APPENDIX B
TRIP GENERATION AND
TRAFFIC VOLUME WORKSHEETS

Multifamily Housing (Low-Rise)
(220)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
Number of Studies: 50
Avg. Num. of Dwelling Units: 187
Directional Distribution: 63% entering, 37% exiting

400 units

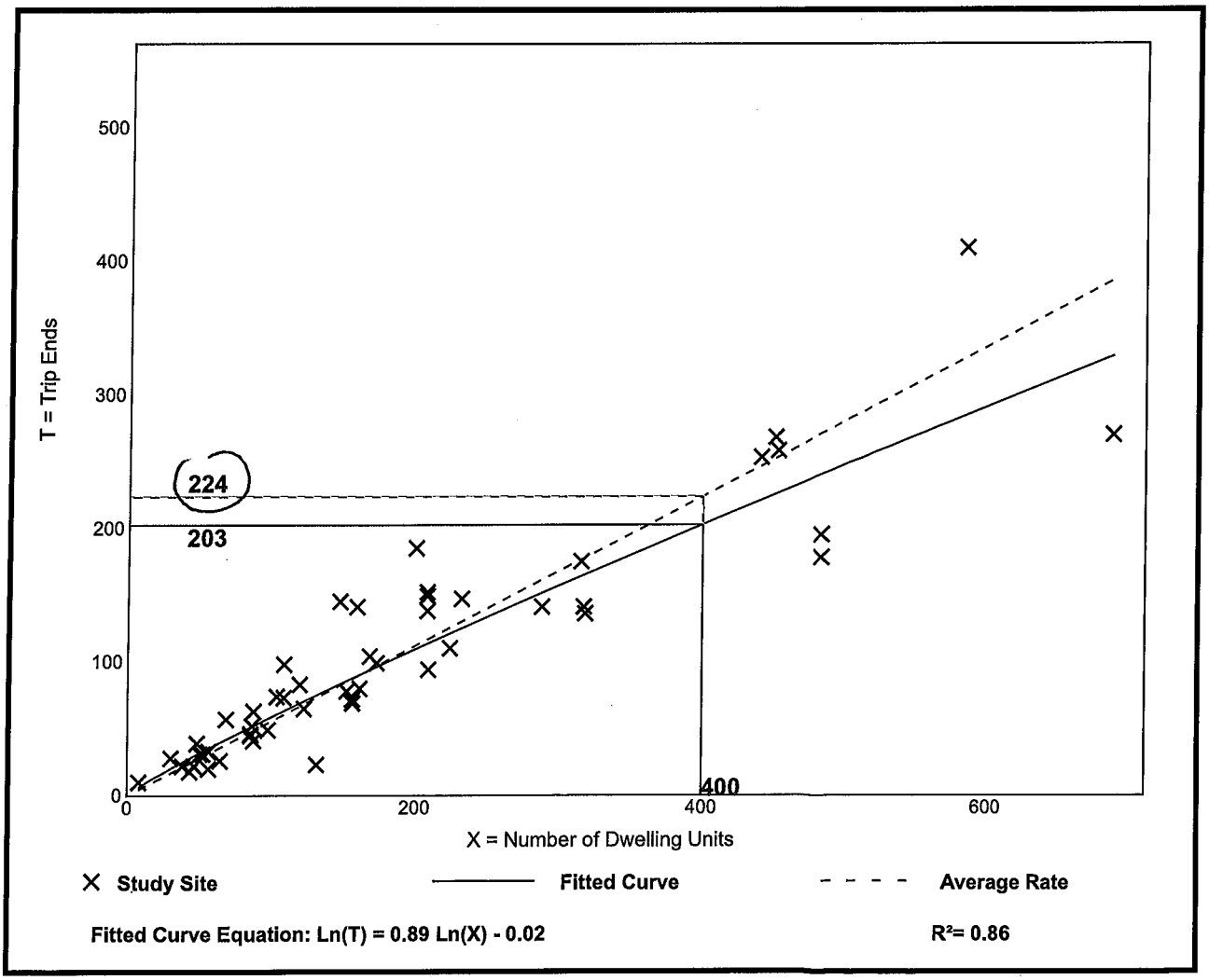
141 83

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.56	0.18 - 1.25	0.16

use rate per day

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.89 Ln(X) - 0.02

R^2= 0.86

Multifamily Housing (Low-Rise)
(220)

Vehicle Trip Ends vs: **Dwelling Units**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 5
Avg. Num. of Dwelling Units: 89
Directional Distribution: Not Available

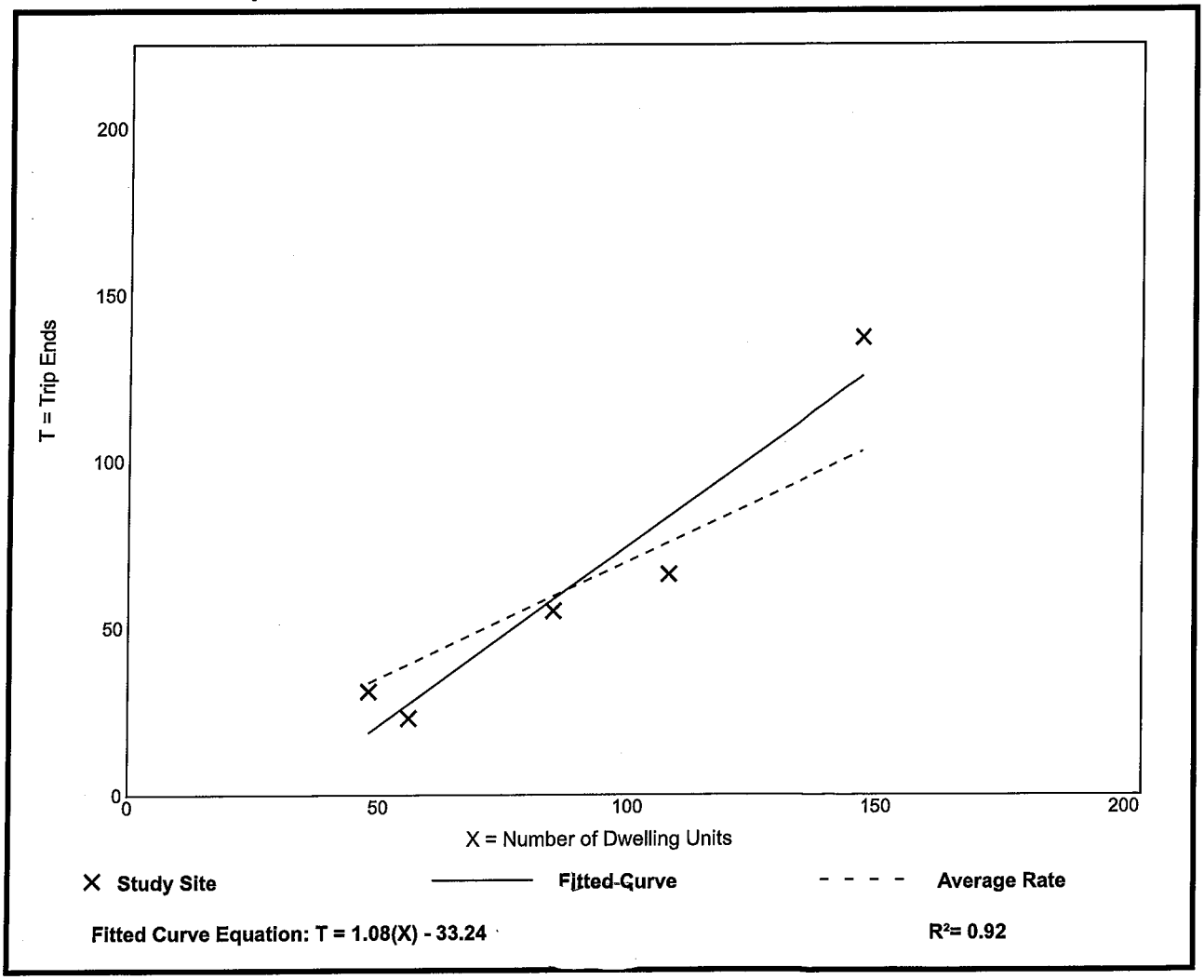
Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.41 - 0.93	0.20

280

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: T = 1.08(X) - 33.24

R^2= 0.92

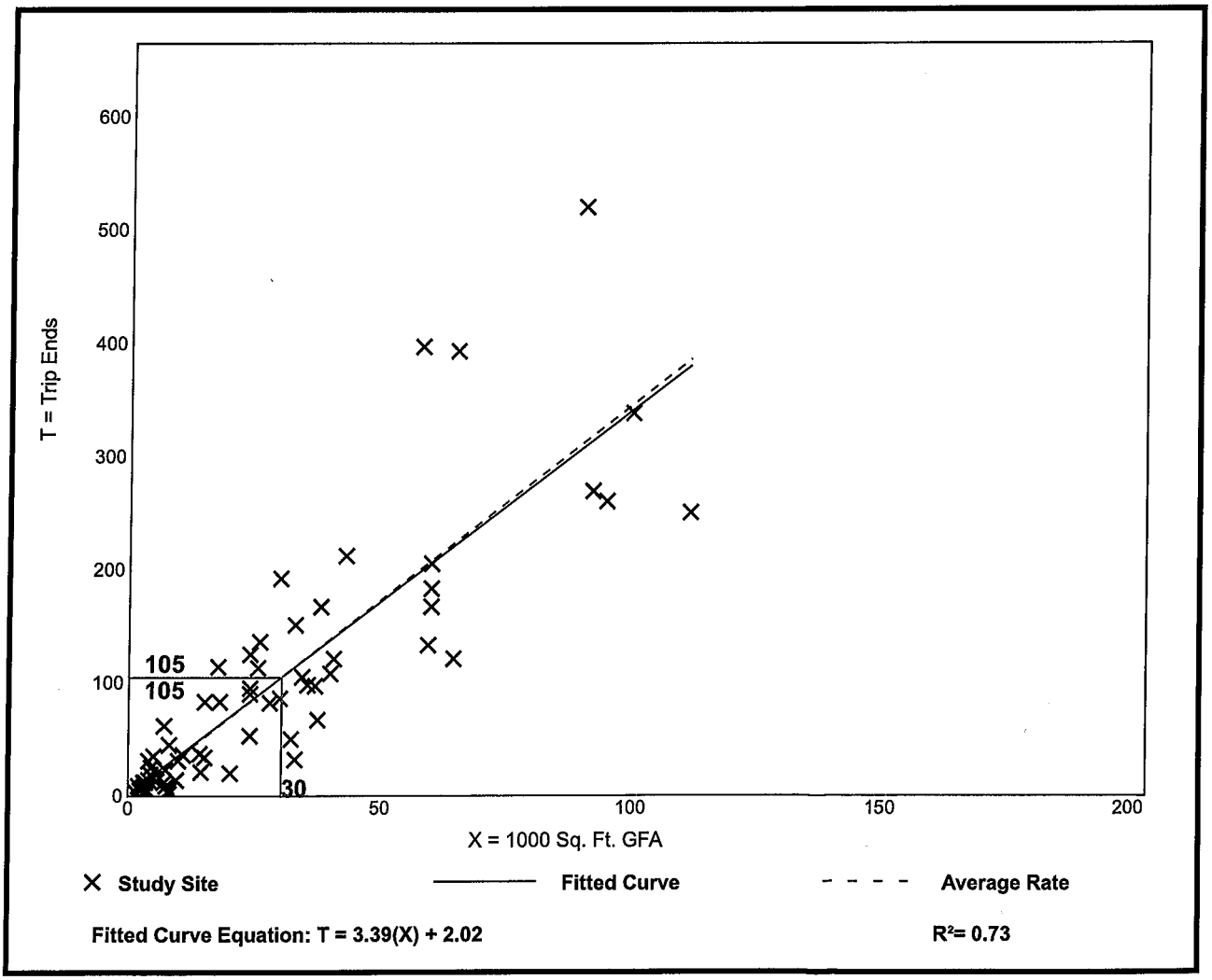
Medical-Dental Office Building
(720)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban** 30,433
Number of Studies: 65
Avg. 1000 Sq. Ft. GFA: 28
Directional Distribution: 28% entering, 72% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.46	0.25 - 8.86	1.58

Data Plot and Equation



Fitted Curve Equation: T = 3.39(X) + 2.02

R^2= 0.73

Medical-Dental Office Building
(720)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

30,433

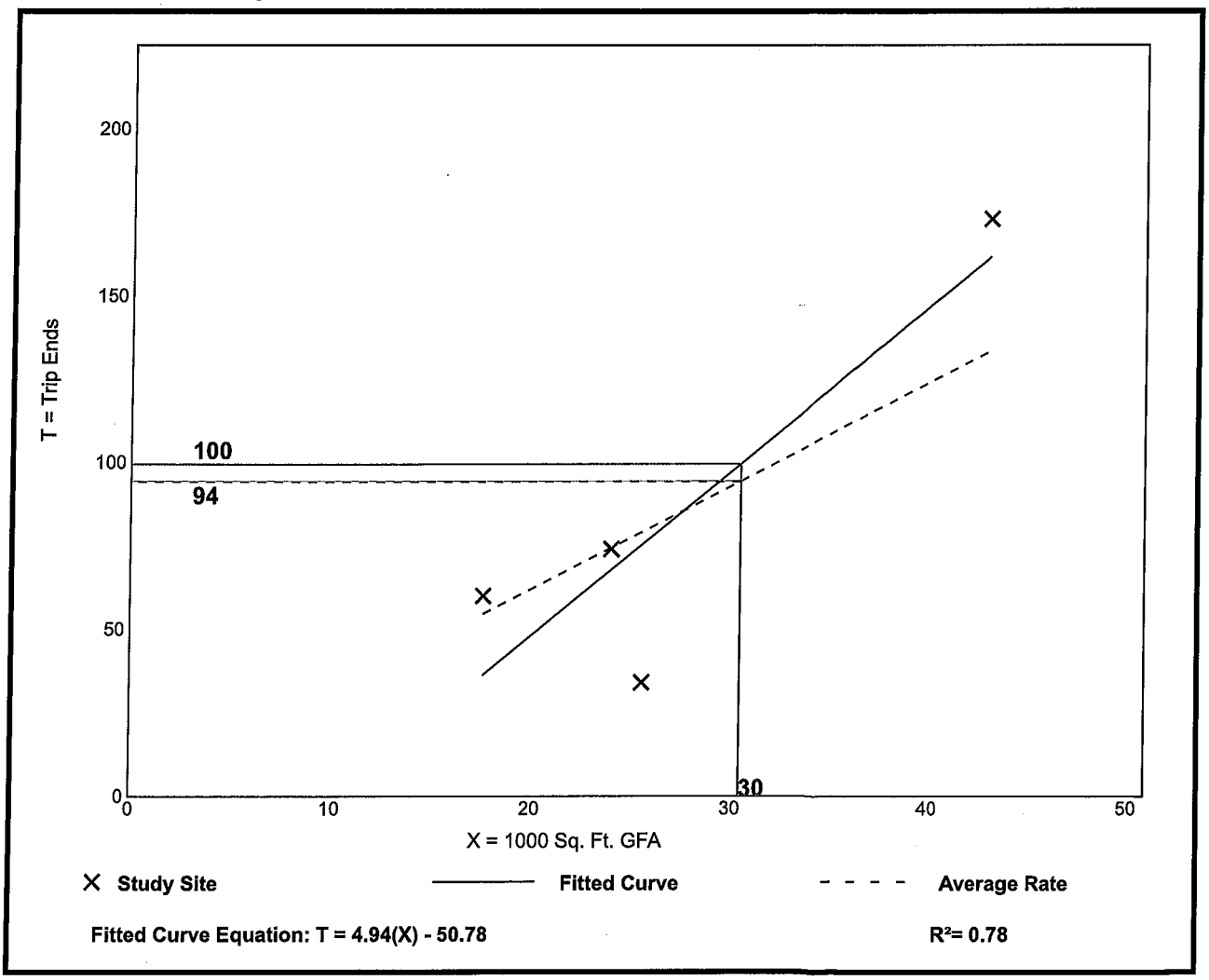
Setting/Location: **General Urban/Suburban**
Number of Studies: 4
Avg. 1000 Sq. Ft. GFA: 28
Directional Distribution: 57% entering, 43% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.10	1.33 - 4.02	1.20

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: T = 4.94(X) - 50.78

R^2= 0.78

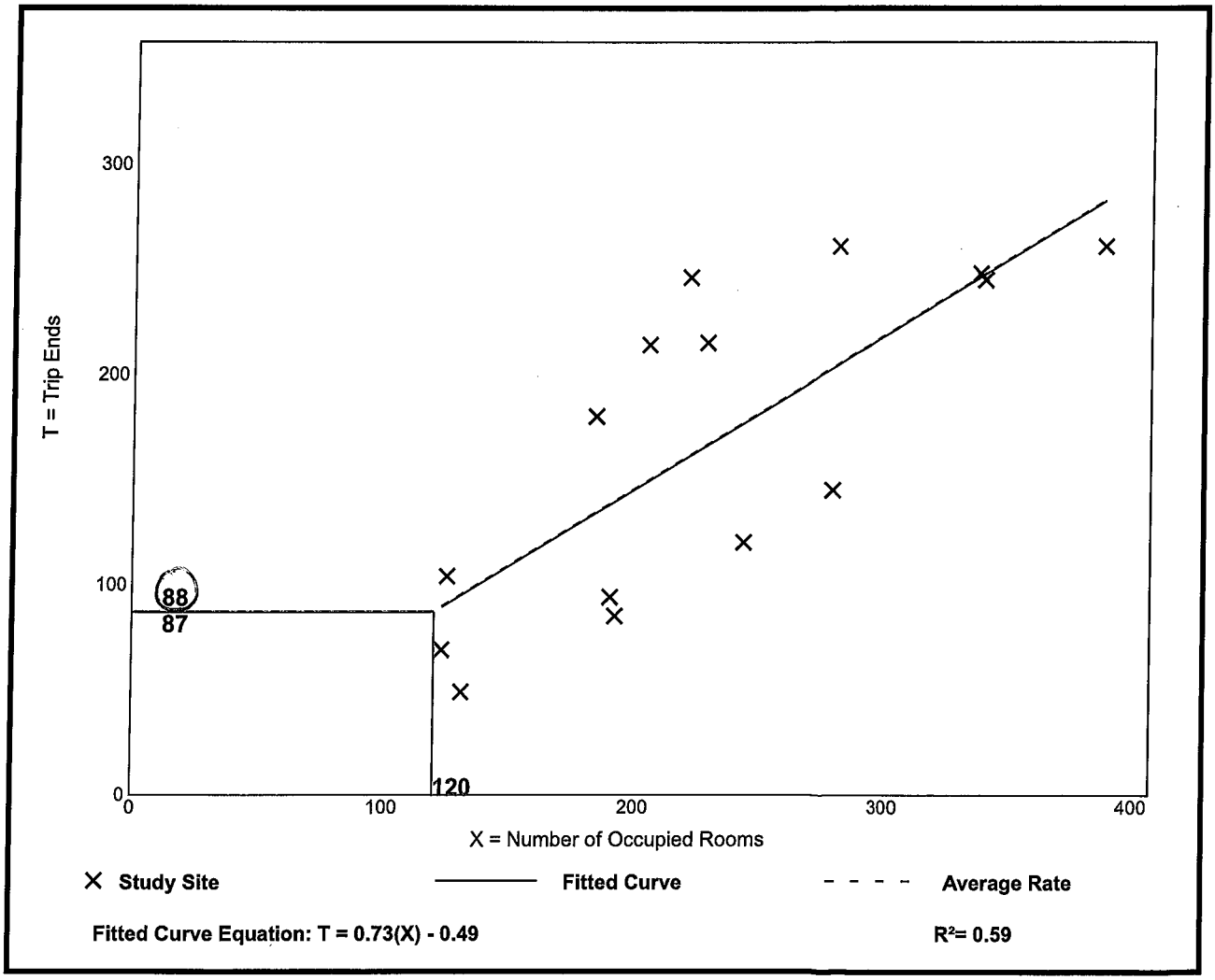
Hotel
(310)

Vehicle Trip Ends vs: **Occupied Rooms**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban** 120 Rms
Number of Studies: 15
Avg. Num. of Occupied Rooms: 231
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per Occupied Room

Average Rate	Range of Rates	Standard Deviation
0.73	0.37 - 1.11	0.22

Data Plot and Equation



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Hotel
(310)

Vehicle Trip Ends vs: **Occupied Rooms**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. Num. of Occupied Rooms: 250
Directional Distribution: Not Available

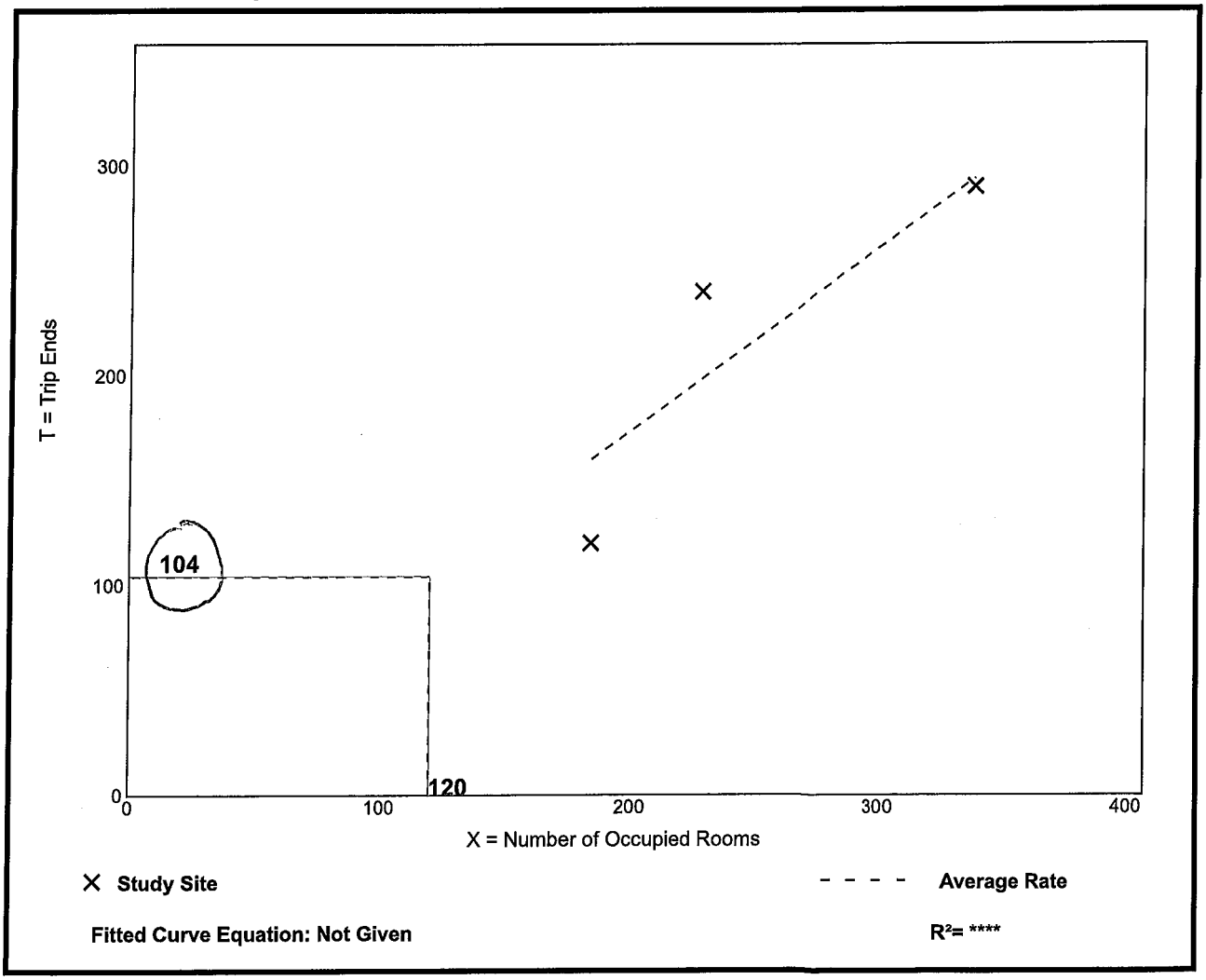
120 Rms

Vehicle Trip Generation per Occupied Room

Average Rate	Range of Rates	Standard Deviation
0.87	0.65 - 1.05	0.18

Data Plot and Equation

Caution – Small Sample Size



Shopping Center
(820)

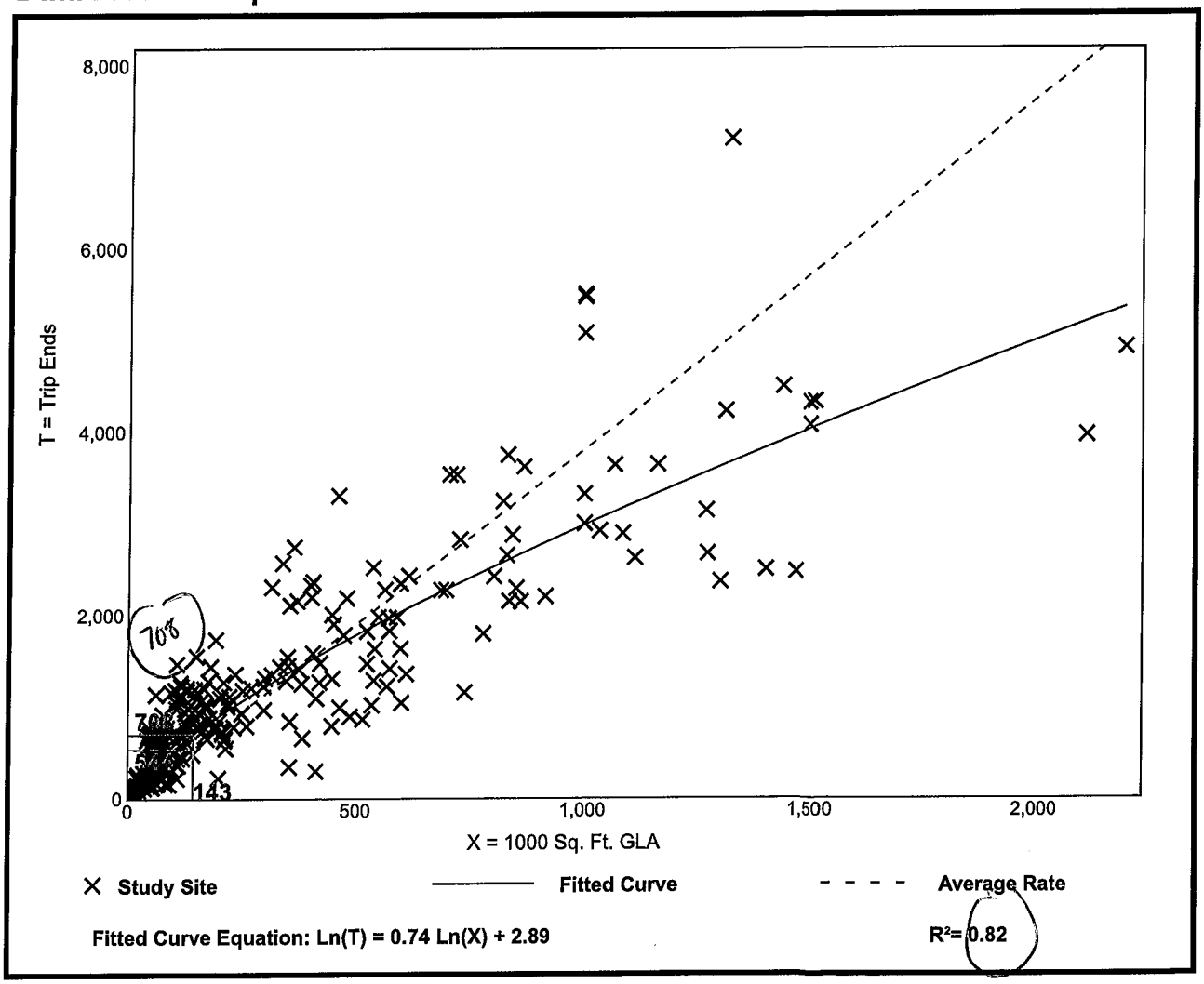
Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 261
Avg. 1000 Sq. Ft. GLA: 327
Directional Distribution: 48% entering, 52% exiting

142,900

Vehicle Trip Generation per 1000 Sq. Ft. GLA 340 368

Average Rate	Range of Rates	Standard Deviation
3.81	0.74 - 18.69	2.04

Data Plot and Equation



Shopping Center
(820)

Vehicle Trip Ends vs: **1000 Sq. Ft. GLA**
On a: **Saturday, Peak Hour of Generator**

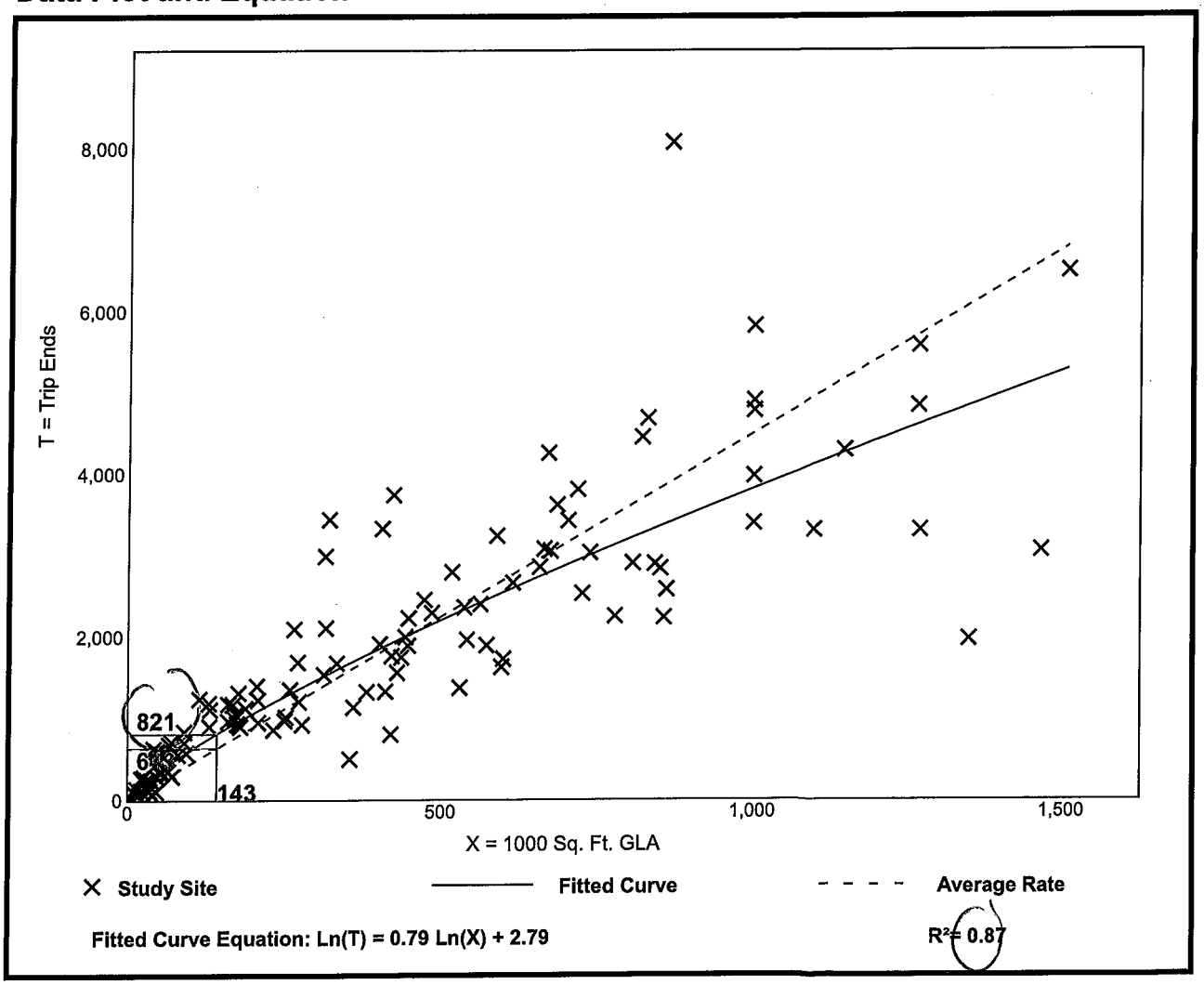
Setting/Location: **General Urban/Suburban**
Number of Studies: 119
Avg. 1000 Sq. Ft. GLA: 416
Directional Distribution: 52% entering, 48% exiting

142,900

Vehicle Trip Generation per 1000 Sq. Ft. GLA

Average Rate	Range of Rates	Standard Deviation
4.50	1.42 - 15.10	1.88

Data Plot and Equation



General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 32
Avg. 1000 Sq. Ft. GFA: 114
Directional Distribution: 16% entering, 84% exiting

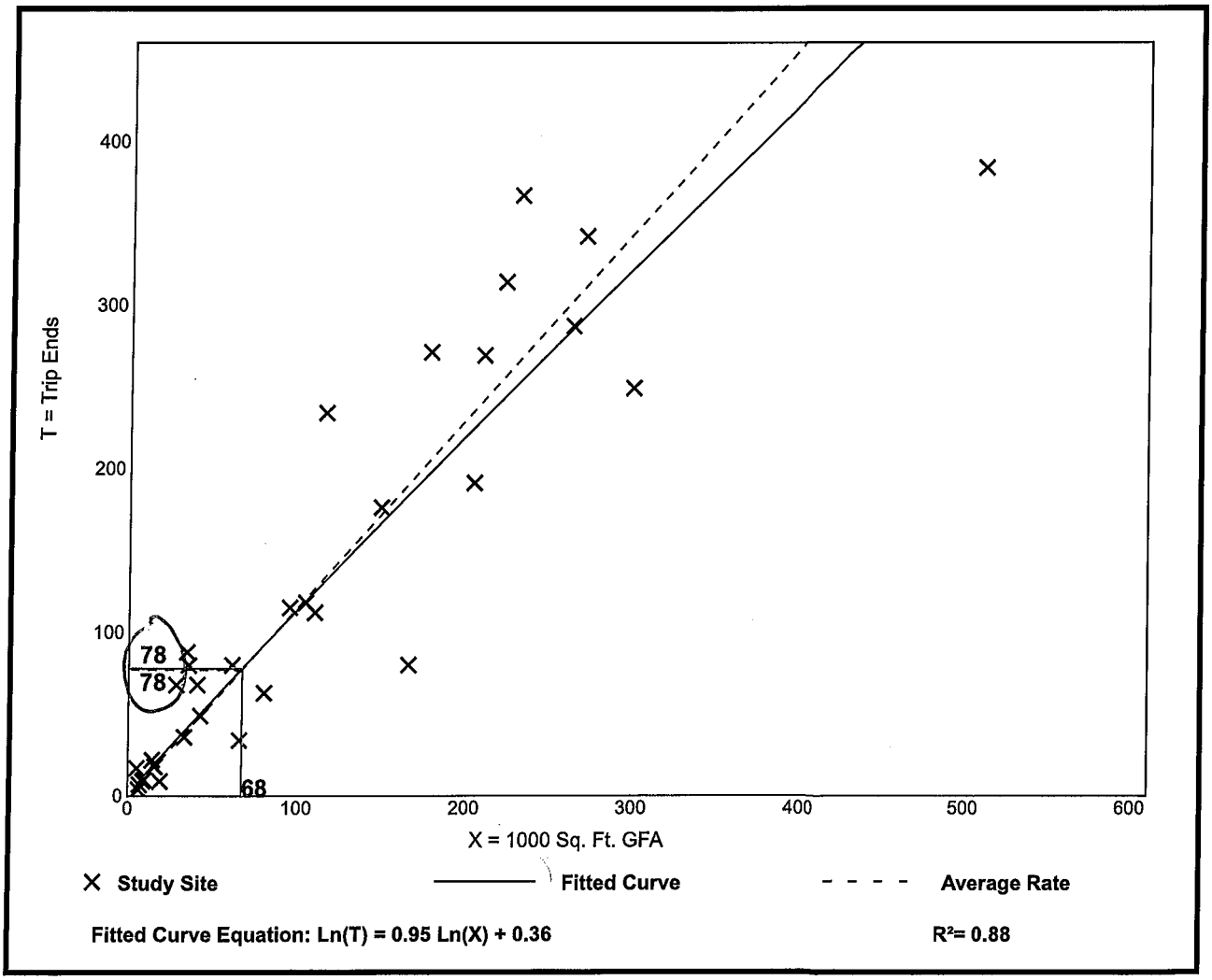
67501 SF

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.15	0.47 - 3.23	0.42

13 / 85

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.95 Ln(X) + 0.36

R^2= 0.88

General Office Building
(710)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Saturday, Peak Hour of Generator**

Setting/Location: **General Urban/Suburban**
Number of Studies: 3
Avg. 1000 Sq. Ft. GFA: 82
Directional Distribution: 54% entering, 46% exiting

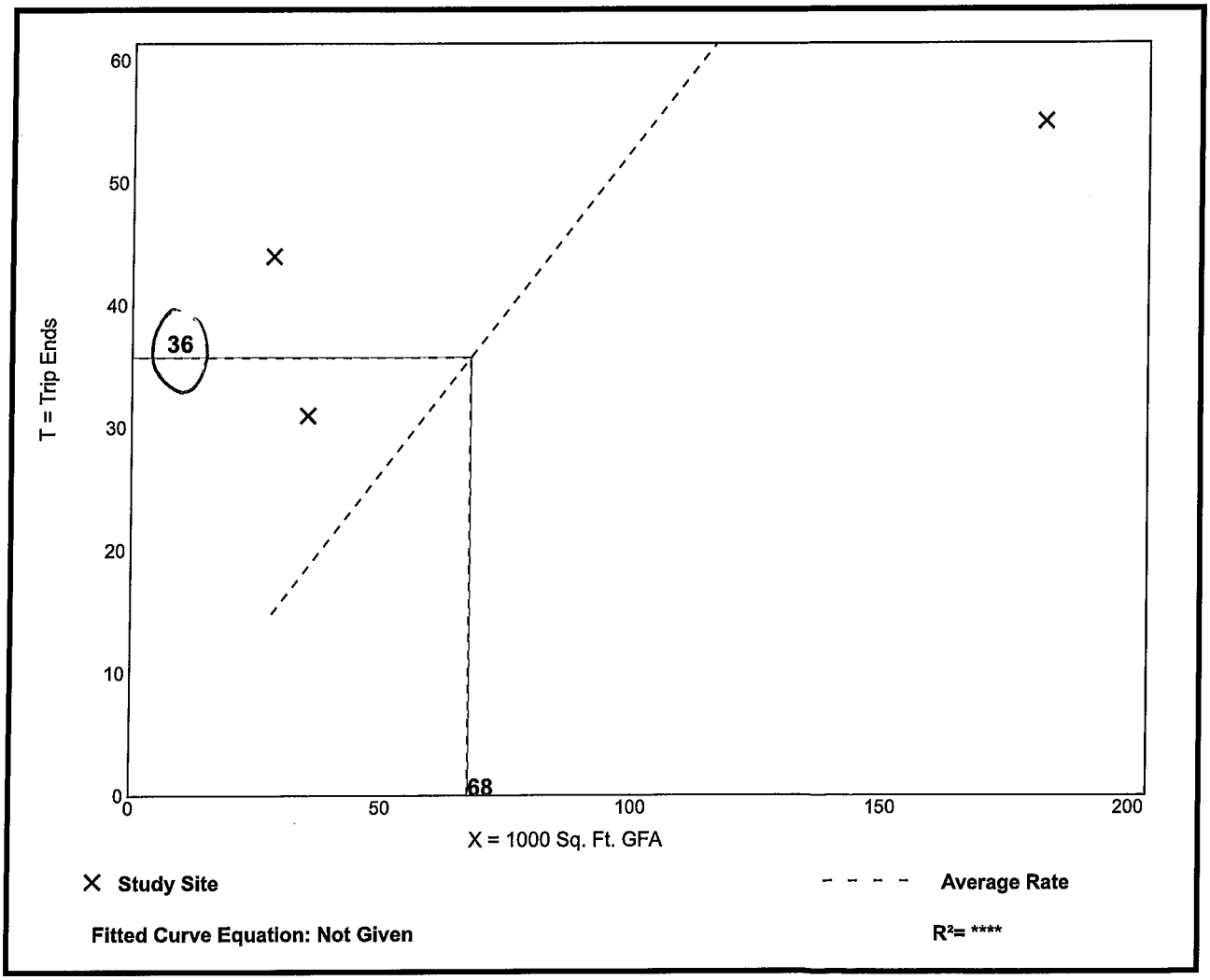
67501 SF

Vehicle Trip Generation per 1000 Sq. Ft. GFA ↓19 ↓17

Average Rate	Range of Rates	Standard Deviation
0.53	0.30 - 1.57	0.52

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= ****

10th Ed w/ Rev (Res → Retail internal % 2nd Ed) & 3rd Ed

Analyst DP
Date 3/14/18

MULTI- USE DEVELOPMENT TRIP GENERATION AND INTERNAL CAPTURE SUMMARY

Name of Dvlpt CoE
Time Period PM

LAND USE A

ITE LU Code Res
Size 400

	Total	Internal	External
Enter	141	49	92
Exit	83	34	49
Total	224	83	141
%	100	37%	

Exit to External
Enter from External

LAND USE B

ITE LU Code Hotel
Size 120

	Total	Internal	External
Enter	43	11	32
Exit	45	7	38
Total	88	18	70
%	100		

Enter from External
Exit to External

LAND USE C

ITE LU Code Med./Wellness
Size 30433

	Total	Internal	External
Enter	29	8	21
Exit	76	20	56
Total	105	28	77
%	100		

Exit to External
Enter from External

LAND USE D

ITE LU Code 5.C
Size 142,900

	Total	Internal	External
Enter	340	52	288
Exit	368	59	309
Total	708	111	597
%	100		

Enter from External
Exit to External

Demand 0% 0 | Balanced 0 | Demand 2% 1

3% 3 Demand | 3 Balanced | 12% 5 Demand

0% 0 Demand | 0 Balanced

53% 44 Demand | 31 Balanced | 0% 0 Demand

0% 0 Demand | 0 Balanced

4% 5 Demand | 5 Balanced

9% 31 Demand

31% 44 Demand

44 Balanced

1% 1 Demand | 1 Balanced

12% 44 Demand

2% 2 Demand

16% 7 Demand | 7 Balanced | 2% 7 Demand

17% 7 Demand | 7 Balanced | 5% 18 Demand

Demand 26% 9 | Balanced 9 | Demand 4% 15

21% 16 Demand | 14 Balanced | 4% 14 Demand

Net External Trips for Multi-Use Development

	LAND USE A	LAND USE B	LAND USE C	LAND USE D	TOTAL
Enter					
Exit					
Total	141	70	77	597	885
Single-Use Trip Gen. Est.	224	88	105	708	1125

Source: Kaku Associates, Inc.

INTERNAL CAPTURE 21%

Table 6.1 Unconstrained Internal Person Trip Capture Rates for Trip Origins within a Mixed-Use Development

		WEEKDAY	
		AM Peak Hour	PM Peak Hour
From OFFICE	To Retail	28%	20%
	To Restaurant	63%	4%
	To Cinema/Entertainment	0%	0%
	To Residential	1%	2%
	To Hotel	0%	0%
From RETAIL	To Office	29%	2%
	To Restaurant	13%	29%
	To Cinema/Entertainment	0%	4%
	To Residential	14%	26%
	To Hotel	0%	5%
From RESTAURANT	To Office	31%	3%
	To Retail	14%	41%
	To Cinema/Entertainment	0%	8%
	To Residential	4%	18%
	To Hotel	3%	7%
From CINEMA/ENTERTAINMENT	To Office	0%	2%
	To Retail	0%	21%
	To Restaurant	0%	31%
	To Residential	0%	8%
	To Hotel	0%	2%
From RESIDENTIAL	To Office	2%	4%
	To Retail	1%	42%
	To Restaurant	20%	21%
	To Cinema/Entertainment	0%	0%
	To Hotel	0%	3%
From HOTEL	To Office	75%	0%
	To Retail	14%	16%
	To Restaurant	9%	68%
	To Cinema/Entertainment	0%	0%
	To Residential	0%	2%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, Tables 99 and 100, 2011.

Table 6.2 Unconstrained Internal Person Trip Capture Rates for Trip Destinations within a Mixed-Use Development

		Weekday	
		AM Peak Hour	PM Peak Hour
To OFFICE	From Retail	4%	31%
	From Restaurant	14%	30%
	From Cinema/Entertainment	0%	6%
	From Residential	3%	57%
	From Hotel	3%	0%
To RETAIL	From Office	32%	8%
	From Restaurant	8%	50%
	From Cinema/Entertainment	0%	4%
	From Residential	17%	10%
	From Hotel	4%	2%
To RESTAURANT	From Office	23%	2%
	From Retail	50%	29%
	From Cinema/Entertainment	0%	3%
	From Residential	20%	14%
	From Hotel	6%	5%
To CINEMA/ENTERTAINMENT	From Office	0%	1%
	From Retail	0%	26%
	From Restaurant	0%	32%
	From Residential	0%	0%
	From Hotel	0%	0%
To RESIDENTIAL	From Office	0%	4%
	From Retail	2%	46%
	From Restaurant	5%	16%
	From Cinema/Entertainment	0%	4%
	From Hotel	0%	0%
To HOTEL	From Office	0%	0%
	From Retail	0%	17%
	From Restaurant	4%	71%
	From Cinema/Entertainment	0%	1%
	From Residential	0%	12%

Source: Bochner, B., K. Hooper, B. Sperry, and R. Dunphy. NCHRP Report 684: *Enhancing Internal Trip Capture Estimation for Mixed-Use Developments.* Washington, DC: Transportation Research Board, Tables 101 and 102, 2011.

Table 7.1 Unconstrained Internal Capture Rates for Trip Origins within a Multi-Use Development

		WEEKDAY		
		MIDDAY PEAK HOUR	p.m. PEAK HOUR OF ADJACENT STREET TRAFFIC	DAILY
from OFFICE	to Office	2%	1%	2%
	to Retail	20%	23%	22%
	to Residential	0%	2%	2%
from RETAIL	to Office	3%	3%	3%
	to Retail	29%	20%	30%
	to Residential	7%	12%	11%
from RESIDENTIAL	to Office	N/A	N/A	N/A
	to Retail	34%	53%	38%
	to Residential	N/A	N/A	N/A

Caution: The estimated typical internal capture rates presented in this table rely directly on data collected at a limited number of multi-use sites in Florida. While ITE recognizes the limitations of these data, they represent the only known credible data on multi-use internal capture rates and are provided as illustrative of typical rates. ***If local data on internal capture rates by paired land uses can be obtained, the local data may be given preference.***

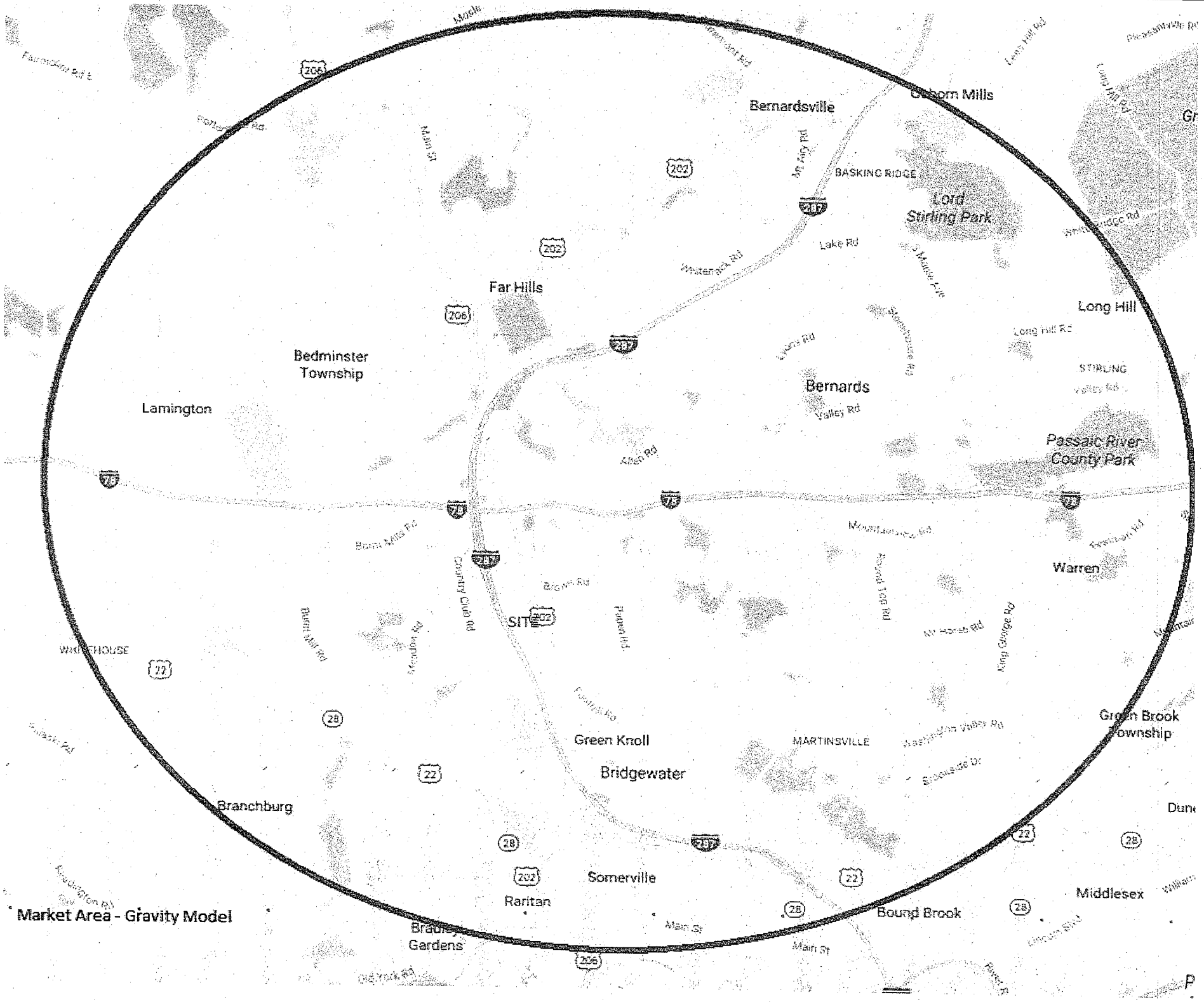
N/A—Not Available; logic indicates there is some interaction between these two land uses; however, the limited data sample on which this table is based did not record any interaction.

Table 7.2 Unconstrained Internal Capture Rates for Trip Destinations Within a Multi-Use Development

		WEEKDAY		
		MIDDAY PEAK HOUR	p.m. PEAK HOUR OF ADJACENT STREET TRAFFIC	DAILY
to OFFICE	from Office	6%	6%	2%
	from Retail	38%	31%	15%
	from Residential	0%	0%	N/A
to RETAIL	from Office	4%	2%	4%
	from Retail	31%	20%	28%
	from Residential	5%	9%	9%
to RESIDENTIAL	from Office	0%	2%	3%
	from Retail	37%	31%	33%
	from Residential	N/A	N/A	N/A

Caution: The estimated typical internal capture rates presented in this table rely directly on data collected at a limited number of multi-use sites in Florida. While ITE recognizes the limitations of these data, they represent the only known credible data on multi-use internal capture rates and are provided as illustrative of typical rates. ***If local data on internal capture rates by paired land uses can be obtained, the local data may be given preference.***

N/A—Not Available; logic indicates there is some interaction between these two land uses; however, the limited data sample on which this table is based did not record any interaction.


Bernardsville
BASKING RIDGE
Lord Stirling Park
Far Hills
Long Hill
Bedminster Township
Lamington
Bernards
Passaic River County Park
Warren
SITE
Green Knoll
Bridgewater
MARTINSVILLE
Branchburg
Somerville
Raritan
Bound Brook
Middlesex
Bradley Gardens
Green Brook Township
Market Area - Gravity Model

Project Name: Advance

Project Location: Route 202/206
12/2/2016
Prepared By: DJP

GRAVITY MODEL

Municipality	Population	Percentage of Population Within Study Area	Study Area Population (Ai)	Travel Time (t)	(Ai/t^2)	Distribution Percentage (Tii)
Bridgewater 1	43000.00	35.00%	15050	5.00	602.0	18.0%
Bridgewater 2	43000.00	35.00%	15050	5.00	602.0	18.0%
Bridgewater 3	43000.00	30.00%	12900	7.00	263.3	7.9%
Bernardsville	7707.00	100.00%	7707	8.00	120.4	3.6%
Bernards	24575.00	100.00%	24575	7.00	501.5	15.0%
Far Hills	919.00	100.00%	919	7.00	18.8	0.6%
Peapack Gladstone	2582.00	100.00%	2582	8.00	40.3	1.2%
Bedminster	8302.00	100.00%	8302	7.00	169.4	5.1%
Warren	14259.00	75.00%	10694	8.00	167.1	5.0%
Somerville	12098.00	100.00%	12098	6.00	336.1	10.0%
Readington	15803.00	40.00%	6321	10.00	63.2	1.9%
Branchburg	14566.00	100.00%	14566	8.00	227.6	6.8%
Greenbrook	5654.00	60.00%	3392	9.00	41.9	1.3%
Raritan	6881.00	100.00%	6881	6.00	191.1	5.6%
				SUM:	3344.724549	100.00%

DOLAN & DEAN
CONSULTING ENGINEERS, LLC
792 Chimney Rock Rd Ste B
Martinsville, NJ 08836-2271
(732) 469-0600

JOB
SHEET NO. OF
CALCULATED BY DATE
CHECKED BY DATE
SCALE

Retail / Commercial Distribution

Bridgewater 1 -	50%	Old Farm Rd to N	• → 9.0%	18.0
	50%	Talamin to S	• → 9.0%	
Bridgewater 2 -	50%	Brown to N	• → 9.0%	18.0
	50%	Foothill to S	• → 9.0%	
Bridgewater 3 -	100%	Foothill to S	• → 7.9%	7.9
Bernardsville -	75%	Mt Airy 287 - 202/206 SB	→ • 2.7%	3.6
	25%	Claremont Rd 202 SB	→ • 0.9%	
Bernards -	50%	Brown to N	• 7.5%	15.0
	50%	Mt Airy 287 202/	• 7.5%	
Far Hills -	100%	Peapak Rd 202	• 0.6%	0.6
Peapak Gladstone -	75%	Holland to 206	• 1%	1.2
	25%	Peapack Rd to 202	• 0.2%	
Bedminster -	40%	Lamyka Rd 206 SB	• 2.0%	5.1
	40%	Burnt Mill, 206 SB	• 2.0%	
	20%	Old Farm Rd & 206 SB	• 1.1%	
Warren -	100%	Brown to 206 SB	• 5.0%	5.0
Somerville -	60%	Mountain Ave & 206 NB	• 6.0%	10.0
	40%	N Bridge Foothill 206 NB	• 4.0%	
Readington -	50%	28 to Meadow to Old Farm	• 1.0%	1.9
	50%	Burnt Mills 206 SB	• 0.9%	

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Martinsville, NJ 08836-2271
(732) 469-0600

JOB _____

SHEET NO. _____ OF _____

CALCULATED BY _____ DATE _____

CHECKED BY _____ DATE _____

SCALE _____

Branchburg	50%	Rehyln	& 22	to 206	• 3.4	6.8	
	50%	28	Meadow	Old Farm	• 3.4		
Greenbrook	100%	Greenbrook	Rd	22 & 206	• 1.3	1.3	
Raritan	50%	Thompson	206		• 2.8	5.6%	
	50%	1st	206		• 2.8		

APPENDIX C
LEVEL OF SERVICE CALCULATIONS

HCS7 Two-Way Stop-Control Report

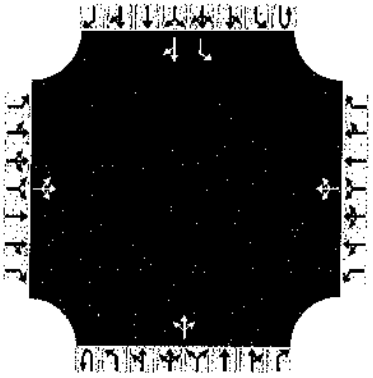
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2017
Time Analyzed	Saturday PM Ex
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Rt 202 and Old Farm
Jurisdiction	
East/West Street	Old Farm
North/South Street	Rt. 202
Peak Hour Factor	0.98
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	1	1	0
Configuration			LTR				LTR				LTR			L		TR
Volume, V (veh/h)		6	0	9		8	2	10		8	396	9		17	438	6
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

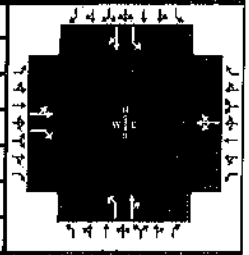
Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			15				20			8				17		
Capacity, c (veh/h)			384				363			1118				1157		
v/c Ratio			0.04				0.06			0.01				0.01		
95% Queue Length, Q_{95} (veh)			0.1				0.2			0.0				0.0		
Control Delay (s/veh)			14.8				15.5			8.2				8.2		
Level of Service, LOS			B				C			A				A		
Approach Delay (s/veh)	14.8				15.5				0.2				0.3			
Approach LOS	B				C											

HCS7 Signalized Intersection Results Summary

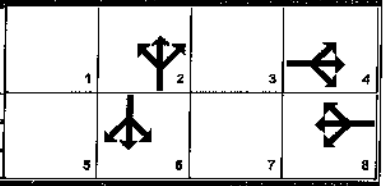
General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	May 22, 2017	Area Type	Other
Jurisdiction		Time Period	pm ex	PHF	0.96
Urban Street		Analysis Year	2017	Analysis Period	1> 7:00
Intersection	202 and brown	File Name	202 brown pm ex.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	9	1	4	128	3	23	15	486	160	67	1001	10

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	60.0	17.0	0.0	0.0	0.0	0.0	1	2	3	4		
Yellow	5.0	3.0	0.0	0.0	0.0	0.0						
Red	2.0	3.0	0.0	0.0	0.0	0.0	5	6	7	8		



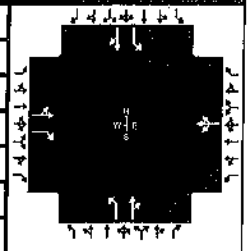
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		23.0		23.0		67.0		67.0
Change Period, (*Y+R c*), s		6.0		6.0		7.0		7.0
Max Allow Headway (*MAH*), s		3.0		3.0		0.0		0.0
Queue Clearance Time (*g s*), s		2.5		10.9				
Green Extension Time (*g e*), s		0.2		0.1		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.03				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		10	4		160		16	673		70	1053	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1437	1598		1467		540	1805		771	1882	
Queue Service Time (*g s*), s		0.0	0.2		8.4		2.0	17.8		4.8	38.1	
Cycle Queue Clearance Time (*g c*), s		0.5	0.2		8.9		40.2	17.8		22.6	38.1	
Green Ratio (*g/C*)		0.19	0.19		0.19		0.67	0.67		0.67	0.67	
Capacity (*c*), veh/h		348	302		350		211	1203		441	1255	
Volume-to-Capacity Ratio (*X*)		0.030	0.014		0.458		0.074	0.559		0.158	0.839	
Back of Queue (Q), ft/ln (50 th percentile)		4.4	1.8		76.4		7.2	144.9		21.1	347.7	
Back of Queue (Q), veh/ln (50 th percentile)		0.2	0.1		3.0		0.3	5.8		0.8	13.8	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	
Uniform Delay (*d 1*), s/veh		29.8	29.7		33.2		26.6	8.0		14.0	11.4	
Incremental Delay (*d 2*), s/veh		0.0	0.0		0.3		0.7	1.9		0.8	6.9	
Initial Queue Delay (*d 3*), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh		29.8	29.7		33.5		27.2	9.9		14.7	18.2	
Level of Service (LOS)		C	C		C		C	A		B	B	
Approach Delay, s/veh / LOS	29.8	C		33.5	C		10.2	B		18.0	B	
Intersection Delay, s/veh / LOS	16.6						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	May 22, 2017	Area Type	Other
Jurisdiction		Time Period	sat ex	PHF	0.98
Urban Street		Analysis Year	2017	Analysis Period	1> 7:00
Intersection	202 and brown	File Name	202 brown sat ex.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	41	6	127	85	7	30	88	372	45	17	396	42

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

							1	2	3	4
Green	60.0	17.0	0.0	0.0	0.0	0.0				
Yellow	5.0	3.0	0.0	0.0	0.0	0.0				
Red	2.0	3.0	0.0	0.0	0.0	0.0	5	6	7	8

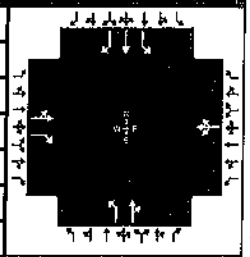
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		23.0		23.0		67.0		67.0
Change Period, ($Y+R_c$), s		6.0		6.0		7.0		7.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (g_s), s		8.4		8.4				
Green Extension Time (g_e), s		0.4		0.4		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.01		0.01				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		48	130		124		90	426		17	447	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1449	1610		1515		958	1864		977	1868	
Queue Service Time (g_s), s		0.0	6.4		4.0		4.1	8.9		0.7	9.4	
Cycle Queue Clearance Time (g_c), s		2.4	6.4		6.4		13.5	8.9		9.6	9.4	
Green Ratio (*g/C*)		0.19	0.19		0.19		0.67	0.67		0.67	0.67	
Capacity (*c*), veh/h		349	304		354		618	1243		635	1245	
Volume-to-Capacity Ratio (*X*)		0.138	0.426		0.352		0.145	0.342		0.027	0.359	
Back of Queue (*Q*), ft/ln (50 th percentile)		20.8	59.5		57		20.5	71.8		3.5	77.1	
Back of Queue (*Q*), veh/ln (50 th percentile)		0.8	2.4		2.3		0.8	2.9		0.1	3.1	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh		30.6	32.2		32.1		9.5	6.5		8.5	6.6	
Incremental Delay (d_2), s/veh		0.1	0.4		0.2		0.5	0.8		0.1	0.8	
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh		30.6	32.5		32.3		10.0	7.2		8.6	7.4	
Level of Service (LOS)		C	C		C		B	A		A	A	
Approach Delay, s/veh / LOS	32.0	C		32.3	C		7.7	A		7.4	A	
Intersection Delay, s/veh / LOS	13.4						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

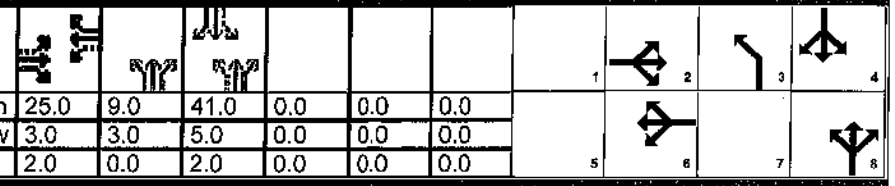
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	May 22, 2017	Area Type	Other
Jurisdiction		Time Period	pm ex	PHF	0.96
Urban Street		Analysis Year	2017	Analysis Period	1> 7:00
Intersection		File Name	202 muirfield pm ex.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	35	0	10	5	0	5	1	647	9	11	1045	1

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	EB			WB			NB			SB		
Green	25.0	9.0		41.0	0.0	0.0	0.0					
Yellow	3.0	3.0		5.0	0.0	0.0	0.0					
Red	2.0	0.0		2.0	0.0	0.0	0.0					

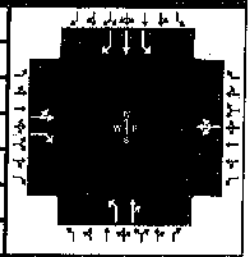
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8		4
Case Number		7.0		8.0	1.0	4.0		5.3
Phase Duration, s		30.0		30.0	12.0	60.0		48.0
Change Period, ($Y+R_c$), s		5.0		5.0	3.0	7.0		7.0
Max Allow Headway (MAH), s		0.0		0.0	3.0	2.9		2.9
Queue Clearance Time (g_s), s					2.0	23.1		43.0
Green Extension Time (g_e), s		0.0		0.0	0.0	4.4		0.0
Phase Call Probability					1.00	1.00		1.00
Max Out Probability					0.00	0.01		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h		36	2		6		1	683		11	1089	1
Adjusted Saturation Flow Rate (s), veh/h/ln		1427	1598		1462		1795	1881		764	1885	1598
Queue Service Time (g_s), s		1.5	0.1		0.0		0.0	21.1		0.9	41.0	0.0
Cycle Queue Clearance Time (g_c), s		1.7	0.1		0.2		0.0	21.1		10.0	41.0	0.0
Green Ratio (g/C)		0.28	0.28		0.28		0.58	0.59		0.46	0.46	0.46
Capacity (c), veh/h		477	444		479		260	1107		351	859	728
Volume-to-Capacity Ratio (X)		0.077	0.005		0.013		0.004	0.617		0.033	1.268	0.001
Back of Queue (Q), ft/ln (50 th percentile)		14.7	0.8		2.5		0.2	187.7		3.7	1177.7	0.3
Back of Queue (Q), veh/ln (50 th percentile)		0.6	0.0		0.1		0.0	7.5		0.1	46.7	0.0
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	0.00
Uniform Delay (d_1), s/veh		24.1	23.5		23.6		18.3	11.9		19.1	24.5	13.3
Incremental Delay (d_2), s/veh		0.3	0.0		0.0		0.0	0.8		0.0	129.6	0.0
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh		24.4	23.5		23.6		18.3	12.7		19.1	154.1	13.3
Level of Service (LOS)		C	C		C		B	B		B	F	B
Approach Delay, s/veh / LOS	24.4	C		23.6	C		12.7	B		152.6	F	
Intersection Delay, s/veh / LOS	97.1						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

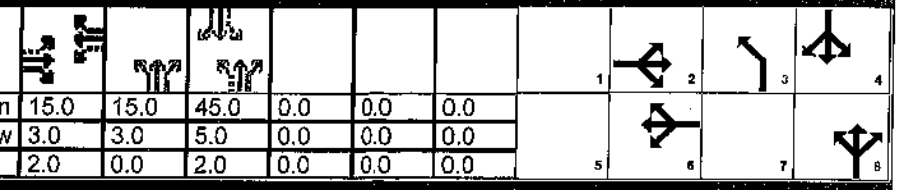
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	May 22, 2017	Area Type	Other
Jurisdiction		Time Period	sat ex	PHF	0.98
Urban Street		Analysis Year	2017	Analysis Period	1> 7:00
Intersection		File Name	202 muirfield sat ex.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	2	1	1	5	1	7	2	496	8	9	559	2

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	EB			WB			NB			SB		
Green	15.0	15.0		45.0	0.0	0.0	0.0					
Yellow	3.0	3.0		5.0	0.0	0.0	0.0					
Red	2.0	0.0		2.0	0.0	0.0	0.0					

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8		4
Case Number		7.0		8.0	1.0	4.0		5.3
Phase Duration, s		20.0		20.0	18.0	70.0		52.0
Change Period, ($Y+R_c$), s		5.0		5.0	3.0	7.0		7.0
Max Allow Headway (MAH), s		0.0		0.0	3.0	2.9		2.9
Queue Clearance Time (g_s), s					2.0	12.1		21.3
Green Extension Time (g_e), s		0.0		0.0	0.0	2.0		2.0
Phase Call Probability					1.00	1.00		1.00
Max Out Probability					0.00	0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h		3	1		13		2	514		9	570	2
Adjusted Saturation Flow Rate (s), veh/h/ln		1581	1610		1593		1810	1895		900	1900	1610
Queue Service Time (g_s), s		0.0	0.0		0.0		0.0	10.1		0.5	19.3	0.1
Cycle Queue Clearance Time (g_c), s		0.1	0.0		0.6		0.0	10.1		0.5	19.3	0.1
Green Ratio (g/C)		0.17	0.17		0.17		0.69	0.70		0.50	0.50	0.50
Capacity (c), veh/h		330	268		321		626	1326		530	950	805
Volume-to-Capacity Ratio (X)		0.009	0.004		0.041		0.003	0.388		0.017	0.600	0.003
Back of Queue (Q), ft/ln (50 th percentile)		1.4	0.5		6.3		0.2	69.9		2.1	186.8	0.5
Back of Queue (Q), veh/ln (50 th percentile)		0.1	0.0		0.3		0.0	2.8		0.1	7.5	0.0
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	0.00
Uniform Delay (d_1), s/veh		31.3	31.3		31.5		6.9	5.6		11.4	16.1	11.3
Incremental Delay (d_2), s/veh		0.1	0.0		0.2		0.0	0.1		0.0	0.8	0.0
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh		31.4	31.3		31.7		6.9	5.6		11.4	16.8	11.3
Level of Service (LOS)		C	C		C		A	A		B	B	B
Approach Delay, s/veh / LOS	31.3	C		31.7	C		5.6	A		16.7	B	
Intersection Delay, s/veh / LOS	11.8						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS7 Two-Way Stop-Control Report

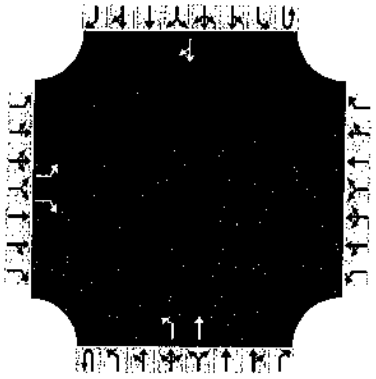
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2017
Time Analyzed	PM ex
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	4th - Rt.202
Jurisdiction	
East/West Street	4th
North/South Street	Rt. 202
Peak Hour Factor	0.96
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume, V (veh/h)		45		63						8	585				1188	5
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		47		66						8						
Capacity, c (veh/h)		79		215						564						
v/c Ratio		0.59		0.31						0.01						
95% Queue Length, Q_{95} (veh)		3.6		1.3						0.0						
Control Delay (s/veh)		111.7		29.2						11.5						
Level of Service, LOS		F		D						B						
Approach Delay (s/veh)		63.5								0.1						
Approach LOS		F														

HCS7 Two-Way Stop-Control Report

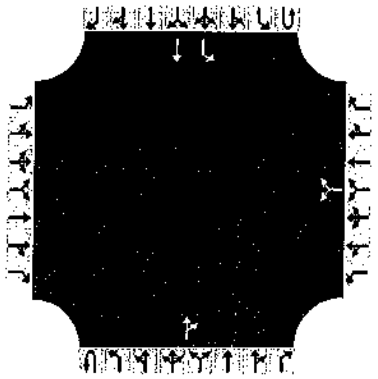
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2017
Time Analyzed	PM
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Foothill - Rt. 202
Jurisdiction	
East/West Street	Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.96
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume, V (veh/h)						15		98			576	28		343	747	
Percent Heavy Vehicles (%)						1		1						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							118							357		
Capacity, c (veh/h)							180							958		
v/c Ratio							0.66							0.37		
95% Queue Length, Q_{95} (veh)							4.9							1.8		
Control Delay (s/veh)							60.9							11.0		
Level of Service, LOS							F							B		
Approach Delay (s/veh)						60.9								3.5		
Approach LOS						F										

HCS7 Two-Way Stop-Control Report

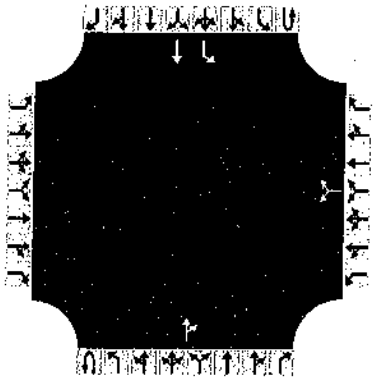
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2017
Time Analyzed	Saturday ex
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Rt. 202 - Foothill
Jurisdiction	
East/West Street	Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.98
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume, V (veh/h)						18		84			466	22		71	500	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							104							72		
Capacity, c (veh/h)							446							1077		
v/c Ratio							0.23							0.07		
95% Queue Length, Q_{95} (veh)							0.9							0.2		
Control Delay (s/veh)							15.5							8.6		
Level of Service, LOS							C							A		
Approach Delay (s/veh)						15.5								1.1		
Approach LOS						C										

HCS7 Two-Way Stop-Control Report

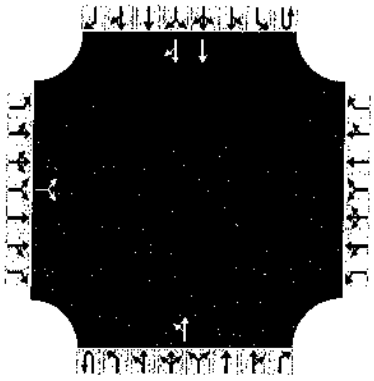
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2017
Time Analyzed	PM ex
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	W Foothill - Rt. 202
Jurisdiction	
East/West Street	W Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.96
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	2	0
Configuration			LR							LT					T	TR
Volume, V (veh/h)		0		2						5	669				1090	0
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

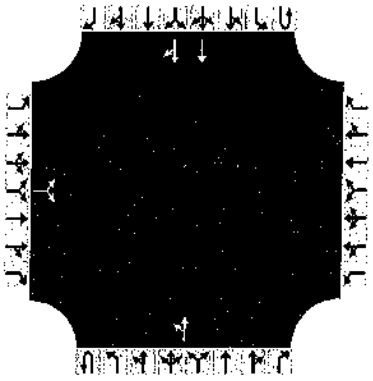
Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			2							5						
Capacity, c (veh/h)			469							617						
v/c Ratio			0.00							0.01						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			12.7							10.9						
Level of Service, LOS			B							B						
Approach Delay (s/veh)		12.7								0.2						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

General Information		Site Information	
Analyst	EC	Intersection	W Foothill - Rt.202
Agency/Co.	DD	Jurisdiction	
Date Performed	5/18/2017	East/West Street	W Foothill
Analysis Year	2017	North/South Street	Rt. 202
Time Analyzed	Saturday ex	Peak Hour Factor	0.98
Intersection Orientation	North-South	Analysis Time Period (hrs)	1.00
Project Description			

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	2	0
Configuration			LR							LT					T	TR
Volume, V (veh/h)		1		9						6	544				562	4
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

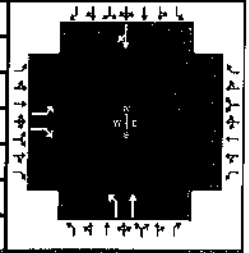
Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10							6						
Capacity, c (veh/h)			565							1007						
v/c Ratio			0.02							0.01						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			11.5							8.6						
Level of Service, LOS			B							A						
Approach Delay (s/veh)		11.5								0.2						
Approach LOS		B														

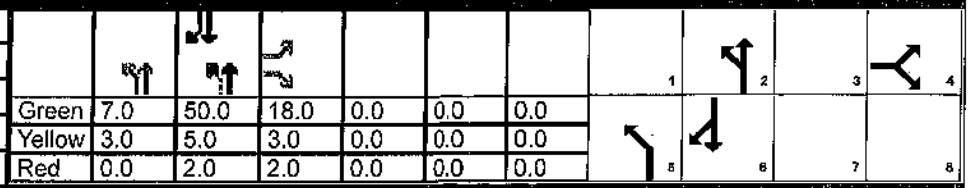
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	May 22, 2017	Area Type	Other
Jurisdiction		Time Period	sat ex	PHF	0.98
Urban Street		Analysis Year	2017	Analysis Period	1> 7:00
Intersection	202 and talamini	File Name	202 talamini sat ex.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	36		46				70	401			456	31

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.0	50.0	18.0	0.0	0.0	0.0			
Yellow	3.0	5.0	3.0	0.0	0.0	0.0			
Red	0.0	2.0	2.0	0.0	0.0	0.0			

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		8.3
Phase Duration, s		23.0			10.0	67.0		57.0
Change Period, ($Y+R_c$), s		5.0			3.0	7.0		7.0
Max Allow Headway (MAH), s		3.2			3.0	0.0		0.0
Queue Clearance Time (g_s), s		4.2			3.3			
Green Extension Time (g_e), s		0.1			0.0	0.0		0.0
Phase Call Probability		1.00			1.00			
Max Out Probability		0.00			0.33			

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (v), veh/h	37		47				71	409			496	
Adjusted Saturation Flow Rate (s), veh/h/ln	1810		1610				1810	1900			1879	
Queue Service Time (g_s), s	1.5		2.2				1.3	8.2			14.3	
Cycle Queue Clearance Time (g_c), s	1.5		2.2				1.3	8.2			14.3	
Green Ratio (g/C)	0.20		0.20				0.66	0.67			0.56	
Capacity (c), veh/h	362		322				584	1267			1044	
Volume-to-Capacity Ratio (X)	0.102		0.146				0.122	0.323			0.475	
Back of Queue (Q), ft/ln (50 th percentile)	15.5		20				9.4	68.2			138	
Back of Queue (Q), veh/ln (50 th percentile)	0.6		0.8				0.4	2.7			5.5	
Queue Storage Ratio (RQ) (50 th percentile)	0.00		0.00				0.00	0.00			0.00	
Uniform Delay (d_1), s/veh	29.4		29.7				7.2	6.4			12.1	
Incremental Delay (d_2), s/veh	0.0		0.1				0.0	0.7			1.6	
Initial Queue Delay (d_3), s/veh	0.0		0.0				0.0	0.0			0.0	
Control Delay (d), s/veh	29.4		29.7				7.2	7.0			13.6	
Level of Service (LOS)	C		C				A	A			B	
Approach Delay, s/veh / LOS	29.6	C		0.0			7.1	A		13.6	B	
Intersection Delay, s/veh / LOS	11.9						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS7 Two-Way Stop-Control Report

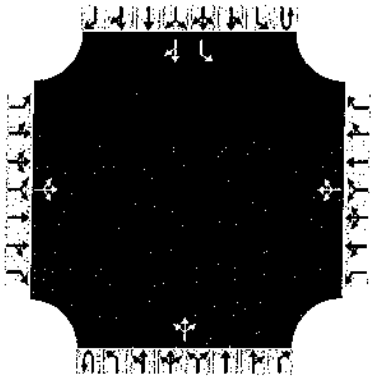
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2023
Time Analyzed	Saturday PM Nobuild
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Rt 202 and Old Farm
Jurisdiction	
East/West Street	Old Farm
North/South Street	Rt. 202
Peak Hour Factor	0.98
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	1	1	0
Configuration			LTR				LTR				LTR			L		TR
Volume, V (veh/h)		6	0	9		8	2	11		8	420	9		18	464	6
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

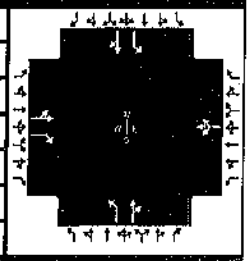
Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			15				21			8				18		
Capacity, c (veh/h)			359				346			1094				1133		
v/c Ratio			0.04				0.06			0.01				0.02		
95% Queue Length, Q_{95} (veh)			0.1				0.2			0.0				0.0		
Control Delay (s/veh)			15.5				16.1			8.3				8.2		
Level of Service, LOS			C				C			A				A		
Approach Delay (s/veh)	15.5				16.1				0.2				0.3			
Approach LOS	C				C											

HCS7 Signalized Intersection Results Summary

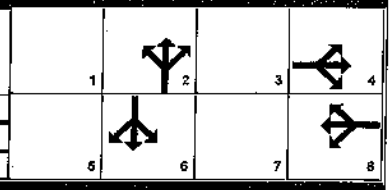
General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	May 22, 2017	Area Type	Other
Jurisdiction		Time Period	pm nb	PHF	0.96
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection	202 and brown	File Name	202 brown pm nb.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	9	1	4	136	3	24	16	515	170	71	1061	11

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

	1	2	3	4	5	6	7	8
Green	60.0	17.0	0.0	0.0	0.0	0.0		
Yellow	5.0	3.0	0.0	0.0	0.0	0.0		
Red	2.0	3.0	0.0	0.0	0.0	0.0		



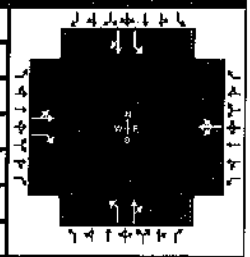
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		23.0		23.0		67.0		67.0
Change Period, (*Y+R c*), s		6.0		6.0		7.0		7.0
Max Allow Headway (*MAH*), s		3.0		3.0		0.0		0.0
Queue Clearance Time (*g s*), s		2.5		11.5				
Green Extension Time (*g e*), s		0.2		0.1		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		0.06				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		10	4		170		17	714		74	1117	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1436	1598		1466		509	1805		743	1882	
Queue Service Time (*g s*), s		0.0	0.2		9.0		2.5	19.6		5.5	43.8	
Cycle Queue Clearance Time (*g c*), s		0.5	0.2		9.5		46.3	19.6		25.1	43.8	
Green Ratio (*g/C*)		0.19	0.19		0.19		0.67	0.67		0.67	0.67	
Capacity (*c*), veh/h		347	302		350		172	1203		413	1254	
Volume-to-Capacity Ratio (*X*)		0.030	0.014		0.485		0.097	0.593		0.179	0.890	
Back of Queue (*Q*), ft/ln (50 th percentile)		4.4	1.8		81.7		8.7	160		23.9	416	
Back of Queue (*Q*), veh/ln (50 th percentile)		0.2	0.1		3.2		0.3	6.3		0.9	16.5	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	
Uniform Delay (*d 1*), s/veh		29.8	29.7		33.4		31.3	8.3		15.2	12.3	
Incremental Delay (*d 2*), s/veh		0.0	0.0		0.4		1.1	2.2		0.9	9.7	
Initial Queue Delay (*d 3*), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh		29.8	29.7		33.8		32.4	10.4		16.1	22.0	
Level of Service (LOS)		C	C		C		C	B		B	C	
Approach Delay, s/veh / LOS	29.8	C		33.8	C		10.9	B		21.6	C	
Intersection Delay, s/veh / LOS	19.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	May 22, 2017	Area Type	Other
Jurisdiction		Time Period	sat nb	PHF	0.98
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection	202 and brown	File Name	202 brown sat nb.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	43	6	135	90	7	32	93	394	48	18	420	45

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	60.0	17.0	0.0	0.0	0.0	0.0	1	2	3	4		
Yellow	5.0	3.0	0.0	0.0	0.0	0.0						
Red	2.0	3.0	0.0	0.0	0.0	0.0	5	6	7	8		

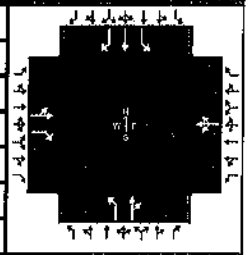
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		23.0		23.0		67.0		67.0
Change Period, ($Y+R_c$), s		6.0		6.0		7.0		7.0
Max Allow Headway (MAH), s		3.1		3.1		0.0		0.0
Queue Clearance Time (g_s), s		8.8		8.8				
Green Extension Time (g_e), s		0.4		0.4		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.02		0.02				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (v), veh/h		50	138		132		95	451		18	474	
Adjusted Saturation Flow Rate (s), veh/h/ln		1444	1610		1515		934	1864		954	1867	
Queue Service Time (g_s), s		0.0	6.8		4.2		4.5	9.6		0.8	10.2	
Cycle Queue Clearance Time (g_c), s		2.5	6.8		6.8		14.8	9.6		10.4	10.2	
Green Ratio (g/C)		0.19	0.19		0.19		0.67	0.67		0.67	0.67	
Capacity (c), veh/h		348	304		354		597	1242		615	1245	
Volume-to-Capacity Ratio (X)		0.144	0.453		0.372		0.159	0.363		0.030	0.381	
Back of Queue (Q), ft/ln (50 th percentile)		21.7	63.8		60.6		22.5	77.6		3.9	83.5	
Back of Queue (Q), veh/ln (50 th percentile)		0.9	2.6		2.4		0.9	3.1		0.2	3.3	
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh		30.6	32.4		32.3		10.0	6.6		8.9	6.7	
Incremental Delay (d_2), s/veh		0.1	0.4		0.2		0.6	0.8		0.1	0.9	
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (d), s/veh		30.7	32.8		32.5		10.6	7.4		9.0	7.6	
Level of Service (LOS)		C	C		C		B	A		A	A	
Approach Delay, s/veh / LOS	32.2	C		32.5	C		8.0	A		7.6	A	
Intersection Delay, s/veh / LOS	13.6						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS7 Signalized Intersection Results Summary

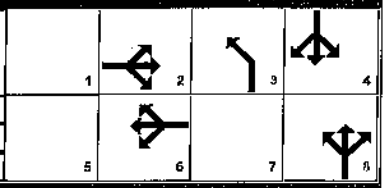
General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	May 22, 2017	Area Type	Other
Jurisdiction		Time Period	pm nb	PHF	0.96
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection		File Name	202 muirfield pm nb.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	35	0	10	5	0	5	1	686	9	11	1108	1

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	25.0	9.0		41.0	0.0	0.0	0.0	1	2	3	4	
Yellow	3.0	3.0		5.0	0.0	0.0	0.0					
Red	2.0	0.0		2.0	0.0	0.0	0.0	5	6	7	8	



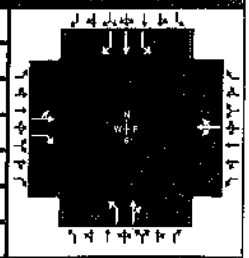
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8		4
Case Number		7.0		8.0	1.0	4.0		5.3
Phase Duration, s		30.0		30.0	12.0	60.0		48.0
Change Period, (*Y+R c*), s		5.0		5.0	3.0	7.0		7.0
Max Allow Headway (*MAH*), s		0.0		0.0	3.0	2.9		2.9
Queue Clearance Time (*g s*), s					2.0	25.2		43.0
Green Extension Time (*g e*), s		0.0		0.0	0.0	4.9		0.0
Phase Call Probability					1.00	1.00		1.00
Max Out Probability					0.00	0.03		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		36	2		6		1	724		11	1154	1
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1427	1598		1462		1795	1881		735	1885	1598
Queue Service Time (*g s*), s		1.5	0.1		0.0		0.0	23.2		1.0	41.0	0.0
Cycle Queue Clearance Time (*g c*), s		1.7	0.1		0.2		0.0	23.2		12.1	41.0	0.0
Green Ratio (*g/C*)		0.28	0.28		0.28		0.58	0.59		0.46	0.46	0.46
Capacity (*c*), veh/h		477	444		479		260	1108		324	859	728
Volume-to-Capacity Ratio (*X*)		0.077	0.005		0.013		0.004	0.654		0.035	1.344	0.001
Back of Queue (*Q*), ft/ln (50 th percentile)		14.7	0.8		2.5		0.2	207.7		3.9	1375.8	0.3
Back of Queue (*Q*), veh/ln (50 th percentile)		0.6	0.0		0.1		0.0	8.2		0.2	54.6	0.0
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh		24.1	23.5		23.6		18.3	12.4		20.4	24.5	13.3
Incremental Delay (*d 2*), s/veh		0.3	0.0		0.0		0.0	1.1		0.0	162.6	0.0
Initial Queue Delay (*d 3*), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Control Delay (*d*), s/veh		24.4	23.5		23.6		18.3	13.5		20.4	187.1	13.3
Level of Service (LOS)		C	C		C		B	B		C	F	B
Approach Delay, s/veh / LOS	24.4	C		23.6	C		13.5	B		185.3	F	
Intersection Delay, s/veh / LOS	117.2						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

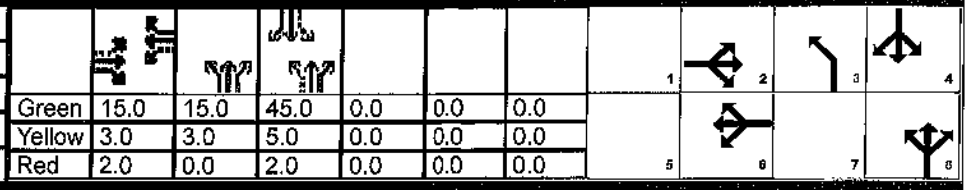
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	May 22, 2017	Area Type	Other
Jurisdiction		Time Period	sat nb	PHF	0.98
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection		File Name	202 muirfield sat nb.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	2	1	1	5	1	7	2	526	8	9	593	2

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	15.0	15.0	45.0	0.0	0.0	0.0						
Yellow	3.0	3.0	5.0	0.0	0.0	0.0						
Red	2.0	0.0	2.0	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8		4
Case Number		7.0		8.0	1.0	4.0		5.3
Phase Duration, s		20.0		20.0	18.0	70.0		52.0
Change Period, (*Y+R c*), s		5.0		5.0	3.0	7.0		7.0
Max Allow Headway (*MAH*), s		0.0		0.0	3.0	2.9		2.9
Queue Clearance Time (*g s*), s					2.0	12.9		23.0
Green Extension Time (*g e*), s		0.0		0.0	0.0	2.2		2.2
Phase Call Probability					1.00	1.00		1.00
Max Out Probability					0.00	0.00		0.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		3	1		13		2	545		9	605	2
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1581	1610		1593		1810	1895		875	1900	1610
Queue Service Time (*g s*), s		0.0	0.0		0.0		0.0	10.9		0.5	21.0	0.1
Cycle Queue Clearance Time (*g c*), s		0.1	0.0		0.6		0.0	10.9		0.5	21.0	0.1
Green Ratio (*g/C*)		0.17	0.17		0.17		0.69	0.70		0.50	0.50	0.50
Capacity (*c*), veh/h		330	268		321		602	1326		518	950	805
Volume-to-Capacity Ratio (*X*)		0.009	0.004		0.041		0.003	0.411		0.018	0.637	0.003
Back of Queue (*Q*), ft/ln (50 th percentile)		1.4	0.5		6.3		0.2	75.6		2.1	205.6	0.5
Back of Queue (*Q*), veh/ln (50 th percentile)		0.1	0.0		0.3		0.0	3.0		0.1	8.2	0.0
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh		31.3	31.3		31.5		7.3	5.7		11.4	16.5	11.3
Incremental Delay (*d 2*), s/veh		0.1	0.0		0.2		0.0	0.1		0.0	1.1	0.0
Initial Queue Delay (*d 3*), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Control Delay (*d*), s/veh		31.4	31.3		31.7		7.3	5.8		11.4	17.6	11.3
Level of Service (LOS)		C	C		C		A	A		B	B	B
Approach Delay, s/veh / LOS	31.3	C		31.7	C		5.8	A		17.5	B	
Intersection Delay, s/veh / LOS	12.3						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS7 Two-Way Stop-Control Report

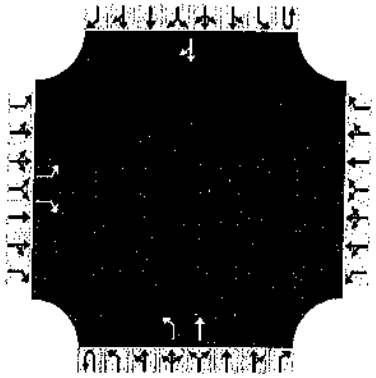
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2023
Time Analyzed	PM Nobuild
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	4th - Rt.202
Jurisdiction	
East/West Street	4th
North/South Street	Rt. 202
Peak Hour Factor	0.96
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume, V (veh/h)		45		63						8	620				1259	5
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		47		66						8						
Capacity, c (veh/h)		68		194						529						
v/c Ratio		0.70		0.34						0.02						
95% Queue Length, Q_{95} (veh)		4.7		1.5						0.0						
Control Delay (s/veh)		160.9		33.0						11.9						
Level of Service, LOS		F		D						B						
Approach Delay (s/veh)		86.2								0.1						
Approach LOS		F														

HCS7 Two-Way Stop-Control Report

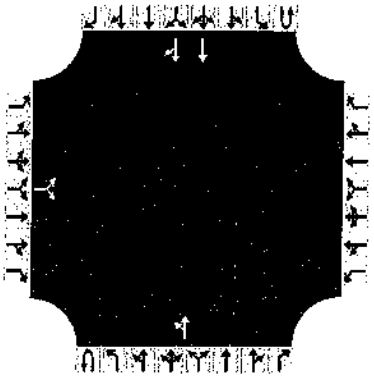
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2017
Time Analyzed	PM Nobuild
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	W Foothill - Rt. 202
Jurisdiction	
East/West Street	W Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.96
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	2	0
Configuration			LR							LT					T	TR
Volume, V (veh/h)		0		2						5	709				1155	0
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			2							5						
Capacity, c (veh/h)			445							582						
v/c Ratio			0.00							0.01						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			13.1							11.2						
Level of Service, LOS			B							B						
Approach Delay (s/veh)		13.1								0.2						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

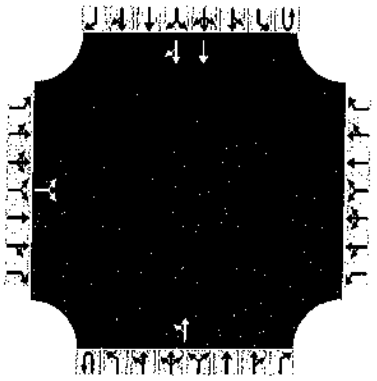
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2023
Time Analyzed	Saturday Nobuild
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	W Foothill - Rt.202
Jurisdiction	
East/West Street	W Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.98
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	2	0
Configuration			LR							LT					T	TR
Volume, V (veh/h)		1		9						6	577				596	4
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10							6						
Capacity, c (veh/h)			538							977						
v/c Ratio			0.02							0.01						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			11.8							8.7						
Level of Service, LOS			B							A						
Approach Delay (s/veh)		11.8								0.2						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

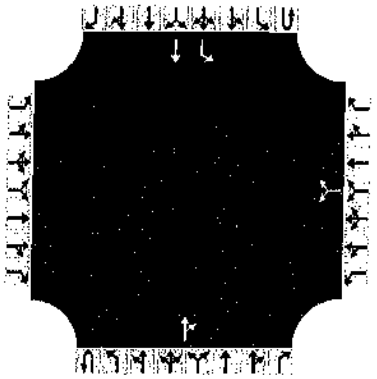
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2023
Time Analyzed	PM Nobuild
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Foothill - Rt. 202
Jurisdiction	
East/West Street	Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.96
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume, V (veh/h)						16		104			611	30		364	792	
Percent Heavy Vehicles (%)						1		1						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							125							379		
Capacity, c (veh/h)							149							927		
v/c Ratio							0.84							0.41		
95% Queue Length, Q_{95} (veh)							9.0							2.1		
Control Delay (s/veh)							124.1							11.6		
Level of Service, LOS							F							B		
Approach Delay (s/veh)						124.1								3.6		
Approach LOS						F										

HCS7 Two-Way Stop-Control Report

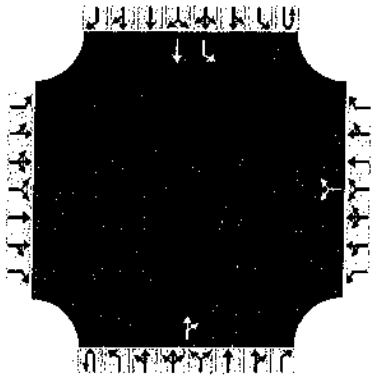
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	5/18/2017
Analysis Year	2023
Time Analyzed	Saturday Nobuild
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Rt. 202 - Foothill
Jurisdiction	
East/West Street	Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.98
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume, V (veh/h)						19		89			494	23		75	530	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

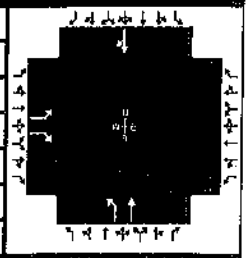
Base Critical Headway (sec)																
Critical Headway (sec)																
Base Follow-Up Headway (sec)																
Follow-Up Headway (sec)																

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							110							77		
Capacity, c (veh/h)							419							1050		
v/c Ratio							0.26							0.07		
95% Queue Length, Q_{95} (veh)							1.1							0.2		
Control Delay (s/veh)							16.6							8.7		
Level of Service, LOS							C							A		
Approach Delay (s/veh)						16.6								1.1		
Approach LOS						C										

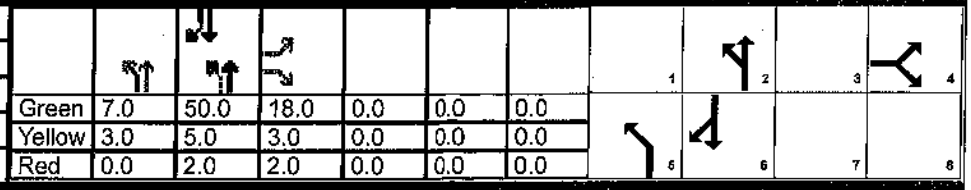
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	May 22, 2017	Area Type	Other
Jurisdiction		Time Period	sat nb	PHF	0.98
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection	202 and talamini	File Name	202 talamini sat nb.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	38		49				74	425			483	33

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	7.0	50.0	18.0	0.0	0.0	0.0		
Yellow	3.0	5.0	3.0	0.0	0.0	0.0		
Red	0.0	2.0	2.0	0.0	0.0	0.0		

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		8.3
Phase Duration, s		23.0			10.0	67.0		57.0
Change Period, (*Y+R c*), s		5.0			3.0	7.0		7.0
Max Allow Headway (*MAH*), s		3.2			3.0	0.0		0.0
Queue Clearance Time (*g s*), s		4.3			3.3			
Green Extension Time (*g e*), s		0.1			0.0	0.0		0.0
Phase Call Probability		1.00			1.00			
Max Out Probability		0.00			0.38			

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	39		50				76	434			526	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810		1610				1810	1900			1879	
Queue Service Time (*g s*), s	1.6		2.3				1.3	8.9			15.5	
Cycle Queue Clearance Time (*g c*), s	1.6		2.3				1.3	8.9			15.5	
Green Ratio (*g/C*)	0.20		0.20				0.66	0.67			0.56	
Capacity (*c*), veh/h	362		322				562	1267			1044	
Volume-to-Capacity Ratio (*X*)	0.107		0.155				0.134	0.342			0.503	
Back of Queue (*Q*), ft/ln (50 th percentile)	16.4		21.4				10	73.3			150.2	
Back of Queue (*Q*), veh/ln (50 th percentile)	0.7		0.9				0.4	2.9			6.0	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00		0.00				0.00	0.00			0.00	
Uniform Delay (*d 1*), s/veh	29.4		29.7				7.4	6.5			12.3	
Incremental Delay (*d 2*), s/veh	0.0		0.1				0.0	0.7			1.7	
Initial Queue Delay (*d 3*), s/veh	0.0		0.0				0.0	0.0			0.0	
Control Delay (*d*), s/veh	29.5		29.8				7.5	7.2			14.1	
Level of Service (LOS)	C		C				A	A			B	
Approach Delay, s/veh / LOS	29.7	C		0.0			7.3	A		14.1	B	
Intersection Delay, s/veh / LOS	12.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS7 Two-Way Stop-Control Report

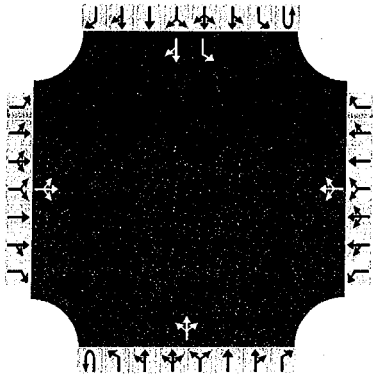
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	4-6-2018
Analysis Year	2023
Time Analyzed	Saturday PM b
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Rt 202 and Old Farm
Jurisdiction	
East/West Street	Old Farm
North/South Street	Rt. 202
Peak Hour Factor	0.98
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	1	0	0	0	1	0	0	1	1	0
Configuration			LTR				LTR				LTR			L		TR
Volume, V (veh/h)		6	0	82		8	2	11		76	500	9		18	555	6
Percent Heavy Vehicles (%)		0	0	0		0	0	0		0				0		
Proportion Time Blocked																
Percent Grade (%)		0				0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

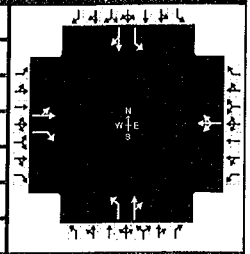
Base Critical Headway (sec)		7.1	6.5	6.2		7.1	6.5	6.2		4.1				4.1		
Critical Headway (sec)		7.10	6.50	6.20		7.10	6.50	6.20		4.10				4.10		
Base Follow-Up Headway (sec)		3.5	4.0	3.3		3.5	4.0	3.3		2.2				2.2		
Follow-Up Headway (sec)		3.50	4.00	3.30		3.50	4.00	3.30		2.20				2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			90				21			78				18		
Capacity, c (veh/h)			434				190			1011				1058		
v/c Ratio			0.21				0.11			0.08				0.02		
95% Queue Length, Q_{95} (veh)			0.8				0.4			0.3				0.1		
Control Delay (s/veh)			15.5				26.3			8.9				8.5		
Level of Service, LOS			C				D			A				A		
Approach Delay (s/veh)		15.5				26.3				2.0				0.3		
Approach LOS		C				D										

HCS7 Signalized Intersection Results Summary

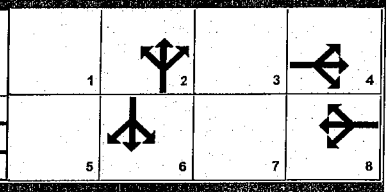
General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	Apr 6, 2018	Area Type	Other
Jurisdiction		Time Period	pm b	PHF	0.96
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection	202 and brown	File Name	202 brown pm b.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	9	1	4	211	3	24	16	634	258	71	1172	11

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	60.0	17.0	0.0	0.0	0.0	0.0	
Yellow	5.0	3.0	0.0	0.0	0.0	0.0	
Red	2.0	3.0	0.0	0.0	0.0	0.0	



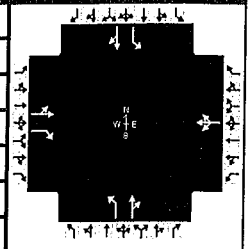
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		23.0		23.0		67.0		67.0
Change Period, ($Y+R_c$), s		6.0		6.0		7.0		7.0
Max Allow Headway (*MAH*), s		3.0		3.0		0.0		0.0
Queue Clearance Time (g_s), s		2.5		17.1				
Green Extension Time (g_e), s		0.4		0.0		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		1.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		10	4		248		17	929		74	1232	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1436	1598		1448		456	1792		607	1882	
Queue Service Time (g_s), s		0.0	0.2		14.6		3.1	32.3		8.6	56.9	
Cycle Queue Clearance Time (g_c), s		0.5	0.2		15.1		60.0	32.3		41.0	56.9	
Green Ratio (*g/C*)		0.19	0.19		0.19		0.67	0.67		0.67	0.67	
Capacity (*c*), veh/h		347	302		349		96	1195		267	1255	
Volume-to-Capacity Ratio (*X*)		0.030	0.014		0.710		0.174	0.778		0.277	0.982	
Back of Queue (*Q*), ft/ln (50 th percentile)		4.4	1.8		139.7		11.6	274.2		34	617.4	
Back of Queue (*Q*), veh/ln (50 th percentile)		0.2	0.1		5.5		0.5	10.9		1.3	24.5	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh		29.8	29.7		35.7		43.5	10.4		24.6	14.5	
Incremental Delay (d_2), s/veh		0.0	0.0		5.7		3.9	5.0		2.6	21.5	
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh		29.8	29.7		41.4		47.5	15.4		27.1	36.0	
Level of Service (LOS)		C	C		D		D	B		C	D	
Approach Delay, s/veh / LOS	29.8	C		41.4	D		16.0	B		35.5	D	
Intersection Delay, s/veh / LOS	28.7						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS7 Signalized Intersection Results Summary

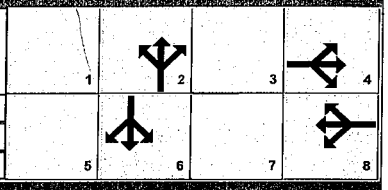
General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	Apr 6, 2018	Area Type	Other
Jurisdiction		Time Period	sat b	PHF	0.98
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection	202 and brown	File Name	202 brown sat b.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	43	6	135	198	7	32	93	542	148	18	584	45

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	60.0	17.0	0.0	0.0	0.0	0.0	
Yellow	5.0	3.0	0.0	0.0	0.0	0.0	
Red	2.0	3.0	0.0	0.0	0.0	0.0	



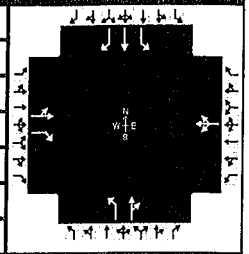
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		23.0		23.0		67.0		67.0
Change Period, (*Y+R c*), s		6.0		6.0		7.0		7.0
Max Allow Headway (*MAH*), s		3.1		3.1		0.0		0.0
Queue Clearance Time (*g s*), s		8.8		16.4				
Green Extension Time (*g e*), s		0.6		0.1		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.03		1.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		50	138		242		95	704		18	642	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1444	1610		1469		800	1829		755	1876	
Queue Service Time (*g s*), s		0.0	6.8		11.8		6.1	18.8		1.2	15.6	
Cycle Queue Clearance Time (*g c*), s		2.5	6.8		14.4		21.7	18.8		20.0	15.6	
Green Ratio (*g/C*)		0.19	0.19		0.19		0.67	0.67		0.67	0.67	
Capacity (*c*), veh/h		348	304		351		475	1220		426	1251	
Volume-to-Capacity Ratio (*X*)		0.144	0.453		0.689		0.200	0.577		0.043	0.513	
Back of Queue (*Q*), ft/ln (50 th percentile)		21.7	63.8		132.4		27.7	152.8		5.3	129	
Back of Queue (*Q*), veh/ln (50 th percentile)		0.9	2.6		5.3		1.1	6.1		0.2	5.2	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	
Uniform Delay (*d 1*), s/veh		30.6	32.4		35.4		13.1	8.1		13.5	7.6	
Incremental Delay (*d 2*), s/veh		0.1	0.4		4.7		0.9	2.0		0.2	1.5	
Initial Queue Delay (*d 3*), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh		30.7	32.8		40.1		14.1	10.1		13.7	9.1	
Level of Service (LOS)		C	C		D		B	B		B	A	
Approach Delay, s/veh / LOS	32.2	C		40.1	D		10.6	B		9.2	A	
Intersection Delay, s/veh / LOS	16.0						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

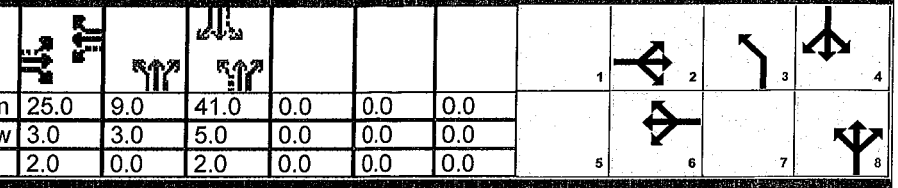
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	Apr 6, 2018	Area Type	CBD
Jurisdiction		Time Period	pm b	PHF	0.96
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection		File Name	202 muirfield pm b.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (v), veh/h	206	2	104	5	2	5	76	722	9	11	1088	207

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	25.0	9.0	41.0	0.0	0.0	0.0						
Yellow	3.0	3.0	5.0	0.0	0.0	0.0						
Red	2.0	0.0	2.0	0.0	0.0	0.0						

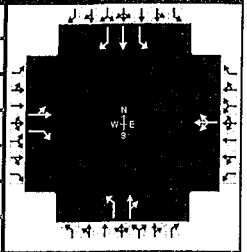
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8		4
Case Number		7.0		8.0	1.0	4.0		5.3
Phase Duration, s		30.0		30.0	12.0	60.0		48.0
Change Period, ($Y+R_c$), s		5.0		5.0	3.0	7.0		7.0
Max Allow Headway (MAH), s		0.0		0.0	3.0	3.0		3.0
Queue Clearance Time (g_s), s					4.0	32.2		43.0
Green Extension Time (g_e), s		0.0		0.0	0.0	5.4		0.0
Phase Call Probability					1.00	1.00		1.00
Max Out Probability					0.05	0.12		1.00

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (v), veh/h		217	100		8		79	761		11	1133	216
Adjusted Saturation Flow Rate (s), veh/h/ln		1285	1438		1412		1616	1693		639	1697	1438
Queue Service Time (g_s), s		12.9	4.9		0.0		2.0	30.2		1.2	41.0	8.6
Cycle Queue Clearance Time (g_c), s		13.2	4.9		0.3		2.0	30.2		19.5	41.0	8.6
Green Ratio (g/C)		0.28	0.28		0.28		0.58	0.59		0.46	0.46	0.46
Capacity (c), veh/h		437	399		457		242	997		242	773	655
Volume-to-Capacity Ratio (X)		0.496	0.250		0.018		0.328	0.764		0.047	1.466	0.329
Back of Queue (Q), ft/ln (50 th percentile)		105.5	43.5		3.3		17.2	256.4		4.5	1532.9	64.5
Back of Queue (Q), veh/ln (50 th percentile)		4.2	1.7		0.1		0.7	10.2		0.2	60.8	2.6
Queue Storage Ratio (RQ) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	0.00
Uniform Delay (d_1), s/veh		28.2	25.2		23.6		18.7	13.8		25.6	24.5	15.7
Incremental Delay (d_2), s/veh		4.0	1.5		0.1		0.3	3.2		0.0	216.9	0.1
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Control Delay (d), s/veh		32.2	26.7		23.7		19.0	17.0		25.6	241.4	15.8
Level of Service (LOS)		C	C		C		B	B		C	F	B
Approach Delay, s/veh / LOS	30.5	C		23.7	C		17.2	B		203.8	F	
Intersection Delay, s/veh / LOS	119.4						F					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

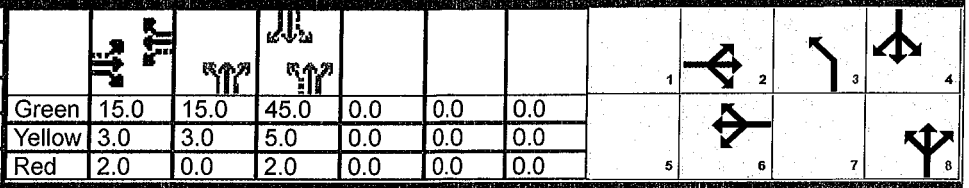
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	Apr 6, 2018	Area Type	CBD
Jurisdiction		Time Period	sat b	PHF	0.98
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection		File Name	202 muirfield sat b.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	203	2	116	5	2	7	103	573	8	9	602	265

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



Green	15.0	15.0	45.0	0.0	0.0	0.0						
Yellow	3.0	3.0	5.0	0.0	0.0	0.0						
Red	2.0	0.0	2.0	0.0	0.0	0.0						

Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8		4
Case Number		7.0		8.0	1.0	4.0		5.3
Phase Duration, s		20.0		20.0	18.0	70.0		52.0
Change Period, (*Y+R c*), s		5.0		5.0	3.0	7.0		7.0
Max Allow Headway (*MAH*), s		0.0		0.0	3.0	3.0		3.0
Queue Clearance Time (*g s*), s					3.9	16.4		27.2
Green Extension Time (*g e*), s		0.0		0.0	0.1	3.0		2.9
Phase Call Probability					1.00	1.00		1.00
Max Out Probability					0.00	0.00		0.03

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		209	118		14		105	593		9	614	270
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1288	1449		1538		1629	1706		754	1710	1449
Queue Service Time (*g s*), s		13.8	6.7		0.0		1.9	14.4		0.6	25.2	10.3
Cycle Queue Clearance Time (*g c*), s		14.5	6.7		0.7		1.9	14.4		0.6	25.2	10.3
Green Ratio (*g/C*)		0.17	0.17		0.17		0.69	0.70		0.50	0.50	0.50
Capacity (*c*), veh/h		294	242		311		514	1194		457	855	725
Volume-to-Capacity Ratio (*X*)		0.711	0.490		0.046		0.205	0.497		0.020	0.718	0.373
Back of Queue (*Q*), ft/ln (50 th percentile)		133.7	67.3		6.8		12.5	90.3		2.1	229.2	74.8
Back of Queue (*Q*), veh/ln (50 th percentile)		5.3	2.7		0.3		0.5	3.6		0.1	9.2	3.0
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh		37.3	34.0		31.5		9.5	6.2		11.4	17.6	13.8
Incremental Delay (*d 2*), s/veh		13.6	7.0		0.3		0.1	0.1		0.0	2.5	0.1
Initial Queue Delay (*d 3*), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Control Delay (*d*), s/veh		50.9	41.0		31.8		9.5	6.3		11.4	20.1	13.9
Level of Service (LOS)		D	D		C		A	A		B	C	B
Approach Delay, s/veh / LOS	47.3	D		31.8	C		6.8	A		18.1	B	
Intersection Delay, s/veh / LOS	19.1						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS7 Two-Way Stop-Control Report

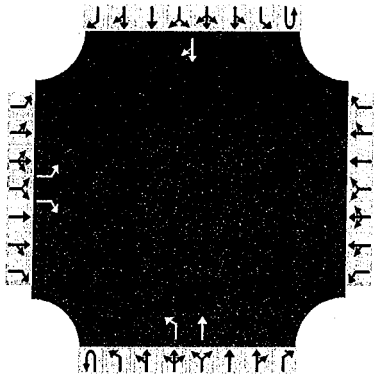
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	4-6-2018
Analysis Year	2023
Time Analyzed	PM [redacted] build
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	4th - Rt.202
Jurisdiction	
East/West Street	4th
North/South Street	Rt. 202
Peak Hour Factor	0.96
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume, V (veh/h)		111		213						119	666				1285	53
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.41		6.21						4.11						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.51		3.31						2.21						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		116		222						124						
Capacity, c (veh/h)		32		181						494						
v/c Ratio		3.66		1.23						0.25						
95% Queue Length, Q_{95} (veh)		45.9		31.2						1.0						
Control Delay (s/veh)		5050.8		520.5						14.7						
Level of Service, LOS		F		F						B						
Approach Delay (s/veh)		2075.3								2.2						
Approach LOS		F														

HCS7 Two-Way Stop-Control Report

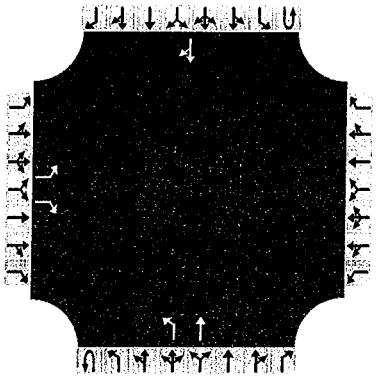
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	4-6-2018
Analysis Year	2023
Time Analyzed	sat build
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	4th - Rt.202
Jurisdiction	
East/West Street	4th
North/South Street	Rt. 202
Peak Hour Factor	0.98
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		1	0	1		0	0	0	0	1	1	0	0	0	1	0
Configuration		L		R						L	T					TR
Volume, V (veh/h)		73		163						152	653				652	71
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.1		6.2						4.1						
Critical Headway (sec)		6.41		6.21						4.11						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.51		3.31						2.21						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)		74		166						155						
Capacity, c (veh/h)		87		440						873						
v/c Ratio		0.86		0.38						0.18						
95% Queue Length, Q_{95} (veh)		7.9		1.8						0.6						
Control Delay (s/veh)		200.9		18.1						10.0						
Level of Service, LOS		F		C						B						
Approach Delay (s/veh)		74.5								1.9						
Approach LOS		F														

HCS7 Two-Way Stop-Control Report

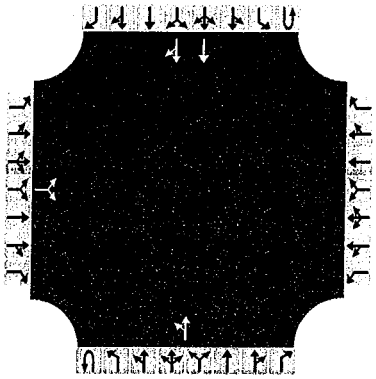
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	4-6-2018
Analysis Year	2017
Time Analyzed	PM build
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	W Foothill - Rt. 202
Jurisdiction	
East/West Street	W Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.96
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	2	0
Configuration			LR							LT					T	TR
Volume, V (veh/h)		0		2						5	866				1331	0
Percent Heavy Vehicles (%)		1		1						1						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.82		6.92						4.12						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.51		3.31						2.21						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			2							5						
Capacity, c (veh/h)			388							495						
v/c Ratio			0.01							0.01						
95% Queue Length, Q_{95} (veh)			0.0							0.0						
Control Delay (s/veh)			14.3							12.3						
Level of Service, LOS			B							B						
Approach Delay (s/veh)		14.3								0.3						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

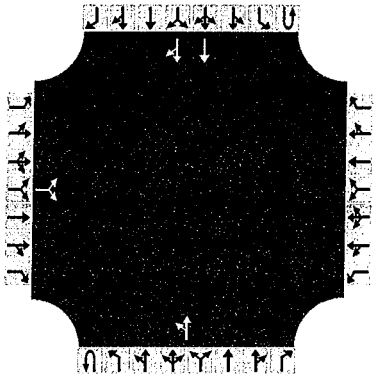
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	4-6-2018
Analysis Year	2023
Time Analyzed	Saturday build
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	W Foothill - Rt.202
Jurisdiction	
East/West Street	W Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.98
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	1	0		0	0	0	0	0	1	0	0	0	2	0
Configuration			LR							LT					T	TR
Volume, V (veh/h)		1		9						6	804				813	4
Percent Heavy Vehicles (%)		0		0						0						
Proportion Time Blocked																
Percent Grade (%)		0														
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)		7.5		6.9						4.1						
Critical Headway (sec)		6.80		6.90						4.10						
Base Follow-Up Headway (sec)		3.5		3.3						2.2						
Follow-Up Headway (sec)		3.50		3.30						2.20						

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)			10							6						
Capacity, c (veh/h)			378							808						
v/c Ratio			0.03							0.01						
95% Queue Length, Q_{95} (veh)			0.1							0.0						
Control Delay (s/veh)			14.8							9.5						
Level of Service, LOS			B							A						
Approach Delay (s/veh)		14.8								0.2						
Approach LOS		B														

HCS7 Two-Way Stop-Control Report

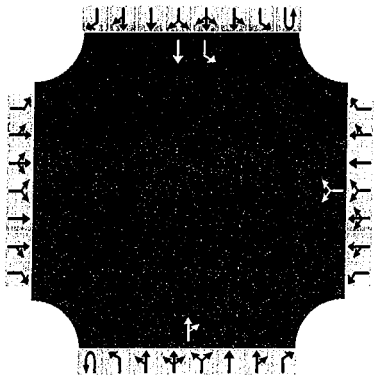
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	4-6-2018
Analysis Year	2023
Time Analyzed	PM build
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Foothill - Rt. 202
Jurisdiction	
East/West Street	Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.96
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume, V (veh/h)						16		176			696	30		448	884	
Percent Heavy Vehicles (%)						1		1						1		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.41		6.21						4.11		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.51		3.31						2.21		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							200							467		
Capacity, c (veh/h)							112							859		
v/c Ratio							1.78							0.54		
95% Queue Length, Q_{95} (veh)							49.8							3.5		
Control Delay (s/veh)							1511.1							14.2		
Level of Service, LOS							F							B		
Approach Delay (s/veh)						1511.1								4.8		
Approach LOS						F										

HCS7 Two-Way Stop-Control Report

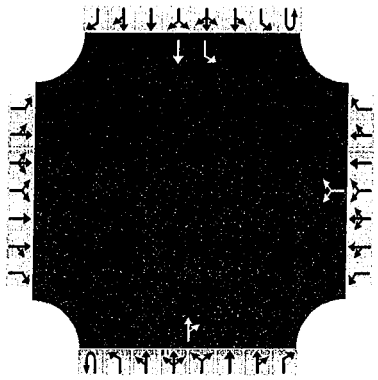
General Information

Analyst	EC
Agency/Co.	DD
Date Performed	4-6-2018
Analysis Year	2023
Time Analyzed	Saturday build
Intersection Orientation	North-South
Project Description	

Site Information

Intersection	Rt. 202 - Foothill
Jurisdiction	
East/West Street	Foothill
North/South Street	Rt. 202
Peak Hour Factor	0.98
Analysis Time Period (hrs)	1.00

Lanes



Major Street: North-South

Vehicle Volumes and Adjustments

Approach	Eastbound				Westbound				Northbound				Southbound			
Movement	U	L	T	R	U	L	T	R	U	L	T	R	U	L	T	R
Priority		10	11	12		7	8	9	1U	1	2	3	4U	4	5	6
Number of Lanes		0	0	0		0	1	0	0	0	1	0	0	1	1	0
Configuration							LR					TR		L	T	
Volume, V (veh/h)						19		195			615	23		173	649	
Percent Heavy Vehicles (%)						0		0						0		
Proportion Time Blocked																
Percent Grade (%)						0										
Right Turn Channelized		No				No				No				No		
Median Type/Storage		Undivided														

Critical and Follow-up Headways

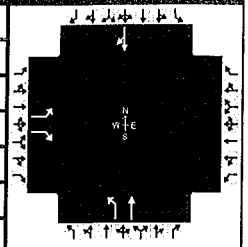
Base Critical Headway (sec)						7.1		6.2						4.1		
Critical Headway (sec)						6.40		6.20						4.10		
Base Follow-Up Headway (sec)						3.5		3.3						2.2		
Follow-Up Headway (sec)						3.50		3.30						2.20		

Delay, Queue Length, and Level of Service

Flow Rate, v (veh/h)							218							177		
Capacity, c (veh/h)							346							945		
v/c Ratio							0.63							0.19		
95% Queue Length, Q_{95} (veh)							4.8							0.7		
Control Delay (s/veh)							32.7							9.7		
Level of Service, LOS							D							A		
Approach Delay (s/veh)					32.7								2.0			
Approach LOS					D											

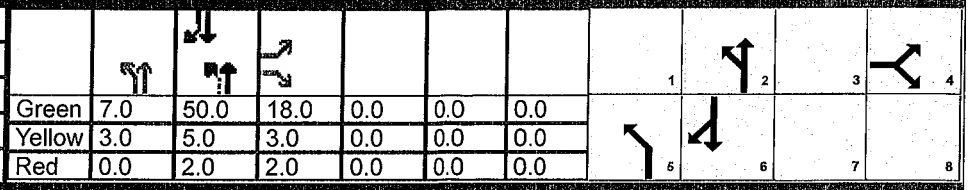
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	Apr 6, 2018	Area Type	Other
Jurisdiction		Time Period	sat b	PHF	0.98
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection	202 and talamini	File Name	202 talamini sat b.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	84		49				74	500			560	75

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	EB			WB			NB			SB		
Green	7.0		50.0	18.0	0.0	0.0	0.0					
Yellow	3.0		5.0	3.0	0.0	0.0	0.0					
Red	0.0		2.0	2.0	0.0	0.0	0.0					

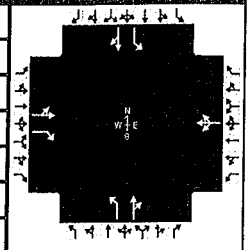
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4			5	2		6
Case Number		9.0			1.0	4.0		8.3
Phase Duration, s		23.0			10.0	67.0		57.0
Change Period, ($Y+R_c$), s		5.0			3.0	7.0		7.0
Max Allow Headway (*MAH*), s		3.1			3.0	0.0		0.0
Queue Clearance Time (g_s), s		5.6			3.3			
Green Extension Time (g_e), s		0.2			0.0	0.0		0.0
Phase Call Probability		1.00			1.00			
Max Out Probability		0.00			0.38			

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7		14				5	2			6	16
Adjusted Flow Rate (*v*), veh/h	86		50				76	510			647	
Adjusted Saturation Flow Rate (*s*), veh/h/ln	1810		1610				1810	1900			1861	
Queue Service Time (g_s), s	3.6		2.3				1.3	11.0			21.3	
Cycle Queue Clearance Time (g_c), s	3.6		2.3				1.3	11.0			21.3	
Green Ratio (*g/C*)	0.20		0.20				0.66	0.67			0.56	
Capacity (*c*), veh/h	362		322				475	1267			1034	
Volume-to-Capacity Ratio (*X*)	0.237		0.155				0.159	0.403			0.626	
Back of Queue (*Q*), ft/ln (50 th percentile)	37.2		21.4				10	91.7			207	
Back of Queue (*Q*), veh/ln (50 th percentile)	1.5		0.9				0.4	3.7			8.3	
Queue Storage Ratio (*RQ*) (50 th percentile)	0.00		0.00				0.00	0.00			0.00	
Uniform Delay (d_1), s/veh	30.2		29.7				8.9	6.8			13.6	
Incremental Delay (d_2), s/veh	0.1		0.1				0.1	1.0			2.9	
Initial Queue Delay (d_3), s/veh	0.0		0.0				0.0	0.0			0.0	
Control Delay (*d*), s/veh	30.4		29.8				9.0	7.8			16.5	
Level of Service (LOS)	C		C				A	A			B	
Approach Delay, s/veh / LOS	30.2	C		0.0			7.9	A		16.5	B	
Intersection Delay, s/veh / LOS	14.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

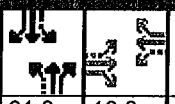
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	Apr 6, 2018	Area Type	Other
Jurisdiction		Time Period	pm b with mit	PHF	0.96
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection	202 and brown	File Name	202 brown pm b with mit.xus		
Project Description	wiht mit				

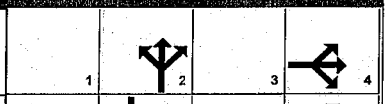


Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	9	1	4	211	3	24	16	634	258	71	1172	11

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	1	2	3	4	5	6	7	8
Green	61.0	16.0	0.0	0.0	0.0	0.0		
Yellow	5.0	3.0	0.0	0.0	0.0	0.0		
Red	2.0	3.0	0.0	0.0	0.0	0.0		



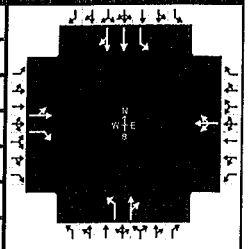
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		4		8		2		6
Case Number		7.0		8.0		6.0		6.0
Phase Duration, s		22.0		22.0		68.0		68.0
Change Period, ($Y+R_c$), s		6.0		6.0		7.0		7.0
Max Allow Headway (*MAH*), s		3.0		3.0		0.0		0.0
Queue Clearance Time (g_s), s		2.5		17.3				
Green Extension Time (g_e), s		0.4		0.0		0.0		0.0
Phase Call Probability		1.00		1.00				
Max Out Probability		0.00		1.00				

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	7	4	14	3	8	18	5	2	12	1	6	16
Adjusted Flow Rate (*v*), veh/h		10	4		248		17	929		74	1232	
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1437	1598		1448		456	1792		607	1882	
Queue Service Time (g_s), s		0.0	0.2		14.8		3.2	31.2		8.4	55.0	
Cycle Queue Clearance Time (g_c), s		0.5	0.2		15.3		58.2	31.2		39.6	55.0	
Green Ratio (*g/C*)		0.18	0.18		0.18		0.68	0.68		0.68	0.68	
Capacity (*c*), veh/h		331	284		333		110	1215		281	1276	
Volume-to-Capacity Ratio (*X*)		0.031	0.015		0.745		0.151	0.765		0.263	0.966	
Back of Queue (*Q*), ft/ln (50 th percentile)		4.5	1.8		146.2		10.8	257.9		32.4	566.9	
Back of Queue (*Q*), veh/ln (50 th percentile)		0.2	0.1		5.8		0.4	10.2		1.3	22.5	
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	
Uniform Delay (d_1), s/veh		30.6	30.5		36.7		40.7	9.7		23.0	13.5	
Incremental Delay (d_2), s/veh		0.0	0.0		7.8		2.9	4.6		2.3	18.3	
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	
Control Delay (*d*), s/veh		30.6	30.5		44.5		43.6	14.3		25.2	31.8	
Level of Service (LOS)		C	C		D		D	B		C	C	
Approach Delay, s/veh / LOS	30.6	C		44.5	D		14.8	B		31.4	C	
Intersection Delay, s/veh / LOS	26.5						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

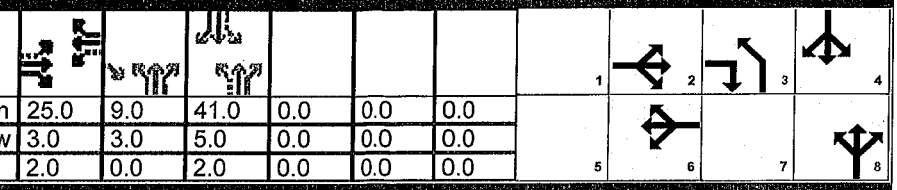
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	Apr 9, 2018	Area Type	Other
Jurisdiction		Time Period	pm b	PHF	0.96
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection		File Name	202 muirfield pm b with mit.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	206	2	104	5	2	5	76	722	9	11	1088	207

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	EB			WB			NB			SB		
Green	25.0	9.0		41.0	0.0	0.0	0.0					
Yellow	3.0	3.0		5.0	0.0	0.0	0.0					
Red	2.0	0.0		2.0	0.0	0.0	0.0					

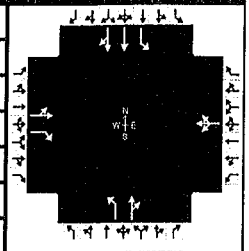
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8		4
Case Number		7.0		8.0	1.0	4.0		6.3
Phase Duration, s		30.0		30.0	12.0	60.0		48.0
Change Period, ($Y+R_c$), s		5.0		5.0	3.0	7.0		7.0
Max Allow Headway (*MAH*), s		0.0		0.0	3.0	3.0		3.0
Queue Clearance Time (g_s), s					3.8	27.2		30.7
Green Extension Time (g_e), s		0.0		0.0	0.0	4.9		3.8
Phase Call Probability					1.00	1.00		1.00
Max Out Probability					0.04	0.05		0.38

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		217	100		8		79	761		11	691	658
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1428	1598		1567		1795	1881		710	1885	1780
Queue Service Time (g_s), s		11.3	3.7		0.0		1.8	25.2		1.0	28.4	28.7
Cycle Queue Clearance Time (g_c), s		11.6	3.7		0.3		1.8	25.2		14.2	28.4	28.7
Green Ratio (*g/C*)		0.28	0.38		0.28		0.58	0.59		0.46	0.46	0.46
Capacity (*c*), veh/h		476	604		500		315	1108		300	859	811
Volume-to-Capacity Ratio (*X*)		0.455	0.166		0.017		0.251	0.687		0.038	0.805	0.811
Back of Queue (*Q*), ft/ln (50 th percentile)		103.5	34.7		3.3		14.8	228.1		4.1	307.6	297
Back of Queue (*Q*), veh/ln (50 th percentile)		4.1	1.4		0.1		0.6	9.0		0.2	12.2	11.8
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	0.00
Uniform Delay (d_1), s/veh		27.7	18.6		23.6		14.9	12.8		21.8	21.1	21.2
Incremental Delay (d_2), s/veh		3.1	0.6		0.1		0.2	1.5		0.0	5.2	5.8
Initial Queue Delay (d_3), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Control Delay (*d*), s/veh		30.8	19.2		23.6		15.1	14.3		21.8	26.3	27.0
Level of Service (LOS)		C	B		C		B	B		C	C	C
Approach Delay, s/veh / LOS	27.1	C		23.6	C		14.4	B		26.6	C	
Intersection Delay, s/veh / LOS	22.6						C					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

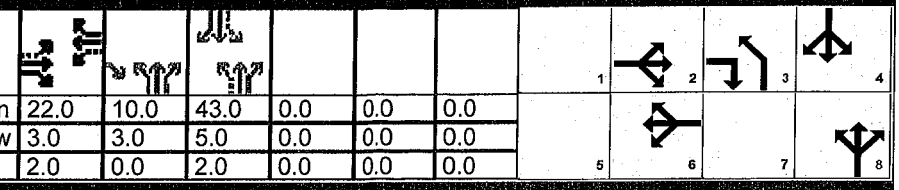
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency	dd			Duration, h	0.25
Analyst	djp	Analysis Date	Apr 9, 2018	Area Type	Other
Jurisdiction		Time Period	sat b	PHF	0.98
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection		File Name	202 muirfield sat b wit mit.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h	203	2	116	5	2	7	103	573	8	9	602	265

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	EB			WB			NB			SB		
Green	22.0	10.0		43.0	0.0	0.0	0.0					
Yellow	3.0	3.0		5.0	0.0	0.0	0.0					
Red	2.0	0.0		2.0	0.0	0.0	0.0					

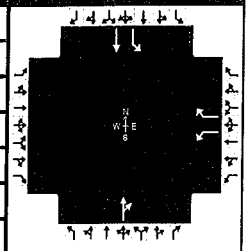
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase		2		6	3	8		4
Case Number		7.0		8.0	1.0	4.0		6.3
Phase Duration, s		27.0		27.0	13.0	63.0		50.0
Change Period, (*Y+R c*), s		5.0		5.0	3.0	7.0		7.0
Max Allow Headway (*MAH*), s		0.0		0.0	3.0	3.0		3.0
Queue Clearance Time (*g s*), s					4.2	17.5		17.3
Green Extension Time (*g e*), s		0.0		0.0	0.1	3.0		3.0
Phase Call Probability					1.00	1.00		1.00
Max Out Probability					0.02	0.00		0.01

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement	5	2	12	1	6	16	3	8	18	7	4	14
Adjusted Flow Rate (*v*), veh/h		209	118		14		105	593		9	466	418
Adjusted Saturation Flow Rate (*s*), veh/h/ln		1432	1610		1650		1810	1895		837	1900	1702
Queue Service Time (*g s*), s		11.1	4.6		0.0		2.2	15.5		0.5	15.3	15.3
Cycle Queue Clearance Time (*g c*), s		11.6	4.6		0.6		2.2	15.5		3.0	15.3	15.3
Green Ratio (*g/C*)		0.24	0.36		0.24		0.61	0.62		0.48	0.48	0.48
Capacity (*c*), veh/h		430	573		458		477	1179		457	908	813
Volume-to-Capacity Ratio (*X*)		0.487	0.207		0.031		0.220	0.503		0.020	0.514	0.514
Back of Queue (*Q*), ft/ln (50 th percentile)		105.5	43.3		5.9		17.3	127.9		2.4	148.1	132.7
Back of Queue (*Q*), veh/ln (50 th percentile)		4.2	1.7		0.2		0.7	5.1		0.1	5.9	5.3
Queue Storage Ratio (*RQ*) (50 th percentile)		0.00	0.00		0.00		0.00	0.00		0.00	0.00	0.00
Uniform Delay (*d 1*), s/veh		30.1	20.2		25.9		9.2	9.3		13.8	16.3	16.3
Incremental Delay (*d 2*), s/veh		3.9	0.8		0.1		0.1	0.1		0.0	0.2	0.2
Initial Queue Delay (*d 3*), s/veh		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Control Delay (*d*), s/veh		34.0	21.0		26.0		9.3	9.5		13.8	16.5	16.5
Level of Service (LOS)		C	C		C		A	A		B	B	B
Approach Delay, s/veh / LOS	29.3	C		26.0	C		9.5	A		16.5	B	
Intersection Delay, s/veh / LOS	16.2						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

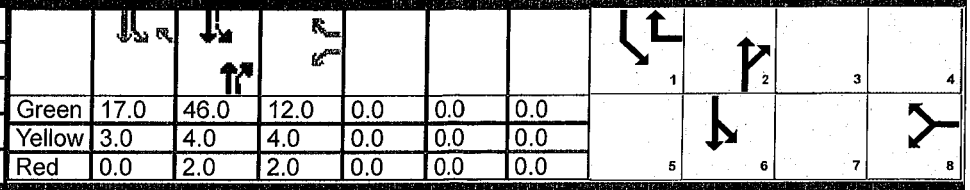
HCS7 Signalized Intersection Results Summary

General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	Apr 10, 2018	Area Type	Other
Jurisdiction		Time Period	pm b mit	PHF	0.96
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection		File Name	202 and foothill pm b with mit.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				16		176		696	30	448	884	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On



	EB			WB			NB			SB		
Green	17.0	46.0		12.0	0.0	0.0	0.0					
Yellow	3.0	4.0		4.0	0.0	0.0	0.0					
Red	0.0	2.0		2.0	0.0	0.0	0.0					

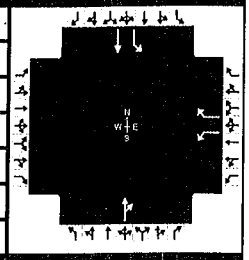
Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		8.3	1.0	4.0
Phase Duration, s				18.0		52.0	20.0	72.0
Change Period, ($Y+R_c$), s				6.0		6.0	3.0	6.0
Max Allow Headway (*MAH*), s				3.2		0.0	3.0	0.0
Queue Clearance Time (g_s), s				9.9			13.5	
Green Extension Time (g_e), s				0.1		0.0	0.4	0.0
Phase Call Probability				1.00			1.00	
Max Out Probability				1.00			0.73	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				17		183		756		467	921	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1795		1598		1871		1795	1885	
Queue Service Time (g_s), s				0.7		7.9		29.8		11.5	22.9	
Cycle Queue Clearance Time (g_c), s				0.7		7.9		29.8		11.5	22.9	
Green Ratio (*g/C*)				0.13		0.32		0.51		0.72	0.73	
Capacity (*c*), veh/h				239		515		956		547	1382	
Volume-to-Capacity Ratio (*X*)				0.070		0.356		0.791		0.853	0.666	
Back of Queue (*Q*), ft/ln (50 th percentile)				7.6		69.2		313.9		157.2	155.6	
Back of Queue (*Q*), veh/ln (50 th percentile)				0.3		2.7		12.5		6.2	6.2	
Queue Storage Ratio (*RQ*) (50 th percentile)				0.00		0.00		0.00		0.00	0.00	
Uniform Delay (d_1), s/veh				34.1		23.4		18.1		18.3	6.3	
Incremental Delay (d_2), s/veh				0.0		0.2		6.6		11.8	2.6	
Initial Queue Delay (d_3), s/veh				0.0		0.0		0.0		0.0	0.0	
Control Delay (*d*), s/veh				34.2		23.5		24.7		30.1	8.8	
Level of Service (LOS)				C		C		C		C	A	
Approach Delay, s/veh / LOS	0.0			24.4		C	24.7		C	16.0		B
Intersection Delay, s/veh / LOS	19.5						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								

HCS7 Signalized Intersection Results Summary

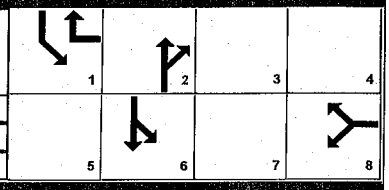
General Information				Intersection Information	
Agency				Duration, h	0.25
Analyst		Analysis Date	Apr 10, 2018	Area Type	Other
Jurisdiction		Time Period	sat b mit	PHF	0.98
Urban Street		Analysis Year	2023	Analysis Period	1> 7:00
Intersection		File Name	202 and foothill sat b with mit.xus		
Project Description					



Demand Information	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Demand (*v*), veh/h				19		195		615	23	173	649	

Signal Information			
Cycle, s	90.0	Reference Phase	2
Offset, s	0	Reference Point	End
Uncoordinated	No	Simult. Gap E/W	On
Force Mode	Fixed	Simult. Gap N/S	On

Green	7.0	53.0	15.0	0.0	0.0	0.0	
Yellow	3.0	4.0	4.0	0.0	0.0	0.0	
Red	0.0	2.0	2.0	0.0	0.0	0.0	



Timer Results	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Assigned Phase				8		2	1	6
Case Number				9.0		8.3	1.0	4.0
Phase Duration, s				21.0		59.0	10.0	69.0
Change Period, ($Y+R_c$), s				6.0		6.0	3.0	6.0
Max Allow Headway (*MAH*), s				3.2		0.0	3.0	0.0
Queue Clearance Time (g_s), s				11.6			5.0	
Green Extension Time (g_e), s				0.1		0.0	0.1	0.0
Phase Call Probability				1.00			1.00	
Max Out Probability				0.82			1.00	

Movement Group Results	EB			WB			NB			SB		
Approach Movement	L	T	R	L	T	R	L	T	R	L	T	R
Assigned Movement				3		18		2	12	1	6	
Adjusted Flow Rate (*v*), veh/h				19		199		651		177	662	
Adjusted Saturation Flow Rate (*s*), veh/h/ln				1810		1610		1888		1810	1900	
Queue Service Time (g_s), s				0.8		9.6		19.5		3.0	14.4	
Cycle Queue Clearance Time (g_c), s				0.8		9.6		19.5		3.0	14.4	
Green Ratio (*g/C*)				0.17		0.24		0.59		0.69	0.70	
Capacity (*c*), veh/h				302		394		1112		516	1330	
Volume-to-Capacity Ratio (*X*)				0.064		0.506		0.586		0.342	0.498	
Back of Queue (*Q*), ft/ln (50 th percentile)				8.4		86.8		178.4		19.8	106.6	
Back of Queue (*Q*), veh/ln (50 th percentile)				0.3		3.5		7.1		0.8	4.3	
Queue Storage Ratio (*RQ*) (50 th percentile)				0.00		0.00		0.00		0.00	0.00	
Uniform Delay (d_1), s/veh				31.6		29.3		11.6		8.1	6.2	
Incremental Delay (d_2), s/veh				0.0		0.4		2.3		0.1	1.3	
Initial Queue Delay (d_3), s/veh				0.0		0.0		0.0		0.0	0.0	
Control Delay (*d*), s/veh				31.6		29.7		13.9		8.3	7.6	
Level of Service (LOS)				C		C		B		A	A	
Approach Delay, s/veh / LOS	0.0			29.9		C	13.9		B	7.7		A
Intersection Delay, s/veh / LOS	12.9						B					

Multimodal Results	EB		WB		NB		SB	
Pedestrian LOS Score / LOS								
Bicycle LOS Score / LOS								