastbound E. 14th St.		
Direction: Roadway: Movement:		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM PEAK													
7:00 AM to 7:15 AM		0	0	0	0	0	0	0	2	1	0	1	0
7:15 AM to 7:30 AM		0	0	1	0	0	0	0	0	2	0	0	0
7:30 AM to 7:45 AM		0	1	0	0	0	0	1	0	0	0	0	1
7:45 AM to 8:00 AM		0	1	0	0	0	2	0	2	1	0	1	3
8:00 AM to 8:15 AM		0	0	0	0	0	0	0	0	0	0	1	2
8:15 AM to 8:30 AM		0	1	1	1	0	1	0	0	0	1	1	0
8:30 AM to 8:45 AM		0	1	0	1	0	0	1	1	0	0	0	2
8:45 AM to 9:00 AM		0	4	0	1	0	0	0	1	0	0	0	2
9:00 AM to 9:15 AM		1	1	0	0	1	1	1	1	0	1	1	2
9:15 AM to 9:30 AM		0	2	0	1	0	1	0	1	0	0	0	2
9:30 AM to 9:45 AM		0	4	1	0	0	2	0	1	0	0	0	1
9:45 AM to 10:00 AM		0	3	0	0	0	0	0	0	0	0	0	1
PM PEAK													
3:00 PM to 3:15 PM		0	1	0	0	1	0	0	1	1	0	0	3
3:15 PM to 3:30 PM		0	1	0	1	0	1	0	0	1	0	1	0
3:30 PM to 3:45 PM		0	2	0	0	0	0	0	1	0	1	0	1
3:45 PM to 4:00 PM		0	1	1	0	0	0	0	1	0	0	0	3
4:00 PM to 4:15 PM		1	3	1	1	0	3	1	0	1	0	0	1
4:15 PM to 4:30 PM		0	3	0	0	1	0	1	0	0	0	0	1
4:30 PM to 4:45 PM		0	2	0	1	0	2	0	2	0	1	0	0
4:45 PM to 5:00 PM		0	2	1	2	0	1	0	0	0	0	1	1
5:00 PM to 5:15 PM		0	2	1	0	0	1	0	0	0	0	1	0
5:15 PM to 5:30 PM		0	0	0	3	0	2	0	1	1	0	2	4
5:30 PM to 5:45 PM		0	1	0	0	0	3	0	0	0	0	0	7
5:45 PM to 6:00 PM		0	0	0	0	0	0	0	0	0	0	0	0
PEAK HOURS													
Direction: Roadway: Movement:		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM INTERSECTION PEAK HOUR													
8:45 AM to 9:45 AM		1	11	1	2	1	2	2	1	2	4	0	1
PM INTERSECTION PEAK HOUR													
4:45 PM to 5:45 PM		0	5	2	5	0	7	0	0	1	1	0	4
AM SYSTEM PEAK HOUR													
8:45 AM to 9:45 AM		1	11	1	2	1	2	2	1	2	4	0	1
PM SYSTEM PEAK HOUR													
5:00 PM to 6:00 PM		0	3	1	3	0	6	0	0	1	1	1	4
PEAK HOUR FACTORS													
AM PEAK HOUR		0.25	0.69	0.25	N/A	0.25	0.50	0.25	N/A	0.50	1.00	0.00	0.25
PM PEAK HOUR		0.00	0.38	0.25	N/A	0.00	0.50	0.00	N/A	0.25	0.25	0.38	0.50
Overall AM PEAK HOUR FACTOR		= 0.82			= 0.82			= 0.52			= 0.52		
Overall PM PEAK HOUR FACTOR		= 0.82			= 0.82			= 0.52			= 0.52		
AM Period Intersection Volume:		70			70			89			89		
PM Period Intersection Volume:		70			70			89			89		

Date of Counts: Thursday, March 19, 2009
AM Weather Conditions: PM Weather Conditions:

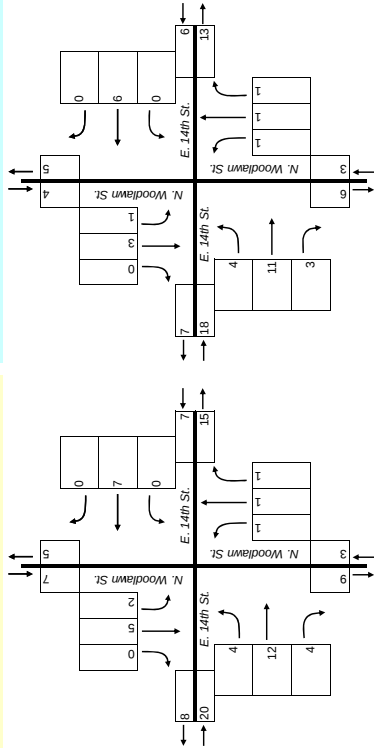
AM INTERSECTION PEAK VOLUMES



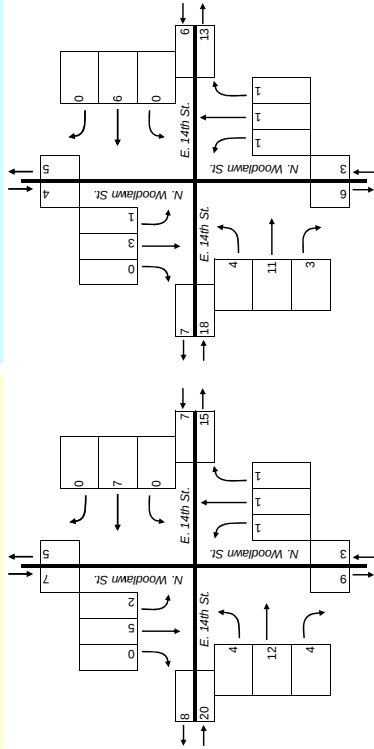
PM INTERSECTION PEAK VOLUMES



AM SYSTEM PEAK VOLUMES



PM SYSTEM PEAK VOLUMES



Gorove/Slade Associates

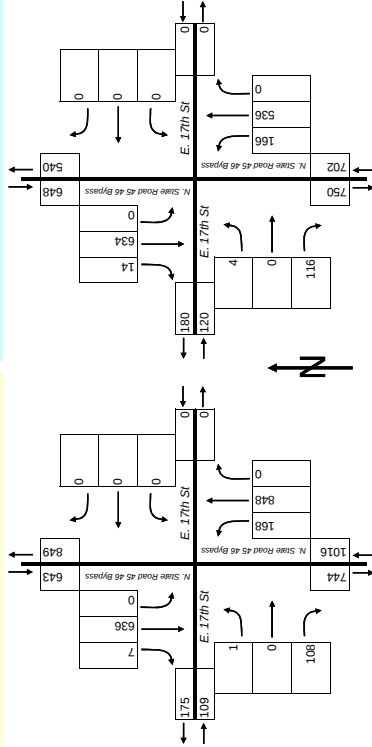
Project Name	IU North Campus
Project Number	2202-002
Project Location	Indiana
Data Source	Gorove/Slade Associates

E. 17th St

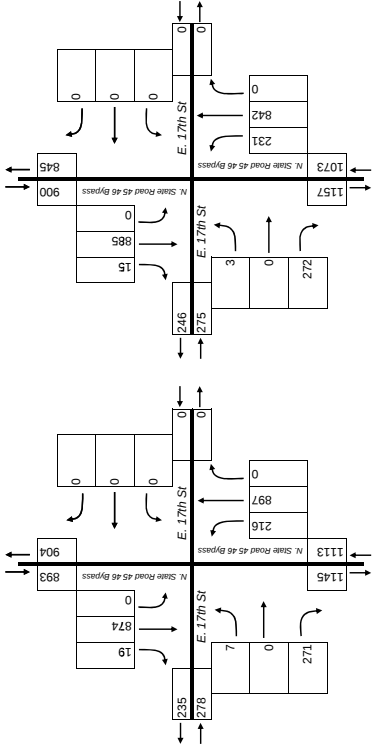
Intersection:		Southbound			Westbound			Northbound			Eastbound		
Direction:		N. State Road 45 46 Bypass			E. 17th St			N. State Road 45 46 Bypass			E. 17th St		
Movement:		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM PEAK													
7:00 AM to 7:15 AM		3	81	0	0	0	0	0	116	19	0	10	0
7:15 AM to 7:30 AM		3	149	0	0	0	0	0	205	37	0	11	0
7:30 AM to 7:45 AM		3	161	0	0	0	0	0	255	54	0	16	0
7:45 AM to 8:00 AM		1	182	0	0	0	0	0	207	44	0	48	0
8:00 AM to 8:15 AM		0	144	0	0	0	0	0	181	33	0	33	0
8:15 AM to 8:30 AM		3	145	0	0	0	0	0	152	26	0	26	0
8:30 AM to 8:45 AM		1	151	0	0	0	0	0	117	52	0	35	0
8:45 AM to 9:00 AM		4	238	0	0	0	0	0	162	45	0	25	0
9:00 AM to 9:15 AM		6	149	0	0	0	0	0	139	55	0	28	0
9:15 AM to 9:30 AM		1	140	0	0	0	0	0	111	41	0	31	0
9:30 AM to 9:45 AM		3	137	0	0	0	0	0	124	25	0	32	0
9:45 AM to 10:00 AM		5	135	0	0	0	0	0	111	46	0	30	0
PM PEAK													
Direction:		Southbound			Westbound			Northbound			Eastbound		
Roadway:		N. State Road 45 46 Bypass			E. 17th St			N. State Road 45 46 Bypass			E. 17th St		
Movement:		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
3:00 PM to 3:15 PM		5	190	0	0	0	0	0	221	42	0	59	1
3:15 PM to 3:30 PM		5	183	0	0	0	0	0	190	50	2	64	0
3:30 PM to 3:45 PM		4	183	0	0	0	0	0	199	41	0	56	0
3:45 PM to 4:00 PM		0	210	0	0	0	0	0	197	40	0	74	0
4:00 PM to 4:15 PM		2	179	0	0	0	0	0	240	51	0	64	0
4:15 PM to 4:30 PM		2	185	0	0	0	0	0	218	44	0	65	0
4:30 PM to 4:45 PM		1	196	0	0	0	0	0	236	43	0	65	0
4:45 PM to 5:00 PM		9	207	0	0	0	0	0	211	42	0	63	0
5:00 PM to 5:15 PM		7	224	0	0	0	0	0	226	56	0	67	0
5:15 PM to 5:30 PM		2	247	0	0	0	0	0	224	73	0	76	0
5:30 PM to 5:45 PM		4	206	0	0	0	0	0	197	51	0	75	0
5:45 PM to 6:00 PM		2	208	0	0	0	0	0	195	49	0	54	0
PEAK HOURS													
Direction:		Southbound			Westbound			Northbound			Eastbound		
Roadway:		N. State Road 45 46 Bypass			E. 17th St			N. State Road 45 46 Bypass			E. 17th St		
Movement:		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM INTERSECTION PEAK HOUR		7	636	0	0	0	0	0	848	168	0	108	0
PM INTERSECTION PEAK HOUR		19	874	0	0	0	0	0	897	216	0	271	0
AM SYSTEM PEAK HOUR		14	634	0	0	0	0	0	536	166	0	116	0
PM SYSTEM PEAK HOUR		15	885	0	0	0	0	0	842	231	0	272	0
PEAK HOUR FACTORS													
AM PEAK HOUR		0.58	0.76	0.00	N/A	0.00	0.00	0.00	0.83	0.75	N/A	0.91	0.00
PM PEAK HOUR		0.54	0.90	0.00	N/A	0.00	0.00	0.00	0.93	0.79	N/A	0.89	0.00
Overall AM PEAK HOUR FACTOR		= 0.83			= 0.83			Overall PM PEAK HOUR FACTOR			= 0.90		
AM Period Intersection Volume:		4504			PM Period Intersection Volume:			6401					

Date of Counts: Thursday, March 19, 2009
AM Weather Conditions: PM Weather Conditions:

AM INTERSECTION PEAK VOLUMES



PM INTERSECTION PEAK VOLUMES

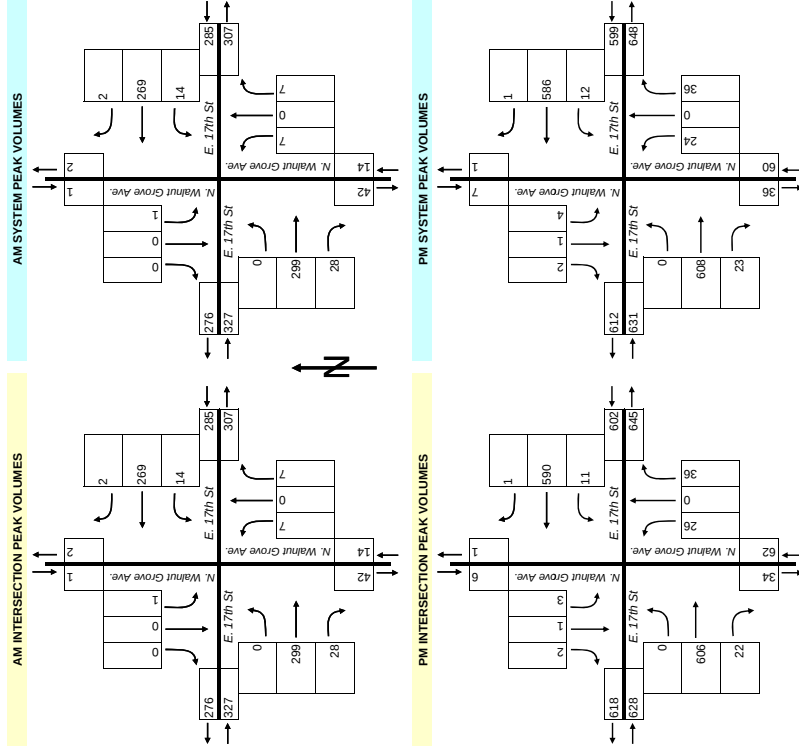


Gorove/Shade Associates

Project Name
IU North Campus
Project Number
2202-002
Project Location
Indiana
Data Source
Gorove/Shade Associates

Intersection:		Southbound N. Walnut Grove Ave.			Westbound E. 17th St			Northbound N. Walnut Grove Ave.			Eastbound E. 17th St		
Direction: Roadway: Movement:		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM PEAK													
7:00 AM to 7:15 AM		0	0	0	0	34	0	0	0	0	1	7	36
7:15 AM to 7:30 AM		0	0	0	2	0	49	2	0	0	1	1	7
7:30 AM to 7:45 AM		0	0	1	1	0	68	2	0	1	0	3	5
7:45 AM to 8:00 AM		0	0	0	0	65	3	1	1	0	3	2	18
8:00 AM to 8:15 AM		0	0	0	0	49	4	0	1	0	3	2	110
8:15 AM to 8:30 AM		0	0	0	1	0	34	2	3	0	1	0	7
8:30 AM to 8:45 AM		0	0	0	2	0	46	1	2	2	0	1	2
8:45 AM to 9:00 AM		0	0	1	0	0	76	5	2	3	0	3	10
9:00 AM to 9:15 AM		0	0	0	0	1	64	6	0	2	0	1	5
9:15 AM to 9:30 AM		0	0	0	1	1	81	1	0	1	0	2	6
9:30 AM to 9:45 AM		0	0	0	1	0	48	2	1	1	0	1	1
9:45 AM to 10:00 AM		0	0	0	0	2	49	4	0	1	0	2	4
PM PEAK													
3:00 PM to 3:15 PM		0	0	1	6	1	87	0	1	2	0	7	8
3:15 PM to 3:30 PM		0	0	0	3	1	88	4	1	6	1	9	3
3:30 PM to 3:45 PM		0	0	1	4	0	85	7	2	5	0	7	7
3:45 PM to 4:00 PM		0	0	0	4	1	95	2	2	8	0	9	18
4:00 PM to 4:15 PM		0	0	0	1	0	129	2	1	7	0	10	4
4:15 PM to 4:30 PM		0	0	1	6	0	108	2	4	4	0	6	8
4:30 PM to 4:45 PM		0	0	3	1	0	124	2	0	6	0	10	2
4:45 PM to 5:00 PM		0	0	1	1	0	119	1	1	4	0	9	13
5:00 PM to 5:15 PM		0	1	0	6	1	172	5	2	8	0	4	9
5:15 PM to 5:30 PM		0	0	0	11	0	144	4	3	20	0	10	8
5:30 PM to 5:45 PM		2	0	2	1	0	155	1	0	4	0	3	15
5:45 PM to 6:00 PM		0	0	2	8	0	115	2	0	4	0	7	11
PEAK HOURS													
Direction: Roadway: Movement:		Southbound N. Walnut Grove Ave.			Westbound E. 17th St			Northbound N. Walnut Grove Ave.			Eastbound E. 17th St		
AM INTERSECTION PEAK HOUR		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
8:45 AM to 9:45 AM		0	0	1	2	2	269	14	3	7	0	7	15
PM INTERSECTION PEAK HOUR		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
4:45 PM to 5:45 PM		2	1	3	19	1	590	11	6	36	0	26	47
AM SYSTEM PEAK HOUR													
8:45 AM to 9:45 AM		0	0	1	2	2	269	14	3	7	0	7	15
PM SYSTEM PEAK HOUR													
5:00 PM to 6:00 PM		2	1	4	26	1	586	12	5	36	0	24	45
PEAK HOUR													
FACTORS		Southbound N. Walnut Grove Ave.			Westbound E. 17th St			Northbound N. Walnut Grove Ave.			Eastbound E. 17th St		
AM PEAK HOUR		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
PM PEAK HOUR		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
Overall AM PEAK HOUR FACTOR		0.00	0.00	0.25	N/A	0.50	0.83	0.58	N/A	0.58	0.00	0.58	0.89
Overall PM PEAK HOUR FACTOR		0.25	0.25	0.50	N/A	0.25	0.85	0.60	N/A	0.45	0.00	0.60	0.72
AM Period Intersection Volume:		1833			3155			3155			3155		
PM Period Intersection Volume:		1833			3155			3155			3155		
Overall PM PEAK HOUR FACTOR		0.89			0.89			0.89			0.89		

Date of Counts: Tuesday, March 17, 2009
AM Weather Conditions: PM Weather Conditions:

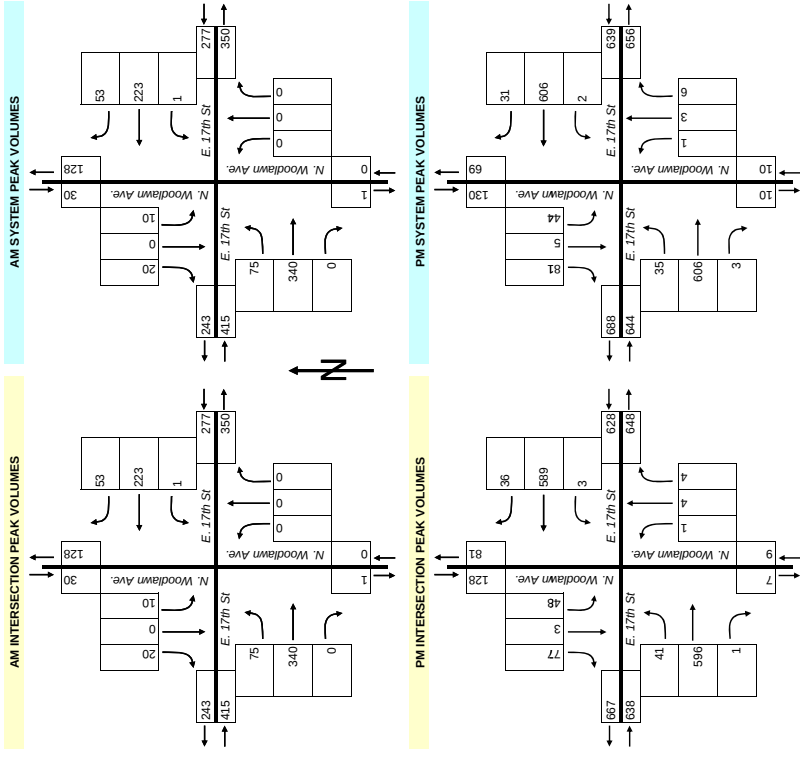


Gorove/Slade Associates

Project Name	IU North Campus
Project Number	2202-002
Project Location	Indiana
Data Source	Gorove/Slade Associates

Intersection:		AM PEAK																			
		Southbound N. Woodlawn Ave.				Westbound E. 17th St				Northbound N. Woodlawn Ave.				Eastbound E. 17th St							
Direction: Roadway: Movement:		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds				
AM PEAK	7:00 AM to 7:15 AM	2	0	2	2	9	23	0	0	0	2	0	0	1	37	15	0				
	7:15 AM to 7:30 AM	2	0	3	0	6	46	1	0	0	0	0	0	0	59	11	0				
	7:30 AM to 7:45 AM	1	0	1	1	13	56	1	1	0	0	0	0	0	85	20	0				
	7:45 AM to 8:00 AM	1	1	3	0	11	50	0	0	0	0	0	2	3	137	9	0				
	8:00 AM to 8:15 AM	2	0	2	0	8	41	0	0	1	0	0	3	96	16	0	0				
	8:15 AM to 8:30 AM	9	0	8	1	4	27	1	0	0	0	0	0	0	56	11	0				
	8:30 AM to 8:45 AM	6	0	0	2	12	37	0	0	0	0	0	0	0	54	19	1				
	8:45 AM to 9:00 AM	3	0	0	0	16	60	0	0	0	0	0	1	0	95	23	1				
	9:00 AM to 9:15 AM	4	0	3	3	16	55	1	1	0	0	0	0	0	91	18	0				
	9:15 AM to 9:30 AM	8	0	4	0	17	64	0	1	0	0	0	1	0	79	16	1				
	9:30 AM to 9:45 AM	5	0	3	0	4	44	0	0	0	0	0	0	0	75	18	0				
	9:45 AM to 10:00 AM	2	0	4	0	9	45	0	0	0	0	0	0	1	0	52	8	0			
PM PEAK		Southbound N. Woodlawn Ave.				Westbound E. 17th St				Northbound N. Woodlawn Ave.				Eastbound E. 17th St							
Direction: Roadway: Movement:		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds				
PM PEAK	3:00 PM to 3:15 PM	11	0	1	6	7	95	0	0	0	1	0	4	0	88	4	1	0			
	3:15 PM to 3:30 PM	17	0	6	4	5	94	0	2	0	1	0	3	0	89	8	0	0			
	3:30 PM to 3:45 PM	15	3	7	3	5	91	1	1	0	0	1	5	3	135	3	2	0			
	3:45 PM to 4:00 PM	22	1	8	5	6	103	1	1	1	0	1	8	0	119	11	0	0			
	4:00 PM to 4:15 PM	28	0	8	3	5	136	2	1	1	0	1	3	1	117	10	0	0			
	4:15 PM to 4:30 PM	13	1	7	7	5	107	0	0	0	1	0	7	2	93	5	0	0			
	4:30 PM to 4:45 PM	17	1	12	1	6	122	1	0	0	0	0	5	0	103	2	2	0			
	4:45 PM to 5:00 PM	17	0	12	4	7	122	1	0	0	2	0	6	0	130	15	0	0			
	5:00 PM to 5:15 PM	17	2	10	2	7	173	0	1	2	1	1	7	0	150	6	1	0			
	5:15 PM to 5:30 PM	18	1	6	6	6	149	0	0	2	1	0	4	0	162	8	0	0			
	5:30 PM to 5:45 PM	25	0	14	4	16	145	2	0	0	0	0	4	1	154	12	0	0			
	5:45 PM to 6:00 PM	21	2	8	9	2	138	0	0	2	1	0	3	2	140	9	1	0			
PEAK HOURS		Southbound N. Woodlawn Ave.				Westbound E. 17th St				Northbound N. Woodlawn Ave.				Eastbound E. 17th St							
Direction: Roadway: Movement:		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds				
AM INTERSECTION PEAK HOUR		20				53				223				1				2			
8:45 AM to 9:45 AM		20				53				223				1				2			
PM INTERSECTION PEAK HOUR		77				36				589				3				1			
5:00 PM to 6:00 PM		77				36				589				3				1			
AM SYSTEM PEAK HOUR		20				53				223				1				2			
8:45 AM to 9:45 AM		20				53				223				1				2			
PM SYSTEM PEAK HOUR		81				31				606				2				1			
5:00 PM to 6:00 PM		81				31				606				2				1			
PEAK HOUR FACTORS		Southbound N. Woodlawn Ave.				Westbound E. 17th St				Northbound N. Woodlawn Ave.				Eastbound E. 17th St							
Right		0.63				0.00				0.63				N/A				0.00			
Thru		0.63				0.78				0.87				0.25				N/A			
Left		0.63				0.69				N/A				0.48				0.88			
Peds		0.81				0.63				0.69				N/A				0.75			
Overall AM PEAK HOUR FACTOR		= 0.92				= 0.92				= 0.92				= 0.92				= 0.95			
Overall PM PEAK HOUR FACTOR		= 0.92				= 0.92				= 0.92				= 0.92				= 0.95			
AM Period Intersection Volume:		1804				3500				3500				3500				3500			
PM Period Intersection Volume:		1804				3500				3500				3500				3500			

Date of Counts: Thursday, March 19, 2009
 AM Weather Conditions:
 PM Weather Conditions:



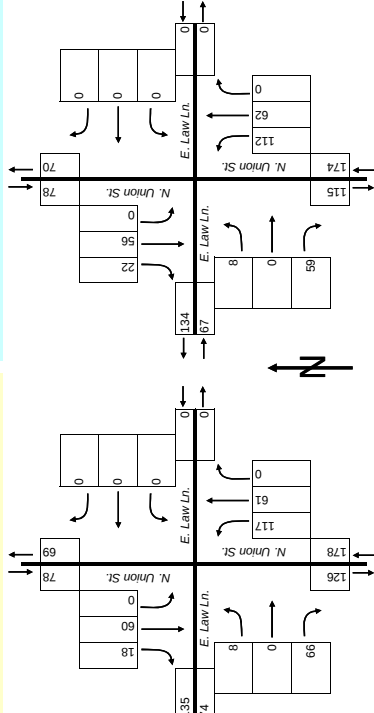
Gorove/Shade Associates

Project Name	IU North Campus
Project Number	2202-002
Project Location	Indiana
Data Source	Gorove/Shade Associates

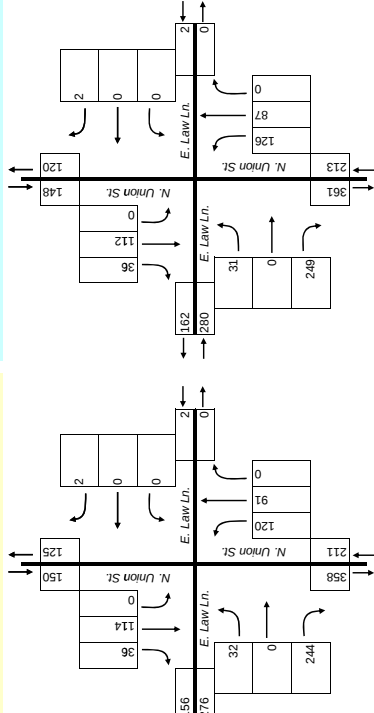
Intersection:		Southbound N. Union St.			Westbound E. Law Ln.			Northbound N. Union St.			Eastbound E. Law Ln.		
Direction: Roadway: Movement:		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM PEAK													
7:00 AM to 7:15 AM		2	2	0	1	0	0	0	5	12	2	7	0
7:15 AM to 7:30 AM		2	6	0	4	0	0	0	9	14	0	6	1
7:30 AM to 7:45 AM		6	7	0	1	0	0	0	9	9	0	10	0
7:45 AM to 8:00 AM		5	14	0	0	0	0	0	10	25	2	21	0
8:00 AM to 8:15 AM		3	12	0	0	0	0	0	13	20	3	17	0
8:15 AM to 8:30 AM		2	8	0	1	0	0	0	10	28	1	14	0
8:30 AM to 8:45 AM		3	15	0	5	0	0	0	13	25	0	16	0
8:45 AM to 9:00 AM		2	15	0	3	0	0	0	12	28	1	17	0
9:00 AM to 9:15 AM		8	18	0	5	0	0	0	21	29	0	15	0
9:15 AM to 9:30 AM		5	12	0	3	0	0	6	15	35	0	18	0
9:30 AM to 9:45 AM		7	11	0	5	0	0	13	0	14	20	9	0
9:45 AM to 10:00 AM		7	10	0	7	0	0	14	0	11	22	1	15
PM PEAK													
3:00 PM to 3:15 PM		2	22	0	3	1	0	0	16	0	10	16	2
3:15 PM to 3:30 PM		5	11	0	9	0	0	12	0	19	26	0	26
3:30 PM to 3:45 PM		6	20	0	9	0	0	19	0	19	27	4	36
3:45 PM to 4:00 PM		10	13	0	4	0	0	15	0	17	24	2	48
4:00 PM to 4:15 PM		6	18	0	6	0	0	13	0	16	19	2	37
4:15 PM to 4:30 PM		3	16	0	9	0	0	20	0	19	27	0	22
4:30 PM to 4:45 PM		10	24	0	6	0	0	18	0	17	27	4	38
4:45 PM to 5:00 PM		2	24	0	5	0	0	12	0	23	17	0	36
5:00 PM to 5:15 PM		12	19	0	5	2	0	13	0	23	22	1	62
5:15 PM to 5:30 PM		11	43	0	21	0	0	25	0	20	43	5	75
5:30 PM to 5:45 PM		11	28	0	4	0	0	22	0	25	38	1	71
5:45 PM to 6:00 PM		2	22	0	9	0	0	20	0	19	23	3	41
PEAK HOURS													
Direction: Roadway: Movement:		Southbound N. Union St.			Westbound E. Law Ln.			Northbound N. Union St.			Eastbound E. Law Ln.		
AM INTERSECTION PEAK HOUR		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
8:30 AM to 9:30 AM		18	60	0	16	0	0	6	61	117	1	66	0
PM INTERSECTION PEAK HOUR		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
5:00 PM to 6:00 PM		36	114	0	35	2	0	72	0	91	120	7	244
AM SYSTEM PEAK HOUR													
8:45 AM to 9:45 AM		22	56	0	16	0	0	19	0	62	112	1	59
PM SYSTEM PEAK HOUR													
5:00 PM to 6:00 PM		36	112	0	39	2	0	80	0	87	126	10	249
PEAK HOUR FACTORS		Southbound N. Union St.			Westbound E. Law Ln.			Northbound N. Union St.			Eastbound E. Law Ln.		
AM PEAK HOUR		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
PM PEAK HOUR		0.69	0.78	0.00	N/A	0.00	0.00	N/A	0.00	0.74	0.80	N/A	0.82
Overall AM PEAK HOUR FACTOR		0.75	0.65	0.00	N/A	0.25	0.00	N/A	0.00	0.87	0.73	N/A	0.83
Overall PM PEAK HOUR FACTOR		0.86	0.86	0.00	N/A	0.86	0.00	N/A	0.86	0.86	0.86	0.86	0.86
AM Period Intersection Volume:		783			1460			1460			1460		
PM Period Intersection Volume:		783			1460			1460			1460		

Date of Counts: Wednesday, April 01, 2009
 AM Weather Conditions:
 PM Weather Conditions:

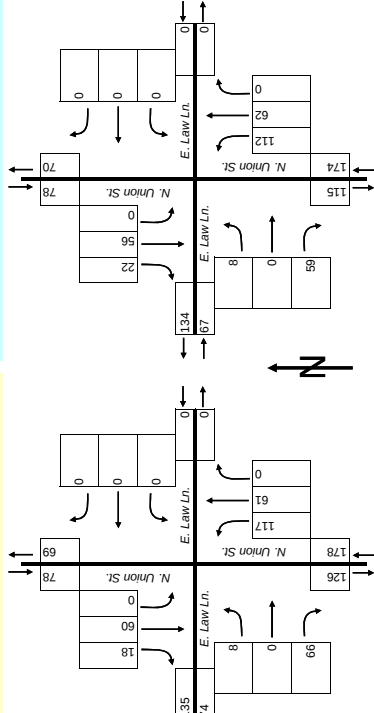
AM INTERSECTION PEAK VOLUMES



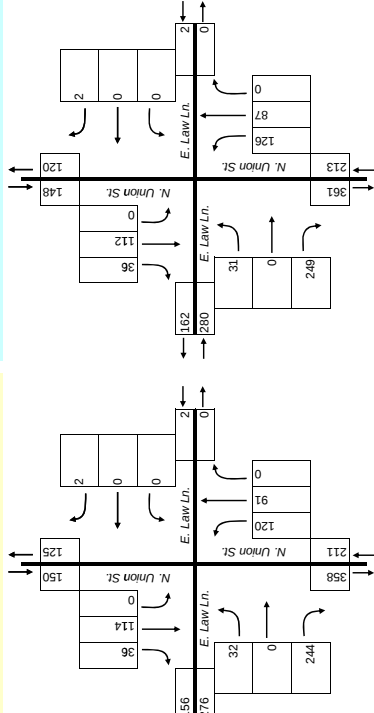
PM INTERSECTION PEAK VOLUMES



AM SYSTEM PEAK VOLUMES



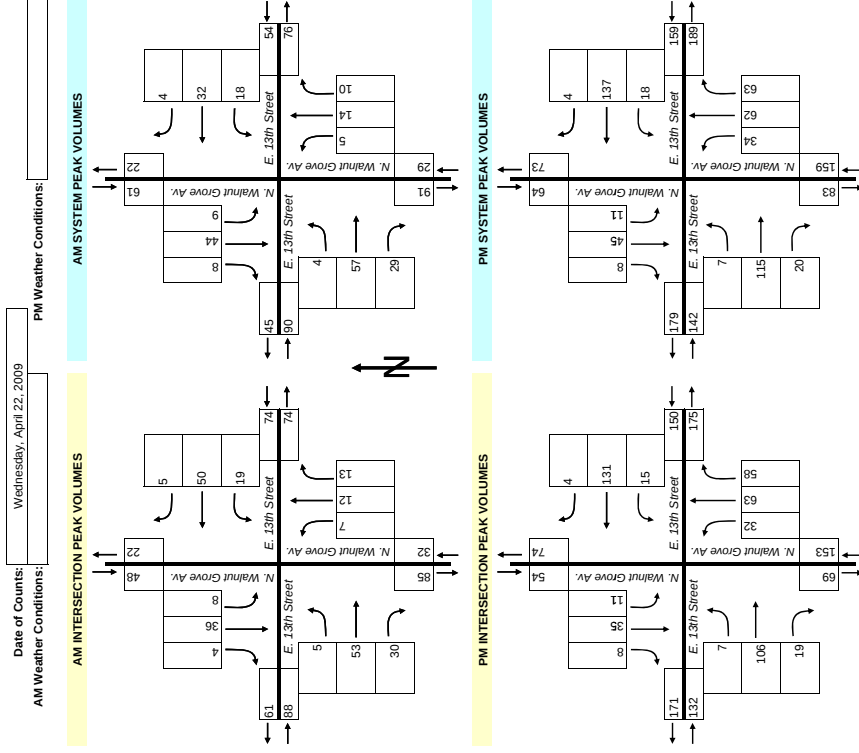
PM SYSTEM PEAK VOLUMES



Gorove/Shade Associates

Project Name	IU North Campus
Project Number	2202-002
Project Location	Indiana
Data Source	Gorove/Shade Associates

Intersection:	Southbound				Westbound				Northbound				Eastbound			
	N. Walnut Grove Av.				E. 13th Street				N. Walnut Grove Av.				E. 13th Street			
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM PEAK																
Direction: Roadway: Movement:																
to 7:15 AM	0	6	0	0	0	0	0	1	0	0	0	0	0	0	2	0
to 7:30 AM	1	5	1	2	2	6	1	1	2	1	0	0	1	0	1	0
to 7:45 AM	1	4	2	0	1	1	0	1	0	3	0	1	4	13	0	0
to 8:00 AM	1	8	1	1	0	3	0	0	1	0	2	0	5	33	0	1
to 8:15 AM	0	8	0	0	0	6	5	0	2	2	0	0	5	20	0	0
to 8:30 AM	0	5	1	1	2	2	2	1	2	1	2	3	8	6	1	2
to 8:45 AM	0	8	0	0	0	5	2	3	2	3	0	3	0	13	0	0
to 9:00 AM	4	14	3	0	1	6	3	2	2	4	1	6	3	19	0	2
to 9:15 AM	1	11	3	2	2	6	5	3	1	9	1	5	10	19	3	2
to 9:30 AM	2	12	0	4	1	13	8	11	5	0	2	12	14	12	0	4
to 9:45 AM	1	7	3	1	0	7	2	0	2	1	1	3	2	7	1	1
to 10:00 AM	0	6	2	0	2	24	4	7	5	2	3	6	4	15	1	7
PM PEAK																
Direction: Roadway: Movement:																
to 3:00 PM	1	3	4	0	4	11	3	3	4	4	0	3	0	12	1	0
to 3:15 PM	1	4	1	5	0	13	3	0	7	8	2	7	2	11	1	1
to 3:30 PM	1	4	2	0	2	19	2	4	6	16	3	5	3	26	1	1
to 3:45 PM	2	13	3	2	1	33	10	8	10	11	7	7	7	33	0	3
to 4:00 PM	4	7	2	3	0	33	3	3	8	13	3	6	4	27	0	4
to 4:15 PM	3	4	4	1	0	23	5	1	10	9	5	2	2	19	3	4
to 4:30 PM	0	3	4	2	1	20	0	1	5	9	4	1	0	18	0	1
to 4:45 PM	1	2	3	4	1	19	1	3	5	16	2	2	3	15	1	1
to 5:00 PM	2	9	3	3	0	31	4	2	10	10	15	5	8	28	0	1
to 5:15 PM	3	15	3	6	2	42	8	8	27	17	5	7	5	31	1	6
to 5:30 PM	2	9	2	3	1	39	2	2	16	20	10	2	3	32	5	5
to 5:45 PM	1	12	3	1	1	25	4	1	10	15	4	6	4	24	1	2
PEAK HOURS																
Direction: Roadway: Movement:																
to 9:00 AM to 10:00 AM																
to 5:00 PM to 6:00 PM																
AM INTERSECTION PEAK HOUR																
PM INTERSECTION PEAK HOUR																
AM SYSTEM PEAK HOUR																
PM SYSTEM PEAK HOUR																
to 5:00 PM to 6:00 PM																
PEAK HOUR																
FACTORS																
AM PEAK HOUR																
PM PEAK HOUR																
Overall AM PEAK HOUR FACTOR																
Overall PM PEAK HOUR FACTOR																
AM Period Intersection Volume:																
PM Period Intersection Volume:																



Date of Counts: Wednesday, April 22, 2009

AM Weather Conditions:

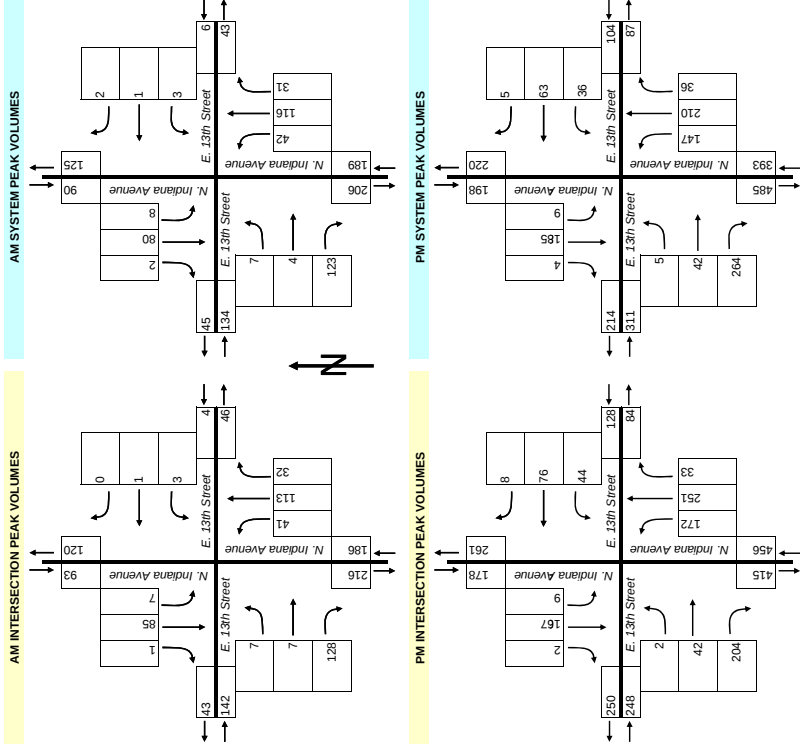
PM Weather Conditions:

Gorove/Slade Associates

Project Name	IU North Campus
Project Number	2202-002
Project Location	Indiana
Data Source	Gorove/Slade Associates

Intersection:	Southbound						Westbound						Northbound						Eastbound					
	N. Indiana Avenue			E. 13th Street			N. Indiana Avenue			E. 13th Street			N. Indiana Avenue			E. 13th Street			N. Indiana Avenue			E. 13th Street		
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM PEAK																								
Direction: Roadway: Movement:																								
7:00 AM to 7:15 AM	0	4	2	0	0	0	2	0	1	3	0	1	2	8	7	0	7	0	4	1	0	0	0	0
7:15 AM to 7:30 AM	0	13	0	0	0	1	3	1	5	13	2	0	8	13	2	0	8	3	0	1	1	0	0	0
7:30 AM to 7:45 AM	0	17	0	0	0	1	3	4	13	3	0	13	4	13	3	0	13	8	0	1	1	0	0	0
7:45 AM to 8:00 AM	0	28	1	1	0	1	0	7	18	7	0	35	18	7	0	35	18	0	2	2	0	0	0	0
8:00 AM to 8:15 AM	0	19	3	1	0	3	2	0	8	29	10	0	22	13	0	1	1	0	1	1	0	0	0	0
8:15 AM to 8:30 AM	0	10	0	2	0	0	1	0	4	21	3	0	14	8	0	1	1	0	1	1	0	0	0	0
8:30 AM to 8:45 AM	0	17	2	0	0	1	3	5	15	7	0	22	3	0	1	1	0	1	1	0	0	0	0	0
8:45 AM to 9:00 AM	0	16	0	1	0	1	0	3	4	36	3	2	24	0	2	0	2	0	2	0	0	0	0	0
9:00 AM to 9:15 AM	1	23	3	3	0	0	2	8	30	13	2	40	1	3	6	0	0	0	0	0	0	0	0	0
9:15 AM to 9:30 AM	0	29	2	1	0	0	2	3	15	32	18	0	42	3	2	6	0	0	0	0	0	0	0	0
9:30 AM to 9:45 AM	1	12	3	0	2	0	1	2	4	18	8	0	17	0	0	1	1	0	0	0	0	0	0	0
9:45 AM to 10:00 AM	0	15	0	0	0	0	1	1	6	33	9	0	17	1	2	1	1	0	0	0	0	0	0	0
PM PEAK																								
Direction: Roadway: Movement:																								
3:00 PM to 3:15 PM	0	23	3	0	1	0	1	3	6	47	29	0	33	3	2	3	0	0	0	0	0	0	0	0
3:15 PM to 3:30 PM	0	29	0	1	2	0	1	2	10	54	29	1	42	2	3	10	0	0	0	0	0	0	0	0
3:30 PM to 3:45 PM	0	29	3	3	4	0	8	7	10	49	27	0	48	2	0	2	0	0	0	0	0	0	0	0
3:45 PM to 4:00 PM	0	35	3	4	0	8	7	7	10	69	29	1	61	8	2	10	0	0	0	0	0	0	0	0
4:00 PM to 4:15 PM	0	49	0	2	1	13	5	3	12	67	37	0	50	5	1	7	0	0	0	0	0	0	0	0
4:15 PM to 4:30 PM	0	23	1	2	0	11	10	10	12	48	51	0	35	3	0	8	0	0	0	0	0	0	0	0
4:30 PM to 4:45 PM	1	31	1	2	3	10	5	6	5	64	35	0	55	6	1	1	0	0	0	0	0	0	0	0
4:45 PM to 5:00 PM	0	33	3	8	2	16	11	2	7	60	50	0	37	6	0	2	0	0	0	0	0	0	0	0
5:00 PM to 5:15 PM	0	59	1	3	2	28	16	2	12	55	47	0	56	15	0	2	0	0	0	0	0	0	0	0
5:15 PM to 5:30 PM	1	44	4	4	1	22	12	1	9	72	40	2	56	15	1	5	0	0	0	0	0	0	0	0
5:30 PM to 5:45 PM	2	47	1	1	1	6	5	2	7	25	26	0	70	6	1	1	0	0	0	0	0	0	0	0
5:45 PM to 6:00 PM	1	35	3	0	1	7	3	6	8	58	34	0	82	6	3	3	0	0	0	0	0	0	0	0
PEAK HOURS																								
Direction: Roadway: Movement:																								
8:30 AM to 9:30 AM	1	85	7	5	0	1	3	11	32	113	41	4	128	7	7	13	0	0	0	0	0	0	0	0
9:30 AM to 10:30 AM	2	167	9	17	8	76	44	11	33	251	172	2	204	42	2	10	0	0	0	0	0	0	0	0
AM SYSTEM PEAK HOUR																								
8:45 AM to 9:45 AM	2	80	8	5	2	1	3	10	31	116	42	4	123	4	7	12	0	0	0	0	0	0	0	0
PM SYSTEM PEAK HOUR																								
5:00 PM to 6:00 PM	4	105	9	8	5	63	36	11	36	210	147	2	264	42	5	11	0	0	0	0	0	0	0	0
PEAK HOUR FACTORS																								
AM PEAK HOUR	0.50	0.69	0.67	N/A	0.25	0.25	0.38	N/A	0.52	0.81	0.58	N/A	0.73	0.33	0.58	N/A	0.73	0.33	0.58	N/A	0.73	0.33	0.58	N/A
PM PEAK HOUR	0.50	0.78	0.56	N/A	0.63	0.56	0.56	N/A	0.75	0.73	0.78	N/A	0.80	0.70	0.42	N/A	0.80	0.70	0.42	N/A	0.80	0.70	0.42	N/A
Overall AM PEAK HOUR FACTOR	= 0.72						= 0.72						= 0.72						= 0.72					
Overall PM PEAK HOUR FACTOR	= 0.86						= 0.86						= 0.86						= 0.86					
AM Period Intersection Volume:	1005						1005						1005						1005					
PM Period Intersection Volume:	2807						2807						2807						2807					

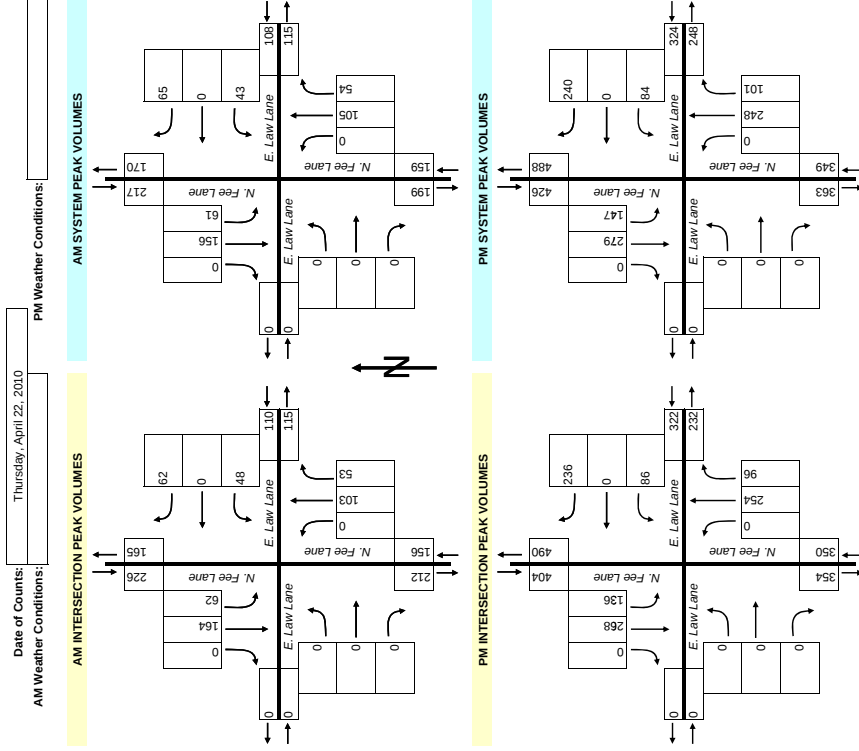
Date of Counts: Thursday, April 23, 2009
 AM Weather Conditions:
 PM Weather Conditions:



Gorove/Shade Associates

Project Name
IU North Campus
Project Number 2202-002
Project Location
Indiana
Data Source
Gorove/Shade Associates

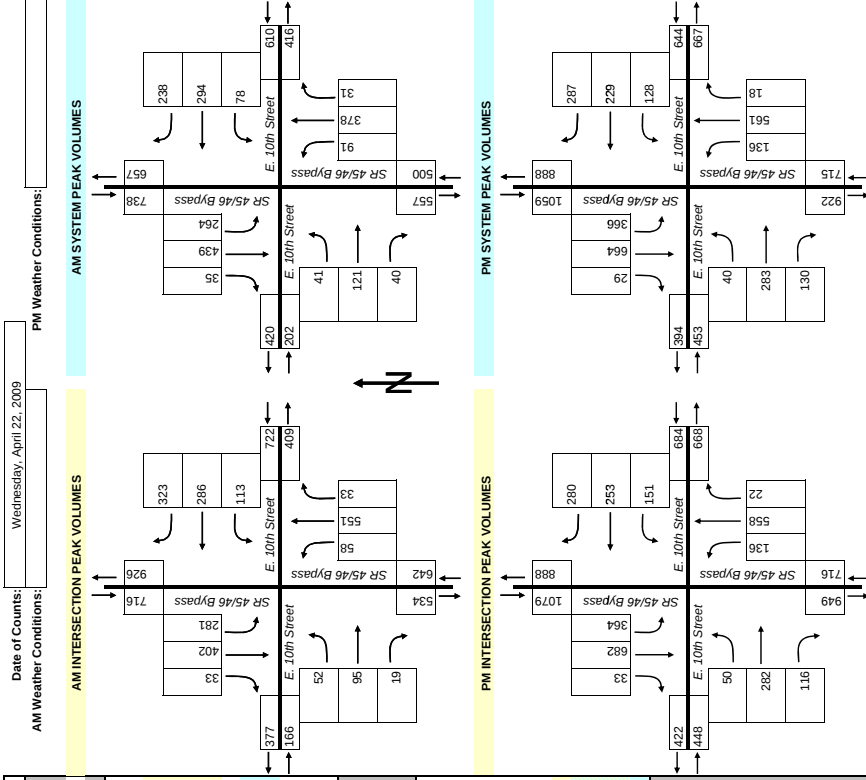
Intersection:	Direction: Roadway: Movement:	Southbound			Westbound			Northbound			Eastbound		
		N. Fee Lane			E. Law Lane			N. Fee Lane			E. Law Lane		
		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM PEAK	7:00 AM to 7:15 AM	0	20	0	4	0	2	4	10	0	1	0	0
	7:15 AM to 7:30 AM	0	26	14	0	11	0	1	2	11	8	0	0
	7:30 AM to 7:45 AM	0	32	20	0	7	0	8	27	10	15	0	0
	7:45 AM to 8:00 AM	0	50	28	0	13	0	17	64	9	21	0	0
	8:00 AM to 8:15 AM	0	40	21	0	15	0	6	15	8	21	0	0
	8:15 AM to 8:30 AM	0	20	15	2	6	0	5	14	9	18	0	0
	8:30 AM to 8:45 AM	0	29	14	2	13	0	11	19	11	20	0	0
	8:45 AM to 9:00 AM	0	41	19	8	16	0	7	147	14	25	0	12
	9:00 AM to 9:15 AM	0	42	16	4	9	0	15	49	15	19	0	11
	9:15 AM to 9:30 AM	0	52	13	2	24	0	15	81	13	39	0	37
PM PEAK	9:30 AM to 9:45 AM	0	21	13	2	16	0	6	23	12	22	0	8
	9:45 AM to 10:00 AM	0	36	11	3	28	0	14	120	14	21	0	9
	3:00 PM to 3:15 PM	0	50	11	3	23	0	13	56	12	42	0	0
	3:15 PM to 3:30 PM	0	47	31	4	38	0	6	100	8	41	0	9
	3:30 PM to 3:45 PM	0	67	29	9	28	0	7	148	25	47	0	4
	3:45 PM to 4:00 PM	0	70	32	3	37	0	10	132	30	59	0	6
	4:00 PM to 4:15 PM	0	46	24	2	62	0	21	57	13	65	0	4
	4:15 PM to 4:30 PM	0	59	20	1	34	0	8	78	21	59	0	3
	4:30 PM to 4:45 PM	0	47	31	2	45	0	16	95	26	60	0	11
	4:45 PM to 5:00 PM	0	56	23	3	52	0	17	59	20	60	0	3
PEAK HOURS	5:00 PM to 5:15 PM	0	73	43	3	51	0	14	68	24	60	0	8
	5:15 PM to 5:30 PM	0	64	45	4	73	0	23	124	24	77	0	4
	5:30 PM to 5:45 PM	0	75	25	4	60	0	32	138	28	57	0	9
	5:45 PM to 6:00 PM	0	67	34	5	56	0	15	60	25	54	0	3
	8:30 AM to 9:30 AM	0	164	62	16	62	0	48	296	53	103	0	64
	PM INTERSECTION PEAK HOUR	0	268	136	14	236	0	86	389	96	254	0	24
	PM INTERSECTION PEAK HOUR	0	156	61	16	65	0	43	300	54	105	0	68
	PM SYSTEM PEAK HOUR	0	279	147	16	240	0	84	390	101	248	0	24
	PEAK HOUR	0	279	147	16	240	0	84	390	101	248	0	24
	FACTORS	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left
AM PEAK HOUR		0.00	0.75	0.80	N/A	0.68	0.00	0.72	N/A	0.90	0.67	0.00	0.00
PM PEAK HOUR		0.00	0.93	0.82	N/A	0.82	0.00	0.66	N/A	0.90	0.61	0.00	0.00
Overall AM PEAK HOUR FACTOR		=			0.78			PM Period Intersection Volume:			2747		
AM Period Intersection Volume:		1257			PM Period Intersection Volume:			2747			Overall PM PEAK HOUR FACTOR = 0.90		



GoroveSlade Associates

Project Name	IU North Campus
Project Number	2202-002
Project Location	Indiana
Data Source	GoroveSlade Associates

Intersection:																		
AM PEAK	Direction: Roadway: Movement:	Southbound			Westbound			Northbound			Eastbound							
		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left					
7:00 AM	to 7:15 AM	8	46	35	0	65	29	13	0	3	84	5	0	4	21	5	0	
7:15 AM	to 7:30 AM	5	65	50	0	75	51	12	0	1	133	7	0	2	20	10	0	
7:30 AM	to 7:45 AM	4	94	65	0	133	64	20	0	6	157	14	0	4	15	7	0	
7:45 AM	to 8:00 AM	6	114	75	0	78	85	30	0	8	130	17	0	4	23	12	0	
8:00 AM	to 8:15 AM	7	106	71	0	64	78	37	0	10	117	12	0	5	32	16	0	
8:15 AM	to 8:30 AM	16	88	70	0	48	59	26	0	9	147	15	0	6	25	17	0	
8:30 AM	to 8:45 AM	6	85	57	0	60	66	18	0	5	96	15	0	7	28	11	0	
8:45 AM	to 9:00 AM	7	121	82	2	53	76	21	0	7	81	23	0	6	31	12	1	
9:00 AM	to 9:15 AM	8	100	71	8	76	104	20	0	12	106	29	0	13	37	9	1	
9:15 AM	to 9:30 AM	3	99	48	5	48	59	19	0	6	90	19	0	10	24	10	2	
9:30 AM	to 9:45 AM	17	119	63	7	61	55	18	0	6	101	20	0	11	29	10	0	
9:45 AM	to 10:00 AM	8	95	56	1	33	50	17	0	5	84	19	0	10	31	6	0	
PM PEAK																		
PM PEAK	Direction: Roadway: Movement:	Southbound			Westbound			Northbound			Eastbound							
		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left					
3:00 PM	to 3:15 PM	8	182	92	3	61	27	28	0	11	137	19	0	26	65	11	0	
3:15 PM	to 3:30 PM	5	139	70	5	63	44	17	0	12	159	25	0	23	45	7	0	
3:30 PM	to 3:45 PM	6	139	91	3	66	56	24	1	8	158	35	0	22	84	12	1	
3:45 PM	to 4:00 PM	2	143	77	6	85	60	21	0	11	118	25	0	29	52	13	2	
4:00 PM	to 4:15 PM	6	137	77	5	113	54	35	0	7	128	31	0	23	75	11	1	
4:15 PM	to 4:30 PM	15	157	92	3	82	53	35	0	10	158	34	0	33	65	9	0	
4:30 PM	to 4:45 PM	5	128	62	5	70	43	31	0	6	129	12	0	34	58	13	0	
4:45 PM	to 5:00 PM	10	180	97	3	57	60	39	0	8	145	38	0	24	67	13	0	
5:00 PM	to 5:15 PM	6	179	84	4	92	67	40	0	6	135	22	0	34	80	18	0	
5:15 PM	to 5:30 PM	10	176	98	12	75	71	38	1	3	164	43	0	30	73	11	1	
5:30 PM	to 5:45 PM	7	147	85	5	56	55	34	0	5	114	33	0	28	62	8	0	
5:45 PM	to 6:00 PM	6	162	99	2	64	36	16	0	4	148	38	0	38	68	3	0	
PEAK HOURS																		
AM INTERSECTION PEAK HOUR	Direction: Roadway: Movement:	Southbound			Westbound			Northbound			Eastbound							
		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left					
7:30 AM	to 8:30 AM	33	402	281	0	323	286	113	0	33	551	58	0	19	95	52	0	
PM INTERSECTION PEAK HOUR	4:45 PM	33	682	364	24	280	253	151	1	22	558	136	0	116	282	50	1	
AM SYSTEM PEAK HOUR	8:45 AM	35	439	264	22	238	294	78	0	31	378	91	0	40	121	41	4	
PM SYSTEM PEAK HOUR	5:00 PM	29	664	366	23	287	229	128	1	18	561	136	0	130	283	40	1	
PEAK HOUR																		
FACTORS		Southbound			Westbound			Northbound			Eastbound							
		Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left					
AM PEAK HOUR	0.51	0.91	0.80	N/A	0.78	0.71	0.93	N/A	0.65	0.89	0.78	N/A	0.77	0.82	0.85	N/A	N/A	
PM PEAK HOUR	0.73	0.93	0.92	N/A	0.78	0.81	0.80	N/A	0.75	0.86	0.79	N/A	0.86	0.88	0.86	0.56	N/A	
Overall AM PEAK HOUR FACTOR	= 0.88			= 0.88			= 0.88			= 0.88			= 0.91			= 0.91		
Overall PM PEAK HOUR FACTOR	= 0.88			= 0.88			= 0.88			= 0.88			= 0.91			= 0.91		
AM Period Intersection Volume:	5913			8250			8250			8250			8250			8250		
PM Period Intersection Volume:	8250			8250			8250			8250			8250			8250		



Date of Counts: Wednesday, April 22, 2009
 AM Weather Conditions:
 PM Weather Conditions:

Transit Ridership

Ridership data was provided by the Indiana University Transit system including the following:

- Historical Monthly Ridership Data (1966 – 2008)
- Fall 2008 Ridership Data

Ridership data was provided by the City of Bloomington Transit system to include the following:

- Historical Monthly Ridership Data (1984 – 2008)
- Daily Ridership by Route (January – April 2009)
- On-Off Data for Routes 6 and 9 (Daily Totals – Fall 2006)
- Noted 20% increase in ridership on Route 6 since 2006
- Route 9 ridership unchanged

HISTORICAL RIDERSHIP

MONTH	1966-67	1967-68	1968-69	1969-70	1970-71	1971-72	1972-73
JULY		34,164	19,185	16,070	18,958	26,019	22,268
AUGUST		13,097	6,072	4,272	8,778	58,201	85,169
SEPTEMBER		140,902	148,502	154,950	113,572	197,248	225,711
OCTOBER	239,211	229,169	228,865	172,670	208,696	186,216	241,189
NOVEMBER	238,294	196,767	177,764	145,427	166,495	161,202	194,854
DECEMBER	171,458	143,923	148,427	125,288	128,277	123,092	131,455
JANUARY	166,975	158,061	140,899	131,732	164,132	131,407	180,982
FEBRUARY	196,462	200,319	194,404	167,297	173,903	197,762	228,225
MARCH	158,256	189,304	171,721	151,453	200,920	149,747	173,939
APRIL	163,280	127,348	138,018	123,973	119,716	156,407	204,011
MAY	161,637	126,902	130,681	107,879	144,745	49,723	57,857
JUNE	29,937	11,458	9,402	19,163	25,422	15,425	25,190
TOTAL	1,525,510	1,571,414	1,513,940	1,320,174	1,473,614	1,452,449	1,770,850
CHANGE		45,904	(57,474)	(193,766)	153,440	(21,165)	318,401
PERCENT		3.01%	-3.66%	-12.80%	11.62%	-1.44%	21.92%
CUMULATIVE							
CASH RIDERS		3,096,924	4,610,864	5,931,038	7,404,652	8,857,101	10,627,951
PASS RIDERS	1,525,510	1,571,414	1,513,940	1,308,149	1,457,364	1,425,045	1,719,526
YEAR	1	2	3	4	5	6	7
BT							
Fixed Route							
Paratransit							
Total	1,525,510	1,571,414	1,513,940	1,320,174	1,473,614	1,452,449	1,770,850

HISTORICAL RIDERSHIP

MONTH	1973-74	1974-75	1975-76	1976-77	1977-78	1978-79	1979-80
JULY	31,885	33,358	35,399	41,555	42,698	47,593	46,035
AUGUST	93,427	102,870	152,809	130,256	117,434	140,890	51,933
SEPTEMBER	207,089	224,974	288,976	319,467	359,628	326,938	301,681
OCTOBER	220,583	230,679	274,717	285,763	318,465	315,363	298,781
NOVEMBER	174,464	176,962	200,963	255,840	265,570	254,832	268,604
DECEMBER	109,446	114,003	130,709	153,978	179,154	150,283	205,908
JANUARY	189,799	196,404	267,511	351,429	328,625	392,296	373,081
FEBRUARY	221,606	223,794	263,121	314,892	367,598	365,803	371,177
MARCH	163,943	166,709	209,237	232,971	128,500	254,934	232,170
APRIL	201,911	192,662	224,122	252,242	288,948	280,877	319,122
MAY	48,992	44,915	38,931	70,592	75,314	43,582	38,445
JUNE	24,716	34,229	41,673	46,664	53,324	45,075	8,872
TOTAL	1,687,861	1,741,559	2,128,168	2,455,649	2,525,258	2,618,466	2,515,809
CHANGE	(82,989)	53,698	386,609	327,481	69,609	93,208	(102,657)
PERCENT	-4.69%	3.18%	22.20%	15.39%	2.83%	3.69%	-3.92%
CUMULATIVE	12,315,812	14,057,371	16,185,539	18,641,188	21,166,446	23,784,912	26,300,721
CASH RIDERS	134,317	199,705	277,420	377,580	430,960	427,700	470,000
PASS RIDERS	1,553,554	1,541,854	1,850,748	2,078,069	2,094,298	2,190,766	2,045,809
YEAR	8	9	10	11	12	13	14
BT							
Fixed Route							
Paratransit							
Total	1,687,861	1,741,559	2,128,168	2,455,649	2,525,258	2,618,466	2,515,809

HISTORICAL RIDERSHIP

MONTH	1980-81	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87
JULY	9,695	16,056	19,505	20,339	17,641	15,972	14,916
AUGUST	37,750	55,763	70,906	87,483	93,062	27,325	25,718
SEPTEMBER	316,761	322,656	322,500	326,908	296,613	286,155	294,917
OCTOBER	302,460	300,307	297,873	321,266	323,284	297,645	300,414
NOVEMBER	218,421	242,069	261,967	283,742	268,067	225,741	213,548
DECEMBER	189,328	192,624	183,258	188,837	154,499	208,951	189,392
JANUARY	272,040	302,597	315,257	327,054	357,946	171,145	177,434
FEBRUARY	311,222	332,108	329,796	344,939	357,372	318,178	287,627
MARCH	233,042	257,151	268,774	280,813	247,476	225,386	220,824
APRIL	261,670	271,814	299,827	300,127	275,611	269,035	255,928
MAY	42,247	34,573	36,738	27,462	17,700	71,495	53,370
JUNE	16,662	20,814	22,032	20,739	15,696	15,040	13,935
TOTAL	2,211,298	2,348,532	2,428,433	2,529,709	2,424,967	2,132,068	2,048,023
CHANGE	(304,511)	137,234	79,901	101,276	(104,742)	(292,899)	(84,045)
PERCENT	-12.10%	6.21%	3.40%	4.17%	-4.14%	-12.08%	-3.94%
CUMULATIVE	28,512,019	30,860,551	33,288,984	35,818,693	38,243,660	40,375,728	42,423,751
CASH RIDERS	434,566	492,786	537,343	587,573	448,842	406,821	412,446
PASS RIDERS	1,776,742	1,855,746	1,891,090	1,942,136	1,976,125	1,725,247	1,635,577
YEAR	15	16	17	18	19	20	21
BT							
Fixed Route							
Paratransit				308,455	361,489	406,850	481,530
Total	2,211,298	2,348,532	2,428,433	2,838,164	2,786,456	2,538,918	2,529,553

HISTORICAL RIDERSHIP

MONTH	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94
JULY	12,321	12,508	14,645	13,807	16,641	15,667	12,381
AUGUST	34,153	55,003	80,733	91,113	23,336	30,595	41,101
SEPTEMBER	299,760	280,962	300,763	298,014	284,135	295,821	277,971
OCTOBER	297,911	277,514	301,999	326,985	290,090	283,295	253,826
NOVEMBER	219,172	245,009	259,576	258,234	229,640	230,792	228,710
DECEMBER	176,869	142,670	138,192	121,410	174,187	164,539	136,308
JANUARY	171,395	253,595	275,972	312,372	220,971	227,868	224,930
FEBRUARY	327,901	302,117	278,422	296,218	260,774	282,686	263,848
MARCH	237,169	241,088	217,381	203,872	201,967	232,111	208,127
APRIL	247,453	247,930	241,603	257,905	234,302	254,258	218,969
MAY	45,300	49,392	36,057	33,954	53,021	43,012	37,504
JUNE	13,072	16,710	13,591	16,773	16,919	11,995	11,598
TOTAL	2,082,476	2,124,498	2,158,934	2,230,657	2,005,983	2,072,639	1,915,273
CHANGE	34,453	42,022	34,436	71,723	(224,674)	66,656	(157,366)
PERCENT	1.68%	2.02%	1.62%	3.32%	-10.07%	3.32%	-7.59%
CUMULATIVE	44,506,227	46,630,725	48,789,659	51,020,316	53,026,299	55,098,938	57,014,211
CASH RIDERS	373,030	328,582	320,735	347,261	389,262	445,208	389,139
PASS RIDERS	1,709,446	1,795,916	1,838,199	1,883,396	1,616,721	1,627,462	1,526,134
YEAR	22	23	24	25	26	27	28
BT							
Fixed Route	522,121	556,607	642,387	706,907	784,747	857,805	915,254
Paratransit				8,598	11,061	12,586	13,327
Total	2,604,597	2,681,105	2,801,321	2,946,162	2,801,791	2,943,030	2,843,854

HISTORICAL RIDERSHIP

MONTH	1994-95	1995-96	1996-97	1997-98	1998-99	1999-00	2000-01
JULY	11,592	11,903	10,209	14,213	17,040	14,883	14,050
AUGUST	51,163	66,202	14,002	15,743	30,690	43,291	76,302
SEPTEMBER	275,236	257,770	264,973	298,786	290,176	292,545	239,609
OCTOBER	265,919	265,551	269,744	282,361	254,224	260,078	240,863
NOVEMBER	233,272	225,616	213,162	211,285	205,336	227,881	202,144
DECEMBER	126,019	103,356	154,762	154,918	130,597	127,889	88,790
JANUARY	249,607	248,074	210,069	183,128	179,517	205,655	193,817
FEBRUARY	265,442	256,089	241,544	235,733	225,625	251,787	207,052
MARCH	214,899	177,597	177,912	187,236	191,279	192,173	159,869
APRIL	219,123	218,369	225,371	220,629	210,835	209,014	180,737
MAY	40,907	27,426	59,226	49,535	41,039	44,108	33,944
JUNE	12,257	11,180	15,913	19,333	18,449	19,153	17,554
TOTAL	1,965,436	1,869,133	1,856,887	1,872,900	1,794,807	1,888,457	1,654,731
CHANGE	50,163	(96,303)	(12,246)	16,013	(78,093)	93,650	(233,726)
PERCENT	2.62%	-4.90%	-0.66%	0.86%	-4.17%	5.22%	-12.38%
CUMULATIVE							
CASH RIDERS	58,979,647	60,848,780	62,705,667	64,578,567	66,373,374	68,261,831	69,916,562
PASS RIDERS	357,881	390,855	357,558	331,557	238,690	278,014	182,121
	1,607,555	1,478,278	1,499,329	1,541,343	1,556,117	1,610,443	1,472,610
YEAR	29	30	31	32	33	34	35
BT							
Fixed Route	965,423	965,395	915,816	984,612	1,020,901	1,369,991	1,930,738
Paratransit	17,610	21,129	22,084	21,425	23,443	27,637	29,069
Total	2,948,469	2,855,657	2,794,787	2,878,937	2,839,151	3,286,085	3,614,538

HISTORICAL RIDERSHIP

MONTH	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
JULY	13,732	16,083	15,611	15,716	17,340	25,807	23,466
AUGUST	79,637	10,568	13,805	44,114	74,936	120,392	140,875
SEPTEMBER	232,484	299,794	304,768	276,210	387,025	436,293	439,416
OCTOBER	257,832	300,547	287,771	239,802	370,636	448,283	494,036
NOVEMBER	190,850	209,949	203,112	210,230	327,918	363,620	377,518
DECEMBER	78,423	155,555	152,159	117,327	170,768	170,277	167,156
JANUARY	214,129	190,685	191,190	176,403	299,132	351,833	401,083
FEBRUARY	213,463	249,568	246,158	215,795	350,340	375,301	437,413
MARCH	153,660	183,265	203,973	181,951	296,921	296,314	329,185
APRIL	194,928	231,066	225,168	191,435	314,423	359,687	398,596
MAY	32,861	59,619	45,312	40,133	71,543	70,057	55,910
JUNE	17,603	21,554	25,050	22,356	36,063	33,982	31,659
TOTAL	1,679,602	1,928,253	1,914,077	1,731,472	2,717,045	3,051,846	3,296,313
CHANGE	24,871	248,651	(14,176)	(182,605)	985,573	334,801	244,467
PERCENT	1.50%	14.80%	-0.74%	-9.54%	56.92%	12.32%	8.01%
CUMULATIVE	71,596,164	73,524,417	75,438,494	77,169,966	79,887,011	82,938,857	86,235,170
CASH RIDERS	119,230	129,428	132,396	132,101	-	-	-
PASS RIDERS	1,560,372	1,798,825	1,781,681	1,599,371	-	-	-
YEAR	36	37	38	39	40	41	42
BT							
Fixed Route	1,963,848	2,041,408	2,026,895	2,148,561	2,363,526	2,570,117	2,829,950
Paratransit	29,817	28,913	30,614	35,168	37,731	35,373	31,560
Total	3,673,267	3,998,574	3,971,586	3,915,201	5,118,302	5,657,336	6,157,823

HISTORICAL RIDERSHIP

MONTH	AVERAGE	2007-08	2009
JULY	20,706		
AUGUST	60,999		
SEPTEMBER	280,699		
OCTOBER	283,504		
NOVEMBER	229,910		
DECEMBER	148,854		IU (2008) BT (2009)
JANUARY	241,738	401,083	247450
FEBRUARY	276,937	437,413	307414
MARCH	210,902	329,185	271582
APRIL	235,736	398,596	310539
MAY	54,439	55,910	
JUNE	21,666	31,659	
TOTAL	2,035,334		
CHANGE		TOTAL	
PERCENT		CHANGE	
		PERCENT	
CUMULATIVE		CUMULATIVE	
CASH RIDERS	38,204,869	CASH RIDERS	
PASS RIDERS	296,976	PASS RIDERS	
	1,702,093		
YEAR		YEAR	
BT			
Fixed Route			
Paratransit			
Total			

September 2008 (incl. August 30 & 31, which makes 6 Sats & 5 Suns for Sept.)

Grand Totals

	Mon-Thu	Fri	Sat	Sun	Breaks
A	167330	26274	4947	2543	201,094
B	82007	9645	1247	709	93,608
D	13696	2614			16,310
E	29568	5649	2104	1196	38,517
(C. Mail)			1223	791	
X	77990	9755			87,745
					437,274

← Sept. subtotal

October 2008

Grand Totals

	Mon-Thu	Fri	Sat	Sun	Breaks
A	172774	29282	2636	1925	206,617
B	86847	11305	810	450	99,412
D	12598	3003			15,601
E	32431	6297	1174	752	40,654
(C. Mail)			719	484	
X	78246	11188			89,434
					451,718

← Oct. subtotal

November 2008					Grand Totals	
	Mon-Thu	Fri	Sat	Sun	Breaks	
A	131721	18108	1968	1648		153,445
B	65858	6825	592	460		73,735
D	12105	2445				14,550
E	25544	4048	1181	713	459	31,945
(C. Mail)			790	416	219	
X	55665	6435				62,100
						335,775
						← Nov. subtotal
December 2008					Grand Totals	
	Mon-Thu	Fri	Sat	Sun	Breaks	
A	105066	15894	1385	1003		123,348
B	54870	6140	364	326		61,700
D	10716	1846				12,562
E	21908	4080	918	478	1070	28,454
(C. Mail)			570	279	564	
X	38973	5029				44,002
						270,066
						← Dec. subtotal
Grand Total Semester Ridership:						1,494,833

**Bloomington Public Transportation Corporation
Ridership History**

<u>Year</u>	<u>Fixed Route Ridership</u>	<u>Paratransit Ridership</u>
1984	308,455	
1985	361,489	
1986	406,850	
1987	481,530	
1988	522,121	
1989	556,607	
1990	642,387	
1991	706,907	8,598
1992	784,747	11,061
1993	857,805	12,586
1994	915,254	13,327
1995	965,423	17,610
1996	965,395	21,129
1997	915,816	22,084
1998	984,612	21,425
1999	1,020,901	23,443
2000	1,369,991	27,637
2001	1,930,738	29,069
2002	1,963,848	29,817
2003	2,041,408	28,913
2004	2,026,895	30,614
2005	2,148,561	35,168
2006	2,363,526	37,731
2007	2,570,117	35,373
2008	2,829,950	31,560

2009 PASSENGERS

	RT 1			RT 2			RT 3			RT 4			RT 5			RT 6			RT 7			RT 8			RT 9			DAILY TOTAL																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
	New Years---CLOSED																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
X	1-Jan-09	2-Jan-09	3-Jan-09	4-Jan-09	5-Jan-09	6-Jan-09	7-Jan-09	8-Jan-09	9-Jan-09	10-Jan-09	11-Jan-09	12-Jan-09	13-Jan-09	14-Jan-09	15-Jan-09	16-Jan-09	17-Jan-09	18-Jan-09	19-Jan-09	20-Jan-09	21-Jan-09	22-Jan-09	23-Jan-09	24-Jan-09	25-Jan-09	26-Jan-09	27-Jan-09	28-Jan-09	29-Jan-09	30-Jan-09	31-Jan-09	1-Feb-09	2-Feb-09	3-Feb-09	4-Feb-09	5-Feb-09	6-Feb-09	7-Feb-09	8-Feb-09	9-Feb-09	10-Feb-09	11-Feb-09	12-Feb-09	13-Feb-09	14-Feb-09	15-Feb-09	16-Feb-09	17-Feb-09	18-Feb-09	19-Feb-09	20-Feb-09	21-Feb-09																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
M	540	644	1232	307	203	192																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			</

2009 PASSENGERS

	RT										DAILY	
	RT 1	RT 2	RT 3	RT 4	RT 5	RT 6	RT 7	RT 8	RT 9	TOTAL		
22-Feb-09						493				677	1,170	22-Feb-09
23-Feb-09	883	810	1788	809	337	5078	954	90		4019	14,768	23-Feb-09
24-Feb-09	900	795	1727	1016	347	4947	852	100		3999	14,683	24-Feb-09
25-Feb-09	982	745	1077	1077	308	4837	821	105		4054	14,724	25-Feb-09
26-Feb-09	888	776	1616	1082	309	4707	817	65		3618	13,878	26-Feb-09
27-Feb-09	911	700	1737	692	402	2987	630	96		3800	11,955	27-Feb-09
28-Feb-09	385	320	1051	256	90	500		130		1769	4,501	28-Feb-09
1-Mar-09						452				748	1,200	1-Mar-09
2-Mar-09	958	881	1730	853	357	5177	933	93		5291	16,273	2-Mar-09
3-Mar-09	967	851	1895	1066	332	4898	1215	134		3960	15,318	3-Mar-09
4-Mar-09	903	818	1724	972	335	4782	846	84		3874	14,338	4-Mar-09
5-Mar-09	849	816	1711	1030	333	4531	845	104		4045	14,264	5-Mar-09
6-Mar-09	776	824	1812	670	446	2835	492	93		2795	10,743	6-Mar-09
7-Mar-09	440	420	1040	334	59	412		91		1158	3,954	7-Mar-09
8-Mar-09						399				523	922	8-Mar-09
9-Mar-09	935	826	1884	820	315	4702	855	93		4084	14,514	9-Mar-09
10-Mar-09	822	773	1798	1041	304	4865	824	84		3729	14,240	10-Mar-09
11-Mar-09	830	743	1663	965	316	4765	823	108		4017	14,230	11-Mar-09
12-Mar-09	786	658	1510	948	323	4209	722	118		3995	13,269	12-Mar-09
13-Mar-09	726	724	1700	629	348	2838	376	104		2205	9,650	13-Mar-09
14-Mar-09	352	311	783	244	31	239		151		490	2,601	14-Mar-09
15-Mar-09						198				288	486	15-Mar-09
16-Mar-09	672	751	1217	506	99	407		132		418	4,202	16-Mar-09
17-Mar-09	618	613	1235	492	101	327		109		490	3,985	17-Mar-09
18-Mar-09	650	551	1141	693	89	343		94		364	3,925	18-Mar-09
19-Mar-09	592	685	1287	598	75	365		118		502	4,222	19-Mar-09
20-Mar-09	697	713	1400	924	245	571		89		423	4,560	20-Mar-09
21-Mar-09	316	322	989	188	35	207		110		184	2,351	21-Mar-09
22-Mar-09						241				434	675	22-Mar-09
23-Mar-09	855	795	1744	781	277	4669	791	110		4143	14,165	23-Mar-09
24-Mar-09	874	886	1678	1020	316	4827	783	87		4014	14,485	24-Mar-09
25-Mar-09	803	720	1623	963	330	5146	846	101		4181	14,713	25-Mar-09
26-Mar-09	876	810	1694	924	313	4481	760	74		3997	13,929	26-Mar-09
27-Mar-09	764	703	1685	710	414	3219	515	99		3294	11,403	27-Mar-09
28-Mar-09	342	240	798	265	59	426		94		1042	3,266	28-Mar-09
29-Mar-09						477				613	1,090	29-Mar-09
30-Mar-09	863	797	1724	796	347	4722	848	124		4087	14,308	30-Mar-09
31-Mar-09	792	736	1830	866	327	4941	804	94		3911	14,301	31-Mar-09
1-Apr-09	760	848	1844	944	318	4630	832	97		4037	14,310	1-Apr-09
2-Apr-09	813	806	1721	1038	325	4463	766	95		3678	13,705	2-Apr-09
3-Apr-09	788	763	1683	688	364	2998	567	100		3374	11,325	3-Apr-09
4-Apr-09	360	341	989	312	78	415		99		1077	3,671	4-Apr-09
5-Apr-09						410				608	1,018	5-Apr-09
6-Apr-09	838	789	1904	817	367	5053	909	93		4132	14,902	6-Apr-09
7-Apr-09	843	795	1687	723	357	4767	855	97		4226	14,350	7-Apr-09
8-Apr-09	801	767	1557	953	320	4654	864	93		4266	14,275	8-Apr-09
9-Apr-09	801	788	1727	896	301	4244	833	115		3985	13,690	9-Apr-09
10-Apr-09	631	650	1613	625	182	2795	480	110		2598	9,684	10-Apr-09
11-Apr-09	291	311	852	274	53	357		123		988	3,249	11-Apr-09
12-Apr-09						322				518	840	12-Apr-09
13-Apr-09	823	752	1653	738	322	4617	850	89		3811	13,655	13-Apr-09
14-Apr-09	859	761	1598	937	433	4926	815	93		3962	14,384	14-Apr-09
15-Apr-09	805	762	1663	1071	401	4851	813	107		4128	14,601	15-Apr-09
16-Apr-09	846	755	1670	880	396	4231	816	105		3810	13,509	16-Apr-09
17-Apr-09	730	880	1613	690	477	2548	470	104		3114	10,626	17-Apr-09

S
P
R
R
I
I
N
G

B
K

2009 PASSENGERS

	RT 1	RT 2	RT 3	RT 4	RT 5	RT 6	RT 7	RT 8	RT 9	DAILY TOTAL	
18-Apr-09	322	338	900	246	66	411		117	931	3,331	18-Apr-09
19-Apr-09						462			623	1,085	19-Apr-09
20-Apr-09	825	794	1609	863	364	4787	853	86	3829	14,010	20-Apr-09
21-Apr-09	789	723	1566	876	339	4788	830	79	3876	13,866	21-Apr-09
22-Apr-09	858	816	1864	1043	376	4455	782	101	3863	14,158	22-Apr-09
23-Apr-09	820	705	1667	992	381	4177	841	97	3555	13,235	23-Apr-09
24-Apr-09	790	797	1564	605	302	2610	466	140	2843	10,117	24-Apr-09
25-Apr-09	329	368	872	238	56	501		100	999	3,463	25-Apr-09
26-Apr-09						551			565	1,116	26-Apr-09
27-Apr-09	855	717	1566	704	360	4405	762	113	4642	14,124	27-Apr-09
28-Apr-09	824	834	1425	975	335	4617	799	92	3718	13,619	28-Apr-09
29-Apr-09	766	788	1539	868	350	4763	745	105	3467	13,391	29-Apr-09
30-Apr-09	754	732	1417	929	356	4338	784	80	3840	13,230	30-Apr-09
TOTALS	18,921	18,380	39,763	19,925	7,979	97,146	16,732	2,630	89,063	310,539	TOTALS

[illegible][illegible]

Route 6 Campus Loop

WESTBOUND		11:30 PM			TOTAL	
Location	On	Off	Load	ON	Off	TOTAL
On Bus From Prior Trip				0	0	0
KNIGHTRIDGE APTS			0	28	0	
STERLING APTS			0	75	0	
HAGAN & SMITH RD.			0	12	0	
SMITH & THIRD ST			0	8	0	
SMITH & MORNINGSIDE			0	16	1	
SPRING MILL APTS			0	16	0	
SMITH @ MEADOW PARK APTS.			0	186	0	
10TH @ WOODBRIDGE APTS.			0	202	3	
10TH @ FOUNTAIN PARK APTS.			0	523	0	
10TH @ STONEBELT			0	92	5	
10TH @ 45/46 BYPASS			0	95	5	
10TH @ EIGENMAN HALL			0	49	47	
10TH @ CROSSTOWN SHOPPING CTR.			0	34	50	
10TH @ WRIGHT QUAD/HEALTH CENTER			0	51	68	
10TH @ BUSINESS SCHOOL	3	0	3	255	654	
10TH @ WALNUT GROVE			3	110	93	
10TH @ FORREST			3	26	40	
10TH @ WOODLAWN	2	1	4	34	36	
WOODLAWN & 9TH			4	12	36	
WOODLAWN & 8TH			4	31	42	
WOODLAWN & 7TH	1	0	5	166	183	
7TH & PARK			5	38	17	
7TH & INDIANA			5	39	33	
7TH & DUNN			5	2	18	
7TH & GRANT			5	2	18	
7TH & LINCOLN			5	0	35	
7TH & WASHINGTON			5	2	35	
7TH & WALNUT	2	0	7	2	99	
WALNUT & 8TH			7	2	201	
WALNUT & 11TH			7	3	35	
WALNUT & 14 TH			7	0	31	
17TH @ WOODBURN			7	0	33	
17TH @ KINSEY	0	3	4	2	62	
KINSEY @ COLONIAL CREST			4	0	87	
KINSEY @ GOURLEY	0	2	2	1	84	
COLONIAL CREST	0	2	0	2	62	
Total	8	8		2,121	2,113	

Route C

OUTBOUND		10:45 PM			11:25 PM			TOTAL	
Location	On	Off	Load	On	Off	Load	On	Off	TOTAL
On Bus From Print Trip									
UNIVERSITY COMMONS			0	2	0	2	2	24	0
COVENANTER & AUTO MALL RD.			0			2	2	46	18
COVENANTOR & COLLEGE MALL RD.			0			2	2	59	1
COLLEGE MALL RD. & BUICK CADILLAC DR.	6	0	6	4	0	6	6	29	0
COLLEGE MALL RD & 2ND ST.	1	0	7			6	6	151	10
COLLEGE MALL RD. SHELTER			7			6	6	287	7
45/46 BYPASS & EASTGATE LANE	2	0	9	0	2	4	4	139	15
10TH ST NEXT TO TULIP TREE			9	0	1	3	3	48	6
TULIP TREE TURNAROUND			9			3	3	193	19
10TH & UNION	1	3	7	0	1	2	2	282	72
CROSS TOWN			7			2	2	63	45
10TH & SUNRISE	1	3	5			2	2	55	104
10TH & WRIGHT QUAD			5	0	2	0	0	46	295
JORDANSIDE OF IU LIBRARY	2	0	7			0	0	117	257
7TH & JORDAN SOUTH SIDE OF INTERSECTION			7			0	0	80	182
IU MAC			7					0	80
IU MUSIC BUILDING			7	4	0	4	4	25	35
3RD & JORDAN			7	1	0	5	5	120	65
MEMORIAL HALL			7			5	5	196	280
JORDAN HALL			7			5	5	155	121
SWAIN HALL	3	0	10	1	0	6	6	198	172
3RD & INDIANA	1	3	8			6	6	88	93
INDIANA & IU LAW SCHOOL			8			6	6	95	58
SAMPLE GATES	1	1	8	1	0	7	7	198	95
7TH ST. AFTER TURN OFF INDIANA			8			7	7	72	27
7TH ST & IMU			8	1	0	8	8	145	47
10TH & WOODLAWN	0	2	6			8	8	101	40
10TH & GEOLOGY			6			8	8	37	23
10TH & PSYCHOLOGY			6			8	8	71	28
IU LIBRARY	4	0	10	3	0	11	407	292	
Total	22	12		17	6		3,951	2,571	

Route C

Location	11:30 PM			11:10 PM			TOTAL		
	On	Off	Load	On	Off	Load	ON	OFF	TOTAL
On Bus From Prior Trip			10			11	0	0	
10 LIBRARY			18			11	23	5	
10TH & WRIGHT QUAD			10			11	69	74	
10TH & SUNRISE			10			11	89	73	
10TH & CRC			10			11	39	32	
10TH & UNION	5	2	13	1	2	10	12	40	
10TH & EIGENMANN			13			10	63	203	
TULIP TREE APTS	0	2	11	0	5	5	66	186	
10TH & BYPASS			11	0	1	4	10	84	
BYPASS AT RR TRACKS			11			4	11	112	
COLLEGE MALL RD AT STEAK & SHAKE			11			4	17	367	
COLLEGE MALL RD & 2ND ST/GAS STATION	0	2	9	0	2	2	4	100	
HUNTER RIDGE APTS FIRST DR.	0	6	3			2	2	65	
BURGER KING			3			2	3	18	
LATIMORE WOODS			3			2	17	59	
ON CLARIZZ & COVENANTER			3			2	23	76	
UNIVERSITY COMMONS	0	3	0	0	2	0	167	472	
Total	5	15		1	12		615	1,986	

TECHNICAL ATTACHMENT 4: CAPACITY ANALYSIS RESULTS

Level of Service Definitions

All capacity analyses are based on the procedures specified by the Transportation Research Board, Special Report 209: *Highway Capacity Manual (HCM)*, 2000. Levels of service (LOS) range from A to F. A brief description of each level of service for signalized and unsignalized intersections is provided below:

Signalized Intersections: Level of service is based upon the traffic volume present in each lane on the roadway, the capacity of each lane at the intersection and the delay associated with each directional movement. The levels of service for signalized intersections are defined below:

- Level of Service A describes operations with very low average delay per vehicle, i.e., less than 10.0 seconds. This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop. Short signal cycle lengths may also contribute to low delay.
- Level of Service B describes operations with average delay in the range of 10.1 to 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
- Level of Service C describes operations with delay in the range of 20.1 to 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level although many still pass through the intersection without stopping. This is generally considered the lower end of the range of the acceptable level of service in rural areas.
- Level of Service D describes operations with delay in the range of 35.1 to 55.0 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, and/or high traffic volumes as compared to the roadway capacity. Many vehicles are required to stop and the number of vehicles that do not have to stop declines. Individual signal cycle failures, where all waiting vehicles do not clear the intersection during a single green time, are noticeable. This is generally considered the lower end of the range of the acceptable level of service in urban areas.
- Level of Service E describes operations with delay in the range of 55.1 to 80.0 seconds per vehicle. These higher delay values generally indicate poor progression, long cycle lengths, and high traffic volumes. Individual cycle failures are frequent occurrences. LOS E has been set as the limit of acceptable conditions.
- Level of Service F describes operations with average delay in excess of 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation, i.e., when traffic arrives at a flow rate that exceeds the capacity of the intersection. It may also occur at high volumes with many individual cycle failures. Poor progression and long cycle lengths may also contribute to such delays.

Unsignalized Intersections: At an unsignalized intersection, the major street through traffic and right turns are assumed to operate unimpeded and therefore receive no level of service rating. The level of service for the minor street and the major street left turn traffic is dependent on the volume and capacity of the available lanes, and, the number and frequency of acceptable gaps in the major street traffic to make a conflicting turn. The level of service grade is provided for each conflicting movement at an unsignalized intersection and is based on the total average delay experienced by each vehicle. The delay includes the time it takes a vehicle to move from the back of a queue through the intersection.

The unsignalized intersection level of service analysis does not account for variations in driver behavior or the effects of nearby traffic signals. Therefore, the results from this analysis usually indicate worse levels of service than may be experienced in the field. The unsignalized intersection level of service descriptions are provided below:

- Level of Service A describes operations where there is very little to no conflicting traffic for a minor side street movement, i.e., an average total delay of less than 10.0 seconds per vehicle.
- Level of Service B describes operations with average total delay in the range of 10.1 to 15.0 seconds per vehicle.
- Level of Service C describes operations with average total delay in the range of 15.1 to 25.0 second per vehicle.
- Level of Service D describes operations with average total delay in the range of 25.1 to 35.0 seconds per vehicle.
- Level of Service E describes operations with average total delay in the range of 35.1 to 50.0 seconds per vehicle.
- Level of Service F describes operations with average total delay of 50 seconds per vehicle. LOS F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through or enter a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queuing on the minor approaches. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal driver behavior.

Simulation Results

The simulation results for the scenarios outlined in Appendix A are summarized in three types of reports: simulation summary report, performance report, and arterial report.

Simulation Summary Report

The simulation summary report lists the interval properties and some overall statistics about the vehicles served. The first section of the report covers the entire simulation run, including all intervals. The following sections of the report detail each interval.

Performance Report

The performance reports details the measures of effectiveness included. The performance report shows the total delay (hours) and delay per vehicle (seconds) for each intersection. The total delay is equal to the total travel time for the vehicle minus the travel time with no other vehicles or traffic control devices (actual minus ideal travel time). The delay per vehicle is equal to the total delay divided by the number of vehicles.

Arterial Report

The arterial report uses origin-destination information to estimate travel time. The report counts vehicles that came from the arterial on the next upstream link, which is almost exactly the same as taking the travel time of only those vehicles that travel the entire corridor. This process of data collection is used because it would be difficult to track only those vehicles that travel the corridor. For many corridors, especially those with 5 or more intersections, less than five percent of all vehicles drive through the entire corridor. Many valid data points from vehicles that traverse part of the corridor would not be included. Additionally, the *SimTraffic* software only programs vehicles to be aware of their turning movements from five intersections previous. For corridors with 5 or more intersections, it would not be known which vehicles travel the entire corridor in advance.

Summary of All Intervals

Run Number	1	2	3	4	5	6	7	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57	6:57	6:57
End Time	7:45	7:45	7:45	7:45	7:45	7:45	7:45	7:45
Total Time (min)	48	48	48	48	48	48	48	48
Time Recorded (min)	45	45	45	45	45	45	45	45
# of Intervals	4	4	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3	3	3
Vehs Entered	3847	3890	3858	3851	3813	3998	3855	3875
Vehs Exited	3791	3815	3827	3807	3782	3923	3783	3814
Starting Vehs	146	114	175	154	152	155	139	136
Ending Vehs	202	189	206	198	183	230	211	192
Denied Entry Before	1	1	2	5	2	1	2	0
Denied Entry After	6	1	3	0	2	0	4	1
Travel Distance (mi)	3145	3178	3179	3115	3101	3271	3131	3160
Travel Time (hr)	152.8	157.8	162.7	154.9	151.3	163.8	158.2	157.4
Total Delay (hr)	51.4	55.3	59.4	54.0	50.7	58.0	56.2	55.0
Total Stops	6657	6876	7274	6933	6650	7230	6974	6943
Fuel Used (gal)	1179.1	1202.4	1221.1	1176.4	1176.4	1243.0	1194.6	1199.0

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15
Volumes adjusted by Growth Factors.	

Run Number	1	2	3	4	5	6	7	Avg
Vehs Entered	1215	1279	1284	1238	1237	1249	1263	1243
Vehs Exited	1167	1173	1244	1218	1188	1191	1208	1200
Starting Vehs	146	114	175	154	152	155	139	136
Ending Vehs	194	220	215	174	201	213	194	191
Denied Entry Before	1	1	2	5	2	1	2	0
Denied Entry After	5	2	4	1	1	5	1	1
Travel Distance (mi)	964	1012	1071	993	1004	1008	995	1007
Travel Time (hr)	45.8	47.8	51.9	47.5	47.6	47.7	48.6	48.1
Total Delay (hr)	14.7	15.3	17.4	15.3	15.1	15.1	16.2	15.6
Total Stops	2078	2058	2247	2072	2061	2075	2150	2107
Fuel Used (gal)	358.7	378.2	398.7	369.8	376.2	373.6	377.4	376.1

Interval #2 Information Recording

Start Time 7:15
 End Time 7:30
 Total Time (min) 15
 Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	6	7	Avg
Vehs Entered	1386	1355	1311	1388	1359	1406	1367	1363
Vehs Exited	1376	1346	1305	1311	1351	1392	1287	1336
Starting Vehs	194	220	215	174	201	213	194	191
Ending Vehs	204	229	221	251	209	227	274	222
Denied Entry Before	5	2	4	1	1	5	1	1
Denied Entry After	5	3	3	3	6	2	4	1
Travel Distance (mi)	1145	1117	1080	1082	1101	1152	1080	1108
Travel Time (hr)	57.5	58.4	56.8	54.9	54.1	59.1	52.5	56.2
Total Delay (hr)	20.7	22.2	21.5	19.9	18.5	21.9	17.6	20.3
Total Stops	2509	2550	2559	2491	2362	2566	2233	2467
Fuel Used (gal)	434.7	430.0	417.5	410.2	420.1	443.0	406.0	423.1

Interval #3 Information Recording

Start Time 7:30
 End Time 7:45
 Total Time (min) 15
 Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7	Avg
Vehs Entered	1246	1256	1263	1225	1217	1343	1225	1250
Vehs Exited	1248	1296	1278	1278	1243	1340	1288	1280
Starting Vehs	204	229	221	251	209	227	274	222
Ending Vehs	202	189	206	198	183	230	211	192
Denied Entry Before	5	3	3	3	6	2	4	1
Denied Entry After	6	1	3	0	2	0	4	1
Travel Distance (mi)	1036	1049	1028	1041	996	1111	1057	1045
Travel Time (hr)	49.5	51.6	53.9	52.5	49.5	57.1	57.1	53.0
Total Delay (hr)	16.0	17.7	20.5	18.9	17.1	21.0	22.3	19.1
Total Stops	2070	2268	2468	2370	2227	2589	2591	2371
Fuel Used (gal)	385.8	394.3	404.8	396.4	380.1	426.4	411.2	399.8

1: E 17th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.5	0.6	0.1	1.0	4.2
Delay / Veh (s)	26.6	10.6	7.4	16.4	18.8

2: E 17th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.4	0.1	0.0	0.0	0.5
Delay / Veh (s)	3.4	1.1	2.5	5.1	2.7

3: E 17th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.1	0.0	0.0	0.3
Delay / Veh (s)	1.3	2.1	6.6	3.2	1.8

4: E 17th Street & Fee Lane Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.6	1.2	0.4	0.7	3.9
Delay / Veh (s)	18.4	23.1	14.4	19.0	19.2

5: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.2	0.1	0.2	0.5
Delay / Veh (s)	3.5	1.4	9.0	3.8

6: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.1	0.0	0.1	0.2
Delay / Veh (s)	1.6	1.0	4.4	1.8

7: E 17th Street & SR 45/46 Bypass Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.3	1.2	0.3	1.7
Delay / Veh (s)	8.2	7.7	1.8	5.2

8: 14th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.0	0.0	0.0	0.1
Delay / Veh (s)	4.1	3.9	0.5	0.3	1.6

9: 14th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	4.3	4.0	0.3	0.2	0.5

10: 14th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	1.6	0.4	3.8	5.3	3.3

11: 13th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.0	0.0	0.0	0.2
Delay / Veh (s)	3.7	0.5	1.1	0.4	1.6

12: 13th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	0.2	1.2	1.5	3.1	1.0

13: 13th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.1	0.0	0.1	0.2
Delay / Veh (s)	4.8	3.6	4.2	5.4	4.6

14: 13th Street & Fee Lane Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.1	0.1	0.1	0.2
Delay / Veh (s)	5.9	1.4	1.2	1.9

15: E Law Lane & Fee Lane Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.2	0.0	0.1	0.3
Delay / Veh (s)	5.3	0.9	1.4	2.1

16: E Law Lane & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.3	0.7	0.4	0.5	1.9
Delay / Veh (s)	11.8	19.8	11.9	9.7	13.0

17: E Law Lane & Union Street Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.1	0.3	0.1	0.4
Delay / Veh (s)	3.1	7.0	5.3	5.3

18: E 10th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.9	0.7	0.7	0.3	2.6
Delay / Veh (s)	11.5	12.6	12.9	8.2	11.5

19: E 10th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.1	0.9	0.3	0.3	2.6
Delay / Veh (s)	9.6	13.1	13.1	21.4	11.9

20: E 10th Street & Fee Lane Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	4.9	4.4	0.4	9.7
Delay / Veh (s)	44.6	39.4	10.0	36.8

21: E 10th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.0	2.4	1.4	1.1	5.9
Delay / Veh (s)	10.9	22.4	30.3	20.2	19.8

22: E 10th Street & Sunrise Drive Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.3	0.8	0.0	0.0	1.1
Delay / Veh (s)	4.6	8.2	13.9	9.4	7.0

23: E 10th Street & Union Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.5	1.4	0.8	0.4	3.1
Delay / Veh (s)	10.6	15.8	19.1	14.7	15.2

24: E 10th Street & Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.1	0.0	0.1	0.2
Delay / Veh (s)	1.5	0.5	6.7	1.2

25: E 10th Street & SR 45/46 Bypass Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.5	4.0	3.6	4.6	13.7
Delay / Veh (s)	31.9	30.2	33.6	28.4	30.5

Total Network Performance

Total Delay (hr)	55.0
Delay / Veh (s)	51.5

Summary of All Intervals

Run Number	1	2	3	4	5	6	7
Start Time	4:57	4:57	4:57	4:57	4:57	4:57	4:57
End Time	5:45	5:45	5:45	5:45	5:45	5:45	5:45
Total Time (min)	48	48	48	48	48	48	48
Time Recorded (min)	45	45	45	45	45	45	45
# of Intervals	4	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3	3
Vehs Entered	6271	6276	6340	6168	6353	6326	6384
Vehs Exited	5970	5902	6052	5778	5904	5894	5987
Starting Vehs	275	274	258	278	274	282	258
Ending Vehs	576	648	546	668	723	714	655
Denied Entry Before	12	9	1	5	5	2	8
Denied Entry After	232	331	214	349	298	337	320
Travel Distance (mi)	4913	4876	5032	4802	4844	4914	4886
Travel Time (hr)	440.2	497.4	430.4	504.7	495.0	509.2	509.5
Total Delay (hr)	275.5	333.8	261.8	344.0	332.7	344.1	346.4
Total Stops	16019	16724	16057	17083	16548	17300	16943
Fuel Used (gal)	235.5	247.0	236.1	246.2	245.7	251.4	249.4

Summary of All Intervals

Run Number	Avg
Start Time	4:57
End Time	5:45
Total Time (min)	48
Time Recorded (min)	45
# of Intervals	4
# of Recorded Intvls	3
Vehs Entered	6296
Vehs Exited	5924
Starting Vehs	263
Ending Vehs	633
Denied Entry Before	2
Denied Entry After	295
Travel Distance (mi)	4895
Travel Time (hr)	483.8
Total Delay (hr)	319.8
Total Stops	16668
Fuel Used (gal)	244.5

Interval #0 Information Seeding

Start Time	4:57
End Time	5:00
Total Time (min)	3
Volumes adjusted by Growth Factors.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time 5:00
 End Time 5:15
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2098	2111	2052	2022	2052	2142	2145
Vehs Exited	1962	1933	1899	1866	1890	1923	1905
Starting Vehs	275	274	258	278	274	282	258
Ending Vehs	411	452	411	434	436	501	498
Denied Entry Before	12	9	1	5	5	2	8
Denied Entry After	28	52	34	69	56	19	89
Travel Distance (mi)	1604	1609	1554	1559	1613	1634	1591
Travel Time (hr)	96.8	103.3	94.9	106.8	108.7	105.6	115.6
Total Delay (hr)	43.1	49.6	43.1	54.5	54.7	50.6	62.4
Total Stops	4391	4432	4142	4583	4684	4659	4849
Fuel Used (gal)	66.1	67.3	63.8	66.8	68.8	68.8	69.6

Interval #1 Information Recording

Start Time 5:00
 End Time 5:15
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	Avg
Vehs Entered	2078
Vehs Exited	1909
Starting Vehs	263
Ending Vehs	439
Denied Entry Before	2
Denied Entry After	45
Travel Distance (mi)	1595
Travel Time (hr)	104.5
Total Delay (hr)	51.1
Total Stops	4526
Fuel Used (gal)	67.3

Interval #2 Information Recording

Start Time 5:15
 End Time 5:30
 Total Time (min) 15
 Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	2180	2157	2167	2215	2313	2146	2191
Vehs Exited	2040	1965	2041	2003	2090	1995	2082
Starting Vehs	411	452	411	434	436	501	498
Ending Vehs	551	644	537	646	659	652	607
Denied Entry Before	28	52	34	69	56	19	89
Denied Entry After	163	216	175	200	171	211	220
Travel Distance (mi)	1700	1648	1729	1637	1722	1679	1671
Travel Time (hr)	153.0	168.4	148.9	170.0	165.1	171.5	175.9
Total Delay (hr)	95.8	113.1	91.1	115.3	107.0	114.8	120.2
Total Stops	5952	5594	5541	5606	5842	6146	6022
Fuel Used (gal)	81.5	83.3	80.9	83.1	84.6	85.3	85.6

Interval #2 Information Recording

Start Time 5:15
 End Time 5:30
 Total Time (min) 15
 Volumes adjusted by PHF, Growth Factors.

Run Number	Avg
Vehs Entered	2196
Vehs Exited	2033
Starting Vehs	439
Ending Vehs	599
Denied Entry Before	45
Denied Entry After	194
Travel Distance (mi)	1684
Travel Time (hr)	164.7
Total Delay (hr)	108.2
Total Stops	5809
Fuel Used (gal)	83.5

Interval #3 Information Recording

Start Time 5:30
 End Time 5:45
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	6	7
Vehs Entered	1993	2008	2121	1931	1988	2038	2048
Vehs Exited	1968	2004	2112	1909	1924	1976	2000
Starting Vehs	551	644	537	646	659	652	607
Ending Vehs	576	648	546	668	723	714	655
Denied Entry Before	163	216	175	200	171	211	220
Denied Entry After	232	331	214	349	298	337	320
Travel Distance (mi)	1609	1618	1749	1606	1509	1600	1624
Travel Time (hr)	190.3	225.6	186.6	227.9	221.1	232.1	218.1
Total Delay (hr)	136.6	171.2	127.6	174.2	171.0	178.6	163.8
Total Stops	5676	6698	6374	6894	6022	6495	6072
Fuel Used (gal)	87.9	96.4	91.3	96.3	92.2	97.3	94.2

Interval #3 Information Recording

Start Time 5:30
 End Time 5:45
 Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	Avg
Vehs Entered	2019
Vehs Exited	1985
Starting Vehs	599
Ending Vehs	633
Denied Entry Before	194
Denied Entry After	295
Travel Distance (mi)	1617
Travel Time (hr)	214.5
Total Delay (hr)	160.4
Total Stops	6328
Fuel Used (gal)	93.7

1: E 17th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	3.3	4.4	0.5	1.7	9.9
Delay / Veh (s)	42.6	27.4	11.7	18.6	26.7

2: E 17th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.6	0.2	0.0	0.3	1.1
Delay / Veh (s)	4.1	1.7	11.2	12.5	3.9

3: E 17th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.4	0.4	0.3	0.0	1.2
Delay / Veh (s)	3.1	3.9	17.4	16.2	4.3

4: E 17th Street & Fee Lane Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	6.7	11.9	1.3	1.1	21.0
Delay / Veh (s)	46.1	147.1	21.8	19.3	61.2

5: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.8	0.3	1.4	2.5
Delay / Veh (s)	6.4	3.8	24.2	9.5

6: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.3	0.0	0.3	0.6
Delay / Veh (s)	3.0	0.5	9.1	3.1

7: E 17th Street & SR 45/46 Bypass Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.4	1.5	0.8	2.7
Delay / Veh (s)	4.9	7.8	6.9	6.9

8: 14th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.2	0.0	0.1	0.0	0.3
Delay / Veh (s)	6.7	3.7	1.2	0.8	2.4

9: 14th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	5.2	5.5	1.0	0.3	1.1

10: 14th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	1.2	0.1	1.5	4.5	1.5

11: 13th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.6	0.2	0.2	0.0	1.0
Delay / Veh (s)	8.8	6.8	2.9	0.9	4.8

12: 13th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.1	0.0	0.0	0.1
Delay / Veh (s)	0.3	1.9	1.6	3.8	1.4

13: 13th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.6	0.2	0.8	0.1	1.7
Delay / Veh (s)	20.8	6.4	22.6	7.8	15.5

14: 13th Street & Fee Lane Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	2.1	0.2	1.0	3.4
Delay / Veh (s)	50.0	2.7	15.4	16.8

15: E Law Lane & Fee Lane Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.8	1.1	2.3	4.2
Delay / Veh (s)	13.3	16.8	24.1	18.9

16: E Law Lane & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	30.7	8.2	1.0	5.1	45.0
Delay / Veh (s)	563.9	216.0	15.0	60.9	182.9

17: E Law Lane & Union Street Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.4	0.4	0.2	1.0
Delay / Veh (s)	7.7	8.3	7.4	7.8

18: E 10th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.1	1.8	8.3	4.6	16.9
Delay / Veh (s)	23.0	20.0	61.5	46.1	40.3

19: E 10th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	3.3	21.2	7.8	1.9	34.3
Delay / Veh (s)	21.5	214.2	125.5	54.1	98.2

20: E 10th Street & Fee Lane Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	3.0	3.4	4.1	10.5
Delay / Veh (s)	18.2	26.2	54.6	28.4

21: E 10th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.0	4.9	35.0	44.5	86.3
Delay / Veh (s)	14.1	41.9	422.2	521.3	203.2

22: E 10th Street & Sunrise Drive Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.1	2.0	0.3	0.1	3.5
Delay / Veh (s)	9.9	18.3	21.2	16.5	14.5

23: E 10th Street & Union Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.0	1.2	2.1	1.6	5.9
Delay / Veh (s)	10.1	12.9	31.6	27.1	18.7

24: E 10th Street & Jefferson Street Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.2	0.1	0.2	0.5
Delay / Veh (s)	2.2	1.1	9.8	2.5

25: E 10th Street & SR 45/46 Bypass Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	8.7	5.7	10.4	38.5	63.3
Delay / Veh (s)	98.1	42.0	69.4	187.6	109.0

Total Network Performance

Total Delay (hr)	319.8
Delay / Veh (s)	188.4

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:50	6:50	6:50	6:50	6:50	6:50
End Time	7:45	7:45	7:45	7:45	7:45	7:45
Total Time (min)	55	55	55	55	55	55
Time Recorded (min)	45	45	45	45	45	45
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	4035	4121	4082	3956	3951	4025
Vehs Exited	4033	4099	4113	3986	3971	4040
Starting Vehs	207	190	228	220	210	207
Ending Vehs	209	212	197	190	190	183
Denied Entry Before	1	2	5	4	0	1
Denied Entry After	4	0	0	7	3	2
Travel Distance (mi)	3253	3369	3307	3241	3230	3280
Travel Time (hr)	159.5	162.9	162.7	156.5	155.1	159.4
Total Delay (hr)	54.0	54.5	55.5	50.5	50.9	53.1
Total Stops	7155	7401	7531	7251	7137	7295
Fuel Used (gal)	126.3	130.5	127.8	124.3	124.3	126.7

Interval #0 Information Seeding

Start Time 6:50
End Time 7:00
Total Time (min) 10
Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time 7:00
End Time 7:15
Total Time (min) 15
Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1315	1307	1310	1288	1246	1291
Vehs Exited	1292	1292	1348	1311	1255	1300
Starting Vehs	207	190	228	220	210	207
Ending Vehs	230	205	190	197	201	189
Denied Entry Before	1	2	5	4	0	1
Denied Entry After	2	2	2	2	2	0
Travel Distance (mi)	1062	1062	1072	1046	1017	1052
Travel Time (hr)	50.6	49.6	50.8	50.9	48.4	50.1
Total Delay (hr)	16.0	15.6	16.1	16.7	15.5	16.0
Total Stops	2284	2262	2402	2396	2244	2312
Fuel Used (gal)	40.8	41.2	41.2	40.7	39.0	40.6

Interval #2 Information Recording

Start Time 7:15
 End Time 7:30
 Total Time (min) 15
 Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1438	1464	1422	1356	1426	1424
Vehs Exited	1458	1454	1363	1334	1408	1402
Starting Vehs	230	205	190	197	201	189
Ending Vehs	210	215	249	219	219	212
Denied Entry Before	2	2	2	2	2	0
Denied Entry After	8	3	14	5	6	6
Travel Distance (mi)	1167	1195	1116	1096	1161	1147
Travel Time (hr)	58.3	59.4	57.4	53.0	56.7	57.0
Total Delay (hr)	20.4	20.9	21.3	17.3	19.3	19.8
Total Stops	2668	2612	2590	2443	2580	2589
Fuel Used (gal)	45.8	46.6	43.5	41.8	44.8	44.5

Interval #3 Information Recording

Start Time 7:30
 End Time 7:45
 Total Time (min) 15
 Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1282	1350	1350	1312	1279	1313
Vehs Exited	1283	1353	1402	1341	1308	1333
Starting Vehs	210	215	249	219	219	212
Ending Vehs	209	212	197	190	190	183
Denied Entry Before	8	3	14	5	6	6
Denied Entry After	4	0	0	7	3	2
Travel Distance (mi)	1023	1112	1119	1099	1051	1081
Travel Time (hr)	50.6	53.9	54.5	52.6	50.1	52.3
Total Delay (hr)	17.7	18.0	18.1	16.5	16.1	17.3
Total Stops	2203	2527	2539	2412	2313	2391
Fuel Used (gal)	39.7	42.7	43.2	41.8	40.5	41.6

1: E 17th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	3.4	0.6	0.1	1.0	5.2
Delay / Veh (s)	35.6	10.3	7.9	16.1	21.9

2: E 17th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.4	0.1	0.0	0.0	0.6
Delay / Veh (s)	3.4	1.6	8.9	5.6	3.0

3: E 17th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.2	0.0	0.0	0.3
Delay / Veh (s)	1.1	2.6	9.6	10.7	2.0

4: E 17th Street & Fee Lane Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.7	1.3	0.4	0.8	4.1
Delay / Veh (s)	18.5	23.2	14.5	19.0	19.3

5: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.2	0.1	0.2	0.5
Delay / Veh (s)	3.4	1.4	9.1	3.7

6: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.1	0.0	0.1	0.2
Delay / Veh (s)	1.7	1.0	5.0	1.8

7: E 17th Street & SR 45/46 Bypass Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.2	1.1	0.6	1.9
Delay / Veh (s)	5.8	6.7	4.1	5.5

8: 14th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.0	0.0	0.0	0.1
Delay / Veh (s)	4.2	4.3	0.4	1.2	2.2

9: 14th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	4.8	4.9	0.5	0.2	0.8

10: 14th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.1	0.1
Delay / Veh (s)	1.1	0.6	2.6	5.9	4.0

11: 13th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.0	0.1	0.0	0.2
Delay / Veh (s)	3.6	1.0	2.4	0.4	2.1

12: 13th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.1	0.2
Delay / Veh (s)	0.5	1.9	5.4	6.2	3.0

13: 13th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.1	0.1	0.0	0.2
Delay / Veh (s)	5.9	4.2	3.8	4.9

14: 13th Street & Fee Lane Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.1	0.1	0.1	0.2
Delay / Veh (s)	5.9	1.3	1.1	1.9

15: E Law Lane & Fee Lane Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.1	0.0	0.1	0.3
Delay / Veh (s)	4.8	0.9	1.4	2.0

16: E Law Lane & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.4	0.6	0.4	0.5	1.8
Delay / Veh (s)	13.1	17.7	11.4	9.8	12.6

17: E Law Lane & Union Street Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.1	0.3	0.1	0.5
Delay / Veh (s)	3.1	6.9	6.0	5.3

18: E 10th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.0	0.8	0.7	0.4	2.9
Delay / Veh (s)	11.7	12.2	13.2	8.7	11.6

19: E 10th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.2	1.2	0.3	0.5	3.1
Delay / Veh (s)	10.3	14.5	13.0	22.3	13.1

20: E 10th Street & Fee Lane Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	2.0	1.6	0.5	4.1
Delay / Veh (s)	17.5	12.6	13.0	14.6

21: E 10th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.8	2.6	2.0	1.2	6.6
Delay / Veh (s)	8.7	21.9	41.9	22.8	21.1

22: E 10th Street & Sunrise Drive Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.3	1.0	0.1	0.0	1.5
Delay / Veh (s)	5.4	9.5	15.5	10.5	8.2

23: E 10th Street & Union Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.6	1.8	0.8	0.5	3.7
Delay / Veh (s)	12.2	17.9	19.8	16.5	16.9

24: E 10th Street & Jefferson St Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.1	0.1	0.1	0.2
Delay / Veh (s)	1.6	1.0	6.5	1.5

25: E 10th Street & SR 45/46 Bypass Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.5	3.6	3.4	4.2	12.7
Delay / Veh (s)	28.1	25.2	29.1	24.1	26.1

Total Network Performance

Total Delay (hr)	53.1
Delay / Veh (s)	47.4

Arterial Level of Service: EB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	34.9	38.9	0.0	4
Woodlawn Avenue	2	3.8	28.4	0.2	31
Walnut Grove Street	3	1.1	16.0	0.1	29
Fee Lane	4	20.2	32.3	0.1	13
Jordan Avenue	5	3.8	38.5	0.3	32
Jordan Avenue	6	1.1	10.8	0.1	26
SR 45/46 Bypass	7	15.4	41.8	0.2	18
Total		80.2	206.7	1.1	21

Arterial Level of Service: WB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Jordan Avenue	6	0.4	26.5	0.2	28
Jordan Avenue	5	0.6	10.4	0.1	27
Fee Lane	4	22.3	60.7	0.3	20
Walnut Grove Street	3	2.9	15.7	0.1	26
Woodlawn Avenue	2	1.6	16.9	0.1	28
Dunn Street	1	12.3	39.7	0.2	22
Total		40.2	170.0	1.1	23

Arterial Level of Service: EB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Jordan Avenue	16	15.5	39.2	0.2	17
Union Street	17	7.9	42.2	0.3	27
Total		23.4	81.4	0.5	22

Arterial Level of Service: WB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Jordan Avenue	16	21.2	63.8	0.3	18
Fee Lane	15	10.2	34.1	0.2	19
Total		31.4	97.8	0.5	18

Arterial Level of Service: EB E 10th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Indiana Avenue	18	11.5	19.4	0.1	11
Woodlawn Avenue	19	11.2	32.8	0.2	20
Fee Lane	20	14.1	37.4	0.2	22
	35	2.0	13.6	0.1	25
Jordan Avenue	21	8.1	17.2	0.1	16
Sunrise Drive	22	5.5	23.0	0.2	25
Union Street	23	12.2	31.4	0.2	18
Jefferson St	24	2.0	15.0	0.1	26
	79	0.2	3.7	0.0	27
	26	0.5	15.4	0.1	29
SR 45/46 Bypass	25	30.3	44.4	0.1	10
Total		97.4	253.3	1.4	19

Arterial Level of Service: WB E 10th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
SR 45/46 Bypass	25	33.2	48.0	0.1	10
	26	2.3	17.6	0.1	25
	79	1.3	16.2	0.1	27
Jefferson St	24	0.8	4.4	0.0	23
Union Street	23	18.0	30.9	0.1	13
Sunrise Drive	22	10.1	28.2	0.2	21
Jordan Avenue	21	21.6	40.0	0.2	15
	35	1.9	11.3	0.1	25
Fee Lane	20	16.0	26.5	0.1	13
Woodlawn Avenue	19	13.7	39.9	0.2	21
Indiana Avenue	18	12.5	34.3	0.2	19
Total		131.6	297.2	1.4	17

Summary of All Intervals

Run Number	2	3	4	5	6	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	7:45	7:45	7:45	7:45	7:45	7:45
Total Time (min)	48	48	48	48	48	48
Time Recorded (min)	45	45	45	45	45	45
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	6429	6466	6524	6413	6507	6466
Vehs Exited	6128	6236	6271	6202	6301	6226
Starting Vehs	282	291	272	293	281	270
Ending Vehs	583	521	525	504	487	512
Denied Entry Before	3	5	5	6	14	4
Denied Entry After	438	412	291	368	402	377
Travel Distance (mi)	4976	5073	5095	4973	4981	5020
Travel Time (hr)	509.3	492.6	427.2	459.1	488.3	475.3
Total Delay (hr)	342.8	323.4	256.2	292.8	321.9	307.4
Total Stops	16774	16271	16456	15466	16451	16286
Fuel Used (gal)	257.0	255.2	240.7	244.8	252.8	250.1

Interval #0 Information Seeding

Start Time 6:57
End Time 7:00
Total Time (min) 3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time 7:00
End Time 7:15
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	2	3	4	5	6	Avg
Vehs Entered	2155	2162	2127	2119	2177	2145
Vehs Exited	1949	2039	1945	2003	2025	1992
Starting Vehs	282	291	272	293	281	270
Ending Vehs	488	414	454	409	433	435
Denied Entry Before	3	5	5	6	14	4
Denied Entry After	74	78	14	80	83	65
Travel Distance (mi)	1619	1661	1653	1647	1611	1638
Travel Time (hr)	114.4	107.7	103.6	105.2	109.1	108.0
Total Delay (hr)	60.1	52.3	47.9	50.1	55.2	53.1
Total Stops	4903	4661	4967	4665	4827	4808
Fuel Used (gal)	71.5	70.9	70.2	70.2	70.9	70.8

Interval #2 Information Recording

Start Time 7:15
 End Time 7:30
 Total Time (min) 15
 Volumes adjusted by PHF, Growth Factors.

Run Number	2	3	4	5	6	Avg
Vehs Entered	2197	2252	2269	2232	2253	2239
Vehs Exited	2155	2078	2208	2185	2136	2152
Starting Vehs	488	414	454	409	433	435
Ending Vehs	530	588	515	456	550	520
Denied Entry Before	74	78	14	80	83	65
Denied Entry After	278	226	147	230	259	224
Travel Distance (mi)	1690	1745	1755	1723	1739	1730
Travel Time (hr)	171.8	167.5	143.7	161.0	168.7	162.6
Total Delay (hr)	115.5	109.2	85.0	103.5	110.8	104.8
Total Stops	5826	5947	5895	5606	5998	5854
Fuel Used (gal)	87.3	87.4	82.2	85.5	87.8	86.0

Interval #3 Information Recording

Start Time 7:30
 End Time 7:45
 Total Time (min) 15
 Volumes adjusted by Growth Factors.

Run Number	2	3	4	5	6	Avg
Vehs Entered	2077	2052	2128	2062	2077	2080
Vehs Exited	2024	2119	2118	2014	2140	2082
Starting Vehs	530	588	515	456	550	520
Ending Vehs	583	521	525	504	487	512
Denied Entry Before	278	226	147	230	259	224
Denied Entry After	438	412	291	368	402	377
Travel Distance (mi)	1668	1667	1686	1604	1631	1651
Travel Time (hr)	223.1	217.5	179.9	192.9	210.5	204.8
Total Delay (hr)	167.2	161.9	123.2	139.1	155.9	149.5
Total Stops	6045	5663	5594	5195	5626	5618
Fuel Used (gal)	98.2	96.9	88.3	89.1	94.1	93.3

1: E 17th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	6.5	7.9	0.5	1.7	16.6
Delay / Veh (s)	79.1	44.4	12.8	18.3	42.5

2: E 17th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.6	0.3	0.3	0.5	1.8
Delay / Veh (s)	4.5	2.4	19.4	17.9	5.5

3: E 17th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.4	0.5	0.0	0.1	0.9
Delay / Veh (s)	2.4	3.5	12.1	19.3	3.2

4: E 17th Street & Fee Lane Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	3.2	5.4	2.1	1.4	12.1
Delay / Veh (s)	21.0	54.8	32.2	25.3	32.6

5: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.7	0.3	2.2	3.2
Delay / Veh (s)	5.7	3.4	34.6	11.4

6: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.3	0.1	0.3	0.6
Delay / Veh (s)	2.8	0.7	8.0	2.9

7: E 17th Street & SR 45/46 Bypass Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.4	1.6	1.0	3.0
Delay / Veh (s)	5.3	8.5	6.6	7.2

8: 14th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.2	0.0	0.1	0.1	0.3
Delay / Veh (s)	6.4	6.1	1.3	1.7	2.8

9: 14th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.1
Delay / Veh (s)	5.0	5.3	0.6	0.3	1.0

10: 14th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.1	0.1	0.2
Delay / Veh (s)	1.5	0.1	7.0	6.2	5.5

11: 13th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.6	0.3	0.3	0.1	2.3
Delay / Veh (s)	24.6	8.1	2.9	1.7	9.2

12: 13th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.1	0.3	0.1	0.5
Delay / Veh (s)	1.4	2.5	8.1	7.6	4.6

13: 13th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.3	0.2	0.0	0.5
Delay / Veh (s)	6.4	6.3	4.5	6.2

14: 13th Street & Fee Lane Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.4	0.2	0.1	0.8
Delay / Veh (s)	10.0	2.2	1.5	3.6

15: E Law Lane & Fee Lane Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.8	0.1	0.3	1.2
Delay / Veh (s)	12.1	1.6	2.7	5.0

16: E Law Lane & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.8	0.8	1.3	1.7	5.5
Delay / Veh (s)	22.3	19.3	18.7	19.3	20.0

17: E Law Lane & Union Street Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.5	0.4	0.3	1.2
Delay / Veh (s)	7.9	8.9	7.8	8.2

18: E 10th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	92.2	1.6	40.4	10.3	144.5
Delay / Veh (s)	926.8	14.5	331.1	103.7	332.7

19: E 10th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.8	8.1	3.4	1.0	14.4
Delay / Veh (s)	15.9	66.4	51.9	32.2	43.2

20: E 10th Street & Fee Lane Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	2.1	2.0	2.7	6.8
Delay / Veh (s)	16.1	13.4	32.2	18.6

21: E 10th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.0	5.1	32.0	11.4	50.6
Delay / Veh (s)	15.6	40.2	409.3	92.7	109.7

22: E 10th Street & Sunrise Drive Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.3	1.3	0.3	0.2	3.1
Delay / Veh (s)	10.8	11.3	19.8	18.2	11.8

23: E 10th Street & Union Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.8	2.8	1.5	1.3	7.5
Delay / Veh (s)	17.4	29.2	23.0	17.6	21.8

24: E 10th Street & Jefferson St Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.3	0.2	0.3	0.7
Delay / Veh (s)	2.4	1.7	12.1	3.1

25: E 10th Street & SR 45/46 Bypass Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	4.7	4.6	7.2	9.5	26.1
Delay / Veh (s)	47.1	31.9	46.2	39.6	40.6

Total Network Performance

Total Delay (hr)	307.4
Delay / Veh (s)	174.4

Arterial Level of Service: EB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	78.0	81.8	0.0	3
Woodlawn Avenue	2	5.1	31.6	0.2	28
Walnut Grove Street	3	2.4	17.8	0.1	26
Fee Lane	4	21.0	34.3	0.1	12
Jordan Avenue	5	6.6	46.1	0.3	26
Jordan Avenue	6	2.3	11.7	0.1	25
SR 45/46 Bypass	7	19.6	45.1	0.2	16
Total		135.0	268.3	1.1	18

Arterial Level of Service: WB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Jordan Avenue	6	0.6	23.9	0.2	31
Jordan Avenue	5	1.0	10.6	0.1	27
Fee Lane	4	53.1	92.9	0.3	13
Walnut Grove Street	3	4.5	18.7	0.1	22
Woodlawn Avenue	2	2.3	17.9	0.1	26
Dunn Street	1	52.3	78.6	0.2	12
Total		113.8	242.6	1.1	17

Arterial Level of Service: EB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Jordan Avenue	16	21.1	44.5	0.2	15
Union Street	17	11.4	50.1	0.3	23
Total		32.5	94.6	0.5	19

Arterial Level of Service: WB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Jordan Avenue	16	18.7	59.4	0.3	19
Fee Lane	15	18.1	35.2	0.2	19
Total		36.8	94.6	0.5	19

Arterial Level of Service: EB E 10th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Indiana Avenue	18	923.6	930.6	0.1	3
Woodlawn Avenue	19	19.1	40.1	0.2	16
Fee Lane	20	14.3	36.8	0.2	23
	35	2.1	13.6	0.1	25
Jordan Avenue	21	16.9	26.2	0.1	11
Sunrise Drive	22	11.2	30.1	0.2	19
Union Street	23	17.1	35.0	0.2	16
Jefferson St	24	3.1	15.6	0.1	25
	79	0.4	3.9	0.0	26
	26	0.7	15.5	0.1	28
SR 45/46 Bypass	25	49.0	63.2	0.1	7
Total		1057.5	1210.7	1.4	13

Arterial Level of Service: WB E 10th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
SR 45/46 Bypass	25	38.6	53.4	0.1	9
	26	2.0	17.1	0.1	26
	79	1.2	16.0	0.1	27
Jefferson St	24	1.4	4.9	0.0	21
Union Street	23	28.9	41.8	0.1	9
Sunrise Drive	22	11.4	29.3	0.2	20
Jordan Avenue	21	40.2	58.7	0.2	10
	35	2.0	11.3	0.1	25
Fee Lane	20	16.6	26.6	0.1	13
Woodlawn Avenue	19	65.4	90.7	0.2	10
Indiana Avenue	18	14.1	35.8	0.2	18
Total		222.0	385.7	1.4	14

Summary of All Intervals

Run Number	1	2	3	5	7	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	7:45	7:45	7:45	7:45	7:45	7:45
Total Time (min)	48	48	48	48	48	48
Time Recorded (min)	45	45	45	45	45	45
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	4177	4298	4129	4184	4279	4218
Vehs Exited	4111	4257	4106	4105	4195	4154
Starting Vehs	164	178	170	135	135	149
Ending Vehs	230	219	193	214	219	209
Denied Entry Before	0	1	2	3	0	0
Denied Entry After	1	1	2	4	3	1
Travel Distance (mi)	3308	3467	3352	3284	3396	3361
Travel Time (hr)	160.3	172.3	160.4	156.6	164.1	162.8
Total Delay (hr)	52.9	60.0	51.5	49.7	53.2	53.5
Total Stops	7240	7733	7237	7022	7319	7315
Fuel Used (gal)	127.9	135.8	129.9	126.2	131.7	130.3

Interval #0 Information Seeding

Start Time 6:57
End Time 7:00
Total Time (min) 3
Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time 7:00
End Time 7:15
Total Time (min) 15
Volumes adjusted by Growth Factors.

Run Number	1	2	3	5	7	Avg
Vehs Entered	1323	1399	1328	1335	1375	1352
Vehs Exited	1287	1359	1288	1294	1286	1306
Starting Vehs	164	178	170	135	135	149
Ending Vehs	200	218	210	176	224	194
Denied Entry Before	0	1	2	3	0	0
Denied Entry After	1	4	2	1	2	1
Travel Distance (mi)	1013	1114	1062	1043	1061	1059
Travel Time (hr)	47.6	54.7	49.4	48.0	50.2	50.0
Total Delay (hr)	14.6	18.7	15.2	14.1	15.3	15.6
Total Stops	2146	2479	2194	2177	2292	2251
Fuel Used (gal)	38.9	43.4	40.8	39.6	40.8	40.7

Interval #2 Information Recording

Start Time 7:15
 End Time 7:30
 Total Time (min) 15
 Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	5	7	Avg
Vehs Entered	1490	1453	1492	1465	1526	1481
Vehs Exited	1466	1441	1452	1402	1505	1450
Starting Vehs	200	218	210	176	224	194
Ending Vehs	224	230	250	239	245	227
Denied Entry Before	1	4	2	1	2	1
Denied Entry After	1	1	3	0	6	0
Travel Distance (mi)	1188	1174	1209	1143	1205	1184
Travel Time (hr)	57.8	57.5	59.5	54.7	59.6	57.8
Total Delay (hr)	19.4	19.3	20.2	17.4	20.4	19.3
Total Stops	2570	2565	2655	2421	2642	2570
Fuel Used (gal)	45.8	45.4	47.1	43.8	47.3	45.9

Interval #3 Information Recording

Start Time 7:30
 End Time 7:45
 Total Time (min) 15
 Volumes adjusted by Growth Factors.

Run Number	1	2	3	5	7	Avg
Vehs Entered	1364	1446	1309	1384	1378	1371
Vehs Exited	1358	1457	1366	1409	1404	1395
Starting Vehs	224	230	250	239	245	227
Ending Vehs	230	219	193	214	219	209
Denied Entry Before	1	1	3	0	6	0
Denied Entry After	1	1	2	4	3	1
Travel Distance (mi)	1106	1179	1082	1098	1130	1119
Travel Time (hr)	54.9	60.1	51.6	53.9	54.3	55.0
Total Delay (hr)	19.0	22.0	16.2	18.2	17.4	18.6
Total Stops	2524	2689	2388	2424	2385	2480
Fuel Used (gal)	43.2	47.0	42.0	42.8	43.6	43.7

1: E 17th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.5	0.6	0.1	1.0	4.2
Delay / Veh (s)	26.5	10.5	8.7	15.6	18.3

2: E 17th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.4	0.1	0.0	0.0	0.6
Delay / Veh (s)	3.3	1.5	10.0	5.1	2.9

3: E 17th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.1	0.0	0.0	0.2
Delay / Veh (s)	1.0	2.0	8.9	10.5	1.8

4: E 17th Street & Fee Lane Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.2	0.9	0.5	0.9	3.5
Delay / Veh (s)	13.4	16.4	10.1	22.1	15.0

5: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.2	0.1	0.2	0.5
Delay / Veh (s)	3.0	1.3	8.1	3.3

6: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.1	0.0	0.1	0.2
Delay / Veh (s)	1.8	1.0	4.9	1.9

7: E 17th Street & SR 45/46 Bypass Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.2	0.6	0.6	1.4
Delay / Veh (s)	6.1	3.7	4.0	4.1

8: E Law Lane & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.8	0.1	0.1	1.1
Delay / Veh (s)	5.8	13.5	4.4	3.0	9.3

9: E Law Lane & Indiana Avenue Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.8	0.2	0.1	1.1
Delay / Veh (s)	8.0	6.0	5.2	7.2

10: E Law Lane & Woodlawn Avenue Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.5	0.0	0.1	0.6
Delay / Veh (s)	7.0	4.0	3.9	6.3

11: 13th Stret & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.0	0.1	0.0	0.2
Delay / Veh (s)	3.7	1.3	1.3	1.3	1.8

12: 13th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.1	0.0	0.1	0.3
Delay / Veh (s)	0.7	2.1	5.9	7.1	3.2

13: E Law Lane & Walnut Grove Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.2	0.0	0.0	0.3
Delay / Veh (s)	2.4	5.4	5.1	2.7

15: E Law Lane & Fee Lane Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	1.3	0.1	0.2	1.7
Delay / Veh (s)	8.8	7.0	4.2	7.5

16: E Law Lane & Jordan Avenue Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	3.3	0.6	0.4	4.3
Delay / Veh (s)	21.5	13.2	8.8	17.5

17: E Law Lane & Union Street Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	1.1	0.6	0.1	1.7
Delay / Veh (s)	9.5	12.8	4.8	9.9

18: E 10th Street & Indiana Avenue Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	1.0	0.6	0.2	1.9
Delay / Veh (s)	11.1	11.3	7.0	10.4

19: E 10th Street & Woodlawn Avenue Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	1.0	0.1	1.0	2.1
Delay / Veh (s)	8.2	6.6	17.5	10.7

20: E 10th Street & Fee Lane Performance by approach

Approach	EB	SB	All
Total Delay (hr)	1.7	0.4	2.2
Delay / Veh (s)	12.5	15.1	12.9

21: E 10th Street & Jordan Avenue Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	1.1	1.3	7.2	9.6
Delay / Veh (s)	8.8	27.0	112.3	40.5

22: E 10th Street & Sunrise Drive Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.5	0.0	0.0	0.6
Delay / Veh (s)	4.9	5.8	14.3	5.2

23: E 10th Street & Union Street Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.6	0.4	0.3	1.3
Delay / Veh (s)	9.1	8.8	11.1	9.4

24: E 10th Street & Jefferson St Performance by approach

Approach	EB	NB	All
Total Delay (hr)	0.1	0.0	0.1
Delay / Veh (s)	1.6	3.0	1.8

25: E 10th Street & SR 45/46 Bypass Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.2	3.3	3.2	3.6	11.2
Delay / Veh (s)	23.2	23.7	27.1	20.5	23.3

26: E Law Lane & E 10th Street Performance by approach

Approach	WB	NB	All
Total Delay (hr)	0.1	0.2	0.3
Delay / Veh (s)	1.0	3.9	2.1

Total Network Performance

Total Delay (hr)	53.5
Delay / Veh (s)	46.0

Arterial Level of Service: EB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	26.1	30.2	0.0	4
Woodlawn Avenue	2	3.7	28.4	0.2	31
Walnut Grove	3	1.0	16.1	0.1	29
Fee Lane	4	14.3	26.5	0.1	16
Jordan Avenue	5	3.5	39.1	0.3	31
Jordan Avenue	6	1.3	10.9	0.1	26
SR 45/46 Bypass	7	17.6	42.4	0.2	17
Total		67.4	193.5	1.1	22

Arterial Level of Service: WB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Jordan Avenue	6	0.5	26.8	0.2	27
Jordan Avenue	5	0.6	10.5	0.1	27
Fee Lane	4	15.2	54.2	0.3	22
Walnut Grove Street	3	2.4	15.4	0.1	27
Woodlawn Avenue	2	1.4	17.2	0.1	27
Dunn Street	1	12.3	39.0	0.2	22
Total		32.5	163.0	1.1	24

Arterial Level of Service: EB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
13th Street	8	12.7	26.0	0.1	15
Total		12.7	26.0	0.1	15

Arterial Level of Service: WB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Union Street	17	9.5	26.0	0.1	20
Jordan Avenue	16	21.2	56.1	0.3	20
Fee Lane	15	9.3	28.5	0.2	23
Walnut Grove	13	2.6	24.9	0.2	28
Woodlawn Avenue	10	7.1	17.8	0.1	20
Indiana Avenue	9	10.8	27.9	0.2	23
Dunn Street	8	13.9	22.4	0.1	11
Total		74.3	203.6	1.2	21

Arterial Level of Service: EB E 10th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Indiana Avenue	18	11.0	18.9	0.1	12
Woodlawn Avenue	19	8.3	29.9	0.2	22
Fee Lane	20	12.3	36.3	0.2	23
	35	2.0	13.2	0.1	26
Jordan Avenue	21	6.9	15.6	0.1	18
Sunrise Drive	22	4.8	22.1	0.2	26
Union Street	23	7.8	25.5	0.2	23
Jefferson St	24	2.0	15.1	0.1	26
E 10th Street	26	3.8	13.1	0.1	15
	30	0.4	17.3	0.1	25
SR 45/46 Bypass	25	27.8	41.8	0.1	11
Total		87.1	248.7	1.4	20

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	7:45	7:45	7:45	7:45	7:45	7:45
Total Time (min)	48	48	48	48	48	48
Time Recorded (min)	45	45	45	45	45	45
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	6841	6941	6922	6792	6854	6870
Vehs Exited	6730	6823	6785	6717	6694	6749
Starting Vehs	294	277	292	305	273	285
Ending Vehs	405	395	429	380	433	402
Denied Entry Before	4	1	8	7	3	2
Denied Entry After	29	6	15	5	29	15
Travel Distance (mi)	5368	5490	5455	5364	5352	5406
Travel Time (hr)	327.1	320.2	334.1	310.2	331.6	324.6
Total Delay (hr)	145.5	135.2	149.1	129.4	150.9	142.0
Total Stops	15183	15324	15714	14877	15235	15264
Fuel Used (gal)	228.4	229.2	231.4	223.4	228.6	228.2

Interval #0 Information Seeding

Start Time 6:57
End Time 7:00
Total Time (min) 3
Volumes adjusted by Growth Factors.
No data recorded this interval.

Interval #1 Information Recording

Start Time 7:00
End Time 7:15
Total Time (min) 15
Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2242	2255	2250	2135	2223	2217
Vehs Exited	2128	2141	2147	2086	2117	2124
Starting Vehs	294	277	292	305	273	285
Ending Vehs	408	391	395	354	379	375
Denied Entry Before	4	1	8	7	3	2
Denied Entry After	13	13	11	9	10	6
Travel Distance (mi)	1752	1767	1721	1705	1714	1732
Travel Time (hr)	100.4	100.4	96.5	91.5	96.9	97.2
Total Delay (hr)	41.1	41.1	38.4	34.2	39.0	38.8
Total Stops	4836	4756	4655	4409	4600	4648
Fuel Used (gal)	72.7	73.0	70.8	69.6	70.8	71.4

Interval #2 Information Recording

Start Time 7:15
 End Time 7:30
 Total Time (min) 15
 Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2457	2400	2425	2453	2380	2421
Vehs Exited	2367	2381	2338	2316	2302	2341
Starting Vehs	408	391	395	354	379	375
Ending Vehs	498	410	482	491	457	461
Denied Entry Before	13	13	11	9	10	6
Denied Entry After	25	12	19	22	53	25
Travel Distance (mi)	1871	1881	1902	1871	1813	1868
Travel Time (hr)	118.4	112.7	116.3	112.6	114.4	114.9
Total Delay (hr)	55.0	49.3	51.9	49.5	52.9	51.7
Total Stops	5610	5388	5437	5341	5265	5408
Fuel Used (gal)	81.4	79.6	80.3	78.8	77.8	79.6

Interval #3 Information Recording

Start Time 7:30
 End Time 7:45
 Total Time (min) 15
 Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2142	2286	2247	2204	2251	2226
Vehs Exited	2235	2301	2300	2315	2275	2286
Starting Vehs	498	410	482	491	457	461
Ending Vehs	405	395	429	380	433	402
Denied Entry Before	25	12	19	22	53	25
Denied Entry After	29	6	15	5	29	15
Travel Distance (mi)	1745	1842	1833	1787	1825	1806
Travel Time (hr)	108.3	107.0	121.3	106.0	120.4	112.6
Total Delay (hr)	49.3	44.8	58.8	45.7	59.0	51.5
Total Stops	4737	5180	5622	5127	5370	5207
Fuel Used (gal)	74.3	76.6	80.2	75.0	80.0	77.2

1: E 17th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.3	3.7	0.6	1.8	8.4
Delay / Veh (s)	35.8	23.5	12.7	18.8	23.1

2: E 17th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.5	0.2	0.4	0.3	1.4
Delay / Veh (s)	3.6	2.1	19.5	11.6	4.8

3: E 17th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.2	0.3	0.2	0.0	0.7
Delay / Veh (s)	1.8	2.5	9.9	15.9	2.7

4: E 17th Street & Fee Lane Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.3	2.1	2.1	1.4	7.9
Delay / Veh (s)	17.0	26.7	24.4	24.8	22.1

5: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.5	0.2	1.6	2.4
Delay / Veh (s)	5.1	3.4	27.2	10.0

6: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.2	0.0	0.3	0.5
Delay / Veh (s)	2.8	0.5	7.1	2.8

7: E 17th Street & SR 45/46 Bypass Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.3	0.7	0.8	1.7
Delay / Veh (s)	4.2	3.4	5.1	4.1

8: E Law Lane & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.5	4.4	3.6	0.6	9.2
Delay / Veh (s)	17.2	26.6	47.7	14.2	29.3

9: E Law Lane & Indiana Avenue Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	4.0	0.4	0.4	4.9
Delay / Veh (s)	27.2	13.3	11.7	22.5

10: E Law Lane & Woodlawn Avenue Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	1.0	0.3	0.1	1.4
Delay / Veh (s)	6.8	11.9	5.9	7.4

11: 13th Stret & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.3	0.2	0.2	0.1	0.9
Delay / Veh (s)	6.7	6.2	3.2	1.9	4.5

12: 13th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.0	0.4	0.3	0.8
Delay / Veh (s)	1.5	0.8	8.4	9.2	4.7

13: E Law Lane & Walnut Grove Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	0.5	0.2	0.0	0.7
Delay / Veh (s)	3.0	10.6	8.0	3.9

15: E Law Lane & Fee Lane Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	2.3	0.2	0.7	3.2
Delay / Veh (s)	9.7	11.9	10.0	9.9

16: E Law Lane & Jordan Avenue Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	5.1	1.5	1.3	7.9
Delay / Veh (s)	24.5	15.2	15.2	20.2

17: E Law Lane & Union Street Performance by approach

Approach	WB	NB	SB	All
Total Delay (hr)	1.1	0.8	0.2	2.0
Delay / Veh (s)	8.8	12.4	5.5	9.3

18: E 10th Street & Indiana Avenue Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	2.5	2.8	0.6	6.0
Delay / Veh (s)	20.0	20.7	9.6	18.1

19: E 10th Street & Woodlawn Avenue Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	4.0	0.7	2.5	7.1
Delay / Veh (s)	20.6	11.2	27.7	20.7

20: E 10th Street & Fee Lane Performance by approach

Approach	EB	SB	All
Total Delay (hr)	9.2	6.6	15.8
Delay / Veh (s)	37.9	72.1	47.2

21: E 10th Street & Jordan Avenue Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	3.0	2.3	11.8	17.1
Delay / Veh (s)	11.3	22.3	121.2	36.8

22: E 10th Street & Sunrise Drive Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	2.2	0.2	0.2	2.6
Delay / Veh (s)	9.4	11.1	21.8	9.9

23: E 10th Street & Union Street Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	2.5	1.1	0.5	4.1
Delay / Veh (s)	12.1	16.5	18.0	13.5

24: E 10th Street & Jefferson St Performance by approach

Approach	EB	NB	All
Total Delay (hr)	0.6	0.2	0.8
Delay / Veh (s)	3.6	9.9	4.3

25: E 10th Street & SR 45/46 Bypass Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	5.4	5.1	7.6	10.3	28.5
Delay / Veh (s)	37.3	35.9	46.6	39.9	40.1

26: E Law Lane & E 10th Street Performance by approach

Approach	WB	NB	All
Total Delay (hr)	0.1	1.6	1.7
Delay / Veh (s)	0.8	9.5	6.1

Total Network Performance

Total Delay (hr)	142.0
Delay / Veh (s)	75.1

Arterial Level of Service: EB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	34.7	39.0	0.0	4
Woodlawn Avenue	2	4.4	29.9	0.2	30
Walnut Grove	3	1.7	17.1	0.1	27
Fee Lane	4	17.7	31.0	0.1	13
Jordan Avenue	5	6.0	44.8	0.3	27
Jordan Avenue	6	2.2	11.4	0.1	25
SR 45/46 Bypass	7	19.3	44.2	0.2	17
Total		86.1	217.4	1.1	20

Arterial Level of Service: WB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Jordan Avenue	6	0.5	22.7	0.2	32
Jordan Avenue	5	0.7	10.2	0.1	28
Fee Lane	4	24.8	64.2	0.3	19
Walnut Grove Street	3	3.0	16.7	0.1	24
Woodlawn Avenue	2	2.0	17.8	0.1	26
Dunn Street	1	30.6	56.5	0.2	16
Total		61.6	188.2	1.1	21

Arterial Level of Service: EB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
13th Street	8	37.6	51.7	0.1	7
Total		37.6	51.7	0.1	7

Arterial Level of Service: WB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Union Street	17	8.8	25.4	0.1	20
Jordan Avenue	16	24.1	54.6	0.3	21
Fee Lane	15	10.3	30.0	0.2	22
Walnut Grove	13	3.3	25.6	0.2	27
Woodlawn Avenue	10	6.8	17.1	0.1	21
Indiana Avenue	9	29.4	50.7	0.2	13
Dunn Street	8	27.4	35.2	0.1	9
Total		110.0	238.6	1.2	18

Arterial Level of Service: EB E 10th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Indiana Avenue	18	19.9	27.8	0.1	8
Woodlawn Avenue	19	20.2	41.7	0.2	16
Fee Lane	20	39.0	63.5	0.2	13
	35	2.8	14.1	0.1	24
Jordan Avenue	21	12.2	21.6	0.1	13
Sunrise Drive	22	10.4	29.4	0.2	20
Union Street	23	11.7	30.4	0.2	19
Jefferson St	24	3.8	16.9	0.1	23
E 10th Street	26	10.4	19.6	0.1	10
	30	0.9	17.8	0.1	24
SR 45/46 Bypass	25	42.7	55.8	0.1	8
Total		174.0	338.6	1.4	15

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	7:45	7:45	7:45	7:45	7:45	7:45
Total Time (min)	48	48	48	48	48	48
Time Recorded (min)	45	45	45	45	45	45
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	4267	4264	4293	4146	4278	4244
Vehs Exited	4201	4220	4232	4160	4229	4207
Starting Vehs	156	155	156	187	168	151
Ending Vehs	222	199	217	173	217	194
Denied Entry Before	8	2	0	2	4	2
Denied Entry After	3	4	6	5	1	2
Travel Distance (mi)	3319	3398	3418	3271	3450	3371
Travel Time (hr)	156.9	162.3	163.6	154.8	165.5	160.6
Total Delay (hr)	48.5	51.7	52.2	48.2	53.2	50.8
Total Stops	7160	7382	7554	7112	7596	7359
Fuel Used (gal)	127.9	131.2	131.7	125.6	133.5	130.0

Interval #0 Information Seeding

Start Time 6:57
End Time 7:00
Total Time (min) 3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time 7:00
End Time 7:15
Total Time (min) 15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1361	1377	1430	1342	1387	1383
Vehs Exited	1321	1317	1359	1333	1342	1340
Starting Vehs	156	155	156	187	168	151
Ending Vehs	196	215	227	196	213	193
Denied Entry Before	8	2	0	2	4	2
Denied Entry After	2	1	2	2	1	0
Travel Distance (mi)	1040	1084	1135	1039	1112	1082
Travel Time (hr)	49.4	50.7	53.3	49.0	52.2	50.9
Total Delay (hr)	15.4	15.6	16.4	15.2	16.0	15.7
Total Stops	2231	2345	2434	2238	2350	2318
Fuel Used (gal)	40.2	41.9	43.1	39.7	42.2	41.4

Interval #2 Information Recording

Start Time 7:15
 End Time 7:30
 Total Time (min) 15
 Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1538	1506	1481	1452	1522	1502
Vehs Exited	1500	1461	1477	1424	1506	1472
Starting Vehs	196	215	227	196	213	193
Ending Vehs	234	260	231	224	229	221
Denied Entry Before	2	1	2	2	1	0
Denied Entry After	1	1	0	3	4	0
Travel Distance (mi)	1191	1159	1178	1152	1221	1180
Travel Time (hr)	56.2	55.4	57.5	54.6	59.1	56.5
Total Delay (hr)	17.7	17.6	19.2	16.9	19.6	18.2
Total Stops	2577	2473	2680	2526	2722	2594
Fuel Used (gal)	46.0	44.3	45.9	44.4	47.2	45.6

Interval #3 Information Recording

Start Time 7:30
 End Time 7:45
 Total Time (min) 15
 Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	1368	1381	1382	1352	1369	1374
Vehs Exited	1380	1442	1396	1403	1381	1398
Starting Vehs	234	260	231	224	229	221
Ending Vehs	222	199	217	173	217	194
Denied Entry Before	1	1	0	3	4	0
Denied Entry After	3	4	6	5	1	2
Travel Distance (mi)	1089	1155	1105	1081	1117	1109
Travel Time (hr)	51.2	56.2	52.8	51.2	54.2	53.1
Total Delay (hr)	15.4	18.4	16.7	16.2	17.7	16.9
Total Stops	2352	2564	2440	2348	2524	2450
Fuel Used (gal)	41.8	45.1	42.7	41.4	44.0	43.0

1: E 17th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.3	0.6	0.1	1.0	4.0
Delay / Veh (s)	24.2	10.1	8.5	15.6	17.4

2: E 17th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.4	0.1	0.0	0.0	0.6
Delay / Veh (s)	3.2	1.4	9.6	4.8	2.9

3: E 17th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.1	0.0	0.0	0.2
Delay / Veh (s)	1.1	1.9	3.7	6.8	1.6

4: E 17th Street & Fee Lane Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.2	0.9	0.6	0.9	3.6
Delay / Veh (s)	13.2	15.8	9.8	22.5	14.5

5: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.2	0.1	0.2	0.5
Delay / Veh (s)	2.8	1.5	8.9	3.4

6: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.1	0.1	0.1	0.2
Delay / Veh (s)	1.7	1.2	4.8	1.9

7: E 17th Street & SR 45/46 Bypass Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.2	0.7	0.7	1.7
Delay / Veh (s)	6.1	4.3	4.8	4.7

8: E Law Lane & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.3	0.5	0.1	0.1	1.0
Delay / Veh (s)	7.8	11.3	5.4	5.9	8.4

9: E Law Lane & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.3	0.5	0.1	0.1	1.0
Delay / Veh (s)	9.6	11.9	3.6	3.4	7.9

10: E Law Lane & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.3	0.4	0.0	0.1	0.8
Delay / Veh (s)	8.8	8.7	1.5	6.7	8.2

11: 13th Stret & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.0	0.1	0.0	0.2
Delay / Veh (s)	3.5	4.2	1.4	0.9	1.9

12: 13th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0
Delay / Veh (s)	0.4	0.6	1.6	0.9	0.8

13: E Law Lane & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.2	0.1	0.0	0.3
Delay / Veh (s)	2.1	2.6	3.8	7.1	2.8

15: E Law Lane & Fee Lane Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.5	0.9	0.5	0.4	2.3
Delay / Veh (s)	10.7	11.6	7.7	7.7	9.5

16: E Law Lane & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.1	2.0	0.3	0.6	4.0
Delay / Veh (s)	19.4	22.7	9.6	11.0	17.4

17: E Law Lane & Union Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.5	0.6	0.5	0.1	1.7
Delay / Veh (s)	8.1	10.0	12.4	6.8	9.6

18: E 10th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.7	0.2	0.7	0.3	1.9
Delay / Veh (s)	11.6	8.9	13.1	6.3	10.4

19: E 10th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.7	0.3	0.4	0.7	2.2
Delay / Veh (s)	8.5	8.1	17.2	28.6	12.6

20: E 10th Street & Fee Lane Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	1.2	0.4	0.5	2.1
Delay / Veh (s)	13.2	6.0	11.3	10.3

21: E 10th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.6	1.1	1.4	1.4	4.5
Delay / Veh (s)	8.3	17.3	31.8	21.9	18.4

22: E 10th Street & Sunrise Drive Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.2	0.3	0.1	0.0	0.6
Delay / Veh (s)	4.4	6.1	15.5	13.7	5.9

23: E 10th Street & Union Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.3	0.5	0.8	0.4	1.9
Delay / Veh (s)	11.9	13.8	16.2	12.1	13.8

24: E 10th Street & Jefferson St Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.0	0.0	0.0	0.1
Delay / Veh (s)	1.4	0.9	4.2	1.5

25: E 10th Street & SR 45/46 Bypass Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.3	3.7	3.4	3.9	12.3
Delay / Veh (s)	21.0	26.1	29.0	22.4	24.8

26: E Law Lane & E 10th Street Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.1	0.2	0.1	0.4
Delay / Veh (s)	1.5	2.1	4.5	2.4

Total Network Performance

Total Delay (hr)	50.8
Delay / Veh (s)	43.2

Arterial Level of Service: EB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	24.0	28.2	0.0	5
Woodlawn Avenue	2	3.6	28.4	0.2	31
Walnut Grove Street	3	1.1	16.1	0.1	29
Fee Lane	4	13.7	25.6	0.1	16
Jordan Avenue	5	3.2	38.8	0.3	31
Jordan Avenue	6	1.1	10.7	0.1	26
SR 45/46 Bypass	7	18.4	45.5	0.2	16
Total		65.1	193.3	1.1	22

Arterial Level of Service: WB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Jordan Avenue	6	0.3	24.8	0.2	30
Jordan Avenue	5	0.7	10.5	0.1	27
Fee Lane	4	15.1	53.7	0.3	23
Walnut Grove Street	3	2.0	15.0	0.1	27
Woodlawn Avenue	2	1.4	17.1	0.1	27
Dunn Street	1	11.9	38.6	0.2	23
Total		31.3	159.5	1.1	25

Arterial Level of Service: EB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
13th Street	8	9.0	21.8	0.1	18
Indiana Avenue	9	10.6	18.7	0.1	13
Woodlawn Avenue	10	9.7	29.9	0.2	21
13th Street	13	2.1	13.7	0.1	26
Fee Lane	15	12.3	35.2	0.2	20
Jordan Avenue	16	18.6	39.7	0.2	16
Union Street	17	8.4	39.4	0.3	29
E 10th Street	26	1.9	17.4	0.1	30
Total		72.7	215.8	1.3	21

Arterial Level of Service: WB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Union Street	17	10.2	27.1	0.1	19
Jordan Avenue	16	23.3	60.0	0.3	19
Fee Lane	15	12.0	32.6	0.2	20
Walnut Grove Street	13	2.9	24.6	0.2	28
Woodlawn Avenue	10	8.7	19.7	0.1	18
Indiana Avenue	9	12.1	33.2	0.2	19
Dunn Street	8	11.5	20.0	0.1	13
Total		80.8	217.1	1.2	19

Arterial Level of Service: EB E 10th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Indiana Avenue	18	11.3	19.1	0.1	11
Woodlawn Avenue	19	9.7	31.4	0.2	21
Fee Lane	20	11.1	33.4	0.2	25
	35	1.8	13.4	0.1	26
Jordan Avenue	21	7.3	16.3	0.1	17
Sunrise Drive	22	4.5	21.0	0.2	28
Union Street	23	11.4	30.6	0.2	19
Jefferson St	24	1.7	14.6	0.1	27
E 10th Street	26	4.0	13.0	0.1	15
	30	0.4	17.8	0.1	24
SR 45/46 Bypass	25	23.7	36.9	0.1	12
Total		87.0	247.5	1.4	20

Arterial Level of Service: WB E 10th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
SR 45/46 Bypass	25	34.5	49.4	0.1	10
	30	2.3	17.5	0.1	26
E 10th Street	26	3.6	19.6	0.1	22
Jefferson St	24	0.6	9.0	0.1	22
Union Street	23	12.5	25.0	0.1	16
Sunrise Drive	22	6.4	22.3	0.2	26
Jordan Avenue	21	16.7	34.0	0.2	18
	35	1.6	11.0	0.1	26
Fee Lane	20	7.5	16.7	0.1	21
Woodlawn Avenue	19	6.3	29.2	0.2	29
Indiana Avenue	18	9.3	30.3	0.2	21
Total		101.4	263.9	1.4	20

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	6:57	6:57	6:57	6:57	6:57	6:57
End Time	7:45	7:45	7:45	7:45	7:45	7:45
Total Time (min)	48	48	48	48	48	48
Time Recorded (min)	45	45	45	45	45	45
# of Intervals	4	4	4	4	4	4
# of Recorded Intvls	3	3	3	3	3	3
Vehs Entered	6835	6811	6880	6881	6764	6835
Vehs Exited	6663	6581	6724	6703	6513	6638
Starting Vehs	279	293	279	313	270	281
Ending Vehs	451	523	435	491	521	479
Denied Entry Before	5	3	4	4	3	1
Denied Entry After	134	127	139	66	111	116
Travel Distance (mi)	5405	5425	5529	5493	5338	5438
Travel Time (hr)	384.0	382.8	382.7	370.3	365.4	377.0
Total Delay (hr)	202.6	200.8	196.8	185.4	186.2	194.4
Total Stops	15827	16256	16135	16948	16044	16241
Fuel Used (gal)	238.5	239.1	242.9	239.9	232.7	238.6

Interval #0 Information Seeding

Start Time	6:57
End Time	7:00
Total Time (min)	3

Volumes adjusted by Growth Factors.

No data recorded this interval.

Interval #1 Information Recording

Start Time	7:00
End Time	7:15
Total Time (min)	15

Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2237	2176	2262	2185	2185	2214
Vehs Exited	2084	2016	2088	2066	2044	2063
Starting Vehs	279	293	279	313	270	281
Ending Vehs	432	453	453	432	411	425
Denied Entry Before	5	3	4	4	3	1
Denied Entry After	54	14	24	11	7	21
Travel Distance (mi)	1743	1747	1769	1747	1668	1735
Travel Time (hr)	104.5	97.2	103.4	108.1	92.3	101.1
Total Delay (hr)	46.2	38.5	43.8	49.5	36.3	42.8
Total Stops	4829	4623	4828	5226	4422	4785
Fuel Used (gal)	72.7	70.5	72.9	73.8	67.4	71.5

Interval #2 Information Recording

Start Time 7:15
 End Time 7:30
 Total Time (min) 15
 Volumes adjusted by PHF, Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2337	2371	2360	2424	2399	2383
Vehs Exited	2273	2331	2324	2304	2278	2299
Starting Vehs	432	453	453	432	411	425
Ending Vehs	496	493	489	552	532	502
Denied Entry Before	54	14	24	11	7	21
Denied Entry After	105	75	83	27	65	64
Travel Distance (mi)	1858	1819	1907	1904	1865	1870
Travel Time (hr)	132.9	133.2	128.3	127.3	125.8	129.5
Total Delay (hr)	70.6	72.2	64.4	63.3	63.0	66.7
Total Stops	5302	5392	5493	5897	5681	5552
Fuel Used (gal)	81.9	81.3	82.7	83.0	80.6	81.9

Interval #3 Information Recording

Start Time 7:30
 End Time 7:45
 Total Time (min) 15
 Volumes adjusted by Growth Factors.

Run Number	1	2	3	4	5	Avg
Vehs Entered	2261	2264	2258	2272	2180	2244
Vehs Exited	2306	2234	2312	2333	2191	2270
Starting Vehs	496	493	489	552	532	502
Ending Vehs	451	523	435	491	521	479
Denied Entry Before	105	75	83	27	65	64
Denied Entry After	134	127	139	66	111	116
Travel Distance (mi)	1804	1859	1853	1842	1805	1833
Travel Time (hr)	146.7	152.4	151.0	134.9	147.2	146.4
Total Delay (hr)	85.8	90.1	88.6	72.7	86.9	84.8
Total Stops	5696	6241	5814	5825	5941	5893
Fuel Used (gal)	83.9	87.2	87.3	83.2	84.7	85.3

1: E 17th Street & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.3	2.8	0.6	1.7	7.4
Delay / Veh (s)	35.2	18.0	13.6	19.4	21.0

2: E 17th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.5	0.2	0.2	0.3	1.3
Delay / Veh (s)	3.7	1.8	13.7	12.5	4.5

3: E 17th Street & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.3	0.3	0.0	0.0	0.7
Delay / Veh (s)	2.3	2.7	9.1	14.9	2.8

4: E 17th Street & Fee Lane Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.7	2.3	2.0	1.4	8.3
Delay / Veh (s)	19.8	30.4	26.1	24.1	24.2

5: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.5	0.2	1.4	2.2
Delay / Veh (s)	5.0	3.6	20.8	8.9

6: E 17th Street & Jordan Avenue Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	0.3	0.0	0.3	0.6
Delay / Veh (s)	2.9	0.6	8.7	3.3

7: E 17th Street & SR 45/46 Bypass Performance by approach

Approach	EB	NB	SB	All
Total Delay (hr)	0.2	1.6	0.6	2.5
Delay / Veh (s)	4.0	7.8	4.6	6.1

8: E Law Lane & Dunn Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.8	0.9	0.4	0.5	2.6
Delay / Veh (s)	10.6	10.3	9.5	11.4	10.5

9: E Law Lane & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.8	1.1	0.7	0.2	2.9
Delay / Veh (s)	13.1	14.1	9.2	6.7	11.3

10: E Law Lane & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.7	0.6	0.2	0.1	1.6
Delay / Veh (s)	8.6	7.7	9.2	8.8	8.3

11: 13th Stret & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.7	0.3	0.4	0.1	1.5
Delay / Veh (s)	12.4	10.3	3.5	1.6	6.2

12: 13th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.1	0.0	0.5	0.1	0.7
Delay / Veh (s)	2.0	0.8	10.0	7.4	5.3

13: E Law Lane & Walnut Grove Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.3	0.5	1.0	0.1	1.8
Delay / Veh (s)	3.4	4.3	20.4	10.8	7.4

15: E Law Lane & Fee Lane Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	9.2	3.5	3.2	10.0	26.0
Delay / Veh (s)	82.2	26.2	42.4	100.3	61.5

16: E Law Lane & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	5.9	3.4	2.0	14.4	25.7
Delay / Veh (s)	35.3	28.4	27.2	175.6	58.2

17: E Law Lane & Union Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	2.3	1.0	1.1	0.7	5.0
Delay / Veh (s)	16.7	11.3	23.9	14.9	16.0

18: E 10th Street & Indiana Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.7	1.5	3.2	1.3	7.7
Delay / Veh (s)	24.7	21.3	23.0	12.7	20.3

19: E 10th Street & Woodlawn Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.6	1.8	2.8	1.1	7.3
Delay / Veh (s)	14.5	24.1	43.9	33.2	25.8

20: E 10th Street & Fee Lane Performance by approach

Approach	EB	WB	SB	All
Total Delay (hr)	1.4	0.7	1.8	4.0
Delay / Veh (s)	12.7	6.9	15.4	11.8

21: E 10th Street & Jordan Avenue Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	1.7	2.0	33.2	11.9	48.7
Delay / Veh (s)	16.8	26.5	414.0	83.8	123.0

22: E 10th Street & Sunrise Drive Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.8	0.5	0.3	0.2	1.8
Delay / Veh (s)	8.9	8.5	19.0	14.8	10.0

23: E 10th Street & Union Street Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	0.8	0.4	1.1	0.8	3.1
Delay / Veh (s)	10.2	12.0	18.0	11.8	12.9

24: E 10th Street & Jefferson St Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.1	0.0	0.1	0.3
Delay / Veh (s)	1.9	0.8	5.5	2.1

25: E 10th Street & SR 45/46 Bypass Performance by approach

Approach	EB	WB	NB	SB	All
Total Delay (hr)	4.9	4.9	7.0	9.5	26.2
Delay / Veh (s)	36.1	33.4	44.2	36.7	37.6

26: E Law Lane & E 10th Street Performance by approach

Approach	EB	WB	NB	All
Total Delay (hr)	0.2	0.4	0.4	1.1
Delay / Veh (s)	2.5	3.2	8.6	4.0

Total Network Performance

Total Delay (hr)	194.4
Delay / Veh (s)	103.9

Arterial Level of Service: EB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
	1	34.9	39.2	0.0	3
Woodlawn Avenue	2	4.3	30.0	0.2	30
Walnut Grove Street	3	2.3	17.6	0.1	27
Fee Lane	4	21.1	34.4	0.1	12
Jordan Avenue	5	6.1	44.8	0.3	27
Jordan Avenue	6	2.4	11.5	0.1	25
SR 45/46 Bypass	7	18.4	44.2	0.2	17
Total		89.7	221.7	1.1	19

Arterial Level of Service: WB E 17th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Jordan Avenue	6	0.5	22.8	0.2	32
Jordan Avenue	5	0.8	10.3	0.1	28
Fee Lane	4	27.4	66.3	0.3	18
Walnut Grove Street	3	3.3	17.4	0.1	23
Woodlawn Avenue	2	1.7	17.2	0.1	27
Dunn Street	1	23.5	49.5	0.2	18
Total		57.2	183.5	1.1	22

Arterial Level of Service: EB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
13th Street	8	10.9	23.6	0.1	16
Indiana Avenue	9	14.0	22.3	0.1	11
Woodlawn Avenue	10	9.4	30.5	0.2	21
13th Street	13	3.5	14.9	0.1	23
Fee Lane	15	86.6	109.1	0.2	7
Jordan Avenue	16	37.9	55.2	0.2	14
Union Street	17	17.1	52.7	0.3	22
E 10th Street	26	2.8	19.9	0.1	26
Total		182.2	328.1	1.3	15

Arterial Level of Service: WB E Law Lane

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Union Street	17	11.1	27.9	0.1	19
Jordan Avenue	16	18.3	54.7	0.3	21
Fee Lane	15	25.3	44.7	0.2	15
Walnut Grove Street	13	4.9	27.6	0.2	25
Woodlawn Avenue	10	7.5	18.6	0.1	19
Indiana Avenue	9	14.2	35.4	0.2	18
Dunn Street	8	10.8	19.1	0.1	13
Total		91.9	228.0	1.2	19

Arterial Level of Service: EB E 10th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
Indiana Avenue	18	23.6	31.8	0.1	7
Woodlawn Avenue	19	16.1	37.2	0.2	17
Fee Lane	20	9.8	30.2	0.2	28
	35	2.0	13.5	0.1	25
Jordan Avenue	21	18.5	27.8	0.1	10
Sunrise Drive	22	10.0	28.6	0.2	20
Union Street	23	9.5	24.6	0.2	23
Jefferson St	24	2.5	15.1	0.1	26
E 10th Street	26	8.3	17.0	0.1	11
	30	2.8	20.3	0.1	21
SR 45/46 Bypass	25	41.5	54.8	0.1	8
Total		144.6	301.0	1.4	16

Arterial Level of Service: WB E 10th Street

Cross Street	Node	Delay (s/veh)	Travel time (s)	Dist (mi)	Arterial Speed
SR 45/46 Bypass	25	43.9	58.8	0.1	8
	30	2.2	17.5	0.1	26
E 10th Street	26	6.8	21.5	0.1	21
Jefferson St	24	0.5	7.5	0.1	26
Union Street	23	12.2	24.8	0.1	16
Sunrise Drive	22	8.0	22.5	0.2	26
Jordan Avenue	21	27.2	44.6	0.2	13
	35	1.8	11.2	0.1	25
Fee Lane	20	8.3	17.1	0.1	20
Woodlawn Avenue	19	21.4	43.5	0.2	19
Indiana Avenue	18	23.3	45.1	0.2	14
Total		155.6	314.0	1.4	17