Almond Street Corridor Pedestrian Study

Syracuse, New York

November 12, 2010

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EXECUTIVE SUMMARY

It is anticipated that the institutions in the University Hill area will continue to expand in physical size and number of employees. As a result, the frequency and magnitude of pedestrians crossing Almond Street between E. Genesee Street and Adams Street (under I-81) will also increase. This is particularly true knowing Upstate Medical University (UMU) has acquired property in Presidential Plaza, on the west side of Almond Street (between E. Genesee and Harrison Streets), which is estimated to provide 200+ housing units for UMU by Fall 2012. At the same time, the study area also serves as a gateway to the City of Syracuse. As a result, there is a strong desire to improve the pedestrian infrastructure along Almond Street from Adams Street to E. Genesee Street.

To create a set of plausible pedestrian facility improvements the study:

- Documented existing pedestrian paths, facilities and behaviors as well as included series of opportunities & constraints;
- Documented existing traffic volumes and operations;
- Identified a set of design scenarios; and,
- Assessed the affects of these design scenarios on traffic operations.

The overall study area was defined as follows:

- **Almond Street** - from E. Genesee Street to Adams Street
- **Adams Street -** from Almond Street to Sara Loguen Drive
- **Sara Loguen Drive** - from Adams Street to Harrison Street
- **Harrison Street** - from Sara Loguen Drive to Almond Street.

Knowledge of the study area made it necessary to assume certain restrictions when creating the design scenarios and, subsequently, the alternatives:

- Roadway curb-to-curb cross-sections remain as currently exists;
- Existing roadway geometry (lane configuration) remain as currently exists; and
- No (NYSDOT or City of Syracuse) right-of-way takings.

The intersection of Almond Street and E. Genesee Street is common between this study and the Connective Corridor project. Therefore, at this common intersection, to keep the two projects in harmony with each other, this study's recommendations are intended to be complementary and secondary to the Connective Corridor project's recommendations.

The three distinct design scenarios, from which the final alternatives were assembled, are:

Safety – This design scenario emphasizes various strategies used to improve safety. The proposed intervention is to limit pedestrian crossings to existing signalized crossings through the use of fencing and sidewalk alignments. Additionally, restriping of existing crossing locations is recommended along with speed radar signs. Pedestrian bridges and/or tunnels were considered; however, given the numerous constraints, they were not considered an appropriate application within the study area.

Mobility – This design scenario illustrates pedestrian mobility as a priority, with an emphasis on providing access at locations where pedestrians are crossing Almond Street at either signalized or non-signalized locations. This scenario is relevant to the fact that several of the existing marked crossings at intersections do not correlate with the desired travel paths of pedestrians. Notable items included in this scenario are HAWK signals at two proposed mid-block crossings; the addition of sidewalks along the west side of Almond Street; delineated paths to/through adjacent parcels; upgrades to curb ramps; additional crosswalks and an increased awareness for bicyclists.

Streetscape - This design scenario focused on improvements that enhance the streetscape along Almond Street, providing a more attractive, pedestrian friendly and greener urban environment. Items included in this scenario are a mini plaza, murals, environment tolerant vegetation/landscaping, street furniture and lighting/structure painting under I-81.

The layering of the three design scenarios demonstrated that a phasing of the improvements is possible.

The improvements that affect Almond Street traffic operations include new intersection and mid-block pedestrian crossings presented in the Mobility design scenario. Given that origin-destinations paths between Presidential Plaza and Upstate Medical University/University Hill, a majority of the pedestrians are expected to cross Almond Street within the vicinity of the Harrison Street and Adams Street intersections; the traffic assessment focused on these intersections and the segment of Almond Street between these two intersections. The analysis indicated that a degradation of intersection operations may occur and volume to capacity ratios associated with some of the critical movements may increase 10 to 20 percent over Existing/Null Conditions. However, given current network operations it is uncertain if the degradation in operations will be perceivable to the average motorist. The assessment models depicted the mid-block crossing not having an impact on the adjacent intersection operations.

The Study Advisory Committee provided feedback on and general acceptance of the design scenarios. Additional input relative to the various pedestrian enhancements was also provided by New York State Department of Transportation.

Considering the design scenarios, operation analysis results and feedback, the SAC developed short, intermediate and long term alternatives. These alternatives build upon the previous one. As noted by New York State Department of Transportation specific assessments such as, but not limited to, accident and speed analysis may be necessary as part of the design and installation process. The alternatives are tabulated below along with order-of-magnitude costs. The order-of-magnitude costs are theoretical given the conceptual nature of the alternatives and were not adjusted for inflation.

Description of Alternatives

Short Term (1+ years)	Intermediate Term (2-7 years)	Long Term (7 years and beyond)
• Items associated with the Safety Design Alternative/Theme • Restripe existing crossings with enhanced marking materials • Replace faded pedestrian signs • Install curb ramps as necessary at new crossing locations • Lighting at E. Genesee to be provided as part of Connective Corridor Project • Start to replace dead/dying trees • Continual coordination with Connective Corridor Project • Follow-up assessment by NYSDOT (volumes, safety, speeds, etc) of crossings on the north side of the Adams Street and Harrison Street intersections • Follow-up assessment by NYSDOT (volumes, safety, speeds, spacing, etc) of Mid-block crossing on Almond Street • Review interagency construction and maintenance agreements by City of Syracuse and NYSDOT and develop construction and maintenance agreements and budgets	• Items associated with Mobility Design Alternative/Theme • Potential implementation of Mid-block crossing(s) on Almond Street • Potential implementation of crossings on the north side of the Adams Street and Harrison Street intersections • Site plan coordination with Upstate Medical and others regarding pedestrian connections and accommodations on and adjacent to their projects • Continue to replace dead/dying trees and begin to plant new trees and vegetation • Continual coordination with Connective Corridor Project • Maintenance and repair • Alternative builds upon short term alternative	• Ongoing monitoring of conditions and make adjustments as necessary • Humanize the corridor through streetscape and gateway treatments such as: ~ Plantings ~ Street Furniture ~ Murals ~ Flags ~ Lighting ~ Mini plazas • Maintenance and repair • Alternative builds upon intermediate term alternative

Alternative Order of Magnitude Cost Estimate

Item	Short Term (1+ years)	Intermediate Term (2-7 years)	Long Term (7 years and beyond)
Construction	$270,000	$425,000	$710,000
Contingency (≈20% of Construction)	$53,000	$85,000	$142,000
Follow up Assessments/Design (≈30% of Construction)	$97,000	$155,000	$253,000
Total	**$420,000**	**$665,000**	**$1,105,000**
General Maintenance* (Every 3 years)	**$6,000 – 8,000**	**$8,000 – 10,000**	**$10,000+**

*Assumes maintenance of signing, crosswalk striping, streetscape, and minor sidewalk repair work only

I. PURPOSE & BACKGROUND

It is anticipated that the institutions in the University Hill area will continue to expand in physical size and number of employees. As a result, the frequency and magnitude of pedestrians crossing Almond Street between E. Genesee Street and Adams Street (under I-81) will also increase. This is particularly true knowing Upstate Medical University (UMU) has acquired property in Presidential Plaza, on the west side of Almond Street (between E. Genesee and Harrison Streets). The site is estimated to provide 200+ housing units for UMU and occupancy is expected Fall 2012. Additionally, Almond Street/I-81 interchange not only provides direct access to the University Hill area, but is also a major city gateway.

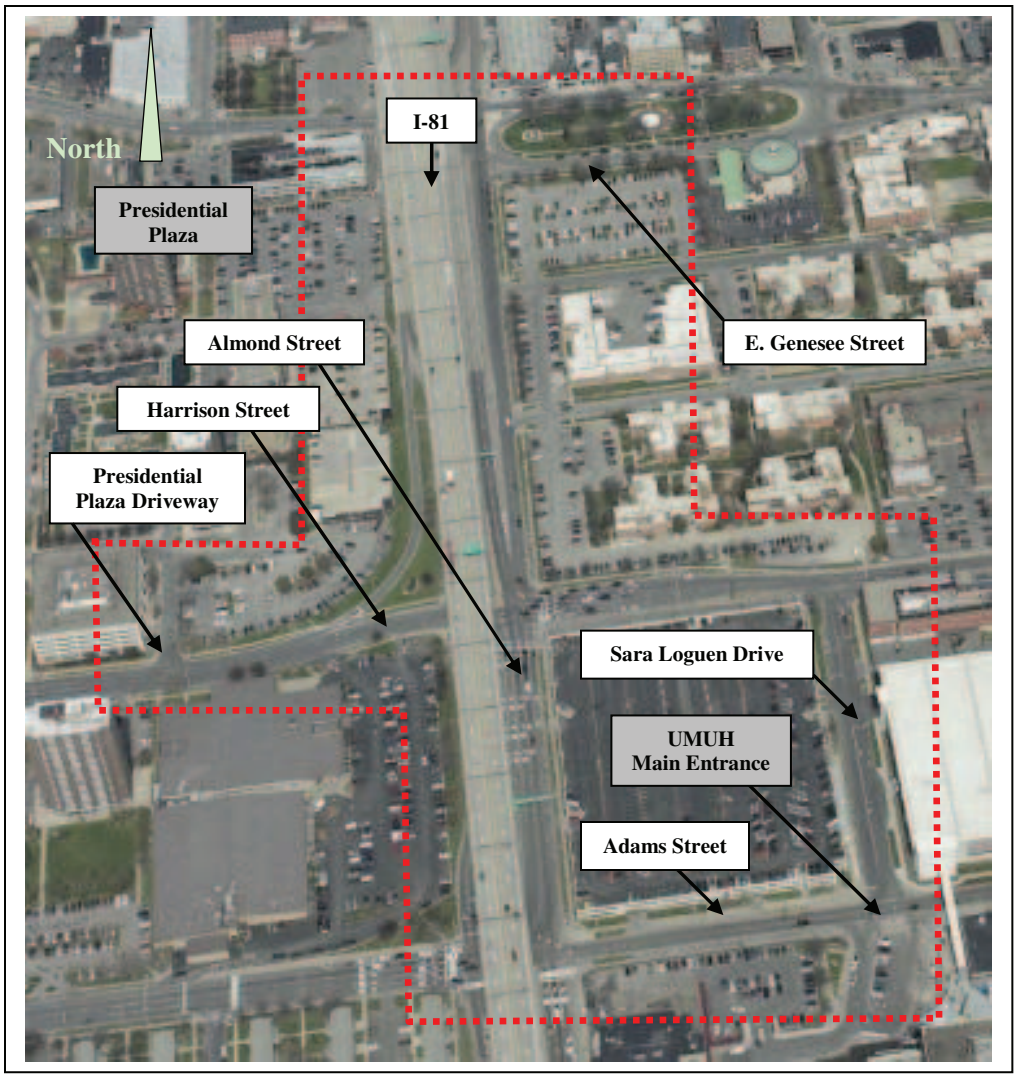
The study's primary goal was to create a set of plausible improvements (design scenarios) that emphasize pedestrian safety, mobility and connectivity along and across Almond Street, between E. Genesee Street and Adams Street. To guide and support alternative development, an operational assessment was conducted for the immediately affected transportation network.

II. INTRODUCTION

The overall study area was defined as follows:

- **Almond Street** - from E. Genesee Street to Adams Street
- **Adams Street -** from Almond Street to Sara Loguen Drive
- **Sara Loguen Drive** - from Adams Street to Harrison Street
- **Harrison Street** - from Sara Loguen Drive to Almond Street

Overall Study Area



A few guiding assumptions provided the necessary boundaries for developing the design scenarios and, subsequently, the alternatives:

- Roadway curb-to-curb cross-sections remain as currently exists
- Existing roadway geometry (lane configuration) remain as currently exists
- No (NYSDOT or City of Syracuse) right-of-way takings.

The intersection of Almond Street and E. Genesee Street is common between this study and the Connective Corridor project. Therefore, to keep the two projects in harmony with each other, this study's recommendations are intended to be complementary and secondary to the Connective Corridor project's recommendations, at this common intersection.

III. EXISTING CONDITIONS – PEDESTRIAN FACILITIES

This section of the study describes existing pedestrian conditions, observed travel patterns and behaviors within the Almond Street corridor from E. Genesee Street to Adams Street.

A. Walking Audit & General Observations

A field visit and walking audit of the study area was conducted on January 15, 2010. An initial site walk was conducted at 10:30 a.m. for a general overview of the site. A more detailed audit was conducted between 3:00 p.m. and 5:00 p.m. to gather photographs and site observations. The observations were collected using the Walking Audit Checklist format developed by the Active Living Resource Center. A copy of the audit form is included in the appendix.

The study area includes North and South Almond Street, between E. Genesee Street and Adams Street. It is a low density mixed-use urban area with ongoing expansion of institutions, including a number of Upstate University Hospital properties. The day of the walking audit had typical January conditions for Syracuse – cloudy, light snow, 35 degrees, and pedestrian/vehicular traffic that appeared typical for the study area.

The defining feature of the corridor is I-81, which is elevated above South Almond Street in the study area. Ramps and access routes to the interstate create significant challenges for pedestrians crossing Almond Street. Numerous pedestrians were observed crossing at both signalized and mid-block locations. Tracks were visible in the snow at several locations, providing evidence of desired routes. New pedestrian countdown signals are in the process of being installed at Adams Street. Many existing pedestrian crossing signs, curb ramps and crosswalk pavement markings were in need of repair. Most street lighting is highway-style cobra heads.

B. Summary of Existing Conditions Photos

During the 3:00-5:00 p.m. walking audit, site photographs were taken as noted on the Photograph Key Map and summarized on the following pages:

Photograph Key Map

N

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November 2010

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Images 1-5: Photos taken from the parking deck at the SE corner of Almond and Harrison Streets

These images provide a context of the corridor; showing the relationship of the elevated highway to the surface street.

Image 1

Image 2

Image 3

Image 4

Image 5

Images 6-11: Intersection of Adams and Almond Streets

Note the ongoing installation of new pedestrian countdown signals; section of pedestrian path on SE corner is missing and corner is not passable due to snow; pedestrians crossing parking lot at SE corner on diagonal towards building entrance.

Image 6

Image 7

Image 8

Image 9

Image 10

Image 11

Images 12-16: West side of Almond Street

Asphalt side path along west side of Almond Street between Adams and Harrison Streets and note pedestrians walking in median between roadway lanes. Interstate noise is significant; adjacent buildings are set back behind surface parking lots.

Image 12

Image 13

Image 14

Image 15

Image 16

Images 17-22: Intersection of Harrison and Almond Streets; Pedestrian crossing on south leg of intersection, crossing prohibited on north leg

Pedestrians observed crossing mid block, and walking diagonally across Harrison, approximately 200ft west of signal, to cut across parking lot to entrance of tower buildings.

Image 17

Image 18

Image 19

Image 20

Image 21

Image 22

Images 23-28: West side of Almond Street

No pedestrian accommodations parallel to I-81 on this side of the street. Evidence of multiple pedestrian movements observed in the snow parallel to Almond Street and at several mid-block crossing locations. Areas under the interstate are dark, with significant highway noise. Observed motorist speed along ramp down from I-81 is significant.

Image 23

Image 24

Image 25

Image 26

Image 27

Image 28

Images 29-34: Intersection of E Genesee and Almond Streets

Offset pedestrian crossing intended to guide people from SW to NE corners; wide crossing, dark, multiple vehicle turning movements; high speed ramp along west side of intersection; Pedestrians crossing along 'desired lines' and at unmarked locations; large unutilized median space under I-81. No pedestrian crossing at north leg of intersection; hotels and park on east side are attractors.

Image 29

Image 30

Image 31

Image 32

Image 33

Image 34

Images 35-39: East side of Almond Street between E. Genesee and Harrison Streets

Unmarked pedestrian crossings at Cedar and Madison Streets; Cedar Street aligns with I-81 retaining wall; Madison Street aligns with potential mid-block crossing location under I-81; continuous five foot sidewalk along East Side of Almond Street; some broken sections, continuous fence along the east side between sidewalks and Hutchings Psychiatric Center parking lots.

Image 35

Image 36

Image 37

Image 38

Image 39

Images 40-45: Intersection of Harrison and Almond Streets

Note multiple turning lanes onto Almond, heading west at east side of intersection and refuge island crossing provided on south leg of intersection; note worn pavement markings and diagonal curb ramps with old-style tactile warning strips.

Image 40

Image 41

Image 42

Image 43

Image 44

Image 45

Images 46-48: East Side of Almond Street between Harrison and Adams Streets

New five foot concrete sidewalk in this section, with street trees along the new parking deck; note cobra-style lighting; planting strip between sidewalk and street.

Image 46

Image 47

Image 48

C. Opportunities & Constraints:

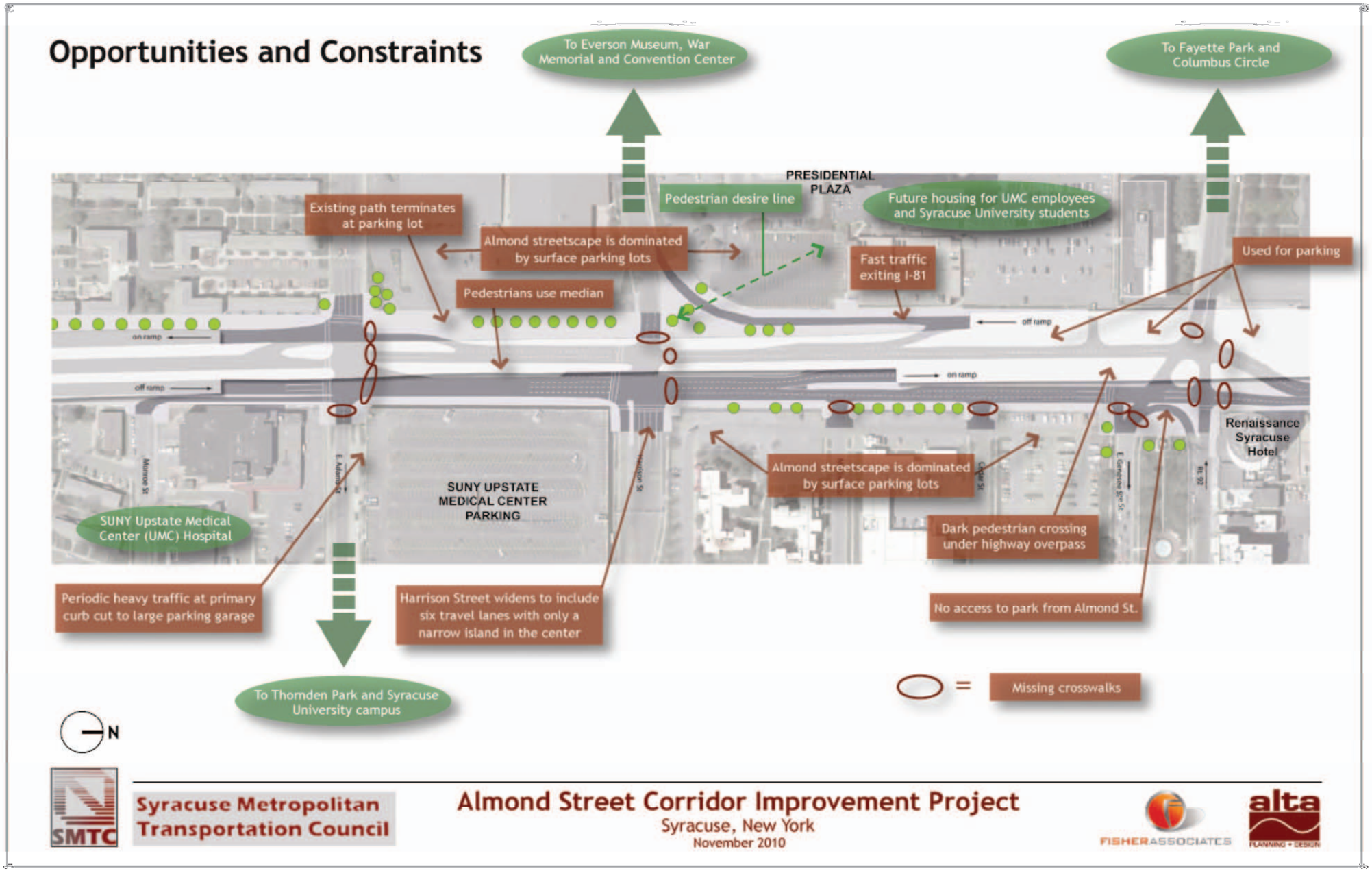
An analysis of existing opportunities was conducted for improved connections to destinations in the vicinity of the site, and existing constraints that impact pedestrian movement across and along the Almond Street corridor. These are shown graphically on the following page.

Opportunities include:

- Upstate Medical University Hospital and Syracuse University (adjacent to the east) and the future site of Upstate Medical University Hospital employee and student housing (to the west)
- Thornden Park, a 76-acre historic park, is ¾ mile to the east
- Everson Museum of Art and its sculptural building by architect I.M. Pei, is ¼ mile west. Further west is the War Memorial and Convention Center, home to the local ice hockey team
- Historic Fayette Park and Columbus Circle are both less than ½ mile west
- Recently-restored Forman Park is immediately adjacent to the corridor
- Capitalizing on the desire lines between surface parking lots on west side of corridor and hospital/university on east side
- Study area is part of the Connective Corridor of cultural institutions

Constraints include:

- Multiple missing crosswalks at intersections
- Path along west side of corridor abruptly terminates at a parking lot between Adams and Harrison Streets. Path does not continue north beyond Harrison Street
- Fast-moving traffic from I-81 off-ramps poses a danger to crossing pedestrians
- I-81 highway overpass creates a dark environment. Several areas of median are used for parking
- The surface parking that dominates the streetscape on both sides of the corridor, the few businesses and the lack of "eyes on the street" creates dead space throughout the corridor
- Upstate Medical University Hospital parking garage creates periodic heavy traffic on Adams Street
- Wide crossing width and a very narrow island on Harrison Street east of Almond Street
- Inadequate connection to Forman Park on E. Genesee Street in front of the Renaissance Syracuse Hotel
- Less-than-ideal pedestrian environment exists along Almond Street further north and up to Erie Boulevard and the Center of Excellence


Opportunities and Constraints
To Everson Museum, War Memorial and Convention Center
To Fayette Park and Columbus Circle
PRESIDENTIAL PLAZA
Existing path terminates at parking lot
Pedestrian desire line
Future housing for UMC employees and Syracuse University students
Almond streetscape is dominated by surface parking lots
Fast traffic exiting I-81
Used for parking
Pedestrians use median
on ramp
off ramp
off ramp
on ramp
Renaissance Syracuse Hotel
SUNY UPSTATE MEDICAL CENTER PARKING
Almond streetscape is dominated by surface parking lots
SUNY Upstate Medical Center (UMC) Hospital
Dark pedestrian crossing under highway overpass
Periodic heavy traffic at primary curb cut to large parking garage
Harrison Street widens to include six travel lanes with only a narrow island in the center
No access to park from Almond St.
To Thornden Park and Syracuse University campus
= Missing crosswalks
N
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Syracuse, New York
November 2010
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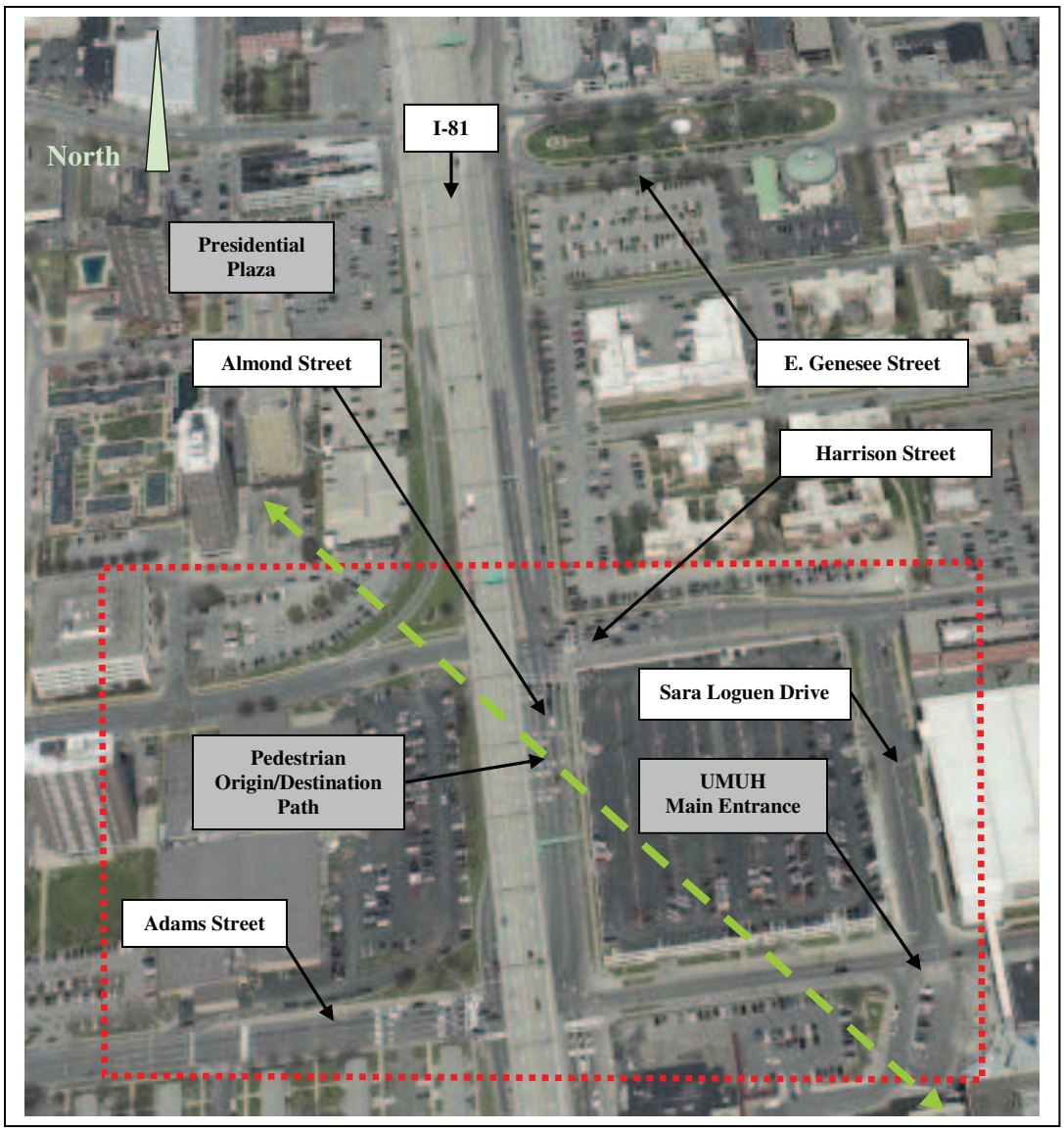
IV. EXISTING CONDITIONS – TRAFFIC OPERATIONS

The Almond Street Pedestrian Study's primary focus is to evaluate potential improvements to the Almond Street crossings and adjacent pedestrian facilities, in the vicinity of the E. Genesee Street, Harrison Street and Adams Street intersections.

Based on pedestrian origins and destinations, between Presidential Plaza and Upstate Medical University Hospital/University Hill, it is anticipated that a majority of the pedestrians will cross Almond Street within the vicinity of the Harrison Street and Adams Street intersections. Therefore, the traffic assessment portion of this study will document traffic operations within the vicinity of these intersections; see study area map below.

Traffic Assessment Analysis Area



A. Description of Transportation Network

The analysis area consists of the following roadways:

- **Harrison Street** – One-way travel westbound west of Almond Street and two-way travel east of Almond Street
- **Adams Street** – One-way travel eastbound
- **Sara Loguen Drive** – Two-way travel
- **Almond Street** – Two-way travel; divided by a median.

Interstate 81 traverses through the study area as an elevated highway, over the southbound travel lanes of Almond Street. Southbound on ramps and northbound off ramps are located at the Adams Street and Almond Street intersection. Northbound on ramps and southbound off ramps are located at the Harrison Street & Almond Street intersection.

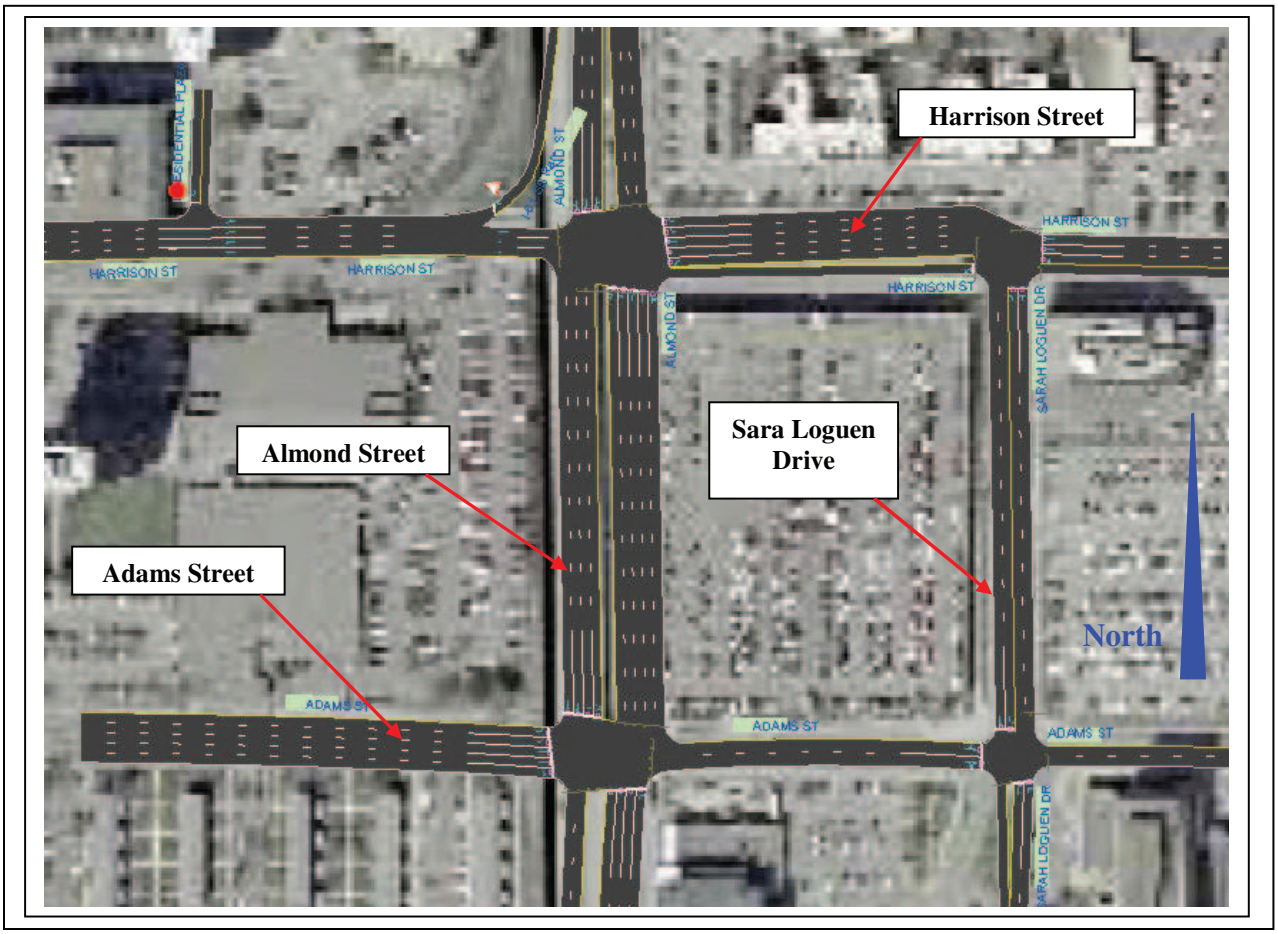
Traffic operations were documented at the following six intersections:

- **Harrison Street & Presidential Plaza** – Stop Controlled
- **Harrison Street & I-81 Southbound Off Ramp** – Yield Controlled
- **Harrison Street & Almond Street** – Signal Controlled
- **Harrison Street & Sara Loguen Drive** – Signal Controlled
- **Adams Street & Sara Loguen Drive/Upstate Medical** – Signal Controlled
- **Adams Street & Almond Street** – Signal Controlled

All of the signal controlled intersections are actuated and part of a coordinated traffic signal system.

The following figure, taken from the capacity analysis models, provides a graphical overview of the study intersections and the number of lanes contained on each of the roadway segments.

Intersection & Roadway Geometry



B. Traffic Observations & Operations

Intersection turning movement counts and field observations were conducted on Tuesday, February 23, 2010 from:

- 7:00 – 9:00 a.m.
- 11:00 AM – 1:00 p.m.
- 4:00 – 6:00 p.m.

The peak hours occurred from:

- 7:45 - 8:45 a.m.
- 12:00 – 1:00 p.m.
- 4:30 - 5:30 p.m.

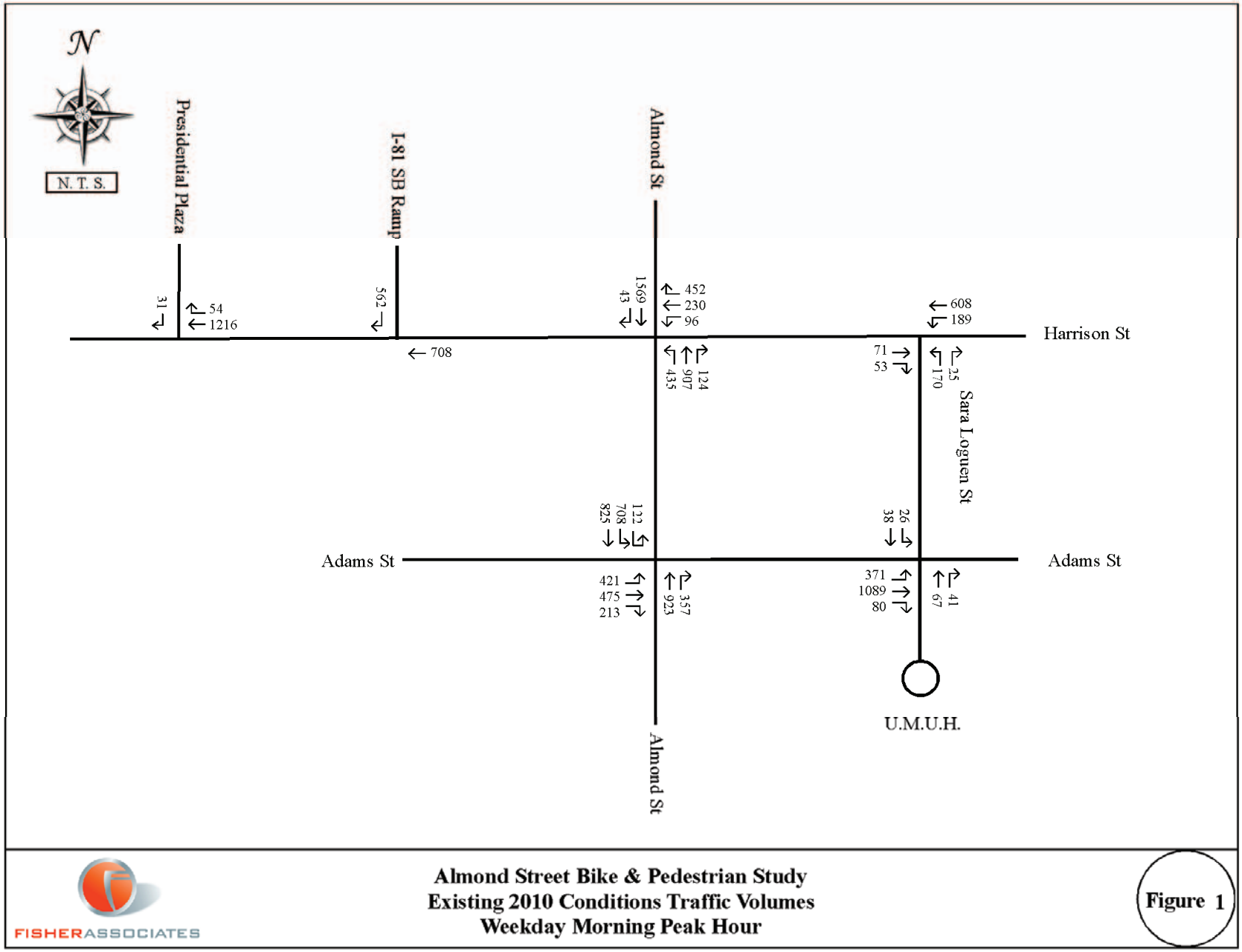
Overall, moderate to significant traffic volume levels were observed throughout the study area. **Figures 1-3** depict peak hour traffic volumes.

Field observations noted that the evening study period had the highest traffic volumes and was generally the most congested of the three documented time periods.

At the intersection of Adams Street & Almond Street, the southbound left turn movement was observed to operate near capacity conditions during the morning and mid-day study periods. Additionally, the eastbound approach, particularly the left and right turning movements, appeared to operate at or above capacity during the evening study period.

At the intersection of Harrison Street & Almond Street, the westbound right turn movement volume was extremely heavy during the evening study period and, as a result, traffic queued back through the intersection of Sara Loguen Drive.

A significant amount of pedestrian activity was observed at the counted intersections. **Figures 4-6** depict pedestrian crossing volume during each of the study's peak hours. No bicyclists were observed within the study area and no pedestrians were observed crossing Almond Street, mid-block, between the Adams Street and Harrison Street intersections, *during the count time periods*. However, Alta's field observations noted mid-block crossing activity; and Fisher noted mid-block crossing activity outside of the count periods. Alta and Fisher conducted field work on different days and at different times.


N
N. T. S.
Presidential Plaza
I-81 SB Ramp
Almond St
Harrison St
Sara Loguen St
Adams St
Adams St
Almond St
U.M.U.H.
31
54
1216
562
708
1569
43
452
230
96
608
189
71
53
25
170
435
907
124
122
708
825
26
38
421
475
213
357
923
371
1089
80
41
67
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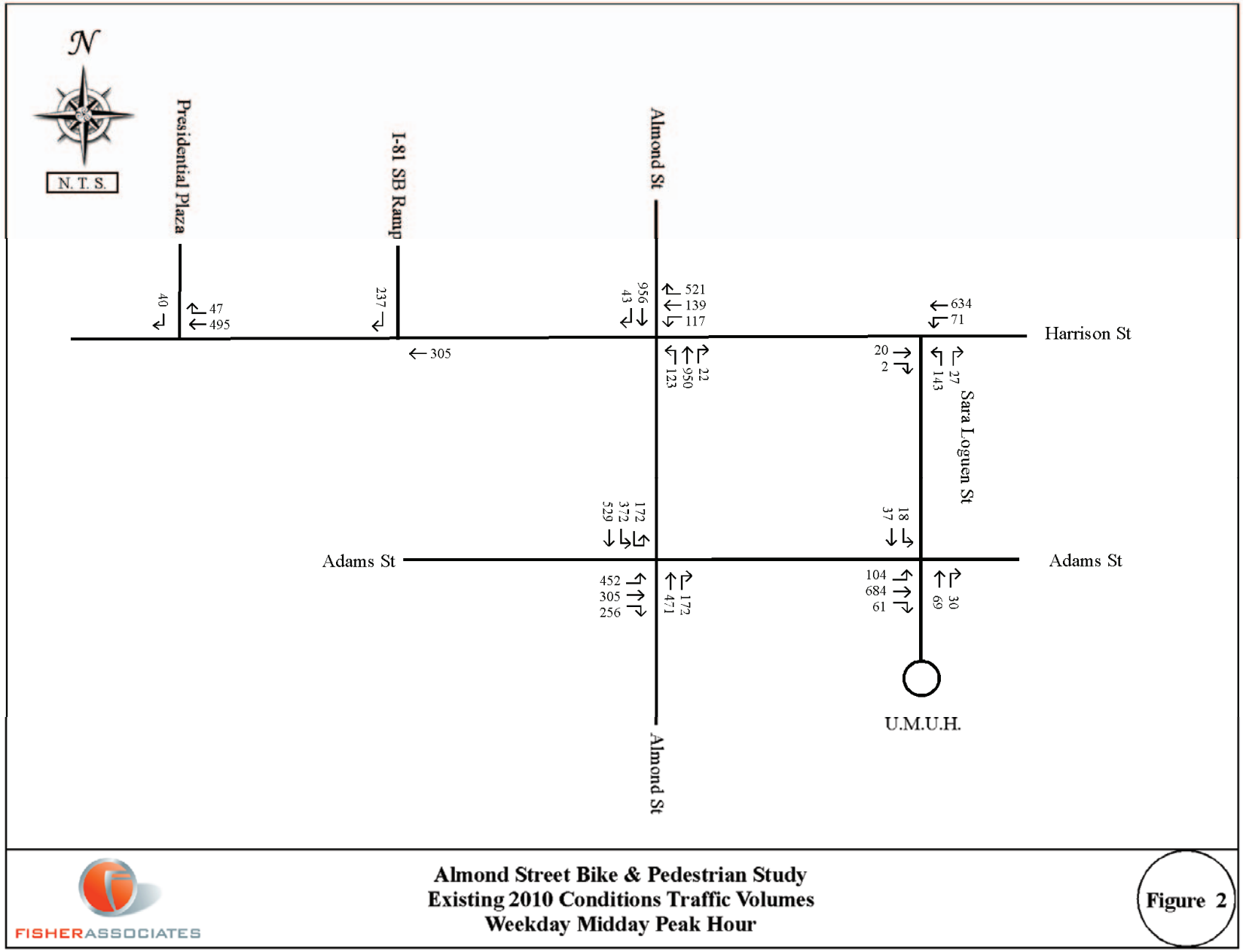
Almond Street Bike & Pedestrian Study
Existing 2010 Conditions Traffic Volumes
Weekday Morning Peak Hour
Figure 1



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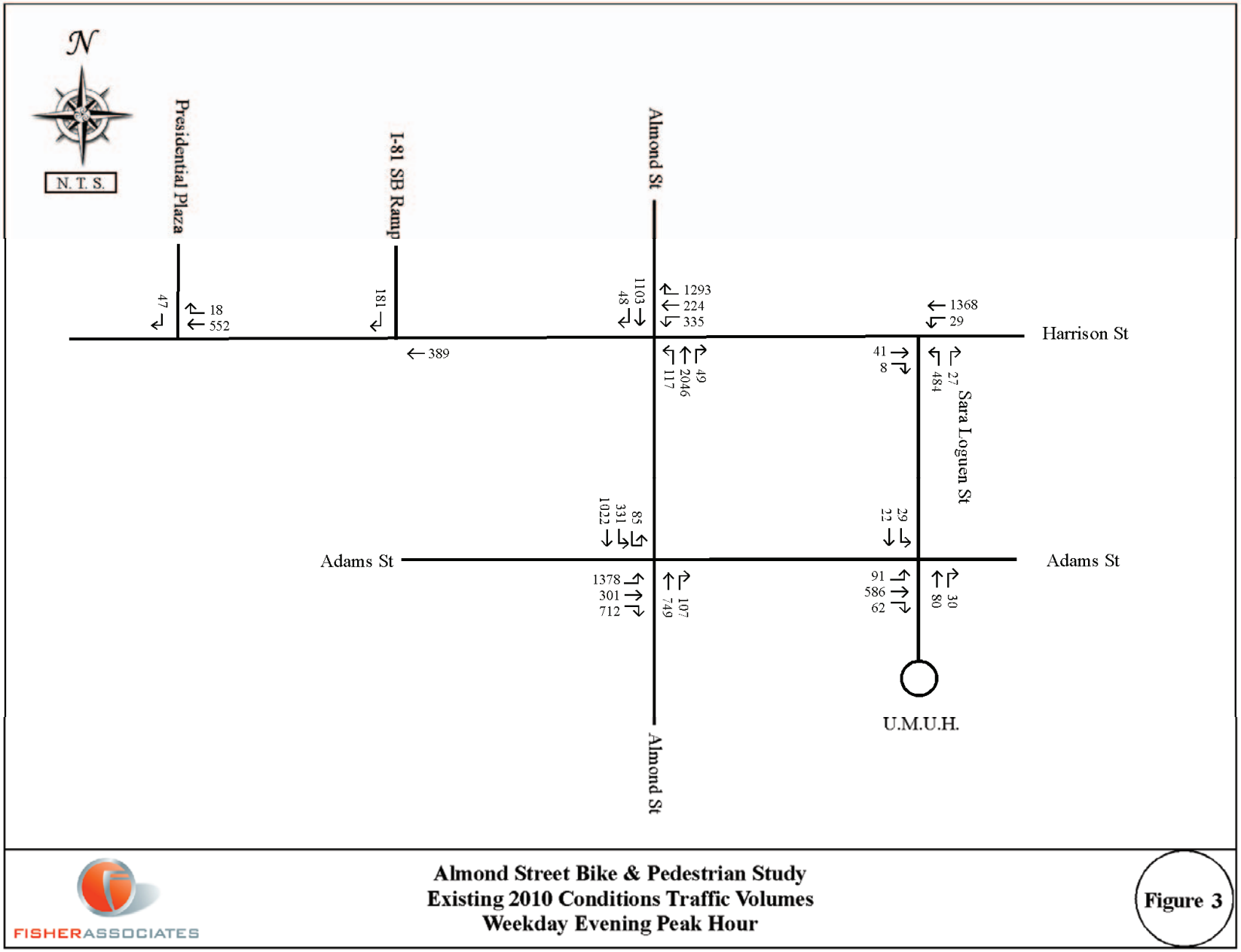
Almond Street Bike & Pedestrian Study
Existing 2010 Conditions Traffic Volumes
Weekday Midday Peak Hour

Figure 2



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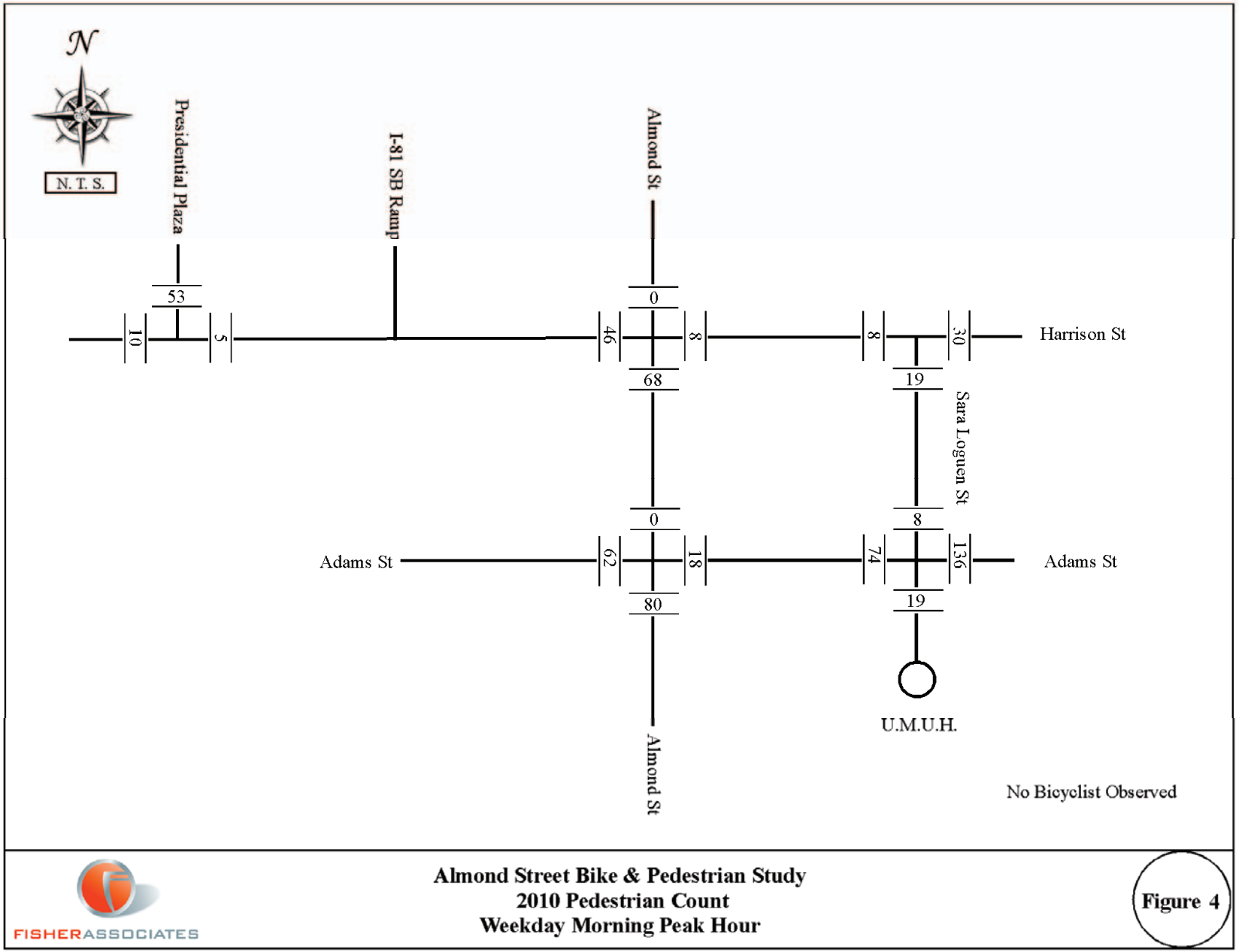
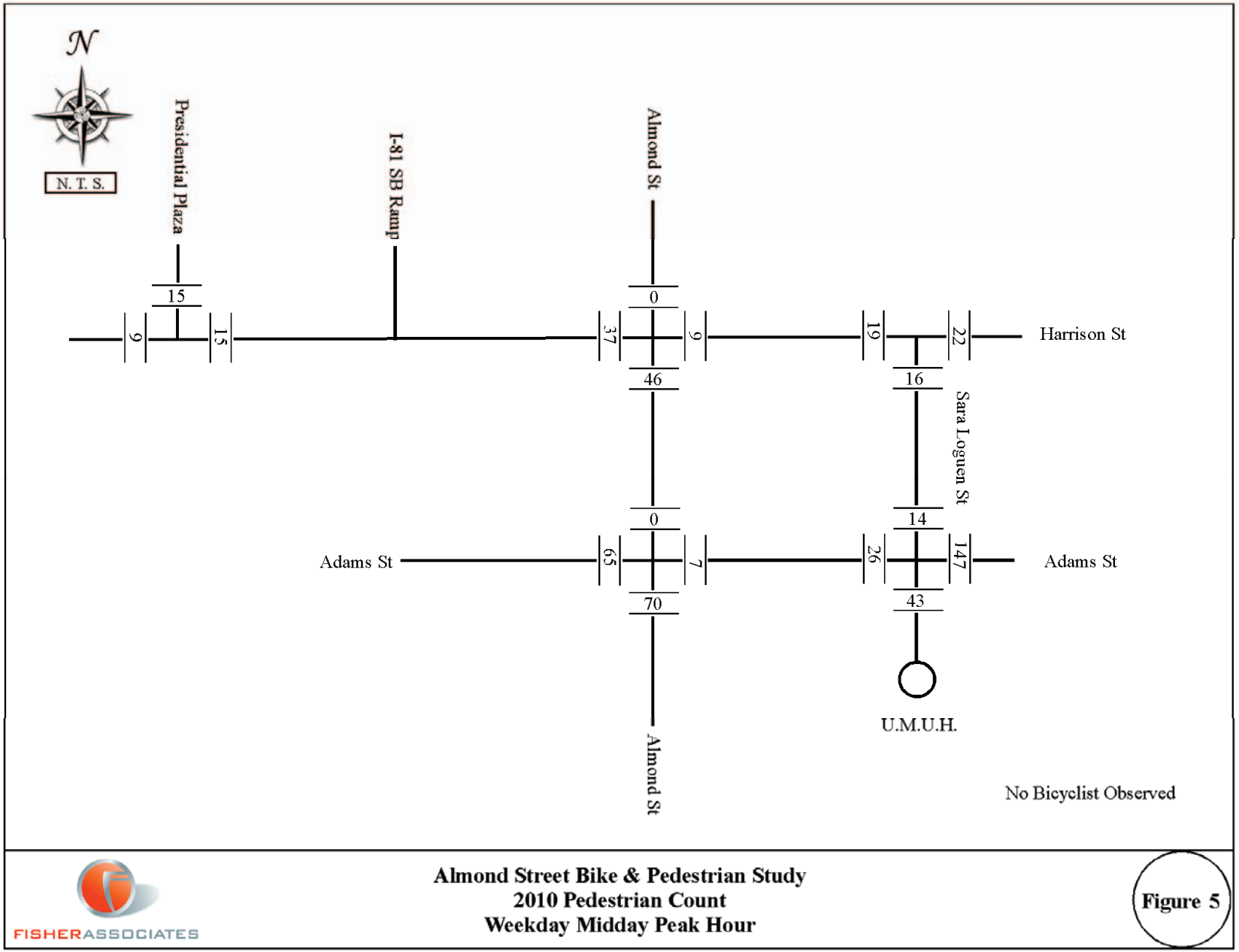
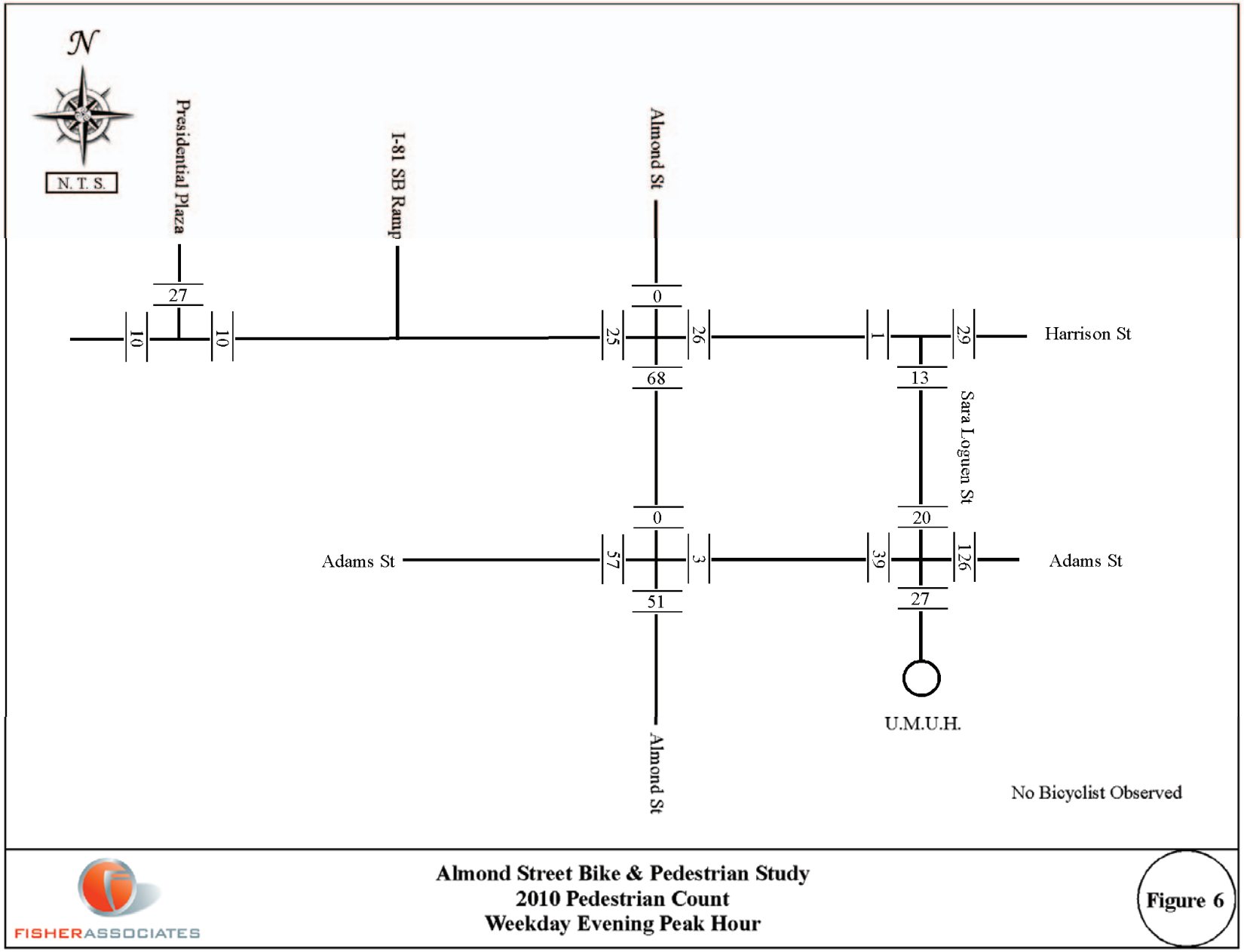
Almond Street Bike & Pedestrian Study
Existing 2010 Conditions Traffic Volumes
Weekday Evening Peak Hour

Figure 3


N
N. T. S.
Presidential Plaza
I-81 SB Ramp
Almond St
53
10
5
46
0
8
68
8
30
19
Harrison St
Sara Loguen St
0
8
Adams St
62
18
74
136
Adams St
80
19
U.M.U.H.
Almond St
No Bicyclist Observed
FISHERASSOCIATES
Almond Street Bike & Pedestrian Study
2010 Pedestrian Count
Weekday Morning Peak Hour
Figure 4


N
N. T. S.
Presidential Plaza
I-81 SB Ramp
Almond St
15
9
15
37
0
9
46
19
22
16
Harrison St
Sara Loguen St
0
14
Adams St
65
7
26
147
Adams St
70
43
U.M.U.H.
Almond St
No Bicyclist Observed
FISHERASSOCIATES
Almond Street Bike & Pedestrian Study
2010 Pedestrian Count
Weekday Midday Peak Hour
Figure 5


N
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Presidential Plaza
I-81 SB Ramp
Almond St
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29
Harrison St
68
13
Sara Loguen St
0
20
Adams St
57
3
39
126
Adams St
51
27
U.M.U.H.
Almond St
No Bicyclist Observed
FISHERASSOCIATES
Almond Street Bike & Pedestrian Study
2010 Pedestrian Count
Weekday Evening Peak Hour
Figure 6

C. Capacity Analysis Methodology

Intersection capacity analysis was conducted using Synchro software. The program is based on analysis methods presented in the 2000 Highway Capacity Manual (HCM)[1] that describe the levels of operations of intersections controlled by traffic signals and regulated by stop signs.

Using this analytical approach, a Level of Service (LOS) is determined for traffic traveling through an intersection. The LOS is quantified in terms of average delay experienced by motorists, which is equated to the letters 'A' to 'F' for traffic signal controlled intersections and 'a' to 'f' for stop controlled intersections.

A LOS 'A' for a traffic signal controlled intersection indicates good levels of operations with, on average; a motorist experiencing very little, if any delay. A LOS 'F' indicates, on average, a motorist is experiencing long delays in excess of 80 seconds. Based on experience with other municipalities, a LOS 'D' is considered acceptable for an overall intersection approach and a LOS 'E' is considered acceptable for an individual turning movement, in an urban/developed area, during peak hours.

The following describes each Level of Service and corresponding average delay ranges for traffic signal controlled intersections:

A -	*Little or No Delay*	*(<= 10.0 sec)*
B -	*Minor, Short Delay*	*(10.1 to 20.0 sec)*
C -	*Average Delays*	*(20.1 to 35.0 sec)*
D -	*Long, but Acceptable Delays*	*(35.1 to 55.0 sec)*
E -	*Long, Approaching Unacceptable Delays*	*(55.1 to 80.0 sec)*
F -	*Long, Unacceptable Delays*	*(> 80.0 sec.)*

A LOS 'a' for a stop controlled approach indicates good levels of operations with, on average; a motorist experiencing very little, if any delay. A LOS 'f' indicates that, on average, a motorist is experiencing delays in excess of 50 seconds. Based on experience with other municipalities, a LOS 'e' or better in an urban/developed area is considered acceptable.

The following describes each Level of Service and corresponding average delay ranges for stop controlled intersections:

a -	*(<= 10.0 sec)*
b -	*(10.1 to 15.0 sec)*
c -	*(15.1 to 25.0 sec)*
d -	*(25.1 to 35.0 sec)*
e -	*(35.1 to 50.0 sec)*
f -	*(> 50.0 sec.)*

D. Capacity Analysis Results

The capacity analysis reflected field observations, as well as the findings contained in the University Hill Phase II Feasibility Study[2], dated September 15, 2009.

In addition to the poor Levels of Service at the Almond Street intersections, a number of intersection turning movements had volume/capacity (v/c) ratios of 1.0 and higher. A v/c ratio above 0.80 is an indication that a turning movement is nearing a capacity threshold and there is a potential for operations to become unstable under less than ideal conditions.

The following level of service table summarizes the capacity analysis; turning movements with v/c ratios greater than 0.80 are provided in parenthesis next to the Level of Service. Capacity analysis printouts are included in the appendix.

Existing Conditions Levels of Service Table

Study Intersection	Approach and Movement		Morning Peak		Midday Peak		Evening Peak	
			Delay (Sec.)	LOS (v/c)	Delay (Sec.)	LOS (v/c)	Delay (Sec.)	LOS (v/c)
Harrison St & Presidential Plaza (Unsignalized)	Westbound	T-T-T-TR	0	a	0	a	0	a
	Southbound	R	12	b	10	b	10	b
Harrison St & I-81 SB Off-Ramp (Unsignalized)	Westbound	T-T-T	0	a	0	a	0	a
	Southbound	R	29	d (0.83)	11	b	10	b
Harrison St & Almond St	Westbound	L	30	C	20	C	17	B
		T-T	30	C	18	B	11	B
		R-R	26	C	20	C	***	F (1.25)
	Northbound	UL-L	24	C	26	C	29	C
		T-T-TR	13	B	7	A	22	C
	Southbound	LT-T-TR	26	C (0.83)	18	B	25	C
	Overall		**23**	**C**	**15**	**B**	**52**	**D**
Harrison St & Sara Loguen St	Eastbound	TR	5	A	4	A	9	A
	Westbound	L	11	B	8	A	15	B
		T-T	9	A	10	B	41	D (0.96)
	Northbound	L-LR	18	B	11	**A**	13	B
	Overall		**11**	**B**	**10**	**B**	**32**	**C**
Adams St & Sara Loguen St	Eastbound	LT-TR	21	B (0.81)	6	A	11	B
	Northbound	T	15	B	12	B	20	C
		R	5	A	6	A	7	A
	Southbound	L	16	B	30	C	20	C
		T	16	B	30	C	19	B
	Overall		**21**	**C**	**8**	**A**	**12**	**B**
Adams St & Almond St	Eastbound	L-L	31	C	42	D	***	F (1.57)
		T-T	33	C	33	C	25	C
		R	11	B	9	A	***	F (1.61)
	Northbound	T-T-T	25	C	12	B	20	C
		R	32	C	10	B	4	A
	Southbound	UL-L	43	D (0.81)	33	C (0.86)	25	C
		T-T	4	A	10	B	23	C
	Overall		**26**	**C**	**22**	**C**	***	**F**

V. PROPOSED CONDITIONS – PEDESTRIAN FACILITY DESIGN SCENARIOS

Almond Street is a major entry point into the City of Syracuse. As such, improvements to this corridor must include greater pedestrian safety, pedestrian mobility, and streetscape. Three different design scenarios were developed for the Almond Street corridor, each of them emphasizing one of these goals. A fourth scenario was developed that is a combination of the three scenarios. These design recommendations should extend north to Erie Boulevard, where applicable for consistency purposes.

A. Design Scenario A: Safety

This alternative emphasizes various strategies used to improve safety. The proposed intervention is to limit pedestrian crossings to existing signalized crossings.

Immediate improvements under this scenario include speed radar signs and re-striping crossings. Speed radar signs provide driver feedback making the motorist aware of when they may be traveling at an unsafe speed. At a minimum, these signs would be located near the exit ramps from I-81 giving the motorist additional indications that they are now on a local street network as well as to minimize the potential for crashes. Intersections are re-striped with highway visibility pavement markings, and new crossings are provided on Cedar and Madison Streets.

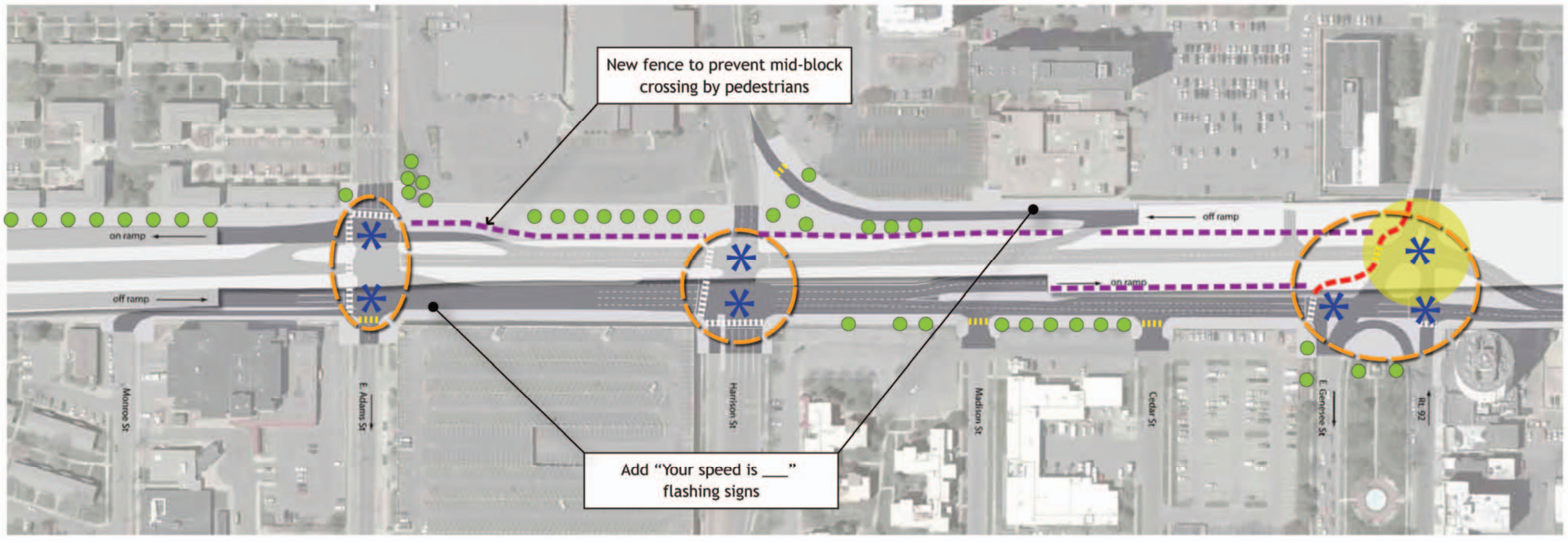
Speed Radar Sign

Intermediate improvements include fencing and sidewalk re-alignment. Fencing is provided as a primary countermeasure to prohibit crossings at non-signalized locations. The sidewalk is re-aligned under the freeway at the connection with the E. Genesee Street Connective Corridor. Lighting was added to this location as it appeared to be the darkest observed location within the study area.

Pedestrian bridges and tunnels were considered as part of the potential long term safety enhancements to the corridor. However, they were determined to be not appropriate for the study given numerous constraints.

An Upstate Medical University project already underway incorporates some immediate and intermediate safety improvements within the study area. These include reflective crosswalk markings and countdown timers at Adams Street and Almond Street, new fencing adjacent to and along the west of Almond Street between Adams and Harrison Streets to prevent mid-block crossings, and new crosswalk markings at Adams Street and Harrison Street.

Design Scenario A - SAFETY



Legend

- Restriped Crosswalk
- New Crosswalk
- Location for Inter-section Enhancements
- Improved LED Lighting Below Overpass at intersection
- New Sidewalk
- New Fence
- Signal Timing Improvements
- Existing Tree

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Fence to prevent mid-block crossings
Restriped crosswalks
Improved LED lighting below overpass
Almond Street Corridor Improvement Project
Design Scenario A - SAFETY
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B. Design Scenario B: Mobility

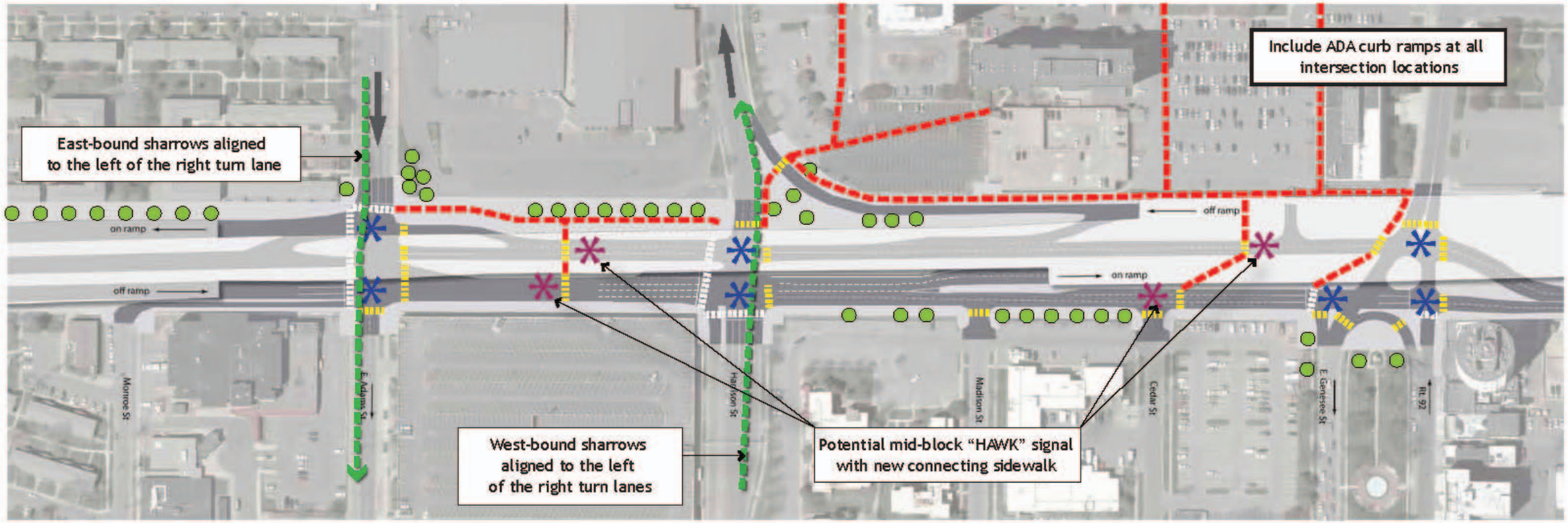
This alternative shows pedestrian mobility as a priority, with an emphasis on providing access at locations where pedestrians are crossing Almond Street at either signalized or non-signalized locations. This scenario is relevant to the fact that several of the existing marked crossings and intersections do not correlate with the desired travel paths of pedestrians. Also, as residential uses in the area increase with the Upstate Medical University Presidential Towers and other nearby developments, pedestrian and bicycle traffic will increase.

Immediate improvements to improve mobility include adding the fourth leg to the crossings at Adams and Harrison Streets. More intermediate improvements are the new mid-block crossings at two locations on Almond Street, which utilize pedestrian hybrid beacons (HAWK Signals). This device is used to warn and control traffic as well as assist pedestrians crossing a street or highway at a marked crosswalk. Once activated by a pedestrian, the signal goes through several phases of flashing and steady yellow and red lights. Pedestrian hybrid beacons are now included in the Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD).

Additional improvements include creating continuous sidewalks along the west side of Almond Street, creating delineated paths or sidewalks through the existing parking area, adding sharrows and bicycle signage on Adams and Harrison Streets and upgrading curb ramps to current ADA standards along the corridor.

HAWK Signal

Design Scenario B - MOBILITY



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Mid-block HAWK signal
New Sidewalk
New crosswalks
Almond Street Corridor Improvement Project
Design Scenario B - MOBILITY
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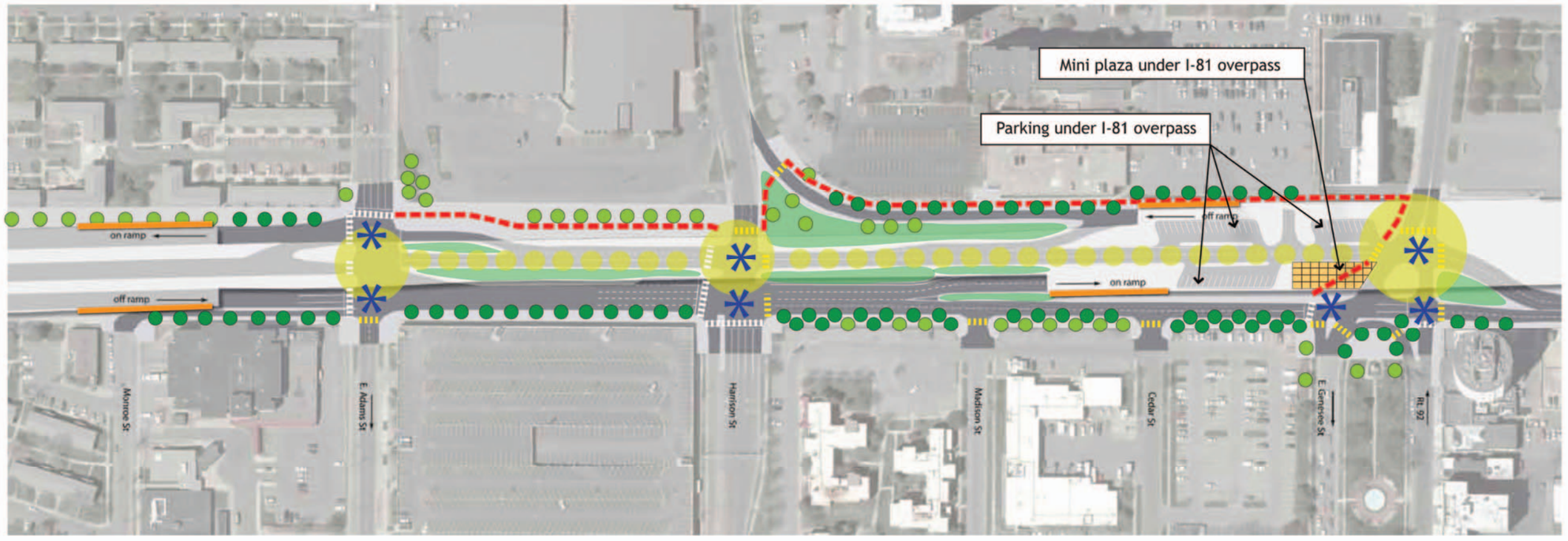
C. Design Scenario C: Streetscape

This alternative recommends improvements to enhance the streetscape along Almond Street to provide a more attractive, pedestrian friendly and greener urban environment. It is recognized that improvements will need to be relatively short term, while long-term projects are discussed for the corridor. Improvements should tie in with Forman Park and the Genesee Connective Corridor, which are assets in the neighborhood.

This scenario includes continuous rows of street trees and vegetation that are tolerant of the urban environment and will thrive in less than ideal growing conditions. This can be achieved in collaboration with the city's Connective Corridor project. The addition of lighting and paint improves the condition underneath the I-81 viaduct, making it brighter and more comfortable for pedestrians to use. Murals or mosaics are added to the I-81 retaining walls, which can be implemented with the collaboration of urban art groups in the city. Existing median spaces are landscaped, defined parking areas are delineated under the viaduct, and a small plaza is added at the north end of the corridor.

Design Scenario C - STREETSCAPE



Legend

- Restriped Crosswalk
- New Crosswalk
- Signal Timing Improvements
- New LED Lighting Below Overpass
- Improved LED Lighting Below Overpass at intersection
- New Sidewalk
- Plantings on median
- I-81 Retaining Wall Mural Location
- Existing Tree
- New Tree

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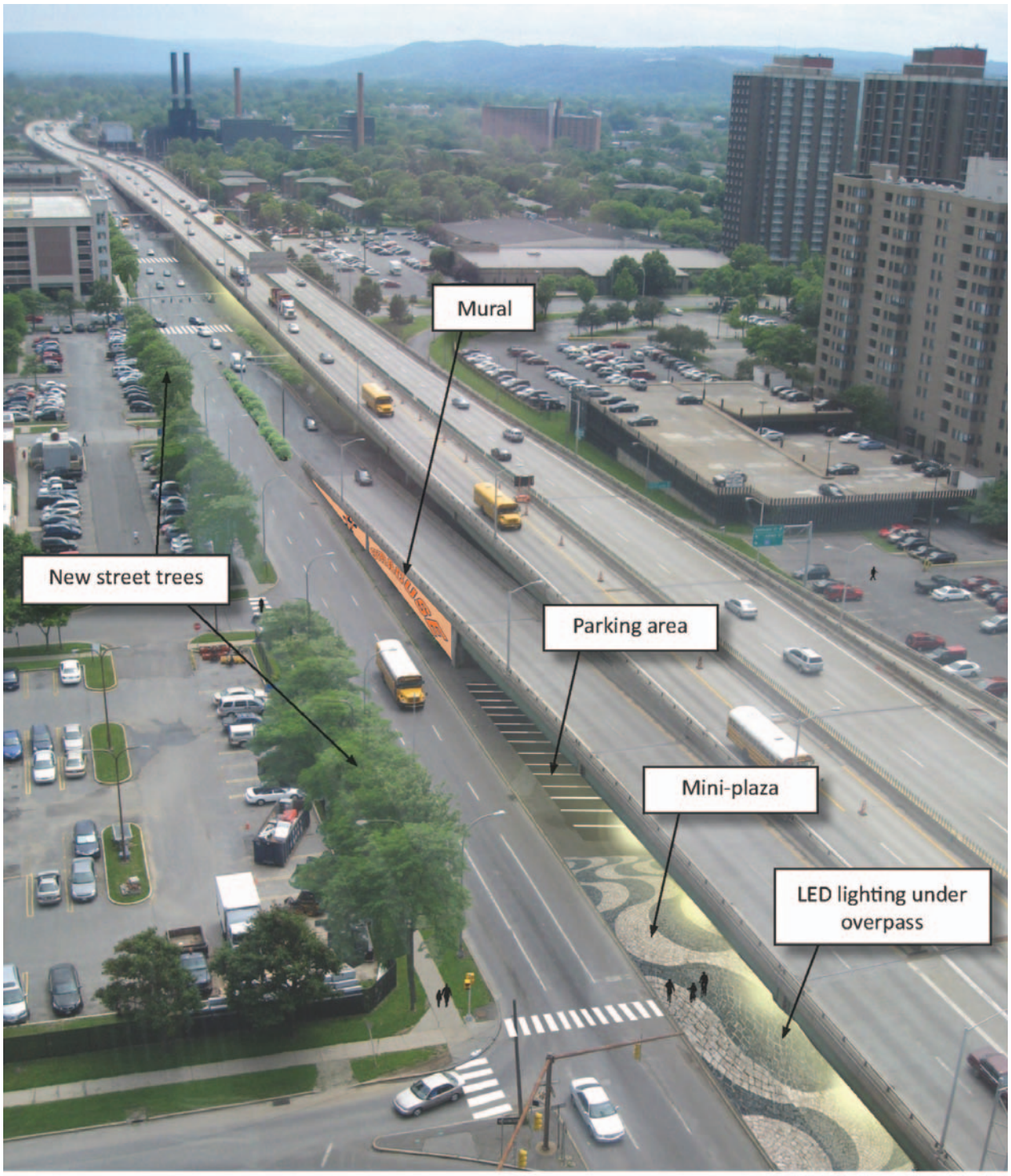
Mural
New street trees
Parking area
Mini-plaza
LED lighting under overpass
Almond Street Corridor Improvement Project
Design Scenario C - STREETSCAPE
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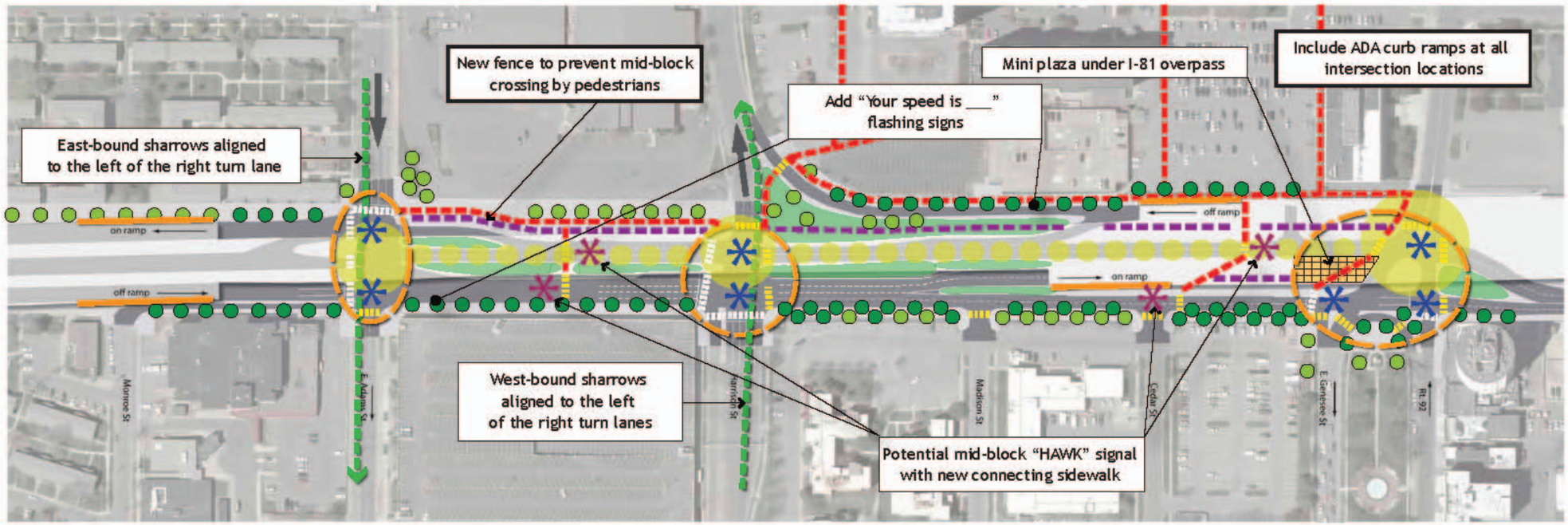
D. Design Scenario D: Combination A+B+C= D

This is a synthesis of the elements contained in the prior alternatives. Individual treatments are shown in combinations that complement each other and provide safety, mobility, and streetscape improvements. The options can be developed in phases as resources are available and as adjacent land uses develop.

Design Scenario D - COMBINATION



Legend

- Restriped Crosswalk
- New Crosswalk
- Signal Timing Improvements
- New Traffic Signal
- Existing Tree
- New Sharrows
- New Sidewalk
- Plantings on median
- I-81 Retaining Wall Mural Location
- New Tree
- Location for Intersection Enhancements
- New Fence
- New LED Lighting Below Overpass
- Improved LED Lighting Below Overpass at intersection

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Mural
Mid-block HAWK signal
Fence to prevent mid-block crossings
New street trees
Parking area
New Sidewalk
New crosswalks
Mini-plaza
LED lighting under overpass
Almond Street Corridor Improvement Project
Design Scenario D - COMBINATION
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VI. PROPOSED CONDITIONS – TRAFFIC OPERATIONS

As discussed in section *V. Proposed Conditions – Pedestrian Facility Design Scenarios*, pedestrian enhancements are proposed for the Almond Street corridor. The enhancements that affect Almond Street traffic operations include new intersection and mid-block pedestrian crossings along Almond Street from Adams Street to E. Genesee Street depicted in Design Scenario B – Mobility (Proposed Conditions). As indicated earlier in the report, origin-destinations paths between Presidential Plaza and Upstate Medical University Hospital/University Hill are expected to primarily cross Almond Street within the vicinity of the Harrison Street and Adams Street intersections. Therefore, the traffic assessment focused on these intersections and the segment of Almond Street between these two intersections.

The analysis scenarios include a Null and Proposed Condition; and similar to existing conditions, the morning, midday and evening study periods were evaluated using Synchro 7 software.

A. Null Conditions Analysis & Findings

The Null Condition analysis assumed an increase in the number of pedestrian calls at the study intersections for the existing crosswalks. This increase in pedestrian activity is expected as a result of Upstate Medical University Hospital's re-use of Presidential Plaza for student/staff housing in 2012 as well as ongoing development within the University Hill area. To model this change in pedestrian activity, pedestrian calls were increased from 5 (existing model) to 15 per hour within the traffic models. For the models to be operationally representational of the Null Condition, signal timing plans were adjusted such that the pedestrian timings were accommodated on a recurrent basis. The following is a general overview of those adjustments:

- The traffic signal cycle length for the morning study period increased from 80 to 85 seconds to accommodate pedestrian timings;
- The traffic signal cycle length for the midday study period increased from 80 to 85 seconds to accommodate pedestrian timings;
- The traffic signal cycle length for the evening study period remained 85 seconds; and
- Traffic signal splits were adjusted accordingly for all three time periods.

Under the Null Condition analysis, crossing timings (the total time allowed to cross the street) were maintained. These crossing times correlated with a pedestrian walking speed of 4 feet/second. Recently, an updated Manual of Uniform Traffic Control Devices (2009 MUTCD) modified the pedestrian walking speed from 4 feet/second to 3.5 feet/second. However, so that a true comparison could be conducted between the existing condition's analysis and current field operations, the pedestrian crossing times at the intersections were calculated based on a walking speed of 4 feet/second.

The capacity analysis results indicate that these signal timing plan adjustments are not expected to impact intersection operations to a point that would be readily perceptible to the motorist; and that the signal timing adjustments technically show a slight improvement in operations over current conditions for certain turning movements. However, these signals are tied to a larger coordinated network and timing changes at these intersections may impact overall network operations.

Level of Service tables are located at the end of this report section. Capacity analysis printouts are included in the appendix of the final report.

B. Proposed Conditions Analysis & Findings

The Proposed Condition analysis builds upon the Null Condition analysis.

The following pedestrian crossing enhancements were incorporated into the ***signal controlled intersections***:

- Crosswalks on the north and east side of the Almond Street and Adams Street intersection;
- Crosswalks on the north side and west side of the Almond Street and Harrison Street intersection;
- To accommodate the crossings on Almond Street on the north sides of the Harrison Street and Adams Street intersections, within the current signal phasing plans, pedestrians will need to use the medians for refuge and cross Almond Street in two stages;
- Restricting right-turns-on-red on the westbound approach at the Harrison Street and Almond Street intersection;
- Reduced the walk times from 7 seconds to 4 seconds to accommodate a 3 second leading-pedestrian phase; and
- Assumes pedestrian push buttons and indicators at all intersection crossings.

Similar to the Null Conditions analysis, the total crossing time for the new crosswalk locations at the Almond Street study intersections were calculated based on a pedestrian traveling at 4 feet/second to remain consistent with existing intersection pedestrian crossing times and field operations.

The following pedestrian crossing enhancements were incorporated into the ***signal controlled mid-block crossing*** on Almond Street between Adams Street and Harrison Street intersections:

- Assumes the installation of a HAWK or similar type of pedestrian signal;
- Since this was a new crossing feature, crossing times were calculated based on a walking speed of 3.5 feet/second to be in accordance with the 2009 MUTCD; and

- The crossing was modeled such that a pedestrian would be able to cross the entire width of Almond Street (both travel directions) in one stage and not need the median for refuge.

With the incorporation of these pedestrian crossings into the study intersections, a degradation of intersection operations may occur and volume to capacity ratios associated with some of the critical movements may increase 10 to 20 percent over what was depicted under the Null and/or Existing Conditions analysis. However, it is uncertain if the degradation in operations will be perceivable to the average motorist given current network operations. The assessment models depicted the mid-block crossing not having an impact on the adjacent intersection operations.

Level of Service tables are located at the end of this report section. Capacity analysis printouts are included in the appendix.

In addition to the operational assessment, a cursory review of the safety implications was made that relied upon field observations of existing conditions. The most noted safety concern related to pedestrian visibility when crossing Almond Street at Harrison Street and Adams Street, on the north side of these intersections. The Harrison Street intersection serves a substantial amount of right turning traffic in the westbound direction, while the Adams Street intersection serves a substantial amount of left turning traffic in the eastbound direction. Both sets of turning movements require two turning lanes and, therefore; the motorist in the outside turning lane may have limited visibility of the pedestrians in the proposed crosswalk.

Existing, Null & Proposed Level of Service Table – Morning

Study Intersection	Approach and Movement		Existing		Null Conditions		Proposed Conditions	
			Delay (Sec.)	LOS (v/c)	Delay (Sec.)	LOS (v/c)	Delay (Sec.)	LOS (v/c)
Harrison St & Presidential Plaza (Unsignalized)	Westbound	T-T-T-TR	0	a	0	a	0	a
	Southbound	R	12	b	12	b	12	b
Harrison St & I-81 SB Off-Ramp (Unsignalized)	Westbound	T-T-T	0	a	0	a	0	a
	Southbound	R	29	d (0.83)	29	d (0.83)	29	d (0.83)
Harrison St & Almond St	Westbound	L	30	C	22	C	20	C
		T-T	30	C	23	C	21	C
		R-R	26	C	20	C	29	C
	Northbound	UL-L	24	C	27	C	47	D
		T-T-TR	13	B	2	A	4	A
	Southbound	LT-T-TR	26	C (0.83)	30	C (0.85)	35	D (0.92)
	Overall		**23**	**C**	**20**	**C**	**26**	**C**
Harrison St & Sara Loguen St	Eastbound	TR	5	A	8	A	8	A
	Westbound	L	11	B	11	B	13	B
		T-T	9	A	9	A	11	B
	Northbound	L-LR	18	B	18	B	18	B
	Overall		**11**	**B**	**11**	**B**	**12**	**B**
Adams St & Sara Loguen St	Eastbound	LT-TR	21	C (0.81)	5	A	4	A
	Northbound	T	15	B	26	C	26	C
		R	5	A	9	A	9	A
	Southbound	L	16	B	19	B	15	B
		T	16	B	19	B	15	B
	Overall		**21**	**C**	**6**	**A**	**6**	**A**
Adams St & Almond St	Eastbound	L-L	31	C	34	C	33	C
		T-T	33	C	36	C	34	C
		R	11	B	11	B	10	B
	Northbound	T-T-T	25	C	25	C	24	C
		R	32	C	31	C	24	C
	Southbound	UL-L	43	D (0.81)	12 (0.81)	B	19 (0.86)	B
		T-T	4	A	7	A	8	A
	Overall		**26**	**C**	**21**	**C**	**21**	**C**
Ped Crossing between Adams St and Harrison St at Almond St	Northbound	T-T-T-T-T	-	-	-	-	11	B
	Southbound	T-T-T-T	-	-	-	-	1	A
	Overall		**-**	**-**	**-**	**-**	**6**	**A**

Existing, Null & Proposed Level of Service Table – Midday

Study Intersection	Approach and Movement		Existing		Null Alternative		Combination Alternative	
			Delay (Sec.)	LOS (v/c)	Delay (Sec.)	LOS (v/c)	Delay (Sec.)	LOS (v/c)
Harrison St & Presidential Plaza (Unsignalized)	Westbound	T-T-T-TR	0	a	0	a	0	a
	Southbound	R	10	b	10	b	10	b
Harrison St & I-81 SB Off-Ramp (Unsignalized)	Westbound	T-T-T	0	a	0	a	0	a
	Southbound	R	11	b	11	b	11	b
Harrison St & Almond St	Westbound	L	20	C	20	C	20	C
		T-T	18	B	18	B	18	B
		R-R	20	C	20	C	28	C
	Northbound	UL-L	26	C	31	C	45	D
		T-T-TR	7	A	6	A	6	A
	Southbound	LT-T-TR	18	B	18	B	20	C
		Overall	**15**	**B**	**15**	**B**	**18**	**B**
Harrison St & Sara Loguen St	Eastbound	TR	4	A	12	B	5	A
	Westbound	L	8	A	8	A	7	A
		T-T	10	B	10	B	9	A
	Northbound	L-LR	11	**A**	14	B	16	B
		Overall	**10**	**B**	**10**	**B**	**10**	**B**
Adams St & Sara Loguen St	Eastbound	LT-TR	6	A	4	A	3	A
	Northbound	T	12	B	23	C	22	C
		R	6	A	9	A	8	A
	Southbound	L	30	C	15	B	14	B
		T	30	C	15	B	14	B
		Overall	**8**	**A**	**6**	**A**	**5**	**A**
Adams St & Almond St	Eastbound	L-L	42	D	32	C	33	C
		T-T	33	C	28	C	29	C
		R	9	A	7	A	7	A
	Northbound	T-T-T	12	B	19	B	20	C
		R	10	B	9	A	6	A
	Southbound	UL-L	33	C (0.86)	20	C	16	B
		T-T	10	B	5	A	7	A
		Overall	**22**	**C**	**18**	**B**	**18**	**B**
Ped Crossing between Adams St and Harrison St at Almond St	Northbound	T-T-T-T-T	-	-	-	-	8	A
	Southbound	T-T-T-T	-	-	-	-	2	A
		Overall	**-**	**-**	**-**	**-**	**5**	**A**

Existing, Null & Proposed Level of Service Table – Evening

Study Intersection	Approach and Movement		Existing		Null Conditions		Proposed Conditions	
			Delay (Sec.)	LOS (v/c)	Delay (Sec.)	LOS (v/c)	Delay (Sec.)	LOS (v/c)
Harrison St & Presidential Plaza (Unsignalized)	Westbound	T-T-T-TR	0	a	0	a	0	a
	Southbound	R	10	b	10	b	10	b
Harrison St & I-81 SB Off-Ramp (Unsignalized)	Westbound	T-T-T	0	a	0	a	0	a
	Southbound	R	10	b	10	b	10	b
Harrison St & Almond St	Westbound	L	17	B	19	B	21	C
		T-T	11	B	14	B	16	B
		R-R	***	F (1.25)	***	F (1.29)	***	F (1.43)
	Northbound	UL-L	29	C	36	D	45	D
		T-T-TR	22	C	6	A	9	A
	Southbound	LT-T-TR	25	C	23	C	23	C
	Overall		**52**	**D**	**51**	**D**	**68**	**E**
Harrison St & Sara Loguen St	Eastbound	TR	9	A	8	A	7	A
	Westbound	L	15	B	6	A	6	A
		T-T	41	D (0.96)	11	B	11	B
	Northbound	L-LR	13	B	26	C	26	C
	Overall		**32**	**C**	**15**	**B**	**15**	**B**
Adams St & Sara Loguen St	Eastbound	LT-TR	11	B	2	A	2	A
	Northbound	T	20	C	22	C	22	C
		R	7	A	8	A	8	A
	Southbound	L	20	C	17	B	18	B
		T	19	B	16	B	17	B
	Overall		**12**	**B**	**5**	**A**	**5**	**A**
Adams St & Almond St	Eastbound	L-L	***	F (1.57)	***	F (1.26)	***	F (1.45)
		T-T	25	C	20	C	23	C
		R	***	F (1.61)	***	F (1.40)	***	F (1.51)
	Northbound	T-T-T	20	C	26	C	24	C
		R	4	A	6	A	6	A
	Southbound	UL-L	25	C	23	C	24	C
		T-T	23	C	15	B	26	C
	Overall		***	**F**	**88**	**F**	***	**F**
Ped Crossing between Adams St and Harrison St at Almond St	Northbound	T-T-T-T-T	-	-	-	-	3	A
	Southbound	T-T-T-T	-	-	-	-	8	A
	Overall		**-**	**-**	**-**	**-**	**5**	**A**

VII. CONCLUSION STATEMENTS & FINAL ALTERNATIVES

During and after the presentation of the design scenarios, at the final SAC meeting, conclusion statements and feedback were provided as follows:

- The trade-off of lower traffic operations for increased pedestrian mobility and awareness may be acceptable.
- Given current network operations, a reduction in operations may be tolerable.
- It was determined that additional refuge-turn-channeling islands at the Almond Street intersections of Harrison Street and Adams Street would reduce necessary capacity and degrade operations to an unacceptable level.
- The possibility of narrowing Almond Street from Harrison Street to E. Genesee Street by one lane should be considered. Based on a cursory review of the volume data from the Connective Corridor project it would seem a lane reduction is possible. However, further evaluation and coordination with the Connective Corridor Project would be necessary.
- Although not directly included in the operational assessment, the proposed mid-block crossing on Almond Street at Cedar Street appears feasible considering the analysis results that were conducted for Almond Street to the south. However, further evaluation and coordination with the Connective Corridor Project is recommended.
- Pedestrian connections should be considered in future site plan designs.
- The location of the crosswalk on the slip ramp from I-81 to Harrison Street should be located at a point where there are lower vehicular speeds and improved visibility.
- The pedestrians crossing Almond Street at Harrison Street and Adams Street on the north side of the intersections will conflict with heavy double right and left turn movements, respectively. Based on field observations, it may be difficult for a motorist in the outside turning lane to see a pedestrian. A potential countermeasure for this situation would be the addition of more time to the pedestrian leading phase.
- Included in the assessment was a No-Turn-on-Red restriction for the westbound right turns from Harrison Street onto Almond Street. The SAC felt that this turn restriction treatment may be applicable at all of the study intersections.
- There is a concern about driver compliance with HAWK signals. They would be new to the area and that the driving public may need to be educated on their use and location.

- Actual bicycle lanes are not thought to be physically feasible on Adams Street or Harrison Street. It was recommended that the street be striped with sharrows and/or have signing for a bicycle route, should the facility owner implement bicycle treatments.

New York State Department of Transportation provided additional input relative to the various pedestrian enhancements.

- The mid-block crossings should meet two conditions before being considered
  - That a significant number of pedestrians are crossing or will be crossing at that point in the future; and
  - The 85th percentile speed will be less than 35 MPH.

- Hawk signals are included in the 2009 MUTCD, section 4F.01, which includes speed and pedestrian volume guideline considerations.

- The proposed signal controlled mid-block crossing on Almond Street between Adams Street and Harrison Street appears to be too close to the Adams Street intersection. The concern is that motorists will be stopped at Adams Street and then stopped at the mid-block crossing shortly thereafter. Motorist compliance with the mid-block crossing control is a concern.

- The proposed signal controlled mid-block crossing on Almond Street at Cedar Street may realize a higher level of motorist compliance compared to the crossing between Adams Street and Harrison Street. However, travel speeds are a concern and should be documented using radar guns during peak pedestrian crossing times.

- It is preferred that pedestrians cross at signal controlled intersections, and crosswalk markings at these intersections should be enhanced to increase driver awareness and visibility.

- The addition of cross walks on the side street approaches is considered a good idea.

- The addition of radar feedback signs is considered a good idea, particularly in the vicinity of Harrison Street on Almond Street.

Considering the design scenarios, operation analysis results and feedback, the SAC identified short, intermediate and long term alternatives. These alternatives are tabulated below along with order-of-magnitude costs. The order-of-magnitude costs were not adjusted for inflation and are theoretical given conceptual nature of the alternatives. Follow up assessments and analysis for a particular enhancement may be required as noted by the NYSDOT above.

Description of Alternatives

Short Term (1+ years)	Intermediate Term (2-7 years)	Long Term (7 years and beyond)
• Items associated with the Safety Design Alternative/Theme • Restripe existing crossings with enhanced marking materials • Replace faded pedestrian signs • Install curb ramps as necessary at new crossing locations • Lighting at E. Genesee to be provided as part of Connective Corridor Project • Start to replace dead/dying trees • Continual coordination with Connective Corridor Project • Follow-up assessment by NYSDOT (volumes, safety, speeds, etc) of crossings on the north side of the Adams Street and Harrison Street intersections • Follow-up assessment by NYSDOT (volumes, safety, speeds, spacing, etc) of Mid-block crossing on Almond Street • Review interagency construction and maintenance agreements by City of Syracuse and NYSDOT and develop construction and maintenance agreements and budgets	• Items associated with Mobility Design Alternative/Theme • Potential implementation of Mid-block crossing(s) on Almond Street • Potential implementation of crossings on the north side of the Adams Street and Harrison Street intersections • Site plan coordination with Upstate Medical and others regarding pedestrian connections and accommodations on and adjacent to their projects • Continue to replace dead/dying trees and begin to plant new trees and vegetation • Continual coordination with Connective Corridor Project • Maintenance and repair • Alternative builds upon short term alternative	• Ongoing monitoring of conditions and make adjustments as necessary • Humanize the corridor through streetscape and gateway treatments such as: ~ Plantings ~ Street Furniture ~ Murals ~ Flags ~ Lighting ~ Mini plazas • Maintenance and repair • Alternative builds upon intermediate term alternative

Alternative Order of Magnitude Cost Estimate

Item	Short Term (1+ years)	Intermediate Term (2-7 years)	Long Term (7 years and beyond)
Construction	$270,000	$425,000	$710,000
Contingency (≈20% of Construction)	$53,000	$85,000	$142,000
Follow up Assessments/Design (≈30% of Construction)	$97,000	$155,000	$253,000
Total	**$420,000**	**$665,000**	**$1,105,000**
General Maintenance* (Every 3 years)	**$6,000 – 8,000**	**$8,000 – 10,000**	**$10,000+**

*Assumes maintenance of signing, crosswalk striping, streetscape, and minor sidewalk repair work only

References:

1. Transportation Research Board, Highway Capacity Manual, Washington D.C.2000.

2. Fisher Associates PE, LS, PC, University Hill Phase II Feasibility Study, Rochester N.Y. March 12, 2009.

Almond Street Corridor Pedestrian Study

Syracuse, New York

Appendix

A-1: Walking Audit

A-2: Existing Conditions Capacity Analysis

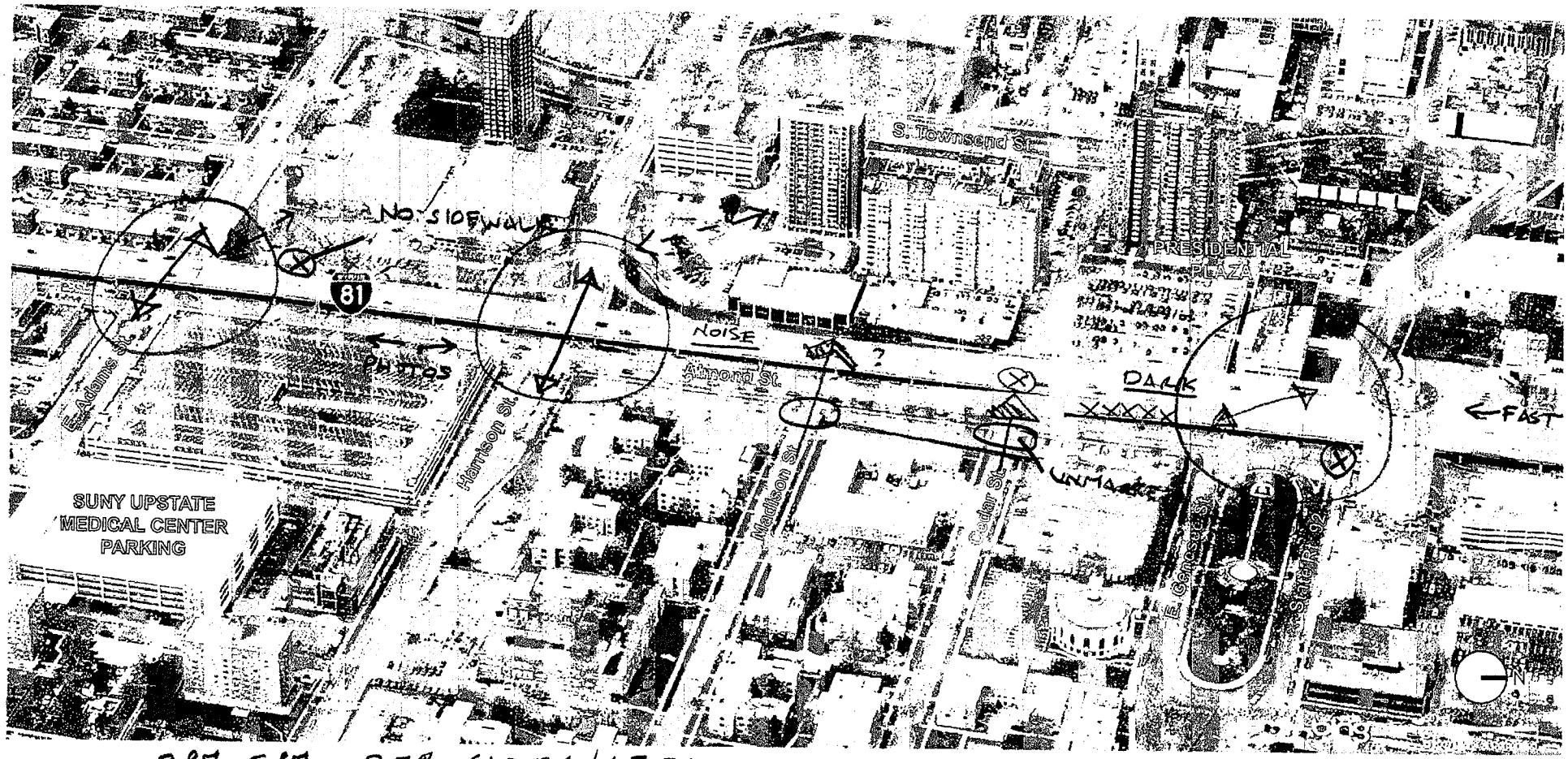
A-3: Null Conditions Capacity Analysis

A-4: Proposed Conditions Capacity Analysis

Almond Street Corridor Pedestrian Study

Syracuse, New York

A-1: Walking Audit



Field Notes 3PM - 5PM 35° CLOUDY / LT SNOW

CEDAR - 81 = BARRIER

MADISON - POSSIBLE MID BLOCK

E. GENESEE TO CEDAR = FENCE

USE DEAD SPACES UNDER 81

ROAD NOISE = SAFETY ISSUE

SIGNAL / PHASING → FD

PVT MARKINGS NEED HIGH VIS

SIGNAGE : "

MOTORIST VOLUME, SPEED, YIELD (DISORIENTED)

Syracuse Metropolitan Transportation Council

Almond Street Corridor Improvement Project

Syracuse, New York

January 15, 2010

FISHER ASSOCIATES

alta PLANNING + DESIGN

J. OLSON - ALTA 01. 15. 10

Active Living Resource Center/National Center for Bicycling & Walking

Walking Audit Checklist: Sidewalks and Streets

Date 1/15/10 Time of day 3P Lighting conditions: Sunny | Rainy (LT.) | Dawn/Dusk | Dark You are: Male | Female

Name of street and walking area studied ALMOND Length of study area 5 blocks or from RIDGE to ADAMS

Neighborhood type: urban | suburban | small town | rural

Description: residential | commercial | industrial | mixed use | suburban office park/big box retail/shopping node

---

Walking Space and Safety

1. Is there a sidewalk? Yes | No
2. If you answered 'No' where are people walking? Street | Grass | Parking lots
3. Is the sidewalk continuous? Yes | No ON E. SIDE
4. Is there a sidewalk on both sides of the street? Yes | No PARTIAL ON W
5. Estimate the sidewalk width 5' feet
6. Is this wide enough? Yes | No
7. Condition of sidewalk: Smooth | uneven, but alright for walking | heaved with tripping hazards | bare ground NEW @ GARAGE
8. Is the surface ok for a person in a wheelchair, with a walker, or pushing a stroller? Yes | No
9. Sidewalk obstructions: Sidewalk is clear | overgrown trees/vegetation | construction | vehicles parked on the sidewalk | utility poles | restaurant furniture | newspaper boxes | other SNOW
10. Driveways and alleys: None | Few cross the sidewalk | Frequent
11. Are drivers aware of pedestrians when entering/exiting driveways? No | Few | Yes, they are courteous
12. Do you notice other pedestrians? None | Few | Many

User Comfort and Security

1. How far away is traffic? The sidewalk is next to the road | there is some separation | the sidewalk is far from traffic
2. How are pedestrians separated from traffic? Street parking | bike lanes | grass and trees | a shoulder on the street
3. Noise level: Low, conversation is easy | Tolerable, conversation is difficult | Too noisy to talk to another person
4. Are there places to sit? No | Few | Many
5. Is the sidewalk shaded? Yes | No | Does not apply
6. Is the sidewalk lighted? Yes, fully | Yes, partially | No, only the street is lit | No, there is no lighting
7. What personal safety concerns do you have in this area? People are loitering | evidence of illicit behavior | vacant properties | seedy businesses | stray or vicious dogs | Comments _____
8. I would allow an unescorted child to walk in this neighborhood? Yes | No Comments FREEWAY I-81 IS VISUAL/PHYSICAL BARRIER

Destinations and Connectivity

1. How frequent are crosswalks? Close, < 1 minute walk | Nearby, < 2 minute walk | Far
2. Are there midblock crossings? None | Yes, with a marked crosswalk/curb extensions/in street warning signs/drivers yield
3. Is bicycle parking provided? No | Infrequent/unsecure/low quality | Yes, high quality
4. Are there transit stops? No | Hard to find/infrequent/no shelters/no benches | Yes, high quality
5. Wayfinding? None | Information Kiosks/Maps OLD, MOTORIST ORIENTED
6. Is this a walkable neighborhood? Yes | No Comments _____

Aesthetics

1. Cleanliness: Area is clean and well maintained | some trash/graffiti, but generally clean | area is neglected, lots of trash/graffiti | area has been abandoned
2. Maintenance of properties: All/most buildings are well maintained | a few neglected properties | most properties are neglected
3. Buildings are mostly: Next to the sidewalk | fronted by parking lots | setback far front the street
4. Green space and nature: none | some green/parks nearby | lots of green
5. Visual texture and character: boring | looks like everywhere else | I saw something new | I saw many interesting things URBAN FREEWAY EDGE
6. Would you walk here again? Yes | No Comments _____

Active Living Resource Center /National Center for Bicycling & Walking

Walking Audit Checklist: Intersections and mid block crossings

Location: Intersection of ADAMS/HARRISON / CENTER ST Mid block crossing of: _____

Time of Day: 3 AM/PM Number of lanes: JAMES (6) Multiple left/right turn lanes: YES/NO

I am: 0-12 years old | 13-19 | 20-50 | 51 – 70 | 71+ Mobility: excellent | average | use a wheelchair or walking aide

I am Visually Impaired: Yes | No I am Hearing Impaired: Yes | No

Traffic Signals and Intersection Geometry

1. Are there pedestrian signals? No | Standard | Countdown | Signal does not work.
2. How long do you have to wait before a WALK signal? 40 seconds.
3. That is: Too long to wait | The right amount of time
4. Is there a PUSH TO CROSS button at the signal? No | No, but WALK starts automatically | Yes, but it does not work or is in poor condition | Yes
5. Is enough time allowed to cross safety? No, I felt rushed | Yes, but a person walking slowly would have difficulty | Yes, everyone should have plenty of time.
6. Length of Walk cycle: 24 seconds.
7. For large intersections: Is there a median to allow a slow moving person to cross in stages?
   No | Yes, but it feels unsafe | Yes, a median with a good pedestrian refuge.

Comments: NEED TIMER ON JAMES EB & NB

Driver Behavior

1. Do drivers have a good view of pedestrians waiting to cross?
   Yes | No utility boxes, poles, or vegetation obstructs their view.
2. Did you experience problems with left or right turning traffic while crossing?
   No | Left turning traffic was traveling too fast or wasn't looking for pedestrians | Right turning traffic was traveling too fast or wasn't looking for pedestrians.
3. Do drivers obey the traffic signals? Yes | Most | Few
4. Do drivers obey the speed limit? Yes | Most | Few
5. Does the intersection have stop bars so drivers do not encroach into the crosswalk? Yes | Yes, needs to be repainted | No
6. Are there any Red Light Cameras at the intersection? Yes | No
7. How many legs of the intersection are signed for No Turn on Red? NO

Comments: _____

Crosswalks and Access

1. Are there crosswalks at this intersection? Yes | Yes, but not at all crossings | No
2. Are the crosswalks visible? Yes, lines are bright and visible | No lines need to be repainted | There are no lines
3. Crosswalk style: Two lines | Large blocks | Ladder-style | Other
4. Are the crosswalks wide enough? Yes | No
5. Is the pavement in good condition? Yes, it is smooth | No, there are some tripping hazards for wheelchairs, walkers, and strollers | The pavement is dangerous.
6. Are there curb ramps? No | One per corner | Two per corner. SOME
7. Are the curb ramps in good condition? Yes | No OLD DIAGONAL
8. If the intersection is under construction: N/A | A good path is provided for pedestrians | A poor path is provided for pedestrians.

Comments: _____

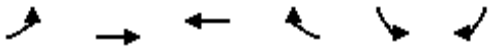
User Experience

1. Did you feel comfortable crossing at this intersection?
   Yes | No | Comments _____
2. Would you allow an unescorted child to cross here?
   Yes | No | Comments _____
3. Would you be comfortable with a senior citizen or a person who is mobility-impaired crossing here?
   Yes | No | Comments _____
4. What destinations are nearby that would attract pedestrians?
   School | Shopping | Library | Transit | Recreational Trail | Healthcare | Other HOSPITAL
5. Are other pedestrians present? Yes | No |
   Why not? _____
6. Can you see debris on the roadway from car crashes? Yes | No
7. Cleanliness of the area around the intersection:
   Very clean | Somewhat clean with visible litter | Unclean: there is no pride of place.

Almond Street Corridor Pedestrian Study

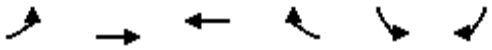
Syracuse, New York

A-2: Existing Conditions Capacity Analysis



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1216	54	0	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.86	0.86	1.00	1.00
Ped Bike Factor						
Frt			0.994			0.865
Flt Protected						
Satd. Flow (prot)	0	0	6369	0	0	1536
Flt Permitted						
Satd. Flow (perm)	0	0	6369	0	0	1536
Link Speed (mph)		30	30		30	
Link Distance (ft)		226	245		201	
Travel Time (s)		5.1	5.6		4.6	
Confl. Peds. (#/hr)				53		10
Peak Hour Factor	1.00	1.00	0.92	0.92	1.00	0.60
Heavy Vehicles (%)	2%	2%	2%	2%	2%	7%
Adj. Flow (vph)	0	0	1322	59	0	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1381	0	0	52
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

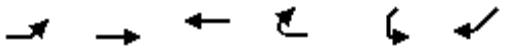
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	1216	54	0	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.92	0.92	1.00	0.60
Hourly flow rate (vph)	0	0	1322	59	0	52
Pedestrians		10			53	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			4	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			490			
pX, platoon unblocked						
vC, conflicting volume	1433				1404	423
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1433				1404	423
tC, single (s)	4.1				6.8	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	90
cM capacity (veh/h)	449				125	541

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	378	378	378	248	52
Volume Left	0	0	0	0	0
Volume Right	0	0	0	59	52
cSH	1700	1700	1700	1700	541
Volume to Capacity	0.22	0.22	0.22	0.15	0.10
Queue Length 95th (ft)	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	12.4
Lane LOS					B
Approach Delay (s)	0.0				12.4
Approach LOS					B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	708	0	0	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	0	4988	0	0	1627
Flt Permitted						
Satd. Flow (perm)	0	0	4988	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	245		324	
Travel Time (s)		7.0	5.6		7.4	
Peak Hour Factor	1.00	1.00	0.92	1.00	1.00	0.91
Heavy Vehicles (%)	2%	2%	4%	2%	2%	1%
Adj. Flow (vph)	0	0	770	0	0	618
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	770	0	0	618
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 55.1%		ICU Level of Service B	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations			↑↑↑			↱
Volume (veh/h)	0	0	708	0	0	562
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.92	1.00	1.00	0.91
Hourly flow rate (vph)	0	0	770	0	0	618
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			245			
pX, platoon unblocked						
vC, conflicting volume	770				770	257
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	770				770	257
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	17
cM capacity (veh/h)	841				337	746

Direction, Lane #	WB 1	WB 2	WB 3	SW 1
Volume Total	257	257	257	618
Volume Left	0	0	0	0
Volume Right	0	0	0	618
cSH	1700	1700	1700	746
Volume to Capacity	0.15	0.15	0.15	0.83
Queue Length 95th (ft)	0	0	0	156
Control Delay (s)	0.0	0.0	0.0	28.6
Lane LOS				D
Approach Delay (s)	0.0			28.6
Approach LOS				D

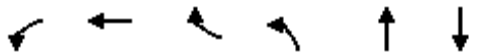
Intersection Summary			
Average Delay	12.7		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	96	230	452	435	907	124	0	1569	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.91	0.91	0.91	0.91	0.91
Ped Bike Factor				0.94			1.00	1.00			1.00	
Frt						0.850		0.982			0.996	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1752	3282	2733	3467	4838	0	0	5050	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1647	3282	2733	3453	4838	0	0	5050	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						225		61			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		200			497			572			444	
Travel Time (s)		4.5			11.3			13.0			10.1	
Confl. Peds. (#/hr)				68			46		8	8		46
Peak Hour Factor	1.00	1.00	1.00	0.76	0.76	0.76	0.89	0.89	0.89	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	3%	10%	4%	1%	5%	4%	2%	2%	7%
Adj. Flow (vph)	0	0	0	126	303	595	489	1019	139	0	1783	49
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	126	303	595	489	1158	0	0	1832	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			40			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors				1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)				5	5	5	5	5		5	5	
Trailing Detector (ft)				0	0	0	0	0		0	0	
Detector 1 Position(ft)				0	0	0	0	0		0	0	
Detector 1 Size(ft)				5	5	5	5	5		5	5	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type				Perm		Perm	Prot			Perm		
Protected Phases					4		1	6			2	
Permitted Phases				4		4				2		
Detector Phase				4	4	4	1	6		2	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0		7.0	7.0	
Minimum Split (s)				26.0	26.0	26.0	21.0	54.0		33.0	33.0	
Total Split (s)	0.0	0.0	0.0	26.0	26.0	26.0	21.0	54.0	0.0	33.0	33.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	32.5%	32.5%	32.5%	26.3%	67.5%	0.0%	41.3%	41.3%	0.0%
Maximum Green (s)				21.0	21.0	21.0	16.0	49.0		28.0	28.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-1.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode				None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)				7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)				20.0	20.0	20.0	11.0	19.0		15.0	15.0	
Pedestrian Calls (#/hr)				5	5	5	5	5		5	5	
Act Effct Green (s)				19.1	19.1	19.1	16.9	54.9			35.0	
Actuated g/C Ratio				0.24	0.24	0.24	0.21	0.69			0.44	
v/c Ratio				0.32	0.39	0.72	0.67	0.35			0.83	
Control Delay				29.6	30.3	26.3	21.0	13.0			25.8	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				29.6	30.3	26.3	21.0	13.0			25.8	
LOS				C	C	C	C	B			C	
Approach Delay					27.9			15.4			25.8	
Approach LOS					C			B			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 80	
Actuated Cycle Length: 80	
Offset: 65 (81%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.83	
Intersection Signal Delay: 22.5	Intersection LOS: C
Intersection Capacity Utilization 71.4%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 3: HARRISON ST & ALMOND ST



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	126	303	595	489	1158	1832
v/c Ratio	0.32	0.39	0.72	0.67	0.35	0.83
Control Delay	29.6	30.3	26.3	21.0	13.0	25.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.6	30.3	26.3	21.0	13.0	25.8
Queue Length 50th (ft)	38	48	68	69	97	202
Queue Length 95th (ft)	53	55	71	m92	m125	#284
Internal Link Dist (ft)		417			492	364
Turn Bay Length (ft)						
Base Capacity (vph)	474	944	946	780	3340	2212
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.27	0.32	0.63	0.63	0.35	0.83

Intersection Summary

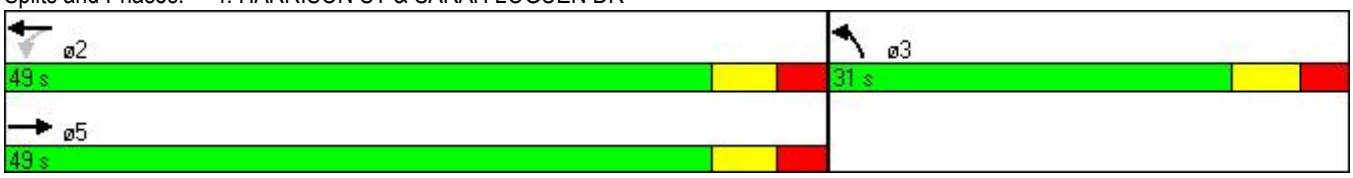
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	71	53	189	608	170	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	0.95
Ped Bike Factor	0.98		0.98		0.98	
Frt	0.942				0.981	
Flt Protected			0.950		0.958	
Satd. Flow (prot)	1750	0	1703	3438	3026	0
Flt Permitted			0.577		0.958	
Satd. Flow (perm)	1750	0	1016	3438	3000	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	79				23	
Link Speed (mph)	30			30	30	
Link Distance (ft)	497			356	585	
Travel Time (s)	11.3			8.1	13.3	
Confl. Peds. (#/hr)		19	19		8	30
Peak Hour Factor	0.51	0.51	0.97	0.97	0.72	0.72
Heavy Vehicles (%)	1%	0%	6%	5%	7%	56%
Adj. Flow (vph)	139	104	195	627	236	35
Shared Lane Traffic (%)						
Lane Group Flow (vph)	243	0	195	627	271	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1		1	1	1	
Detector Template						
Leading Detector (ft)	5		5	5	5	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	5		5	5	5	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Turn Type			Perm			
Protected Phases	5			2	3	
Permitted Phases			2			
Detector Phase	5		2	2	3	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	24.0		24.0	24.0	27.0	
Total Split (s)	49.0	0.0	49.0	49.0	31.0	0.0
Total Split (%)	61.3%	0.0%	61.3%	61.3%	38.8%	0.0%
Maximum Green (s)	42.0		42.0	42.0	24.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	3.0		3.0	3.0	3.0	
Lost Time Adjust (s)	-4.0	-1.0	-4.0	-4.0	-4.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Max		C-Max	C-Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	10.0		10.0	10.0	13.0	
Pedestrian Calls (#/hr)	5		5	5	5	
Act Effct Green (s)	46.0		46.0	46.0	28.0	
Actuated g/C Ratio	0.58		0.58	0.58	0.35	
v/c Ratio	0.23		0.33	0.32	0.25	
Control Delay	5.4		10.9	9.4	18.0	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.4		10.9	9.4	18.0	
LOS	A		B	A	B	
Approach Delay	5.4			9.8	18.0	
Approach LOS	A			A	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 37 (46%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 10.6		Intersection LOS: B	
Intersection Capacity Utilization 51.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: HARRISON ST & SARAH LOGUEN DR



Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	243	195	627	271
v/c Ratio	0.23	0.33	0.32	0.25
Control Delay	5.4	10.9	9.4	18.0
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	5.4	10.9	9.4	18.0
Queue Length 50th (ft)	8	32	53	41
Queue Length 95th (ft)	19	60	74	45
Internal Link Dist (ft)	417		276	505
Turn Bay Length (ft)				
Base Capacity (vph)	1040	584	1977	1074
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.23	0.33	0.32	0.25

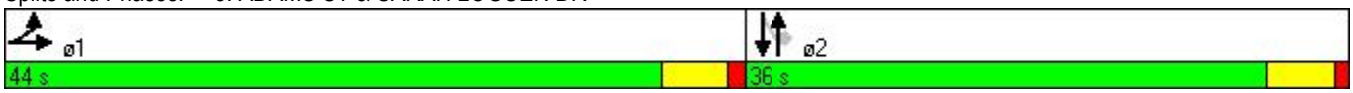
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	371	1089	80	0	0	0	0	67	41	26	38	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	12	12	12	12	12
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		1.00							0.80	0.83		
Frt		0.992							0.850			
Flt Protected		0.988								0.950		
Satd. Flow (prot)	0	3871	0	0	0	0	0	1845	1272	1736	1473	0
Flt Permitted		0.988								0.708		
Satd. Flow (perm)	0	3862	0	0	0	0	0	1845	1017	1070	1473	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		10							47			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			400			211			585	
Travel Time (s)		11.4			9.1			4.8			13.3	
Confl. Peds. (#/hr)	8		19	19		8			136	136		
Peak Hour Factor	0.95	0.95	0.95	0.88	0.88	0.88	0.88	0.88	0.88	0.86	0.86	0.86
Heavy Vehicles (%)	7%	2%	4%	2%	2%	2%	2%	3%	27%	4%	29%	2%
Adj. Flow (vph)	391	1146	84	0	0	0	0	76	47	30	44	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1621	0	0	0	0	0	76	47	30	44	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	1						1	1	1	1	
Detector Template												
Leading Detector (ft)	5	5						5	5	5	5	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	5	5						5	5	5	5	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Turn Type	Split								Perm	Perm		
Protected Phases	1	1						2			2	
Permitted Phases									2	2		
Detector Phase	1	1						2	2	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	27.0	27.0						22.0	22.0	22.0	22.0	
Total Split (s)	44.0	44.0	0.0	0.0	0.0	0.0	0.0	36.0	36.0	36.0	36.0	0.0
Total Split (%)	55.0%	55.0%	0.0%	0.0%	0.0%	0.0%	0.0%	45.0%	45.0%	45.0%	45.0%	0.0%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	39.0	39.0						31.0	31.0	31.0	31.0	
Yellow Time (s)	4.0	4.0						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead						Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max						Max	Max	Max	Max	
Walk Time (s)	7.0	7.0						7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0						10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	5	5						5	5	5	5	
Act Effct Green (s)		41.0						33.0	33.0	33.0	33.0	
Actuated g/C Ratio		0.51						0.41	0.41	0.41	0.41	
v/c Ratio		0.81						0.10	0.11	0.07	0.07	
Control Delay		18.4						14.9	5.4	16.2	16.0	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		18.4						14.9	5.4	16.2	16.0	
LOS		B						B	A	B	B	
Approach Delay		18.4						11.3			16.1	
Approach LOS		B						B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 34 (43%), Referenced to phase 1:EBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 17.8		Intersection LOS: B	
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: ADAMS ST & SARAH LOGUEN DR



Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1621	76	47	30	44
v/c Ratio	0.81	0.10	0.11	0.07	0.07
Control Delay	18.4	14.9	5.4	16.2	16.0
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	18.4	14.9	5.4	16.2	16.0
Queue Length 50th (ft)	214	15	0	7	10
Queue Length 95th (ft)	m134	32	13	20	26
Internal Link Dist (ft)	423	131			505
Turn Bay Length (ft)					
Base Capacity (vph)	1989	761	447	441	608
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.81	0.10	0.11	0.07	0.07

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	421	475	213	0	0	0	0	923	357	122	708	835
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.95	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.95	0.97	*0.65
Ped Bike Factor			0.88						0.97			
Frt			0.850						0.850			
Flt Protected	0.950										0.950	
Satd. Flow (prot)	3367	3406	1468	0	0	0	0	5085	1568	0	3462	2375
Flt Permitted	0.950										0.154	
Satd. Flow (perm)	3367	3406	1288	0	0	0	0	5085	1519	0	561	2375
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			198						38			
Link Speed (mph)		30			30			30				30
Link Distance (ft)		636			503			1501				572
Travel Time (s)		14.5			11.4			34.1				13.0
Confl. Peds. (#/hr)			80				62		18		18	
Peak Hour Factor	0.90	0.90	0.90	1.00	1.00	1.00	0.94	0.94	0.94	0.95	0.95	0.95
Heavy Vehicles (%)	4%	6%	10%	2%	2%	2%	2%	2%	3%	2%	1%	4%
Adj. Flow (vph)	468	528	237	0	0	0	0	982	380	128	745	879
Shared Lane Traffic (%)												
Lane Group Flow (vph)	468	528	237	0	0	0	0	982	380	0	873	879
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Right	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		24			24			24				40
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	1	1					1	1	1	1	1
Detector Template												
Leading Detector (ft)	5	5	5					5	5	5	5	5
Trailing Detector (ft)	0	0	0					0	0	0	0	0
Detector 1 Position(ft)	0	0	0					0	0	0	0	0
Detector 1 Size(ft)	5	5	5					5	5	5	5	5
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0
Turn Type	Split		Perm						Perm	custom	Prot	
Protected Phases	1	1						4			3	8
Permitted Phases			1						4	3		
Detector Phase	1	1	1					4	4	3	3	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.5	22.5	22.5					27.0	27.0	25.0	25.0	22.0
Total Split (s)	23.0	23.0	23.0	0.0	0.0	0.0	0.0	27.0	27.0	30.0	30.0	57.0
Total Split (%)	28.8%	28.8%	28.8%	0.0%	0.0%	0.0%	0.0%	33.8%	33.8%	37.5%	37.5%	71.3%
Maximum Green (s)	17.5	17.5	17.5					22.0	22.0	24.0	24.0	52.0

Lane Group	SBR
Lane Configurations	
Volume (vph)	0
Ideal Flow (vphpl)	1900
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	2%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	0.0
Total Split (%)	0.0%
Maximum Green (s)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5					1.0	1.0	2.0	2.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0
Lead/Lag								Lag	Lag	Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None					C-Max	C-Max	None	None	C-Max
Walk Time (s)	7.0	7.0	7.0					7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					15.0	15.0	12.0	12.0	
Pedestrian Calls (#/hr)	5	5	5					5	5	5	5	
Act Effct Green (s)	18.4	18.4	18.4					25.1	25.1		26.0	55.1
Actuated g/C Ratio	0.23	0.23	0.23					0.31	0.31		0.32	0.69
v/c Ratio	0.60	0.67	0.53					0.62	0.76		4.80	0.54
Control Delay	31.0	32.7	11.1					25.7	34.3		1727.3	3.5
Queue Delay	0.0	0.0	0.0					0.0	0.0		0.0	0.0
Total Delay	31.0	32.7	11.1					25.7	34.3		1727.3	3.5
LOS	C	C	B					C	C		F	A
Approach Delay		27.9						28.1				862.4
Approach LOS		C						C				F

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Offset: 0 (0%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 4.80
Intersection Signal Delay: 364.3 Intersection LOS: F
Intersection Capacity Utilization 71.6% ICU Level of Service C
Analysis Period (min) 15
* User Entered Value

Splits and Phases: 6: ADAMS ST & ALMOND ST

Lane Group	SBR
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	-1.0
Total Lost Time (s)	3.0
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

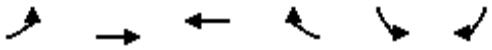
Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	468	528	237	982	380	873	879
v/c Ratio	0.60	0.67	0.53	0.62	0.76	4.80	0.54
Control Delay	31.0	32.7	11.1	25.7	34.3	1727.3	3.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	31.0	32.7	11.1	25.7	34.3	1727.3	3.5
Queue Length 50th (ft)	72	84	10	105	106	~282	16
Queue Length 95th (ft)	104	120	53	135	#203	m#350	m32
Internal Link Dist (ft)		556		1421			492
Turn Bay Length (ft)							
Base Capacity (vph)	821	830	464	1596	503	182	1636
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.57	0.64	0.51	0.62	0.76	4.80	0.54

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

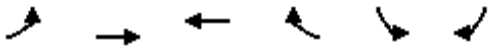
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	495	47	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.86	0.86	1.00	1.00
Ped Bike Factor						
Frt			0.987			0.865
Flt Protected						
Satd. Flow (prot)	0	0	6325	0	0	1494
Flt Permitted						
Satd. Flow (perm)	0	0	6325	0	0	1494
Link Speed (mph)		30	30		30	
Link Distance (ft)		226	245		201	
Travel Time (s)		5.1	5.6		4.6	
Confl. Peds. (#/hr)				15		9
Peak Hour Factor	1.00	1.00	0.88	0.88	1.00	0.67
Heavy Vehicles (%)	2%	2%	2%	2%	2%	10%
Adj. Flow (vph)	0	0	563	53	0	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	615	0	0	60
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

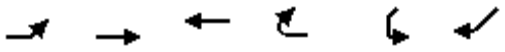
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	495	47	0	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.88	0.88	1.00	0.67
Hourly flow rate (vph)	0	0	562	53	0	60
Pedestrians		9			15	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			490			
pX, platoon unblocked						
vC, conflicting volume	631				604	191
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	631				604	191
tC, single (s)	4.1				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	92
cM capacity (veh/h)	936				424	784

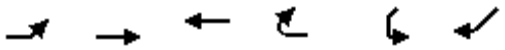
Direction, Lane #	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	161	161	161	134	60
Volume Left	0	0	0	0	0
Volume Right	0	0	0	53	60
cSH	1700	1700	1700	1700	784
Volume to Capacity	0.09	0.09	0.09	0.08	0.08
Queue Length 95th (ft)	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	10.0
Lane LOS					A
Approach Delay (s)	0.0				10.0
Approach LOS					A

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	305	0	0	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	0	4893	0	0	1627
Flt Permitted						
Satd. Flow (perm)	0	0	4893	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	245		324	
Travel Time (s)		7.0	5.6		7.4	
Peak Hour Factor	1.00	1.00	0.87	1.00	1.00	0.81
Heavy Vehicles (%)	2%	2%	6%	2%	2%	1%
Adj. Flow (vph)	0	0	351	0	0	293
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	351	0	0	293
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.2%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	305	0	0	237
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.87	1.00	1.00	0.81
Hourly flow rate (vph)	0	0	351	0	0	293
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			245			
pX, platoon unblocked						
vC, conflicting volume	351				351	117
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	351				351	117
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	68
cM capacity (veh/h)	1205				621	916

Direction, Lane #	WB 1	WB 2	WB 3	SW 1
Volume Total	117	117	117	293
Volume Left	0	0	0	0
Volume Right	0	0	0	293
cSH	1700	1700	1700	916
Volume to Capacity	0.07	0.07	0.07	0.32
Queue Length 95th (ft)	0	0	0	24
Control Delay (s)	0.0	0.0	0.0	10.8
Lane LOS				B
Approach Delay (s)	0.0			10.8
Approach LOS				B

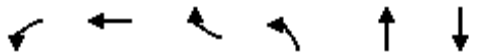
Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	117	139	521	123	950	22	0	956	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.91	0.91	0.91	0.91	0.91
Ped Bike Factor				0.96			0.99	1.00			1.00	
Frt						0.850		0.997			0.994	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1719	3471	2733	3367	4971	0	0	4957	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1649	3471	2733	3340	4971	0	0	4957	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						146		7			9	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		200			497			572			444	
Travel Time (s)		4.5			11.3			13.0			10.1	
Confl. Peds. (#/hr)				46			37		9	9		37
Peak Hour Factor	1.00	1.00	1.00	0.88	0.88	0.88	0.85	0.85	0.85	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	2%	5%	4%	4%	4%	4%	2%	0%	3%	21%
Adj. Flow (vph)	0	0	0	133	158	592	145	1118	26	0	1112	50
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	133	158	592	145	1144	0	0	1162	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			40			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors				1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)				5	5	5	5	5		5	5	
Trailing Detector (ft)				0	0	0	0	0		0	0	
Detector 1 Position(ft)				0	0	0	0	0		0	0	
Detector 1 Size(ft)				5	5	5	5	5		5	5	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type				Perm		Perm	Prot			Perm		
Protected Phases					4		1	6			2	
Permitted Phases				4		4				2		
Detector Phase				4	4	4	1	6		2	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0		7.0	7.0	
Minimum Split (s)				26.0	26.0	26.0	21.0	54.0		33.0	33.0	
Total Split (s)	0.0	0.0	0.0	30.0	30.0	30.0	23.0	50.0	0.0	27.0	27.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	37.5%	37.5%	37.5%	28.8%	62.5%	0.0%	33.8%	33.8%	0.0%
Maximum Green (s)				25.0	25.0	25.0	18.0	45.0		22.0	22.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-1.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode				None	None	None	None	C-Min		C-Min	C-Min	
Walk Time (s)				7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)				20.0	20.0	20.0	11.0	19.0		15.0	15.0	
Pedestrian Calls (#/hr)				5	5	5	5	5		5	5	
Act Effct Green (s)				21.2	21.2	21.2	13.6	52.8			36.2	
Actuated g/C Ratio				0.26	0.26	0.26	0.17	0.66			0.45	
v/c Ratio				0.30	0.17	0.71	0.25	0.35			0.52	
Control Delay				19.9	17.5	20.1	25.0	6.4			18.1	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				19.9	17.5	20.1	25.0	6.4			18.1	
LOS				B	B	C	C	A			B	
Approach Delay					19.6			8.5			18.1	
Approach LOS					B			A			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 24 (30%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.71			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: HARRISON ST & ALMOND ST



Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	133	158	592	145	1144	1162
v/c Ratio	0.30	0.17	0.71	0.25	0.35	0.52
Control Delay	19.9	17.5	20.1	25.0	6.4	18.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	19.9	17.5	20.1	25.0	6.4	18.1
Queue Length 50th (ft)	38	23	81	22	67	95
Queue Length 95th (ft)	65	36	111	m23	m95	154
Internal Link Dist (ft)		417			492	364
Turn Bay Length (ft)						
Base Capacity (vph)	557	1171	1019	842	3282	2247
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.24	0.13	0.58	0.17	0.35	0.52

Intersection Summary

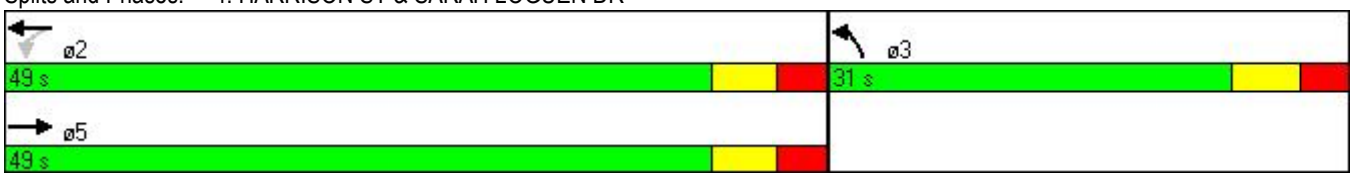
m Volume for 95th percentile queue is metered by upstream signal.

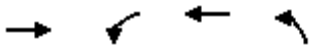
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	2	71	634	143	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	0.95
Ped Bike Factor	1.00		0.98		0.97	
Frt	0.987				0.976	
Flt Protected			0.950		0.960	
Satd. Flow (prot)	1869	0	1671	3505	3234	0
Flt Permitted			0.736		0.960	
Satd. Flow (perm)	1869	0	1267	3505	3172	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3				30	
Link Speed (mph)	30			30	30	
Link Distance (ft)	497			356	585	
Travel Time (s)	11.3			8.1	13.3	
Confl. Peds. (#/hr)		16	16		19	22
Peak Hour Factor	0.68	0.68	0.90	0.90	0.89	0.89
Heavy Vehicles (%)	0%	0%	8%	3%	4%	15%
Adj. Flow (vph)	29	3	79	704	161	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	79	704	191	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1		1	1	1	
Detector Template						
Leading Detector (ft)	5		5	5	5	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	5		5	5	5	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Turn Type			Perm			
Protected Phases	5			2	3	
Permitted Phases			2			
Detector Phase	5		2	2	3	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	24.0		24.0	24.0	27.0	
Total Split (s)	49.0	0.0	49.0	49.0	31.0	0.0
Total Split (%)	61.3%	0.0%	61.3%	61.3%	38.8%	0.0%
Maximum Green (s)	42.0		42.0	42.0	24.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	3.0		3.0	3.0	3.0	
Lost Time Adjust (s)	-4.0	-1.0	-4.0	-4.0	-4.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Max		C-Max	C-Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	10.0		10.0	10.0	13.0	
Pedestrian Calls (#/hr)	5		5	5	5	
Act Effct Green (s)	46.0		46.0	46.0	28.0	
Actuated g/C Ratio	0.58		0.58	0.58	0.35	
v/c Ratio	0.03		0.11	0.35	0.17	
Control Delay	3.7		8.2	9.7	10.4	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	3.7		8.2	9.7	10.4	
LOS	A		A	A	B	
Approach Delay	3.7			9.5	10.4	
Approach LOS	A			A	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 41 (51%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay: 9.5		Intersection LOS: A	
Intersection Capacity Utilization 40.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: HARRISON ST & SARAH LOGUEN DR





Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	32	79	704	191
v/c Ratio	0.03	0.11	0.35	0.17
Control Delay	3.7	8.2	9.7	10.4
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	3.7	8.2	9.7	10.4
Queue Length 50th (ft)	5	11	61	7
Queue Length 95th (ft)	4	24	83	30
Internal Link Dist (ft)	417		276	505
Turn Bay Length (ft)				
Base Capacity (vph)	1076	729	2015	1151
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.03	0.11	0.35	0.17

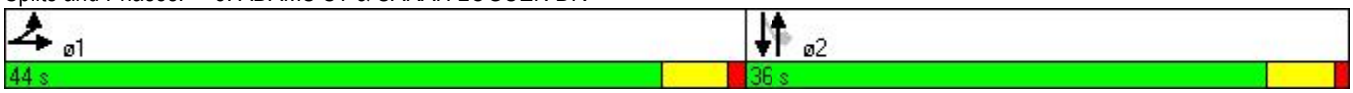
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	104	684	61	0	0	0	0	69	30	18	37	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	12	12	12	12	12
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99							0.78	0.82		
Frt		0.989							0.850			
Flt Protected		0.994								0.950		
Satd. Flow (prot)	0	3899	0	0	0	0	0	1845	1380	1703	1759	0
Flt Permitted		0.994								0.703		
Satd. Flow (perm)	0	3892	0	0	0	0	0	1845	1083	1027	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		15							36			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			400			211			585	
Travel Time (s)		11.4			9.1			4.8			13.3	
Confl. Peds. (#/hr)	14		43						147	147		
Peak Hour Factor	0.87	0.87	0.87	1.00	1.00	1.00	1.00	0.83	0.83	0.91	0.91	0.91
Heavy Vehicles (%)	5%	2%	3%	2%	2%	2%	2%	3%	17%	6%	8%	2%
Adj. Flow (vph)	120	786	70	0	0	0	0	83	36	20	41	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	976	0	0	0	0	0	83	36	20	41	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	1						1	1	1	1	
Detector Template												
Leading Detector (ft)	5	5						5	5	5	5	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	5	5						5	5	5	5	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Turn Type	Split								Perm	Perm		
Protected Phases	1	1						2			2	
Permitted Phases									2	2		
Detector Phase	1	1						2	2	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	27.0	27.0						22.0	22.0	22.0	22.0	
Total Split (s)	44.0	44.0	0.0	0.0	0.0	0.0	0.0	36.0	36.0	36.0	36.0	0.0
Total Split (%)	55.0%	55.0%	0.0%	0.0%	0.0%	0.0%	0.0%	45.0%	45.0%	45.0%	45.0%	0.0%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	39.0	39.0						31.0	31.0	31.0	31.0	
Yellow Time (s)	4.0	4.0						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead						Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max						Max	Max	Max	Max	
Walk Time (s)	7.0	7.0						7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0						10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	5	5						5	5	5	5	
Act Effct Green (s)		41.0						33.0	33.0	33.0	33.0	
Actuated g/C Ratio		0.51						0.41	0.41	0.41	0.41	
v/c Ratio		0.49						0.11	0.08	0.05	0.06	
Control Delay		5.7						15.0	5.7	30.3	29.8	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		5.7						15.0	5.7	30.3	29.8	
LOS		A						B	A	C	C	
Approach Delay		5.7						12.2			29.9	
Approach LOS		A						B			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 55 (69%), Referenced to phase 1:EBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.49			
Intersection Signal Delay: 7.7		Intersection LOS: A	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: ADAMS ST & SARAH LOGUEN DR



Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	976	83	36	20	41
v/c Ratio	0.49	0.11	0.08	0.05	0.06
Control Delay	5.7	15.0	5.7	30.3	29.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	5.7	15.0	5.7	30.3	29.8
Queue Length 50th (ft)	80	17	0	6	13
Queue Length 95th (ft)	m30	32	10	22	35
Internal Link Dist (ft)	423	131			505
Turn Bay Length (ft)					
Base Capacity (vph)	2006	761	468	424	726
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.49	0.11	0.08	0.05	0.06

Intersection Summary

m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	452	305	256	0	0	0	0	471	172	172	372	529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.95	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.95	0.97	*0.65
Ped Bike Factor			0.89						0.98		1.00	
Frt			0.850						0.850			
Flt Protected	0.950										0.950	
Satd. Flow (prot)	3400	3539	1583	0	0	0	0	5085	1599	0	3431	2398
Flt Permitted	0.950										0.250	
Satd. Flow (perm)	3400	3539	1411	0	0	0	0	5085	1568	0	900	2398
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			275						52			
Link Speed (mph)		30			30			30				30
Link Distance (ft)		636			503			1501				572
Travel Time (s)		14.5			11.4			34.1				13.0
Confl. Peds. (#/hr)			70						7		7	
Peak Hour Factor	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.81	0.81	0.92	0.92	0.92
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	1%	0%	3%	3%
Adj. Flow (vph)	486	328	275	0	0	0	0	581	212	187	404	575
Shared Lane Traffic (%)												
Lane Group Flow (vph)	486	328	275	0	0	0	0	581	212	0	591	575
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Right	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		24			24			24				40
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	1	1					1	1	1	1	1
Detector Template												
Leading Detector (ft)	5	5	5					5	5	5	5	5
Trailing Detector (ft)	0	0	0					0	0	0	0	0
Detector 1 Position(ft)	0	0	0					0	0	0	0	0
Detector 1 Size(ft)	5	5	5					5	5	5	5	5
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0
Turn Type	Split		Perm						Perm	custom	Prot	
Protected Phases	1	1						4			3	8
Permitted Phases			1						4	3		
Detector Phase	1	1	1					4	4	3	3	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.5	22.5	22.5					27.0	27.0	25.0	25.0	22.0
Total Split (s)	18.0	18.0	18.0	0.0	0.0	0.0	0.0	42.0	42.0	20.0	20.0	62.0
Total Split (%)	22.5%	22.5%	22.5%	0.0%	0.0%	0.0%	0.0%	52.5%	52.5%	25.0%	25.0%	77.5%
Maximum Green (s)	12.5	12.5	12.5					37.0	37.0	14.0	14.0	57.0

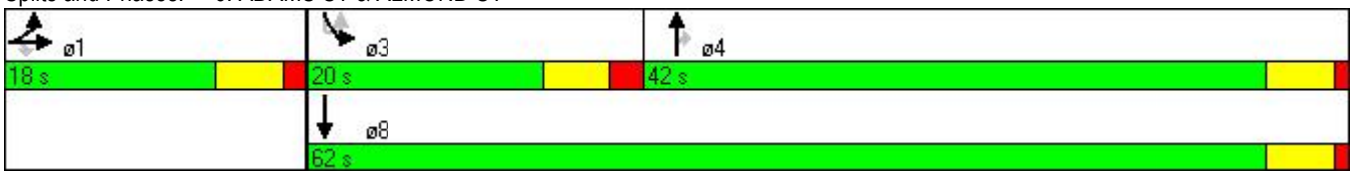
Lane Group	SBR
Lane Configurations	
Volume (vph)	0
Ideal Flow (vphpl)	1900
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	2%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	0.0
Total Split (%)	0.0%
Maximum Green (s)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5					1.0	1.0	2.0	2.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0
Lead/Lag								Lag	Lag	Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None					C-Min	C-Min	None	None	C-Min
Walk Time (s)	7.0	7.0	7.0					7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					15.0	15.0	12.0	12.0	
Pedestrian Calls (#/hr)	5	5	5					5	5	5	5	
Act Effct Green (s)	14.5	14.5	14.5					39.0	39.0		16.0	59.0
Actuated g/C Ratio	0.18	0.18	0.18					0.49	0.49		0.20	0.74
v/c Ratio	0.79	0.51	0.57					0.23	0.27		3.28	0.33
Control Delay	42.1	32.8	9.3					12.2	10.0		1054.7	9.9
Queue Delay	0.0	0.0	0.0					0.0	0.0		0.0	0.0
Total Delay	42.1	32.8	9.3					12.2	10.0		1054.7	9.9
LOS	D	C	A					B	B		F	A
Approach Delay		31.0						11.6				539.5
Approach LOS		C						B				F

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 80			
Offset: 17 (21%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 3.28			
Intersection Signal Delay: 220.5		Intersection LOS: F	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

* User Entered Value

Splits and Phases: 6: ADAMS ST & ALMOND ST



Lane Group	SBR
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	-1.0
Total Lost Time (s)	3.0
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

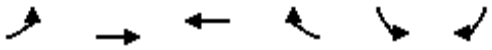
Intersection Summary

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	486	328	275	581	212	591	575
v/c Ratio	0.79	0.51	0.57	0.23	0.27	3.28	0.33
Control Delay	42.1	32.8	9.3	12.2	10.0	1054.7	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	32.8	9.3	12.2	10.0	1054.7	9.9
Queue Length 50th (ft)	81	53	0	39	30	~190	117
Queue Length 95th (ft)	#128	81	43	47	49	#231	195
Internal Link Dist (ft)		556		1421			492
Turn Bay Length (ft)							
Base Capacity (vph)	616	641	481	2479	791	180	1769
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.79	0.51	0.57	0.23	0.27	3.28	0.33

Intersection Summary

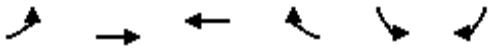
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	552	18	0	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.86	0.86	1.00	1.00
Ped Bike Factor						
Frt			0.996			0.865
Flt Protected						
Satd. Flow (prot)	0	0	6205	0	0	1644
Flt Permitted						
Satd. Flow (perm)	0	0	6205	0	0	1644
Link Speed (mph)		30	30		30	
Link Distance (ft)		226	245		201	
Travel Time (s)		5.1	5.6		4.6	
Confl. Peds. (#/hr)				27		10
Peak Hour Factor	1.00	1.00	0.94	1.00	1.00	0.53
Heavy Vehicles (%)	2%	2%	5%	2%	2%	0%
Adj. Flow (vph)	0	0	587	18	0	89
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	605	0	0	89
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Stop	

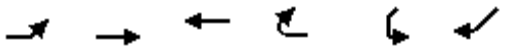
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	552	18	0	47
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.94	1.00	1.00	0.53
Hourly flow rate (vph)	0	0	587	18	0	89
Pedestrians		10			27	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			490			
pX, platoon unblocked						
vC, conflicting volume	632				623	193
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	632				623	193
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	89
cM capacity (veh/h)	925				409	804

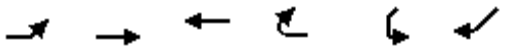
Direction, Lane #	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	168	168	168	102	89
Volume Left	0	0	0	0	0
Volume Right	0	0	0	18	89
cSH	1700	1700	1700	1700	804
Volume to Capacity	0.10	0.10	0.10	0.06	0.11
Queue Length 95th (ft)	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	10.0
Lane LOS					B
Approach Delay (s)	0.0				10.0
Approach LOS					B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	24.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations			↑↑↑			↱
Volume (vph)	0	0	389	0	0	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	0.91	1.00	1.00	1.00
Frt						0.865
Flt Protected						
Satd. Flow (prot)	0	0	4940	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	0	4940	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	245		324	
Travel Time (s)		7.0	5.6		7.4	
Peak Hour Factor	1.00	1.00	0.89	1.00	1.00	0.89
Heavy Vehicles (%)	2%	2%	5%	2%	2%	2%
Adj. Flow (vph)	0	0	437	0	0	203
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	437	0	0	203
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		0	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.4%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations			↑↑↑			↱
Volume (veh/h)	0	0	389	0	0	181
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.89	1.00	1.00	0.89
Hourly flow rate (vph)	0	0	437	0	0	203
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			245			
pX, platoon unblocked						
vC, conflicting volume	437				437	146
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	437				437	146
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	77
cM capacity (veh/h)	1119				548	875

Direction, Lane #	WB 1	WB 2	WB 3	SW 1
Volume Total	146	146	146	203
Volume Left	0	0	0	0
Volume Right	0	0	0	203
cSH	1700	1700	1700	875
Volume to Capacity	0.09	0.09	0.09	0.23
Queue Length 95th (ft)	0	0	0	15
Control Delay (s)	0.0	0.0	0.0	10.4
Lane LOS				B
Approach Delay (s)	0.0			10.4
Approach LOS				B

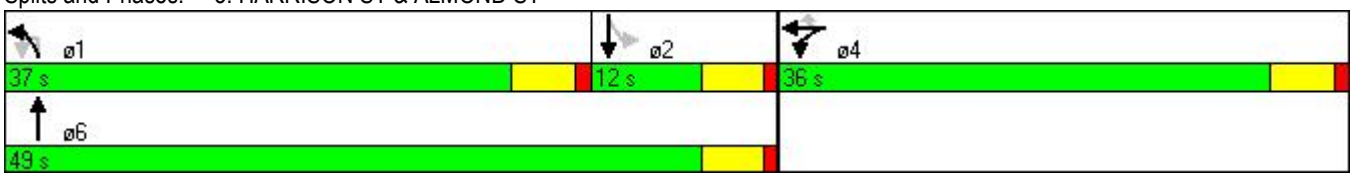
Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

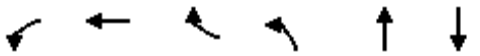
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	335	224	1293	117	2046	49	0	1103	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.88	0.97	0.91	0.91	0.91	0.91	0.91
Ped Bike Factor				0.94			0.99	1.00			1.00	
Frt						0.850		0.996			0.994	
Flt Protected				0.950			0.950					
Satd. Flow (prot)	0	0	0	1770	3312	2814	3502	5097	0	0	5003	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1656	3312	2814	3481	5097	0	0	5003	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						7		6			6	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		200			497			572			444	
Travel Time (s)		4.5			11.3			13.0			10.1	
Confl. Peds. (#/hr)				68			25		26	26		25
Peak Hour Factor	1.00	1.00	1.00	0.94	0.94	0.94	0.96	0.96	0.96	0.99	0.99	0.99
Heavy Vehicles (%)	2%	2%	2%	2%	9%	1%	0%	1%	10%	2%	3%	0%
Adj. Flow (vph)	0	0	0	356	238	1376	122	2131	51	0	1114	48
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	356	238	1376	122	2182	0	0	1162	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			40			24	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors				1	1	1	1	1		1	1	
Detector Template												
Leading Detector (ft)				5	5	5	5	5		5	5	
Trailing Detector (ft)				0	0	0	0	0		0	0	
Detector 1 Position(ft)				0	0	0	0	0		0	0	
Detector 1 Size(ft)				5	5	5	5	5		5	5	
Detector 1 Type				Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Queue (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Detector 1 Delay (s)				0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Turn Type				Split		Perm	Prot			Perm		
Protected Phases				4	4		1	6			2	
Permitted Phases						4				2		
Detector Phase				4	4	4	1	6		2	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0		7.0	7.0	
Minimum Split (s)				32.0	32.0	32.0	23.0	31.0		12.0	12.0	
Total Split (s)	0.0	0.0	0.0	36.0	36.0	36.0	37.0	49.0	0.0	12.0	12.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	42.4%	42.4%	42.4%	43.5%	57.6%	0.0%	14.1%	14.1%	0.0%
Maximum Green (s)				31.0	31.0	31.0	32.0	44.0		7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)				3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Recall Mode				None	None	None	None	C-Max		C-Max	C-Max	
Walk Time (s)				7.0	7.0	7.0	7.0	7.0		7.0	7.0	
Flash Dont Walk (s)				20.0	20.0	20.0	11.0	19.0		15.0	15.0	
Pedestrian Calls (#/hr)				5	5	5	5	5		5	5	
Act Effct Green (s)				33.0	33.0	33.0	13.6	46.0			32.4	
Actuated g/C Ratio				0.39	0.39	0.39	0.16	0.54			0.38	
v/c Ratio				0.52	0.19	1.25	0.22	0.79			0.61	
Control Delay				16.5	11.3	142.4	29.6	21.3			24.5	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				16.5	11.3	142.4	29.6	21.3			24.5	
LOS				B	B	F	C	C			C	
Approach Delay					103.8			21.7			24.5	
Approach LOS					F			C			C	

Intersection Summary	
Area Type:	Other
Cycle Length: 85	
Actuated Cycle Length: 85	
Offset: 36 (42%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow	
Natural Cycle: 80	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 1.25	
Intersection Signal Delay: 52.1	Intersection LOS: D
Intersection Capacity Utilization 92.6%	ICU Level of Service F
Analysis Period (min) 15	

Splits and Phases: 3: HARRISON ST & ALMOND ST





Lane Group	WBL	WBT	WBR	NBL	NBT	SBT
Lane Group Flow (vph)	356	238	1376	122	2182	1162
v/c Ratio	0.52	0.19	1.25	0.22	0.79	0.61
Control Delay	16.5	11.3	142.4	29.6	21.3	24.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	16.5	11.3	142.4	29.6	21.3	24.5
Queue Length 50th (ft)	106	27	~372	19	236	124
Queue Length 95th (ft)	m124	m31	m#358	m18	m156	#186
Internal Link Dist (ft)		417			492	364
Turn Bay Length (ft)						
Base Capacity (vph)	687	1286	1097	1401	2761	1910
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.52	0.19	1.25	0.09	0.79	0.61

Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

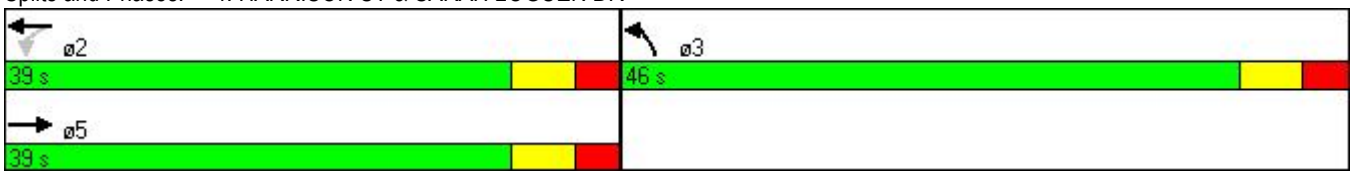
m Volume for 95th percentile queue is metered by upstream signal.

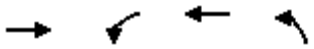
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	41	8	29	1368	484	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	0.95	0.97	0.95
Ped Bike Factor	0.99		0.98		0.99	
Frt	0.978				0.992	
Flt Protected			0.950		0.955	
Satd. Flow (prot)	1818	0	1805	3539	3379	0
Flt Permitted			0.706		0.955	
Satd. Flow (perm)	1818	0	1318	3539	3375	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13				10	
Link Speed (mph)	30			30	30	
Link Distance (ft)	497			356	585	
Travel Time (s)	11.3			8.1	13.3	
Confl. Peds. (#/hr)		13	13		1	29
Peak Hour Factor	0.63	0.63	0.95	0.95	0.91	0.91
Heavy Vehicles (%)	2%	0%	0%	2%	2%	19%
Adj. Flow (vph)	65	13	31	1440	532	30
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	31	1440	562	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	24	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1		1	1	1	
Detector Template						
Leading Detector (ft)	5		5	5	5	
Trailing Detector (ft)	0		0	0	0	
Detector 1 Position(ft)	0		0	0	0	
Detector 1 Size(ft)	5		5	5	5	
Detector 1 Type	Cl+Ex		Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel						
Detector 1 Extend (s)	0.0		0.0	0.0	0.0	
Detector 1 Queue (s)	0.0		0.0	0.0	0.0	
Detector 1 Delay (s)	0.0		0.0	0.0	0.0	
Turn Type			Perm			
Protected Phases	5			2	3	
Permitted Phases			2			
Detector Phase	5		2	2	3	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	24.0		24.0	24.0	27.0	
Total Split (s)	39.0	0.0	39.0	39.0	46.0	0.0
Total Split (%)	45.9%	0.0%	45.9%	45.9%	54.1%	0.0%
Maximum Green (s)	32.0		32.0	32.0	39.0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	3.0		3.0	3.0	3.0	
Lost Time Adjust (s)	-4.0	-1.0	-4.0	-4.0	-4.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0		3.0	3.0	3.0	
Recall Mode	C-Max		C-Max	C-Max	Max	
Walk Time (s)	7.0		7.0	7.0	7.0	
Flash Dont Walk (s)	10.0		10.0	10.0	13.0	
Pedestrian Calls (#/hr)	5		5	5	5	
Act Effct Green (s)	36.0		36.0	36.0	43.0	
Actuated g/C Ratio	0.42		0.42	0.42	0.51	
v/c Ratio	0.10		0.06	0.96	0.33	
Control Delay	9.1		14.9	40.6	12.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	9.1		14.9	40.6	12.9	
LOS	A		B	D	B	
Approach Delay	9.1			40.1	12.9	
Approach LOS	A			D	B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 37 (44%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.96			
Intersection Signal Delay: 31.7		Intersection LOS: C	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 4: HARRISON ST & SARAH LOGUEN DR





Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	78	31	1440	562
v/c Ratio	0.10	0.06	0.96	0.33
Control Delay	9.1	14.9	40.6	12.9
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	9.1	14.9	40.6	12.9
Queue Length 50th (ft)	7	6	259	57
Queue Length 95th (ft)	m10	18	#367	80
Internal Link Dist (ft)	417		276	505
Turn Bay Length (ft)				
Base Capacity (vph)	777	558	1499	1714
Starvation Cap Reductn	0	0	0	0
Spillback Cap Reductn	0	0	0	0
Storage Cap Reductn	0	0	0	0
Reduced v/c Ratio	0.10	0.06	0.96	0.33

Intersection Summary

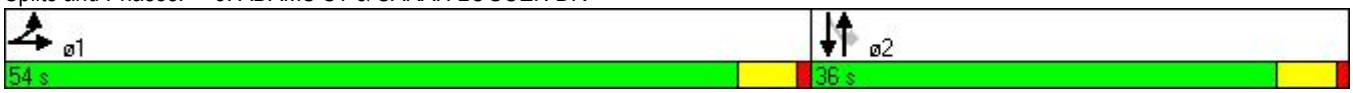
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	91	586	62	0	0	0	0	80	30	29	22	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	12	12	12	12	12
Lane Util. Factor	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor		0.99							0.79	0.83		
Frt		0.987							0.850			
Flt Protected		0.994								0.950		
Satd. Flow (prot)	0	3827	0	0	0	0	0	1900	1346	1805	1900	0
Flt Permitted		0.994								0.685		
Satd. Flow (perm)	0	3815	0	0	0	0	0	1900	1066	1077	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18							38			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			400			211			585	
Travel Time (s)		11.4			9.1			4.8			13.3	
Confl. Peds. (#/hr)	20		27						126	126		
Peak Hour Factor	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.80	0.80	0.81	0.81	1.00
Heavy Vehicles (%)	14%	2%	11%	2%	2%	2%	2%	0%	20%	0%	0%	2%
Adj. Flow (vph)	97	623	66	0	0	0	0	100	38	36	27	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	786	0	0	0	0	0	100	38	36	27	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	0.85	1.00	1.00	0.85	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	1						1	1	1	1	
Detector Template												
Leading Detector (ft)	5	5						5	5	5	5	
Trailing Detector (ft)	0	0						0	0	0	0	
Detector 1 Position(ft)	0	0						0	0	0	0	
Detector 1 Size(ft)	5	5						5	5	5	5	
Detector 1 Type	Cl+Ex	Cl+Ex						Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Queue (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Detector 1 Delay (s)	0.0	0.0						0.0	0.0	0.0	0.0	
Turn Type	Split								Perm	Perm		
Protected Phases	1	1						2			2	
Permitted Phases									2	2		
Detector Phase	1	1						2	2	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	27.0	27.0						22.0	22.0	22.0	22.0	
Total Split (s)	54.0	54.0	0.0	0.0	0.0	0.0	0.0	36.0	36.0	36.0	36.0	0.0
Total Split (%)	60.0%	60.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	40.0%	40.0%	40.0%	0.0%

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Maximum Green (s)	49.0	49.0						31.0	31.0	31.0	31.0	
Yellow Time (s)	4.0	4.0						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead						Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0						3.0	3.0	3.0	3.0	
Recall Mode	C-Max	C-Max						Max	Max	Max	Max	
Walk Time (s)	7.0	7.0						7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	15.0	15.0						10.0	10.0	10.0	10.0	
Pedestrian Calls (#/hr)	5	5						5	5	5	5	
Act Effct Green (s)		51.0						33.0	33.0	33.0	33.0	
Actuated g/C Ratio		0.57						0.37	0.37	0.37	0.37	
v/c Ratio		0.36						0.14	0.09	0.09	0.04	
Control Delay		10.9						19.8	7.0	19.6	18.6	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		10.9						19.8	7.0	19.6	18.6	
LOS		B						B	A	B	B	
Approach Delay		10.9						16.3			19.2	
Approach LOS		B						B			B	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 90			
Offset: 35 (39%), Referenced to phase 1:EBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.36			
Intersection Signal Delay: 12.2		Intersection LOS: B	
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: ADAMS ST & SARAH LOGUEN DR



Lane Group	EBT	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	786	100	38	36	27
v/c Ratio	0.36	0.14	0.09	0.09	0.04
Control Delay	10.9	19.8	7.0	19.6	18.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.9	19.8	7.0	19.6	18.6
Queue Length 50th (ft)	78	25	0	9	7
Queue Length 95th (ft)	104	43	11	21	16
Internal Link Dist (ft)	423	131			505
Turn Bay Length (ft)					
Base Capacity (vph)	2176	697	415	395	697
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.36	0.14	0.09	0.09	0.04

Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	1378	301	712	0	0	0	0	749	107	85	331	1022
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.97	0.95	1.00	1.00	1.00	1.00	1.00	0.91	1.00	0.95	0.97	*0.65
Ped Bike Factor			0.91						0.98		1.00	
Frt			0.850						0.850			
Flt Protected	0.950										0.950	
Satd. Flow (prot)	3467	3471	1599	0	0	0	0	5136	1615	0	3420	2446
Flt Permitted	0.950										0.200	
Satd. Flow (perm)	3467	3471	1460	0	0	0	0	5136	1590	0	719	2446
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			113						123			
Link Speed (mph)		30			30			30				30
Link Distance (ft)		636			503			1501				572
Travel Time (s)		14.5			11.4			34.1				13.0
Confl. Peds. (#/hr)			51						3		3	
Peak Hour Factor	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.87	0.87	0.92	0.92	0.92
Heavy Vehicles (%)	1%	4%	1%	2%	2%	2%	2%	1%	0%	0%	3%	1%
Adj. Flow (vph)	1566	342	809	0	0	0	0	861	123	92	360	1111
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1566	342	809	0	0	0	0	861	123	0	452	1111
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Right	Left	Right	Left	Left	Right	Left	Left	Right	R NA	Left	Left
Median Width(ft)		24			24			24				40
Link Offset(ft)		0			0			0				0
Crosswalk Width(ft)		16			16			16				16
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Number of Detectors	1	1	1					1	1	1	1	1
Detector Template												
Leading Detector (ft)	5	5	5					5	5	5	5	5
Trailing Detector (ft)	0	0	0					0	0	0	0	0
Detector 1 Position(ft)	0	0	0					0	0	0	0	0
Detector 1 Size(ft)	5	5	5					5	5	5	5	5
Detector 1 Type	Cl+Ex	Cl+Ex	Cl+Ex					Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex	Cl+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0
Detector 1 Queue (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0
Detector 1 Delay (s)	0.0	0.0	0.0					0.0	0.0	0.0	0.0	0.0
Turn Type	Split		Perm						Perm	custom	Prot	
Protected Phases	1	1						4			3	8
Permitted Phases			1						4	3		
Detector Phase	1	1	1					4	4	3	3	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	24.0	24.0	24.0					27.0	27.0	23.0	23.0	9.0
Total Split (s)	27.0	27.0	27.0	0.0	0.0	0.0	0.0	35.0	35.0	23.0	23.0	58.0
Total Split (%)	31.8%	31.8%	31.8%	0.0%	0.0%	0.0%	0.0%	41.2%	41.2%	27.1%	27.1%	68.2%
Maximum Green (s)	21.5	21.5	21.5					30.0	30.0	17.0	17.0	53.0

Lane Group	SBR
Lane Configurations	
Volume (vph)	0
Ideal Flow (vphpl)	1900
Lane Util. Factor	1.00
Ped Bike Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	2%
Adj. Flow (vph)	0
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Enter Blocked Intersection	No
Lane Alignment	Right
Median Width(ft)	
Link Offset(ft)	
Crosswalk Width(ft)	
Two way Left Turn Lane	
Headway Factor	1.00
Number of Detectors	
Detector Template	
Leading Detector (ft)	
Trailing Detector (ft)	
Detector 1 Position(ft)	
Detector 1 Size(ft)	
Detector 1 Type	
Detector 1 Channel	
Detector 1 Extend (s)	
Detector 1 Queue (s)	
Detector 1 Delay (s)	
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	0.0
Total Split (%)	0.0%
Maximum Green (s)	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5					1.0	1.0	2.0	2.0	1.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-3.0	-3.0	-2.0
Total Lost Time (s)	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag								Lag	Lag	Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0	3.0					3.0	3.0	3.0	3.0	3.0
Recall Mode	None	None	None					C-Max	C-Max	None	None	C-Max
Walk Time (s)	7.0	7.0	7.0					7.0	7.0	7.0	7.0	
Flash Dont Walk (s)	10.0	10.0	10.0					15.0	15.0	12.0	12.0	
Pedestrian Calls (#/hr)	5	5	5					5	5	5	5	
Act Effct Green (s)	24.5	24.5	24.5					32.0	32.0		20.0	55.0
Actuated g/C Ratio	0.29	0.29	0.29					0.38	0.38		0.24	0.65
v/c Ratio	1.57	0.34	1.61					0.45	0.18		2.67	0.70
Control Delay	286.4	25.1	308.9					20.8	4.3		785.1	23.3
Queue Delay	0.0	0.0	0.0					0.0	0.0		0.0	0.0
Total Delay	286.4	25.1	308.9					20.8	4.3		785.1	23.3
LOS	F	C	F					C	A		F	C
Approach Delay		260.2						18.7				243.6
Approach LOS		F						B				F

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 12 (14%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 2.67			
Intersection Signal Delay: 210.1		Intersection LOS: F	
Intersection Capacity Utilization 83.0%		ICU Level of Service E	
Analysis Period (min) 15			

* User Entered Value

Splits and Phases: 6: ADAMS ST & ALMOND ST

Lane Group	SBR
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	-1.0
Total Lost Time (s)	3.0
Lead/Lag	
Lead-Lag Optimize?	
Vehicle Extension (s)	
Recall Mode	
Walk Time (s)	
Flash Dont Walk (s)	
Pedestrian Calls (#/hr)	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	

Intersection Summary

Lane Group	EBL	EBT	EBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	1566	342	809	861	123	452	1111
v/c Ratio	1.57	0.34	1.61	0.45	0.18	2.67	0.70
Control Delay	286.4	25.1	308.9	20.8	4.3	785.1	23.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	286.4	25.1	308.9	20.8	4.3	785.1	23.3
Queue Length 50th (ft)	~420	51	~401	84	0	~146	333
Queue Length 95th (ft)	#493	74	#534	103	21	#200	402
Internal Link Dist (ft)		556		1421			492
Turn Bay Length (ft)							
Base Capacity (vph)	999	1000	501	1934	675	169	1583
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	1.57	0.34	1.61	0.45	0.18	2.67	0.70

Intersection Summary

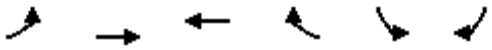
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Almond Street Corridor Pedestrian Study

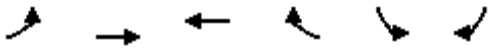
Syracuse, New York

A-3: Null Conditions Capacity Analysis



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1216	54	0	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	6369	0	0	1536
Flt Permitted						
Satd. Flow (perm)	0	0	6369	0	0	1536
Link Speed (mph)		30	30		30	
Link Distance (ft)		226	245		201	
Travel Time (s)		5.1	5.6		4.6	
Confl. Peds. (#/hr)				53		10
Peak Hour Factor	1.00	1.00	0.92	0.92	1.00	0.60
Heavy Vehicles (%)	2%	2%	2%	2%	2%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1381	0	0	52
Sign Control		Free	Free		Stop	

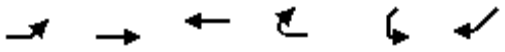
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	1216	54	0	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.92	0.92	1.00	0.60
Hourly flow rate (vph)	0	0	1322	59	0	52
Pedestrians		10			53	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			4	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			490			
pX, platoon unblocked						
vC, conflicting volume	1433				1404	423
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1433				1404	423
tC, single (s)	4.1				6.8	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	90
cM capacity (veh/h)	449				125	541

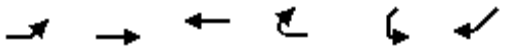
Direction, Lane #	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	378	378	378	248	52
Volume Left	0	0	0	0	0
Volume Right	0	0	0	59	52
cSH	1700	1700	1700	1700	541
Volume to Capacity	0.22	0.22	0.22	0.15	0.10
Queue Length 95th (ft)	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	12.4
Lane LOS					B
Approach Delay (s)	0.0				12.4
Approach LOS					B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	708	0	0	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	4988	0	0	1627
Flt Permitted						
Satd. Flow (perm)	0	0	4988	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	245		324	
Travel Time (s)		7.0	5.6		7.4	
Peak Hour Factor	1.00	1.00	0.92	1.00	1.00	0.91
Heavy Vehicles (%)	2%	2%	4%	2%	2%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	770	0	0	618
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations			↑↑↑			↱
Volume (veh/h)	0	0	708	0	0	562
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.92	1.00	1.00	0.91
Hourly flow rate (vph)	0	0	770	0	0	618
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			245			
pX, platoon unblocked						
vC, conflicting volume	770				770	257
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	770				770	257
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	17
cM capacity (veh/h)	841				337	746

Direction, Lane #	WB 1	WB 2	WB 3	SW 1
Volume Total	257	257	257	618
Volume Left	0	0	0	0
Volume Right	0	0	0	618
cSH	1700	1700	1700	746
Volume to Capacity	0.15	0.15	0.15	0.83
Queue Length 95th (ft)	0	0	0	156
Control Delay (s)	0.0	0.0	0.0	28.6
Lane LOS				D
Approach Delay (s)	0.0			28.6
Approach LOS				D

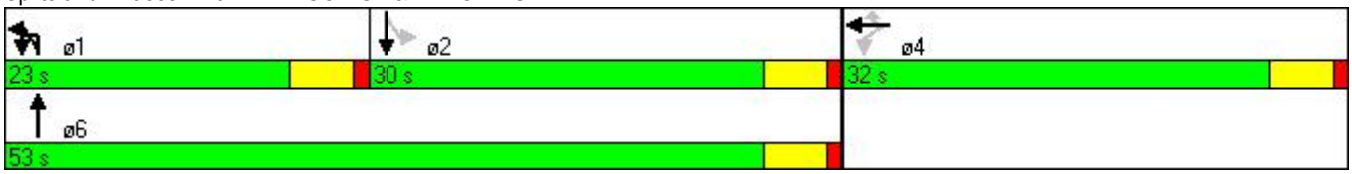
Intersection Summary			
Average Delay	12.7		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	96	230	452	435	907	124	0	1569	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	0	1752	3282	2733	3467	4838	0	0	5050	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1640	3282	2733	3453	4838	0	0	5050	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						187		50			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		200			497			572			444	
Travel Time (s)		4.5			11.3			13.0			10.1	
Confl. Peds. (#/hr)				68			46		8	8		46
Peak Hour Factor	1.00	1.00	1.00	0.76	0.76	0.76	0.89	0.89	0.89	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	3%	10%	4%	1%	5%	4%	2%	2%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	126	303	595	489	1158	0	0	1832	0
Turn Type				Perm		Perm	Prot			Perm		
Protected Phases					4		1	6			2	
Permitted Phases				4		4				2		
Detector Phase				4	4	4	1	6		2	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0		7.0	7.0	
Minimum Split (s)				32.0	32.0	32.0	23.0	31.0		27.0	27.0	
Total Split (s)	0.0	0.0	0.0	32.0	32.0	32.0	23.0	53.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	37.6%	37.6%	37.6%	27.1%	62.4%	0.0%	35.3%	35.3%	0.0%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-1.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	None	C-Max		C-Max	C-Max	
Act Effct Green (s)				21.8	21.8	21.8	18.2	57.2			36.0	
Actuated g/C Ratio				0.26	0.26	0.26	0.21	0.67			0.42	
v/c Ratio				0.30	0.36	0.71	0.66	0.35			0.85	
Control Delay				21.9	22.9	20.0	26.7	2.3			29.6	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				21.9	22.9	20.0	26.7	2.3			29.6	
LOS				C	C	C	C	A			C	
Approach Delay					21.1			9.5			29.6	
Approach LOS					C			A			C	
Queue Length 50th (ft)				30	38	51	47	11			216	
Queue Length 95th (ft)				39	41	52	m93	29			#341	
Internal Link Dist (ft)		120			417			492			364	
Turn Bay Length (ft)												
Base Capacity (vph)				560	1120	1056	816	3273			2143	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio				0.23	0.27	0.56	0.60	0.35			0.85	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 41 (48%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 20.3		Intersection LOS: C	
Intersection Capacity Utilization 71.4%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: HARRISON ST & ALMOND ST

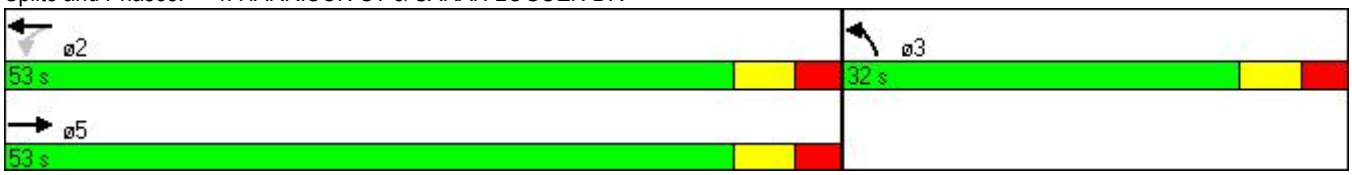


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	71	53	189	608	170	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1749	0	1703	3438	3024	0
Flt Permitted			0.578		0.958	
Satd. Flow (perm)	1749	0	1016	3438	2997	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	77				21	
Link Speed (mph)	30			30	30	
Link Distance (ft)	497			356	585	
Travel Time (s)	11.3			8.1	13.3	
Confl. Peds. (#/hr)		19	19		8	30
Peak Hour Factor	0.51	0.51	0.97	0.97	0.72	0.72
Heavy Vehicles (%)	1%	0%	6%	5%	7%	56%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	243	0	195	627	271	0
Turn Type			Perm			
Protected Phases	5			2	3	
Permitted Phases			2			
Detector Phase	5		2	2	3	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	24.0		24.0	24.0	27.0	
Total Split (s)	53.0	0.0	53.0	53.0	32.0	0.0
Total Split (%)	62.4%	0.0%	62.4%	62.4%	37.6%	0.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	3.0		3.0	3.0	3.0	
Lost Time Adjust (s)	-4.0	-1.0	-4.0	-4.0	-4.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Max	C-Max	Max	
Act Effct Green (s)	50.0		50.0	50.0	29.0	
Actuated g/C Ratio	0.59		0.59	0.59	0.34	
v/c Ratio	0.23		0.33	0.31	0.26	
Control Delay	7.5		10.8	9.3	17.9	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	7.5		10.8	9.3	17.9	
LOS	A		B	A	B	
Approach Delay	7.5			9.7	17.9	
Approach LOS	A			A	B	
Queue Length 50th (ft)	26		33	55	27	
Queue Length 95th (ft)	32		61	75	35	
Internal Link Dist (ft)	417			276	505	
Turn Bay Length (ft)						
Base Capacity (vph)	1061		598	2022	1046	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Reduced v/c Ratio	0.23		0.33	0.31	0.26	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 9 (11%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 11.0		Intersection LOS: B	
Intersection Capacity Utilization 51.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: HARRISON ST & SARAH LOGUEN DR

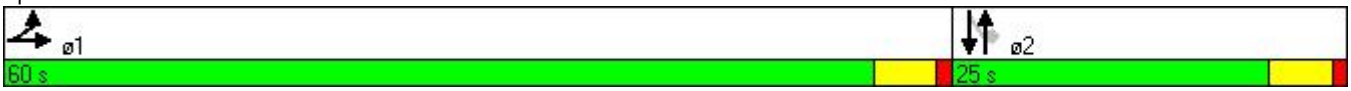


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	371	1089	80	0	0	0	0	67	41	26	38	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3870	0	0	0	0	0	1845	1272	1736	1473	0
Flt Permitted		0.988								0.708		
Satd. Flow (perm)	0	3862	0	0	0	0	0	1845	1002	1056	1473	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14							47			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			400			211			585	
Travel Time (s)		11.4			9.1			4.8			13.3	
Confl. Peds. (#/hr)	8		19	19		8			136	136		
Peak Hour Factor	0.95	0.95	0.95	0.88	0.88	0.88	0.88	0.88	0.88	0.86	0.86	0.86
Heavy Vehicles (%)	7%	2%	4%	2%	2%	2%	2%	3%	27%	4%	29%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1621	0	0	0	0	0	76	47	30	44	0
Turn Type	Split								Perm	Perm		
Protected Phases	1	1						2			2	
Permitted Phases									2	2		
Detector Phase	1	1						2	2	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	27.0	27.0						22.0	22.0	22.0	22.0	
Total Split (s)	60.0	60.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0	25.0	0.0
Total Split (%)	70.6%	70.6%	0.0%	0.0%	0.0%	0.0%	0.0%	29.4%	29.4%	29.4%	29.4%	0.0%
Yellow Time (s)	4.0	4.0						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead						Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max						Max	Max	Max	Max	
Act Effct Green (s)		57.0						22.0	22.0	22.0	22.0	
Actuated g/C Ratio		0.67						0.26	0.26	0.26	0.26	
v/c Ratio		0.62						0.16	0.16	0.11	0.12	
Control Delay		4.4						25.5	9.2	19.2	19.2	
Queue Delay		0.1						0.0	0.0	0.0	0.0	
Total Delay		4.5						25.5	9.2	19.2	19.2	
LOS		A						C	A	B	B	
Approach Delay		4.5						19.3			19.2	
Approach LOS		A						B			B	
Queue Length 50th (ft)		71						21	0	7	11	
Queue Length 95th (ft)		85						44	17	17	21	
Internal Link Dist (ft)		423			320			131			505	
Turn Bay Length (ft)												
Base Capacity (vph)		2600						478	294	273	381	
Starvation Cap Reductn		144						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.66						0.16	0.16	0.11	0.12	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 65 (76%), Referenced to phase 1:EBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 6.1		Intersection LOS: A	
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: ADAMS ST & SARAH LOGUEN DR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	421	475	213	0	0	0	0	923	357	122	708	835
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3367	3406	1468	0	0	0	0	5085	1568	0	3462	2375
Flt Permitted	0.950										0.950	
Satd. Flow (perm)	3367	3406	1278	0	0	0	0	5085	1517	0	3431	2375
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			208						38			
Link Speed (mph)		30			30			30				30
Link Distance (ft)		636			503			1501				572
Travel Time (s)		14.5			11.4			34.1				13.0
Confl. Peds. (#/hr)			80				62		18		18	
Peak Hour Factor	0.90	0.90	0.90	1.00	1.00	1.00	0.94	0.94	0.94	0.95	0.95	0.95
Heavy Vehicles (%)	4%	6%	10%	2%	2%	2%	2%	2%	3%	2%	1%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	468	528	237	0	0	0	0	982	380	0	873	879
Turn Type	Split		Perm						Perm	Prot	Prot	
Protected Phases	1	1						4		3	3	8
Permitted Phases			1						4			
Detector Phase	1	1	1					4	4	3	3	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.5	22.5	22.5					27.0	27.0	25.0	25.0	9.0
Total Split (s)	23.0	23.0	23.0	0.0	0.0	0.0	0.0	30.0	30.0	32.0	32.0	62.0
Total Split (%)	27.1%	27.1%	27.1%	0.0%	0.0%	0.0%	0.0%	35.3%	35.3%	37.6%	37.6%	72.9%
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5					1.0	1.0	2.0	2.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0
Lead/Lag								Lag	Lag	Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max	C-Max	None	None	C-Max
Act Effct Green (s)	18.6	18.6	18.6					29.4	29.4		26.5	59.9
Actuated g/C Ratio	0.22	0.22	0.22					0.35	0.35		0.31	0.70
v/c Ratio	0.63	0.71	0.54					0.56	0.69		0.81	0.53
Control Delay	34.3	36.3	11.0					24.7	30.5		11.6	6.8
Queue Delay	0.0	0.0	0.0					0.0	0.0		0.0	0.0
Total Delay	34.3	36.3	11.0					24.7	30.5		11.6	6.8
LOS	C	D	B					C	C		B	A
Approach Delay		30.7						26.3				9.2
Approach LOS		C						C				A
Queue Length 50th (ft)	78	92	8					109	111		55	232
Queue Length 95th (ft)	112	129	52					139	#201		m14	m63
Internal Link Dist (ft)		556			423			1421				492
Turn Bay Length (ft)												
Base Capacity (vph)	772	781	453					1756	549		1140	1673
Starvation Cap Reductn	0	0	0					0	0		0	0
Spillback Cap Reductn	0	0	0					0	0		0	0
Storage Cap Reductn	0	0	0					0	0		0	0

Lane Group	SBR
Lane Configurations	
Volume (vph)	0
Ideal Flow (vphpl)	1900
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	0.95
Heavy Vehicles (%)	2%
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	0.0
Total Split (%)	0.0%
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	-1.0
Total Lost Time (s)	3.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	

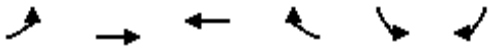
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Reduced v/c Ratio	0.61	0.68	0.52					0.56	0.69		0.77	0.53

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.81			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 71.6%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 6: ADAMS ST & ALMOND ST

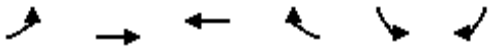
Lane Group	SBR
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	495	47	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	6325	0	0	1494
Flt Permitted						
Satd. Flow (perm)	0	0	6325	0	0	1494
Link Speed (mph)		30	30		30	
Link Distance (ft)		226	245		201	
Travel Time (s)		5.1	5.6		4.6	
Confl. Peds. (#/hr)				15		9
Peak Hour Factor	1.00	1.00	0.88	0.88	1.00	0.67
Heavy Vehicles (%)	2%	2%	2%	2%	2%	10%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	615	0	0	60
Sign Control		Free	Free		Stop	

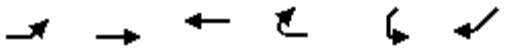
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	495	47	0	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.88	0.88	1.00	0.67
Hourly flow rate (vph)	0	0	562	53	0	60
Pedestrians		9			15	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			490			
pX, platoon unblocked						
vC, conflicting volume	631				604	191
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	631				604	191
tC, single (s)	4.1				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	92
cM capacity (veh/h)	936				424	784

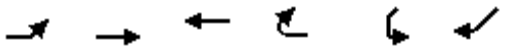
Direction, Lane #	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	161	161	161	134	60
Volume Left	0	0	0	0	0
Volume Right	0	0	0	53	60
cSH	1700	1700	1700	1700	784
Volume to Capacity	0.09	0.09	0.09	0.08	0.08
Queue Length 95th (ft)	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	10.0
Lane LOS					A
Approach Delay (s)	0.0				10.0
Approach LOS					A

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	305	0	0	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	4893	0	0	1627
Flt Permitted						
Satd. Flow (perm)	0	0	4893	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	245		324	
Travel Time (s)		7.0	5.6		7.4	
Peak Hour Factor	1.00	1.00	0.87	1.00	1.00	0.81
Heavy Vehicles (%)	2%	2%	6%	2%	2%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	351	0	0	293
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	305	0	0	237
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.87	1.00	1.00	0.81
Hourly flow rate (vph)	0	0	351	0	0	293
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			245			
pX, platoon unblocked						
vC, conflicting volume	351				351	117
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	351				351	117
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	68
cM capacity (veh/h)	1205				621	916

Direction, Lane #	WB 1	WB 2	WB 3	SW 1
Volume Total	117	117	117	293
Volume Left	0	0	0	0
Volume Right	0	0	0	293
cSH	1700	1700	1700	916
Volume to Capacity	0.07	0.07	0.07	0.32
Queue Length 95th (ft)	0	0	0	24
Control Delay (s)	0.0	0.0	0.0	10.8
Lane LOS				B
Approach Delay (s)	0.0			10.8
Approach LOS				B

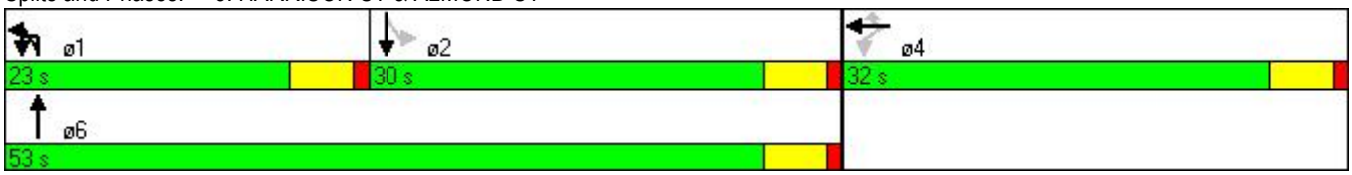
Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	117	139	521	123	950	22	0	956	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	0	1719	3471	2733	3367	4971	0	0	4957	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1644	3471	2733	3338	4971	0	0	4957	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						147		7			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		200			497			572			444	
Travel Time (s)		4.5			11.3			13.0			10.1	
Confl. Peds. (#/hr)				46			37		9	9		37
Peak Hour Factor	1.00	1.00	1.00	0.88	0.88	0.88	0.85	0.85	0.85	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	2%	5%	4%	4%	4%	4%	2%	0%	3%	21%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	133	158	592	145	1144	0	0	1162	0
Turn Type				Perm		Perm	Prot			Perm		
Protected Phases					4		1	6			2	
Permitted Phases				4		4				2		
Detector Phase				4	4	4	1	6		2	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0		7.0	7.0	
Minimum Split (s)				32.0	32.0	32.0	23.0	31.0		27.0	27.0	
Total Split (s)	0.0	0.0	0.0	32.0	32.0	32.0	23.0	53.0	0.0	30.0	30.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	37.6%	37.6%	37.6%	27.1%	62.4%	0.0%	35.3%	35.3%	0.0%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-1.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	4.0	3.0	3.0
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	None	C-Min		C-Min	C-Min	
Act Effct Green (s)				22.3	22.3	22.3	13.6	56.7			40.1	
Actuated g/C Ratio				0.26	0.26	0.26	0.16	0.67			0.47	
v/c Ratio				0.31	0.17	0.72	0.27	0.34			0.50	
Control Delay				19.8	17.5	19.6	31.2	5.9			17.8	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				19.8	17.5	19.6	31.2	5.9			17.8	
LOS				B	B	B	C	A			B	
Approach Delay					19.2			8.7			17.8	
Approach LOS					B			A			B	
Queue Length 50th (ft)				23	14	25	27	71			98	
Queue Length 95th (ft)				46	21	27	31	94			159	
Internal Link Dist (ft)		120			417			492			364	
Turn Bay Length (ft)												
Base Capacity (vph)				561	1184	1029	792	3318			2343	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio				0.24	0.13	0.58	0.18	0.34			0.50	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 50 (59%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 14.7		Intersection LOS: B	
Intersection Capacity Utilization 59.6%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: HARRISON ST & ALMOND ST

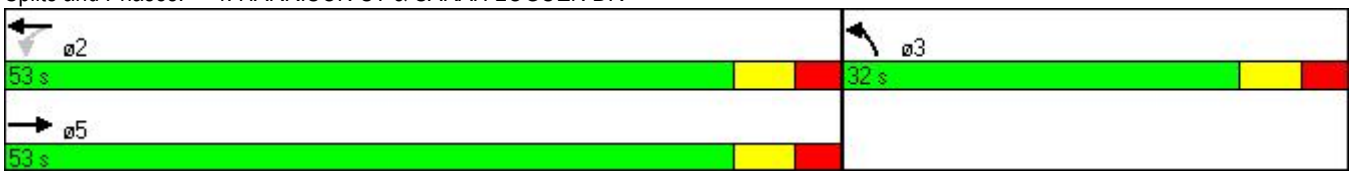


Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	2	71	634	143	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1869	0	1671	3505	3233	0
Flt Permitted			0.736		0.960	
Satd. Flow (perm)	1869	0	1265	3505	3167	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3				28	
Link Speed (mph)	30			30	30	
Link Distance (ft)	497			356	585	
Travel Time (s)	11.3			8.1	13.3	
Confl. Peds. (#/hr)		16	16		19	22
Peak Hour Factor	0.68	0.68	0.90	0.90	0.89	0.89
Heavy Vehicles (%)	0%	0%	8%	3%	4%	15%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	79	704	191	0
Turn Type			Perm			
Protected Phases	5			2	3	
Permitted Phases			2			
Detector Phase	5		2	2	3	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	24.0		24.0	24.0	27.0	
Total Split (s)	53.0	0.0	53.0	53.0	32.0	0.0
Total Split (%)	62.4%	0.0%	62.4%	62.4%	37.6%	0.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	3.0		3.0	3.0	3.0	
Lost Time Adjust (s)	-4.0	-1.0	-4.0	-4.0	-4.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Max	C-Max	Max	
Act Effct Green (s)	50.0		50.0	50.0	29.0	
Actuated g/C Ratio	0.59		0.59	0.59	0.34	
v/c Ratio	0.03		0.11	0.34	0.17	
Control Delay	11.6		8.2	9.6	14.0	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	11.6		8.2	9.6	14.0	
LOS	B		A	A	B	
Approach Delay	11.6			9.4	14.0	
Approach LOS	B			A	B	
Queue Length 50th (ft)	7		12	63	23	
Queue Length 95th (ft)	14		25	85	43	
Internal Link Dist (ft)	417			276	505	
Turn Bay Length (ft)						
Base Capacity (vph)	1101		744	2062	1121	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Reduced v/c Ratio	0.03		0.11	0.34	0.17	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 0 (0%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.34			
Intersection Signal Delay: 10.4		Intersection LOS: B	
Intersection Capacity Utilization 40.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: HARRISON ST & SARAH LOGUEN DR

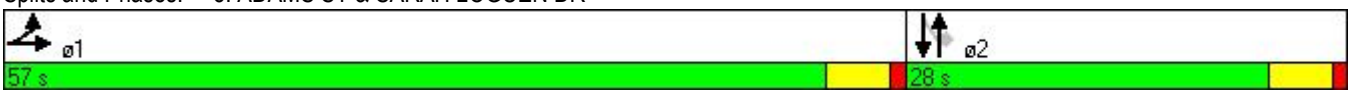


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	104	684	61	0	0	0	0	69	30	18	37	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3898	0	0	0	0	0	1845	1380	1703	1759	0
Flt Permitted		0.994								0.703		
Satd. Flow (perm)	0	3890	0	0	0	0	0	1845	1065	1012	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		18							36			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			400			211			585	
Travel Time (s)		11.4			9.1			4.8			13.3	
Confl. Peds. (#/hr)	14		43						147	147		
Peak Hour Factor	0.87	0.87	0.87	1.00	1.00	1.00	1.00	0.83	0.83	0.91	0.91	0.91
Heavy Vehicles (%)	5%	2%	3%	2%	2%	2%	2%	3%	17%	6%	8%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	976	0	0	0	0	0	83	36	20	41	0
Turn Type	Split								Perm	Perm		
Protected Phases	1	1						2			2	
Permitted Phases									2	2		
Detector Phase	1	1						2	2	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	27.0	27.0						22.0	22.0	22.0	22.0	
Total Split (s)	57.0	57.0	0.0	0.0	0.0	0.0	0.0	28.0	28.0	28.0	28.0	0.0
Total Split (%)	67.1%	67.1%	0.0%	0.0%	0.0%	0.0%	0.0%	32.9%	32.9%	32.9%	32.9%	0.0%
Yellow Time (s)	4.0	4.0						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead						Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max						Max	Max	Max	Max	
Act Effct Green (s)		54.0						25.0	25.0	25.0	25.0	
Actuated g/C Ratio		0.64						0.29	0.29	0.29	0.29	
v/c Ratio		0.39						0.15	0.11	0.07	0.08	
Control Delay		3.5						23.2	8.6	14.6	14.5	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		3.5						23.2	8.6	14.6	14.5	
LOS		A						C	A	B	B	
Approach Delay		3.5						18.8			14.5	
Approach LOS		A						B			B	
Queue Length 50th (ft)		15						22	0	5	11	
Queue Length 95th (ft)		58						42	13	17	27	
Internal Link Dist (ft)		423			320			131			505	
Turn Bay Length (ft)												
Base Capacity (vph)		2483						543	339	298	517	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.39						0.15	0.11	0.07	0.08	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 66 (78%), Referenced to phase 1:EBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.39			
Intersection Signal Delay: 5.6		Intersection LOS: A	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: ADAMS ST & SARAH LOGUEN DR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	452	305	256	0	0	0	0	471	172	172	372	529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3400	3539	1583	0	0	0	0	5085	1599	0	3431	2398
Flt Permitted	0.950										0.950	
Satd. Flow (perm)	3400	3539	1401	0	0	0	0	5085	1567	0	3411	2398
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			275						138			
Link Speed (mph)		30			30			30				30
Link Distance (ft)		636			503			1501				572
Travel Time (s)		14.5			11.4			34.1				13.0
Confl. Peds. (#/hr)			70						7		7	
Peak Hour Factor	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.81	0.81	0.92	0.92	0.92
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	1%	0%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	486	328	275	0	0	0	0	581	212	0	591	575
Turn Type	Split		Perm						Perm	Prot	Prot	
Protected Phases	1	1						4		3	3	8
Permitted Phases			1						4			
Detector Phase	1	1	1					4	4	3	3	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.5	22.5	22.5					27.0	27.0	25.0	25.0	9.0
Total Split (s)	27.0	27.0	27.0	0.0	0.0	0.0	0.0	30.0	30.0	28.0	28.0	58.0
Total Split (%)	31.8%	31.8%	31.8%	0.0%	0.0%	0.0%	0.0%	35.3%	35.3%	32.9%	32.9%	68.2%
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5					1.0	1.0	2.0	2.0	1.0
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0
Total Lost Time (s)	3.5	3.5	3.5	3.0	3.0	3.0	3.0	3.0	3.0	4.0	4.0	3.0
Lead/Lag								Lag	Lag	Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Min	C-Min	None	None	C-Min
Act Effct Green (s)	19.9	19.9	19.9					33.4	33.4		21.2	58.6
Actuated g/C Ratio	0.23	0.23	0.23					0.39	0.39		0.25	0.69
v/c Ratio	0.61	0.40	0.51					0.29	0.30		0.69	0.35
Control Delay	32.2	28.4	7.0					19.4	9.3		20.0	5.4
Queue Delay	0.0	0.0	0.0					0.0	0.0		0.0	0.0
Total Delay	32.2	28.4	7.0					19.4	9.3		20.0	5.4
LOS	C	C	A					B	A		B	A
Approach Delay		24.7						16.7				12.8
Approach LOS		C						B				B
Queue Length 50th (ft)	81	53	0					52	17		102	107
Queue Length 95th (ft)	108	74	39					70	44		17	0
Internal Link Dist (ft)		556			423			1421				492
Turn Bay Length (ft)												
Base Capacity (vph)	940	978	586					2000	700		969	1653
Starvation Cap Reductn	0	0	0					0	0		0	0
Spillback Cap Reductn	0	0	0					0	0		0	0
Storage Cap Reductn	0	0	0					0	0		0	0

Lane Group	SBR
Lane Configurations	
Volume (vph)	0
Ideal Flow (vphpl)	1900
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	2%
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	0.0
Total Split (%)	0.0%
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	-1.0
Total Lost Time (s)	3.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	

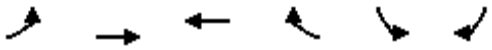
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Reduced v/c Ratio	0.52	0.34	0.47					0.29	0.30		0.61	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 12 (14%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow			
Natural Cycle: 75			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 18.1		Intersection LOS: B	
Intersection Capacity Utilization 57.5%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 6: ADAMS ST & ALMOND ST

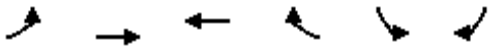
Lane Group	SBR
Reduced v/c Ratio	

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	552	18	0	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	6205	0	0	1644
Flt Permitted						
Satd. Flow (perm)	0	0	6205	0	0	1644
Link Speed (mph)		30	30		30	
Link Distance (ft)		226	245		201	
Travel Time (s)		5.1	5.6		4.6	
Confl. Peds. (#/hr)				27		10
Peak Hour Factor	1.00	1.00	0.94	1.00	1.00	0.53
Heavy Vehicles (%)	2%	2%	5%	2%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	605	0	0	89
Sign Control		Free	Free		Stop	

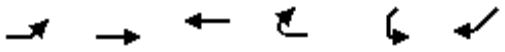
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	552	18	0	47
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.94	1.00	1.00	0.53
Hourly flow rate (vph)	0	0	587	18	0	89
Pedestrians		10			27	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			490			
pX, platoon unblocked						
vC, conflicting volume	632				623	193
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	632				623	193
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	89
cM capacity (veh/h)	925				409	804

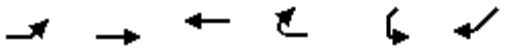
Direction, Lane #	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	168	168	168	102	89
Volume Left	0	0	0	0	0
Volume Right	0	0	0	18	89
cSH	1700	1700	1700	1700	804
Volume to Capacity	0.10	0.10	0.10	0.06	0.11
Queue Length 95th (ft)	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	10.0
Lane LOS					B
Approach Delay (s)	0.0				10.0
Approach LOS					B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	24.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	389	0	0	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	4940	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	0	4940	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	245		324	
Travel Time (s)		7.0	5.6		7.4	
Peak Hour Factor	1.00	1.00	0.89	1.00	1.00	0.89
Heavy Vehicles (%)	2%	2%	5%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	437	0	0	203
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations			↑↑↑			↱
Volume (veh/h)	0	0	389	0	0	181
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.89	1.00	1.00	0.89
Hourly flow rate (vph)	0	0	437	0	0	203
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			245			
pX, platoon unblocked						
vC, conflicting volume	437				437	146
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	437				437	146
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	77
cM capacity (veh/h)	1119				548	875

Direction, Lane #	WB 1	WB 2	WB 3	SW 1
Volume Total	146	146	146	203
Volume Left	0	0	0	0
Volume Right	0	0	0	203
cSH	1700	1700	1700	875
Volume to Capacity	0.09	0.09	0.09	0.23
Queue Length 95th (ft)	0	0	0	15
Control Delay (s)	0.0	0.0	0.0	10.4
Lane LOS				B
Approach Delay (s)	0.0			10.4
Approach LOS				B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	335	224	1293	117	2046	49	0	1103	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	0	1770	3312	2814	3502	5097	0	0	5003	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1656	3312	2814	3481	5097	0	0	5003	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)						8		6			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		200			497			572			444	
Travel Time (s)		4.5			11.3			13.0			10.1	
Confl. Peds. (#/hr)				68			25		26	26		25
Peak Hour Factor	1.00	1.00	1.00	0.94	0.94	0.94	0.96	0.96	0.96	0.99	0.99	0.99
Heavy Vehicles (%)	2%	2%	2%	2%	9%	1%	0%	1%	10%	2%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	356	238	1376	122	2182	0	0	1162	0
Turn Type				Split		Perm	Prot			Perm		
Protected Phases				4	4		1	6			2	
Permitted Phases						4				2		
Detector Phase				4	4	4	1	6		2	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0		7.0	7.0	
Minimum Split (s)				32.0	32.0	32.0	23.0	31.0		27.0	27.0	
Total Split (s)	0.0	0.0	0.0	35.0	35.0	35.0	23.0	50.0	0.0	27.0	27.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	41.2%	41.2%	41.2%	27.1%	58.8%	0.0%	31.8%	31.8%	0.0%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	None	C-Max		C-Max	C-Max	
Act Effct Green (s)				32.0	32.0	32.0	13.6	47.0			33.4	
Actuated g/C Ratio				0.38	0.38	0.38	0.16	0.55			0.39	
v/c Ratio				0.53	0.19	1.29	0.22	0.77			0.59	
Control Delay				18.6	14.3	160.9	36.3	6.0			23.4	
Queue Delay				0.0	0.0	0.0	0.0	0.0			0.0	
Total Delay				18.6	14.3	160.9	36.3	6.0			23.4	
LOS				B	B	F	D	A			C	
Approach Delay					117.5			7.6			23.4	
Approach LOS					F			A			C	
Queue Length 50th (ft)				70	23	~211	23	113			122	
Queue Length 95th (ft)				118	35	#354	m21	m99			179	
Internal Link Dist (ft)		120			417			492			364	
Turn Bay Length (ft)												
Base Capacity (vph)				666	1247	1064	824	2821			1970	
Starvation Cap Reductn				0	0	0	0	0			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio				0.53	0.19	1.29	0.15	0.77			0.59	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 13 (15%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.29			
Intersection Signal Delay: 50.8		Intersection LOS: D	
Intersection Capacity Utilization 92.6%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			
m Volume for 95th percentile queue is metered by upstream signal.			

Splits and Phases: 3: HARRISON ST & ALMOND ST

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	41	8	29	1368	484	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1818	0	1805	3539	3379	0
Flt Permitted			0.706		0.955	
Satd. Flow (perm)	1818	0	1318	3539	3375	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13				7	
Link Speed (mph)	30			30	30	
Link Distance (ft)	497			356	585	
Travel Time (s)	11.3			8.1	13.3	
Confl. Peds. (#/hr)		13	13		1	29
Peak Hour Factor	0.63	0.63	0.95	0.95	0.91	0.91
Heavy Vehicles (%)	2%	0%	0%	2%	2%	19%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	31	1440	562	0
Turn Type			Perm			
Protected Phases	5			2	3	
Permitted Phases			2			
Detector Phase	5		2	2	3	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	24.0		24.0	24.0	27.0	
Total Split (s)	57.0	0.0	57.0	57.0	28.0	0.0
Total Split (%)	67.1%	0.0%	67.1%	67.1%	32.9%	0.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	3.0		3.0	3.0	3.0	
Lost Time Adjust (s)	-4.0	-1.0	-4.0	-4.0	-4.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Max	C-Max	Max	
Act Effct Green (s)	54.0		54.0	54.0	25.0	
Actuated g/C Ratio	0.64		0.64	0.64	0.29	
v/c Ratio	0.07		0.04	0.64	0.56	
Control Delay	8.2		6.0	11.2	25.5	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	8.2		6.0	11.2	25.5	
LOS	A		A	B	C	
Approach Delay	8.2			11.1	25.5	
Approach LOS	A			B	C	
Queue Length 50th (ft)	13		4	151	87	
Queue Length 95th (ft)	m18		10	194	119	
Internal Link Dist (ft)	417			276	505	
Turn Bay Length (ft)						
Base Capacity (vph)	1160		837	2248	999	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Reduced v/c Ratio	0.07		0.04	0.64	0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 58 (68%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

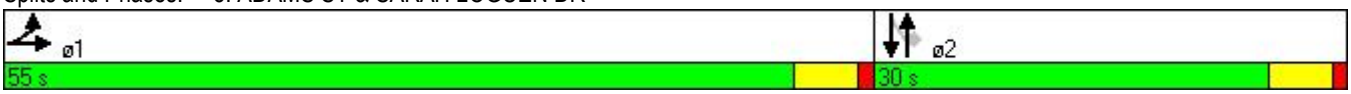
Splits and Phases: 4: HARRISON ST & SARAH LOGUEN DR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	91	586	62	0	0	0	0	80	30	29	22	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3828	0	0	0	0	0	1900	1346	1805	1900	0
Flt Permitted		0.994								0.682		
Satd. Flow (perm)	0	3817	0	0	0	0	0	1900	1080	1085	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21							38			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			400			211			585	
Travel Time (s)		11.4			9.1			4.8			13.3	
Confl. Peds. (#/hr)	20		27						126	126		
Peak Hour Factor	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.80	0.80	0.81	0.81	1.00
Heavy Vehicles (%)	14%	2%	11%	2%	2%	2%	2%	0%	20%	0%	0%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	786	0	0	0	0	0	100	38	36	27	0
Turn Type	Split								Perm	Perm		
Protected Phases	1	1						2			2	
Permitted Phases									2	2		
Detector Phase	1	1						2	2	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	27.0	27.0						22.0	22.0	22.0	22.0	
Total Split (s)	55.0	55.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	30.0	30.0	0.0
Total Split (%)	64.7%	64.7%	0.0%	0.0%	0.0%	0.0%	0.0%	35.3%	35.3%	35.3%	35.3%	0.0%
Yellow Time (s)	4.0	4.0						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead						Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max						Max	Max	Max	Max	
Act Effct Green (s)		52.0						27.0	27.0	27.0	27.0	
Actuated g/C Ratio		0.61						0.32	0.32	0.32	0.32	
v/c Ratio		0.33						0.17	0.10	0.10	0.04	
Control Delay		2.3						21.9	7.9	17.4	16.2	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		2.3						21.9	7.9	17.4	16.2	
LOS		A						C	A	B	B	
Approach Delay		2.3						18.0			16.9	
Approach LOS		A						B			B	
Queue Length 50th (ft)		7						26	0	10	7	
Queue Length 95th (ft)		26						45	12	22	18	
Internal Link Dist (ft)		423			320			131			505	
Turn Bay Length (ft)												
Base Capacity (vph)		2350						604	369	345	604	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.33						0.17	0.10	0.10	0.04	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 32 (38%), Referenced to phase 1:EBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 5.4		Intersection LOS: A	
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: ADAMS ST & SARAH LOGUEN DR



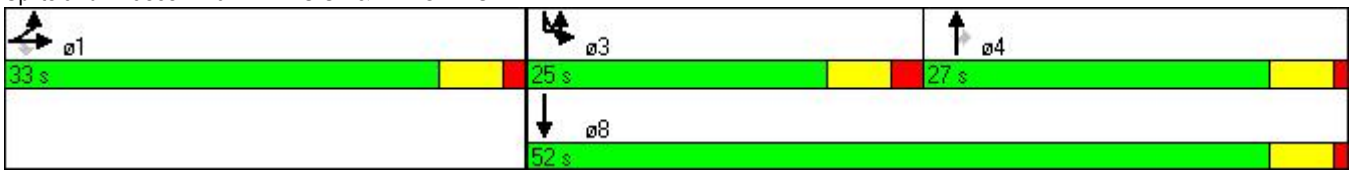
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	1378	301	712	0	0	0	0	749	107	85	331	1022
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3467	3471	1599	0	0	0	0	5136	1615	0	3420	2446
Flt Permitted	0.950										0.950	
Satd. Flow (perm)	3467	3471	1460	0	0	0	0	5136	1590	0	3414	2446
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			84						123			
Link Speed (mph)		30			30			30				30
Link Distance (ft)		636			503			1501				572
Travel Time (s)		14.5			11.4			34.1				13.0
Confl. Peds. (#/hr)			51						3		3	
Peak Hour Factor	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.87	0.87	0.92	0.92	0.92
Heavy Vehicles (%)	1%	4%	1%	2%	2%	2%	2%	1%	0%	0%	3%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1566	342	809	0	0	0	0	861	123	0	452	1111
Turn Type	Split		Perm						Perm	Prot	Prot	
Protected Phases	1	1						4		3	3	8
Permitted Phases			1						4			
Detector Phase	1	1	1					4	4	3	3	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.5	22.5	22.5					27.0	27.0	25.0	25.0	9.0
Total Split (s)	33.0	33.0	33.0	0.0	0.0	0.0	0.0	27.0	27.0	25.0	25.0	52.0
Total Split (%)	38.8%	38.8%	38.8%	0.0%	0.0%	0.0%	0.0%	31.8%	31.8%	29.4%	29.4%	61.2%
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5					1.0	1.0	2.0	2.0	1.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-3.0	-3.0	-2.0
Total Lost Time (s)	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag								Lag	Lag	Lead	Lead	
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max	C-Max	None	None	C-Max
Act Effct Green (s)	30.5	30.5	30.5					27.0	27.0		19.0	49.0
Actuated g/C Ratio	0.36	0.36	0.36					0.32	0.32		0.22	0.58
v/c Ratio	1.26	0.27	1.40					0.53	0.21		0.59	0.79
Control Delay	150.1	20.1	214.3					25.7	5.7		22.7	15.0
Queue Delay	0.0	0.0	0.0					0.0	0.0		0.0	0.0
Total Delay	150.1	20.1	214.3					25.7	5.7		22.7	15.0
LOS	F	C	F					C	A		C	B
Approach Delay		152.9						23.2				17.3
Approach LOS		F						C				B
Queue Length 50th (ft)	~372	45	~381					93	0		61	265
Queue Length 95th (ft)	#445	66	#514					121	24		41	350
Internal Link Dist (ft)		556			423			1421				492
Turn Bay Length (ft)												
Base Capacity (vph)	1244	1245	578					1629	588		885	1410
Starvation Cap Reductn	0	0	0					0	0		0	0
Spillback Cap Reductn	0	0	0					0	0		0	0
Storage Cap Reductn	0	0	0					0	0		0	0

Lane Group	SBR
Lane Configurations	
Volume (vph)	0
Ideal Flow (vphpl)	1900
Satd. Flow (prot)	0
Flt Permitted	
Satd. Flow (perm)	0
Right Turn on Red	Yes
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	1.00
Heavy Vehicles (%)	2%
Shared Lane Traffic (%)	
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	
Minimum Split (s)	
Total Split (s)	0.0
Total Split (%)	0.0%
Yellow Time (s)	
All-Red Time (s)	
Lost Time Adjust (s)	-1.0
Total Lost Time (s)	3.0
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Reduced v/c Ratio	1.26	0.27	1.40					0.53	0.21		0.51	0.79

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 51 (60%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.40			
Intersection Signal Delay: 88.4		Intersection LOS: F	
Intersection Capacity Utilization 83.0%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: ADAMS ST & ALMOND ST



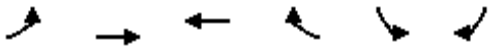
Lane Group	SBR
Reduced v/c Ratio	

Intersection Summary

Almond Street Corridor Pedestrian Study

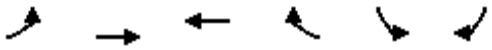
Syracuse, New York

A-4: Proposed Conditions Capacity Analysis



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	1216	54	0	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	6369	0	0	1536
Flt Permitted						
Satd. Flow (perm)	0	0	6369	0	0	1536
Link Speed (mph)		30	30		30	
Link Distance (ft)		226	245		201	
Travel Time (s)		5.1	5.6		4.6	
Confl. Peds. (#/hr)				53		10
Peak Hour Factor	1.00	1.00	0.92	0.92	1.00	0.60
Heavy Vehicles (%)	2%	2%	2%	2%	2%	7%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	1381	0	0	52
Sign Control		Free	Free		Stop	

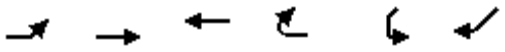
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 31.5%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	1216	54	0	31
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.92	0.92	1.00	0.60
Hourly flow rate (vph)	0	0	1322	59	0	52
Pedestrians		10			53	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			4	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			490			
pX, platoon unblocked						
vC, conflicting volume	1433				1404	423
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1433				1404	423
tC, single (s)	4.1				6.8	7.0
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	90
cM capacity (veh/h)	449				125	541

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	378	378	378	248	52
Volume Left	0	0	0	0	0
Volume Right	0	0	0	59	52
cSH	1700	1700	1700	1700	541
Volume to Capacity	0.22	0.22	0.22	0.15	0.10
Queue Length 95th (ft)	0	0	0	0	5
Control Delay (s)	0.0	0.0	0.0	0.0	12.4
Lane LOS					B
Approach Delay (s)	0.0				12.4
Approach LOS					B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	708	0	0	562
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	4988	0	0	1627
Flt Permitted						
Satd. Flow (perm)	0	0	4988	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	245		324	
Travel Time (s)		7.0	5.6		7.4	
Peak Hour Factor	1.00	1.00	0.92	1.00	1.00	0.91
Heavy Vehicles (%)	2%	2%	4%	2%	2%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	770	0	0	618
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations			↑↑↑			↱
Volume (veh/h)	0	0	708	0	0	562
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.92	1.00	1.00	0.91
Hourly flow rate (vph)	0	0	770	0	0	618
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			245			
pX, platoon unblocked						
vC, conflicting volume	770				770	257
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	770				770	257
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	17
cM capacity (veh/h)	841				337	746

Direction, Lane #	WB 1	WB 2	WB 3	SW 1
Volume Total	257	257	257	618
Volume Left	0	0	0	0
Volume Right	0	0	0	618
cSH	1700	1700	1700	746
Volume to Capacity	0.15	0.15	0.15	0.83
Queue Length 95th (ft)	0	0	0	156
Control Delay (s)	0.0	0.0	0.0	28.6
Lane LOS				D
Approach Delay (s)	0.0			28.6
Approach LOS				D

Intersection Summary			
Average Delay	12.7		
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

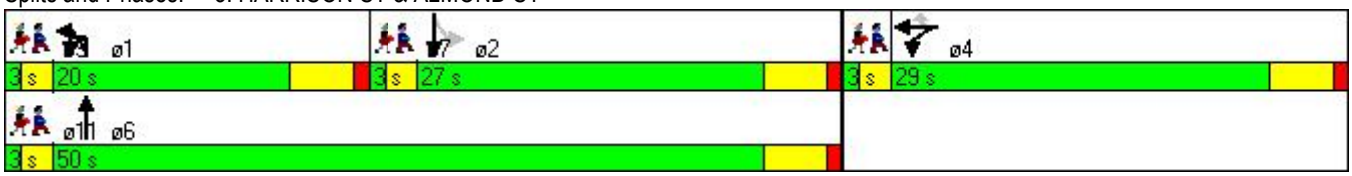
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	96	230	452	435	907	124	0	1569	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	0	1752	3282	2733	3467	4837	0	0	5049	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1626	3282	2733	3450	4837	0	0	5049	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)								46			5	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		200			497			288			444	
Travel Time (s)		4.5			11.3			6.5			10.1	
Confl. Peds. (#/hr)				68			46		8	8		46
Peak Hour Factor	1.00	1.00	1.00	0.76	0.76	0.76	0.89	0.89	0.89	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	3%	10%	4%	1%	5%	4%	2%	2%	7%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	126	303	595	489	1158	0	0	1832	0
Turn Type				Split		Perm	Prot			Perm		
Protected Phases				4	4		1	6			2	
Permitted Phases						4				2		
Detector Phase				4	4	4	1	6		2	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0		7.0	7.0	
Minimum Split (s)				29.0	29.0	29.0	20.0	28.0		24.0	24.0	
Total Split (s)	0.0	0.0	0.0	29.0	29.0	29.0	20.0	50.0	0.0	27.0	27.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	34.1%	34.1%	34.1%	23.5%	58.8%	0.0%	31.8%	31.8%	0.0%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag				Lag	Lag	Lag	Lag			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	None	C-Max		C-Max	C-Max	
Act Effct Green (s)				24.2	24.2	24.2	16.5	53.6			33.4	
Actuated g/C Ratio				0.28	0.28	0.28	0.19	0.63			0.39	
v/c Ratio				0.25	0.32	0.76	0.73	0.38			0.92	
Control Delay				19.9	20.5	29.1	46.7	4.0			35.4	
Queue Delay				0.0	0.0	0.0	0.0	0.1			0.0	
Total Delay				19.9	20.5	29.1	46.7	4.1			35.4	
LOS				B	C	C	D	A			D	
Approach Delay					25.4			16.7			35.4	
Approach LOS					C			B			D	
Queue Length 50th (ft)				28	35	81	86	71			228	
Queue Length 95th (ft)				40	42	85	132	9			#368	
Internal Link Dist (ft)		120			417			208			364	
Turn Bay Length (ft)												
Base Capacity (vph)				536	1004	836	693	3065			1988	
Starvation Cap Reductn				0	0	0	0	526			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	

Lane Group	ø3	ø7	ø9	ø11
Lane Configurations				
Volume (vph)				
Ideal Flow (vphpl)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	3	7	9	11
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	3.0	3.0	3.0	3.0
Total Split (s)	3.0	3.0	3.0	3.0
Total Split (%)	4%	4%	4%	4%
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	
Lead-Lag Optimize?				
Recall Mode	None	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio				0.24	0.30	0.71	0.71	0.46			0.92	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 19 (22%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.92			
Intersection Signal Delay: 26.3		Intersection LOS: C	
Intersection Capacity Utilization 70.1%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: HARRISON ST & ALMOND ST



Lane Group	ø3	ø7	ø9	ø11
Reduced v/c Ratio				

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	71	53	189	608	170	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1749	0	1703	3438	3024	0
Flt Permitted			0.570		0.958	
Satd. Flow (perm)	1749	0	1003	3438	2997	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	71				23	
Link Speed (mph)	30			30	30	
Link Distance (ft)	497			356	585	
Travel Time (s)	11.3			8.1	13.3	
Confl. Peds. (#/hr)		19	19		8	30
Peak Hour Factor	0.51	0.51	0.97	0.97	0.72	0.72
Heavy Vehicles (%)	1%	0%	6%	5%	7%	56%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	243	0	195	627	271	0
Turn Type			Perm			
Protected Phases	5			2	3	
Permitted Phases			2			
Detector Phase	5		2	2	3	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	24.0		24.0	24.0	27.0	
Total Split (s)	50.0	0.0	50.0	50.0	35.0	0.0
Total Split (%)	58.8%	0.0%	58.8%	58.8%	41.2%	0.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	3.0		3.0	3.0	3.0	
Lost Time Adjust (s)	-4.0	-1.0	-4.0	-4.0	-4.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Max	C-Max	Max	
Act Effct Green (s)	47.0		47.0	47.0	32.0	
Actuated g/C Ratio	0.55		0.55	0.55	0.38	
v/c Ratio	0.24		0.35	0.33	0.24	
Control Delay	8.3		12.8	11.0	17.6	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	8.3		12.8	11.0	17.6	
LOS	A		B	B	B	
Approach Delay	8.3			11.4	17.6	
Approach LOS	A			B	B	
Queue Length 50th (ft)	28		37	61	29	
Queue Length 95th (ft)	37		68	83	34	
Internal Link Dist (ft)	417			276	505	
Turn Bay Length (ft)						
Base Capacity (vph)	999		555	1901	1153	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Reduced v/c Ratio	0.24		0.35	0.33	0.24	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 72 (85%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay: 12.1		Intersection LOS: B	
Intersection Capacity Utilization 51.3%		ICU Level of Service A	
Analysis Period (min) 15			

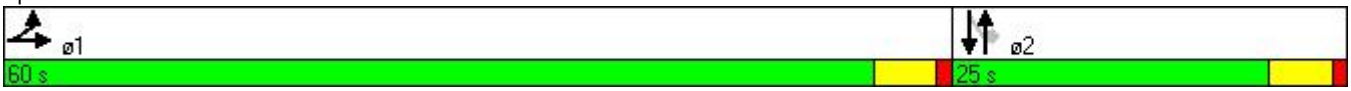
Splits and Phases: 4: HARRISON ST & SARAH LOGUEN DR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	371	1089	80	0	0	0	0	67	41	26	38	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3870	0	0	0	0	0	1845	1272	1736	1473	0
Flt Permitted		0.988								0.708		
Satd. Flow (perm)	0	3862	0	0	0	0	0	1845	1002	1056	1473	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		14							47			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			400			211			585	
Travel Time (s)		11.4			9.1			4.8			13.3	
Confl. Peds. (#/hr)	8		19	19		8			136	136		
Peak Hour Factor	0.95	0.95	0.95	0.88	0.88	0.88	0.88	0.88	0.88	0.86	0.86	0.86
Heavy Vehicles (%)	7%	2%	4%	2%	2%	2%	2%	3%	27%	4%	29%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1621	0	0	0	0	0	76	47	30	44	0
Turn Type	Split								Perm	Perm		
Protected Phases	1	1						2			2	
Permitted Phases									2	2		
Detector Phase	1	1						2	2	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	27.0	27.0						22.0	22.0	22.0	22.0	
Total Split (s)	60.0	60.0	0.0	0.0	0.0	0.0	0.0	25.0	25.0	25.0	25.0	0.0
Total Split (%)	70.6%	70.6%	0.0%	0.0%	0.0%	0.0%	0.0%	29.4%	29.4%	29.4%	29.4%	0.0%
Yellow Time (s)	4.0	4.0						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead						Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max						Max	Max	Max	Max	
Act Effct Green (s)		57.0						22.0	22.0	22.0	22.0	
Actuated g/C Ratio		0.67						0.26	0.26	0.26	0.26	
v/c Ratio		0.62						0.16	0.16	0.11	0.12	
Control Delay		4.1						25.5	9.2	15.3	15.3	
Queue Delay		0.2						0.0	0.0	0.0	0.0	
Total Delay		4.2						25.5	9.2	15.3	15.3	
LOS		A						C	A	B	B	
Approach Delay		4.2						19.3			15.3	
Approach LOS		A						B			B	
Queue Length 50th (ft)		54						21	0	6	9	
Queue Length 95th (ft)		77						44	17	12	15	
Internal Link Dist (ft)		423			320			131			505	
Turn Bay Length (ft)												
Base Capacity (vph)		2600						478	294	273	381	
Starvation Cap Reductn		235						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.69						0.16	0.16	0.11	0.12	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 45 (53%), Referenced to phase 1:EBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.62			
Intersection Signal Delay: 5.7		Intersection LOS: A	
Intersection Capacity Utilization 71.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 5: ADAMS ST & SARAH LOGUEN DR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	421	475	213	0	0	0	0	923	357	122	708	835
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3367	3406	1468	0	0	0	0	5085	1568	0	3462	2375
Flt Permitted	0.950										0.950	
Satd. Flow (perm)	3367	3406	1241	0	0	0	0	5085	1499	0	3414	2375
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			212						103			
Link Speed (mph)		30			30			30				30
Link Distance (ft)		636			503			1501				284
Travel Time (s)		14.5			11.4			34.1				6.5
Confl. Peds. (#/hr)			80				62		18		18	
Peak Hour Factor	0.90	0.90	0.90	1.00	1.00	1.00	0.94	0.94	0.94	0.95	0.95	0.95
Heavy Vehicles (%)	4%	6%	10%	2%	2%	2%	2%	2%	3%	2%	1%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	468	528	237	0	0	0	0	982	380	0	873	879
Turn Type	Split		Perm						Perm	Prot	Prot	
Protected Phases	1	1						4		3	3	8
Permitted Phases			1						4			
Detector Phase	1	1	1					4	4	3	3	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.5	22.5	22.5					22.0	22.0	25.0	25.0	27.0
Total Split (s)	23.0	23.0	23.0	0.0	0.0	0.0	0.0	25.0	25.0	28.0	28.0	56.0
Total Split (%)	27.1%	27.1%	27.1%	0.0%	0.0%	0.0%	0.0%	29.4%	29.4%	32.9%	32.9%	65.9%
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5					1.0	1.0	2.0	2.0	1.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-3.0	-3.0	-2.0
Total Lost Time (s)	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag	Lag					Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max	C-Max	None	None	C-Max
Act Effct Green (s)	19.6	19.6	19.6					30.3	30.3		24.8	58.7
Actuated g/C Ratio	0.23	0.23	0.23					0.36	0.36		0.29	0.69
v/c Ratio	0.60	0.67	0.53					0.54	0.63		0.86	0.54
Control Delay	32.7	34.3	10.4					24.1	23.9		18.7	7.2
Queue Delay	0.0	0.0	0.0					0.0	0.0		0.0	0.3
Total Delay	32.7	34.3	10.4					24.1	23.9		18.7	7.5
LOS	C	C	B					C	C		B	A
Approach Delay		29.1						24.1				13.1
Approach LOS		C						C				B
Queue Length 50th (ft)	77	91	7					101	80		31	0
Queue Length 95th (ft)	110	127	50					152	#199		#25	332
Internal Link Dist (ft)		556			423			1421				204
Turn Bay Length (ft)												
Base Capacity (vph)	812	821	460					1810	600		1018	1639
Starvation Cap Reductn	0	0	0					0	0		0	264
Spillback Cap Reductn	0	0	0					0	0		0	0
Storage Cap Reductn	0	0	0					0	0		0	0

Lane Group	SBR	ø2	ø6	ø9	ø11
Lane Configurations					
Volume (vph)	0				
Ideal Flow (vphpl)	1900				
Satd. Flow (prot)	0				
Flt Permitted					
Satd. Flow (perm)	0				
Right Turn on Red	Yes				
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Confl. Peds. (#/hr)					
Peak Hour Factor	0.95				
Heavy Vehicles (%)	2%				
Shared Lane Traffic (%)					
Lane Group Flow (vph)	0				
Turn Type					
Protected Phases		2	6	9	11
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)		1.0	1.0	1.0	1.0
Minimum Split (s)		3.0	3.0	3.0	3.0
Total Split (s)	0.0	3.0	3.0	3.0	3.0
Total Split (%)	0.0%	4%	4%	4%	4%
Yellow Time (s)		2.0	2.0	2.0	2.0
All-Red Time (s)		0.0	0.0	0.0	0.0
Lost Time Adjust (s)	-1.0				
Total Lost Time (s)	3.0				
Lead/Lag		Lead		Lead	Lead
Lead-Lag Optimize?					
Recall Mode		None	None	None	None
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Reduced v/c Ratio	0.58	0.64	0.52					0.54	0.63		0.86	0.64

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 62 (73%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 21.1		Intersection LOS: C	
Intersection Capacity Utilization 70.7%		ICU Level of Service C	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: ADAMS ST & ALMOND ST

Lane Group	SBR	ø2	ø6	ø9	ø11
Reduced v/c Ratio					

Intersection Summary

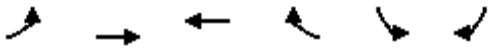
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								↑↑↑↑↑			↑↑↑↑	
Volume (vph)	0	0	0	0	0	0	0	1466	0	0	1665	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	0	0	0	0	0	7544	0	0	6408	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	0	0	0	7544	0	0	6408	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		274			278			284			288	
Travel Time (s)		6.2			6.3			6.5			6.5	
Confl. Peds. (#/hr)	8		8	7		7						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	1593	0	0	1753	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Detector Phase								2			6	
Switch Phase												
Minimum Initial (s)								4.0			4.0	
Minimum Split (s)								9.0			9.0	
Total Split (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	0.0	0.0	43.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.6%	0.0%	0.0%	50.6%	0.0%
Yellow Time (s)								4.0			4.0	
All-Red Time (s)								1.0			1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode								C-Max			C-Max	
Act Effct Green (s)								66.2			66.2	
Actuated g/C Ratio								0.78			0.78	
v/c Ratio								0.27			0.35	
Control Delay								10.5			1.4	
Queue Delay								0.0			0.0	
Total Delay								10.5			1.4	
LOS								B			A	
Approach Delay								10.5			1.4	
Approach LOS								B			A	
Queue Length 50th (ft)								0			0	
Queue Length 95th (ft)								160			m15	
Internal Link Dist (ft)		194			198			204			208	
Turn Bay Length (ft)												
Base Capacity (vph)								5876			4991	
Starvation Cap Reductn								0			125	
Spillback Cap Reductn								0			41	
Storage Cap Reductn								0			0	
Reduced v/c Ratio								0.27			0.36	

Lane Group	ø4
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	42.0
Total Split (s)	42.0
Total Split (%)	49%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 30 (35%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow			
Natural Cycle: 65			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.35			
Intersection Signal Delay: 5.8		Intersection LOS: A	
Intersection Capacity Utilization 70.2%		ICU Level of Service C	
Analysis Period (min) 15			

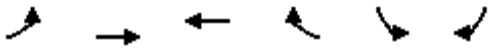
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: ALMOND ST &



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	495	47	0	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	6325	0	0	1494
Flt Permitted						
Satd. Flow (perm)	0	0	6325	0	0	1494
Link Speed (mph)		30	30		30	
Link Distance (ft)		226	245		201	
Travel Time (s)		5.1	5.6		4.6	
Confl. Peds. (#/hr)				15		9
Peak Hour Factor	1.00	1.00	0.88	0.88	1.00	0.67
Heavy Vehicles (%)	2%	2%	2%	2%	2%	10%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	615	0	0	60
Sign Control		Free	Free		Stop	

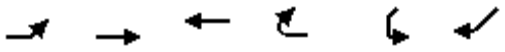
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.8%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	495	47	0	40
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.88	0.88	1.00	0.67
Hourly flow rate (vph)	0	0	562	53	0	60
Pedestrians		9			15	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			1	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			490			
pX, platoon unblocked						
vC, conflicting volume	631				604	191
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	631				604	191
tC, single (s)	4.1				6.8	7.1
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.4
p0 queue free %	100				100	92
cM capacity (veh/h)	936				424	784

Direction, Lane #	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	161	161	161	134	60
Volume Left	0	0	0	0	0
Volume Right	0	0	0	53	60
cSH	1700	1700	1700	1700	784
Volume to Capacity	0.09	0.09	0.09	0.08	0.08
Queue Length 95th (ft)	0	0	0	0	4
Control Delay (s)	0.0	0.0	0.0	0.0	10.0
Lane LOS					A
Approach Delay (s)	0.0				10.0
Approach LOS					A

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	22.8%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (vph)	0	0	305	0	0	237
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	4893	0	0	1627
Flt Permitted						
Satd. Flow (perm)	0	0	4893	0	0	1627
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	245		324	
Travel Time (s)		7.0	5.6		7.4	
Peak Hour Factor	1.00	1.00	0.87	1.00	1.00	0.81
Heavy Vehicles (%)	2%	2%	6%	2%	2%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	351	0	0	293
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 27.2%		ICU Level of Service A	
Analysis Period (min) 15			

Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations			↑↑↑			↱
Volume (veh/h)	0	0	305	0	0	237
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.87	1.00	1.00	0.81
Hourly flow rate (vph)	0	0	351	0	0	293
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			245			
pX, platoon unblocked						
vC, conflicting volume	351				351	117
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	351				351	117
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	68
cM capacity (veh/h)	1205				621	916

Direction, Lane #	WB 1	WB 2	WB 3	SW 1
Volume Total	117	117	117	293
Volume Left	0	0	0	0
Volume Right	0	0	0	293
cSH	1700	1700	1700	916
Volume to Capacity	0.07	0.07	0.07	0.32
Queue Length 95th (ft)	0	0	0	24
Control Delay (s)	0.0	0.0	0.0	10.8
Lane LOS				B
Approach Delay (s)	0.0			10.8
Approach LOS				B

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	27.2%	ICU Level of Service	A
Analysis Period (min)	15		

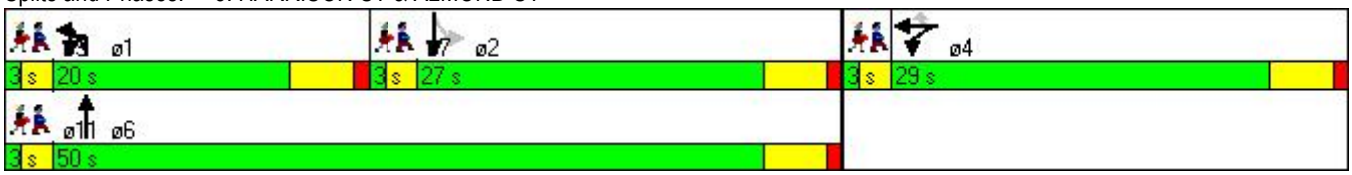
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	117	139	521	123	950	22	0	956	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	0	1719	3471	2733	3367	4971	0	0	4955	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1635	3471	2733	3334	4971	0	0	4955	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)								6			8	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		200			497			288			444	
Travel Time (s)		4.5			11.3			6.5			10.1	
Confl. Peds. (#/hr)				46			37		9	9		37
Peak Hour Factor	1.00	1.00	1.00	0.88	0.88	0.88	0.85	0.85	0.85	0.86	0.86	0.86
Heavy Vehicles (%)	2%	2%	2%	5%	4%	4%	4%	4%	2%	0%	3%	21%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	133	158	592	145	1144	0	0	1162	0
Turn Type				Split		Perm	Prot			Perm		
Protected Phases				4	4		1	6			2	
Permitted Phases						4				2		
Detector Phase				4	4	4	1	6		2	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0		7.0	7.0	
Minimum Split (s)				29.0	29.0	29.0	20.0	28.0		24.0	24.0	
Total Split (s)	0.0	0.0	0.0	29.0	29.0	29.0	20.0	50.0	0.0	27.0	27.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	34.1%	34.1%	34.1%	23.5%	58.8%	0.0%	31.8%	31.8%	0.0%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag				Lag	Lag	Lag	Lag			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	None	C-Max		C-Max	C-Max	
Act Effct Green (s)				24.0	24.0	24.0	13.0	53.8			37.2	
Actuated g/C Ratio				0.28	0.28	0.28	0.15	0.63			0.44	
v/c Ratio				0.27	0.16	0.77	0.28	0.36			0.54	
Control Delay				19.7	18.3	28.1	45.0	5.9			20.2	
Queue Delay				0.0	0.0	0.0	0.0	0.1			0.0	
Total Delay				19.7	18.3	28.1	45.0	6.0			20.2	
LOS				B	B	C	D	A			C	
Approach Delay					25.1			10.4			20.2	
Approach LOS					C			B			C	
Queue Length 50th (ft)				26	16	70	27	77			106	
Queue Length 95th (ft)				44	25	85	47	21			168	
Internal Link Dist (ft)		120			417			208			364	
Turn Bay Length (ft)												
Base Capacity (vph)				526	1062	836	673	3146			2171	
Starvation Cap Reductn				0	0	0	0	594			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	

Lane Group	ø3	ø7	ø9	ø11
Lane Configurations				
Volume (vph)				
Ideal Flow (vphpl)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	3	7	9	11
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	3.0	3.0	3.0	3.0
Total Split (s)	3.0	3.0	3.0	3.0
Total Split (%)	4%	4%	4%	4%
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	
Lead-Lag Optimize?				
Recall Mode	None	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio				0.25	0.15	0.71	0.22	0.45			0.54	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 19 (22%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.77			
Intersection Signal Delay: 17.7		Intersection LOS: B	
Intersection Capacity Utilization 57.1%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 3: HARRISON ST & ALMOND ST



Lane Group	ø3	ø7	ø9	ø11
Reduced v/c Ratio				

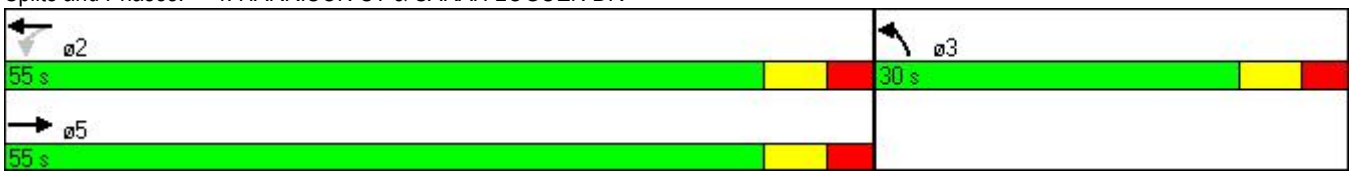
Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	20	2	71	634	143	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1869	0	1671	3505	3233	0
Flt Permitted			0.736		0.960	
Satd. Flow (perm)	1869	0	1265	3505	3167	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	3				27	
Link Speed (mph)	30			30	30	
Link Distance (ft)	497			356	585	
Travel Time (s)	11.3			8.1	13.3	
Confl. Peds. (#/hr)		16	16		19	22
Peak Hour Factor	0.68	0.68	0.90	0.90	0.89	0.89
Heavy Vehicles (%)	0%	0%	8%	3%	4%	15%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	32	0	79	704	191	0
Turn Type			Perm			
Protected Phases	5			2	3	
Permitted Phases			2			
Detector Phase	5		2	2	3	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	24.0		24.0	24.0	27.0	
Total Split (s)	55.0	0.0	55.0	55.0	30.0	0.0
Total Split (%)	64.7%	0.0%	64.7%	64.7%	35.3%	0.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	3.0		3.0	3.0	3.0	
Lost Time Adjust (s)	-4.0	-1.0	-4.0	-4.0	-4.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Max	C-Max	Max	
Act Effct Green (s)	52.0		52.0	52.0	27.0	
Actuated g/C Ratio	0.61		0.61	0.61	0.32	
v/c Ratio	0.03		0.10	0.33	0.18	
Control Delay	5.4		7.3	8.5	15.7	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	5.4		7.3	8.5	15.7	
LOS	A		A	A	B	
Approach Delay	5.4			8.4	15.7	
Approach LOS	A			A	B	
Queue Length 50th (ft)	5		11	58	23	
Queue Length 95th (ft)	9		23	80	37	
Internal Link Dist (ft)	417			276	505	
Turn Bay Length (ft)						
Base Capacity (vph)	1145		774	2144	1045	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Reduced v/c Ratio	0.03		0.10	0.33	0.18	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 70 (82%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow			
Natural Cycle: 55			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 9.7		Intersection LOS: A	
Intersection Capacity Utilization 40.9%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 4: HARRISON ST & SARAH LOGUEN DR

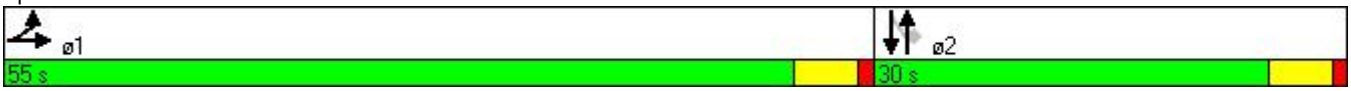


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	104	684	61	0	0	0	0	69	30	18	37	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3898	0	0	0	0	0	1845	1380	1703	1759	0
Flt Permitted		0.994								0.703		
Satd. Flow (perm)	0	3890	0	0	0	0	0	1845	1065	1012	1759	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		17							36			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			400			211			585	
Travel Time (s)		11.4			9.1			4.8			13.3	
Confl. Peds. (#/hr)	14		43						147	147		
Peak Hour Factor	0.87	0.87	0.87	1.00	1.00	1.00	1.00	0.83	0.83	0.91	0.91	0.91
Heavy Vehicles (%)	5%	2%	3%	2%	2%	2%	2%	3%	17%	6%	8%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	976	0	0	0	0	0	83	36	20	41	0
Turn Type	Split								Perm	Perm		
Protected Phases	1	1						2			2	
Permitted Phases									2	2		
Detector Phase	1	1						2	2	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	27.0	27.0						22.0	22.0	22.0	22.0	
Total Split (s)	55.0	55.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	30.0	30.0	0.0
Total Split (%)	64.7%	64.7%	0.0%	0.0%	0.0%	0.0%	0.0%	35.3%	35.3%	35.3%	35.3%	0.0%
Yellow Time (s)	4.0	4.0						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead						Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max						Max	Max	Max	Max	
Act Effct Green (s)		52.0						27.0	27.0	27.0	27.0	
Actuated g/C Ratio		0.61						0.32	0.32	0.32	0.32	
v/c Ratio		0.41						0.14	0.10	0.06	0.07	
Control Delay		3.2						21.6	8.0	14.1	14.0	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		3.2						21.6	8.0	14.1	14.0	
LOS		A						C	A	B	B	
Approach Delay		3.2						17.5			14.1	
Approach LOS		A						B			B	
Queue Length 50th (ft)		16						21	0	5	10	
Queue Length 95th (ft)		35						40	12	16	26	
Internal Link Dist (ft)		423			320			131			505	
Turn Bay Length (ft)												
Base Capacity (vph)		2391						586	363	321	559	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.41						0.14	0.10	0.06	0.07	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 43 (51%), Referenced to phase 1:EBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.41			
Intersection Signal Delay: 5.3		Intersection LOS: A	
Intersection Capacity Utilization 51.6%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: ADAMS ST & SARAH LOGUEN DR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	452	305	256	0	0	0	0	471	172	172	372	529
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3400	3539	1583	0	0	0	0	5085	1599	0	3431	2398
Flt Permitted	0.950										0.950	
Satd. Flow (perm)	3400	3539	1366	0	0	0	0	5085	1560	0	3399	2398
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			275						195			
Link Speed (mph)		30			30			30				30
Link Distance (ft)		636			503			1501				284
Travel Time (s)		14.5			11.4			34.1				6.5
Confl. Peds. (#/hr)			70						7		7	
Peak Hour Factor	0.93	0.93	0.93	1.00	1.00	1.00	1.00	0.81	0.81	0.92	0.92	0.92
Heavy Vehicles (%)	3%	2%	2%	2%	2%	2%	2%	2%	1%	0%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	486	328	275	0	0	0	0	581	212	0	591	575
Turn Type	Split		Perm						Perm	Prot	Prot	
Protected Phases	1	1						4		3	3	8
Permitted Phases			1						4			
Detector Phase	1	1	1					4	4	3	3	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.5	22.5	22.5					22.0	22.0	25.0	25.0	27.0
Total Split (s)	24.0	24.0	24.0	0.0	0.0	0.0	0.0	25.0	25.0	27.0	27.0	55.0
Total Split (%)	28.2%	28.2%	28.2%	0.0%	0.0%	0.0%	0.0%	29.4%	29.4%	31.8%	31.8%	64.7%
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5					1.0	1.0	2.0	2.0	1.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-3.0	-3.0	-2.0
Total Lost Time (s)	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag	Lag					Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max	C-Max	None	None	C-Max
Act Effct Green (s)	19.8	19.8	19.8					33.1	33.1		21.8	58.5
Actuated g/C Ratio	0.23	0.23	0.23					0.39	0.39		0.26	0.69
v/c Ratio	0.61	0.40	0.52					0.29	0.29		0.67	0.35
Control Delay	32.6	28.7	7.4					20.0	5.8		16.4	6.7
Queue Delay	0.0	0.0	0.0					0.0	0.0		0.0	0.0
Total Delay	32.6	28.7	7.4					20.0	5.8		16.4	6.7
LOS	C	C	A					C	A		B	A
Approach Delay		25.0						16.2				11.6
Approach LOS		C						B				B
Queue Length 50th (ft)	79	52	0					52	4		101	114
Queue Length 95th (ft)	112	77	41					77	30		20	26
Internal Link Dist (ft)		556			423			1421				204
Turn Bay Length (ft)												
Base Capacity (vph)	860	895	551					1978	726		969	1650
Starvation Cap Reductn	0	0	0					0	0		0	0
Spillback Cap Reductn	0	0	0					0	0		0	0
Storage Cap Reductn	0	0	0					0	0		0	0

Lane Group	SBR	ø2	ø6	ø9	ø11
Lane Configurations					
Volume (vph)	0				
Ideal Flow (vphpl)	1900				
Satd. Flow (prot)	0				
Flt Permitted					
Satd. Flow (perm)	0				
Right Turn on Red	Yes				
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Confl. Peds. (#/hr)					
Peak Hour Factor	1.00				
Heavy Vehicles (%)	2%				
Shared Lane Traffic (%)					
Lane Group Flow (vph)	0				
Turn Type					
Protected Phases		2	6	9	11
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)		1.0	1.0	1.0	1.0
Minimum Split (s)		3.0	3.0	3.0	3.0
Total Split (s)	0.0	3.0	3.0	3.0	3.0
Total Split (%)	0.0%	4%	4%	4%	4%
Yellow Time (s)		2.0	2.0	2.0	2.0
All-Red Time (s)		0.0	0.0	0.0	0.0
Lost Time Adjust (s)	-1.0				
Total Lost Time (s)	3.0				
Lead/Lag		Lead		Lead	Lead
Lead-Lag Optimize?					
Recall Mode		None	None	None	None
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Reduced v/c Ratio	0.57	0.37	0.50					0.29	0.29		0.61	0.35

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 61 (72%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 17.6		Intersection LOS: B	
Intersection Capacity Utilization 50.1%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 6: ADAMS ST & ALMOND ST

Lane Group	SBR	ø2	ø6	ø9	ø11
Reduced v/c Ratio					

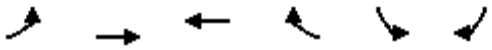
Intersection Summary

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								↑↑↑↑↑			↑↑↑↑	
Volume (vph)	0	0	0	0	0	0	0	1095	0	0	1073	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	0	0	0	0	0	7544	0	0	6408	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	0	0	0	7544	0	0	6408	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		274			278			284			288	
Travel Time (s)		6.2			6.3			6.5			6.5	
Confl. Peds. (#/hr)	8		8	7		7						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	1190	0	0	1129	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Detector Phase								2			6	
Switch Phase												
Minimum Initial (s)								4.0			4.0	
Minimum Split (s)								9.0			9.0	
Total Split (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	0.0	0.0	43.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.6%	0.0%	0.0%	50.6%	0.0%
Yellow Time (s)								4.0			4.0	
All-Red Time (s)								1.0			1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode								C-Max			C-Max	
Act Effct Green (s)								66.2			66.2	
Actuated g/C Ratio								0.78			0.78	
v/c Ratio								0.20			0.23	
Control Delay								7.8			2.0	
Queue Delay								0.0			0.0	
Total Delay								7.8			2.0	
LOS								A			A	
Approach Delay								7.8			2.0	
Approach LOS								A			A	
Queue Length 50th (ft)								0			0	
Queue Length 95th (ft)								84			17	
Internal Link Dist (ft)		194			198			204			208	
Turn Bay Length (ft)												
Base Capacity (vph)								5876			4991	
Starvation Cap Reductn								0			0	
Spillback Cap Reductn								0			0	
Storage Cap Reductn								0			0	
Reduced v/c Ratio								0.20			0.23	

Lane Group	ø4
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	42.0
Total Split (s)	42.0
Total Split (%)	49%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

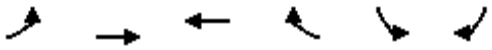
Intersection Summary	
Area Type:	Other
Cycle Length: 85	
Actuated Cycle Length: 85	
Offset: 28 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow	
Natural Cycle: 60	
Control Type: Actuated-Coordinated	
Maximum v/c Ratio: 0.23	
Intersection Signal Delay: 5.0	Intersection LOS: A
Intersection Capacity Utilization 50.1%	ICU Level of Service A
Analysis Period (min) 15	

Splits and Phases: 7: ALMOND ST &



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	0	0	552	18	0	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	6205	0	0	1644
Flt Permitted						
Satd. Flow (perm)	0	0	6205	0	0	1644
Link Speed (mph)		30	30		30	
Link Distance (ft)		226	245		201	
Travel Time (s)		5.1	5.6		4.6	
Confl. Peds. (#/hr)				27		10
Peak Hour Factor	1.00	1.00	0.94	1.00	1.00	0.53
Heavy Vehicles (%)	2%	2%	5%	2%	2%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	605	0	0	89
Sign Control		Free	Free		Stop	

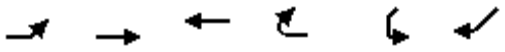
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.6%		ICU Level of Service A	
Analysis Period (min) 15			



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	552	18	0	47
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.94	1.00	1.00	0.53
Hourly flow rate (vph)	0	0	587	18	0	89
Pedestrians		10			27	
Lane Width (ft)		0.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		0			2	
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			490			
pX, platoon unblocked						
vC, conflicting volume	632				623	193
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	632				623	193
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	89
cM capacity (veh/h)	925				409	804

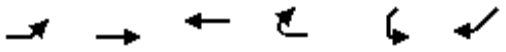
Direction, Lane #	WB 1	WB 2	WB 3	WB 4	SB 1
Volume Total	168	168	168	102	89
Volume Left	0	0	0	0	0
Volume Right	0	0	0	18	89
cSH	1700	1700	1700	1700	804
Volume to Capacity	0.10	0.10	0.10	0.06	0.11
Queue Length 95th (ft)	0	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	0.0	10.0
Lane LOS					B
Approach Delay (s)	0.0				10.0
Approach LOS					B

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	24.6%	ICU Level of Service	A
Analysis Period (min)	15		



Lane Group	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations			↑↑↑			↱
Volume (vph)	0	0	389	0	0	181
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	4940	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	0	4940	0	0	1611
Link Speed (mph)		30	30		30	
Link Distance (ft)		306	245		324	
Travel Time (s)		7.0	5.6		7.4	
Peak Hour Factor	1.00	1.00	0.89	1.00	1.00	0.89
Heavy Vehicles (%)	2%	2%	5%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	437	0	0	203
Sign Control		Free	Free		Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		



Movement	EBL	EBT	WBT	WBR	SWL	SWR
Lane Configurations						
Volume (veh/h)	0	0	389	0	0	181
Sign Control		Free	Free		Yield	
Grade		0%	0%		0%	
Peak Hour Factor	1.00	1.00	0.89	1.00	1.00	0.89
Hourly flow rate (vph)	0	0	437	0	0	203
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			245			
pX, platoon unblocked						
vC, conflicting volume	437				437	146
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	437				437	146
tC, single (s)	4.1				6.8	6.9
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	77
cM capacity (veh/h)	1119				548	875

Direction, Lane #	WB 1	WB 2	WB 3	SW 1
Volume Total	146	146	146	203
Volume Left	0	0	0	0
Volume Right	0	0	0	203
cSH	1700	1700	1700	875
Volume to Capacity	0.09	0.09	0.09	0.23
Queue Length 95th (ft)	0	0	0	15
Control Delay (s)	0.0	0.0	0.0	10.4
Lane LOS				B
Approach Delay (s)	0.0			10.4
Approach LOS				B

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	25.4%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	335	224	1293	117	2046	49	0	1103	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	0	1770	3312	2814	3502	5096	0	0	5002	0
Flt Permitted				0.950			0.950					
Satd. Flow (perm)	0	0	0	1642	3312	2814	3478	5096	0	0	5002	0
Right Turn on Red			Yes			No			Yes			Yes
Satd. Flow (RTOR)								6			7	
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		200			497			288			444	
Travel Time (s)		4.5			11.3			6.5			10.1	
Confl. Peds. (#/hr)				68			25		26	26		25
Peak Hour Factor	1.00	1.00	1.00	0.94	0.94	0.94	0.96	0.96	0.96	0.99	0.99	0.99
Heavy Vehicles (%)	2%	2%	2%	2%	9%	1%	0%	1%	10%	2%	3%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	356	238	1376	122	2182	0	0	1162	0
Turn Type				Split		Perm	Prot			Perm		
Protected Phases				4	4		1	6			2	
Permitted Phases						4				2		
Detector Phase				4	4	4	1	6		2	2	
Switch Phase												
Minimum Initial (s)				10.0	10.0	10.0	10.0	10.0		7.0	7.0	
Minimum Split (s)				29.0	29.0	29.0	20.0	28.0		24.0	24.0	
Total Split (s)	0.0	0.0	0.0	32.0	32.0	32.0	20.0	47.0	0.0	24.0	24.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	37.6%	37.6%	37.6%	23.5%	55.3%	0.0%	28.2%	28.2%	0.0%
Yellow Time (s)				4.0	4.0	4.0	4.0	4.0		4.0	4.0	
All-Red Time (s)				1.0	1.0	1.0	1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-2.0	-1.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag				Lag	Lag	Lag	Lag			Lag	Lag	
Lead-Lag Optimize?												
Recall Mode				None	None	None	None	C-Max		C-Max	C-Max	
Act Effct Green (s)				29.0	29.0	29.0	13.0	48.8			35.2	
Actuated g/C Ratio				0.34	0.34	0.34	0.15	0.57			0.41	
v/c Ratio				0.59	0.21	1.43	0.23	0.75			0.56	
Control Delay				21.4	16.0	223.3	44.7	8.9			22.7	
Queue Delay				0.0	0.0	0.0	0.0	0.2			0.0	
Total Delay				21.4	16.0	223.3	44.7	9.0			22.7	
LOS				C	B	F	D	A			C	
Approach Delay					161.8			10.9			22.7	
Approach LOS					F			B			C	
Queue Length 50th (ft)				74	24	~398	21	102			114	
Queue Length 95th (ft)				136	37	#484	34	33			#211	
Internal Link Dist (ft)		120			417			208			364	
Turn Bay Length (ft)												
Base Capacity (vph)				604	1130	960	700	2928			2076	
Starvation Cap Reductn				0	0	0	0	142			0	
Spillback Cap Reductn				0	0	0	0	0			0	
Storage Cap Reductn				0	0	0	0	0			0	

Lane Group	ø3	ø7	ø9	ø11
Lane Configurations				
Volume (vph)				
Ideal Flow (vphpl)				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Right Turn on Red				
Satd. Flow (RTOR)				
Link Speed (mph)				
Link Distance (ft)				
Travel Time (s)				
Confl. Peds. (#/hr)				
Peak Hour Factor				
Heavy Vehicles (%)				
Shared Lane Traffic (%)				
Lane Group Flow (vph)				
Turn Type				
Protected Phases	3	7	9	11
Permitted Phases				
Detector Phase				
Switch Phase				
Minimum Initial (s)	1.0	1.0	1.0	1.0
Minimum Split (s)	3.0	3.0	3.0	3.0
Total Split (s)	3.0	3.0	3.0	3.0
Total Split (%)	4%	4%	4%	4%
Yellow Time (s)	2.0	2.0	2.0	2.0
All-Red Time (s)	0.0	0.0	0.0	0.0
Lost Time Adjust (s)				
Total Lost Time (s)				
Lead/Lag	Lead	Lead	Lead	
Lead-Lag Optimize?				
Recall Mode	None	None	None	None
Act Effct Green (s)				
Actuated g/C Ratio				
v/c Ratio				
Control Delay				
Queue Delay				
Total Delay				
LOS				
Approach Delay				
Approach LOS				
Queue Length 50th (ft)				
Queue Length 95th (ft)				
Internal Link Dist (ft)				
Turn Bay Length (ft)				
Base Capacity (vph)				
Starvation Cap Reductn				
Spillback Cap Reductn				
Storage Cap Reductn				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Reduced v/c Ratio				0.59	0.21	1.43	0.17	0.78			0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 29 (34%), Referenced to phase 2:SBTL and 6:NBT, Start of Yellow			
Natural Cycle: 85			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.43			
Intersection Signal Delay: 68.1		Intersection LOS: E	
Intersection Capacity Utilization 92.6%		ICU Level of Service F	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 3: HARRISON ST & ALMOND ST

Lane Group	ø3	ø7	ø9	ø11
Reduced v/c Ratio				

Intersection Summary

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (vph)	41	8	29	1368	484	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	1818	0	1805	3539	3379	0
Flt Permitted			0.706		0.955	
Satd. Flow (perm)	1818	0	1318	3539	3375	0
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	13				7	
Link Speed (mph)	30			30	30	
Link Distance (ft)	497			356	585	
Travel Time (s)	11.3			8.1	13.3	
Confl. Peds. (#/hr)		13	13		1	29
Peak Hour Factor	0.63	0.63	0.95	0.95	0.91	0.91
Heavy Vehicles (%)	2%	0%	0%	2%	2%	19%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	0	31	1440	562	0
Turn Type			Perm			
Protected Phases	5			2	3	
Permitted Phases			2			
Detector Phase	5		2	2	3	
Switch Phase						
Minimum Initial (s)	4.0		4.0	4.0	4.0	
Minimum Split (s)	24.0		24.0	24.0	27.0	
Total Split (s)	57.0	0.0	57.0	57.0	28.0	0.0
Total Split (%)	67.1%	0.0%	67.1%	67.1%	32.9%	0.0%
Yellow Time (s)	4.0		4.0	4.0	4.0	
All-Red Time (s)	3.0		3.0	3.0	3.0	
Lost Time Adjust (s)	-4.0	-1.0	-4.0	-4.0	-4.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag						
Lead-Lag Optimize?						
Recall Mode	C-Max		C-Max	C-Max	Max	
Act Effct Green (s)	54.0		54.0	54.0	25.0	
Actuated g/C Ratio	0.64		0.64	0.64	0.29	
v/c Ratio	0.07		0.04	0.64	0.56	
Control Delay	6.9		6.0	11.2	25.8	
Queue Delay	0.0		0.0	0.0	0.0	
Total Delay	6.9		6.0	11.2	25.8	
LOS	A		A	B	C	
Approach Delay	6.9			11.1	25.8	
Approach LOS	A			B	C	
Queue Length 50th (ft)	11		4	151	86	
Queue Length 95th (ft)	m17		10	194	125	
Internal Link Dist (ft)	417			276	505	
Turn Bay Length (ft)						
Base Capacity (vph)	1160		837	2248	999	
Starvation Cap Reductn	0		0	0	0	
Spillback Cap Reductn	0		0	0	0	
Storage Cap Reductn	0		0	0	0	

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Reduced v/c Ratio	0.07		0.04	0.64	0.56	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 75 (88%), Referenced to phase 2:WBTL and 5:EBT, Start of Yellow			
Natural Cycle: 60			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.64			
Intersection Signal Delay: 14.8		Intersection LOS: B	
Intersection Capacity Utilization 61.1%		ICU Level of Service B	
Analysis Period (min) 15			
m Volume for 95th percentile queue is metered by upstream signal.			

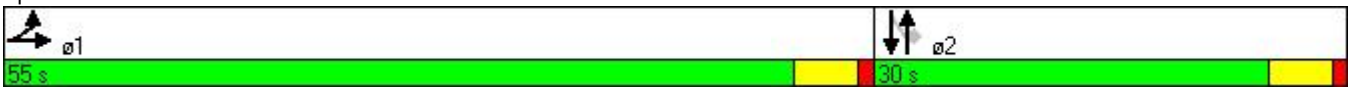
Splits and Phases: 4: HARRISON ST & SARAH LOGUEN DR

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	91	586	62	0	0	0	0	80	30	29	22	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	16	12	12	16	12	12	12	12	12	12	12
Satd. Flow (prot)	0	3828	0	0	0	0	0	1900	1346	1805	1900	0
Flt Permitted		0.994								0.682		
Satd. Flow (perm)	0	3817	0	0	0	0	0	1900	1080	1085	1900	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)		21							38			
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		503			400			211			585	
Travel Time (s)		11.4			9.1			4.8			13.3	
Confl. Peds. (#/hr)	20		27						126	126		
Peak Hour Factor	0.94	0.94	0.94	1.00	1.00	1.00	1.00	0.80	0.80	0.81	0.81	1.00
Heavy Vehicles (%)	14%	2%	11%	2%	2%	2%	2%	0%	20%	0%	0%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	786	0	0	0	0	0	100	38	36	27	0
Turn Type	Split								Perm	Perm		
Protected Phases	1	1						2			2	
Permitted Phases									2	2		
Detector Phase	1	1						2	2	2	2	
Switch Phase												
Minimum Initial (s)	4.0	4.0						4.0	4.0	4.0	4.0	
Minimum Split (s)	27.0	27.0						22.0	22.0	22.0	22.0	
Total Split (s)	55.0	55.0	0.0	0.0	0.0	0.0	0.0	30.0	30.0	30.0	30.0	0.0
Total Split (%)	64.7%	64.7%	0.0%	0.0%	0.0%	0.0%	0.0%	35.3%	35.3%	35.3%	35.3%	0.0%
Yellow Time (s)	4.0	4.0						4.0	4.0	4.0	4.0	
All-Red Time (s)	1.0	1.0						1.0	1.0	1.0	1.0	
Lost Time Adjust (s)	-2.0	-2.0	-1.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-2.0	-2.0	-1.0
Total Lost Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lead	Lead						Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	C-Max	C-Max						Max	Max	Max	Max	
Act Effct Green (s)		52.0						27.0	27.0	27.0	27.0	
Actuated g/C Ratio		0.61						0.32	0.32	0.32	0.32	
v/c Ratio		0.33						0.17	0.10	0.10	0.04	
Control Delay		1.6						21.9	7.9	17.9	16.7	
Queue Delay		0.0						0.0	0.0	0.0	0.0	
Total Delay		1.6						21.9	7.9	17.9	16.7	
LOS		A						C	A	B	B	
Approach Delay		1.6						18.0			17.4	
Approach LOS		A						B			B	
Queue Length 50th (ft)		6						26	0	10	7	
Queue Length 95th (ft)		17						45	12	23	18	
Internal Link Dist (ft)		423			320			131			505	
Turn Bay Length (ft)												
Base Capacity (vph)		2350						604	369	345	604	
Starvation Cap Reductn		0						0	0	0	0	
Spillback Cap Reductn		0						0	0	0	0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Storage Cap Reductn		0						0	0	0	0	
Reduced v/c Ratio		0.33						0.17	0.10	0.10	0.04	

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 52 (61%), Referenced to phase 1:EBTL, Start of Yellow			
Natural Cycle: 50			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 0.33			
Intersection Signal Delay: 4.9		Intersection LOS: A	
Intersection Capacity Utilization 48.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 5: ADAMS ST & SARAH LOGUEN DR



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Lane Configurations												
Volume (vph)	1378	301	712	0	0	0	0	749	107	85	331	1022
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	3467	3471	1599	0	0	0	0	5136	1615	0	3420	2446
Flt Permitted	0.950										0.950	
Satd. Flow (perm)	3467	3471	1434	0	0	0	0	5136	1587	0	3411	2446
Right Turn on Red			Yes			Yes			Yes			
Satd. Flow (RTOR)			127						123			
Link Speed (mph)		30			30			30				30
Link Distance (ft)		636			503			1501				284
Travel Time (s)		14.5			11.4			34.1				6.5
Confl. Peds. (#/hr)			51						3		3	
Peak Hour Factor	0.88	0.88	0.88	1.00	1.00	1.00	1.00	0.87	0.87	0.92	0.92	0.92
Heavy Vehicles (%)	1%	4%	1%	2%	2%	2%	2%	1%	0%	0%	3%	1%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	1566	342	809	0	0	0	0	861	123	0	452	1111
Turn Type	Split		Perm						Perm	Prot	Prot	
Protected Phases	1	1						4		3	3	8
Permitted Phases			1						4			
Detector Phase	1	1	1					4	4	3	3	8
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	22.5	22.5	22.5					22.0	22.0	25.0	25.0	27.0
Total Split (s)	29.0	29.0	29.0	0.0	0.0	0.0	0.0	22.0	22.0	25.0	25.0	50.0
Total Split (%)	34.1%	34.1%	34.1%	0.0%	0.0%	0.0%	0.0%	25.9%	25.9%	29.4%	29.4%	58.8%
Yellow Time (s)	4.0	4.0	4.0					4.0	4.0	4.0	4.0	4.0
All-Red Time (s)	1.5	1.5	1.5					1.0	1.0	2.0	2.0	1.0
Lost Time Adjust (s)	-3.0	-3.0	-3.0	-1.0	-1.0	-1.0	-1.0	-2.0	-2.0	-3.0	-3.0	-2.0
Total Lost Time (s)	2.5	2.5	2.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lead/Lag	Lag	Lag	Lag					Lag	Lag	Lag	Lag	
Lead-Lag Optimize?												
Recall Mode	None	None	None					C-Max	C-Max	None	None	C-Max
Act Effct Green (s)	26.5	26.5	26.5					29.2	29.2		19.0	51.8
Actuated g/C Ratio	0.31	0.31	0.31					0.34	0.34		0.22	0.61
v/c Ratio	1.45	0.32	1.51					0.49	0.20		0.59	0.75
Control Delay	233.9	23.3	264.4					24.4	6.0		23.8	24.8
Queue Delay	0.0	0.0	0.0					0.0	0.0		0.0	0.8
Total Delay	233.9	23.3	264.4					24.4	6.0		23.8	25.6
LOS	F	C	F					C	A		C	C
Approach Delay		216.5						22.1				25.1
Approach LOS		F						C				C
Queue Length 50th (ft)	~404	49	~385					86	0		78	256
Queue Length 95th (ft)	#477	72	#518					132	26		125	406
Internal Link Dist (ft)		556			423			1421				204
Turn Bay Length (ft)												
Base Capacity (vph)	1081	1082	534					1762	625		885	1490
Starvation Cap Reductn	0	0	0					0	0		0	146
Spillback Cap Reductn	0	0	0					0	0		0	0
Storage Cap Reductn	0	0	0					0	0		0	0

Lane Group	SBR	ø2	ø6	ø9	ø11
Lane Configurations					
Volume (vph)	0				
Ideal Flow (vphpl)	1900				
Satd. Flow (prot)	0				
Flt Permitted					
Satd. Flow (perm)	0				
Right Turn on Red	Yes				
Satd. Flow (RTOR)					
Link Speed (mph)					
Link Distance (ft)					
Travel Time (s)					
Confl. Peds. (#/hr)					
Peak Hour Factor	1.00				
Heavy Vehicles (%)	2%				
Shared Lane Traffic (%)					
Lane Group Flow (vph)	0				
Turn Type					
Protected Phases		2	6	9	11
Permitted Phases					
Detector Phase					
Switch Phase					
Minimum Initial (s)		1.0	1.0	1.0	1.0
Minimum Split (s)		3.0	3.0	3.0	3.0
Total Split (s)	0.0	3.0	3.0	3.0	3.0
Total Split (%)	0.0%	4%	4%	4%	4%
Yellow Time (s)		2.0	2.0	2.0	2.0
All-Red Time (s)		0.0	0.0	0.0	0.0
Lost Time Adjust (s)	-1.0				
Total Lost Time (s)	3.0				
Lead/Lag		Lead		Lead	Lead
Lead-Lag Optimize?					
Recall Mode		None	None	None	None
Act Effct Green (s)					
Actuated g/C Ratio					
v/c Ratio					
Control Delay					
Queue Delay					
Total Delay					
LOS					
Approach Delay					
Approach LOS					
Queue Length 50th (ft)					
Queue Length 95th (ft)					
Internal Link Dist (ft)					
Turn Bay Length (ft)					
Base Capacity (vph)					
Starvation Cap Reductn					
Spillback Cap Reductn					
Storage Cap Reductn					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBU	SBL	SBT
Reduced v/c Ratio	1.45	0.32	1.51					0.49	0.20		0.51	0.83

Intersection Summary			
Area Type:	Other		
Cycle Length: 85			
Actuated Cycle Length: 85			
Offset: 71 (84%), Referenced to phase 4:NBT and 8:SBT, Start of Yellow			
Natural Cycle: 80			
Control Type: Actuated-Coordinated			
Maximum v/c Ratio: 1.51			
Intersection Signal Delay: 123.3		Intersection LOS: F	
Intersection Capacity Utilization 83.0%		ICU Level of Service E	
Analysis Period (min) 15			
~ Volume exceeds capacity, queue is theoretically infinite.			
Queue shown is maximum after two cycles.			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 6: ADAMS ST & ALMOND ST

Lane Group	SBR	ø2	ø6	ø9	ø11
Reduced v/c Ratio					
Intersection Summary					

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								↑↑↑↑↑			↑↑↑↑	
Volume (vph)	0	0	0	0	0	0	0	2212	0	0	1438	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Satd. Flow (prot)	0	0	0	0	0	0	0	7544	0	0	6408	0
Flt Permitted												
Satd. Flow (perm)	0	0	0	0	0	0	0	7544	0	0	6408	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		274			278			284			288	
Travel Time (s)		6.2			6.3			6.5			6.5	
Confl. Peds. (#/hr)	8		8	7		7						
Peak Hour Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.92	0.92	0.92	0.95	0.95	0.95
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	0	0	0	0	0	2404	0	0	1514	0
Turn Type												
Protected Phases								2			6	
Permitted Phases												
Detector Phase								2			6	
Switch Phase												
Minimum Initial (s)								4.0			4.0	
Minimum Split (s)								9.0			9.0	
Total Split (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	43.0	0.0	0.0	43.0	0.0
Total Split (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	50.6%	0.0%	0.0%	50.6%	0.0%
Yellow Time (s)								4.0			4.0	
All-Red Time (s)								1.0			1.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	4.0	4.0	5.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Recall Mode								C-Max			C-Max	
Act Effct Green (s)								66.2			66.2	
Actuated g/C Ratio								0.78			0.78	
v/c Ratio								0.41			0.30	
Control Delay								3.2			8.0	
Queue Delay								0.0			0.0	
Total Delay								3.2			8.0	
LOS								A			A	
Approach Delay								3.2			8.0	
Approach LOS								A			A	
Queue Length 50th (ft)								0			0	
Queue Length 95th (ft)								m68			118	
Internal Link Dist (ft)		194			198			204			208	
Turn Bay Length (ft)												
Base Capacity (vph)								5876			4991	
Starvation Cap Reductn								172			0	
Spillback Cap Reductn								39			91	
Storage Cap Reductn								0			0	
Reduced v/c Ratio								0.42			0.31	

Lane Group	ø4
Lane Configurations	
Volume (vph)	
Ideal Flow (vphpl)	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Right Turn on Red	
Satd. Flow (RTOR)	
Link Speed (mph)	
Link Distance (ft)	
Travel Time (s)	
Confl. Peds. (#/hr)	
Peak Hour Factor	
Shared Lane Traffic (%)	
Lane Group Flow (vph)	
Turn Type	
Protected Phases	4
Permitted Phases	
Detector Phase	
Switch Phase	
Minimum Initial (s)	1.0
Minimum Split (s)	42.0
Total Split (s)	42.0
Total Split (%)	49%
Yellow Time (s)	2.0
All-Red Time (s)	0.0
Lost Time Adjust (s)	
Total Lost Time (s)	
Lead/Lag	
Lead-Lag Optimize?	
Recall Mode	None
Act Effct Green (s)	
Actuated g/C Ratio	
v/c Ratio	
Control Delay	
Queue Delay	
Total Delay	
LOS	
Approach Delay	
Approach LOS	
Queue Length 50th (ft)	
Queue Length 95th (ft)	
Internal Link Dist (ft)	
Turn Bay Length (ft)	
Base Capacity (vph)	
Starvation Cap Reductn	
Spillback Cap Reductn	
Storage Cap Reductn	
Reduced v/c Ratio	

Intersection Summary		
Area Type:	Other	
Cycle Length: 85		
Actuated Cycle Length: 85		
Offset: 28 (33%), Referenced to phase 2:NBT and 6:SBT, Start of Yellow		
Natural Cycle: 70		
Control Type: Actuated-Coordinated		
Maximum v/c Ratio: 0.41		
Intersection Signal Delay: 5.1		Intersection LOS: A
Intersection Capacity Utilization 99.1%		ICU Level of Service F
Analysis Period (min) 15		

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 7: ALMOND ST &