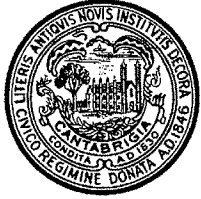


Attachment 2: Transportation Impact Study



CITY OF CAMBRIDGE
Traffic, Parking and Transportation
344 Broadway
Cambridge, Massachusetts 02139

www.cambridgema.gov/traffic

Susan E. Clippinger, Director
Brad Gerratt, Deputy Director

Phone: (617) 349-4700
Fax: (617) 349-4747

July 7, 2014

Sean Manning, P.E., PTOE
Vanasse Hangen Brustlin, Inc.
99 High Street, 10th Floor
Boston, MA 02110-2354

RE: Ames Street Residences

Dear Sean,

We have reviewed your Traffic Impact Study (TIS) dated June 10, 2014 for the Ames Street Residences by BP Cambridge Center Residential, LLC. The study includes revisions which were made in response to our July 1, 2014 comment letter. Based on staff review your TIS is certified as complete and reliable.

Please call Adam Shulman at 617-349-4745 if you have any questions.

Sincerely,

Adam Shulman on behalf of Susan Clippinger

Susan E. Clippinger
Director

cc: Adam Shulman, TPT
Brian Murphy, CDD
Stuart Dash, CDD
Liza Paden, CDD
Susanne Rasmussen, CDD.

Ames Street Residences

Cambridge,
Massachusetts

Submitted to: City of Cambridge
Traffic, Parking and Transportation Department

Submitted by: BP Cambridge Center Residential, LLC

Prepared by: **VHB /Vanasse Hangen Brustlin, Inc.**
Transportation, Land Development, Environmental Services
99 High Street, 10th floor
Boston, Massachusetts 02110-2354
617-728-7777

Under the Direction of: _____
Sean M. Manning, P.E., PTOE
Massachusetts Registration No. 45812

June 10, 2014

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Introduction & Project Overview

On behalf of BP Cambridge Center Residential, LLC (the project proponent), Vanasse Hangen Brustlin, Inc. (VHB) has conducted a Transportation Impact Study (TIS) for the proposed Ames Street Residences Project. The project is proposed to be built within Cambridge Center on a parcel of land that is located along Ames Street between Broadway to the north and Main Street to the south in Cambridge, Massachusetts and just west of the existing East Garage (with a portion of the project proposed to replace a part of that existing garage).

The proposed development will include a mixed-use building with 280 residential apartment units above approximately 16,000 square feet of ground-floor retail space. No new parking will be constructed as part of the Project. A portion of the East Garage will be reconfigured to accommodate the Project's building footprint, resulting in a loss of approximately 40 spaces; thereby, reducing the garage's capacity to 804 spaces. The existing loading dock at the west edge of the East Garage that serves 5 Cambridge Center would also be relocated to support the construction of the Project. Its new location would be positioned along the southwest face of the garage with access/egress via Ames Street. This drive would serve the dual purpose of access/egress for the loading dock and egress only for the East Garage.

This TIS responds to the scope dated April 14, 2014 as defined by the City of Cambridge Traffic, Parking, and Transportation (TP&T) Department in response to VHB's Request for Scoping dated March 20, 2014. A copy of the City's scoping letter is included in the Appendix. This TIS has been prepared in conformance with current City of Cambridge *Guidelines for Transportation Impact Study* required under the Article 19 Special Permit Project Review. The TIS document comprises three components, as follows:

- *Introduction and Project Overview*, describing the framework in which the transportation component of this project was evaluated;



- *Transportation Impact Study*, presenting the technical information and analysis results as required under the guidelines; and,
- *Planning Board Special Permit Criteria*, summarizing the evaluation of the proposed project as defined under the guidelines.

The required TIS Summary Sheets and Planning Board Criteria Performance Summary are included herein. Supplementary data and analysis worksheets are provided in a technical appendix. Electronic files for automatic traffic recorder (ATR) counts, turning movement counts (TMC), and Synchro analyses are also included on an accompanying CD.

Project Overview

The proposed project will include 280 residential apartment units, grossing approximately 200,000 GSF, with approximately 16,000 GSF of ground floor retail space. Approximately 140 parking spaces will be allocated within the existing, adjacent East Garage, as described below and illustrated in the relevant figures.

- **Figure A** presents a site location map
- **Figure B** presents an aerial view of the proposed site and its neighborhood context
- **Figure C** presents the existing site plan
- **Figure D.1** presents a ground floor parking access and egress plan for the Project
- **Figure D.2** illustrates the layout of proposed short term bicycle parking facilities to be built on-site
- **Figures D.3.1-D.3.3** illustrate the proposed secure bicycle room access and layout plan
- **Figure D.4** illustrates proposed replacement loading and service that will support the Project and the adjacent 5 Cambridge Center
- **Figure D.5** illustrates the City of Cambridge proposed future layout of Ames Street, including lane configurations, bicycle infrastructure and sidewalks.
- **Figure D.6** illustrates an alternate future layout of Ames Street

As shown in **Figures A and B**, the project is located along the east side of Ames Street between Broadway to the north and Main Street to the south.



As shown in **Figure C**, the site includes vacant land, a portion of the existing East Garage, and a portion of the east side of Ames Street's current geometric layout. The East Garage's current layout and some of its access characteristics would be modified to support the Project. The Garage's existing west driveway to Ames Street and adjacent loading dock would both be eliminated to support construction of the Project. As shown in **Figure D.1**, all vehicular access to the East Garage would be accommodated from the existing entrance on Broadway. Egress would be provided via the existing Broadway exit, and supported with an additional, new egress-only drive that would connect the garage back to Ames Street (just north of 5 Cambridge Center).

A total of 294 long-term bicycle parking spaces will be located within the residential building in two dedicated bike rooms. One room will be within the building on the cellar floor containing 262 spaces and the other room will be located on the first floor of the parking garage containing 32 spaces. The bike room will be accessed via a service elevator dimensioned 6' 8" by 5' 1/2" which is able to accommodate a bicycle with trailer. The proposed 1.05 ratio of sheltered, long-term bicycle spaces per residential unit complies with current zoning requirements, and, as described in Section 12 of the TIS, there will be some sharing of bicycle spaces by residential and retail users. In addition, short-term/visitor bicycle racks for approximately 38 bikes will be provided outside the project's building lobby on Ames Street for visitors and employees of the residential and retail land uses. **Figure D.2** illustrates the location of the short-term bicycle parking while **Figure D.3.1 through Figure D.3.3** illustrates the layout of proposed long-term bicycle parking in the building.

The existing loading dock at the west edge of the East Garage that serves 5 Cambridge Center would be relocated to support the construction of the Project. Its new location would be positioned along the southwest face of the garage with access/egress via Ames Street. This drive would serve the dual purpose of access/egress for the loading dock and vehicular egress only for the East Garage. The new dock will include four service bays sized to accommodate an SU-35 sized truck. This dock would serve both the existing 5 Cambridge Center facility and the proposed Ames Street Residences. **Figure D.4** illustrates the geometric configuration of the proposed loading and service area.

Enhancing and promoting sustainable transportation is also an important objective for the City of Cambridge and changes to Ames Street support Cambridge's policies to promote improved pedestrian and bicycle infrastructure within the City. As currently planned, the existing 4-lane Ames Street would be reconfigured to support implementation of dedicated bicycle infrastructure along the corridor between Main Street and Broadway. Current plans call for a buffered 2-way cycle track along the east side of Ames Street with on-street parking separating bike travel from vehicle travel. Additionally, the pedestrian



sidewalk along the east side of Ames Street would be widened considerably, from its current width of 11-14 feet to approximately 15.5 feet. To support these changes, Ames Street would be narrowed to two travel lanes (one lane for each direction of travel). These changes would also require adjustments to sidewalks, accessible ramps, and traffic signalization at the intersections of Ames Street/Main Street and Ames Street/Broadway. The proposed reconfiguration of Ames Street as indicated by the City of Cambridge, including its future geometric condition, is illustrated in **Figure D.5**.

An alternate Ames Street layout, as illustrated in **Figure D.6**, has also been developed in addition to the City of Cambridge layout. The alternate layout proposes bicycle lanes as opposed to a two-way cycle track.

The proposed project program is summarized in **Table A** below.

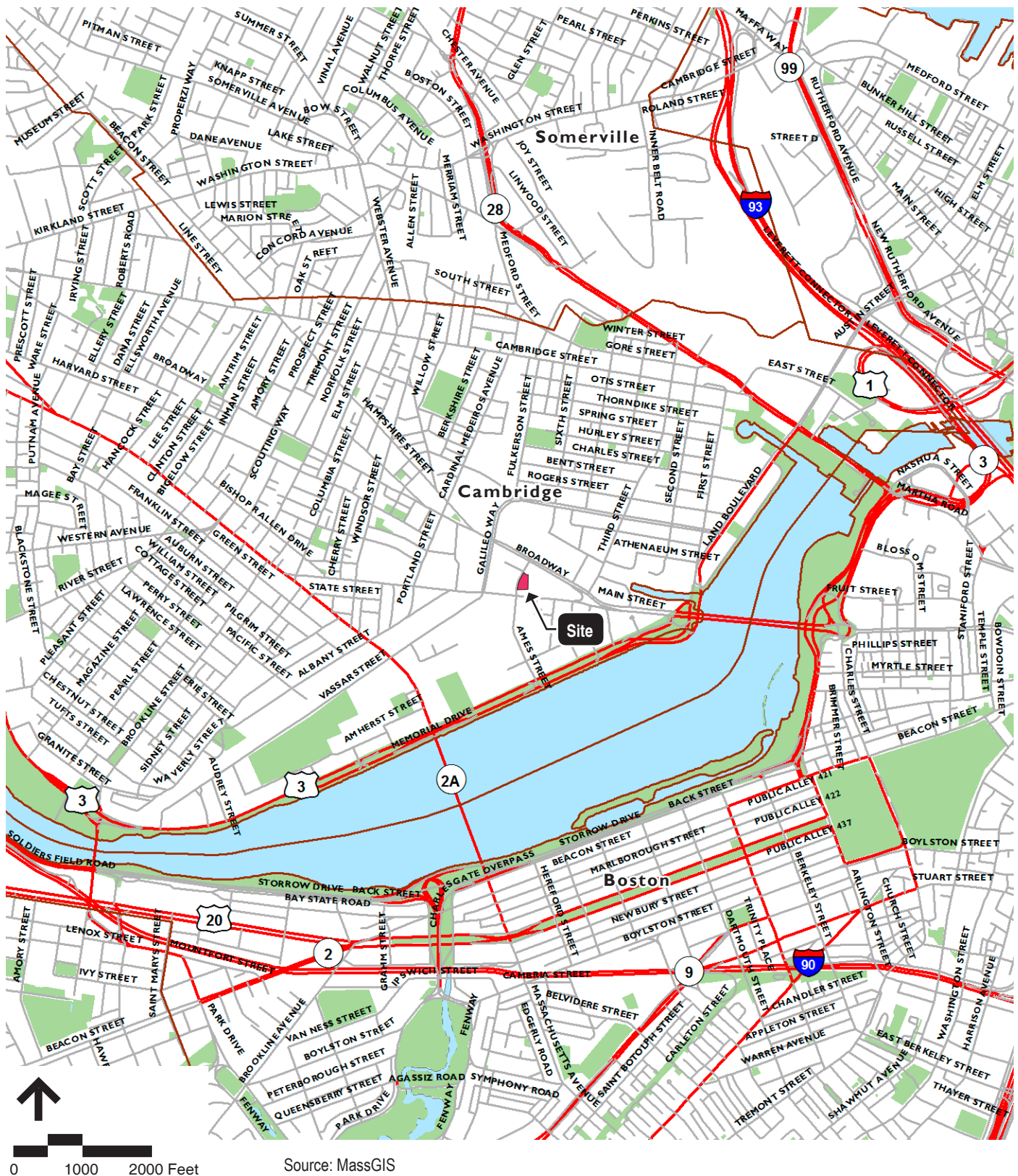
Table A
Proposed Development Program

Use	Size
Residential (Apartments)	200,000 GSF/280 units
<u>Retail Space (Ground Floor)</u>	<u>16,000 GSF</u>
Total SF	216,000 GSF
Vehicle Parking	140 spaces for Residents
Bicycle Parking	294 long-term bike parking spaces for residents and retail / 38 short-term bike parking spaces for residents and retail

A total of 140 vehicle parking spaces will be provided for residential use. As described in the parking analysis in Section 9 of the TIS, these spaces will be allocated within the existing Cambridge Center East Garage. No new parking will be built in connection with the Project.

The TIS study area for the proposed project, as defined by the City of Cambridge, is shown in **Figure E**. The study intersections include the following locations:

1. Broadway at Galileo Galilei Way
2. Main Street/Vassar Street at Galileo Galilei Way
3. Main Street at Ames Street
4. Broadway at Ames Street
5. Broadway at Third Street
6. Ames Street at Cambridge Center East Garage
7. Broadway at Cambridge Center East Garage

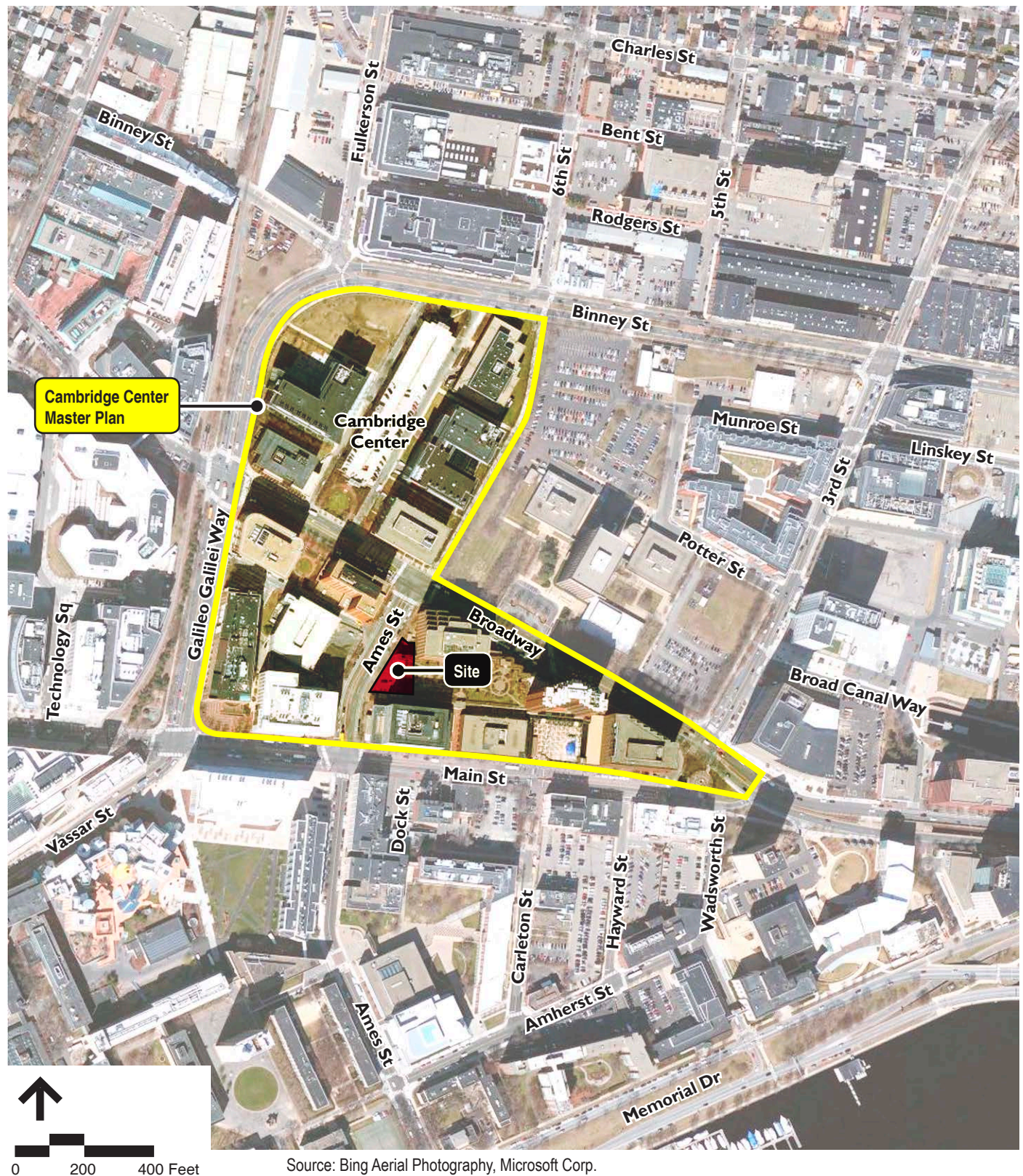


Vanasse Hangen Brustlin, Inc.

Site Location Map

Figure A

Ames Street Residences
Kendall Square, Cambridge, MA

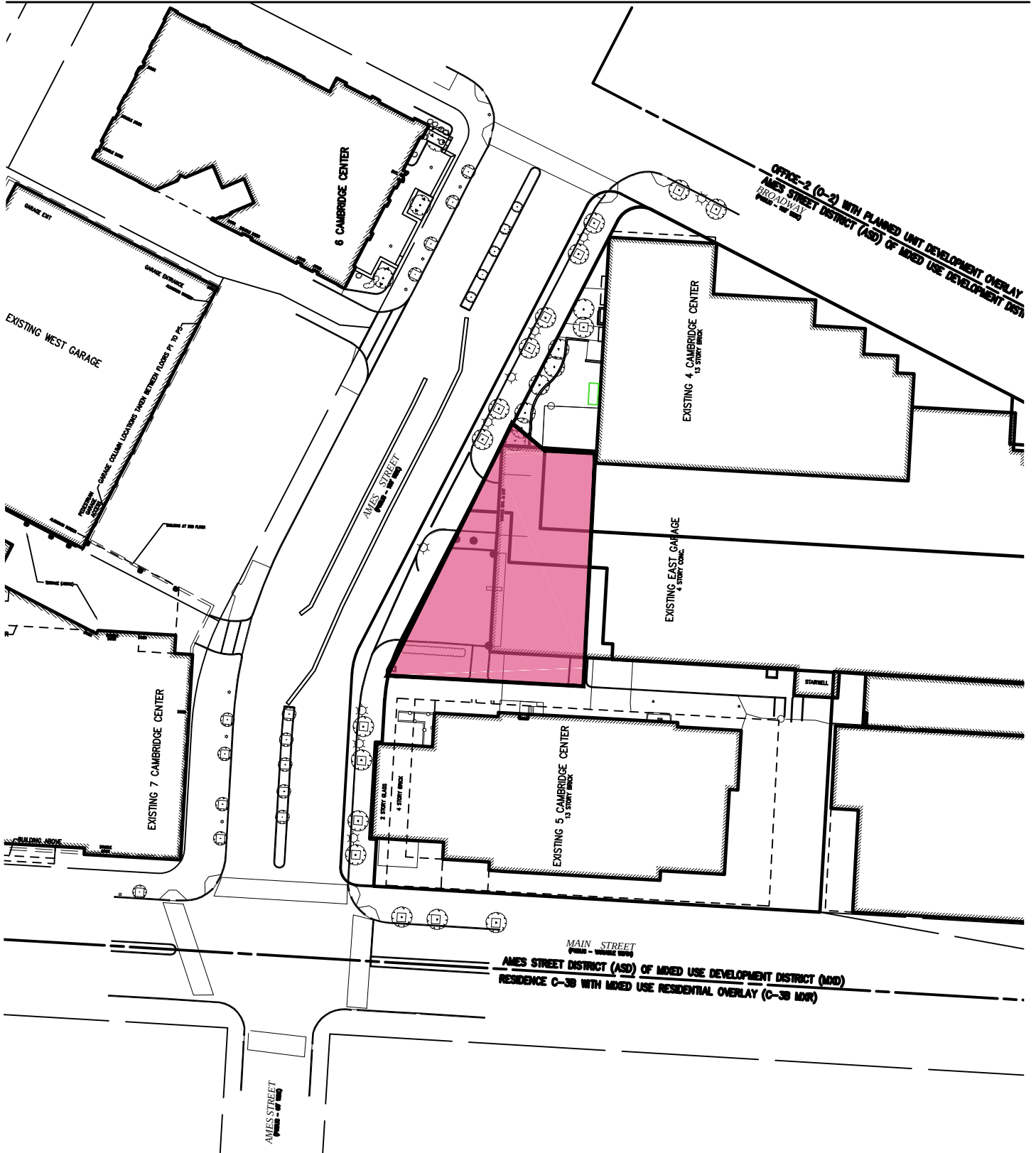


Vanasse Hangen Brustlin, Inc.

Project Context

Figure B

Ames Street Residences
Kendall Square, Cambridge, MA



Srouce: VHB, Inc.

Vanasse Hangen Brustlin, Inc.

Existing Site Plan

Figure C

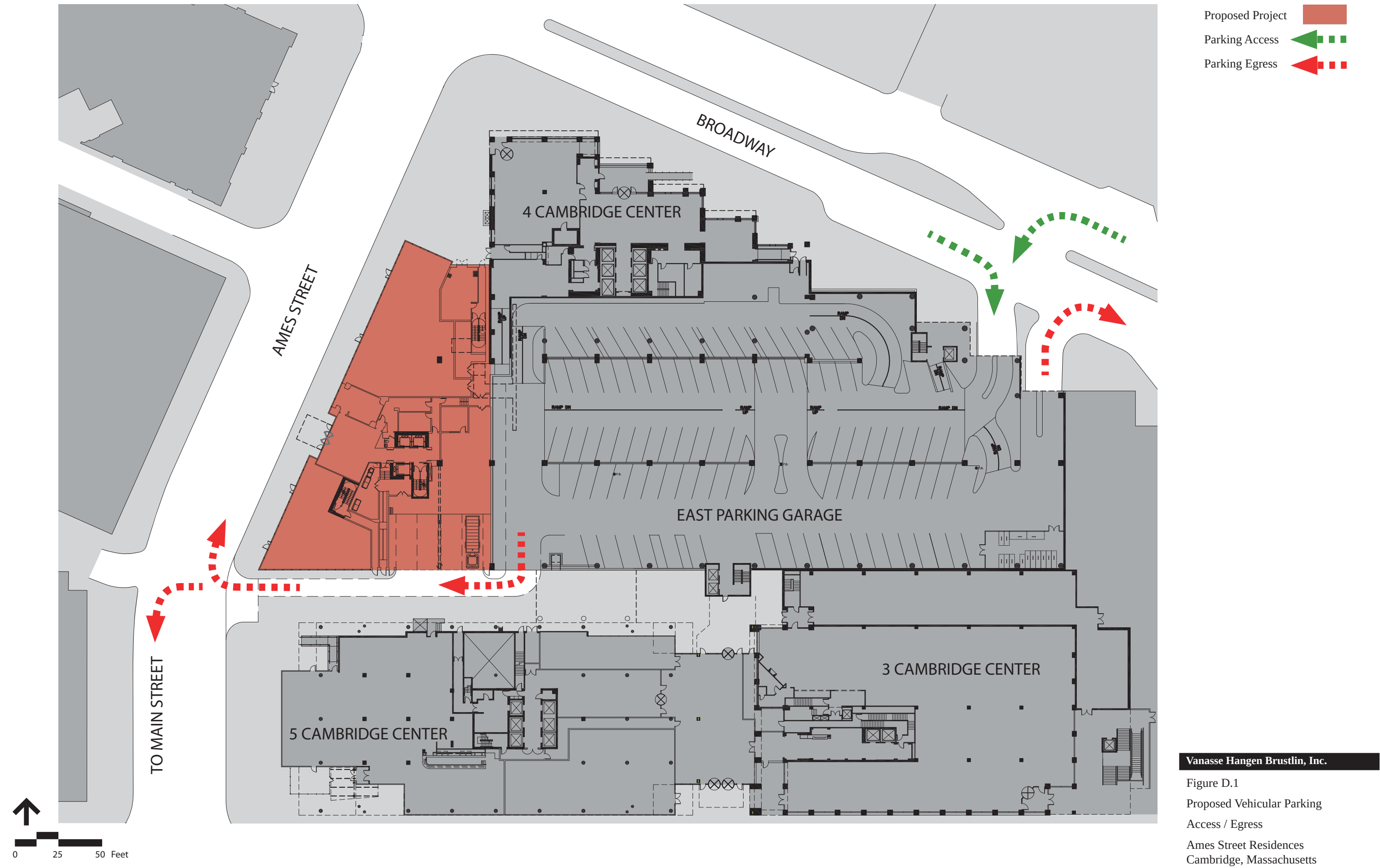
Ames Street Residences
Kendall Square, Cambridge, MA

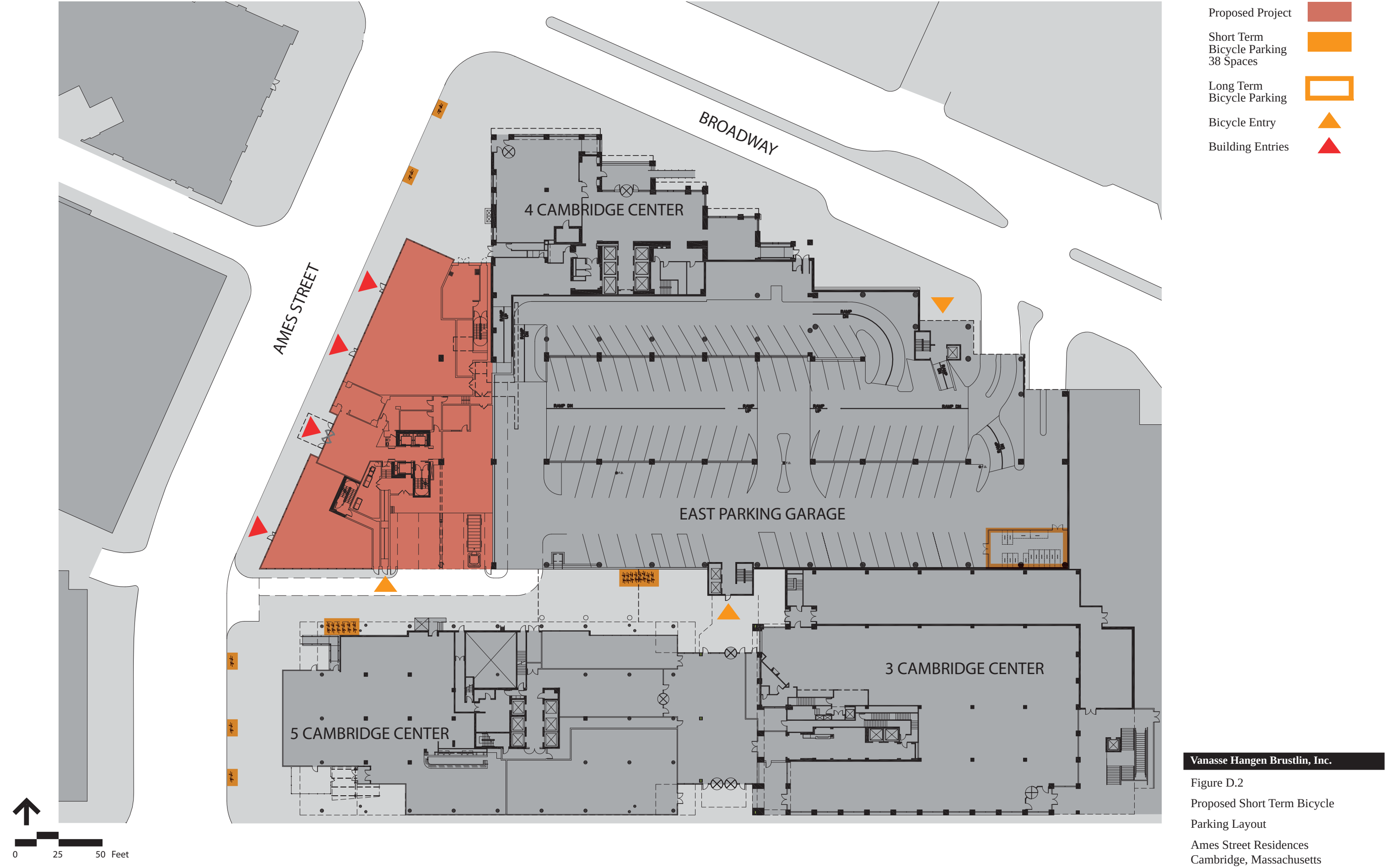


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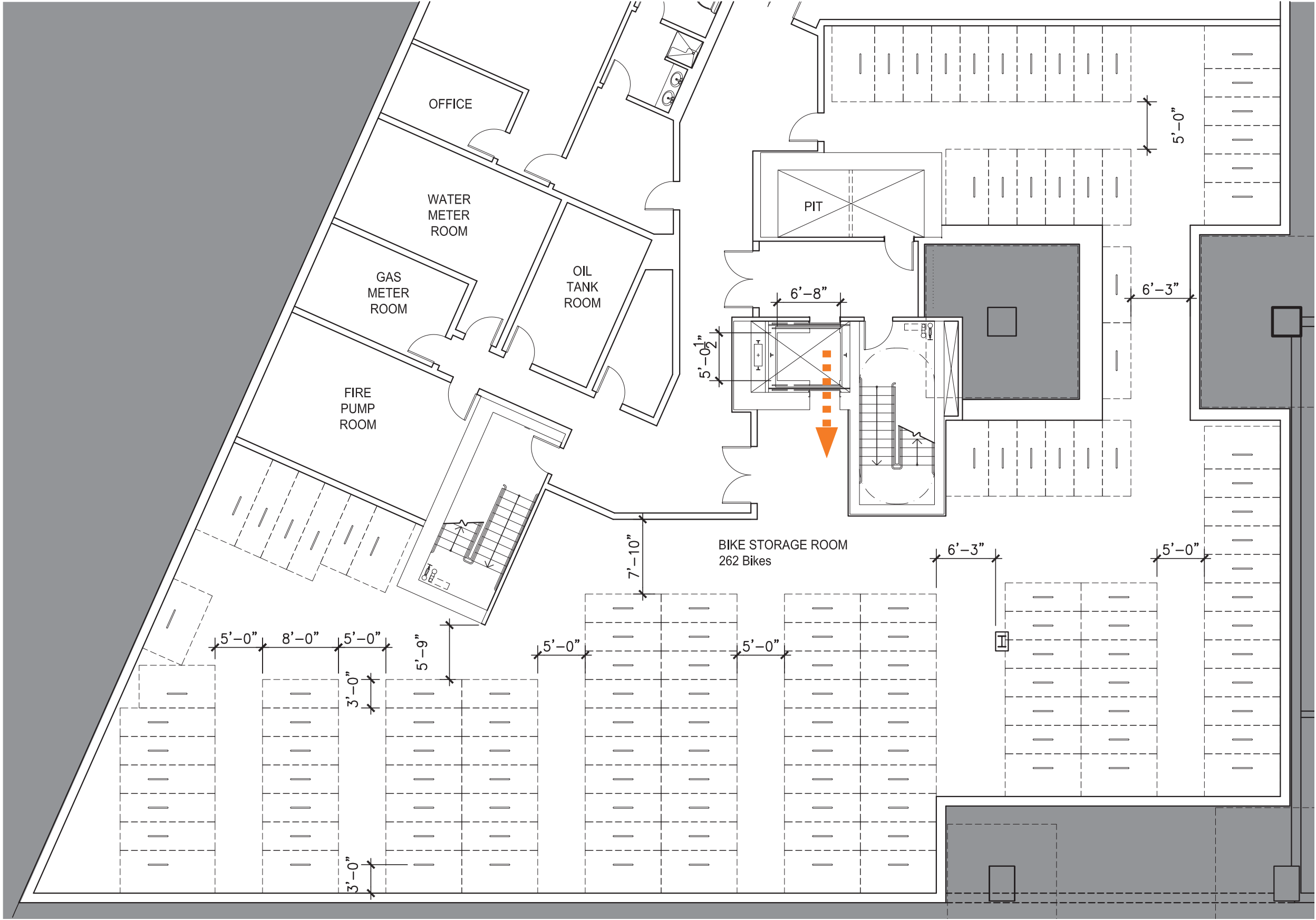


Proposed Project

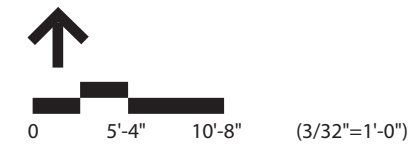
Bicycle Access



Source:
Vanasse Hangen Brustlin, Inc.
Figure D.3.1
Proposed Secure Bicycle Room Access
Cellar Floor Plan
Ames Street Residences
Cambridge, Massachusetts

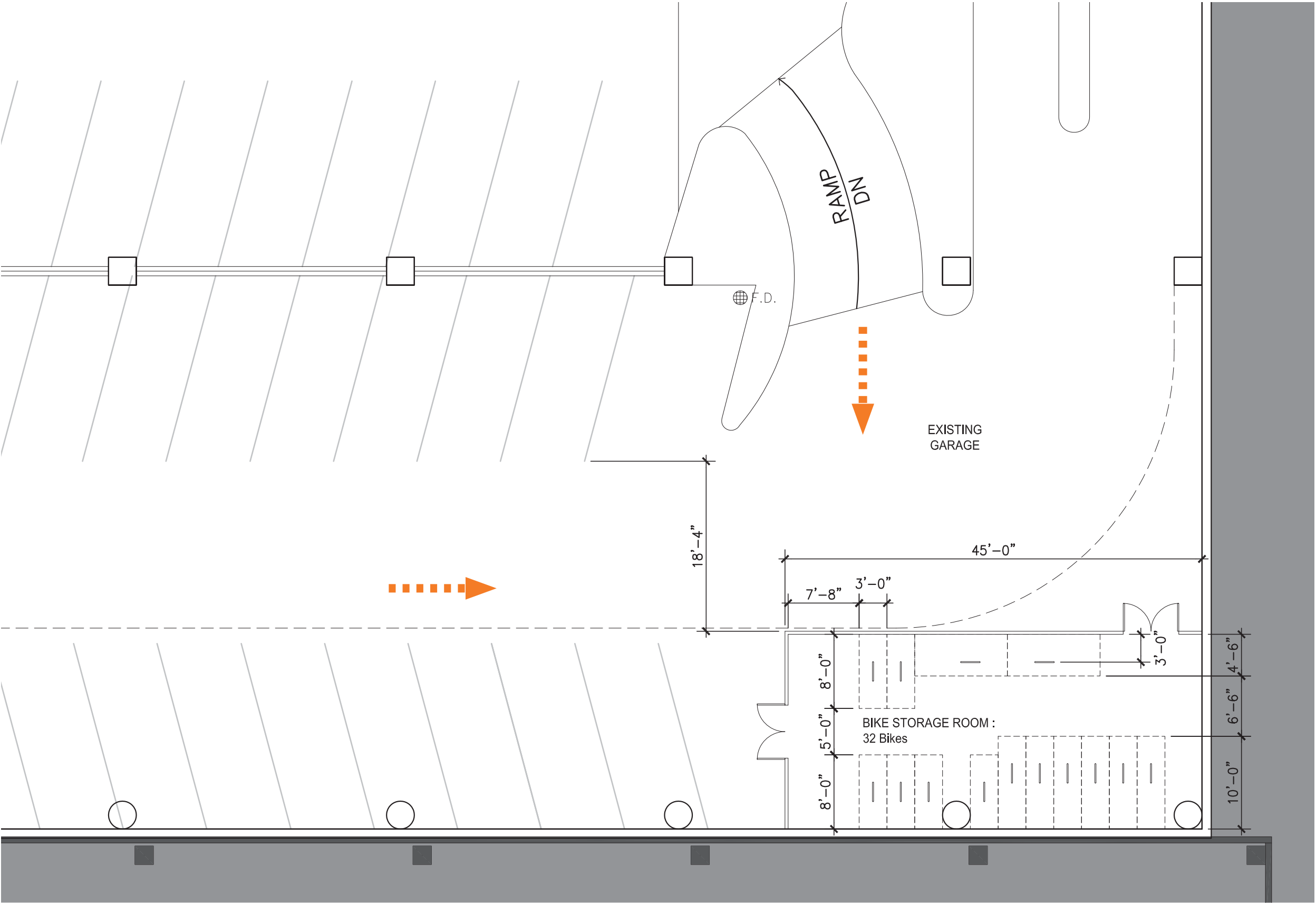


Bicycle Access 



Vanasse Hangen Brustlin, Inc.

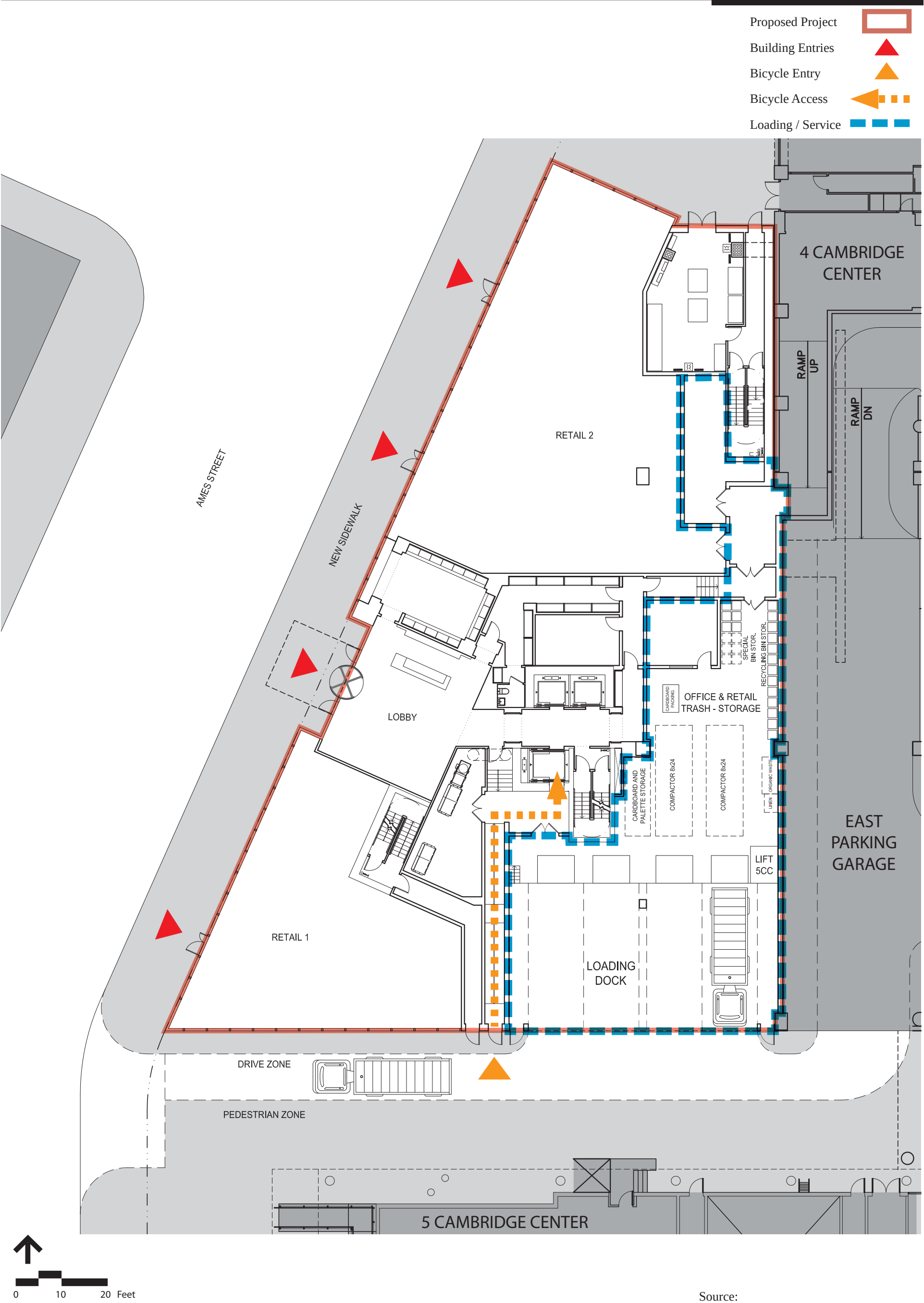
Figure D.3.2
Proposed Long Term Bicycle
Parking Layout - Cellar Level
Ames Street Residences
Cambridge, Massachusetts



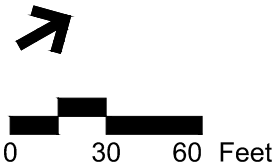
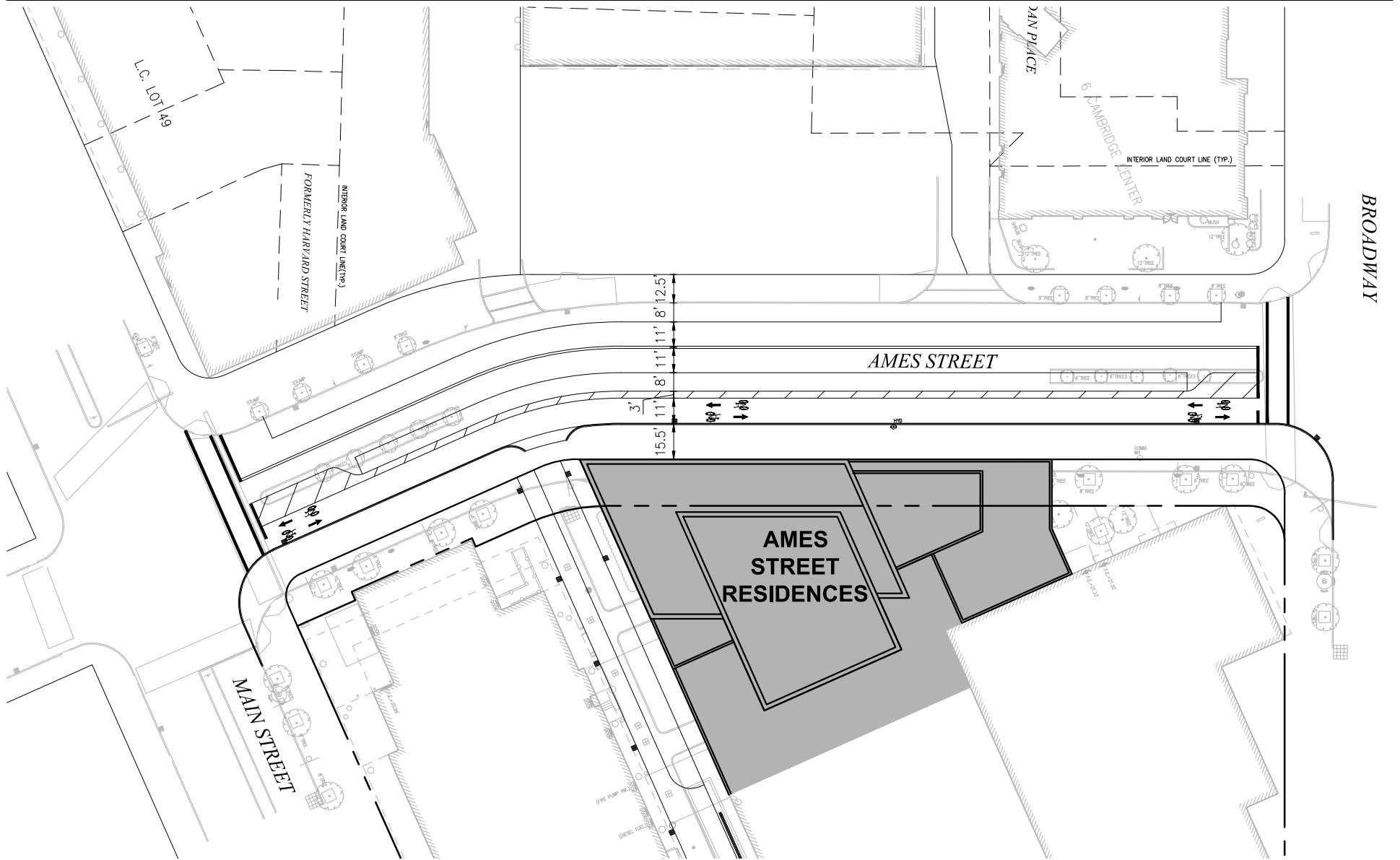
Bicycle Access

Vanasse Hangen Brustlin, Inc.

Figure D.3.3
Proposed Long Term Bicycle
Parking Layout - Garage Level 1
Ames Street Residences
Cambridge, Massachusets



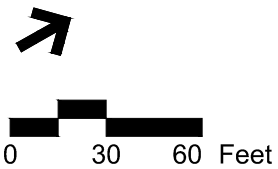
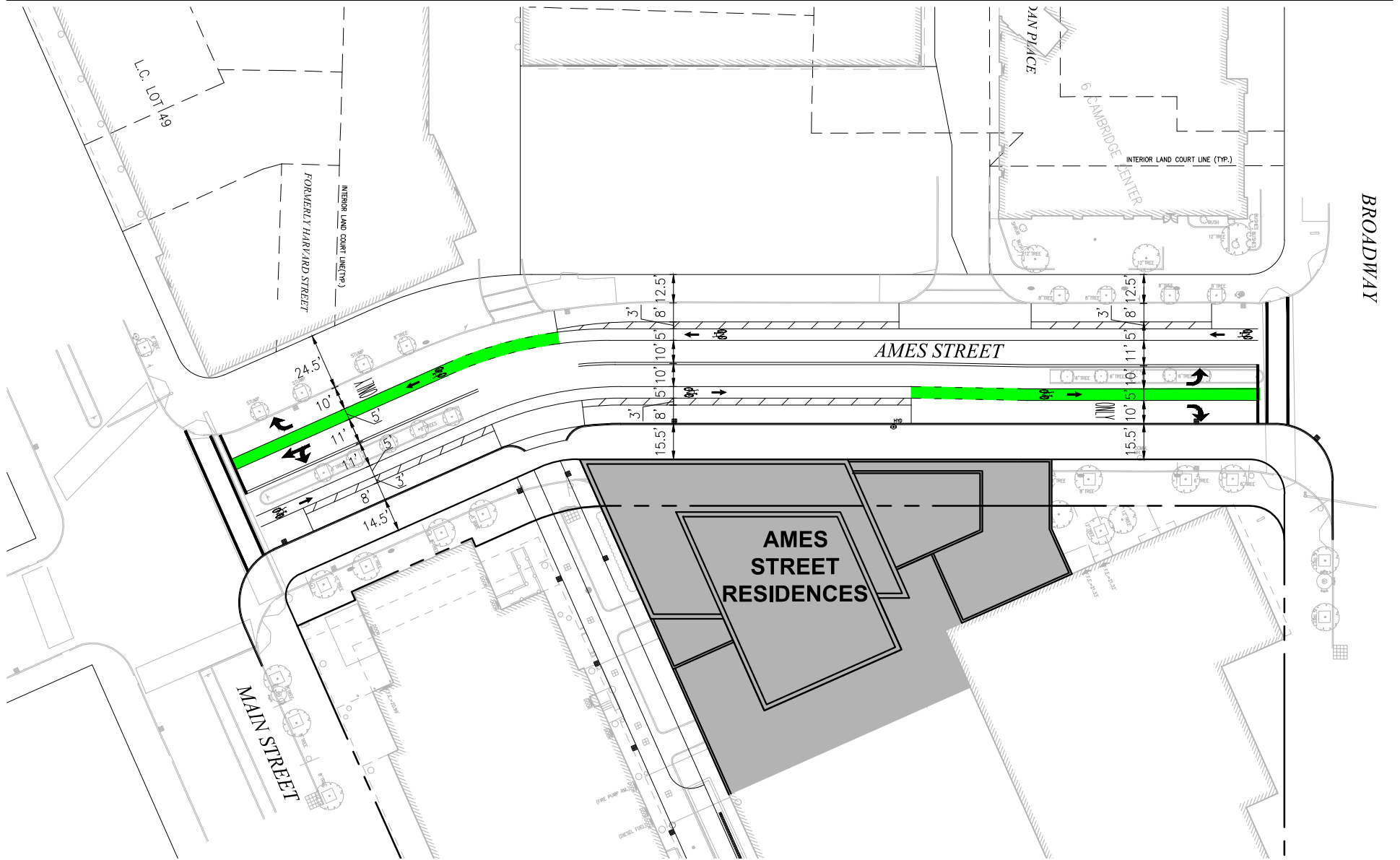
Source:
Vanasse Hangen Brustlin, Inc.
Figure D.4
Proposed Loading And Service Layout
Ground Floor Plan
Ames Street Residences
Cambridge, Massachusetts



Vanasse Hangen Brustlin, Inc.

Figure D5 May 2014

Ames Street Layout
City of Cambridge Cycle Track Concept
Ames Street Residences
Kendall Square, Cambridge, MA

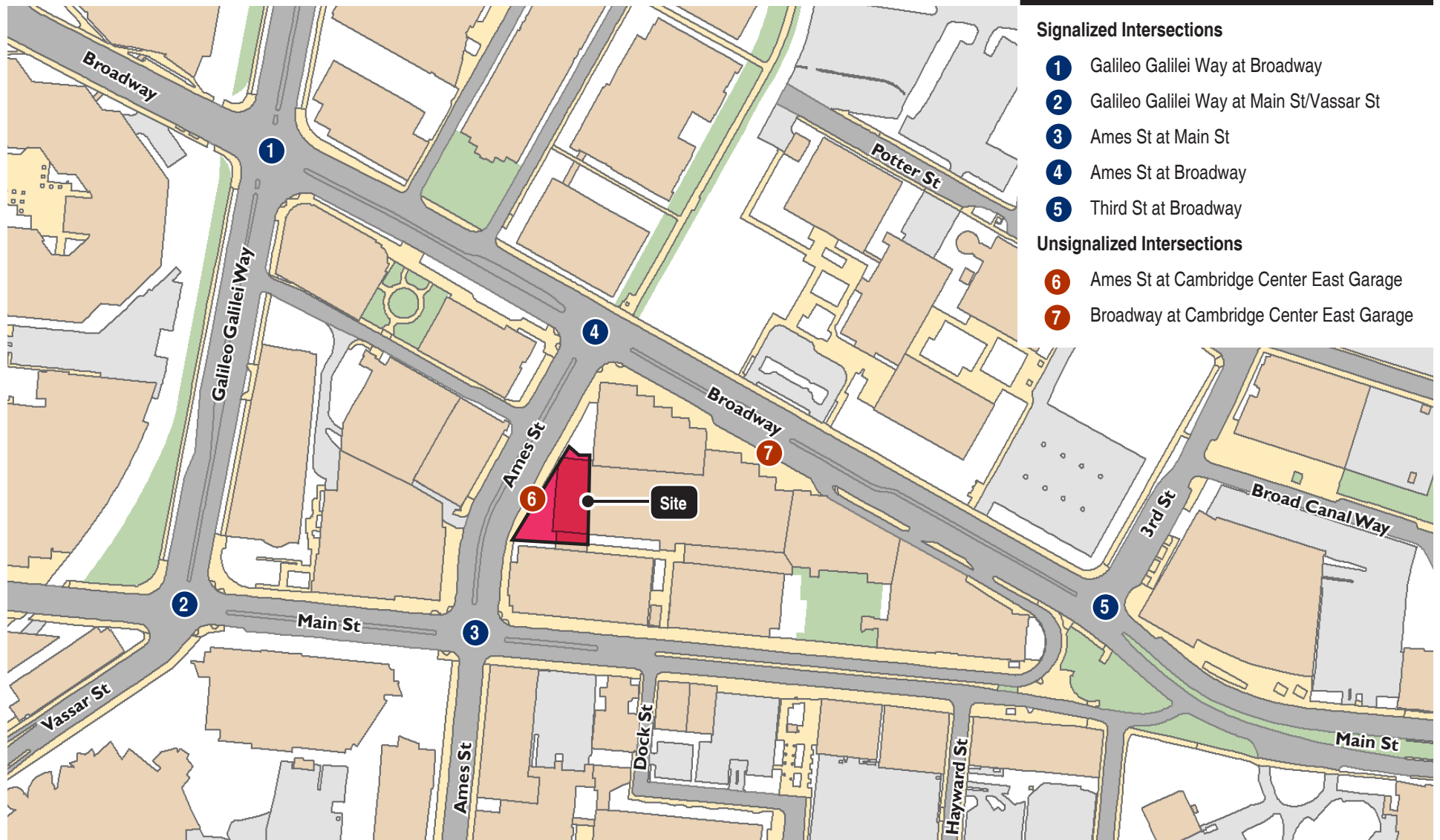


Vanasse Hangen Brustlin, Inc.

Figure D6

May 2014

Ames Street Layout
Alternative Bike Lane Concept
Ames Street Residences
Kendall Square, Cambridge, MA



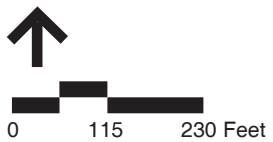
Source: City of Cambridge GIS

Vanasse Hangen Brustlin, Inc.

Figure E

Study Area Intersections

Ames Street Residences
Kendall Square, Cambridge, MA





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Planning Board Criteria Summary

Based on the TIS analysis, the project has been evaluated within the context of the Planning Board Criteria to determine if the project has any *potential* adverse transportation impacts. Exceeding one or more of the Criteria is indicative of a *potentially* adverse impact on the City's transportation network. However, the Planning Board will consider mitigation efforts, their anticipated effectiveness, and other information that identifies a reduction in adverse transportation impacts.

The Planning Board Criteria consider the project's vehicular trip generation, impact to intersection level of service and queuing, and increase of volume on residential streets. In addition, pedestrian and bicycle conditions are considered. A discussion of the Criteria set forth by the Planning Board is presented in the final section of this TIS and the Planning Board Criteria Performance Summary is presented below.

Planning Board Permit Number: _____

Project Name: Ames Street Residences

Total Data Entries = 119

Total Number of Criteria Exceedences = 0

a. Project Vehicle Trip Generation

Time Period	Build	Exceeds Criterion
Weekday Daily	848	N
AM Peak	48	N
PM Peak	76	N

b. Level of Service (VLOS) at Signalized Intersections

Intersection	AM Peak Hour			PM Peak Hour		
	Existing	Build	Exceeds Criterion?	Existing	Build	Exceeds Criterion?
Broadway / Galileo Galilei Way	E	F	N	E	E	N
Main Street / Vassar Street / Galileo Galilei Way	C	C	N	C	C	N
Main Street / Ames Street	C	C	N	C	C	N
Broadway / Ames Street	C	C	N	D	D	N
Broadway / Third Street	E	E	N	E	E	N

c. Traffic on Residential Streets

There are no Residential Streets in the study area

Special Permit Transportation Impact Study (TIS)

d. Lane Queue (for signalized intersections critical lane)

		AM Peak Hour			PM Peak Hour		
Intersection	Approach	Existing	Build	Exceeds Criterion?	Existing	Build	Exceeds Criterion?
Broadway / Galileo Galilei Way (Signalized)	EBL	4	4	N	5	5	N
	EBT	6	6	N	7	7	N
	WBL	4	4	N	6	6	N
	WBT	6	6	N	8	8	N
	NBL	2	2	N	4	4	N
	NBT	3	3	N	7	7	N
	SBL	4	4	N	3	3	N
	SBT	11	11	N	7	7	N
Main Street / Galileo Galilei Way (Signalized)	SBR	6	7	N	5	5	N
	EBL	2	2	N	6	6	N
	EBT	4	4	N	4	5	N
	WBL	2	3	N	2	2	N
	WBT	5	4	N	3	3	N
	NBT	4	4	N	7	7	N
	SBL	1	1	N	1	1	N
	SBT	5	6	N	8	8	N
Main Street / Ames Street (Signalized)	SBR	4	5	N	6	6	N
	EBT	6	6	N	8	9	N
	WBT	2	2	N	2	3	N
	NBT	6	6	N	6	6	N
	SBT	2	2	N	5	4	N
Broadway / Ames Street (Signalized)	SBR	3	3	N	4	3	N
	EBT	7	3	N	8	8	N
	WBL	3	2	N	3	3	N
	WBT	12	11	N	15	15	N
	NBL	3	3	N	3	4	N
Broadway / Third Street (Signalized)	NBR	1	1	N	1	1	N
	EBL	6	6	N	7	7	N
	EBT	2	2	N	7	8	N
	WBT	15	15	N	8	9	N
	SBL	4	n/a	N	12	n/a	N
	SBT	n/a	5	N	n/a	14	N
	SBR	4	3	N	4	3	N

e. Pedestrian and Bicycle Facilities

Signalized Intersections

Intersection	Crosswalk	AM Peak Hour			PM Peak Hour		
		Existing	Build	Exceed Criterion?	Existing	Build	Exceeds Criterion?
Galileo Galilei Way at Broadway	East	D	D	N	D	D	N
	West	D	D	N	D	D	N
	North	D	D	N	D	D	N
	South	D	D	N	D	D	N
Vassar Street at Main Street	East	C	C	N	C	C	N
	West	C	C	N	C	C	N
	North	C	C	N	B	B	N
	South	C	C	N	B	B	N
Ames Street at Main Street	East	D	D	N	D	D	N
	West	D	D	N	D	D	N
	North	C	C	N	C	C	N
	South	C	C	N	C	C	N
Ames Street at Broadway	East	D	D	N	D	D	N
	West	D	D	N	D	D	N
	South	C	C	N	C	C	N
Third Street at Broadway	East	D	D	N	D	D	N
	West	D	D	N	D	D	N
	North	C	C	N	C	C	N

Sidewalk and Bicycle Facilities

Adjacent Street	Link (between)	Sidewalks or Walkways Present?	Exceeds Criteria?	Bicycle Facilities or Right of Ways Present?	Exceeds Criteria?
Ames Street	Main Street and Broadway	Y	N	Y	N
Broadway	Ames Street and Third Street	Y	N	Y	N

CITY OF CAMBRIDGE

Special Permit Transportation Impact Study (TIS)

Summary Sheet

Planning Board Permit Number: _____

PROJECT NAME: Ames Street Residences
 Address: 77 Ames Street, Cambridge MA
 Owner/Developer Name: BP Cambridge Center Residential, LLC
 Contact Person: David Stewart
 Contact Address: 800 Boylston Street, Suite 1900, Boston, MA 02199
 Contact Phone: (617) 236-3407

SIZE:
 ITE sq. ft.: 280 residential rental units and 16,000 square feet retail
 Zoning sq. ft.: N/A
 Land Use Type: Residential and Retail

PARKING:
 Existing Parking Spaces: 844 Use: Parking Garage
 New Parking Spaces: 840 Use: Parking Garage
 Net Increase Parking Spaces (-40)
 Date of Parking Registration Approval: N/A

TRIP GENERATION:

	Daily	AM Peak Hour	PM Peak Hour
Total Trips	3,122	176	282
Vehicle	848	48	76
Transit	998	57	90
Pedestrian	880	48	80
Bicycle	308	18	28
Other	88	5	8

MODE SPLIT (PERSON TRIPS): RESIDENTIAL & (RETAIL)
 Vehicle: 32.0% (31.0%) Bicycle: 10.0% (8.0%)
 Transit: 30.0% (30.0%) Pedestrian: 25.0% (29.0%)
 Other: 3.0% (2.0%)

TRANSPORTATION CONSULTANT:

Company Name: Vanasse Hangen Brustlin, Inc.
 Contact Name: Sean M. Manning, P.E., PTOE
 Phone: 617.728.7777

Date of Building Permit Approval: _____



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Transportation Impact Study

This Transportation Impact Study (TIS) for the proposed Ames Street Residences (the Project) describes existing and future transportation conditions in the study area in accordance with current City of Cambridge *Guidelines for Transportation Impact Study*. The study area for the TIS includes Broadway, Main Street, Galileo Galilei Way, Ames Street, and Third Street and comprises seven study-intersections, including the site driveways, as previously shown in **Figure E**.

This section includes inventories of physical and operational conditions in the study area including roadways, intersections, crosswalks, sidewalks, on-street and off-street parking, transit facilities, and land uses. Transportation data that were collected and compiled are presented, including automatic traffic recorder counts, intersection turning movement counts, pedestrian and bicycle counts, vehicle crash data, and transit service data.

1. Inventory of Existing Conditions

a. Roadways

The site is located on the east side of Ames Street between Broadway to the north and Main Street to the south. Ames Street runs north/south from Memorial Drive to Broadway. Broadway runs southeast/northwest to the north of the project site. Main Street runs east/west to the south of the project site. **Figure C**, previously presented, shows the roadway network surrounding the Project site.

b. Intersections

The project study area includes five signalized intersection and two unsignalized intersections at the garage driveways, previously mentioned in the Project Overview. The five (5) signalized intersections are illustrated in **Figures 1.b.1 through 1.b.5**.

c. Parking

A portion of the site is currently occupied by the Cambridge Center East Garage which was constructed as part of the Cambridge Center Master Plan to accommodate parking needs for the area. The garage contains 844 spaces and is currently used by tenant employees who lease monthly parking and some area



transient parkers (visitors). The basement level of the garage is reserved specifically for Marriott Hotel valet use.

Figure 1.c presents existing on-street parking regulations in the area. Ames Street provides on-street 1-hour metered parking as does parts of Main Street near the project site. Broadway is a no stopping zone near the project site.

d. Transit Services

Figure 1.d illustrates existing Massachusetts Bay Transportation Authority (MBTA) services and the Charles River Transportation Management Association's (CRTMA) EZ Ride in the study area. The site is located within a 1/10th of a mile of Kendall Square and one mile of Central Square MBTA Red Line stations, providing service to/from Alewife to the northeast and downtown Boston, with connections to both Braintree and Ashmont to the south. The Red Line connects with the Green Line at Park Street and the Orange Line and Silver Line at Downtown Crossing. Connections to all southern commuter rail lines and the Silver Line are made at South Station. In addition, the Fitchburg commuter rail line connects with the Red Line at Porter Square.

The MBTA operates 4 bus routes in the study area, including the following:

64: Oak Square - University Park, Cambridge or Kendall/MIT via North Beacon St.

This route connects Oak Square to University Park, Cambridge, and Kendall Station. The bus travels through the project study area along Broadway to Kendall/MIT station providing service between Central Square and Kendall.

68: Harvard/Holyoke Gate - Kendall/M.I.T. via Broadway

This route connects Harvard Square and Kendall / MIT, travelling along Broadway, ending at Kendall/MIT Station.

85: Spring Hill - Kendall/M.I.T. Station via Summer St. & Union Sq.

Route 85 is a local route connecting Spring Hill, Summer Street, Union Square and Kendall / MIT. The southern section of this route, serving Kendall Square, traveling along Broadway is within the project study area where it runs along the same route as the CT2 to Kendall / MIT.

CT2: Sullivan Square Station - Ruggles Station via Kendall/MIT Station

Route CT2 is a limited stop, cross-town route that operates between Sullivan Square and Ruggles Station. This route utilizes Main Street and Broadway to pass through Kendall/MIT station in the project study area.

In addition, the Charles River Transportation Management Association (TMA) operates the *EZRide* shuttle service between North Station, Lechmere, Kendall



Square, University Park, and Cambridgeport. The shuttle thereby provides connections to the Green Line at Lechmere Station and the northern MBTA commuter rail services, as well as the Green Line and Orange Line, at North Station

e. Land Use

Figure 1.e illustrates land uses in the area surrounding the site. The neighborhood is largely characterized by institutional and office land use to the south and west, although there is a hotel building abutting the east side of the project site as well as northwest of the site. Ground floor retail and restaurant land uses can be found along Broadway and Main Street.

2. Data Collection

a. ATR Counts

Automatic traffic recorder counts were performed in October 2010 as part of the Kendall Square Main Street Project at the location of Ames Street, north of Main Street for a total of 48-hours. Further, these counts were compared to recent counts conducted in April 2014 to demonstrate that current traffic volumes within the study area are substantially different than conditions prior to the construction of the Longfellow Bridge. This comparative analysis indicated that current volumes in the study area do not accurately represent typical conditions for the following reasons:

- Ongoing construction activity has resulted in shifts in westbound traffic resulting in lower volume on Broadway and Main east of Galileo Galilei Way.
- Traffic volumes are significantly higher along Galileo Galilei Way westbound to get around Bridge construction.
- Overall traffic volume at Galileo Galilei Way intersections with Broadway and Main are significantly higher because of diverted traffic.

Based on these new counts and their comparison to the most recent counts available that represent typical traffic conditions in the area (2010 counts), it is clear that the use of these new data would not provide a reflective means to assess and quantify the true transportation impacts of the proposed Ames Street Residences Project. Longfellow Bridge construction is expected to continue for several more years, making it a challenge to obtain current, typical traffic information for this area of Cambridge. As such, 2010 counts that were conducted by the City of Cambridge as part of the Kendall Square Planning Study were used to support the development of the TIS for this Project.



A traffic volume summary for the ATR is presented in **Tables 2.a.1 and 2.a.2**. These data, representing the averages of data collected over two weekdays illustrate the daily variations of traffic demands and the directional flow of traffic over the course of an average weekday. Count data sheets are included in the Appendix

Table 2.a.1
Existing (October 2010)
Traffic Volume Summary

Location	Daily ^a	Weekday AM Peak Hour			Weekday PM Peak Hour		
		Volume ^b	K ^c	Peak Direction	Volume ^b	K ^c	Peak Direction
Ames Street north of Main Street	5,534	428	7.7 %	54.2 % SB	544	9.8 %	52.2 % SB

a vehicles per day

b vehicles per peak hour

c percentage of daily traffic that occurs during the peak hour

Table 2.a.2
Existing (October 2010)
Average Daily Traffic Summary ^a

Hour Commencing	Ames Street, north of Main Street	
	Northbound	Southbound
12:00	18	19
1:00	14	9
2:00	4	7
3:00	3	7
4:00	4	17
5:00	23	40
6:00	89	115
7:00	128	198
8:00	196	233
9:00	180	217
10:00	133	158
11:00	140	163
12:00	148	168
13:00	165	161
14:00	127	188
15:00	157	189
16:00	167	216
17:00	275	284
18:00	220	215
19:00	138	127
20:00	109	96
21:00	91	83
22:00	60	58



<u>23:00</u>	<u>39</u>	<u>30</u>
Total	2,625	2,991

a vehicles per hour, both directions

As requested in the TP&T TIS Scoping Letter dated April 14, 2014, Average Weekday Traffic Volumes at five locations within Kendall Square have been charted from 1994 to May 2013 in **Figures 2.b.1 through 2.b.5**. The data presented is part of the Kendall Square Urban Renewal Area 2013 *Traffic Count Program and Trip Generation Analysis*. The five locations include:

- Main Street, near MBTA station (Figure 2.b.1)
- Broadway, east of mid-block (Figure 2.b.2)
- Binney Street, west of Third Street (Figure 2.b.3)
- Third Street, north of Broadway (Figure 2.b.4)
- Vassar Street, west of Main Street (Figure 2.b.5)

b. Pedestrian and Bicycle Counts

Twelve-hour pedestrian and bicycle counts were performed in October 2010 between 7:30 AM and 7:30 PM along Ames Street between Broadway and Main Street. The counts were taken as part of the Kendall Square Main Street Project in conjunction with the ATR counts reported in the previous section. The 12-hour pedestrian counts data are summarized in Table 2.b.1

Table 2.b.1
Existing 12-Hour Pedestrian Volumes (October 2010)
Ames Street between Broadway and Main Street

Start Time	Northbound	Southbound
7:30	117	135
8:30	144	183
9:30	129	188
10:30	135	153
11:30	190	285
12:30	309	252
13:30	235	199
14:30	214	182
15:30	197	154
16:30	166	195
17:30	210	210
18:30	181	164

Twelve-hour bicycle counts were conducted at the same time and location as the pedestrian counts, and these results are presented in Table 2.b.2.



Table 2.b.2
Existing 12-Hour Bicycle Volumes (October 2010)
Ames Street between Broadway and Main Street

Start Time	Northbound	Southbound
7:30	9	19
8:30	16	70
9:30	6	41
10:30	10	42
11:30	11	31
12:30	12	16
13:30	11	16
14:30	12	9
15:30	12	13
16:30	38	26
17:30	41	27
18:30	33	22

In addition, peak hour pedestrian and bicycle turning movement counts at study-area intersection were performed on April 9, 2014, as discussed in the following section. Counts from 2014 were used for Pedestrians and Bicyclists since these were higher than TMC counts conducted during 2010.

c. Intersection Turning Movement Counts

Manual turning movement counts, including pedestrians and bicycles, were conducted at the signalized study intersections, on October 28, 2010 as part of the Kendall Square Study. Due to the construction and closure of the Longfellow bridge accurate area turning movement counts for April or May 2014 would not reflect typical traffic conditions and therefore the October 2010 counts are used for vehicular volumes. Vehicular traffic volumes were grown at 0.5 percent per year over 3.5 years to provide April 2014 analysis year volumes.

The Cambridge Center East Garage intersection turning movement counts were conducted on May 15, 2013 as part of the FST Kendall Square Urban Renewal Area 2013 *Traffic Count Program and Trip Generation Analyses*. These volumes are assumed to be accurate for April 2014 analysis year as garage volumes are more stable year to year than roadway network volumes.

The results of these counts indicate that the peak hours for vehicular traffic in the study area are between 8:15 – 9:15 AM and 5:00 -6:00 PM on weekdays. The detailed turning movement counts are provided in the Appendix.



The AM and PM peak hour vehicle, pedestrian and bicycle turning movements are presented in **Figures 2.c.1&2**, **Figures 2.c.3&4** and **Figures 2.c.5&6**, respectively.

Heavy vehicles were also identified in the TMCs and details are provided in the Appendix. The results indicate that during the peak hours, heavy vehicles make up between one and thirteen percent of all vehicles at the study intersection during the morning peak and approximately one to three percent during the evening peak.

d. Traffic Crash Analysis

Study-area crash data were obtained from MassDOT records for the three-year period from January 2009 through December 2011 (the most recent data available). Analysis of the crash data is summarized in **Table 2.d**, and includes the calculated crash rates (number of reported crashes per million entering vehicles) based on the evening peak traffic volumes. A detailed summary by crash type is presented in the Appendix.

Table 2.d
MassDOT Crash Analysis (2009 – 2011)

Location	Total Crashes (3-year period)	Crashes Involving Pedestrians	Crashes Involving Bicycles	Calculated Crash Rate
Broadway/Galileo Galilei Way (Signalized)	22	2	3	0.74
Main Street/Galileo Galilei Way (Signalized)	20	1	4	0.92
Main Street/Ames Street (Signalized)	7	0	0	0.56
Broadway/Ames Street (Signalized)	7	0	2	0.53
Broadway/Third Street (Signalized)	14	2	1	0.56
Ames Street/Cambridge Center East Garage Entrance/Exit (Unsignalized)	0	0	0	0.00
Broadway/Cambridge Center East Garage Entrance/Exit (Unsignalized)	4	0	1	0.22

Source: MassDOT data

The calculated crash rate for the signalized intersection of Main Street/Galileo Galilei Way is 0.92. The calculated rate is above the District 6 average of 0.76 for signalized locations. The other signalized intersections, Broadway / Galileo Galilei Way, Main Street/ Ames Street, Broadway/ Ames Street, and Broadway/Third Street have calculated crash rates below the District 6 average. At the unsignalized intersections only Broadway/ Cambridge Center East Garage Entrance/Exit had crashes resulting in a crash rate of 0.22 which is well below the District 6 average of 0.58 for unsignalized intersections. Types of crash varied between angled, head-on, and rear-end to sideswipes and single vehicle crashed. All of the crashes reported were either non-fatal injuries or caused only property



damage. A total of sixteen (16) collisions involved a non-motorist, such as a biker or pedestrian, with none of the crashes involving a fatality.

e. Public Transportation

Daily weekday and Saturday ridership as well as operating hours and peak-hour headway data is provided in **Table 2.e.1** for bus routes 64, 68, 85, CT2 and for the Red Line. The four bus routes provide service along Broadway and at the Kendall/MIT station near the site and the red line servicing the Kendall/MIT station.

Table 2.e.1
MBTA Services

Route	Origin/Destination	Hours of Operation	Weekday Ridership	Peak Hour Headways
Route 64	Oak Square/ University Park	6:35AM-6:37PM	1,977	~ 20 min.
Route 68	Harvard/ Kendall-MIT	5:42AM-12:57AM	475	~ 30 min.
Route 85	Spring Hill/ Kendall-MIT	5:45AM-7:34PM	589	30-40 min.
Route CT2 (747)	Sullivan/ Ruggles	6:35AM-7:37PM	2,823	~ 20 min.
Red Line	Alewife/ Ashmont-Braintree	5:16AM-12:30AM	14,784*	9 min.(for each branch)

Source: MBTA Official Public Transit System Map, 2010 Blue Book/ Bus Ridership Data Fall 2012

*Weekday Boardings at Kendall Square Station

Bus boarding and alighting volumes were obtained for the stop at Main Street and Kendall Station, the closest stop to the Ames Street Residences TIS. The data for the bus stops are summarized in **Table 2.e2**.



Table 2.e.2
Bus Boarding and Alighting Counts

Inbound	Route	AM Peak Hour		PM Peak Hour		Daily	
		# of Buses	Persons	# of Buses	Persons	# of Buses	Persons
Boarding	CT2	<u>3</u>	<u>28</u>	<u>3</u>	<u>53</u>	<u>30</u>	<u>228</u>
	Total	3	28	3	53	30	228
Alighting	64	3	46	2	6	15	122
	85	2	76	1	6	22	223
	CT2	<u>3</u>	<u>45</u>	<u>3</u>	<u>10</u>	<u>30</u>	<u>151</u>
	Total	10	189	8	31	90	616
Outbound	Route	# of Buses	Persons	# of Buses	Persons	# of Buses	Persons
Boarding	64	3	21	2	37	15	145
	68	2	5	1	13	23	98
	85	1	4	2	66	22	223
	CT2	<u>3</u>	<u>11</u>	<u>3</u>	<u>19</u>	<u>32</u>	<u>122</u>
	Total	9	41	8	135	92	588
Alighting	CT2	<u>3</u>	<u>35</u>	<u>3</u>	<u>45</u>	<u>32</u>	<u>270</u>
	Total	3	35	3	45	32	270

Source: Massachusetts Bay Transportation Authority, Fall 2012

The EZRide, operated by the Charles River TMA, provides shuttle service between North Station, Kendall Square and Cambridgeport during weekday morning and evening. Service is provided at 8-minute headways in each direction between 6:20 – 10:20AM and 3:00 – 7:24PM. Stops for the EZRide are located on Main Street at the MBTA Kendall Square station

3. Project Traffic

a. Mode Share and Average Vehicle Occupancy

Mode-share for residential and retail trips is based on the City of Cambridge's Kendall Square Central Square Planning Study (K2C2). The mode splits are presented in **Table 3.a**. The national Average Vehicle Occupancy (AVO) of 1.13 for residential and 1.78 for retail are assumed based on the 2009 National Household Travel Survey. The local AVO characteristics are based on 2006-2010 American Community Survey data for the project location (Census tract 3524). A local AVO of 1.26 for residential and 1.20 for retail are assumed.



Table 3.a
Mode-Share

Mode	Residential	Retail
Automobile	32.0 %	31.0 %
Transit	30.0 %	30.0 %
Bicycle	10.0 %	8.0 %
Walk	25.0 %	29.0 %
Other	3.0 %	2.0 %

Source: Enhanced TDM mode share 2010-2013 City of Cambridge Kendall Square-Central Square Planning Study

b. Trip Generation

Trip generation estimates were developed based on Institute of Transportation Engineers (ITE) Trip Generation Manual (9th Edition) rates for Apartment (LUC 220) and Retail (Shopping Center-LUC 820).

ITE vehicle-trips were converted to person-trips by application of the national AVO for residential and retail while local AVOs were used to convert to vehicle-trips, in accordance with the TP&T scoping letter.

The resulting project trip generation by mode for the proposed project is summarized in **Table 3.b.1**.

Table 3.b.1
Project Trip Generation by Mode

		Vehicle Trips			Transit Trips			Bike			Walk			Other		
		Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak	Daily	AM Peak	PM Peak
Residential	Entering	267	8	32	316	10	38	105	3	13	263	8	32	32	1	4
	Exiting	<u>267</u>	<u>33</u>	<u>17</u>	<u>316</u>	<u>39</u>	<u>21</u>	<u>105</u>	<u>13</u>	<u>7</u>	<u>263</u>	<u>32</u>	<u>17</u>	<u>32</u>	<u>4</u>	<u>2</u>
	Total	534	41	49	632	49	59	210	16	20	526	40	49	64	5	6
Retail	Entering	157	4	13	183	5	15	49	1	4	177	5	15	12	0	1
	Exiting	<u>157</u>	<u>3</u>	<u>14</u>	<u>183</u>	<u>3</u>	<u>16</u>	<u>49</u>	<u>1</u>	<u>4</u>	<u>177</u>	<u>3</u>	<u>16</u>	<u>12</u>	<u>0</u>	<u>1</u>
	Total	314	7	27	366	8	31	98	2	8	354	8	31	24	0	2
Total	Entering	424	12	45	499	15	53	154	4	17	440	13	47	44	1	5
	Exiting	<u>424</u>	<u>36</u>	<u>31</u>	<u>499</u>	<u>42</u>	<u>37</u>	<u>154</u>	<u>14</u>	<u>11</u>	<u>440</u>	<u>35</u>	<u>33</u>	<u>44</u>	<u>4</u>	<u>3</u>
	Total	848	48	76	998	57	90	308	18	28	880	48	80	88	5	8

Estimates based on ITE 9th Edition LUC 220 (Apartments – 280 units) and LUC 820 (Shopping Center – 16.0 ksf)

Daily trip generation in “trips per day”

Peak hour trip generation in “trips per hour”



As shown in **Table 3.b.1**, the project is expected to generate approximately 48 new vehicle trips during the weekday morning and 76 trips during the weekday evening peak hours.

As requested by TP&T in their Scoping Letter, a vehicle trip rate comparison was conducted to verify the AM and PM peak hour ITE trip rates with actual observed rates at a comparable residential building. Through discussions with the TP&T Department the approved location of 303 Third Street, a residential building with 482 units and 531 garage parking spaces, was selected for observations. Morning, 7:30 AM – 9:30 AM, and evening, 4:30 PM – 6:30 PM peak period counts were conducted on Tuesday, April 29, 2014. **Table 3.b.2** provides the observed trip rate data for the comparable residential development, 303 Third Street.

Table 3.b.2
303 Third Street Trip Rate Data

	AM Peak Hour			PM Peak Hour		
	Trips	Trip Rate (trip/unit)	ITE Trip Rate*	Trips	Trip Rate (trips/unit)	ITE Trip Rate*
Entering	16	0.03	0.10	42	0.09	0.40
Exiting	61	0.13	0.41	18	0.04	0.22

VHB Observation 4/29/2014

*Land Use Code 220 Apartment

Assessment of actual vehicle trips generated by 303 Third Street shows that the ITE trip rates used to calculate the Ames Street Residences project generated trips is very conservative. During both morning and evening peak periods, the rate of entering and exiting traffic at 303 Third Street is substantially lower (3-4 times lower) than what would result using standard ITE trip rates.

c. Site Access

As shown in **Figure D.1**, all vehicle access to the East Garage would be accommodated from the existing entrance on Broadway. Egress would be provided via the existing Broadway exit, and supported with an additional new egress-only drive that would connect the garage back to Ames Street (just north of 5 Cambridge Center).

The existing loading dock at the west edge of the East Garage that serves 5 Cambridge Center would be relocated to support the construction of the Project. Its new location would be positioned along the southwest face of the garage with access/egress via Ames Street. This drive would serve the dual purpose of access/egress for the loading dock and egress only for the East Garage. The new dock will include four bays, including a dedicated trash compactor and three



additional service bays. This dock would serve both the existing 5 Cambridge Center facility and the proposed Ames Street Residences.

Enhancing and promoting sustainable transportation is also an important objective for the City of Cambridge and changes to Ames Street support Cambridge's policies to promote improved pedestrian and bicycle infrastructure within the City. As currently planned, the existing 4-lane Ames Street would be reconfigured to support implementation of dedicated bicycle infrastructure along the corridor between Main Street and Broadway. Current plans call for a buffered 2-way cycle track along the east side of Ames Street with on-street parking separating bike travel from vehicle travel. Additionally, the pedestrian sidewalk along the east side of Ames Street would be widened considerably, from its current width of 11 - 14 feet to approximately 15.5 feet. To support these changes, Ames Street would be narrowed to two travel lanes (one lane for each direction of travel). These changes would also require adjustments to sidewalks, accessible ramps, and traffic signalization at the intersections of Ames Street/Main Street and Ames Street/Broadway. The proposed reconfiguration of Ames Street, including its future geometric condition, is illustrated in **Figure D.5**.

An alternate Ames Street layout, as illustrated in **Figure D.6**, has been proposed in addition to the City of Cambridge layout. The alternate layout proposes bicycle lanes as opposed to a cycle track.

Project-generated traffic was distributed through the study area based on the Kendall Square Central Square (K2C2) Critical Sums Analysis – Trip Distribution Report, Sub-Area 2 Map (August 2012). The distributions are presented in **Table 3.d**.

Table 3.d
Vehicular Trip Distribution

Trip Assignment	Residential	Retail
Main Street (To/From West)	21%	18%
Vassar Street	14%	5%
Ames Street (To/From South)	7%	9%
Broadway (To/From Southeast)	14%	24%
Third Street	26%	32%
Broadway (To/From Northwest)	18%	12%

Source: K2C2 Critical Sums Analysis – Trip Distribution Report Sub –Area Maps, August 2012.

The percentage distribution of residential and retail trips is shown in **Figure 3.d.1**, and the resulting project generated vehicle trips are shown in **Figure 3.d.2&3**.



All site trips will be routed to the Cambridge Center East Garage entrance along Broadway. Although there is on-street metered parking available for retail customers, this option is not always available and therefore the conservative assumption was made that all patrons will use the garage. Residents and retail customers exiting the site will choose the exit most suited to their trip destination.

d. Servicing and Deliveries

The residential component of the proposed mixed-use project will generate limited numbers of delivery trips over the course of a typical day. Typical deliveries will include mail and trash collection for the building as a whole.

Although it is expected that deliveries for the retail component will be relatively limited, in light of the limited amount of retail space, deliveries will be scheduled for off-peak traffic periods. Property management staff will be assigned to oversee operations and manage the scheduling.

Trash will be managed and contained within a single location on the ground level of the site. Typically, residential trash will be picked up two times per week, but additional pick up may be scheduled if needed for the retail component.

All delivery vehicles will be staged on-site at the relocated loading bays, using the new alleyway between the project site and 5 Cambridge Center. The loading dock is sized to fit a single unit truck.

4. Background Traffic

In accordance with the TP&T Scope, background traffic growth reflecting regional growth was assumed to occur at 0.5 percent per year for five years to the 2019 future year condition. In addition, trips associated with specific planned projects in the area of the project site have been incorporated into the future 2019 analysis, as follows:

- Broad Institute Expansion
- Courthouse Redevelopment
- 17 Cambridge Center (BioGen)
- 300 Massachusetts Avenue
- Novartis R&D Expansion at 181 Massachusetts Avenue
- 650 Main Street Office/R&D Development Project
- North Point – Parcel N and One and Two Earhart
- Maple Leaf at 23 East Street (assumed no trips in Project Study Area)



- 1 Education Street (assumed no trips in Project Study Area)
- 159 First Street (included in Bent Street Development TIS)
- 22 Water Street
- Bent Street Development
- Alexandria Center at Kendall Square (Binney Street Project)

5. Traffic Analysis Scenarios

Traffic networks were developed, in accordance with the TIS Guidelines, for the following scenarios:

a. Existing (2014) Condition

The existing condition analysis is based on existing vehicle, bicycle and pedestrian counts at the study area intersections (see Section 2).

b. Build (2014) Condition

The build condition assumes full occupancy of 280 residential units and 16,000 SF of ground-floor retail. Project-generated traffic (see Section 3) was added to the study area to create the 2014 build networks shown in **Figure 5.b.1&2**. As part of the Ames Street Residence construction, the existing Garage entrance along Ames Street will be eliminated and vehicles will only be able to exit onto Ames Street with the project in place. Volume shifts to account for this change are reflected in the build condition. As requested in the TP&T TIS Scoping Letter, the new connection at the Broadway and Third Street intersection to Main Street has been implemented into the build condition.

c. Future (2019) Condition with Cycle Track

Traffic volumes for this scenario include future background growth and other developments (as described above), as well as project trips, and off-site roadway improvements are presented in **Figures 5.d.1 and 5.d.2**.

The City of Cambridge will be redesigning Ames Street in conjunction with the project and these changes to Ames Street are reflected in the Future (2019) Condition with Cycle Track. Ames Street at the northbound approach with Broadway will be a shared left and right turn lane. Ames Street at the southbound approach with Main Street will be one general purpose lane. These changes are to accommodate the addition of a two-way cycle track along the stretch of Ames Street from Main Street to Broadway on the east side.

Bicycle signal timings were implemented in this condition to allow for protected bicycle movements for the Ames Street cycle track. At the intersection of Broadway and Ames Street a bicycle phase of 24 seconds (7 seconds green time, 3



seconds yellow time, and 14 seconds red time) was implemented. At the intersection of Main Street and Ames Street a bicycle phase of 28 seconds (7 seconds green time, 3 seconds yellow time, and 14 seconds red time) was implemented. The bicycle phasing times were estimated based on the MUTCD – Interim Approval for Optimal Use of a Bicycle Signal Face issued by the FHWA on December 24, 2013. Due to the signal coordination along the Main Street and Broadway corridors, the intersection offsets were optimized to account for the retimings.

d. Future (2019) Condition with Buffered Bike Lanes

Traffic volumes for this scenario include future background growth and other developments (as described above), as well as project trips, and off-site roadway improvements are presented in **Figures 5.d.1 and 5.d.2**.

An alternative Ames Street design has been analyzed for the future condition with buffered bike lanes. Ames Street will approach Broadway in the northbound direction with two lanes, one left-turn and one right-turn lane, with a bike lane in the middle. Ames Street in the southbound approach will contain two lanes, one right-turn only and one thru/left-turn, with a bike lane between the two lanes.



6. Vehicle Capacity Analysis

Synchro 7 software is used to determine the vehicle level of service (VLOS) for the seven study intersections. Synchro software is based on the 2000 Highway Capacity Manual.

Results for the 2014 Existing, 2014 Build, Future (2019) Condition with Cycle Track, and Future (2019) Condition with Buffered Bike Lanes conditions are shown in **Tables 6.a.1** and **Table 6.a.2** for the AM and PM peak hours, respectively.



Table 6.a.1
Intersection Level of Service – AM Peak Hour

Intersection	Approach	2014 Existing Condition			2014 Build Condition			2019 Future Condition with Cycle Track			2019 Future Condition with Buffered Bike Lanes		
		V/C Ratio	Delay	VLOS	V/C Ratio	Delay	VLOS	V/C Ratio	Delay	VLOS	V/C Ratio	Delay	VLOS
Broadway / Galileo Galilei Way (Signalized)	EB	0.76	41.0	D	0.77	41.2	D	0.97	55.8	E	0.97	55.8	E
	WB	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F
	NB	0.81	35.5	D	0.81	33.8	C	0.86	35.9	D	0.86	37.2	D
	SB	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F
	Overall	>1.0	69.3	E	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F
Main Street / Galileo Galilei Way (Signalized)	EB	0.41	20.0	B	0.41	20.0	C	0.65	24.5	C	0.65	24.5	C
	WB	0.31	28.3	C	0.33	26.2	C	0.43	4.1	A	0.43	27.9	C
	NB	0.48	22.7	C	0.48	22.8	C	0.58	24.9	C	0.58	24.9	C
	SB	0.69	23.9	C	0.69	30.5	C	>1.0	28.8	C	>1.0	42.4	D
	Overall	0.54	23.5	C	0.54	25.6	C	0.85	22.8	C	0.85	32.1	C
Main Street / Ames Street (Signalized)	EB	0.79	24.7	C	0.82	27.2	C	>1.0	>80.0	F	0.97	48.9	D
	WB	0.15	11.6	B	0.20	12.1	B	0.36	25.2	C	0.23	12.5	B
	NB	0.83	52.0	D	0.82	49.0	D	>1.0	>80.0	F	1.00	>80.0	F
	SB	0.73	40.0	D	0.73	43.3	D	>1.0	>80.0	F	>1.0	79.4	E
	Overall	0.81	34.1	C	0.82	34.1	C	>1.0	>80.0	F	1.00	60.3	E
Broadway / Ames Street (Signalized)	EB	0.76	20.5	C	0.74	22.3	C	>1.0	>80.0	F	0.82	21.1	C
	WB	0.86	40.4	D	0.86	43.0	D	>1.0	>80.0	F	>1.0	48.4	D
	NB	0.41	32.1	C	0.43	33.9	C	>1.0	>80.0	F	0.47	34.4	C
	Overall	0.61	30.9	C	0.59	32.7	C	>1.0	>80.0	F	0.72	35.3	D
Broadway / Third Street (Signalized)	EB	0.73	20.6	C	0.77	21.3	C	>1.0	30.3	C	>1.0	41.8	D
	WB	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F
	SB	0.60	40.1	D	0.70	42.1	D	0.89	59.0	E	0.89	59.0	E
	Overall	0.85	55.9	E	0.90	55.8	E	>1.0	>80.0	F	>1.0	>80.0	F
Ames Street/ Cambridge Center East Garage/ New Alleyway (Unsignalized)	WB	0.03	17.1	C	0.13	17.7	C	0.15	20.0	C	0.15	20.0	C
Broadway/ Cambridge Center East Garage (Unsignalized)	NB	0.04	37.2	E	0.18	45.3	E	0.21	>50.0	F	0.22	>50.0	F

n/a Under existing conditions the site driveways are currently not in use and therefore not applicable.
Demand Vehicular demand on critical approach
Delay Average delay expressed in seconds per vehicle
VLOS Vehicular level of service



Table 6.a.2
Intersection Level of Service– PM Peak Hour

Intersection	Approach	2014 Existing Condition			2014 Build Condition			2019 Future Condition with Cycle Track			2019 Future Condition with Buffered Bike Lanes		
		V/C Ratio	Delay	VLOS	V/C Ratio	Delay	VLOS	V/C Ratio	Delay	VLOS	V/C Ratio	Delay	VLOS
Broadway / Galileo Galilei Way (Signalized)	EB	>1.0	54.1	D	>1.0	54.2	D	>1.0	70.5	E	>1.0	70.5	E
	WB	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F
	NB	0.85	37.7	D	0.85	37.7	D	0.96	37.3	D	0.96	36.7	D
	SB	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F
	Overall	0.91	70.9	E	0.91	70.9	E	>1.0	>80.0	F	>1.0	>80.0	F
Main Street / Galileo Galilei Way (Signalized)	EB	0.77	25.6	C	0.77	25.7	C	>1.0	76.9	E	>1.0	76.9	E
	WB	0.22	25.9	C	0.23	24.1	C	0.28	4.0	A	0.28	25.7	C
	NB	0.79	34.2	C	0.79	34.5	C	0.94	50.7	D	0.94	50.7	D
	SB	0.54	36.2	D	0.54	36.2	D	0.75	8.9	A	0.75	37.4	D
	Overall	0.78	31.4	C	0.78	31.2	C	>1.0	41.8	D	>1.0	52.4	D
Main Street / Ames Street (Signalized)	EB	0.72	23.6	C	0.77	26.5	C	>1.0	>80.0	F	0.91	40.2	D
	WB	0.25	14.0	B	0.32	14.9	B	0.60	34.8	C	0.33	15.1	B
	NB	0.75	40.1	D	0.75	40.5	D	>1.0	>80.0	F	0.83	47.5	D
	SB	0.65	34.4	C	0.60	33.4	C	>1.0	>80.0	F	0.70	37.5	D
	Overall	0.73	29.3	C	0.76	29.7	C	>1.0	>80.0	F	0.88	37.9	D
Broadway / Ames Street (Signalized)	EB	0.73	27.5	C	0.74	27.5	C	>1.0	>80.0	F	0.82	30.5	C
	WB	>1.0	63.7	E	>1.0	66.9	E	>1.0	>80.0	F	>1.0	>80.0	F
	NB	0.51	48.2	D	0.55	54.7	D	>1.0	>80.0	F	0.64	77.2	E
	Overall	0.68	46.9	D	0.66	49.2	D	>1.0	>80.0	F	0.79	78.6	E
Broadway / Third Street (Signalized)	EB	0.86	36.1	D	0.89	37.6	D	>1.0	33.8	C	>1.0	52.6	D
	WB	0.81	34.3	C	0.81	34.7	C	0.88	39.4	D	0.88	39.4	D
	SB	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F	>1.0	>80.0	F
	Overall	0.94	57.4	E	0.98	68.8	E	>1.0	>80.0	F	>1.0	>80.0	F
Ames Street/ Cambridge Center East Garage/ New Alleyway (Unsignalized)	WB	0.23	33.0	D	0.53	37.8	E	0.92	>50.0	F	0.46	36.5	E
Broadway/ Cambridge Center East Garage (Unsignalized)	NB	>1.0	>50.0	F	>1.0	>50.0	F	>1.0	>50.0	F	>1.0	>80.0	F

n/a Under existing conditions the site driveways are currently not in use and therefore not applicable.
 Demand Vehicular demand on critical approach
 Delay Average delay expressed in seconds per vehicle
 VLOS Vehicular level of service

Under existing and build conditions, the signalized intersections of Main Street/Vassar Street and Main Street/ Ames Street operate at an overall VLOS C



during the AM and PM peak hours. The intersection of Broadway and Galilei Way operates at an overall VLOS E during both the morning and evening peak hour and with the addition of the proposed project trips (8 morning trips and 12 evening trips), the VLOS degrades to a VLOS F during the morning peak hour and maintains an overall VLOS E during the evening peak hour. Broadway and Ames Street operates at an overall VLOS C during the existing and build morning conditions and VLOS D during the existing and build evening conditions.

Broadway at Third Street operates at an overall VLOS E during the morning and evening peak hours under existing and build conditions.

The two analyzed future conditions, Cycle Track and Buffered Bike Lane operate at similar VLOS except at the intersections of Main Street and Ames Street and Broadway and Ames Street. This is due to the differences in the roadway concepts illustrated in **Figures D.5 and D.6**. The future condition with a two-way Cycle Track along Ames Street between Broadway and Main Street degrades the two intersections to an overall VLOS F for the morning and evening peak hours. The cycle track requires the addition of a bicycle phase which takes away green time from the vehicle movements, degrading the VLOS for all approaches.

The future condition with Buffered Bike Lanes allows for the phasing and timings at these two intersections to remain the same through all conditions.

During the morning peak hour the Cambridge Center East garage driveway exiting onto Broadway operates at VLOS E under existing and build conditions and during the evening peak hour the driveway operates at VLOS F under existing and build conditions. Under future conditions the driveway approach operates at a VLOS F for both morning and evening peak hours. This is due to the heavy volumes heading eastbound on Broadway allowing very few gaps for vehicles to exit the garage.

The garage driveway approaching Ames Street operates at VLOS C under all analyzed conditions during the morning peak hour. The approach operates at VLOS D during the evening peak under existing conditions, and with the addition of 16 project trips degrades to a VLOS E during the build condition.

7. Queue Analysis

Queue analysis was performed in conjunction with the level-of-service analysis. **Table 7.a.1 and 7.a.2** present results for the modeled average queues for each scenario for the AM Peak and PM Peak hours, respectively.



Table 7.a.1: Intersection Queue Analysis - AM Peak Hour

Intersection	Approach	Modeled ¹	Build ¹	Future with Cycle Track ²	Future with Buffered Bike Lanes ²
Broadway / Galileo Galilei Way (Signalized)	EBL	4	4	5	5
	EBT	6	6	7	7
	WBL	4	4	5	5
	WBT	6	6	3	7
	NBL	2	2	2	2
	NBT	3	3	4	4
	SBL	4	4	5	5
	SBT	11	11	19	19
Main Street / Galileo Galilei Way (Signalized)	SBR	6	7	9	9
	EBL	2	2	4	4
	EBT	4	4	5	5
	WBL	2	3	1	3
	WBT	5	4	1	6
	NBT	4	4	4	4
	SBL	1	1	1	1
	SBT	5	6	3	5
Main Street / Ames Street (Signalized)	SBR	4	5	11	7
	EBT	6	6	16	7
	WBT	2	2	3	2
	NBT	6	6	11	7
	SBT	2	2	10	2
Broadway / Ames Street (Signalized)	SBR	3	3	n/a	5
	EBT	7	3	12	8
	WBL	3	2	4	3
	WBT	12	11	18	14
	NBL	3	3	11	3
Broadway / Third Street (Signalized)	NBR	1	1	n/a	1
	EBL	6	6	9	9
	EBT	2	2	1	2
	WBT	15	15	18	18
	SBL	4	n/a	n/a	n/a
	SBT	n/a	5	6	6
	SBR	4	3	5	

1= 2014

2 = 2019

n/a – Lane group does not exist in the analyzed condition



Table 7.a.2: Intersection Queue Analysis - PM Peak Hour

Intersection	Approach	Modeled ¹	Build ¹	Future with Cycle Track ²	Future with Buffered Bike Lane ²
Broadway / Galileo Galilei Way (Signalized)	EBL	5	5	7	7
	EBT	7	7	7	7
	WBL	6	6	7	7
	WBT	8	8	9	9
	NBL	4	4	4	4
	NBT	7	7	9	9
	SBL	3	3	4	3
	SBT	7	7	10	9
Main Street / Galileo Galilei Way (Signalized)	SBR	5	5	9	9
	EBL	6	6	13	13
	EBT	4	5	6	6
	WBL	2	2	1	2
	WBT	3	3	1	4
	NBT	7	7	8	8
	SBL	1	1	1	1
	SBT	8	8	4	9
Main Street / Ames Street (Signalized)	SBR	6	6	3	7
	EBT	8	9	18	12
	WBT	2	3	4	3
	NBT	6	6	11	7
	SBT	5	4	15	5
Broadway / Ames Street (Signalized)	SBR	4	3	n/a	4
	EBT	8	8	12	9
	WBL	3	3	2	3
	WBT	15	15	25	20
	NBL	3	4	20	4
Broadway / Third Street (Signalized)	NBR	1	1	n/a	2
	EBL	7	7	10	9
	EBT	7	8	7	9
	WBT	8	9	9	9
	SBL	12	n/a	n/a	n/a
1	SBT	n/a	14	18	18
	SBR	4	3	6	6

1 = 2014

2 = 2019

n/a - Lane group does not exist in the analyzed condition

The queue analysis results presented in the above tables corresponds to the level of service analyses conducted for the study area intersections. Accurate queue observations could not be observed as the counts used are dated October 2010 and grown to 2014 volumes.

8. Residential Street Volume Analysis

All streets in the study area have less than one-third abutting residential land use, and therefore no residential street analysis is presented.



9. Parking Analysis

As requested in the TP&T TIS Scoping Letter, a parking study has been conducted for the Kendall Square Urban Renewal Area Cambridge Center East, West, and North Garages. The study includes a shared parking analysis that quantifies existing and proposed parking activity in all three Cambridge Center Garages using existing parking data. Hourly parking data were collected as part of the Kendall Square Urban Renewal Area, 2013 *Traffic Count Program and Trip Generation Analyses* conducted by Fay, Spofford, & Thorndike (FST) Engineers. Occupancy counts were conducted the week of May 13, 2013 to May 17, 2013 and are compiled in the Appendix. The parking needs of the proposed Ames Street Residences building will be met in the Cambridge Center East Garage.

a. Existing Parking Data

As previously noted, Kendall Square Urban Renewal area contains three shared parking garages for employees, residents, and visitors to the area totaling 2,748 parking spaces.

Cambridge Center East Garage which contains a total of 844 parking spaces is a commercial parking facility that provides parking for tenant employees who lease monthly parking and transient parkers. The basement level of the garage is reserved for Marriott Hotel valet use.

Cambridge Center West Garage, the smallest of the three, containing 734 parking spaces for monthly and transient parkers.

Cambridge Center North Garage is the largest of the three parking facilities containing 1,170 for monthly and transient parkers.

Table 9.a.1 presents the existing daytime and nighttime peak occupancy of each garage. None of the parking garages are currently over capacity based on the average weekday observations in May 2013.

Table 9.a.1
Existing Parking Supply and Peak Hour Occupancy

Garage	Parking Supply	Daytime Peak Hour Demand	Daytime Demand/Capacity	Overnight Peak Hour Demand	Overnight Demand/Capacity
Cambridge Center East Garage	844	668	79%	69	8%
Cambridge Center West Garage	734	507	69%	57	8%
<u>Cambridge Center North Garage</u>	<u>1,170</u>	<u>971</u>	<u>83%</u>	<u>109</u>	<u>9%</u>
Total	2,748	2,146	78%	235	9%

Source: FST Kendall Square Urban Renewal Area
2013 *Traffic Count Program and Trip Generation Analyses*



Note from **Table 9.a.1** that collectively, the three Cambridge Center Garages generally operate at approximately 78 percent of their capacity during weekdays (mid-day). Overnight, demand reduces considerably, with only demand registering at about 9 percent of total capacity. Specifically, the East Garage tends to yield similar ratios of demand versus capacity as all three garages combined – with availability both during the day and overnight.

b. Ames Street Residences Project Parking Demand

The Cambridge Center East Garage, which occupies a portion of the site, will accommodate the parking needs of the project. The garage will undergo renovations through the construction of the Ames Street Residences and a portion of the garage will be demolished, resulting in a loss of approximately 40 spaces, thereby reducing the capacity to 804 spaces. Although these spaces will be lost, the garage will be able to accommodate the 140 spaces required the new development with very minimal impact to existing operations. This is due mostly to the fact that this project will generate primarily residential parking demand, whose peak demand characteristic occurs overnight when overall Cambridge Center parking demands are very low.

The estimated parking demand for the project is based on the Kendall Square Central Square (K2C2) parking requirements of 0.5 spaces per 1000 sf of retail development and 0.5 spaces per unit for residential developments. The estimated project parking demand is shown in **Table 9.b.1**.

Table 9.b.1
Ames Street Residences Parking

Use	Size	Parking Ratio	Parking Demand
Residential	280 units	0.5	140
<u>Retail Space</u>	<u>16.0 KSF</u>	<u>0.5</u>	<u>8</u>
Total	-	-	148

This analysis estimates that when the building is fully occupied, 140 residences and 8 employees or visitors of the retail will park in the Cambridge Center East Garage. This is a conservative estimate due to the proximity of Kendall Square station although according to 2006-2010 American Community Survey data for the project location (Census tract 3524) about 50% of all households own or have a car available for them to use. It is assumed that during the daytime peak demand all retail employees/customers will be parked in the garage as well as a portion of the residents. Residential daytime parking demand was determined via an assessment of other similar residential uses, including 303 Third Street in Cambridge and other similar residential developments in Boston, including 1330 Boylston Street and Trilogy, both of which are located in the Fenway. Based on



these reviews, we believe that about 50 percent of all residential vehicles would exit the facility during the week during the day by the time the garage reaches peak occupancy (which tends to occur at about 11:30 AM). Therefore a total of approximately 70 vehicles associated with the Project would be parking in the Cambridge Center Garage during the daytime peak. Overnight parking demand for the Project was estimated to be 100 percent, or 140 vehicles; no overnight parking will be needed for retail and all 140 parking spaces would be utilized by residents of the Project. **Table 9.b.2** shows the peak daytime and nighttime parking demand of the Ames Street Residences.

Table 9.b.2
Ames Street Residences Parking Demand

Garage	Daytime Parking Demand	Overnight Parking Demand
Residences	70	140
<u>Retail</u>	<u>8</u>	<u>0</u>
Total	78	140

c. Future Area Wide Parking Demand

In order to estimate the impacts of the Ames Street Residences' parking demand on the parking supply, an understanding of the future parking needs within Kendall Square has also been studied and quantified. Future developments proposing to use the Cambridge Center garages to fulfill parking needs are listed below.

- **Broad Institute Expansion** – Located at 75 Ames Street, directly across the street from Ames Street Residences, the development is approximately 246,000 sf of research and development and approximately 4,000 sf of ground floor retail/restaurant space. The project is estimated to generate 652 daily vehicle trips (326 entering, 326 exiting), 88 morning peak hour vehicle trips (72 entering, 16 exiting), and 82 evening peak hour vehicle trips (14 entering, 68 exiting). It is assumed that all vehicle trips will be using the Cambridge Center West Garage for their on-site parking.
- **17 Cambridge Center (BioGen)** – Located at 17 Cambridge Center, the developments is approximately 169,000 sf of office and research and development space with a daycare on the first floor. The project is estimated to generate 394 daily vehicle trips (197 entering, 197 exiting), 59 morning peak hour vehicle trips (49 entering, 10 exiting), and 52 evening peak hour vehicle trips (8 entering, 44 exiting). It is assumed



that all vehicle trips will be using the Cambridge Center North Garage for their parking.

Table 9.c.1 and 9.c.2 show the future daytime and overnight parking demand of the three Cambridge Center garages to reflect the full utilization by the developments without the Ames Street Residences. Peak parking demands were generated by establishing parking rates based on the amount of total square footage in these buildings and comparing those programmatic summaries to other uses that are currently accommodated within these same parking facilities.

Table 9.c.1
Future Parking Supply and Peak Hour Occupancy – Daytime Peak

Garage	Parking Supply	Existing Demand	Broad Institute Expansion	17 Cambridge Center (BioGen)	Total Demand	Daytime Peak Occupancy
Cambridge Center East Garage	844	668	0	0	668	79%
Cambridge Center West Garage	734	507	150	0	657	90%
<u>Cambridge Center North Garage</u>	<u>1,170</u>	<u>971</u>	<u>0</u>	<u>90</u>	<u>1,061</u>	<u>91%</u>
Total	2,748	2,146	150	90	2,386	87%

Table 9.c.2
Future Parking Supply and Peak Hour Occupancy – Overnight Peak

Garage	Parking Supply	Existing Demand	Broad Institute Expansion	17 Cambridge Center (BioGen)	Total Demand	Nighttime Peak Occupancy
Cambridge Center East Garage	844	69	0	0	69	8%
Cambridge Center West Garage	734	57	0	0	57	8%
<u>Cambridge Center North Garage</u>	<u>1,170</u>	<u>109</u>	<u>0</u>	<u>0</u>	<u>109</u>	<u>9%</u>
Total	2,748	235	0	0	235	9%

Tables 9.c.3 and 9.c.4 show the impacts of the Ames Street Residences parking demand, presented in the previous section, on the future parking within Kendall Square.



Table 9.c.3
Ames Street Residences Parking Impacts – Daytime Peak

Garage	Parking Supply	Future Area Wide Parking Demand	Ames Street Parking Demand	Total Future Parking Demand	AM Peak Hour Occupancy
Cambridge Center East Garage	804	668	78	746	93%
Cambridge Center West Garage	734	657	0	657	90%
<u>Cambridge Center North Garage</u>	<u>1170</u>	<u>1,061</u>	<u>0</u>	<u>1,061</u>	<u>91%</u>
Total	2,708	2,386	78	2,451	91%

Table 9.c.4
Ames Street Residences Parking Impacts – Nighttime Peak

Garage	Parking Supply	Future Area Wide Parking Demand	Ames Street Parking Demand	Total Future Parking Demand	AM Peak Hour Occupancy
Cambridge Center East Garage	804	69	140	209	26%
Cambridge Center West Garage	734	57	0	57	8%
<u>Cambridge Center North Garage</u>	<u>1170</u>	<u>109</u>	<u>0</u>	<u>109</u>	<u>9%</u>
Total	2,708	235	140	375	14%

As shown in **Tables 9.c.3 and 9.c.4**, anticipated parking demand generated by the Project is expected to impact only the East Garage. With the Project fully occupied, the East Garage is expected to operate on weekdays with a demand that is representative of about 91 percent of total capacity. During the evening, the overnight demand will still be quite low, running at about 26 percent of total capacity. The West and North Garages typical operations would not be directly impacted by the implementation of the proposed Ames Street Residences Project.

10. Transit Analysis

The Project is expected to generate 57 new transit trips (15 entering, 42 exiting) during the AM peak-hour and 91 new transit trips (54 entering, 37 exiting) during the PM peak hour.

Based on the 2006 – 2010 American Community Survey data from this location, it is expected that approximately 39% of residents who use transit will use subway or railway and 61% will use bus to commute to work. Data shows that persons using transit to travel for work/retail purposes in this area will have an 81%/19% split between subway/railway and bus services. The resulting



assignment of project transit trips is presented in **Table 10.a**, which indicates that during the peak hour commute the Project will result in approximately 25 – 48 trips on the Red Line and approximately 32 – 42 trips by bus.

Table 10.a
Project Transit Trip Assignment

		Morning Peak			Evening Peak		
		In	Out	Total	In	Out	Total
Residential	Subway (Red Line)	4	15	19	14	8	22
	Buses (all)	<u>6</u>	<u>24</u>	<u>30</u>	<u>24</u>	<u>13</u>	<u>37</u>
	Total	10	39	49	38	21	59
Retail	Subway (Red Line)	4	2	6	12	13	25
	Buses (all)	<u>1</u>	<u>1</u>	<u>2</u>	<u>3</u>	<u>3</u>	<u>6</u>
	Total	5	3	8	15	16	31
Total	Subway (Red Line)	8	17	25	26	21	47
	Buses (all)	<u>7</u>	<u>25</u>	<u>32</u>	<u>27</u>	<u>16</u>	<u>43</u>
	Total	15	42	57	53	37	90

The Red Line is accessible at Kendall Square station within ¼ mile of the Project site. All residents and retail patrons/employees taking the subway are assumed to use the Kendall Square station. With a combined Red Line headway of 4.5 minutes, equivalent to just over 13 trains per peak hour direction, the project would be expected to add an average of less than 1 rider per train during the morning peak and approximately 1 rider during the evening peak if trips are distributed evenly between inbound and outbound trains.

The impacts of project trips to Red Line volume/capacity operations during the peak hours are presented in **Table 10.b**. The addition of project trips is expected to result on only minor changes in volume/capacity ratios, confirming that there will be no real impact to the Red Line. It is important to note that this analysis may not represent true peak hour experiences due to the lack of availability of 2013 data and the inability to measure the bunching of trains and irregularity of arrivals throughout the peak hours.



Table 10.b
Red Line Capacity Analysis – Peak Load/Peak Direction

Segment	Capacity	AM Peak					PM Peak				
		Existing Ridership	Existing V/C	Project Trips	Build Ridership	Build V/C	Existing Ridership	Existing V/C	Project Trips	Build Ridership	Build V/C
Entering Kendall (inbound)	13,026	9,524	0.73	4	9,528	0.73	4,033	0.31	13	4,046	0.31
Exiting Kendall (Inbound)	13,026	8,514	0.65	9	8,523	0.65	5,469	0.42	10	5,479	0.42
Entering Kendall (outbound)	13,026	4,784	0.37	4	4,788	0.37	8,094	0.62	13	8,107	0.62
Exiting Kendall (outbound)	13,026	3,120	0.24	8	3,128	0.24	8,821	0.68	11	8,832	0.68

Source: MBTA Capacity/Ridership Data

Each bus route operates with approximately 25-minute headways during the peak hours, together providing service every 6-7 minutes along Main Street. Distribution of the new transit trips between the four bus routes over the course of the hour will result in up to one additional inbound (towards Kendall Square) rider per bus and two additional outbound riders per bus during the AM peak. During the evening peak, there will be two addition inbound riders and one to two additional outbound riders per bus. The addition of project trips is expected to result in unnoticeable changes in volume/capacity ratios, confirming that there will be no real impact to the bus routes.

11. Pedestrian Analysis

Pedestrian volumes are presented previously in Section 2.c, and are shown in **Figure 2.c.3&4**.

The results of pedestrian level-of-service (PLOS) analysis at intersection crosswalks are presented in **Table 11.a** for signalized intersections during both the morning and evening peak conditions. Equations 18-5 from the Highway Capacity Manual 2000 have been used to determine the delays at signalized intersections in the study area.

Pedestrian level-of-service at signalized intersections is dictated by the portion of the signal cycle dedicated to pedestrian crossings. Accordingly, increasing pedestrian volumes does not alter pedestrian level of service at signalized intersections, and no changes in PLOS are projected under build or future conditions except at the intersection of Third Street at Broadway which is to be redesigned to connect Third Street to Main Street in the southbound direction. It is assumed that the walk time and cycle length at this intersection will not change from existing conditions and therefore PLOS will remain consistent. The presence of concurrent pedestrian phases results in good PLOS at most locations.



Within and around the Project site, pedestrian facilities will be designed to meet appropriate safety and accessibility standards.

Table 11.a
Signalized Intersection - Pedestrian Level of Service Summary

Intersection	Crosswalk	AM Peak Hour				PM Peak Hour			
		Existing 2014	Build 2014	Future with CT 2019	Future BBL 2019	Existing 2014	Build 2014	Future with CT 2019	Future with BBL 2019
Galileo Galilei Way at Broadway	East	D	D	D	D	D	D	D	D
	West	D	D	D	D	D	D	D	D
	North	D	D	D	D	D	D	D	D
	South	D	D	D	D	D	D	D	D
Vassar Street at Main Street	East	C	C	C	C	C	C	C	C
	West	C	C	C	C	C	C	C	C
	North	C	C	C	C	B	B	B	B
	South	C	C	C	C	B	B	B	B
Ames Street at Main Street	East	D	D	D	D	D	D	D	D
	West	D	D	D	D	D	D	D	D
	North	C	C	C	C	C	C	C	C
	South	C	C	C	C	C	C	C	C
Ames Street at Broadway	East	D	D	D	D	D	D	D	D
	West	D	D	D	D	D	D	D	D
	South	C	C	D	C	C	C	D	C
Third Street at Broadway	East	D	D	D	D	D	D	D	D
	West	D	D	D	D	D	D	D	D
	North	C	C	C	C	C	C	C	C

12. Bicycle Analysis

The project site is well-served by several bicycle facilities in the study area. Ames Street, Broadway, Galileo Galilei Way, and Main Street provide dedicated bicycle lanes. The City has plans to incorporate a multi-use path and a cycle track within the study area along Galileo Galilei Way and Binney Street. The Proponent will work with the City to determine the best design for Ames Street as the Project progresses. Three Hubway bicycle stations are located within the study area. A 25 space Hubway station is located south along Vassar Street near the intersection of Main Street / Vassar Street at Galileo Galilei Way. Two stations are located near the Kendall/MIT Redline station. One on the northern side of Main Street with 19 bike spaces available and the other near the intersection of Broadway and Third Street with 15 available bike spaces.



Conflicting vehicle turning movements at the study area intersections are presented previously in **Figure 2.c.4&5**. These volumes are summarized in **Table 12.a** for Existing 2014, Build 2014, and Future 2019 conditions.

Table 12.a
Conflicting Bicycle/Vehicle Movements at Study Intersections

Intersection	Time Period	Bicycle Direction	Existing Peak Hour Bicycle Volume	Conflicting Vehicle Movements					
				Existing 2014		Build 2014		Future 2019	
				Right Turn ^a	Left Turn ^b	Right Turn ^a	Left Turn ^b	Right Turn ^a	Left Turn ^b
Galileo Galilei Way at Broadway	AM	EB	321	85	115	85	115	87	130
		WB	18	20	140	20	140	22	187
		NB	24	80	130	80	130	83	143
		SB	36	170	65	170	65	204	69
	PM	EB	27	65	150	65	150	67	171
		WB	230	25	160	25	160	30	185
		NB	20	95	85	95	85	104	116
		SB	25	130	130	130	130	209	142
Vassar Street at Main Street	AM	EB	87	55	75	55	80	56	89
		WB	9	45	125	45	125	46	189
		NB	39	115	30	116	30	130	32
		SB	67	275	60	275	60	413	62
	PM	EB	26	50	60	50	63	51	69
		WB	65	30	265	30	265	31	394
		NB	49	175	30	180	30	193	35
		SB	50	200	60	200	60	268	62
Ames Street at Main Street	AM	EB	107	50	10	50	17	54	17
		WB	15	30	90	30	94	41	121
		NB	1	20	60	20	49	21	53
		SB	34	115	80	105	80	149	98
	PM	EB	45	60	10	60	25	73	26
		WB	42	55	40	55	54	58	65
		NB	19	20	70	20	59	21	71
		SB	6	105	55	97	55	125	59
Ames Street at Broadway	AM	EB	247	105	215	70	175	91	256
		WB	16	0	0	0	0	0	0
		NB	3	115	0	150	0	203	139
	PM	EB	16	85	145	80	102	110	0
		WB	164	0	0	0	0	0	127
		NB	10	200	0	223	0	289	164
Third Street at Broadway	AM	EB	199	0	0	45	0	46	0
		WB	19	375	195	375	205	422	277
		SB	1	160	0	123	0	209	0
	PM	EB	20	0	0	85	0	87	0
		WB	159	185	260	185	269	207	325
		SB	1	165	0	134	0	223	0

a Advancing volume
b Opposing volume



Currently, there are no bicycle parking accommodations on the project site. As shown previously on the site plans (**Figures D.3.1&2**), 296 secured bicycle parking spaces will be located 2 bike rooms accessible by residents and retail employees. This supply meets the zoning requirement of 1.05 bicycle space for each residential unit and 0.1 bicycle spaces per 1,000 sf of retail space.

On the ground level along the perimeter of the site on Ames Street, 38 spaces for short term bicycle parking will be provided in the vicinity of the residential and retail entrances. This supply meets the zoning requirement of 0.6 bicycle spaces per every 1000 sf. of retail and 0.1 spaces per residential unit.

13. Transportation Demand Management Plan

The project proponent will support a program of transportation demand management (TDM) actions to reduce automobile trips generated by the project. The goal of the project's TDM plan is to reduce the use of single occupant vehicles (SOVs) by encouraging carpooling and vanpooling, bicycle commuting and walking, and increased use of the area's public transportation system by residents.

The following TDM programs will be implemented as part of the proposed project to encourage residents to use alternatives to SOV travel:

- The proponent will contact a car sharing provider (such as Zipcar) to determine the feasibility of establishing a car share program for tenants and will provide parking spaces on site for at least one car share vehicle, subject to demand.
- The proponent will join a local Transportation Management Association (TMA) if one is established in the area.
- The proponent will designate a transportation coordinator to oversee all transportation matters for the project, including vehicular operations, servicing and loading, parking and the TDM programs. The transportation coordinator will act as the contact and liaison for the City of Cambridge, the TMA and the tenants of the project.
- The proponent will make available transit maps, schedules and other information relevant to commuting options in the residential building lobby.



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Planning Board Special Permit Criteria

Consistent with Section IV, “Guidelines for Presenting Information to the Planning Board” of the City of Cambridge “Transportation Impact Study Guidelines,” Sixth Revision dated November 28, 2011; this section presents a summary of potential impacts to the transportation network as a result of the proposed project.

According to the guidelines, exceeding one or more of the criteria shall be indicative of a *potentially* adverse impact on City’s transportation network; however, the Planning Board will consider mitigation efforts, their anticipated effectiveness, and other information that identifies a reduction in adverse traffic impacts.

Criterion A - Project Vehicle Trip Generation

Table A-1 presents the project vehicle trip generation criterion. Project vehicle trip generation is based on ITE trip rates, adjusted for local mode split and vehicle occupancy rates as discussed previously.

Table A-1
Project Vehicle Trip Generation

Time Period	Criteria (trips)	Build	Exceeds Criterion?
Weekday Daily	2,000	848	No
Weekday AM Peak Hour	240	48	No
Weekday PM Peak Hour	240	76	No

The project is not expected to exceed the criteria for project vehicle trip generation established by the Planning Board under the Build program.



Criterion B - Vehicular LOS at Signalized Intersections

The criteria for a project's impact to traffic operations at signalized intersections are summarized in Table B-1 below. These criteria are evaluated for each signalized study-area intersection and presented in Tables B-2.

Table B-1
Criterion: Vehicular Level of Service

Existing	With Project
VLOS A	VLOS C
VLOS B, C	VLOS D
VLOS D	VLOS D or 7% roadway volume increase
VLOS E	7% roadway volume increase
VLOS F	5% roadway volume increase

Table B-2
Vehicular Level of Service

Intersection	AM Peak Hour				PM Peak Hour			
	Existing Condition	Build Condition	Traffic Increase	Exceeds Criterion?	Existing Condition	Build Condition	Traffic Increase	Exceeds Criterion?
Broadway / Galileo Galilei Way	E	F	0.4%	N	E	E	0.5%	N
Main Street / Galileo Galilei Way / Vassar Street	C	C	1.0%	N	C	C	1.3%	N
Main Street / Ames Street	C	C	0.9%	N	C	C	-1.1%	N
Broadway / Ames Street	C	C	0.2%	N	D	D	-0.5%	N
Broadway / Third Street	E	E	1.1%	N	E	E	1.7%	N

Project-induced vehicle level-of-service criteria are not exceeded for any intersection.

Criterion C – Traffic on Residential Streets

This criterion considers the increase of traffic on residential streets generated by the proposed project. The threshold for this criterion is dependent on the existing street volume and the amount of residential land use frontage. None of the study-area roadways analyzed have first floor residential frontage comprising more than 1/3 of the total street frontage. Accordingly none of the segments exceed the criteria of vehicles on residential streets.



Criterion D – Lane Queue

The criteria for a project's impact to queues at signalized intersections are summarized in Table D-1 below. These criteria are evaluated for each lane group at study-area signalized intersections and presented in Table D-2.

Table D-1

Criterion: Vehicular Queues at Signalized Intersections

Existing	With Project
Under 15 vehicles	Under 15 vehicles, or 15+ vehicles with an increase of 6 vehicles
15 or more vehicles	Increase of 6 vehicles

Table D-2: Length of Vehicle Queues at Signalized Intersections

Intersection	Approach	AM Peak Hour			PM Peak Hour		
		Existing	Build	Exceeds Criterion?	Existing	Build	Exceeds Criterion?
Broadway / Galileo Galilei Way (Signalized)	EBL	3	4	N	5	5	N
	EBT	6	6	N	7	7	N
	WBL	4	4	N	6	6	N
	WBT	6	6	N	8	8	N
	NBL	2	2	N	4	4	N
	NBT	3	3	N	7	7	N
	SBL	4	4	N	3	3	N
	SBT	11	11	N	7	7	N
Main Street / Galileo Galilei Way (Signalized)	SBR	6	7	N	5	5	N
	EBL	2	2	N	6	6	N
	EBT	3	4	N	4	5	N
	WBL	2	3	N	2	2	N
	WBT	5	4	N	3	3	N
	NBT	4	4	N	6	7	N
	SBL	1	1	N	1	1	N
	SBT	5	6	N	8	8	N
Main Street / Ames Street (Signalized)	SBR	4	5	N	6	6	N
	EBT	6	6	N	9	9	N
	WBT	2	2	N	2	3	N
	NBT	6	6	N	6	6	N
	SBT	2	2	N	5	4	N
Broadway / Ames Street (Signalized)	SBR	3	3	N	4	3	N
	EBT	7	3	N	8	8	N
	WBL	3	2	N	3	3	N
	WBT	12	11	N	14	15	N
	NBL	3	3	N	3	4	N
Broadway / Third Street (Signalized)	NBR	1	1	N	1	1	N
	EBL	6	6	N	7	7	N
	EBT	2	2	N	7	8	N
	WBT	15	15	N	8	9	N
	SBL	4	n/a	N	12	n/a	N
	SBT	n/a	5	N	n/a	14	N
	SBR	4	3	N	4	3	N



While some increases in vehicle queuing at study intersections will result from the additional trips generated by the proposed project under the Build analysis, the lane queue criterion is not exceeded in any instance.

Criterion E – Pedestrian and Bicycle Facilities

The pedestrian and bicycle criterion has the following three components:

a. Pedestrian Delay

Pedestrian delay is a measure of the pedestrian crossing delay on a crosswalk during the peak hour as determined by the pedestrian level of service analysis in the HCM 2000.

Table E-1 presents the indicators for this criterion. **Table E-2** presents the evaluation of PLOS criteria for each crosswalk at study area intersections under Existing 2011 and Build 2011 conditions.

Table E- 1
Criterion: Pedestrian Level-of-Service Indicators

Existing	With Project
PLOS A	PLOS A
PLOS B	PLOS B
PLOS C	PLOS C
PLOS D	PLOS D or increase of 3 seconds
PLOS E, F	PLOS D



Table E-2
Pedestrian Level-of-Service Summary

Intersection	Crosswalk	AM Peak Hour			PM Peak Hour		
		Existing 2014	Build 2014	Exceed Criterion?	Existing 2014	Build 2014	Exceeds Criterion?
Galileo Galilei Way at Broadway	East	D	D	N	D	D	N
	West	D	D	N	D	D	N
	North	D	D	N	D	D	N
	South	D	D	N	D	D	N
Vassar Street at Main Street	East	C	C	N	C	C	N
	West	C	C	N	C	C	N
	North	C	C	N	B	B	N
	South	C	C	N	B	B	N
Ames Street at Main Street	East	D	D	N	D	D	N
	West	D	D	N	D	D	N
	North	C	C	N	C	C	N
	South	C	C	N	C	C	N
Ames Street at Broadway	East	D	D	N	D	D	N
	West	D	D	N	D	D	N
	South	C	C	N	C	C	N
Third Street at Broadway	East	D	D	N	D	D	N
	West	D	D	N	D	D	N
	North	C	C	N	C	C	N

The PLOS criteria are not exceeded during the AM and PM peak hours under Build conditions.

b. Safe Pedestrian Facilities

The project site is well connected to existing pedestrian sidewalks along surrounding streets providing access to the proposed development. The new proposed alleyway, shown in **Figure D**, will accommodate pedestrians and provide a cut-through to Main Street.

Within the project site, pedestrian facilities will be designed to meet appropriate safety and accessibility standards.

c. Safe Bicycle Facilities

As shown in **Figure 12**, the area around the project is well-served by several multi-use/bicycle paths and bicycle lanes. Multi-use/bicycle paths are distinguished by their physical separation from vehicular traffic and by the various types of modes that utilize them. Bike lanes are located on all the study area roadways within the study area. A protected cycle track is planned on the northbound side of Galileo Galilei Way within the study area. The City of



Cambridge has proposed a two way cycle track with the redesign of Ames Street to one lane in each direction between Main Street and Broadway. The Proponent will work with the City to determine the best design for Ames Street as the Project progresses.

Currently there is no bicycle parking accommodations on the project site. The proposed residential development will include 1.05 bicycle space for every residential unit (294 spaces) and 0.1 bicycle spaces per 1,000 sf of retail (2 spaces) to be located within two bike storage rooms, one located within the building and one located on the ground floor of the parking garage. Short term bicycle parking (38 spaces) will be provided in the vicinity of the residential lobby and retail entrances.

Table E-3 summarizes the presence of pedestrian and bicycle facilities for all street adjacent to the Project site.

Table E-3
Pedestrian and Bicycle Facilities

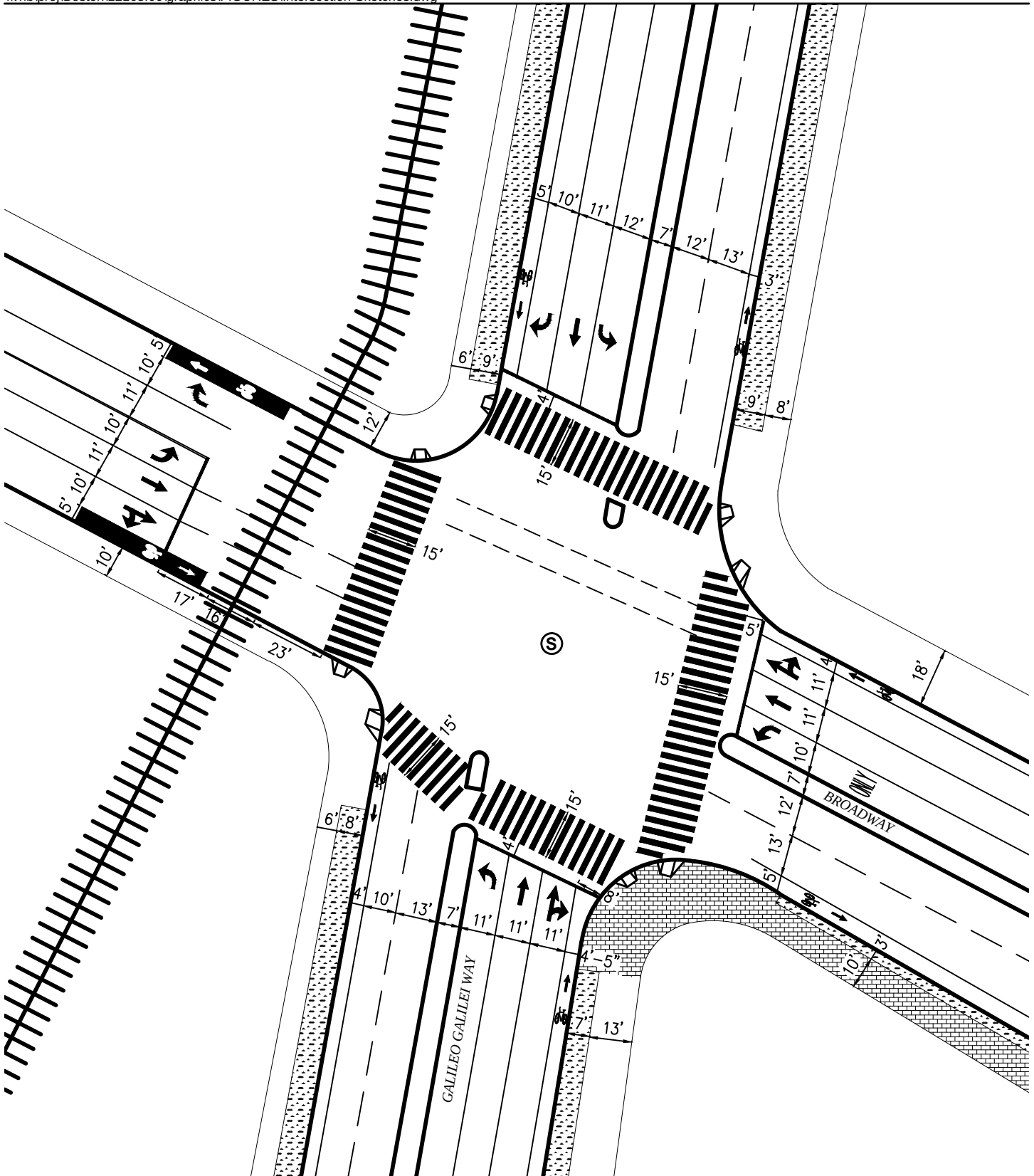
Adjacent Street	Link (between)	Sidewalks or Walkways Present?	Exceeds Criteria	Bicycle Facilities or Right of Ways Present?	Exceeds Criteria
Ames Street	Main Street and Broadway	Y	N	Y	N
Broadway	Ames Street and Third Street	Y	N	Y	N



TIS Figures



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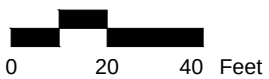


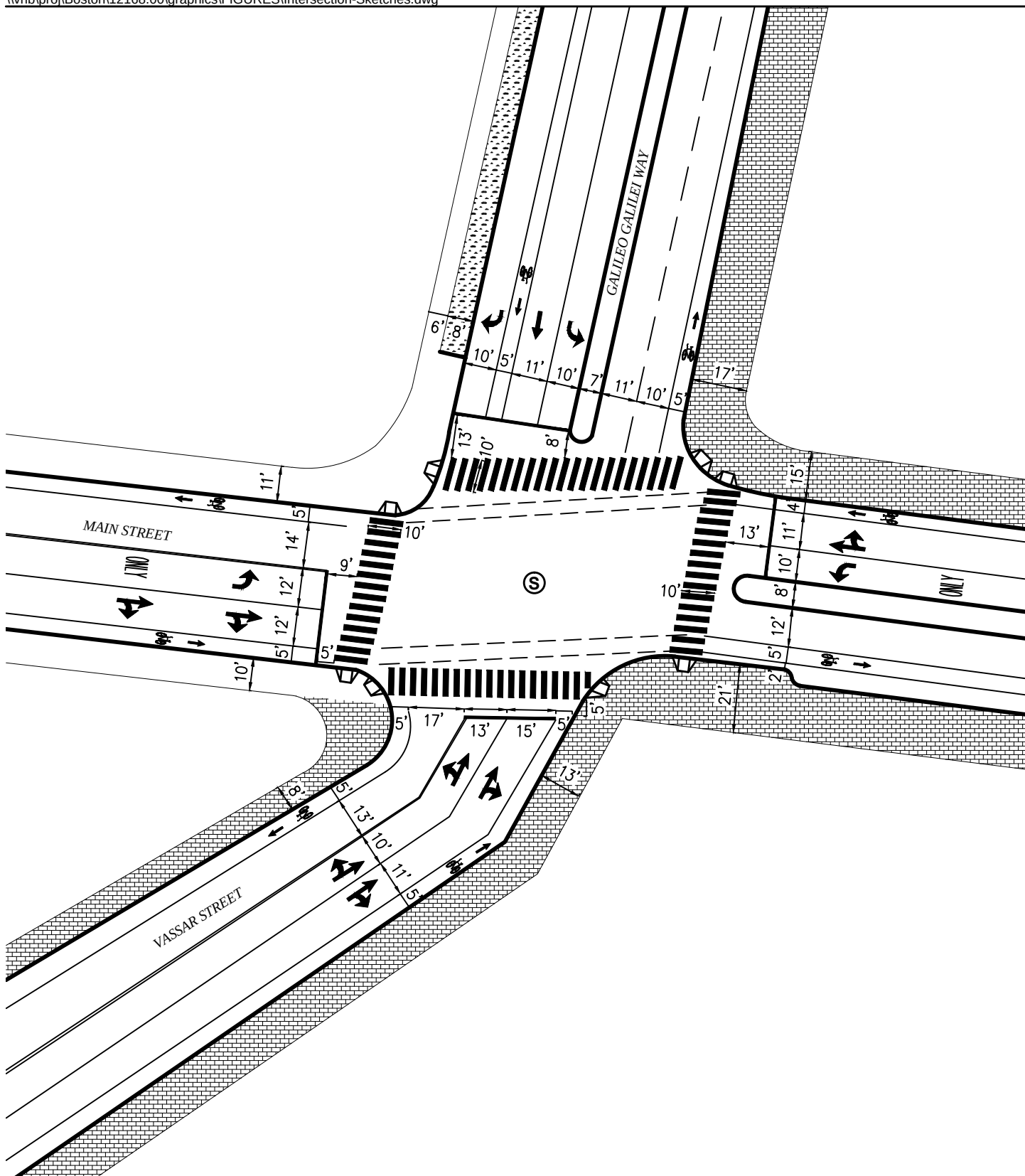
Vanasse Hangen Brustlin, Inc.

Existing Condition Intersection Geometry
Broadway at Galileo Galilei Way

Figure 1.b.1

Ames Street Residences
Kendall Square, Cambridge MA

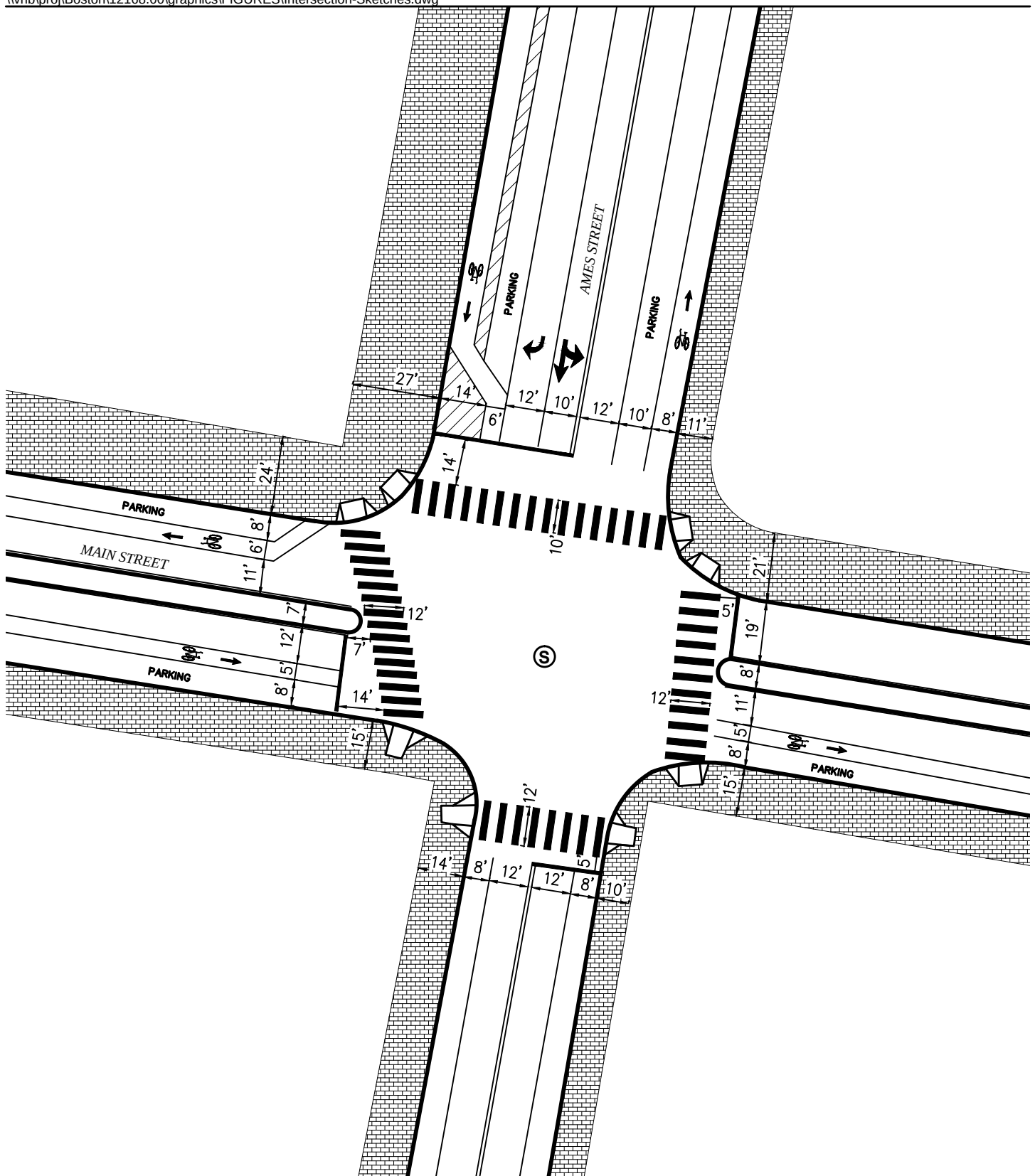




Vanasse Hangen Brustlin, Inc.

Existing Condition Intersection Geometry Figure 1.b.2
Main Street at Galileo Galilei Way/Vassar Street

Ames Street Residences
Kendall Square, Cambridge MA



Vanasse Hangen Brustlin, Inc.

Existing Condition Intersection Geometry
Main Street at Ames Street

Figure 1.b.3

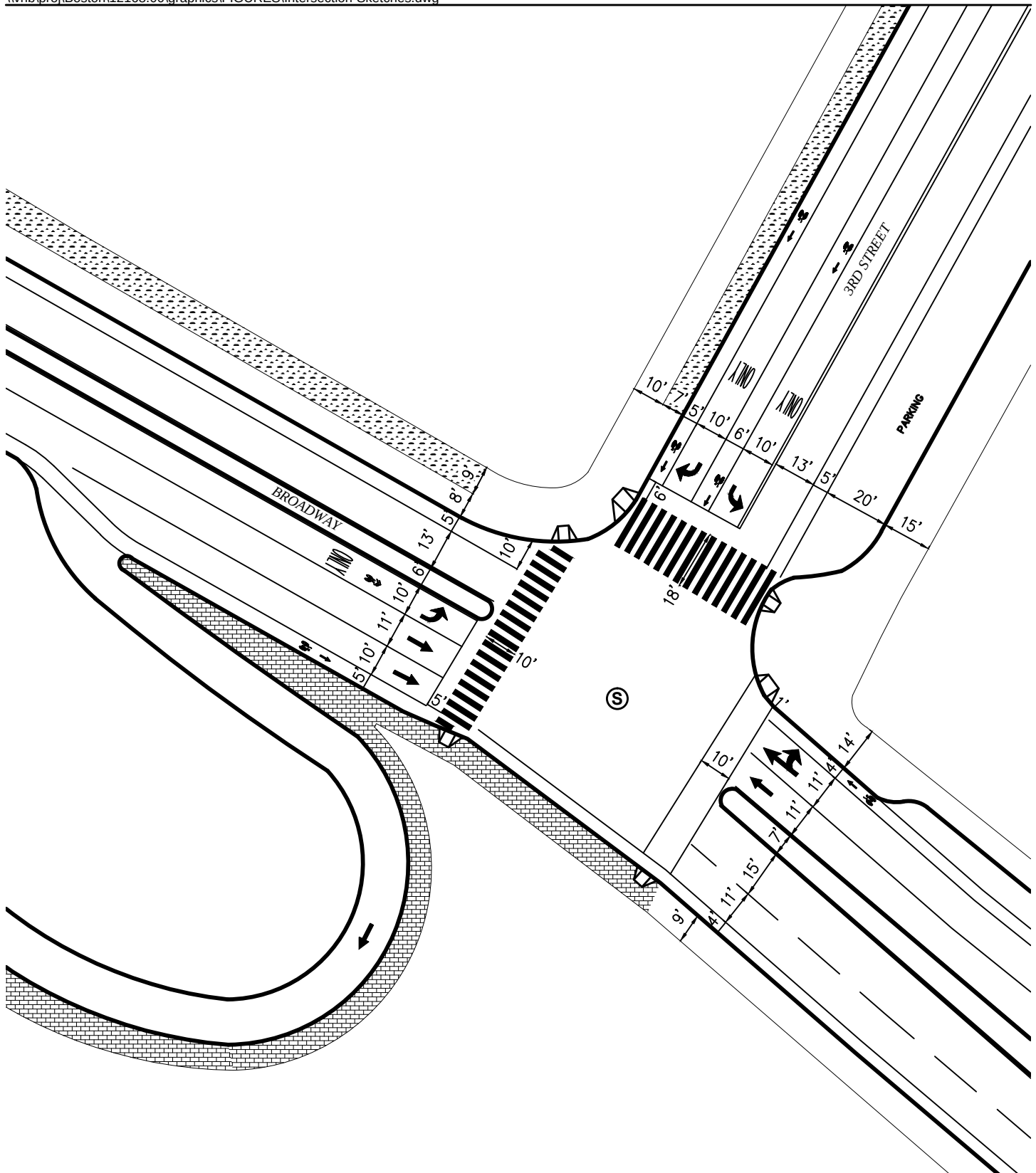


Ames Street Residences
Kendall Square, Cambridge MA



Figure 1.b.4

Ames Street Residences
Kendall Square, Cambridge MA

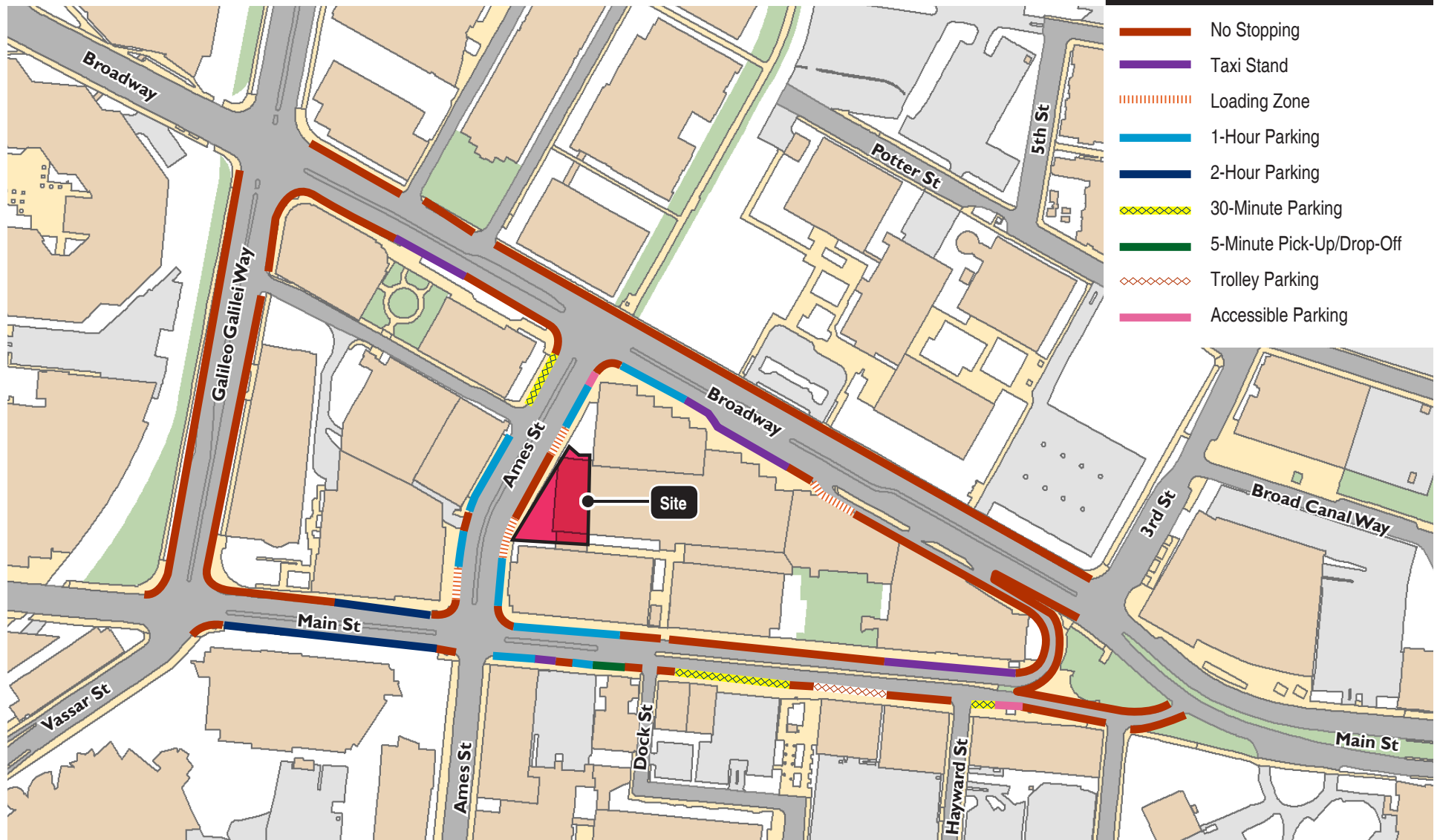


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Existing Condition Intersection Geometry
Broadway at Third Street

Figure 1.b.5

Ames Street Residences
Kendall Square, Cambridge MA



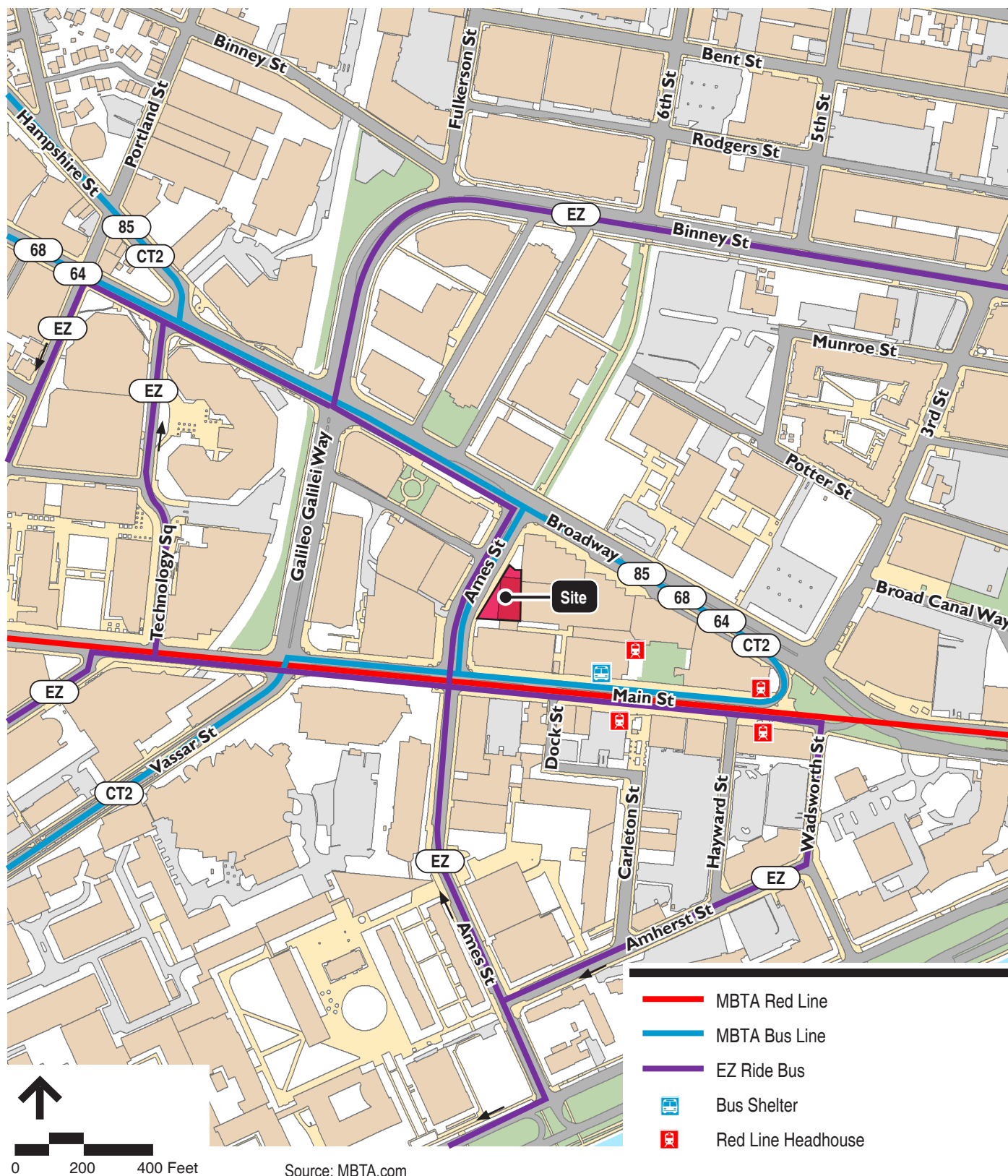
Source: City of Cambridge GIS

Vanasse Hangen Brustlin, Inc.

Figure 1.c

Existing On-Street Parking Regulations

Ames Street Residences
Kendall Square, Cambridge, MA

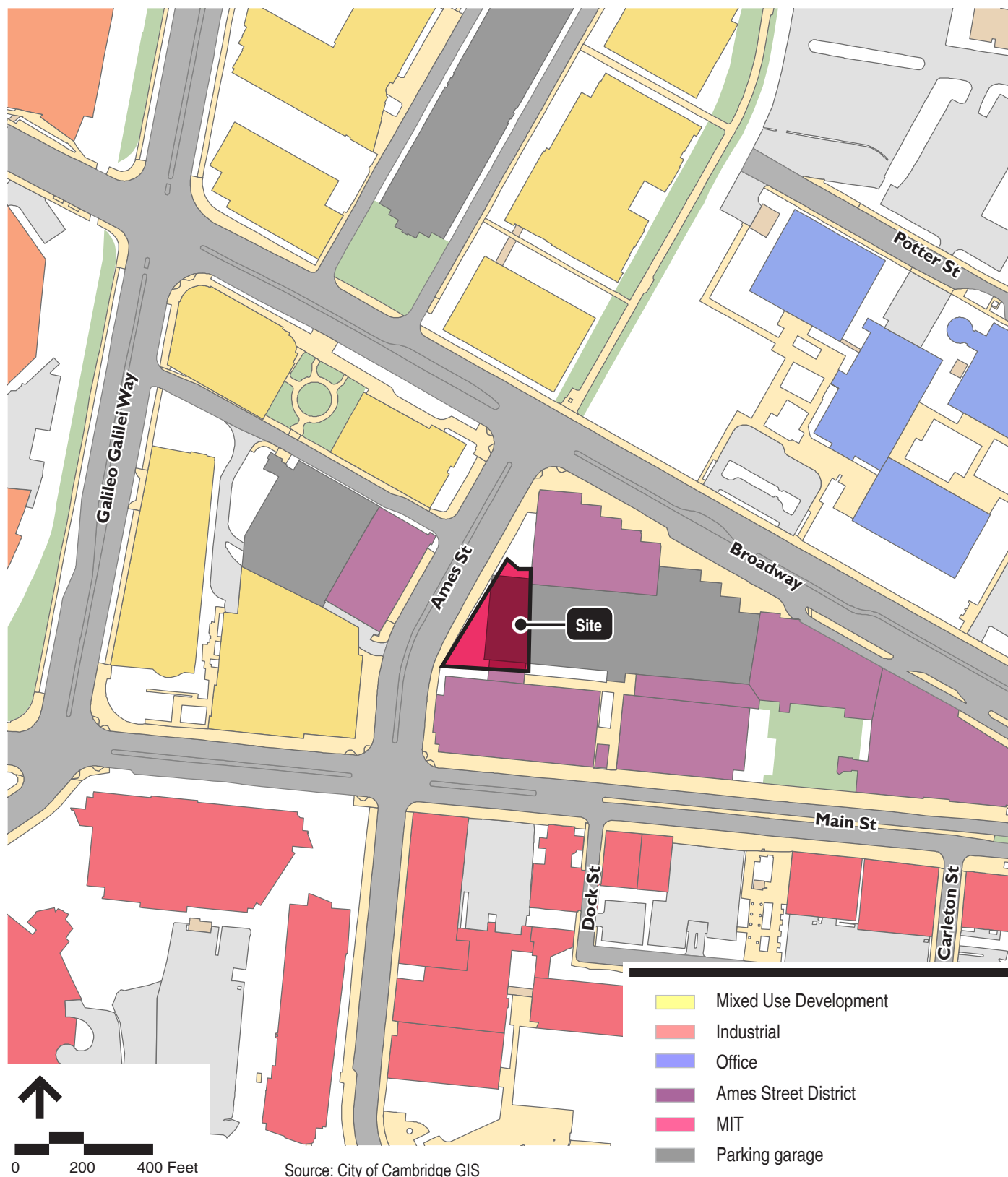


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Public Transit Service

Figure 1.d

Ames Street Residences
Kendall Square, Cambridge, MA

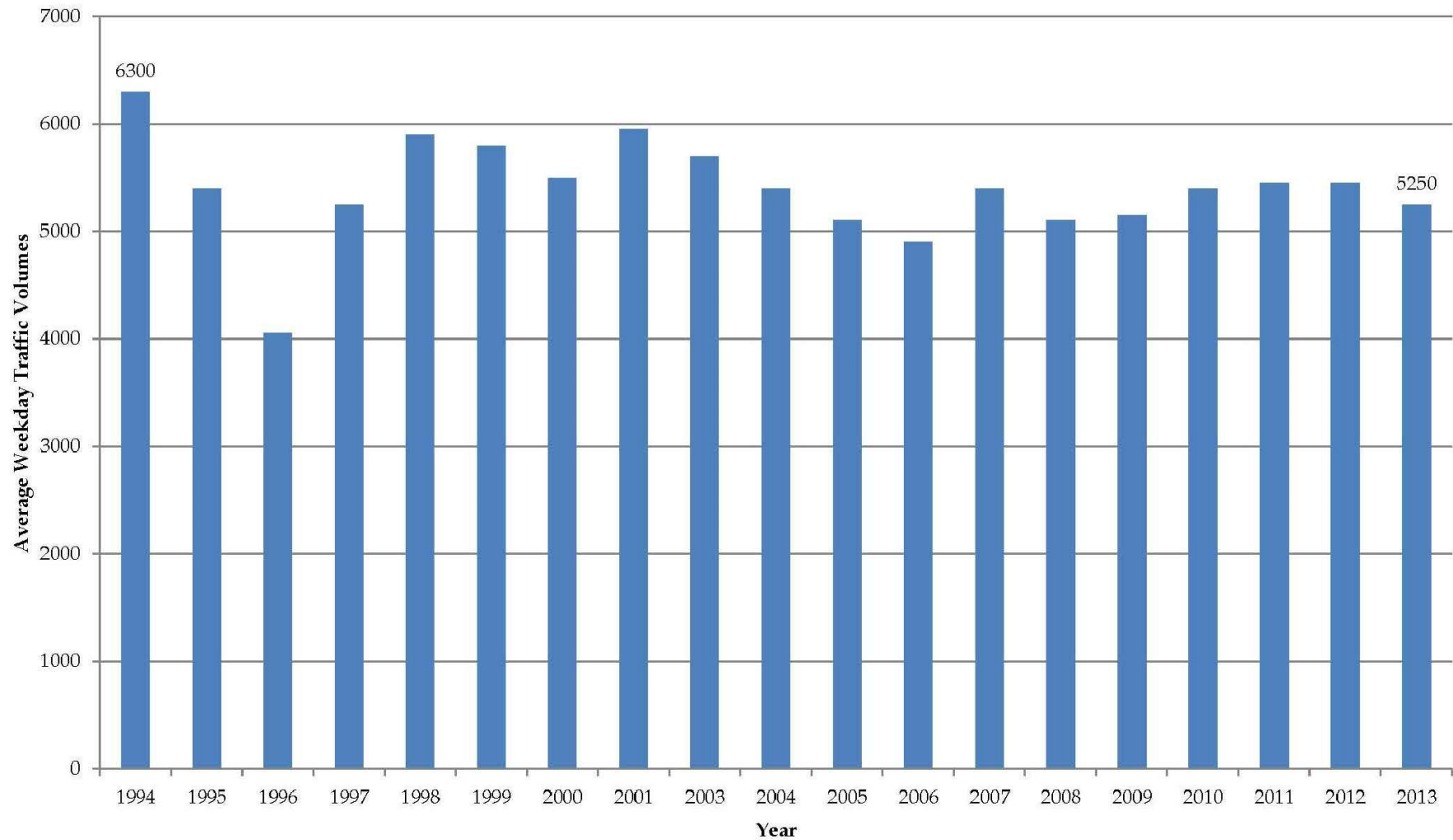


Land Use

Figure 1.e

Ames Street Residences
Kendall Square, Cambridge, MA

Figure 2.b.1
Main Street, near MBTA station



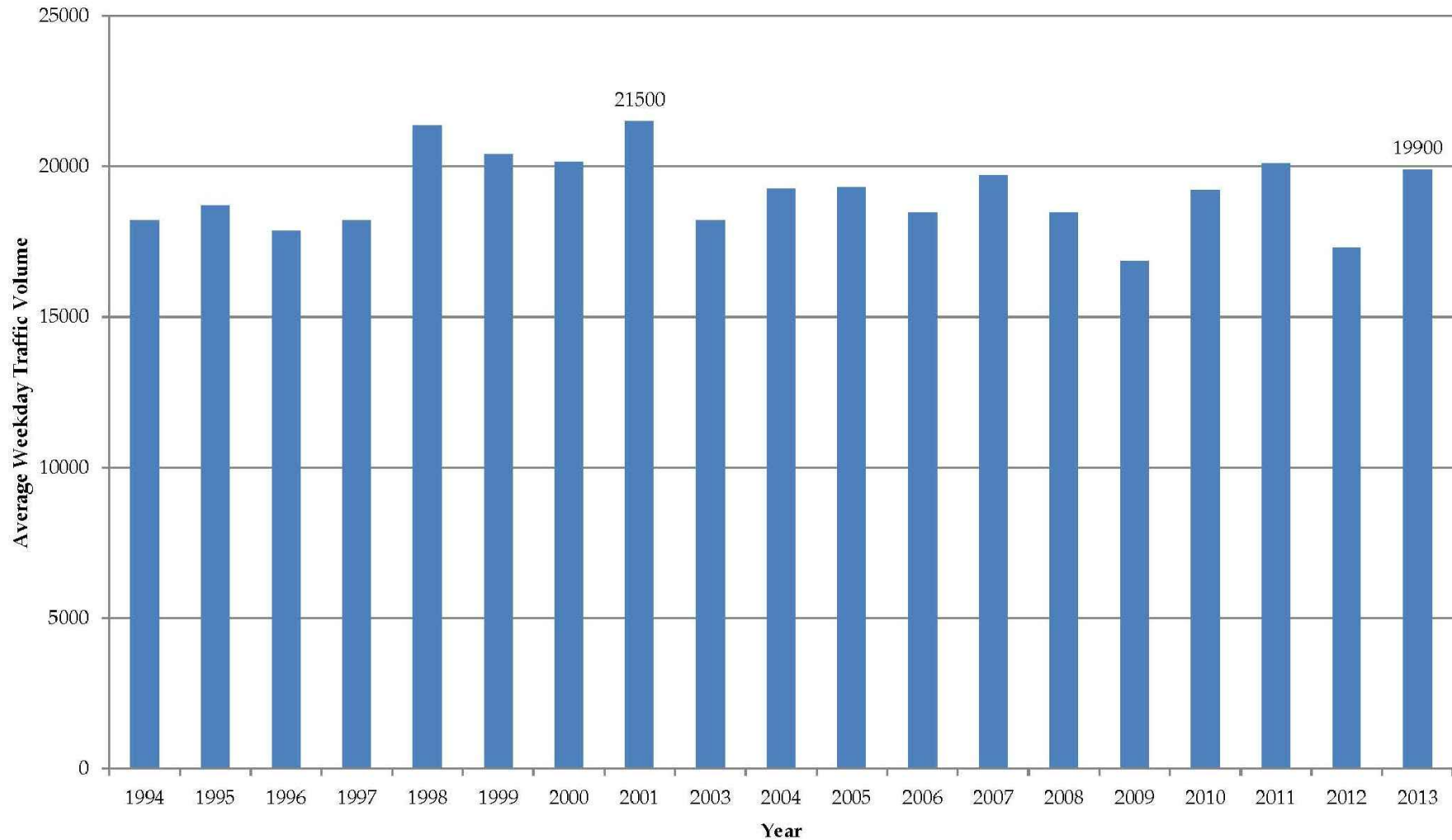
Source: Kendall Square Urban Renewal 2013 Traffic Count Program and Trip Generation Analysis, Table 1

Vanasse Hangen Brustlin, Inc.

Figure 2.b.1
Main Street (near MBTA station)

Ames Street Residences
Kendall Square, Cambridge MA

Figure 2.b.2
Broadway, east of mid-block



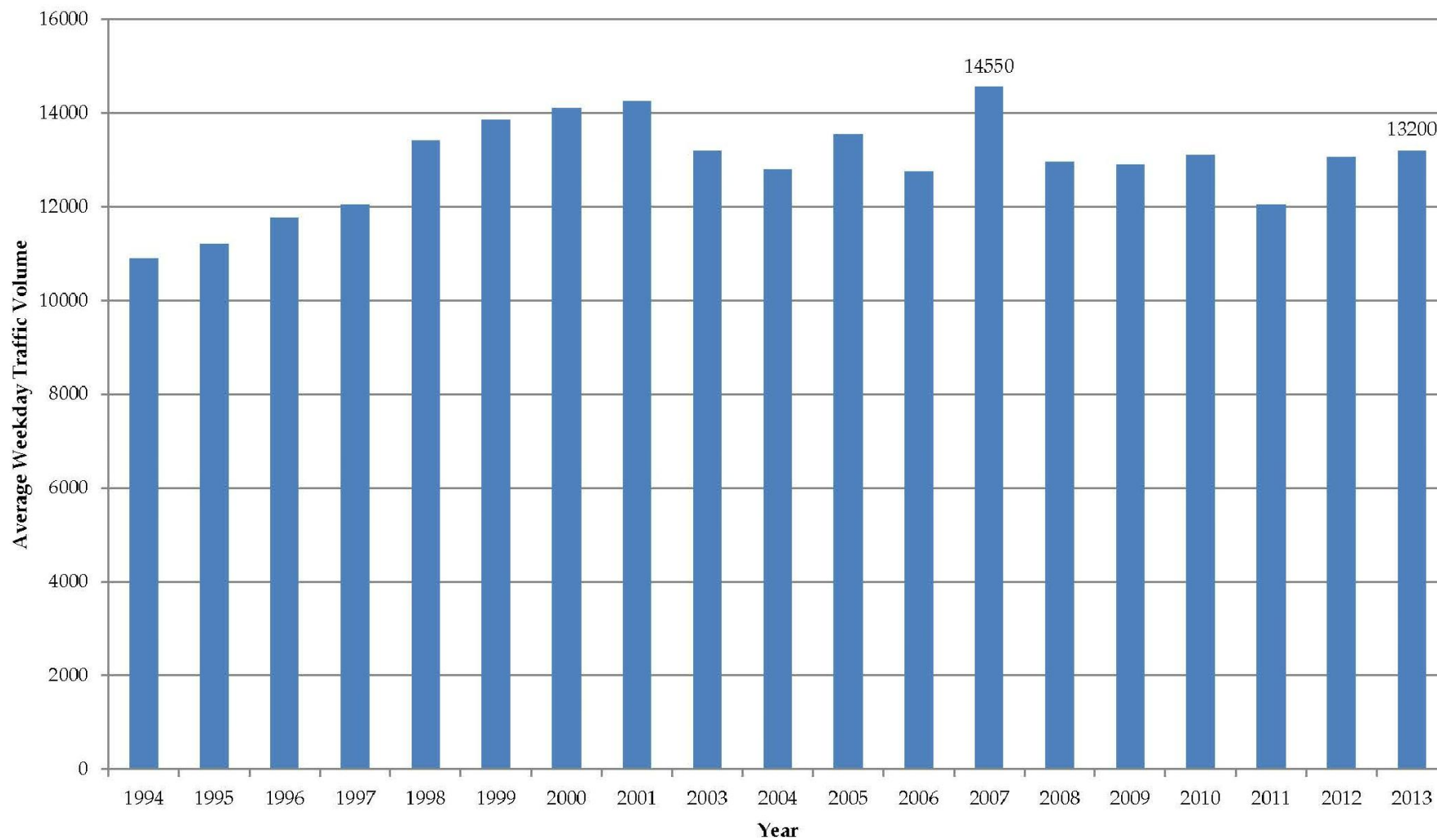
Source: Kendall Square Urban Renewal 2013 Traffic Count Program and Trip Generation Analysis, Table 1

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Figure 2.b.2
Broadway (east of mid-block)

Ames Street Residences
Kendall Square, Cambridge MA

Figure 2.b.3
Binney Street, west of Third Street



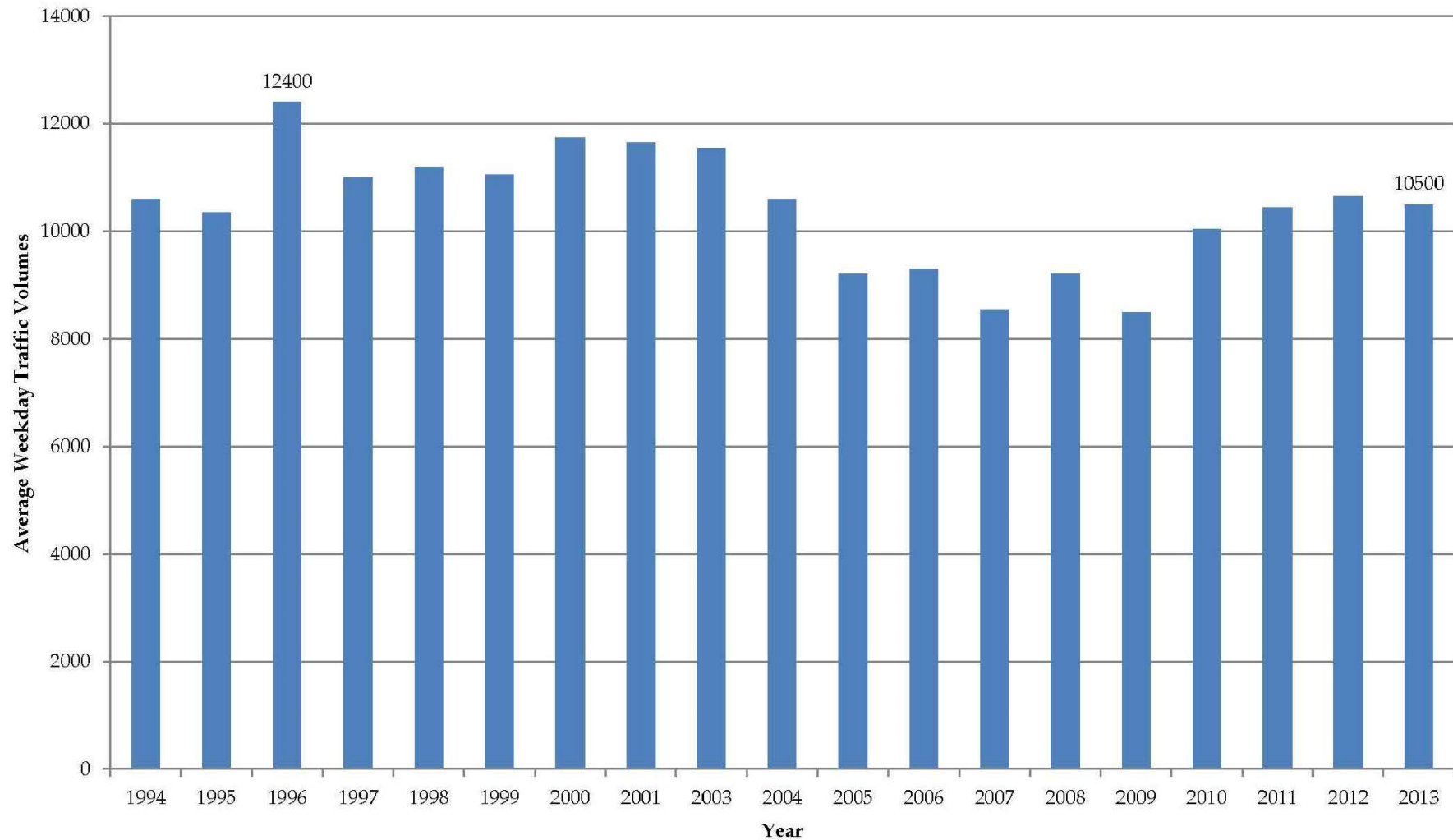
Source: Kendall Square Urban Renewal 2013 Traffic Count Program and Trip Generation Analysis, Table 1

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Figure 2.b.3
Binney Street (west of Third Street)

Ames Street Residences
Kendall Square, Cambridge MA

Figure 2.b.4
Third Street, north of Broadway



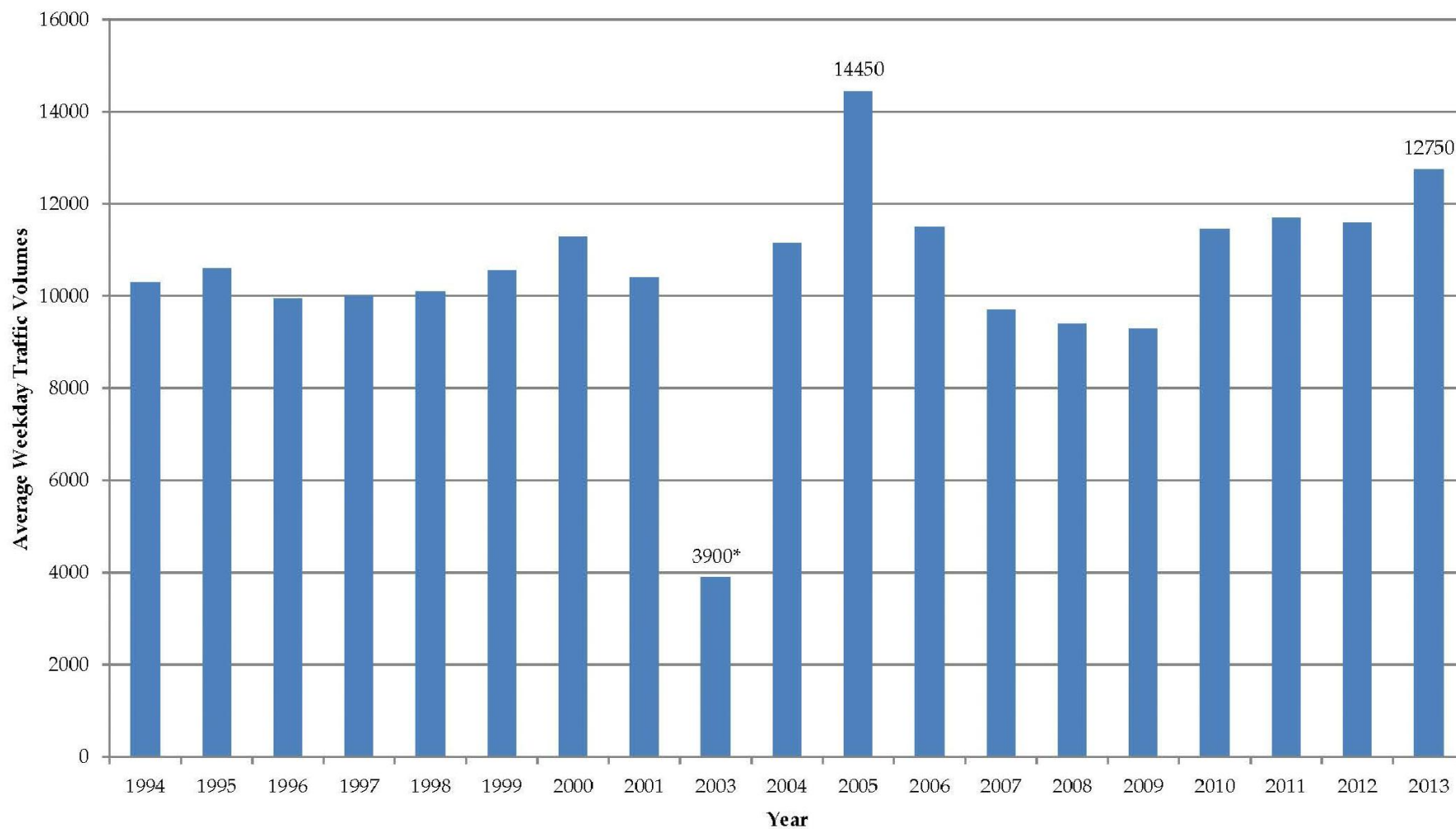
Vanasse Hangen Brustlin, Inc.

Source: Kendall Square Urban Renewal 2013 Traffic Count Program and Trip Generation Analysis, Table 1

Figure 2.b.4
Third Street (north of Broadway)

Ames Street Residences
Kendall Square, Cambridge MA

Figure 2.b.5
Vassar Street, west of Main Street



Vanasse Hangen Brustlin, Inc.

Source: Kendall Square Urban Renewal 2013 Traffic Count Program and Trip Generation Analysis, Table 1

Figure 2.b.5
Vassar Street (west of Main Street)

Ames Street Residences
Kendall Square, Cambridge MA

*Roadway under reconstruction during 2003 count program; count represents 1-way traffic



Note: Vehicle Traffic Counts conducted on 10/26/2010 grown by 0.5% to 2014 volumes



Vanasse Hangen Brustlin, Inc.

2014 Existing Condition
Traffic Volumes
AM Peak Hour (8:15 - 9:15 AM)

Figure 2.c.1

Ames Street Residences
Kendall Square, Cambridge MA



Note: Vehicle Traffic Counts conducted on 10/26/2010 grown by 0.5% to 2014 volumes

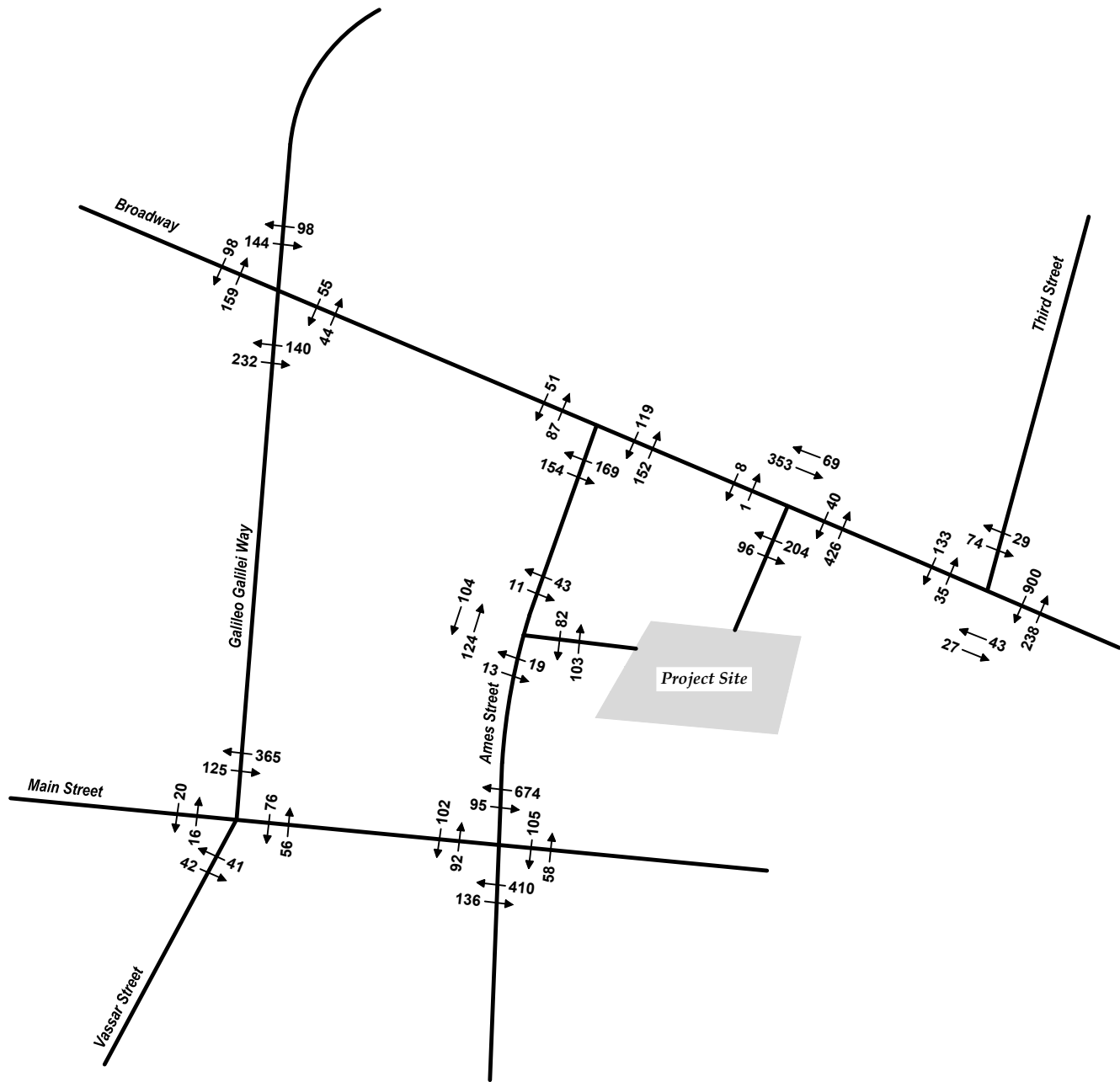


Vanasse Hangen Brustlin, Inc.

2014 Existing Condition
Traffic Volumes
PM Peak Hour (5:00 - 6:00 PM)

Figure 2.c.2

Ames Street Residences
Kendall Square, Cambridge MA



Note: Pedestrian Counts conducted on 4/9/2014

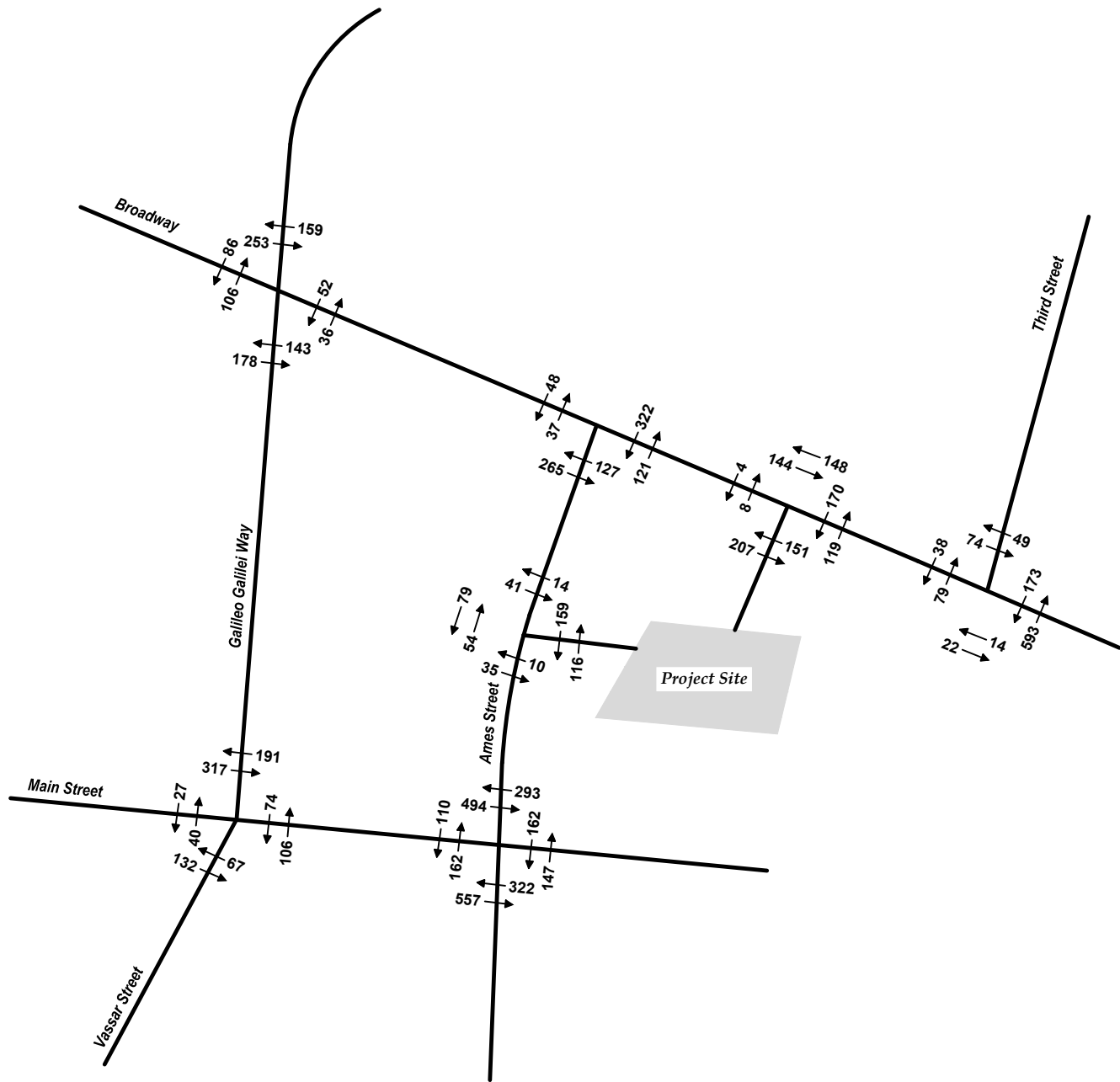


Vanasse Hangen Brustlin, Inc.

2014 Existing Condition
Pedestrian Volumes
AM Peak Hour (8:15 - 9:15 AM)

Figure 2.c.3

Ames Street Residences
Kendall Square, Cambridge MA



Note: Pedestrian Counts conducted on 4/9/2014

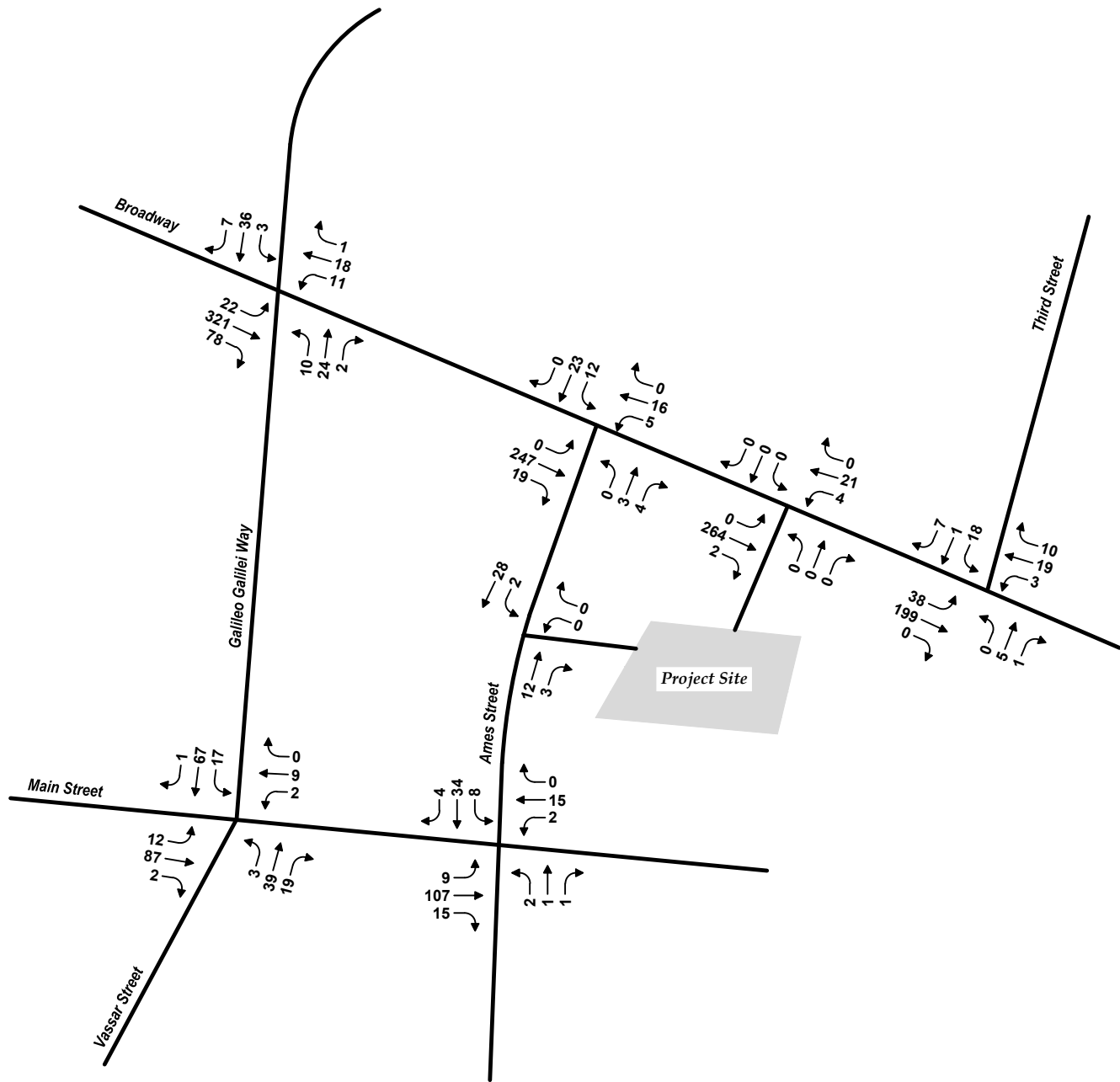


Vanasse Hangen Brustlin, Inc.

2014 Existing Condition
Pedestrian Volumes
PM Peak Hour (5:00 - 6:00 PM)

Figure 2.c.4

Ames Street Residences
Kendall Square, Cambridge MA



Note: Bicycle Counts conducted on 4/9/2014

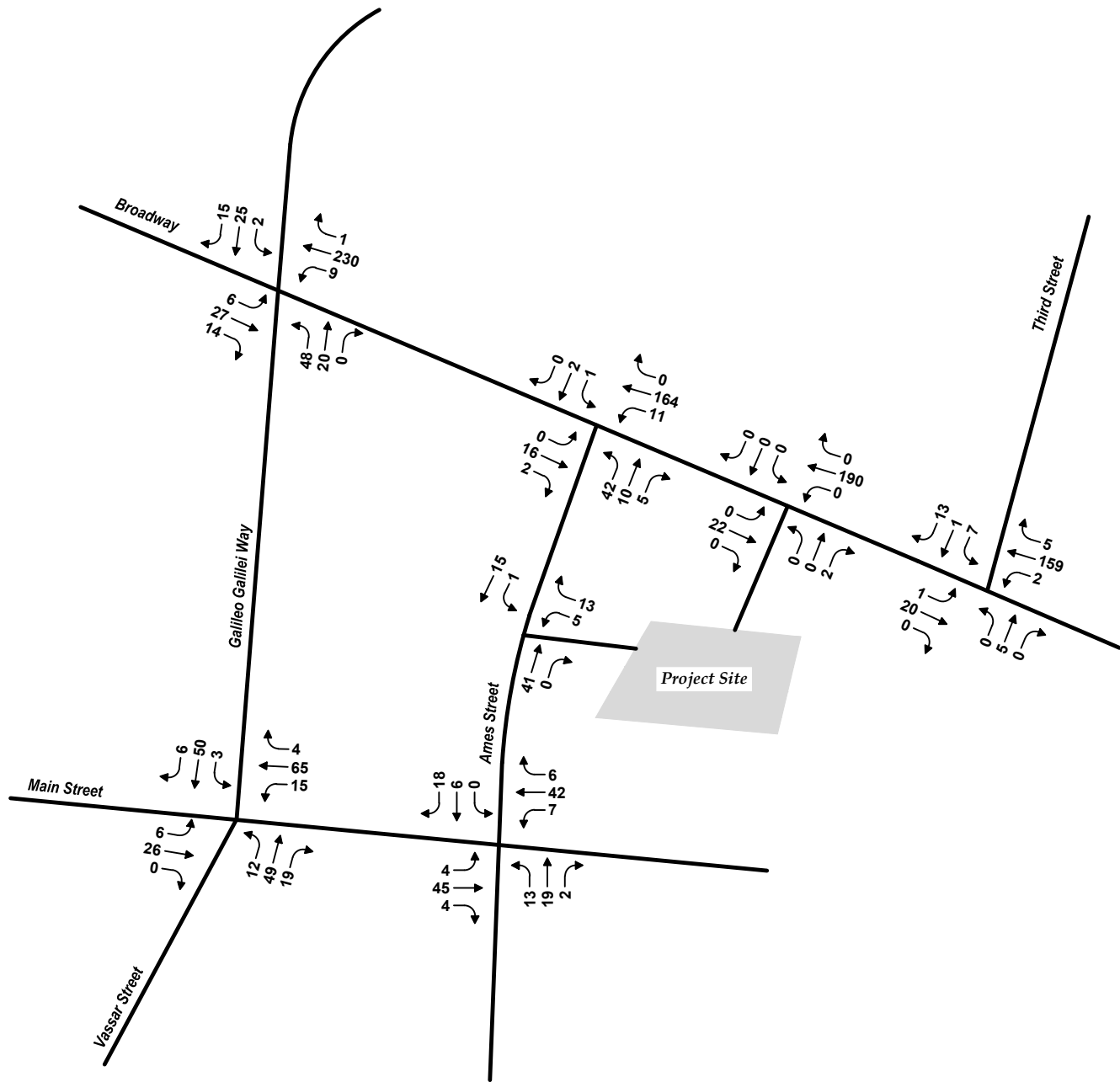


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2014 Existing Condition
Bicycle Volumes
AM Peak Hour (8:15 - 9:15 AM)

Figure 2.c.5

Ames Street Residences
Kendall Square, Cambridge MA



Note: Bicycle Counts conducted on 4/9/2014

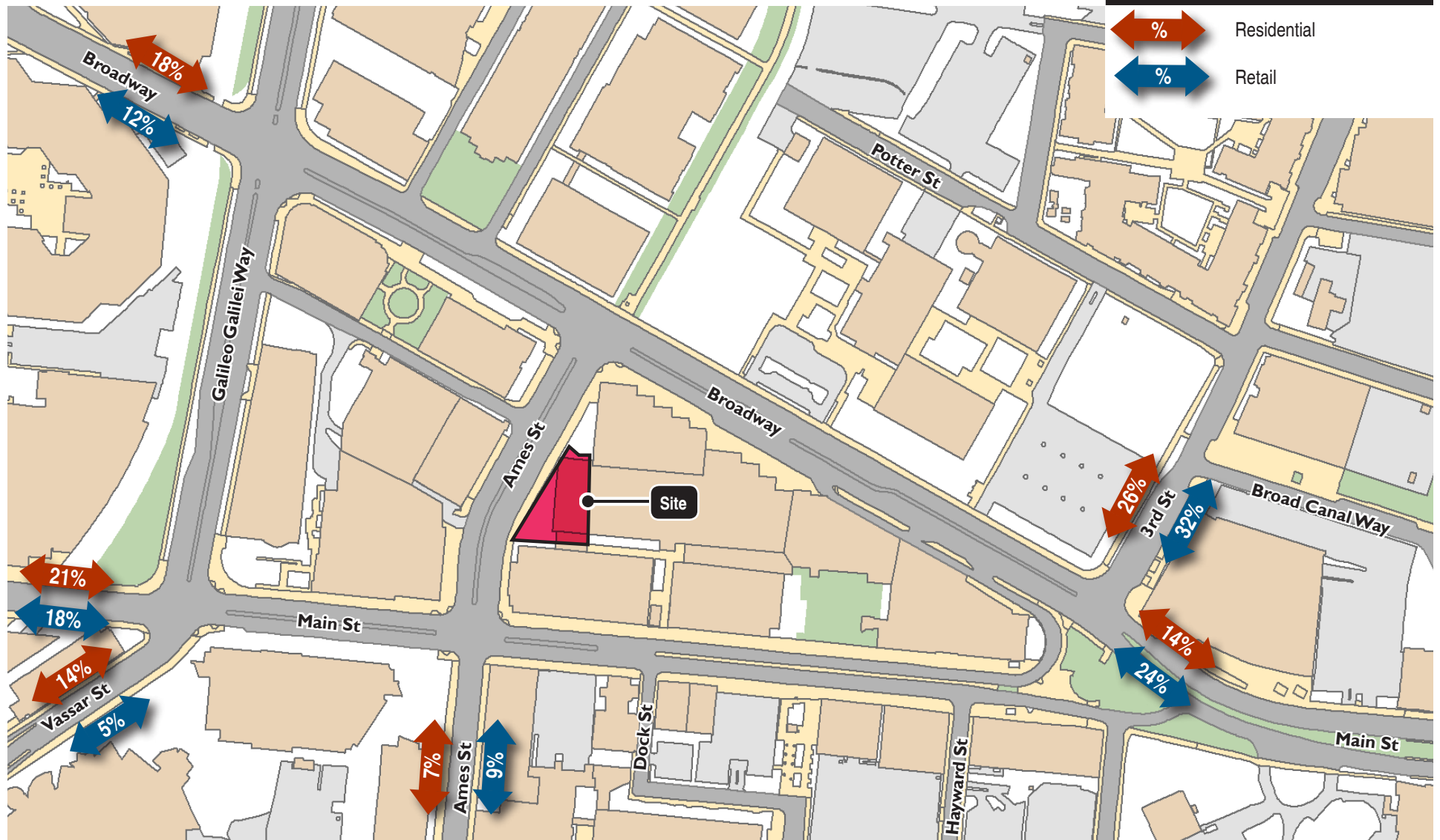


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2014 Existing Condition
Bicycle Volumes
PM Peak Hour (5:00 - 6:00 PM)

Figure 2.c.6

Ames Street Residences
Kendall Square, Cambridge MA



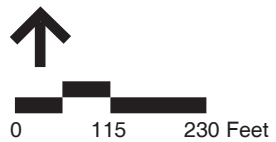
Source: City of Cambridge GIS

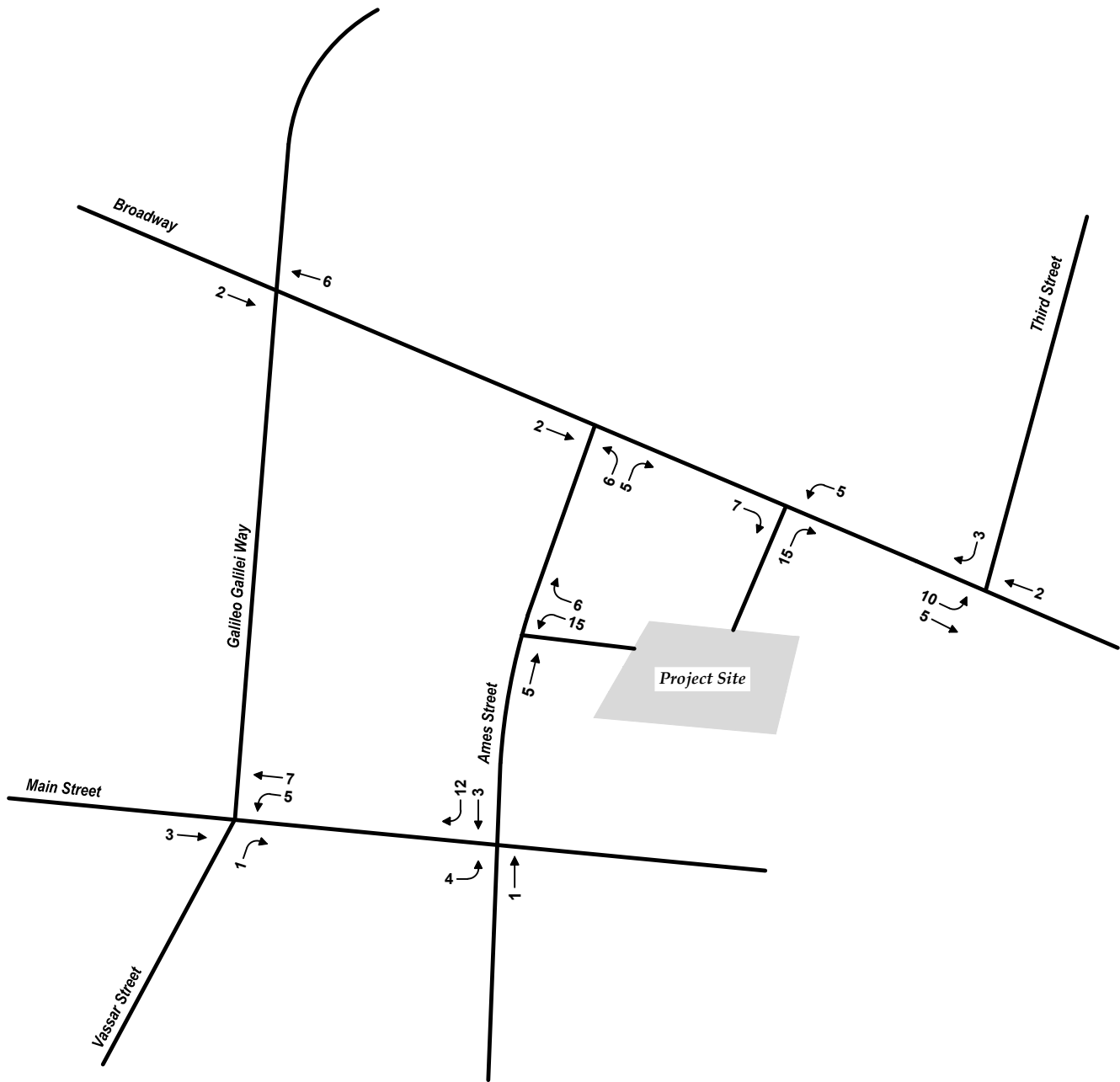
Vanasse Hangen Brustlin, Inc.

Figure 3.d.1

Trip Distribution

Ames Street Residences
Kendall Square, Cambridge, MA





Project Generated Trips
Traffic Volumes
AM Peak Hour (8:15 - 9:15 AM)

Ames Street Residences
Kendall Square, Cambridge MA

Figure 3.d.2



Vanasse Hangen Brustlin, Inc.

Project Generated Trips
Traffic Volumes
PM Peak Hour (5:00 - 6:00 PM)

Figure 3.d.3

Ames Street Residences
Kendall Square, Cambridge MA



Vanasse Hangen Brustlin, Inc.

2014 Build Condition
Traffic Volumes
AM Peak Hour (8:15 - 9:15 AM)

Figure 5.b.1

Ames Street Residences
Kendall Square, Cambridge MA



Vanasse Hangen Brustlin, Inc.

2014 Build Condition
Traffic Volumes
PM Peak Hour (5:00 - 6:00 PM)

Figure 5.b.2

Ames Street Residences
Kendall Square, Cambridge MA



Vanasse Hangen Brustlin, Inc.

2019 Future Condition
 Traffic Volumes
 AM Peak Hour (8:15 - 9:15 AM)

Figure 5.d.1

Ames Street Residences
 Kendall Square, Cambridge MA



Vanasse Hangen Brustlin, Inc.

Figure 5.d.2

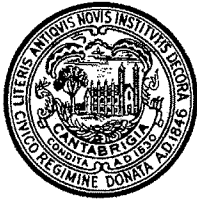


Bicycle Facilities

Figure 12

Ames Street Residences
Kendall Square, Cambridge, MA

Ames Street Residences
Transportation Impact Study
Technical Appendix
Scoping Letter



CITY OF CAMBRIDGE
Traffic, Parking and Transportation
344 Broadway
Cambridge, Massachusetts 02139

www.cambridgema.gov/traffic

Susan E. Clippinger, Director
Brad Gerratt, Deputy Director

Phone: (617) 349-4700
Fax: (617) 349-4747

April 14, 2014

Mr. Sean M. Manning
Vanasse Hangen Brustlin, Inc.
99 High Street, 10th Floor
Boston, MA 02110-2354

RE: Ames Street Residential Project

Dear Sean,

We have received your March 20, 2014 request for a Transportation Impact Study (TIS) scope for the proposed Ames Street Residences (280 units) by Boston Properties. Based on staff review, the scope for this study is approved as follows:

- The TIS shall comply with the Cambridge Traffic, Parking and Transportation Department's TIS Guidelines.
- Provide site plans of existing and proposed conditions. Include sidewalks on both sides of Ames Street.
- Although there is ongoing construction of the Longfellow Bridge, you should collect peak hour turning movement counts (TMC) for vehicles, bicycles, and pedestrians at the following study area intersections and compare to counts conducted in 2010 prior to the Longfellow Bridge construction. We will work with you to determine what data should be used for the TIS 2014 existing conditions.
 1. Ames Street at Broadway
 2. Ames Street at Main Street
 3. Broadway at Third Street
 4. Main Street at Vassar Street Galileo Galilei Way
 5. Broadway at Galileo Galilei Way
 6. Ames Street at Cambridge Center East Garage
 7. Broadway at Cambridge Center East Garage
- The TIS should use the existing Average Weekday Traffic Volumes in the Kendall Square Urban Renewal 2013 Traffic Count Program and Trip Generation Analysis, Table 1. Show the data should in a chart from 1994 to May 2013 for each of the five locations including:
 1. Main Street, near MBTA station
 2. Broadway, east of mid-block
 3. Binney Street, west of Third Street
 4. Third Street, north of Broadway
 5. Vassar Street, west of Main Street
- As proposed in your scoping letter, you may use the ATR counts on Ames Street, north of Main Street, from the Kendall Square study conducted in October 2010.

- As proposed in your scoping letter, you may use the existing AM, PM and Saturday Midday bicycle counts conducted in May 2013 from the Kendall Square Urban Renewal Area 2013 Traffic Count Program and Trip Generation Analysis at the following locations:
 - A. Main Street between Ames Street and Hayward Street
 - B. Broadway between Ames Street and Third Street
- As proposed in your scoping letter, you may use the ITE Land Use Code 220 (Apartments) and Shopping Center (LUC 820) for trip generation. You may also use the national Average Vehicle Occupancy (AVO) rates of 1.13 residential and 1.78 for retail, and a local AVO rate of 1.26 and 1.20 respectively. Document the AVO sources in the Appendix.
- As proposed in your scoping letter, you may use the enhanced transportation demand management (TDM) mode splits for residential and retail trips based on the Kendall Square Planning Study (K2C2 Planning Study). The TIS should also indicate what enhanced TDM measures are proposed to be implemented to achieve the vehicle mode shares.

Land Use	Vehicle	Transit	Walk	Bike	Other
Residential	32%	30%	25%	10%	3%
Retail	31%	30%	29%	8%	2%

Source: Enhanced TDM mode shares from the 2010-2013 City of Cambridge Kendall Square-Central Square Planning Study.

- The TIS should compare AM and PM peak hour ITE trip rates with actual observed rates at a comparable residential building in the area. The location should be approved by TP&T.
- You may use the trip distribution from your scoping request letter, however, for residential use, Ames Street and Wadsworth Street should have 7% exiting from Ames Street to Memorial Drive and 7% arriving from Wadsworth. For Retail use 9% exiting Ames Street to Memorial Drive and 9% entering from Wadsworth Street.
- As you proposed in your scoping request letter, the 5-year future condition traffic analysis shall include a general background growth rate of 0.5% per year.
- The 5-year future network should include other projects identified for the area and approved by TP&T. The Build and 5-year future conditions should include the Broadway/Third Street intersection which includes the Third Street to Main Street connection.
- Determine crash data for the three most recent years available for study area intersections. Pedestrian and bicycle crashes should be shown separately.
- The Cambridge Center East, West and North garages are pooled parking for all buildings in the Kendall Square Urban Renewal area. The TIS must show the existing daytime and nighttime parking utilization, committed parking for projects not yet built or fully occupied, and parking needed for the propose project both during the day and at night.
 - You may use vehicle occupancy counts of the East, West and North garages conducted for the Kendall Square Urban Renewal 2013 Traffic Count and Trip Generation Analysis by FST Engineering conducted during the week of May 13 through May 19, 2013 and/or updated data.
 - Show what the existing daytime and nighttime peak parking utilization is for each garage.
 - Show what the future parking needs will be for buildings not yet built or fully occupied, such as the Broad Institute Expansion and 300 Binney Street (17 Cambridge Center).
 - Show what the daytime and nighttime parking demands will be for the proposed residential project. You may use the 2008-2012 American Community Survey data to determine the average

residential vehicle ownership. Show the number of parking spaces the residents will need during the daytime and nighttime. All data sources shall be documented in the Appendix.

- The TIS should propose a shared parking strategy and document how the parking for the project will be met and managed (garage access, shared spaces, etc.).
- The TIS should provide a detailed bicycle parking layout plan, including the type of proposed bicycle racks.

If you have any questions, feel free to contact Adam Shulman at 617-349-4745.

Sincerely,

A handwritten signature in black ink, appearing to read "Susan E. Clippinger", with a stylized flourish at the end.

Susan E. Clippinger, Director

cc: Adam Shulman, TP&T

Ames Street Residences
Transportation Impact Study
Technical Appendix
ATR Count Data

Ames Street
north of Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

Ames Street
north of Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

04047Cclass

Northbound														Site Code: Y-10492.41			
Start Time	Bikes	Cars & Trailers	2 Axle Long	2 Axle Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total			
10/26/10	1	12	0	0	0	2	0	0	0	0	0	0	0	19			
01:00	0	10	6	0	0	0	0	0	0	0	0	0	0	16			
02:00	0	0	4	0	0	0	0	0	0	0	0	0	0	4			
03:00	0	1	0	0	0	0	0	0	0	0	0	0	0	1			
04:00	0	2	1	0	0	0	0	0	0	0	0	0	0	3			
05:00	0	11	6	3	1	1	1	0	1	0	0	0	0	26			
06:00	0	32	26	12	12	0	0	1	0	0	0	0	0	83			
07:00	0	47	38	18	19	0	0	3	0	0	0	0	0	125			
08:00	1	125	35	14	25	5	0	0	0	0	0	0	0	205			
09:00	3	86	39	11	25	1	0	1	1	0	0	0	0	167			
10:00	1	57	29	7	19	1	0	0	0	0	0	0	0	114			
11:00	2	76	37	12	11	1	0	0	0	0	0	0	0	138			
12 PM	2	61	44	9	10	2	0	2	0	0	0	0	0	128			
13:00	2	58	42	10	15	2	0	0	0	0	0	0	0	138			
14:00	3	67	40	12	13	1	0	0	0	0	0	0	0	132			
15:00	3	83	53	10	17	0	0	0	0	0	0	0	0	167			
16:00	6	151	57	12	16	0	0	2	0	0	0	0	0	244			
17:00	3	107	52	10	12	0	0	2	0	0	0	0	0	186			
18:00	3	82	35	3	8	0	0	0	0	0	0	0	0	133			
19:00	1	56	28	0	0	0	0	0	0	0	0	0	0	85			
20:00	0	42	16	1	1	0	0	0	0	0	0	0	0	55			
21:00	0	44	13	0	0	0	0	0	0	0	0	0	0	65			
22:00	0	20	16	0	1	0	0	0	0	0	0	0	0	37			
23:00	0	20	16	0	1	0	0	0	0	0	0	0	0	37			
Total	34	1291	677	154	226	13	0	18	1	0	0	0	0	2414			
Percent	1.4%	53.5%	28.0%	6.4%	9.4%	0.5%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	09:00	08:00	08:00	07:45	08:00	08:00	0	07:30	09:00	0	0	0	0	08:00			
PM Peak	17:00	17:00	17:00	15:00	14:00	13:00	2	14:00	1	1	0	0	0	17:00			
Vol.	6	151	57	12	19	2	0	3	0	0	0	0	0	244			

04047Cclass

Northbound														Site Code: Y-10492.41			
Start Time	Bikes	Cars & Trailers	2 Axle Long	2 Axle Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total			
10/27/10	0	11	5	0	0	0	0	0	0	0	0	0	0	16			
01:00	0	5	6	0	0	0	0	0	0	0	0	0	0	11			
02:00	0	3	1	0	0	0	0	0	0	0	0	0	0	4			
03:00	0	1	1	0	2	0	0	0	0	0	0	0	0	4			
04:00	0	2	0	0	0	1	0	0	0	0	0	0	0	3			
05:00	0	12	6	0	0	1	0	0	1	0	0	0	0	20			
06:00	0	35	28	16	16	0	0	0	0	0	0	0	0	95			
07:00	1	56	29	20	21	0	0	1	0	0	0	0	0	128			
08:00	1	67	77	18	18	0	0	4	1	0	0	0	0	188			
09:00	1	57	74	19	37	1	0	2	0	0	0	0	0	191			
10:00	1	57	60	15	14	0	0	2	0	0	0	0	0	149			
11:00	0	65	44	10	21	0	0	0	0	0	0	0	0	140			
12 PM	0	70	48	8	21	0	0	1	0	0	0	0	0	148			
13:00	2	79	57	7	16	0	0	2	0	0	0	0	1	164			
14:00	2	59	57	12	14	1	0	2	0	0	0	0	0	127			
15:00	1	82	57	11	20	0	0	0	0	0	0	0	0	147			
16:00	1	80	55	11	20	0	0	0	0	0	0	0	0	167			
17:00	2	164	78	14	15	0	0	1	1	0	0	0	0	275			
18:00	4	129	58	10	16	0	0	2	0	0	0	0	0	219			
19:00	2	69	53	6	7	0	0	1	0	0	0	0	0	138			
20:00	2	62	40	0	4	1	0	0	0	0	0	0	0	109			
21:00	0	51	39	0	2	0	0	0	0	0	0	0	0	91			
22:00	0	42	16	1	1	0	0	0	0	0	0	0	0	65			
23:00	0	26	13	0	0	0	0	0	0	0	0	0	0	39			
Total	20	1276	881	177	262	3	0	19	2	0	0	0	1	2641			
Percent	0.8%	48.3%	33.4%	6.7%	9.9%	0.1%	0.0%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			
AM Peak	07:00	08:00	08:00	07:00	09:00	09:00	0	08:00	08:00	0	0	0	0	09:00			
PM Peak	18:00	17:00	17:00	17:00	14:00	14:00	1	13:00	17:00	1	0	0	0	17:00			
Vol.	4	164	78	14	21	1	0	37	3	0	0	0	1	275			
Grand Total	54	2567	1558	331	488	16	0	37	3	0	0	0	1	5055			
Percent	1.1%	50.8%	30.8%	6.5%	9.7%	0.3%	0.0%	0.7%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%			

Transportation Data Corporation
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Ames Street
north of Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

04047Cclass

Southbound														Site Code: Y-10492.41			
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total			
10/26/10	0	15	0	0	0	1	0	0	0	0	0	0	0	21			
01:00	0	6	2	0	0	0	0	0	0	0	0	0	0	8			
02:00	0	3	1	0	0	0	0	0	0	0	0	0	0	6			
03:00	0	3	3	0	2	0	0	0	0	0	0	0	0	8			
04:00	0	5	7	1	1	0	0	0	0	0	0	0	0	16			
05:00	0	15	16	1	5	1	0	0	0	0	0	0	0	41			
06:00	4	72	30	4	7	0	0	0	0	0	0	0	0	117			
07:00	1	125	33	8	15	1	0	0	1	0	0	0	0	185			
08:00	2	163	50	6	24	1	0	4	0	0	0	0	0	250			
09:00	4	132	49	2	26	0	0	1	0	0	0	0	0	214			
10:00	2	90	34	2	19	1	0	0	1	0	0	0	0	150			
11:00	1	100	44	4	15	3	0	2	0	0	0	0	0	169			
12 PM	2	101	46	4	14	0	0	3	0	0	0	0	0	170			
13:00	4	93	32	2	6	0	0	1	0	0	0	0	0	138			
14:00	4	99	51	3	22	0	0	5	0	0	1	0	0	185			
15:00	2	124	39	6	21	0	0	2	0	1	0	0	0	195			
16:00	2	149	31	0	19	0	0	1	0	0	0	0	0	202			
17:00	4	211	40	0	19	0	0	0	0	0	0	0	0	274			
18:00	2	147	42	0	19	0	0	0	0	0	0	0	0	183			
19:00	4	84	14	1	7	0	0	0	0	0	0	0	0	113			
20:00	0	71	17	0	0	0	0	0	0	0	0	0	0	88			
21:00	0	62	9	0	1	0	0	0	0	0	0	0	0	72			
22:00	0	48	9	0	1	0	0	0	0	0	0	0	0	58			
23:00	0	31	1	0	0	1	0	0	0	0	0	0	0	33			
Percent	1.4%	66.7%	20.7%	1.5%	8.5%	0.2%	0.0%	0.7%	0.0%	0.1%	0.1%	0.0%	0.0%	2007			
AM Peak	08:00	08:00	08:00	07:00	09:00	11:00	13:00	08:00	10:00	07:00	10:00	10:00	10:00	08:00			
Vol.	4	163	50	8	26	3	3	4	1	1	1	1	1	250			
PM Peak	13:00	17:00	14:00	15:00	14:00	3	13:00	14:00	15:00	14:00	14:00	14:00	14:00	17:00			
Vol.	4	211	51	6	22	1	1	5	1	1	1	1	1	274			

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Southbound														Site Code: Y-10492.41			
Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axle Double	5 Axle Double	>6 Axle Double	<6 Axle Multi	6 Axle Multi	>6 Axle Multi	Total			
10/27/10	0	12	4	0	0	0	0	0	0	0	0	0	0	17			
01:00	0	6	2	0	0	2	0	0	0	0	0	0	0	10			
02:00	0	4	2	0	0	1	0	0	0	0	0	0	0	7			
03:00	0	2	3	0	0	0	0	0	0	0	0	0	0	5			
04:00	0	10	6	0	0	1	0	0	0	0	0	0	0	18			
05:00	0	18	12	0	2	1	0	0	0	0	0	0	0	33			
06:00	0	61	29	5	15	0	0	1	0	0	0	0	0	111			
07:00	1	118	46	9	15	0	0	3	0	0	0	0	0	192			
08:00	2	147	41	5	17	0	0	1	0	0	0	0	0	213			
09:00	0	140	47	5	20	1	0	5	0	0	0	0	0	218			
10:00	3	97	41	3	18	1	0	2	0	0	0	0	0	165			
11:00	3	81	49	5	14	0	0	3	0	0	0	0	0	155			
12 PM	3	97	44	2	19	0	0	0	0	0	0	0	0	165			
13:00	2	112	41	5	24	0	0	0	0	0	0	0	0	184			
14:00	2	112	44	2	27	0	0	2	0	0	0	0	0	189			
15:00	0	116	43	2	19	0	0	0	0	0	0	0	0	182			
16:00	1	165	41	2	20	0	0	0	0	0	0	0	0	229			
17:00	1	214	56	0	20	0	0	1	0	0	0	0	0	292			
18:00	2	146	36	0	18	0	0	0	0	0	0	0	0	183			
19:00	0	114	16	1	8	0	0	0	0	0	0	0	0	138			
20:00	0	82	20	0	2	0	0	0	0	0	0	0	0	104			
21:00	1	71	19	0	2	0	0	0	0	0	0	0	0	94			
22:00	0	44	10	0	3	0	0	0	0	0	0	0	0	57			
23:00	0	24	5	0	0	0	0	0	0	0	0	0	0	29			
Percent	0.7%	66.8%	21.3%	1.6%	8.7%	0.1%	0.0%	0.6%	0.0%	0.0%	0.0%	0.0%	0.0%	3045			
AM Peak	10:00	08:00	11:00	07:00	09:00	04:00	13:00	08:00	09:00	08:00	08:00	08:00	08:00	09:00			
Vol.	3	147	49	9	20	1	1	5	2	2	2	2	2	218			
PM Peak	12:00	17:00	17:00	13:00	14:00	20	14:00	14:00	14:00	14:00	14:00	14:00	14:00	17:00			
Vol.	3	214	56	5	27	1	1	2	2	2	2	2	2	292			
Grand Total	63	3972	1251	92	514	11	1	43	1	2	2	2	2	5952			
Percent	1.1%	66.7%	21.0%	1.5%	8.6%	0.2%	0.0%	0.7%	0.0%	0.0%	0.0%	0.0%	0.0%	0			

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Ames Street
north of Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

04/04/7C-spec

Site Code: Y-10492-41

Northbound		1	3	4	7	10	12	15	16	19	22	25	28	31	33	36	39	Total
10:00	0	0	0	0	0	0	0	1	0	0	5	6	3	2	0	0	0	15
01:00	0	0	0	0	0	0	0	0	0	0	1	1	1	1	0	0	0	4
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
03:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0	0	2
05:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4
06:00	0	0	1	7	12	17	17	13	6	1	0	82	1	0	0	0	0	82
07:00	0	0	0	0	3	8	30	27	32	14	9	2	0	125	5	2	0	125
08:00	1	0	2	6	20	29	46	43	39	11	4	3	0	204	4	0	0	204
09:00	0	0	0	1	5	19	45	41	42	12	2	1	0	168	1	0	0	168
10:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:00	0	0	0	5	11	24	22	32	24	15	5	2	1	137	2	0	0	137
12 PM	0	0	0	4	2	16	30	32	22	14	7	0	0	128	7	0	0	128
13:00	0	0	0	3	7	11	30	27	30	15	6	0	0	129	0	0	0	129
14:00	0	0	0	3	10	16	30	37	30	10	3	0	0	139	0	0	0	139
15:00	0	0	0	3	12	24	37	38	26	16	6	0	0	168	0	0	0	168
16:00	0	0	0	3	10	18	37	37	38	16	6	3	0	169	6	3	0	169
17:00	0	1	1	10	16	37	43	56	48	25	6	2	0	243	3	0	0	243
18:00	0	0	1	1	11	21	35	49	33	21	12	3	0	187	3	0	0	187
19:00	0	0	1	4	4	13	28	28	31	15	9	2	0	132	0	0	0	132
20:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
21:00	0	0	0	0	0	0	2	7	15	18	11	7	0	1	0	0	1	62
22:00	0	0	0	0	0	0	1	1	5	12	23	18	3	1	0	0	0	64
23:00	1	0	1	6	41	118	250	406	574	529	7	14	1	1	0	0	0	38
Total	1	0	0	0	1.7%	4.3%	10.4%	13.4%	23.9%	22.0%	12.0%	2.89	105	4.4%	0.9%	0.1%	3	3405
Percent	0.0%	0.0%	0.0%	0.0%														
Daily																		

Transportation Data Corporation

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Ames Street
north of Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

[illegible][illegible]

Ames Street
north of Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

04047Cvolume
Site Code: Y-10492.41

Start Time	26-Oct-10		27-Oct-10		28-Oct-10		29-Oct-10		30-Oct-10		31-Oct-10		Total	
	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri	Mon	Tue
12:00	11	31	30	30	30	30	30	30	30	30	30	30	30	30
12:15	3	3	3	3	3	3	3	3	3	3	3	3	3	3
12:30	2	33	34	19	128	3	34	6	32	6	45	3	40	298
12:45	3	38	3	30	3	30	3	30	3	30	3	30	3	30
01:00	8	33	4	32	4	32	4	32	4	32	4	32	4	32
01:15	4	33	4	32	4	32	4	32	4	32	4	32	4	32
01:30	2	23	2	36	16	130	0	38	3	51	42	40	24	268
01:45	2	38	0	38	0	38	0	38	0	38	0	38	0	38
02:00	0	38	0	38	0	38	0	38	0	38	0	38	0	38
02:15	1	34	1	34	1	34	1	34	1	34	1	34	1	34
02:30	1	35	1	35	1	35	1	35	1	35	1	35	1	35
02:45	2	32	2	32	2	32	2	32	2	32	2	32	2	32
03:00	0	42	1	47	1	47	1	47	1	47	1	47	1	47
03:15	1	27	2	43	2	43	2	43	2	43	2	43	2	43
03:30	0	34	2	58	2	58	2	58	2	58	2	58	2	58
03:45	0	30	1	133	3	47	8	195	3	47	8	195	3	47
04:00	0	40	1	50	1	50	1	50	1	50	1	50	1	50
04:15	1	32	5	49	5	49	5	49	5	49	5	49	5	49
04:30	2	50	4	168	4	168	4	168	4	168	4	168	4	168
04:45	1	46	4	168	4	168	4	168	4	168	4	168	4	168
05:00	5	74	6	69	6	69	6	69	6	69	6	69	6	69
05:15	5	54	6	69	6	69	6	69	6	69	6	69	6	69
05:30	6	68	13	77	13	77	13	77	13	77	13	77	13	77
05:45	10	49	16	59	16	59	16	59	16	59	16	59	16	59
06:00	14	50	16	60	16	60	16	60	16	60	16	60	16	60
06:15	15	49	27	49	27	49	27	49	27	49	27	49	27	49
06:30	23	43	33	44	33	44	33	44	33	44	33	44	33	44
06:45	31	45	42	44	42	44	42	44	42	44	42	44	42	44
07:00	32	40	45	40	45	40	45	40	45	40	45	40	45	40
07:15	33	42	48	28	48	28	48	28	48	28	48	28	48	28
07:30	27	28	51	24	51	24	51	24	51	24	51	24	51	24
07:45	35	23	59	22	59	22	59	22	59	22	59	22	59	22
08:00	54	25	52	21	52	21	52	21	52	21	52	21	52	21
08:15	41	27	52	24	52	24	52	24	52	24	52	24	52	24
08:30	56	18	78	19	78	19	78	19	78	19	78	19	78	19
08:45	54	16	69	24	69	24	69	24	69	24	69	24	69	24
09:00	48	19	53	21	53	21	53	21	53	21	53	21	53	21
09:15	40	19	48	17	48	17	48	17	48	17	48	17	48	17
09:30	41	15	57	22	57	22	57	22	57	22	57	22	57	22
09:45	39	12	56	12	56	12	56	12	56	12	56	12	56	12
10:00	30	23	31	11	31	11	31	11	31	11	31	11	31	11
10:15	29	14	51	17	51	17	51	17	51	17	51	17	51	17
10:30	36	15	31	16	31	16	31	16	31	16	31	16	31	16
10:45	20	13	37	14	37	14	37	14	37	14	37	14	37	14
11:00	32	9	47	8	47	8	47	8	47	8	47	8	47	8
11:15	37	11	43	12	43	12	43	12	43	12	43	12	43	12
11:30	38	6	39	4	39	4	39	4	39	4	39	4	39	4
11:45	38	6	38	4	38	4	38	4	38	4	38	4	38	4
Total	907	1517	1205	1725	1205	1725	1205	1725	1205	1725	1205	1725	308	68
Percent	37.4%	62.6%	41.1%	58.9%	41.1%	58.9%	41.1%	58.9%	41.1%	58.9%	41.1%	58.9%	39.4%	60.6%

Ames Street
north of Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

04047Cvolume
Site Code: Y-10492.41

Start Time	27-Oct-10		28-Oct-10		29-Oct-10		30-Oct-10		31-Oct-10		Total	
	Mon	Tue	Wed	Thurs	Fri	Sat	Sun	Mon	Tue	Wed	Thurs	Fri
12:00	7	41	36	16	148	17	165	33	313	317	317	317
12:15	0	36	1	39	2	35	2	35	2	35	2	35
12:30	6	34	2	44	5	40	2	44	5	40	2	44
12:45	3	37	2	44	2	44	2	44	2	44	2	44
01:00	4	33	1	49	2	51	10	184	21	349	349	349
01:15	1	42	2	44	2	44	2	44	2	44	2	44
01:30	3	41	1	49	2	51	10	184	21	349	349	349
01:45	3	49	2	51	10	184	21	349	349	349	349	349
02:00	3	30	2	42	3	45	7	190	11	317	317	317
02:15	0	26	2	42	3	45	7	190	11	317	317	317
02:30	1	42	2	48	3	45	7	190	11	317	317	317
02:45	0	29	4	127	0	55	7	190	11	317	317	317
03:00	1	42	1	48	1	48	1	48	1	48	1	48
03:15	0	47	0	44	0	44	0	44	0	44	0	44
03:30	3	31	2	48	2	48	2	48	2	48	2	48
03:45	0	37	4	157	2	43	5	183	9	340	340	340
04:00	1	37	2	43	2	43	2	43	2	43	2	43
04:15	0	46	3	167	3	52	18	229	21	396	396	396
04:30	0	46	3	167	3	52	18	229	21	396	396	396
04:45	2	44	3	167	3	52	18	229	21	396	396	396
05:00	4	80	8	71	8	71	8	71	8	71	8	71
05:15	2	68	8	71	8	71	8	71	8	71	8	71
05:30	7	78	10	81	10	81	10	81	10	81	10	81
05:45	7	49	20	275	12	70	38	293	58	568	568	568
06:00	14	65	20	80	20	80	20	80	20	80	20	80
06:15	27	57	28	64	28	64	28	64	28	64	28	64
06:30	33	48	30	50	30	50	30	50	30	50	30	50
06:45	21	50	220	33	38	111	232	206	452	452	452	452
07:00	34	41	95	34	34	34	34	34	34	34	34	34
07:15	26	43	129	38	33	192	139	321	277	277	277	277
07:30	42	22	138	46	22	22	139	321	277	277	277	277
07:45	34	32	138	46	22	22	139	321	277	277	277	277
08:00	34	32	138	46	22	22	139	321	277	277	277	277
08:15	43	30	138	46	22	22	139	321	277	277	277	277
08:30	51	27	138	46	22	22	139	321	277	277	277	277
08:45	58	20	138	46	22	22	139	321	277	277	277	277
09:00	61	31	138	46	22	22	139	321	277	277	277	277
09:15	40	23	138	46	22	22	139	321	277	277	277	277
09:30	55	16	138	46	22	22	139	321	277	277	277	277
09:45	36	21	138	46	22	22	139	321	277	277	277	277
10:00	42	14	138	46	22	22	139	321	277	277	277	277
10:15	30	23	138	46	22	22	139	321	277	277	277	277
10:30	40	13	138	46	22	22	139	321	277	277	277	277
10:45	38	10	138	46	22	22	139	321	277	277	277	277
11:00	42	16	138	46	22	22	139	321	277	277	277	277
11:15	24	6	138	46	22	22	139	321	277	277	277	277
11:30	40	8	138	46	22	22	139	321	277	277	277	277
11:45	35	9	138	46	22	22	139	321	277	277	277	277
Total	961	1696	1153	1899	1153	1899	1153	1899	1153	1899	1153	1899
Percent	35.9%	64.1%	37.8%	62.2%	37.8%	62.2%	37.8%	62.2%	37.8%	62.2%	37.8%	62.2%
Grand Total	1858	3213	2358	3624	2358	3624	2358	3624	2358	3624	2358	3624
Percent	36.6%	63.4%	38.4%	60.6%	38.4%	60.6%	38.4%	60.6%	38.4%	60.6%	38.4%	60.6%

AADT 5,526

AADT 5,526

ADT

Ames Street Residences
Transportation Impact Study
Technical Appendix
12-Hour Pedestrian and Bicycle Counts

Kendall Square - Main Street Project - Cambridge, MA

Pedestrian / Bicycle Count Worksheet

Count Location: Ames Street between Broadway and Main Street
Street Direction: North - South
Count Date: 10/28/2011
Weather: Warm/Clear

Interval Start	Bicycle Volumes		Pedestrian Volumes		
	Northbound	Southbound	Northbound	Southbound	Crossing Street
7:30 AM	3	4	20	29	53
7:45 AM	1	7	32	30	72
8:00 AM	3	4	35	26	64
8:15 AM	2	4	30	47	90
8:30 AM	7	11	31	31	129
8:45 AM	5	22	38	50	80
9:00 AM	3	22	40	36	83
9:15 AM	1	15	35	66	61
9:30 AM	2	8	29	61	61
9:45 AM	2	12	40	42	73
10:00 AM	2	9	33	44	48
10:15 AM	0	12	27	41	32
10:30 AM	4	13	24	35	32
10:45 AM	2	14	30	42	27
11:00 AM	3	2	43	33	27
11:15 AM	1	13	38	43	21
11:30 AM	3	3	28	55	40
11:45 AM	3	10	60	65	38
12:00 PM	1	7	35	80	88
12:15 PM	4	11	67	85	76
12:30 PM	4	6	80	74	100
12:45 PM	2	3	84	72	98
1:00 PM	2	5	77	64	94
1:15 PM	4	2	68	42	70
1:30 PM	5	4	63	46	63
1:45 PM	2	5	71	61	53
2:00 PM	3	3	49	49	61
2:15 PM	1	4	52	43	61
2:30 PM	2	1	75	31	46
2:45 PM	2	3	54	59	50
3:00 PM	6	2	38	42	44
3:15 PM	2	3	47	50	42
3:30 PM	5	7	53	45	40
3:45 PM	2	1	48	43	49
4:00 PM	3	1	37	29	55
4:15 PM	2	4	59	37	79
4:30 PM	7	7	34	41	87
4:45 PM	10	4	38	33	80
5:00 PM	11	8	35	60	103
5:15 PM	10	7	59	61	82
5:30 PM	9	7	57	54	80
5:45 PM	8	11	61	49	78
6:00 PM	11	4	47	55	85
6:15 PM	13	5	45	52	71
6:30 PM	3	7	58	47	64
6:45 PM	9	7	35	41	42
7:00 PM	12	3	54	48	50
7:15 PM	9	5	34	28	34

Ames Street Residences
Transportation Impact Study
Technical Appendix
TMC Count Data

October 2010 TMC Counts

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

t(781) 587-0086 f(781) 587-0089

File Name : 04047E

Site Code : Y1049241

Start Date : 10/28/2010

Page No : 1

S: Main Street (Right Turn Only)

E/W: Main Street/Broadway EB

City, State: Cambridge, MA

Client: McM/P. Viveiros

Transportation Data Corporation

Mario Perone, mperone1@verizon.net

 $t(781) 587-0086 \quad f(781) 587-0089$

File Name : 04047D

Site Code : Y1049241

Start Date : 10/28/2010

Page No : 1

Groups Private-Cars & Beds - Trucks & Bikes												
Start Time	Third Street From North				Broadway From East				Broadway From West			
	Right		Left		Right		Left		Right		Left	
	Thru	Peeds	Thru	Peeds	Thru	Peeds	Thru	Peeds	Thru	Peeds	Thru	Peeds
07:30 AM	20	0	34	18	46	113	0	157	0	0	0	0
07:45 AM	20	0	34	54	59	155	0	159	0	0	0	0
Total	40	0	68	52	107	268	0	316	0	0	0	0
08:00 AM	34	0	35	12	75	166	0	186	0	0	19	80
08:15 AM	37	0	42	22	93	173	0	209	0	0	4	88
08:30 AM	44	0	34	22	93	162	0	330	0	0	16	93
08:45 AM	46	0	37	24	99	151	0	241	0	0	10	78
Total	161	0	146	60	360	632	0	1163	0	0	49	332
09:00 AM	32	0	34	13	81	156	0	248	0	0	0	0
09:15 AM	37	0	25	17	70	144	0	195	0	0	14	77
Grand Total	161	0	161	27	377	715	0	1785	0	0	8	76
Private Cars	40	0	50.5	162	336	664	0	1054	0	0	184	591
Trucks	7.8	0	7.9	17.9	35.2	0	0	0	0	0	2.6	18.4
Total	47.8	0	58.4	180.1	421.2	715	0	1785	0	0	210	609
Cars & Beds	264	0	268	615	1212	0	0	0	0	0	86	627
Trucks & Bikes	97.8	0	97.5	99.5	99.3	0	0	96.4	0	0	94.5	96.9
% Cars & Beds	73	0	73	73	73	73	0	73	0	0	73	73
% Trucks & Bikes	27	0	27	27	27	27	0	27	0	0	27	27
Total	161	0	161	161	161	161	0	161	0	0	161	161

Third Street	Third Street From North				Backway From East				U-Turn to Main Street WB From South				Backway From West			
	Start Time	Right	Left	App. Total	Right	Thru	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak of 1																
Peak Hour for Entire Intersection Begins at 08:00 AM																
08:00 AM	34	0	35	69	75	166	0	241	0	0	0	0	19	80	42	
08:15 AM	37	0	42	79	93	173	0	266	0	0	0	0	18	78	49	
08:30 AM	40	0	40	80	102	182	0	284	0	0	0	0	16	68	39	
08:45 AM	46	0	37	83	99	171	0	270	0	0	0	0	10	38	39	
Total Volume	161	0	148	309	360	652	0	1012	0	0	0	0	49	339	192	
% App. Total	52.1	0	47.9	35.6	64.4	0	0	64.4	0	0	0	0	8.4	58.4	33.1	
Cars and Ped.	156	0	146	302	358	649	0	1007	0	0	0	0	46	331	948	
% Cars and Ped.	96.2	0	98.6	97.7	99.3	99.5	0	99.5	0	0	0	0	93.3	94.9	98.1	
Trucks and Bikes	31	0	14	23	0.6	0.3	0	0.5	0	0	0	0	6.1	0.6	3.1	
% Trucks and Bikes	19.1	0	9.4	7.3	0.5	0.5	0	0.5	0	0	0	0	6.7	5.1	1.9	

Main Street (To Longfellow Bridge)										Main Street (RT Only)					Broadway (EB Only)				
From East					From South					From West					From West				
Start Time	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Peds	Right	Thru	Peds	Right	Thru	Exclu. Total	Inclu. Total	Int. Total	
07:30 AM	0	0	0	0	39	0	29	0	117	0		0			29	156	185		
07:45 AM	1	0	0	0	42	0	31	0	113	0		0			31	156	187		
Total	1	0	0	0	81	0	60	0	230	0		0			60	312	372		
08:00 AM	0	0	0	0	47	0	36	0	123	0		0			36	170	206		
08:15 AM	0	0	0	0	68	0	55	0	120	0		0			55	188	243		
08:30 AM	0	0	0	0	82	0	73	0	131	0		0			73	213	286		
08:45 AM	0	0	0	0	50	0	68	0	107	0		0			68	157	225		
Total	0	0	0	0	247	0	232	0	481	0		0			232	728	960		
09:00 AM	0	0	0	0	60	0	34	1	107	0		0			34	168	202		
09:15 AM	0	0	0	0	58	0	34	0	102	0		0			34	160	194		
Grand Total	1	0	0	0	446	0	360	1	920	0		0			360	1,368	1,728		
Approach %	100	0	0	0	100	0	99.9	0.1	99.9	0		0			20.8	79.2	0		
Total %	0.1	0	0	0	32.6	0	0	0.1	67.3	0		0			0	0	0		
Cars & Peds	1	0	0	0	425	0	308	0	903	0		0			0	0	0	1440	
% Cars & Peds	100	0	0	0	95.3	0	86.2	0	98.2	0		0			0	0	0	83.3	
Trucks & Buses	0	0	0	0	18	0	18	0	18	0		0			0	0	0	16.7	
% Trucks & Buses	0	0	0	0	4.7	0	69.2	100	1.8	0		0			0	0	0	16.7	

		Main Street (To Loughborough Bridge)				Main Street (RT Only)				Broadway (EB Only)			
	Start Time	Time From Peak	Time From Peak	App. Total	Right	From South	Left	App. Total	Right	Thru	From West	App. Total	Intr. Total
Peak Hour Analysis: From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:00 AM													
	08:00 AM	0	0	0	0	47	0	47	0	123		123	170
	08:15 AM	0	0	0	0	68	0	68	0	168		168	230
	08:30 AM	0	0	0	0	82	0	82	0	210		210	285
	08:45 AM	0	0	0	0	50	0	50	0	107		107	157
	Total Volume	0	0	0	247	0	247	0	247	0	481	481	728
	% App. Total	0	0	0	100	0	100	0	100	0	100	100	854
PHF													
	Cars & Ped.	0	0	0	231	0	0	231	0	477		477	708
	% Trucks & Bikes	0	0	0	39.2	0	0	39.2	0	99.1		99.1	150
	% Trucks & Bikes	0	0	0	16	0	0	16	0	4		4	6
	% Trucks & Bikes	0	0	0	6.5	0	0	6.5	0	0.8		0.8	2.7

Transportation Data Corporation
Mario Perone, mperone1@verizon.net
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N/S: Ames Street
E/W: Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047C
Site Code : Y1049241
Start Date : 10/26/2010
Page No : 1

Start Time	Ames Street From North				Main Street From East				Ames Street From South				Main Street From West				Inch. Total	Inch. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
	Thru	Left	App. Total	Thru	Left	App. Total	Thru	Left	Thru	Left	App. Total	Thru	Left	App. Total	Thru	Left		
07:30 AM	24	6	18	111	5	4	0	26	3	19	14	57	8	45	13	17	213	159
07:45 AM	24	5	22	117	7	2	1	26	2	23	16	66	11	50	13	19	228	176
Total	48	11	40	228	12	6	1	54	5	42	30	123	19	95	26	36	441	335
08:00 AM	26	7	16	127	3	5	1	33	4	37	17	69	8	53	21	21	250	198
08:15 AM	26	9	16	127	3	5	1	33	4	37	17	69	8	53	21	21	250	198
08:30 AM	28	14	16	157	5	17	2	47	4	39	14	85	14	46	36	33	322	235
08:45 AM	35	6	14	124	8	8	7	62	7	33	24	87	4	40	22	25	298	208
Total	112	36	62	575	25	38	10	175	17	135	78	320	41	192	97	108	1178	843
08:00 AM	26	6	13	164	6	14	0	29	7	34	19	95	13	49	10	41	320	197
08:15 AM	24	6	14	130	10	8	0	46	2	31	13	103	4	66	13	34	315	191
Grand Total	210	59	129	1097	53	66	11	306	31	242	140	641	77	402	146	219	2283	1566
Approach %	52.8	14.8	32.4	40.8	50.8	8.5	7.5	58.6	33.9	12.3	64.3	23.4	12.3	64.3	23.4	9.3	59.1	40.9
Total %	13.4	3.8	8.2	3.4	4.2	0.7	2	15.5	8.9	4.9	25.7	9.3	4.9	25.7	9.3	0	0	37.7
Cars & Peds	206	56	122	987	51	63	11	31	241	133	72	390	137	92	30	92	0	0
% Cars & Peds	97.15	94.4	94.1	98.7	96.2	95.3	100	85.3	100	99.5	98.6	98.6	98.6	98.6	98.6	98.6	0	0
Trucks & Bikes	5	3	7	8	2	3	0	14.7	0	0.4	5	19	6.5	3	6.2	7.8	0	0
% Trucks & Bikes	2.4	5.1	5.4	1.3	3.8	4.5	0	14.7	0	0.4	5	19	6.5	3	6.2	7.8	0	0

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N/S: Galilei Way/Vassar Street
E/W: Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047B
Site Code : Y1049241
Start Date : 10/26/2010
Page No : 1

Start Time	Galilei Way From North				Main Street From East				Vassar Street From South				Main Street From West				Ech. Total	Inch. Total	
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds			
	Thru	Left	App. Total	Thru	Left	App. Total	Thru	Left	Thru	Left	App. Total	Thru	Left	App. Total	Thru	Left			
07:30 AM	51	62	4	34	7	20	15	8	25	53	15	22	6	40	23	7	71	321	382
07:45 AM	67	70	7	89	6	24	14	22	32	49	30	13	34	18	11	152	353	434	
Total	118	132	11	123	13	44	29	30	57	102	34	52	19	74	41	18	223	674	897
08:00 AM	63	66	8	67	8	23	12	21	23	40	17	41	10	48	17	10	139	335	474
08:15 AM	56	56	6	87	4	22	10	18	15	32	15	15	11	35	11	15	115	250	474
08:30 AM	73	76	5	116	10	37	19	25	26	47	17	52	18	45	26	15	208	399	607
08:45 AM	67	70	9	121	21	32	18	24	35	53	18	60	14	36	36	16	221	409	630
Total	259	279	31	381	43	117	67	85	106	192	67	194	54	186	98	55	725	1489	2,224
09:00 AM	73	83	7	115	8	29	19	17	29	62	10	40	10	44	40	14	187	414	601
09:15 AM	65	65	9	69	10	19	15	22	24	63	11	54	8	38	28	17	162	375	537
Grand Total	515	579	58	699	74	209	130	154	216	419	122	340	91	342	207	104	1,297	2,962	4,259
Approach %	44.7	50.3	5	17.9	50.6	31.5	28.5	55.4	16.1	14.2	53.4	32.3	3.1	11.5	7	30.5	69.5	0	38.8
Total %	17.4	19.5	2	7.5	7.1	4.4	7.3	14.1	4.1	21.1	40.6	119	87	329	186	37.5	0	0	39.01
Cars & Peds	496	532	52	622	69	205	124	211	211	406	119	329	95	329	186	37.5	0	0	39.01
% Cars & Peds	97.15	94.4	94.1	98.7	96.2	95.3	100	85.3	100	99.5	98.6	98.6	98.6	98.6	98.6	98.6	0	0	91.6
Trucks & Bikes	19	47	6	3.7	6.8	1.9	4.6	20.8	2.3	3.1	2.5	26.2	4.4	3.8	10.1	62.5	0	0	3.88
% Trucks & Bikes	3.7	8.1	10.3	3.7	6.8	1.9	4.6	20.8	2.3	3.1	2.5	26.2	4.4	3.8	10.1	62.5	0	0	8.84

Start Time	Galilei Way From North				Main Street From East				Vassar Street From South				Main Street From West				Inch. Total	Inch. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
	Thru	Left	App. Total	Thru	Left	App. Total	Thru	Left	Thru	Left	App. Total	Thru	Left	App. Total	Thru	Left		
07:30 AM	154	154	154	154	10	37	19	66	26	47	17	90	18	45	26	89	389	0
08:00 AM	73	76	5	146	21	32	18	71	35	53	18	106	14	36	86	409	0	0
08:15 AM	67	70	9	163	8	29	19	56	29	62	10	101	10	44	40	94	414	0
08:30 AM	65	65	8	85	9	19	15	22	24	63	11	98	8	38	28	74	375	0
08:45 AM	73	76	5	116	10	37	19	25	26	47	17	52	18	45	26	15	208	399
Total	447	492	48	622	69	205	124	211	211	406	119	329	95	329	186	37.5	0	0
% Cars & Peds	97.15	94.4	94.1	98.7	96.2	95.3	100	85.3	100	99.5	98.6	98.6	98.6	98.6	98.6	98.6	0	0
Trucks & Bikes	19	47	6	3.7	6.8	1.9	4.6	20.8	2.3	3.1	2.5	26.2	4.4	3.8	10.1	62.5	0	0
% Trucks & Bikes	3.7	8.1	10.3	3.7	6.8	1.9	4.6	20.8	2.3	3.1	2.5	26.2	4.4	3.8	10.1	62.5	0	0

Start Time	Ames Street From North				Main Street From East				Ames Street From South				Main Street From West				Inch. Total	Inch. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
	Thru	Left	App. Total	Thru	Left	App. Total	Thru	Left	Thru	Left	App. Total	Thru	Left	App. Total	Thru	Left		
07:30 AM	49	3	5	1	9	4	37	17	59	8	53	21	82	198	0	0	0	0
08:00 AM	26	7	16	127	3	5	1	33	4	37	17	69	8	53	21	21	250	198
08:15 AM	23	9	16	48	9	8	0	17	2	26	23	51	15	53	18	86	202	0
08:30 AM	28	14	16	58	5	17	2	47	4	39	14	57	14	46	36	96	215	0
08:45 AM	35	6	14	124	8	8	7	62	7	33	24	87	4	40	22	66	208	0
Total	112	36	62	575	25	38	10	175	17	135	78	320	41	192	97	108	1178	843
% Cars & Peds	97.15	94.4	94.1	98.7	96.2	95.3	100	85.3	100	99.5	98.6	98.6	98.6	98.6	98.6	98.6	0	0
Trucks & Bikes	5	3	7	8	2	3	0	14.7	0	0.4	5	19	6.5	3	6.2	7.8	0	0
% Trucks & Bikes	2.4	5.1	5.4	1.3	3.8	4.5	0	14.7	0	0.4	5	19	6.5	3	6.2	7.8	0	0

Start Time	Ames Street From North				Main Street From East				Ames Street From South				Main Street From West				Inch. Total	Inch. Total
	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds		
	Thru	Left	App. Total	Thru	Left	App. Total	Thru	Left	Thru	Left	App. Total	Thru	Left	App. Total	Thru	Left		
07:30 AM	49	3	5	1	9	4	37	17	59	8	53	21	82	198	0	0	0	0
08:00 AM	26	7	16	127	3	5	1	33	4	37	17	69	8	53	21	21	250	198
08:15 AM	23	9	16	48	9	8	0	17	2	26	23	51	15	53	18	86	202	0
08:30 AM	28	14	16	58	5	17	2	47	4	39	14	57	14	46	36	96	215	0
08:45 AM	35	6	14	124	8	8	7	62	7	33	24	87	4	40	22	66	208	0
Total	112	36	62	575	25	38	10	175	17	135	78	320	41	192	97	108	1178	843
% Cars & Peds	97.15	94.4	94.1	98.7	96.2	95.3	100	85.3	100	99.5	98.6	98.6	98.6	98.6	98.6	98.6	0	0
Trucks & Bikes	5	3	7	8	2	3	0	14.7	0	0.4	5	19	6.5	3	6.2	7.8	0	0
% Trucks & Bikes	2.4	5.1	5.4	1.3	3.8	4.5	0	14.7	0	0.4	5	19	6.5	3	6.2	7.8	0	0

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N/S: Third Street/U-Turn to Main WB
E/W: Broadway
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047EE
Site Code : Y1049241
Start Date : 10/28/2010
Page No : 1

S: Main Street (Right Turn Only)
E/W: Main Street/Broadway EB
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047DD
Site Code : Y1049241
Start Date : 10/28/2010
Page No : 1

Groups: Principal Cans & Bids - Trucks & Bikes																			
Third Street From North			Broadway From East						U-Turn to Main Street WB From South						Broadway From West				
			Right	Thru	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Thru	Right	Left	Peds		
Start Time	04:30 PM	48	0	77	38	39	133	0	188	0	0	0	20	128	33	42	268	478	746
	04:45 PM	40	0	78	32	40	139	0	180	0	0	0	18	119	47	60	272	481	753
Total		88	0	155	70	79	272	0	368	0	0	0	38	247	80	102	540	959	1499
05:00 PM	05:00 PM	44	0	102	54	44	87	0	280	0	0	0	22	112	65	61	395	476	871
	05:15 PM	49	0	93	60	37	136	0	240	0	0	0	16	149	59	73	373	539	912
05:30 PM	05:30 PM	37	0	110	44	49	133	0	241	0	0	0	26	133	62	88	373	550	923
	05:45 PM	33	0	71	55	53	95	0	224	0	0	0	17	116	72	75	354	457	811
Total		163	0	376	213	183	451	0	965	0	0	0	81	510	258	297	1495	2022	3517
06:00 PM	06:00 PM	42	0	74	64	42	138	0	205	0	0	0	28	94	34	72	341	452	793
	06:15 PM	32	0	70	45	55	130	0	197	0	0	0	15	121	46	64	306	469	775
06:30 PM	06:30 PM	42	0	72	41	47	119	0	193	0	0	0	15	103	49	58	292	447	739
	06:45 PM	34	0	57	37	36	134	0	175	0	0	0	30	117	39	52	214	447	661
Total		150	0	273	187	180	521	0	720	0	0	0	88	435	168	246	1153	1815	2908
Grand Total	Grand Total	401	0	804	470	442	1244	0	2073	0	0	0	207	1192	596	645	3188	4796	7984
	Approach %		33.3	0	66.7	26.2	73.8	0	26.2	73.8	0	0	10.9	62.6	26.6			60.1	
Cars & Peds	Cars & Peds	399	0	801	442	1242	0	0	0	0	0	0	4.3	24.9	10.6	0	0	39.9	60.1
	% Cars & Peds	99.5	0	99.6	52.6	100	99.8	0	95.7	0	0	0	99.5	99.8	99	96.3	0	0	95.3
Trucks & Bikes	Trucks & Bikes	2	0	3	0	2	0	0	0	0	0	0	0	1	2	5	0	0	0
	% Trucks & Bikes	0.5	0	0.4	47.4	0	0.2	0	4.3	0	0	0	0	0.5	0.2	1	3.7	0	4.4

Groups: Principal Cans & Bids - Trucks & Bikes																
Third Street From North				Broadway From East				U-Turn to Main Street WB From South				Broadway From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total
Peak Hour Analysis From 04:30 PM to 06:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 04:45 PM																
04:30 PM	116	40	130	0	179	0	0	0	0	18	119	47	184	481		
04:45 PM	146	44	87	0	131	0	0	0	0	22	112	65	199	476		
05:00 PM	44	0	102	146	173	136	0	173	0	16	149	59	224	481		
05:15 PM	49	0	93	142	37	136	0	173	0	0	0	0	26	133	62	221
05:30 PM	37	0	110	147	49	133	0	182	0	0	0	0	26	133	62	221
Total Volume	170	0	383	553	170	495	0	665	0	0	0	0	82	513	233	828
% App. Total	30.7	0	69.3	25.6	74.4	0	0	0	0	9.9	62	28.1	20.46	9.9	62	28.1
Cars & Peds	170	0	381	550	170	487	0	665	0	0	0	0	80	513	229	824
% Cars & Peds	100	0	99.5	99.6	100	99.8	0	99.8	0	0	0	0	98.8	100	98.7	99.5
Trucks & Bikes	0	0	2	0	1	0	1	0	0	0	0	0	1	0	3	4
% Trucks & Bikes	0	0	0.5	0.4	0	0.2	0	0.2	0	0	0	0	1.2	0	1.3	0.3

Groups Printed: Cars & Peds - Trucks & Bikes															
Main Street (To Longview Bridge)				Main Street (RT Only)				Broadway (EB Only)				Broadway (WB Only)			
Start Time	Thru	Left	Peds	Thru	Left	Peds	Thru	Right	From West	Thru	Left	Peds	Thru	Right	From East
04:30 PM	0	0	0	0	0	0	0	24	0	0	23	0	0	208	0
04:45 PM	0	0	0	0	0	0	0	34	0	0	34	0	0	344	0
Total	0	0	0	0	0	0	0	57	0	0	57	0	0	552	0
05:00 PM	0	0	0	0	0	0	0	17	0	0	17	0	0	17	0
05:15 PM	0	0	0	0	0	0	0	33	0	0	33	0	0	33	0
05:30 PM	0	0	0	0	0	0	0	25	0	0	25	0	0	25	0
05:45 PM	0	0	0	0	0	0	0	41	0	0	41	0	0	41	0
Total	0	0	0	0	0	0	0	116	0	0	116	0	0	116	0
06:00 PM	0	0	0	0	0	0	0	36	0	0	36	0	0	36	0
06:15 PM	0	0	0	0	0	0	0	39	0	0	39	0	0	39	0
06:30 PM	0	0	0	0	0	0	0	13	0	0	13	0	0	13	0
06:45 PM	0	0	0	0	0	0	0	26	0	0	26	0	0	26	0
Total	0	0	0	0	0	0	0	114	0	0	114	0	0	114	0
Grand Total	0	0	0	0	0	0	0	287	0	0	287	0	0	287	0
Approach %	0	0	0	0	0	0	0	100	0	0	100	0	0	9	0
Total %	0	0	0	0	0	0	0	31	0	0	69	0	0	91	0
Cars & Peds %	0	0	0	0	0	0	0	897	0	0	2003	0	0	3119	0
Trucks & Bikes %	0	0	0	0	0	0	0	59	0	0	57	0	0	67	0
Trucks & Bikes %	0	0	0	0	0	0	0	4	0	0	2.2	0	0	2.2	0
Trucks & Bikes %	0	0	0	0	0	0	0	23.7	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.5	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2	0	0	0	0	0	0	0
Trucks & Bikes %	0	0	0	0	0	0	0	0.2							

Groups: Principal Cans & Bids - Trucks & Bikes															
Main Street (To Longfellow Bridge)				Main Street (RT Only)				Broadway (EB Only)							
Start Time	Thru	Left	App. Total	Thru	Right	Left	App. Total	Thru	Right	Left	App. Total	Thru	Right	Left	App. Total
Peak Hour Analysis From 04:30 PM to 05:45 PM - Peak 1 of 1															
Peak Hour for Entire Intersection Begins at 04:45 PM															
04:30 PM	0	0	0	102	0	0	102	0	208	0	208	0	208	0	208
04:45 PM	0	0	0	76	0	76	76	0	216	0	216	0	216	0	216
05:00 PM	0	0	0	96	0	96	96	0	238	0	238	0	238	0	238
05:15 PM	0	0	0	97	0	97	97	0	243	0	243	0	243	0	243
05:30 PM	0	0	0	371	0	371	371	0	905	0	905	0	905	0	905
Total Volume	0	0	0	100	0	100	0	100	0	100	0	100	0	100	0
% App. Total	0	0	0	909	0	909	909	0	931	0	931	0	931	0	931
Cars & Bids	0	0	0	909	0	909	909	0	931	0	931	0	931	0	931
% Cars & Bids	0	0	0	909	0	909	909	0	931	0	931	0	931	0	931
Trucks & Bikes	0	0	0	2	0	2	2	0	908	0	908	0	908	0	908
% Trucks & Bikes	0	0	0	0.5	0	0.5	0.5	0	0.2	0	0.2	0	0.2	0	0.2

Peak Hour Analysis From 04:30 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:45 PM													
Start Time	Thru	Left	App. Total	Right	Left	App. Total	Thru	Right	App. Total	Thru	Right	App. Total	Inf. Total
04:45 PM	0	0	0	102	0	102	0	0	0	0	0	0	0
04:50 PM	0	0	0	96	0	96	0	0	0	0	0	0	0
05:00 PM	0	0	0	97	0	97	0	0	0	0	0	0	0
05:15 PM	0	0	0	97	0	97	0	0	0	0	0	0	0
05:30 PM	0	0	0	371	0	371	0	0	0	0	0	0	0
Total Volume	0	0	0	100	0	100	0	0	0	0	0	0	0
% App. Total	0	0	0	909	0	909	0	0	0	0	0	0	0
PHF	0	0	0	909	0	909	0	0	0	0	0	0	0
Cars & Peds	0	0	0	369	0	369	0	0	0	0	0	0	0
% Cars & Peds	0	0	0	369	0	369	0	0	0	0	0	0	0
Trucks & Bikes	0	0	0	2	0	2	0	0	0	0	0	0	0
% Trucks & Bikes	0	0	0	0.5	0	0.5	0	0	0	0	0	0	0

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N/S: Ames Street
E/W: Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047CC
Site Code : Y1049241
Start Date : 10/26/2010
Page No : 1

Groups: Principal Cars & Bikes - Trucks & Bikes															
Ames Street From North				Main Street From East				Ames Street From South				Main Street From West			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left
04:30 PM	23	19	16	140	11	13	4	0	35	6	74	13	70	7	36
04:45 PM	20	19	10	102	12	14	0	49	1	64	20	158	20	138	15
Total	41	38	25	242	23	27	5	103	1	99	94	8	44	322	212
05:00 PM	20	21	19	166	10	11	2	54	3	51	14	151	12	79	10
05:15 PM	17	24	15	162	12	9	2	62	4	41	9	171	13	73	7
05:30 PM	36	22	19	164	20	8	3	75	4	43	18	133	14	80	11
05:45 PM	28	21	14	138	10	9	1	85	10	36	13	136	20	79	10
Total	101	88	67	630	52	37	8	276	21	171	54	523	59	311	38
06:00 PM	22	22	19	107	9	5	3	70	4	34	21	202	23	70	11
06:15 PM	10	24	11	135	8	2	1	113	8	35	11	147	22	83	15
06:30 PM	16	14	13	98	12	5	3	81	3	26	12	93	11	52	10
06:45 PM	18	15	6	110	8	5	2	80	7	25	6	81	25	62	9
Total	66	75	49	450	37	17	9	344	22	120	50	523	81	267	45
Grand Total	208	201	141	1322	112	81	22	723	44	355	124	1272	160	716	98
Approach %	37.8	36.5	25.6	52.1	37.7	10.2	8	23.7	16.4	73.5	10.1	4.3	62.9	37.1	0
Total %	9.2	8.9	6.2	5	3.6	1		1.9	15.7	5.5		7.1	31.7	4.3	
Cars & Peds	208	201	141		112	81	22		43	354	124		159	710	98
% Cars & Peds	100	100	100	93.4	100	100	100	83.4	97.7	99.7	100	95.4	99.4	99.2	100
Trucks & Bikes	0	0	0		0	0	0		1	1	0		6	0	0
% Trucks & Bikes	0	0	0	6.6	0	0	0		0.6	0.6	0.6	0	12.9	0	12.9

Main Street															
From East				From South				From West				From Left			
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left
04:30 PM	10	11	2	23	3	51	14	68	12	79	10	101			
04:45 PM	12	9	2	23	4	41	9	54	13	73	7	93			
05:00 PM	20	21	19	60	10	36	13	59	10	79	10	109			
05:15 PM	17	24	15	56	12	9	2	23	14	60	11	28			
05:30 PM	36	22	19	77	20	8	3	31	4	43	18	65			
05:45 PM	28	21	14	63	10	9	1	20	10	36	13	59			
Total	128	111	77	316	57	171	54	382	46	246	57	360			
% App. Total	39.5	34.4	26.2	4	53.6	38.1	8	12	53.6	65.5	22	46	14.5	76.2	9.3
Cars & Peds	101	98	67	266	52	37	8	97	20	171	54	245	738	972	864
% Cars & Peds	100	100	100	93.4	100	100	100	95.2	100	100	96.6	98.3	99.7	100	99.6
Trucks & Bikes	0	0	0		0	0	0		0	0	0		0	0	0
% Trucks & Bikes	0	0	0		0	0	0		0	0	0		0	0	0

Groups: Principal Cars & Bikes - Trucks & Bikes																
Ames Street From North				Main Street From East				From South				Main Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total
Peak Hour Analysis From 04:30 PM to 05:45 PM - Peak 1 of 1																
Peak Hour Analysis From 04:30 PM to 05:45 PM - Intersection Begins at 05:00 PM																
05:00 PM	60	12	23	95	10	11	2	23	3	51	14	68	12	79	10	101
05:15 PM	17	24	15	56	12	9	2	23	4	41	9	54	13	73	7	93
05:30 PM	36	22	19	77	20	8	3	31	4	43	18	65	14	80	11	105
05:45 PM	28	21	14	63	10	9	1	20	10	36	13	59	20	79	10	109
Total Volume	101	88	67	256	52	37	8	97	21	171	54	246	59	311	38	408
% App. Total	39.5	34.4	26.2	52.1	53.6	36.1	8	75.5	69.5	22	14.5	76.2	9.4	76.2	9.4	76.2
PHF	.701	.917	.882	.831	.505	.341	.467	.782	.525	.838	.750	.904	.738	.372	.384	.936
Cars & Peds	101	88	67	256	52	37	8	97	21	171	54	246	59	311	38	408
% Cars & Peds	100	100	100	93.4	100	100	100	95.2	100	100	95.0	98.9	99.9	100	99.5	100
Trucks & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0
% Trucks & Bikes	0	0	0	0	0	0	0	0	0	0	0	0.4	1.7	0.3	0	0.3

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N/S: Galilee Way/Vassar Street
E/W: Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047BB
Site Code : Y1049241
Start Date : 10/26/2010
Page No : 1

Groups: Principal Cars & Bikes - Trucks & Bikes																	
Galilee/Gallies Way From North				Main Street From East				Vasser Street From South				Main Street From West				Vasser Street From East	
Start Time	Right	Thru	Left	Thru	Right	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Thru	Left	
04:30 PM	32	69	5	82	9	34	9	25	33	63	3	56	14	51	50	25	
04:45 PM	41	61	6	103	6	18	14	40	28	75	9	60	11	51	59	29	
Total	73	130	11	185	15	52	23	65	61	138	12	116	25	102	109	54	
05:00 PM	46	57	5	141	3	31	13	34	45	71	14	98	13	47	67	49	
05:15 PM	47	63	6	123	5	23	12	57	36	93	10	77	10	59	59	38	
05:30 PM	50	59	8	156	8	36	13	16	38	97	24	72	8	46	61	35	
05:45 PM	58	78	10	103	11	19	20	25	54	76	11	79	17	55	72	24	
Total	201	257	29	523	27	109	58	132	173	337	59	326	48	207	259	148	
06:00 PM	35	69	8	91	7	23	12	43	52	81	8	97	11	62	52	33	
06:15 PM	19	71	9	101	5	16	5	31	38	61	8	62	14	61	42	32	
06:30 PM	28	44	3	67	4	26	4	25	25	51	13	56	6	33	51	28	
06:45 PM	28	49	7	76	5	14	13	22	31	46	12	31	5	36	33	22	
Total	110	224	27	335	21	79	34	121	146	239	41	246	36	192	178	114	
Grand Total	384	611	67	1043	63	240	115	318	380	714	112	688	109	501	546	312	
Approach %	36.2	57.5	6.3	15.1	57.4	27.5		31.5	59.2	9.3		9.4	43.3	47.2		38.1	
Total %	10	15.9	1.7	1.6	6.2	3		9.9	18.6	2.9		2.8	13	14.2		61.9	
Cars & Peds	380	605	66		63	240	115		379	703	112		109	496	537	0	
% Cars & Peds	99	99	98.5	90.6	100	100	100	99.5	99.7	98.5	100	93.5	100	99	98.4	70.5	
Trucks & Bikes	4	6	1		0	0	0		0	1	0		0	5	9	0	
% Trucks & Bikes	1	1	1.5	9.4	0	0	0	7.5	0.3	1.5	0	6.5	0	1	1.6	29.5	
Grand Total	384	611	67	1043	63	240	115	318	380	714	112	688	109	501	546	312	
Approach %	36.2	57.5	6.3	15.1	57.4	27.5		31.5	59.2	9.3		9.4	43.3	47.2		38.1	
Total %	10	15.9	1.7	1.6	6.2	3		9.9	18.6	2.9		2.8	13	14.2		61.9	
Cars & Peds	380	605	66		63	240	115		379	703	112		109	496	537	0	
% Cars & Peds	99	99	98.5	90.6	100	100	100	99.5	99.7	98.5	100	93.5	100	99	98.4	70.5	
Trucks & Bikes	4	6	1		0	0	0		0	1	0		0	5	9	0	
% Trucks & Bikes	1	1	1.5	9.4	0	0	0	7.5	0.3	1.5	0	6.5	0	1	1.6	29.5	
Grand Total	384	611	67	1043	63	240	115	318	380	714	112	688	109	501	546	312	
Approach %	36.2	57.5	6.3	15.1	57.4	27.5		31.5	59.2	9.3		9.4	43.3	47.2		38.1	
Total %	10	15.9	1.7	1.6	6.2	3		9.9	18.6	2.9		2.8	13	14.2		61.9	
Cars & Peds	380	605	66		63	240	115		379	703	112		109	496	537	0	
% Cars & Peds	99	99	98.5	90.6	100	100	100	99.5	99.7	98.5	100	93.5	100	99	98.4	70.5	
Trucks & Bikes	4	6	1		0	0	0		0	1	0		0	5	9	0	
% Trucks & Bikes	1	1	1.5	9.4	0	0	0	7.5	0.3	1.5	0	6.5	0	1	1.6	29.5	

Groups: Principal Cars & Bikes - Trucks & Bikes																	
Galilee/Gallies Way From North				Main Street From East				Vasser Street From South				Main Street From West				Vasser Street From East	
Start Time	Right	Thru	Left	Thru	Right	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Thru	Left	
04:30 PM	32	69	5	82	9	34	9	25	33	63	3	56	14	51	50	25	
04:45 PM	41	61	6	103	6	18	14	40	28	75	9	60	11	51	59	29	
Total	73	130	11	185	15	52	23	65	61	138	12	116	25	102	109	54	
05:00 PM	46	57	5	141	3	31	13	34	45	71	14	98	13	47	67	49	
05:15 PM	47	63	6	123	5	23	12	57	36	93	10	77	10	59	59	38	
05:30 PM	50	59	8	156	8	36	13	16	38	97	24	72	8	46	61	35	
05:45 PM	58	78	10	103	11	19	20	25	54	76	11	79	17	55	72	24	
Total	201	257	29	523	27	109	58	132	173	337	59	326	48	207	259	148	
06:00 PM	35	69	8	91	7	23	12	43	52	81	8	97	11	62	52	33	
06:15 PM	19	71	9	101	5	16	5	31	38	61	8	62	14	61	42	32	
06:30 PM	28	44	3	67	4	26	4	25	25	51	13	56	6	33	51	28	
06:45 PM	28	49	7	76	5	14	13	22	31	46	12	31	5	36	33	22	
Total	110	224	27	335	21	79	34	121	146	239	41	246	36	192	178	114	
Grand Total	384	611	67	1043	63	240	115	318	380	714	112	688	109	501	546	312	
Approach %	36.2	57.5	6.3	15.1	57.4	27.5		31.5	59.2	9.3		9.4	43.3	47.2		38.1	
Total %	10	15.9	1.7	1.6	6.2	3		9.9	18.6	2.9		2.8	13	14.2		61.9	
Cars & Peds	380	605	66		63	240	115		379	703	112		109	496	537	0	
% Cars & Peds	99	99	98.5	90.6	100	100	100	99.5	99.7	98.5	100	93.5	100	99	98.4	70.5	
Trucks & Bikes	4	6	1		0	0	0		0	1	0		0	5	9	0	
% Trucks & Bikes	1	1	1.5	9.4	0	0	0	7.5	0.3	1.5	0	6.5	0	1	1.6	29.5	
Grand Total	384	611	67	1043	63	240	115	318	380	714	112	688	109	501	546	312	
Approach %	36.2	57.5	6.3	15.1	57.4	27.5		31.5	59.2	9.3		9.4	43.3	47.2		38.1	
Total %	10	15.9	1.7	1.6	6.2	3		9.9	18.6	2.9		2.8	13	14.2		61.9	
Cars & Peds	380	605	66		63	240	115		379	703	112		109	496	537	0	
% Cars & Peds	99	99	98.5	90.6	100	100	100	99.5	99.7	98.5	100	93.5	100	99	98.4	70.5	
Trucks & Bikes	4	6	1		0	0	0		0	1	0		0	5	9	0	
% Trucks & Bikes	1	1	1.5	9.4	0	0	0	7.5	0.3	1.5	0	6.5	0	1	1.6	29.5	

Groups: Principal Cars & Bikes - Trucks & Bikes																	
Galilee/Gallies Way From North				Main Street From East				Vasser Street From South				Main Street From West				Vasser Street From East	
Start Time	Right	Thru	Left	Thru	Right	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Thru	Left	
04:30 PM	32	69	5	82	9	34	9	25	33	63	3	56	14	51	50	25	
04:45 PM	41	61	6	103	6	18	14	40	28	75	9	60	11	51	59	29	
Total	73	130	11	185	15	52	23	65	61	138	12	116	25	102	109	54	
05:00 PM	46	57	5	141	3	31	13	34	45	71	14	98	13	47	67	49	
05:15 PM	47	63	6	123	5	23	12	57	36	93	10	77	10	59	59	38	
05:30 PM	50	59	8	156	8	36	13	16	38	97	24	72	8	46	61	35	
05:45 PM	58	78	10	103	11	19	20	25	54	76	11	79	17	55	72	24	
Total	201	257	29	523	27	109	58	132	173	337	59	326	48	207	259	148	
06:00 PM	35	69	8	91	7	23	12	43	52	81	8	97	11	62	52	33	
06:15 PM	19	71	9	101	5	16	5	31	38	61	8	62	14	61	42	32	
06:30 PM	28	44	3	67	4	26	4	25	25	51	13	56	6	33	51	28	
06:45 PM	28	49	7	76	5	14	13	22	31	46	12	31	5	36	33	22	
Total	110	224	27	335	21	79	34	121	146	239	41	246	36	192	178	114	
Grand Total	384	611	67	1043	63	240	115	318	380	714	112	688	109	501	546	312	
Approach %	36.2	57.5	6.3	15.1	57.4	27.5		31.5	59.2	9.3		9.4	43.3	47.2		38.1	
Total %	10	15.9	1.7	1.6	6.2	3		9.9	18.6	2.9		2.8	13	14.2		61.9	
Cars & Peds	380	605	66		63	240	115		379	703	112		109	496	537	0	
% Cars & Peds	99	99	98.5	90.6	100	100	100	99.5	99.7	98.5	100	93.5	100	99	98.4	70.5	
Trucks & Bikes	4	6	1		0	0	0		0	1	0		0	5	9	0	
% Trucks & Bikes	1	1	1.5	9.4	0	0	0	7.5	0.3	1.5	0	6.5	0	1	1.6	29.5	
Grand Total	384	611	67	1043	63	240	115	318	380	714	112	688	109	501	546	312	
Approach %	36.2	57.5	6.3	15.1	57.4	27.5		31.5	59.2	9.3		9.4	43.3	47.2		38.1	
Total %	10	15.9	1.7	1.6	6.2	3		9.9	18.6	2.9		2.8	13	14.2		61.9	
Cars & Peds	380	605	66		63	240	115		379	703	112		109	496	537	0	
% Cars & Peds	99	99	98.5	90.6	100	100	100	99.5	99.7	98.5	100	93.5	100	99	98.4	70.5	
Trucks & Bikes	4	6	1		0	0	0		0	1	0		0	5	9	0	
% Trucks & Bikes	1	1	1.5	9.4	0	0	0	7.5	0.3	1.5	0	6.5	0	1	1.6	29.5	

Groups: Principal Cars & Bikes - Trucks & Bikes																	
Galilee/Gallies Way From North				Main Street From East				Vasser Street From South				Main Street From West				Vasser Street From East	
Start Time	Right	Thru	Left	Thru	Right	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Thru	Left	
04:30 PM	32	69	5	82	9	34	9	25	33	63	3	56	14	51	50	25	
04:45 PM	41	61	6	103	6	18	14	40	28								

Groups: Principal Cars & Bikes - Trucks & Bikes																
Galilee Way From North				Main Street From East				Vasser Street From South				Main Street From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total
Peak Hour Analysis From 04:30 PM to 06:45 PM - Peak 1 of 1																
Peak Hour for Intersection Begins at 05:00 PM																
04:30 PM	32	69	5	106	3	21	12	47	45	71	14	130	13	47	67	127
04:45 PM	41	61	6	108	5	23	12	40	36	93	10	139	10	59	59	128
05:15 PM	47	63	6	116	8	36	13	57	38	97	24	159	8	46	61	115
05:30 PM	50	59	8	117	8	36	13	57	38	97	24	159	8	46	61	115
05:45 PM	58	78	10	146	11	19	20	50	54	76	11	141	17	55	72	144
05:45 PM	58	78	10	146	11	19	20	50	54	76	11	141	17	55	72	144
Total Volume	201	257	29	487	27	109	58	194	173	337	59	569	48	207	259	514
% App. Total	41.3	52.8	6		13.9	56.2	29.9	10.4	30.4	59.2	10.4	10.4	9.3	40.3	50.4	
PHF	0.86	0.84	0.725	0.84	0.74	0.757	0.75	0.851	0.81	0.869	0.815	0.885	0.706	0.877	0.899	0.92
Cars & Bikes	95	144	10	249	17	69	38	124	106	203	33	343	46	154	194	500
% Cars & Bikes	95.5	99.2	100	99.3	0	0	0	0	100	100	98.5	100	98.4	98.8	98.8	98.8
Trucks & Bikes	0	2	0	0.6	0	0	0	0	0	0	1.5	0	1.1	0	3	5
% Trucks & Bikes	0.5	0.8	0	0.6	0	0	0	0	0	0.6	1.5	0	1.1	0	1.9	1.6

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N/S: Galileo Galilei Way
E/W: Broadway
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047AA
Site Code : Y1049241
Start Date : 10/26/2010
Page No : 1

S: Ames Street
E/W: Broadway
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047GG
Site Code : Y1049241
Start Date : 10/28/2010
Page No : 1

Groups Principals: Cars & Bids - Trucks & Bikes															
Galileo Galilei Way From North				Broadway From East				Galileo Galilei Way From South				Broadway From West			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left
04:30 PM	34	62	12	53	6	129	35	16	22	84	23	94	13	83	40
04:45 PM	35	57	14	64	16	242	73	25	39	181	57	171	24	166	79
Total	69	119	26	117	22	371	108	41	61	365	80	365	37	349	119
05:00 PM	35	56	17	91	9	131	40	42	15	107	24	138	12	115	43
05:15 PM	28	69	16	91	4	103	30	19	125	33	135	17	95	51	38
05:30 PM	30	53	21	122	7	111	42	28	24	105	38	157	17	74	22
05:45 PM	36	78	13	112	6	97	32	29	20	98	31	118	18	79	43
Total	129	256	67	416	26	442	145	129	78	435	126	536	52	310	120
06:00 PM	22	60	13	111	12	113	31	41	19	95	36	126	11	79	32
06:15 PM	21	55	20	183	7	124	33	31	21	84	26	111	16	97	44
06:30 PM	31	40	7	83	3	98	23	23	15	69	26	142	12	67	27
06:45 PM	27	48	22	62	8	98	22	24	16	70	24	157	13	67	17
Total	106	203	62	345	30	432	109	119	71	319	106	536	52	310	120
Grand Total	304	578	155	878	72	1116	327	273	189	935	289	1255	135	839	370
Approach %	29.3	55.7	14.9	44.8	73.7	21.6	20.5	13.3	66.2	20.5	10.1	6.3	26.9	37.0	37.0
Total %	5.7	10.9	2.9	9.1	1.4	21.1	6.2	3.5	17.7	5.5	2.5	15.8	6.8	11.5	14.6
Cars & Bids	301	571	155	869	71	1108	325	285	187	916	288	135	838	357	370
% Cars & Bids	99	98.8	100	98.9	98.6	99.3	99.4	99.2	99.5	98	99.7	99.4	100	99.9	99.7
Trucks & Bikes	3	7	0	9	1	8	2	4	2	19	1	0	0	1	0
% Trucks & Bikes	1	1.2	0	34.1	1.4	0.7	0.6	19.8	0.5	2	0.3	7.6	0	0.1	0.3

Groups Principals: Cars & Bids - Trucks & Bikes																
Galileo Galilei Way From North				Broadway From East				Galileo Galilei Way From South				Broadway From West				
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total
Peak Hour Analysis From 04:30 PM to 06:45 PM - Peak 1 of 1																
Peak Hour Analysis For Entire Intersection Beginning at 04:45 PM																
04:30 PM	106	171	38	315	10	123	38	171	17	97	34	148	11	63	39	133
04:45 PM	106	171	38	315	108	9	40	180	15	107	24	146	12	43	51	604
05:00 PM	35	56	17	108	9	40	17	97	15	107	24	146	12	43	51	156
05:15 PM	28	69	16	113	4	103	31	138	19	125	33	177	12	95	51	156
05:30 PM	30	53	21	104	7	111	42	160	24	105	38	167	17	74	22	113
Total Volume	128	235	68	431	30	468	151	649	75	434	129	638	52	367	155	574
% App. Total	29.7	54.5	15.8		4.6	72.1	23.3		11.8	68	20.2	51.1	63.9	27	76	29.2
Cars & Bids	127	234	68	354	29	467	150	646	75	434	129	638	52	367	154	569
% Cars & Bids	99.2	99.5	100	99.5	96.7	99.8	99.3	99.5	100	97.2	100	98.1	100	99.4	99.8	99.2
Trucks & Bikes	1	1	0	2	1	1	1	3	0	12	0	12	0	0	1	1.8
% Trucks & Bikes	0.8	0.4	0	0.5	3.3	0.2	0.7	0.5	0	2.8	0	1.9	0	0	0.6	0.2

Groups Principals: Cars & Bids - Trucks & Bikes															
Broadway From East				Ames Street From South				Broadway From West				Broadway From East			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right
04:30 PM	129	42	71	38	27	100	25	123	25	123	25	194	34	578	384
04:45 PM	138	45	107	46	35	150	25	133	25	133	25	206	35	660	416
Total	267	87	178	84	62	250	50	256	50	256	50	400	69	1238	800
05:00 PM	112	28	123	56	43	158	20	125	37	138	34	318	384	702	384
05:15 PM	138	40	107	45	35	203	25	133	46	356	416	772	416	772	416
05:30 PM	107	41	103	30	30	139	21	127	53	295	365	660	365	660	365
05:45 PM	107	41	103	30	30	139	21	127	53	295	365	660	365	660	365
Total	464	144	448	196	147	658	82	529	186	1292	1382	2674	1382	2674	1382
06:00 PM	134	39	68	36	41	129	20	120	26	223	390	613	390	613	390
06:15 PM	141	40	75	31	29	150	21	130	31	256	392	628	392	628	392
06:30 PM	125	29	45	27	32	129	20	125	27	201	358	559	358	559	358
06:45 PM	125	29	45	27	32	129	20	125	27	201	358	559	358	559	358
Total	524	146	248	118	133	464	77	497	114	826	1495	2321	1495	2321	826
Grand Total	1270	368	850	393	339	1320	200	1291	343	2513	3861	6374	3861	6374	2513
Approach %	27.5	25.5	28.5	27.5	48.3	15.7	15.7	32.4	39.4	60.6	60.6	60.6	60.6	60.6	60.6
Cars & Bids	1267	367	848	391	336	1315	200	1285	343	2513	3861	6374	3861	6374	2513
% Cars & Bids	99.8	99.7	99.8	99.5	99.1	96.1	100	99.5	99.1	99.5	99.5	99.5	99.5	99.5	99.5
Trucks & Bikes	3	1	2	2	3	6	6	6	0	0	0	0	0	0	0
% Trucks & Bikes	0.2	0.3	5.2	0.5	0.9	3.9	0	0.5	23.6	0	0	0	0	0	0

Groups Principals: Cars & Bids - Trucks & Bikes															
Broadway From East				Ames Street From South				Broadway From West				From West			
Start Time	Thru	Left	Peds	Right	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right
Peak Hour Analysis From 04:30 PM to 06:45 PM - Peak 1 of 1															
Peak Hour for Entire Intersection Begins at 04:45 PM															
04:30 PM	133	36	169	41	32	73	16	142	158	400	384	702	384	702	384
04:45 PM	138	46	170	45	43	95	25	135	158	772	416	772	416	772	416
05:00 PM	127	35	162	56	39	95	16	144	160	660	365	660	365	660	365
05:15 PM	137	40	178	45	35	80	25	133	159	610	417	610	417	610	417
05:30 PM	128	36	162	56	39	95	16	144	160	617	417	617	417	617	417
05:45 PM	137	40	178	45	35	80	25	133	159	610	417	610	417	610	417
05:50 PM	128	36	162	56	39	95	16	144	160	617	417	617	417	617	417
06:00 PM	137	40	178	45	35	80	25	133	159	610	417	610	417	610	417
06:15 PM	128	36	162	56	39	95	16	144	160	617	417	617	417	617	417
06:30 PM	137	40	178	45	35	80	25	133	159	610	417	610	417	610	417
06:45 PM	128	36	162	56	39	95	16	144	160	617	417	617	417	617	417
Total Volume	510	139	649	198	149	347	77	544	621	1817	1817	1817	1817	1817	1817
% App. Total	78.6	21.4	912	57.1	42.9	876	12.4	87.6	970	969	969	969	969	969	969
PHF	924	369	1293	284	366	650	770	944	1070	941	941	941	941	941	941
Cars & Bids	510	138	648	196	148	344	77	541	618	1810	1810	1810	1810	1810	1810
% Cars & Bids	100	99.3	99.8	99.5	99.3	99.1	100	99.4	99.5	99.5	99.5	99.5	99.5	99.5	99.5
Trucks & Bikes	0	1	1	2	1	3	0	3	0.5	0	0.5	0	0.5	0	0.4
% Trucks & Bikes	0	0.7	0.2	1.0	0.7	0.9	0	0.6	0.5	0	0.5	0	0.5	0	0.4

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N/S: Third Street/U-Turn to Main WB
E/W: Broadway
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047EEEE
Site Code : Y1049241
Start Date : 10/30/2010
Page No : 1

S: Main Street (Right Turn Only)
E/W: Main Street/Broadway EB
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047DDD
Site Code : Y1049241
Start Date : 10/30/2010
Page No : 1

Groups: Principal Cns & Peds - Trucks & Bikes															
Third Street From North				Broadway From East				U-Turn to Main Street WB From South				Broadway From West			
				Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
Start Time	Right	Thru	Left	Peds	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1															
11:00 AM	10	0	19	4	22	78	0	28	0	0	0	6	62	20	20
11:15 AM	15	0	16	2	17	68	0	41	0	0	0	2	67	19	20
11:30 AM	17	0	23	12	29	83	0	51	0	0	0	7	60	25	27
11:45 AM	21	0	18	18	26	82	0	42	0	0	0	4	64	25	21
Total	63	0	76	36	94	311	0	162	0	0	0	19	253	89	88
Grand Total															
12:00 PM	10	0	15	11	18	79	0	45	0	0	0	3	69	21	27
12:15 PM	20	0	16	14	27	95	0	48	0	0	0	8	67	19	38
12:30 PM	9	0	16	16	27	90	0	36	0	0	0	2	69	16	50
12:45 PM	21	0	23	5	24	97	0	33	0	0	0	6	61	25	26
Total	60	0	70	46	96	361	0	162	0	0	0	19	266	81	141
Grand Total															
01:00 PM	26	0	23	19	25	81	0	26	0	0	0	5	71	20	62
01:15 PM	20	0	22	16	32	101	0	38	0	0	0	8	68	20	43
01:30 PM	26	0	15	9	25	97	0	37	0	0	0	6	66	20	55
01:45 PM	14	0	14	17	20	93	0	46	0	0	0	8	66	21	27
Total	86	0	74	61	102	372	0	147	0	0	0	27	271	81	187
Grand Total															
Approach %	209	0	220	143	292	1044	0	471	0	0	0	65	790	251	416
Total %	48.7	0	51.3	21.9	78.1	0	0	0	0	0	0	5.9	71.4	22.7	0
Cars & Peds	207	0	219	991	1064	0	0	0	0	0	0	65	796	269	87
% Cars & Peds	16	0	16	21	36	0	0	0	0	0	0	100	99.3	99.2	0
Trucks & Bikes	2	0	1	3	0	0	0	0	0	0	0	4	2	0	0
% Trucks & Bikes	1	0	0.5	21.7	0.3	0.3	0	7.4	0	0	0	0	0.5	0.8	3.3
Grand Total															
Approach %	86	0	74	61	102	372	0	147	0	0	0	27	271	81	187
Total %	395	0	303	256	406	1408	0	395	0	0	0	395	1013	1013	1408
Cars & Peds	26.4	0	26.4	37.6	26.4	73.6	0	26.4	0	0	0	26.4	73.6	26.4	73.6
% Cars & Peds	30.6	0	30.6	43.9	30.6	52.6	0	30.6	0	0	0	30.6	52.6	30.6	52.6
Trucks & Bikes	97.6	0	97.6	0	97.6	0	0	97.6	0	0	0	97.6	0	97.6	0
% Trucks & Bikes	69.4	0	69.4	0	69.4	0	0	69.4	0	0	0	69.4	0	69.4	0

Groups: Principal Cns & Peds - Trucks & Bikes																
Third Street From North				Broadway From East				U-Turn to Main Street WB From South				Broadway From West				
				Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	
Start Time	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total	Right	Thru	Left	App. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																
Peak Hour for Entire Intersection Begins at 12:45 PM																
11:00 AM	26	0	23	44	24	97	0	121	0	0	0	6	61	25	92	257
11:15 AM	21	0	23	49	25	81	0	106	0	0	0	5	71	20	96	235
11:30 AM	20	0	22	42	32	101	0	133	0	0	0	8	68	20	96	271
11:45 AM	26	0	15	41	25	97	0	122	0	0	0	6	66	20	92	255
Total Volume	93	0	83	176	106	376	0	482	0	0	0	25	266	85	376	1024
% App. Total	52.8	0	47.2	22	22	78	0	482	0	0	0	6.6	70.7	22.6	102.4	954
Grand Total																
01:00 PM	894	0	902	898	828	831	0	906	0	0	0	781	937	850	979	1029
Cns & Peds	91	0	82	173	106	376	0	482	0	0	0	25	266	83	364	1054
% Trucks & Bikes	97.8	0	98.8	98.3	100	100	0	100	0	0	0	100	100	97.6	99.5	99.5
Trucks & Bikes	2	0	1	2	0	0	0	0	0	0	0	0	0	0	2	0.5
% Trucks & Bikes	2.2	0	1.2	1.2	0	0	0	0	0	0	0	0	0	2.4	0.5	0.5

Groups: Principal Cns & Peds - Trucks & Bikes															
Main Street (To Longfellow Bridge) From East				Main Street (RT Only) From South				Broadway (EB Only) From West				Incl. Total			
Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right				
Start Time	Thru	Left	Peds	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Excl. Total	Incl. Total	Incl. Total	Incl. Total
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1															
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	6	130	144	144
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	14	114	128	128
11:30 AM	0	0	0	0	48	0	11	0	83	0	11	131	142	142	142
11:45 AM	0	0	0	0	52	0	12	0	83	0	12	135	147	147	147
Total	0	0	0	0	152	0	43	0	331	0	43	526	569	569	569
Grand Total															
12:00 PM	0	0	0	0	50	0	7	0	84	0	7	134	141	141	141
12:15 PM	0	0	0	0	46	0	10	0	82	0	10	128	138	138	138
12:30 PM	0	0	0	0	44	0	11	0	85	0	11	129	140	140	140
12:45 PM	0	0	0	0	45	0	8	0	86	0	8	134	142	142	142
Total	0	0	0	0	185	0	36	0	337	0	36	522	558	558	558
Grand Total															
01:00 PM	0	0	0	0	50	0	11	0	89	0	11	139	150	150	150
01:15 PM	0	0	0	0	45	0	16	0	82	0	16	127	143	143	143
01:30 PM	0	0	0	0	45	0	14	0	80	0	14	126	140	140	140
01:45 PM	0	0	0	0	58	0	4	0	82	0	4	140	144	144	144
Total	0	0	0	0	198	0	45	0	344	0	45	542	587	587	587
Grand Total															
Grand Total	0	0	0	0	578	0	124	0	1002	0	124	1590	1714	1714	1714
Approach %	0	0	0	0	100	0	63.6	0	63.6	0	7.2	92.8	92.8	92.8	92.8
Total %	0	0	0	0	36.4	0	0	0	36.4	0	0	0	0	0	0
Cars & Peds	0	0	0	0	574	0	0	0	1007	0	0	0	0	0	0
% Cars & Peds	0	0	0	0	99.3	0	0	0	99.3	0	0	0	0	0	0
Trucks & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks & Bikes	0	0	0	0	0.7	0	33.1	0	0.5	0	0	0	0	0	0
% Trucks & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Groups: Principal Cns & Peds - Trucks & Bikes																	
Main Street (To Longfellow Bridge) From East								Main Street (RT Only) From South				Broadway (EB Only) From West				Incl. Total	
Thru		Left		Peds		Right		Thru		Left		Peds		Right			
Start Time	Thru	Left	Peds	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Excl. Total	
Peak Hour Analysis From 11:00 AM to 01:45 PM - Peak 1 of 1																	
11:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6	
11:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14	
11:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	11	
11:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	
Total Volume	0	0	0	0	0	0	0	198	0	198	0	198	0	344	0	542	
% App. Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100	0	100	0	100	0	100	0	95.8	
PHF																	
Cars & Peds	0	0	0	0	0	0	0	198	0	198	0	198	0	344	0	542	
% Trucks & Bikes	0	0	0	0	0	0	0	100	0	100	0	100	0	99.2	0	536.4	
% Trucks & Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0.4	

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N/S: Ames Street
E/W: Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047CCC
Site Code : Y1049241
Start Date : 10/30/2010
Page No : 1

Groups: Principal Cans & Bikes - Trucks & Bikes												
Ames Street From North				Main Street From East				Main Street From South				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	
11:00 AM	5	6	4	32	2	4	0	9	3	56	2	124
11:15 AM	4	9	10	41	2	4	0	11	4	38	8	101
11:30 AM	13	8	5	27	7	6	0	16	8	52	14	105
11:45 AM	9	5	8	42	4	5	3	26	2	18	10	130
Total	31	28	27	142	20	24	4	74	3	54	25	460
12:00 PM	12	5	8	54	2	7	1	20	3	11	5	141
12:15 PM	6	7	11	57	3	5	1	30	1	10	4	64
12:30 PM	7	8	7	61	1	4	1	14	7	36	8	37
12:45 PM	10	5	9	53	1	4	1	32	0	14	6	64
Total	35	25	35	225	7	20	4	106	5	49	22	613
01:00 PM	7	9	8	58	4	11	1	23	3	5	4	66
01:15 PM	8	7	8	77	5	9	0	12	1	8	4	74
01:30 PM	10	16	9	79	1	7	0	29	0	6	10	64
01:45 PM	10	10	7	52	1	7	1	13	2	11	6	42
Total	35	42	32	206	11	34	2	77	6	30	24	246
Grand Total	101	95	94	633	38	78	10	257	14	133	71	668
Approach %	34.8	32.8	32.4	30.2	61.9	7.9	6.4	61	32.6	14.5	77.1	8.5
Total %	7.7	7.2	7.1	2.9	5.9	0.8	1.1	10.1	5.4	7.5	4.0	4.4
Cars & Bikes	101	95	94	633	38	78	10	257	14	133	71	668
% Cars & Bikes	100	100	100	94.6	100	100	100	94.6	94.7	91.9	99	98.9
Trucks & Bikes	0	0	0	0	0	0	0	0	0	1	4	0
% Trucks & Bikes	0	0	0	0	0	0	0	0	0	0.8	5.6	8.1

Groups: Principal Cans & Bikes - Trucks & Bikes												
Ames Street From North				Main Street From East				Ames Street From South				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	
01:00 PM	7	9	8	24	4	11	1	16	3	5	4	12
01:15 PM	8	7	8	23	5	9	0	14	1	8	4	13
01:30 PM	10	16	9	35	1	7	0	6	10	16	4	47
01:45 PM	10	10	7	27	1	7	1	9	2	11	6	19
Total	35	42	32	109	11	34	2	47	6	30	24	246
% App. Total	32.1	36.5	29.4	23.4	72.3	4.3	2	47	10	50	40	789
Cars & Peds	35	42	32	109	11	34	2	47	6	30	23	59
% Cars & Peds	100	100	100	100	100	100	100	95.8	100	98.5	100	98.8
Trucks & Bikes	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks & Bikes	0	0	0	0	0	0	0	0	0	0	0	0

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N/S: Galilee Way/Vassar Street
E/W: Main Street
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047BBB
Site Code : Y1049241
Start Date : 10/30/2010
Page No : 1

Groups: Principal Cans & Bikes - Trucks & Bikes												
Galilee Way From North				Main Street From East				Vassar Street From South				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	
11:00 AM	17	36	6	24	6	8	1	4	22	18	2	115
11:15 AM	22	33	7	23	4	4	3	9	21	24	4	118
11:30 AM	15	36	9	15	5	11	10	12	11	24	3	19
11:45 AM	16	54	8	21	6	12	17	29	13	18	2	16
Total	70	159	30	83	21	35	31	54	8	116	77	59
12:00 PM	19	38	6	24	12	18	9	17	16	25	4	15
12:15 PM	14	34	6	36	3	12	6	12	16	25	3	8
12:30 PM	19	37	9	43	7	6	14	17	25	0	27	5
12:45 PM	16	40	4	33	4	11	7	15	17	24	1	36
Total	68	149	25	138	26	48	28	58	66	99	8	86
01:00 PM	16	47	7	27	5	7	3	17	25	37	3	48
01:15 PM	21	45	5	34	6	10	3	17	26	26	3	33
01:30 PM	20	36	7	39	4	12	15	24	13	28	3	36
01:45 PM	19	33	11	17	5	14	6	9	24	32	3	28
Total	76	161	30	117	20	45	27	67	88	125	12	145
Grand Total	214	469	85	336	67	126	86	179	221	306	31	295
Approach %	27.9	61.1	11.1	24	45.2	30.8	39.6	54.8	5.6	7.4	55.2	37.4
Total %	9.5	20.8	3.8	3	5.6	3.8	9.8	13.6	1.4	2.1	15.9	10.7
Cars & Bikes	214	469	85	336	67	126	86	179	221	306	31	295
% Cars & Bikes	100	100	100	98.8	98.6	97.7	98.4	97.7	96.6	97.2	98.1	97.0
Trucks & Bikes	4	5	1	0	1	2	2	0	3	7	1	0
% Trucks & Bikes	1.9	1.1	1.2	10.4	1.5	1.6	2.3	6.7	1.4	2.3	3.2	13.9

Groups: Principal Cans & Bikes - Trucks & Bikes												
Galilee Way From North				Main Street From East				Vassar Street From South				Int. Total
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	
01:00 PM	16	47	5	70	5	7	3	15	25	37	3	65
01:15 PM	21	45	5	71	6	10	3	19	26	26	3	55
01:30 PM	20	36	7	63	4	12	15	31	13	28	3	44
01:45 PM	19	33	11	63	5	14	6	25	14	32	3	59
Total	76	161	30	267	20	45	27	90	88	125	12	145
% App. Total	26.5	60.3	11.2	22.2	47.8	30	7.36	39.5	55.2	5.4	7.9	55.2
Cars & Peds	75	160	30	265	20	42	27	89	86	121	12	219
% Cars & Peds	98.7	99.4	100	99.3	100	97.7	100	98.9	97.7	98.4	100	98.2
Trucks & Bikes	1	1	0	2	0	1	0	1	1	1	0	1
% Trucks & Bikes	1.3	0.6	0	0.7	0	2.3	0	1.1	2.3	1.6	0	0.8

Transportation Data Corporation
Mario Perone, mperone1@verizon.net
t (781) 587-0086 f (781) 587-0089

N/S: Galileo Galilei Way
E/W: Broadway
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047AAA
Site Code : Y1049241
Start Date : 10/30/2010
Page No : 1

Transportation Data Corporation
Mario Perone, mperone1@verizon.net
t (781) 587-0086 f (781) 587-0089

S: Ames Street
E/W: Broadway
City, State: Cambridge, MA
Client: McM/P. Viveiros

File Name : 04047GGG
Site Code : Y1049241
Start Date : 10/30/2010
Page No : 1

Groups: Principal Cars & Bids - Trucks & Bikes													
Galileo Galilei Way From North							Galileo Galilei Way From South						
Broadway From East			Broadway From West				Broadway From East			Broadway From West			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Intr. Total
11:00 AM	24	33	8	24	2	69	10	31	12	58	18	26	89
11:15 AM	35	46	5	23	5	45	5	15	6	36	10	20	99
11:30 AM	28	33	6	47	1	73	8	12	11	43	13	13	103
11:45 AM	34	46	8	25	5	86	9	11	14	34	9	25	134
Total	121	158	27	119	13	273	30	46	38	142	42	174	425
12:00 PM	25	34	5	28	2	62	10	19	10	33	16	56	123
12:15 PM	30	33	7	46	1	85	9	16	10	23	16	44	102
12:30 PM	35	35	4	31	2	80	14	12	11	25	17	69	125
12:45 PM	33	42	6	23	7	95	8	11	9	29	14	76	151
Total	123	144	22	128	12	322	41	58	40	110	63	245	328
01:00 PM	16	59	3	38	2	90	6	7	13	33	13	71	131
01:15 PM	29	39	5	24	1	101	12	15	10	24	9	74	122
01:30 PM	34	42	6	44	3	80	10	16	8	35	12	71	145
01:45 PM	36	41	4	29	2	71	6	28	10	40	11	77	146
Total	115	181	18	135	8	341	34	66	41	132	45	235	347
Grand Total	359	483	67	382	33	937	105	170	119	384	150	712	1900
Approach %	39.5	53.1	7.4		3.1	87.2	9.8		12	774	270	236	1500
Cars & Bids	9.3	12.5	1.7		0.3	24.3	2.7		3.1	10	3.9	4.5	20.1
% Trucks & Bikes	99	100	86.9		99.7	99.4	100		97.2	99.4	98.6	80.9	0
% Trucks & Bikes	0.3	1	0	13.1	3	0.6	0	12.4	0.8	2.1	0	12.2	0

Groups: Principal Cars & Bids - Trucks & Bikes													
Broadway From East							Broadway From West						
Start Time	Thru	Left	Peds	Right	Thru	Left	Thru	Left	Peds	Right	Thru	Left	Intr. Total
11:00 AM	74	19	9	18	8	30	10	8	15	9	70	4	198
11:15 AM	71	25	10	17	11	42	10	12	8	15	69	11	212
11:30 AM	81	20	20	13	11	59	11	11	9	69	11	68	202
11:45 AM	283	83	49	59	36	168	37	274	34	251	772	772	1023
Total	65	22	27	11	10	43	7	77	12	82	102	102	374
12:00 PM	77	17	24	9	11	42	9	75	10	76	201	76	278
12:15 PM	80	17	17	14	10	60	9	67	7	84	194	194	278
12:30 PM	94	22	16	13	9	57	12	70	3	76	220	220	296
12:45 PM	316	78	84	47	40	202	37	289	32	318	807	807	1125
Total	78	21	21	10	7	59	7	75	7	86	188	188	284
01:00 PM	92	18	7	13	8	33	8	69	10	50	208	208	258
01:15 PM	78	27	13	12	10	46	8	80	14	73	215	215	288
01:30 PM	76	21	9	15	4	50	12	76	5	64	204	204	268
01:45 PM	324	87	50	50	29	187	35	300	36	273	825	825	1088
Total	923	248	183	156	105	557	109	863	102	842	2404	2404	3346
Grand Total	78.8	21.2	11.2	59.8	40.2	11.2	35.8	4.4	25.9	74.1	74.1	74.1	3161
Approach %	918	248	183	156	104	557	109	858	102	842	2404	2404	3161
Cars & Bids	99.3	100	99.2	99.4	99	91.6	100	99.4	92.2	99.4	99.4	99.4	97.4
% Trucks & Bikes	0.5	0	0.8	0.6	1	8.4	0	0.6	7.8	0	0	0	2.6

Groups: Principal Cars & Bids - Trucks & Bikes													
Galileo Galilei Way From North							Galileo Galilei Way From South						
Broadway From East			Broadway From West				Broadway From East			Broadway From West			
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Intr. Total
11:00 PM	16	59	3	78	2	90	6	98	13	33	13	59	115
01:00 PM	29	39	5	73	1	101	12	114	10	24	9	43	121
01:15 PM	34	42	6	82	3	80	10	93	8	35	12	55	139
01:30 PM	36	41	4	81	2	71	6	28	10	40	11	77	146
01:45 PM	115	181	18	135	8	341	34	66	41	132	45	235	347
Total	359	483	67	382	33	937	105	170	119	384	150	712	1900
Approach %	39.5	53.1	7.4		3.1	87.2	9.8		12	774	270	236	1500
Cars & Bids	9.3	12.5	1.7		0.3	24.3	2.7		3.1	10	3.9	4.5	20.1
% Trucks & Bikes	99	100	86.9		99.7	99.4	100		97.2	99.4	98.6	80.9	0
% Trucks & Bikes	0.3	1	0	13.1	3	0.6	0	12.4	0.8	2.1	0	12.2	0

Groups: Principal Cars & Bids - Trucks & Bikes													
Broadway From East							Broadway From West						
Start Time	Thru	Left	Peds	Right	Thru	Left	Thru	Left	Peds	Right	Thru	Left	Intr. Total
11:00 PM	74	19	9	18	8	30	10	8	15	9	70	4	198
11:15 PM	71	25	10	17	11	42	10	12	8	15	69	11	212
11:30 PM	81	20	20	13	11	59	11	11	9	69	11	68	202
11:45 PM	283	83	49	59	36	168	37	274	34	251	772	772	1023
Total	65	22	27	11	10	43	7	77	12	82	102	102	374
12:00 PM	77	17	24	9	11	42	9	75	10	76	201	76	278
12:15 PM	80	17	17	14	10	60	9	67	7	84	194	194	278
12:30 PM	94	22	16	13	9	57	12	70	3	76	220	220	296
12:45 PM	316	78	84	47	40	202	37	289	32	318	807	807	1125
Total	78	21	21	10	7	59	7	75	7	86	188	188	284
01:00 PM	92	18	7	13	8	33	8	69	10	50	208	208	258
01:15 PM	78	27	13	12	10	46	8	80	14	73	215	215	288
01:30 PM	76	21	9	15	4	50	12	76	5	64	204	204	268
01:45 PM	324	87	50	50	29	187	35	300	36	273	825	825	1088
Total	923	248	183	156	105	557	109	863	102	842	2404	2404	3346
Grand Total	78.8	21.2	11.2	59.8	40.2	11.2	35.8	4.4	25.9	74.1	74.1	74.1	3161
Approach %	918	248	183	156	104	557	109	858	102	842	2404	2404	3161
Cars & Bids	99.3	100	99.2	99.4	99	91.6	100	99.4	92.2	99.4	99.4	99.4	97.4
% Trucks & Bikes	0.5	0	0.8	0.6	1	8.4	0	0.6	7.8	0	0	0	2.6

Groups: Principal Cars & Bids - Trucks & Bikes													
Broadway From East							Broadway From West						
Start Time	Thru	Left	Peds	Right	Thru	Left	Thru	Left	Peds	Right	Thru	Left	Intr. Total
11:00 PM	74	19	9	18	8	30	10	8	15	9	70	4	198
11:15 PM	71	25	10	17	11	42	10	12	8	15	69	11	212
11:30 PM	81	20	20	13	11	59	11	11	9	69	11	68	202
11:45 PM	283	83	49	59	36	168	37	274	34	251	772	772	1023
Total	65	22	27	11	10	43	7	77	12	82	102	102	374
12:00 PM	77	17	24	9	11	42	9	75	10	76	201	76	278
12:15 PM	80	17	17	14	10	60	9	67	7	84	194	194	278
12:30 PM	94	22	16	13	9	57	12	70	3	76	220	220	296
12:45 PM	316	78	84	47	40	202	37	289	32	318	807	807	1125
Total	78	21	21	10	7	59	7	75	7	86	188	188	284
01:00 PM	92	18	7	13	8	33	8	69	10	50	208	208	258
01:15 PM	78	27	13	12	10	46	8	80	14	73	215	215	288
01:30 PM	76	21	9	15	4	50	12	76	5	64	204	204	268
01:45 PM	324	87	50	50	29	187	35	300	36	273	825	825	1088
Total	923	248	183	156	105	557	109	863	102	842	2404	2404	3346
Grand Total	78.8	21.2	11.2	59.8	40.2	11.2	35.8	4.4	25.9	74.1	74.1	74.1	3161
Approach %	918	248	183	156	104	557	109	858	102	842	2404	2404	3161
Cars & Bids	99.3	100	99.2	99.4	99	91.6	100	99.4	92.2	99.4	99.4	99.4	97.4
% Trucks & Bikes	0.5	0	0.8	0.6	1	8.4	0	0.6	7.8	0	0	0	2.6



N/S Street : Location E
E/W Street:
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000E
Site Code : 0380000E
Start Date : 5/13/2010
Page No : 1

Groups Printed- Cars - Trucks

Start Time	From North		From East		From South		From West		Int. Total
	4	1	8	6	12	9	16	14	
07:00	0	1	2	0	14	0	0	2	19
07:15	1	3	9	2	19	2	1	0	37
07:30	3	0	9	2	13	2	2	3	34
07:45	0	2	11	0	18	2	0	1	34
Total	4	6	31	4	64	6	3	6	124
08:00	0	3	22	0	16	3	1	1	46
08:15	0	2	11	0	14	3	0	5	35
08:30	1	0	14	0	28	0	0	2	45
08:45	0	1	17	0	30	4	1	1	54
Total	1	6	64	0	88	10	2	9	180
Grand Total	5	12	95	4	152	16	5	15	304
Approch %	29.4	70.6	96	4	90.5	9.5	25	75	
Total %	1.6	3.9	31.2	1.3	50	5.3	1.6	4.9	
Cars	5	10	95	2	152	13	1	15	293
% Cars	100	83.3	100	50	100	81.2	20	100	96.4
Trucks	0	2	0	2	0	3	4	0	11
% Trucks	0	16.7	0	50	0	18.8	80	0	3.6

Accurate Counts
978-664-2565

N/S Street : Location E
E/W Street:
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000e
Site Code : 0380000E
Start Date : 5/13/2010
Page No : 1

Groups Printed- Cars

Start Time	From North		From East		From South		From West		Int. Total
	4	1	8	6	12	9	16	14	
07:00	0	1	2	0	14	0	0	2	19
07:15	1	3	9	1	19	2	0	0	35
07:30	3	0	9	1	13	1	0	3	30
07:45	0	1	11	0	18	1	0	1	31
Total	4	4	31	2	64	4	0	6	115
08:00	0	3	22	0	16	3	0	1	45
08:15	0	2	11	0	14	3	0	5	35
08:30	1	0	14	0	28	0	0	2	45
08:45	0	1	17	0	30	3	1	1	53
Total	1	6	64	0	88	9	1	9	178
Grand Total	5	10	95	2	152	13	1	15	293
Approch %	33.3	66.7	97.9	2.1	92.1	7.9	6.2	93.8	
Total %	1.7	3.4	32.4	0.7	51.9	4.4	0.3	5.1	

Groups Printed- Cars

Start Time	From North		From East		From South		From West		Int. Total
	4	1	8	6	12	9	16	14	
07:00	0	3	22	0	16	3	0	1	45
07:15	0	2	11	0	14	3	0	5	35
07:30	1	0	14	0	28	0	28	0	45
07:45	0	1	17	0	30	3	33	1	53
Total Volume	1	6	64	0	88	9	97	1	178
% App. Total	14.3	85.7	100	0	90.7	9.3	10	90	
PHF	.250	.500	.727	.000	.727	.733	.750	.450	.500

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 08:00

Peak Hour for Each Approach Begins at:

Start Time	From North		From East		From South		From West		Int. Total
	4	1	8	6	12	9	16	14	
07:15	1	3	22	0	16	3	0	1	45
+0 mins.	3	0	11	0	14	3	0	5	35
+15 mins.	0	0	14	0	28	0	28	0	45
+30 mins.	0	1	17	0	30	3	33	1	53
+45 mins.	0	3	3	0	17	20	3	5	5
Total Volume	4	6	64	0	88	9	97	0	10
% App. Total	.40	.60	100	0	90.7	9.3	97	0	100
PHF	.333	.500	.625	.727	.733	.750	.735	.000	.500

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

Start Time	From North		From East		From South		From West		Int. Total
	4	1	8	6	12	9	16	14	
07:15	1	3	22	0	16	3	1	1	46
+0 mins.	3	0	11	0	14	3	0	5	35
+15 mins.	0	0	14	0	28	0	2	2	45
+30 mins.	0	2	17	0	30	4	34	1	54
+45 mins.	0	3	3	0	17	20	3	5	5
Total Volume	4	8	64	0	88	10	98	3	10
% App. Total	.33.3	.66.7	100	0	89.8	10.2	23.1	76.9	13
PHF	.333	.667	.750	.727	.733	.625	.721	.375	.650



N/S Street : Location E
E/W Street:
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000E
Site Code : 0380000E
Start Date : 5/13/2010
Page No : 1

Groups Printed- Trucks									
Start Time	From North		From East		From South		From West		Int. Total
07:00	4	1	8	6	12	9	16	14	0
07:15	0	0	0	0	0	0	0	0	0
07:30	0	0	0	1	0	0	1	0	2
07:45	0	0	0	1	0	1	2	0	4
07:45	0	2	0	0	0	1	0	0	3
Total	0	2	0	2	0	2	3	0	9
08:00	0	0	0	0	0	0	1	0	1
08:15	0	0	0	0	0	0	0	0	0
08:30	0	0	0	0	0	0	0	0	0
08:45	0	0	0	0	0	1	0	0	1
Total	0	0	0	0	0	1	1	0	2
Grand Total	0	2	0	2	0	3	4	0	11
Approch %	0	100	0	100	0	100	100	0	0
Total %	0	18.2	0	18.2	0	27.3	36.4	0	0

Start Time	From North		From East		From South		From West		Int. Total
07:00	4	1	8	6	12	9	16	14	0
07:15	0	0	0	1	0	0	1	0	1
07:30	0	0	0	1	0	1	2	0	2
07:45	0	2	0	0	0	1	0	0	3
08:00	0	0	0	0	0	0	1	0	1
Total Volume	0	2	0	2	0	2	4	0	10
% App. Total	0	100	0	100	0	100	100	0	0
PHF	.000	.250	.000	.500	.000	.500	.500	.000	.500

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

07:00	0	0	0	0	0	0	0	0	1
+0 mins.	0	0	0	1	0	0	2	0	2
+15 mins.	0	0	0	1	0	1	0	0	1
+30 mins.	0	2	0	0	0	1	1	0	0
+45 mins.	0	2	0	0	0	1	1	0	1
Total Volume	0	2	0	2	0	2	4	0	4
% App. Total	0	100	0	100	0	100	100	0	0
PHF	.000	.250	.000	.500	.000	.500	.500	.000	.500

Accurate Counts 978-664-2565

N/S Street : Location E
E/W Street:
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000e
Site Code : 0380000E
Start Date : 5/13/2010
Page No : 1

Groups Printed- Cars - Trucks									
Start Time	From North		From East		From South		From West		Int. Total
11:00	4	1	8	6	12	9	16	14	25
11:15	0	2	4	0	8	4	3	4	31
11:30	0	0	6	2	10	6	1	4	32
11:45	1	3	6	0	13	3	2	5	23
Total	1	8	24	2	36	16	6	18	111
12:00	1	0	9	0	6	11	0	9	36
12:15	0	0	4	0	8	3	1	10	29
12:30	4	2	8	0	6	9	0	8	37
12:45	0	2	2	0	4	3	1	11	23
Total	5	7	23	0	24	26	2	38	125
Grand Total	6	15	47	2	60	42	8	56	236
Approch %	28.6	71.4	95.9	4.1	58.8	41.2	12.5	87.5	23.7
Total %	2.5	6.4	19.9	0.8	25.4	17.8	3.4	23.7	6.5
Cars	5	15	47	1	59	42	7	56	232
% Cars	83.3	100	100	50	98.3	100	87.5	100	98.3
Trucks	1	0	0	1	1	0	1	0	4
% Trucks	16.7	0	0	50	1.7	0	12.5	0	1.7

Start Time	From North		From East		From South		From West		Int. Total
11:00	4	1	8	6	12	9	16	14	0
11:15	1	1	8	0	5	3	8	0	5
11:30	1	0	9	0	6	11	0	9	36
11:45	0	3	4	0	8	3	11	10	29
Total Volume	6	6	29	0	25	26	51	32	125
% App. Total	50	50	100	0	49	51	3	97	100
PHF	.375	.500	.806	.000	.781	.591	.750	.800	.845

Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

11:45	1	1	2	8	11	6	16	0	9
+0 mins.	1	0	6	2	10	3	16	0	11
+15 mins.	1	0	6	0	13	3	16	1	10
+30 mins.	0	3	8	0	5	3	8	0	8
+45 mins.	4	2	6	0	9	6	11	1	12
Total Volume	6	6	29	2	34	23	57	2	38
% App. Total	50	50	93.5	6.5	59.6	40.4	5	95	40
PHF	.375	.500	.806	.250	.861	.654	.838	.500	.833



N/S Street : Location E
E/W Street:
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000e
Site Code : 0380000E
Start Date : 5/13/2010
Page No : 1

Groups Printed- Cars

Start Time	From North		From East		From South		From West		Int. Total
	4	1	8	6	12	9	16	14	
11:00	0	2	4	0	8	4	2	4	24
11:15	0	0	6	1	10	6	1	4	30
11:30	0	3	6	0	13	3	2	5	32
11:45	1	1	8	0	5	3	0	5	23
Total	1	18	24	1	36	16	5	18	109
12:00	0	0	9	0	6	11	0	9	35
12:15	0	3	4	0	7	3	1	10	28
12:30	4	2	8	0	6	9	0	8	37
12:45	0	2	2	0	4	3	1	11	23
Total	4	7	23	0	23	26	2	38	123
Grand Total	5	15	47	1	59	42	7	56	232
Approch %	25	75	97.9	2.1	58.4	41.6	11.1	88.9	
Total %	2.2	6.5	20.3	0.4	25.4	18.1	3	24.1	

Accurate Counts
978-664-2565

N/S Street : Location E
E/W Street:
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000e
Site Code : 0380000E
Start Date : 5/13/2010
Page No : 1

Groups Printed- Trucks

Start Time	From North		From East		From South		From West		Int. Total
	4	1	8	6	12	9	16	14	
11:00	0	0	0	0	0	0	1	0	1
11:15	0	0	0	1	0	0	0	0	1
11:30	0	0	0	0	0	0	0	0	0
11:45	0	0	0	0	0	0	0	0	0
Total	0	0	0	1	0	0	1	0	2
12:00	1	0	0	0	0	0	0	0	1
12:15	0	0	0	0	1	0	0	0	1
12:30	0	0	0	0	0	0	0	0	0
12:45	0	0	0	0	0	0	0	0	0
Total	1	0	0	0	1	0	0	0	2
Grand Total	1	0	0	1	1	0	1	0	4
Approch %	100	0	0	100	0	0	100	0	
Total %	25	0	0	25	25	0	25	0	

Start Time	From North		From East		From South		From West		Int. Total
	4	1	8	6	12	9	16	14	
11:00	0	0	9	0	6	11	0	9	35
11:15	0	0	9	0	7	3	1	10	28
11:30	0	3	4	0	4	9	0	8	37
11:45	2	6	8	0	6	9	15	0	57
Total Volume	5	6	29	0	24	26	50	1	123
% App. Total	45.5	54.5	100	0	48	52	3	97	
PHF	.313	.500	.806	.000	.857	.591	.735	.250	.831

Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 11:45

11:45	1	1	2	8	0	8	5	3	8	0	5	5	23
12:00	0	0	0	9	0	9	6	11	17	0	9	9	35
12:15	0	0	3	4	0	4	7	3	10	1	10	11	28
12:30	4	2	6	8	0	8	6	9	15	0	8	8	57
Total Volume	5	6	11	29	0	29	24	26	50	1	32	33	123
% App. Total	45.5	54.5	100	100	0	100	48	52	97	3	97	100	
PHF	.313	.500	.458	.806	.000	.806	.857	.591	.735	.250	.800	.790	.831

Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

11:15	0	0	0	0	0	0	0	0	0	0	0	0	1
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1
+15 mins.	0	0	0	0	0	0	1	1	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	1	0	0	0	1	0	0	0	1	0	0	0	0
Total Volume	1	0	1	0	1	1	1	1	1	0	1	0	1
% App. Total	100	0	0	0	100	0	100	0	100	0	100	0	
PHF	.250	.000	.250	.000	.250	.250	.250	.000	.000	.250	.000	.250	



N/S Street : Location E
E/W Street:
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000e
Site Code : 0380000E
Start Date : 5/13/2010
Page No : 1

Groups Printed- Cars - Trucks												
Start Time	From North			From East			From South			From West		
	4	1	8	6	12	9	16	14	16	14	Int. Total	
16:00	0	1	0	0	1	2	6	0	14	0	24	
16:15	0	0	2	0	0	0	4	1	14	0	21	
16:30	0	0	1	0	1	1	14	0	18	0	34	
16:45	0	1	1	0	4	18	0	11	35	0	114	
Total	0	2	4	1	7	42	1	57	114	0	258	
17:00	0	0	0	0	2	16	0	13	31	0	40	
17:15	0	0	0	0	2	19	0	19	40	0	47	
17:30	0	1	0	0	1	18	0	24	47	0	144	
17:45	0	0	0	0	3	7	1	14	26	0	70	
Total	0	1	4	0	8	60	1	70	144	0	258	
Grand Total	0	3	8	1	15	102	2	127	258	0	588	
Approch %	0	100	88.9	11.1	12.8	87.2	1.6	98.4	98.4	0	100	
Total %	0	1.2	3.1	0.4	5.8	39.5	0.8	49.2	49.2	0	100	
Cars	0	3	8	1	15	102	2	127	258	0	588	
% Cars	0	100	100	100	100	100	100	100	100	0	100	
Trucks	0	0	0	0	0	0	0	0	0	0	0	
% Trucks	0	0	0	0	0	0	0	0	0	0	0	

Accurate Counts
978-664-2565

N/S Street : Location E
E/W Street:
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000e
Site Code : 0380000E
Start Date : 5/13/2010
Page No : 1

Groups Printed- Cars												
Start Time	From North			Front East			From South			From West		
	4	1	8	6	12	9	16	14	Int. Total			
16:00	0	1	0	1	2	6	0	14	24			
16:15	0	0	2	0	0	4	1	14	21			
16:30	0	0	1	0	1	14	0	18	34			
16:45	0	1	1	0	4	18	0	11	35			
Total	0	2	4	1	7	42	1	57	114			
17:00	0	0	0	0	2	16	0	13	31			
17:15	0	0	0	0	2	19	0	19	40			
17:30	0	1	0	1	1	34	0	24	49			
17:45	0	1	0	0	3	7	1	14	26			
Total	0	1	4	0	8	60	1	70	144			
Grand Total	0	3	8	1	15	102	2	127	258			
Approch %	0	100	88.9	11.1	12.8	87.2	1.6	98.4				
Total %	0	1.2	3.1	0.4	5.8	39.5	0.8	49.2				

Start Time	From North			From East			From South			From West		
	4	1	App. Total	8	6	App. Total	12	9	App. Total	16	14	App. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 16:45												
16:45	0	1	1	1	0	1	4	18	22	0	11	11
17:00	0	0	0	0	0	0	2	16	18	0	13	13
17:15	0	0	0	0	0	0	2	19	21	0	19	19
17:30	0	0	0	0	4	4	1	18	19	0	24	24
17:45	0	1	1	5	0	5	9	7	80	0	67	67
Total Volume	0	1	1	5	0	5	11.2	98.8	909	0	100	100
% App. Total	0	100	100	100	0	100	11.2	98.8	909	0	100	100
PHF	.000	.250	.250	.313	.000	.313	.563	.934	.909	.000	.698	.698



N/S Street : Location E
E/W Street :
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000e
Site Code : 0380000E
Start Date : 5/13/2010
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Location F
E/W Street :
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000F
Site Code : 0380000F
Start Date : 5/31/2008
Page No : 1

Groups Printed- Trucks

Start Time	From North				From East				From South				From West				Int. Total
	4	1	8	6	12	9	16	14									
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approch %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Groups Printed- Cars

Start Time	From North				From East				From South				From West				Int. Total
	3	2	5	4	6	7	10	14									
07:00	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	23
07:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12
07:30	0	1	0	0	0	1	28	0	0	0	0	0	0	0	0	0	30
07:45	3	0	0	0	0	0	27	0	0	0	0	0	0	0	0	0	30
Total	5	1	0	0	0	1	88	0	0	0	0	0	0	0	0	0	95
08:00	2	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0	48
08:15	0	1	0	0	0	1	23	0	0	0	0	0	0	0	0	0	25
08:30	0	0	0	0	0	0	35	1	0	0	0	0	0	0	0	0	36
08:45	0	0	0	0	0	0	23	0	0	0	0	0	0	0	0	0	23
Total	2	1	0	0	0	1	127	1	0	0	0	0	0	0	0	0	132
Grand Total	7	2	0	0	0	2	215	1	0	0	0	0	0	0	0	0	227
Approch %	77.8	22.2	0	0	0	0.9	99.1	100	0	0	0	0	0	0	0	0	0
Total %	3.1	0.9	0	0	0	0.9	94.7	0.4	0	0	0	0	0	0	0	0	0

Start Time	From North				From East				From South				From West				Int. Total
	4	1	8	6	12	9	16	14									
16:00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16:45	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1
Peak Hour for Each Approach Begins at:

16:00	0	0	0	16:00	0	0	0	16:00	0	0	0	0	0	0	0	0	0
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Start Time	From North				From East				From South				From West				Int. Total
	3	2	5	4	6	7	10	14									
07:00	3	0	0	0	0	0	27	0	0	0	0	0	0	0	0	0	30
07:15	2	0	0	0	0	0	46	0	0	0	0	0	0	0	0	0	48
07:30	0	1	0	0	1	23	24	0	0	0	0	0	0	0	0	0	25
07:45	0	0	0	0	0	0	35	1	0	0	0	0	0	0	0	0	36
Total Volume	5	1	0	0	6	1	131	1	0	0	0	0	0	0	0	0	139
% App. Total	83.3	16.7	0	0	0.8	99.2	100	0	0	0	0	0	0	0	0	0	0
PHF	.417	.250	.000	.000	.250	.712	.717	.250	.250	.000	.000	.000	.000	.000	.000	.000	.724

Peak Hour Analysis From 07:00 to 08:45 - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:45



N/S Street : Location F
E/W Street :
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000F
Site Code : 0380000F
Start Date : 5/31/2008
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Location F
E/W Street :
City/State : Cambridge, MA
Weather : Clear

File Name : 0380000F
Site Code : 0380000F
Start Date : 5/31/2008
Page No : 1

Groups Printed- Cars

Start Time	From North			From East			From South			From West		
	3	2	5	4	6	7	10	14	Int. Total			
11:00	0	0	0	0	0	5	0	0	5	0	0	5
11:15	2	0	0	0	0	8	0	0	10	0	0	10
11:30	0	0	0	0	0	6	0	0	6	0	0	6
11:45	1	1	0	0	0	8	0	0	10	0	0	10
Total	3	1	0	0	0	27	0	0	31			
12:00	4	1	0	0	1	5	0	0	11			
12:15	4	1	0	0	1	6	0	0	12			
12:30	2	0	0	0	0	3	0	0	5			
12:45	4	0	0	0	0	4	0	0	8			
Total	14	2	0	0	2	18	0	0	36			
Grand Total	17	3	0	0	2	45	0	0	67			
Approch %	85	15	0	0	4.3	95.7	0	0	0			
Total %	25.4	4.5	0	0	3	67.2	0	0	0			

Groups Printed- Cars

Start Time	From North			From East			From South			From West		
	3	2	5	4	6	7	10	14	Int. Total			
16:00	8	0	0	0	0	3	0	0	11			
16:15	9	0	0	0	0	0	0	0	9			
16:30	13	0	0	0	0	0	2	0	15			
16:45	16	0	0	0	0	0	0	0	16			
Total	46	0	0	0	0	3	2	0	51			
17:00	29	0	0	0	0	0	0	0	29			
17:15	30	0	0	0	0	0	4	0	34			
17:30	27	0	0	0	0	2	2	0	29			
17:45	37	0	0	0	0	0	2	0	39			
Total	123	0	0	0	0	2	8	0	131			
Grand Total	169	0	0	0	0	13	0	0	182			
Approch %	100	0	0	0	0	100	0	0	0			
Total %	92.9	0	0	0	0	7.1	0	0	0			

Groups Printed- Cars

Start Time	From North			From East			From South			From West		
	3	2	5	4	6	7	10	14	App. Total	14	App. Total	Int. Total
Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 11:30												
11:30	0	0	0	0	0	6	0	0	0	0	0	6
11:45	1	1	0	0	2	8	0	0	10	0	0	10
12:00	4	1	0	0	5	6	0	0	11	0	0	11
12:15	4	1	0	0	5	6	7	0	12	0	0	12
Total Volume	9	3	0	0	12	25	27	0	0	0	0	39
% App. Total	75	25	0	0	74	92.6	0	0	0	0	0	0
PHF	.563	.750	.000	.000	.600	.500	.781	.844	.000	.000	.000	.813

Peak Hour Analysis From 11:00 to 12:45 - Peak 1 of 1

Peak Hour for Each Approach Begins at:

12:00	4	1	0	0	5	11:15	11:00	0	0	0	0	0
+0 mins.	4	1	0	0	5	0	8	0	0	0	0	0
+15 mins.	2	0	0	0	2	0	6	0	0	0	0	0
+30 mins.	4	0	0	0	4	1	5	0	0	0	0	0
+45 mins.	4	0	0	0	4	1	5	0	0	0	0	0
Total Volume	14	2	0	0	16	1	27	28	0	0	0	0
% App. Total	87.5	12.5	0	0	87.5	3.6	96.4	0	0	0	0	0
PHF	.875	.500	.000	.000	.800	.250	.844	.875	.000	.000	.000	.000

Groups Printed- Cars

Start Time	From North			From East			From South			From West		
	3	2	5	4	6	7	10	14	App. Total	14	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1												
Peak Hour for Entire Intersection Begins at 17:00												
17:00	29	0	0	0	29	0	0	0	0	0	0	29
17:15	30	0	0	0	30	0	4	0	0	0	0	34
17:30	27	0	0	0	27	0	2	0	0	0	0	29
17:45	37	0	0	0	37	0	2	0	0	0	0	39
Total Volume	123	0	0	0	123	0	8	0	0	0	0	131
% App. Total	100	0	0	0	100	0	100	0	0	0	0	0
PHF	.831	.000	.000	.000	.831	.000	.500	.000	.000	.000	.000	.840

Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1

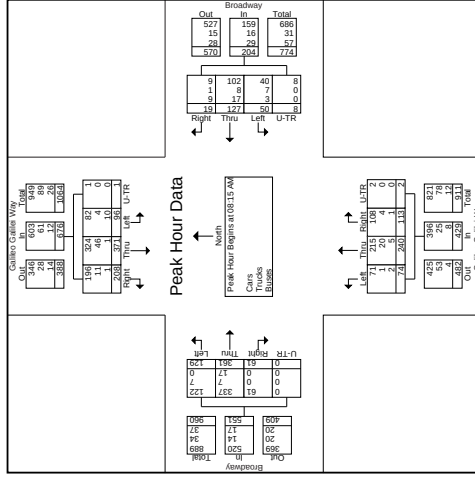
Peak Hour for Each Approach Begins at:

17:00	29	0	0	0	29	0	0	0	0	0	0	0
+0 mins.	29	0	0	0	29	0	0	0	0	0	0	0
+15 mins.	30	0	0	0	30	0	4	0	0	0	0	0
+30 mins.	27	0	0	0	27	0	2	0	0	0	0	0
+45 mins.	37	0	0	0	37	0	2	0	0	0	0	0
Total Volume	123	0	0	0	123	0	8	0	0	0	0	0
% App. Total	100	0	0	0	100	0	100	0	0	0	0	0
PHF	.831	.000	.000	.000	.831	.000	.500	.000	.000	.000	.000	.840

April 2014 TMC Counts

Accurate Counts
978-664-2565

N/S Street : Galileo Galilei Way
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



Accurate Counts
978-664-2565

File Name : 16460001
Site Code : 16460001
Start Date : 4/9/2014
Page No : 1

N/S Street : Galileo Galilei Way
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

	Galileo Galilei Way						Groups Plintock Cns - Trucks - Buses						Galileo Galilei Way						Broadway					
	From North			To South			From East			To West			From South			To North			From West			To East		
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:45 AM	15	95	50	0	14	35	6	0	14	35	6	0	1	58	25	0	53	86	13	0	462	0	762	0
Total	21	170	79	0	19	57	11	1	22	103	43	0	76	138	22	0	136	22	0	0	0	0	0	0
08:00 AM	22	82	56	0	6	39	7	0	18	65	29	1	45	79	7	0	455	0	0	0	0	0	0	0
08:15 AM	21	182	52	0	11	34	6	0	22	73	31	1	24	74	21	0	459	0	0	0	0	0	0	0
08:30 AM	20	30	AM	0	10	34	6	1	18	53	33	1	47	96	16	0	483	0	0	0	0	0	0	0
08:45 AM	20	88	57	0	19	33	6	1	18	53	33	1	47	96	16	0	483	0	0	0	0	0	0	0
Total	84	362	216	1	46	136	21	6	71	247	119	2	145	346	57	0	1858	0	0	0	0	0	0	0
09:00 AM	34	91	48	0	10	30	5	2	21	58	23	0	29	95	11	0	457	0	0	0	0	0	0	0
09:15 AM	19	90	53	0	18	35	3	2	18	53	15	0	37	89	19	0	451	0	0	0	0	0	0	0
Grand Total	158	713	396	1	93	258	40	11	132	461	200	2	287	667	109	0	3528	0	0	0	0	0	0	0
Approach %	12.5	56.2	31.2	0.1	23.1	64.2	10	2.7	16.6	58	25.2	0.3	27	62.7	10.3	0	23.6	0	0	0	0	0	0	0
Turn %	13.2	62.5	37.2	0	7.3	20.6	1.6	0.3	12.6	46.5	18.9	2	27.6	62.9	10.9	0	31.62	0	0	0	0	0	0	0
% Cuts	83.5	87.7	94.2	100	78.5	79.8	40	100	95.5	87.9	94	100	95.8	93.1	99.1	0	89.3	0	0	0	0	0	0	0
% Trucks	8	84	17	0	12	19	5	0	2	45	11	0	11	18	1	0	233	0	0	0	0	0	0	0
% Buses	5.1	11.8	4.3	0	12.9	7.4	19.5	0	1.5	9.8	5.5	0	3.8	27	0.9	0	6.6	0	0	0	0	0	0	0
% Bikes	11.4	0.6	1.5	0	8.6	12.8	47.5	0	3	2.4	0.5	0	0.3	4.3	0	0	3.8	0	0	0	0	0	0	0

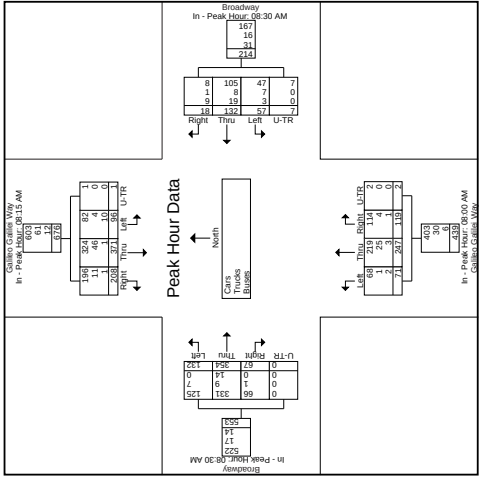
[illegible]

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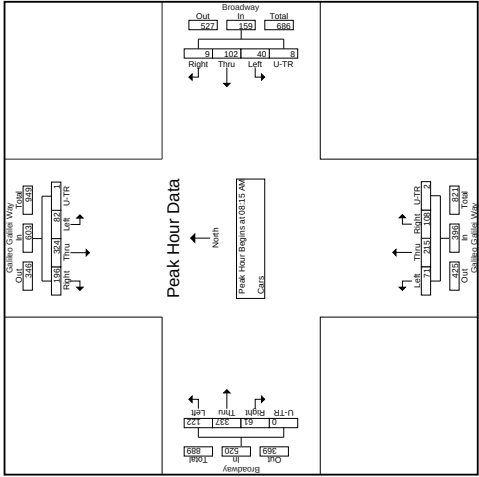
Galileo Galilei Way				Galileo Galilei Way				Broadway				Broadway			
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1															
Peak Hour for East Approach Begins At:															

08:30 AM															
+10 mins.	21	102	51	0	174	10	34	4	2	50	18	65	29	0	112
+15 mins.	21	90	52	1	164	10	33	6	1	59	13	56	26	1	96
+20 mins.	21	85	47	0	153	10	30	3	1	44	11	49	15	0	75
+25 mins.	24	91	46	0	176	10	36	3	2	58	18	53	33	0	105
Total Volume	96	371	208	1	676	57	132	18	7	214	71	247	119	2	439
% App. Total	14.2	54.9	30.8	0.1	100	26.6	61.7	8.4	3.3	69.7	16.2	56.3	27.1	0.5	93.1
% Cuts	85.4	87.3	94.2	100	89.2	82.5	79.5	44.4	100	78	96.8	88.7	95.8	100	91.8
% Trucks	4	46	11	0	61	17	6	1	0	24	1	25	4	0	30
% Buses	10	1	1	0	12	3	19	9	0	31	2	10	3	0	44
% Buses	10.4	0.3	0.5	0	1.8	5.3	14.4	50	0	14.5	2.8	1.2	0.8	0	1.4



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Start Time	Galileo Gallilei Way										Broadway									
	From North					From East					From South					From West				
	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
07:45 AM	11	86	48	0	145	9	27	2	0	38	11	53	21	0	85	51	79	13	0	411
Total	16	155	73	0	344	13	47	3	1	64	20	93	38	0	151	73	126	22	0	680
08:00 AM	19	70	53	0	142	4	29	4	0	37	18	55	28	0	101	44	73	7	0	404
08:15 AM	17	85	49	0	151	9	25	1	3	38	12	52	25	1	90	33	91	13	0	416
08:30 AM	18	77	50	1	146	6	27	2	2	37	21	64	30	0	115	23	67	21	0	409
08:45 AM	16	82	56	0	154	16	28	3	1	46	17	48	31	1	97	39	89	16	0	430
09:00 AM	31	80	41	0	152	9	22	3	2	34	21	51	22	0	94	27	90	11	0	410
09:15 AM	15	76	51	0	142	16	28	10	12	66	17	42	14	0	73	26	85	18	0	400
09:30 AM	12	65	33	0	110	17	26	10	1	54	13	46	22	0	81	27	62	11	0	362
Approach %	11.7	52.3	33.3	0.1	23.9	67.3	5.2	3.6	17.5	56.2	26.1	0.3	27.4	61.9	10.8	0	19.6	3.4	0	0
Total %	4.2	19.8	11.8	0	2.3	6.5	0.5	0.3	4	12.8	5.9	0.1	8.7	19.6	3.4	0	0	0	0	0

Start Time	Galileo Gallilei Way										Broadway									
	From North					From East					From South					From West				
	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
07:30 AM	17	79	50	0	146	6	27	2	2	37	21	64	30	1	115	23	67	21	0	111
07:45 AM	18	77	50	1	146	16	28	3	1	46	17	48	31	1	97	39	89	16	0	430
08:00 AM	31	80	41	0	152	9	22	3	2	34	21	51	22	0	94	27	90	11	0	410
08:15 AM	15	76	51	0	142	16	28	10	12	66	17	42	14	0	73	26	85	18	0	400
08:30 AM	12	65	33	0	110	17	26	10	1	54	13	46	22	0	81	27	62	11	0	362
Approach %	13.6	53.7	32.5	0.2	26.2	64.2	5.7	5	13.9	54.3	27.3	0.5	38.6	72.5	64.8	11.7	0	520	10.8	0
PHE	681	953	875	250	979	625	911	750	828	895	840	871	500	865	782	956	726	000	903	947

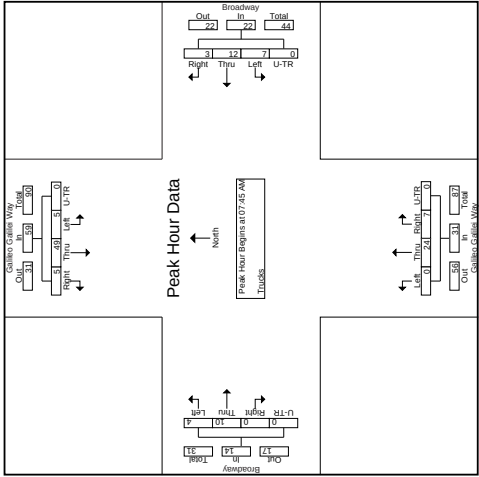
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Counts Printed: Trucks																
Start Time	Galileo Gallilei Way				Broadway				Galileo Gallilei Way				Broadway			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
07:30 AM	1	6	2	0	1	2	1	0	1	4	1	0	1	2	0	0
07:45 AM	1	8	3	0	2	3	2	0	0	4	4	0	1	3	0	0
Total	2	14	3	0	3	5	3	0	1	8	5	0	2	3	0	0
08:00 AM	1	12	1	0	1	4	1	0	0	10	1	0	1	3	0	0
08:15 AM	2	17	1	0	3	2	0	0	2	1	0	1	1	0	0	0
08:30 AM	1	11	2	0	0	0	0	0	0	0	8	1	1	0	0	0
08:45 AM	0	6	1	0	2	1	1	0	1	5	1	0	3	2	0	0
Total	4	47	5	0	7	10	2	0	1	25	4	0	6	9	0	0
09:00 AM	1	11	7	0	1	2	0	0	0	5	1	0	2	1	0	0
09:15 AM	1	12	2	0	0	0	0	0	0	7	1	0	1	3	1	0
Grand Total	8	84	17	0	12	19	5	0	2	45	11	0	11	18	1	0
Approach %	7.3	77.1	15.6	0	33.3	52.8	13.9	0	3.4	77.6	19	0	36.7	60	3.3	0
Total %	3.4	36.1	7.3	0	5.2	8.2	2.1	0	0.9	19.3	4.7	0	4.7	7.7	0.4	0

Peak Hour Analysis from 07:30 AM to 09:15 AM - Peak 1 of 1																	
Start Time	Left	Thru	Right	U-TR	App. Total	Broadway From East				Galileo Gallilei Way From South				Broadway From West			
07:30 AM	1	8	1	0	10	2	3	2	0	1	4	4	0	1	3	0	0
07:45 AM	1	8	1	0	10	2	3	2	0	0	4	4	0	1	3	0	0
08:00 AM	1	12	1	0	14	1	4	1	0	0	10	1	0	1	3	0	0
08:15 AM	2	17	1	0	20	1	2	0	0	0	2	1	0	1	1	0	0
08:30 AM	1	12	2	0	15	3	3	0	0	0	8	1	0	1	3	0	0
08:45 AM	0	6	1	0	7	2	1	1	0	1	5	1	0	3	2	0	0
Total Volume	8	84	8	0	99	31.8	54.5	13.6	0	22	0	77.4	22.6	0	31	28.6	71.4
% App. Total	8.5	83.1	8.5	0	99	31.8	54.5	13.6	0	22	0	77.4	22.6	0	31	28.6	71.4
PHE	62.5	72.1	62.5	0.00	738	-583	750	-37.5	0.00	786	0.00	650	-438	0.00	705	1.00	875

Peak Hour Analysis from 07:30 AM to 09:15 AM - Peak 1 of 1																	
Start Time	Left	Thru	Right	U-TR	App. Total	Broadway From East				Galileo Gallilei Way From South				Broadway From West			
07:30 AM	1	8	1	0	10	2	3	2	0	1	4	4	0	1	3	0	0
07:45 AM	1	8	1	0	10	2	3	2	0	0	4	4	0	1	3	0	0
08:00 AM	1	12	1	0	14	1	4	1	0	0	10	1	0	1	3	0	0
08:15 AM	2	17	1	0	20	1	2	0	0	0	2	1	0	1	1	0	0
08:30 AM	1	12	2	0	15	3	3	0	0	0	8	1	0	1	3	0	0
08:45 AM	0	6	1	0	7	2	1	1	0	1	5	1	0	3	2	0	0
Total Volume	8	84	8	0	99	31.8	54.5	13.6	0	22	0	77.4	22.6	0	31	28.6	71.4
% App. Total	8.5	83.1	8.5	0	99	31.8	54.5	13.6	0	22	0	77.4	22.6	0	31	28.6	71.4
PHE	62.5	72.1	62.5	0.00	738	-583	750	-37.5	0.00	786	0.00	650	-438	0.00	705	1.00	875



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File Name : 16400001
Site Code : 16400001
Count Date : 4/5/2014
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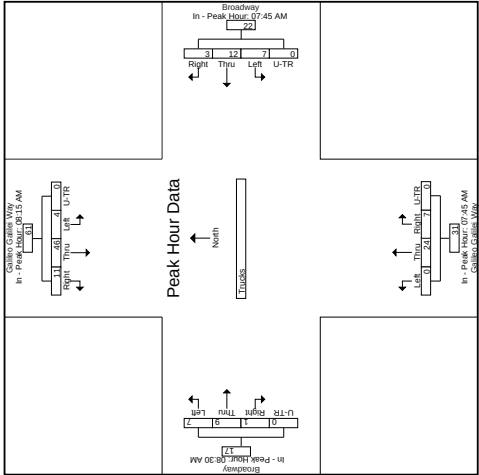
N/S Street : Gallileo Gallilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400001
Site Code : 16400001
Count Date : 4/5/2014
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Accurate Counts
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N/S Street : Gallileo Gallilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Gallileo Gallilei Way				Broadway				Gallileo Gallilei Way				Broadway			
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins At:															
08:30 AM															
+10 mins.	2	17	1	0	20	3	2	0	7	07:45 AM	0	4	0	3	0
+15 mins.	1	12	2	0	15	1	4	1	0	6	0	10	1	3	2
+20 mins.	1	6	1	0	8	0	2	0	0	2	0	8	1	0	0
+25 mins.	1	11	7	0	19	3	2	0	0	5	0	6	1	3	1
Total Volume	4	46	11	0	61	7	12	3	0	22	0	24	7	9	1
% App. Total	6.6	75.4	18	0	31.8	54.5	13.6	0	0	27.4	27.6	41.2	52.9	5.9	0
PHF	.580	.676	.393	.000	.768	.588	.750	.375	.000	.766	.583	.750	.375	.000	.890



Accurate Counts
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Groups/Princts - Buses											
Galileo Galletti Way				Broadway				Galileo Galletti Way			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour analysis from 07:30 AM to 08:15 AM, Peak 1											
Start Time	07:30 AM	07:45 AM	07:45 AM	07:30 AM	07:45 AM	07:45 AM	07:45 AM	07:30 AM	07:45 AM	07:45 AM	07:45 AM
Left	3	1	1	0	3	5	2	0	1	1	0
Thru	3	1	1	0	3	5	2	0	1	1	0
Right	3	1	1	0	3	5	2	0	1	1	0
U+R	3	1	1	0	3	5	2	0	1	1	0
Total	9	3	3	0	9	15	4	0	2	2	0
Peak hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	3	1	1	0	3	5	2	0	1	1	0
08:00 AM	2	0	2	0	1	6	2	0	0	0	0
08:15 AM	2	0	1	0	1	3	2	0	1	2	0
08:30 AM	4	0	0	0	1	3	2	0	1	2	0
08:45 AM	4	0	0	0	1	4	2	0	1	1	0
Total	10	1	3	0	4	17	9	0	2	3	0
Peak hour analysis from 08:30 AM to 09:15 AM, Peak 1											
09:00 AM	2	0	0	0	1	6	2	0	0	2	0
09:15 AM	3	2	0	0	1	5	3	0	1	4	0
Grand Total	18	4	6	0	8	33	19	0	4	11	0
Approach %	64.3	14.3	21.4	0	13.3	55	31.7	0	25	68.3	6.2
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour analysis from 08:30 AM to 09:15 AM, Peak 1											
08:30 AM	3	1	1	0	3	5	2	0	1	1	0
08:45 AM	2	0	1	0	1	4	2	0	1	2	0
09:00 AM	1	0	0	0	1	3	2	0	0	0	0
09:15 AM	2	0	0	0	1	3	2	0	1	0	0
Total Volume	9	1	2	0	15	54	29	0	33	3	0
% Sat. PHF	60	32	47	0	19.2	54.3	49.3	0	57	4	0
Grand Total	18	1	3	0	33	75	40	0	46	3	0
Approach %	66.7	500	500	0	750	500	750	0	825	250	0
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	3	1	1	0	3	5	2	0	1	1	0
08:00 AM	2	0	2	0	1	6	2	0	0	0	0
08:15 AM	2	0	1	0	1	3	2	0	1	2	0
08:30 AM	4	0	0	0	1	3	2	0	1	2	0
08:45 AM	4	0	0	0	1	4	2	0	1	1	0
Total Volume	9	1	3	0	15	17	9	0	7	15	0
% Sat. PHF	60	32	47	0	19.2	54.3	49.3	0	57	4	0
Grand Total	18	1	3	0	33	33	19	0	25	59	0
Approach %	66.7	500	500	0	750	500	750	0	825	590	0
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	3	1	1	0	3	5	2	0	1	1	0
08:00 AM	2	0	2	0	1	6	2	0	0	0	0
08:15 AM	2	0	1	0	1	3	2	0	1	2	0
08:30 AM	4	0	0	0	1	3	2	0	1	2	0
08:45 AM	4	0	0	0	1	4	2	0	1	1	0
Total Volume	9	1	3	0	15	17	9	0	7	15	0
% Sat. PHF	60	32	47	0	19.2	54.3	49.3	0	57	4	0
Grand Total	18	1	3	0	33	33	19	0	25	59	0
Approach %	66.7	500	500	0	750	500	750	0	825	590	0
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	3	1	1	0	3	5	2	0	1	1	0
08:00 AM	2	0	2	0	1	6	2	0	0	0	0
08:15 AM	2	0	1	0	1	3	2	0	1	2	0
08:30 AM	4	0	0	0	1	3	2	0	1	2	0
08:45 AM	4	0	0	0	1	4	2	0	1	1	0
Total Volume	9	1	3	0	15	17	9	0	7	15	0
% Sat. PHF	60	32	47	0	19.2	54.3	49.3	0	57	4	0
Grand Total	18	1	3	0	33	33	19	0	25	59	0
Approach %	66.7	500	500	0	750	500	750	0	825	590	0
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	3	1	1	0	3	5	2	0	1	1	0
08:00 AM	2	0	2	0	1	6	2	0	0	0	0
08:15 AM	2	0	1	0	1	3	2	0	1	2	0
08:30 AM	4	0	0	0	1	3	2	0	1	2	0
08:45 AM	4	0	0	0	1	4	2	0	1	1	0
Total Volume	9	1	3	0	15	17	9	0	7	15	0
% Sat. PHF	60	32	47	0	19.2	54.3	49.3	0	57	4	0
Grand Total	18	1	3	0	33	33	19	0	25	59	0
Approach %	66.7	500	500	0	750	500	750	0	825	590	0
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	3	1	1	0	3	5	2	0	1	1	0
08:00 AM	2	0	2	0	1	6	2	0	0	0	0
08:15 AM	2	0	1	0	1	3	2	0	1	2	0
08:30 AM	4	0	0	0	1	3	2	0	1	2	0
08:45 AM	4	0	0	0	1	4	2	0	1	1	0
Total Volume	9	1	3	0	15	17	9	0	7	15	0
% Sat. PHF	60	32	47	0	19.2	54.3	49.3	0	57	4	0
Grand Total	18	1	3	0	33	33	19	0	25	59	0
Approach %	66.7	500	500	0	750	500	750	0	825	590	0
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	3	1	1	0	3	5	2	0	1	1	0
08:00 AM	2	0	2	0	1	6	2	0	0	0	0
08:15 AM	2	0	1	0	1	3	2	0	1	2	0
08:30 AM	4	0	0	0	1	3	2	0	1	2	0
08:45 AM	4	0	0	0	1	4	2	0	1	1	0
Total Volume	9	1	3	0	15	17	9	0	7	15	0
% Sat. PHF	60	32	47	0	19.2	54.3	49.3	0	57	4	0
Grand Total	18	1	3	0	33	33	19	0	25	59	0
Approach %	66.7	500	500	0	750	500	750	0	825	590	0
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	3	1	1	0	3	5	2	0	1	1	0
08:00 AM	2	0	2	0	1	6	2	0	0	0	0
08:15 AM	2	0	1	0	1	3	2	0	1	2	0
08:30 AM	4	0	0	0	1	3	2	0	1	2	0
08:45 AM	4	0	0	0	1	4	2	0	1	1	0
Total Volume	9	1	3	0	15	17	9	0	7	15	0
% Sat. PHF	60	32	47	0	19.2	54.3	49.3	0	57	4	0
Grand Total	18	1	3	0	33	33	19	0	25	59	0
Approach %	66.7	500	500	0	750	500	750	0	825	590	0
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	3	1	1	0	3	5	2	0	1	1	0
08:00 AM	2	0	2	0	1	6	2	0	0	0	0
08:15 AM	2	0	1	0	1	3	2	0	1	2	0
08:30 AM	4	0	0	0	1	3	2	0	1	2	0
08:45 AM	4	0	0	0	1	4	2	0	1	1	0
Total Volume	9	1	3	0	15	17	9	0	7	15	0
% Sat. PHF	60	32	47	0	19.2	54.3	49.3	0	57	4	0
Grand Total	18	1	3	0	33	33	19	0	25	59	0
Approach %	66.7	500	500	0	750	500	750	0	825	590	0
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left	Thru	Right	U+R	Left	Thru	Right	U+R	Left	Thru	Right	U+R
Peak hour for Entire Intersection Begins at 07:45 AM											
07:45 AM	3	1	1	0	3	5	2	0	1	1	0
08:00 AM	2	0	2	0	1	6	2	0	0	0	0
08:15 AM	2	0	1	0	1	3	2	0	1	2	0
08:30 AM	4	0	0	0	1	3	2	0	1	2	0
08:45 AM	4	0	0	0	1	4	2	0	1	1	0
Total Volume	9	1	3	0	15	17	9	0	7	15	0
% Sat. PHF	60	32	47	0	19.2	54.3	49.3	0	57	4	0
Grand Total	18	1	3	0	33	33	19	0	25	59	0
Approach %	66.7	500	500	0	750	500	750	0	825	590	0
100%	3.3	3	4.3	0	6	24.3	24.3	0	3	9.3	0.8
Broadway				Galileo Galletti Way				Broadway			
From North		From South		From East		From West		From South		From West	
Left											

Accurate Counts
978-664-2565

File Name : 16400001
Site Code : 16400001
Count Date : 4/5/2014
Page No : 4

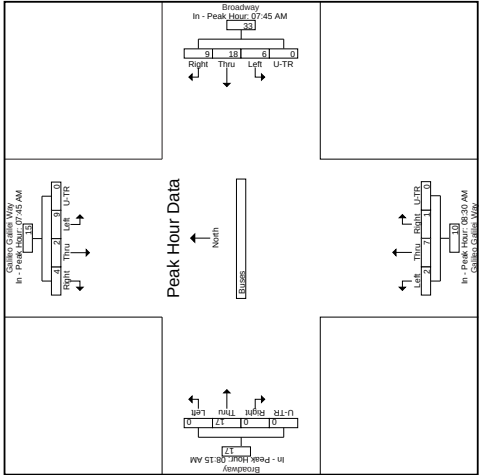
N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400001
Site Code : 16400001
Count Date : 4/5/2014
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N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Galileo Galilei Way				Broadway				Galileo Galilei Way				Broadway			
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins At:															
+10 mins.	3	1	1	0	5	3	5	2	0	10	0	10	0	0	10
07:45 AM															
+15 mins.	2	0	2	0	4	1	6	2	0	9	0	0	1	0	4
+20 mins.	2	0	1	0	3	1	3	2	0	7	0	0	0	0	4
+25 mins.	2	0	1	0	3	1	3	2	0	7	0	0	0	0	4
+30 mins.	2	0	1	0	3	1	3	2	0	7	0	0	0	0	4
+35 mins.	2	0	1	0	3	1	3	2	0	7	0	0	0	0	4
+40 mins.	2	0	1	0	3	1	3	2	0	7	0	0	0	0	4
+45 mins.	2	0	1	0	3	1	3	2	0	7	0	0	0	0	4
+50 mins.	2	0	1	0	3	1	3	2	0	7	0	0	0	0	4
+55 mins.	2	0	1	0	3	1	3	2	0	7	0	0	0	0	4
+60 mins.	2	0	1	0	3	1	3	2	0	7	0	0	0	0	4
Total Volume	9	2	4	0	15	6	18	9	0	33	2	7	1	0	10
% App. Total	60	13.3	26.7	0	100	40	120	60	0	220	13.3	26.7	0	0	100
PHF	.750	.500	.500	.000	.750	.750	.750	.500	.000	.833	.500	.438	.000	.000	.850



Accurate Counts
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N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

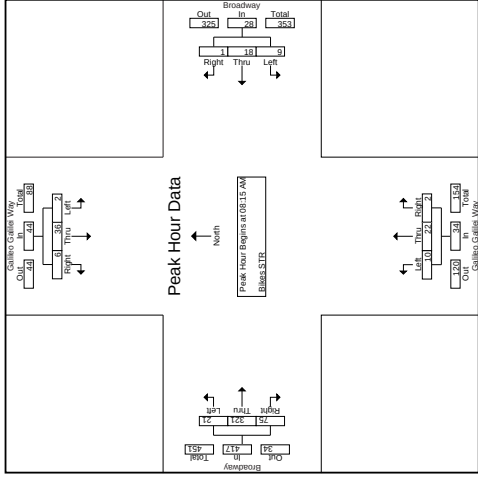
File Name : 16460001
Site Code : 16460001
Collection Date : 4/5/2014
Page No : 1

Start Time	Galileo Galilei Way				Broadway				Galileo Galilei Way				Broadway			
	From North		From East		From South		From West		From North		From East		From South		From West	
	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru	Right	Thru
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	2	5	2	1	0	1	6	0	3	34	8	0	0	0	0	0
Total	3	7	2	1	0	2	11	1	3	54	12	0	0	0	0	0
08:00 AM	1	3	1	0	2	0	5	2	0	57	4	0	0	0	0	0
08:15 AM	0	7	3	3	8	0	3	4	0	85	7	0	0	0	0	0
08:30 AM	1	9	2	0	2	0	1	5	0	81	10	1	0	0	0	0
08:45 AM	3	15	7	2	5	0	13	2	9	73	27	4	0	0	0	0
Total	3	34	7	5	17	0	43	2	25	250	48	4	0	0	0	0
09:00 AM	0	5	0	4	3	1	5	0	6	82	31	0	0	0	0	0
09:15 AM	1	4	0	1	2	0	7	0	2	49	16	0	0	0	0	0
09:30 AM	7	50	0	11	25	0	42	0	26	46	17	0	0	0	0	0
09:45 AM	106	758	136	29.7	67.6	2.7	29.7	65.6	4.7	76.3	17.4	0	0	0	0	0
Approach %	0.9	6.4	1.2	1.4	3.2	0.1	2.4	5.4	0.4	61.6	13.7	0	0	0	0	0

Accurate Counts
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N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460001
Site Code : 16460001
Collection Date : 4/5/2014
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File Name : 1640001
Site Code : 1640001
City Name : Cambridge, MA
Date : 4/5/2014
Page No : 4

N/S Street : Galileo Galilei Way
EW Street : Broadway
City Name : Cambridge, MA
Weather : Clear

File Name : 1640001
Site Code : 1640001
City Name : Cambridge, MA
Date : 4/5/2014
Page No : 3

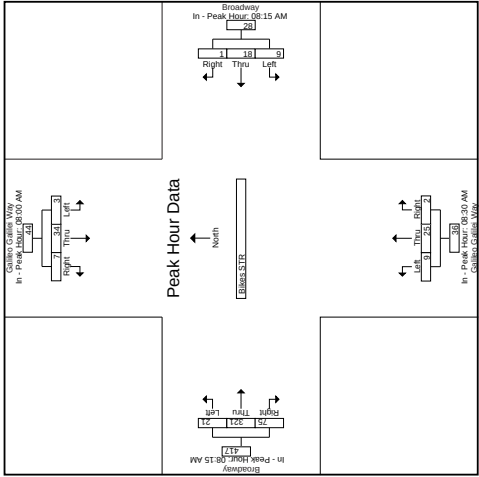
Accurate Counts
978-664-2565

N/S Street : Galileo Galilei Way
EW Street : Broadway
City Name : Cambridge, MA
Weather : Clear

Galileo Galilei Way				Broadway				Galileo Galilei Way				Broadway			
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right

Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1

Galileo Galilei Way				Broadway				Galileo Galilei Way				Broadway			
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right
08:00 AM	3	1	5	08:15 AM	11	8	0	19	5	1	0	6	85	7	97
+0 mins.	1	3	10	15	2	5	2	9	8	2	15	1	81	10	92
+15 mins.	0	7	3	10	2	5	8	15	1	81	10	92	1	81	10
+30 mins.	1	9	2	12	4	3	1	8	7	0	6	13	7	17	24
+45 mins.	1	13	7	21	3	1	0	4	2	7	0	9	8	32	41
Total Volume	3	34	7	44	9	18	1	28	9	25	2	36	21	321	75
% App. Total	6.8	77.3	15.9	32.1	64.3	3.6	69.4	5.6	7.7	55.7	2.8	60.0	5.7	77.7	18.3
PHF	.750	.567	.583	.647	.638	.450	.781	.600	.944	.605	.978				

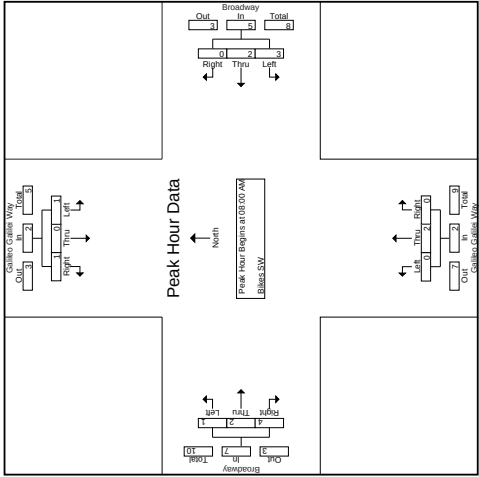


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Groups Printed-Bikes SW															
Galileo Gallilei Way				Broadway				Galileo Gallilei Way				Broadway			
From South				From East				From North				From West			
Start Time	Left	Thru	Right	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	In. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	2	0	0	2	0	0	0	0	1	0	0	3
Total	0	1	1	2	0	0	3	0	0	0	0	1	0	0	5
08:00 AM	1	0	0	1	2	0	3	0	0	0	0	0	2	1	7
08:15 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	1	2
08:30 AM	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	2	0	2	1	2	4	6
Total	1	0	1	3	2	0	6	0	2	0	2	1	2	4	16
09:00 AM	1	0	0	0	0	0	1	0	0	0	0	0	0	0	1
09:15 AM	0	1	0	0	0	0	1	0	0	0	0	2	0	0	3
09:30 AM	2	2	2	5	0	0	9	0	0	0	0	4	4	4	25
09:45 AM	333	333	333	71.4	28.6	0	100	0	100	0	20	40	40	40	23
Total	338	338	338	72.4	29.6	0	104	0	8	0	8	16	16	16	46
Approach %	8	8	8	20	8	0	8	0	8	0	0	0	0	0	0

Galileo Gallilei Way																			
Galileo Gallilei Way								Broadway				Galileo Gallilei Way				Broadway			
From North								From East				From South				From West			
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	In. Total			
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1																			
Peak Hour For Entries From 07:30 AM to 09:15 AM at 08:00 AM	1	1	0	2	0	0	0	0	0	0	0	0	0	0	0	3			
07:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1			
08:15 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	2			
08:45 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	1			
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Total Volume	1	0	1	2	3	2	0	5	0	5	0	2	0	14	29	4			
% App. Total	50	0	50	100	60	40	0	60	0	100	0	20	25	25	50	58.3			



Accurate Counts
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File Name : 1640001
Site Code : 1640001
Collection Date : 4/5/2014
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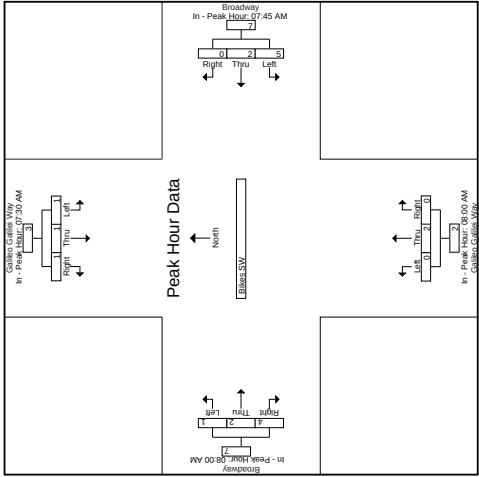
N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 1640001
Site Code : 1640001
Collection Date : 4/5/2014
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N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time	Galileo Galilei Way			App. Total	Broadway			Galileo Galilei Way			Broadway			Int. Total
	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins At:														
07:30 AM														
+0 mins.	0	1	1	2	0	0	0	0	0	0	0	2	1	3
+15 mins.	0	0	0	0	1	0	0	1	0	0	0	0	0	1
+30 mins.	1	0	0	1	0	0	0	0	0	0	0	0	0	1
+45 mins.	1	0	0	1	0	0	0	0	0	2	0	1	0	3
Total Volume	33.3	33.3	33.3	3	71.4	28.6	0	7	0	100	0	28.6	57.1	7
% App. Total	33.3	33.3	33.3	71.4	28.6	0	0	100	0	28.6	0	28.6	57.1	7
PHF	.260	.250	.250	.375	.625	.250	.000	.683	.000	.250	.000	.250	.500	.583

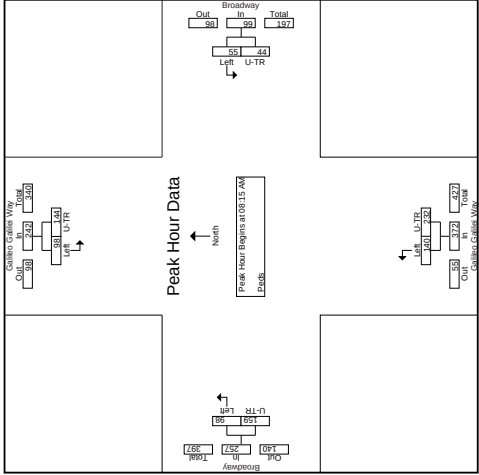


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Accurate Counts
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Start Time	Gallileo Gallilei Way				Grange Princek Peak				Gallileo Gallilei Way				Broadway		Int. Total
	From North		From East		From South		From West		From East		From West				
	WB	NB	SB	NB	WB	NB	WB	NB	WB	NB	SB	NB			
08:00 AM	28	61	9	5	47	47	15	23	206						
08:15 AM	17	47	13	8	36	64	19	29	233						
08:30 AM	21	22	6	11	29	58	32	32	198						
08:45 AM	33	38	15	11	33	74	30	50	284						
Total	99	147	43	36	136	246	83	134	921						
09:00 AM	27	37	21	14	42	36	30	48	255						
09:15 AM	16	22	13	9	36	32	19	23	158						
09:30 AM	16	26	8	6	26	35	13	22	153						
09:45 AM	16	21	8	4	26	37	37.5	62.5	153						
Approch %	38.6	61.4	58.1	41.9	42.6	57.4	37.5	62.5	153						
Total %	10.8	17.2	5.5	4	16.8	22.7	8.6	14.3							

Start Time	Gallileo Gallilei Way				Broadway		Gallileo Gallilei Way				Broadway		Int. Total
	From South		From North		WB	SB	From South		From North		WB	SB	
	WB	NB	WB	NB	WB	NB	WB	NB	WB	NB	WB	NB	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 08:15 AM													
08:00 AM	64	13	8	21	36	64	100	19	20	48			233
08:15 AM	43	6	11	17	29	58	87	19	32	51			188
08:30 AM	21	22	6	11	26	33	74	107	30	50	80		284
08:45 AM	33	38	15	11	26	33	74	107	30	50	80		284
09:00 AM	27	37	21	14	42	36	30	48	255				255
Total Volume	98	144	242	99	140	232	372	98	359	257			970
% Appr. Total	40.5	59.5	44.4	44.4	37.6	62.4	38.1	61.9					
PHF	7.42	7.66	6.95	7.86	7.07	7.64	8.69	8.17	7.95	8.03			8.54



Accurate Counts
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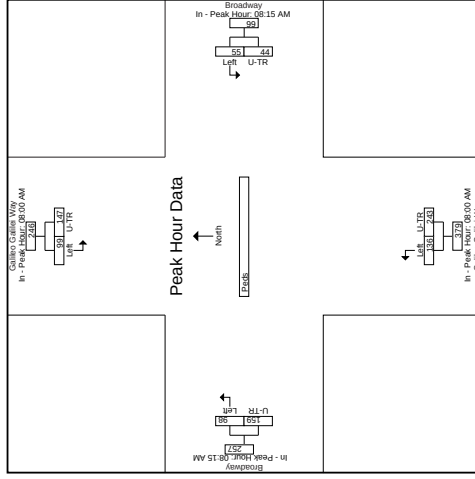
N/S Street : Galileo Galilei Way
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460001
Site Code : 16460001
Start Date : 4/9/2014
Page No : 3

Accurate Counts
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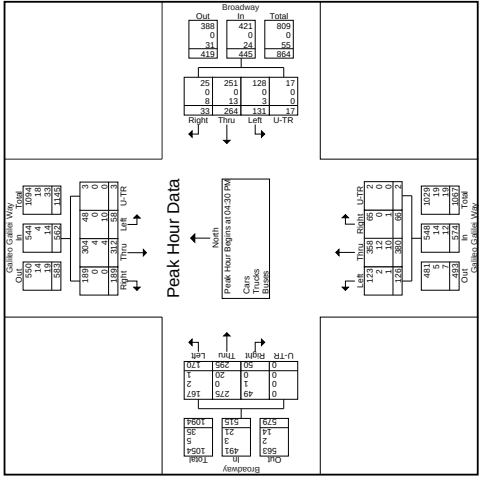
N/S Street : Galileo Galilei Way
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1 PBRK 1500r/hr Total Demand: 38.000 veh.	Start Time	Galilee Galleria Way From North			Broadway From East			Galilee Galleria Way From South			Broadway From West			Int. Total
		WB	EB	App. Total	SB	NB	App. Total	WB	EB	App. Total	SB	NB	App. Total	
		08:15 AM			08:00 AM			08:15 AM						
+0 mtrs.	28	40	68	8	21	38	47	85	19	29	48			
+10 mtrs.	17	27	44	11	18	29	34	54	10	15	25			
+30 mtrs.	21	22	43	11	26	29	34	54	10	12	22			
+45 mtrs.	33	38	71	21	35	33	74	107	30	30	60			
Total Volume	99	147	246	54	99	136	243	379	68	150	257			
% MB	759	792	868	555	798	854	821	886	817	793	803			



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		Groups Printed: Cars - Trucks - Buses									
		Galileo Gallilei Wwy					Broadway				
Start Time	End Time	From North		From South		From East		From West		Int. Total	Int. Total
		Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn		
04:30 PM	04:45 PM	17	74	47	0	33	62	8	3	512	512
Total		32	154	97	0	62	126	14	5	1001	1001
05:00 PM	05:15 PM	13	80	48	2	32	64	8	1	546	546
05:15 PM	05:30 PM	13	78	44	1	37	74	11	4	549	549
05:30 PM	05:45 PM	22	67	46	0	26	66	9	2	487	487
05:45 PM	06:00 PM	13	61	44	0	30	72	5	5	508	508
Total		61	286	182	3	125	276	33	23	2090	2090
06:00 PM	06:15 PM	15	59	48	0	21	54	9	0	437	437
06:15 PM	06:30 PM	16	69	43	0	20	57	4	0	444	444
06:30 PM	06:45 PM	11	53	34	0	17	44	6	0	392	392
Approach %		11.6	53.3	34.7	0.3	27.5	61.9	7.2	3.4	59.9	10.1
Total %		3.1	14.3	9.3	0.1	5.7	12.9	1.5	0.7	7.7	14.6
Cars		104	550	289	3	224	490	145	28	3804	3804
Trucks		8	39	21	0	8	15	7	1	95	95
% Trucks		0	1.6	0	0	0	0	0	0	2	0
Buses		20	9	1	0	4	23	15	0	137	137
% Buses		10.1	1.6	0.3	0	1.8	4.5	2.5	0	0.7	0.9

		Groups Printed: Cars - Trucks - Buses									
		Galileo Gallilei Wwy					Broadway				
Start Time	End Time	From North		From South		From East		From West		Int. Total	Int. Total
		Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn		
04:30 PM	04:45 PM	15	80	50	0	29	64	6	2	101	101
04:45 PM	05:00 PM	17	74	47	0	33	62	8	3	106	106
05:00 PM	05:15 PM	13	78	44	1	37	74	11	4	126	126
Total Volume		55	312	189	3	106	200	25	9	334	334
% App. Total		10.3	55.5	33.6	0.5	29.4	59.3	7.4	3.8	68.3	11.7
Cars		48	304	189	3	106	200	25	9	334	334
% Cars		87.3	98.1	98.4	100	97.7	95.1	97.7	100	95.3	95.6
Trucks		0	1	0	0	0	0	0	0	0	0
% Trucks		0	0.3	0	0	0	0	0	0	0	0
Buses		7	7	0	0	4	4	6	0	13	13
% Buses		12.7	2.2	0	0	1.9	2.0	2.3	0	3.7	3.4

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

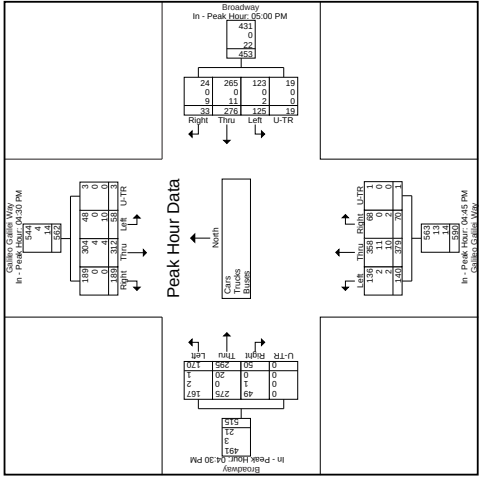
N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

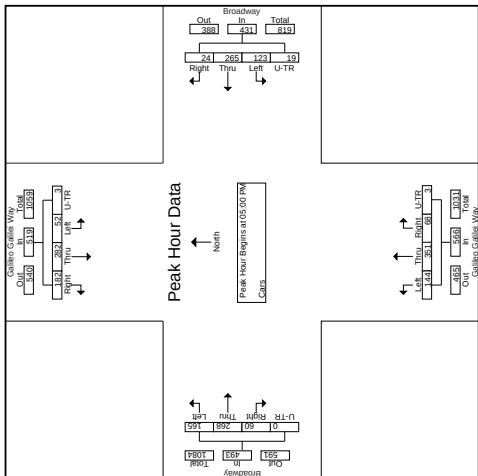
File Name : 16460001
Site Code : 16460001
Count Date : 4/5/2014
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Site Code : 16460001
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Galileo Galilei Way				Broadway				Galileo Galilei Way				Broadway			
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1															
Peak Hour for East Approach Begins At:															
05:00 PM															
+0 mins.	15	80	50	0	145	32	64	8	8	112	34	95	21	1	151
+5 mins.	17	74	47	0	138	37	74	11	4	126	38	97	16	0	151
+10 mins.	13	70	45	0	128	35	70	6	2	112	35	84	14	0	138
+15 mins.	13	71	44	1	130	30	72	5	5	112	35	84	19	0	138
Total Volume	58	312	189	3	562	125	276	33	19	453	140	379	70	1	590
% App. Total	10.3	55.5	33.6	0.5	27.6	60.9	7.3	4.2	2.6	29.7	64.2	11.9	0.2	0.2	57.3
06:00 PM															
Cars	48	304	189	3	544	123	286	24	19	431	136	358	68	1	503
% Cars	82.8	97.4	100	100	96.8	98.4	96	72.7	100	95.1	97.1	94.5	97.1	100	95.4
Trucks	0	4	0	0	4	0	0	0	0	0	0	0	0	0	0
% Trucks	0	1.4	0	0	0.4	0	0	0	0	0	0	0	0	0	0
Buses	10	1	0	0	14	2	11	9	0	22	1	10	2	0	34
% Buses	17.2	1.3	0	0	2.5	1.6	4	27.3	0	4.9	1.4	2.6	2.9	0	2.4



Accurate Counts
978-664-2565



Start Time	Galileo Galilei Way				Broadway				Galileo Gallilei Way				Broadway				
	From North		From South		From East		From West		From North		From South		From East		From West		
	Left	Right	Left	U+R	Left	Right	Left	U+R	Left	Right	Left	U+R	Left	Right	Left	U+R	
	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	
04:30 PM	13	77	50	0	29	61	4	2	21	80	15	1	37	65	12	0	467
04:45 PM	14	70	47	0	31	59	7	3	32	92	20	1	34	69	9	0	488
Total	27	147	97	0	60	120	11	5	53	172	35	2	71	134	21	0	955
05:00 PM	11	80	48	2	31	61	5	8	38	91	16	0	40	80	11	0	522
05:15 PM	10	77	44	1	37	70	9	4	32	95	14	0	56	61	17	0	527
05:30 PM	12	80	46	0	35	66	10	5	37	94	16	0	57	66	16	0	539
05:45 PM	11	59	44	3	28	59	3	5	40	85	20	0	40	86	17	0	491
Total	52	282	182	3	123	265	24	19	144	351	68	3	165	268	60	0	2009
06:00 PM	12	67	42	0	21	50	7	0	29	73	16	2	34	59	11	0	419
06:15 PM	13	64	42	0	20	55	3	4	35	49	10	2	31	78	6	0	421
Gand Total	104	550	369	3	224	490	45	28	261	654	129	9	301	539	98	0	3804
Avg	10.1	53.6	36	0.3	28.5	62.3	5.7	3.6	24.8	62.1	12.3	0.9	32.1	57.5	10.4	0	
100%	2.7	14.5	9.1	0.1	5.9	12.9	1.2	0.7	6.9	17.2	3.4	0.2	7.9	14.2	2.6	0	

Start Time	Galileo Galilei Way				Broadway				Galileo Gallilei Way				Broadway				
	From North		From South		From East		From West		From North		From South		From East		From West		
	Left	Right	Left	U+R	Left	Right	Left	U+R	Left	Right	Left	U+R	Left	Right	Left	U+R	
	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	Thru	
05:00 PM	11	80	48	2	31	61	5	8	38	91	16	0	40	80	11	0	522
05:15 PM	10	77	44	1	37	70	9	4	32	95	14	0	56	61	17	0	527
05:30 PM	12	80	46	0	35	66	10	5	37	94	16	0	57	66	16	0	539
05:45 PM	11	59	44	3	28	59	3	5	40	85	20	3	40	86	17	0	491
Total	52	282	182	3	123	265	24	19	144	351	68	3	165	268	60	0	2009
06:00 PM	12	67	42	0	21	50	7	0	29	73	16	2	34	59	11	0	419
06:15 PM	13	64	42	0	20	55	3	4	35	49	10	2	31	78	6	0	421
Gand Total	104	550	369	3	224	490	45	28	261	654	129	9	301	539	98	0	3804
Avg	10.1	53.6	36	0.3	28.5	62.3	5.7	3.6	24.8	62.1	12.3	0.9	32.1	57.5	10.4	0	
100%	2.7	14.5	9.1	0.1	5.9	12.9	1.2	0.7	6.9	17.2	3.4	0.2	7.9	14.2	2.6	0	

Accurate Counts
978-664-2565

File Name : 16400001
Site Code : 16400001
Count Date : 4/5/2014
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N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400001
Site Code : 16400001
Count Date : 4/5/2014
Page No : 3

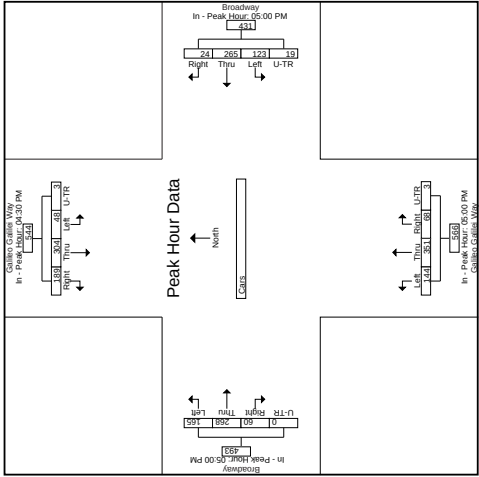
Accurate Counts
978-664-2565

N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Galileo Galilei Way				Broadway				Galileo Galilei Way				Broadway			
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins At:															

Galileo Galilei Way				Broadway				Galileo Galilei Way				Broadway			
04:30 PM	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
04:30 PM	13	77	50	0	140	31	61	5	8	105	38	91	16	0	145
+10 mins.	14	70	47	0	131	37	70	9	4	120	32	96	14	0	141
+15 mins.	10	70	44	0	124	30	65	3	2	107	40	85	20	3	148
+20 mins.	11	71	44	1	127	30	69	3	5	107	39	86	17	0	142
+25 mins.	10	70	44	1	125	30	69	3	5	107	39	86	17	0	142
+30 mins.	10	70	44	1	125	30	69	3	5	107	39	86	17	0	142
Total Volume	48	304	189	3	544	123	265	24	19	431	144	351	68	3	566
% App. Total	8.8	55.9	34.7	0.5	29.5	23.5	61.5	5.6	4.4	25.4	26.4	62	12	0.5	33.5
PHF	.867	.860	.845	.375	.885	.833	.846	.667	.694	.808	.800	.874	.850	.737	.887

Galileo Galilei Way				Broadway				Galileo Galilei Way				Broadway			
05:00 PM	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
05:00 PM	13	77	50	0	140	31	61	5	8	105	38	91	16	0	145
+10 mins.	14	70	47	0	131	37	70	9	4	120	32	96	14	0	141
+15 mins.	10	70	44	0	124	30	65	3	2	107	40	85	20	3	148
+20 mins.	11	71	44	1	127	30	69	3	5	107	39	86	17	0	142
+25 mins.	10	70	44	1	125	30	69	3	5	107	39	86	17	0	142
+30 mins.	10	70	44	1	125	30	69	3	5	107	39	86	17	0	142
Total Volume	48	304	189	3	544	123	265	24	19	431	144	351	68	3	566
% App. Total	8.8	55.9	34.7	0.5	29.5	23.5	61.5	5.6	4.4	25.4	26.4	62	12	0.5	33.5
PHF	.867	.860	.845	.375	.885	.833	.846	.667	.694	.808	.800	.874	.850	.737	.887



Accurate Counts
978-664-2565

File Name : 16400001
Site Code : 16400001
Count Date : 4/5/2014
Page No : 4

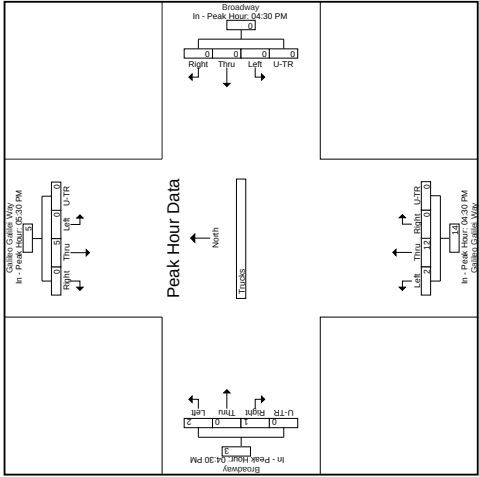
N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400001
Site Code : 16400001
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Galileo Galilei Way				Broadway				Galileo Galilei Way				Broadway			
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins At:															
-05:00 PM	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
+00 mins.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	5	0	0	5	0	0	0	0	0	0	0	0	0	0
% App. Total	0	100	0	0	100	0	0	0	0	0	0	0	0	0	0
PHF	.000	.417	.000	.000	.417	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250



Accurate Counts
978-664-2565

N/S Street : Galileo Gallilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400001
Site Code : 16400001
Count Date : 4/5/2014
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Galileo Gallilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Counts Printed - Buses																		
Galileo Gallilei Way					Galileo Gallilei Way					Broadway								
		From North			From South			From West			From East			From South				
Start Time	End Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	
04:30 PM	04:45 PM	3	2	0	0	2	3	1	0	1	0	5	0	0	1	6	0	0
04:45 PM	05:00 PM	3	2	0	0	2	3	1	0	1	0	5	0	0	1	5	0	0
Total		5	3	0	0	2	6	3	0	1	11	0	0	0	2	11	0	0
05:00 PM	05:15 PM	2	0	0	0	1	3	3	0	0	4	0	0	0	0	6	0	0
05:15 PM	05:30 PM	3	1	0	0	0	4	2	0	0	3	0	0	0	0	6	0	0
05:30 PM	05:45 PM	2	0	0	0	1	1	2	0	0	1	2	0	0	0	3	0	0
05:45 PM	06:00 PM	2	0	0	0	0	3	2	0	0	0	2	0	0	0	5	0	0
Total		9	2	0	0	2	11	9	0	1	11	1	0	0	0	19	0	0
06:00 PM	06:15 PM	3	2	0	0	0	4	2	0	0	0	0	0	0	1	5	0	0
06:15 PM	06:30 PM	20	9	1	0	4	23	15	0	3	18	2	0	0	2	40	0	0
06:30 PM	06:45 PM	6	6	0	0	9	54	35	0	3	73	3	0	0	4	65	0	0
Approach %		66.7	30	3.3	0	2.9	16.8	10.9	0	2.2	13.1	1.5	0	0	1.5	29.2	0	0
Total %		78.8																

Counts Printed - Bicycles																		
Galileo Gallilei Way					Galileo Gallilei Way					Broadway								
		From North			From South			From West			From East			From South				
Start Time	End Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	
04:30 PM	04:45 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	1	6	0	0
04:45 PM	05:00 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	1	6	0	0
05:00 PM	05:15 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:15 PM	05:30 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:30 PM	05:45 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:45 PM	06:00 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
06:00 PM	06:15 PM	3	2	0	0	0	4	2	0	0	0	0	0	0	1	5	0	0
06:15 PM	06:30 PM	20	9	1	0	4	23	15	0	3	18	2	0	0	2	40	0	0
06:30 PM	06:45 PM	6	6	0	0	9	54	35	0	3	73	3	0	0	4	65	0	0
Approach %		66.7	30	3.3	0	2.9	16.8	10.9	0	2.2	13.1	1.5	0	0	1.5	29.2	0	0
Total %		78.8																

Counts Printed - Pedestrians																		
Galileo Gallilei Way					Galileo Gallilei Way					Broadway								
		From North			From South			From West			From East			From South				
Start Time	End Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	
04:30 PM	04:45 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	1	6	0	0
04:45 PM	05:00 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:00 PM	05:15 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:15 PM	05:30 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:30 PM	05:45 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:45 PM	06:00 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
06:00 PM	06:15 PM	3	2	0	0	0	4	2	0	0	0	0	0	0	1	5	0	0
06:15 PM	06:30 PM	20	9	1	0	4	23	15	0	3	18	2	0	0	2	40	0	0
06:30 PM	06:45 PM	6	6	0	0	9	54	35	0	3	73	3	0	0	4	65	0	0
Approach %		66.7	30	3.3	0	2.9	16.8	10.9	0	2.2	13.1	1.5	0	0	1.5	29.2	0	0
Total %		78.8																

Counts Printed - Trucks																		
Galileo Gallilei Way					Galileo Gallilei Way					Broadway								
		From North			From South			From West			From East			From South				
Start Time	End Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	
04:30 PM	04:45 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	1	6	0	0
04:45 PM	05:00 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:00 PM	05:15 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:15 PM	05:30 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:30 PM	05:45 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:45 PM	06:00 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
06:00 PM	06:15 PM	3	2	0	0	0	4	2	0	0	0	0	0	0	1	5	0	0
06:15 PM	06:30 PM	20	9	1	0	4	23	15	0	3	18	2	0	0	2	40	0	0
06:30 PM	06:45 PM	6	6	0	0	9	54	35	0	3	73	3	0	0	4	65	0	0
Approach %		66.7	30	3.3	0	2.9	16.8	10.9	0	2.2	13.1	1.5	0	0	1.5	29.2	0	0
Total %		78.8																

Counts Printed - Motorcycles																		
Galileo Gallilei Way					Galileo Gallilei Way					Broadway								
		From North			From South			From West			From East			From South				
Start Time	End Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	
04:30 PM	04:45 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	1	6	0	0
04:45 PM	05:00 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:00 PM	05:15 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:15 PM	05:30 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:30 PM	05:45 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:45 PM	06:00 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
06:00 PM	06:15 PM	3	2	0	0	0	4	2	0	0	0	0	0	0	1	5	0	0
06:15 PM	06:30 PM	20	9	1	0	4	23	15	0	3	18	2	0	0	2	40	0	0
06:30 PM	06:45 PM	6	6	0	0	9	54	35	0	3	73	3	0	0	4	65	0	0
Approach %		66.7	30	3.3	0	2.9	16.8	10.9	0	2.2	13.1	1.5	0	0	1.5	29.2	0	0
Total %		78.8																

Counts Printed - School Buses																		
Galileo Gallilei Way					Galileo Gallilei Way					Broadway								
		From North			From South			From West			From East			From South				
Start Time	End Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	
04:30 PM	04:45 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	1	6	0	0
04:45 PM	05:00 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:00 PM	05:15 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:15 PM	05:30 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:30 PM	05:45 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:45 PM	06:00 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
06:00 PM	06:15 PM	3	2	0	0	0	4	2	0	0	0	0	0	0	1	5	0	0
06:15 PM	06:30 PM	20	9	1	0	4	23	15	0	3	18	2	0	0	2	40	0	0
06:30 PM	06:45 PM	6	6	0	0	9	54	35	0	3	73	3	0	0	4	65	0	0
Approach %		66.7	30	3.3	0	2.9	16.8	10.9	0	2.2	13.1	1.5	0	0	1.5	29.2	0	0
Total %		78.8																

Counts Printed - Vans																		
Galileo Gallilei Way					Galileo Gallilei Way					Broadway								
		From North			From South			From West			From East			From South				
Start Time	End Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	
04:30 PM	04:45 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	1	6	0	0
04:45 PM	05:00 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:00 PM	05:15 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:15 PM	05:30 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:30 PM	05:45 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:45 PM	06:00 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
06:00 PM	06:15 PM	3	2	0	0	0	4	2	0	0	0	0	0	0	1	5	0	0
06:15 PM	06:30 PM	20	9	1	0	4	23	15	0	3	18	2	0	0	2	40	0	0
06:30 PM	06:45 PM	6	6	0	0	9	54	35	0	3	73	3	0	0	4	65	0	0
Approach %		66.7	30	3.3	0	2.9	16.8	10.9	0	2.2	13.1	1.5	0	0	1.5	29.2	0	0
Total %		78.8																

Counts Printed - Carpools																		
Galileo Gallilei Way					Galileo Gallilei Way					Broadway								
		From North			From South			From West			From East			From South				
Start Time	End Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	
04:30 PM	04:45 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	1	6	0	0
04:45 PM	05:00 PM	2	1	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:00 PM	05:15 PM	2	0	0	0	0	3	2	0	0	2	0	0	0	0	0	0	0
05:15 PM																		

Accurate Counts
978-664-2565

File Name : 16400001
Site Code : 16400001
Count Date : 8/5/2014
Page No : 4

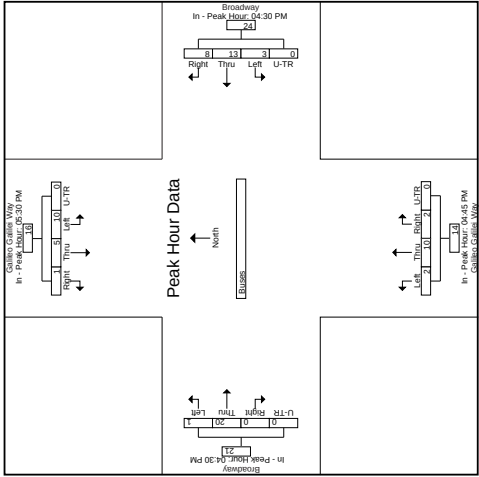
N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400001
Site Code : 16400001
Count Date : 8/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Galileo Galilei Way				Broadway				Galileo Galilei Way				Broadway			
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins At:															
-05:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+10 mins.	2	0	0	2	2	3	2	0	5	1	1	0	0	1	6
+15 mins.	2	1	0	3	3	2	3	1	0	6	0	4	0	0	5
+20 mins.	3	2	1	6	6	1	3	0	4	4	1	0	0	0	5
+25 mins.	3	2	1	6	6	1	3	0	4	4	1	0	0	0	5
+30 mins.	3	2	1	6	6	1	3	0	4	4	1	0	0	0	5
+35 mins.	3	2	1	6	6	1	3	0	4	4	1	0	0	0	5
+40 mins.	3	2	1	6	6	1	3	0	4	4	1	0	0	0	5
+45 mins.	3	2	1	6	6	1	3	0	4	4	1	0	0	0	5
+50 mins.	3	2	1	6	6	1	3	0	4	4	1	0	0	0	5
+55 mins.	3	2	1	6	6	1	3	0	4	4	1	0	0	0	5
+60 mins.	3	2	1	6	6	1	3	0	4	4	1	0	0	0	5
Total Volume	10	5	1	16	3	13	8	0	24	2	10	2	0	14	1
% App. Total	62.5	31.2	6.2	0	17.5	54.2	33.3	0	14.3	71.4	14.3	0	0	95.2	0
PHF	.833	.833	.833	.250	.667	.375	.833	.667	.000	.833	.500	.833	.000	.833	.750



Accurate Counts
978-664-2565

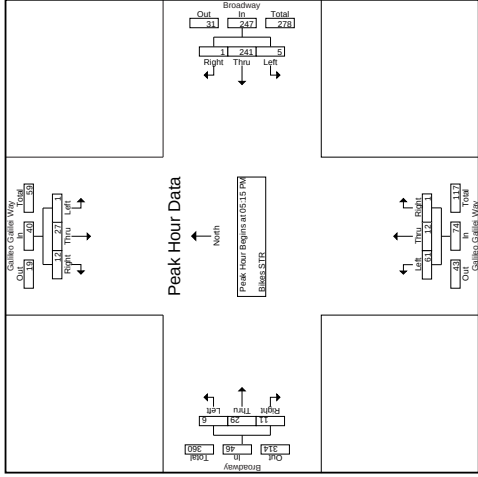
N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460001
Site Code : 16460001
Collection Date : 4/5/2014
Page No : 1

Start Time	Galileo Galilei Way			Broadway			Galileo Galilei Way			Broadway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
05:30 PM	0	7	4	3	3	0	8	7	0	2	4	3
05:45 PM	0	7	4	3	3	0	8	7	0	2	4	3
Total	0	10	5	3	47	0	12	10	0	3	5	1
05:00 PM	0	6	6	5	43	0	6	6	0	0	5	3
05:15 PM	1	9	2	1	84	0	8	2	0	3	10	5
05:30 PM	0	7	1	3	56	1	12	6	0	2	4	1
05:45 PM	3	6	0	0	47	0	10	3	0	1	8	3
Total	1	25	10	9	230	1	42	17	0	6	27	12
06:00 PM	0	8	3	1	54	0	25	1	1	0	7	2
06:15 PM	0	2	1	2	50	0	16	3	0	1	8	3
06:30 PM	1	4	2	1	56	0	25	3	0	1	10	5
06:45 PM	1	4	2	1	56	0	25	3	0	1	10	5
Approach %	1.4	64.3	34.3	3.8	95.7	0.5	74.8	24.4	0.8	13.3	62.7	24
Total %	0.1	6.7	3.6	2.2	56.9	0.3	14.2	4.6	0.1	1.5	7	2.7

N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Accurate Counts
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File Name : 16460001
Site Code : 16460001
Collection Date : 4/5/2014
Page No : 2

Accurate Counts
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File Name : 1640001
Site Code : 1640001
Count Date : 4/5/2014
Page No : 4

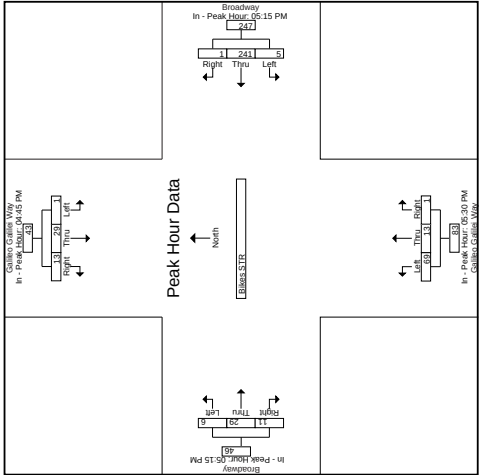
N/S Street : Gallileo Gallilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 1640001
Site Code : 1640001
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Gallileo Gallilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

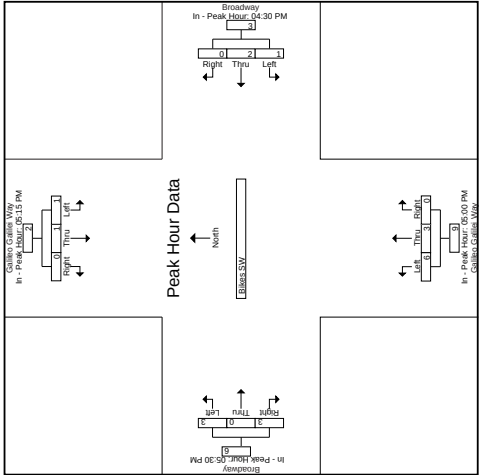
Start Time	Gallileo Gallilei Way			Broadway			Gallileo Gallilei Way			Broadway			Int. Total			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right				
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins At:																
04:30 PM																
+0 mins.	0	7	4	11	05:30 PM			85	0	84	0	18	3	10	5	18
+15 mins.	0	6	6	12	3	56	1	16	3	0	19	2	4	8	3	12
+30 mins.	1	9	2	1	0	47	0	25	1	1	27	1	8	3	1	1
+45 mins.	0	7	1	3	0	56	0	54	0	0	19	0	7	2	2	9
Total Volume	1	29	13	43	5	241	1	247	69	13	1	83	6	29	11	46
% App. Total	2.3	67.4	30.2	10.4	2	97.6	0.4	99.6	28.9	13.1	0.1	30.3	7.2	29.1	2.5	33.9
PHF	.260	.265	.342	.398	.417	.717	.250	.728	.690	.542	.250	.709	.500	.721	.250	.436



Accurate Counts
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Accurate Counts
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Start Time	Galileo Galilei Way From North			App. Total	Broadway From East			Galileo Galilei Way From South			Broadway From West			Int. Total
	Left	Thru	Right		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1														
Peak Hour for Each Approach Begins At:														
04:30 PM														
+0 mins.	1	0	0	1	0	1	0	2	0	4	0	0	2	2
+15 mins.	0	0	0	0	0	0	0	2	1	0	1	0	1	2
+30 mins.	0	0	0	0	0	0	0	0	0	2	0	0	0	2
+45 mins.	0	1	0	1	0	0	0	0	0	2	0	0	0	2
Total Volume	1	1	0	2	1	2	0	3	66.7	33.3	0	3	0	6
% App. Total	50	50	0	2	33.3	66.7	0	3	66.7	33.3	0	50	0	750
PHF	.250	.250	.000	.500	.250	.500	.000	.375	.500	.375	.000	.375	.000	.375



Accurate Counts
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N/S Street : Gallileo Gallilei Way
EW Street : Broadway
City : Cambridge, MA
Weather : Clear

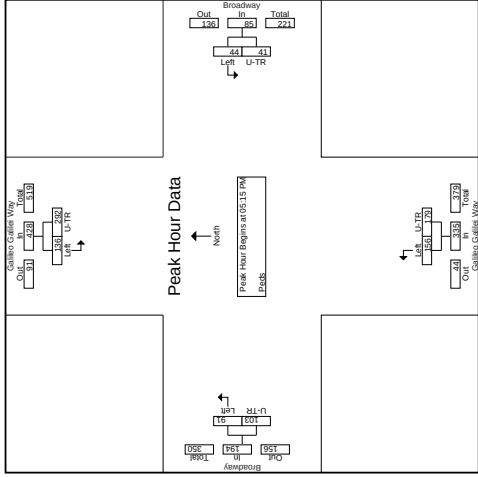
File Name : 16460001
Site Code : 16460001
Count Date : 4/5/2014
Page No : 1

Start Time	Gallileo Gallilei Way		Broadway		Gallileo Gallilei Way		Broadway		Gallileo Gallilei Way		Broadway	
	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB
04:30 PM	31	33	10	8	23	38	11	17	309	19	184	10
04:45 PM	31	33	10	8	23	38	11	17	309	19	184	10
Total	69	65	25	18	34	74	29	37	351	20	200	20
05:00 PM	51	52	18	9	25	53	17	31	351	20	200	20
05:15 PM	39	64	16	4	29	37	21	26	351	20	200	20
05:30 PM	36	65	6	19	35	42	29	29	351	20	200	20
05:45 PM	33	72	2	4	43	46	19	20	351	20	200	20
Total	139	253	32	36	143	178	86	106	1393	80	800	80
06:00 PM	28	91	10	14	38	54	22	28	285	18	184	10
06:15 PM	24	65	11	13	29	34	29	14	285	18	184	10
06:30 PM	26	42	9	11	26	24	17	10	285	18	184	10
06:45 PM	25	41	10	11	25	24	17	10	285	18	184	10
Approch %	37.1	62.9	54.7	45.3	43.2	56.8	47.3	52.7	1000	100	100	100
Total %	14.9	25.2	5.2	4.3	13.8	18.1	8.8	9.8				

N/S Street : Gallileo Gallilei Way
EW Street : Broadway
City : Cambridge, MA
Weather : Clear

Accurate Counts
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File Name : 16460001
Site Code : 16460001
Count Date : 4/5/2014
Page No : 2



Accurate Counts
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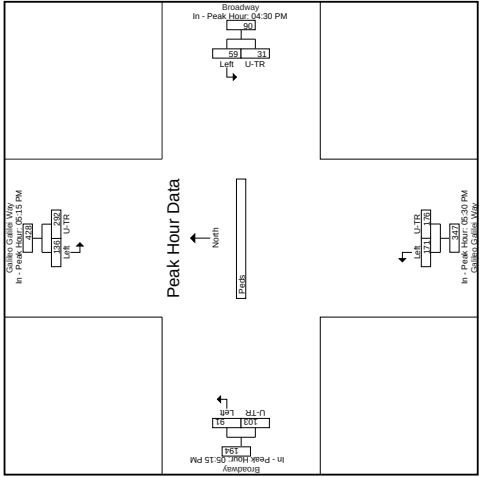
N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400001
Site Code : 16400001
Count Date : 8/5/2014
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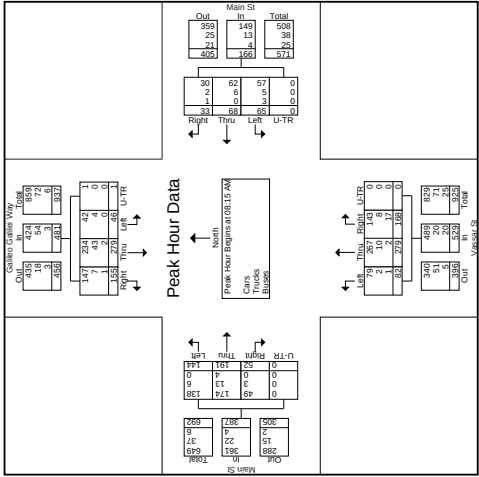
N/S Street : Galileo Galilei Way
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time		Galileo Galilei Way			Broadway			Galileo Galilei Way			Broadway			Int. Total			
		WB	EB	Apex Total	SB	NB	Apex Total	WB	EB	Apex Total	SB	NB	Apex Total				
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins at:																	
04:30 PM		04:30 PM			05:30 PM			05:15 PM			05:15 PM						
+0 mins.	39	64	103	15	25	35	42	21	26	47							
+15 mins.	36	65	101	10	18	54	46	100	29	59							
+30 mins.	33	72	105	18	27	54	44	72	22	59							
+45 mins.	28	91	119	16	20	54	34	78	22	28	50						
Total Volume	136	292	428	59	90	171	176	347	91	103	194						
% App. Total	31.8	68.2		65.6	34.4	49.3	50.7	46.9	53.1								
PHE	.872	.882	.899	.819	.833	.792	.815	.868	.784	.888	.838						



Accurate Counts
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Accurate Counts
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Start Time	Gallio Gallio Way				Main St				Vassar St				Main St			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
07:45 AM	11	74	35	0	14	13	8	0	12	69	37	0	30	40	5	0
Total	20	143	63	1	24	24	15	0	25	136	68	0	57	71	12	0
08:00 AM	11	61	22	0	14	26	7	0	20	82	38	0	31	41	7	0
08:15 AM	20	64	41	0	15	15	10	0	30	68	38	0	33	40	11	0
08:30 AM	12	79	28	1	21	24	6	0	19	78	35	0	37	66	12	0
08:45 AM	6	69	43	0	20	18	6	0	13	76	45	0	35	46	13	0
Total	49	273	134	1	70	83	29	0	82	304	156	0	136	193	43	0
09:00 AM	8	67	43	0	9	11	11	0	20	57	50	0	39	39	16	0
09:15 AM	6	72	39	0	16	17	11	0	15	69	43	0	26	40	9	0
09:30 AM	63	555	279	2	119	135	70	0	142	566	210	0	258	343	89	0
Grand Total	8	67	43	0	37	46	22	0	13	76	45	0	35	46	13	0
Total %	2.8	18.8	9.5	0.1	4.6	22.2	0	0	4.8	19.2	10.8	0	8.8	11.6	2.7	0
Cars	74	473	262	2	100	118	60	0	139	536	273	0	232	319	76	0
% Cars	89.2	85.2	93.9	100	84	87.4	90.9	0	97.9	94.7	86.1	0	89.9	93	95	0
Buses	1	9	2	0	9	1	2	0	1	5	35	0	3	8	0	0
% Buses	1.2	1.6	0.7	0	7.6	0.7	3	0	0.7	0.9	11	0	1.2	2.3	0	0

Start Time	Gallio-Gallio Way				Main East				Vassar St				Main West				Inn. Total			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total				
Peak Hour Analysis From 07:30 AM to 09:15 AM, Peak of 1																				
Peak Hour for Entire Intersection Begins at 08:15 AM																				
08:15 AM	20	64	41	0	125	15	10	0	30	68	38	0	136	33	40	11	0	84	385	
08:30 AM	12	79	28	1	120	21	24	6	51	19	78	35	0	32	77	66	12	0	418	
08:45 AM	6	69	43	0	118	9	11	0	30	68	38	0	135	35	46	13	0	94	370	
09:00 AM	8	67	43	0	118	9	11	0	31	20	57	50	0	127	39	39	16	0	54	
Total Volume	46	279	155	1	481	65	68	33	166	62	279	168	0	529	144	191	52	0	387	
% App. Total	9.6	58	32.2	0.2	100	13.5	14.4	6.9	34.5	13.2	58.7	35.2	0	10.9	29.7	40.4	11.4	0	80.7	
% Cars	42	234	147	0	423	57	62	30	149	79	280	151	0	469	138	174	40	0	361	
% Trucks	9	91.3	83.9	94.8	100	18.1	87.7	91.2	90.9	0	89.8	96.3	95.7	85.1	0	92.4	95.8	91.1	94.2	93.0
% Buses	4	4.3	7	0	5.4	5	6	2	0	13	2	0	0	20	6	13	3	0	22	19.0
% Left	8.6	13.5	14.2	0	11.3	11.3	7.7	8.6	6.1	7.4	2.4	3.7	0	4.2	6.0	6.6	5.2	0	5.2	21.0
% Right	13	47	45	0	26.2	11	11	0	32	10	27	17	0	32	10	20	0	0	4	23.0
% Buses	0	0.7	0.6	0	0.6	4.6	0	3.0	0	2.4	1.2	0.7	0	3.8	0	2.1	0	0	1.0	2.0

Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1

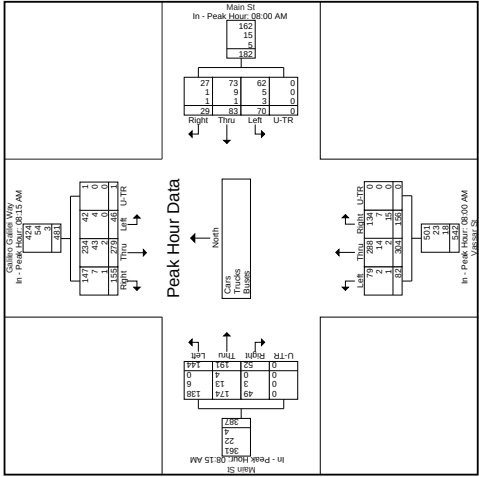
Peak Hour for Entire Intersection Begins at 08:15 AM

Start Time	Gallio Gallio Way				Main St				Vassar St				Main St			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
07:30 AM	12	79	28	0	15	10	0	0	20	68	38	0	33	40	11	0
07:45 AM	6	69	43	0	118	9	11	0	31	20	57	50	0	127	39	16
08:00 AM	8	67	43	0	118	9	11	0	166	15	15	15	0	329	494	134
08:15 AM	20	64	41	0	12.5	15	10	0	30	68	38	0	33	40	11	0
08:30 AM	12	79	28	1	21	24	6	0	19	78	35	0	37	66	12	0
08:45 AM	6	69	43	0	20	18	6	0	13	76	45	0	35	46	13	0
09:00 AM	8	67	43	0	118	9	11	0	31	20	57	50	0	127	39	16
Grand Total	63	555	279	2	119	135	70	0	142	566	210	0	258	343	89	0
% Cars	89.2	85.2	93.9	100	84	87.4	90.9	0	97.9	94.7	86.1	0	89.9	93	95	0
% Buses	1	9	2	0	9	1	2	0	1	5	35	0	3	8	0	0
% Trucks	1.2	1.6	0.7	0	7.6	0.7	3	0	0.7	0.9	11	0	1.2	2.3	0	0

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Galileo Galilei Way										Main St				Vassar St				Main St															
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1										East				South				East															
Start Time	Left	Thru	Right	L+T+R	App. Total	Left	Thru	Right	L+T+R	App. Total	Left	Thru	Right	L+T+R	App. Total	Left	Thru	Right	L+T+R	App. Total	Int. Total												
Peak Hour for Each Approach Begins at:																						08:00 AM				08:00 AM				08:15 AM			
+0 mins.	20	64	41	0	125	14	26	7	0	47	20	82	38	0	140	33	40	11	0	84													
+15 mins.	12	79	28	1	120	15	15	10	0	40	30	68	38	0	136	37	37	66	12	0	115												
+30 mins.	8	69	18	0	95	11	14	6	0	31	15	78	35	0	124	35	46	16	0	94													
+45 mins.	6	67	43	0	116	20	16	6	0	42	13	75	45	0	132	39	39	31	0	109													
Totol Volume	46	279	155	1	481	70	83	29	0	182	82	304	156	0	542	144	191	52	0	387													
% App. Total	9.6	58	32.2	0.2	38.5	14.5	15.9	5.9	0	15.1	56.1	28.8	0	54.2	37.2	49.4	13.4	0	0	38.7													
08:15 AM																						08:00 AM				08:00 AM				08:15 AM			
PHE	575	283	301	250	999	88	272	100	0	460	182	562	282	0	924	153	173	103	0	426													
% Cars	91.3	83.9	94.8	100	88.1	88.6	88	93.1	0	89	96.3	94.7	85.9	0	92.4	95.8	91.1	94.2	0	93.3													
% Trucks	4	43	7	0	54	5	9	1	0	15	2	14	7	0	23	6	13	3	0	22													
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													
% Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0													



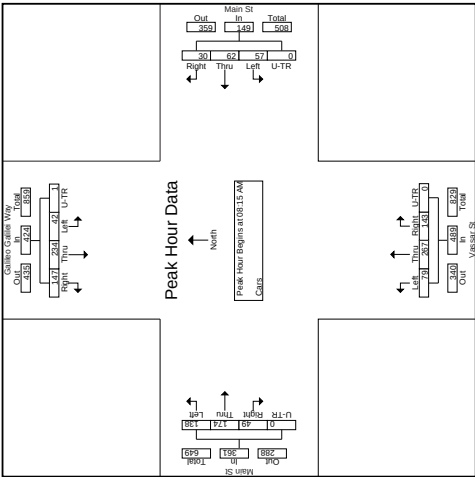
Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16460002
Site Code : 16460002
Collection Date : 8/6/2014
Page No : 1

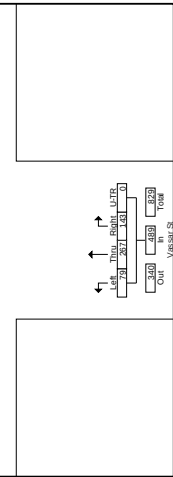
Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear



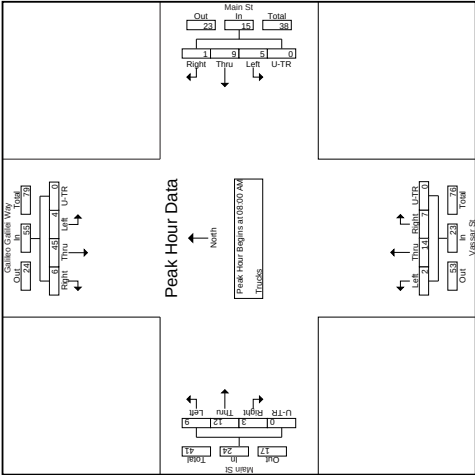
Groups Printed: Cars															
Galileo Galilei Way				Main St				Vassar St				Main St			
		From North		From East		From South		From West		From North		From East		From South	
Start Time	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right
07:30 AM	8	65	26	1	8	8	0	13	65	29	0	22	29	6	0
07:45 AM	9	64	33	0	9	13	7	0	35	32	0	46	35	15	0
08:00 AM	17	129	59	1	17	21	13	0	25	131	61	0	48	67	11
Total															
08:00 AM	10	51	19	0	13	20	7	0	20	76	34	0	25	38	7
08:15 AM	19	51	37	0	13	14	9	0	29	66	34	0	32	36	10
08:30 AM	10	64	27	1	17	22	5	0	19	74	28	0	35	61	11
08:45 AM	6	69	43	0	19	17	6	0	11	72	38	0	34	41	12
Total	45	226	126	1	62	73	27	0	79	288	134	0	126	176	40
09:00 AM	7	59	40	0	8	9	10	0	20	55	43	0	37	36	16
09:15 AM	5	59	37	0	13	15	10	0	15	62	35	0	21	40	9
09:30 AM	74	173	262	2	100	118	69	0	139	536	273	0	319	376	76
09:45 AM	9	59	39	0	14	16	11	0	15	52	21	0	53	31	12
Total %	2.8	17.8	39.8	0.1	3.8	4.4	2.3	0	5.2	20.1	10.2	0	8.7	12	2.9

Galileo Galileo Way																					
Start Time Group End Time	From North				Main St From East				Vassar St From South				Main St From West								
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn					
Peak Hour Analysis: Peak Hour: 07:30 AM to 09:15 AM - Peak 1 of 1																					
08:15 AM	19	51	37	0	107	13	14	9	0	36	29	66	34	0	129	32	36	10	0	78	350
08:30 AM	10	64	27	1	102	17	22	5	0	47	19	74	28	0	121	35	61	11	0	107	374
08:45 AM	6	69	43	0	106	19	17	6	0	11	72	38	0	0	118	37	36	16	0	107	340
09:00 AM	7	59	40	0	99	8	9	10	0	20	55	43	0	0	118	37	36	16	0	107	340
09:15 AM	5	59	37	0	97	13	15	10	0	15	62	35	0	0	121	40	9	0	0	78	350
Total Volume	42	234	147	1	424	57	62	30	0	149	79	267	143	0	489	138	174	49	0	361	1423
% App. Total	53	552	347	0.2	53	416	201	0	162	54.6	28.2	0	382	462	138	0	423	123	0	361	1423
PHF	.553	.514	.555	.459	.972	.736	.703	.600	.847	.581	.586	.551	.600	.548	.713	.566	.600	.643	.561	.561	.561



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



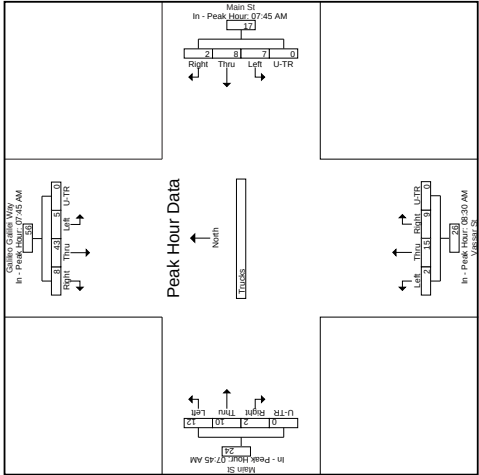
Start Time	Groups Printed: Trucks											
	Galileo Galilei Way				Main St				Vassar St			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
07:45 AM	1	6	2	0	3	0	1	0	0	2	0	0
Total	2	10	4	0	4	3	2	0	4	0	0	0
08:00 AM	1	10	2	0	5	0	0	0	6	0	0	0
08:15 AM	1	13	3	0	1	1	0	0	0	0	0	0
08:30 AM	2	14	1	0	3	2	1	0	4	4	0	0
08:45 AM	0	8	0	0	1	1	0	0	2	4	3	0
Total	4	45	6	0	5	9	1	0	2	14	7	0
09:00 AM	1	8	3	0	0	2	1	0	2	1	0	0
09:15 AM	1	10	2	0	1	2	0	0	5	1	0	0
Grand Total	8	73	15	0	10	16	1	0	25	9	0	0
% App. Total	3.9	35.6	7.3	0	4.9	7.8	2	0	12.2	4.4	0	0
Total %	3.9	35.6	7.3	0	4.9	7.8	2	0	12.2	4.4	0	0

Start Time	Groups Printed: Trucks											
	Galileo Galilei Way				Main St				Vassar St			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
08:00 AM	1	10	2	0	5	0	0	5	6	0	0	6
08:15 AM	1	13	3	0	1	1	0	0	4	0	0	0
08:30 AM	2	14	1	0	3	2	1	0	4	4	0	0
08:45 AM	0	8	0	0	1	1	0	0	2	4	3	0
Total Volume	4	45	6	0	5	9	1	0	2	14	7	0
% App. Total	3.9	35.6	7.3	0	4.9	7.8	2	0	12.2	4.4	0	0
Total %	3.9	35.6	7.3	0	4.9	7.8	2	0	12.2	4.4	0	0

Accurate Counts
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Accurate Counts
978-664-2565

Galileo Galilei Way										Vassar St										Main St											
Start Time		Left		Thru		Right		U-TR		App. Total		Left		Thru		Right		U-TR		App. Total		Left		Thru		Right		U-TR		App. Total	
Peak Hour for Each Approach Begins at:																															
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1																															
07:45 AM																															
+0 mins.																															
+15 mins.																															
+30 mins.																															
+45 mins.																															
Total Volume																															
% App. Total																															
PHF																															



Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

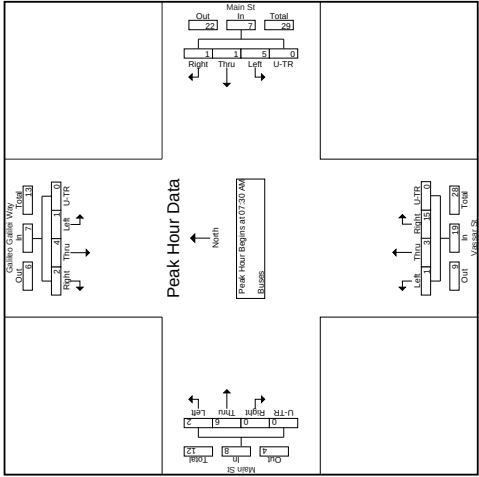
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Site Code : 16400002
Collection Date : 8/6/2014
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Groups Printed: Buses																
Galileo Galilei Way				Main St				Vassar St				Main St				
From North				From East				From South				From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
07:30 AM	1	4	0	0	0	1	0	0	0	0	0	2	0	1	2	0
07:45 AM	1	4	0	0	2	0	0	0	0	1	5	0	1	0	0	0
Total	1	4	0	0	3	0	0	0	0	1	7	0	1	3	0	0
08:00 AM	0	0	1	0	1	1	0	0	0	0	4	0	1	1	0	0
08:15 AM	0	0	1	0	1	0	1	0	1	2	4	0	0	2	0	0
08:30 AM	0	1	0	0	0	0	0	3	0	0	3	0	0	0	0	0
08:45 AM	0	1	0	0	0	0	0	0	0	0	4	0	0	2	0	0
Total	0	2	2	0	3	1	1	0	1	2	15	0	1	5	0	0
09:00 AM	0	0	0	0	1	0	0	0	0	0	6	0	0	0	0	0
09:15 AM	0	3	0	0	2	0	1	0	0	2	7	0	1	0	0	0
Grand Total	1	9	2	0	9	1	2	0	1	5	35	0	3	8	0	0
Approach %	8.3	75	16.7	0	75	8.3	16.7	0	2.4	12.2	85.4	0	27.3	72.7	0	0
Total %	1.3	11.8	2.6	0	11.8	1.3	2.6	0	1.3	6.6	46.1	0	3.9	10.5	0	0

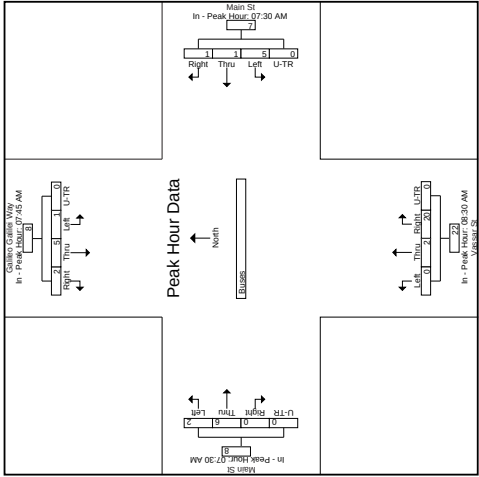
Main St																
Galileo Galilei Way				Main St				Vassar St				Main St				
From North				From East				From South				From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
07:30 AM	0	0	0	0	1	0	0	1	0	0	2	0	2	0	0	3
07:45 AM	0	0	0	0	2	0	0	2	0	0	4	0	4	1	0	0
08:00 AM	0	1	0	0	1	0	0	1	0	0	4	0	7	1	0	0
08:15 AM	0	1	0	0	1	0	1	0	2	1	4	0	7	2	0	0
Total Volume	1	4	2	0	5	1	1	0	7	3	15	0	19	2	6	0
% App. Total	14.3	57.1	28.6	0	21.4	14.3	14.3	0	5.3	15.8	76.9	0	25	75	0	0
Peak Hour	250	450	300	0	350	350	0	0	350	750	0	0	350	750	0	0
Total	250	450	300	0	350	350	0	0	350	750	0	0	350	750	0	0



Accurate Counts
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Galileo Galilei Way				Main St East				Vassar St South				Main St West			
Start Time	Left	Thru	Right	U+TR	App. Total	Left	Thru	Right	U+TR	App. Total	Left	Thru	Right	U+TR	App. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
07:30 AM															
+0 mins.	1	4	0	0	5	1	0	0	0	1	0	0	0	0	0
+15 mins.	0	0	1	0	1	2	0	0	0	2	0	0	4	0	1
+30 mins.	0	0	1	0	1	1	1	0	0	2	0	0	0	0	0
+45 mins.	0	0	0	0	0	1	1	0	0	2	0	0	0	0	0
Total Volume	1	5	2	0	8	5	1	1	0	7	0	2	20	2	6
% App. Total	12.5	62.5	25	0	71.4	14.3	14.3	0	0	91.4	90.9	0	22	75	0
PHE	250	313	390	000	4100	625	250	250	000	875	000	250	714	000	697

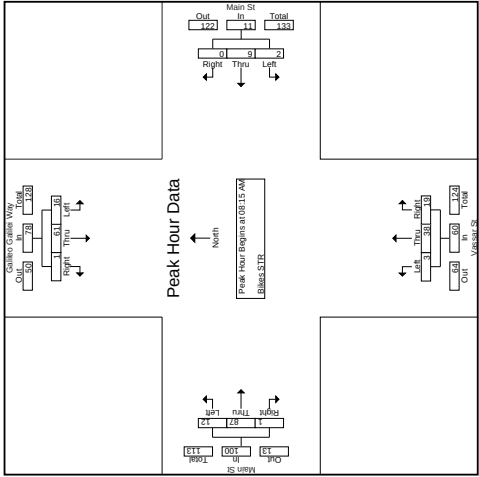


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed- Bikas STR													
Start Time	Galileo Galilei Way				Main St				Vassar St				Inn. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	15	0	1	3	0	1	4	4	14	4	19	0
08:00 AM	1	5	0	1	1	1	0	2	7	4	0	14	1
08:15 AM	3	8	1	1	1	2	0	4	5	4	20	0	48
08:30 AM	2	16	0	3	0	3	0	1	10	5	1	18	1
08:45 AM	7	27	0	1	2	0	0	18	7	3	33	0	98
Total	13	56	1	3	8	0	3	39	21	8	85	2	239
09:00 AM	4	10	0	0	2	2	0	6	2	4	16	0	46
09:15 AM	0	7	0	2	2	0	0	7	8	5	14	1	46
Grand Total	18	88	1	29	6	7	6	66	35	21	144	1	46
App. %	15.5	62.4	0.7	20.9	5.0	5.0	4.5	47.8	24.1	15.2	124.0	1.3	393
Total %	4.5	22.4	0.3	1.5	3.8	0	1.5	16.8	8.9	5.3	34.1	0.8	

Groups Printed- Bikas STR													
Start Time	Galileo Galilei Way				Main St				Vassar St				Inn. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
08:15 AM to 09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour for Entire Intersection Begins at 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	3	8	1	12	1	2	0	3	0	4	5	9	4
08:30 AM	2	16	0	18	0	3	0	3	1	10	5	16	1
08:45 AM	7	27	0	34	2	0	0	2	6	2	32	0	57
09:00 AM	4	10	0	14	0	2	0	2	1	6	2	9	0
Total Volume	16	61	1	78	2	9	0	11	3	28	19	60	24
%App. Total	20.5	78.2	1.3	100	16.2	81.8	0	100	5	63.3	31.7	100	100
PHF	.371	.865	.250	.541	.260	.690	.000	.317	.358	.879	.659	.250	.651



Accurate Counts
978-664-2565

File Name : 16400002
Site Code : 16400002
City/State : Cambridge, MA
Date : 8/6/2014
Page No : 4

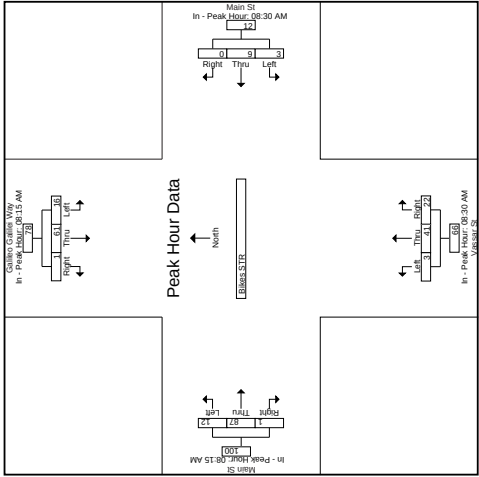
N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16400002
Site Code : 16400002
City/State : Cambridge, MA
Date : 8/6/2014
Page No : 3

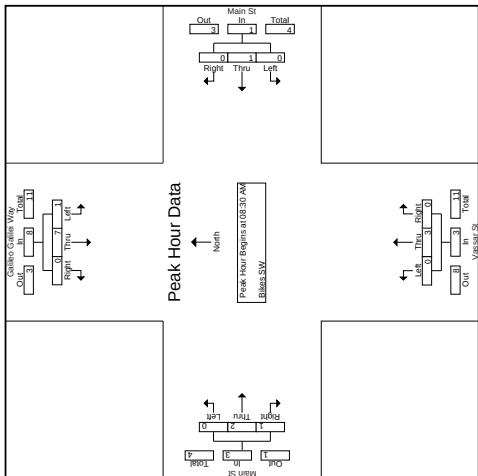
Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Start Time	Galileo/Galileo Way				Main St				Vassar St				Main St			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1																
Peak Hour for Ebb Approach Begins at:																
08:15 AM																
+0 mins.	3	8	1	12	0	3	0	3	0	3	0	3	0	16	4	24
+15 mins.	2	16	0	18	1	2	0	3	0	18	7	25	1	18	1	20
+30 mins.	7	27	0	34	0	2	0	2	2	6	3	10	3	33	0	36
+45 mins.	16	61	1	78	3	8	0	11	4	22	4	28	12	87	1	100
Total Volume	20.5	78.2	1.3	79.5	25	75	0	12	3	41	22	66	12	87	1	100
% App. Total	.25	.97	.02	1.00	.31	.94	.00	.37	.04	.52	.22	.28	.15	.87	.01	.99
PHE	.571	.965	.299	.974	.375	.790	.000	.750	.375	.569	.688	.660	.750	.659	.250	.694



Accurate Counts
978-664-2565



Accurate Counts
978-664-2565

File Name : 16460002
Site Code : 16460002
Start Date : 4/8/2014
Page No : 1

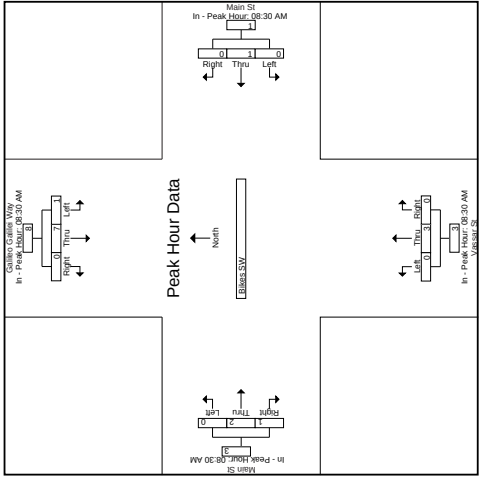
Groups Printed: Bikes SW														
Galileo Galilei Way				Main St				Vassar St				Main St		
Start Time	From North			From East			Left	From South			Left	From West		
	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	2	2	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	2	0	0	0	0	0	0	0	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:55 AM	0	2	0	0	0	0	0	0	0	0	0	0	1	3
Total	0	3	0	0	0	0	0	0	0	0	0	0	1	4
09:00 AM	1	3	0	0	0	0	0	0	1	0	0	0	1	0
09:15 AM	0	1	0	0	0	0	0	0	2	0	0	1	0	5
Grand Total	3	9	0	0	1	0	0	0	3	0	0	2	1	19
Appet %	25	75	0	0	100	0	0	0	100	0	0	66.7	33.3	0
Total %	13.8	47.4	0	0	5.3	0	0	0	13.8	0	0	10.5	3.3	0

Groups Printed: Bikes SW														
Galileo Galilei Way				Main St				Vassar St				Main St		
Start Time	From North			From East			Left	From South			Left	From West		
	Left	Thru	Right	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right
08:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	2	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	1	3	0	0	0	0	0	0	2	0	0	1	0	1
09:15 AM	0	1	0	0	0	0	0	0	1	0	0	0	1	0
Total	1	7	0	0	0	0	0	0	3	0	0	1	1	1
Total Volume	11.2	87.2	0	0	10.0	0	0	0	13	0	0	6.2	73.3	15
%Appet	25.0	583	.000	.000	250	.000	.000	.000	375	.000	.000	250	750	.000
Peak Hour PHF	.250	.583	.000	.000	.250	.000	.000	.000	.375	.000	.000	.250	.750	.000
Peak Hour	08:30 AM to 09:15 AM	09:00 AM to 09:15 AM	09:15 AM to 09:30 AM	08:30 AM to 09:15 AM	09:00 AM to 09:15 AM	09:15 AM to 09:30 AM	08:30 AM to 09:15 AM	09:00 AM to 09:15 AM	09:15 AM to 09:30 AM	08:30 AM to 09:15 AM	09:00 AM to 09:15 AM	09:15 AM to 09:30 AM	08:30 AM to 09:15 AM	09:00 AM to 09:15 AM
Peak Hour for Entire Intersection Begins at 08:30 AM	0	1	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour for Entire Intersection Ends at 09:15 AM	0	4	0	0	0	0	0	0	2	0	0	1	0	1
Peak Hour for Entire Intersection	1	3	0	0	0	0	0	0	2	0	0	1	0	1
Total Volume	11.2	87.2	0	0	10.0	0	0	0	13	0	0	6.2	73.3	15
%Appet	25.0	583	.000	.000	250	.000	.000	.000	375	.000	.000	250	750	.000
Peak Hour PHF	.250	.583	.000	.000	.250	.000	.000	.000	.375	.000	.000	.250	.750	.000

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	Galileo Way				Main St				Vassar St				Main St			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1																
Peak Hour for Each Approach Equals at:																
08:30 AM																
+0 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	2	0	2	0	0	0	0	0	0	0	0	0	0	1	1
+30 mins.	1	3	0	4	0	0	0	0	1	0	1	0	1	0	0	1
Total Volume	1	7	0	8	0	1	0	1	0	3	0	3	0	2	1	3
% App. Total	12.5	87.5	0	100	0	100	0	100	0	37.5	0	37.5	0	66.7	33.3	75.0
PHE	250	563	000	590	000	250	000	250	000	375	000	375	000	500	250	750



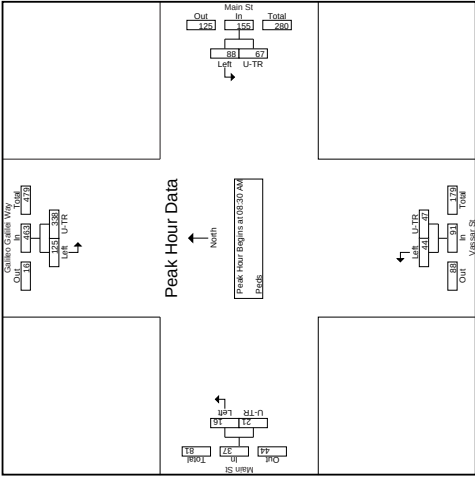
Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vasar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16460002
Site Code : 16460002
Collection Date : 8/6/2014
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vasar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear



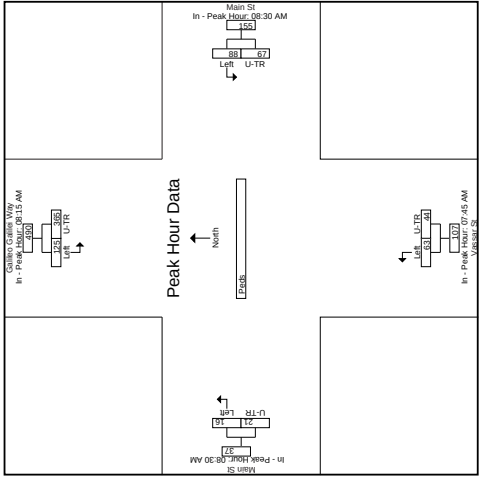
Groups Printed- Peds									
Start Time	Galileo Galild Way			Main St			Vasar St		
	From North	From East	From South	From West	From North	From South	From East	From West	In. Total
08:30 AM	19	10	21	3	13	10	10	4	172
08:45 AM	28	15	16	5	19	31	21	4	274
Total	47	25	37	8	32	41	31	8	446
09:00 AM	23	10	7	2	13	18	18	2	144
09:15 AM	29	11	11	1	8	15	9	2	175
09:30 AM	20	6	9	5	10	9	4	4	157
09:45 AM	33	17	21	7	13	47	5	6	189
Total	105	55	45	15	44	91	36	12	665
09:00 AM	43	31	18	3	11	12	18	8	220
09:15 AM	29	23	22	1	13	18	10	3	180
09:30 AM	205	69	101	24	47	106	54	30	1330
09:45 AM	74	44	44	44	65	54	81	22	655
Total	351	208	205	72	136	280	153	43	1228
% App. Total	15.3	9.3	7.5	1.6	6.5	12.2	6.5	1.8	53.2

Galileo Galild Way									
Start Time	From North			Main St			Vasar St		
	From North	From East	From South	From West	From North	From South	From East	From West	In. Total
08:30 AM	106	17	6	23	9	10	19	5	157
08:45 AM	33	21	38	5	13	18	7	6	189
09:00 AM	29	17	15	13	10	13	10	4	180
09:15 AM	29	23	22	45	18	13	31	3	189
Total Volume	125	338	463	88	67	155	44	21	746
% App. Total	27	73	43.2	11.8	9.1	20.8	5.9	2.8	100
PHF	.727	.859	.791	.791	.811	.884	.734	.856	.712

Accurate Counts
978-664-2565

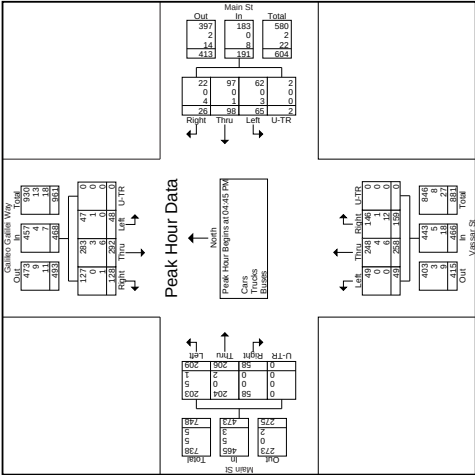
Accurate Counts
978-664-2565

Start Time	Galileo Galilei Way		Main St		Vassar St		Main St		Int. Total
	EB	From NB	From East	From West	WB	From South	NB	From West	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1									
Peak Hour for East Approach Right Side:									
+0 mins.	29	98	127	6	23	13	34	5	9
+15 mins.	20	86	106	17	38	18	31	7	13
+30 mins.	33	87	120	21	49	15	23	3	11
+45 mins.	25	77	103	18	37	16	20	6	10
Total Volume	125	365	499	68	155	63	107	21	37
% App. Total	25.5	74.5	56.8	43.2	58.9	41.1	43.2	56.8	
PHF	.777	.931	.894	.791	.759	.846	.787	.856	.712



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



Start Time	Gallio Gallio Way				Main St				Vassar St				Main St			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
04:45 PM	9	27	24	0	17	26	4	0	9	57	36	0	56	45	18	0
Total	21	163	54	0	27	44	10	0	15	118	62	0	108	97	38	0
05:00 PM	13	75	41	0	17	28	8	1	6	65	37	0	51	57	15	0
05:15 PM	13	69	31	0	6	23	6	1	21	70	45	0	49	53	12	0
05:30 PM	13	71	32	0	25	21	8	0	13	66	41	0	53	51	13	0
05:45 PM	10	62	35	0	14	18	9	0	12	65	39	0	36	36	23	0
Total	49	277	139	0	62	90	31	2	32	286	162	0	189	197	63	0
06:00 PM	11	44	29	1	20	24	2	1	14	51	38	0	39	34	8	0
06:15 PM	14	51	36	0	16	19	4	0	8	54	35	0	42	37	20	0
06:30 PM	15	55	29	0	12	17	4	3	89	489	297	0	378	365	129	0
06:45 PM	13	62	35	0	35	50	13	0	18	55	29	0	378	365	129	0
Total	32	179	86	0	42	59	16	0	3	164	99	0	127	122	43	0
Cars	94	517	256	1	118	170	41	3	88	474	275	0	368	358	129	0
% Cars	98.9	96.6	98.2	100	94.4	96	87.2	100	98.9	98.3	92.6	0	97.4	98.1	100	0
% Trucks	1	1	1	0	1	1	1	0	1	1	1	0	2	2	1	0
% Buses	0	11	1	0	7	3	6	0	1	8	21	0	2	4	0	0
% Buses	0	2.1	0.4	0	5.6	1.7	12.8	0	1.1	1.6	7.1	0	0.5	1.1	0	0

Start Time	Gallio Gallio Way				Main St				Vassar St				Main St			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
04:45 PM	9	27	24	0	17	26	4	0	9	57	36	0	56	45	18	0
05:00 PM	13	75	41	0	17	28	8	1	6	65	37	0	51	57	15	0
05:15 PM	13	69	31	0	6	23	6	1	36	21	70	45	0	136	49	53
05:30 PM	13	71	32	0	25	21	8	0	54	13	66	41	0	120	53	51
05:45 PM	10	62	35	0	14	18	9	0	12	65	39	0	36	36	23	0
Total	49	277	139	0	62	90	31	2	32	286	162	0	189	197	63	0
Cars	94	517	256	1	118	170	41	3	88	474	275	0	368	358	129	0
% Cars	98.9	96.6	98.2	100	94.4	96	87.2	100	98.9	98.3	92.6	0	97.4	98.1	100	0
% Trucks	1	1	1	0	1	1	1	0	1	1	1	0	2	2	1	0
% Buses	0	11	1	0	7	3	6	0	1	8	21	0	2	4	0	0
% Buses	0	2.1	0.4	0	5.6	1.7	12.8	0	1.1	1.6	7.1	0	0.5	1.1	0	0

Start Time	Gallio Gallio Way				Main St				Vassar St				Main St			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
04:45 PM	9	27	24	0	17	26	4	0	9	57	36	0	56	45	18	0
05:00 PM	13	75	41	0	17	28	8	1	6	65	37	0	51	57	15	0
05:15 PM	13	69	31	0	6	23	6	1	36	21	70	45	0	136	49	53
05:30 PM	13	71	32	0	25	21	8	0	54	13	66	41	0	120	53	51
05:45 PM	10	62	35	0	14	18	9	0	12	65	39	0	36	36	23	0
Total	49	277	139	0	62	90	31	2	32	286	162	0	189	197	63	0
Cars	94	517	256	1	118	170	41	3	88	474	275	0	368	358	129	0
% Cars	98.9	96.6	98.2	100	94.4	96	87.2	100	98.9	98.3	92.6	0	97.4	98.1	100	0
% Trucks	1	1	1	0	1	1	1	0	1	1	1	0	2	2	1	0
% Buses	0	11	1	0	7	3	6	0	1	8	21	0	2	4	0	0
% Buses	0	2.1	0.4	0	5.6	1.7	12.8	0	1.1	1.6	7.1	0	0.5	1.1	0	0

Start Time	Gallio Gallio Way				Main St				Vassar St				Main St			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
04:45 PM	9	27	24	0	17	26	4	0	9	57	36	0	56	45	18	0
05:00 PM	13	75	41	0	17	28	8	1	6	65	37	0	51	57	15	0
05:15 PM	13	69	31	0	6	23	6	1	36	21	70	45	0	136	49	53
05:30 PM	13	71	32	0	25	21	8	0	54	13	66	41	0	120	53	51
05:45 PM	10	62	35	0	14	18	9	0	12	65	39	0	36	36	23	0
Total	49	277	139	0	62	90	31	2	32	286	162	0	189	197	63	0
Cars	94	517	256	1	118	170	41	3	88	474	275	0	368	358	129	0
% Cars	98.9	96.6	98.2	100	94.4	96	87.2	100	98.9	98.3	92.6	0	97.4	98.1	100	0
% Trucks	1	1	1	0	1	1	1	0	1	1	1	0	2	2	1	0
% Buses	0	11	1	0	7	3	6	0	1	8	21	0	2	4	0	0
% Buses	0	2.1	0.4	0	5.6	1.7	12.8	0	1.1	1.6	7.1	0	0.5	1.1	0	0

Start Time	Gallio Gallio Way				Main St				Vassar St				Main St			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
04:45 PM	9	27	24	0	17	26	4	0	9	57	36	0	56	45	18	0
05:00 PM	13	75	41	0	17	28	8	1	6	65	37	0	51	57	15	0
05:15 PM	13	69	31	0	6	23	6	1	36	21	70	45	0	136	49	53
05:30 PM	13	71	32	0	25	21	8	0	54	13	66	41	0	120	53	51
05:45 PM	10	62	35	0	14	18	9	0	12	65	39	0	36	36	23	0
Total	49	277	139	0	62	90	31	2	32	286	162	0	189	197	63	0
Cars	94	517	256	1	118	170	41	3	88	474	275	0	368	358	129	0
% Cars	98.9	96.6	98.2	100	94.4	96	87.2	100	98.9	98.3	92.6	0	97.4	98.1	100	0
% Trucks	1	1	1	0	1	1	1	0	1	1	1	0	2	2	1	0
% Buses	0	11	1	0	7	3	6	0	1	8	21	0	2	4	0	0
% Buses	0	2.1	0.4	0	5.6	1.7	12.8	0	1.1	1.6	7.1	0	0.5	1.1	0	0

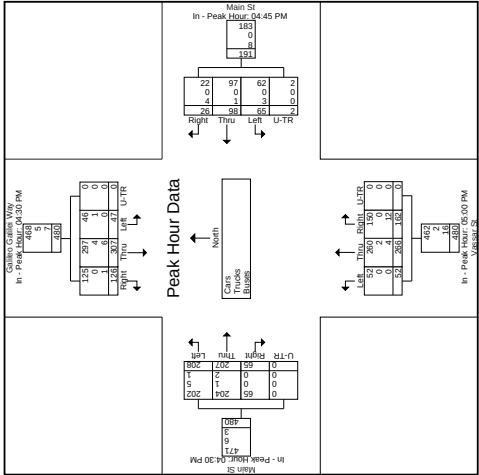
Start Time	Gallio Gallio Way				Main St				Vassar St				Main St			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
04:45 PM	9	27	24	0	17	26	4	0	9	57	36	0	56	45	18	0
05:00 PM	13	75	41	0	17	28	8	1	6	65	37	0	51	57	15	0
05:15 PM	13	69	31	0	6	23	6	1	36	21	70	45	0	136	49	53
05:30 PM	13	71	32	0	25	21	8	0	54	13	66	41	0	120	53	51
05:45 PM	10	62	35	0	14	18	9	0	12	65	39	0	36	36	23	0
Total	49	277	139	0	62	90	31	2	32	286	162	0	189	197	63	0
Cars	94	517	256	1	118	170	41	3	88	474	275	0	368	358	129	0
% Cars	98.9	96.6	98.2	100	94.4	96	87.2	100	98.9	98.3	92.6	0	97.4	98.1	100	0
% Trucks	1	1	1	0	1	1	1	0	1	1	1	0	2	2	1	0
% Buses	0	11	1	0	7	3	6	0	1	8	21	0	2	4	0	0
% Buses	0	2.1	0.4	0	5.6	1.7	12.8	0	1.1	1.6	7.1	0	0.5	1.1	0	0

Start Time	Gallio Gallio Way				Main St				Vassar St				Main St			
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
04:45 PM	9	27	24	0	17	26	4	0	9	57	36	0	56	45	18	0
05:00 PM	13	75	41	0	17	28	8	1	6	65	37	0	51	57	15	0
05:15 PM	13	69	31	0	6	23	6	1	36	21	70	45	0	136	49	53
05:30 PM	13	71	32	0	25	21	8	0	54	13	66	41	0	120	53	51
05:45 PM	10	62	35	0	14	18	9	0	12	65	39	0	36			

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Galileo Galilei Way					Main St					Vassar St					Main St					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	L+R+T	App. Total	Left	Thru	Right	L+R+T	App. Total	Left	Thru	Right	L+R+T	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																				
+0 mins.	86	20	0	106	17	28	4	0	47	6	65	37	0	108	52	52	20	0	124	
+15 mins.	9	77	0	110	17	28	8	1	54	21	70	45	0	136	56	45	18	0	119	
+30 mins.	13	75	41	0	129	6	23	6	0	36	13	66	41	0	120	51	37	15	0	123
+45 mins.	13	69	41	0	123	25	21	8	0	54	12	65	39	0	116	40	52	12	0	111
Total Volume	118	307	126	0	480	65	98	26	2	191	52	266	162	0	480	208	207	65	0	480
% App. Total	9.8	64	26.2	0	100	13.4	51.3	13.6	1	40.4	10.8	55.4	33.8	0	100	43.3	43.1	13.5	0	100
PHE	984	892	125	0	2000	830	875	292	0	1997	834	894	290	0	1998	829	898	313	0	1998
% Cars	97.9	96.7	99.2	0	97.5	99.4	99.4	99.4	0	99.4	99.4	99.4	99.4	0	99.4	97.9	98.6	100	0	98.1
% Trucks	1	4	0	0	0	0	0	0	0	0	0	0	0	0	0	2	5	1	0	6
% Buses	0	2	0.8	0	1.5	4.6	1	15.4	0	4.2	0	1.5	7.4	0	3.3	0.5	1	0	0	0.6



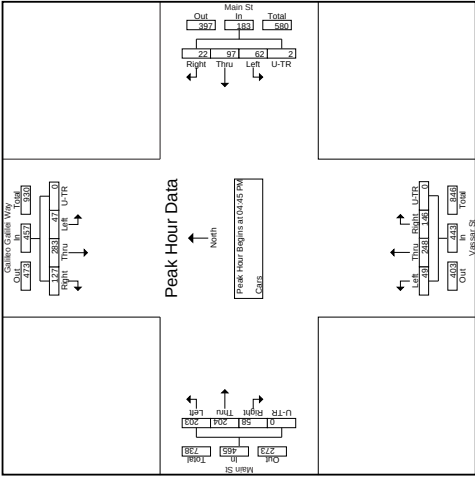
Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16460002
Site Code : 16460002
Collection Date : 8/6/2014
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear



Start Time	Groups Printed: Cars											
	Galileo Galilei Way				Vassar St				Main St			
	From North				From South				From West			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
04:45 PM	9	72	23	0	16	26	3	0	9	53	31	0
Total	21	155	53	0	25	42	8	0	15	111	55	0
05:00 PM	12	74	41	0	16	28	7	1	6	62	34	0
05:15 PM	13	68	31	0	6	22	5	1	21	69	42	0
05:30 PM	13	69	32	0	24	21	7	0	13	64	39	0
05:45 PM	10	69	35	0	14	18	8	0	12	65	35	0
Total	48	271	139	0	60	89	27	2	52	260	150	0
06:00 PM	11	43	29	1	18	20	2	1	14	51	36	0
06:15 PM	14	48	35	0	15	19	4	0	7	52	34	0
Grand Total	94	517	295	1	118	170	41	3	88	474	275	0
% App. Total	10.3	57.8	33.5	0.1	13.2	19.1	4.7	0.3	9.6	53.2	31.3	0
Total %	3.3	17.9	8.9	0	4.1	5.9	1.4	0.1	3	16.4	9.5	0

Start Time	Groups Printed: Cars											
	Galileo Galilei Way				Vassar St				Main St			
	From North				From South				From West			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
04:45 PM	9	72	23	0	16	26	3	0	45	9	53	31
05:00 PM	12	74	41	0	16	28	7	1	52	6	62	34
05:15 PM	13	69	32	0	24	21	7	0	32	21	69	42
05:30 PM	13	69	32	0	114	24	7	0	52	13	64	39
Total Volume	47	283	127	0	457	62	97	22	183	49	248	146
% App. Total	61.9	36.9	16.3	0	59.5	8.0	12.4	2.8	23.3	6.3	31.6	18.7
Total %	3.3	17.9	8.9	0	4.1	5.9	1.4	0.1	9.6	3.3	16.4	9.5

Peak Hour Data

North

Peak hour Begins at 04:45 PM

Left

Thru

Right

U-TR

Total

Out

In

Total

Left

Thru

Right

U-TR

Total

Out

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Accurate Counts
978-664-2565

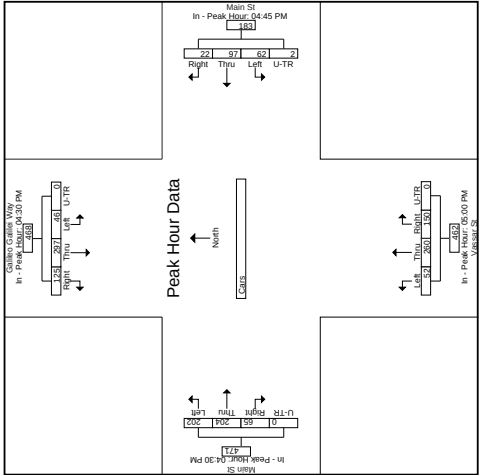
N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16400002
Site Code : 16400002
Count Date : 8/6/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Galileo Galilei Way				Main St East				Vassar St South				Main St West			
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins at:															
04:30 PM															
+0 mins.	12	83	30	0	125	16	26	3	0	45	51	20	0	0	122
+15 mins.	9	72	23	0	104	16	28	7	1	52	21	69	42	0	132
+30 mins.	14	64	16	0	94	16	22	5	0	43	16	47	35	0	118
+45 mins.	13	69	41	0	123	24	27	7	0	51	44	52	12	0	128
Total Volume	46	297	125	0	468	62	97	22	2	183	52	260	150	0	462
% App. Total	9.8	63.5	26.7	0	100	13.3	55.3	12	1.1	11.3	11.3	56.3	32.5	0	44.9
PHE	.895	.895	.782	.000	.921	.646	.896	.786	.000	.890	.619	.942	.893	.000	.875



Accurate Counts
978-664-2565

[illegible]

Accurate Counts
978-664-2565

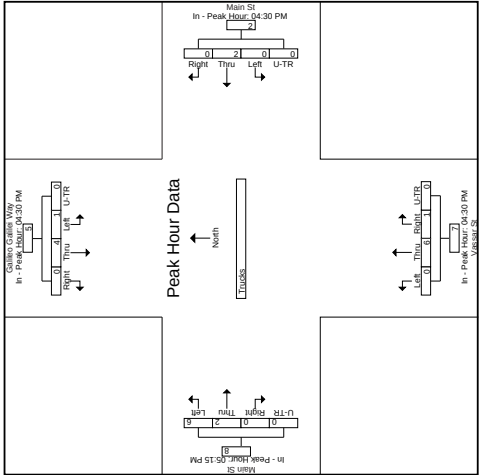
N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16400002
Site Code : 16400002
Data Date : 8/6/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Galileo Galilei Way										Vassar St										Main St											
Start Time		Left		Thru		Right		U+TR		App. Total		Left		Thru		Right		U+TR		App. Total		Left		Thru		Right		U+TR		App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																															
Peak Hour for Each Approach Begins at:																															
04:30 PM																															
+0 mins.		0	2	0	0	2	0	0	0	2	0	0	3	0	0	3	0	0	3	0	0	3	0	0	0	0	0	0	0	4	
+15 mins.		0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	0	0	1	0	0	1	0	0	0	0	0	0	0	2	
+30 mins.		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
+45 mins.		1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	
Total Volume		1	4	0	0	5	0	2	0	2	0	6	1	0	6	1	0	7	6	2	0	0	0	0	0	0	0	0	0	8	
% App. Total		20	80	0	0	0	0	100	0	0	0	85.7	14.3	0	7	75	25	0	0	0	0	0	0	0	0	0	0	0	0	8	
PHF		.250	.500	.000	.000	.635	.000	.250	.000	.250	.000	.000	.000	.250	.500	.250	.000	.583	.417	.250	.000	.000	.500								



File Name : 16400002
Site Code : 16400002
Data Date : 8/6/2014
Page No : 4

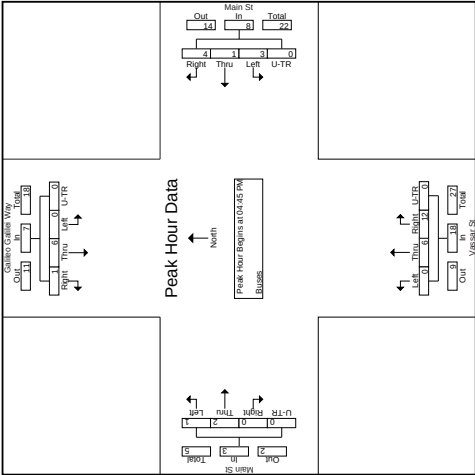
Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16400002
Site Code : 16400002
Collection Date : 8/6/2014
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear



Groups Printed: Buses																
Galileo Galilei Way				Main St				Vassar St				Main St				
From North				From East				From South				From West				
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
04:30 PM	0	3	1	0	0	1	0	1	0	0	2	0	0	0	0	0
04:45 PM	0	3	1	0	0	1	0	1	0	0	2	4	0	0	1	0
Total	0	4	1	0	2	0	2	0	0	2	6	0	1	0	0	0
05:00 PM	0	1	0	0	0	1	0	1	0	0	2	3	0	0	0	0
05:15 PM	0	1	0	0	0	1	1	0	0	1	3	0	0	0	0	0
05:30 PM	0	1	0	0	0	1	0	1	0	0	1	2	0	0	0	0
05:45 PM	0	1	0	0	0	0	1	0	0	0	4	0	0	0	0	0
Total	0	4	0	0	2	1	4	0	0	4	12	0	2	1	0	0
06:00 PM	0	1	0	0	2	2	0	0	0	0	2	0	0	0	0	0
06:15 PM	0	2	0	0	1	0	0	0	1	2	1	0	0	2	0	0
Grand Total	0	91.1	0	0	43.7	18.3	27.6	0	1.6	12.5	32.8	0	3.1	6.2	0	0
% App. Total	0	17.2	1.6	0	10.9	4.7	9.4	0	0	0	0	0	0	0	0	0

Start Time	Galileo Galilei Way From North				Main St From East				Vassar St From South				Main St From West			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
04:45 PM	0	3	1	0	0	1	0	2	0	2	4	0	0	1	0	0
05:00 PM	0	1	0	0	0	1	0	2	0	2	3	0	0	0	0	0
05:15 PM	0	1	0	0	0	1	1	0	0	1	3	0	1	1	0	0
05:30 PM	0	1	0	0	0	1	0	2	0	1	2	0	0	0	0	0
Total Volume	0	6	1	0	3	1	4	0	0	6	12	0	18	1	2	0
% App. Total	0	85.7	14.3	0	27.3	12.5	50	0	0	33.3	66.7	0	33.3	66.7	0	0
TTT	0	250	100	0	750	450	100	100	0	750	100	0	250	100	100	0

Peak Hour for Entire Intersection Begins at 04:45 PM

Peak Hour for Entire Intersection Ends at 05:30 PM

Peak Hour for Entire Intersection Duration is 45 min

Peak Hour for Entire Intersection Volume is 100

Peak Hour for Entire Intersection % App. Total is 100

Peak Hour for Entire Intersection % App. Total is 100

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Accurate Counts
978-664-2565

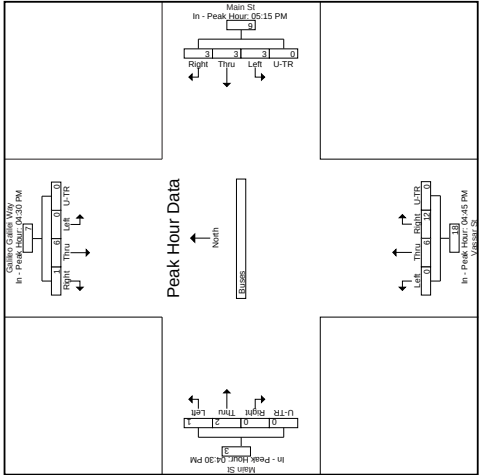
N/S Street : Galileo Way / Vassar St
EW Street : Main Street
Collection Date : 8/6/2014
Weather : Clear

File Name : 16400002
Site Code : 16400002
Collection Date : 8/6/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
Collection Date : 8/6/2014
Weather : Clear

Galileo Galilei Way										Vassar St										Main St													
Start Time		Left		Thru		Right		U-TR		App. Total		Left		Thru		Right		U-TR		App. Total		Left		Thru		Right		U-TR		App. Total		Int. Total	
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																																	
Peak Hour for Each Approach Begins at:																																	
04:30 PM																																	
+0 mins.		0	0	0	0	1	0	0	2	0	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
+15 mins.		0	3	0	0	0	0	1	0	1	0	2	0	2	0	3	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0		
+30 mins.		0	1	0	0	0	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
+45 mins.		0	1	0	0	0	0	1	0	0	0	4	0	1	0	2	0	3	0	4	0	1	1	0	0	0	0	0	0	0	2		
Total Volume		0	5	0	0	1	2	2	0	3	0	9	0	6	0	6	0	12	0	18	3	66.7	0	33	66.7	0	33	66.7	0	0	3		
% App. Total		0	85.7	14.3	0	7	33.3	33.3	0	9	0	33.3	66.7	0	33.3	66.7	0	33.3	66.7	0	18	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5	37.5		
PHF		.000	.500	.250	.000	.438	.375	.375	.000	.563	.000	.750	.750	.000	.750	.750	.000	.750	.750	.000	.750	.750	.375	.375	.375	.375	.375	.375	.375	.375	.375		

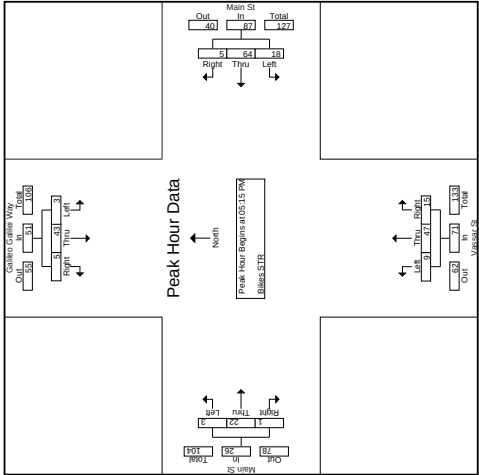


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed- Bikas STR													
Start Time	Galileo Galilei Way				Main St				Vassar St				In. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
04:45 PM	0	4	2	6	0	0	0	0	2	12	3	17	43
Total	1	6	2	9	0	0	0	0	4	17	6	27	65
05:00 PM	0	8	3	11	2	12	0	14	1	9	4	14	49
05:15 PM	0	15	1	16	4	15	0	19	2	7	3	9	56
05:30 PM	1	10	1	12	5	15	1	21	5	12	3	20	60
05:45 PM	2	7	0	9	3	20	3	26	1	16	2	19	59
Total	3	40	5	48	14	62	4	80	9	40	17	66	225
06:00 PM	0	11	3	14	6	14	1	21	1	16	2	19	59
06:15 PM	1	5	0	6	10	0	0	10	3	11	4	18	51
Grand Total	5	62	10	77	28	99	5	132	17	84	29	126	400
Adj. %	6.5	86.2	13.3	96.5	33.8	131.6	6.7	142.1	20.5	66.0	14.8	81.6	140.0
Total %	1.2	15.5	2.5	19.2	7	24.8	1.2	33.0	4.2	21	7.2	22.2	66.5

Groups Printed- Bikas STR													
Start Time	Galileo Galilei Way				Main St				Vassar St				In. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	
05:15 PM	0	15	1	16	4	15	0	19	2	7	9	18	56
05:30 PM	1	10	1	12	5	15	1	21	5	12	3	20	60
05:45 PM	2	7	0	9	3	20	3	26	1	16	2	19	59
06:00 PM	0	11	3	14	6	14	1	21	1	16	2	19	59
Total Volume	3	43	5	51	18	64	5	87	9	47	15	71	235
% App. Total	5.9	84.3	9.8	99.9	20.7	75.6	5.7	92.0	12.7	66.2	21.1	99.9	99.9
PHF	.373	.717	.417	.507	.730	.690	.417	.607	.459	.734	.417	.550	.579



Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

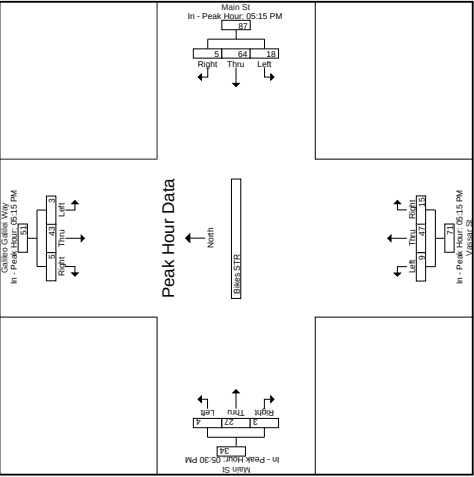
N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16400002
Site Code : 16400002
Collection Date : 8/6/2014
Page No : 3

File Name : 16400002
Site Code : 16400002
Collection Date : 8/6/2014
Page No : 4

Accurate Counts
978-664-2565

Galileo/Galileo Way				Main St				Vassar St				Main St			
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1															
Peak Hour for East Approach Begins at:															
05:15 PM															
+0 mins.	0	15	1	16	4	15	0	19	05:15 PM	19	2	9	18	5	0
+15 mins.	1	10	1	12	5	15	1	21	5	12	3	20	1	10	0
+30 mins.	2	7	0	9	3	20	3	26	1	12	2	14	0	4	1
+45 mins.	0	11	0	11	8	14	1	23	2	14	2	16	0	4	2
Total Volume	3	43	5	51	18	64	5	87	12.7	66.2	21.1	71	4	27	3
% App. Total	5.9	84.3	9.8	51	20.7	75.6	5.7	87	17.7	88.2	24.1	88.1	5.3	48.9	6.7
PHE	.375	.717	.417	.797	.750	.800	.417	.837	.450	.734	.417	.888	.500	.675	.773



Accurate Counts
978-664-2565

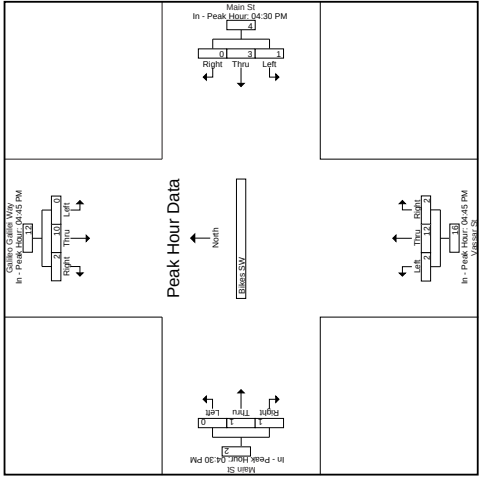
Groups Printed- Bikes SW																					
Galileo Galilei Way						Main St						Vassar St				Main St					
From North			From South			From East			From West			From South			From West			From East			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:05 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:10 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:20 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:25 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:05 PM	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:10 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
06:15 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
06:20 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
06:25 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
06:30 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
06:35 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
06:40 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
06:45 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
06:50 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
06:55 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:00 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:05 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:10 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:15 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:20 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:25 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:30 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:35 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:40 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:45 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:50 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
07:55 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
08:00 PM	0	13	2	1	1	0	1	1	0	1	0	0	1	0	0	0	0	0	0	0	0
Grand Total	0	96.7	13.3	16.7	66.7	16.7	22.7	13.3	18.2	22.7	10.0	13.3	18.2	7.5	2.1	6.4	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Galileo Galilei Way						Main St						Vassar St						Main St					
From North			From South			From East			From West			From South			From West			From East			From West		
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Peak Hour Analysis From 06:15 PM to 07:45 PM - Peak 1 of 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Peak Hour Analysis From 07:45 PM to 09:30 PM - Peak 1 of 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:35 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:40 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:50 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
04:55 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:00 PM	0	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:05 PM	0	3	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:10 PM	0	5	1	6	1	0	1	1	3	1	0	0	0	0	0	0	0	0	0	0	0		
05:15 PM	0	2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:20 PM	0	2	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
05:25 PM	0	10	2	12	1	3	0	4	2	12	2	16	0	1	0	0	0	0	0	0	0		
05:30 PM	0	8.3	16.7	25	7.5	0	0	0	12.5	17.5	12.5	0	0	100	0	0	0	0	0	0	0		
% App. Total	0	83.3	16.7	25	7.5	0	0	0	33.3	500	750	800	0	250	0	0	0	0	0	0	0		
PHF	.000	.500	.500	.500	.333	.000	.333	.500	.750	.500	.750	.800	.000	.250	.000	.250	.000	.250	.000	.250	.666		

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	Galileo Way				Main St				Vassar St				Main St			
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																
Peak Hour for East Approach Begins at:																
04:30 PM																
+0 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	1
+15 mins.	0	3	0	3	0	0	0	0	1	3	0	4	0	1	0	1
+30 mins.	0	5	1	6	2	0	3	5	1	3	1	5	0	0	0	0
Total Volume	0	10	2	12	1	0	3	4	2	12	2	16	0	1	1	2
% App. Total	0	83.3	16.7	100	25	75	0	12.5	75	12.5	0	50	50	50	50	50
PHE	.000	.500	.500	.500	.250	.750	.000	.333	.500	.750	.500	.800	.000	.250	.250	.500



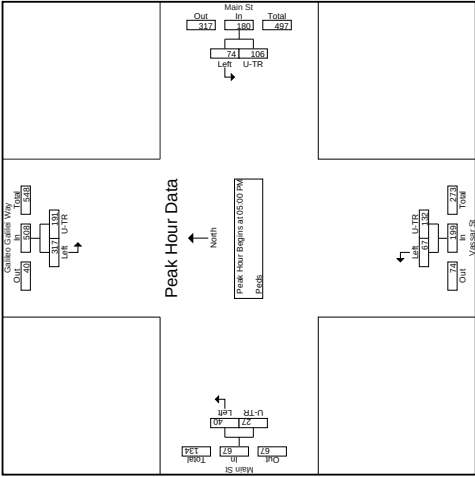
Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vasar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16460002
Site Code : 16460002
Collection Date : 8/6/2014
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vasar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear



Start Time	Groups Printed- Peds									
	Galileo Galilio Way		Main St		Vasar St		Main St		Vasar St	
	From North	From East	From North	From East	From South	From West	From North	From East	From South	From West
05:00 PM	81	39	59	31	39	28	13	434		
05:15 PM	70	37	15	15	20	18	7	8	195	
05:30 PM	91	51	20	27	12	43	13	7	264	
05:45 PM	75	39	31	17	21	19	3	217		
Total	317	158	74	106	67	132	40	27	554	
06:00 PM	60	55	18	34	11	31	8	11	228	
06:15 PM	50	54	17	22	19	14	18	2	196	
Grand Total	585	367	168	193	136	216	94	53	1812	
Avg. Vol	48.8	30.6	14.0	16.1	11.3	18.0	7.8	4.5	151.0	
Total %	32.3	20.3	9.3	10.7	7.5	11.9	5.2	2.9		

Start Time	Groups Printed- Peds									
	Galileo Galilio Way		Main St		Vasar St		Main St		Vasar St	
	From North	From East	From North	From East	From South	From West	From North	From East	From South	From West
05:00 PM	81	39	32	56	15	45	4	8	12	248
05:15 PM	70	37	15	30	20	18	12	9	20	195
05:30 PM	91	51	20	47	12	43	13	7	264	
05:45 PM	75	64	31	47	20	26	46	11	4	15
Total Volume	317	191	74	180	67	132	159	40	27	67
% App. Total	62.4	37.6	41.1	35.9	33.7	65.3	58.7	40.3	28.9	3.88
PH	.894	.746	.268	.894	.753	.828	.828	.844	.838	.993

Accurate Counts
978-664-2565

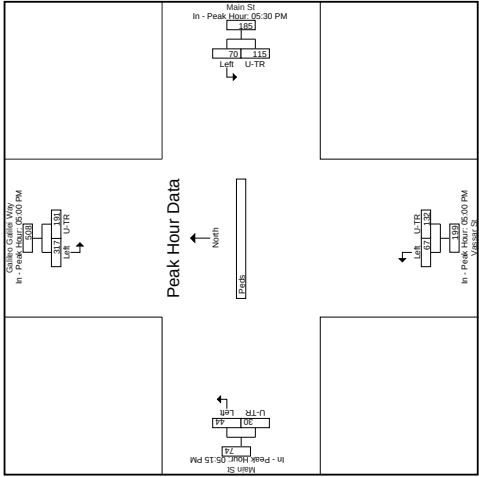
N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : I640002
Site Code : I640002
Count Date : 8/6/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Galileo Way / Vassar St
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Start Time	Galileo Galilei Way		Main St		Vassar St		Main St		App. Total	App. Total	Int. Total
	EB	WB	SB	NB	WB	EB	SB	NB			
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1											
Peak Hour for E8th Approximate Ends at:											
05:00 PM											
+0 mins.	81	39	120	27	47	15	45	12	60	05:15 PM	20
+15 mins.	70	37	107	15	32	47	20	18	38	13	7
+30 mins.	91	51	142	18	24	52	12	43	55	4	15
+45 mins.	75	64	139	17	22	39	20	26	46	8	11
Total Volume	317	191	508	77	115	185	67	139	199	50.5	74
% App. Total	62.4	37.6	118.8	13.9	23.1	36.9	13.4	28.6	39.8	10.1	14.8
PHF	.871	.746	.894	.846	.889	.838	.783	.824	.846	.692	.925



Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400003
Site Code : 16400003
Collection Date : 4/9/2014
Page No : 1

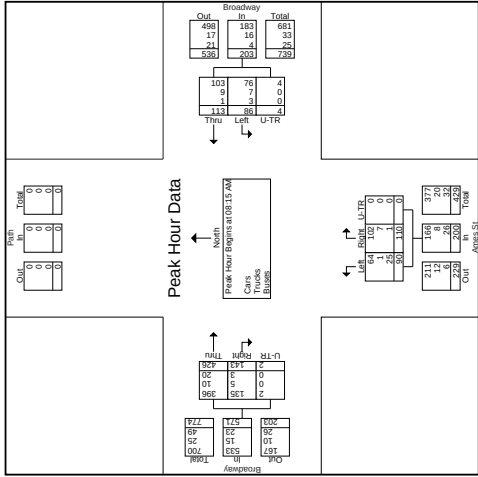
Groups Printed: Cars - Trucks - Buses											
Start Time	Broadway From East			Ames St From South			Broadway From West			Incl. Total	
	Left	Thru	U-TR	Left	Right	U-TR	Thru	Right	U-TR		
07:45 AM	45	69	2	42	40	0	158	43	1	400	
Total	16	36	1	27	16	0	96	34	0	216	
08:00 AM	16	30	0	25	27	0	115	27	2	240	
08:15 AM	31	22	1	18	30	0	110	25	0	237	
08:30 AM	21	33	1	26	28	0	107	38	0	254	
08:45 AM	62	111	3	96	101	0	428	124	2	947	
Total	20	28	2	21	25	0	94	53	0	243	
09:00 AM	32	33	1	23	18	0	97	34	0	238	
09:15 AM	179	241	8	822	844	0	777	54	3	1828	
Grand Total	4	52	19	40	50	0	72	72.5	0.2	1641	
Total %	9.8	13.2	0.4	10	10.1	0	42.5	13.9	0.2		
Cars	158	220	8	126	170	0	715	241	3	1641	
% Cars	88.3	91.3	100	69.2	92.4	0	92	94.9	100	88.8	
Trucks	8.4	7.5	0	11	11	0	35	19	0	47	
% Trucks	4.2	2.5	0	3.3	3.6	0	3.3	1.9	0	2.8	
Buses	6	3	0	50	3	0	36	3	0	101	
% Buses	3.4	1.2	0	27.5	1.6	0	46	1.2	0	5.5	

Start Time	Broadway From East			Ames St From South			Broadway From West			Incl. Total	
	Left	Thru	U-TR	Left	Right	U-TR	Thru	Right	U-TR		
07:30 AM to 09:15 AM - Peak 1 of 1	44	50	0	25	27	0	115	27	2	144	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1	31	22	1	54	16	0	48	110	25	0	237
08:30 AM	0	31	33	26	28	0	54	107	38	0	145
09:00 AM	0	29	28	50	21	0	46	94	53	0	243
Total Volume	44	109	61	155	72	0	209	266	118	2	574
% TRP - PUE	69.4	856	500	923	865	917	926	675	250	971	959
Cars	76	103	4	183	64	102	166	396	135	2	882
% Cars	88.7	91.2	100	96.1	71.1	92.7	83.0	94.4	100	93.1	94.6
Trucks	0	8	0	16	7	0	8	10	0	0	9
% Trucks	0	8.1	8.0	0	7.9	1.1	4.0	2.3	3.5	0	1.5
Buses	0	3	1	4	25	1	26	29	3	0	23
% Buses	0	3.5	0.9	2.0	27.8	0.9	13.0	4.7	2.1	0	5.4

Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

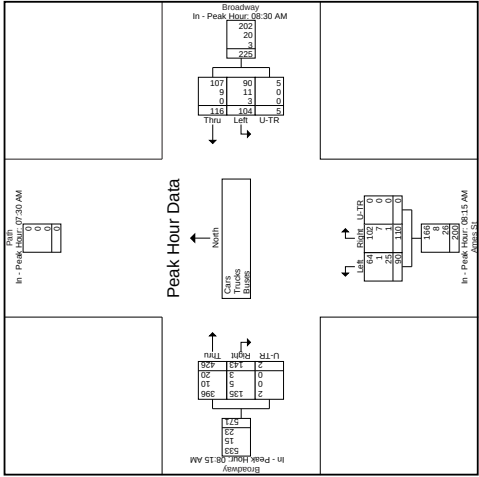
File Name : 16400003
Site Code : 16400003
Collection Date : 4/9/2014
Page No : 2



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	From North		Broadway From East		Ames St From South		Broadway From West		Int. Total				
	Left	App. Total	U-R	App. Total	Left	U-R	App. Total	Thru		U-R	App. Total		
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for East Approach (07:30 AM)													
+0 mins.	0	22	1	54	27	0	52	115	27	2	144		
+5 mins.	0	21	33	1	55	18	30	0	48	110	25	0	135
+10 mins.	0	20	28	2	50	26	28	0	54	107	38	0	145
+15 mins.	0	22	13	52	26	21	45	0	46	104	34	0	147
+20 mins.	0	10	15	25	25	12	37	0	34	83	27	0	121
+25 mins.	0	47	46	22	115	0	115	0	200	74.6	25	0.4	571
Total Volume													
% App. Total													
PHE	100	81.3	879	695	852	865	917	0	936	908	875	250	971
% Cars	0	86.5	92.2	100	89.8	71.1	92.7	0	83	94.4	100	93.3	94.4
Trucks	0	11	9	0	20	1	7	0	8	10	5	0	15
% Trucks	0	10.6	7.8	0	8.9	1.1	6.4	0	4	2.3	3.5	0	2.6
Buses	0	2	0	0	4	0	2	0	2	0	0	0	4
% Buses	0	2.9	0	0	1.3	27.8	0.9	0	13	4.7	2.1	0	4

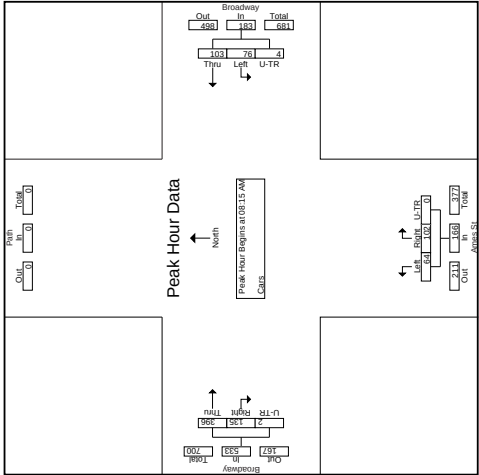


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed: Cars													
Broadway				Ames St				Broadway				Ames St	
From East				From South				From West				From West	
Start Time	Left	Thru	U-TR	Left	Thru	U-TR	Right	Left	Thru	U-TR	Right	Left	Thru
07:15 AM	4	15	0	1	13	16	0	0	50	22	1	1	197
07:45 AM	27	27	1	13	16	36	0	141	41	1	350		
Total	41	62	2	26	29	52	0	141	41	1	350		
08:00 AM	14	25	1	20	16	16	0	89	32	0	197		
08:15 AM	13	26	0	18	26	26	0	109	25	2	219		
08:30 AM	27	21	1	12	29	0	0	101	21	0	212		
08:45 AM	18	29	1	21	24	0	0	99	37	2	229		
Total	72	101	3	71	95	0	0	388	115	2	857		
09:00 AM	18	27	2	13	23	0	0	87	52	0	222		
09:15 AM	27	30	1	16	16	0	0	89	33	0	212		
Grand Total	138	220	8	126	170	0	0	715	241	0.3	1641		
Avg. Vol. / Hr.	46	73	0.3	42	57	0	0	72	80	0.0	1641		
Total %	9.6	13.4	0.5	7.7	10.4	0	0	43.6	14.7	0.2	857		

Peak Hour for Entire Intersection Begins at 08:15 AM													
Broadway				Ames St				Broadway				Ames St	
From East				From South				From West				From West	
Start Time	Left	Thru	U-TR	Left	Thru	U-TR	Right	Left	Thru	U-TR	Right	Left	Thru
08:15 AM	0	26	0	18	26	0	44	109	25	2	136	2	219
08:30 AM	0	27	1	21	29	0	41	101	21	0	122	0	212
08:45 AM	0	27	1	13	23	0	36	87	32	0	119	0	222
09:00 AM	0	18	2	47	13	0	36	87	52	0	139	2	222
Total Volume	0	76	103	64	102	0	166	386	135	2	533	2	882
%App. Total	.000	41.5	56.3	2.2	38.6	61.4	0	74.3	25.3	0.4	959	2.3	959
HTF	.000	.704	.888	.380	.934	.000	.922	.580	.849	.230	.959	.230	.959



Accurate Counts
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File Name : 16400003
Site Code : 16400003
Count Date : 4/5/2014
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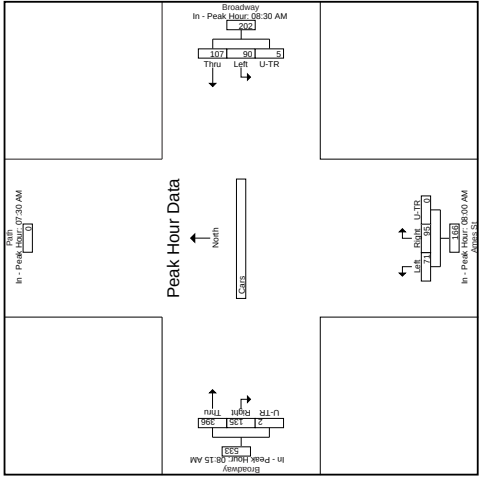
N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400003
Site Code : 16400003
Count Date : 4/5/2014
Page No : 3

Accurate Counts
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N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

	From North			Broadway			Ames St			Broadway			Int. Total
	App. Total	Left	Thru	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for East Approach (07:30 AM)													
+0 mins.	0	27	21	1	49	20	16	0	36	0	109	25	136
+15 mins.	0	18	29	1	48	18	26	0	44	0	101	21	122
+30 mins.	0	18	27	2	47	12	29	0	41	0	99	27	136
+45 mins.	0	27	21	1	49	20	16	0	36	0	109	25	136
Total Volume	0	90	107	5	202	71	95	0	166	0	396	135	531
% App. Total	.000	44.6	53	2.5	42.8	57.2	0	0	74.3	0	25.3	0.4	.929
DIV		.833	.892	.625	.871	.845	.819	.000	.922	.908	.649	.250	



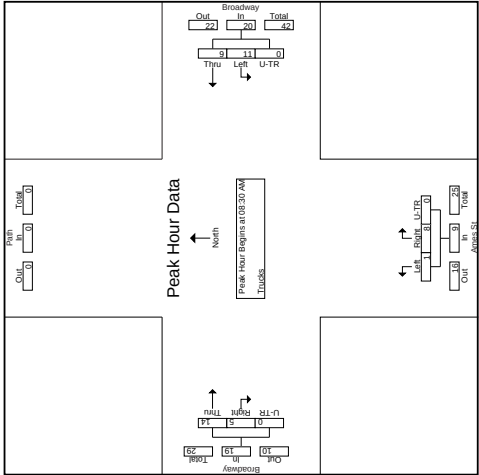
Peak Hour Data

Accurate Counts
978-664-2565

Accurate Counts
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Groups Printed: Trucks											
Start Time	Broadway From East			Ames St From South			Broadway From West			In. Total	
	Left	Thru	U-TR	Left	Right	U-TR	Thru	Right	U-TR		
07:30 AM	1	3	0	1	0	0	7	0	0	12	
07:45 AM	1	3	0	1	0	0	7	0	0	12	
Total	3	5	0	4	2	0	8	2	0	24	
08:00 AM	1	1	0	1	0	0	3	2	0	8	
08:15 AM	0	3	0	0	1	0	1	1	0	6	
08:30 AM	3	1	0	0	1	0	4	2	0	11	
08:45 AM	2	4	0	0	3	0	2	1	0	12	
Total	6	9	0	1	5	0	10	6	0	37	
09:00 AM	2	1	0	1	2	0	3	1	0	10	
09:15 AM	4	3	0	0	2	0	5	1	0	15	
Grand Total	15	54	0	5	11	0	26	10	0	86	
Avg. Vol.	43.5	54.8	0	36.7	64.7	0	72.2	27.5	0		
Total %	17.4	20.9	0	37.7	12.8	0	30.2	11.6	0		

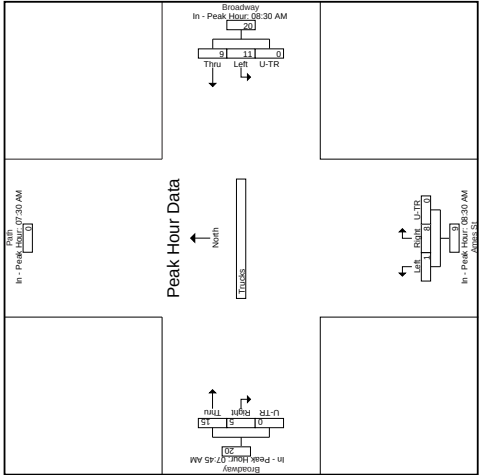
Start Time	Broadway From North			Broadway From East			Ames St From South			Broadway From West		
	Left	Thru	U-TR	Left	Thru	U-TR	Left	Right	U-TR	Thru	Right	U-TR
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0
%App. Total	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
HTF	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	From North			Broadway			Ames St			Broadway			Int. Total
	Left	Thru	App. Total	Left	Thru	App. Total	Left	Thru	App. Total	Left	Thru	App. Total	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for East Approach (07:30 AM)													
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	7
+0 mins.	0	3	4	0	0	0	0	3	3	0	3	0	5
+15 mins.	0	2	1	0	0	0	0	0	0	0	0	0	2
+30 mins.	0	4	3	0	0	3	1	2	3	1	0	2	2
Total Volume	0	11	9	0	0	20	0	0	2	4	2	0	6
% App. Total	.000	.688	.563	.000	.000	.714	.000	.000	.091	.536	.205	.000	.205
PHF	.000	.688	.563	.000	.714	.250	.667	.000	.750	.536	.625	.000	.714

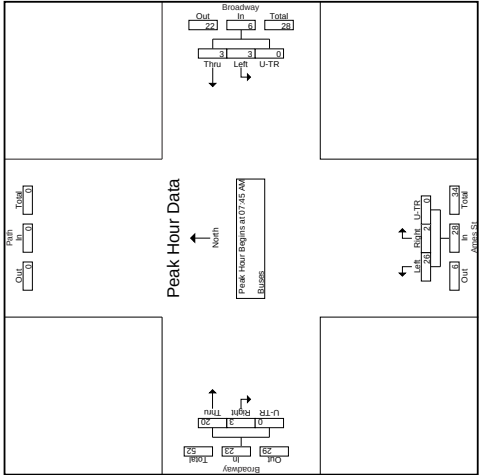


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed: Buses											
Start Time	Broadway From East			Ames St From South			Broadway From West			In. Total	
	Left	Thru	U-TR	Left	Right	U-TR	Thru	Right	U-TR		
07:45 AM	0	0	0	7	2	0	6	0	0	17	
Total	1	2	0	12	2	0	9	0	0	26	
08:00 AM	1	0	0	6	0	0	4	0	0	11	
08:15 AM	1	1	0	7	0	0	5	1	0	15	
08:30 AM	1	0	0	6	0	0	5	2	0	14	
08:45 AM	1	0	0	5	1	0	6	0	0	13	
Total	4	1	0	24	1	0	20	3	0	53	
09:00 AM	0	0	0	7	0	0	4	0	0	11	
09:15 AM	1	0	0	7	0	0	3	0	0	11	
Grand Total	6	23	0	50	3	0	36	3	0	101	
Avg. Daily	66.6	23.3	0	90.5	5.7	0	95.6	7.7	0		
Total %	5.9	3	0	40.5	3	0	35.6	3	0		

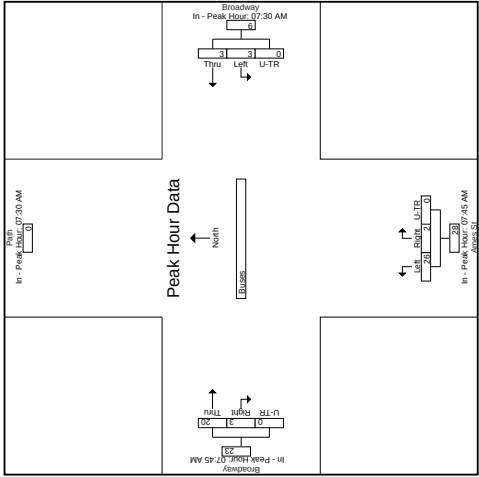
Start Time	Broadway From East			Ames St From South			Broadway From West			In. Total	
	Left	Thru	U-TR	Left	Right	U-TR	Thru	Right	U-TR		
07:45 AM	0	2	0	7	2	0	6	0	0	17	
08:00 AM	0	0	0	6	0	0	4	0	0	11	
08:15 AM	1	0	0	7	0	0	5	1	0	14	
08:30 AM	0	1	0	6	0	0	5	2	0	14	
08:45 AM	0	0	0	5	1	0	6	0	0	13	
Total Volume	3	3	0	26	2	0	20	3	0	57	
%App. Path	50	50	0	92.9	7.1	0	87	13	0		
HTF	.000	.373	.000	.323	.250	.000	.633	.273	.000	.851	



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	From North		Broadway From East			Ames St From South			Broadway From West			Int. Total
	Left	Thru	U+R	App. Total	Left	Thru	U+R	App. Total	Right	Thru	U+R	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1												
Peak Hour for Each Approach Begins at:												
07:30 AM												
+0 mins.	0	1	0	0	1	07:45 AM	2	0	9	07:45 AM	0	6
+15 mins.	0	1	2	0	2		7	0	4		0	4
+30 mins.	0	1	0	1	7		0	0	7		5	7
+45 mins.	0	1	0	0	2		0	0	6		1	6
Total Volume	0	3	3	0	26		6	0	28		20	23
% App. Total	0	.50	.50	.000	.750		.929	.71	.778		.833	.861
D/E		.375	.000	.750	.929		.250	.000	.778		.375	.861

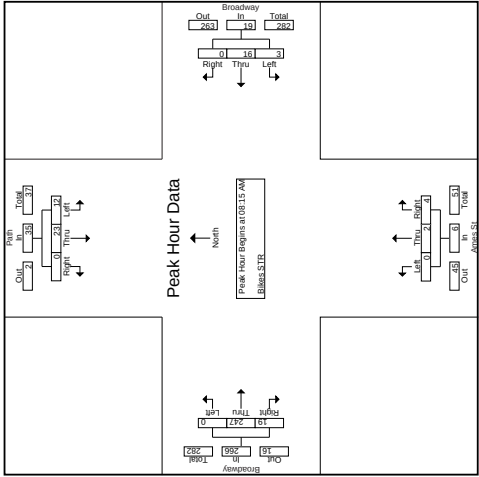


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed- Bikas STR													
Start Time	Path			Broadway			Ames St			Broadway			In. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:45 AM	1	0	0	0	0	0	0	0	0	0	35	0	39
Total	2	1	0	1	0	1	0	0	1	0	58	1	66
08:00 AM	0	2	0	0	2	0	1	0	0	0	47	3	55
08:15 AM	1	5	0	1	3	0	0	0	0	0	69	1	80
08:30 AM	3	3	0	1	0	1	0	0	0	0	73	3	84
08:45 AM	2	8	0	2	7	0	0	0	3	0	58	8	88
Total	6	18	0	5	11	0	1	1	3	0	247	15	307
09:00 AM	6	7	0	0	5	0	0	1	1	0	47	7	74
09:15 AM	2	6	0	2	2	0	0	0	1	0	38	7	58
Grand Total	16	32	0	8	19	0	1	3	6	0	390	30	595
Avg. Vol	33.2	65.2	0	29.6	38.7	0	10	20	12.2	0	97.2	5.9	
Total %	3.2	6.3	0	1.6	3.8	0	0.2	0.6	1.2	0	77.2	5.9	

Groups Printed- Bikas STR													
Start Time	Path			Broadway			Ames St			Broadway			In. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
08:15 AM to 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour for Entire Intersection Begins at 08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	1	5	0	1	3	0	0	0	0	0	69	1	70
08:30 AM	3	3	0	1	0	1	0	0	0	0	73	3	84
08:45 AM	2	8	0	2	7	0	0	0	3	0	58	8	88
09:00 AM	6	7	0	0	5	0	0	1	1	0	47	7	74
Total Volume	12	23	0	35	16	0	19	2	4	6	247	19	266
% App. Total	34.3	65.7	0	15.8	84.2	0	53.3	66.7	0	59.9	77.1	7.1	
PHF	.360	.719	.000	.671	.528	.000	.300	.333	.500	.600	.646	.673	



Accurate Counts
978-664-2565

Groups Printed- Bikes SW														
Path			Broadway			Ames St			Broadway					
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1
Total	0	0	0	2	0	0	0	0	0	0	0	0	0	2
09:00 AM	0	0	0	0	0	0	0	1	0	0	0	0	0	1
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	2	0	0	0	1	0	0	0	0	0	1
Apprch %	0	0	0	100	0	0	0	100	0	0	0	0	100	5
Total %	0	0	0	40	0	0	0	40	0	0	0	0	20	0

Path			Broadway			Ames St			Broadway					
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1														
Peak Hour for Entire Intersection Begins at 08:30 AM														
08:30 AM	0	0	0	1	0	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	1
09:00 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	1
09:15 AM	0	0	0	0	0	0	0	1	0	1	0	0	0	1
Total Volume	0	0	0	2	0	0	0	1	0	2	0	0	0	4
% App. PHF	0.00	0.00	0.00	100.00	0.00	0.00	0.00	100.00	0.00	50.00	0.00	0.00	0.00	1.00

Accurate Counts
978-664-2565

File Name : 16400003
Site Code : 16400003
Count Date : 4/5/2014
Page No : 4

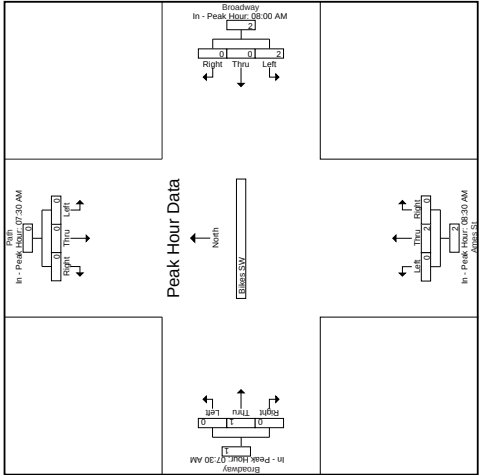
N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400003
Site Code : 16400003
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time	Peak South			Broadway			Ames St			Broadway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1												
Peak Hour for East Approach Begins at:												
07:30 AM												
+0 mins.	0	0	0	0	0	0	0	0	0	0	1	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	1	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
+60 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	2	0	2	0	2	0	1	0	1
% App. Total	0	0	0	100	0	100	0	100	0	100	0	100
PHE	.000	.000	.000	.500	.000	.500	.000	.500	.000	.250	.000	.250

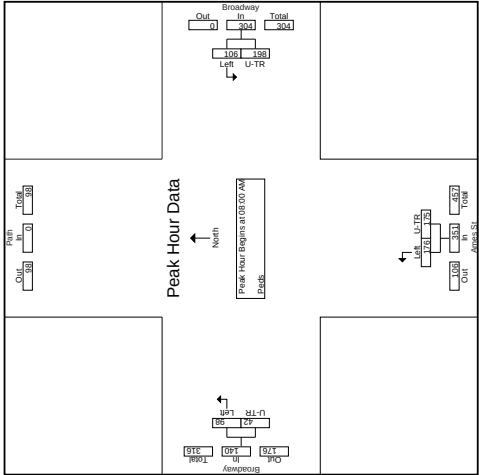


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed: Peds.									
Start Time	Broadway From East			Ames St From South			Broadway From West		
	SB	WB	App. Total	WB	EB	App. Total	SB	EB	Intr. Total
08:00 AM	0	31	31	57	36	93	13	18	31
08:15 AM	0	20	20	36	36	72	16	13	29
08:30 AM	0	20	20	44	70	114	13	21	34
08:45 AM	0	21	21	44	70	114	13	21	34
Total	0	72	72	175	206	381	55	53	108
08:00 AM	20	66	86	46	47	93	3	3	6
08:15 AM	34	56	90	47	31	78	23	11	34
08:30 AM	31	49	80	39	40	79	32	9	41
08:45 AM	21	27	48	44	57	101	18	19	37
Total	106	198	304	176	175	351	76	42	118
09:00 AM	33	20	53	39	26	65	12	12	24
09:15 AM	28	30	58	52	11	63	11	14	25
Grand Total	201	336	537	332	297	629	89	89	178
App. Vol. %	20.1	33.6	53.7	17.6	17.5	35.1	8.9	8.9	17.8
Total %	14.2	23.7	37.9	23.5	21	44.5	11.3	6.3	17.6

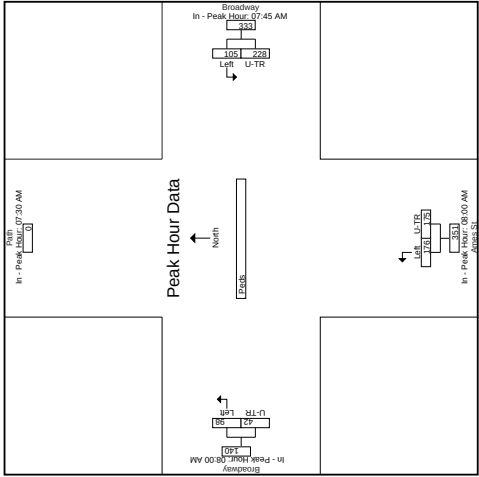
Start Time	Broadway From North			Ames St From East			Broadway From South		
	SB	WB	App. Total	WB	EB	App. Total	SB	EB	Intr. Total
08:00 AM	0	46	46	47	31	78	23	3	26
08:15 AM	0	47	47	47	31	78	25	11	36
08:30 AM	0	34	34	44	57	101	18	19	37
08:45 AM	0	21	21	44	57	101	18	19	37
Total	0	106	106	176	175	351	76	42	118
% App. Total	0	24.9	24.9	45.9	45.9	89.9	20	30	50
PTV	.000	.779	.779	.359	.358	.854	.353	.854	.970



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

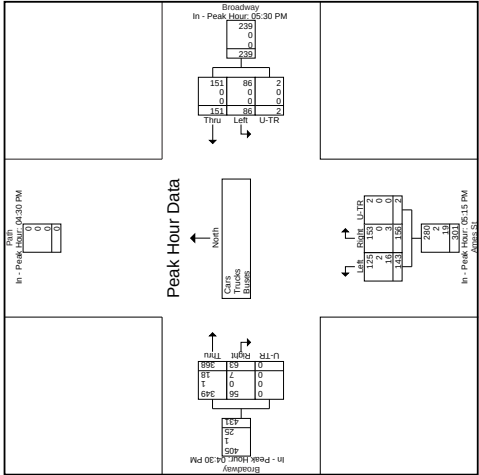
Start Time	From North		Broadway From East		Ames St From South		Broadway From West		Ames St From North		Broadway From South		Int. Total	
	Obs.	App. Total	SB	NB	App. Total	WB	EB	App. Total	NB	NE	App. Total	SB	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1														
Peak Hour for East Approach Begins at:														
07:30 AM														
+0 mins.	0	77	20	57	77	46	47	93	23		08:00 AM	3		26
+15 mins.	0	66	20	66	86	30	31	78	25			11		36
+30 mins.	0	34	34	56	90	40	40	79	32			9		41
+45 mins.	0	24	34	44	66	50	45	101	10			10		25
Total Volume	0	208	105	208	333	176	175	551	98			42		140
% App. Total	31.5	65.5	31.5	65.5	50.1	49.9	50.1	49.9	70			30		854
PHF	.000		.772	.864	.592	.596	.708	.863	.765			.553		



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	From North			Broadway			Ames St			Broadway			Int. Total
	App. Total	Left	Thru	Left	App. Total	U-Turn	Right	Left	App. Total	U-Turn	Right	Left	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1													
Peak Hour for East Approach Begins at: 04:30 PM													
+0 mins.	0	24	39	0	63	0	38	29	0	67	91	16	107
+15 mins.	0	15	38	1	54	0	41	37	0	78	91	14	105
+30 mins.	0	22	41	1	64	0	40	25	0	65	106	17	123
+45 mins.	0	25	33	0	58	0	46	2	0	91	89	16	96
Total Volume	0	66	151	2	238	0	109	91	0	191	288	45	336
% App. Total													
DfH	.000	.36	.63	0.8	.77	.000	.36	.63	0.8	.77	.63	.000	.43
% Cars	100	100	100	100	100	100	100	100	100	100	100	100	100
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0

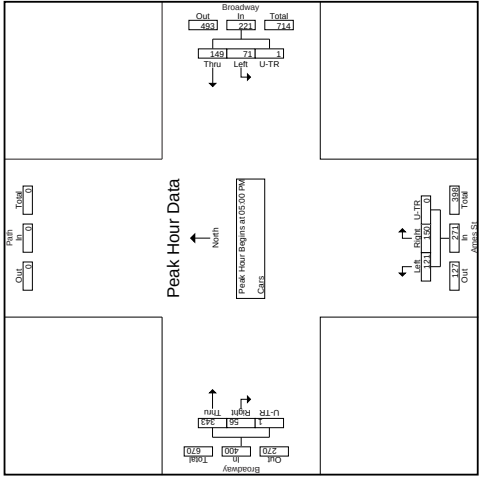


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed: Cars													
Start Time	Broadway From East				Ames St From South				Broadway From West				In. Total
	Left	Thru	U-TR	App. Total	Left	Right	U-TR	App. Total	Thru	Right	U-TR	App. Total	
04:45 PM	7	33	0	40	24	43	0	67	85	13	0	98	215
Total	26	60	0	86	56	62	0	118	171	27	0	198	402
05:00 PM	19	37	0	56	33	42	0	75	100	15	0	115	246
05:15 PM	13	35	0	48	33	29	0	62	78	14	0	92	202
05:30 PM	24	39	0	63	34	41	0	75	75	12	0	87	200
05:45 PM	15	38	1	54	21	38	0	59	90	15	1	106	219
Total	71	149	1	221	121	150	0	271	343	56	1	400	892
06:00 PM	22	41	1	64	37	45	2	84	78	16	1	95	243
06:15 PM	25	33	0	58	19	22	0	41	89	11	0	100	199
Grand Total	144	283	2	429	233	279	2	514	881	110	1	992	2255
App. %	2.4	8.3	0.1	16.3	4.4	5.7	0.2	10.3	8.9	1.9	0.2	12.8	17.96
Total %	8.3	16.3	0.1	16.3	13.4	16.1	0.1	16.1	39.2	6.3	0.1	16.3	17.96

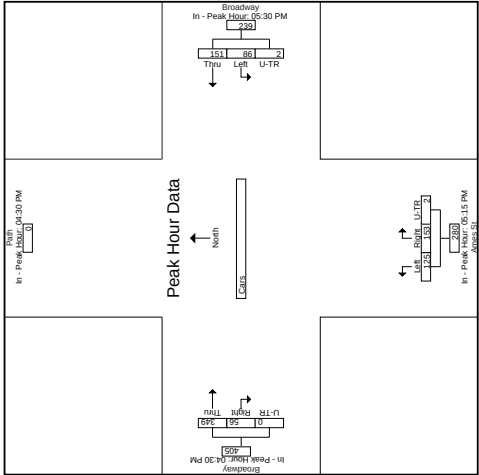
Groups Printed: Cars													
Start Time	Broadway From East				Ames St From South				Broadway From West				In. Total
	Left	Thru	U-TR	App. Total	Left	Right	U-TR	App. Total	Thru	Right	U-TR	App. Total	
05:00 PM	19	37	0	56	33	42	0	75	100	15	0	115	246
05:15 PM	13	35	0	48	33	29	0	62	78	14	0	92	202
05:30 PM	24	39	0	63	34	41	0	75	75	12	0	87	200
05:45 PM	15	38	1	54	21	38	0	59	90	15	1	106	219
Total Volume	71	149	1	221	121	150	0	271	343	56	1	400	892
%App. Total	32.1	67.4	0.5	100	44.6	55.4	0	100	85.8	14	0.2	86	100
TRF	.000	.740	.450	.877	.280	.353	.000	.303	.253	.353	.230	.370	.597



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	From North			Broadway			Ames St			Broadway			Int. Total
	Left	Thru	App. Total	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1													
Peak Hour for East Approach Begins at:													
04:30 PM													
+0 mins.	0	39	0	63	29	0	62	0	86	14	0	100	
+15 mins.	0	38	1	54	41	0	75	13	0	98	1	0	
+30 mins.	0	22	0	64	21	38	0	59	100	15	0	115	
+45 mins.	0	25	33	0	37	45	2	84	78	14	0	92	
Total Volume	0	96	131	0	239	144	2	280	249	46	0	405	
% App. Total	0	36	63.2	0.8	44.6	54.6	0.7	2.8	86.2	13.8	0	100	
PHE	.000	.860	.921	.500	.934	.845	.850	.750	.833	.873	.933	.000	



Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

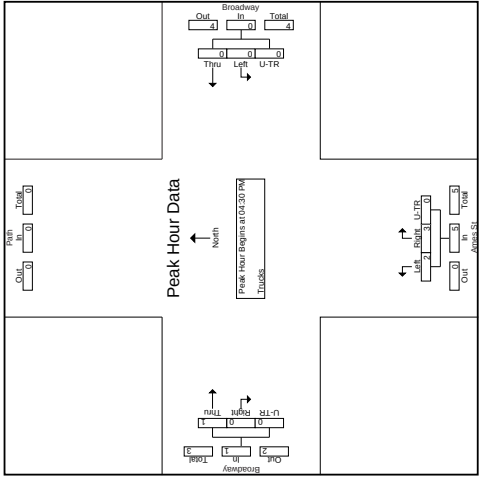
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Site Code : 16460003
Count Date : 4/5/2014
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Groups Printed: Trucks											
			Broadway From East			Ames St From South			Broadway From West		
Start Time	End Time	Obs. Total	Left	Thru	U-TR	Left	Thru	U-TR	Left	Thru	U-TR
04:30 PM	04:45 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	05:00 PM	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0
05:00 PM	05:15 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	05:30 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	05:45 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	06:00 PM	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0
06:00 PM	06:15 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	06:30 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	06:45 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	07:00 PM	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0
Grand Total		0	0	0	0	0	0	0	0	0	0
Avg. Vol. / Hr.		0	0	0	0	0	0	0	0	0	0
Total %		0	0	0	0	0	0	0	0	0	0

			Broadway From East			Ames St From South			Broadway From West		
Start Time	End Time	Obs. Total	Left	Thru	U-TR	Left	Thru	U-TR	Left	Thru	U-TR
04:30 PM	04:45 PM	0	0	0	0	0	0	0	0	0	0
04:45 PM	05:00 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	05:15 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	05:30 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	05:45 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	06:00 PM	0	0	0	0	0	0	0	0	0	0
06:00 PM	06:15 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	06:30 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	06:45 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	07:00 PM	0	0	0	0	0	0	0	0	0	0
Total		0	0	0	0	0	0	0	0	0	0
Grand Total		0	0	0	0	0	0	0	0	0	0
Avg. Vol. / Hr.		0	0	0	0	0	0	0	0	0	0
Total %		0	0	0	0	0	0	0	0	0	0



Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460003
Site Code : 16460003
Collection Date : 4/5/2014
Page No : 1

Groups Printed: Buses											
Start Time	Broadway			Ames St			Broadway				
	From East	Thru	U-TR	From South	Right	U-TR	From West	Thru	U-TR	From East	In. Total
04:45 PM	0	0	0	1	0	0	2	6	1	0	13
Total	1	1	0	7	2	0	10	3	0	0	24
05:00 PM	0	0	0	1	1	0	6	2	0	0	10
05:15 PM	0	0	0	3	0	0	2	2	0	0	7
05:30 PM	0	0	0	3	0	0	5	2	0	0	10
05:45 PM	0	0	0	4	2	0	7	1	0	0	14
Total	0	0	0	11	3	0	20	7	0	0	41
06:00 PM	0	0	0	6	1	0	10	5	0	0	22
06:15 PM	0	0	0	4	1	0	11	1	0	0	17
Grand Total	1	1	0	28	7	0	51	16	0	0	104
Appl. Factor	50	50	0	28	20	0	76.6	23.4	0	0	100
Total %	1	1	0	26.9	6.7	0	49	15.4	0	0	100

Start Time	Broadway			Ames St			Broadway				
	From North	From East	From South	From North	From East	From South	From North	From East	From South	From North	In. Total
04:45 PM	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0
THF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis: 05:30 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 05:30 PM

05:30 PM

05:45 PM

06:00 PM

06:15 PM

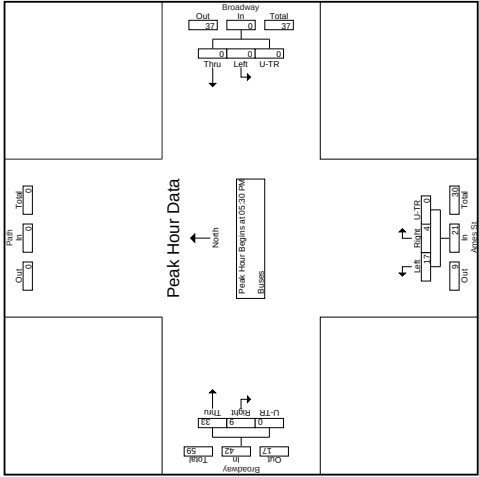
Total Volume

% App. Total

THF

Accurate Counts
978-664-2565

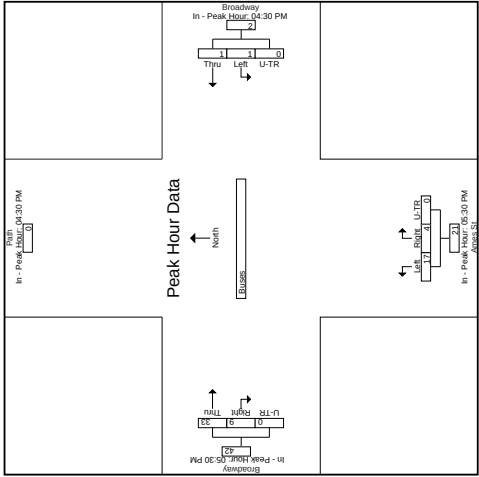
File Name : 16460003
Site Code : 16460003
Collection Date : 4/5/2014
Page No : 2



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	From North			Broadway			Ames St			Broadway			Int. Total
	Left	Thru	App. Total	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1													
Peak Hour for East Approach Begins at:													
04:30 PM													
+0 mins.	0	0	1	0	0	3	0	0	0	0	3	5	7
+15 mins.	0	0	1	0	1	4	2	0	6	7	1	0	8
+30 mins.	0	0	0	0	0	6	1	0	7	10	5	0	15
+45 mins.	0	0	0	0	0	1	0	0	1	3	0	0	4
+60 mins.	0	1	2	0	2	17	4	0	21	33	9	0	42
Total Volume	0	1	2	0	2	78.6	21.4	0	0	42	0	0	42
% App. Total	.000	.250	.500	.000	.500	.790	.450	.000	.000	.790	.450	.000	.700
PHE													



Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400003
Site Code : 16400003
Collection Date : 4/9/2014
Page No : 1

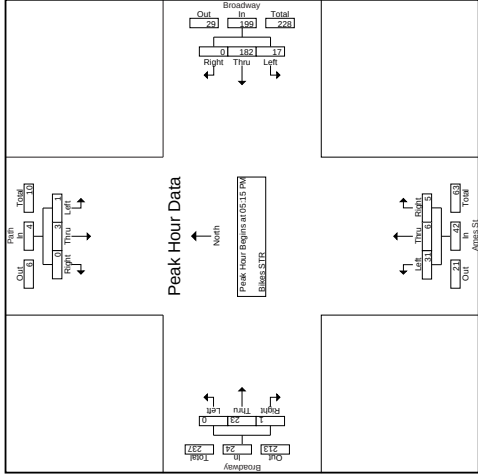
Groups Printed- Bikas STR												
Start Time	Path			Broadway			Ames St			Broadway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
04:45 PM	1	0	0	2	26	0	6	5	3	0	6	0
Total	1	2	0	2	26	0	6	5	3	0	6	0
05:00 PM	1	0	0	0	23	0	15	3	1	0	3	1
05:15 PM	0	2	0	3	56	0	15	4	4	0	6	1
05:30 PM	0	0	0	4	46	0	7	0	0	2	2	0
05:45 PM	0	0	0	4	38	0	3	0	0	0	5	0
Total	1	2	0	11	163	0	40	7	5	0	16	2
06:00 PM	1	1	0	6	42	0	6	2	1	0	10	0
06:15 PM	0	0	0	7	38	0	7	2	0	0	7	0
Grand Total	2	3	0	26	209	0	59	16	7	0	39	1
Adj. Volume	27.2	3.0	0.0	61.3	92.9	0.0	73.8	19.3	10.7	0.0	98.1	4.2
Total %	0.7	1.2	0.0	6.1	62.9	0.0	13.8	3.7	2.1	0.0	9.1	0.5

Start Time	Path			Broadway			Ames St			Broadway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	2	0	3	56	0	15	4	4	23	0	6
05:30 PM	0	0	0	4	46	0	7	0	0	7	0	2
05:45 PM	0	0	0	4	38	0	3	0	0	0	5	0
06:00 PM	1	1	0	6	42	0	6	2	1	9	10	0
Total Volume	1	3	0	17	182	0	199	31	6	42	23	1
%App. Total	25	75	0	8.5	91.5	0	73.8	14.3	11.9	0	95.8	4.2
HYE	250	273	000	2001	2691	0000	3317	3753	2113	4527	2530	0000

Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

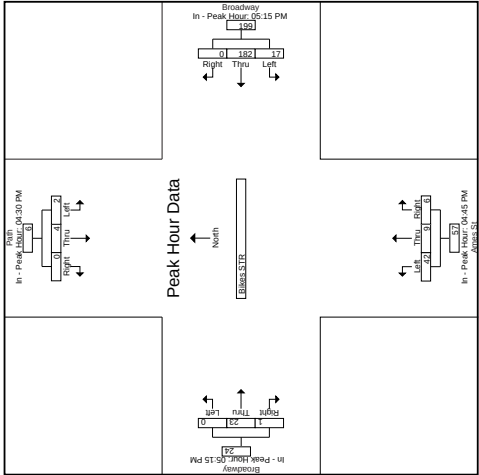
File Name : 16400003
Site Code : 16400003
Collection Date : 4/9/2014
Page No : 2



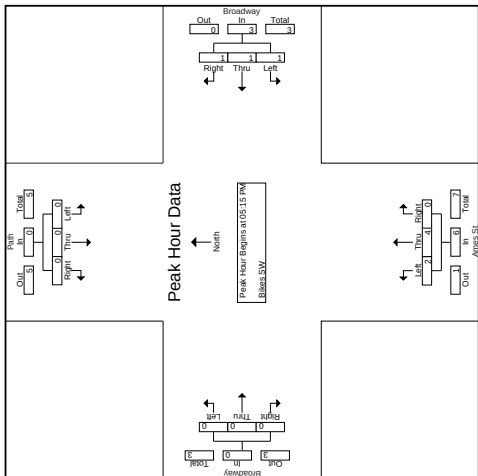
Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	Peak			Broadway			Ames St			Broadway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1												
Peak Hour for East Approach Begins at:												
04:30 PM												
+0 mins.	0	1	0	1	0	3	56	0	59	0	15	8
+15 mins.	1	1	0	2	4	46	0	50	15	3	1	19
+30 mins.	1	0	0	2	4	38	0	42	15	4	23	0
+45 mins.	0	2	0	2	6	42	0	48	15	6	5	0
Total Volume	2	4	0	6	17	182	0	199	42	9	6	57
% App. Total	33.3	66.7	0	6	8.5	91.5	0	73.7	15.8	10.5	2.3	4.2
PHE	.500	.500	.000	.750	.708	.813	.000	.843	.700	.583	.375	.630
											.575	.250
												.000



Accurate Counts
978-664-2565



Accurate Counts
978-664-2565

File Name : 16460003
Site Code : 16460003
Start Date : 4/9/2014
Page No : 1
Weather : Clear

Groups: Priated- Bikes SW															
	Path			Broadway			Ames St			Broadway			Int. Total		
	Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru		Right	
Peak Hour 04:30 PM 04:45 PM	04:30 PM	0	0	0	0	2	0	0	0	0	0	2	0	4	
	04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
Total		0	0	0	0	2	0	0	0	0	0	2	0	4	
05:00 PM 05:15 PM 05:30 PM 05:45 PM	05:00 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	
	05:15 PM	0	0	0	0	0	2	0	0	0	0	0	0	2	
	05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Total	0	0	0	0	1	0	2	3	0	0	0	0	6	
06:00 PM 06:15 PM Grand Total Approach Total %	06:00 PM	0	0	0	1	0	1	0	2	0	0	0	0	4	
	06:15 PM	0	0	0	0	0	0	2	0	0	0	0	0	2	
	Grand Total	0	0	0	1	3	1	2	7	0	0	2	0	16	
	Approach	0	0	0	20	60	20	22.2	77.8	0	0	100	0		
	Total %	0	0	0	6.2	18.9	6.2	12.5	43.9	0	0	12.5	0		

	Path			Broadway			Ames St			Broadway			Int. Total	
	Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru		Right
Peak Hour 05:00 PM 05:15 PM	05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
	05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour for Entire Intersection Begins at 05:15 PM		0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM 06:00 PM	05:45 PM	0	0	0	0	1	2	0	2	0	0	0	0	3
	06:00 PM	0	0	0	0	1	2	0	2	0	0	0	0	4
Total Volume		0	0	0	0	32.3	32.3	32.2	66.4	0	6	0	0	9
% Appro. PHF		.000	.000	.000	.250	.250	.250	.375	.750	.000	.750	.000	.000	.561

Accurate Counts
978-664-2565

File Name : 16460003
Site Code : 16460003
Count Date : 4/5/2014
Page No : 4

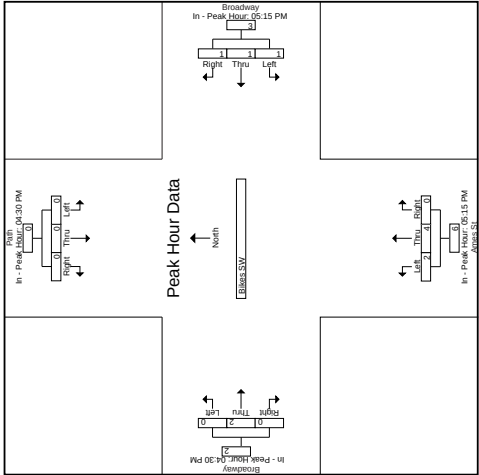
N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460003
Site Code : 16460003
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

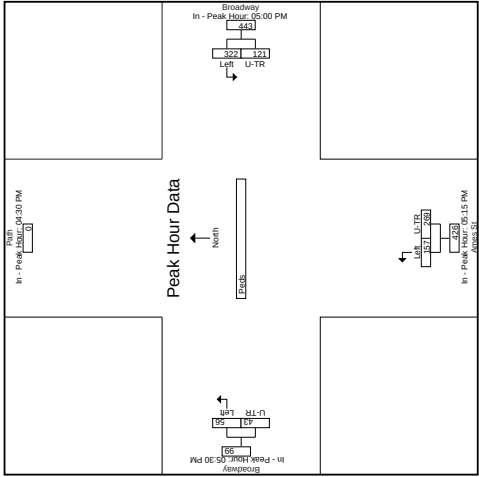
Start Time	Path			Broadway			Ames St			Broadway			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1													
Peak Hour for East Approach Begins at:													
04:30 PM													
+0 mins.	0	0	0	0	0	0	0	0	0	2	0	0	2
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	2	0	0	2	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	2	4	0	6	2	0	2
% App. Total	0	0	0	33.3	33.3	33.3	2	66.7	0	6	100	0	2
PHE	.000	.000	.000	.250	.250	.250	.375	.250	.500	.000	.750	.250	.250



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

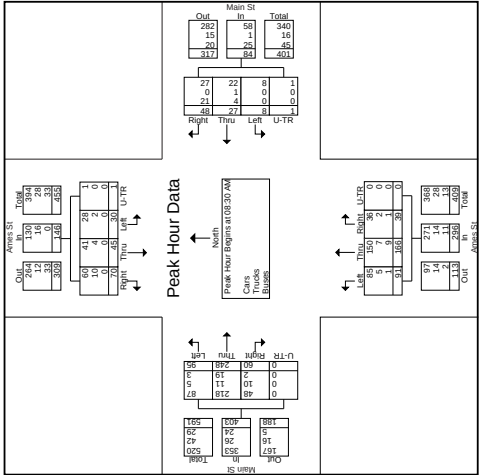
Start Time	From North		Broadway From East		Ames St From East		Broadway From West		Int. Total
	Obs.	App. Total	Obs.	App. Total	Obs.	App. Total	Obs.	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1									
Peak Hour for East Approach Begins at 04:30 PM									
+0 mins.	0	87	33	120	30	65	85	16	25
+15 mins.	0	95	20	115	54	87	16	10	26
+30 mins.	0	64	29	93	51	59	110	23	10
+45 mins.	0	76	39	115	53	91	144	6	7
Total Volume	0	262	101	443	188	309	426	56	43
% App. Total			22.7		36.9		56.6	43.4	
PIE	.000	.847	.776	.923	.741	.739	.740	.560	.571



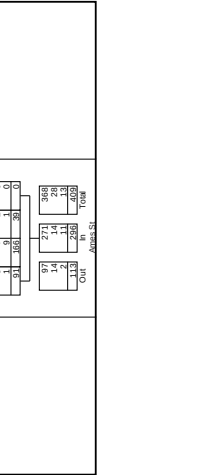
Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed: Cars - Trucks - Buses																
	Ames St				Main St				Ames St				Main St			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
Start Time	7	7	16	0	0	5	7	0	16	30	7	0	17	44	11	0
07:30 AM	11	15	10	0	1	8	9	0	17	33	7	0	17	56	16	0
07:45 AM	18	22	26	0	1	13	16	0	33	63	14	0	34	100	27	0
Total																
08:00 AM	4	5	17	0	0	6	11	0	20	31	4	0	19	56	18	0
08:15 AM	9	7	15	0	1	4	12	0	23	42	6	0	23	56	13	1
08:30 AM	7	9	15	1	1	4	12	0	24	44	6	0	19	78	19	0
08:45 AM	6	12	13	0	2	4	16	0	24	44	14	0	35	54	14	0
Total	25	33	70	1	4	21	51	1	91	161	30	0	96	244	64	1
09:00 AM	12	13	13	0	2	4	12	0	19	43	8	0	19	57	13	0
09:15 AM	2	1	0	0	0	1	0	0	4	5	13	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	60	79	128	1	10	50	87	1	167	302	63	0	171	480	118	1
Approach %	22.4	29.5	47.8	0.4	6.8	33.8	58.8	0.7	31.4	58.8	11.8	0	22.8	61.3	15.7	0.1
% Cars	93.3	92.4	88.9	100	90	82	57.5	100	91.6	91.4	92.1	0	91.8	88.9	87.3	100
% Trucks	3	6	18	0	0	2	0	0	10	10	4	0	7	15	13	0
% Buses	1	7	6	0	1	4	3	0	6	3.3	6.3	0	4.1	3.3	1.1	0
% Bikes	1.7	0	0	0	0	10	14	42.5	0	2.4	5.3	1.6	0	4.1	7.8	1.7



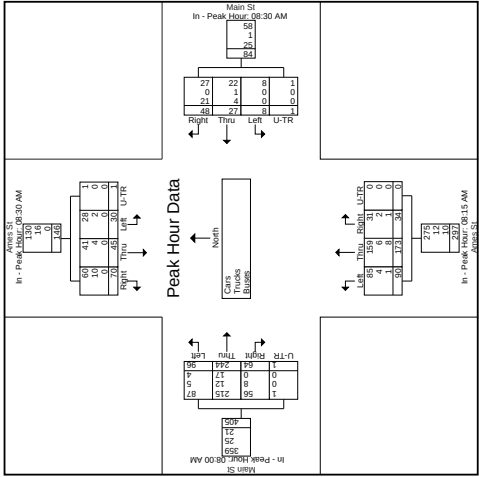
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																		
Start Time	Ames St				Main St				Ames St				Main St					
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total		
Peak Hour for Entire Intersection Begins at 08:30 AM																		
08:30 AM	1	7	12	1	21	0	0	0	19	78	19	0	116	253	0	0		
08:45 AM	6	9	25	0	31	2	4	16	0	82	35	54	14	0	103	288		
09:00 AM	12	13	13	0	38	2	12	8	0	70	22	59	14	0	95	223		
09:15 AM	1	1	19	0	23	24	35	11	0	70	22	59	14	0	95	223		
Total Volume	30	45	70	1	84	91	166	39	0	296	95	248	60	0	403	929		
% App. Total	2.05	3.08	47.9	0.7	31.7	3.67	32.1	57.1	1.2	30.7	55.1	13.2	0	23.6	61.5	14.9	0	
% Trucks	0.05	0.07	0.07	0.00	0.09	0.06	0.08	0.00	0.00	0.09	0.06	0.08	0.00	0.09	0.06	0.08	0.00	
% Buses	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
% Cars	93.3	91.1	86.7	100	89.0	100	81.5	56.3	100	69.0	98.4	90.4	92.3	0	91.6	87.9	80.0	0
% Trucks	2	4	10	0	1	5	7	2	0	14	5	11	10	0	26	57	87.4	0
% Trucks	6.7	8.9	14.3	0	11.0	0	3.7	0	0	12	5.5	4.2	5.1	0	4.7	5.3	16.7	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.7	7.7	23.3	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6.0	6.0	6.5	0



Accurate Counts
978-664-2565

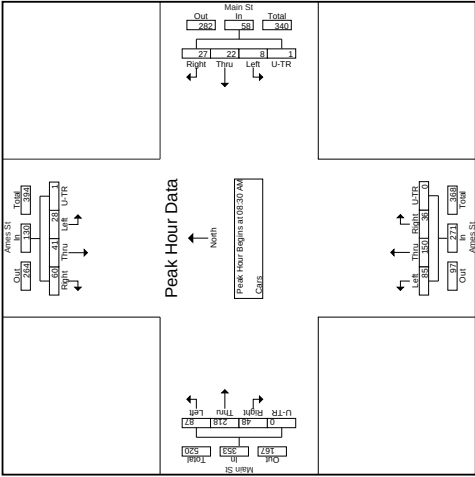
Accurate Counts
978-664-2565

Ames St From North				Ames St From South				Main St From West			
Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1											
Peak Hour for East Approach Begins At:											
08:30 AM											
+10 mins.	7	9	25	1	12	1	21	23	42	6	0
+15 mins.	6	12	13	2	4	16	22	24	44	6	0
+20 mins.	12	13	0	38	12	4	0	19	4	14	0
+25 mins.	15	11	19	0	38	2	23	19	43	8	0
Total Volume	30	45	70	1	146	8	84	90	173	34	0
% App. Total	20.5	30.8	47.9	0.7	9.5	5.2	57.1	1.2	30.3	59.2	1.4
08:45 AM											
Cars	28	43	70	0	130	8	81	85	159	31	0
Trucks	2	4	10	0	16	0	3	4	10	3	0
Buses	0	0	0	0	0	0	0	1	4	0	0
% Cars	93.3	91.1	85.7	100	81.5	56.2	100	69	94.4	91.2	0
% Trucks	6.7	8.4	14.3	0	10.5	0	1.1	4.4	5.9	3.8	0
% Buses	0	0	0	0	0	0	0	2.5	1	0	0
09:00 AM											
Cars	28	43	70	0	130	8	81	85	159	31	0
Trucks	2	4	10	0	16	0	3	4	10	3	0
Buses	0	0	0	0	0	0	0	1	4	0	0
% Cars	93.3	91.1	85.7	100	81.5	56.2	100	69	94.4	91.2	0
% Trucks	6.7	8.4	14.3	0	10.5	0	1.1	4.4	5.9	3.8	0
% Buses	0	0	0	0	0	0	0	2.5	1	0	0



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



Counts Printed - Cars											
Ames St				Main St				Main St			
From North				From East				From West			
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right
07:00 AM	4	4	0	0	1	3	8	0	15	50	16
07:15 AM	4	4	0	0	1	3	8	0	15	50	16
07:30 AM	4	4	0	0	1	3	8	0	15	50	16
07:45 AM	11	14	9	0	6	4	0	16	31	7	0
Total	17	21	21	0	0	10	8	0	30	57	13
08:00 AM	4	4	15	0	0	6	7	0	17	29	3
08:15 AM	7	7	14	0	1	3	8	0	17	29	3
08:30 AM	7	7	14	0	1	3	8	0	21	40	6
08:45 AM	6	10	13	0	2	4	11	0	23	42	6
Total	24	30	59	0	4	19	33	1	65	131	27
09:00 AM	11	13	12	0	2	2	5	0	17	37	7
09:15 AM	4	9	18	0	3	10	4	0	21	31	11
09:30 AM	4	9	18	0	3	10	4	0	21	31	11
09:45 AM	56	73	110	1	9	41	50	1	153	276	58
Grand Total	233	304	458	0.4	8.9	40.6	49.5	1	314	567	119
Approach %	3.7	4.9	7.3	0.1	0.6	2.7	3.3	0.1	10.2	18.4	3.9
Total %	3.7	4.9	7.3	0.1	0.6	2.7	3.3	0.1	10.2	18.4	3.9

Counts Printed - Cars											
Ames St				Main St				Main St			
From North				From East				From West			
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right
07:00 AM	4	4	0	0	1	3	8	0	15	50	16
07:15 AM	4	4	0	0	1	3	8	0	15	50	16
07:30 AM	4	4	0	0	1	3	8	0	15	50	16
07:45 AM	11	14	9	0	6	4	0	16	31	7	0
Total	17	21	21	0	0	10	8	0	30	57	13
08:00 AM	4	4	15	0	0	6	7	0	17	29	3
08:15 AM	7	7	14	0	1	3	8	0	17	29	3
08:30 AM	7	7	14	0	1	3	8	0	21	40	6
08:45 AM	6	10	13	0	2	4	11	0	23	42	6
Total	24	30	59	0	4	19	33	1	65	131	27
09:00 AM	11	13	12	0	2	2	5	0	17	37	7
09:15 AM	4	9	18	0	3	10	4	0	21	31	11
09:30 AM	4	9	18	0	3	10	4	0	21	31	11
09:45 AM	56	73	110	1	9	41	50	1	153	276	58
Grand Total	233	304	458	0.4	8.9	40.6	49.5	1	314	567	119
Approach %	3.7	4.9	7.3	0.1	0.6	2.7	3.3	0.1	10.2	18.4	3.9
Total %	3.7	4.9	7.3	0.1	0.6	2.7	3.3	0.1	10.2	18.4	3.9

Counts Printed - Cars											
Ames St				Main St				Main St			
From North				From East				From West			
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right
07:00 AM	4	4	0	0	1	3	8	0	15	50	16
07:15 AM	4	4	0	0	1	3	8	0	15	50	16
07:30 AM	4	4	0	0	1	3	8	0	15	50	16
07:45 AM	11	14	9	0	6	4	0	16	31	7	0
Total	17	21	21	0	0	10	8	0	30	57	13
08:00 AM	4	4	15	0	0	6	7	0	17	29	3
08:15 AM	7	7	14	0	1	3	8	0	17	29	3
08:30 AM	7	7	14	0	1	3	8	0	21	40	6
08:45 AM	6	10	13	0	2	4	11	0	23	42	6
Total	24	30	59	0	4	19	33	1	65	131	27
09:00 AM	11	13	12	0	2	2	5	0	17	37	7
09:15 AM	4	9	18	0	3	10	4	0	21	31	11
09:30 AM	4	9	18	0	3	10	4	0	21	31	11
09:45 AM	56	73	110	1	9	41	50	1	153	276	58
Grand Total	233	304	458	0.4	8.9	40.6	49.5	1	314	567	119
Approach %	3.7	4.9	7.3	0.1	0.6	2.7	3.3	0.1	10.2	18.4	3.9
Total %	3.7	4.9	7.3	0.1	0.6	2.7	3.3	0.1	10.2	18.4	3.9

Accurate Counts
978-664-2565

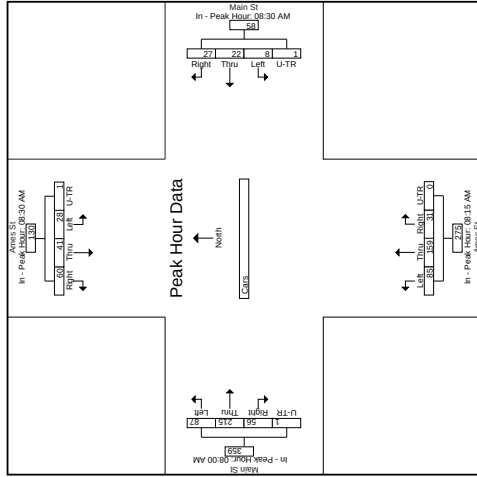
N/S Street : Ames Street
E/W Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16460004
Site Code : 16460004
Start Date : 4/9/2014
Page No : 3

Accurate Counts
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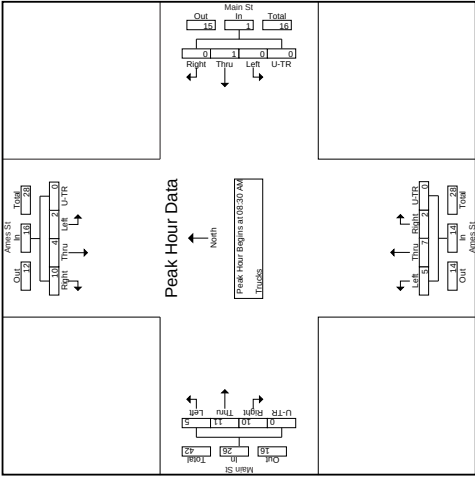
N/S Street : Ames Street
E/W Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1														
PDR: 600.00 EBL (600.00 EBL) 60.00% EBL 60.00% EBL														
Start Time	Aves St				Main St				Main St				Main St	
	From North		From South		From East		From South		From West		From West			
	Left	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total
07:30 AM														
+0 mtrs.	7	9	17	1	34	1	6	7	1	15	21	40	6	0
+5 mtrs.	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+10 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+15 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+20 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+25 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+30 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+35 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+40 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+45 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+50 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+55 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+60 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+65 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+70 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+75 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+80 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+85 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+90 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+95 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+100 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+105 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+110 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+115 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+120 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+125 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+130 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+135 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+140 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+145 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+150 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+155 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+160 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+165 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+170 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+175 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+180 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+185 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+190 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+195 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+200 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+205 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+210 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+215 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+220 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+225 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+230 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+235 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+240 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+245 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+250 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+255 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+260 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+265 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+270 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+275 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+280 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+285 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+290 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+295 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+300 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+305 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+310 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+315 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+320 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+325 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+330 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+335 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+340 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+345 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+350 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+355 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+360 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+365 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+370 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+375 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+380 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+385 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+390 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+395 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+400 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+405 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+410 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+415 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+420 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+425 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+430 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+435 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+440 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+445 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+450 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+455 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+460 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+465 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+470 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+475 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+480 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+485 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+490 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+495 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+500 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+505 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+510 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+515 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+520 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+525 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+530 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+535 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+540 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+545 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+550 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+555 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+560 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76
+565 mtrs.	11	11	12	0	34	2	5	0	7	23	40	12	0	76



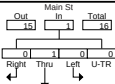
Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



Groups Printed: Trucks											
Ames St			Main St			Ames St			Main St		
From North			From East			From South			From West		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
07:30 AM	0	1	1	0	2	0	1	0	0	1	0
07:45 AM	0	1	1	0	2	0	1	0	0	1	0
Total	0	2	2	0	4	0	2	0	0	2	0
08:00 AM	0	1	2	0	3	0	1	1	0	2	0
08:15 AM	1	0	1	0	2	1	0	0	0	1	0
08:30 AM	0	0	8	0	8	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	10	0	12	1	0	0	0	1	0
09:00 AM	1	0	1	0	2	0	0	0	0	0	0
09:15 AM	1	0	1	0	2	0	0	0	0	0	0
09:30 AM	1	0	1	0	2	0	0	0	0	0	0
09:45 AM	3	6	18	0	27	0	0	0	0	0	0
Grand Total	11.1	22.2	66.7	0	99.9	0	0	0	0	0	0
% App. Total	3.4	6.8	20.5	0	26.7	0	0	0	0	0	0

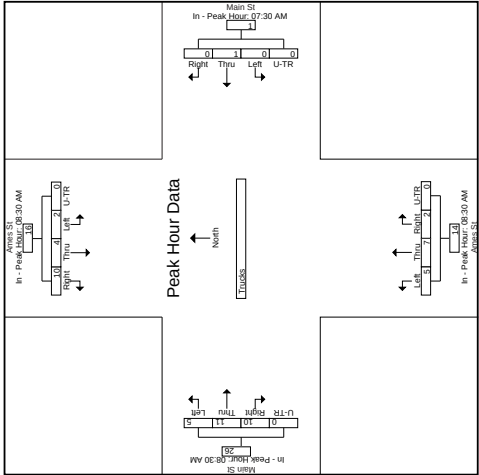
Groups Printed: Trucks											
Ames St			Main St			Ames St			Main St		
From North			From East			From South			From West		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
07:30 AM	0	1	1	0	2	0	1	0	0	1	0
07:45 AM	0	1	1	0	2	0	1	0	0	1	0
Total	0	2	2	0	4	0	2	0	0	2	0
08:00 AM	0	1	2	0	3	0	1	1	0	2	0
08:15 AM	1	0	1	0	2	1	0	0	0	1	0
08:30 AM	0	0	8	0	8	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	10	0	12	1	0	0	0	1	0
% App. Total	3.4	6.8	20.5	0	26.7	0	0	0	0	0	0



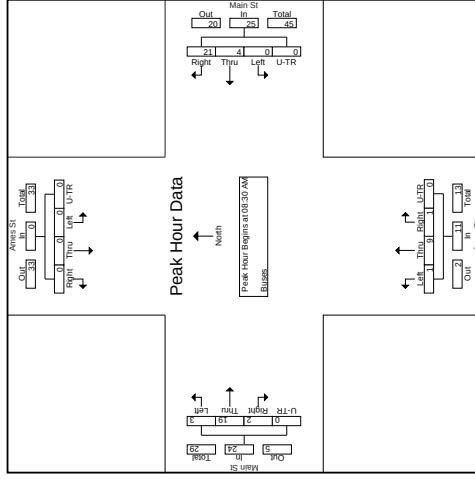
Accurate Counts
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Accurate Counts
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Anne St Eastbound				Anne St Eastbound				Anne St Eastbound				Main St From West			
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins At:															
06:30 AM	0	0	8	0	8	0	0	0	0	0	0	0	0	0	0
+10 mins.	0	2	0	0	2	0	1	0	0	1	0	2	1	3	2
+15 mins.	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0
+20 mins.	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0
+25 mins.	1	0	1	0	2	0	0	0	0	0	0	0	0	0	0
+30 mins.	2	4	10	0	16	0	1	0	0	1	5	7	2	0	14
Total Volume	2	4	10	0	16	0	1	0	0	1	5	7	2	0	14
% App. Total	12.5	25	62.5	0	100	0	36.7	50	14.3	0	10.2	42.3	38.5	0	25
PHF	.350	.450	.313	.000	.450	.000	.250	.000	.000	.250	.000	.438	.000	.000	.500



Accurate Counts
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Accurate Counts
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Groups Primer - Bases												
	Ames St				Main St				Ames St			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
Start Time	1	0	0	0	1	1	5	0	0	2	5	0
From North	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	1	5	0	0	2	5	0
Total	1	0	0	0	1	2	8	0	0	2	9	0
08:00 AM	0	0	0	0	0	0	4	0	1	0	0	0
08:15 AM	0	0	0	0	0	0	4	0	1	4	0	0
08:30 AM	0	0	0	0	0	1	5	0	1	3	0	0
08:45 AM	0	0	0	0	0	1	5	0	1	5	0	0
Total	0	0	0	0	0	2	18	0	3	7	1	0
09:00 AM	0	0	0	0	0	1	7	0	0	4	2	0
09:15 AM	0	0	0	0	0	2	4	0	1	6	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	0	0	1	7	37	0	16	36	2	0
Applied %	100	0	0	0	21	15	882	0	44	36	44	0
Applied %	0	0	0	0	0	62	14	0	62	31	18	0

[illegible]

Accurate Counts
978-664-2565

File Name : 16400004
Site Code : 16400004
Count Date : 4/5/2014
Page No : 4

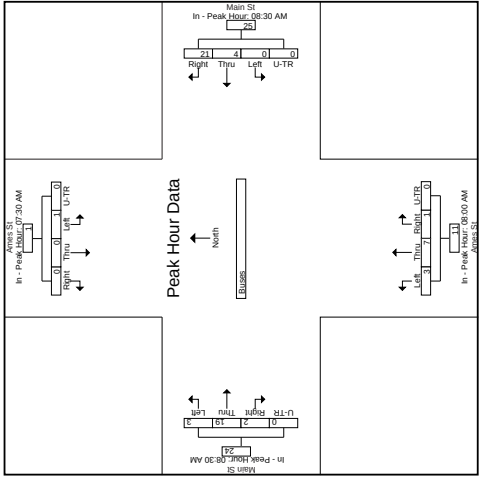
N/S Street : Anne Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16400004
Site Code : 16400004
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

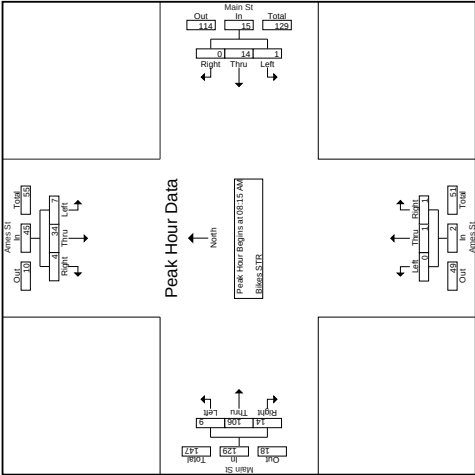
N/S Street : Anne Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Anne St										Main St										Anne St										Main St									
From North					From East					From South					From West					From North					From East					From South					From West				
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total									
Peak Hour for Each Approach Begins At:																																							
07:30 AM																																							
+10 mins.	1	0	0	0	1	0	1	5	0	6	0	2	1	0	0	3	0	3	0	0	3	0	0	0	0	0	0	0	0	4									
+15 mins.	0	0	0	0	0	0	0	1	7	0	8	1	2	0	0	3	1	6	0	0	7	0	0	0	0	0	0	0	0	6									
+20 mins.	0	0	0	0	0	0	0	0	2	4	0	6	0	2	1	0	3	1	6	0	0	7	0	0	0	0	0	0	0	7									
+25 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	3	1	6	0	0	7	0	0	0	0	0	0	0	7										
Total Volume	1	0	0	0	1	0	4	21	0	25	3	7	1	0	11	3	19	2	0	24	0	0	0	0	0	0	0	0	24										
% App. Total	100	0	0	0	1	0	36	84	0	100	12	27.3	63.6	9.1	0	12.5	79.2	8.3	0	25	0	0	0	0	0	0	0	0	25										
PHF	.250	.000	.000	.000	.250	.000	.500	.750	.000	.750	.375	.875	.250	.000	.917	.750	.792	.250	.000	.892	.000	.000	.000	.000	.000	.000	.000	.000	.892										



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



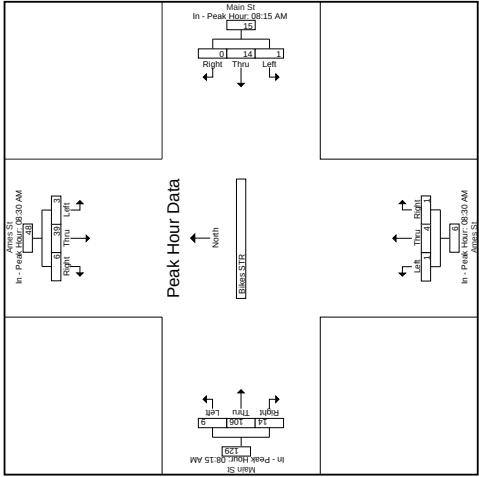
Start Time	Ames St				Main St				Business St			
	From North		From South		From East		From West		From North		From South	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	1	3	1	5	0	0	0	0	0	0	0	0
08:15 AM	4	4	0	8	0	0	0	0	0	0	0	0
08:30 AM	0	3	0	3	0	0	0	0	0	0	0	0
08:45 AM	1	22	3	26	0	0	0	0	0	0	0	0
Total	6	32	4	42	0	0	0	0	0	0	0	0
09:00 AM	2	15	1	18	0	0	0	0	0	0	0	0
09:15 AM	0	9	0	9	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	1	12	3	16	0	0	0	0	0	0	0	0
Total	3	36	4	43	0	0	0	0	0	0	0	0
Grand Total	123	76.9	10.8	210.7	0	0	0	0	0	0	0	0
Approach %	2.8	17.7	2.5	12.8	0	0	0	0	0	0	0	0

Start Time	Ames St				Main St				Business St			
	From North		From South		From East		From West		From North		From South	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	1	3	1	5	0	0	0	0	0	0	0	0
08:15 AM	4	4	0	8	0	0	0	0	0	0	0	0
08:30 AM	0	3	0	3	0	0	0	0	0	0	0	0
08:45 AM	1	22	3	26	0	0	0	0	0	0	0	0
Total	6	32	4	42	0	0	0	0	0	0	0	0
% App. Total	15.6	75.6	8.9	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
PHE	498	567	333	1398	290	375	900	1565	750	803	493	2046

Accurate Counts
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Accurate Counts
978-664-2565

Start Time	Ames St			Main St			Ames St			Main St			Main St
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins At:													
08:00 AM													
+0 mins.	0	3	0	3	0	4	0	0	0	0	0	2	29
+15 mins.	1	12	3	16	0	4	0	0	1	1	1	1	29
+30 mins.	2	15	1	18	0	2	0	1	0	1	3	3	30
+45 mins.	0	1	0	1	0	4	0	4	0	1	2	3	33
Total Volume	3	39	6	48	1	14	0	15	1	6	9	10	129
% App. Total	6.2	81.2	12.5	93.3	0	15	16.7	66.7	16.7	7	82.2	10.6	129
PHF	.375	.650	.500	.667	.250	.333	.250	.333	.250	.375	.250	.333	.627



Accurate Counts
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N/S Street : Ames Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

N/S Street : Ames Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

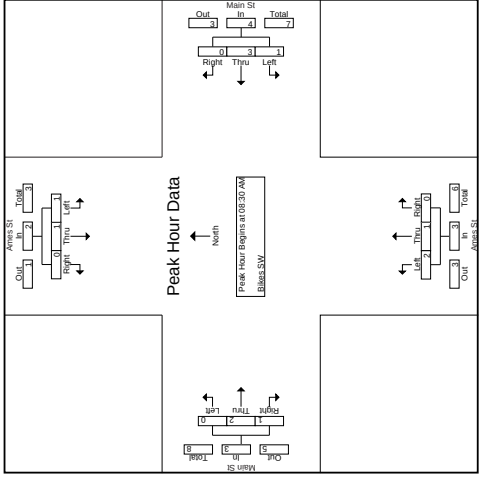
File Name : 16460004
Site Code : 16460004
Collection Date : 4/5/2014
Page No : 1

File Name : 16460004
Site Code : 16460004
Collection Date : 4/5/2014
Page No : 2

Accurate Counts
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Groups Printed-Bikes SW															
Ames St				Main St				Ames St				Main St			
From North		From East		From South		From West		From North		From East		From South		From West	
Start Times	Left	Thru	Right	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	1	0	0	1	1	0	2	0	0	0	0	0	1	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	1	1	0	2	0	0	0	0	0	2	1	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	2	0	1	3	0	4	0	0	0	0	0	4	1	0
Approch %	33.3	66.7	0	25	75	0	66.7	0	0	0	0	0	66.7	25	0
Total %	6.7	13.3	0	6.7	20	0	13.3	6.7	0	0	0	0	26.7	6.7	0

Ames St				Main St				Ames St				Main St			
From North		From East		From South		From West		From North		From East		From South		From West	
Start Times	Left	Thru	Right	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1															
Peak Hour for Entire Intersection Begins at 08:30 AM															
08:30 AM	1	0	0	1	1	0	2	0	0	0	0	0	1	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	1	0	1	2	0	2	0	1	0	1	0	1	0	1
Total Volume	1	1	0	2	3	0	4	0	1	0	1	0	2	0	2
25th Pct	50	50	0	25	37.5	0	37.5	0	66.7	33.3	0	66.7	33.3	0	33.3
75th Pct	250	250	0	250	250	0	500	250	250	250	0	375	0	250	250
Total	250	250	0	250	250	0	500	250	250	250	0	375	0	250	250



Accurate Counts
978-664-2565

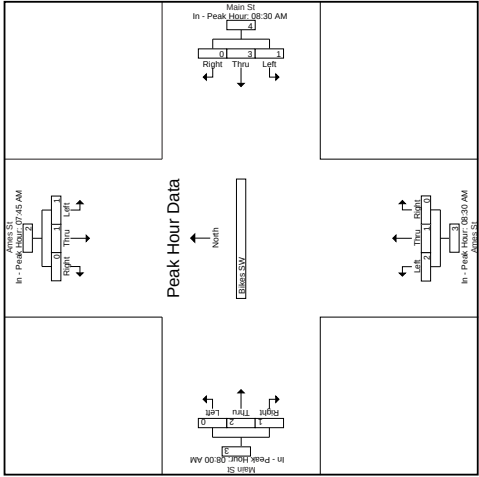
N/S Street : Ames Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16400004
Site Code : 16400004
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

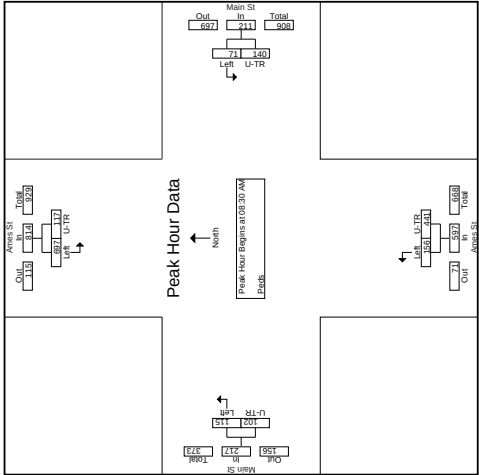
N/S Street : Ames Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Start Time	Ames St			Main St			Ames St			Main St			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins At:													
07:45 AM													
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	1
+15 mins.	0	1	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	1	0	0	0	0	0	0	0	0	0	0	0	1
Total Volume	1	1	0	2	1	3	0	4	2	1	0	3	3
% App. Total	50	50	0	25	75	0	66.7	33.3	0	66.7	33.3	0	750
PHF	.250	.250	.000	.500	.250	.000	.375	.000	.375	.000	.250	.250	



Accurate Counts
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Accurate Counts
978-664-2565



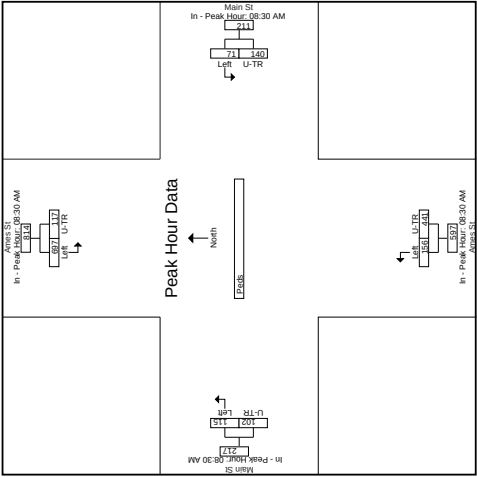
Start Time	Ames St		Main St		Grange Prindle Pk		Ames St		Main St		In. Total
	WB	EB	NB	SB	NB	SB	WB	EB	NB	SB	
07:45 AM	143	17	14	23	47	14	34	85	15	15	477
Total	238	31	20	31	85	16	34	85	15	15	477
08:00 AM	106	21	9	26	59	10	17	99	10	14	282
08:15 AM	139	20	12	18	93	5	17	93	12	12	316
08:30 AM	189	26	15	25	86	38	39	86	27	27	445
08:45 AM	172	16	5	31	136	38	39	136	15	15	448
Total	606	83	41	100	370	91	112	370	68	68	1471
09:00 AM	174	33	26	31	41	21	41	99	21	38	463
09:15 AM	162	42	25	37	124	18	37	124	22	22	463
09:30 AM	162	42	25	37	124	18	37	124	22	22	463
Grand Total	1180	196	112	215	678	146	224	678	146	143	2894
Approch %	85.8	14.2	34.3	65.7	75.2	50.5	24.8	75.2	50.5	49.5	
Total %	40.8	6.8	3.9	7.4	23.4	5	7.7	23.4	4.9	4.9	

Start Time	Ames St		Main St		Ames St		Main St		In. Total
	WB	EB	NB	SB	WB	EB	NB	SB	
08:30 AM	189	26	15	25	86	125	38	27	65
08:45 AM	172	16	5	31	39	171	38	15	53
09:00 AM	174	33	20	31	41	140	21	38	463
09:15 AM	162	42	25	37	99	140	21	38	463
09:30 AM	162	42	25	37	99	140	21	38	463
Total Value	697	117	71	140	211	597	115	102	212
% App. Total	85.6	14.4	33.6	65.4	73.9	75.1	53	47	835
PHF	.922	.696	.683	.660	.676	.673	.757	.671	.835

Accurate Counts
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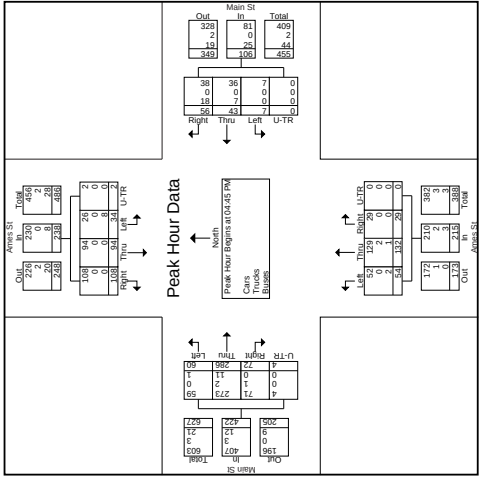
Accurate Counts
978-664-2565

Ames St		Main St		Ames St		Main St		Main St		
From North	From South	From East	From West	From North	From South	From East	From West	From North	From South	
WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	
Start Time	App. Total		App. Total		App. Total		App. Total		App. Total	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1										
Peak Hour for Each Approach Begins At:										
07:30 AM	26	215	15	25	40	30	86	125	38	77
+0 mins.	189				39					
+15 mins.	172	188	5	31	36	132	171	38	15	53
+30 mins.	174	33	207	26	31	41	99	140	21	38
+45 mins.	176	171	11	27	49	77	129	148	22	40
Total Volume	697	42	204	25	53	37	124	161	18	22
% App. Total	85.6	14.4	66.7	66.4	26.1	136	73.9	597	115	102
PHE	.922	.996	.683	.660	.676	70.9	83.5	87.3	75.7	67.1



Accurate Counts
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Accurate Counts
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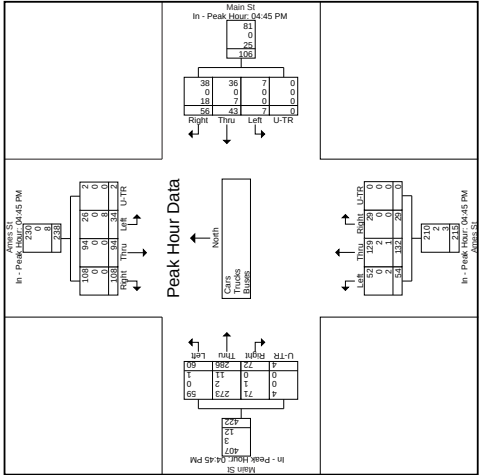
Groups Printed: Cars - Trucks - Buses																	
Ames St				Main St				Ames St				Main St					
From North				From East				From South				From West					
Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn		
12	22	10	1	0	9	Right	U-Turn	16	18	3	0	16	54	11	0		
04:30 PM															179		
04:45 PM	8	20	30	0	1	11	17	0	8	32	4	0	14	59	17	0	
															221		
Total	20	42	40	1	1	20	24	0	24	50	7	0	30	113	28	0	
															400		
05:00 PM																	
9	23	27	1	2	17	13	0	16	37	6	0	20	75	16	4	266	
05:15 PM																	
6	32	22	0	2	6	14	0	15	31	6	0	11	78	22	0	245	
05:30 PM																	
11	19	29	1	2	9	12	0	15	32	13	0	15	74	17	0	249	
05:45 PM																	
9	22	25	0	0	7	15	0	8	29	4	0	12	56	15	2	204	
																204	
Total	35	86	103	2	6	39	54	0	54	129	29	0	58	283	70	6	964
06:00 PM																	
7	21	22	0	1	8	10	0	16	28	7	0	14	53	13	0	200	
06:15 PM																	
6	23	26	0	3	12	74	105	0	17	25	14	0	10	65	17	0	229
Grand Total	68	182	190	3	11	74	105	0	11	232	57	0	112	514	128	6	1793
Approach %	13.3	41	14.3	0.7	6.3	39.2	54.5	0	27.8	59	14.2	0	59	14.2	0	0	
Total %	3.8	10.2	10.7	0.2	0.7	4.1	5.7	0	6.2	12.9	3.2	0	6.2	28.7	7.1	0.3	
Cars	51	182	190	3	12	63	69	0	101	228	57	0	107	488	126	6	1683
% Cars	75	100	99.5	100	100	85.1	67	0	91	98.3	100	0	95.5	94.9	98.4	100	93.9
Trucks	12	40	39	0	1	11	14	0	1	14	14	0	1	15	15	0	15
% Trucks	18	23	20.5	0	1	16	19	0	1	12	14	0	1	19	19	0	15.6
Buses	17	0	0	0	0	11	34	0	0	5	4	0	0	20	1	0	95
% Buses	25	0	0	0	0	14.9	33	0	0	6.4	0.4	0	0	3.0	0.8	0	5.3

Groups Printed: Cars - Trucks - Buses																
Ames St				Main St				Ames St				Main St				
From North				From East				From South				From West				
Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
8	20	30	0	1	11	17	0	29	8	32	4	0	44	14	59	
Total				20	42	40	1	20	24	0	24	50	7	0	400	
04:45 PM																
1	11	17	0	29	8	32	4	0	44	59	17	0	90	221	266	
05:00 PM																
9	23	27	1	60	2	17	13	0	32	16	37	6	59	75	16	
05:30 PM																
11	19	29	1	60	2	9	12	0	23	15	32	13	0	60	15	
Total Volume				34	94	108	2	238	7	43	56	0	106	132	29	402
% Approach				14.3	39.5	45.4	0.8	59.8	8.6	40.6	52.8	0	63.8	25.1	61.4	61.4
Cars				72	259	289	0	188	83	100	130	0	186	142	67.8	67.8
Trucks				0	0	0	0	0	0	0	0	0	0	0	0	0
Buses				0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks				0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses				0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses				23.5	0	0	0	3.4	0	16.3	32.1	0	23.6	3.7	0.8	2.8

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Ames St				Main St				Ames St				Main St				Int. Total				
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																				
Peak Hour for East Approach Begins At:																				
04:45 PM																				
+10 mins.	8	20	30	0	58	1	17	0	29	8	32	4	0	44	14	59	17	0	90	
+15 mins.	9	23	27	1	60	2	17	0	32	16	37	6	0	59	20	75	16	4	115	
+20 mins.	6	32	22	0	60	2	6	0	23	15	32	11	0	68	26	77	22	11	116	
+25 mins.	11	19	29	1	60	2	6	0	23	15	32	13	0	60	15	74	17	0	105	
+30 mins.	12	13	25	0	50	1	10	0	11	15	26	10	0	46	16	66	20	0	102	
Total Volume	34	94	108	2	238	7	43	56	0	106	54	132	29	0	215	60	286	72	4	422
% App. Total	14.3	39.5	45.4	0.8	100	3.0	18.0	23.1	0.0	44.0	22.7	55.5	11.8	0.0	48.2	25.4	67.8	17.1	0.9	100
% Sat.	7.2	23.5	27.5	0.4	59.0	1.0	6.0	7.5	0.0	23.0	12.3	30.9	6.5	0.0	29.5	14.2	67.8	17.1	0.9	100
% Cars	76.5	100	100	100	96.6	100	83.7	67.9	0	76.4	96.3	97.7	100	0	97.7	98.3	95.5	98.6	100	96.4
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	8	0	0	0	4	0	7	18	0	25	2	1	0	0	3	1	11	0	0	12
% Buses	23.5	0	0	0	3.4	0	16.3	32.1	0	23.6	3.7	0.8	0	0	1.4	1.7	3.8	0	0	2.8



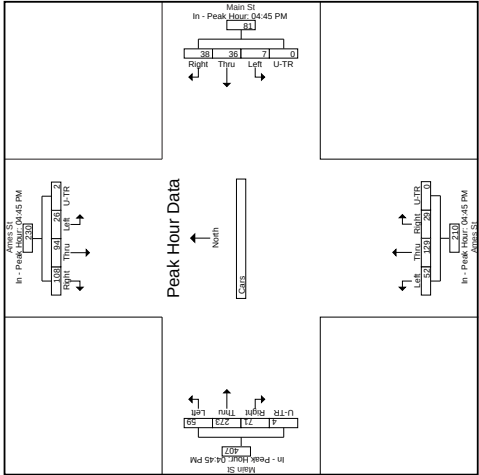
Accurate Counts
978-664-2565

Groups Printed- Cars																							
Ames St						Main St						Ames St				Main St							
From North			From South			From East			From West			From South			From East			From West			From South		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total			
04:30 PM	9	22	40	1	0	8	4	0	14	17	3	0	15	50	11	0	164						
04:45 PM	15	42	30	1	1	17	15	0	8	29	4	0	14	54	17	0	203						
Total	24	64	70	2	1	25	19	0	22	46	7	0	29	104	28	0	367						
05:00 PM	7	23	27	1	2	16	9	0	15	37	6	0	19	73	16	4	255						
05:15 PM	4	32	22	0	2	4	9	0	14	31	6	0	11	73	22	0	230						
05:30 PM	9	29	24	0	2	6	10	0	18	32	13	0	15	53	16	2	240						
Total	20	84	73	1	4	28	29	0	47	100	25	0	45	179	54	6	725						
06:00 PM	5	21	22	0	1	7	6	0	11	28	7	0	14	49	18	0	194						
06:15 PM	3	23	26	0	4	6	11	0	16	29	14	0	9	83	18	0	216						
Grand Total	51	182	190	3	12	63	69	0	101	228	57	0	107	488	126	6	1663						
Approach %	12	42.7	44.6	0.7	8.3	43.8	47.9	0	26.2	59.1	14.8	0	14.7	67.1	17.3	0.8							
Total %	3	10.8	11.3	0.2	0.7	3.7	4.1	0	6	33.5	3.4	0	6.4	29	7.5	0.4							
Peak Hour for Entire Intersection Begins at 04:45 PM																Main St							
From North			From South			From East			From West			From South			From East			From West			From South		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total			
04:45 PM	6	20	30	0	56	1	9	11	0	21	8	29	4	0	41	14	54	17	0	86			
05:00 PM	7	23	27	1	58	2	16	9	0	27	15	37	6	0	59	19	73	16	4	112			
05:15 PM	3	27	31	0	58	2	7	9	0	32	16	23	16	0	66	23	22	22	0	104			
05:30 PM	9	19	29	1	58	2	7	9	0	18	15	32	15	0	60	15	73	16	0	240			
Total Volume	26	94	108	2	230	7	36	38	0	81	52	129	29	0	210	59	273	71	4	407			
% AM	72.3	49.3	50.7	5.0	90	8.6	45.4	65.9	0	26.8	61.2	13.8	0	89.5	65.5	14.5	67.5	84	26.0	99.8			
% PM	27.7	50.7	49.3	95.0	10	11.4	54.6	34.1	0	73.2	38.8	86.2	7.4	10.5	34.5	85.5	32.5	16	73.0				

Accurate Counts
978-664-2565

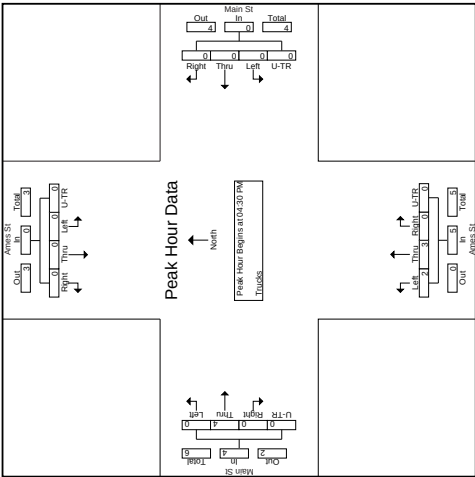
Accurate Counts
978-664-2565

Ames St From North				Ames St From South				Main St From West				Main St From East			
Start Time	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total	Left	Thru	Right	U-TR	App. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins At:															
-04:00 PM	6	20	30	0	56	9	11	0	21	04:45 PM	0	8	29	4	41
+0 mins.	7	23	1	58	2	16	9	0	27	15	37	6	0	58	19
+15 mins.	8	24	0	58	2	16	9	0	27	15	37	6	0	58	19
+30 mins.	9	25	0	59	2	17	9	0	28	16	38	6	0	59	20
+45 mins.	9	26	0	59	2	18	9	0	29	17	39	6	0	60	21
Total Volume	26	94	108	2	230	7	36	38	81	52	129	29	0	210	59
% App. Total	11.3	40.9	47	0.9	100	3.0	15.7	16.5	35.2	22.6	56.1	12.6	0	53.5	25.5
PHF	.722	.734	.900	.500	.493	.875	.563	.864	.000	.750	.887	.872	.358	.000	.875



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



Groups Printed: Tracks																
Start Time	Ames St From North				Main St From East				Ames St From South				Main St From West			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	2	1	0	0	0	0	2	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1	0
Total	0	0	1	0	0	0	0	0	0	0	0	0	0	0	3	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	100	0	0	0	0	0	57.1	3	0	0	0	0	85.7	14.3
Approach %	0	0	6.7	0	0	0	0	0	28.6	20	0	0	0	0	40	6.7

Groups Printed: Tracks																
Start Time	Ames St From North				Main St From East				Ames St From South				Main St From West			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
Peak Hour Analysis: From 04:30 PM to 06:15 PM - Peak 1 of 1																
Peak Hour for Entire Report Segment is 04:30 PM																
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	2	3	0	0	0	4	0	4
% Appr	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
PHE	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

Peak Hour Analysis from 04:30 PM to 06:15 PM - Peak 1 of 1

Peak Hour for Entire Intersection Begins at 04:30 PM

04:30 PM

04:45 PM

05:00 PM

05:15 PM

05:30 PM

05:45 PM

06:00 PM

06:15 PM

06:30 PM

06:45 PM

07:00 PM

% Appr

PHE

Accurate Counts
978-664-2565

File Name : 16400004
Site Code : 16400004
Print Date : 4/5/2014
Page No : 4

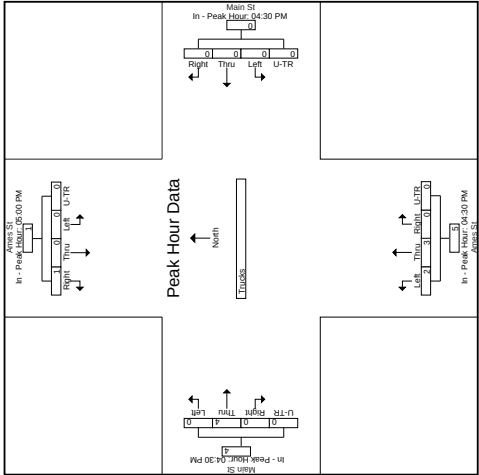
N/S Street : Anne Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16400004
Site Code : 16400004
Print Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Anne Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Anne St Eastbound			Anne St Eastbound			Anne St Eastbound			Anne St Eastbound			Anne St Eastbound			Anne St Eastbound			Anne St Eastbound		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																				
Peak Hour for Eastbound Begins At:																				
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+10 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+20 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+25 mins.	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	1	0	1	0	0	0	0	0	2	3	0	0	5	0	4	0	0	4
% App. Total	0	0	100	0	100	0	0	0	0	0	40	60	0	0	100	0	0	0	0	0
PHF	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.250	.375	.000	.000	.417	.000	.500	.000	.000	.500



Accurate Counts
978-664-2565

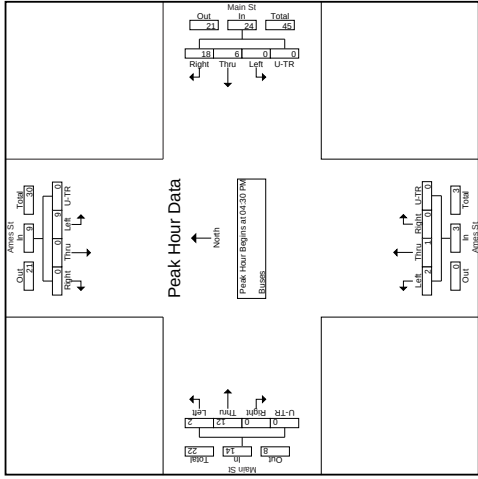
N/S Street : Ames Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16460004
Site Code : 16460004
Count Date : 4/5/2014
Page No : 1

Counts Printed - Buses											
Ames St				Main St				From South			
From North				From East				From West			
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right
04:30 PM	2	0	0	0	2	0	0	0	0	0	0
04:45 PM	2	0	0	0	2	0	0	0	0	0	0
04:55 PM	2	0	0	0	2	0	0	0	0	0	0
Total	5	0	0	0	3	9	0	0	1	6	0
05:00 PM	2	0	0	0	1	4	0	0	1	2	0
05:15 PM	2	0	0	0	2	5	0	0	0	4	0
05:30 PM	2	0	0	0	2	3	0	0	0	1	0
05:45 PM	2	0	0	0	1	5	0	0	0	3	0
Total	7	0	0	0	6	17	0	0	2	10	0
06:00 PM	2	0	0	0	1	4	0	0	0	2	0
06:15 PM	2	0	0	0	1	4	0	0	0	2	0
06:30 PM	17	0	0	0	11	24	0	0	1	2	0
06:45 PM	100	0	0	0	24.4	75.6	0	0	19.2	76.9	0
% Apprch %	100	0	0	0	11.6	35.8	0	0	5.3	21.1	0
Total %	17.9	0	0	0	0	0	0	0	0	0	0

N/S Street : Ames Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Accurate Counts
978-664-2565



Counts Printed - Buses											
Ames St				Main St				From South			
From North				From East				From West			
Start Time	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right
04:30 PM	2	0	0	0	2	0	0	0	0	0	0
04:45 PM	2	0	0	0	2	0	0	0	0	0	0
04:55 PM	2	0	0	0	2	0	0	0	0	0	0
Total	5	0	0	0	3	9	0	0	1	6	0
05:00 PM	2	0	0	0	1	4	0	0	1	2	0
05:15 PM	2	0	0	0	2	5	0	0	0	4	0
05:30 PM	2	0	0	0	2	3	0	0	0	1	0
05:45 PM	2	0	0	0	1	5	0	0	0	3	0
Total	7	0	0	0	6	17	0	0	2	10	0
06:00 PM	2	0	0	0	1	4	0	0	0	2	0
06:15 PM	2	0	0	0	1	4	0	0	0	2	0
06:30 PM	17	0	0	0	11	24	0	0	1	2	0
06:45 PM	100	0	0	0	24.4	75.6	0	0	19.2	76.9	0
% Apprch %	100	0	0	0	11.6	35.8	0	0	5.3	21.1	0
Total %	17.9	0	0	0	0	0	0	0	0	0	0

File Name : 16460004
Site Code : 16460004
Count Date : 4/5/2014
Page No : 2

Accurate Counts
978-664-2565

File Name : 16400004
Site Code : 16400004
Count Date : 8/5/2014
Page No : 4

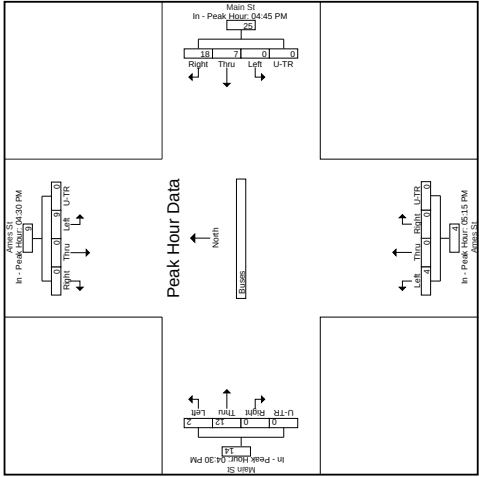
N/S Street : Anne Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 16400004
Site Code : 16400004
Count Date : 8/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Anne Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

Anne St Eastbound			Anne St Eastbound			Anne St Eastbound			Anne St Eastbound			Anne St Eastbound			Anne St Eastbound		
Start Time	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																	
Peak Hour for Each Approach Begins At:																	
04:30 PM																	
+10 mins.	3	0	0	0	3	0	0	0	0	0	0	0	0	0	0	0	3
+15 mins.	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4
+20 mins.	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4
+25 mins.	2	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	4
Total Volume	9	0	0	0	9	0	0	0	0	0	0	0	0	0	0	0	14
% App. Total	100	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0	100
PHF	.750	.000	.000	.000	.750	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750



Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

N/S Street : Ames Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

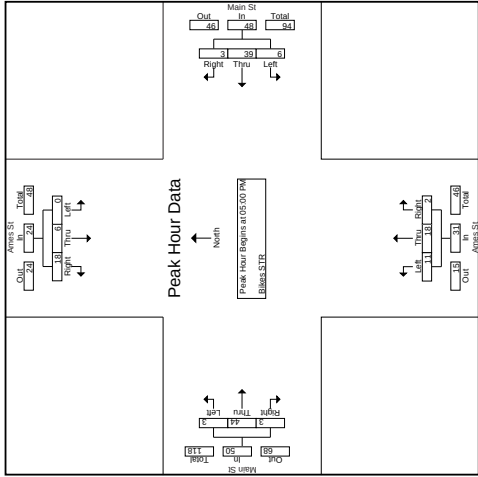
File Name : 16460004
Site Code : 16460004
Collection Date : 4/5/2014
Page No : 1

Counts Printed- Blues STR													
Start Time	Ames St			Main St			Ames St			Main St			In. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	2	0	0	9	2	0	2	0	0	7	1	25
Total	0	1	2	0	14	2	0	4	0	3	11	1	38
05:00 PM	0	0	3	2	7	1	1	5	0	2	12	0	33
05:15 PM	0	2	6	0	10	1	3	8	2	1	9	0	42
05:30 PM	0	2	4	0	11	1	4	3	0	0	11	0	36
05:45 PM	0	5	4	4	11	0	3	2	0	0	12	3	42
Total	0	6	10	6	39	3	11	10	2	3	44	3	135
06:00 PM	0	0	6	0	7	1	2	2	1	0	6	1	26
06:15 PM	0	1	8	0	8	2	3	3	0	2	6	7	32
06:30 PM	0	3	6	0	6	0	4	2	0	0	6	7	26
06:45 PM	0	20.5	79.5	7.3	82.9	9.8	34.8	58.7	6.5	9.8	81.7	8.5	249
Approach %	0	3.2	12.4	2.4	27.3	3.2	6.4	10.8	1.2	3.2	26.9	2.8	

Start Time	Ames St			Main St			Ames St			Main St			In. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
05:30 PM	0	0	3	2	7	1	1	5	0	2	12	0	33
05:45 PM	0	2	8	0	10	1	3	8	2	1	9	0	42
05:15 PM	0	2	4	0	11	1	4	3	0	7	0	11	36
05:30 PM	0	2	4	0	11	0	4	3	0	7	0	11	36
05:45 PM	0	2	4	0	11	0	4	3	0	7	0	11	36
Total	0	2	15	2	45	2	13	10	2	12	33	15	135
% App. Total	0	25	75	12.5	81.2	6.2	48	58.1	6.5	31	6	88	
PHE	0.00	750	750	375	886	750	800	688	563	250	596	917	911

Accurate Counts
978-664-2565

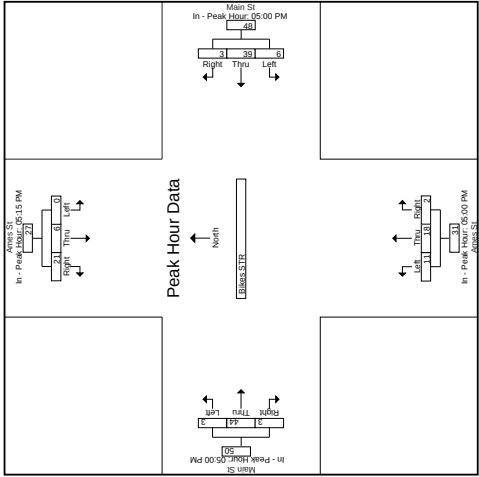
File Name : 16460004
Site Code : 16460004
Collection Date : 4/5/2014
Page No : 2



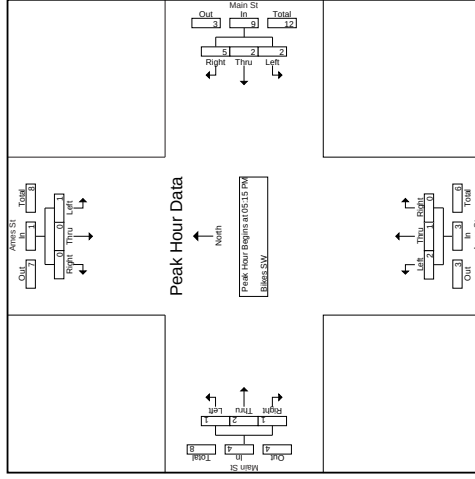
Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	Ames St			Right	App. Total	Main St			Ames St			Right	App. Total	Main St			Right	App. Total	Int. Total
	Left	Thru	Right			Left	Thru	Right	Left	Thru	Right			Left	Thru	Right			
Peak Hour from 04:30 PM to 06:15 PM - Peak 1 of 1																			
Peak Hour for Each Approach Begins At:																			
05:00 PM																			
05:15 PM	0	2	6	8	0	2	7	1	10	1	5	9	6	0	12	0	14		
+15 mins.	0	2	4	6	10	1	11	3	15	3	8	2	13	1	9	0	10		
+30 mins.	0	2	5	7	11	1	12	4	16	3	7	0	7	0	12	0	12		
+45 mins.	0	0	6	6	4	11	0	15	1	1	0	1	2	0	11	0	11		
Total Volume	0	6	21	27	6	39	3	48	11	18	2	31	3	44	3	50	3	50	
% App. Total	0	22.2	77.8	27	12.5	81.2	6.2	90.1	22.9	55.3	6.5	85.3	6	88	6	93.3	6	93.3	
PHF	.000	.750	.375	.344	.800	.880	.750	.800	.688	.553	.250	.596	.375	.917	.250	.533	.375	.917	



Accurate Counts
978-664-2565



Accurate Counts
978-664-2565

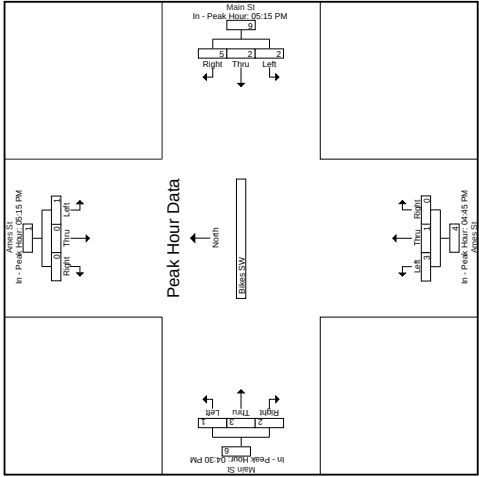
File Name : 16460004
Site Code : 16460004
Start Date : 4/9/2014
Page No : 1

Groups Primed-Bikes SW													
Auses St				Main St				Auses St				Main St	
Start Time	Left	Thru	Right	From North	Left	Thru	Right	From South	Left	Thru	Right	From West	Left
04:30 PM	0	0	0	0	0	2	0	1	0	0	1	2	1
04:45 PM	0	0	0	0	0	2	1	0	0	0	1	2	1
Total	0	0	0	0	0	2	1	2	0	0	1	3	1
05:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	2	2	1	0	0	1	1	4
05:45 PM	0	0	0	0	0	2	1	0	0	1	1	1	0
Total	0	0	0	0	0	3	3	2	1	0	1	1	13
06:00 PM	1	0	0	1	0	0	2	0	0	0	0	1	5
06:15 PM	0	0	0	0	0	1	0	0	0	2	0	0	3
Grand Total	1	0	0	2	6	6	4	1	2	2	5	2	31
Approach %	100	0	0	14.3	42.9	42.9	57.1	14.3	28.6	22.2	55.6	22.2	
Total %	3.2	0	0	6.5	19.4	19.4	12.9	3.2	6.5	6.5	16.1	6.5	

Accurate Counts
978-664-2565

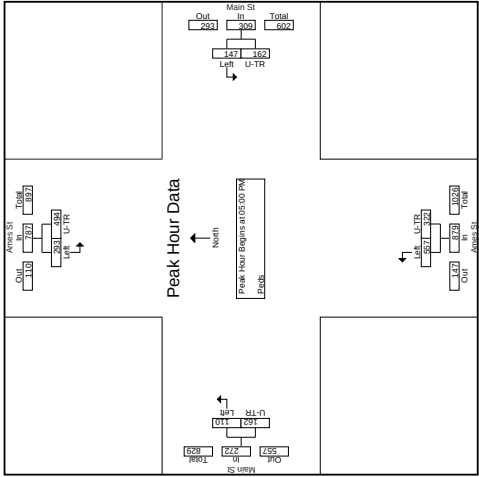
Accurate Counts
978-664-2565

Start Time		Ames St From North			Main St From East			Ames St From South			Main St From West			Int. Total	
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right		
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1															
Peak Hour for Each Approach Begins At:															
05:15 PM															
-10 mins.	0	0	0	0	0	2	1	0	0	1	0	0	1	4	
+15 mins.	0	0	0	0	0	2	0	1	0	0	1	0	0	0	
+30 mins.	0	0	0	0	0	0	2	0	1	0	0	0	0	1	
+45 mins.	1	0	0	1	1	0	2	3	1	0	2	0	0	1	
Total Volume	1	0	0	1	2	5	9	3	1	0	4	1	3	6	
% App. Total	100	0	0	1	22.2	55.6	59.3	75	25	0	16.7	50	33.3		
PHF	.260	.000	.000	.250	.250	.625	.593	.750	.250	.000	.250	.375	.500	.375	



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



Start Time	Ames St				Main St				Grange Prince Pk				Main St				Int. Total
	From North	From South	From East	From West	From North	From South	From East	From West	From North	From South	From East	From West	From North	From South	From East	From West	
05:00 PM	60	139	38	42	149	91	21	36	566								
05:15 PM	51	113	32	35	142	71	30	36	510								
05:30 PM	86	150	33	38	127	82	26	55	597								
05:45 PM	96	182	44	47	139	86	33	45	574								
Total	293	494	147	162	557	322	110	202	2247								
06:00 PM	92	103	37	29	129	46	8	46	480								
06:15 PM	89	116	38	36	124	100	28	71	592								
06:30 PM	52	93	26	31	105	67	11	26	434								
06:45 PM	39.5	60.5	45.9	54.1	63.7	36.3	41.4	59.6	4141								
Approch %	13.9	21.3	6.4	7.6	25.5	14.6	4.4	6.3									
Total %																	

Start Time	Ames St				Main St				Ames St				Main St				Int. Total
	From North	From South	From East	From West	From North	From South	From East	From West	From North	From South	From East	From West	From North	From South	From East	From West	
05:00 PM	109	139	38	42	149	91	21	36	566								
05:15 PM	51	113	32	35	142	71	30	36	510								
05:30 PM	86	150	33	38	127	82	26	55	597								
05:45 PM	96	182	44	47	139	86	33	45	574								
Total	342	563	147	162	557	322	110	202	2247								
% Appr. Total	37.2	62.8	47.6	52.4	84.9	85.5	85.3	79.6	84.0								

Peak Hour Data

Peak Hour Begins at 05:00 PM

Peak Hour Ends at 05:00 PM

Accurate Counts
978-664-2565

File Name : 1640004
Site Code : 1640004
Site Name : 978-664-2565
Page No : 4

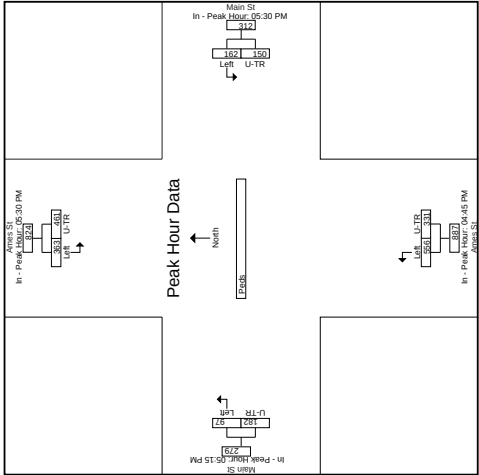
N/S Street : Anne Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

File Name : 1640004
Site Code : 1640004
Site Name : 978-664-2565
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Anne Street
EW Street : Main Street
City/State : Cambridge, MA
Weather : Clear

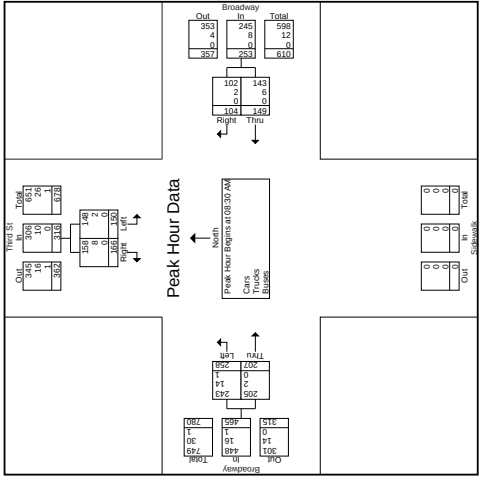
Anne St		Anne St		Main St		Anne St		Main St		Main St	
Start Time	WB	From North	EB	From South	WB	From North	EB	From South	WB	From North	EB
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1	WB	From North	EB	From South	WB	From North	EB	From South	WB	From North	EB
Peak Hour for Each Approach Begins At:	WB	From North	EB	From South	WB	From North	EB	From South	WB	From North	EB
04:30 PM	85	150	33	71	225	05:15 PM	30	36	66		
+0 mins.	96	92	188	44	47	91	138	87	91	240	26
+15 mins.	92	93	185	49	47	129	145	71	95	81	48
+30 mins.	86	110	205	37	30	72	127	62	45	59	54
+45 mins.	86	110	205	37	30	72	127	62	45	59	54
Total Volume	363	461	824	162	150	312	556	331	887	397	182
% ADP Total	44.1	55.9	48.1	48.1	67.7	37.3	67.7	34.8	65.2		
PHE	955	768	873	857	933	909	933	923	736	877	883



Accurate Counts
978-664-2565

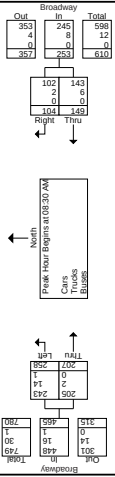
Accurate Counts
978-664-2565

Groups Printed: Cars - Trucks - Buses									
Start Time	Third St			Broadway			Broadway		
	Left	Thru	Right	From East	From West	Thru	From East	From West	Intr. Total
07:30 AM	45	36	28	56	81	102	45	36	28
07:45 AM	55	43	33	7	42	57	55	43	237
07:45 AM	106	89	22	22	81	102	456		
08:00 AM	45	36	28	16	59	49	233		
08:15 AM	42	30	21	16	59	71	239		
08:30 AM	37	48	36	23	74	60	278		
08:45 AM	47	45	35	27	55	55	269		
08:45 AM	171	159	120	92	252	235	1019		
09:00 AM	30	27	36	22	72	50	237		
09:15 AM	35	22	32	12	62	42	250		
09:30 AM	36	24	25	13	52	46	1862		
Approach %	51.7	48.3	35.3	61.7	51.6	48.4			
Total %	17.5	16.4	12.9	8.1	23.3	21.9			
Cars	339	300	247	155	422	622	1895		
% Cars	98.7	98.1	97.7	98.1	98.1	98.1	98.7		
Trucks	4	5.7	7	3.3	2.2	7	60		
% Trucks	1.2	5.3	2.8	1.9	4.8	1.6	3.1		
Buses	0	4	0	0	3	0	4		
% Buses	0	1.2	0	0	0.7	0	0.4		



Start Time	Third St			Broadway			Broadway		
	Left	Thru	Right	From East	From West	Thru	From East	From West	Intr. Total
08:30 AM	47	35	27	62	55	115	269		
08:45 AM	47	35	27	62	55	115	269		
08:45 AM	36	22	32	12	62	42	250		
09:15 AM	36	24	25	13	52	46	1862		
Total Volume	150	166	149	104	253	0	258	207	1034
% App. Total	47.5	52.5	59.9	41.1	58.5	44.5	55.5	44.5	55.5
Cars	148	158	143	102	245	0	243	205	999
% Cars	98.7	95.2	96.8	98.1	96.8	0	94.2	99.0	96.3
Trucks	2	8	6	2	14	2	14	2	34
% Trucks	1.2	4.8	4.0	1.5	5.4	1.1	5.4	1.1	3.1
Buses	0	0	0	0	0	0	0	0	0.1
% Buses	0	0	0	0	0	0	0.4	0	0.2

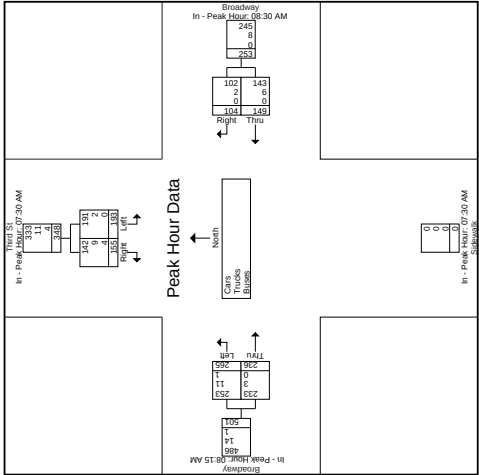
Peak Hour Data



Accurate Counts
978-664-2565

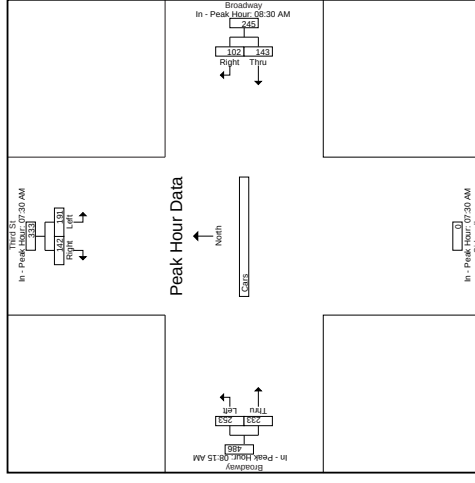
Accurate Counts
978-664-2565

Third St		Broadway		Broadway		Broadway		Broadway		Broadway	
Start Time	Left	Right	Thru	Relat	App. Total	From South	Left	Thru	App. Total	From West	Int. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1											
Peak Hour for Each Approach Begins at:											
07:30 AM											
+0 mins.	51	46	36	23	59	59	59	71	130		
+15 mins.	55	43	35	27	62	0	74	60	134		
+30 mins.	55	40	35	22	57	0	77	55	132		
+45 mins.	42	30	24	13	74	0	72	50	122		
Total Volume	193	155	149	104	253	0	265	236	501		
% App. Total	56.5	44.5	59.9	41.1			57.9	47.1			
08:30 AM											
Cars	191	142	133	103	265	0	263	233	498		
% Cars	99	91.6	95.7	98.1	96.8	0	96.5	98.7	97		
Trucks	2	9	6	2	8	0	11	3	14		
% Trucks	1	5.8	4	1.9	3.0	0	4.2	1.3	2.8		
Buses	0	4	0	0	0	0	1	0	1		
% Buses	0	2.6	1.1	0	0	0	0.4	0	0.2		



Accurate Counts
978-664-2565

N/S Street : Third Street
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



Accurate Counts
978-664-2565

File Name : 16460005
Site Code : 16460005
Start Date : 4/9/2014
Page No : 3

Third St		Broadway		Broadway		Broadway	
Start Time	Left	Right	App. Total	Thru	Right	App. Total	Thru
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1							
PBAK 1500 for East Approach							
07:30 AM							
41	50	91	35	23	58	0	58
+0 mins.	50	91	35	23	58	0	58
+5 mins.	49	94	35	27	73	0	73
+10 mins.	48	93	35	27	70	0	70
+15 mins.	47	90	35	27	66	0	66
+20 mins.	46	87	35	27	63	0	63
+25 mins.	45	84	35	27	60	0	60
+30 mins.	44	81	35	27	57	0	57
+35 mins.	43	78	35	27	54	0	54
+40 mins.	42	75	35	27	51	0	51
+45 mins.	41	72	35	27	48	0	48
+50 mins.	40	69	35	27	45	0	45
+55 mins.	39	66	35	27	42	0	42
+60 mins.	38	63	35	27	39	0	39
+65 mins.	37	60	35	27	36	0	36
+70 mins.	36	57	35	27	33	0	33
+75 mins.	35	54	35	27	30	0	30
+80 mins.	34	51	35	27	27	0	27
+85 mins.	33	48	35	27	24	0	24
+90 mins.	32	45	35	27	21	0	21
+95 mins.	31	42	35	27	18	0	18
+100 mins.	30	39	35	27	15	0	15
+105 mins.	29	36	35	27	12	0	12
+110 mins.	28	33	35	27	9	0	9
+115 mins.	27	30	35	27	6	0	6
+120 mins.	26	27	35	27	3	0	3
+125 mins.	25	24	35	27	0	0	0
+130 mins.	24	21	35	27	0	0	0
+135 mins.	23	18	35	27	0	0	0
+140 mins.	22	15	35	27	0	0	0
+145 mins.	21	12	35	27	0	0	0
+150 mins.	20	9	35	27	0	0	0
+155 mins.	19	6	35	27	0	0	0
+160 mins.	18	3	35	27	0	0	0
+165 mins.	17	0	35	27	0	0	0
+170 mins.	16	0	35	27	0	0	0
+175 mins.	15	0	35	27	0	0	0
+180 mins.	14	0	35	27	0	0	0
+185 mins.	13	0	35	27	0	0	0
+190 mins.	12	0	35	27	0	0	0
+195 mins.	11	0	35	27	0	0	0
+200 mins.	10	0	35	27	0	0	0
+205 mins.	9	0	35	27	0	0	0
+210 mins.	8	0	35	27	0	0	0
+215 mins.	7	0	35	27	0	0	0
+220 mins.	6	0	35	27	0	0	0
+225 mins.	5	0	35	27	0	0	0
+230 mins.	4	0	35	27	0	0	0
+235 mins.	3	0	35	27	0	0	0
+240 mins.	2	0	35	27	0	0	0
+245 mins.	1	0	35	27	0	0	0
+250 mins.	0	0	35	27	0	0	0
+255 mins.	0	0	35	27	0	0	0
+260 mins.	0	0	35	27	0	0	0
+265 mins.	0	0	35	27	0	0	0
+270 mins.	0	0	35	27	0	0	0
+275 mins.	0	0	35	27	0	0	0
+280 mins.	0	0	35	27	0	0	0
+285 mins.	0	0	35	27	0	0	0
+290 mins.	0	0	35	27	0	0	0
+295 mins.	0	0	35	27	0	0	0
+300 mins.	0	0	35	27	0	0	0
+305 mins.	0	0	35	27	0	0	0
+310 mins.	0	0	35	27	0	0	0
+315 mins.	0	0	35	27	0	0	0
+320 mins.	0	0	35	27	0	0	0
+325 mins.	0	0	35	27	0	0	0

Accurate Counts
978-664-2565

N/S Street : Third Street
EW Street : Broadway
City : Cambridge, MA
Weather : Clear

File Name : 16460005
Site Code : 16460005
Date : 4/9/2014
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Third Street
EW Street : Broadway
City : Cambridge, MA
Weather : Clear

Counts Printed: Trucks									
Start Time	Third St			Broadway			Broadway		
	From North	Right	Thru	From East	Right	Thru	From West	Left	Intr. Total
07:30 AM	1	4	0	0	0	0	2	0	8
07:45 AM	0	2	0	0	0	0	4	2	8
Total	1	6	0	0	1	0	6	2	16
08:00 AM	1	2	0	0	0	2	1	2	6
08:15 AM	0	1	1	1	0	1	1	1	4
08:30 AM	0	1	1	1	0	1	1	1	4
08:45 AM	2	2	2	4	0	5	5	3	12
Total	3	6	4	6	0	8	8	7	20
09:00 AM	0	1	1	1	1	4	0	0	7
09:15 AM	0	17	2	2	3	22	11	4	47
Approach %	6.7	28.3	11.7	36.7	5	36.7	36.7	11.7	60
Total %									

Peak Hour Data									
North									
Peak hour Begins at 08:30 AM									
Trucks									
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20	0	0	0	0	26
Broadway									
Out	4	2	10	30	10	2	14	2	60
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	4	2	10	30	10	2	14	2	60
Third St									
Out	3	8	0	20	0	0	0	0	26
Thru	0	0	0	0	0	0	0	0	0
Left	0	0	0	0	0	0	0	0	0
Total	3	8	0	20					

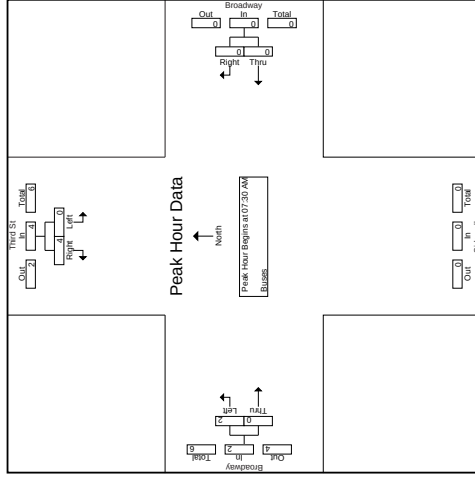
Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

		Third St		Broadway		Broadway		Broadway		Broadway		Broadway	
Start Time		Left	Right	Thru	App. Total	Left	Right	Thru	App. Total	Left	Right	Thru	App. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins at: 07:30 AM													
+0 mins.		1	4	5	08:30 AM	07:30 AM		08:30 AM		08:30 AM		08:30 AM	
+15 mins.		0	2	2		1		0		0		1	
+30 mins.		1	2	3		2		2		0		5	
+45 mins.		0	1	1		1		1		0		4	
Total Volume		2	9	11		6		8		0		14	
% App. Total		38.2	81.8			75		100		87.5		12.5	
PHF		.500	.563	.550		.750		.667		.000		.500	

Accurate Counts
978-664-2565

N/S Street : Third Street
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



Accurate Counts
978-664-2565

File Name : 16460005
Site Code : 16460005
Start Date : 4/9/2014
Page No : 1

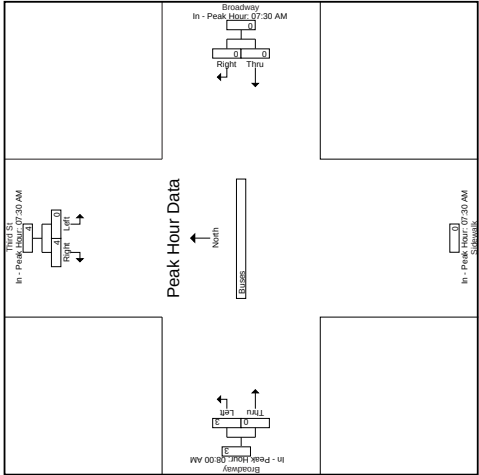
		Third St		Group A Printer - Buses			Broadway	
		From North	Right	Thru	Left	From West	From East	
	Start Time							
	07:30 AM	0	1	0	0	0	0	
	07:45 AM	0	2	0	0	0	0	
	Total	0	3	0	0	0	0	
	08:00 AM	0	0	0	0	0	0	
	08:15 AM	0	1	0	0	2	0	
	08:30 AM	0	0	0	0	0	0	
	08:45 AM	0	0	0	0	1	0	
	Total	0	1	0	0	3	0	
	09:00 AM	0	0	0	0	0	0	
	09:15 AM	0	0	0	0	0	0	
	Grand Total	0	4	0	0	3	0	
	Avg. Bus	0	1.0	0	0	0.75	0	
	Total %	0	57.1	0	0	42.9	0	

	Third St			Broadway			Broadway		
	Start Time	Left	App. Total	Thru	Rd/Rt	From East	From South	From West	In. Total
Pk Hour Analysis from 07:30 AM to 09:15 AM - Peaks									
Peak Hour for Entire Intersection Begins at 07:30 AM									
07:30 AM		1		0	0	0	0	0	1
08:00 AM		2		0	0	0	0	0	2
08:30 AM		0		0	0	0	2	0	2
09:00 AM		0		0	0	0	0	0	0
Total Volume		4		0	0	0	2	0	6
% App. Total		100	400	0%	0%	0%	33%	0%	25%

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	Third St		Broadway		From South		Broadway		From West		Int. Total
	Left	Right	Thru	App. Total	App. Total	Left	Thru	App. Total	App. Total		
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1											
Peak Hour for Each Approach Begins At: 07:30 AM											
+0 mins.	0	1	0	0	0	0	0	0	0	0	2
+15 mins.	0	2	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	4	0	0	0	0	0	0	0	0	1
Total Volume	0	4	0	0	0	0	3	0	0	0	3
% App. Total	.000	.100	.000	.000	.000	.000	.375	.000	.000	.375	
PHF	.000	.500	.000	.000	.000	.000	.375	.000	.000	.375	



Accurate Counts
978-664-2565

N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460005
Site Code : 16460005
Collection Date : 4/5/2014
Page No : 1

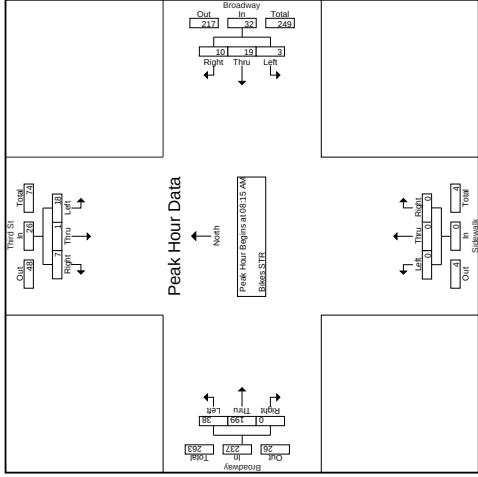
Groups Printed- Blues STR													
		Third St From North			Broadway From East			Sidewalk From South			Broadway From West		
	Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour for Intersection Begins at 08:15 AM	07:30 AM	4	0	2	0	0	0	0	0	0	3	14	0
	07:45 AM	3	0	2	0	0	3	1	0	1	4	33	0
	Total	7	0	3	0	0	3	1	0	1	4	47	0
	08:00 AM	1	0	2	0	1	3	0	0	0	3	45	0
	08:15 AM	7	0	1	0	5	0	0	0	0	11	56	0
Peak Hour for Intersection Begins at 08:15 AM	08:30 AM	4	0	3	0	5	4	2	0	0	7	60	0
	08:45 AM	6	0	3	0	5	9	0	0	0	28	47	0
	Total	18	0	6	0	3	15	9	0	0	28	207	0
	09:00 AM	1	1	3	0	5	4	0	0	0	13	36	0
	09:15 AM	3	0	2	3	4	0	0	0	0	11	30	0
Grand Total		29	1	14	6	27	14	0	1	0	56	321	0
	Approach %	65.9	2.3	31.8	12.8	57.4	29.8	0	100	0	14.9	85.1	0
	Total %	6.2	0.2	3	1.3	5.8	3	0	0.2	0	11.9	68.4	0

		Third St From North			Broadway From East			Sidewalk From South			Broadway From West		
	Start Time	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour for Intersection Begins at 08:15 AM	07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
	07:45 AM	0	0	0	0	0	5	4	0	0	7	40	0
	08:00 AM	0	0	0	0	0	3	9	0	0	7	54	0
	08:15 AM	0	0	0	0	0	5	4	0	0	13	36	0
	09:00 AM	1	1	3	5	0	0	0	0	0	0	0	49
Grand Total		1	7	26	3	19	10	32	0	0	38	199	0
	Total	18	1	26	29	350	625	889	0	0	73	82	400
	% App. Total	69.3	250	593	722	259	350	625	889	0	0	0	284
Peak Hour for Intersection Begins at 08:15 AM	08:15 AM	7	0	1	8	0	5	0	0	0	11	56	0
	08:30 AM	4	0	3	4	2	9	0	0	0	7	40	0
Grand Total		1	3	5	0	5	4	9	0	0	13	36	0
	Total	18	1	26	29	350	625	889	0	0	73	82	400
	% App. Total	69.3	250	593	722	259	350	625	889	0	0	0	284

N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 16460005
Site Code : 16460005
Collection Date : 4/5/2014
Page No : 2



Accurate Counts
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File Name : 16400005
Site Code : 16400005
Count Date : 4/5/2014
Page No : 4

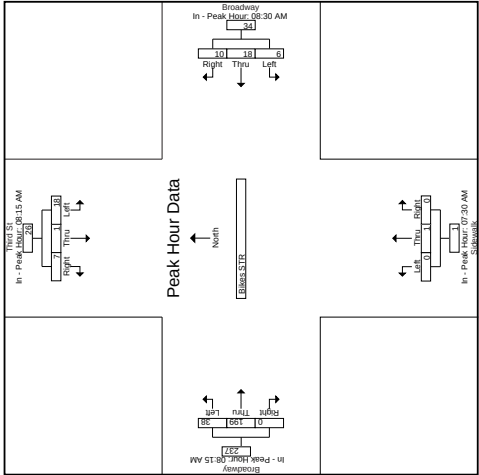
N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400005
Site Code : 16400005
Count Date : 4/5/2014
Page No : 3

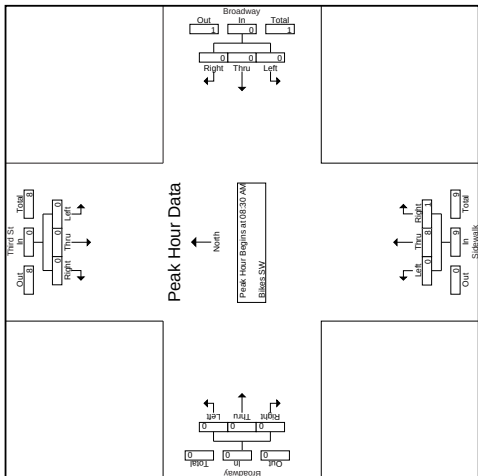
Accurate Counts
978-664-2565

N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time	Third St			Broadway			Subway			Broadway			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right			
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins At:															
08:15 AM															
+0 mins.	7	0	1	8	0	3	4	2	9	0	0	11	56	0	67
+15 mins.	4	0	0	4	0	5	4	0	0	0	0	7	47	0	54
+30 mins.	0	0	3	3	0	4	0	0	0	0	0	0	0	0	67
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	64
+60 mins.	1	1	2	4	0	3	4	0	7	0	0	13	36	0	49
Total Volume	12	1	7	20	6	18	10	34	0	1	0	1	18	99	237
% App. Total	66.7	3.8	26.9	29.4	17.6	52.9	29.4	0	100	0	100	0	250	1000	884
PHE	643	250	583	722	300	300	625	944	600	280	731	839	839	1000	884



Accurate Counts
978-664-2565



Accurate Counts
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File Name : 16460005
Site Code : 16460005
Start Date : 4/9/2014
Page No : 1

Group: Priated-Bikes-SW															
Third St				Broadway				Sidewalk				Broadway			
Start Time	Left	Thru	Right	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	1	0	0	0	0	0	1	0	0	2	0	0	0	0	2
Total	1	0	0	0	0	0	1	0	0	4	0	0	0	0	4
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
Total	0	0	0	0	0	0	0	0	0	6	0	0	0	0	6
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	3	0	0	0	0	3
Grand Total	1	0	0	0	0	0	13	0	0	13	7.1	0	0	0	15
Approach %	300						92.9				7.1				0
Total %	6.7						86.7				6.7				0
Peak Hour from 07:30 AM to 08:30 AM, Total 1															
Peak Hour for Entire Intersection Begins at 08:30 AM															
08:30 AM	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	4	0	0	0	0	4
09:00 AM	0	0	0	0	0	0	0	0	3	0	0	0	0	0	3
09:15 AM	0	0	0	0	0	0	0	0	0	1	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	8	11	9	0	0	0	9
% Sat. PHE	0.00	0.00	0.00	0.00	0.00	0.00	0.00	500	250	563	0.00	0.00	0.00	0.00	563

Accurate Counts
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File Name : 16460005
Site Code : 16460005
Count Date : 4/5/2014
Page No : 4

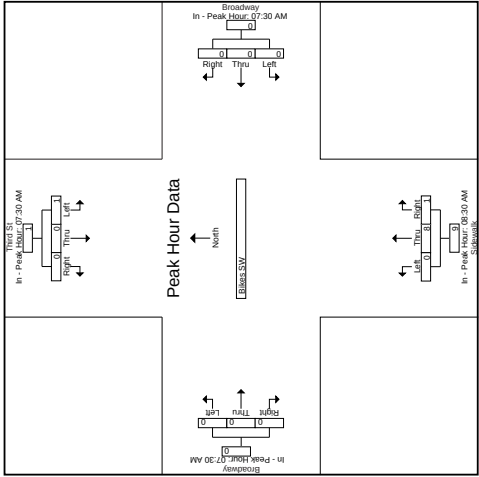
N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460005
Site Code : 16460005
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

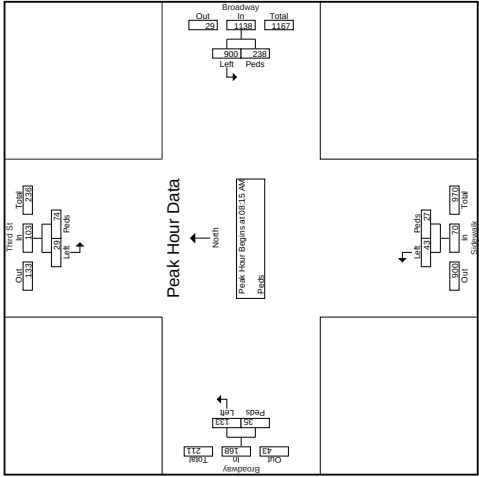
N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time	Third St			Broadway			Subway			Broadway			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins At:													
07:30 AM													
+0 mins.	0	0	0	0	0	0	0	1	0	0	0	0	0
+15 mins.	1	0	0	0	0	0	0	4	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	3	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	2	0	0	0	0	0
Total Volume	1	0	0	1	0	0	0	88.9	11.1	0	0	0	0
% App. Total	100	0	0	100	0	0	0	88.9	11.1	0	0	0	0
PHF	.260	.000	.000	.250	.000	.000	.000	.500	.250	.000	.000	.000	.000



Accurate Counts
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Accurate Counts
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Start Time	Third St				Broadway				Sidewalk				Grange Prince Peds				Broadway				From South				From West				In. Total			
	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB
07:30 AM	19	25			177				10	3			29				3				4				11				10			166
07:45 AM	19	25			177				10	3			29				4				4				11				10			166
Total	19	25			177				10	3			29				4				4				11				10			335
08:00 AM	19	22			158				8				37				8				4				33				4			295
08:15 AM	8	16			217				11	6			64				11	6			45	9			45	9			0			372
08:30 AM	9	30			205				6	3			64				6	3			30	0			30	0			0			347
08:45 AM	6	13			227				14	8			65				14	8			8				33				6			388
Total	42	79			627				39	21			220				39	21			139	19			139	19			6			1392
09:00 AM	6	17			231				12	10			49				12	10			27	20			27	20			0			372
09:15 AM	8	16			183				9	5			71				9	5			26	9			26	9			0			308
09:30 AM	7	13			185				9	5			39				9	5			26	9			26	9			0			308
09:45 AM	36.6	63.4			78.1				64.2	35.8			21.9				64.2	35.8			74.1	25.9			74.1	25.9			0			2407
Total %	3.1	5.4			58.9				2.9	1.6			16.5				2.9	1.6			8.6	3			8.6	3			0			2407

Start Time	Third St				Broadway				Sidewalk				Broadway				From South				From West				Int. Total									
	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB	WB	EB	SB	NB		
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak of 1																																		
Peak Hour Analysis Begins at 08:15 AM																																		
07:30 AM	24	217	60	277	11	6	17																											
07:45 AM	39	205	64	269	16	3	30																											
08:00 AM	9	30	21	231	49	280	12	22	27	20																								
08:15 AM	6	17	23	247	14	8	312																											
08:30 AM	6	17	23	247	14	8	312																											
08:45 AM	6	17	23	247	14	8	312																											
09:00 AM	29	74	103	900	238	70	133	35	168	1479																								
Total Volume	29	74	103	900	238	70	133	35	168	1479																								
% AMPL	100	100	100	100	100	100	100	100	100	100																								
Total PAF	896	617	660	911	915	912	768	675	795	738	438	778																						

Accurate Counts
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File Name : 16400005
Site Code : 16400005
Count Date : 9/5/2014
Page No : 4

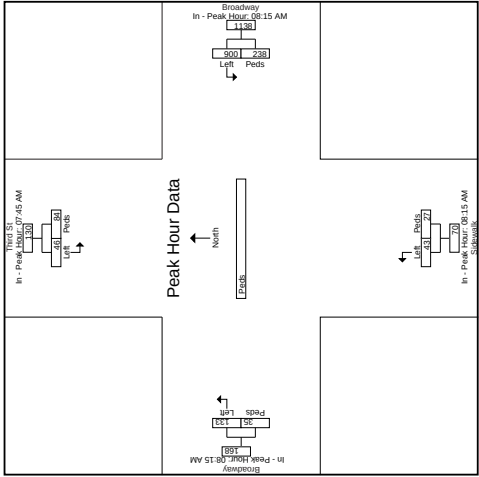
N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400005
Site Code : 16400005
Count Date : 9/5/2014
Page No : 3

Accurate Counts
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N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time	Third St From North			Broadway From East			Subway From South			Broadway From West			Int. Total
	WB	EB	App. Total	SB	NB	App. Total	WB	EB	App. Total	SB	NB	App. Total	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins At:													
07:45 AM													
-0 mins.	10	16	26	08:15 AM	60	277	11	6	17	08:15 AM	45	9	54
+15 mins.	19	22	41	205	64	269	6	3	9	30	0	30	
+30 mins.	16	26	42	272	65	332	4	1	5	27	0	27	
+45 mins.	8	30	38	247	46	293	10	22	32	20	37	57	
Total Volume	46	84	130	900	238	1138	43	27	70	133	35	168	
% App. Total	35.4	64.6		79.1	20.9		61.4	38.6		79.2	20.8		
PHE	605	700	793	911	915	912	768	675	795	738	488	778	



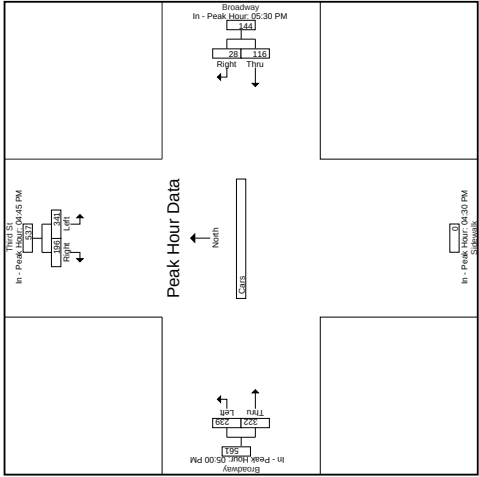
Accurate Counts
978-664-2565

Grassroots Printers - Cars												
	Third St			Broadway			Broadway			Broadway		
	Start Time	Left	Right	From East	Thru	Right	From West	Left	Thru	From East	Thru	From West
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1	04:30 PM	135	135	6	36	0	59	67	146	317	317	317
	04:45 PM	86	86	4	24	0	51	67	118	294	294	294
Peak Hour for Entire Intersection Begins at 05:00 PM	05:00 PM	147	147	5	29	0	51	67	138	301	301	301
	05:15 PM	82	82	4	24	0	61	77	138	301	301	301
Peak Hour for Entire Intersection Ends at 05:45 PM	05:30 PM	65	65	3	15	0	46	61	118	294	294	294
	05:45 PM	71	71	4	24	0	51	67	138	301	301	301
Total Volume	322	203	525	116	140	0	239	322	561	1226	1226	1226
5% A.P. P.H.F.	938	291	893	353	490	000	879	895	482	967	967	967
	06:00 PM	90	43	29	5	45	68	68	280	280	280	280
	06:15 PM	53	29	8	41	89	277	277	489	489	489	489
Grand Total	631	386	907	207	260	133	394	606	1226	1226	1226	1226
	631	386	907	207	260	133	394	606	1226	1226	1226	1226
Total %	27.6	16.1	9.2	8.6	10.7	5.5	17.6	27.2	50.6	50.6	50.6	50.6

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

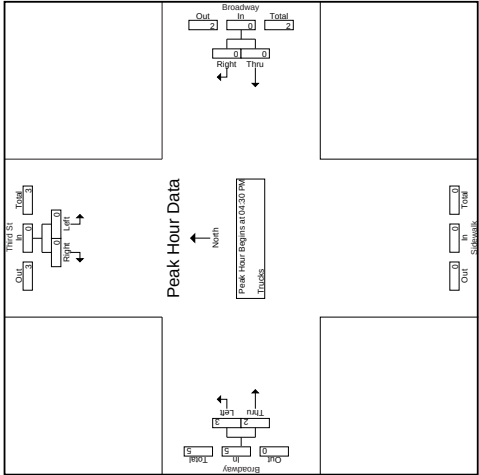
Start Time	Third St		Broadway		Broadway		Broadway		Int. Total
	Left	Right	Thru	Right	App. Total	From South	Left	Thru	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1									
Peak Hour for Each Approach Begins at:									
04:45 PM									
+0 mins.	90	41	131	5	29	0	59	87	146
+15 mins.	86	49	135	10	44	0	68	91	159
+30 mins.	83	41	124	5	34	0	51	67	118
+45 mins.	82	65	147	29	8	37	0	61	77
Total Volume	341	196	537	49	144	0	239	322	561
% App. Total	63.5	36.5	100.0	19.4	47.6	0.00	42.6	57.4	100.0
PHF	.947	.794	.913	.853	.818	.000	.879	.885	.892



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Counts Printed - Trucks									
Start Time	Third St		Broadway		Broadway		Broadway		Intr. Total
	From North	From South	From East	From West	Thru	Left	Thru	Left	
04:30 PM	0	0	0	0	0	0	2	0	2
04:45 PM	0	0	0	0	0	0	2	0	2
Total	0	0	0	0	0	0	3	1	4
05:00 PM	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	60	40	5

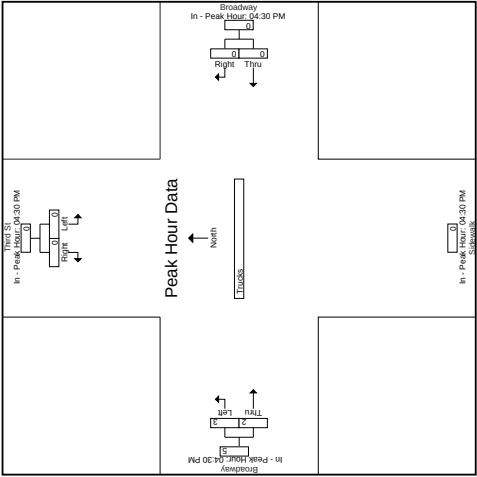


Start Time	Third St		Broadway		Broadway		Broadway		Intr. Total
	From North	From South	From East	From West	Thru	Left	Thru	Left	
04:30 PM	0	0	0	0	0	0	1	0	1
04:45 PM	0	0	0	0	0	0	1	0	1
05:00 PM	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0
% Appr	.000	.000	.000	.000	.000	.000	.375	.500	.625

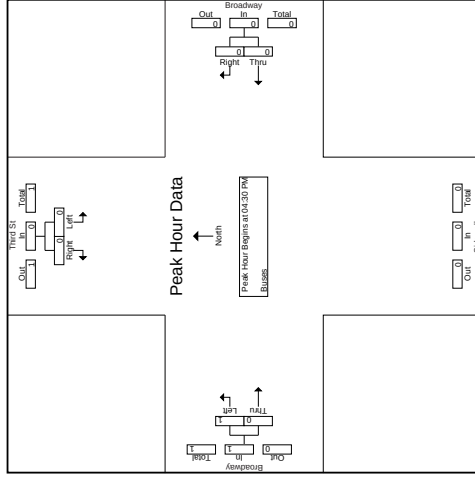
Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	Third St Fourth North		Broadway From East		Broadway From West		Int. Total
	Left	Right	Thru	Right	App. Total	Left	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1							
Peak Hour for Each Approach Begins at:							
04:30 PM							
+0 mins.	0	0	0	0	0	0	2
+15 mins.	0	0	0	0	0	2	0
+30 mins.	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	3	3
% App. Total	0	0	0	0	0	.60	.40
PHF	.000	.000	.000	.000	.000	.375	.500
							.625



Accurate Counts
978-664-2565



Accurate Counts
978-664-2565

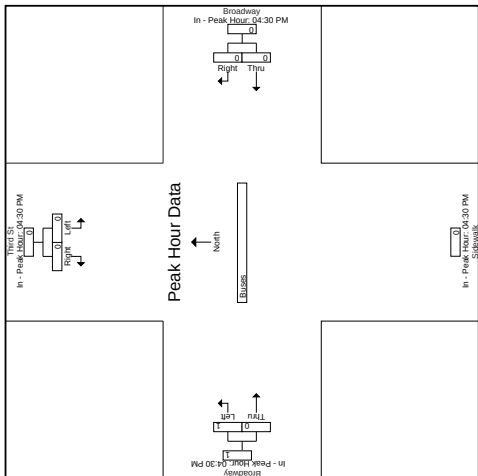
File Name : 16460005
Site Code : 16460005
Start Date : 4/9/2014
Page No : 1

		Group A Printer - Bases				Broadway	
Third St		From East		From West		Int. Total	
	Rich	Thru	Right	Left	Thru		
Start Time							
04:30 PM	0	0	0	0	0		0
04:45 PM	0	0	0	1	0		1
Total	0	0	0	1	0		1
05:00 PM	0	0	0	0	0		0
05:15 PM	0	0	0	0	0		0
05:30 PM	0	0	0	0	0		0
05:45 PM	0	0	0	1	0		1
Total	0	0	0	1	0		1
06:00 PM	0	0	0	0	0		0
06:15 PM	0	0	0	0	0		0
Grand Total	0	0	0	2	0		2
Average (per hour)	0	0	0	100	0		0
Adaptive %	0	0	0	100	0		0

[illegible]

Accurate Counts
978-664-2565

N/S Street : Third Street
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



File Name : 16460005
Site Code : 16460005
Start Date : 4/9/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Third Street
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

[illegible][illegible]

Accurate Counts
978-664-2565

N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460005
Site Code : 16460005
Collection Date : 4/5/2014
Page No : 1

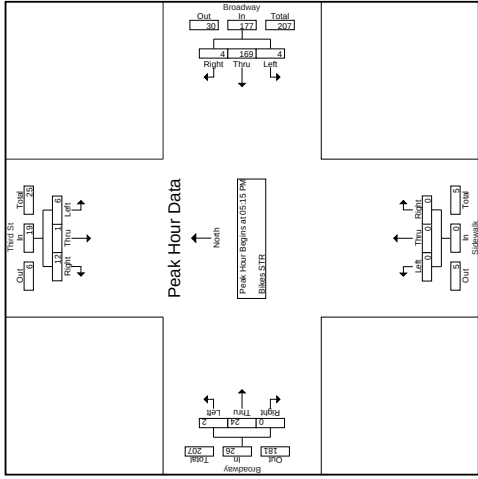
Start Time	Third St				Broadway				Sidewalk				Broadway			
	From North		From South		From East		From West		From South		From East		From West		From South	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	2	0	5	7	1	23	6	30	0	0	0	0	1	5	0	6
05:15 PM	1	0	2	3	0	52	0	54	0	0	0	0	0	7	0	7
05:30 PM	3	0	3	6	1	40	0	41	0	0	0	0	0	3	0	3
05:45 PM	1	0	0	1	0	33	2	35	0	0	0	0	0	4	0	4
Total	7	0	10	17	2	136	8	146	0	0	0	0	1	20	0	21
06:00 PM	1	0	4	5	0	44	2	46	0	0	0	0	2	9	0	11
06:15 PM	1	0	2	3	0	39	0	40	0	0	0	0	0	7	0	7
06:30 PM	0	0	2	2	0	25	0	25	0	0	0	0	0	4	0	4
06:45 PM	0	0	0	0	0	7	0	7	0	0	0	0	0	14	0	14
Total	2	0	8	10	0	115	2	117	0	0	0	0	2	24	0	26
Approach %	23.1	0.0	74.4	97.5	2.5	91.9	5.6	94.4	0.0	0.0	0.0	0.0	1.9	11.5	0.0	13.4
Total %	2.4	0.3	7.6	10.3	1.9	70.1	4.3	76.3	0.0	0.0	0.0	0.0	1.9	11.5	0.0	13.4

Start Time	Third St				Broadway				Sidewalk				Broadway			
	From North		From South		From East		From West		From South		From East		From West		From South	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0.0	0.0	0.0	0.0	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 %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Accurate Counts
978-664-2565

N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460005
Site Code : 16460005
Collection Date : 4/5/2014
Page No : 2



Accurate Counts
978-664-2565

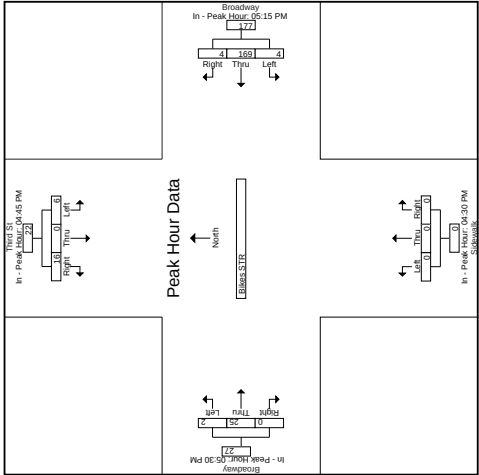
N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16400005
Site Code : 16400005
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time	Third St			Broadway			Sidewalk			Broadway			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
04:30 PM													
+0 mins.	0	0	6	0	52	0	0	0	0	0	3	0	3
+15 mins.	2	0	5	1	40	0	0	0	0	0	5	0	5
+30 mins.	1	0	2	0	30	0	0	0	0	0	0	0	1
+45 mins.	3	0	8	3	44	2	0	0	0	2	8	0	13
Total Volume	6	0	16	4	166	4	0	0	0	2	25	0	27
% App. Total	27.3	0	72.7	2.3	95.5	2.3	0	0	0	7.4	92.6	0	100
PHF	.500	.000	.667	.786	.333	.500	.000	.000	.000	.250	.694	.000	.514



Accurate Counts
978-664-2565

N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460005
Site Code : 16460005
Collection Date : 4/5/2014
Page No : 1

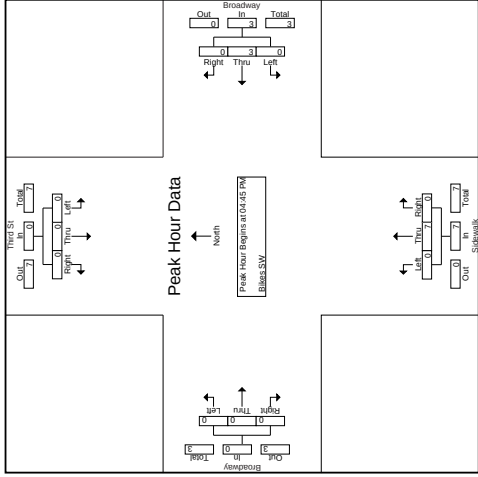
Groups Printed-Blues SW													
Start Time	Third St			Broadway			Sidewalk			Broadway			In. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	3	0	0	0	3
Total	0	0	0	0	0	0	0	0	3	0	0	0	3
05:00 PM	0	0	0	0	0	0	0	0	1	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	2	0	0	0	2
05:30 PM	0	0	0	0	3	0	0	0	1	0	0	0	4
05:45 PM	0	0	0	0	0	0	0	0	5	0	0	0	5
Total	0	0	0	0	3	0	0	0	8	0	0	0	8
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	2	0	0	0	2
06:45 PM	0	0	0	0	0	0	0	0	100	0	1	0	101
Total	0	0	0	0	0	0	0	0	102	0	1	0	103
Approach %	0	0	0	0	0	0	0	0	71.4	0	7.1	0	78.5
Total %	0	0	0	0	0	0	0	0	21.4	0	0	0	21.4

Groups Printed-Blues SW													
Start Time	Third St			Broadway			Sidewalk			Broadway			In. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0

N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 16460005
Site Code : 16460005
Collection Date : 4/5/2014
Page No : 2



Accurate Counts
978-664-2565

File Name : 16460005
Site Code : 16460005
Count Date : 4/5/2014
Page No : 4

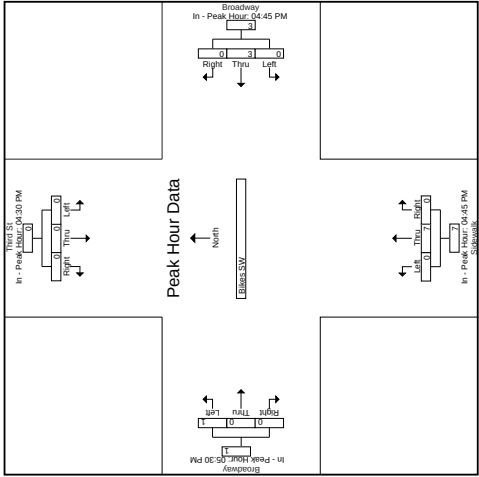
N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460005
Site Code : 16460005
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

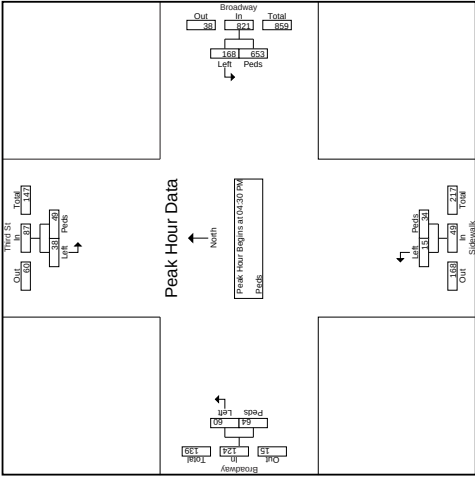
N/S Street : Third Street
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time	Third St			Broadway			Sideway			Broadway			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins At:													
04:30 PM													
+0 mins.	0	0	0	0	0	0	3	0	3	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	1	0	1	0	0	0
+30 mins.	0	0	0	0	0	0	2	0	2	0	0	0	0
+45 mins.	0	0	0	0	3	0	7	0	7	1	0	0	1
Total Volume	0	0	0	0	3	0	3	0	7	1	0	0	1
% App.	0	0	0	0	100	0	0	0	100	0	0	0	0
PHF	.000	.000	.000	.000	.250	.000	.583	.000	.583	.250	.000	.000	.250



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



Start Time	Third St.				Broadway				Grange Prince Peds				Broadway			
	From North		From South		From East		From West		From South		From East		From South		From West	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
04:30 PM	11	10	6	3	89	320	12	19	40	15	15	9	329	22	22	325
04:45 PM	11	10	6	3	89	320	12	19	40	15	15	9	329	22	22	325
05:00 PM	10	21	53	209	0	12	15	9	329	22	22	325	15	15	197	229
05:15 PM	11	9	26	124	3	3	6	15	197	22	22	325	15	15	197	229
05:30 PM	9	25	31	124	4	5	4	27	229	22	22	325	15	15	197	229
05:45 PM	19	14	63	336	7	2	13	28	287	22	22	325	15	15	197	229
Total	49	74	173	593	14	22	38	79	1042	22	22	325	15	15	197	229
06:00 PM	13	20	26	87	0	4	23	26	199	22	22	325	15	15	197	229
06:15 PM	28	12	75	222	4	0	109	120	770	22	22	325	15	15	197	229
06:30 PM	10	13	26	111	20	46	39	60	2066	22	22	325	15	15	197	229
Approch %	46.1	53.9	24.4	75.6	40	60	39.8	60.2	2066	22	22	325	15	15	197	229
Total %	5.2	6.1	17.6	54.3	1.5	2.2	5.3	8	2066	22	22	325	15	15	197	229

Start Time	Third St.				Broadway				Broadway				Broadway			
	From North		From South		From East		From West		From South		From East		From South		From West	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
04:30 PM	11	10	6	3	89	320	12	19	40	15	15	9	329	22	22	325
04:45 PM	11	10	6	3	89	320	12	19	40	15	15	9	329	22	22	325
05:00 PM	10	21	53	209	0	12	15	9	329	22	22	325	15	15	197	229
05:15 PM	11	9	26	124	3	3	6	15	197	22	22	325	15	15	197	229
05:30 PM	9	25	31	124	4	5	4	27	229	22	22	325	15	15	197	229
05:45 PM	19	14	63	336	7	2	13	28	287	22	22	325	15	15	197	229
Total	49	74	173	593	14	22	38	79	1042	22	22	325	15	15	197	229
06:00 PM	13	20	26	87	0	4	23	26	199	22	22	325	15	15	197	229
06:15 PM	28	12	75	222	4	0	109	120	770	22	22	325	15	15	197	229
06:30 PM	10	13	26	111	20	46	39	60	2066	22	22	325	15	15	197	229
Approch %	46.1	53.9	24.4	75.6	40	60	39.8	60.2	2066	22	22	325	15	15	197	229
Total %	5.2	6.1	17.6	54.3	1.5	2.2	5.3	8	2066	22	22	325	15	15	197	229

Start Time	Third St.				Broadway				Broadway				Broadway			
	From North		From South		From East		From West		From South		From East		From South		From West	
	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB	WB	EB
04:30 PM	11	10	6	3	89	320	12	19	40	15	15	9	329	22	22	325
04:45 PM	11	10	6	3	89	320	12	19	40	15	15	9	329	22	22	325
05:00 PM	10	21	53	209	0	12	15	9	329	22	22	325	15	15	197	229
05:15 PM	11	9	26	124	3	3	6	15	197	22	22	325	15	15	197	229
05:30 PM	9	25	31	124	4	5	4	27	229	22	22	325	15	15	197	229
05:45 PM	19	14	63	336	7	2	13	28	287	22	22	325	15	15	197	229
Total	49	74	173	593	14	22	38	79	1042	22	22	325	15	15	197	229
06:00 PM	13	20	26	87	0	4	23	26	199	22	22	325	15	15	197	229
06:15 PM	28	12	75	222	4	0	109	120	770	22	22	325	15	15	197	229
06:30 PM	10	13	26	111	20	46	39	60	2066	22	22	325	15	15	197	229
Approch %	46.1	53.9	24.4	75.6	40	60	39.8	60.2	2066	22	22	325	15	15	197	229
Total %	5.2	6.1	17.6	54.3	1.5	2.2	5.3	8	2066	22	22	325	15	15	197	229

Accurate Counts
978-664-2565

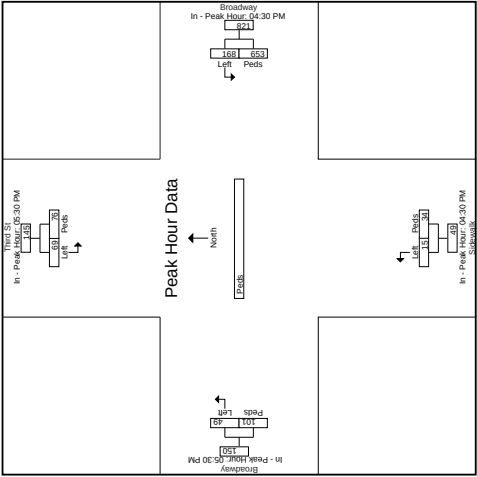
N/S Street : Third Street
EW Street : Broadway
City Name : Cambridge, MA
Date : 9/5/2014
Weather : Clear

File Name : 16400005
Site Code : 16400005
City Name : Cambridge, MA
Date : 9/5/2014
Page No : 3

Accurate Counts
978-664-2565

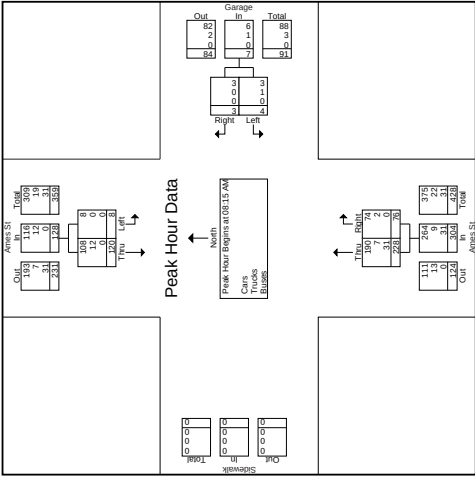
N/S Street : Third Street
EW Street : Broadway
City Name : Cambridge, MA
Date : 9/5/2014
Weather : Clear

Start Time	Third St From North			Broadway From East			Sidewalk From South			Broadway From West			Int. Total
	WB	EB	App. Total	SB	NB	App. Total	WB	EB	App. Total	SB	NB	App. Total	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins At:													
05:30 PM	9	25	34	161	132	161	6	8	14	4	27	31	
+0 mins.	19	19	38	188	132	248	6	11	17	13	28	41	
+15 mins.	13	20	33	53	209	262	0	12	12	23	26	49	
+45 mins.	28	12	40	2	124	150	3	3	6	9	20	29	
Total Volume	69	76	145	168	653	821	15	34	49	49	101	150	
% App. Total	47.6	52.4	100	20.5	79.5	100	30.6	69.4	39.7	60.3	67.3	100	
PHE	6.6	7.6	14.2	7.0	7.1	7.1	6.2	7.0	7.2	5.8	9.2	7.6	



Accurate Counts
978-664-2565

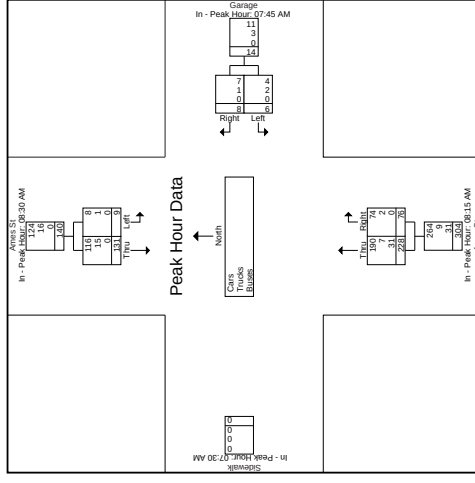
Accurate Counts
978-664-2565



Start Time	Ames St From North			Garage From East			Ames St From South			Intr. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30 AM	0	0	0	1	1	1	0	0	0	0
07:45 AM	0	36	2	1	2	37	15	15	15	91
Total	4	63	2	2	81	25	17	17	17	177
08:00 AM	3	32	2	2	44	16	101	101	101	101
08:15 AM	2	30	2	2	56	17	98	98	98	98
08:30 AM	1	37	1	1	57	17	114	114	114	114
08:45 AM	1	28	1	0	64	22	116	116	116	116
Total	7	117	6	6	221	72	429	429	429	429
09:00 AM	4	35	0	0	51	20	111	111	111	111
09:15 AM	3	31	1	2	45	11	93	93	93	93
Grand Total	18	246	9	9	328	128	810	810	810	810
Ames St	11	111	11	11	228	22	158	158	158	158
Garage	22	304	14	14	491	125	765	765	765	765
Total %	16	220	6	6	328	125	765	765	765	765
% Cars	89.3	89.4	66.7	90.9	82.4	97.2	87	87	87	87
% Trucks	2	13	15	15	15	15	5.6	5.6	5.6	5.6
% Buses	11.1	9.3	33.3	9.1	3.3	2.3	5.6	5.6	5.6	5.6
% Buses	0	3	0	0	57	0	60	60	60	60
% Buses	0	1.2	0	0	14.3	0	7.4	7.4	7.4	7.4

Start Time	Ames St From North			Garage From East			Ames St From South			Intr. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
07:30 AM to 09:15 AM - Peak 1 of 1	20	20	2	1	2	56	17	73	0	98
08:00 AM	1	28	1	0	1	64	22	86	0	116
08:45 AM	4	35	0	1	1	51	20	71	0	111
Total	25	83	3	2	4	171	59	230	0	429
% Cars	62	83.8	57.1	42.3	7	25	25	304	0	439
% Trucks	500	811	500	759	503	891	864	864	0	346
% Buses	8	108	116	3	3	190	74	264	0	386
% Cars	100	90.2	90.2	100	85.7	83.3	97.4	86.8	0	87.9
% Trucks	0	10.0	9.4	0	14.3	3.1	2.6	3.0	0	5.0
% Buses	0	0	0	0	0	31	0	31	0	31
% Buses	0	0	0	0	0	13.6	0	10.2	0	7.1

Accurate Counts
978-664-2565



N/S Street : Ames Street
E/W Street : Garage
City/State : Cambridge, MA
Weather : Clear

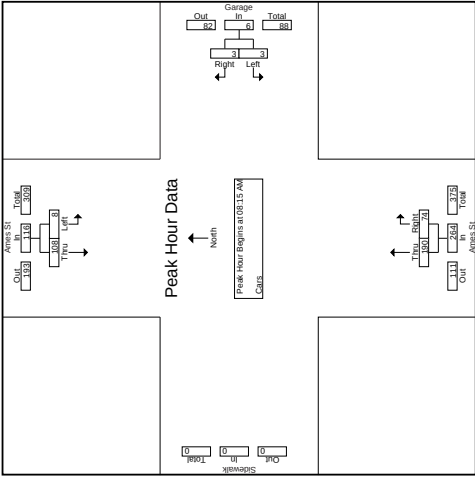
File Name : 16460006
Site Code : 16460006
Start Date : 4/9/2014
Page No : 3

Accurate Counts
978-664-2565

Start Time		Aves St		Gaugre		Aves St		From West	
Peak Hour	Start Time	Left	Thru	Left	Thru	Right	Thru	Right	Thru
Peak Hour for Each Approach Begins at 06:45 AM - Peak End 07:15 AM									
06:30 AM									
-10 mins.	1	37	38	2	56	17	73	0	0
+10 mins.	1	37	38	2	56	17	73	0	0
+30 mins.	4	35	39	1	64	22	46	0	0
+45 mins.	3	31	34	1	51	20	71	0	0
% Trucks	9	140	149	14	276	75	304	0	0
% Buses	6.4	33.6	42.9	57.1	70	25	71	0	0
07:30 AM									
% PHE	563	885	897	750	500	583	884	000	000
% Cons	16	105	111	87	190	74	354	0	0
% Trucks	88.9	88.5	88.9	87.5	78.7	83.7	86.6	0	0
% Buses	1	1.5	1.6	2	1	37	2	0	0
07:45 AM									
% Trucks	11.1	33.3	12.5	21.4	3.1	2.6	3	0	0
% Buses	0	0	0	0	13.6	0	10.2	0	0

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



Groups Printed: Cars									
Start Time	Ames St		Garage		Ames St		Intr. Total		
	Left	Thru	Left	Right	Thru	Right			
08:15 AM	0	34	1	1	29	15	15	80	
08:30 AM	0	34	1	1	29	15	15	80	
08:45 AM	3	56	2	2	64	25	151		
Total									
08:00 AM	3	38	1	4	38	15	88		
08:15 AM	2	31	1	1	47	17	88		
08:30 AM	1	31	1	1	49	16	99		
08:45 AM	1	24	1	0	53	21	100		
Total	7	103	4	6	187	69	376		
09:00 AM	4	33	0	1	41	20	99		
09:15 AM	2	28	0	2	36	11	79		
09:30 AM	16	220	6	10	328	125	705		
09:45 AM	23	312	27	62	465	177			
Total %	2.3	31.2	0.9	1.4	46.5	17.7			

Start Time	Ames St		Garage		Ames St		Intr. Total		
	Left	Thru	Left	Right	Thru	Right			
08:15 AM to 09:15 AM - Peak 1 of 1	20	22	1	1	47	17	64	0	88
08:15 AM	2	32	1	1	49	16	65	0	99
08:30 AM	1	31	0	0	44	14	59	0	99
08:45 AM	1	27	0	1	41	20	64	0	99
Total Volume	8	108	3	3	130	74	264	0	386
% App. Total	6.9	93.1	2.0	2.0	72	28	882	.000	.965
PTV	.280	.784	.730	.750	.896	.891			

Accurate Counts
978-664-2565

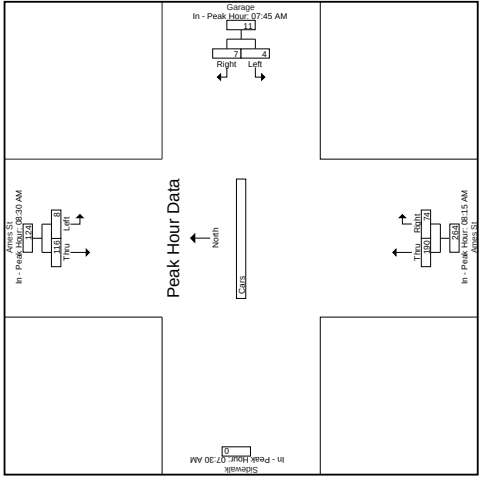
N/S Street : Ames Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

File Name : 1640006
Site Code : 1640006
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

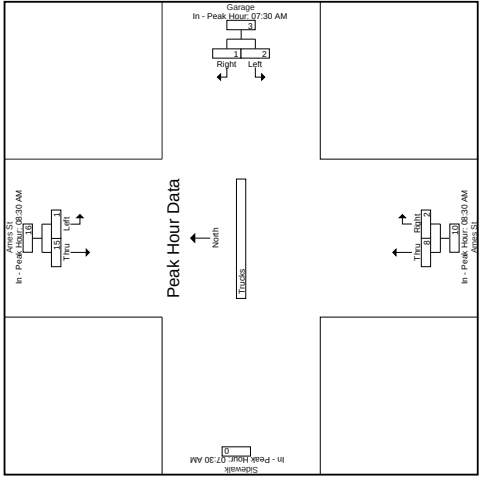
Start Time	Ames St From North			Garage From East			Ames St From South			From West		
	Left	Thru	App. Total	Left	Thru	App. Total	Right	Thru	App. Total	App. Total	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1												
Peak Hour for East Approach Begins at:												
07:30 AM												
+0 mins.	1	31	32	1	1	2	17	47	64	64	0	0
+15 mins.	1	24	25	1	4	5	16	49	65	65	0	0
+30 mins.	4	39	43	1	53	54	21	74	74	74	0	0
+45 mins.	6	106	112	7	190	197	74	264	264	264	0	0
Total Volume	8	116	124	4	190	194	74	264	264	264	0	0
% App. Total	6.5	93.5	100	36.4	63.6	100	72	28	88	88	0	0
PHF	.500	.879	.838	1.000	.438	.550	.881	.892	.892	.892	.000	.000



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

		Ames St From North		Garage From East		Ames St From South		From West	
Start Time		Left	Thru	App. Total	Right	Thru	App. Total	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1									
Peak Hour for East Approach Begins at:									
08:30 AM									
+0 mins.		0	6	6	0	0	0	0	0
+15 mins.		0	4	4	0	1	1	2	0
+30 mins.		0	2	2	1	0	1	4	0
+45 mins.		1	0	1	0	3	0	3	0
+60 mins.		1	0	1	0	0	0	0	0
Total Volume		1	15	16	2	8	2	10	0
% App. Total		6.2	93.8	96.7	66.7	80	20	625	.000
PHF		.250	.625	.667	.500	.667	.500	.625	.000



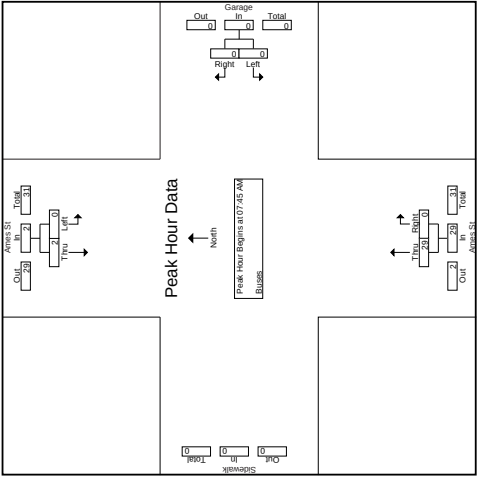
Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

File Name : 16400006
Site Code : 16400006
Study Area : Cambridge, MA
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear



Start Time	Ames St		Garage		Ames St	
	Left	Thru	Left	Thru	Right	Intr. Total
07:45 AM	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0
Total	0	0	0	0	0	0
08:00 AM	0	2	0	0	0	2
08:15 AM	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0
Total	0	2	0	0	0	2
08:00 AM	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0
Total	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0
Total	0	0	0	0	0	0

Start Time	Ames St		Garage		Ames St	
	Left	Thru	Left	Thru	Right	Intr. Total
07:45 AM to 08:15 AM - Peak 1 of 1	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0
PHY	0	0	0	0	0	0

Accurate Counts
978-664-2565

N/S Street : Anne Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

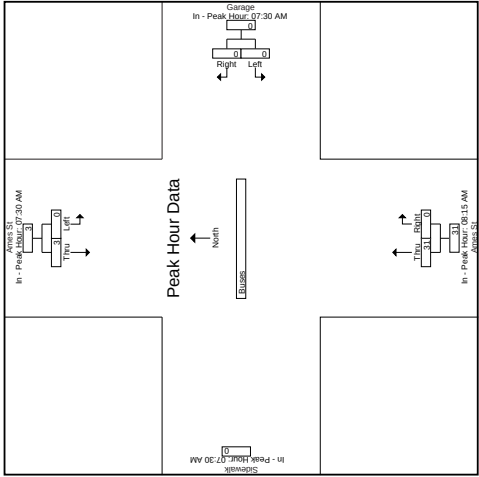
N/S Street : Anne Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

File Name : 1646006
Site Code : 1646006
Count Date : 4/5/2014
Page No : 2

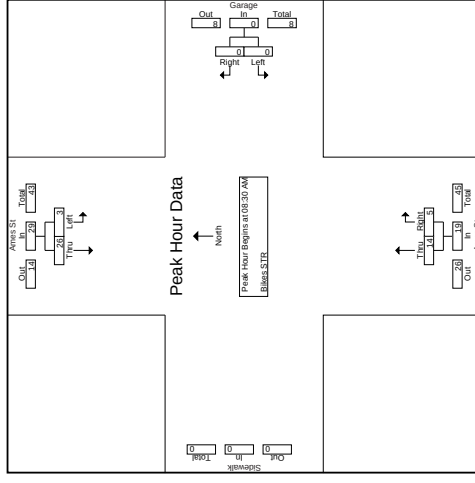
File Name : 1646006
Site Code : 1646006
Count Date : 4/5/2014
Page No : 4

Accurate Counts
978-664-2565

Start Time	Anne St From North			Garage From East			Anne St From South			From West		
	Left	Thru	App. Total	Left	Thru	App. Total	Right	Thru	App. Total	Right	Thru	App. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1												
Peak Hour for East Approach Begins at:												
07:30 AM												
+0 mins.	0	1	1	0	0	0	0	9	0	0	9	0
+15 mins.	0	0	0	0	0	0	0	7	0	0	7	0
+30 mins.	0	2	2	0	0	0	0	9	0	0	9	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	3	3	0	0	0	0	31	0	0	31	0
% App. Total	0	100		0	0	0	0	100	0	0		
PHF	.000	.375	.375	.000	.000	.000	.000	.861	.000	.000	.861	.000



Accurate Counts
978-664-2565



Accurate Counts
978-664-2565

File Name : 16460006
Site Code : 16460006
Start Date : 4/9/2014
Page No : 1

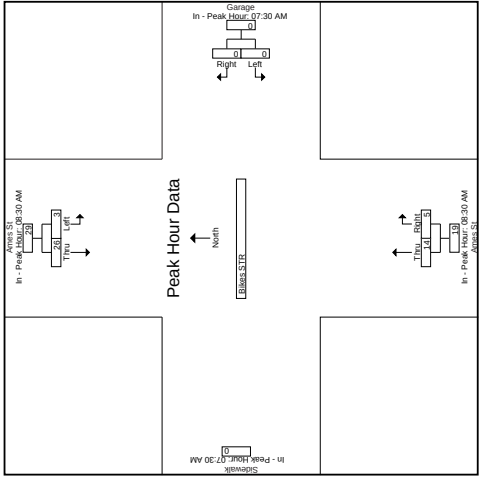
Groups Printed - Bikas STR									
Start Time	Ames St			Garage			Ames St		
	From North	Thru	To South	From East	Right	From South	From North	Thru	To South
07:30 AM	1	1	0	0	0	0	0	0	0
07:45 AM	0	1	0	0	0	3	3	3	2
Total	1	2	0	0	0	3	3	3	2
08:00 AM	0	4	0	0	0	5	0	5	9
08:15 AM	2	7	0	0	0	2	0	2	11
08:30 AM	0	0	0	0	0	0	0	0	0
08:45 AM	0	3	0	0	0	4	0	7	7
Total	2	18	0	0	0	14	0	14	35
09:00 AM	0	9	0	0	0	3	0	3	14
09:15 AM	3	10	0	0	0	4	2	6	19
Grand Total	6	39	0	0	0	24	2	26	88
Average	12.0	7.8	0.0	0.0	0.0	4.0	0.4	5.3	17.6
Total %	7.8	50.6	0.0	0.0	0.0	31.2	0.4	10.4	77

	Start Time	Aves St Left	Aves St Total	Garage Right	From East Right	Aves St Right	Thru	From West Right	App. Total	Int. Total
Peak Hour Analysis from 07:30 AM to 09:15 AM - Peak L of 3										
Peak Hour for Entire Intersection Begins at 08:30 AM		4	0	0	0	2	4	0	8	
06-45 AM	3	0	0	0	0	4	0	0	7	
08-00 AM	9	13	0	0	0	3	2	0	14	
Total Volume	26	25	0	0	0	14	5	19	48	
% App. PHF		100	0	0	0	25	26	79	100	
% App. PHF		100	0	0	0	25	26	79	100	

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

		Ames St From North		Garage From East		Ames St From South		From West	
Start Time		Left	Thru	App. Total	Left	Thru	App. Total	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1									
Peak Hour for East Approach Begins at 08:30 AM									
+0 mins.		0	4	4	0	0	0	0	0
+15 mins.		0	3	3	0	0	0	4	0
+30 mins.		0	9	9	0	0	0	0	0
+45 mins.		3	10	13	0	3	3	5	0
Total Volume		3	26	29	0	14	5	19	0
% App. Total		10.3	89.7		0	73.7	26.3		
PHF		.260	.650	.558	.000	.875	.825	.792	.000

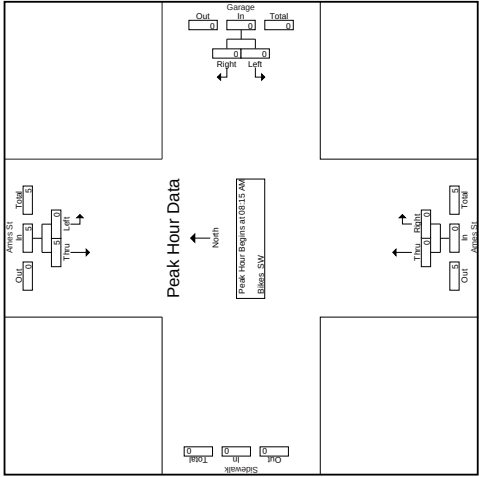


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed- Bikes SW											
Ames St			Garage			Ames St					
From North			From East			From South					
Start Time	Thru	Left	Thru	Left	Right	Thru	Left	Right	Thru	Left	Intr. Total
08:15 AM	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	1	1	0	0	0	0	0	0	0	1
08:30 AM	0	1	1	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	0	0	0	0	0	1
Total	0	3	3	0	0	0	0	0	0	0	3
09:00 AM	0	2	2	0	0	0	0	0	0	0	2
09:15 AM	0	5	5	0	0	0	0	0	0	0	5
09:30 AM	0	15	15	0	0	0	0	0	0	0	15
09:45 AM	0	100	100	0	0	0	0	0	0	0	100
Total %	0	100	100	0	0	0	0	0	0	0	100

Groups Printed- Bikes SW											
Ames St			Garage			Ames St					
From North			From East			From South					
Start Time	Thru	Left	Thru	Left	Right	Thru	Left	Right	Thru	Left	Intr. Total
08:15 AM	1	0	0	0	0	0	0	0	0	0	1
08:30 AM	1	0	0	0	0	0	0	0	0	0	1
08:45 AM	2	0	0	0	0	0	0	0	0	0	2
Total Volume	5	0	0	0	0	0	0	0	0	0	5
% App. Total	.625	.000	.000	.000	.000	.000	.000	.000	.000	.000	.625



Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

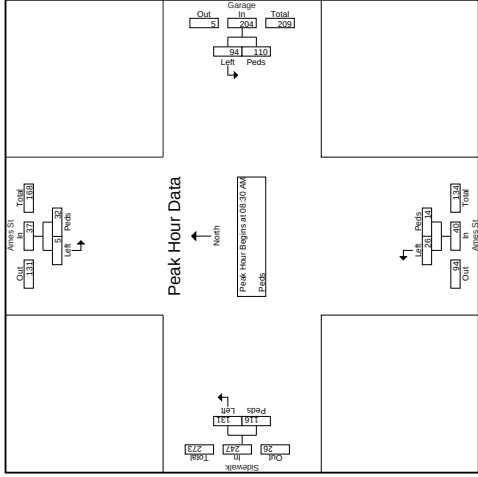
File Name : 16400006
Site Code : 16400006
Count Date : 4/9/2014
Page No : 1

Groups Printed- Peds.									
Start Time	Ames St		Garage		Ames St		Sidewalk		In. Total
	From North	From South	From East	From West	From South	From West	From East	From West	
07:30 AM	2	15	23	38	21	4	25	27	140
07:45 AM	2	3	13	21	4	3	9	17	72
Total	4	18	36	59	25	7	34	44	212
08:00 AM	2	5	13	14	7	2	19	9	71
08:15 AM	6	14	13	25	1	2	21	14	96
08:30 AM	5	16	23	34	6	0	21	22	127
08:45 AM	0	4	26	23	10	8	28	33	132
Total	13	39	75	96	24	12	89	78	426
09:00 AM	0	9	20	21	2	3	54	35	144
09:15 AM	0	3	25	32	8	3	28	26	125
Grand Total	15	66	143	167	40	22	196	196	835
Adj. for 15 min	18	81	172	196	48	26	235	219	855
Total %	1.8	7.9	17.1	22.4	4.8	2.6	22.5	19.9	100

N/S Street : Ames Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 16400006
Site Code : 16400006
Count Date : 4/9/2014
Page No : 2



Accurate Counts
978-664-2565

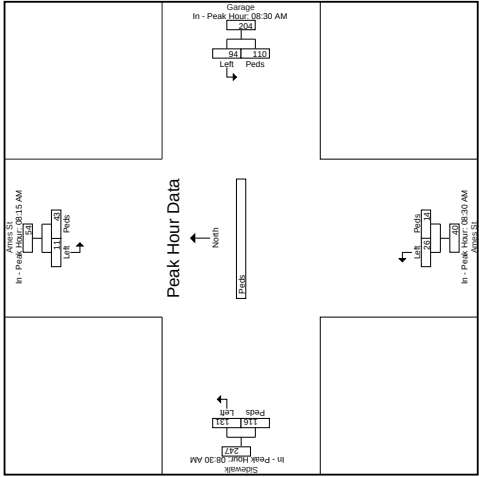
N/S Street : Ames Street
EW Street : Garage
Collection Date : 8/5/2014
Weather : Clear

File Name : 1640006
Site Code : 1640006
Collection Date : 8/5/2014
Page No : 3

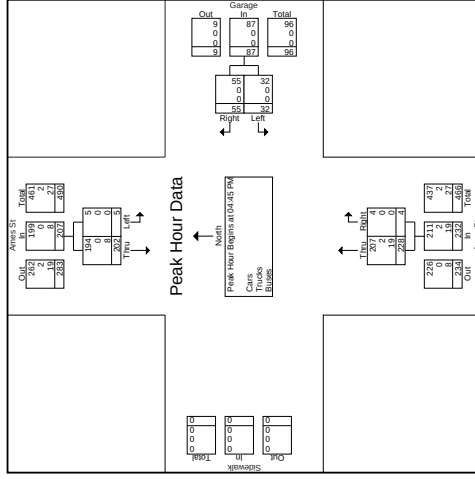
Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Garage
Collection Date : 8/5/2014
Weather : Clear

Start Time	Ames St From North			Garage From East			Ames St From South			Sidewalk From West			Int. Total
	EB	WB	App. Total	SB	NB	App. Total	WB	EB	App. Total	NB	SB	App. Total	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for East Approach Begins at:													
08:15 AM													
+0 mins.	6	14	20	23	34	57	6	0	6	21	22	43	
+15 mins.	5	16	21	26	23	49	10	8	18	28	33	61	
+30 mins.	0	4	4	20	21	25	2	3	5	54	35	89	59
+45 mins.	0	9	9	2	22	24	2	2	4	25	27	51	
Total Volume	11	43	54	94	110	204	26	14	40	131	116	247	
% App. Total	20.4	79.6		46.1	53.9		65	35		53	47		
PHF	.498	.677	.643	.904	.899	.895	.650	.438	.556	.606	.629	.694	



Accurate Counts
978-664-2565



Accurate Counts
978-664-2565

File Name : 16460006
Site Code : 16460006
Start Date : 4/9/2014
Page No : 1

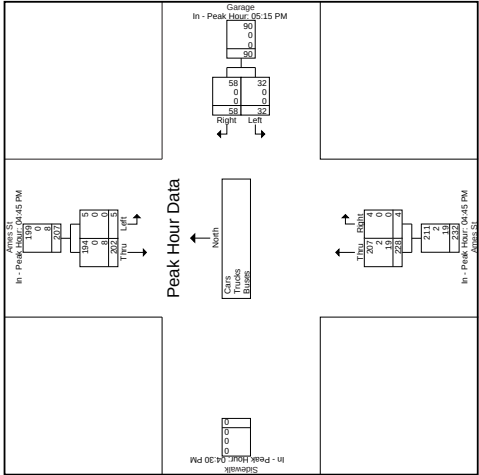
Groups Printed: Cars - Trucks - Buses									
	Ames St From North			Garage			Ames St From South		
	Start Time	Left	Print	Left	Print	Right	Print	Total	Print
Cars	04:30 PM	2	45	8	8	55	2	120	1
	04:45 PM	3	45	8	8	55	2	120	1
	Total	5	78	17	23	110	4	240	2
Trucks	05:00 PM	1	50	6	13	72	1	151	1
	05:15 PM	1	50	6	19	50	1	127	1
	05:30 PM	1	51	10	15	51	0	128	1
Buses	05:45 PM	1	44	5	5	49	4	113	4
	05:55 PM	1	44	5	5	49	4	113	4
	Total	4	201	29	57	222	6	519	6
Grand Total	06:00 PM	1	40	11	14	48	3	117	3
	06:15 PM	0	40	6	8	40	2	96	2
	Grand Total	10	359	63	102	409	14	957	14
Approx %	06:30 PM	2.7	97.3	38.2	61.8	96.7	3.3	97.3	3.3
	06:45 PM	1.0	99.0	16.0	84.0	99.0	1.0	99.0	1.0
	Total Cars	10	340	63	102	369	14	898	14
% Cars	06:00 PM	100	94.7	100	100	90.2	100	93.8	100
	06:15 PM	0	0	0	0	0	0	0	0
	Total Trucks	0	10	0	0	0	0	3	3
% Trucks	06:30 PM	0	10	0	0	0	0	0.3	0.3
	06:45 PM	0	10	0	0	0	0	0.3	0.3
	Total Buses	0	53	0	0	9	0	5.9	5.9

[illegible]

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

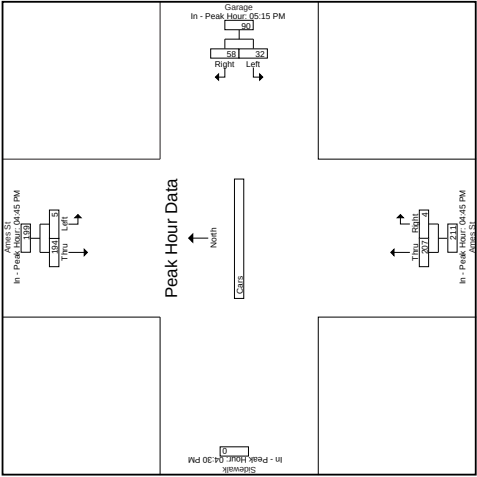
		Ames St		Garage		Ames St		From West	
Start Time	From North	Left	Thru	Right	From East	Left	Thru	Right	From South
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1									
Peak Hour for East Approach Begins at									
04:45 PM									
+0 mins.	2	45	47	19	6	19	25	55	0
+15 mins.	1	56	57	15	10	72	25	72	0
+30 mins.	1	50	51	10	5	51	15	50	0
+45 mins.	1	50	51	10	5	51	15	50	0
Total Volume	5	202	207	54	32	228	59	228	0
% App. Total	2.4	97.6	98.3	64.4	35.6	98.3	1.7	98.3	0
DTF	525	988	988	763	727	792	900	792	0
% Cars	100	96	96	100	100	96	100	96	0
% Trucks	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0



Accurate Counts
978-664-2565

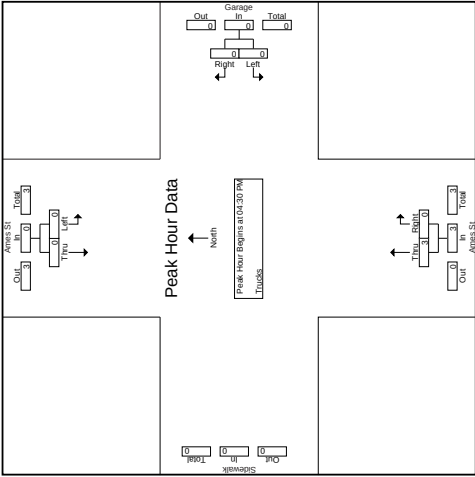
Accurate Counts
978-664-2565

Start Time	Anne St From North			Garage From East			Anne St From South			From West		
	Left	Thru	App. Total	Left	Thru	App. Total	Right	Thru	App. Total	App. Total	Int. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1												
Peak Hour for East Approach Begins at 04:45 PM												
+0 mins.	2	43	45	6	19	25	04:45 PM	46	2	48	04:30 PM	0
+15 mins.	1	54	55	10	15	25		67	1	68		0
+30 mins.	1	48	49	5	10	15		46	0	47		0
+45 mins.	1	48	49	4	14	18		45	0	46		0
Total Volume	5	194	199	32	58	90		207	4	211		0
% App. Total	2.5	97.5		35.6	64.4			98.1	1.9			
PIE	.625	.898	.905	.727	.763	.800		.772	.500	.776		.000



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



Groups Printed: Trucks									
Start Time	Ames St			Garage			Ames St		
	Left	Thru	Right	Left	Thru	Right	Thru	Right	Intr. Total
04:30 PM	0	0	0	0	0	0	2	0	2
04:45 PM	0	0	0	0	0	0	2	0	2
Total	0	0	0	0	0	0	3	0	3
05:00 PM	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	3	0	3
Ames St	0	0	0	0	0	0	100	0	0
Total %	0	0	0	0	0	0	100	0	0

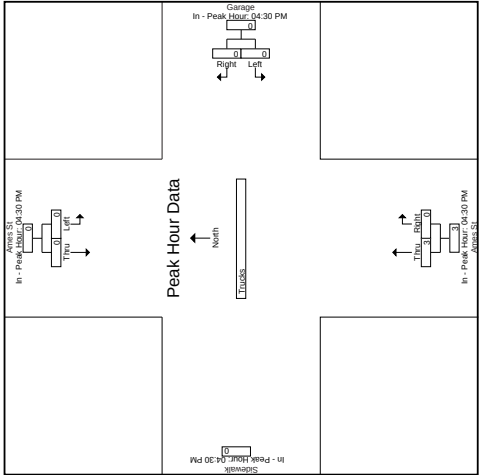
Start Time	Ames St			Garage			Ames St		
	Left	Thru	App. Total	Left	Thru	App. Total	Thru	Right	App. Total
04:30 PM	0	0	0	0	0	0	1	0	1
04:45 PM	0	0	0	0	0	0	2	0	2
05:00 PM	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	3	0	3
% App. Total	0	0	0	0	0	0	100	0	100
PVT	.000	.000	.000	.000	.000	.000	.375	.000	.375

Peak Hour Analysis: 04:30 PM to 06:15 PM - Peak 1 of 1									
Peak Hour for Entire Intersection Begins at 04:30 PM									
04:30 PM	0	0	0	0	0	0	1	0	1
04:45 PM	0	0	0	0	0	0	2	0	2
05:00 PM	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	3	0	3
% App. Total	0	0	0	0	0	0	100	0	100
PVT	.000	.000	.000	.000	.000	.000	.375	.000	.375

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	Ames St		Garage		Ames St		From West	
	Left	Thru	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1								
Peak Hour for East Approach Begins at 04:30 PM								
+0 mins.	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	2	0	2	0
+30 mins.	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	3	0	3	0
Total Volume	0	0	0	0	100	0	100	0
% App. Total	.000	.000	.000	.000	.375	.000	.375	.000
PHF								

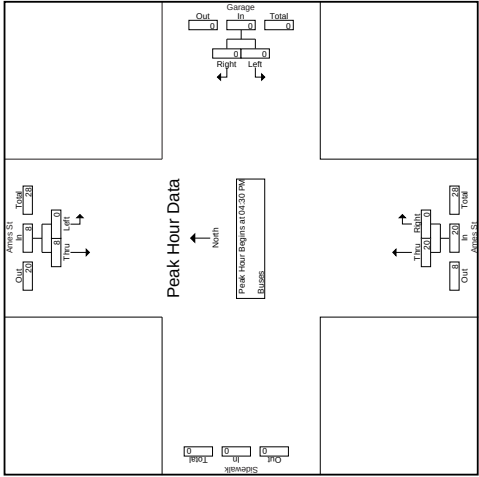


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed: Buses									
Start Time	Ames St			Garage			Ames St		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
04:30 PM	0	2	0	0	0	0	0	0	0
04:45 PM	0	2	0	0	0	0	0	0	0
04:55 PM	0	2	0	0	0	0	0	0	0
Total	0	4	0	0	0	0	0	0	0
05:00 PM	0	2	0	0	0	0	0	0	0
05:15 PM	0	2	0	0	0	0	0	0	0
05:30 PM	0	2	0	0	0	0	0	0	0
05:45 PM	0	3	0	0	0	0	0	0	0
Total	0	9	0	0	0	0	0	0	0
06:00 PM	0	3	0	0	0	0	0	0	0
06:15 PM	0	3	0	0	0	0	0	0	0
06:30 PM	0	3	0	0	0	0	0	0	0
Grand Total	0	19	0	0	0	0	0	0	0
Ames St	0	19	0	0	0	0	0	0	0
Total %	0	33.9	0	0	0	0	0	0	0

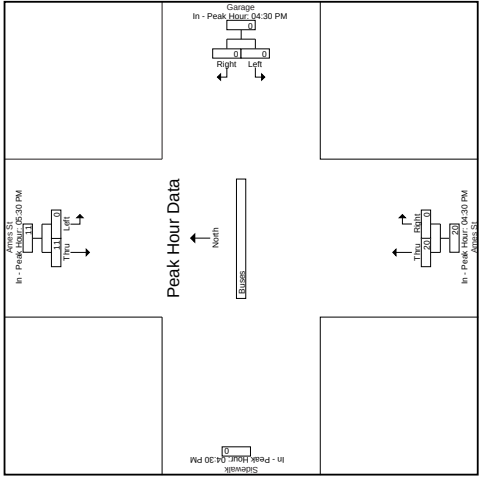
Start Time	Ames St			Garage			Ames St		
	Left	Thru	App. Total	Left	Thru	App. Total	Left	Thru	App. Total
04:30 PM	2	0	2	0	0	0	0	0	0
04:45 PM	2	0	2	0	0	0	0	0	0
04:55 PM	2	0	2	0	0	0	0	0	0
Total Volume	8	0	8	0	0	0	0	0	0
% App. Total	100	0	100	0	0	0	0	0	0
PEH	1.00	1.00	.000	.000	.714	.000	.000	.714	.000



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

		Anne St From North		Garage From East		Anne St From South		From West	
Start Time	Left	Thru	App. Total	Left	Thru	App. Total	Thru	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1									
Peak Hour for East Approach Begins at 04:30 PM									
+0 mins.	0	2	2	04:30 PM	0	0	04:30 PM	0	0
+15 mins.	0	3	3	0	0	0	4	0	4
+30 mins.	0	3	3	0	0	0	7	0	7
+45 mins.	0	3	3	0	0	0	5	0	5
+60 mins.	0	11	11	0	0	0	20	0	20
Total Volume	0	109		0	0	0	100	0	
% App. Total	.000	.917	.917	.000	.000	.000	.714	.714	.000
PHF									

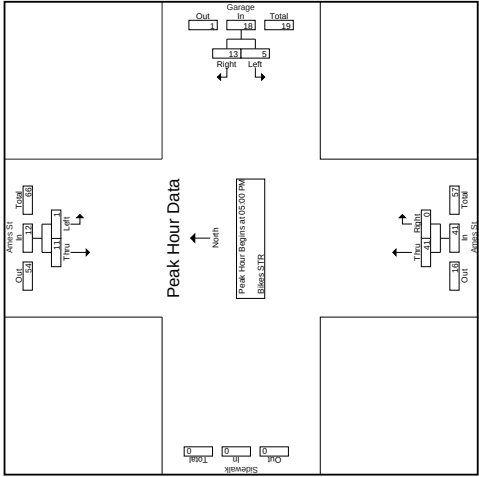


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Groups Printed- Bikas STR									
Start Time	Ames St		Garage		Ames St		Intr. Total		
	From North	From South	From East	From West	From North	From South			
04:45 PM	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	2	2	2	2	0	12	18
Total	0	0	2	2	2	2	0	12	18
05:00 PM	1	3	1	6	1	16	0	27	27
05:15 PM	0	3	1	2	1	15	0	21	21
05:30 PM	0	1	1	3	3	8	0	8	8
05:45 PM	0	4	2	2	2	7	0	15	15
Total	1	11	5	13	41	60.7	0	71	71
06:00 PM	0	4	0	3	3	8	0	15	15
06:15 PM	0	4	0	0	0	9	0	13	13
Grand Total	1	20	7	18	71	109	0	117	117
Avg. Vol	4.8	95	26	45	41	60.7	0	71	71
Total %	0.9	17.1	6	15.4	41	60.7	0	71	71

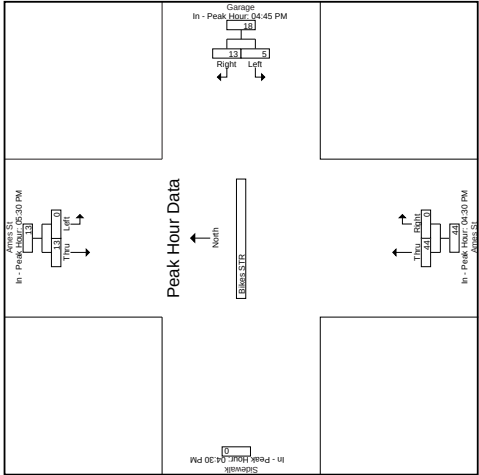
Start Time	Ames St		Garage		Ames St		Intr. Total		
	From North	From South	From East	From West	From North	From South			
05:00 PM to 06:15 PM - Peak 1 of 1	1	1	6	16	0	16	0	27	27
05:00 PM	3	3	2	15	0	15	0	21	21
05:15 PM	0	3	1	2	0	7	0	8	8
05:30 PM	0	4	2	4	0	7	0	15	15
05:45 PM	0	4	2	2	0	41	0	71	71
Total Volume	1	11	13	18	41	60.7	0	71	71
% App. Total	8.3	91.7	27.8	72.2	100	100	0	100	100
PTV	250	880	242	643	641	641	0	657	657



Accurate Counts
978-664-2565

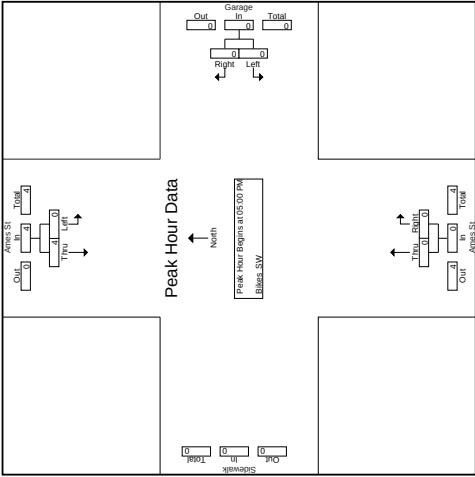
Accurate Counts
978-664-2565

Start Time	Ames St From North			Garage From East			Ames St From South			From West		
	Left	Thru	App. Total	Left	Thru	App. Total	Right	Thru	App. Total	Right	Thru	App. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1												
Peak Hour for East Approach Begins at 04:30 PM												
+0 mins.	0	1	1	04:45 PM	2	2	0	6	4	04:30 PM	6	0
+15 mins.	0	4	4	1	6	7	0	0	7	0	7	0
+30 mins.	0	4	4	1	2	3	0	16	0	16	0	0
+45 mins.	0	4	4	1	2	3	0	10	0	10	0	0
Total Volume	0	13	13	5	13	18	0	44	0	44	0	0
% App. Total	0	100	100	27.8	72.2	100	0	100	0	100	0	0
PHF	.000	.813	.813	.625	.542	.643	.000	.688	.658	.000	.688	.000



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



Groups Printed- Bikes SW									
Start Time	Ames St			Garage			Ames St		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
05:00 PM	0	0	0	0	0	0	0	0	0
05:15 PM	0	1	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	0	0	0	0	0
05:45 PM	0	1	0	0	0	0	0	0	0
Total	0	4	0	0	0	0	0	0	0
05:00 PM	0	1	0	0	0	0	0	0	0
05:15 PM	0	1	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	0	0	0	0	0
05:45 PM	0	1	0	0	0	0	0	0	0
Total	0	4	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0

Start Time	Ames St			Garage			Ames St		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
05:00 PM	0	1	0	0	0	0	0	0	0
05:15 PM	0	1	0	0	0	0	0	0	0
05:30 PM	0	1	0	0	0	0	0	0	0
05:45 PM	0	1	0	0	0	0	0	0	0
Total	0	4	0	0	0	0	0	0	0
% App. Total	0	100	0	0	100	0	0	100	0
PTV	0.000	1.000	0.000	0.000	1.000	0.000	0.000	1.000	0.000

Accurate Counts
978-664-2565

File Name : 1640006
Site Code : 1640006
Count Date : 4/5/2014
Page No : 4

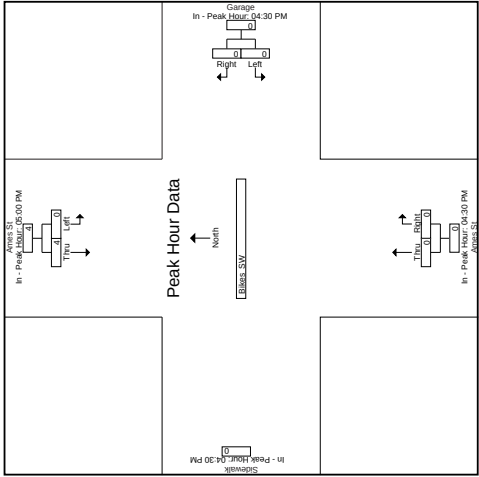
N/S Street : Ames Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

File Name : 1640006
Site Code : 1640006
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

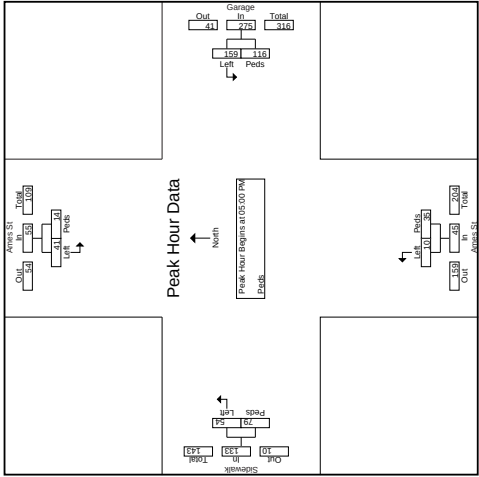
N/S Street : Ames Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

Start Time	Ames St		Garage		Ames St		From West	
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1								
Peak Hour for East Approach Begins at 04:30 PM								
+0 mins.	0	1	0	0	0	0	0	0
+15 mins.	0	1	0	0	0	0	0	0
+30 mins.	0	1	0	0	0	0	0	0
Total Volume	0	4	0	0	0	0	0	0
% App. Total	.000	1.000	.000	.000	.000	.000	.000	.000
PHF								



Accurate Counts
978-664-2565

Accurate Counts
978-664-2565



Start Time	Groups Printed- Peds							
	Ames St		Garage		Ames St		Sidewalk	
	From North	From South	From East	From West	From North	From South	From East	From West
05:00 PM	13	2	47	38	17	7	16	15
05:15 PM	7	4	40	33	2	6	16	15
05:30 PM	10	1	32	24	3	15	12	24
05:45 PM	11	7	40	31	4	9	12	25
Total	41	14	159	116	10	35	54	79
05:00 PM	11	4	37	28	1	5	2	10
05:15 PM	8	7	37	32	2	5	9	14
05:30 PM	98	31	301	200	22	55	91	139
05:45 PM	75	25	261	185	17	41	38	66
Total	10.5	3.3	321	213	2.3	5.9	9.7	14.8

Start Time	Ames St				Garage				Ames St				Sidewalk			
	From North		From South		From East		From West		From North		From South		From East		From West	
	WB	EB	WB	EB	SB	NB	SB	NB	WB	EB	WB	EB	SB	NB	SB	NB
05:00 PM	13	2	15	47	28	75	75	14	1	5	6	14	15	29	125	125
05:15 PM	7	4	11	40	33	73	8	16	2	6	18	15	15	38	123	123
05:30 PM	11	1	18	40	31	71	12	25	4	9	13	12	25	37	139	139
05:45 PM	11	7	18	40	31	71	12	25	4	9	13	12	25	37	139	139
Total Volume	41	14	55	159	116	275	10	35	45	54	79	133	133	508	508	508
% App. Total	74.5	25.5	27.2	77.8	42.2	57.8	40.6	59.4	27.2	72.8	40.6	59.4	27.2	72.8	40.6	59.4
PH	.788	.200	.364	.846	.879	.917	.652	.889	.853	.883	.652	.889	.853	.889	.652	.889

Peak Hour Data

North

Peak hour Begins at 05:00 PM

Peds.

Garage

Total

Out

In

Ames St

Garage

Total

Out

In

Ames St

Garage

Total

Out

In

Ames St

Garage

Total

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Ames St

Garage

Total

Out

In

Ames St

Garage

Total

Out

In

Ames St

Garage

Total

Out

In

Ames St

Garage

Total

Out

In

Ames St

Garage

Total

Out

In

Ames St

Garage

Total

Out

In

Accurate Counts
978-664-2565

N/S Street : Ames Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

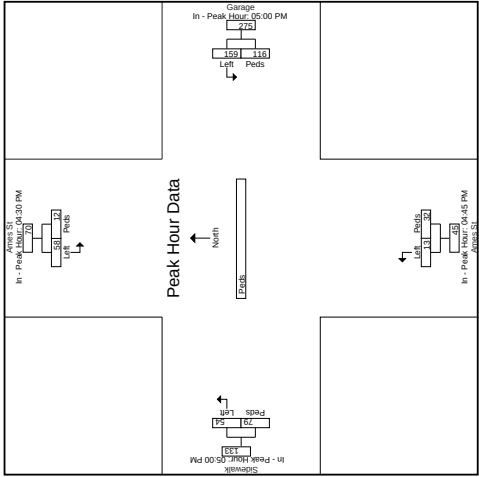
N/S Street : Ames Street
EW Street : Garage
City/State : Cambridge, MA
Weather : Clear

File Name : 16460006
Site Code : 16460006
Count Date : 8/5/2014
Page No : 3

File Name : 16460006
Site Code : 16460006
Count Date : 8/5/2014
Page No : 4

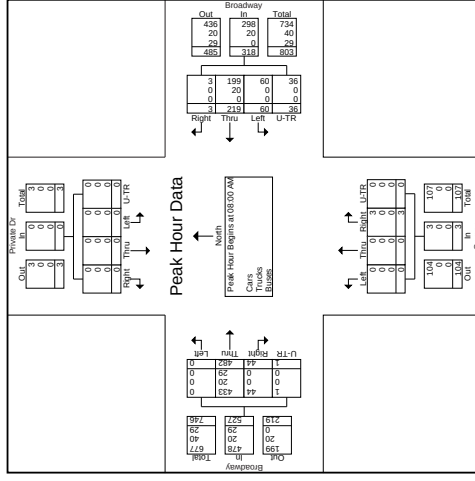
Accurate Counts
978-664-2565

Start Time	Ames St From North			Garage From West			Ames St From South			Sidewalk From West		
	EB	WB	App. Total	SB	NB	App. Total	WB	EB	App. Total	NB	SB	Int. Total
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1												
Peak Hour for East Approach Begins at:												
04:30 PM												
+0 mins.	21	2	23	47	28	75	7	6	13	14	15	29
+15 mins.	17	4	21	40	33	73	1	5	6	16	15	31
+30 mins.	13	2	15	32	24	56	2	6	8	12	24	36
+45 mins.	13	2	15	26	21	47	2	16	18	13	24	37
Total Volume	58	12	70	159	116	275	13	32	45	54	79	133
% App. Total	82.9	17.1	100	57.8	42.2	100	28.9	71.1	100	40.6	59.4	100
PHF	.690	.750	.701	.846	.879	.817	.464	.533	.625	.844	.790	.899



Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



Accurate Counts
978-664-2565

File Name : 16460007
Site Code : 16460007
Start Date : 4/9/2014
Page No : 1

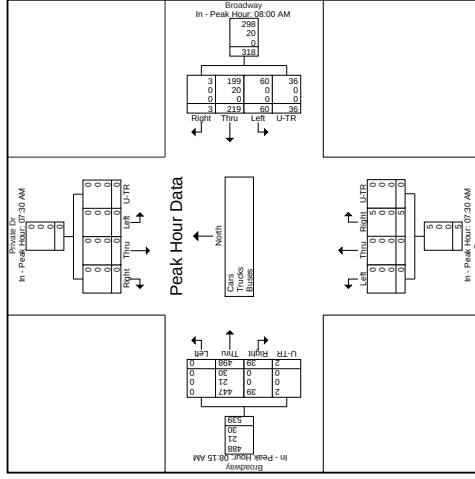
N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

		Groups: Printout Cns - Trucks - Buses																							
		Private Dr						Broadway						Garage						Broadway					
		Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
Start Time	07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
End Time	07:45 AM	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		0	0	0	0	20	95	0	12	0	0	0	3	0	0	0	0	9	184	19	4	346			
08:00 AM		0	0	0	0	20	52	0	11	0	0	0	0	0	0	0	0	0	0	0	0	194			
08:15 AM		0	0	0	0	15	56	0	5	0	0	0	2	0	0	0	0	0	139	6	0	219			
08:30 AM		0	0	0	0	11	50	1	8	0	0	0	0	0	0	0	0	129	14	0	0	213			
08:45 AM		0	0	0	0	14	62	2	12	0	0	0	1	0	0	0	0	222	9	0	0	222			
Total		0	0	0	0	60	219	3	36	0	0	0	3	0	0	0	0	482	44	1	0	848			
09:00 AM		0	0	0	0	10	54	0	5	0	0	0	1	0	0	0	0	114	7	2	0	193			
09:15 AM		0	0	0	0	10	64	0	6	0	0	0	1	0	0	0	0	106	5	2	0	195			
09:30 AM		0	0	0	0	100	432	3	59	0	0	0	8	0	0	0	0	11	885	75	9	1562			
Grand Total		0	0	0	0	168	727	0	93	0	0	0	100	0	0	0	0	11	903	77	0	9			
Apprch %		0	0	0	0	16.8	72.7	0	9.3	0	0	0	100	0	0	0	0	11	90.3	7.7	0	0.9			
Trucks		0	0	0	0	100	593	3	56	0	0	0	8	0	0	0	0	4	762	75	7	1440			
% Trucks		0	0	0	0	100	91.3	100	98.3	0	0	0	100	0	0	0	0	36.4	89.5	100	77.8	91			
Trucks		0	0	0	0	0	36	0	1	0	0	0	0	0	0	0	0	0	41	0	0	78			
BUSES		0	0	0	0	0	83	0	17	0	0	0	0	0	0	0	0	7	45	0	2	63			
% Buses		0	0	0	0	0	36	0	17	0	0	0	0	0	0	0	0	7	4.5	0	2	6.3			
% Buses		0	0	0	0	0	0.7	0	0	0	0	0	0	0	0	0	0	69.6	5.1	0	0	22.2			

[illegible]

Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



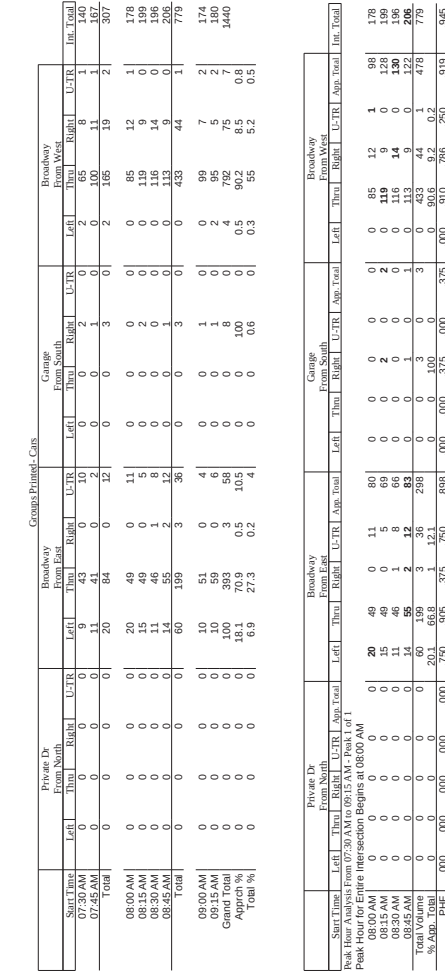
File Name : 16460007
Site Code : 16460007
Start Date : 4/9/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

[illegible]

Accurate Counts
978-664-2565



Accurate Counts
978-664-2565

File Name : 1640007
Site Code : 1640007
Count Date : 4/5/2014
Page No : 4

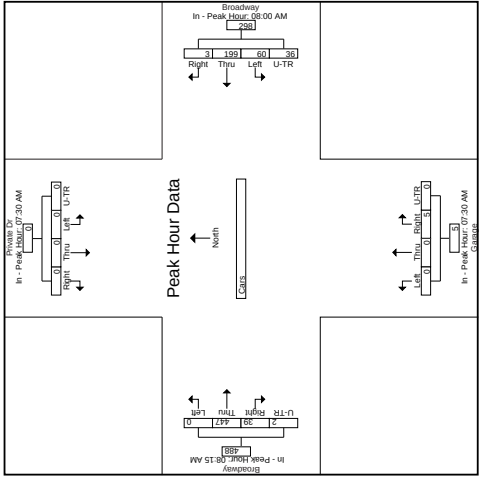
N/S Street : Private Dr / Garage
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 1640007
Site Code : 1640007
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time		Private Dr / Garage			Broadway			Garage			Broadway			Int. Total		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins At:																
07:30 AM		08:00 AM			07:30 AM			08:15 AM								
+10 mins.	0	0	0	0	0	11	80	0	0	2	0	119	9	0	128	
+15 mins.	0	0	0	0	5	69	0	0	1	0	116	14	0	130		
+20 mins.	0	0	0	0	15	69	0	0	1	0	116	14	0	130		
+25 mins.	0	0	0	0	14	83	0	0	2	0	139	7	2	148		
+30 mins.	0	0	0	0	16	83	0	0	2	0	139	7	2	148		
Total Volume	0	0	0	0	60	199	3	36	298	0	0	5	0	447	39	2
% App. Total	0	0	0	0	20.1	66.8	1	12.1	100	0	0	91.6	8	0.4		
PHF	.000	.000	.000	.000	.000	.750	.498	.000	.000	.625	.000	.939	.090	.250	.938	

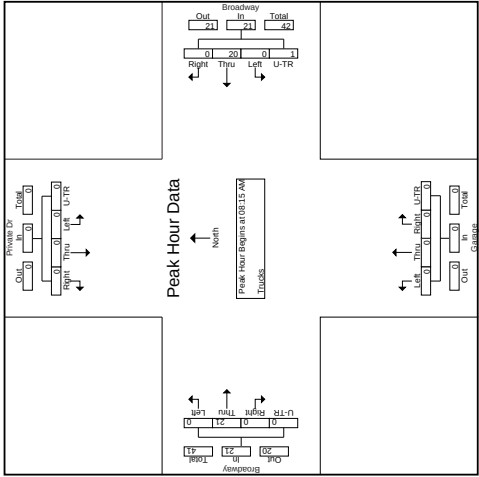


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

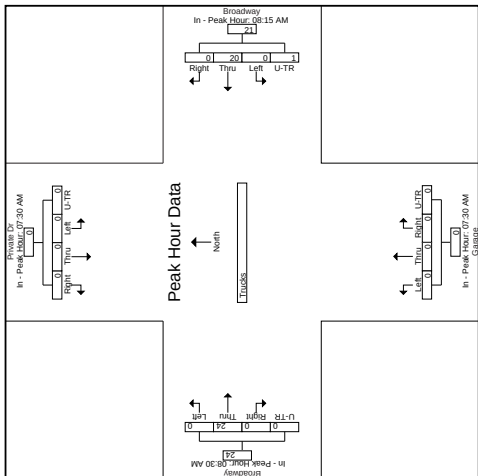
Groups Printed: Trucks															
Start Time	Private Dr			Broadway			Garage			Broadway			Private Dr		
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right
Start Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	4	0	0	0	0	0	0	0	3	0	7
07:45 AM	0	0	0	0	6	0	0	0	0	0	0	0	3	0	9
Total	0	0	0	0	10	0	0	0	0	0	0	0	6	0	16
08:00 AM	0	0	0	0	3	0	0	0	0	0	0	0	6	0	9
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	5	0	11
08:30 AM	0	0	0	0	3	0	0	0	0	0	0	0	5	0	11
08:45 AM	0	0	0	0	7	0	0	0	0	0	0	0	12	0	12
Total	0	0	0	0	20	0	0	0	0	0	0	0	40	0	40
09:00 AM	0	0	0	0	3	0	1	0	0	0	0	0	7	0	11
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	8	0	11
09:30 AM	0	0	0	0	36	0	1	0	0	0	0	0	41	0	78
Grand Total	0	0	0	0	97	0	2	0	0	0	0	0	100	0	179
Approach %	0	0	0	0	46.2	0	2.3	0	0	0	0	0	50.6	0	0
Total %	0	0	0	0	46.2	0	2.3	0	0	0	0	0	50.6	0	0

Groups Printed: Trucks															
Start Time	Private Dr			Broadway			Garage			Broadway			Private Dr		
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right
Start Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	6	0	0	0	0	0	0	0	5	0	11
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
08:30 AM	0	0	0	0	7	0	0	0	0	0	0	0	12	0	19
08:45 AM	0	0	0	0	3	0	1	0	0	0	0	0	7	0	11
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	20	0	4	0	0	0	0	0	21	0	42
% Appr	0	0	0	0	95	0	4.1	0	0	0	0	0	95.0	0	0
% Appr - PHF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	95.0	0	4.1	0	0	0	0	0	95.0	0	0
% Appr - PHF	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

		Private Dr					Broadway					Ganse					Broadway				
Start Time	Left	Thru	Right	U-Turn	Apn Total	Left	Thru	Right	U-Turn	Apn Total	Left	Thru	Right	U-Turn	Apn Total	Left	Thru	Right	U-Turn	Apn Total	
Peak Hour for Each Approach (06:15 AM - Peak 1 of 1)																					
07:30 AM	0	0	0	0	0	08:15 AM	0	6	0	0	0	0	0	0	0	08:30 AM	0	4	0	0	4
+10 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
+20 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	
+30 mins.	0	0	0	0	0	0	0	7	0	0	0	0	0	0	0	0	0	0	0	7	
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8	
Total Volume	0	0	0	0	0	0	20	0	1	21	0	0	0	0	0	0	24	0	0	24	
% Sat	0	0	0	0	0	0	68	0	4	21	0	0	0	0	0	0	75	0	0	75	
PHF	.000	.000	.000	.000	.000	.000	.714	.000	.250	.750	.000	.000	.000	.000	.000	.000	.750	.000	.000	.750	

Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460007
Site Code : 16460007
Collection Date : 4/5/2014
Page No : 1

Counts Printed - Buses													
Start Time	Private Dr From North			Broadway From East			Garage From South			Broadway From West			Ina. Total
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	
Start Time 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	1	0	0	0	0	1	7	0	1
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	0	0	7	13	0	23
08:00 AM	0	0	0	0	0	0	0	0	0	0	7	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	9	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	9	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	4	0	0
Total	0	0	0	0	0	0	0	0	0	29	4	0	29
09:00 AM	0	0	0	0	0	0	0	0	0	0	8	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	52	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	7	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	11.5	85.2	0	3.3
Approach %	0	0	0	0	0	0	0	0	0	10.9	81.2	0	3.1
Total %	0	0	0	0	0	0	0	0	0	10.9	81.2	0	3.1

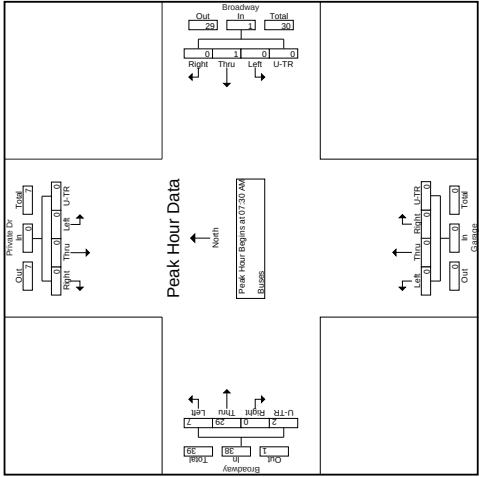
Start Time	Private Dr From North			Broadway From East			Garage From South			Broadway From West			Ina. Total
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	
Start Time 07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
07:55 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Obs	0	0	0	0	0	100	0	0	0	18.4	76.3	0	5.3
PHE	.000	.000	.000	.000	.000	.250	.000	.000	.000	.292	.805	.000	.750

Peak Hour Analysis from 07:30 AM to 09:15 AM - Peak 1 of 1
Peak Hour for Entire Intersection Begins at 07:30 AM

N/S Street : Private Dr / Garage
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460007
Site Code : 16460007
Collection Date : 4/5/2014
Page No : 2

Accurate Counts
978-664-2565



Accurate Counts
978-664-2565

File Name : 1640007
Site Code : 1640007
Collection Date : 4/5/2014
Page No : 4

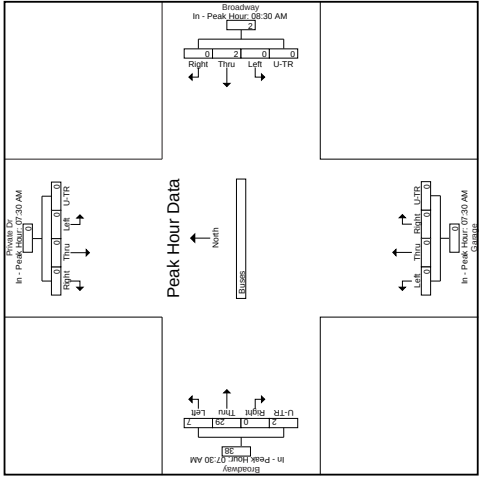
N/S Street : Private Dr / Garage
EW Street : Broadway
Collection Date : 4/5/2014
Weather : Clear

File Name : 1640007
Site Code : 1640007
Collection Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
EW Street : Broadway
Collection Date : 4/5/2014
Weather : Clear

Start Time		Private Dr / Garage			Broadway			Garage			Broadway			Int. Total		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1																
Peak Hour for Each Approach Begins At:																
+10 mins.		0	0	0	0	0	0	0	0	0	0	0	0	6	0	1
+15 mins.		0	0	0	0	0	0	0	0	0	0	0	0	1	7	0
+20 mins.		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
+25 mins.		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+35 mins.		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+40 mins.		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume		0	0	0	0	2	0	0	0	0	0	7	29	0	2	38
% App. Total		0	0	0	0	100	0	0	0	0	18.4	76.3	0	5.3		
PHF		.000	.000	.000	.000	.000	.000	.000	.000	.000	.292	.868	.000	.560	.731	



Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
EW Street : Broadway
Count Date : 4/5/2014
Weather : Clear

File Name : 16460007
Site Code : 16460007
Count Date : 4/5/2014
Page No : 1

Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
EW Street : Broadway
Count Date : 4/5/2014
Weather : Clear

Start Time	Private Dr			Garage			Broadway			Broadway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
% Appr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0	0	0	0	0	0	0	0	0	0	0	0
% Appr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

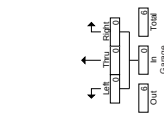
Counts Printed - Blues STR

Start Time	Private Dr			Garage			Broadway			Broadway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
% Appr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0	0	0	0	0	0	0	0	0	0	0	0
% Appr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Counts Printed - Blues STR

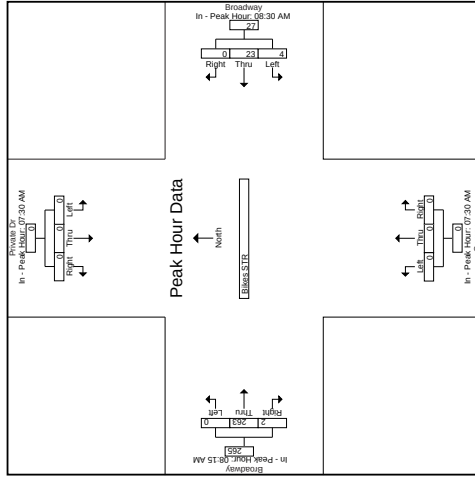
Start Time	Private Dr			Garage			Broadway			Broadway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
% Appr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0	0	0	0	0	0	0	0	0	0	0	0
% Appr	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Peak Hour Data



Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

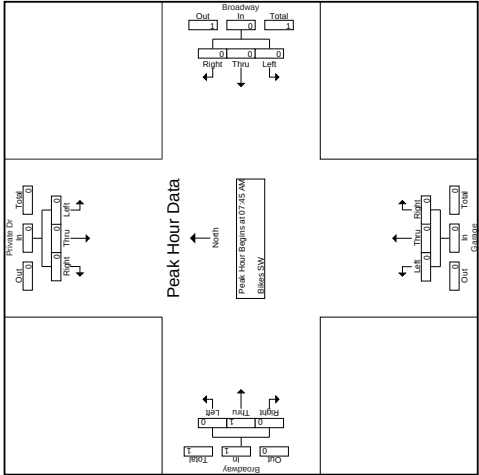
	Private Dc						Broadway From East						Gaithege From South						Broadway From West					
Start Time	Left	Thru	Right	App.	Total		Left	Thru	Right	App.	Total		Left	Thru	Right	App.	Total		Left	Thru	Right	App.	Total	
Peak Hour Analysis From 07:30 AM To 09:15 AM - Peak 1 of 1																								
PB&K 100% for Elected Officials & Staffs etc.																								
07:30 AM							08:30 AM						09:15 AM											
+0 mins.	0	0	0	0	0		0	5	0	0	5		0	0	0	0	0		0	0	0	0	0	
+5 mins.	0	0	0	0	0		3	7	0	0	10		0	0	0	0	0		23	0	0	0	0	
+10 mins.	0	0	0	0	0		0	6	0	0	6		0	0	0	0	0		0	0	0	0	0	
+15 mins.	0	0	0	0	0		0	5	0	0	5		0	0	0	0	0		0	0	0	0	0	
+45 mins.	0	0	0	0	0		0	5	0	0	5		0	0	0	0	0		0	0	0	0	0	
Total Volume	0	0	0	0	0		0	22	0	0	22		0	0	0	0	0		0	0	0	0	0	
% App.	0%	0%	0%	0%	0%		0%	82%	0%	0%	82%		0%	0%	0%	0%	0%		0%	0%	0%	0%	0%	
Total PHF	0.00	0.00	0.00	0.00	0.00		0.00	333	0.00	0.00	675		0.00	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00	

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

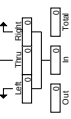
Start Time End Time Count Date Weather	Garage Printed-Bkuse SW											
	Private Dr			Broadway			Garage			Broadway		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	1	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	1	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	100	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	100	0
Approach %	0	0	0	0	0	0	0	0	0	0	100	0

Start Time End Time Count Date Weather	Private Dr						Broadway					
	Left			Thru			Right			Thru		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
08:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
08:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
09:00 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:15 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	0
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0



Peak Hour Data

Peak hour Begins at 07:45 AM
Ends at 08:15 AM



Accurate Counts
978-664-2565

File Name : 1640007
Site Code : 1640007
Count Date : 4/5/2014
Page No : 4

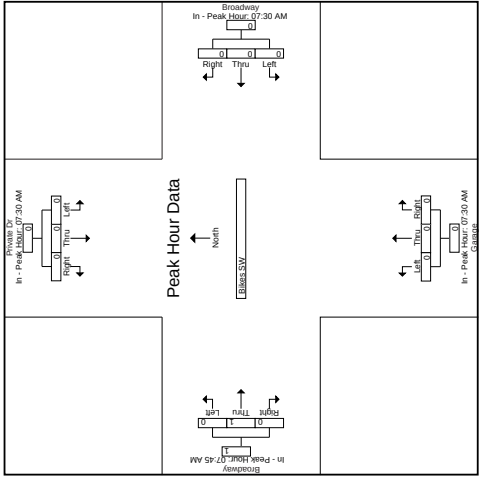
N/S Street : Private Dr / Garage
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 1640007
Site Code : 1640007
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time	Private Dr			Broadway			Garage			Broadway			Int. Total		
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1															
Peak Hour for Each Approach Begins At:															
07:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHE	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.250	.750



Accurate Counts
978-664-2565

File Name : 1640007
Site Code : 1640007
City Name : Cambridge, MA
Date : 4/5/2014
Page No : 4

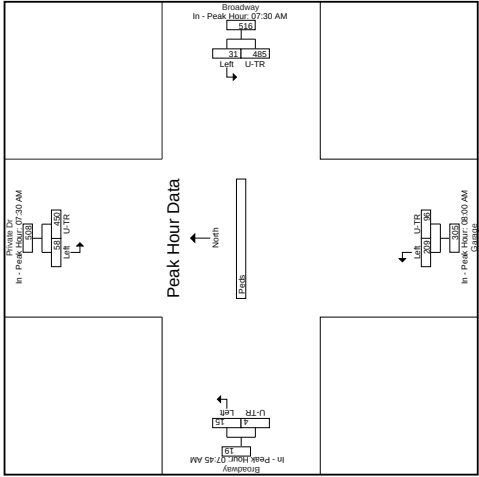
N/S Street : Private Dr / Garage
EW Street : Broadway
City Name : Cambridge, MA
Date : 4/5/2014
Weather : Clear

File Name : 1640007
Site Code : 1640007
City Name : Cambridge, MA
Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
EW Street : Broadway
City Name : Cambridge, MA
Date : 4/5/2014
Weather : Clear

Start Times	Private Dr		Broadway		Garage		Broadway		Int. Total					
	WB	EB	From North	App. Total	SB	From East	App. Total	WB		EB	From South	App. Total	SB	From West
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1														
Peak Hour for Each Approach Begins At:														
07:30 AM	137	148	9	146	155	08:00 AM	74	30	07:45 AM	2	2			
-0 mins.	11	115	10	88	98	52	13	65	0	10	30			
+15 mins.	16	79	4	65	69	14	10	24	1	34	77			
+30 mins.	10	109	8	113	121	25	81	2	1	2	1			
+45 mins.	21	150	4	138	142	57	28	85	4	0	4			
Total Volume	58	450	31	485	516	209	96	305	15	19	19			
% App. Total	11.4	88.6	6	94		69.5	31.5		78.9	21.1	19			
PHE	690	2621	858		775	832		917	860	892		517	500	475



Accurate Counts
978-664-2565

File Name : 1640007
Site Code : 1640007
Count Date : 4/5/2014
Page No : 4

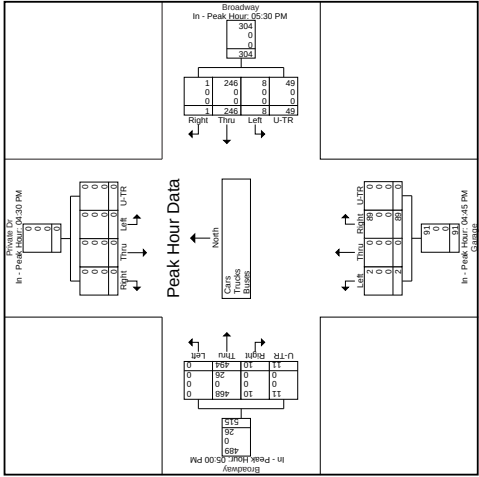
N/S Street : Private Dr / Garage
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 1640007
Site Code : 1640007
Count Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time	Private Dr / Garage				Broadway				Garage				Broadway				Int. Total
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1	04:30 PM				04:45 PM				05:00 PM				05:15 PM				
Peak Hour for Each Approach Begins At:	04:30 PM				04:45 PM				05:00 PM				05:15 PM				
+10 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	150
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	104
+20 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	124
+25 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	132
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	515
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100
% Cars	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	95
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Buses	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5



Accurate Counts
978-664-2565

Start Time End Time Category	Private Dr				Groups/Parked Cars				Garage				Broadway				Broadway			
	From North		To North		From East		To East		From South		To South		From West		To West		From East		To East	
	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% AM, PM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peak Hour	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Private Dr

Out
In
Thru
Left
Right
U-Turn

Broadway

Out
In
Thru
Left
Right
U-Turn

Peak Hour Data

North

Peak Hour Begins at 05:00 PM

Out
In
Thru
Left
Right
U-Turn

Private Dr

Out
In
Thru
Left
Right
U-Turn

Broadway

Out
In
Thru
Left
Right
U-Turn

Accurate Counts
978-664-2565

File Name : 1640007
Site Code : 1640007
Count Date : 8/5/2014
Page No : 4

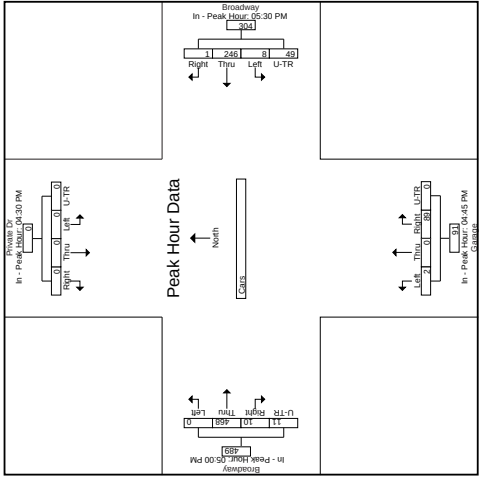
N/S Street : Private Dr / Garage
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 1640007
Site Code : 1640007
Count Date : 8/5/2014
Page No : 3

Accurate Counts
978-664-2565

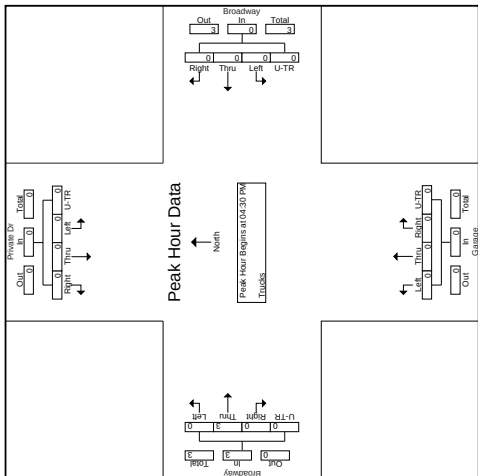
N/S Street : Private Dr / Garage
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time		Private Dr / Garage			Broadway			Garage			Broadway			Broadway		
		Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1																
Peak Hour for Each Approach Begins At:																
04:30 PM		04:30 PM			04:45 PM			05:00 PM			05:00 PM			05:00 PM		
+10 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+20 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+25 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



Accurate Counts
978-664-2565

File Name : 16460007
Site Code : 16460007
Start Date : 4/9/2014
Page No : 1

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

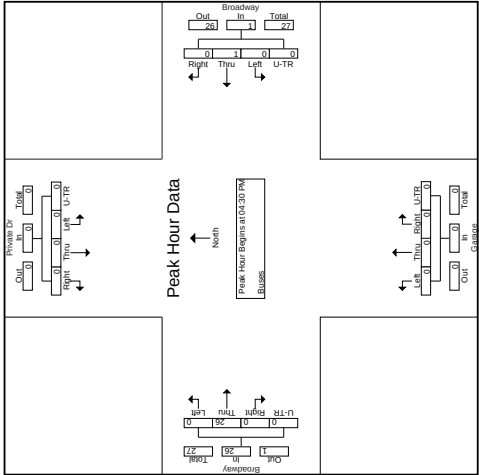
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Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

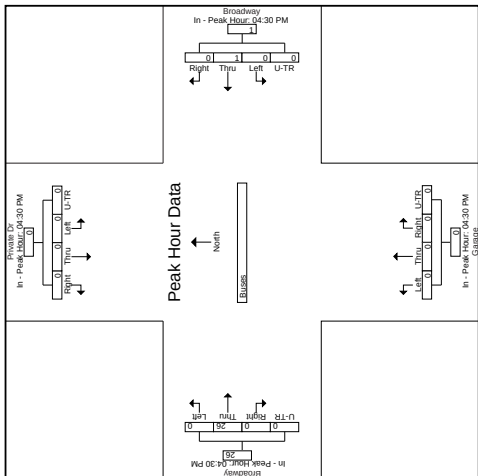
Counts Printed - Buses																
Start Time	Private Dr From North				Garage From South				Broadway From East				Broadway From West			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Counts Printed - Buses																
Start Time	Private Dr From North				Garage From South				Broadway From East				Broadway From West			
	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR	Left	Thru	Right	U-TR
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Approach %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

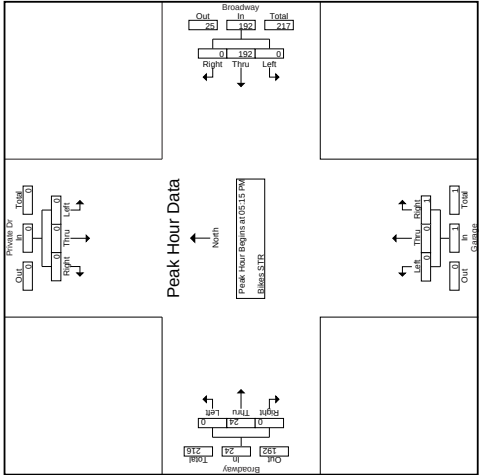
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Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

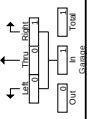
Start Time	Garage Printed - Blues STR									
	Private Dr					Garage				
	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
% Appr	0	0	0	0	0	0	0	0	0	0
% Appr %	0	0	0	0	0	0	0	0	0	0

Start Time	Garage Printed - Blues STR									
	Private Dr					Garage				
	Left	Thru	Right	Thru	Left	Thru	Right	Thru	Left	Thru
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0
% Appr	0	0	0	0	0	0	0	0	0	0
% Appr %	0	0	0	0	0	0	0	0	0	0



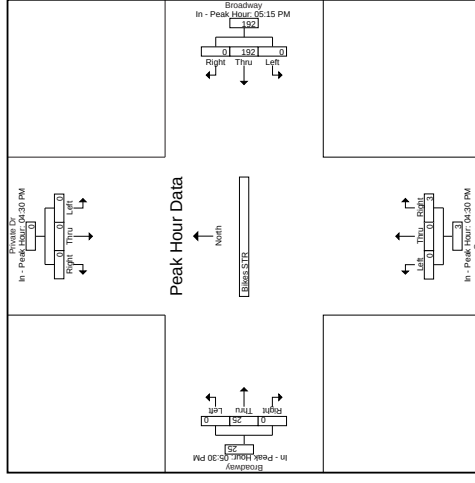
Peak Hour Data

North
Peak hour begins at 05:15 PM
Business



Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

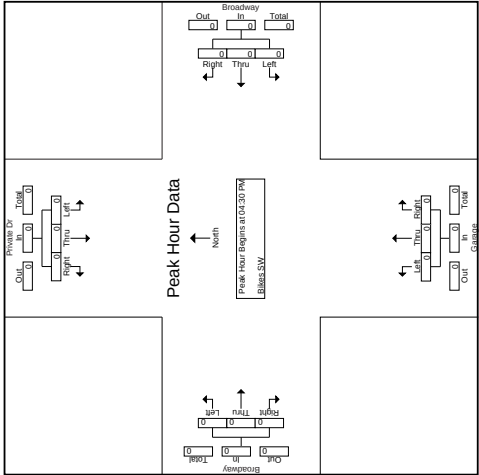


Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Garage Printed-Bikes SW													
Start Time	Private Dr			Broadway			Garage			Broadway			In. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprpt %	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0

Garage Printed-Bikes SW													
Start Time	Private Dr			Broadway			Garage			Broadway			In. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprpt %	0	0	0	0	0	0	0	0	0	0	0	0	0
Total %	0	0	0	0	0	0	0	0	0	0	0	0	0



Accurate Counts
978-664-2565

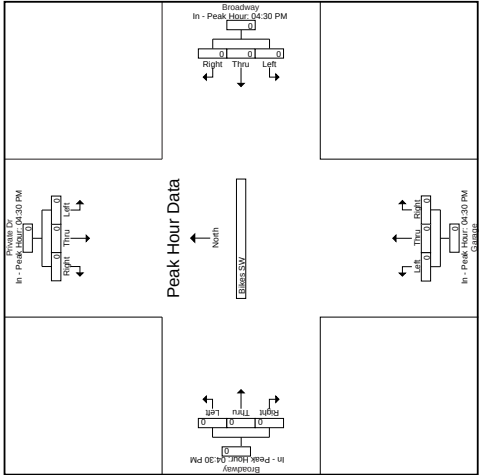
N/S Street : Private Dr / Garage
EW Street : Broadway
Count Date : 4/5/2014
Weather : Clear

File Name : 1640007
Site Code : 1640007
Count Date : 4/5/2014
Page No : 3

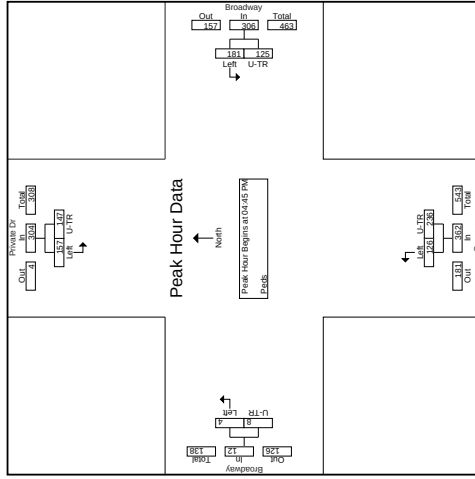
Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
EW Street : Broadway
Count Date : 4/5/2014
Weather : Clear

Start Time	Private Dr			Broadway			Garage			Broadway			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
PHE	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000



Accurate Counts
978-664-2565



N/S Street : Private Dr / Garage
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 16460007
Site Code : 16460007
Start Date : 4/9/2014
Page No : 1

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Start Time	Private Driv				Brookway				Brookway			
	WB	SE	App. Total	WB	SE	App. Total	WB	SE	App. Total	WB	SE	App. Total
Peak Hour Analysis: 04:30 PM - 05:15 PM - 05:45 PM - 06:15 PM - 06:45 PM	791	41	30	71	15	70	68	0	2	3	284	1
Peak Hour for Entire Intersection Begins at 04:45 PM	64	61	34	95	59	110	59	1	3	272	2	
05:00 PM	20	38	41	67	22	56	78	2	1	3	227	2
05:15 PM	41	39	26	77	22	59	78	2	1	3	227	2
05:30 PM	137	125	125	300	136	362	362	4	8	12	394	4
Total Volume	157	181	125	300	136	236	362	4	8	12	394	4
% ADP - 7.6%	51.6	59.2	40.8	90.5	85.2	95.2	95.2	35.3	69.7	75.0	90.5	90.5

Accurate Counts
978-664-2565

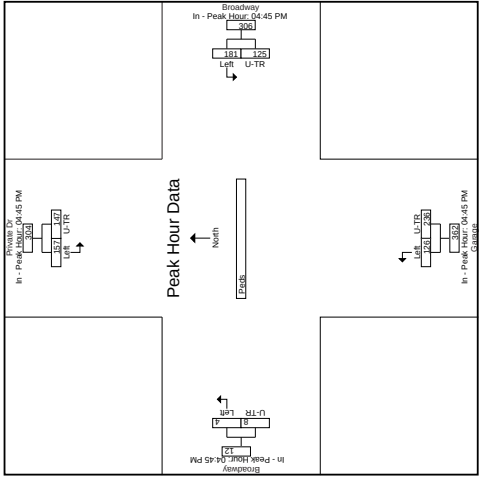
N/S Street : Private Dr / Garage
EW Street : Broadway
City Name : Cambridge, MA
Weather : Clear

File Name : 1640007
Site Code : 1640007
City Name : Cambridge, MA
Date : 4/5/2014
Page No : 3

Accurate Counts
978-664-2565

N/S Street : Private Dr / Garage
EW Street : Broadway
City Name : Cambridge, MA
Weather : Clear

Start Time	Private Dr		Broadway		Garage		Broadway		Broadway	
	WB	EB	SB	NB	WB	EB	SB	NB	SB	NB
Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak 1 of 1										
Peak Hour for Each Approach Begins At:										
04:45 PM										
+0 mins.	37	39	76	41	30	70	15	85	0	2
+15 mins.	26	38	64	61	34	59	95	110	0	3
+30 mins.	41	36	77	50	26	40	77	68	2	3
+45 mins.	45	36	80	36	30	51	26	68	2	4
Total Volume	157	147	304	181	126	236	306	382	4	12
% App. Total	51.6	48.4	59.2	34.8	65.2	33.3	66.7	33.3	500	66.7
PHE	.770	.967	.894	.752	.883	.853	.895	.823	.500	.667



Peak Hour Data

North

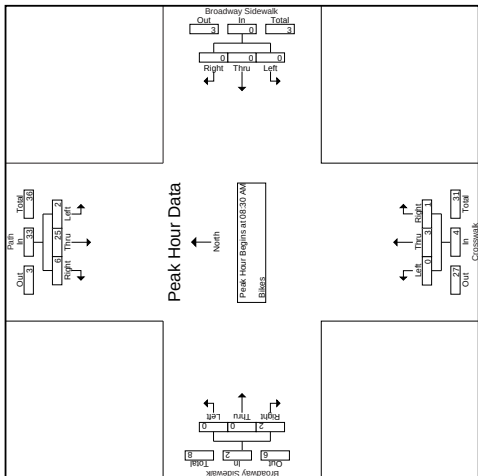
Broadway
In - Peak Hour 04:45 PM
Left U-TR
181 225

Private Dr
In - Peak Hour 04:45 PM
Left U-TR
181 225

Broadway
In - Peak Hour 04:45 PM
Left U-TR
181 225

Accurate Counts
978-664-2565

N/S Street : Path / Crosswalk
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear



Accurate Counts
978-664-2565

File Name : 16460008
Site Code : 16460008
Start Date : 4/9/2014
Page No : 1

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Accurate Counts
978-664-2565

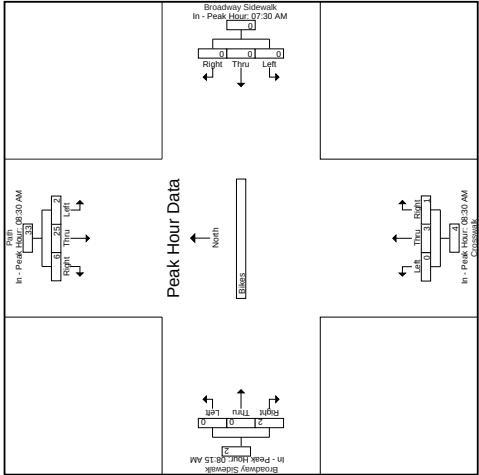
N/S Street : Path / Crosswalk
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460008
Site Code : 16460008
Count Date : 4/5/2014
Page No : 3

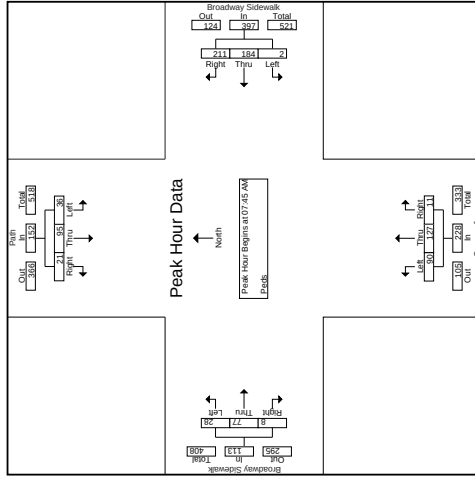
Accurate Counts
978-664-2565

N/S Street : Path / Crosswalk
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Start Time	Path			Broadway Sidewalk			Crosswalk			Broadway Sidewalk			Int. Total
	Left	Right	App. Total	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins At:													
08:30 AM	0	3	3	0	0	0	0	0	0	0	0	0	0
+0 mins.	1	6	2	0	0	0	0	0	0	0	0	0	0
+15 mins.	1	9	1	0	0	0	0	2	1	3	0	0	0
+30 mins.	0	7	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	2	25	6	0	0	0	0	3	1	4	0	0	2
Total Volume	6.1	75.8	18.2	0	0	0	0	3	25	4	0	0	2
% App. Total	.500	.694	.500	.000	.000	.000	.000	.375	.250	.333	.000	.000	.250



Accurate Counts
978-664-2565



N/S Street : Path / Crosswalk
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Accurate Counts
978-664-2565

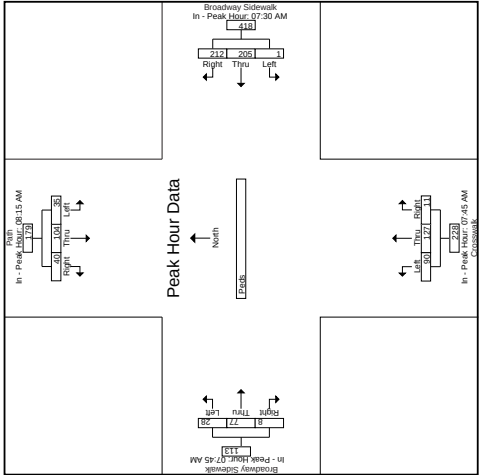
File Name : 16460008
Site Code : 16460008
Start Date : 4/9/2014
Page No : 1

Peak Hour	Groups Principle-Beds										Broadway Sidewalk									
	Path					Broadway Sidewalk					Crescent					Broadway Sidewalk				
	Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right
Peak Hour for Entire Intersection Begins at 07:45 AM	07:30 AM	3	13	2	18	0	60	41	101	27	19	5	51	1	15	1	168	1	15	1
	07:45 AM	5	18	4	27	0	42	56	97	27	27	3	57	3	19	2	206	2	20	2
	Total	8	31	6	45	0	102	97	201	34	46	8	88	4	34	3	374	3	34	3
	08:00 AM	7	18	1	26	1	63	67	131	17	49	0	66	0	13	14	251	0	13	14
	08:15 AM	14	31	9	54	0	40	48	88	20	34	2	56	2	6	26	233	2	6	26
	08:30 AM	10	23	1	34	1	39	40	80	16	17	6	39	1	6	18	200	1	6	18
	08:45 AM	7	18	2	27	3	21	23	44	10	10	1	21	3	10	11	240	3	10	11
	Total	36	94	31	161	3	183	182	368	79	110	9	198	6	29	68	833	6	29	68
	09:00 AM	6	28	10	44	1	36	28	71	9	11	0	20	1	15	4	149	1	15	4
	09:15 AM	9	24	17	50	1	39	22	61	15	11	1	27	2	11	3	189	2	11	3
	Grand Total	59	177	64	291	5	359	329	693	137	181	18	336	18	37	128	1513	18	37	128
	Approach %	19.7	59	21.3	70.7	0.7	51.8	47.5	53.9	5.4	20.1	69.6	10.3	2.4	8.5	1.3				
	Total %	3.9	11.7	4.2	19.8	0.3	23.7	21.7	12	9.1	1.2	3.7	1.8	0.3	3.4	0.4				

Accurate Counts
978-664-2565

Accurate Counts
978-664-2565

Start Time	Path			Broadway Sidewalk			Crosswalk			Broadway Sidewalk			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1													
Peak Hour for Each Approach Begins At:													
08:15 AM	31	9	54	0	27	3	57	3	19	2	24		
-0 min.	14	28	7	45	0	27	3	57	3	19	2	24	
+15 min.	10	28	7	45	0	27	3	57	3	19	2	24	
+30 min.	5	17	4	26	49	17	0	66	13	14	1	28	
+45 min.	6	21	10	37	20	17	6	46	6	26	3	35	
Total Volume	35	104	40	179	1	205	11	228	28	77	8	113	
% App. Total	19.6	59.1	22.3	99.1	0.2	49	55.7	4.3	24.8	69.1	7.1	113	
PHF	.625	.839	.714	.820	.853	.658	.458	.884	.588	.740	.467	.807	



Accurate Counts
978-664-2565

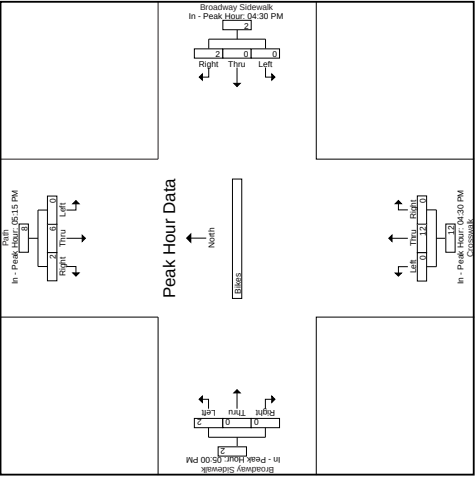
N/S Street : Path / Crosswalk
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

N/S Street : Path / Crosswalk
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460008
Site Code : 16460008
Count Date : 4/5/2014
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File Name : 16460008
Site Code : 16460008
Count Date : 4/5/2014
Page No : 4

Start Time	Path			Broadway Sidewalk			Crosswalk			Broadway Sidewalk			Int. Total
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
Peak Hour Analysis From 04:15 PM - Peak 1 of 1													
Peak Hour for Each Approach Begins at:													
-03:15 PM													
+0 mins.	0	1	0	0	0	0	3	0	3	0	1	0	0
+15 mins.	0	1	2	0	0	0	2	0	2	0	0	0	0
+30 mins.	0	3	0	0	0	1	1	0	5	1	0	0	0
+45 mins.	0	3	0	0	1	1	0	5	0	1	0	0	1
Total Volume	0	6	2	0	2	2	12	0	12	2	0	0	2
% App. Total	0	50	250	0	100	0	100	0	100	0	0	0	500
PHF	.000	.500	.250	.000	.500	.500	.600	.600	.600	.500	.000	.000	.500



Accurate Counts
978-664-2565

N/S Street : Path / Crosswalk
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

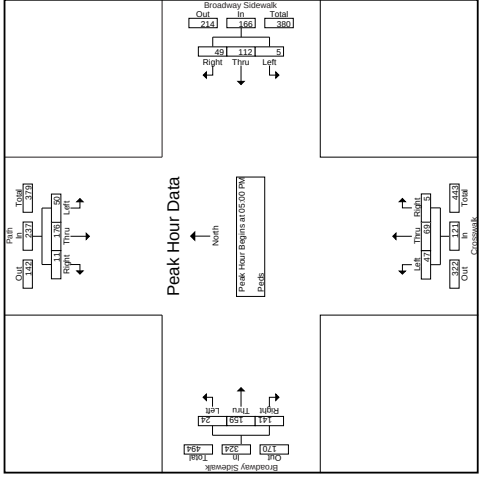
File Name : 16460008
Site Code : 16460008
Collection Date : 4/5/2014
Page No : 1

Start Time	Path			Grange Pkined-hbs												In. Total						
	From North			Broadway Sidewalk						Crosswalk							Broadway Sidewalk					
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right							
04:30 PM	11	44	0	0	15	8	4	0	0	0	5	29	39	164								
04:45 PM	10	30	4	0	26	8	7	0	0	0	3	27	22	144								
Total	21	74	4	0	41	16	11	0	0	0	8	56	61	308								
05:00 PM	13	45	1	4	33	12	11	22	0	0	9	32	38	220								
05:15 PM	15	55	2	0	28	14	11	7	2	4	4	36	40	249								
05:30 PM	12	35	5	0	18	9	12	15	2	3	43	29	183									
05:45 PM	10	41	3	1	33	14	13	25	1	8	48	34	231									
Total	50	176	11	5	112	49	47	69	5	24	159	141	848									
06:00 PM	5	26	1	2	23	12	11	13	2	4	18	21	138									
06:15 PM	6	16	2	1	21	13	12	10	1	6	25	16	129									
Grand Total	82	292	18	8	197	90	81	108	8	42	258	239	1423									
Approach %	20.5	74.5	2.7	1.3	66.8	38.5	41.1	54.8	4.1	77.8	47.9	44.3	168.1									
Total %	5.8	20.5	1.3	0.6	13.8	6.3	5.7	7.6	0.6	3	18.1	16.8	16.8									

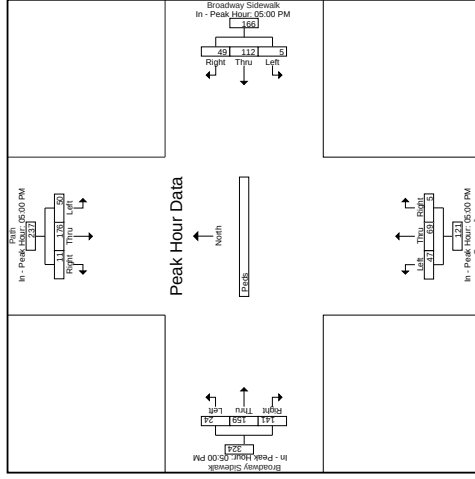
Accurate Counts
978-664-2565

N/S Street : Path / Crosswalk
EW Street : Broadway
City/State : Cambridge, MA
Weather : Clear

File Name : 16460008
Site Code : 16460008
Collection Date : 4/5/2014
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Accurate Counts
978-664-2565



N/S Street : Path / Crosswalk
E/W Street : Broadway
City/State : Cambridge, MA
Weather : Clear

Accurate Counts
978-664-2565

File Name : 16460008
Site Code : 16460008
Start Date : 4/9/2014
Page No : 3

Peak Hour Analysis From 04:30 PM to 06:15 PM - Peak of 1		Path				Crosswalk				From West				From Sidewalk			
Start Time	End Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total
Peak Hour for EB on 10th Street at:																	
05:00 PM																	
13	45	1	59	4	33	12	49	11	22	0	33	9	32	38	79		
< 40 mins.																	
40-45 mins.		3	35	5	43	14	52	7	20	1	20	3	23	50			
45-50 mins.		12	35	5	52	9	27	12	35	2	20	3	25	43			
50-55 mins.		10	41	3	54	1	33	4	48	13	25	1	39	8	48	24	90
> 45 mins.																	
Total Volume	50	178	11	237	5	112	497	166	47	69	5	121	24	159	141	324	
% Walk	21	11	5	26	1	28	36	4	41	1	10	4	15	10	10	10	30
% Auto	583	160	550	823	333	948	467	904	69	625	776	697	928	483	900		

Ames Street Residences
Transportation Impact Study
Technical Appendix
Crash Data

Ames Street Residences

Vehicle Crash Data
(2009 - 2011)

Group Report

	Broadway and Galileo Galilei Way	Main Street and Galileo Galilei Way	Main Street and Ames Street	Broadway and Ames Street	Broadway and Third Street	Broadway and Garage Entrance/Exit
Currently Signalized?	Yes	Yes	Yes	Yes	Yes	No
MassHighway ACR	0.76	0.76	0.76	0.76	0.76	0.58
MassHighway CCR	0.74	0.92	0.56	0.53	0.56	0.22
Exceeds?	Yes	Yes	No	No	No	No
Year						
2009	5	4	5	0	7	1
2010	10	5	1	3	3	2
2011	<u>7</u>	<u>11</u>	<u>1</u>	<u>4</u>	<u>4</u>	<u>1</u>
Total	22	20	7	7	14	4
Average	7.33	6.67	2.33	3.50	4.67	1.33
Collision Type						
Angle	12	7	3	0	3	1
Head-on	1	1	0	0	0	0
Rear-end	1	4	0	4	5	1
Rear-to-Rear	0	0	0	0	0	0
Sideswipe, opposite direction	0	0	0	0	1	0
Sideswipe, same direction	2	5	2	1	2	0
Single vehicle crash	6	2	1	0	3	1
Unknown	0	0	1	1	0	1
Not reported	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
Total	22	20	7	7	14	4
Crash Severity						
Fatal injury	0	0	0	0	0	0
Non-fatal injury	12	5	1	4	4	1
Property damage only	7	9	5	2	7	2
Not Reported	3	6	1	1	2	1
Unknown	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>1</u>	<u>0</u>
Total	22	20	7	7	14	4
Time of Day						
Weekday, 7:00 AM - 9:00 AM	3	2	0	3	0	0
Weekday, 4:00 PM - 6:00 PM	7	4	1	1	5	0
Saturday, 11:00 AM - 2:00 PM	2	0	0	0	0	0
Weekday, other time	8	11	6	3	7	4
Weekend, other time	<u>2</u>	<u>3</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>
Total	22	20	7	7	14	4
Pavement Conditions						
Dry	19	12	3	5	9	1
Wet	3	7	3	1	4	3
Snow	0	0	1	0	0	0
Ice	0	0	0	0	0	0
Sand, mud, dirt, oil, gravel	0	0	0	0	0	0
Water (standing, moving)	0	0	0	0	0	0
Slush	0	0	0	0	0	0
Other	0	0	0	0	0	0
Unknown	0	0	0	0	1	0
Not reported	<u>0</u>	<u>1</u>	<u>0</u>	<u>1</u>	<u>0</u>	<u>0</u>
Total	22	20	7	7	14	4
Non Motroist (Bike, Pedestrian)						
Total	5	5	0	2	3	1

CRASH RATE WORKSHEET

CITY/TOWN : Cambridge

COUNT DATE :

DISTRICT : 6

UNSIGNALIZED :

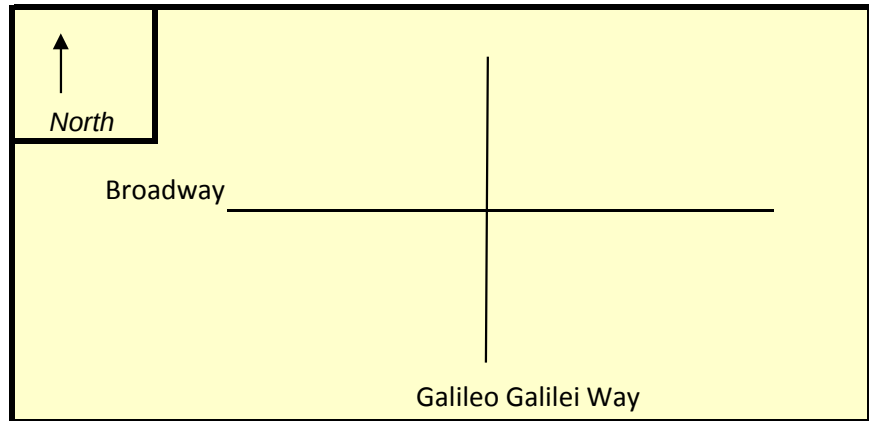
SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Broadway

MINOR STREET(S) : Galileo Galilei Way

**INTERSECTION
DIAGRAM**
(Label Approaches)



Peak Hour Volumes

APPROACH :

DIRECTION :

VOLUMES (PM) :

1	2	3	4	5	6
NB	SB	EB	WB		
670	485	670	625		

" K " FACTOR :

0.09

APPROACH ADT :

27222.222

ADT = TOTAL VOL/"K" FACT.

TOTAL # OF
ACCIDENTS :

22

OF
YEARS :

3

AVERAGE # OF
ACCIDENTS (A) :

7.33

CRASH RATE CALCULATION :

0.74

RATE =

$$\frac{(A * 1,000,000)}{(ADT * 365)}$$

Source (optional): Volumes from Existing Condition PM Peak

Comments:

CRASH RATE WORKSHEET

CITY/TOWN : Cambridge

COUNT DATE :

DISTRICT : 6

UNSIGNALIZED :

SIGNALIZED : X

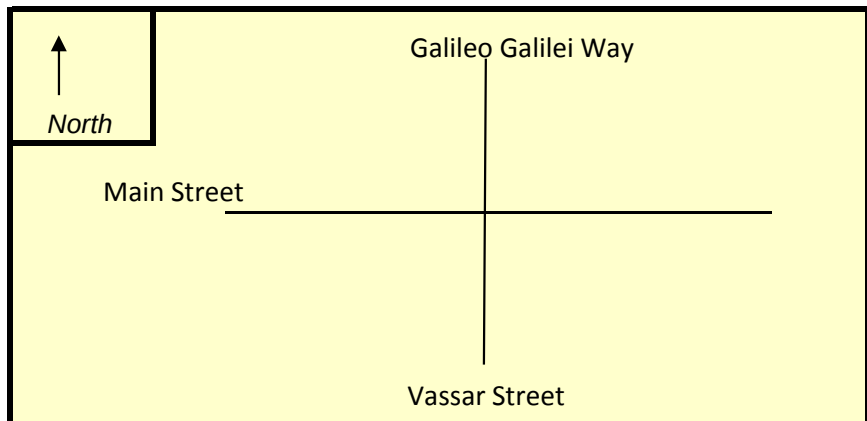
~ INTERSECTION DATA ~

MAJOR STREET : Main Street

MINOR STREET(S) : Galileo Galilei Way

Vassar Street

**INTERSECTION
DIAGRAM**
(Label Approaches)



Peak Hour Volumes

APPROACH :

DIRECTION :

VOLUMES (PM) :

1	2	3	4	5	6
NB	SB	EB	WB		
580	485	524	200		

" K " FACTOR :

0.09

APPROACH ADT :

19877.778

ADT = TOTAL VOL/"K" FACT.

TOTAL # OF
ACCIDENTS :

20

OF
YEARS :

3

AVERAGE # OF
ACCIDENTS (A) :

6.67

CRASH RATE CALCULATION :

0.92

RATE =

$$\frac{(A * 1,000,000)}{(ADT * 365)}$$

Source (optional): Volumes from Existing Condition PM Peak

Comments:

CRASH RATE WORKSHEET

CITY/TOWN : Cambridge

COUNT DATE :

DISTRICT : 6

UNSIGNALIZED :

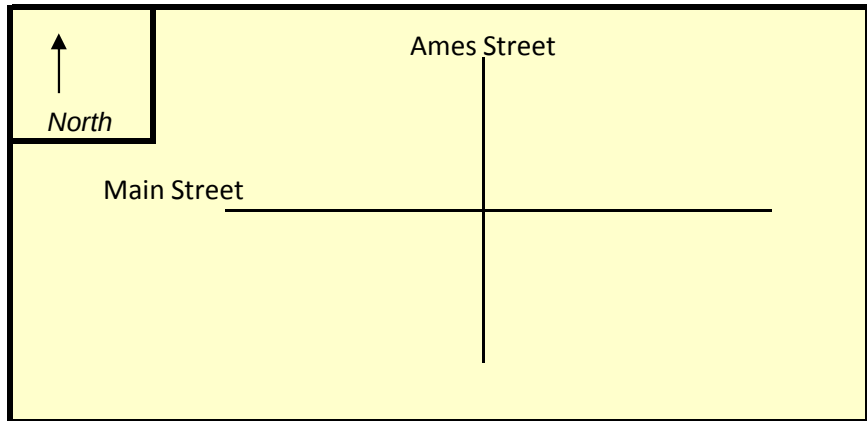
SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Main Street

MINOR STREET(S) : Ames Street

**INTERSECTION
DIAGRAM**
(Label Approaches)



Peak Hour Volumes

APPROACH :

DIRECTION :

VOLUMES (PM) :

1	2	3	4	5	6
NB	SB	EB	WB		
250	265	415	105		

" K " FACTOR :

0.09

APPROACH ADT :

11500

ADT = TOTAL VOL/"K" FACT.

TOTAL # OF
ACCIDENTS :

7

OF
YEARS :

3

AVERAGE # OF
ACCIDENTS (A) :

2.33

CRASH RATE CALCULATION :

0.56

RATE =

$$\frac{(A * 1,000,000)}{(ADT * 365)}$$

Source (optional): Volumes from Existing Condition PM Peak

Comments:

CRASH RATE WORKSHEET

CITY/TOWN : Cambridge

COUNT DATE :

DISTRICT : 6

UNSIGNALIZED :

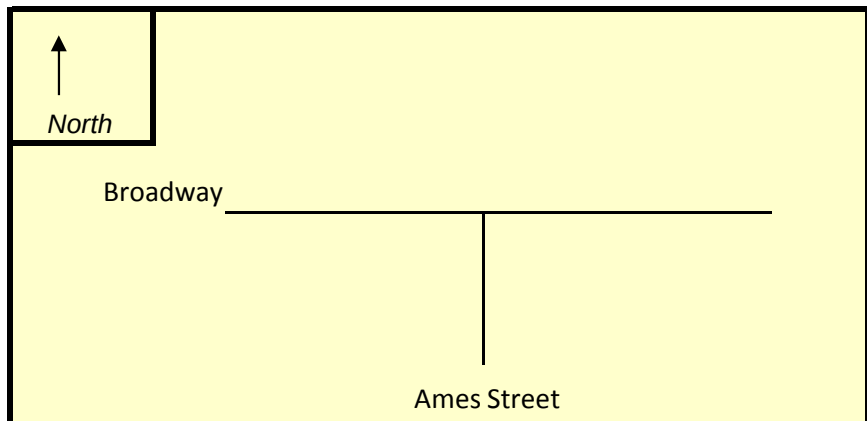
SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Broadway

MINOR STREET(S) : Ames Street

**INTERSECTION
DIAGRAM**
(Label Approaches)



Peak Hour Volumes

APPROACH :

DIRECTION :

VOLUMES (PM) :

1	2	3	4	5	6
NB	SB	EB	WB		
350	0	625	640		

" K " FACTOR :

0.09

APPROACH ADT :

17944.444

ADT = TOTAL VOL/"K" FACT.

TOTAL # OF
ACCIDENTS :

7

OF
YEARS :

2

AVERAGE # OF
ACCIDENTS (A) :

3.50

CRASH RATE CALCULATION :

0.53

RATE =

$$\frac{(A * 1,000,000)}{(ADT * 365)}$$

Source (optional): Volumes from Existing Condition PM Peak

Comments:

CRASH RATE WORKSHEET

CITY/TOWN : Cambridge

COUNT DATE :

DISTRICT : 6

UNSIGNALIZED :

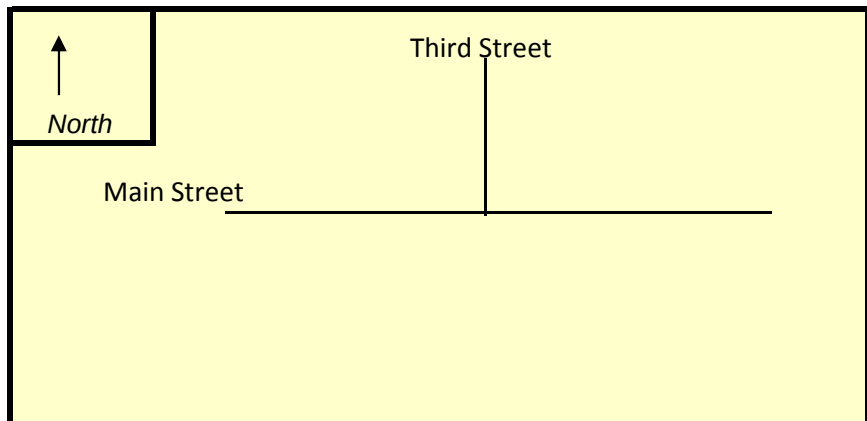
SIGNALIZED : X

~ INTERSECTION DATA ~

MAJOR STREET : Broadway

MINOR STREET(S) : Third Street

**INTERSECTION
DIAGRAM**
(Label Approaches)



Peak Hour Volumes

APPROACH :

DIRECTION :

VOLUMES (PM) :

1	2	3	4	5	6
NB	SB	EB	WB		
0	550	865	645		

" K " FACTOR :

0.09

APPROACH ADT :

22888.889

ADT = TOTAL VOL/"K" FACT.

TOTAL # OF
ACCIDENTS :

14

OF
YEARS :

3

AVERAGE # OF
ACCIDENTS (A) :

4.67

CRASH RATE CALCULATION :

0.56

RATE =

$$\frac{(A * 1,000,000)}{(ADT * 365)}$$

Source (optional): Volumes from Existing Condition PM Peak

Comments:

CRASH RATE WORKSHEET

CITY/TOWN : Cambridge

COUNT DATE :

DISTRICT : 6

UNSIGNALIZED : X

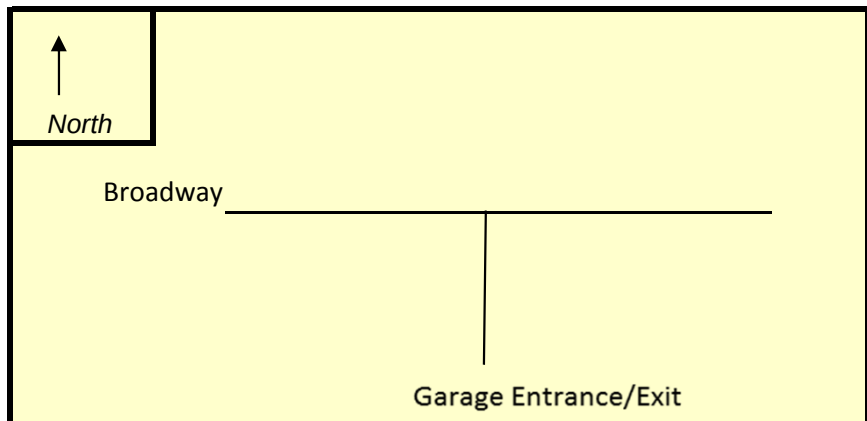
SIGNALIZED :

~ INTERSECTION DATA ~

MAJOR STREET : Broadway

MINOR STREET(S) : Garage Entrance/Exit

**INTERSECTION
DIAGRAM**
(Label Approaches)



Peak Hour Volumes

APPROACH :

DIRECTION :

VOLUMES (PM) :

1	2	3	4	5	6
NB	SB	EB	WB		
125	0	740	625		

" K " FACTOR :

0.09

APPROACH ADT :

16555.556

ADT = TOTAL VOL/"K" FACT.

TOTAL # OF
ACCIDENTS :

4

OF
YEARS :

3

AVERAGE # OF
ACCIDENTS (A) :

1.33

CRASH RATE CALCULATION :

0.22

RATE =

$$\frac{(A * 1,000,000)}{(ADT * 365)}$$

Source (optional): Volumes from Existing Condition PM Peak

Comments:

Ames Street Residences
Transportation Impact Study
Technical Appendix
Synchro Analysis

Intersection *Synchro* Analysis
Weekday Morning Peak

2014 Existing Condition

Lanes and Geometrics

1: Broadway & Western Connector

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	11	11	11	11	12	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	100	0	295	0	295	0	250	0	250	0	225	0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.92	0.92	0.92	0.98	0.98	0.98	0.96	0.96	0.96	0.93	0.93	0.93
Frt	0.974	0.974	0.974	0.993	0.993	0.993	0.958	0.958	0.958	0.850	0.850	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1444	2679	0	1444	2922	0	1390	2553	0	1450	1476	1211
Flt Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1444	2679	0	1444	2922	0	1390	2553	0	1450	1476	1130
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	25	25	25	25	25	25	25	25	25	25	25	25
Link Speed (mph)	470	470	470	470	470	470	470	470	470	470	470	470
Link Distance (ft)	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
Travel Time (s)	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
Intersection Summary												
Area Type: CBD												

Volume

1: Broadway & Western Connector

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	140	395	85	115	390	20	65	205	80	130	410	170
Confl. Peds. (#/hr)	372	372	372	372	372	372	372	372	372	372	372	372
Confl. Bikes (#/hr)	18	18	18	18	18	18	18	18	18	18	18	18
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.93	0.93	0.93	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	152	429	92	128	433	22	70	220	86	148	466	193
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	152	521	0	128	455	0	70	306	0	148	466	193
Intersection Summary												

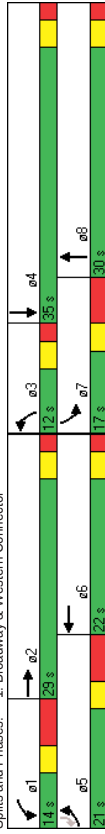
Timings

1: Broadway & Western Connector

5/12/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	140	395	115	390	65	205	130	410	170
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Custom	Custom
Protected Phases	5	2	1	6	3	8	7	4	5
Detector Phase	5	2	1	6	3	8	7	4	5
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.0	27.0	14.0	22.0	12.0	27.0	17.0	27.0	21.0
Total Split (s)	21.0	29.0	14.0	22.0	12.0	30.0	17.0	35.0	21.0
Total Split (%)	23.3%	32.2%	15.6%	24.4%	13.3%	33.3%	18.9%	38.9%	23.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	2.0	5.0	2.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Act Effct Green (s)	13.0	24.0	6.0	17.0	6.8	25.0	9.0	32.4	13.0
Actuated g/C Ratio	0.14	0.27	0.07	0.19	0.08	0.28	0.10	0.36	0.14
v/c Ratio	0.73	0.73	1.33	0.82	0.67	0.43	1.02	0.88	1.18
Control Delay	58.3	37.0	224.5	55.7	64.2	27.6	123.5	48.3	165.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	37.0	224.5	55.7	64.2	27.6	123.5	48.3	165.5
LOS	E	D	F	E	E	C	F	D	F
Approach Delay		41.8		92.7		34.4		90.1	
Approach LOS		D		F		C		F	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Natural Cycle: 90									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 1.33									
Intersection Signal Delay: 68.8									
Intersection Capacity Utilization 73.6%									
Analysis Period (min) 15									

Splits and Phases: 1: Broadway & Western Connector



Existing Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

Page 3

Phasings

1: Broadway & Western Connector

5/12/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	5	2	1	6	3	8	7	4	
Permitted Phases	↔	↔	↔	↔	↔	↔	↔	↔	↔
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	21.0	27.0	14.0	22.0	12.0	27.0	17.0	27.0	21.0
Total Split (s)	21.0	29.0	14.0	22.0	12.0	30.0	17.0	35.0	21.0
Total Split (%)	23.3%	32.2%	15.6%	24.4%	13.3%	33.3%	18.9%	38.9%	23.3%
Maximum Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	2.0	5.0	2.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Walk Time (s)		7.0		7.0		7.0		10.0	
Flash Dont Walk (s)		15.0		10.0		15.0		12.0	
Pedestrian Calls (#/hr)		0		0		0		0	
90th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
90th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
70th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
70th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
50th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
50th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
30th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
30th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
10th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
10th %ile Term Code	Max	Coord	Max	Coord	Skip	Coord	Max	Coord	Max
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Control Type: Actuated-Coordinated									

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Queues

1: Broadway & Western Connector

5/12/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group										
Lane Group Flow (vph)	152	521	128	455	70	306	148	466	193	
v/c Ratio	0.73	0.73	1.33	0.82	0.67	0.43	1.02	0.88	1.18	
Control Delay	58.3	37.0	224.5	55.7	64.2	27.6	123.5	48.3	165.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	58.3	37.0	224.5	55.7	64.2	27.6	123.5	48.3	165.5	
Queue Length 50th (ft)	84	142	~100	145	42	65	~88	255	~133	
Queue Length 95th (ft)	#177	201	m#146	m172	m#102	110	#203	#433	#257	
Internal Link Dist (ft)	390			551		697		639		
Turn Bay Length (ft)	100		295		250		225			
Base Capacity (vph)	209	714	96	552	108	709	145	531	163	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.73	0.73	1.33	0.82	0.65	0.43	1.02	0.88	1.18	
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.										

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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HCM Signalized Intersection Capacity Analysis

1: Broadway & Western Connector

5/12/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Movement										
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Volume (vph)	140	395	85	115	390	20	65	205	80	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	10	11	11	11	12	11	30
Total Lost time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0	30
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.92	1.00	0.98	1.00	0.96	1.00	0.96	1.00	0.93
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prt	1.00	0.97	1.00	0.99	1.00	0.96	1.00	0.96	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1444	2675	1444	2922	1390	2553	1450	1476	1130	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1444	2675	1444	2922	1390	2553	1450	1476	1130	
Peak-Hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	152	429	92	128	433	22	70	220	86	148
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	152	521	0	128	455	0	70	306	0	148
Confl. Peds. (#/hr)	372			242			99			
Confl. Bikes (#/hr)	321			18			24			
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	13%	13%	13%	12%
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custom	
Protected Phases	5	2	1	6	3	8	7	4	5	
Permitted Phases										
Actuated Green, G (s)	13.0	23.0	6.0	16.0	5.6	26.0	9.0	32.4	13.0	
Effective Green, g (s)	13.0	23.0	6.0	16.0	5.6	26.0	9.0	32.4	13.0	
Actuated g/C Ratio	0.14	0.26	0.07	0.18	0.06	0.29	0.10	0.36	0.14	
Clearance Time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	209	684	96	519	86	738	145	531	163	
v/s Ratio Prot	0.11	c0.19	0.09	0.16	0.05	0.12	c0.10	c0.32	c0.17	
v/s Ratio Perm										
v/c Ratio	0.73	0.76	1.33	0.88	0.61	0.41	1.02	0.88	1.18	
Uniform Delay, d1	36.8	31.0	42.0	36.0	41.7	25.9	40.5	26.9	38.5	
Progression Factor	1.00	1.00	1.00	1.32	0.88	0.95	1.00	1.00	1.00	
Incremental Delay, d2	11.9	7.8	188.4	12.9	39.3	1.6	80.3	18.3	128.6	
Delay (s)	48.7	38.8	230.3	60.3	76.0	26.2	120.8	45.2	167.1	
Level of Service	D	D	F	E	E	C	F	D	F	
Approach Delay (s)										
Approach LOS										
Intersection Summary										
HCM Average Control Delay	69.3				HCM Level of Service				E	
HCM Volume to Capacity ratio	1.06									
Actuated Cycle Length (s)	90.0				Sum of lost time (s)				26.0	
Intersection Capacity Utilization	73.6%				ICU Level of Service				D	
Analysis Period (min)	15									
c Critical Lane Group										

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Lanes and Geometrics

2: Main Street & Galileo Way

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	11	11	10	10	11	10	11	10
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	250	120	0	250	0	250	0	0	0	0	75
Storage Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.77	0.96	0.93	0.92	0.93	0.92	0.93	0.93	0.91	0.91	0.87	0.87
Frt	0.950	0.966	0.950	0.960	0.950	0.960	0.952	0.952	0.950	0.950	0.850	0.850
Flt Protected	1464	1426	0	1430	1372	0	0	2566	0	1354	1476	1211
Satd. Flow (prot)	0.632	0.597	0.597	0.597	0.597	0.597	0.597	0.597	0.597	0.597	0.597	0.597
Flt Permitted	747	1426	0	839	1372	0	0	2056	0	646	1476	1058
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	21	21	25	25	25	25	25	25	25	25	25	32
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	1009	1009	483	483	483	483	483	483	483	483	483	483
Link Distance (ft)	22.9	22.9	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Travel Time (s)												
Intersection Summary												
Area Type: CBD												

Volume

2: Main Street & Galileo Way

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	125	185	55	75	125	45	60	220	115	30	305	275
Confl. Peds. (#/hr)	490	83	83	83	490	36	132	132	132	132	36	36
Confl. Bikes (#/hr)	87	87	87	87	87	87	87	87	87	87	87	87
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	132	195	58	88	147	53	66	242	126	33	335	302
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	132	253	0	88	200	0	0	434	0	33	335	302
Intersection Summary												

Timings

2. Main Street & Galileo Way

5/12/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	125	185	75	125	60	220	30	305	275
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	3	3	3	3	3
Detector Phase	1	1	1	1	3	3	3	3	3
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0
Minimum Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (%)	52.2%	52.2%	52.2%	52.2%	47.8%	47.8%	47.8%	47.8%	47.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.41	0.40	0.24	0.33	0.51	0.13	0.58	0.70	0.70
Control Delay	22.4	18.3	27.5	26.4	19.3	21.8	23.7	24.2	24.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.4	18.3	27.5	26.4	19.3	21.8	23.7	24.2	24.2
LOS	C	B	C	C	B	C	C	C	C
Approach Delay		19.7		26.8		19.3		23.8	
Approach LOS		B		C		B		C	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 58 (64%), Referenced to phase 1:EBWB, Start of Green									
Natural Cycle: 90									
Control Type: Prelimed									
Maximum v/c Ratio: 0.70									
Intersection Signal Delay: 22.3									
Intersection Capacity Utilization 125.0%									
Analysis Period (min) 15									

Splits and Phases: 2. Main Street & Galileo Way



Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Phasings

2. Main Street & Galileo Way

5/12/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases									
Permitted Phases	1	1	1	1	3	3	3	3	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	1.0	1.0	1.0	1.0	1.0
Minimum Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (%)	52.2%	52.2%	52.2%	52.2%	47.8%	47.8%	47.8%	47.8%	47.8%
Maximum Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	21.0	21.0	21.0	21.0	18.0	18.0	18.0	18.0	18.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 58 (64%), Referenced to phase 1:EBWB, Start of Green									
Control Type: Prelimed									

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Queues

2: Main Street & Galileo Way

5/12/2014

	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR	
Lane Group									
Lane Group Flow (vph)	132	253	88	200	434	33	335	302	
v/c Ratio	0.41	0.40	0.24	0.33	0.51	0.13	0.58	0.70	
Control Delay	22.4	18.3	27.5	26.4	19.3	21.8	23.7	24.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	22.4	18.3	27.5	26.4	19.3	21.8	23.7	24.2	
Queue Length 50th (ft)	50	87	49	105	77	11	112	90	
Queue Length 95th (ft)	102	150	m71	m125	123	m13	m129	m105	
Internal Link Dist (ft)		929		403	730		697		
Turn Bay Length (ft)			120					75	
Base Capacity (vph)	324	630	364	609	849	251	574	431	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.41	0.40	0.24	0.33	0.51	0.13	0.58	0.70	
Intersection Summary									
m Volume for 95th percentile queue is metered by upstream signal.									

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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HCM Signalized Intersection Capacity Analysis

2: Main Street & Galileo Way

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	125	185	55	75	125	45	60	220	115	30	305	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	10	10	11	10	11	10
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frbp. ped/bikes	1.00	0.96	1.00	0.92	1.00	0.92	1.00	0.94	1.00	1.00	0.87	1.00
Frbp. ped/bikes	0.77	1.00	0.93	1.00	0.93	1.00	1.00	0.91	1.00	1.00	1.00	1.00
Frt	1.00	0.97	1.00	0.96	1.00	0.96	0.96	1.00	1.00	1.00	0.85	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1122	1426	1334	1372	1334	1372	2558	1228	1476	1058	1228	1476
Flt Permitted	0.63	1.00	0.60	1.00	0.60	1.00	0.80	1.00	1.00	0.50	1.00	1.00
Satd. Flow (perm)	747	1426	839	1372	839	1372	2056	646	1476	1058	646	1476
Peak-Hour factor, PHF	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	132	195	58	88	147	53	66	242	126	33	335	302
RTOR Reduction (vph)	0	12	0	0	14	0	0	50	0	0	0	20
Lane Group Flow (vph)	132	241	0	88	186	0	0	385	0	33	335	282
Confl. Peds. (#/hr)	490	83	83	83	490	36	132	132	36	36	36	67
Confl. Bikes (#/hr)	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles (%)	11%	11%	11%	6%	6%	6%	5%	5%	5%	12%	12%	12%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	1	1	3	3	3	3	3	3
Permitted Phases	1	1	1	1	1	1	3	3	3	3	3	3
Actuated Green, G (s)	39.0	39.0	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0
Effective Green, g (s)	39.0	39.0	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	324	618	364	595	364	595	800	251	574	411	251	574
v/s Ratio Prot	0.17	0.17	0.17	0.14	0.14	0.14	0.19	0.19	0.19	0.05	0.23	0.27
v/s Ratio Perm	0.18	0.18	0.18	0.10	0.10	0.10	0.19	0.19	0.19	0.05	0.23	0.27
v/c Ratio	0.41	0.39	0.39	0.24	0.31	0.31	0.48	0.48	0.48	0.13	0.58	0.69
Uniform Delay, d1	17.5	17.4	16.1	16.7	16.7	16.7	20.7	20.7	20.7	17.7	21.7	22.9
Progression Factor	1.00	1.00	1.56	1.68	1.68	1.68	1.00	1.00	1.00	1.16	0.99	0.96
Incremental Delay, d2	3.8	1.9	1.2	1.1	1.1	1.1	2.1	2.1	2.1	0.4	1.5	3.2
Delay (s)	21.3	19.2	26.3	29.2	29.2	29.2	22.7	22.7	22.7	20.9	22.9	25.2
Level of Service	C	B	C	C	C	C	C	C	C	C	C	C
Approach Delay (s)	20.0	20.0	28.3	28.3	28.3	28.3	22.7	22.7	22.7	23.9	23.9	23.9
Approach LOS	B	B	C	C	C	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	23.5											
HCM Volume to Capacity ratio	0.54											
Actuated Cycle Length (s)	90.0											
Sum of lost time (s)	16.0											
Intersection Capacity Utilization	125.0%											
ICU Level of Service	H											
Analysis Period (min)	15											
c Critical Lane Group												

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Lanes and Geometrics

3. Main Street & Ames Street

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	12	12	12	12	12	12	12	12	12	12	12	12
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. 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
Ped Bike Factor	0.78	0.980	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955	0.955
Frt	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987	0.987
Flt Protected	0	1257	0	0	1384	0	0	1399	0	0	1445	1223
Satd. Flow (prot)	0.877	0.959	0	0	1279	0	0	1031	0	0	827	591
Flt Permitted	0	959	0	0	1279	0	0	1031	0	0	827	591
Satd. Flow (perm)	0	959	0	0	1279	0	0	1031	0	0	827	591
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	483	483	483	483	483	483	483	483	483	483	483	483
Link Distance (ft)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Travel Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Intersection Summary												
Area Type: CBD												

Volume

3. Main Street & Ames Street

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	90	190	50	10	50	30	80	135	20	60	35	115
Confl. Peds. (#/hr)	769	546	546	546	546	769	194	163	163	163	163	194
Confl. Bikes (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	108	229	60	11	57	34	88	148	22	67	39	129
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	397	0	0	102	0	0	258	0	0	106	129
Intersection Summary												

Timings

3. Main Street & Ames Street

5/12/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	90	190	10	50	80	135	60	35	115
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases									
Permitted Phases	3	3	3	3	1	1	1	1	1
Detector Phase	3	3	3	3	1	1	1	1	1
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	43.0	43.0	43.0	43.0	26.0	26.0	26.0	26.0	26.0
Total Split (s)	55.0	55.0	55.0	55.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-1.0	0.0	-1.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	7.0	8.0	7.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effort Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.30	0.30	0.30	0.30	0.30
v/c Ratio	0.79	0.79	0.15	0.15	0.83	0.83	0.43	0.73	0.73
Control Delay	26.7	26.7	12.0	12.0	54.2	54.2	30.9	51.6	51.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	26.7	12.0	12.0	54.2	54.2	30.9	51.6	51.6
LOS	C	C	B	B	D	D	C	D	D
Approach Delay	26.7	26.7	12.0	12.0	54.2	54.2	42.3	42.3	42.3
Approach LOS	C	C	B	B	D	D	D	D	D
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 44 (49%), Referenced to phase 3EBWB, Start of Green									
Natural Cycle: 70									
Control Type: Prelimed									
Maximum v/c Ratio: 0.83									
Intersection Signal Delay: 36.0									
Intersection Capacity Utilization 79.8%									
Analysis Period (min) 15									

Splits and Phases: 3. Main Street & Ames Street



Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Phasings

3. Main Street & Ames Street

5/12/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases									
Permitted Phases	3	3	3	3	1	1	1	1	1
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	43.0	43.0	43.0	43.0	26.0	26.0	26.0	26.0	26.0
Total Split (s)	55.0	55.0	55.0	55.0	35.0	35.0	35.0	35.0	35.0
Total Split (%)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Maximum Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	16.0	16.0	16.0	16.0	4.0	4.0	4.0	4.0	4.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 44 (49%), Referenced to phase 3EBWB, Start of Green									
Control Type: Prelimed									

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Queues

3: Main Street & Ames Street

5/12/2014

	EBT	WBT	NBT	SBT	SBR
Lane Group					
Lane Group Flow (vph)	397	102	258	106	129
v/c Ratio	0.79	0.15	0.83	0.43	0.73
Control Delay	26.7	12.0	54.2	30.9	51.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	26.7	12.0	54.2	30.9	51.6
Queue Length 50th (ft)	136	29	136	42	74
Queue Length 95th (ft)	179	55	#273	m#141	
Internal Link Dist (ft)	403	410	456	198	
Turn Bay Length (ft)					
Base Capacity (vph)	501	668	309	248	177
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	0.79	0.15	0.83	0.43	0.73
Intersection Summary					
#	95th percentile volume exceeds capacity, queue may be longer.				
m	Queue shown is maximum after two cycles.				
n	Volume for 95th percentile queue is metered by upstream signal.				

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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HCM Signalized Intersection Capacity Analysis

3: Main Street & Ames Street

5/12/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	190	50	10	50	30	80	135	20	60	35	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	16	12	12	12	12	12	10	12
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. 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
Frpb, ped/bikes	0.91	0.80	0.80	0.91	0.80	0.96	0.96	0.96	1.00	0.48	1.00	0.48
Flpb, ped/bikes	0.86	0.86	0.97	0.86	0.97	0.86	0.86	0.86	0.85	1.00	0.85	1.00
Frt	0.98	0.98	0.95	0.95	0.95	0.99	0.99	0.99	1.00	0.85	1.00	0.85
Flt Protected	0.99	0.99	0.99	0.99	0.99	0.98	0.98	0.98	0.97	1.00	0.97	1.00
Satd. Flow (prot)	1078	1078	1340	1340	1200	1200	1229	1229	591	1229	591	1229
Flt Permitted	0.88	0.88	0.95	0.95	0.84	0.84	0.84	0.84	0.65	1.00	0.65	1.00
Satd. Flow (perm)	959	959	1279	1279	1031	1031	1031	1031	827	591	827	591
Peak-hour factor, PHF	0.83	0.83	0.83	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	108	229	60	11	57	34	88	148	22	67	39	129
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	397	0	0	102	0	258	0	0	106	129	129
Confl. Peds. (#/hr)	769	546	546	769	194	163	163	194	163	163	194	194
Confl. Bikes (#/hr)	107	107	107	15	15	15	15	15	1	34	34	34
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	3	3	3	3	3	3	1	1	1	1	1	1
Permitted Phases	3	3	3	3	3	3	1	1	1	1	1	1
Actuated Green, G (s)	47.0	47.0	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0	27.0
Effective Green, g (s)	47.0	47.0	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0	27.0
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.52	0.52	0.30	0.30	0.30	0.30	0.30	0.30
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	501	668	668	309	309	309	248	248	248	177	177	177
v/s Ratio Prot	c0.41	0.08	0.08	c0.25	c0.25	c0.25	0.13	0.13	0.13	0.22	0.22	0.22
v/s Ratio Perm	0.79	0.15	0.15	0.83	0.83	0.83	0.43	0.43	0.43	0.73	0.73	0.73
v/c Ratio	17.5	11.2	11.2	29.4	29.4	29.4	25.3	25.3	25.3	28.2	28.2	28.2
Uniform Delay, d1	17.5	11.2	11.2	29.4	29.4	29.4	25.3	25.3	25.3	28.2	28.2	28.2
Progression Factor	0.75	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	11.5	0.5	0.5	22.6	22.6	22.6	4.5	4.5	4.5	19.9	19.9	19.9
Delay (s)	24.7	11.6	11.6	52.0	52.0	52.0	29.7	29.7	29.7	48.5	48.5	48.5
Level of Service	C	B	B	D	D	D	C	C	C	D	D	D
Approach Delay (s)	24.7	11.6	11.6	52.0	52.0	52.0	40.0	40.0	40.0	40.0	40.0	40.0
Approach LOS	C	B	B	D	D	D	D	D	D	D	D	D
Intersection Summary												
HCM Average Control Delay	34.1					HCM Level of Service						
HCM Volume to Capacity ratio	0.81					C						
Actuated Cycle Length (s)	90.0					Sum of lost time (s)						
Intersection Capacity Utilization	79.8%					ICU Level of Service						
Analysis Period (min)	15					D						
Critical Lane Group												

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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Lanes and Geometrics

4: Broadway & Ames Street

5/12/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	11	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	160		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	25
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor	0.89		0.82		0.79	0.45
Frt	0.974				0.850	
Flt Protected			0.950		0.950	
Satd. Flow (prot)	2540	0	1510	1589	1533	1234
Flt Permitted			0.292		0.950	
Satd. Flow (perm)	2540	0	383	1589	1215	559
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	30					122
Link Speed (mph)	30			30		30
Link Distance (ft)	631			396		273
Travel Time (s)	14.3			9.0		6.2
Intersection Summary						
Area Type: CBD						

Volume

4: Broadway & Ames Street

5/12/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	495	105	215	420	125	115
Confl. Peds. (#/hr)		323	323		138	271
Confl. Bikes (#/hr)		247				3
Peak Hour Factor	0.93	0.93	0.95	0.95	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	4%	4%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						0
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	532	113	226	442	133	122
Shared Lane Traffic (%)						
Lane Group Flow (vph)	645	0	226	442	133	122
Intersection Summary						

Timings

4: Broadway & Ames Street

5/12/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑
Volume (vph)	495	215	420	125	115
Turn Type	pm+pt				Perm
Protected Phases	1	2	1	4	4
Permitted Phases	1				
Detector Phase	1	2	1	4	4
Switch Phase					
Minimum Initial (s)	4.0	1.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	29.0	50.0	29.0	19.0	19.0
Actuated g/C Ratio	0.32	0.56	0.32	0.21	0.21
v/c Ratio	0.77	0.46	0.66	0.41	0.57
Control Delay	20.2	13.7	54.1	31.3	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	13.7	54.1	31.3	15.1
LOS	C	B	D	C	B
Approach Delay	20.2		40.4	23.6	
Approach LOS	C		D	C	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 80 (89%), Referenced to phase 1:EBWB, Start of Green					
Natural Cycle: 90					
Control Type: Prelimed					
Maximum v/c Ratio: 0.86					
Intersection Signal Delay: 29.4					
Intersection Capacity Utilization 69.1%					
Analysis Period (min) 15					

Splits and Phases: 4: Broadway & Ames Street



Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Phasings

4: Broadway & Ames Street

5/12/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Protected Phases	1	2	1	4	4
Permitted Phases					
Minimum Initial (s)	4.0	1.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Maximum Green (s)	29.0	22.0	29.0	19.0	19.0
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	13.0	7.0	13.0	4.0	4.0
Flash Dont Walk (s)	16.0	12.0	16.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
90th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
70th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
70th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
50th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
50th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
30th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
30th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
10th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
10th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 80 (89%), Referenced to phase 1:EBWB, Start of Green					
Control Type: Prelimed					

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Queues

4: Broadway & Ames Street

5/12/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	645	226	442	133	122
v/c Ratio	0.77	0.46	0.86	0.41	0.57
Control Delay	20.2	13.7	54.1	31.3	15.1
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	20.2	13.7	54.1	31.3	15.1
Queue Length 50th (ft)	174	56	276	63	15
Queue Length 95th (ft)	m175	m59	m279	m88	m27
Internal Link Dist (ft)	551		316	193	
Turn Bay Length (ft)		160			
Base Capacity (vph)	839	488	512	324	214
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	0.77	0.46	0.86	0.41	0.57
Intersection Summary					
m Volume for 95th percentile queue is metered by upstream signal.					

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report
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HCM Signalized Intersection Capacity Analysis

4: Broadway & Ames Street

5/12/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↕↕	↔	↕	↕	↔	↕
Volume (vph)	495	105	215	420	125	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	11	11	12	12
Total Lost time (s)	6.0		7.0	6.0	7.0	7.0
Lane Util. Factor	0.95		1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.89		1.00	1.00	1.00	0.45
Flpb, ped/bikes	1.00		0.96	1.00	1.00	1.00
Prt	0.97		1.00	1.00	1.00	0.85
Flt Protected	1.00		0.95	1.00	0.95	1.00
Satd. Flow (prot)	2539		1442	1589	1533	559
Flt Permitted	1.00		0.29	1.00	0.95	1.00
Satd. Flow (perm)	2539		443	1589	1533	559
Peak-hour factor, PHF	0.93	0.93	0.95	0.95	0.94	0.94
Adj. Flow (vph)	532	113	226	442	133	122
RTOR Reduction (vph)	20	0	0	0	0	96
Lane Group Flow (vph)	625	0	226	442	133	26
Confl. Peds. (#/hr)	323	323	323	138	138	271
Confl. Bikes (#/hr)	247					3
Heavy Vehicles (%)	3%	3%	4%	4%	6%	6%
Parking (#/hr)						0
Turn Type	1		pm+pt			Perm
Protected Phases			2	1	4	
Permitted Phases			1			4
Actuated Green, G (s)	29.0		51.0	29.0	19.0	19.0
Effective Green, g (s)	29.0		51.0	29.0	19.0	19.0
Actuated g/C Ratio	0.32		0.57	0.32	0.21	0.21
Clearance Time (s)	6.0		7.0	6.0	7.0	7.0
Lane Grp Cap (vph)	818		495	512	324	118
v/s Ratio Prot	0.25		c0.11	c0.28	c0.09	
v/s Ratio Perm			0.15			0.05
v/c Ratio	0.76		0.46	0.86	0.41	0.22
Uniform Delay, d1	27.4		18.1	28.6	30.7	29.4
Progression Factor	0.59		0.79	1.68	0.91	1.04
Incremental Delay, d2	4.3		0.8	5.2	2.8	3.1
Delay (s)	20.5		15.0	53.4	30.7	33.6
Level of Service	C		B	D	C	C
Approach Delay (s)	20.5			40.4	32.1	
Approach LOS	C			D	C	
Intersection Summary						
HCM Average Control Delay			30.9		HCM Level of Service	C
HCM Volume to Capacity ratio			0.61			
Actuated Cycle Length (s)			90.0		Sum of lost time (s)	20.0
Intersection Capacity Utilization			69.1%		ICU Level of Service	C
Analysis Period (min)			15			
Critical Lane Group						

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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Lanes and Geometrics

5: Broadway & Third Street

5/12/2014

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↵	↵↵	↵↵		↵	↵
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	11	10	10
Grade (%)		0%	0%		0%	
Storage Length (ft)	340			0	0	160
Storage Lanes	1			0	1	1
Taper Length (ft)	25			25	25	25
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor			0.93			
Frt			0.945			0.850
Flt Protected	0.950			0.950		
Satd. Flow (prot)	1444	2842	2732	0	1458	1304
Flt Permitted	0.950			0.950		
Satd. Flow (perm)	1444	2842	2732	0	1458	1304
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		30	30		30	
Link Distance (ft)		561	393		1212	
Travel Time (s)		13.2	8.9		27.5	
Intersection Summary						
Area Type: CBD						

Volume

5: Broadway & Third Street

5/12/2014

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	195	340	655	375	150	160
Confl. Peds. (#/hr)				103		
Confl. Bikes (#/hr)				19		1
Peak Hour Factor	0.83	0.83	0.95	0.95	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	1%	1%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)		0				
Mid-Block Traffic (%)		0%	0%		0%	
Adj. Flow (vph)	235	410	689	395	163	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	235	410	1084	0	163	174
Intersection Summary						

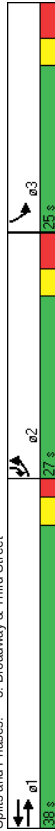
Timings

5: Broadway & Third Street

5/12/2014

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↔	↔	↔	↔	↔
Volume (vph)	195	340	655	150	160
Turn Type	Prot			Over	
Protected Phases	2	1	1	3	2
Permitted Phases					
Detector Phase	2	1	1	3	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	27.0	37.0	37.0	25.0	27.0
Total Split (s)	27.0	38.0	38.0	25.0	27.0
Total Split (%)	30.0%	42.2%	42.2%	27.8%	30.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	5.0	5.0	7.0	7.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	20.0	33.0	33.0	18.0	20.0
Actuated g/C Ratio	0.22	0.37	0.37	0.20	0.22
v/c Ratio	0.73	0.39	1.08	0.56	0.60
Control Delay	36.0	12.8	82.5	40.8	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	12.8	82.5	40.8	41.3
LOS	D	B	F	D	D
Approach Delay		21.2	82.5	41.0	
Approach LOS		C	F	D	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1EBWB, Start of Green					
Natural Cycle: 90					
Control Type: Prelimed					
Maximum v/c Ratio: 1.08					
Intersection Signal Delay: 56.6					
Intersection Capacity Utilization 71.1%					
Analysis Period (min) 15					

Splits and Phases: 5: Broadway & Third Street



Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Phasings

5: Broadway & Third Street

5/12/2014

Lane Group	EBL	EBT	WBT	SBL	SBR
Protected Phases	2	1	1	3	2
Permitted Phases					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	27.0	37.0	37.0	25.0	27.0
Total Split (s)	27.0	38.0	38.0	25.0	27.0
Total Split (%)	30.0%	42.2%	42.2%	27.8%	30.0%
Maximum Green (s)	20.0	33.0	33.0	18.0	20.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	7.0	17.0	17.0	6.0	7.0
Flash Dont Walk (s)	12.0	12.0	12.0	11.0	12.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
90th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
70th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
70th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
50th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
50th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
30th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
30th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
10th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
10th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1EBWB, Start of Green					
Control Type: Prelimed					

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Queues

5: Broadway & Third Street

5/12/2014



Lane Group	EBL	EBT	EBT	SBL	SBR
Lane Group Flow (vph)	235	410	1084	163	174
v/c Ratio	0.73	0.39	1.08	0.56	0.60
Control Delay	36.0	12.8	82.5	40.8	41.3
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	12.8	82.5	40.8	41.3
Queue Length 50th (ft)	142	31	~366	84	89
Queue Length 95th (ft)	m191	64	#492	149	159
Internal Link Dist (ft)		501	313	1132	
Turn Bay Length (ft)	340				160
Base Capacity (vph)	321	1042	1002	292	290
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	0.73	0.39	1.08	0.56	0.60
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.					

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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HCM Signalized Intersection Capacity Analysis

5: Broadway & Third Street

5/12/2014



Movement	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↔	↔	↔	↔	↔
Volume (vph)	195	340	655	375	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Lane Width	10	11	11	11	10
Total Lost time (s)	7.0	5.0	5.0	7.0	7.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.93	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00
Prt	1.00	1.00	0.95	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1444	2842	2733	1458	1304
Flt Permitted	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1444	2842	2733	1458	1304
Peak-hour factor, PHF	0.83	0.83	0.95	0.92	0.92
Adj. Flow (vph)	235	410	689	395	163
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	235	410	1084	0	163
Confl. Peds. (#/hr)			103		
Confl. Bikes (#/hr)			19		1
Heavy Vehicles (%)	5%	5%	1%	4%	4%
Parking (#/hr)		0			
Turn Type	Prot	1	1	3	2
Protected Phases	2	1	1		
Permitted Phases					
Actuated Green, G (s)	20.0	33.0	33.0	18.0	20.0
Effective Green, g (s)	20.0	33.0	33.0	18.0	20.0
Actuated g/C Ratio	0.22	0.37	0.37	0.20	0.22
Clearance Time (s)	7.0	5.0	5.0	7.0	7.0
Lane Grp Cap (vph)	321	1042	1002	292	290
v/s Ratio Prot	c0.16	0.14	c0.40	c0.11	0.13
v/s Ratio Perm					
v/c Ratio	0.73	0.39	1.08	0.56	0.60
Uniform Delay, d1	32.5	21.1	28.5	32.4	31.4
Progression Factor	0.76	0.56	1.00	1.00	1.00
Incremental Delay, d2	9.8	0.8	53.2	7.5	8.9
Delay (s)	34.5	12.6	81.7	39.9	40.3
Level of Service	C	B	F	D	D
Approach Delay (s)		20.6	81.7	40.1	
Approach LOS		C	F	D	
Intersection Summary					
HCM Average Control Delay		55.9		HCM Level of Service	E
HCM Volume to Capacity ratio		0.85			
Actuated Cycle Length (s)		90.0		Sum of lost time (s)	19.0
Intersection Capacity Utilization		71.1%		ICU Level of Service	C
Analysis Period (min)		15			
c Critical Lane Group					

Existing Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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Lanes and Geometrics

6: Ames Street & 5/12/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↩	↩	↩	↩	↩	↩
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	0	0	0
Storage Lanes	1	1	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.950	0.850	0.984			0.993
Satd. Flow (prot)	1624	1454	1587	0	0	1587
Flt Permitted	0.950					0.993
Satd. Flow (perm)	1624	1454	1587	0	0	1587
Link Speed (mph)	30	30	30			30
Link Distance (ft)	239	278	278			273
Travel Time (s)	5.4		6.3			6.2
Intersection Summary						
Area Type: CBD						

Volume

6: Ames Street & 5/12/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	5	5	220	30	35	210
Confl. Peds. (#/hr)	109	120	185	185		
Confl. Bikes (#/hr)				12		
Peak Hour Factor	0.74	0.74	0.94	0.94	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	6%	6%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	7	7	234	32	39	236
Shared Lane Traffic (%)						
Lane Group Flow (vph)	7	7	266	0	0	275
Intersection Summary						

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Group						
Volume (vph)	580	25	105	660	0	5
Confl. Peds. (#/hr)		300	300			255
Confl. Bikes (#/hr)		264				
Peak Hour Factor	0.93	0.93	0.95	0.95	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	624	27	111	695	0	5
Shared Lane Traffic (%)						
Lane Group Flow (vph)	651	0	111	695	0	5
Intersection Summary						

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Volume (veh/h)	580	25	105	660	0	5
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.93	0.93	0.95	0.95	1.00	1.00
Hourly flow rate (vph)	624	27	111	695	0	5
Pedestrians				255	300	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				21	25	
Right turn flare (veh)						
Median type	None	None	None	None	None	None
Median storage (veh)						
Upstream signal (ft)	396			581		
pX, platoon unblocked			0.75		0.80	0.75
VC, conflicting volume			951		1853	1192
VC1, stage 1 conf vol						
VC2, stage 2 conf vol			765		1230	1088
VCU, unblocked vol			4.1		6.4	6.2
IC, single (s)						
IC, 2 stage (s)						
IF (s)			2.2		3.5	3.3
p0 queue free %			77		100	96
CM capacity (veh/h)			478		91	117
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	651	111	695	5		
Volume Left	0	111	0	0		
Volume Right	27	0	0	5		
cSH	1700	478	1700	117		
Volume to Capacity	0.38	0.23	0.41	0.04		
Queue Length 95th (ft)	0	22	0	3		
Control Delay (s)	0.0	14.8	0.0	37.2		
Lane LOS		B		E		
Approach Delay (s)	0.0	2.0		37.2		
Approach LOS		E		E		
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			65.8%		ICU Level of Service	C
Analysis Period (min)			15			

2014 Build Condition

Lanes and Geometrics

1: Broadway east & Western Connector

5/20/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	11	11	11	11	12	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	100	0	295	0	295	0	250	0	225	0	225	0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.83	0.92	0.84	0.98	0.84	0.98	0.84	0.96	0.92	0.92	0.92	0.62
Frt	0.974	0.974	0.993	0.993	0.993	0.993	0.958	0.958	0.958	0.950	0.950	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1444	2680	0	1444	2923	0	1350	2553	0	1450	1476	1211
Flt Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1203	2680	0	1213	2923	0	1169	2553	0	1335	1476	757
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	25	25	25	25	25	25	25	25	25	25	25	25
Link Speed (mph)	470	470	470	470	470	470	470	470	470	470	470	470
Link Distance (ft)	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
Travel Time (s)	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
Intersection Summary												
Area Type: CBD												

Volume

1: Broadway east & Western Connector

5/20/2014

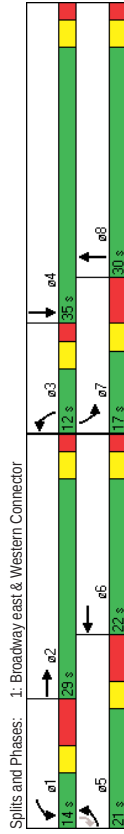
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	140	397	85	115	396	20	65	205	80	130	410	170
Confl. Peds. (#/hr)	242	372	372	372	372	242	257	99	99	99	257	257
Confl. Bikes (#/hr)	321	321	321	321	321	321	321	321	321	321	321	321
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.93	0.93	0.93	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	152	432	92	128	440	22	70	220	86	148	466	193
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	152	524	0	128	462	0	70	306	0	148	466	193
Intersection Summary												

Timings

5/20/2014

1: Broadway east & Western Connector

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	140	397	115	396	65	205	130	410	170
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custom	custom
Protected Phases	5	2	1	6	3	8	7	4	5
Detector Phase	5	2	1	6	3	8	7	4	5
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	14.0	27.0	14.0	22.0	11.0	27.0	14.0	27.0	14.0
Total Split (s)	21.0	29.0	14.0	22.0	12.0	30.0	17.0	35.0	21.0
Total Split (%)	23.3%	32.2%	15.6%	24.4%	13.3%	33.3%	18.9%	38.9%	23.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	2.0	5.0	2.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	Max	None	Max	None	Max	None
Act Effct Green (s)	13.0	24.0	6.0	17.0	6.8	25.0	9.0	32.4	13.0
Actuated g/C Ratio	0.14	0.27	0.07	0.19	0.08	0.28	0.10	0.36	0.14
v/c Ratio	0.73	0.73	1.33	0.84	0.67	0.43	1.02	0.88	1.77
Control Delay	58.3	37.2	228.0	62.4	67.9	24.3	123.5	48.3	408.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	37.2	228.0	62.4	67.9	24.3	123.5	48.3	408.6
LOS	E	D	F	E	E	C	F	D	F
Approach Delay		41.9		98.3		32.5		148.3	
Approach LOS		D		F		C		F	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 2EBT, Start of Green									
Natural Cycle: 95									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 1.77									
Intersection Signal Delay: 89.1									
Intersection Capacity Utilization 73.6%									
Analysis Period (min) 15									



Build Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Phasings

5/20/2014

1: Broadway east & Western Connector

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	5	2	1	6	3	8	7	4	
Permitted Phases	↔	↔	↔	↔	↔	↔	↔	↔	↔
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	14.0	27.0	14.0	22.0	11.0	27.0	14.0	27.0	14.0
Total Split (s)	21.0	29.0	14.0	22.0	12.0	30.0	17.0	35.0	21.0
Total Split (%)	23.3%	32.2%	15.6%	24.4%	13.3%	33.3%	18.9%	38.9%	23.3%
Maximum Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	2.0	5.0	2.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	Max	None	Max	None	Max	None
Walk Time (s)		7.0		7.0		7.0		10.0	
Flash Dont Walk (s)		15.0		10.0		15.0		12.0	
Pedestrian Calls (#/hr)		0		0		0		0	
90th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
90th %ile Term Code	Max	Coord	Max	Coord	Max	MaxR	Max	MaxR	Max
70th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
70th %ile Term Code	Max	Coord	Max	Coord	Max	MaxR	Max	MaxR	Max
50th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
50th %ile Term Code	Max	Coord	Max	Coord	Max	MaxR	Max	MaxR	Max
30th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
30th %ile Term Code	Max	Coord	Max	Coord	Max	MaxR	Max	MaxR	Max
10th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
10th %ile Term Code	Max	Coord	Max	Coord	Skip	MaxR	Max	MaxR	Max
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 2EBT, Start of Green									
Control Type: Actuated-Coordinated									

Build Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Queues

1. Broadway east & Western Connector

5/20/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	152	524	128	462	70	306	148	466	193
v/c Ratio	0.73	0.73	1.33	0.84	0.67	0.43	1.02	0.88	1.77
Control Delay	58.3	37.2	226.0	62.4	67.9	24.3	123.5	48.3	408.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	58.3	37.2	226.0	62.4	67.9	24.3	123.5	48.3	408.6
Queue Length 50th (ft)	84	142	~100	150	42	60	~88	255	~165
Queue Length 95th (ft)	#177	202	m#148	m#183	m#103	90	#203	#433	#290
Internal Link Dist (ft)	390	551				697		639	
Turn Bay Length (ft)	100	295			250		225		
Base Capacity (vph)	209	715	96	552	108	709	145	531	109
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.73	0.73	1.33	0.84	0.65	0.43	1.02	0.88	1.77
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.									

Simulation Settings

1. Broadway east & Western Connector

5/20/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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)	10			10			12				12	
Link Offset(ft)	0			0			0				0	
Crosswalk Width(ft)	15			15			15				15	
Two way Left Turn Lane												
Headway Factor	1.25	1.19	1.25	1.25	1.19	1.19	1.19	1.19	1.19	1.14	1.19	1.25
Turning Speed (mph)	15	1	9	15	1	9	15	1	9	15	1	9
Number of Detectors	1	1		1	1		1	1		1	1	1
Detector Template	50	50		50	50		50	50		50	50	50
Leading Detector (ft)	0	0		0	0		0	0		0	0	0
Trailing Detector (ft)	0	0		0	0		0	0		0	0	0
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	0
Detector 1 Size(ft)	50	50		50	50		50	50		50	50	50
Detector 1 Type	C+Ex	C+Ex		C+Ex	C+Ex		C+Ex	C+Ex		C+Ex	C+Ex	C+Ex
Detector 1 Channel												
Detector 1 Extend (s)	0.0	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	0.0
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	0.0
Intersection Summary												

HCM Signalized Intersection Capacity Analysis

1: Broadway east & Western Connector

5/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	140	397	85	115	396	20	65	205	80	130	410	170
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	11	11	11	11	12	11	10
Total Lost time (s)	8.0	5.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0	5.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95
Flpb. ped/bikes	1.00	0.92	1.00	0.98	1.00	0.98	1.00	0.96	1.00	0.95	1.00	0.92
Flpb. ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Flt	1.00	0.97	1.00	0.99	1.00	0.99	1.00	0.96	1.00	1.00	0.95	1.00
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1444	2676	1444	2923	1444	2923	1390	2553	1450	1476	757	757
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1444	2676	1444	2923	1444	2923	1390	2553	1450	1476	757	757
Peak-hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.90	0.93	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	152	432	92	128	440	22	70	220	86	148	466	193
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	152	524	0	128	462	0	70	306	0	148	466	193
Confl. Peds. (#/hr)	242	372	372	372	242	257	99	99	99	99	257	36
Confl. Bikes (#/hr)	321	321	321	321	321	18	24	24	24	24	36	36
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	13%	13%	13%	12%	12%	12%
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custom
Protected Phases	5	2	1	6	3	8	7	4				
Permitted Phases												5
Actuated Green, G (s)	13.0	23.0	6.0	16.0	5.6	26.0	9.0	32.4	13.0			
Effective Green, g (s)	13.0	23.0	6.0	16.0	5.6	26.0	9.0	32.4	13.0			
Actuated g/C Ratio	0.14	0.26	0.07	0.18	0.06	0.29	0.10	0.36	0.14			
Clearance Time (s)	8.0	5.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0	5.0	8.0	5.0
Vehicle Extension (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
Lane Grp Cap (vph)	209	684	96	520	86	738	145	531	109			
v/s Ratio Prot	0.11	c0.20	0.09	c0.16	0.05	0.12	c0.10	c0.32	c0.26			
v/s Ratio Perm												
v/c Ratio	0.73	0.77	1.33	0.89	0.81	0.41	1.02	0.88	1.77			
Uniform Delay, d1	36.8	31.0	42.0	36.1	41.7	25.9	40.5	26.9	38.5			
Progression Factor	1.00	1.00	1.17	1.49	0.98	0.84	1.00	1.00	1.00			
Incremental Delay, d2	11.9	8.0	188.4	13.9	39.2	1.6	80.3	18.3	381.3			
Delay (s)	48.7	39.0	237.5	67.8	80.1	23.2	120.8	45.2	419.8			
Level of Service	D	D	F	E	F	C	F	D	F			
Approach Delay (s)	41.2	104.6	33.8	148.7								
Approach LOS	D	F	C	F								
Intersection Summary												
HCM Average Control Delay												F
HCM Volume to Capacity ratio												31.0
Actuated Cycle Length (s)												D
Intersection Capacity Utilization												15
Analysis Period (min)												
c Critical Lane Group												

Build Condition 8:15 am 4/28/2014 AM Peak Hour
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Synchro 8 Report
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Lanes and Geometrics

2: Main Street & Western Connector

5/20/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	11	11	10	10	11	10	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	250	120	0	250	0	250	0	0	0	0	75
Storage Lanes	1	1	1	1	1	0	1	0	0	1	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Pad Bike Factor	0.77	0.96	0.93	0.92	0.92	0.92	0.93	0.93	0.91	0.91	0.87	0.87
Flt	0.950	0.966	0.950	0.962	0.962	0.962	0.956	0.956	0.950	0.950	0.850	0.850
Flt Protected	1464	1427	0	1430	1379	0	0	2565	0	1354	1476	1211
Flt Permitted	0.628	0.594	0.835	0.594	0.594	0.594	0.798	0.798	0.645	1476	1058	1058
Satd. Flow (perm)	744	1427	0	835	1379	0	0	2055	0	645	1476	1058
Right Turn on Red		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	21	24	24	24	24	24	81	81	30	30	30	32
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30	30
Link Distance (ft)	1009	483	11.0	11.0	11.0	11.0	18.4	18.4	17.7	17.7	17.7	17.7
Travel Time (s)	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9
Intersection Summary												
Area Type:												

CBD

Build Condition 8:15 am 4/28/2014 AM Peak Hour
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Synchro 8 Report
Page 8

Volume

2. Main Street & Western Connector

5/20/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	125	188	55	80	132	45	60	220	116	30	305	275
Confl. Peds. (#/hr)	490		83	83	490	36	132	132				36
Confl. Bikes (#/hr)			87			9	39					67
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	6%	6%	6%	5%	5%	5%	12%	12%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)												
Mid-Block Traffic (%)		0%			0%			0%				0%
Adj. Flow (vph)	132	198	58	94	155	53	66	242	127	33	335	302
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	256	0	94	208	0	0	435	0	33	335	302
Intersection Summary												

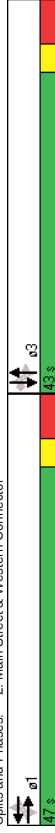
Timings

2. Main Street & Western Connector

5/20/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBR
Volume (vph)	125	188	80	132	60	220	30	305
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	3	3	3	3
Permitted Phases	1	1	1	1	3	3	3	3
Detector Phase	1	1	1	1	3	3	3	3
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0
Total Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0
Total Split (%)	52.2%	52.2%	52.2%	52.2%	47.8%	47.8%	47.8%	47.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0
Lead/Lag								
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39
v/c Ratio	0.41	0.41	0.26	0.34	0.51	0.13	0.58	0.70
Control Delay	22.5	18.4	25.8	24.6	19.3	27.2	30.2	30.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	22.5	18.4	25.8	24.6	19.3	27.2	30.2	30.9
LOS	C	B	C	C	B	C	C	C
Approach Delay	19.8				19.3		30.4	
Approach LOS	B				B		C	
Intersection Summary								
Cycle Length: 90								
Actuated Cycle Length: 90								
Offset: 58 (64%), Referenced to phase 1:EBWB, Start of Green								
Natural Cycle: 90								
Control Type: Prelimed								
Maximum v/c Ratio: 0.70								
Intersection Signal Delay: 24.5								
Intersection Capacity Utilization 125.1%								
Analysis Period (min) 15								

Splits and Phases: 2. Main Street & Western Connector



Phasings

2: Main Street & Western Connector

5/20/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	1	1	1	1	3	3	3	3	3
Permitted Phases	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Initial (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Minimum Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (s)	52.2%	52.2%	52.2%	52.2%	47.8%	47.8%	47.8%	47.8%	47.8%
Total Split (%)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
Maximum Green (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)									
Lead-Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	21.0	21.0	21.0	21.0	18.0	18.0	18.0	18.0	18.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 58 (64%), Referenced to phase 1EBWB, Start of Green									
Control Type: Prelim									

Build Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Queues

2: Main Street & Western Connector

5/20/2014

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	132	256	94	208	435	33	335	302	↗
v/c Ratio	0.41	0.41	0.26	0.34	0.51	0.13	0.58	0.70	→
Control Delay	22.5	18.4	25.8	24.6	19.3	27.2	30.2	30.9	↖
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	↑
Total Delay	22.5	18.4	25.8	24.6	19.3	27.2	30.2	30.9	←
Queue Length 50th (ft)	50	89	51	87	78	14	148	121	↗
Queue Length 95th (ft)	102	152	m76	m120	124	m16	m165	m137	→
Internal Link Dist (ft)		929		403	730		697		↖
Turn Bay Length (ft)			120					75	↑
Base Capacity (vph)	322	630	362	611	849	251	574	431	←
Starvation Cap Reductn	0	0	0	0	0	0	0	0	↗
Spillback Cap Reductn	0	0	0	0	0	0	0	0	→
Storage Cap Reductn	0	0	0	0	0	0	0	0	↖
Reduced v/c Ratio	0.41	0.41	0.26	0.34	0.51	0.13	0.58	0.70	↑
Intersection Summary									
m Volume for 95th percentile queue is metered by upstream signal									

Build Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Simulation Settings

2: Main Street & Western Connector

5/20/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Right	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)	12	12	12	12	12	12	21	21	21	21	21	21
Link Offset(ft)	0	0	0	0	0	0	0	0	0	0	0	0
Crosswalk Width(ft)	10	10	10	10	10	10	10	10	10	10	10	10
Two way Left Turn Lane	1.14	1.14	1.14	1.25	1.19	1.19	1.25	1.25	1.19	1.25	1.19	1.25
Headway Factor	15	15	9	15	15	9	15	15	9	15	15	9
Turning Speed (mph)												
Intersection Summary												

HCM Signalized Intersection Capacity Analysis

2: Main Street & Western Connector

5/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	125	188	55	80	132	45	60	220	116	30	305	275
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	10	10	11	10	11	10
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.96	1.00	0.92	1.00	0.92	1.00	0.94	1.00	0.91	1.00	0.87
Flpb, ped/bikes	0.77	1.00	0.93	1.00	0.93	1.00	1.00	0.96	1.00	0.91	1.00	0.85
Frt	1.00	0.97	1.00	0.96	1.00	0.96	1.00	0.99	1.00	0.95	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	0.95	1.00	1.00	0.85
Satd. Flow (prot)	1126	1427	1335	1379	1335	1379	2556	1228	1476	1058	1476	1058
Flt Permitted	0.63	1.00	0.59	1.00	0.59	1.00	0.80	0.50	1.00	0.50	1.00	1.00
Satd. Flow (perm)	744	1427	834	1379	834	1379	2055	645	1476	1058	1476	1058
Peak-hour factor, PHF	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	132	198	58	94	155	53	66	242	127	33	335	302
RTOR Reduction (vph)	0	12	0	0	14	0	0	50	0	0	0	20
Lane Group Flow (vph)	132	244	0	94	194	0	0	386	0	33	335	282
Confl. Peds. (#/hr)	490	83	83	490	36	36	132	132	36	36	67	67
Confl. Bikes (#/hr)	87	87	87	87	9	9	39	39	39	39	67	67
Heavy Vehicles (%)	11%	11%	11%	6%	6%	6%	5%	5%	5%	12%	12%	12%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	1	1	3	3	3	3	3	3
Permitted Phases	1	1	1	1	1	1	3	3	3	3	3	3
Actuated Green, G (s)	39.0	39.0	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0
Effective Green, g (s)	39.0	39.0	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	322	618	361	598	361	598	799	251	574	411	574	411
Lane Grp Cap Prot	0.17	0.17	0.11	0.11	0.14	0.14	0.19	0.05	0.23	0.05	0.23	0.27
v/s Ratio Perm	0.41	0.39	0.39	0.26	0.33	0.33	0.48	0.13	0.58	0.13	0.58	0.69
v/c Ratio	0.41	0.39	0.39	0.26	0.33	0.33	0.48	0.13	0.58	0.13	0.58	0.69
Uniform Delay, d1	17.6	17.4	16.3	16.8	16.8	16.8	20.7	21.7	21.7	21.7	22.9	22.9
Progression Factor	1.00	1.00	1.43	1.53	1.53	1.53	1.00	1.45	1.28	1.45	1.28	1.28
Incremental Delay, d2	3.8	1.9	1.4	1.2	1.2	1.2	2.1	0.4	1.5	0.4	1.5	3.2
Delay (s)	21.4	19.3	24.8	26.9	26.9	26.9	22.8	26.1	29.2	26.1	29.2	32.4
Level of Service	C	B	C	C	C	C	C	C	C	C	C	C
Approach Delay (s)	20.0	20.0	26.2	22.8	22.8	22.8	30.5	30.5	30.5	30.5	30.5	30.5
Approach LOS	C	C	C	C	C	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	25.6										C	
HCM Volume to Capacity ratio	0.54										H	
Actuated Cycle Length (s)	90.0										16.0	
Intersection Capacity Utilization	125.1%										H	
Analysis Period (min)	15										C	
Critical Lane Group												

Lanes and Geometrics

3. Main Street & Ames Street

5/20/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	12	12	12	12	12	12	12	12	12	11	11	11
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	11	11
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	0	0	0	0	0	0	0	0	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. 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
Ped Bike Factor	0.78	0.980	0.966	0.966	0.966	0.966	0.989	0.989	0.989	0.84	0.84	0.45
Frt	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.850
Flt Protected	0.996	0.996	0.996	0.996	0.996	0.996	0.993	0.993	0.993	0.970	0.970	0.970
Satd. Flow (prot)	0	1254	0	0	1476	0	0	1391	0	0	1499	1182
Flt Permitted	0.861	0.861	0.861	0.861	0.861	0.861	0.861	0.861	0.861	0.861	0.861	0.861
Satd. Flow (perm)	0	938	0	0	1315	0	0	1022	0	0	908	536
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	483	483	483	483	483	483	483	483	483	483	483	483
Link Distance (ft)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Travel Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Intersection Summary												
Area Type: CBD												

Volume

3. Main Street & Ames Street

5/20/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	94	190	50	17	72	30	80	136	20	49	31	105
Confl. Peds. (#/hr)	769	546	546	546	546	769	194	163	163	163	163	194
Confl. Bikes (#/hr)	107	107	107	107	107	107	107	107	107	107	107	107
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	113	229	60	19	82	34	88	149	22	55	35	118
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	402	0	0	135	0	0	259	0	0	90	118
Intersection Summary												

Timings

3. Main Street & Ames Street

5/20/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	94	190	17	72	80	136	49	31	105
Volume (vph)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	3	3	3	3	1	1	1	1	1
Protected Phases	3	3	3	3	1	1	1	1	1
Permitted Phases	3	3	3	3	1	1	1	1	1
Detector Phase	3	3	3	3	1	1	1	1	1
Switch Phase	3	3	3	3	1	1	1	1	1
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	40.0	40.0	40.0	40.0	23.0	23.0	23.0	23.0	23.0
Minimum Split (%)	55.0	55.0	55.0	55.0	35.0	35.0	35.0	35.0	35.0
Total Split (s)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Total Split (%)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-1.0	-1.0	-1.0	-1.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	7.0	7.0	7.0	7.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effort Green (s)	47.0	47.0	47.0	47.0	28.0	28.0	28.0	27.0	27.0
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.31	0.31	0.31	0.30	0.30
v/c Ratio	0.82	0.82	0.20	0.20	0.81	0.81	0.32	0.73	0.73
Control Delay	29.4	29.4	12.4	12.4	50.7	50.7	29.7	57.8	57.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	29.4	12.4	12.4	50.7	50.7	29.7	57.8	57.8
LOS	C	C	B	B	D	D	C	E	E
Approach Delay	29.4	29.4	12.4	12.4	50.7	50.7	45.6	D	D
Approach LOS	C	C	B	B	D	D	D	D	D
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 44 (49%), Referenced to phase 3EBWB, Start of Green									
Natural Cycle: 70									
Control Type: Prelimed									
Maximum v/c Ratio: 0.82									
Intersection Signal Delay: 36.0									
Intersection Capacity Utilization 75.6%									
Analysis Period (min) 15									

Splits and Phases: 3. Main Street & Ames Street



Build Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Phasings

3. Main Street & Ames Street

5/20/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	3	3	3	3	1	1	1	1	1
Permitted Phases	3	3	3	3	1	1	1	1	1
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	40.0	40.0	40.0	40.0	23.0	23.0	23.0	23.0	23.0
Minimum Split (%)	55.0	55.0	55.0	55.0	35.0	35.0	35.0	35.0	35.0
Total Split (s)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Total Split (%)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Maximum Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	13.0	13.0	13.0	13.0	1.0	1.0	1.0	1.0	1.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 44 (49%), Referenced to phase 3EBWB, Start of Green									
Control Type: Prelimed									

Build Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Queues

3: Main Street & Ames Street

5/20/2014

	→	←	↑	↓	↖
Lane Group	EBT	WBT	NBT	SBT	SBP
Lane Group Flow (vph)	402	135	259	90	118
v/c Ratio	0.82	0.20	0.81	0.32	0.73
Control Delay	29.4	12.4	50.7	29.7	57.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	12.4	50.7	29.7	57.8
Queue Length 50th (ft)	138	39	135	37	71
Queue Length 95th (ft)	#320	70	#268	m67	m#141
Internal Link Dist (ft)	403	410	456	198	
Turn Bay Length (ft)					
Base Capacity (vph)	490	687	318	282	161
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	0.82	0.20	0.81	0.32	0.73
Intersection Summary					
#	95th percentile volume exceeds capacity, queue may be longer.				
m	Queue shown is maximum after two cycles.				
m	Volume for 95th percentile queue is metered by upstream signal.				

Build Condition 8:15 am 4/28/2014 AM Peak Hour

Synchro 8 Report
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Simulation Settings

3: Main Street & Ames Street

5/20/2014

	↖	→	↗	↖	←	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗	↖	↗
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBP							
Enter Blocked Intersection	No	No	No	No	No	No	No	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	Left	Left	Right	Left	Left	Right	Right
Median Width(ft)		10			10														
Link Offset(ft)		0			0														
Crosswalk Width(ft)		12			12														
Two way Left Turn Lane																			
Headway Factor	1.14	1.30	1.14	1.14	0.97	1.14	1.14	1.30	1.14	1.19	1.19	1.36							
Turning Speed (mph)	15		9	15		9	15		9	15		9							
Intersection Summary																			

Build Condition 8:15 am 4/28/2014 AM Peak Hour

Synchro 8 Report
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SLW

HCM Signalized Intersection Capacity Analysis

3. Main Street & Ames Street

5/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		◄	◄	◄	◄	◄	◄	◄	◄	◄	◄	◄
Volume (vph)	94	190	50	17	72	30	80	136	20	49	31	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	16	12	12	12	12	11	11	11
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	7.0	7.0	7.0	7.0	8.0	8.0
Lane Util. 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
Frpb, ped/bikes	0.91	0.84	0.96	0.84	0.96	0.84	0.96	0.84	0.96	0.84	0.96	0.84
Flpb, ped/bikes	0.86	0.96	0.86	0.96	0.86	0.96	0.86	0.96	0.86	0.96	0.86	0.96
Fr	0.98	0.97	0.99	0.99	0.98	0.99	0.98	0.99	0.98	0.99	0.98	0.99
Flt Protected	1074	1416	1175	1175	1074	1416	1175	1175	1074	1416	1175	1175
Satd. Flow (prot)	0.86	0.92	0.85	0.85	0.86	0.92	0.85	0.85	0.86	0.92	0.85	0.85
Flt Permitted	938	1315	1018	1018	938	1315	1018	1018	938	1315	1018	1018
Satd. Flow (perm)	0.83	0.83	0.83	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89
Peak-hour factor, PHF	1.13	229	60	19	82	34	88	149	22	55	35	118
Adj. Flow (vph)	0	0	0	0	0	0	0	0	0	0	0	0
RTOR Reduction (vph)	0	402	0	0	135	0	0	259	0	0	0	90
Lane Group Flow (vph)	769	546	546	769	194	163	163	194	163	163	194	194
Confl. Peds. (#/hr)	107	15	15	15	107	15	15	15	15	15	15	34
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	3	3	Perm	3	3	Perm	1	Perm	1	Perm	1
Protected Phases	3	3	3	3	3	3	1	1	1	1	1	1
Permitted Phases	3	47.0	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0	27.0
Actuated Green, G (s)	47.0	47.0	47.0	47.0	47.0	47.0	28.0	28.0	28.0	28.0	28.0	28.0
Effective Green, g (s)	0.52	0.52	0.52	0.52	0.52	0.52	0.31	0.31	0.31	0.31	0.31	0.31
Actuated g/C Ratio	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Clearance Time (s)	490	687	687	687	687	687	317	317	317	283	161	161
Lane Grp Cap (vph)	c0.43	0.82	0.82	0.82	0.82	0.82	c0.25	c0.25	c0.25	0.10	0.22	0.22
v/s Ratio Prot	0.82	0.20	0.20	0.20	0.20	0.20	0.82	0.82	0.82	0.32	0.73	0.73
v/s Ratio Perm	18.0	11.4	11.4	11.4	11.4	11.4	28.6	28.6	28.6	23.7	28.3	28.3
Uniform Delay, d1	0.76	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.09	1.09	1.09
Progression Factor	13.6	0.6	0.6	0.6	0.6	0.6	20.3	20.3	20.3	2.7	23.7	23.7
Incremental Delay, d2	27.2	12.1	12.1	12.1	12.1	12.1	49.0	49.0	49.0	28.6	54.5	54.5
Delay (s)	C	B	B	B	B	B	D	D	D	C	D	D
Level of Service	C	B	B	B	B	B	D	D	D	C	D	D
Approach Delay (s)	27.2	12.1	12.1	12.1	12.1	12.1	49.0	49.0	49.0	43.3	43.3	43.3
Approach LOS	C	B	B	B	B	B	D	D	D	D	D	D

Intersection Summary		
HCM Average Control Delay	34.1	HCM Level of Service
HCM Volume to Capacity ratio	0.82	C
Actuated Cycle Length (s)	90.0	Sum of lost time (s)
Intersection Capacity Utilization	75.6%	ICU Level of Service
Analysis Period (min)	15	D
c Critical Lane Group		

Build Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Lanes and Geometrics

4. Broadway east & Ames Street

5/20/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	◄	◄	◄	◄	◄	◄
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	11	12	12
Grade (%)	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	160	0	160	0	0
Storage Lanes	0	1	1	1	1	1
Taper Length (ft)	25	25	25	25	25	25
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor	0.92	0.83	0.79	0.79	0.85	0.85
Flt Protected	0.983	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	2675	0	1510	1589	1533	1220
Flt Permitted	2675	0	291	382	1215	553
Satd. Flow (perm)	2675	0	382	1589	1215	553
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	17	30	30	30	30	160
Link Speed (mph)	30	30	30	30	30	30
Link Distance (ft)	631	396	273	273	273	273
Travel Time (s)	14.3	9.0	6.2	6.2	6.2	6.2
Intersection Summary						
Area Type: CBD						

Build Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Volume

4: Broadway east & Ames Street

5/20/2014

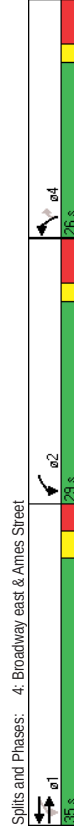
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	532	70	175	420	131	150
Confl. Peds. (#/hr)	323	323	323		138	271
Confl. Bikes (#/hr)	247					3
Peak Hour Factor	0.93	0.93	0.95	0.95	0.94	0.94
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	4%	4%	6%	6%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						2
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	572	75	184	442	139	160
Shared Lane Traffic (%)						
Lane Group Flow (vph)	647	0	184	442	139	160
Intersection Summary						

Timings

4: Broadway east & Ames Street

5/20/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	EB	EB	EB
Volume (vph)	532	175	420	131	150
Turn Type	pm+rt				Perm
Protected Phases	1	2	1	4	4
Permitted Phases	1	1			4
Detector Phase	1	2	1	4	4
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	-1.0	-1.0
Total Lost Time (s)	6.0	7.0	6.0	7.0	6.0
Lead/Lag	Lead	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	29.0	50.0	29.0	19.0	20.0
Actuated g/C Ratio	0.32	0.56	0.32	0.21	0.22
v/c Ratio	0.74	0.38	0.86	0.43	0.65
Control Delay	22.2	11.9	55.4	31.8	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	11.9	55.4	31.8	16.4
LOS	C	B	E	C	B
Approach Delay	22.2		42.6	23.6	
Approach LOS	C		D	C	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 80 (89%), Referenced to phase 1:EBWB, Start of Green					
Natural Cycle: 90					
Control Type: Prelimed					
Maximum v/c Ratio: 0.86					
Intersection Signal Delay: 30.6					
Intersection Capacity Utilization 66.6%					
Analysis Period (min) 15					



Phasings

4: Broadway east & Ames Street

5/20/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Protected Phases	1	2	1	4	
Permitted Phases		1			4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Maximum Green (s)	29.0	22.0	29.0	19.0	19.0
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	13.0	7.0	13.0	4.0	4.0
Flash Dont Walk (s)	16.0	12.0	16.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
90th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
70th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
70th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
50th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
50th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
30th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
30th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
10th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
10th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 80 (89%), Referenced to phase 1EBWB, Start of Green					
Control Type: Prelimed					

Build Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Queues

4: Broadway east & Ames Street

5/20/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	647	184	442	139	160
v/c Ratio	0.74	0.38	0.86	0.43	0.65
Control Delay	22.2	11.9	55.4	31.8	16.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	22.2	11.9	55.4	31.8	16.4
Queue Length 50th (ft)	72	42	276	66	20
Queue Length 95th (ft)	m87	m43	m274	m91	m33
Internal Link Dist (ft)	551		316	193	
Turn Bay Length (ft)	160				
Base Capacity (vph)	873	488	512	324	247
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	0.74	0.38	0.86	0.43	0.65
Intersection Summary					
m Volume for 95th percentile queue is metered by upstream signal.					

Build Condition 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Simulation Settings

4: Broadway east & Ames Street

5/20/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	11		11	12		
Link Offset(ft)	0		0	0		
Crosswalk Width(ft)	10		10	10		
Two way Left Turn Lane						
Headway Factor	1.25	1.14	1.19	1.19	1.14	1.32
Turning Speed (mph)		9	15	15	15	9
Intersection Summary						

HCM Signalized Intersection Capacity Analysis

4: Broadway east & Ames Street

5/20/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	←↑	→↑	←	←	←	→
Volume (vph)	532	70	175	420	131	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	11	11	12	12
Total Lost time (s)	6.0	7.0	6.0	7.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.92	1.00	1.00	1.00	1.00	0.45
Flpb, ped/bikes	1.00	0.96	1.00	1.00	1.00	1.00
Prt	0.98	1.00	1.00	1.00	1.00	0.85
Prt Protected	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2674	1443	1589	1533	553	553
Flt Permitted	1.00	0.29	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2674	442	1589	1533	553	553
Peak-hour factor, PHF	0.93	0.93	0.95	0.95	0.94	0.94
Adj. Flow (vph)	572	75	184	442	139	160
RTOR Reduction (vph)	12	0	0	0	0	124
Lane Group Flow (vph)	635	0	184	442	139	36
Confl. Peds. (#/hr)	323	323	138	138	271	3
Confl. Bikes (#/hr)	247					
Heavy Vehicles (%)	3%	3%	4%	4%	6%	6%
Parking (#/hr)						2
Turn Type	1	2	1	1	4	
Protected Phases						
Permitted Phases	1	2	1	1	4	4
Actuated Green, G (s)	29.0	51.0	29.0	19.0	19.0	19.0
Effective Green, g (s)	29.0	51.0	29.0	19.0	20.0	20.0
Actuated g/C Ratio	0.32	0.57	0.32	0.21	0.22	0.22
Clearance Time (s)	6.0	7.0	6.0	7.0	7.0	7.0
Lane Grp Cap (vph)	862	495	512	324	123	
v/s Ratio Prot	0.24	c0.09	c0.28	c0.09		
v/s Ratio Perm		0.12			0.06	
v/s Ratio	0.74	0.37	0.86	0.43	0.29	
Uniform Delay, d1	27.1	17.7	28.6	30.8	29.1	
Progression Factor	0.69	0.80	1.73	0.91	1.10	
Incremental Delay, d2	3.6	0.6	5.2	3.0	4.3	
Delay (s)	22.3	14.6	54.8	31.2	36.3	
Level of Service	C	B	D	C	D	
Approach Delay (s)	22.3		43.0	33.9		
Approach LOS	C		D	C		
Intersection Summary						
HCM Average Control Delay		32.7			HCM Level of Service	C
HCM Volume to Capacity ratio		0.59				
Actuated Cycle Length (s)		90.0			Sum of lost time (s)	20.0
Intersection Capacity Utilization		66.6%			ICU Level of Service	C
Analysis Period (min)		15				
c Critical Lane Group						

Lanes and Geometrics

5: Broadway east & Third Street

5/20/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	10	11	11	11	12	12	12	10	10	10	
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Storage Length (ft)	340		125	0	0	0	0	0	0	0	0	160	
Storage Lanes	1	1	1	0	0	0	0	0	0	0	0	1	
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.96	0.983	0.983	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	
Flt Protected	0.950											0.962	
Satd. Flow (prot)	1444	2695	0	0	2733	0	0	0	0	0	0	1476	1304
Flt Permitted	0.950											0.962	
Satd. Flow (perm)	1444	2695	0	0	2733	0	0	0	0	0	0	1476	1304
Right Turn on Red			Yes			No			Yes			No	
Satd. Flow (RTOR)	18												
Link Speed (mph)	30			30				30				30	
Link Distance (ft)	581			393				156				1212	
Travel Time (s)	13.2			8.9				3.5				27.5	
Intersection Summary													
Area Type: CBD													

Volume

5: Broadway east & Third Street

5/20/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Volume (vph)	205	345	45	45	0	657	0	0	0	150	40	123	
Confl. Peds. (#/hr)	70	70	70	70	103	103	19	19	19	19	19	19	
Confl. Bikes (#/hr)	0.83	0.83	0.83	0.83	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	
Peak Hour Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Growth Factor	5%	5%	5%	5%	1%	1%	2%	2%	2%	4%	4%	4%	
Heavy Vehicles (%)	0	0	0	0	0	0	0	0	0	0	0	0	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	247	416	54	54	0	692	0	0	0	163	43	134	
Shared Lane Traffic (%)	247	470	0	0	1087	0	0	0	0	0	0	206	134
Lane Group Flow (vph)	247	470	0	0	1087	0	0	0	0	0	0	206	134
Intersection Summary													

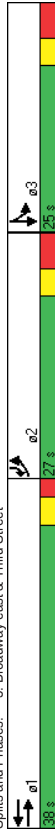
Timings

5: Broadway east & Third Street

5/20/2014

Lane Group	EBL	EBT	WBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔
Volume (vph)	205	345	657	40	123
Turn Type	Prot			Over	
Protected Phases	2	1	1	3	2
Permitted Phases					
Detector Phase	2	1	1	3	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	27.0	37.0	37.0	25.0	27.0
Total Split (s)	27.0	38.0	38.0	25.0	27.0
Total Split (%)	30.0%	42.2%	42.2%	27.8%	30.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	5.0	5.0	7.0	7.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	20.0	33.0	33.0	18.0	20.0
Actuated g/C Ratio	0.22	0.37	0.37	0.20	0.22
v/c Ratio	0.77	0.47	1.08	0.70	0.46
Control Delay	41.3	11.5	83.5	47.7	36.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	11.5	83.5	47.7	36.4
LOS	D	B	F	D	D
Approach Delay		21.8	83.5	43.2	
Approach LOS		C	F	D	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1EBWB, Start of Green					
Natural Cycle: 90					
Control Type: Prelimed					
Maximum v/c Ratio: 1.08					
Intersection Signal Delay: 56.5					
Intersection Capacity Utilization 75.7%					
Analysis Period (min) 15					

Splits and Phases: 5: Broadway east & Third Street



Build Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Phasings

5: Broadway east & Third Street

5/20/2014

Lane Group	EBL	EBT	WBT	SBT	SBR
Protected Phases	2	1	1	3	2
Permitted Phases					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	27.0	37.0	37.0	25.0	27.0
Total Split (s)	27.0	38.0	38.0	25.0	27.0
Total Split (%)	30.0%	42.2%	42.2%	27.8%	30.0%
Maximum Green (s)	20.0	33.0	33.0	18.0	20.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	7.0	17.0	17.0	6.0	7.0
Flash Dont Walk (s)	12.0	12.0	12.0	11.0	12.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
90th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
70th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
70th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
50th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
50th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
30th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
30th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
10th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
10th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1EBWB, Start of Green					
Control Type: Prelimed					

Build Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Queues

5: Broadway east & Third Street

5/20/2014



Lane Group	EBL	EBT	WBT	SBT	SBR
Lane Group Flow (vph)	247	470	1087	206	134
v/c Ratio	0.77	0.47	1.08	0.70	0.46
Control Delay	41.3	11.5	83.5	47.7	36.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	41.3	11.5	83.5	47.7	36.4
Queue Length 50th (ft)	148	34	~388	110	66
Queue Length 95th (ft)	m#217	72	#494	#206	123
Internal Link Dist (ft)	501	313	1132		
Turn Bay Length (ft)	340				160
Base Capacity (vph)	321	1000	1002	295	290
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	0.77	0.47	1.08	0.70	0.46

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.

Simulation Settings

5: Broadway east & Third Street

5/20/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
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							
Link Offset(ft)		0			0							
Crosswalk Width(ft)		10			10							
Two way Left Turn Lane								16				18
Headway Factor	1.25	1.27	1.25	1.19	1.19	1.19	1.14	1.14	1.14	1.25	1.25	1.25
Turning Speed (mph)	15		9	15	15	9	15	15	9	15	15	9

Intersection Summary

HCM Signalized Intersection Capacity Analysis

5: Broadway east & Third Street

5/20/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰					↰	↰
Volume (vph)	205	345	45	0	657	375	0	0	0	150	40	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	11	11	11	12	12	12	10	10	10
Total Lost time (s)	7.0	5.0			5.0						7.0	7.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	1.00					1.00	1.00
Flpb. ped/bikes	1.00	0.96			0.93						1.00	1.00
Fltb. ped/bikes	1.00	1.00			1.00						1.00	1.00
Flt	1.00	0.98			0.95						1.00	0.95
Flt Protected	0.95	1.00			1.00						0.96	1.00
Satd. Flow (prot)	1444	2695			2734						1476	1304
Flt Permitted	0.95	1.00			1.00						0.96	1.00
Satd. Flow (perm)	1444	2695			2734						1476	1304
Peak-hour factor, PHF	0.83	0.83	0.83	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	247	416	54	0	692	395	0	0	0	163	43	134
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	247	459	0	0	1087	0	0	0	0	0	206	134
Confl. Peds. (#/hr)			70	70	103							
Confl. Bikes (#/hr)			199		19							
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Parking (#/hr)			0									
Turn Type	Prot	1			1					Split	3	2
Protected Phases	2	1			1							
Permitted Phases												
Actuated Green, G (s)	20.0	33.0			33.0						18.0	20.0
Effective Green, g (s)	20.0	33.0			33.0						18.0	20.0
Actuated g/C Ratio	0.22	0.37			0.37						0.20	0.22
Clearance Time (s)	7.0	5.0			5.0						7.0	7.0
Lane Grp Cap (vph)	321	988			1002						295	290
v/s Ratio Prot	c0.17	0.17			c0.40						c0.14	0.10
v/s Ratio Perm												
v/c Ratio	0.77	0.46			1.08						0.70	0.46
Uniform Delay, d1	32.8	21.8			28.5						33.5	30.3
Progression Factor	0.81	0.48			1.00						1.00	1.00
Incremental Delay, d2	12.9	1.2			54.3						12.9	5.2
Delay (s)	39.5	11.8			82.8						46.4	35.6
Level of Service	D	B			F						D	D
Approach Delay (s)		21.3			82.8			0.0			42.1	
Approach LOS		C			F			A			D	
Intersection Summary												
HCM Average Control Delay			55.8			HCM Level of Service				E		
HCM Volume to Capacity ratio			0.90									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)				19.0		
Intersection Capacity Utilization			75.7%			ICU Level of Service				D		
Analysis Period (min)			15									
c Critical Lane Group												

Build Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Lanes and Geometrics

6: Ames Street &

5/20/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↰	↰	↰	↰	↰	↰
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Grade (%)	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	0	0	0
Storage Lanes	1	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Flt	0.952					
Flt Protected	0.969					
Satd. Flow (prot)	1577	0	1559	0	0	1375
Flt Permitted	0.969					
Satd. Flow (perm)	1577	0	1559	0	0	1375
Link Speed (mph)	30		30			30
Link Distance (ft)	239		278			273
Travel Time (s)	5.4		6.3			6.2
Intersection Summary						
Area Type: CBD						

Build Condition 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Volume

6: Ames Street &

5/20/2014

Lane Group	WBL	WBR	NBT	NBR	SBT
Volume (vph)	20	11	255	0	170
Confl. Peds. (#/hr)	109	120	185	185	
Confl. Bikes (#/hr)			12		
Peak Hour Factor	0.74	0.74	0.94	0.94	0.89
Growth Factor	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	6%	6%	7%
Bus Blockages (#/hr)	0	0	0	0	0
Parking (#/hr)					2
Mid-Block Traffic (%)	0%		0%		0%
Adj. Flow (vph)	27	15	271	0	191
Shared Lane Traffic (%)					
Lane Group Flow (vph)	42	0	271	0	191
Intersection Summary					

Simulation Settings

6: Ames Street &

5/20/2014

Lane Group	WBL	WBR	NBT	NBR	SBT
Enter Blocked Intersection	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left
Median Width(ft)	12		0		0
Link Offset(ft)	0		0		0
Crosswalk Width(ft)	16		16		16
Two way Left Turn Lane					
Headway Factor	1.14	1.14	1.19	1.19	1.38
Turning Speed (mph)	15	9		9	15
Intersection Summary					

Volume

7: Broadway east &

5/20/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	580	97	110	620	0	20
Confl. Peds. (#/hr)	300	300	300			255
Confl. Bikes (#/hr)	264					
Peak Hour Factor	0.93	0.93	0.95	0.95	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	624	104	116	653	0	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	728	0	116	653	0	20
Intersection Summary						

Simulation Settings

7: Broadway east &

5/20/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12		12		0	
Link Offset(ft)	0				0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.14	1.14	1.14	1.14	1.14	1.14
Turning Speed (mph)	9	15	15		15	9
Intersection Summary						

2019 Future Condition

With Cycle Track

Lanes and Geometrics

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	11	11	11	11	12	11	10	11	10	10	11	11	11	11	11	12	11
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	100	0	295	0	295	0	250	0	250	0	225	0	0	0	0	0	0	0	0	0	0	0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.85	0.92	0.85	0.85	0.98	0.88	0.97	0.88	0.97	0.93	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62	0.62
Frt	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1444	2695	0	1444	2925	0	1350	2601	0	1450	1476	1211	1211	1211	1211	1211	1211	1211	1211	1211	1211	1211
Flt Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1222	2695	0	1228	2925	0	1216	2601	0	1350	1476	757	757	757	757	757	757	757	757	757	757	757
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25
Link Speed (mph)	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470	470
Link Distance (ft)	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
Travel Time (s)	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
Intersection Summary																						
Area Type: CBD																						

Volume

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Volume (vph)	187	439	87	130	448	22	69	294	83	143	561	204	204	204	204	204	204	204	204	204	204	204
Confl. Peds. (#/hr)	242	372	372	372	372	242	257	99	99	99	257	257	257	257	257	257	257	257	257	257	257	257
Confl. Bikes (#/hr)	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321	321
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.93	0.93	0.93	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	203	477	95	144	498	24	74	316	89	162	638	232	232	232	232	232	232	232	232	232	232	232
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	203	572	0	144	522	0	74	405	0	162	638	232	232	232	232	232	232	232	232	232	232	232
Intersection Summary																						

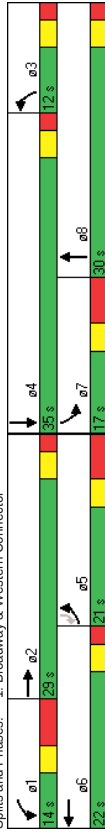
Timings

1: Broadway & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	187	439	130	448	69	294	143	561	204
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custm	custm
Protected Phases	5	2	1	6	3	8	7	4	5
Detector Phase	5	2	1	6	3	8	7	4	5
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	14.0	27.0	14.0	22.0	11.0	27.0	14.0	27.0	14.0
Total Split (s)	21.0	29.0	14.0	22.0	12.0	30.0	17.0	35.0	21.0
Total Split (%)	23.3%	32.2%	15.6%	24.4%	13.3%	33.3%	18.9%	38.9%	23.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	2.0	5.0	2.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Act Effct Green (s)	13.0	24.0	6.0	17.0	6.9	25.0	9.0	32.4	13.0
Actuated g/C Ratio	0.14	0.27	0.07	0.19	0.08	0.28	0.10	0.36	0.14
v/c Ratio	0.97	0.80	1.50	0.94	0.70	0.56	1.12	1.20	2.13
Control Delay	96.4	40.4	263.2	22.6	66.5	28.4	149.9	137.1	560.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	40.4	263.2	22.6	66.5	28.4	149.9	137.1	560.7
LOS	F	D	F	C	E	C	F	F	F
Approach Delay	55.0			74.6		34.3		234.4	
Approach LOS	E			E		C		F	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 85 (94%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Natural Cycle: 145									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 2.13									
Intersection Signal Delay: 118.8									
Intersection Capacity Utilization 83.4%									
Analysis Period (min) 15									

Splits and Phases: 1: Broadway & Western Connector



Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

Page 3

Phasings

1: Broadway & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	5	2	1	6	3	8	7	4	
Permitted Phases	↔	↔	↔	↔	↔	↔	↔	↔	↔
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	14.0	27.0	14.0	22.0	11.0	27.0	14.0	27.0	14.0
Total Split (s)	21.0	29.0	14.0	22.0	12.0	30.0	17.0	35.0	21.0
Total Split (%)	23.3%	32.2%	15.6%	24.4%	13.3%	33.3%	18.9%	38.9%	23.3%
Maximum Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	2.0	5.0	2.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Walk Time (s)	7.0			7.0		7.0		10.0	
Flash Dont Walk (s)	15.0			10.0		15.0		12.0	
Pedestrian Calls (#/hr)	0			0		0		0	
90th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
90th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	MaxR	Max
70th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
70th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	MaxR	Max
50th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
50th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	MaxR	Max
30th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
30th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	MaxR	Max
10th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
10th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	MaxR	Max
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 85 (94%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Control Type: Actuated-Coordinated									

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Queues

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Group									
Lane Group Flow (vph)	203	572	144	522	74	405	162	638	232
v/c Ratio	0.97	0.80	1.50	0.94	0.70	0.56	1.12	1.20	2.13
Control Delay	96.4	40.4	263.2	22.6	66.5	28.4	149.9	137.1	560.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	40.4	263.2	22.6	66.5	28.4	149.9	137.1	560.7
Queue Length 50th (ft)	116	159	~104	62	36	92	~107	~469	~212
Queue Length 95th (ft)	#253	#238	m34	m21	m#79	142	#223	#654	#345
Internal Link Dist (ft)		390		551		697		639	
Turn Bay Length (ft)	100		295		250		225		
Base Capacity (vph)	209	719	96	553	108	723	145	531	109
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.97	0.80	1.50	0.94	0.69	0.56	1.12	1.20	2.13
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.									

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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HCM Signalized Intersection Capacity Analysis

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Movement									
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	187	439	87	130	448	22	69	294	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	10	11	11	11	12	11
Total Lost time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.92	1.00	0.98	1.00	0.97	1.00	1.00	0.62
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prt	1.00	0.98	1.00	0.99	1.00	0.97	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1444	2693	1444	2925	1390	2602	1450	1476	757
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1444	2693	1444	2925	1390	2602	1450	1476	757
Peak-Hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.93	0.93	0.88	0.88
Adj. Flow (vph)	203	477	95	144	498	24	74	316	89
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	203	572	0	144	522	0	74	405	0
Confl. Peds. (#/hr)	242	372	372	242	257	99	99	257	36
Confl. Bikes (#/hr)	321	321	18	18	24	24	24	24	24
Heavy Vehicles (%)	5%	5%	5%	5%	5%	13%	13%	12%	12%
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custom
Protected Phases	5	2	1	6	3	8	7	4	5
Permitted Phases									
Actuated Green, G (s)	13.0	23.0	6.0	16.0	5.6	26.0	9.0	32.4	13.0
Effective Green, g (s)	13.0	23.0	6.0	16.0	5.6	26.0	9.0	32.4	13.0
Actuated g/C Ratio	0.14	0.26	0.07	0.18	0.06	0.29	0.10	0.36	0.14
Clearance Time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Lane Grp Cap (vph)	209	688	96	520	86	752	145	531	109
v/s Ratio Prot	0.14	0.21	0.10	c0.18	c0.05	0.16	0.11	c0.43	c0.31
v/s Ratio Perm									
v/c Ratio	0.97	0.83	1.50	1.00	0.86	0.54	1.12	1.20	2.13
Uniform Delay, d1	38.3	31.7	42.0	37.0	41.8	26.9	40.5	28.8	38.5
Progression Factor	1.00	1.00	1.03	0.42	0.94	0.92	1.00	1.00	1.00
Incremental Delay, d2	53.8	11.2	230.0	12.8	46.0	2.2	109.7	107.7	537.2
Delay (s)	92.1	42.9	273.1	28.2	85.2	26.9	150.2	136.5	575.7
Level of Service	F	D	F	C	F	C	F	F	F
Approach Delay (s)		55.8		81.2		35.9		237.4	
Approach LOS		E		F		D		F	

Intersection Summary	
HCM Average Control Delay	121.8
HCM Volume to Capacity ratio	1.30
Actuated Cycle Length (s)	90.0
Intersection Capacity Utilization	83.4%
Analysis Period (min)	15
c Critical Lane Group	

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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Lanes and Geometrics

2: Main Street & Western Connector 5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	11	11	10	10	11	10	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	250	120	0	250	0	250	0	0	0	0	75
Storage Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.79	0.96	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.87	0.87
Frt	0.950	0.969	0.970	0.970	0.970	0.970	0.957	0.957	0.950	0.950	0.850	0.850
Flt Protected	1464	1438	0	1430	1418	0	0	2575	0	1354	1476	1211
Satd. Flow (prot)	0.576	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556
Flt Permitted	703	1438	0	785	1418	0	0	2013	0	584	1476	1058
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	18	18	17	17	17	17	17	17	17	17	17	17
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	1009	1009	483	483	483	483	810	810	777	777	777	777
Link Distance (ft)	22.9	22.9	11.0	11.0	11.0	11.0	18.4	18.4	17.7	17.7	17.7	17.7
Travel Time (s)												
Intersection Summary												
Area Type: CBD												

Volume

2: Main Street & Western Connector 5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	188	219	56	89	185	46	62	267	130	32	334	413
Confl. Peds. (#/hr)	490	83	83	83	490	36	132	132	36	36	67	67
Confl. Bikes (#/hr)	87	87	87	87	87	87	87	87	87	87	87	87
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	6%	6%	6%	5%	5%	5%	12%	12%	12%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	199	231	59	105	218	54	68	293	143	35	367	454
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	199	290	0	105	272	0	0	504	0	35	367	454
Intersection Summary												

Timings

2. Main Street & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	180	219	89	185	62	267	32	334	413
Volume (vph)									
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	3	3	3	3	3
Permitted Phases	1	1	1	1	3	3	3	3	3
Detector Phase	1	1	1	1	3	3	3	3	3
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (%)	52.2%	52.2%	52.2%	52.2%	47.8%	47.8%	47.8%	47.8%	47.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.65	0.46	0.31	0.44	0.61	0.15	0.15	0.64	1.06
Control Delay	32.4	19.7	4.4	4.0	22.1	8.4	10.3	49.6	49.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	19.7	4.4	4.0	22.1	8.4	10.3	49.6	49.6
LOS	C	B	A	A	C	C	A	B	D
Approach Delay	24.9			4.1	22.1			31.1	
Approach LOS	C			A	C			C	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 79 (88%), Referenced to phase 1:EBWB, Start of Green									
Natural Cycle: 90									
Control Type: Prelimed									
Maximum v/c Ratio: 1.06									
Intersection Signal Delay: 23.1									
Intersection Capacity Utilization 129.1%									
Analysis Period (min) 15									

Spills and Phases: 2. Main Street & Western Connector



Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Phasings

2. Main Street & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases									
Permitted Phases	1	1	1	1	3	3	3	3	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (%)	52.2%	52.2%	52.2%	52.2%	47.8%	47.8%	47.8%	47.8%	47.8%
Maximum Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	21.0	21.0	21.0	21.0	18.0	18.0	18.0	18.0	18.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 79 (88%), Referenced to phase 1:EBWB, Start of Green									
Control Type: Prelimed									

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Queues

2: Main Street & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Group Flow (vph)	199	290	105	272	504	35	367	454
v/c Ratio	0.65	0.46	0.31	0.44	0.61	0.15	0.64	1.06
Control Delay	32.4	19.7	4.4	4.0	22.1	8.4	10.3	49.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	19.7	4.4	4.0	22.1	8.4	10.3	49.6
Queue Length 50th (ft)	87	105	3	2	100	6	66	~263
Queue Length 95th (ft)	#181	177	m3	m1	154	m5	m55	m60
Internal Link Dist (ft)	929							
Turn Bay Length (ft)	120							
Base Capacity (vph)	305	633	340	624	830	227	574	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.46	0.31	0.44	0.61	0.15	0.64	1.06
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.								

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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HCM Signalized Intersection Capacity Analysis

2: Main Street & Western Connector

5/23/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Volume (vph)	189	219	56	89	185	46	62	267	130	32	334	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	10	10	11	10	11	10
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frb. ped/bikes	1.00	0.96	1.00	1.00	0.94	1.00	0.94	1.00	1.00	0.92	1.00	1.00
Frb. ped/bikes	0.79	1.00	1.00	0.94	1.00	1.00	1.00	0.96	1.00	0.92	1.00	1.00
Frt	1.00	0.97	1.00	0.95	1.00	0.99	1.00	0.99	1.00	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.99	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1159	1439	1341	1418	1418	2569	1242	1476	1058	1242	1476	1058
Flt Permitted	0.58	1.00	0.56	1.00	0.78	0.78	0.45	1.00	1.00	0.45	1.00	1.00
Satd. Flow (perm)	702	1439	784	1418	1418	2015	564	1476	1058	564	1476	1058
Peak-hour factor, PHF	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	199	231	59	105	218	54	68	293	143	35	367	454
RTOR Reduction (vph)	0	10	0	0	10	0	0	47	0	0	0	16
Lane Group Flow (vph)	199	280	0	105	262	0	0	457	0	35	367	438
Confl. Peds. (#/hr)	490	83	83	490	36	36	132	132	38	38	38	67
Confl. Bikes (#/hr)	9	87	87	9	9	9	39	39	39	39	39	67
Heavy Vehicles (%)	11%	11%	11%	6%	6%	6%	5%	5%	5%	12%	12%	12%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	1	1	3	3	3	3	3	3
Permitted Phases	1	1	1	1	1	1	3	3	3	3	3	3
Actuated Green, G (s)	39.0	39.0	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0
Effective Green, g (s)	39.0	39.0	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	304	624	340	614	614	784	227	574	411	227	574	411
v/s Ratio Prot	0.19	0.19	0.19	0.19	0.19	0.19	0.23	0.23	0.23	0.06	0.06	0.41
v/s Ratio Perm	0.65	0.45	0.31	0.43	0.43	0.58	0.15	0.64	1.07	0.15	0.64	1.07
Uniform Delay, d1	20.2	17.9	16.7	17.7	17.7	21.7	17.9	22.4	27.5	17.9	22.4	27.5
Progression Factor	1.00	1.00	0.24	0.22	1.00	1.00	0.44	0.42	0.39	0.44	0.42	0.39
Incremental Delay, d2	10.5	2.3	0.2	0.2	0.2	3.2	0.1	0.5	35.1	0.1	0.5	35.1
Delay (s)	30.7	20.3	4.2	4.1	24.9	8.0	9.9	45.7	45.7	8.0	9.9	45.7
Level of Service	C	C	A	A	A	C	A	A	A	A	A	D
Approach Delay (s)	24.5	24.5	4.1	24.9	24.9	28.8	28.8	28.8	28.8	28.8	28.8	28.8
Approach LOS	C	C	A	C	C	C	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	22.8											
HCM Volume to Capacity ratio	0.85											
Actuated Cycle Length (s)	90.0											
Sum of lost time (s)	16.0											
Intersection Capacity Utilization	129.1%											
ICU Level of Service	H											
Analysis Period (min)	15											
c Critical Lane Group												

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Lanes and Geometrics

3. Main Street & Ames Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	12	12	12	12	12	12	12	12	12	11	11	11
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	11	11
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. 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
Ped Bike Factor	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76
Frt	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981
Flt Protected	0.984	0.984	0.984	0.984	0.984	0.984	0.984	0.984	0.984	0.984	0.984	0.984
Satd. Flow (prot)	0	1254	0	0	1390	0	0	1400	0	0	925	0
Flt Permitted	0.847	0.847	0.847	0.847	0.847	0.847	0.847	0.847	0.847	0.847	0.847	0.847
Satd. Flow (perm)	0	905	0	0	1245	0	0	849	0	0	694	0
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	483	483	483	483	483	483	483	483	483	483	483	483
Link Distance (ft)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Travel Time (s)												
Intersection Summary												
Area Type: CBD												

Volume

3. Main Street & Ames Street

5/23/2014

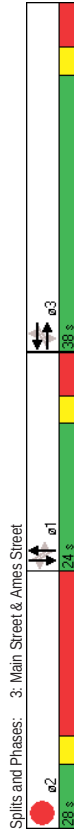
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	121	205	54	17	74	41	98	155	21	53	40	149
Confl. Peds. (#/hr)	769	546	546	546	546	546	546	546	546	546	546	546
Confl. Bikes (#/hr)	107	107	107	107	107	107	107	107	107	107	107	107
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	146	247	65	19	84	47	108	170	23	60	45	167
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	458	0	0	150	0	0	301	0	0	272	0
Intersection Summary												

Timings

3. Main Street & Ames Street

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø2
Lane Configurations	121	205	17	74	98	155	53	40	
Volume (vph)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Turn Type									
Protected Phases	3	3	3	3	1	1	1	1	2
Permitted Phases	3	3	3	3	1	1	1	1	
Detector Phase	3	3	3	3	1	1	1	1	
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	7.0
Minimum Split (s)	38.0	38.0	38.0	38.0	24.0	24.0	24.0	24.0	28.0
Total Split (s)	38.0	38.0	38.0	38.0	24.0	24.0	24.0	24.0	28.0
Total Split (%)	42.2%	42.2%	42.2%	42.2%	26.7%	26.7%	26.7%	26.7%	31%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	18.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-1.0	0.0	-1.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	7.0	8.0	7.0	8.0	
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	30.0	30.0	30.0	30.0	16.0	16.0	16.0	16.0	
Actuated g/C Ratio	0.33	0.33	0.33	0.33	0.18	0.18	0.18	0.18	
v/c Ratio	1.52	1.52	0.36	0.36	1.99	1.99	2.21	2.21	
Control Delay	272.4	272.4	25.9	25.9	494.1	494.1	572.8	572.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	272.4	272.4	25.9	25.9	494.1	494.1	572.8	572.8	
LOS	F	F	C	C	F	F	F	F	
Approach Delay	272.4	272.4	25.9	25.9	494.1	494.1	572.8	572.8	
Approach LOS	F	F	C	C	F	F	F	F	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 88 (98%), Referenced to phase 3EBWB, Start of Green									
Natural Cycle: 150									
Control Type: Prelimed									
Maximum v/c Ratio: 2.21									
Intersection Signal Delay: 366.8									
Intersection Capacity Utilization 72.4%									
Analysis Period (min) 15									



Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Phasings

3. Main Street & Ames Street

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø2
Protected Phases	3	3	3	3	1	1	1	1	2
Permitted Phases	3	3	3	3	1	1	1	1	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	7.0
Minimum Split (s)	38.0	38.0	38.0	38.0	24.0	24.0	24.0	24.0	28.0
Total Split (s)	38.0	38.0	38.0	38.0	24.0	24.0	24.0	24.0	28.0
Total Split (%)	42.2%	42.2%	42.2%	42.2%	26.7%	26.7%	26.7%	26.7%	31%
Maximum Green (s)	30.0	30.0	30.0	30.0	16.0	16.0	16.0	16.0	7.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	18.0
Lead/Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	11.0	11.0	11.0	11.0	2.0	2.0	2.0	2.0	
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	
90th %ile Green (s)	30.0	30.0	30.0	30.0	16.0	16.0	16.0	16.0	7.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	
70th %ile Green (s)	30.0	30.0	30.0	30.0	16.0	16.0	16.0	16.0	7.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	
50th %ile Green (s)	30.0	30.0	30.0	30.0	16.0	16.0	16.0	16.0	7.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	
30th %ile Green (s)	30.0	30.0	30.0	30.0	16.0	16.0	16.0	16.0	7.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	
10th %ile Green (s)	30.0	30.0	30.0	30.0	16.0	16.0	16.0	16.0	7.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 88 (98%), Referenced to phase 3EBWB, Start of Green									
Control Type: Prelimed									

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Queues

3: Main Street & Ames Street

5/23/2014

	EBT	WBT	NBT	SBT
Lane Group				
Lane Group Flow (vph)	458	150	301	272
v/c Ratio	1.52	0.36	1.99	2.21
Control Delay	272.4	25.9	494.1	572.8
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	272.4	25.9	494.1	572.8
Queue Length 50th (ft)	~376	64	~270	~248
Queue Length 95th (ft)	#506	114	#429	m#259
Internal Link Dist (ft)	403	410	456	198
Turn Bay Length (ft)				
Base Capacity (vph)	302	415	151	123
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	1.52	0.36	1.99	2.21
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.				

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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HCM Signalized Intersection Capacity Analysis

3: Main Street & Ames Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↔		↔		↔		↔			↔	
Volume (vph)	121	205	54	17	74	41	98	155	21	53	40	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	16	12	12	12	12	11	11	11
Total Lost time (s)	8.0				8.0			8.0			8.0	
Lane Util. Factor	1.00				1.00			1.00			1.00	
Frpb, ped/bikes	0.91				0.80			0.96			0.66	
Flpb, ped/bikes	0.84				0.97			0.91			0.96	
Fr	0.98				0.96			0.99			0.92	
Flt Protected	0.98				0.99			0.98			0.99	
Satd. Flow (prot)	1052				1347			1276			884	
Flt Permitted	0.85				0.92			0.65			0.78	
Satd. Flow (perm)	905				1245			849			695	
Peak-hour factor, PHF	0.83	0.83	0.83	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	146	247	65	19	84	47	108	170	23	60	45	167
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	458	0	0	150	0	0	301	0	0	272	0
Confl. Peds. (#/hr)	769	546	546	769	194	15	163	163	163	163	194	34
Confl. Bikes (#/hr)	107											
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Parking (#/hr)	0						0					0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	3	3	3	3	3	3	1	1	1	1	1	1
Permitted Phases	3			3			1			1		
Actuated Green, G (s)	30.0			30.0			16.0			16.0		
Effective Green, g (s)	30.0			30.0			16.0			16.0		
Actuated g/C Ratio	0.33			0.33			0.18			0.18		
Clearance Time (s)	8.0			8.0			8.0			8.0		
Lane Grp Cap (vph)	302			415			151			124		
v/s Ratio Prot												
v/s Ratio Perm	c0.51			0.12			0.35			c0.39		
v/c Ratio	1.52			0.36			1.99			2.19		
Uniform Delay, d1	30.0			22.7			37.0			37.0		
Progression Factor	0.86			1.00			1.00			0.53		
Incremental Delay, d2	247.5			2.4			469.8			545.9		
Delay (s)	273.4			25.2			506.8			565.4		
Level of Service	F			C			F			F		
Approach Delay (s)	273.4			25.2			506.8			565.4		
Approach LOS	F			C			F			F		
Intersection Summary												
HCM Average Control Delay				368.6			HCM Level of Service			F		
HCM Volume to Capacity ratio				1.76								
Actuated Cycle Length (s)				90.0			Sum of lost time (s)			44.0		
Intersection Capacity Utilization				72.4%			ICU Level of Service			C		
Analysis Period (min)				15								
c Critical Lane Group												

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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Lanes and Geometrics

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↑↑	↑	↑	↑	↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	12	11	11	11	11	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	160		0	0	
Storage Lanes		0	1		1	0	
Taper Length (ft)		25	25		25	25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.89		0.87		0.88		
Flt	0.979		0.950		0.920		
Flt Protected					0.980		
Satd. Flow (prot)	2576	0	1510	1589	917	0	
Flt Permitted			0.222		0.980		
Satd. Flow (perm)	2576	0	305	1589	818	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)					69		
Link Speed (mph)	30			30	30		
Link Distance (ft)	631			396	273		
Travel Time (s)	14.3			9.0	6.2		
Intersection Summary							
Area Type: CBD							

Volume

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Volume (vph)	569	91	256	493	139	203	
Confl. Peds. (#/hr)		323	323		138	271	
Confl. Bikes (#/hr)		247				3	
Peak Hour Factor	0.93	0.93	0.95	0.95	0.94	0.94	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	3%	3%	4%	4%	6%	6%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)						2	
Mid-Block Traffic (%)	0%			0%	0%		
Adj. Flow (vph)	612	98	269	519	148	216	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	710	0	269	519	364	0	
Intersection Summary							

Timings

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL	ø3
Lane Configurations	↔↔	↔	↔	↔	
Volume (vph)	569	256	493	139	
Turn Type	pm+pt				
Protected Phases	1	2	1	4	3
Permitted Phases	1				
Detector Phase	1	2	1	4	
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	7.0
Minimum Split (s)	24.0	21.0	24.0	21.0	24.0
Total Split (s)	24.0	21.0	24.0	21.0	24.0
Total Split (%)	26.7%	23.3%	26.7%	23.3%	27%
Yellow Time (s)	3.0	2.0	3.0	2.0	3.0
All-Red Time (s)	3.0	5.0	3.0	5.0	14.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	7.0	6.0	7.0	
Lead/Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	18.0	31.0	18.0	14.0	
Actuated g/C Ratio	0.20	0.34	0.20	0.16	
v/c Ratio	1.38	0.92	1.63	1.81	
Control Delay	207.0	19.9	310.1	388.5	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	207.0	19.9	310.1	388.5	
LOS	F	B	F	F	F
Approach Delay	207.0		211.0	388.5	
Approach LOS	F		F	F	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 53 (59%), Referenced to phase 1:EBWB, Start of Green					
Natural Cycle: 150					
Control Type: Prelimed					
Maximum v/c Ratio: 1.81					
Intersection Signal Delay: 244.2					
Intersection Capacity Utilization 81.8%					
Analysis Period (min) 15					

Splits and Phases: 4: Broadway east & Ames Street



Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Phasings

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL	ø3
Protected Phases	1	2	1	4	3
Permitted Phases		1			
Minimum Initial (s)	4.0	4.0	4.0	4.0	7.0
Minimum Split (s)	24.0	21.0	24.0	21.0	24.0
Total Split (s)	24.0	21.0	24.0	21.0	24.0
Total Split (%)	26.7%	23.3%	26.7%	23.3%	27%
Maximum Green (s)	18.0	14.0	18.0	14.0	7.0
Yellow Time (s)	3.0	2.0	3.0	2.0	3.0
All-Red Time (s)	3.0	5.0	3.0	5.0	14.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	2.0	2.0	2.0	2.0	
Flash Dont Walk (s)	16.0	12.0	16.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	
90th %ile Green (s)	18.0	14.0	18.0	14.0	7.0
90th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
70th %ile Green (s)	18.0	14.0	18.0	14.0	7.0
70th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
50th %ile Green (s)	18.0	14.0	18.0	14.0	7.0
50th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
30th %ile Green (s)	18.0	14.0	18.0	14.0	7.0
30th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
10th %ile Green (s)	18.0	14.0	18.0	14.0	7.0
10th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 53 (59%), Referenced to phase 1:EBWB, Start of Green					
Control Type: Prelimed					

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Queues

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	710	269	519	364
v/c Ratio	1.38	0.92	1.63	1.81
Control Delay	207.0	19.9	310.1	388.5
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	207.0	19.9	310.1	388.5
Queue Length 50th (ft)	~295	91	~448	~268
Queue Length 95th (ft)	m#371	m78	m#333	m#157
Internal Link Dist (ft)	551		316	193
Turn Bay Length (ft)		160		
Base Capacity (vph)	515	293	318	201
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	1.38	0.92	1.63	1.81
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.				

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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HCM Signalized Intersection Capacity Analysis

4: Broadway east & Ames Street

5/23/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑	↵	
Volume (vph)	569	91	256	493	139	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	11	11	11	11
Total Lost time (s)	6.0		7.0	6.0	7.0	
Lane Util. Factor	0.95		1.00	1.00	1.00	
Frpb, ped/bikes	0.89		1.00	1.00	0.65	
Flpb, ped/bikes	1.00		0.98	1.00	1.00	
Prt	0.98		1.00	1.00	0.92	
Flt Protected	1.00		0.95	1.00	0.98	
Satd. Flow (prot)	2576		1473	1589	917	
Flt Permitted	1.00		0.22	1.00	0.98	
Satd. Flow (perm)	2576		345	1589	917	
Peak-hour factor, PHF	0.93	0.93	0.95	0.95	0.94	0.94
Adj. Flow (vph)	612	98	269	519	148	216
RTOR Reduction (vph)	0	0	0	0	58	0
Lane Group Flow (vph)	710	0	269	519	306	0
Confl. Peds. (#/hr)	323	323			138	271
Confl. Bikes (#/hr)	247					3
Heavy Vehicles (%)	3%	3%	4%	4%	6%	6%
Parking. (#/hr)						2
Turn Type	pm+pt					
Protected Phases	1			1		4
Permitted Phases	1					
Actuated Green, G (s)	18.0		32.0	18.0	14.0	
Effective Green, g (s)	18.0		32.0	18.0	14.0	
Actuated g/C Ratio	0.20		0.36	0.20	0.16	
Clearance Time (s)	6.0		7.0	6.0	7.0	
Lane Grp Cap (vph)	515		298	318	143	
v/s Ratio Prot	0.28		c0.14	c0.33	c0.33	
v/s Ratio Perm			0.18			
v/c Ratio	1.38		0.90	1.63	2.14	
Uniform Delay, d1	36.0		24.0	36.0	38.0	
Progression Factor	0.96		0.41	0.75	0.92	
Incremental Delay, d2	176.7		4.6	285.7	514.2	
Delay (s)	211.4		14.5	312.6	549.1	
Level of Service	F		B	F	F	
Approach Delay (s)	211.4			210.8	549.1	
Approach LOS	F			F	F	
Intersection Summary						
HCM Average Control Delay	277.2			HCM Level of Service		
HCM Volume to Capacity ratio	1.57			F		
Actuated Cycle Length (s)	90.0			Sum of lost time (s)		
Intersection Capacity Utilization	81.8%			ICU Level of Service		
Analysis Period (min)	15			D		
Critical Lane Group						

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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Lanes and Geometrics

5: Broadway east & Third Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	12	11	11	12	12	12	10	10	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	340		125	0	0	0	0	0	0	0	0	160
Storage Lanes	1	1	1	0	0	0	0	0	0	0	0	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.97	0.983	0.983	0.93	0.93	0.93	0.945	0.945	0.945	0.960	0.960	0.850
Flt Protected	0.950									0.960	0.960	0.960
Satd. Flow (prot)	1444	2697	0	0	2731	0	0	0	0	0	1473	1304
Flt Permitted	0.950									0.960	0.960	0.960
Satd. Flow (perm)	1444	2697	0	0	2731	0	0	0	0	0	1473	1304
Right Turn on Red			Yes			No			Yes			No
Satd. Flow (RTOR)	17											
Link Speed (mph)	30			30					30			30
Link Distance (ft)	581			393					156			1212
Travel Time (s)	13.2			8.9					3.5			27.5
Intersection Summary												
Area Type: CBD												

Volume

5: Broadway east & Third Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	277	360	46	0	730	422	0	0	0	200	41	209
Confl. Peds. (#/hr)	70	70	70	70	103	19						
Confl. Bikes (#/hr)	199											1
Peak Hour Factor	0.83	0.83	0.83	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	334	434	55	0	768	444	0	0	0	217	45	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	334	489	0	0	1212	0	0	0	0	0	262	227
Intersection Summary												

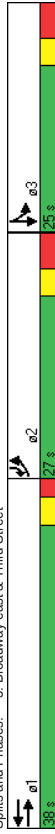
Timings

5: Broadway east & Third Street

5/23/2014

Lane Group	EBL	EBT	WBT	SBT	EBL	EBT	WBT	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	277	360	730	41	209	Over		
Turn Type	Prot							
Protected Phases	2	1	1	3	2			
Permitted Phases								
Detector Phase	2	1	1	3	2			
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	27.0	37.0	37.0	25.0	27.0			
Total Split (s)	27.0	38.0	38.0	25.0	27.0			
Total Split (%)	30.0%	42.2%	42.2%	27.8%	30.0%			
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0			
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	7.0	5.0	5.0	7.0	7.0			
Lead/Lag	Lag	Lead	Lead	Lag	Lag			
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max			
Act Effct Green (s)	20.0	33.0	33.0	18.0	20.0			
Actuated g/C Ratio	0.22	0.37	0.37	0.20	0.22			
v/c Ratio	1.04	0.49	1.21	0.89	0.78			
Control Delay	66.6	6.0	132.5	67.4	53.5			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay	66.6	6.0	132.5	67.4	53.5			
LOS	E	A	F	E	D			
Approach Delay		30.6	132.5	60.9				
Approach LOS		C	F	E				
Intersection Summary								
Cycle Length: 90								
Actuated Cycle Length: 90								
Offset: 80 (89%), Referenced to phase 1:EBWB, Start of Green								
Natural Cycle: 140								
Control Type: Prelimed								
Maximum v/c Ratio: 1.21								
Intersection Signal Delay: 65.4								
Intersection Capacity Utilization 87.3%								
Analysis Period (min) 15								

Splits and Phases: 5: Broadway east & Third Street



Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Phasings

5: Broadway east & Third Street

5/23/2014

Lane Group	EBL	EBT	WBT	SBT	EBL	EBT	WBT	SBT
Protected Phases	2	1	1	3	2			
Permitted Phases								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	27.0	37.0	37.0	25.0	27.0			
Total Split (s)	27.0	38.0	38.0	25.0	27.0			
Total Split (%)	30.0%	42.2%	42.2%	27.8%	30.0%			
Maximum Green (s)	20.0	33.0	33.0	18.0	20.0			
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0			
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0			
Lead/Lag	Lag	Lead	Lead	Lag	Lag			
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0			
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0			
Recall Mode	Max	Max	Max	Max	Max			
Walk Time (s)	2.0	17.0	17.0	6.0	2.0			
Flash Dont Walk (s)	12.0	12.0	12.0	11.0	12.0			
Pedestrian Calls (#/hr)	0	0	0	0	0			
90th %ile Green (s)	20.0	33.0	33.0	18.0	20.0			
90th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR			
70th %ile Green (s)	20.0	33.0	33.0	18.0	20.0			
70th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR			
50th %ile Green (s)	20.0	33.0	33.0	18.0	20.0			
50th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR			
30th %ile Green (s)	20.0	33.0	33.0	18.0	20.0			
30th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR			
10th %ile Green (s)	20.0	33.0	33.0	18.0	20.0			
10th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR			
Intersection Summary								
Cycle Length: 90								
Actuated Cycle Length: 90								
Offset: 80 (89%), Referenced to phase 1:EBWB, Start of Green								
Control Type: Prelimed								

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Queues

5: Broadway east & Third Street

5/23/2014



Lane Group	EBL	EBT	WBT	SBT	SBR
Lane Group Flow (vph)	334	489	1212	262	227
v/c Ratio	1.04	0.49	1.21	0.89	0.78
Control Delay	66.6	6.0	132.5	67.4	53.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	66.6	6.0	132.5	67.4	53.5
Queue Length 50th (ft)	~215	24	~447	146	122
Queue Length 95th (ft)	m155	m11	#576	#286	#240
Internal Link Dist (ft)	501	313	1132		
Turn Bay Length (ft)	340				160
Base Capacity (vph)	321	1000	1001	295	290
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	1.04	0.49	1.21	0.89	0.78
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.					

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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HCM Signalized Intersection Capacity Analysis

5: Broadway east & Third Street

5/23/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰	↰
Volume (vph)	277	360	46	0	730	422	0	0	0	200	41	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	12	11	11	12	12	12	10	10	10
Total Lost time (s)	7.0	5.0			5.0					7.0	7.0	7.0
Lane Util. Factor	1.00	0.95			0.95					1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.97			0.93					1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00					1.00	1.00	1.00
Prt	1.00	0.98			0.95					1.00	0.85	1.00
Flt Protected	0.95	1.00			1.00					0.96	1.00	0.96
Satd. Flow (prot)	1444	2698			2731					1474	1304	1474
Flt Permitted	0.95	1.00			1.00					0.96	1.00	0.96
Satd. Flow (perm)	1444	2698			2731					1474	1304	1474
Peak-Hour factor, PHF	0.83	0.83	0.83	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	334	434	55	0	768	444	0	0	0	217	45	227
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	334	478	0	0	1212	0	0	0	0	0	262	227
Confl. Peds. (#/hr)			70	70	103							
Confl. Bikes (#/hr)			199		19							
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Parking (#/hr)		0										
Turn Type	Prot	1			1					Split	3	2
Protected Phases	2	1										
Permitted Phases												
Actuated Green, G (s)	20.0	33.0			33.0					18.0	20.0	20.0
Effective Green, g (s)	20.0	33.0			33.0					18.0	20.0	20.0
Actuated g/C Ratio	0.22	0.37			0.37					0.20	0.22	0.22
Clearance Time (s)	7.0	5.0			5.0					7.0	7.0	7.0
Lane Grp Cap (vph)	321	989			1001					295	290	290
v/s Ratio Prot	c0.23	0.18			c0.44					c0.18	0.17	0.17
v/s Ratio Perm												
v/c Ratio	1.04	0.48			1.21					0.89	0.78	0.78
Uniform Delay, d1	35.0	21.9			28.5					35.0	33.0	33.0
Progression Factor	1.11	0.27			1.00					1.00	1.00	1.00
Incremental Delay, d2	27.0	0.2			104.3					30.3	18.8	18.8
Delay (s)	65.7	6.1			132.8					65.3	51.7	51.7
Level of Service	E	A			F					E	D	D
Approach Delay (s)		30.3			132.8			0.0		59.0		
Approach LOS		C			F			A		E		
Intersection Summary												
HCM Average Control Delay			85.0			HCM Level of Service				F		
HCM Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			90.0			Sum of lost time (s)				19.0		
Intersection Capacity Utilization			87.3%			ICU Level of Service				E		
Analysis Period (min)			15									
c Critical Lane Group												

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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Lanes and Geometrics

6: Ames Street &

5/23/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		P			P
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Grade (%)	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	0	0	0
Storage Lanes	1	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.952					
Flt Protected	0.969					
Satd. Flow (prot)	1577	0	1559	0	0	1375
Flt Permitted	0.969					
Satd. Flow (perm)	1577	0	1559	0	0	1375
Link Speed (mph)	30		30			30
Link Distance (ft)	239		278			273
Travel Time (s)	5.4		6.3			6.2
Intersection Summary						
Area Type: CBD						

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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Volume

6: Ames Street &

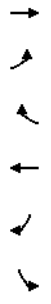
5/23/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	20	11	312	0	0	226
Confl. Peds. (#/hr)	109	120	185	185	185	
Confl. Bikes (#/hr)				12		
Peak Hour Factor	0.74	0.74	0.94	0.94	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	6%	6%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						2
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	27	15	332	0	0	254
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	0	332	0	0	254
Intersection Summary						

Future Condition - Cycle Track 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W R		P B			R L
Volume (veh/h)	20	11	312	0	0	226
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.74	0.74	0.94	0.94	0.89	0.89
Hourly flow rate (vph)	27	15	332	0	0	254
Pedestrians	185		109			120
Lane Width (ft)	12.0		11.0			11.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	15		8			9
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Unstream signal (ft)			278			273
pX, platoon unblocked						
vC, conflicting volume	880	637			517	
vc1, stage 1 conf vol						
vc2, stage 2 conf vol						
vCu, unblocked vol	880	637			517	
tC, single (s)	6.4	6.2			4.2	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.3	
p0 queue free %	89	96			100	
cM capacity (veh/h)	248	369			866	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	42	332	254			
Volume Left	27	0	0			
Volume Right	15	0	0			
cSH	281	1700	866			
Volume to Capacity	0.15	0.20	0.00			
Queue Length 95th (ft)	13	0	0			
Control Delay (s)	20.0	0.0	0.0			
Lane LOS	C					
Approach Delay (s)	20.0	0.0	0.0			
Approach LOS	C					

Lanes and Geometrics

7: Broadway east &



Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	40		0	0
Storage Lanes		0	1		0	1
Taper Length (ft)		25	25		25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped. Bike Factor						
Ft	0.983					0.865
Ft Protected			0.950			
Satd. Flow (prot)	1632	0	1555	1637	0	1479
Ft Permitted			0.950			
Satd. Flow (perm)	1632	0	1555	1637	0	1479
Link Speed (mph)	30			30		30
Link Distance (ft)	396			581		146
Travel Time (s)	9.0			13.2		3.3
Intersection Summary						

Intersection Summary

Area Type:

Volume

7: Broadway east &

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	688	97	110	775	0	20
Confl. Peds. (#/hr)	300	300	300	255		
Confl. Bikes (#/hr)	264					
Peak Hour Factor	0.93	0.93	0.95	0.95	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	718	104	116	816	0	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	822	0	116	816	0	20
Intersection Summary						

HCM Unsignalized Intersection Capacity Analysis

7: Broadway east &

5/23/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Volume (veh/h)	688	97	110	775	0	20
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.93	0.93	0.95	0.95	1.00	1.00
Hourly flow rate (vph)	718	104	116	816	0	20
Pedestrians					255	300
Lane Width (ft)					11.0	12.0
Walking Speed (ft/s)					4.0	4.0
Percent Blockage					19	25
Right turn flare (veh)						
Median type	None	None	None	None	None	None
Median storage (veh)						
Upstream signal (ft)	396				581	
pX, platoon unblocked			0.78		0.76	0.78
VC, conflicting volume			1123		2118	1325
VC1, stage 1 conf vol						
VC2, stage 2 conf vol			1017		1666	1277
VCu, unblocked vol			4.1		6.4	6.2
IC, single (s)						
IC, 2 stage (s)						
IF (s)			2.2		3.5	3.3
p0 queue free %			71		100	79
CM capacity (veh/h)			402		44	97
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	823	116	816	20		
Volume Left	0	116	0	0		
Volume Right	104	0	0	20		
cSH	1700	402	1700	97		
Volume to Capacity	0.48	0.29	0.48	0.21		
Queue Length 95th (ft)	0	29	0	18		
Control Delay (s)	0.0	17.5	0.0	51.5		
Lane LOS		C		F		
Approach Delay (s)	0.0	2.2		51.5		
Approach LOS		F		F		
Intersection Summary						
Average Delay			1.7			
Intersection Capacity Utilization			76.8%		ICU Level of Service	D
Analysis Period (min)			15			

2019 Future Condition
With Buffered Bike Lanes

Lanes and Geometrics

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	11	11	11	11	12	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	100	0	295	0	295	0	250	0	250	0	225	0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.85	0.92	0.85	0.85	0.98	0.88	0.97	0.93	0.93	0.93	0.93	0.62
Frt	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.975	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1444	2695	0	1444	2925	0	1350	2601	0	1450	1476	1211
Flt Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1222	2695	0	1228	2925	0	1216	2601	0	1350	1476	757
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	25	25	25	25	25	25	25	25	25	25	25	25
Link Speed (mph)	470	470	470	470	470	470	470	470	470	470	470	470
Link Distance (ft)	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
Travel Time (s)	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
Intersection Summary												
Area Type: CBD												

Volume

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	187	439	87	130	448	22	69	294	83	143	561	204
Confl. Peds. (#/hr)	242	372	372	372	242	242	257	99	99	99	257	257
Confl. Bikes (#/hr)	321	321	321	321	321	321	321	321	321	321	321	321
Peak Hour Factor	0.92	0.92	0.92	0.90	0.90	0.90	0.93	0.93	0.93	0.88	0.88	0.88
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	203	477	95	144	498	24	74	316	89	162	638	232
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	203	572	0	144	522	0	74	405	0	162	638	232
Intersection Summary												

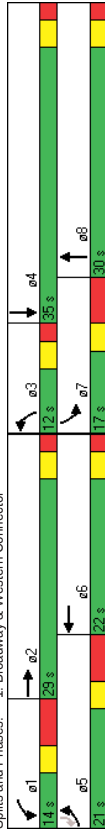
Timings

1: Broadway & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4
Volume (vph)	187	439	130	448	69	294	143	561	204
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Custom	Custom
Protected Phases	5	2	1	6	3	8	7	4	5
Detector Phase	5	2	1	6	3	8	7	4	5
Switch Phase									
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	14.0	27.0	14.0	22.0	11.0	27.0	14.0	27.0	14.0
Total Split (s)	21.0	29.0	14.0	22.0	12.0	30.0	17.0	35.0	21.0
Total Split (%)	23.3%	32.2%	15.6%	24.4%	13.3%	33.3%	18.9%	38.9%	23.3%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	2.0	5.0	2.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Act Effct Green (s)	13.0	24.0	6.0	17.0	6.9	25.0	9.0	32.4	13.0
Actuated g/C Ratio	0.14	0.27	0.07	0.19	0.08	0.28	0.10	0.36	0.14
v/c Ratio	0.97	0.80	1.50	0.94	0.70	0.56	1.12	1.20	2.13
Control Delay	96.4	40.4	279.0	62.5	65.7	30.1	149.9	137.1	560.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	96.4	40.4	279.0	62.5	65.7	30.1	149.9	137.1	560.7
LOS	F	D	F	E	E	C	F	F	F
Approach Delay		55.0		109.3		35.6		234.4	
Approach LOS		E		F		D		F	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Natural Cycle: 145									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 2.13									
Intersection Signal Delay: 126.8									
Intersection Capacity Utilization 83.4%									
Analysis Period (min) 15									

Splits and Phases: 1: Broadway & Western Connector



Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Phasings

1: Broadway & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	5	2	1	6	3	8	7	4	
Permitted Phases									5
Minimum Initial (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Minimum Split (s)	14.0	27.0	14.0	22.0	11.0	27.0	14.0	27.0	14.0
Total Split (s)	21.0	29.0	14.0	22.0	12.0	30.0	17.0	35.0	21.0
Total Split (%)	23.3%	32.2%	15.6%	24.4%	13.3%	33.3%	18.9%	38.9%	23.3%
Maximum Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	2.0	5.0	2.0	5.0
Lead/Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Walk Time (s)		7.0		7.0		7.0		7.0	
Flash Dont Walk (s)		15.0		10.0		15.0		12.0	
Pedestrian Calls (#/hr)		0		0		0		0	
90th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
90th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
70th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
70th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
50th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
50th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
30th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
30th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
10th %ile Green (s)	13.0	24.0	6.0	17.0	7.0	25.0	9.0	30.0	13.0
10th %ile Term Code	Max	Coord	Max	Coord	Skip	MaxR	Max	MaxR	Max
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Control Type: Actuated-Coordinated									

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

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Queues

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group										
Lane Group Flow (vph)	203	572	144	522	74	405	162	638	232	
v/c Ratio	0.97	0.80	1.50	0.94	0.70	0.56	1.12	1.20	2.13	
Control Delay	96.4	40.4	279.0	62.5	65.7	30.1	149.9	137.1	560.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	96.4	40.4	279.0	62.5	65.7	30.1	149.9	137.1	560.7	
Queue Length 50th (ft)	116	159	~120	168	40	97	~107	~469	~212	
Queue Length 95th (ft)	#253	#238	m#146	m#171	m#80	148	#223	#654	#345	
Internal Link Dist (ft)	390		295	551		697		639		
Turn Bay Length (ft)	100		295		250		225			
Base Capacity (vph)	209	719	96	553	108	723	145	531	109	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.97	0.80	1.50	0.94	0.69	0.56	1.12	1.20	2.13	
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.										

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

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HCM Signalized Intersection Capacity Analysis

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Movement										
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Volume (vph)	187	439	87	130	448	22	69	294	83	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	10	11	11	11	12	11	30
Total Lost time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0	8.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.92	1.00	0.98	1.00	0.97	1.00	0.97	1.00	0.62
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prt	1.00	0.98	1.00	0.99	1.00	0.97	1.00	0.97	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1444	2693	1444	2925	1390	2602	1450	1476	757	757
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00
Satd. Flow (perm)	1444	2693	1444	2925	1390	2602	1450	1476	757	757
Peak-Hour factor, PHF	0.92	0.92	0.92	0.90	0.90	0.93	0.93	0.88	0.88	0.88
Adj. Flow (vph)	203	477	95	144	498	24	74	316	89	162
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	203	572	0	144	522	0	74	405	0	162
Confl. Peds. (#/hr)	242	372	372	242	257	99	99	257	257	36
Confl. Bikes (#/hr)	321			18		24				
Heavy Vehicles (%)	5%	5%	5%	5%	5%	13%	13%	13%	12%	12%
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custom	
Protected Phases	5	2	1	6	3	8	7	4	5	
Permitted Phases										
Actuated Green, G (s)	13.0	23.0	6.0	16.0	5.6	26.0	9.0	32.4	13.0	
Effective Green, g (s)	13.0	23.0	6.0	16.0	5.6	26.0	9.0	32.4	13.0	
Actuated g/C Ratio	0.14	0.26	0.07	0.18	0.06	0.29	0.10	0.36	0.14	
Clearance Time (s)	8.0	8.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	209	688	96	520	86	752	145	531	109	
v/s Ratio Prot	0.14	c0.21	0.10	c0.18	0.05	0.16	c0.11	c0.43		
v/s Ratio Perm										
v/c Ratio	0.97	0.83	1.50	1.00	0.86	0.54	1.12	1.20	2.13	
Uniform Delay, d1	38.3	31.7	42.0	37.0	41.8	26.9	40.5	28.8	38.5	
Progression Factor	1.00	1.00	0.97	1.31	0.92	0.98	1.00	1.00	1.00	
Incremental Delay, d2	53.8	11.2	246.8	26.7	46.0	2.2	109.7	107.7	537.2	
Delay (s)	92.1	42.9	287.5	75.2	84.3	28.5	150.2	136.5	575.7	
Level of Service	F	D	F	E	F	C	F	F	F	
Approach Delay (s)		55.8		121.1		37.2		237.4		
Approach LOS		E		F		D		F		
Intersection Summary										
HCM Average Control Delay			131.0						F	
HCM Volume to Capacity ratio			1.56							
Actuated Cycle Length (s)			90.0						31.0	
Intersection Capacity Utilization			83.4%						E	
Analysis Period (min)			15							
c Critical Lane Group										

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

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Lanes and Geometrics

2: Main Street & Western Connector 5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	11	11	10	10	11	10	11	10
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	250	120	0	0	0	250	0	0	0	0	75
Storage Lanes	1	1	1	0	0	0	1	0	0	0	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.79	0.96	0.94	0.94	0.94	0.94	0.94	0.94	0.92	0.92	0.87	0.87
Frt	0.950	0.969	0.970	0.970	0.970	0.970	0.957	0.957	0.950	0.950	0.850	0.850
Flt Protected	1464	1438	0	1430	1418	0	0	2575	0	1354	1476	1211
Satd. Flow (prot)	0.576	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556	0.556
Flt Permitted	703	1438	0	785	1418	0	0	2013	0	584	1476	1058
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	18	17	17	17	17	17	17	17	17	17	17	17
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	1009	483	483	483	483	483	483	483	483	483	483	483
Link Distance (ft)	22.9	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Travel Time (s)												
Intersection Summary												
Area Type:	CBD											

Volume

2: Main Street & Western Connector 5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	188	219	56	89	185	46	62	267	130	32	334	413
Confl. Peds. (#/hr)	490	83	83	83	490	36	132	132	132	132	36	36
Confl. Bikes (#/hr)	87	87	87	87	87	87	87	87	87	87	87	87
Peak Hour Factor	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	11%	11%	11%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	199	231	59	105	218	54	68	293	143	35	367	454
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	199	290	0	105	272	0	0	504	0	35	367	454
Intersection Summary												

Timings

2: Main Street & Western Connector 5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	180	219	89	185	62	267	32	334	413
Volume (vph)									
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	3	3	3	3	3
Permitted Phases	1	1	1	1	3	3	3	3	3
Detector Phase	1	1	1	1	3	3	3	3	3
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (%)	52.2%	52.2%	52.2%	52.2%	47.8%	47.8%	47.8%	47.8%	47.8%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39	0.39
v/c Ratio	0.65	0.46	0.31	0.44	0.61	0.15	0.64	1.06	1.06
Control Delay	32.4	19.7	27.3	27.7	22.1	21.8	23.3	60.0	60.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	19.7	27.3	27.7	22.1	21.8	23.3	60.0	60.0
LOS	C	B	C	C	C	C	C	C	E
Approach Delay		24.9		27.6		22.1		42.7	
Approach LOS		C		C		C		D	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 58 (64%), Referenced to phase 1:EBWB, Start of Green									
Natural Cycle: 90									
Control Type: Prelimed									
Maximum v/c Ratio: 1.06									
Intersection Signal Delay: 31.6									
Intersection Capacity Utilization 129.1%									
Analysis Period (min) 15									

Splits and Phases: 2: Main Street & Western Connector



Phasings

2: Main Street & Western Connector 5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases									
Permitted Phases	1	1	1	1	3	3	3	3	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (s)	47.0	47.0	47.0	47.0	43.0	43.0	43.0	43.0	43.0
Total Split (%)	52.2%	52.2%	52.2%	52.2%	47.8%	47.8%	47.8%	47.8%	47.8%
Maximum Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	21.0	21.0	21.0	21.0	18.0	18.0	18.0	18.0	18.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 58 (64%), Referenced to phase 1:EBWB, Start of Green									
Control Type: Prelimed									

2: Main Street & Western Connector

5/23/2014

	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Group								
Lane Group Flow (vph)	199	290	105	272	504	35	367	454
v/c Ratio	0.65	0.46	0.31	0.44	0.61	0.15	0.64	1.06
Control Delay	32.4	19.7	27.3	27.7	22.1	21.8	23.3	60.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	32.4	19.7	27.3	27.7	22.1	21.8	23.3	60.0
Queue Length 50th (ft)	87	105	59	126	100	12	122	~158
Queue Length 95th (ft)	#181	177	m69	m137	154	m10	m104	m119
Internal Link Dist (ft)	929		403	730			697	75
Turn Bay Length (ft)		120						427
Base Capacity (vph)	305	633	340	624	830	227	574	427
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.65	0.46	0.31	0.44	0.61	0.15	0.64	1.06
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.								

HCM Signalized Intersection Capacity Analysis

2: Main Street & Western Connector

5/23/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	189	219	56	89	185	46	62	267	130	32	334	413
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	10	10	11	10	11	10
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.96	1.00	1.00	0.94	1.00	0.94	1.00	0.94	1.00	1.00	0.87
Flpb, ped/bikes	0.79	1.00	1.00	0.94	1.00	1.00	1.00	0.96	1.00	0.92	1.00	1.00
Flt	1.00	0.97	1.00	1.00	0.97	1.00	0.96	1.00	0.96	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.95	1.00	0.99	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1159	1439	1341	1418	1418	1418	2569	1242	1476	1058	1476	1058
Flt Permitted	0.58	1.00	0.56	1.00	0.56	1.00	0.78	0.45	1.00	1.00	1.00	1.00
Satd. Flow (perm)	702	1439	784	1418	1418	1418	2015	584	1476	1058	1476	1058
Peak-hour factor, PHF	0.95	0.95	0.95	0.85	0.85	0.85	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	199	231	59	105	218	54	68	293	143	35	367	454
RTOR Reduction (vph)	0	10	0	0	10	0	0	47	0	0	0	16
Lane Group Flow (vph)	199	280	0	105	262	0	0	457	0	35	367	438
Confl. Peds. (#/hr)	490	83	83	490	36	36	132	132	36	36	36	67
Confl. Bikes (#/hr)	9	87	87	9	9	9	39	39	39	39	39	67
Heavy Vehicles (%)	11%	11%	11%	6%	6%	6%	5%	5%	5%	12%	12%	12%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	1	1	3	3	3	3	3	3
Permitted Phases	1	1	1	1	1	1	3	3	3	3	3	3
Actuated Green, G (s)	39.0	39.0	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0
Effective Green, g (s)	39.0	39.0	39.0	39.0	39.0	39.0	35.0	35.0	35.0	35.0	35.0	35.0
Actuated g/C Ratio	0.43	0.43	0.43	0.43	0.43	0.43	0.39	0.39	0.39	0.39	0.39	0.39
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	304	624	340	614	614	784	227	574	411	227	574	411
Lane Grp Cpt Prot	0.19			0.19						0.25		
v/s Ratio Perm	c0.28			0.13			0.23			0.06		c0.41
v/c Ratio	0.65	0.45	0.31	0.43	0.43	0.58	0.15	0.64	1.07	0.15	0.64	1.07
Uniform Delay, d1	20.2	17.9	16.7	17.7	17.7	21.7	17.9	22.4	27.5	17.9	22.4	27.5
Progression Factor	1.00	1.00	1.48	1.54	1.54	1.00	1.16	0.98	0.91	1.16	0.98	0.91
Incremental Delay, d2	10.5	2.3	1.4	1.3	1.3	3.2	0.1	0.5	35.1	0.1	0.5	35.1
Delay (s)	30.7	20.3	26.0	28.6	28.6	24.9	20.8	22.5	60.2	20.8	22.5	60.2
Level of Service	C	C	C	C	C	C	C	C	C	C	C	E
Approach Delay (s)	24.5			27.9			24.9			42.4		
Approach LOS	C			C			C			D		
Intersection Summary												
HCM Average Control Delay	32.1										C	
HCM Volume to Capacity ratio	0.85										C	
Actuated Cycle Length (s)	90.0										16.0	
Intersection Capacity Utilization	129.1%										H	
Analysis Period (min)	15										C	
Critical Lane Group												

Lanes and Geometrics

3. Main Street & Ames Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	12	12	12	12	12	12	12	12	12	11	11	11
Lane Width (ft)	12	12	12	12	12	12	12	12	12	11	11	11
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	0	0	0	0	0	0	0	0	0	0	100
Storage Lanes	0	0	0	0	0	0	0	0	0	0	0	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	50
Lane Util. 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
Ped Bike Factor	0.77	0.981	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.850
Frt Protected	0	1259	0	0	1398	0	0	1397	0	0	1502	1182
Satd. Flow (prot)	0	900	0	0	1254	0	0	1001	0	0	879	536
Flt Permitted	0	900	0	0	1254	0	0	1001	0	0	879	536
Satd. Flow (perm)	0	900	0	0	1254	0	0	1001	0	0	879	536
Right Turn on Red	0	900	0	0	1254	0	0	1001	0	0	879	536
Satd. Flow (RTOR)	0	900	0	0	1254	0	0	1001	0	0	879	536
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30	30
Link Distance (ft)	483	483	483	483	483	483	483	483	483	483	483	483
Travel Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	6.0
Intersection Summary												
Area Type: CBD												

Volume

3. Main Street & Ames Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	121	205	54	17	74	41	98	155	21	53	40	149
Confl. Peds. (#/hr)	769	546	546	546	546	546	546	546	546	546	546	546
Confl. Bikes (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.83	0.83	0.83	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	146	247	65	19	84	47	108	170	23	60	45	167
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	458	0	0	150	0	0	301	0	0	105	167
Intersection Summary												

Timings

3. Main Street & Ames Street

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	121	205	17	74	98	155	53	40	149
Volume (vph)	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Turn Type	3	3	3	3	1	1	1	1	1
Protected Phases	3	3	3	3	1	1	1	1	1
Permitted Phases	3	3	3	3	1	1	1	1	1
Detector Phase	3	3	3	3	1	1	1	1	1
Switch Phase	3	3	3	3	1	1	1	1	1
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	40.0	40.0	40.0	40.0	23.0	23.0	23.0	23.0	23.0
Minimum Split (%)	55.0	55.0	55.0	55.0	35.0	35.0	35.0	35.0	35.0
Total Split (s)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Total Split (%)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-1.0	0.0	-1.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	7.0	8.0	7.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
Actuated g/C Ratio	0.52	0.52	0.52	0.52	0.30	0.30	0.30	0.30	0.30
v/c Ratio	0.97	0.97	0.23	0.23	1.00	1.00	0.40	1.04	1.04
Control Delay	52.6	52.6	12.8	12.8	87.0	87.0	33.1	111.9	111.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	52.6	12.8	12.8	87.0	87.0	33.1	111.9	111.9
LOS	D	D	B	B	F	F	C	F	F
Approach Delay	52.6	52.6	12.8	12.8	87.0	87.0	81.5	F	F
Approach LOS	D	D	B	B	F	F	F	F	F
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 44 (49%), Referenced to phase 3EBWB, Start of Green									
Natural Cycle: 90									
Control Type: Prelimed									
Maximum v/c Ratio: 1.04									
Intersection Signal Delay: 63.0									
Intersection Capacity Utilization 81.7%									
Analysis Period (min) 15									

Splits and Phases: 3. Main Street & Ames Street



Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Phasings

3. Main Street & Ames Street

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	3	3	3	3	1	1	1	1	1
Permitted Phases	3	3	3	3	1	1	1	1	1
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	40.0	40.0	40.0	40.0	23.0	23.0	23.0	23.0	23.0
Minimum Split (%)	55.0	55.0	55.0	55.0	35.0	35.0	35.0	35.0	35.0
Total Split (s)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Total Split (%)	61.1%	61.1%	61.1%	61.1%	38.9%	38.9%	38.9%	38.9%	38.9%
Maximum Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	13.0	13.0	13.0	13.0	1.0	1.0	1.0	1.0	1.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	47.0	47.0	47.0	47.0	27.0	27.0	27.0	27.0	27.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 44 (49%), Referenced to phase 3EBWB, Start of Green									
Control Type: Prelimed									

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Queues

3: Main Street & Ames Street

5/23/2014

	EBT	WBT	NBT	SBT	SBT
Lane Group					
Lane Group Flow (vph)	458	150	301	105	167
v/c Ratio	0.97	0.23	1.00	0.40	1.04
Control Delay	52.6	12.8	87.0	33.1	111.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	52.6	12.8	87.0	33.1	111.9
Queue Length 50th (ft)	160	44	~171	40	~108
Queue Length 95th (ft)	#388	78	#339	m83	m#214
Internal Link Dist (ft)	403	410	456	183	
Turn Bay Length (ft)					100
Base Capacity (vph)	470	655	300	264	161
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	0.97	0.23	1.00	0.40	1.04
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.					

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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HCM Signalized Intersection Capacity Analysis

3: Main Street & Ames Street

5/23/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	↔
Volume (vph)	121	205	54	17	74	41	98	155	21	53	40	149
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	16	12	12	12	12	11	11	11
Total Lost time (s)	8.0				8.0			8.0		8.0		8.0
Lane Util. 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
Frpb, ped/bikes					0.92			0.96		1.00		0.45
Flpb, ped/bikes					0.84			0.84		0.86		1.00
Frt					0.98			0.99		1.00		0.85
Flt Protected					0.98			0.98		0.97		1.00
Satd. Flow (prot)		1058			1351			1173		1297		536
Flt Permitted		0.84			0.92			0.84		0.66		1.00
Satd. Flow (perm)		900			1254			1001		879		536
Peak-hour factor, PHF	0.83	0.83	0.83	0.88	0.88	0.88	0.91	0.91	0.91	0.89	0.89	0.89
Adj. Flow (vph)	146	247	65	19	84	47	108	170	23	60	45	167
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	458	0	0	150	0	0	301	0	0	105	167
Confl. Peds. (#/hr)	769		546	546	769	194		163	163	163	194	194
Confl. Bikes (#/hr)		107				15			1		34	34
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	3%	3%	3%	7%	7%	7%
Parking (#/hr)	0						0					0
Turn Type	Perm	3	Perm	3	Perm	3	Perm	1	Perm	1	Perm	1
Protected Phases												
Permitted Phases	3		3		3		1		1		1	
Actuated Green, G (s)	47.0		47.0		47.0		27.0		27.0		27.0	
Effective Green, g (s)	47.0		47.0		47.0		27.0		27.0		27.0	
Actuated g/C Ratio	0.52		0.52		0.52		0.30		0.30		0.30	
Clearance Time (s)	8.0		8.0		8.0		8.0		8.0		8.0	
Lane Grp Cap (vph)	470		655		655		300		300		264	161
v/s Ratio Prot												
v/s Ratio Perm	c0.51		0.12		0.12		0.30		0.30		0.12	c0.31
v/c Ratio	0.97		0.23		0.23		1.00		1.00		0.40	1.00
Uniform Delay, d1	20.9		11.7		11.7		31.5		31.5		25.0	31.5
Progression Factor	0.72		1.00		1.00		1.00		1.00		1.12	1.10
Incremental Delay, d2	33.9		0.8		0.8		52.8		3.7		74.5	
Delay (s)	48.9		12.5		12.5		84.3		12.5		31.8	109.3
Level of Service	D		B		B		F		F		C	F
Approach Delay (s)	48.9		12.5		12.5		84.3		79.4		79.4	
Approach LOS	D		B		B		F		E		E	
Intersection Summary												
HCM Average Control Delay	60.3			HCM Level of Service			E					
HCM Volume to Capacity ratio	1.00											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)			16.0					
Intersection Capacity Utilization	81.7%			ICU Level of Service			D					
Analysis Period (min)	15											
Critical Lane Group												

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Lanes and Geometrics

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↑↑	↑	↑	↑	↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	12	11	11	11	11	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	160		0	100	
Storage Lanes		0	1		1	1	
Taper Length (ft)		25	25		25	50	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.91		0.85		0.79	0.45	
Frt	0.979					0.850	
Flt Protected			0.950		0.950		
Satd. Flow (prot)	2623	0	1510	1589	1481	1326	
Flt Permitted			0.250		0.950		
Satd. Flow (perm)	2623	0	336	1589	1175	600	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	21					216	
Link Speed (mph)	30			30		30	
Link Distance (ft)	631			396		289	
Travel Time (s)	14.3			9.0		6.6	
Intersection Summary							
Area Type: CBD							

Volume

4: Broadway east & Ames Street

5/23/2014

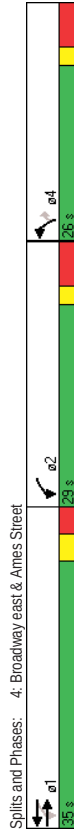
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Volume (vph)	569	91	256	493	139	203	
Confl. Peds. (#/hr)		323	323		138	271	
Confl. Bikes (#/hr)		247				3	
Peak Hour Factor	0.93	0.93	0.95	0.95	0.94	0.94	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	3%	3%	4%	4%	6%	6%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Adj. Flow (vph)	612	98	269	519	148	216	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	710	0	269	519	148	216	
Intersection Summary							

Timings

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑
Volume (vph)	569	256	493	139	203
Turn Type	pm+pt Perm				
Protected Phases	1	2	1	4	4
Permitted Phases	1	1	1	4	4
Detector Phase	1	2	1	4	4
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	29.0	50.0	29.0	19.0	19.0
Actuated g/C Ratio	0.32	0.56	0.32	0.21	0.21
v/c Ratio	0.83	0.57	1.01	0.47	0.73
Control Delay	21.6	16.1	64.2	32.5	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	16.1	64.2	32.5	14.8
LOS	C	B	E	C	B
Approach Delay	21.6		47.8	22.0	
Approach LOS	C		D	C	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 80 (89%), Referenced to phase 1:EBWB, Start of Green					
Natural Cycle: 90					
Control Type: Prelimed					
Maximum v/c Ratio: 1.01					
Intersection Signal Delay: 32.8					
Intersection Capacity Utilization 71.6%					
Analysis Period (min) 15					



Phasings

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Protected Phases	1	2	1	4	4
Permitted Phases	1	1	1	4	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Maximum Green (s)	29.0	22.0	29.0	19.0	19.0
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	13.0	7.0	13.0	4.0	4.0
Flash Dont Walk (s)	16.0	12.0	16.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
90th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
70th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
50th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
50th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
30th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
30th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
10th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
10th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 80 (89%), Referenced to phase 1:EBWB, Start of Green					
Control Type: Prelimed					

Queues

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	710	269	519	148	216
v/c Ratio	0.83	0.57	1.01	0.47	0.73
Control Delay	21.6	16.1	64.2	32.5	14.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	21.6	16.1	64.2	32.5	14.8
Queue Length 50th (ft)	197	70	~329	72	20
Queue Length 95th (ft)	m217	m65	m301	m83	m28
Internal Link Dist (ft)	551		316	209	
Turn Bay Length (ft)		160			100
Base Capacity (vph)	859	474	512	313	297
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	0.83	0.57	1.01	0.47	0.73
Intersection Summary					
~ Volume exceeds capacity, queue is theoretically infinite.					
Queue shown is maximum after two cycles.					
m Volume for 95th percentile queue is metered by upstream signal.					

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report
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HCM Signalized Intersection Capacity Analysis

4: Broadway east & Ames Street

5/23/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↖	↖	↑	↖	↖
Volume (vph)	569	91	256	493	139	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	11	11	11	11
Total Lost time (s)	6.0	7.0	6.0	7.0	7.0	7.0
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.91	1.00	1.00	1.00	1.00	0.45
Flpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	1.00
Prt	0.98	1.00	1.00	1.00	1.00	0.85
Flt Protected	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2624	1461	1589	1481	600	600
Flt Permitted	1.00	0.25	1.00	0.95	1.00	1.00
Satd. Flow (perm)	2624	385	1589	1481	600	600
Peak-hour factor, PHF	0.93	0.93	0.95	0.95	0.94	0.94
Adj. Flow (vph)	612	98	269	519	148	216
RTOR Reduction (vph)	14	0	0	0	0	170
Lane Group Flow (vph)	696	0	269	519	148	46
Confl. Peds. (#/hr)	323	323		138	271	
Confl. Bikes (#/hr)	247				3	
Heavy Vehicles (%)	3%	3%	4%	4%	6%	6%
Turn Type	pm+pt					
Protected Phases	1	2	1	4	Perm	
Permitted Phases	1					
Actuated Green, G (s)	29.0	51.0	29.0	19.0	19.0	19.0
Effective Green, g (s)	29.0	51.0	29.0	19.0	19.0	19.0
Actuated g/C Ratio	0.32	0.57	0.32	0.21	0.21	0.21
Clearance Time (s)	6.0	7.0	6.0	7.0	7.0	7.0
Lane Grp Cap (vph)	846	481	512	313	127	
v/s Ratio Prot	0.27	0.14	0.33	0.10		
v/s Ratio Perm		0.18			0.08	
v/c Ratio	0.82	0.56	1.01	0.47	0.36	
Uniform Delay, d1	28.1	19.5	30.5	31.1	30.3	
Progression Factor	0.58	0.79	1.63	0.93	1.05	
Incremental Delay, d2	4.8	0.4	15.5	2.8	4.3	
Delay (s)	21.1	15.9	65.3	31.8	36.2	
Level of Service	C	B	E	C	D	
Approach Delay (s)	21.1		48.4	34.4		
Approach LOS	C		D	C		
Intersection Summary						
HCM Average Control Delay	35.3			HCM Level of Service		
HCM Volume to Capacity ratio	0.72			D		
Actuated Cycle Length (s)	90.0			Sum of lost time (s)		
Intersection Capacity Utilization	71.6%			ICU Level of Service		
Analysis Period (min)	15			C		
c Critical Lane Group						

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report
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Lanes and Geometrics

5: Broadway east & Third Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	11	10	11	11	11	12	12	12	10	10	10	
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Storage Length (ft)	340	125	0	0	0	0	0	0	0	0	0	160	
Storage Lanes	1	1	0	0	0	0	0	0	0	0	0	1	
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25	
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.97	0.983	0.983	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	0.945	
Fit	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	
Fit Protected	1444	2697	0	0	2731	0	0	0	0	0	0	1473	1304
Satd. Flow (prot)	1444	2697	0	0	2731	0	0	0	0	0	0	1473	1304
Fit Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	
Satd. Flow (perm)	1444	2697	0	0	2731	0	0	0	0	0	0	1473	1304
Right Turn on Red	1444	2697	0	0	2731	0	0	0	0	0	0	1473	1304
Satd. Flow (RTOR)	17	17	17	17	17	17	17	17	17	17	17	17	
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30	30	
Link Distance (ft)	581	581	581	581	581	581	581	581	581	581	581	581	
Travel Time (s)	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	
Intersection Summary													
Area Type: CBD													

Volume

5: Broadway east & Third Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Volume (vph)	277	360	46	0	730	422	0	0	0	200	41	209	
Confl. Peds. (#/hr)	70	70	70	70	103	103	19	19	19	19	19	19	
Confl. Bikes (#/hr)	0.83	0.83	0.83	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92	
Peak Hour Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
Growth Factor	5%	5%	5%	1%	1%	1%	2%	2%	2%	4%	4%	4%	
Heavy Vehicles (%)	0	0	0	0	0	0	0	0	0	0	0	0	
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0	
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	
Adj. Flow (vph)	334	434	55	0	768	444	0	0	0	217	45	227	
Shared Lane Traffic (%)	334	434	55	0	768	444	0	0	0	217	45	227	
Lane Group Flow (vph)	334	489	0	0	1212	0	0	0	0	0	262	227	
Intersection Summary													

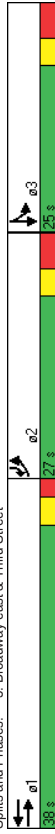
Timings

5: Broadway east & Third Street

5/23/2014

Lane Group	EBL	EBT	WBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔
Volume (vph)	277	360	730	41	209
Turn Type	Prot	1	1	3	2
Protected Phases					Over
Permitted Phases	2	1	1	3	2
Detector Phase	2	1	1	3	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	27.0	37.0	37.0	25.0	27.0
Total Split (s)	27.0	38.0	38.0	25.0	27.0
Total Split (%)	30.0%	42.2%	42.2%	27.8%	30.0%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	5.0	5.0	7.0	7.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	20.0	33.0	33.0	18.0	20.0
Actuated g/C Ratio	0.22	0.37	0.37	0.20	0.22
v/c Ratio	1.04	0.49	1.21	0.89	0.78
Control Delay	84.2	14.5	132.5	67.4	53.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	84.2	14.5	132.5	67.4	53.5
LOS	F	B	F	E	D
Approach Delay		42.8	132.5	60.9	
Approach LOS		D	F	E	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1EBWB, Start of Green					
Natural Cycle: 140					
Control Type: Prelimed					
Maximum v/c Ratio: 1.21					
Intersection Signal Delay: 89.4					
Intersection Capacity Utilization 87.3%					
Analysis Period (min) 15					

Splits and Phases: 5: Broadway east & Third Street



Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report

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Phasings

5: Broadway east & Third Street

5/23/2014

Lane Group	EBL	EBT	WBT	SBT	SBR
Protected Phases	2	1	1	3	2
Permitted Phases					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	27.0	37.0	37.0	25.0	27.0
Total Split (s)	27.0	38.0	38.0	25.0	27.0
Total Split (%)	30.0%	42.2%	42.2%	27.8%	30.0%
Maximum Green (s)	20.0	33.0	33.0	18.0	20.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	7.0	17.0	17.0	6.0	7.0
Flash Dont Walk (s)	12.0	12.0	12.0	11.0	12.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
90th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
70th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
70th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
50th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
50th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
30th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
30th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
10th %ile Green (s)	20.0	33.0	33.0	18.0	20.0
10th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1EBWB, Start of Green					
Control Type: Prelimed					

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report

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Queues

5: Broadway east & Third Street

5/23/2014



Lane Group	EBL	EBT	WBT	SBT	SBR
Lane Group Flow (vph)	334	489	1212	262	227
v/c Ratio	1.04	0.49	1.21	0.89	0.78
Control Delay	84.2	14.5	132.5	67.4	53.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	84.2	14.5	132.5	67.4	53.5
Queue Length 50th (ft)	~214	47	~447	146	122
Queue Length 95th (ft)	m#315	m81	#576	#286	#240
Internal Link Dist (ft)	501	313	1132		
Turn Bay Length (ft)	340				160
Base Capacity (vph)	321	1000	1001	295	290
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	1.04	0.49	1.21	0.89	0.78
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.					

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

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Synchro 8 Report
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HCM Signalized Intersection Capacity Analysis

5: Broadway east & Third Street

5/23/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰					↰	↰
Volume (vph)	277	360	46	0	730	422	0	0	0	200	41	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	11	11	11	12	12	12	10	10	10
Total Lost time (s)	7.0	5.0			5.0					7.0	7.0	7.0
Lane Util. Factor	1.00	0.95			0.95					1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.97			0.93					1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00					1.00	1.00	1.00
Prt	1.00	0.98			0.95					1.00	0.85	1.00
Flt Protected	0.95	1.00			1.00					0.96	1.00	0.96
Satd. Flow (prot)	1444	2698			2731					1474	1304	1474
Flt Permitted	0.95	1.00			1.00					0.96	1.00	0.96
Satd. Flow (perm)	1444	2698			2731					1474	1304	1474
Peak-Hour factor, PHF	0.83	0.83	0.83	0.95	0.95	0.95	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	334	434	55	0	768	444	0	0	0	217	45	227
RTOR Reduction (vph)	0	11	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	334	478	0	0	1212	0	0	0	0	0	262	227
Confl. Peds. (#/hr)			70	70	103							
Confl. Bikes (#/hr)			199		19							
Heavy Vehicles (%)	5%	5%	5%	1%	1%	1%	2%	2%	2%	4%	4%	4%
Parking (#/hr)		0										
Turn Type	Prot	1			1					Split		Over
Protected Phases	2	1								3		2
Permitted Phases												
Actuated Green, G (s)	20.0	33.0			33.0					18.0		20.0
Effective Green, g (s)	20.0	33.0			33.0					18.0		20.0
Actuated g/C Ratio	0.22	0.37			0.37					0.20		0.22
Clearance Time (s)	7.0	5.0			5.0					7.0		7.0
Lane Grp Cap (vph)	321	989			1001					295		290
v/s Ratio Prot	c0.23	0.18			c0.44					c0.18		0.17
v/s Ratio Perm												
v/c Ratio	1.04	0.48			1.21					0.89		0.78
Uniform Delay, d1	35.0	21.9			28.5					35.0		33.0
Progression Factor	0.80	0.62			1.00					1.00		1.00
Incremental Delay, d2	53.0	1.2			104.3					30.3		18.8
Delay (s)	81.2	14.8			132.8					65.3		51.7
Level of Service	F	B			F					E		D
Approach Delay (s)		41.8			132.8			0.0		59.0		
Approach LOS		D			F			A		E		
Intersection Summary												
HCM Average Control Delay			88.8		HCM Level of Service					F		
HCM Volume to Capacity ratio			1.08									
Actuated Cycle Length (s)			90.0		Sum of lost time (s)					19.0		
Intersection Capacity Utilization			87.3%		ICU Level of Service					E		
Analysis Period (min)			15									
c Critical Lane Group												

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report
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Lanes and Geometrics

6: Ames Street & 5/23/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		P			P
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Grade (%)	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	0	0	0
Storage Lanes	1	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.952					
Flt Protected	0.969					
Satd. Flow (prot)	1577	0	1559	0	0	1545
Flt Permitted	0.969					
Satd. Flow (perm)	1577	0	1559	0	0	1545
Link Speed (mph)	30		30			30
Link Distance (ft)	239		263			289
Travel Time (s)	5.4		6.0			6.6
Intersection Summary						
Area Type: CBD						

Future Condition - All Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report
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Volume

6: Ames Street & 5/23/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	20	11	312	0	0	226
Confl. Peds. (#/hr)	109	120	185	185	185	
Confl. Bikes (#/hr)				12		
Peak Hour Factor	0.74	0.74	0.94	0.94	0.89	0.89
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	6%	6%	7%	7%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	27	15	332	0	0	254
Shared Lane Traffic (%)						
Lane Group Flow (vph)	42	0	332	0	0	254
Intersection Summary						

Future Condition - All Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report
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HCM Unsignalized Intersection Capacity Analysis

6: Ames Street &

5/23/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		P			P
Volume (veh/h)	20	11	312	0	0	226
Sign Control	Stop		Free			Free
Grade (%)	0%		0%			0%
Peak Hour Factor	0.74	0.74	0.94	0.94	0.89	0.89
Hourly flow rate (vph)	27	15	332	0	0	254
Pedestrians	185		109			120
Lane Width (ft)	12.0		11.0			11.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	15		8			9
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			263			289
pX, platoon unblocked						
vC, conflicting volume	880	637			517	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCU, unblocked vol	880	637			517	
IC, single (s)	6.4	6.2			4.2	
IC, 2 stage (s)						
IF (s)	3.5	3.3			2.3	
p0 queue free %	89	96			100	
cM capacity (veh/h)	248	369			866	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	42	332	254			
Volume Left	27	0	0			
Volume Right	15	0	0			
cSH	281	1700	866			
Volume to Capacity	0.15	0.20	0.00			
Queue Length 95th (ft)	13	0	0			
Control Delay (s)	20.0	0.0	0.0			
Lane LOS	C					
Approach Delay (s)	20.0	0.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			1.3			
Intersection Capacity Utilization			38.1%		ICU Level of Service	A
Analysis Period (min)			15			

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report
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Lanes and Geometrics

7: Broadway east &

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	P		P			P
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)		0	40		0	0
Storage Lanes		0	1		0	1
Taper Length (ft)		25	25		25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.983					0.865
Frt Protected			0.950			
Satd. Flow (prot)	1632	0	1608	1693	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1632	0	1608	1693	0	1479
Link Speed (mph)	30		30		30	
Link Distance (ft)	396		581		146	
Travel Time (s)	9.0		13.2		3.3	
Intersection Summary						
Area Type: CBD						

Future Condition - Alt Layout 8:15 am 4/28/2014 AM Peak Hour

SLW

Synchro 8 Report
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Volume

7: Broadway east &

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	688	97	110	775	0	20
Confl. Peds. (#/hr)	300	300	300	255		
Confl. Bikes (#/hr)	264					
Peak Hour Factor	0.93	0.93	0.95	0.95	1.00	1.00
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	3%	3%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	718	104	116	816	0	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	822	0	116	816	0	20
Intersection Summary						

HCM Unsignalized Intersection Capacity Analysis

7: Broadway east &

5/23/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Volume (veh/h)	688	97	110	775	0	20
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.93	0.93	0.95	0.95	1.00	1.00
Hourly flow rate (vph)	718	104	116	816	0	20
Pedestrians				255	300	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				21	25	
Right turn flare (veh)						
Median type	None	None	None	None	None	None
Median storage (veh)						
Upstream signal (ft)	396			581		
pX, platoon unblocked			0.71	0.80	0.71	
VC, conflicting volume			1123	2118	1325	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol			972	1469	1256	
VCU, unblocked vol			4.1	6.4	6.2	
IC, single (s)						
IC, 2 stage (s)			2.2	3.5	3.3	
IF (s)				70	100	
p0 queue free %				100	78	
CM capacity (veh/h)			382	59	89	
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	823	116	816	20		
Volume Left	0	116	0	0		
Volume Right	104	0	0	20		
cSH	1700	382	1700	89		
Volume to Capacity	0.48	0.30	0.48	0.22		
Queue Length 95th (ft)	0	31	0	20		
Control Delay (s)	0.0	18.5	0.0	56.7		
Lane LOS		C		F		
Approach Delay (s)	0.0	2.3		56.7		
Approach LOS		F		F		
Intersection Summary						
Average Delay			1.8			
Intersection Capacity Utilization			76.8%		ICU Level of Service	D
Analysis Period (min)			15			

Intersection *Synchro* Analysis
Weekday Evening Peak

2014 Existing Condition

Lanes and Geometrics

1: Broadway & Western Connector

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	11	11	11	11	12	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	100	0	295	0	295	0	250	0	225	0	225	0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.84	0.96	0.86	0.86	0.98	0.86	0.98	0.98	0.95	0.95	0.95	0.64
Frt	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1501	2921	0	1486	2984	0	1525	2901	0	1583	1621	1330
Flt Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1258	2921	0	1281	2984	0	1317	2901	0	1518	1621	852
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	25	25	25	25	25	25	25	25	25	25	25	25
Link Speed (mph)	470	470	470	470	470	470	470	470	470	470	470	470
Link Distance (ft)	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
Travel Time (s)	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3	14.3
Intersection Summary												
Area Type: CBD												

Volume

1: Broadway & Western Connector

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	160	445	65	150	450	25	130	445	95	85	270	130
Confl. Peds. (#/hr)	412	321	321	412	412	230	192	412	88	88	192	192
Confl. Bikes (#/hr)	27	27	27	27	27	27	27	27	27	27	27	27
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	188	524	76	176	529	29	144	494	106	96	303	146
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	188	600	0	176	558	0	144	600	0	96	303	146
Intersection Summary												

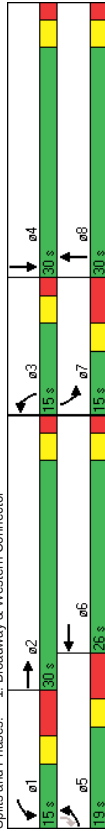
Timings

5/12/2014

1. Broadway & Western Connector

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	160	445	150	450	130	445	85	270	130
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custom	custom
Protected Phases	5	2	1	6	3	8	7	4	5
Detector Phase	5	2	1	6	3	8	7	4	5
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	27.0	12.0	25.0	9.0	27.0	12.0	30.0	12.0
Total Split (s)	19.0	30.0	15.0	26.0	15.0	30.0	15.0	30.0	19.0
Total Split (%)	21.1%	33.3%	16.7%	28.9%	16.7%	33.3%	16.7%	33.3%	21.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	5.0	2.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.0	8.0	5.0	5.0	8.0	5.0	8.0	8.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Act Effct Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
Actuated g/C Ratio	0.12	0.28	0.08	0.23	0.11	0.28	0.08	0.28	0.12
v/c Ratio	1.03	0.74	1.52	0.80	0.85	0.74	0.77	0.67	1.40
Control Delay	115.5	36.0	272.0	44.4	77.4	30.2	79.8	37.5	262.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	115.5	36.0	272.0	44.4	77.4	30.2	79.8	37.5	262.7
LOS	F	D	F	D	E	C	E	D	F
Approach Delay	55.0		99.0		39.4		105.3		F
Approach LOS	D		F		D		F		F
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 11 (12%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Natural Cycle: 90									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 1.52									
Intersection Signal Delay: 72.1									
Intersection Capacity Utilization 75.6%									
Analysis Period (min) 15									

Splits and Phases: 1- Broadway & Western Connector



Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 8 Report

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Phasings

5/12/2014

1. Broadway & Western Connector

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	5	2	1	6	3	8	7	4	
Permitted Phases	5	2	1	6	3	8	7	4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5
Minimum Split (s)	12.0	27.0	12.0	25.0	9.0	27.0	12.0	30.0	12.0
Total Split (s)	19.0	30.0	15.0	26.0	15.0	30.0	15.0	30.0	19.0
Total Split (%)	21.1%	33.3%	16.7%	28.9%	16.7%	33.3%	16.7%	33.3%	21.1%
Maximum Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	5.0	2.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Walk Time (s)	7.0		7.0		7.0		7.0		10.0
Flash Dont Walk (s)	15.0		13.0		15.0		15.0		15.0
Pedestrian Calls (#/hr)	0		0		0		0		0
90th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
90th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
70th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
70th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
50th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
50th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
30th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
30th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
10th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
10th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 11 (12%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Control Type: Actuated-Coordinated									

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Synchro 8 Report

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Queues

1: Broadway & Western Connector

5/12/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group										
Lane Group Flow (vph)	188	600	176	558	144	600	96	303	146	
v/c Ratio	1.03	0.74	1.52	0.80	0.85	0.74	0.77	0.67	1.40	
Control Delay	115.5	36.0	272.0	44.4	77.4	30.2	79.8	37.5	262.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	115.5	36.0	272.0	44.4	77.4	30.2	79.8	37.5	262.7	
Queue Length 50th (ft)	~115	163	~137	183	88	155	55	153	~112	
Queue Length 95th (ft)	#226	208	m#151	m184	m#126	m202	#136	241	#227	
Internal Link Dist (ft)	390		295	551		697		639		
Turn Bay Length (ft)	100		295		250		225			
Base Capacity (vph)	183	811	116	696	169	806	124	450	104	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.03	0.74	1.52	0.80	0.85	0.74	0.77	0.67	1.40	
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.										

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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HCM Signalized Intersection Capacity Analysis

1: Broadway & Western Connector

5/12/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↶	↷	↰	↶	↷	↰	↶	↷	↰	↶	↷
Volume (vph)	160	445	65	150	450	25	130	445	95	85	270	130
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	10	11	11	11	11	11	12	11	10
Total Lost time (s)	8.0	5.0		8.0	5.0	5.0	5.0	5.0		8.0	5.0	8.0
Lane Util. Factor	1.00	0.95		1.00	0.95	1.00	0.95	1.00		1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.96		1.00	0.98	1.00	0.98	1.00		1.00	1.00	0.64
Flpb, ped/bikes	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00
Frt	1.00	0.98		1.00	0.99	1.00	0.97	1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (prot)	1501	2921		1486	2984	1525	2900	1593		1621	852	1501
Flt Permitted	0.95	1.00		0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00
Satd. Flow (perm)	1501	2921		1486	2984	1525	2900	1593		1621	852	1501
Peak-hour factor, PHF	0.85	0.85		0.85	0.85	0.85	0.90	0.90		0.89	0.89	0.89
Adj. Flow (vph)	188	524		176	529	29	144	494		106	96	303
RTOR Reduction (vph)	0	0		0	0	0	0	0		0	0	0
Lane Group Flow (vph)	188	600		176	558	0	144	600		96	303	146
Confl. Peds. (#/hr)	412		321	321		412	192		88	88		192
Confl. Bikes (#/hr)			27			230			20			25
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custom	custom
Protected Phases	5	2		1	6		3	8		7	4	5
Permitted Phases												
Actuated Green, G (s)	11.0	25.0		7.0	21.0		10.0	25.0		7.0	25.0	11.0
Effective Green, g (s)	11.0	25.0		7.0	21.0		10.0	25.0		7.0	25.0	11.0
Actuated g/C Ratio	0.12	0.28		0.08	0.23		0.11	0.28		0.08	0.28	0.12
Clearance Time (s)	8.0	5.0		8.0	5.0		5.0	5.0		8.0	5.0	8.0
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	183	811		116	696		169	806		124	450	104
v/s Ratio Prot	0.13	c0.21		0.12	0.19		c0.09	c0.21		0.06	0.19	c0.17
v/s Ratio Perm												
v/c Ratio	1.03	0.74		1.52	0.80		0.85	0.74		0.77	0.67	1.40
Uniform Delay, d1	39.5	29.5		41.5	32.5		39.3	29.6		40.7	28.9	39.5
Progression Factor	1.00	1.00		0.53	1.24		1.22	0.87		1.00	1.00	1.00
Incremental Delay, d2	73.9	6.0		247.7	3.5		22.8	4.1		25.4	7.8	229.4
Delay (s)	113.4	35.5		269.6	43.8		70.5	29.8		66.1	36.7	268.9
Level of Service	F	D		F	D		E	C		E	D	F
Approach Delay (s)	54.1			97.9			37.7			104.1		
Approach LOS	D			F			D			F		
Intersection Summary												
HCM Average Control Delay					70.9				E			
HCM Volume to Capacity ratio					0.91							
Actuated Cycle Length (s)					90.0				23.0			
Intersection Capacity Utilization					75.6%				D			
Analysis Period (min)					15							
Critical Lane Group												

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Lanes and Geometrics

2: Main Street & Galileo Way

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	11	11	10	10	11	10	11	10
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	250	120	0	250	0	250	0	0	0	0	75
Storage Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.76	0.95	0.86	0.93	0.93	0.93	0.90	0.90	0.91	0.91	0.84	0.84
Frt	0.971	0.971	0.950	0.950	0.950	0.950	0.955	0.955	0.950	0.950	0.850	0.850
Flt Protected	1593	1551	0	1501	1474	0	0	2589	0	1501	1637	1343
Satd. Flow (prot)	0.653	0.563	0.563	0.563	0.563	0.563	0.563	0.563	0.563	0.563	0.563	0.563
Flt Permitted	829	1551	0	765	1474	0	0	2129	0	477	1637	1129
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	18	30	30	30	30	30	30	30	30	30	30	30
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009	1009
Link Distance (ft)	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9	22.9
Travel Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Intersection Summary												
Area Type: CBD												

Volume

2: Main Street & Galileo Way

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	265	210	50	60	110	30	60	345	175	30	255	200
Confl. Peds. (#/hr)	508	199	199	199	508	67	67	180	180	180	180	67
Confl. Bikes (#/hr)	26	26	26	26	26	26	26	26	26	26	26	26
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.89	0.89	0.89	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	298	236	56	71	129	35	67	388	197	36	307	241
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	298	292	0	71	164	0	0	652	0	36	307	241
Intersection Summary												

Timings

2. Main Street & Galileo Way

5/12/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Volume (vph)	265	210	60	110	60	345	30	255	200
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	3	3	3	3	3
Detector Phase	1	1	1	1	3	3	3	3	3
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	55.6%	55.6%	55.6%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.77	0.40	0.20	0.23	0.80	0.21	0.53	0.56	0.56
Control Delay	36.0	16.7	27.1	23.4	31.8	31.8	36.0	34.0	34.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.0	16.7	27.1	23.4	31.8	31.8	36.0	34.0	34.0
LOS	D	B	C	C	C	C	C	D	C
Approach Delay	26.4			24.5		31.8		34.9	
Approach LOS	C			C		C		C	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 1:EBWB, Start of Green									
Natural Cycle: 90									
Control Type: Prelimed									
Maximum v/c Ratio: 0.80									
Intersection Signal Delay: 30.3									
Intersection Capacity Utilization 131.3%									
Analysis Period (min) 15									

Splits and Phases: 2. Main Street & Galileo Way



Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 8 Report

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Phasings

2. Main Street & Galileo Way

5/12/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Permitted Phases	1	1	1	1	3	3	3	3	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	55.6%	55.6%	55.6%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Maximum Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	24.0	24.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 1:EBWB, Start of Green									
Control Type: Prelimed									

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Lane Group	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR	
Lane Group Flow (vph)	298	292	71	164	652	36	307	241	
v/c Ratio	0.77	0.40	0.20	0.23	0.80	0.21	0.53	0.56	
Control Delay	36.0	16.7	27.1	23.4	31.8	31.8	36.0	34.0	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.0	16.7	27.1	23.4	31.8	31.8	36.0	34.0	
Queue Length 50th (ft)	136	98	29	60	153	20	184	131	
Queue Length 95th (ft)	#277	159	m52	m108	#226	m25	m203	m152	
Internal Link Dist (ft)		929		403	730		697		
Turn Bay Length (ft)			120					75	
Base Capacity (vph)	387	733	357	699	811	170	582	427	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.77	0.40	0.20	0.23	0.80	0.21	0.53	0.56	
Intersection Summary									
#	95th percentile volume exceeds capacity, queue may be longer.								
	Queue shown is maximum after two cycles.								
	Volume for 95th percentile queue is metered by upstream signal.								

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Volume (vph)	265	210	50	60	110	30	60	345	175	30	255	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	10	10	11	10	11	10
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.95	1.00	1.00	0.93	1.00	0.91	1.00	1.00	0.84	1.00	0.84
Flpb, ped/bikes	0.76	1.00	0.86	1.00	0.99	1.00	0.99	1.00	0.91	1.00	1.00	0.91
Prt	1.00	0.97	1.00	0.97	1.00	0.97	0.95	1.00	0.95	1.00	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.99	1.00	0.95	1.00	1.00	0.95
Satd. Flow (prot)	1205	1552	1291	1474	1291	1474	2572	1361	1637	1129	1361	1129
Flt Permitted	0.65	1.00	0.56	1.00	0.56	1.00	0.82	0.33	1.00	1.00	0.33	1.00
Satd. Flow (perm)	829	1552	766	1474	766	1474	2129	476	1637	1129	476	1637
Peak-Hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.85	0.89	0.89	0.89	0.83	0.83	0.83
Adj. Flow (vph)	298	236	56	71	129	35	67	388	197	36	307	241
RTOR Reduction (vph)	0	10	0	0	11	0	0	54	0	0	0	26
Lane Group Flow (vph)	298	282	0	71	153	0	0	598	0	36	307	215
Confl. Peds. (#/hr)	508	199	199	508	67	180	180	67	180	180	67	180
Confl. Bikes (#/hr)	26	26	26	65	65	49	49	26	49	26	49	26
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	1	1	3	3	3	3	3	3
Permitted Phases	1	1	1	1	1	1	3	3	3	3	3	3
Actuated Green, G (s)	42.0	42.0	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0	32.0
Effective Green, g (s)	42.0	42.0	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.47	0.36	0.36	0.36	0.36	0.36	0.36
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	387	724	357	688	757	757	169	582	401	169	582	401
v/s Ratio Prot	0.18	0.18	0.18	0.10	0.10	0.10	0.08	0.08	0.08	0.08	0.08	0.08
v/s Ratio Perm	0.36	0.36	0.36	0.09	0.09	0.09	0.28	0.28	0.28	0.28	0.28	0.28
v/c Ratio	0.77	0.39	0.39	0.20	0.22	0.22	0.79	0.79	0.79	0.21	0.53	0.54
Uniform Delay, d1	20.0	15.6	14.1	14.3	20.2	20.2	26.0	26.0	26.0	20.2	23.0	23.1
Progression Factor	1.00	1.00	1.76	1.77	1.00	1.00	1.00	1.00	1.00	1.42	1.46	1.58
Incremental Delay, d2	13.7	1.6	1.0	0.6	8.2	8.2	1.2	1.4	1.4	1.2	1.4	2.1
Delay (s)	33.7	17.2	25.9	26.0	34.2	34.2	30.0	35.0	38.7	30.0	35.0	38.7
Level of Service	C	B	C	C	C	C	C	C	C	C	D	D
Approach Delay (s)	25.6	25.6	25.9	25.9	34.2	34.2	36.2	36.2	36.2	36.2	36.2	36.2
Approach LOS	C	C	C	C	C	C	D	D	D	D	D	D
Intersection Summary												
HCM Average Control Delay	31.4											
HCM Volume to Capacity ratio	0.78											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	131.3%											
Analysis Period (min)	15											
c Critical Lane Group	H											

Lanes and Geometrics

3. Main Street & Ames Street

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	12	12	12	12	12	12	12	12	12	12	12	12
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. 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
Ped Bike Factor	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86	0.86
Frt	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980
Flt Protected	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995	0.995
Satd. Flow (prot)	0	1341	0	0	1170	0	0	1424	0	0	1547	1295
Flt Permitted	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.958	0.958
Satd. Flow (perm)	0	1226	0	0	1079	0	0	1150	0	0	963	602
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	483	483	483	483	483	483	483	483	483	483	483	483
Travel Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Intersection Summary												
Area Type: CBD												

Volume

3. Main Street & Ames Street

5/12/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	40	315	60	10	40	55	55	175	20	70	90	105
Confl. Peds. (#/hr)	787	787	879	879	787	787	272	309	309	309	272	272
Confl. Bikes (#/hr)	45	45	45	45	45	45	45	45	45	45	45	45
Peak Hour Factor	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	43	335	64	13	51	71	61	194	22	84	108	127
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	442	0	0	135	0	0	277	0	0	192	127
Intersection Summary												

Timings

3. Main Street & Ames Street

5/12/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	40	315	10	40	55	175	70	90	105
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases									
Permitted Phases	3	3	3	3	1	1	1	1	1
Detector Phase	3	3	3	3	1	1	1	1	1
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	43.0	43.0	43.0	43.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	53.0	53.0	53.0	53.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	58.9%	58.9%	58.9%	58.9%	41.1%	41.1%	41.1%	41.1%	41.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-1.0	0.0	-1.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	7.0	8.0	7.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
Actuated g/C Ratio	0.50	0.50	0.50	0.50	0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.72	0.72	0.25	0.25	0.75	0.75	0.62	0.65	0.65
Control Delay	24.7	24.7	14.4	14.4	41.7	41.7	32.8	41.2	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	24.7	14.4	14.4	41.7	41.7	32.8	41.2	41.2
LOS	C	C	B	B	D	D	C	D	D
Approach Delay	24.7	24.7	14.4	14.4	41.7	41.7	36.2	D	D
Approach LOS	C	C	B	B	D	D	D	D	D
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 40 (44%), Referenced to phase 3EBWB, Start of Green									
Natural Cycle: 75									
Control Type: Prelimed									
Maximum v/c Ratio: 0.75									
Intersection Signal Delay: 30.7									
Intersection Capacity Utilization 79.2%									
Analysis Period (min) 15									

Splits and Phases: 3. Main Street & Ames Street



Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Phasings

3. Main Street & Ames Street

5/12/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases									
Permitted Phases	3	3	3	3	1	1	1	1	1
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	43.0	43.0	43.0	43.0	29.0	29.0	29.0	29.0	29.0
Total Split (s)	53.0	53.0	53.0	53.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	58.9%	58.9%	58.9%	58.9%	41.1%	41.1%	41.1%	41.1%	41.1%
Maximum Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	12.0	12.0	12.0	12.0	6.0	6.0	6.0	6.0	6.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 40 (44%), Referenced to phase 3EBWB, Start of Green									
Control Type: Prelimed									

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Queues

3: Main Street & Ames Street

5/12/2014

	EBT	WBT	NBT	SBT	SBT
Lane Group					
Lane Group Flow (vph)	442	135	277	192	127
v/c Ratio	0.72	0.25	0.75	0.62	0.65
Control Delay	24.7	14.4	41.7	32.8	41.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	24.7	14.4	41.7	32.8	41.2
Queue Length 50th (ft)	196	42	139	114	76
Queue Length 95th (ft)	m318	67	#263	m167	m#120
Internal Link Dist (ft)	403	410	456	202	
Turn Bay Length (ft)					
Base Capacity (vph)	613	540	371	310	194
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	0.72	0.25	0.75	0.62	0.65
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.				

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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HCM Signalized Intersection Capacity Analysis

3: Main Street & Ames Street

5/12/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	315	60	10	40	55	55	175	20	70	90	105
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. 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
Frpb, ped/bikes	0.90	0.66	0.66	0.66	0.66	0.96	0.96	0.96	1.00	0.46	1.00	0.46
Flpb, ped/bikes	0.95	0.95	0.97	0.97	0.91	0.97	0.91	0.91	0.86	1.00	0.86	1.00
Frt	0.98	0.98	0.93	0.93	0.99	0.93	0.99	0.99	1.00	0.85	1.00	0.85
Flt Protected	1.00	1.00	1.00	1.00	0.99	0.99	0.99	0.99	0.98	1.00	0.98	1.00
Satd. Flow (prot)	1274	1274	1134	1134	1299	1299	1299	1299	1337	602	602	602
Flt Permitted	0.96	0.96	0.95	0.95	0.88	0.88	0.88	0.88	0.71	1.00	0.71	1.00
Satd. Flow (perm)	1227	1227	1079	1079	1150	1150	1150	1150	964	602	964	602
Peak-hour factor, PHF	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90	0.83	0.83	0.83
Adj. Flow (vph)	43	335	64	13	51	71	61	194	22	84	108	127
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	442	0	0	135	0	0	277	0	0	192	127
Confl. Peds. (#/hr)	787	879	879	787	787	787	272	309	309	309	272	272
Confl. Bikes (#/hr)	45	45	45	42	42	42	19	19	19	19	6	6
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	3	3	3	3	3	3	1	1	1	1	1	1
Permitted Phases	3	45.0	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0	29.0
Actuated Green, G (s)	45.0	45.0	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0	29.0
Effective Green, g (s)	45.0	45.0	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0	29.0
Actuated g/C Ratio	0.50	0.50	0.50	0.50	0.50	0.50	0.32	0.32	0.32	0.32	0.32	0.32
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	614	614	540	540	371	371	311	311	311	194	194	194
v/s Ratio Prot	c0.36	c0.36	0.13	0.13	c0.24	c0.24	0.20	0.21	0.20	0.21	0.21	0.21
v/s Ratio Perm	0.72	0.72	0.25	0.25	0.75	0.75	0.62	0.65	0.62	0.65	0.65	0.65
v/c Ratio	17.6	17.6	12.9	12.9	27.2	27.2	25.8	26.2	25.8	26.2	26.2	26.2
Uniform Delay, d1	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.89	0.90	0.90	0.89	0.89
Progression Factor	6.0	6.0	1.1	1.1	12.8	12.8	8.4	15.2	8.4	15.2	15.2	15.2
Incremental Delay, d2	23.6	23.6	14.0	14.0	40.1	40.1	31.6	38.5	31.6	38.5	38.5	38.5
Delay (s)	C	C	B	B	D	D	C	D	C	D	D	D
Level of Service	C	C	B	B	D	D	C	D	C	D	D	D
Approach Delay (s)	23.6	23.6	14.0	14.0	40.1	40.1	34.4	34.4	34.4	34.4	34.4	34.4
Approach LOS	C	C	B	B	D	D	C	C	C	C	C	C
Intersection Summary												
HCM Average Control Delay	29.3					HCM Level of Service						
HCM Volume to Capacity ratio	0.73					C						
Actuated Cycle Length (s)	90.0					Sum of lost time (s)						
Intersection Capacity Utilization	79.2%					ICU Level of Service						
Analysis Period (min)	15					D						
Critical Lane Group												

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 8 Report
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Lanes and Geometrics

4: Broadway east & Ames Street

5/12/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↑	↑	↑	↑	↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	12	11	11	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	160		0	0	
Storage Lanes		0	1		1	1	
Taper Length (ft)		25	25		25	25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.93		0.82		0.87	0.36	
Frt	0.980					0.850	
Flt Protected			0.950		0.950		
Satd. Flow (prot)	2727	0	1555	1637	1593	1282	
Flt Permitted			0.284		0.950		
Satd. Flow (perm)	2727	0	382	1637	1390	467	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	20					230	
Link Speed (mph)	30			30		30	
Link Distance (ft)	631			396		269	
Travel Time (s)	14.3			9.0		6.1	
Intersection Summary							
Area Type: CBD							

Volume

4: Broadway east & Ames Street

5/12/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Volume (vph)	540	85	145	495	150	200	
Confl. Peds. (#/hr)		392	392		85	443	
Confl. Bikes (#/hr)		16				10	
Peak Hour Factor	0.95	0.95	0.88	0.88	0.87	0.87	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)						0	
Mid-Block Traffic (%)	0%			0%	0%		
Adj. Flow (vph)	568	89	165	562	172	230	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	657	0	165	562	172	230	
Intersection Summary							

Timings

4: Broadway east & Ames Street

5/12/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑
Volume (vph)	540	145	495	150	200
Turn Type	pm+pt				Perm
Protected Phases	1	2	1	4	4
Permitted Phases	1				
Detector Phase	1	2	1	4	4
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	29.0	50.0	29.0	19.0	19.0
Actuated g/C Ratio	0.32	0.56	0.32	0.21	0.21
v/c Ratio	0.74	0.33	1.07	0.51	0.82
Control Delay	27.2	28.3	75.0	29.7	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	28.3	75.0	29.7	29.5
LOS	C	C	E	C	C
Approach Delay	27.2		64.4	29.6	
Approach LOS	C		E	C	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 49 (54%), Referenced to phase 1:EBWB, Start of Green					
Natural Cycle: 90					
Control Type: Prelimed					
Maximum v/c Ratio: 1.07					
Intersection Signal Delay: 42.9					
Intersection Capacity Utilization 64.8%					
Analysis Period (min) 15					



Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 8 Report

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Phasings

4: Broadway east & Ames Street

5/12/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Protected Phases	1	2	1	4	4
Permitted Phases					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Maximum Green (s)	29.0	22.0	29.0	19.0	19.0
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	13.0	7.0	13.0	4.0	4.0
Flash Dont Walk (s)	16.0	12.0	16.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
90th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
70th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
70th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
50th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
50th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
30th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
30th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
10th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
10th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 49 (54%), Referenced to phase 1:EBWB, Start of Green					
Control Type: Prelimed					

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 8 Report

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Queues

4: Broadway east & Ames Street

5/12/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	657	165	562	172	230
v/c Ratio	0.74	0.33	1.07	0.51	0.82
Control Delay	27.2	28.3	75.0	29.7	29.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.2	28.3	75.0	29.7	29.5
Queue Length 50th (ft)	191	73	~369	71	18
Queue Length 95th (ft)	250	m#1	m#528	m110	m#50
Internal Link Dist (ft)	551		316	189	
Turn Bay Length (ft)		160			
Base Capacity (vph)	892	499	527	336	280
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	0.74	0.33	1.07	0.51	0.82
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.					

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 8 Report

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HCM Signalized Intersection Capacity Analysis

4: Broadway east & Ames Street

5/12/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑	↑
Volume (vph)	540	85	145	495	150	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	11	11	12	12
Total Lost time (s)	6.0	7.0	6.0	7.0	7.0	7.0
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.93	1.00	1.00	1.00	1.00	0.36
Flpb, ped/bikes	1.00	0.96	1.00	1.00	1.00	1.00
Prt	0.98	1.00	1.00	1.00	1.00	0.85
Flt Protected	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2726	1486	1637	1593	467	
Flt Permitted	1.00	0.28	1.00	0.95	1.00	
Satd. Flow (perm)	2726	445	1637	1593	467	
Peak-hour factor, PHF	0.95	0.95	0.88	0.88	0.87	0.87
Adj. Flow (vph)	568	89	165	562	172	230
RTOR Reduction (vph)	14	0	0	0	0	181
Lane Group Flow (vph)	643	0	165	562	172	49
Confl. Peds. (#/hr)		392	392		85	443
Confl. Bikes (#/hr)		16				10
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Parking (#/hr)						0
Turn Type	pm+pt Perm					
Protected Phases	1		2	1	4	
Permitted Phases			1			4
Actuated Green, G (s)	29.0		51.0	29.0	19.0	19.0
Effective Green, g (s)	29.0		51.0	29.0	19.0	19.0
Actuated g/C Ratio	0.32		0.57	0.32	0.21	0.21
Clearance Time (s)	6.0		7.0	6.0	7.0	7.0
Lane Grp Cap (vph)	878		507	527	336	99
v/s Ratio Prot	0.24		c0.08	c0.34	c0.11	
v/s Ratio Perm			0.11			0.10
v/c Ratio	0.73		0.33	1.07	0.51	0.49
Uniform Delay, d1	27.1		17.0	30.5	31.4	31.2
Progression Factor	0.89		2.05	0.68	0.77	1.53
Incremental Delay, d2	3.5		1.1	51.0	4.9	14.7
Delay (s)	27.5		36.0	71.9	29.1	62.5
Level of Service	C		D	E	C	E
Approach Delay (s)	27.5			63.7	48.2	
Approach LOS	C			E	D	
Intersection Summary						
HCM Average Control Delay		46.9			HCM Level of Service	D
HCM Volume to Capacity ratio		0.68				
Actuated Cycle Length (s)		90.0			Sum of lost time (s)	20.0
Intersection Capacity Utilization		64.8%			ICU Level of Service	C
Analysis Period (min)		15				
Critical Lane Group						

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 8 Report

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Lanes and Geometrics

5: Broadway east & Third Street

5/12/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	11	11	10	10
Grade (%)	0%	0%	0%	0%	0%	0%
Storage Length (ft)	340			0	0	160
Storage Lanes	1			0	1	1
Taper Length (ft)	25			25	25	25
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Ped Bike Factor			0.90			
Frt	0.950		0.957		0.950	0.850
Flt Protected						
Satd. Flow (prot)	1501	2954	2671	0	1501	1343
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1501	2954	2671	0	1501	1343
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		30	30		30	
Link Distance (ft)		581	393		1212	
Travel Time (s)		13.2	8.9		27.5	

Intersection Summary

Area Type: CBD

Volume

5: Broadway east & Third Street

5/12/2014



Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Volume (vph)	260	520	460	185	385	165
Confl. Peds. (#/hr)				123		
Confl. Bikes (#/hr)				159		1
Peak Hour Factor	0.95	0.95	0.87	0.87	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)			0			
Mid-Block Traffic (%)			0%		0%	
Adj. Flow (vph)	274	547	529	213	418	179
Shared Lane Traffic (%)						
Lane Group Flow (vph)	274	547	742	0	418	179

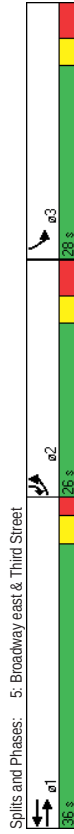
Intersection Summary

Timings

5: Broadway east & Third Street

5/12/2014

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations	←	←	←	←	←
Volume (vph)	260	520	460	385	165
Turn Type	Prot			Over	
Protected Phases	2	1	1	3	2
Permitted Phases					
Detector Phase	2	1	1	3	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	36.0	36.0	28.0	26.0
Total Split (s)	26.0	36.0	36.0	28.0	26.0
Total Split (%)	28.9%	40.0%	40.0%	31.1%	28.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	5.0	5.0	7.0	7.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	19.0	31.0	31.0	21.0	19.0
Actuated g/C Ratio	0.21	0.34	0.34	0.23	0.21
v/c Ratio	0.86	0.54	0.81	1.19	0.63
Control Delay	65.7	22.2	35.0	145.2	43.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	65.7	22.2	35.0	145.2	43.5
LOS	E	C	D	F	D
Approach Delay		36.7	35.0	114.7	
Approach LOS		D	D	F	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1EBWB, Start of Green					
Natural Cycle: 90					
Control Type: Prelimed					
Maximum v/c Ratio: 1.19					
Intersection Signal Delay: 57.7					
Intersection Capacity Utilization 76.5%					
Analysis Period (min) 15					



Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 8 Report

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Phasings

5: Broadway east & Third Street

5/12/2014

Lane Group	EBL	EBT	WBT	SBL	SBR
Protected Phases	2	1	1	3	2
Permitted Phases					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	26.0	36.0	36.0	28.0	26.0
Total Split (s)	26.0	36.0	36.0	28.0	26.0
Total Split (%)	28.9%	40.0%	40.0%	31.1%	28.9%
Maximum Green (s)	19.0	31.0	31.0	21.0	19.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	3.0	15.0	15.0	7.0	3.0
Flash Dont Walk (s)	12.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
90th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
70th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
70th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
50th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
50th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
30th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
30th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
10th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
10th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1EBWB, Start of Green					
Control Type: Prelimed					

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 8 Report

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Queues

5: Broadway east & Third Street

5/12/2014



Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	274	547	742	418	179
v/c Ratio	0.86	0.54	0.81	1.19	0.63
Control Delay	65.7	22.2	35.0	145.2	43.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	65.7	22.2	35.0	145.2	43.5
Queue Length 50th (ft)	159	165	198	~290	93
Queue Length 95th (ft)	m#255	m213	259	#470	#166
Internal Link Dist (ft)		501	313	1132	
Turn Bay Length (ft)	340				160
Base Capacity (vph)	317	1017	920	350	284
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	0.86	0.54	0.81	1.19	0.63
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.					

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 8 Report
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HCM Signalized Intersection Capacity Analysis

5: Broadway east & Third Street

5/12/2014



Movement	EBL	EBT	WBT	SBL	SBR
Lane Configurations	↩	↗	↗	↩	↗
Volume (vph)	260	520	460	185	385
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Lane Width	10	11	11	10	10
Total Lost time (s)	7.0	5.0	5.0	7.0	7.0
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00
Frpb, ped/bikes	1.00	1.00	0.90	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00
Prt	1.00	1.00	0.96	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1501	2954	2671	1501	1343
Flt Permitted	0.95	1.00	1.00	0.95	1.00
Satd. Flow (perm)	1501	2954	2671	1501	1343
Peak-hour factor, PHF	0.95	0.95	0.87	0.87	0.92
Adj. Flow (vph)	274	547	529	213	418
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	274	547	742	0	418
Confli. Peds. (#/hr)				123	
Confli. Bikes (#/hr)				159	
Heavy Vehicles (%)	1%	1%	1%	1%	1%
Parking (#/hr)		0			
Turn Type	Prot			Over	
Protected Phases	2	1	1	3	2
Permitted Phases					
Actuated Green, G (s)	19.0	31.0	31.0	21.0	19.0
Effective Green, g (s)	19.0	31.0	31.0	21.0	19.0
Actuated g/C Ratio	0.21	0.34	0.34	0.23	0.21
Clearance Time (s)	7.0	5.0	5.0	7.0	7.0
Lane Grp Cap (vph)	317	1017	920	350	284
v/s Ratio Prot	c0.18	0.19	c0.28	c0.28	0.13
v/s Ratio Perm					
v/c Ratio	0.86	0.54	0.81	1.19	0.63
Uniform Delay, d1	34.3	23.7	26.8	34.5	32.3
Progression Factor	1.28	0.86	1.00	1.00	1.00
Incremental Delay, d2	20.7	1.6	7.5	112.1	10.2
Delay (s)	64.5	21.9	34.3	146.6	42.5
Level of Service	E	C	C	F	D
Approach Delay (s)		36.1	34.3	115.4	
Approach LOS		D	C	F	
Intersection Summary					
HCM Average Control Delay		57.4		HCM Level of Service	E
HCM Volume to Capacity ratio			0.94		
Actuated Cycle Length (s)			90.0	Sum of lost time (s)	19.0
Intersection Capacity Utilization			76.5%	ICU Level of Service	D
Analysis Period (min)			15		
c Critical Lane Group					

Existing Condition 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 8 Report
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Lanes and Geometrics

6: Ames Street & 5/12/2014

Lane Group	WBL	WBR	NBT	NBR	SBT
Lane Configurations	↩	↩	↩	↩	↩
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11
Grade (%)	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	0	0
Storage Lanes	1	1	0	0	0
Taper Length (ft)	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					
Frt	0.950	0.850	0.997		
Flt Protected					0.999
Satd. Flow (prot)	1624	1454	1616	0	0
Flt Permitted					0.999
Satd. Flow (perm)	1624	1454	1616	0	0
Link Speed (mph)	30	30	30	30	30
Link Distance (ft)	239	282	282	269	269
Travel Time (s)	5.4	6.4	6.4		6.1
Intersection Summary					
Area Type: CBD					

Volume

6: Ames Street & 5/12/2014

Lane Group	WBL	WBR	NBT	NBR	SBT
Volume (vph)	30	40	265	5	225
Confl. Peds. (#/hr)	160	365	275	5	275
Confl. Bikes (#/hr)				41	
Peak Hour Factor	0.73	0.73	0.87	0.87	0.83
Growth Factor	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	0	0
Parking (#/hr)					
Mid-Block Traffic (%)	0%		0%		0%
Adj. Flow (vph)	41	55	305	6	271
Shared Lane Traffic (%)					
Lane Group Flow (vph)	41	55	311	0	277
Intersection Summary					

HCM Unsignalized Intersection Capacity Analysis

6: Ames Street & 5/12/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	30	40	265	5	5	225
Volume (veh/h)	30	40	265	5	5	225
Sign Control	Stop	Stop	Free	Free	Free	Free
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.73	0.73	0.87	0.87	0.83	0.83
Hourly flow rate (vph)	41	55	305	6	6	271
Pedestrians	275	275	160	365	365	365
Lane Width (ft)	12.0	12.0	11.0	11.0	11.0	11.0
Walking Speed (ft/s)	4.0	4.0	4.0	4.0	4.0	4.0
Percent Blockage	23	23	12	12	28	28
Right turn flare (veh)						
Median type			None	None	None	None
Median storage (veh)						
Upstream signal (ft)			282			269
pX, platoon unblocked						
vC, conflicting volume	1026	947			585	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
vCU, unblocked vol	1026	947			585	
IC, single (s)	6.4	6.2			4.1	
IC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
pO queue free %	77	69			99	
cM capacity (veh/h)	176	177			766	
Direction, Lane #	WB 1	WB 2	NB 1	NB 1	SB 1	SB 1
Volume Total	41	55	310	277		
Volume Left	41	0	0	6		
Volume Right	0	55	6	0		
cSH	176	177	1700	766		
Volume to Capacity	0.23	0.31	0.18	0.01		
Queue Length 95th (ft)	22	31	0	1		
Control Delay (s)	31.5	34.1	0.0	0.3		
Lane LOS	D	D	A	A		
Approach Delay (s)	33.0		0.0	0.3		
Approach LOS	D					

Intersection Summary

Average Delay	4.8
Intersection Capacity Utilization	37.6%
Analysis Period (min)	15
ICU Level of Service	A

Lanes and Geometrics

7: Broadway east & 5/12/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%	0%	0%	0%	0%	0%
Storage Length (ft)		0	40		0	0
Storage Lanes		0	1		0	1
Taper Length (ft)		25	25		25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.999		0.950			0.865
Frt Protected						
Satd. Flow (prot)	1691	0	1608	1693	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1691	0	1608	1693	0	1479
Link Speed (mph)	30		30		30	
Link Distance (ft)	386		581		146	
Travel Time (s)	9.0		13.2		3.3	
Intersection Summary						
Area Type: CBD						

Volume

7: Broadway east &

5/12/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	735	5	5	620	0	125
Confl. Peds. (#/hr)	358	358				215
Confl. Bikes (#/hr)	22					
Peak Hour Factor	0.95	0.95	0.88	0.88	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	774	5	6	705	0	149
Shared Lane Traffic (%)						
Lane Group Flow (vph)	779	0	6	705	0	149
Intersection Summary						

HCM Unsignalized Intersection Capacity Analysis

7: Broadway east &

5/12/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Volume (veh/h)	735	5	5	620	0	125
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.95	0.95	0.88	0.88	0.84	0.84
Hourly flow rate (vph)	774	5	6	705	0	149
Pedestrians				215	358	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				18	30	
Right turn flare (veh)						
Median type	None	None	None	None	None	None
Median storage (veh)						
Upstream signal (ft)	396			581		
pX, platoon unblocked			0.75		0.86	0.75
VC, conflicting volume			1137		1850	1349
VC1, stage 1 conf vol						
VC2, stage 2 conf vol			1018		1259	1300
VCu, unblocked vol			4.1		6.4	6.2
IC, single (s)						
IC, 2 stage (s)			2.2		3.5	3.3
IF (s)						
p0 queue free %			98		100	0
CM capacity (veh/h)			362		112	86
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	779	6	705	149		
Volume Left	0	6	0	0		
Volume Right	5	0	0	149		
cSH	1700	362	1700	86		
Volume to Capacity	0.46	0.02	0.41	1.72		
Queue Length 95th (ft)	0	1	0	308		
Control Delay (s)	0.0	15.1	0.0	452.6		
Lane LOS	C	C	F	F		
Approach Delay (s)	0.0	0.1	452.6			
Approach LOS			F			
Intersection Summary						
Average Delay			41.2			
Intersection Capacity Utilization			66.6%		ICU Level of Service	C
Analysis Period (min)			15			

2014 Build Condition

Lanes and Geometrics

1: Broadway & Western Connector

5/22/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	11	11	11	11	12	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	100	0	295	0	295	0	250	0	250	0	225	0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.83	0.96	0.86	0.98	0.98	0.85	0.98	0.98	0.95	0.95	0.64	0.850
Frt	0.981	0.992	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1501	2923	0	1486	2982	0	1525	2901	0	1583	1621	1330
Flt Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1247	2923	0	1283	2982	0	1289	2901	0	1518	1621	852
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	25	25	25	25	25	25	25	25	25	25	25	25
Link Speed (mph)	470	631	631	631	631	631	631	631	631	631	631	631
Link Distance (ft)	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
Travel Time (s)	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
Intersection Summary												
Area Type: CBD												

Volume

1: Broadway & Western Connector

5/22/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	160	452	65	150	455	25	130	445	95	85	270	130
Confl. Peds. (#/hr)	412	321	321	412	321	230	412	321	88	88	192	192
Confl. Bikes (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	188	532	76	176	535	29	144	494	106	96	303	146
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	188	608	0	176	564	0	144	600	0	96	303	146
Intersection Summary												

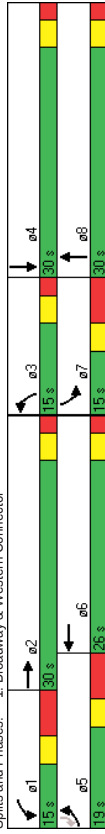
Timings

1: Broadway & Western Connector

5/22/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	160	452	150	455	130	445	85	270	130
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custm	custm
Protected Phases	5	2	1	6	3	8	7	4	5
Detector Phase	5	2	1	6	3	8	7	4	5
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	27.0	12.0	22.0	9.0	27.0	12.0	27.0	12.0
Total Split (s)	19.0	30.0	15.0	26.0	15.0	30.0	15.0	30.0	19.0
Total Split (%)	21.1%	33.3%	16.7%	28.9%	16.7%	33.3%	16.7%	33.3%	21.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	5.0	2.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.0	8.0	5.0	5.0	8.0	5.0	8.0	8.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Act Effct Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
Actuated g/C Ratio	0.12	0.28	0.08	0.23	0.11	0.28	0.08	0.28	0.12
v/c Ratio	1.03	0.75	1.52	0.81	0.85	0.74	0.77	0.67	1.40
Control Delay	115.5	36.4	272.0	44.9	77.1	30.3	79.8	37.5	262.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	115.5	36.4	272.0	44.9	77.1	30.3	79.8	37.5	262.7
LOS	F	D	F	D	E	C	E	D	F
Approach Delay	55.1		98.9		39.3		105.3		F
Approach LOS	E		F		D		F		F
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 11 (12%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Natural Cycle: 90									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 1.52									
Intersection Signal Delay: 72.1									
Intersection Capacity Utilization 73.1%									
Analysis Period (min) 15									

Splits and Phases: 1: Broadway & Western Connector



Build Condition 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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Phasings

1: Broadway & Western Connector

5/22/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	5	2	1	6	3	8	7	4	
Permitted Phases	5	2	1	6	3	8	7	4	
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5
Minimum Split (s)	12.0	27.0	12.0	22.0	9.0	27.0	12.0	27.0	12.0
Total Split (s)	19.0	30.0	15.0	26.0	15.0	30.0	15.0	30.0	19.0
Total Split (%)	21.1%	33.3%	16.7%	28.9%	16.7%	33.3%	16.7%	33.3%	21.1%
Maximum Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	5.0	2.0	5.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Walk Time (s)	7.0		7.0		7.0		7.0		10.0
Flash Dont Walk (s)	15.0		15.0		15.0		15.0		12.0
Pedestrian Calls (#/hr)	0		0		0		0		0
90th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
90th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
70th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
70th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
50th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
50th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
30th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
30th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
10th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
10th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 11 (12%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Control Type: Actuated-Coordinated									

Build Condition 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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Queues

1: Broadway & Western Connector

5/22/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group										
Lane Group Flow (vph)	188	608	176	564	144	600	96	303	146	
v/c Ratio	1.03	0.75	1.52	0.81	0.85	0.74	0.77	0.67	1.40	
Control Delay	115.5	36.4	272.0	44.9	77.1	30.3	79.8	37.5	262.7	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	115.5	36.4	272.0	44.9	77.1	30.3	79.8	37.5	262.7	
Queue Length 50th (ft)	~115	165	~136	185	89	155	55	153	~112	
Queue Length 95th (ft)	#226	211	m#152	m186	m#125	m202	#136	241	#227	
Internal Link Dist (ft)	390		551		697			639		
Turn Bay Length (ft)	100		295		250		225			
Base Capacity (vph)	183	812	116	696	169	806	124	450	104	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.03	0.75	1.52	0.81	0.85	0.74	0.77	0.67	1.40	
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.										

HCM Signalized Intersection Capacity Analysis

1: Broadway & Western Connector

5/22/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Movement										
Lane Configurations	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Volume (vph)	160	452	65	150	455	25	130	445	95	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	10	11	11	11	11	12	11
Total Lost time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	5.0	8.0
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00
Frpb, ped/bikes	1.00	0.96	1.00	0.98	1.00	0.98	1.00	0.98	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prt	1.00	0.98	1.00	0.99	1.00	0.97	1.00	0.95	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1501	2924	1486	2983	1525	2900	1593	1621	852	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	1.00
Satd. Flow (perm)	1501	2924	1486	2983	1525	2900	1593	1621	852	
Peak-Hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.89	0.89	0.89
Adj. Flow (vph)	188	532	76	176	535	29	144	494	106	96
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	188	608	0	176	564	0	144	600	0	96
Confl. Peds. (#/hr)	412	321	321	412	192	88	88	303	146	192
Confl. Bikes (#/hr)	27			230		20		25		25
Heavy Vehicles (%)	1%	1%	1%	2%	2%	3%	3%	2%	2%	2%
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custom	custom
Protected Phases	5	2	1	6	3	8	7	4	5	
Permitted Phases										
Actuated Green, G (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0	
Effective Green, g (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0	
Actuated g/C Ratio	0.12	0.28	0.08	0.23	0.11	0.28	0.08	0.28	0.12	
Clearance Time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)	183	812	116	696	169	806	124	450	104	
v/s Ratio Prot	0.13	c0.21	0.12	0.19	c0.09	c0.21	0.06	0.19	c0.17	
v/s Ratio Perm										
v/c Ratio	1.03	0.75	1.52	0.81	0.85	0.74	0.77	0.67	1.40	
Uniform Delay, d1	39.5	29.6	41.5	32.6	39.3	29.6	40.7	28.9	39.5	
Progression Factor	1.00	1.00	0.53	1.24	1.21	0.87	1.00	1.00	1.00	
Incremental Delay, d2	73.9	6.3	247.6	3.7	22.6	4.1	25.4	7.8	229.4	
Delay (s)	113.4	35.9	269.7	44.2	70.2	29.9	66.1	36.7	268.9	
Level of Service	F	D	F	D	E	C	E	D	F	
Approach Delay (s)		54.2		97.9		37.7		104.1		
Approach LOS		D		F		D		F		
Intersection Summary										
HCM Average Control Delay										
HCM Volume to Capacity ratio			70.9							E
Actuated Cycle Length (s)			90.0							23.0
Intersection Capacity Utilization			73.1%							D
Analysis Period (min)			15							
c Critical Lane Group										

Lanes and Geometrics

2: Main Street & Galileo Way

5/22/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	11	11	10	10	10	10	11	10
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	250	120	0	250	0	250	0	0	0	0	75
Storage Lanes	1	1	1	0	1	0	1	0	0	1	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.76	0.95	0.86	0.93	0.93	0.93	0.90	0.90	0.91	0.91	0.84	0.84
Frt	0.972	0.972	0.969	0.969	0.969	0.969	0.954	0.954	0.954	0.950	0.850	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1593	1555	0	1501	1480	0	0	2582	0	1501	1637	1343
Flt Permitted	0.649	0.553	0.553	0.553	0.553	0.553	0.824	0.824	0.824	0.329	0.329	0.329
Satd. Flow (perm)	826	1555	0	754	1480	0	0	2125	0	472	1637	1129
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	17	17	19	19	19	19	87	87	87	39	39	39
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30	30
Link Distance (ft)	1009	1009	483	483	483	483	810	810	810	777	777	777
Travel Time (s)	22.9	22.9	11.0	11.0	11.0	11.0	18.4	18.4	18.4	17.7	17.7	17.7
Intersection Summary												
Area Type: CBD												

Volume

2: Main Street & Galileo Way

5/22/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	265	219	50	63	116	30	60	345	180	30	255	200
Confl. Peds. (#/hr)	508	199	199	508	67	67	180	180	180	180	180	67
Confl. Bikes (#/hr)	26	26	26	65	65	65	49	49	49	49	49	50
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.89	0.89	0.89	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	298	246	56	74	136	35	67	388	202	36	307	241
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	298	302	0	74	171	0	0	657	0	36	307	241
Intersection Summary												

Timings

2. Main Street & Galileo Way

5/22/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	265	219	63	116	60	345	30	255	200
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases									
Permitted Phases	1	1	1	1	3	3	3	3	3
Detector Phase	1	1	1	1	3	3	3	3	3
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	55.6%	55.6%	55.6%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.36	0.36	0.36	0.36	0.36
v/c Ratio	0.77	0.41	0.21	0.24	0.81	0.21	0.53	0.56	0.56
Control Delay	36.3	17.0	25.5	22.0	32.0	31.9	36.0	34.1	36.0
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	36.3	17.0	25.5	22.0	32.0	31.9	36.0	34.1	36.0
LOS	D	B	C	C	C	C	C	D	C
Approach Delay	26.6							34.9	
Approach LOS	C							C	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 1:EBWB, Start of Green									
Natural Cycle: 90									
Control Type: Prelimed									
Maximum v/c Ratio: 0.81									
Intersection Signal Delay: 30.2									
Intersection Capacity Utilization 131.3%									
Analysis Period (min) 15									

Splits and Phases: 2. Main Street & Galileo Way



Build Condition 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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Phasings

2. Main Street & Galileo Way

5/22/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases									
Permitted Phases	1	1	1	1	3	3	3	3	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	55.6%	55.6%	55.6%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Maximum Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	24.0	24.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 1:EBWB, Start of Green									
Control Type: Prelimed									

Build Condition 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR	
Lane Group									
Lane Group Flow (vph)	298	302	74	171	657	36	307	241	
v/c Ratio	0.77	0.41	0.21	0.24	0.81	0.21	0.53	0.56	
Control Delay	36.3	17.0	25.5	22.0	32.0	31.9	36.0	34.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	36.3	17.0	25.5	22.0	32.0	31.9	36.0	34.1	
Queue Length 50th (ft)	136	103	30	63	154	20	184	131	
Queue Length 95th (ft)	#278	166	m57	m113	#230	m25	m204	m153	
Internal Link Dist (ft)	929		403	730		697		75	
Turn Bay Length (ft)		120							
Base Capacity (vph)	385	735	352	701	812	168	582	427	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	0.77	0.41	0.21	0.24	0.81	0.21	0.53	0.56	
Intersection Summary									
#	95th percentile volume exceeds capacity, queue may be longer.								
m	Volume for 95th percentile queue is metered by upstream signal.								

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	265	219	50	63	116	30	60	345	180	30	255	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	10	10	10	10	11	10
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.95	1.00	1.00	0.93	1.00	0.91	1.00	1.00	0.84	1.00	0.84
Flpb, ped/bikes	0.76	1.00	1.00	0.86	1.00	0.99	0.99	1.00	1.00	0.91	1.00	1.00
Fr	1.00	0.97	1.00	0.97	1.00	0.99	0.99	1.00	1.00	0.95	1.00	0.95
Flt Protected	0.95	1.00	1.00	0.95	1.00	0.99	0.99	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1209	1556	1295	1480	1295	1480	2566	1362	1637	1129	1362	1129
Flt Permitted	0.65	1.00	0.55	1.00	0.55	1.00	0.82	1.00	1.00	0.33	1.00	1.00
Satd. Flow (perm)	826	1556	754	1480	754	1480	2125	472	1637	1129	1637	1129
Peak-Hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.85	0.89	0.89	0.89	0.83	0.83	0.83
Adj. Flow (vph)	298	246	56	74	136	35	67	388	202	36	307	241
RTOR Reduction (vph)	0	9	0	0	10	0	0	56	0	0	0	25
Lane Group Flow (vph)	298	293	0	74	161	0	601	0	36	307	216	67
Confl. Peds. (#/hr)	508	199	199	508	67	180	180	49	49	50	50	50
Confl. Bikes (#/hr)	26			65								
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	1	1	3	3	3	3	3	3
Permitted Phases	1	1	1	1	1	1	3	3	3	3	3	3
Actuated Green, G (s)	42.0	42.0	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0	32.0
Effective Green, g (s)	42.0	42.0	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.47	0.36	0.36	0.36	0.36	0.36	0.36
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	385	726	352	691	756	756	168	582	401	168	582	401
v/s Ratio Prot	0.19			0.11								
v/s Ratio Perm	c0.36			0.10			c0.28			0.08		0.19
v/c Ratio	0.77	0.40	0.21	0.23	0.79	0.79	0.21	0.53	0.54	0.21	0.53	0.54
Uniform Delay, d1	20.0	15.8	14.2	14.4	20.2	20.2	26.1	20.2	23.0	23.1	20.2	23.1
Progression Factor	1.00	1.00	1.63	1.63	1.00	1.00	1.43	1.43	1.46	1.58	1.43	1.46
Incremental Delay, d2	14.1	1.7	1.1	0.7	8.5	8.5	1.2	1.4	2.1	1.4	2.1	2.1
Delay (s)	34.1	17.4	24.3	24.1	34.5	34.5	30.0	35.0	35.0	35.0	35.0	35.0
Level of Service	C	B	C	C	C	C	C	C	C	C	D	D
Approach Delay (s)	25.7			24.1			34.5			36.2		
Approach LOS	C			C			C			D		
Intersection Summary												
HCM Average Control Delay	31.2											
HCM Volume to Capacity ratio	0.78											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	131.3%											
Analysis Period (min)	15											
c Critical Lane Group	H											

Lanes and Geometrics

3. Main Street & Ames Street

5/22/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	12	12	12	12	12	12	12	12	12	12	12	12
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. 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
Ped Bike Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Frt	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981	0.981
Flt Protected	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994
Satd. Flow (prot)	0	1345	0	0	1329	0	0	1426	0	0	1547	1295
Flt Permitted	0.937	0.937	0.937	0.937	0.937	0.937	0.937	0.937	0.937	0.937	0.937	0.937
Satd. Flow (perm)	0	1190	0	0	1107	0	0	1161	0	0	978	602
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	483	483	483	483	483	483	483	483	483	483	483	483
Travel Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Intersection Summary												
Area Type: CBD												

Volume

3. Main Street & Ames Street

5/22/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	54	315	60	25	57	55	55	179	20	59	77	97
Confl. Peds. (#/hr)	787	787	879	879	787	787	272	309	309	309	272	272
Confl. Bikes (#/hr)	45	45	45	45	45	45	45	45	45	45	45	45
Peak Hour Factor	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	57	335	64	32	73	71	61	199	22	71	93	117
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	456	0	0	176	0	0	282	0	0	164	117
Intersection Summary												

Timings

3. Main Street & Ames Street

5/22/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	54	315	25	57	55	179	59	77	97
Volume (vph)									
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases									
Permitted Phases	3	3	3	3	1	1	1	1	1
Detector Phase	3	3	3	3	1	1	1	1	1
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	39.0	39.0	28.0	28.0	28.0	28.0	28.0
Total Split (s)	53.0	53.0	53.0	53.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	58.9%	58.9%	58.9%	58.9%	41.1%	41.1%	41.1%	41.1%	41.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-1.0	0.0	-1.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	7.0	8.0	7.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
Actuated g/C Ratio	0.50	0.50	0.50	0.50	0.32	0.32	0.32	0.32	0.32
v/c Ratio	0.77	0.77	0.32	0.32	0.75	0.75	0.52	0.60	0.60
Control Delay	28.0	28.0	15.4	15.4	42.1	42.1	31.3	40.2	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	28.0	15.4	15.4	42.1	42.1	31.3	40.2	40.2
LOS	C	C	B	B	D	D	C	D	D
Approach Delay	28.0	28.0	15.4	15.4	42.1	42.1	35.0	D	D
Approach LOS	C	C	B	B	D	D	D	D	D
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 40 (44%), Referenced to phase 3EBWB, Start of Green									
Natural Cycle: 70									
Control Type: Prelimed									
Maximum v/c Ratio: 0.77									
Intersection Signal Delay: 31.1									
Intersection Capacity Utilization 79.2%									
Analysis Period (min) 15									

Splits and Phases: 3. Main Street & Ames Street



Phasings

3. Main Street & Ames Street

5/22/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases									
Permitted Phases	3	3	3	3	1	1	1	1	1
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	39.0	39.0	28.0	28.0	28.0	28.0	28.0
Total Split (s)	53.0	53.0	53.0	53.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	58.9%	58.9%	58.9%	58.9%	41.1%	41.1%	41.1%	41.1%	41.1%
Maximum Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	12.0	12.0	12.0	12.0	6.0	6.0	6.0	6.0	6.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 40 (44%), Referenced to phase 3EBWB, Start of Green									
Control Type: Prelimed									

Queues

3: Main Street & Ames Street

5/22/2014

Lane Group	EBT	WBT	NBT	SBT	SBR
Lane Group Flow (vph)	456	176	282	164	117
v/c Ratio	0.77	0.32	0.75	0.52	0.60
Control Delay	28.0	15.4	42.1	31.3	40.2
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	28.0	15.4	42.1	31.3	40.2
Queue Length 50th (ft)	219	57	142	95	69
Queue Length 95th (ft)	m329	85	#268	m143	m109
Internal Link Dist (ft)	403	410	456	202	
Turn Bay Length (ft)					
Base Capacity (vph)	595	554	374	315	194
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	0.77	0.32	0.75	0.52	0.60
Intersection Summary					
#	95th percentile volume exceeds capacity, queue may be longer.				
	Queue shown is maximum after two cycles.				
	Volume for 95th percentile queue is metered by upstream signal.				

Build Condition 5:00 pm 4/24/2014 PM Peak Hour

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HCM Signalized Intersection Capacity Analysis

3: Main Street & Ames Street

5/22/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		↔		↔	↔			↔			↔	↔
Volume (vph)	54	315	60	25	57	55	55	179	20	59	77	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	12	12	12	12	12	12	12	12
Total Lost time (s)		8.0			8.0			8.0		8.0		8.0
Lane Util. Factor		1.00			1.00			1.00		1.00		1.00
Frpb, ped/bikes		0.91			0.74			0.96		1.00		0.46
Flpb, ped/bikes		0.94			0.94			0.91		0.87		1.00
Fr		0.98			0.95			0.99		1.00		0.85
Flt Protected		0.99			0.99			0.99		0.98		1.00
Satd. Flow (prot)		1262			1254			1298		1342		602
Flt Permitted		0.94			0.87			0.89		0.71		1.00
Satd. Flow (perm)		1190			1106			1162		977		602
Peak-Hour factor, PHF	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90	0.83	0.83	0.83
Adj. Flow (vph)	57	335	64	32	73	71	61	199	22	71	93	117
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	456	0	0	176	0	0	282	0	0	164	117
Confl. Peds. (#/hr)	787	879	879	879	787	787	272	309	309	272	309	272
Confl. Bikes (#/hr)		45			42			19			19	6
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases		3		3		3		1		1		1
Permitted Phases	3		3		3		1		1		1	
Actuated Green, G (s)		45.0		45.0		45.0		29.0		29.0		29.0
Effective Green, g (s)		45.0		45.0		45.0		29.0		29.0		29.0
Actuated g/C Ratio		0.50		0.50		0.50		0.32		0.32		0.32
Clearance Time (s)		8.0		8.0		8.0		8.0		8.0		8.0
Lane Grp Cap (vph)		595		553		553		374		315		194
v/s Ratio Prot		c0.38		0.16		c0.24		c0.24		0.17		0.19
v/s Ratio Perm		0.77		0.32		0.75		0.75		0.52		0.60
Uniform Delay, d1		18.2		13.4		27.3		27.3		24.8		25.7
Progression Factor		1.03		1.00		1.00		1.00		0.98		0.98
Incremental Delay, d2		7.7		1.5		13.2		13.2		5.8		12.7
Delay (s)		26.5		14.9		40.5		40.5		30.2		37.9
Level of Service		C		B		D		D		C		D
Approach Delay (s)		26.5		14.9		40.5		40.5		33.4		33.4
Approach LOS		C		B		D		D		C		C
Intersection Summary												
HCM Average Control Delay		29.7								C		
HCM Volume to Capacity ratio		0.76										
Actuated Cycle Length (s)		90.0								16.0		
Intersection Capacity Utilization		79.2%								D		
Analysis Period (min)		15										
c Critical Lane Group												

Build Condition 5:00 pm 4/24/2014 PM Peak Hour

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Lanes and Geometrics

4: Broadway east & Ames Street

5/22/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑	↑
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	12	11	11	12	12
Grade (%)	0%			0%	0%	
Storage Length (ft)		0	160		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)		25	25		25	50
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00
Ped Bike Factor	0.93		0.82		0.87	0.36
Frt	0.981				0.850	
Flt Protected			0.950		0.950	
Satd. Flow (prot)	2744	0	1555	1637	1593	1282
Flt Permitted			0.279		0.950	
Satd. Flow (perm)	2744	0	376	1637	1390	468
Right Turn on Red		Yes				Yes
Satd. Flow (RTOR)	19					256
Link Speed (mph)	30			30		30
Link Distance (ft)	631			396		269
Travel Time (s)	14.3			9.0		6.1
Intersection Summary						
Area Type: CBD						

Volume

4: Broadway east & Ames Street

5/22/2014

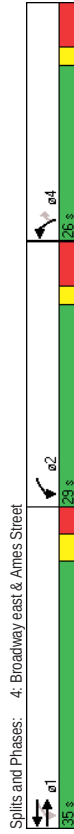
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	552	80	102	495	155	223
Confl. Peds. (#/hr)		392	392		85	443
Confl. Bikes (#/hr)		16				10
Peak Hour Factor	0.95	0.95	0.88	0.88	0.87	0.87
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						0
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	581	84	116	562	178	256
Shared Lane Traffic (%)						
Lane Group Flow (vph)	665	0	116	562	178	256
Intersection Summary						

Timings

4: Broadway east & Ames Street

5/22/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑
Volume (vph)	552	102	495	155	223
Turn Type	pm+pt Perm				
Protected Phases	1	2	1	4	4
Permitted Phases	1	1	1	4	4
Detector Phase	1	2	1	4	4
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-1.0
Total Lost Time (s)	6.0	7.0	6.0	7.0	6.0
Lead/Lag	Lead	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	29.0	50.0	29.0	19.0	20.0
Actuated g/C Ratio	0.32	0.56	0.32	0.21	0.22
v/c Ratio	0.74	0.23	1.07	0.53	0.84
Control Delay	27.3	24.9	76.3	30.5	30.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.3	24.9	76.3	30.5	30.4
LOS	C	C	E	C	C
Approach Delay	27.3		67.5	30.5	
Approach LOS	C		E	C	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 49 (54%), Referenced to phase 1:EBWB, Start of Green					
Natural Cycle: 90					
Control Type: Prelimed					
Maximum v/c Ratio: 1.07					
Intersection Signal Delay: 43.4					
Intersection Capacity Utilization 62.1%					
Analysis Period (min) 15					



Build Condition 5:00 pm 4/24/2014 PM Peak Hour

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Phasings

4: Broadway east & Ames Street

5/22/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Protected Phases	1	2	1	4	4
Permitted Phases					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Maximum Green (s)	29.0	22.0	29.0	19.0	19.0
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	13.0	7.0	13.0	4.0	4.0
Flash Dont Walk (s)	16.0	12.0	16.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
90th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
70th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
70th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
50th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
50th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
30th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
30th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
10th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
10th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 49 (54%), Referenced to phase 1:EBWB, Start of Green					
Control Type: Prelimed					

Build Condition 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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Queues

4: Broadway east & Ames Street

5/22/2014

	EBT	WBL	WBT	NBL	NBR
Lane Group					
Lane Group Flow (vph)	665	116	562	178	256
v/c Ratio	0.74	0.23	1.07	0.53	0.84
Control Delay	27.3	24.9	76.3	30.5	30.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	27.3	24.9	76.3	30.5	30.4
Queue Length 50th (ft)	194	53	~370	76	23
Queue Length 95th (ft)	253	m66	m#536	m114	m#57
Internal Link Dist (ft)	551		316	189	
Turn Bay Length (ft)	160				
Base Capacity (vph)	897	497	527	336	303
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	0.74	0.23	1.07	0.53	0.84
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.					

Build Condition 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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HCM Signalized Intersection Capacity Analysis

4: Broadway east & Ames Street

5/22/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔↔	↔	↔	↔	↔	↔
Volume (vph)	552	80	102	495	155	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	11	11	12	12
Total Lost time (s)	6.0	7.0	6.0	7.0	6.0	6.0
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	0.93	1.00	1.00	1.00	1.00	0.36
Flpb, ped/bikes	1.00	0.96	1.00	1.00	1.00	1.00
Prt	0.98	1.00	1.00	1.00	1.00	0.85
Flt Protected	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	2745	1489	1637	1593	468	
Flt Permitted	1.00	0.28	1.00	0.95	1.00	
Satd. Flow (perm)	2745	437	1637	1593	468	
Peak-hour factor, PHF	0.95	0.95	0.88	0.88	0.87	0.87
Adj. Flow (vph)	581	84	116	562	178	256
RTOR Reduction (vph)	13	0	0	0	0	199
Lane Group Flow (vph)	652	0	116	562	178	57
Confl. Peds. (#/hr)		392	392		85	443
Confl. Bikes (#/hr)		16				10
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Parking. (#/hr)						0
Turn Type		pm+pt				Perm
Protected Phases	1	2	1	4		
Permitted Phases		1			4	
Actuated Green, G (s)	29.0	51.0	29.0	19.0	19.0	
Effective Green, g (s)	29.0	51.0	29.0	19.0	20.0	
Actuated g/C Ratio	0.32	0.57	0.32	0.21	0.22	
Clearance Time (s)	6.0	7.0	6.0	7.0	7.0	
Lane Grp Cap (vph)	885	505	527	336	104	
v/s Ratio Prot	0.24	c0.06	c0.34	0.11		c0.12
v/s Ratio Perm		0.07				
v/c Ratio	0.74	0.23	1.07	0.53	0.55	
Uniform Delay, d1	27.1	15.5	30.5	31.5	31.0	
Progression Factor	0.89	2.23	0.73	0.78	1.77	
Incremental Delay, d2	3.5	0.7	51.3	5.2	17.0	
Delay (s)	27.5	35.4	73.4	29.9	71.9	
Level of Service	C	D	E	C	E	
Approach Delay (s)	27.5		66.9	54.7		
Approach LOS	C		E	D		
Intersection Summary						
HCM Average Control Delay		49.2			HCM Level of Service	D
HCM Volume to Capacity ratio		0.66				
Actuated Cycle Length (s)		90.0			Sum of lost time (s)	19.0
Intersection Capacity Utilization		62.1%			ICU Level of Service	B
Analysis Period (min)		15				
Critical Lane Group						

Build Condition 5:00 pm 4/24/2014 PM Peak Hour

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Lanes and Geometrics

5: Broadway east & Third Street

5/22/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	12	11	11	12	12	12	10	10	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	340		125	0	0	0	0	0	0	0	0	160
Storage Lanes	1	1	1	0	0	0	0	0	0	0	0	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99				0.90							
Frt	0.979				0.957							0.850
Flt Protected	0.950											0.957
Satd. Flow (prot)	1501	2852	0	0	2675	0	0	0	0	0	1512	1343
Flt Permitted	0.950											0.957
Satd. Flow (perm)	1501	2852	0	0	2675	0	0	0	0	0	1512	1343
Right Turn on Red			Yes			No			Yes			No
Satd. Flow (RTOR)	22											
Satd. Flow (perm)	30				30			30			30	
Link Speed (mph)	581				393			166			1212	
Travel Time (s)	13.2				8.9			3.8			27.5	
Intersection Summary												
Area Type: CBD												

Volume

5: Broadway east & Third Street

5/22/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	269	526	85	0	468	185	0	0	0	385	43	134
Confl. Peds. (#/hr)			36	36		123						
Confl. Bikes (#/hr)			20			159						1
Peak Hour Factor	0.95	0.95	0.95	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0											
Mid-Block Traffic (%)	0%				0%				0%			0%
Adj. Flow (vph)	283	554	89	0	538	213	0	0	0	418	47	146
Shared Lane Traffic (%)												
Lane Group Flow (vph)	283	643	0	0	751	0	0	0	0	0	465	146
Intersection Summary												

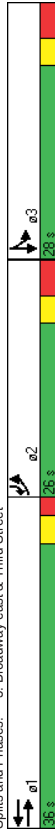
Timings

5: Broadway east & Third Street

5/22/2014

Lane Group	EBL	EBT	WBT	SBT	EBL	EBT	WBT	SBT
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	269	526	468	43	134	Over		
Turn Type	Prot	2	1	1	3	2		
Protected Phases								
Permitted Phases								
Detector Phase	2	1	1	3	2			
Switch Phase								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	23.0	35.0	35.0	27.0	23.0			
Total Split (s)	26.0	36.0	36.0	28.0	26.0			
Total Split (%)	28.9%	40.0%	40.0%	31.1%	28.9%			
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0			
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0			
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0			
Total Lost Time (s)	7.0	5.0	5.0	7.0	7.0			
Lead/Lag	Lag	Lead	Lead	Lag	Lag			
Lead-Lag Optimize?								
Recall Mode	Max	Max	Max	Max	Max			
Act Effct Green (s)	19.0	31.0	31.0	21.0	19.0			
Actuated g/C Ratio	0.21	0.34	0.34	0.23	0.21			
v/c Ratio	0.89	0.64	0.82	1.32	0.51			
Control Delay	69.3	23.8	35.6	192.7	38.8			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay	69.3	23.8	35.6	192.7	38.8			
LOS	E	C	D	F	D			
Approach Delay		37.7	35.6	155.9				
Approach LOS		D	D	F				
Intersection Summary								
Cycle Length: 90								
Actuated Cycle Length: 90								
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green								
Natural Cycle: 95								
Control Type: Prelimed								
Maximum v/c Ratio: 1.32								
Intersection Signal Delay: 68.6								
Intersection Capacity Utilization 81.4%								
Analysis Period (min) 15								

Splits and Phases: 5: Broadway east & Third Street



Build Condition 5:00 pm 4/24/2014 PM Peak Hour

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Phasings

5: Broadway east & Third Street

5/22/2014

Lane Group	EBL	EBT	WBT	SBT	EBL	EBT	WBT	SBT
Protected Phases	2	1	1	3	2			
Permitted Phases								
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0			
Minimum Split (s)	23.0	35.0	35.0	27.0	23.0			
Total Split (s)	26.0	36.0	36.0	28.0	26.0			
Total Split (%)	28.9%	40.0%	40.0%	31.1%	28.9%			
Maximum Green (s)	19.0	31.0	31.0	21.0	19.0			
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0			
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0			
Lead/Lag	Lag	Lead	Lead	Lag	Lag			
Lead-Lag Optimize?								
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0			
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0			
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0			
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0			
Recall Mode	Max	Max	Max	Max	Max			
Walk Time (s)	3.0	15.0	15.0	7.0	3.0			
Flash Dont Walk (s)	12.0	12.0	12.0	12.0	12.0			
Pedestrian Calls (#/hr)	0	0	0	0	0			
90th %ile Green (s)	19.0	31.0	31.0	21.0	19.0			
90th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR			
70th %ile Green (s)	19.0	31.0	31.0	21.0	19.0			
70th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR			
50th %ile Green (s)	19.0	31.0	31.0	21.0	19.0			
50th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR			
30th %ile Green (s)	19.0	31.0	31.0	21.0	19.0			
30th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR			
10th %ile Green (s)	19.0	31.0	31.0	21.0	19.0			
10th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR			
Intersection Summary								
Cycle Length: 90								
Actuated Cycle Length: 90								
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green								
Control Type: Prelimed								

Build Condition 5:00 pm 4/24/2014 PM Peak Hour

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Queues

5: Broadway east & Third Street

5/22/2014



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SBT	SBR
Lane Group Flow (vph)	283	643	751	465	1.46			
v/c Ratio	0.89	0.64	0.82	1.32	0.51			
Control Delay	69.3	23.8	35.6	192.7	38.8			
Queue Delay	0.0	0.0	0.0	0.0	0.0			
Total Delay	69.3	23.8	35.6	192.7	38.8			
Queue Length 50th (ft)	165	192	202	~345	74			
Queue Length 95th (ft)	m#266	m#242	263	#530	135			
Internal Link Dist (ft)	501	313	1132					
Turn Bay Length (ft)	340							160
Base Capacity (vph)	317	997	921	353	284			
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	0.89	0.64	0.82	1.32	0.51			
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.								

Build Condition 5:00 pm 4/24/2014 PM Peak Hour

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HCM Signalized Intersection Capacity Analysis

5: Broadway east & Third Street

5/22/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB	EB
Volume (vph)	269	526	85	0	468	185	0	0	0	385	43	134
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	10	10	10
Total Lost time (s)	7.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	7.0	7.0	7.0
Lane Util. Factor	1.00	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	1.00	1.00	1.00
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.98	0.96	0.96	0.96	0.96	0.96	0.96	0.96	1.00	0.85	0.85
Flt Protected	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00
Satd. Flow (prot)	1501	2853	2676	2676	2676	2676	2676	2676	2676	1512	1343	1343
Flt Permitted	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.96	1.00	1.00
Satd. Flow (perm)	1501	2853	2676	2676	2676	2676	2676	2676	2676	1512	1343	1343
Peak-hour factor, PHF	0.95	0.95	0.95	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	283	554	89	0	538	213	0	0	0	418	47	146
RTOR Reduction (vph)	0	14	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	283	629	0	0	751	0	0	0	0	0	465	146
Conf. Ped. (#/hr)	36	36	36	36	36	123	123	123	123	123	123	123
Conf. Bikes (#/hr)	20	20	20	20	20	159	159	159	159	159	159	159
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Turn Type	Prot	1	1	1	1	1	1	1	1	1	1	1
Protected Phases	2	1	1	1	1	1	1	1	1	1	1	1
Permitted Phases	2	1	1	1	1	1	1	1	1	1	1	1
Actuated Green, G (s)	19.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
Effective Green, g (s)	19.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0	31.0
Actuated g/C Ratio	0.21	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34	0.34
Clearance Time (s)	7.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lane Grp Cap (vph)	317	983	922	922	922	922	922	922	922	922	922	922
v/s Ratio Prot	c0.19	0.22	c0.28	c0.28	c0.28	c0.28	c0.28	c0.28	c0.28	c0.28	c0.28	c0.28
v/s Ratio Perm	0.89	0.64	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
Uniform Delay, d1	34.5	24.8	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9	26.9
Progression Factor	1.27	0.87	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	24.2	2.5	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8	7.8
Delay (s)	68.0	24.1	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7
Level of Service	E	C	C	C	C	C	C	C	C	C	C	C
Approach Delay (s)	37.6	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7	34.7
Approach LOS	D	D	D	D	D	D	D	D	D	D	D	D
Intersection Summary												
HCM Average Control Delay	68.8											
HCM Volume to Capacity ratio	0.98											
Actuated Cycle Length (s)	90.0											
Intersection Capacity Utilization	81.4%											
Analysis Period (min)	15											
c Critical Lane Group	E											

Build Condition 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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Lanes and Geometrics

6: Ames Street & 5/22/2014

Lane Group	WBL	WBR	NBT	NBR	SBT
Lane Configurations	W		P		P
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11
Grade (%)	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	0	0
Storage Lanes	1	0	0	0	0
Taper Length (ft)	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor					
Fit	0.929				
Fit Protected	0.977				
Satd. Flow (prot)	1552	0	1621	0	1637
Fit Permitted	0.977				
Satd. Flow (perm)	1552	0	1621	0	1637
Link Speed (mph)	30		30		30
Link Distance (ft)	239		282		269
Travel Time (s)	5.4		6.4		6.1
Intersection Summary					
Area Type: CBD					

Volume

6: Ames Street & 5/22/2014

Lane Group	WBL	WBR	NBT	NBR	SBT
Volume (vph)	41	45	288	0	182
Confl. Peds. (#/hr)	160	165	275	275	41
Confl. Bikes (#/hr)					
Peak Hour Factor	0.73	0.73	0.87	0.87	0.83
Growth Factor	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	2%	2%	1%
Bus Blockages (#/hr)	0	0	0	0	0
Parking (#/hr)					
Mid-Block Traffic (%)	0%		0%		0%
Adj. Flow (vph)	56	62	331	0	219
Shared Lane Traffic (%)					
Lane Group Flow (vph)	118	0	331	0	219
Intersection Summary					

HCM Unsignalized Intersection Capacity Analysis

6: Ames Street & 5/22/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		P			4
Volume (veh/h)	41	45	288	0	0	182
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.73	0.73	0.87	0.87	0.83	0.83
Hourly flow rate (vph)	56	62	331	0	0	219
Pedestrians	275		160			165
Lane Width (ft)	12.0		11.0			11.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	23		12			13
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			282			269
pX, platoon unblocked	0.99	0.99			0.99	
vC, conflicting volume	985	771			606	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
vCU, unblocked vol	979	762			595	
IC, single (s)	6.4	6.2			4.1	
IC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
pO queue free %	70	77			100	
cM capacity (veh/h)	187	272			751	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	118	331	219			
Volume Left	56	0	0			
Volume Right	62	0	0			
cSH	223	1700	751			
Volume to Capacity	0.53	0.19	0.00			
Queue Length 95th (ft)	69	0	0			
Control Delay (s)	37.8	0.0	0.0			
Lane LOS	E					
Approach Delay (s)	37.8	0.0	0.0			
Approach LOS	E					

Intersection Summary

Average Delay	6.7
Intersection Capacity Utilization	38.8%
Analysis Period (min)	15
ICU Level of Service	A

Lanes and Geometrics

7: Broadway east & 5/22/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	P		P			P
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)		0	40		0	0
Storage Lanes		0	1		0	1
Taper Length (ft)		25	25		25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.993		0.950		0.865	
Frt Protected						
Satd. Flow (prot)	1681	0	1608	1693	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1681	0	1608	1693	0	1479
Link Speed (mph)	30		30		30	
Link Distance (ft)	396		581		146	
Travel Time (s)	9.0		13.2		3.3	
Intersection Summary						
Area Type: CBD						

Volume

7: Broadway east &

5/22/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	735	40	25	577	0	140
Confl. Peds. (#/hr)		358	358			215
Confl. Bikes (#/hr)	22					
Peak Hour Factor	0.95	0.95	0.88	0.88	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	774	42	28	656	0	167
Shared Lane Traffic (%)						
Lane Group Flow (vph)	816	0	28	656	0	167
Intersection Summary						

HCM Unsignalized Intersection Capacity Analysis

7: Broadway east &

5/22/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Volume (veh/h)	735	40	25	577	0	140
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.95	0.95	0.88	0.88	0.84	0.84
Hourly flow rate (vph)	774	42	28	656	0	167
Pedestrians					215	358
Lane Width (ft)					12.0	12.0
Walking Speed (ft/s)					4.0	4.0
Percent Blockage					18	30
Right turn flare (veh)						
Median type	None	None	None	None	None	None
Median storage (veh)						
Upstream signal (ft)	396				581	
pX, platoon unblocked			0.75		0.86	0.75
VC, conflicting volume			1174		1865	1368
VC1, stage 1 conf vol						
VC2, stage 2 conf vol			1064		1267	1323
VCu, unblocked vol			4.1		6.4	6.2
IC, single (s)						
IC, 2 stage (s)						
IF (s)			2.2		3.5	3.3
p0 queue free %			92		100	0
CM capacity (veh/h)			346		104	83
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	816	28	656	167		
Volume Left	0	28	0	0		
Volume Right	42	0	0	167		
cSH	1700	346	1700	83		
Volume to Capacity	0.48	0.08	0.39	2.00		
Queue Length 95th (ft)	0	7	0	367		
Control Delay (s)	0.0	16.3	0.0	574.5		
Lane LOS		C		F		
Approach Delay (s)	0.0	0.7		574.5		
Approach LOS				F		

Intersection Summary			
Average Delay	57.7		
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		

2019 Future Condition

With Cycle Track

Lanes and Geometrics

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	11	11	11	11	12	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	100	0	295	0	295	0	250	0	250	0	225	0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.86	0.96	0.87	0.98	0.98	0.88	0.98	0.98	0.96	0.96	0.64	0.64
Frt	0.981	0.981	0.992	0.992	0.992	0.992	0.978	0.978	0.950	0.950	0.850	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1501	2923	0	1486	2983	0	1525	2924	0	1583	1621	1330
Flt Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1294	2923	0	1290	2983	0	1347	2924	0	1535	1621	852
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	25	25	25	30	30	30	30	30	30	30	30	30
Link Speed (mph)	470	470	470	631	631	631	777	777	777	777	719	719
Travel Time (s)	12.8	12.8	12.8	14.3	14.3	14.3	17.7	17.7	17.7	16.3	16.3	16.3
Intersection Summary												
Area Type: CBD												

Volume

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	185	471	67	171	542	30	142	600	104	116	371	209
Confl. Peds. (#/hr)	412	321	321	412	192	88	88	88	88	88	192	192
Confl. Bikes (#/hr)	27	27	27	230	230	230	230	230	230	230	230	230
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	218	554	79	201	638	35	158	667	116	130	417	235
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	218	633	0	201	673	0	158	783	0	130	417	235
Intersection Summary												

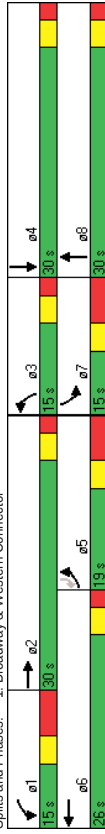
Timings

1: Broadway & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4
Volume (vph)	185	471	171	542	142	600	116	371	209
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Custom	Custom
Protected Phases	5	2	1	6	3	8	7	4	5
Detector Phase	5	2	1	6	3	8	7	4	5
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	27.0	12.0	25.0	9.0	27.0	12.0	30.0	12.0
Total Split (s)	19.0	30.0	15.0	26.0	15.0	30.0	15.0	30.0	19.0
Total Split (%)	21.1%	33.3%	16.7%	28.9%	16.7%	33.3%	16.7%	33.3%	21.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	2.0	5.0	2.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Act Effct Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
Actuated g/C Ratio	0.12	0.28	0.08	0.23	0.11	0.28	0.08	0.28	0.12
v/c Ratio	1.19	0.78	1.73	0.97	0.93	0.96	1.05	0.93	2.26
Control Delay	164.7	37.9	358.3	24.3	56.0	35.7	137.7	61.1	618.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	164.7	37.9	358.3	24.3	56.0	35.7	137.7	61.1	618.9
LOS	F	D	F	C	E	D	F	E	F
Approach Delay		70.4		101.1		39.1		241.4	
Approach LOS		E		F		D		F	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 6 (7%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Natural Cycle: 130									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 2.26									
Intersection Signal Delay: 108.4									
Intersection Capacity Utilization 81.3%									
Analysis Period (min) 15									

Splits and Phases: 1: Broadway & Western Connector



Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

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Phasings

1: Broadway & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	5	2	1	6	3	8	7	4	5
Permitted Phases	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Initial (s)	12.0	27.0	12.0	25.0	9.0	27.0	12.0	30.0	12.0
Minimum Split (s)	19.0	30.0	15.0	26.0	15.0	30.0	15.0	30.0	19.0
Total Split (%)	21.1%	33.3%	16.7%	28.9%	16.7%	33.3%	16.7%	33.3%	21.1%
Maximum Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	2.0	5.0	2.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Walk Time (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0	7.0
Flash Dont Walk (s)	15.0	15.0	13.0	15.0	15.0	15.0	15.0	15.0	15.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
90th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
70th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
70th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
50th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
50th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
30th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
30th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
10th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
10th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 6 (7%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Control Type: Actuated-Coordinated									

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Queues

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Lane Group										
Lane Group Flow (vph)	218	633	201	673	158	783	130	417	235	
v/c Ratio	1.19	0.78	1.73	0.97	0.93	0.96	1.05	0.93	2.26	
Control Delay	164.7	37.9	358.3	24.3	56.0	35.7	137.7	61.1	618.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	164.7	37.9	358.3	24.3	56.0	35.7	137.7	61.1	618.9	
Queue Length 50th (ft)	~151	174	~157	211	95	225	~81	230	~219	
Queue Length 95th (ft)	#268	221	m37	m39	m95	m217	#191	#400	#357	
Internal Link Dist (ft)	390	295	551	697	250	812	225	450	104	
Turn Bay Length (ft)	100	183	812	116	696	169	812	124	450	
Base Capacity (vph)	0	0	0	0	0	0	0	0	0	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.19	0.78	1.73	0.97	0.93	0.96	1.05	0.93	2.26	
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.										

HCM Signalized Intersection Capacity Analysis

1: Broadway & Western Connector

5/23/2014

	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR	
Movement										
Lane Configurations	EB	EB	WB	WB	NB	NB	SB	SB	SB	
Volume (vph)	185	471	67	171	542	30	142	600	104	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	10	11	11	11	11	12	11	30
Total Lost time (s)	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0	
Lane Util. Factor	1.00	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	
Frpb, ped/bikes	1.00	0.96	1.00	0.98	1.00	0.98	1.00	0.98	1.00	
Flpb, ped/bikes	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Prt	1.00	0.98	1.00	0.99	1.00	0.98	1.00	0.95	1.00	
Flt Protected	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	1501	2924	1486	2984	1525	2924	1593	1621	852	
Flt Permitted	0.95	1.00	0.95	1.00	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	1501	2924	1486	2984	1525	2924	1593	1621	852	
Peak-Hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.89	0.89	
Adj. Flow (vph)	218	554	79	201	638	35	158	667	116	130
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	218	633	0	201	673	0	158	783	0	130
Confl. Peds. (#/hr)	412	321	321	412	192	192	88	88	192	25
Confl. Bikes (#/hr)	27	27	27	230	230	20	20	20	20	25
Heavy Vehicles (%)	1%	1%	1%	2%	2%	3%	3%	2%	2%	2%
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Prot	custom	custom
Protected Phases	5	2	1	6	3	8	7	4	5	
Permitted Phases	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0	
Actuated Green, G (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0	
Effective Green, g (s)	0.12	0.28	0.08	0.23	0.11	0.28	0.08	0.28	0.12	
Actuated g/C Ratio	8.0	5.0	8.0	5.0	5.0	5.0	8.0	5.0	8.0	
Clearance Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)	183	812	116	696	169	812	124	450	104	
Lane Grp Cap (vph)	0.15	0.22	c0.14	c0.23	c0.10	c0.27	0.08	0.26	c0.28	
v/s Ratio Prot	1.19	0.78	1.73	0.97	0.93	0.96	1.05	0.93	2.26	
v/s Ratio Perm	39.5	30.0	41.5	34.2	39.7	32.1	41.5	31.6	39.5	
Uniform Delay, d1	1.00	1.00	0.74	0.48	1.10	0.93	1.00	1.00	1.00	
Progression Factor	127.4	7.3	333.0	5.1	9.3	4.3	94.4	27.5	596.3	
Incremental Delay, d2	166.9	37.3	363.6	21.3	52.8	34.2	135.9	59.2	635.8	
Delay (s)	F	D	F	C	D	C	F	E	F	
Level of Service	E	E	F	F	D	D	F	E	F	
Approach Delay (s)	70.5	100.0	37.3	245.2	37.3	245.2	37.3	245.2	37.3	
Approach LOS	E	F	F	F	D	D	F	F	F	
Intersection Summary										
HCM Average Control Delay	108.6									
HCM Volume to Capacity ratio	1.23									
Actuated Cycle Length (s)	90.0									
Intersection Capacity Utilization	81.3%									
Analysis Period (min)	15									
c Critical Lane Group										

Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

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Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

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Lanes and Geometrics

2: Main Street & Galileo Way

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	11	11	10	10	10	10	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	250	120	0	250	0	250	0	0	0	0	75
Storage Lanes	1	1	1	1	1	1	1	1	1	1	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.77	0.96	0.88	0.94	0.94	0.94	0.90	0.90	0.92	0.92	0.84	0.84
Frt	0.977	0.977	0.974	0.974	0.974	0.974	0.955	0.955	0.950	0.950	0.850	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.955	0.955	0.950	0.950	0.850	0.850
Satd. Flow (prot)	1593	1575	0	1501	1503	0	0	2591	0	1501	1637	1343
Flt Permitted	0.629	0.488	0.488	0.488	0.488	0.488	0.771	0.771	0	0.288	0.288	0.288
Satd. Flow (perm)	812	1575	0	677	1503	0	0	1998	0	418	1637	1129
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	14	14	16	16	16	16	82	82	82	82	35	35
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30	30
Link Distance (ft)	1009	1009	483	483	483	483	810	810	810	777	777	777
Travel Time (s)	22.9	22.9	11.0	11.0	11.0	11.0	18.4	18.4	18.4	17.7	17.7	17.7
Intersection Summary												
Area Type: CBD												

Volume

2: Main Street & Galileo Way

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	394	275	51	69	144	31	62	388	193	35	305	268
Confl. Peds. (#/hr)	508	199	199	199	199	508	67	180	180	180	180	67
Confl. Bikes (#/hr)	26	26	26	26	26	26	26	26	26	26	26	26
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.89	0.89	0.89	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	443	309	57	81	169	36	70	436	217	42	367	323
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	443	366	0	81	205	0	0	723	0	42	367	323
Intersection Summary												

Timings

2. Main Street & Galileo Way

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	394	275	69	144	62	388	35	305	268
Volume (vph)									
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	3	3	3	3	3
Permitted Phases	1	1	1	1	3	3	3	3	3
Detector Phase	1	1	1	1	3	3	3	3	3
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	55.6%	55.6%	55.6%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	5.0	8.0	8.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.36	0.36	0.36	0.36	0.36
v/c Ratio	1.17	0.49	0.26	0.29	0.95	0.28	0.63	0.76	0.76
Control Delay	126.8	18.8	4.8	3.6	48.5	7.7	9.2	9.9	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.8	18.8	4.8	3.6	48.5	7.7	9.2	9.9	9.9
LOS	F	B	A	A	D	A	A	A	A
Approach Delay	77.9		3.9		48.5		9.4		
Approach LOS	E		A		D		A		
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 26 (29%), Referenced to phase 1:EBWB, Start of Green									
Natural Cycle: 90									
Control Type: Prelimed									
Maximum v/c Ratio: 1.17									
Intersection Signal Delay: 41.6									
Intersection Capacity Utilization 139.3%									
Analysis Period (min) 15									

Splits and Phases: 2. Main Street & Galileo Way



Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

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Phasings

2. Main Street & Galileo Way

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases									
Permitted Phases	1	1	1	1	3	3	3	3	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	55.6%	55.6%	55.6%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Maximum Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	24.0	24.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 26 (29%), Referenced to phase 1:EBWB, Start of Green									
Control Type: Prelimed									

Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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Queues

2: Main Street & Galileo Way

5/23/2014

	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR
Lane Group								
Lane Group Flow (vph)	443	366	81	205	723	42	367	323
v/c Ratio	1.17	0.49	0.26	0.29	0.95	0.28	0.63	0.76
Control Delay	126.8	18.8	4.8	3.6	48.5	7.7	9.2	9.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.8	18.8	4.8	3.6	48.5	7.7	9.2	9.9
Queue Length 50th (ft)	~303	133	9	21	188	6	79	58
Queue Length 95th (ft)	#478	209	m7	m12	#306	m6	m68	m47
Internal Link Dist (ft)	929		403	730			697	
Turn Bay Length (ft)		120						75
Base Capacity (vph)	379	742	316	710	763	149	582	424
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.17	0.49	0.26	0.29	0.95	0.28	0.63	0.76
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.								

HCM Signalized Intersection Capacity Analysis

2: Main Street & Galileo Way

5/23/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↱	↲	↰	↱	↲	↰	↱	↲	↰	↱	↲
Volume (vph)	394	275	51	69	144	31	62	388	193	35	305	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	10	10	10	10	11	10
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.96	1.00	1.00	0.94	1.00	0.91	1.00	1.00	0.84	1.00	0.84
Flpb, ped/bikes	0.77	1.00	1.00	0.88	1.00	1.00	1.00	1.00	0.92	1.00	1.00	1.00
Flt	1.00	0.98	1.00	0.97	1.00	1.00	0.95	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00
Satd. Flow (prot)	1227	1575	1318	1502	2578	1378	1637	1129	1378	1637	1129	1129
Flt Permitted	0.63	1.00	0.49	1.00	0.77	1.00	0.77	1.00	0.29	1.00	1.00	1.00
Satd. Flow (perm)	813	1575	678	1502	1998	418	1637	1129	1637	1129	1129	1129
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.85	0.89	0.89	0.89	0.83	0.83	0.83
Adj. Flow (vph)	443	309	57	81	169	36	70	436	217	42	367	323
RTOR Reduction (vph)	0	7	0	0	9	0	0	53	0	0	23	200
Lane Group Flow (vph)	443	359	0	81	196	0	0	670	0	42	367	323
Confl. Peds. (#/hr)	508	199	199	508	67	180	180	67	180	180	67	67
Confl. Bikes (#/hr)	26	26	26	65	65	49	49	26	49	26	26	26
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	1	3	3	3	3	3	3	3
Permitted Phases	1	1	1	1	1	3	3	3	3	3	3	3
Actuated Green, G (s)	42.0	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Effective Green, g (s)	42.0	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.47	0.36	0.36	0.36	0.36	0.36	0.36	0.36
Clearance Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Grp Cap (vph)	379	735	316	701	710	149	582	401	582	401	401	401
v/s Ratio Prot	0.23	0.12	0.13	0.12	0.13	0.34	0.10	0.22	0.10	0.22	0.22	0.22
v/s Ratio Perm	0.55	0.49	0.26	0.28	0.28	0.94	0.28	0.63	0.28	0.63	0.75	0.75
v/c Ratio	1.17	0.49	0.26	0.28	0.28	0.94	0.28	0.63	0.28	0.63	0.75	0.75
Uniform Delay, d1	24.0	16.6	14.5	14.7	14.7	28.1	20.8	24.1	20.8	24.1	25.5	25.5
Progression Factor	1.00	1.00	0.30	0.25	0.25	1.00	0.32	0.35	0.32	0.35	0.31	0.31
Incremental Delay, d2	100.8	2.3	0.2	0.1	0.1	22.5	0.4	0.5	0.4	0.5	1.2	1.2
Delay (s)	124.8	18.9	4.5	3.8	3.8	50.7	7.1	9.0	7.1	9.0	9.1	9.1
Level of Service	F	B	A	A	A	D	A	A	A	A	A	A
Approach Delay (s)	76.9	4.0	50.7	4.0	50.7	8.9	8.9	8.9	8.9	8.9	8.9	8.9
Approach LOS	E	A	D	A	D	A	A	A	A	A	A	A
Intersection Summary												
HCM Average Control Delay	41.8			HCM Level of Service			D					
HCM Volume to Capacity ratio	1.07											
Actuated Cycle Length (s)	90.0			Sum of lost time (s)			16.0					
Intersection Capacity Utilization	139.3%			ICU Level of Service			H					
Analysis Period (min)	15											
Critical Lane Group												

Lanes and Geometrics

3. Main Street & Ames Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	12	12	12	12	12	12	12	12	12	12	12	12
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. 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
Ped Bike Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Frt	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980
Flt Protected	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994
Satd. Flow (prot)	0	1331	0	0	1299	0	0	1429	0	0	1135	0
Flt Permitted	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927	0.927
Satd. Flow (perm)	0	1164	0	0	971	0	0	970	0	0	771	0
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	483	483	483	483	483	483	483	483	483	483	483	483
Travel Time (s)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Intersection Summary												
Area Type: CBD												

Volume

3. Main Street & Ames Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	65	364	73	26	58	58	59	200	21	71	104	125
Confl. Peds. (#/hr)	787	787	879	879	787	787	272	309	309	309	272	272
Confl. Bikes (#/hr)	45	45	45	45	45	45	45	45	45	45	45	45
Peak Hour Factor	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	69	387	78	33	74	74	66	222	23	86	125	151
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	534	0	0	181	0	0	311	0	0	362	0
Intersection Summary												

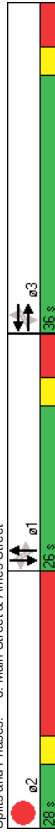
Timings

3. Main Street & Ames Street

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø2
Lane Configurations									
Volume (vph)	65	364	26	58	59	200	71	104	
Turn Type	Perm		Perm		Perm		Perm		
Protected Phases									
Permitted Phases	3	3	3	3	1	1	1	1	2
Detector Phase	3	3	3	3	1	1	1	1	
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	7.0
Minimum Split (s)	36.0	36.0	36.0	36.0	26.0	26.0	26.0	26.0	28.0
Total Split (s)	36.0	36.0	36.0	36.0	26.0	26.0	26.0	26.0	28.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	28.9%	28.9%	28.9%	28.9%	31%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	18.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-1.0	0.0	-1.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	7.0	8.0	7.0	8.0	
Lead/Lag					Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)		28.0		28.0		18.0		18.0	
Actuated g/C Ratio		0.31		0.31		0.20		0.20	
v/c Ratio		1.48		0.60		1.60		2.35	
Control Delay		249.2		36.0		322.4		644.2	
Queue Delay		0.0		0.0		0.0		0.0	
Total Delay		249.2		36.0		322.4		644.2	
LOS		F		D		F		F	
Approach Delay		249.2		36.0		322.4		644.2	
Approach LOS		F		D		F		F	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 33 (37%), Referenced to phase 3EBWB, Start of Green									
Natural Cycle: 150									
Control Type: Prelimed									
Maximum v/c Ratio: 2.35									
Intersection Signal Delay: 340.8									
Intersection Capacity Utilization 81.9%									
Analysis Period (min) 15									

Splits and Phases: 3. Main Street & Ames Street



Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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Phasings

3. Main Street & Ames Street

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	ø2
Protected Phases									
Permitted Phases	3	3	3	3	1	1	1	1	2
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	7.0
Minimum Split (s)	36.0	36.0	36.0	36.0	26.0	26.0	26.0	26.0	28.0
Total Split (s)	36.0	36.0	36.0	36.0	26.0	26.0	26.0	26.0	28.0
Total Split (%)	40.0%	40.0%	40.0%	40.0%	28.9%	28.9%	28.9%	28.9%	31%
Maximum Green (s)	28.0	28.0	28.0	28.0	18.0	18.0	18.0	18.0	7.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	18.0
Lead/Lag					Lag	Lag	Lag	Lag	Lead
Lead-Lag Optimize?					Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	9.0	9.0	9.0	9.0	4.0	4.0	4.0	4.0	
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	14.0	14.0	14.0	14.0	
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	
90th %ile Green (s)	28.0	28.0	28.0	28.0	18.0	18.0	18.0	18.0	7.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	
70th %ile Green (s)	28.0	28.0	28.0	28.0	18.0	18.0	18.0	18.0	7.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	
50th %ile Green (s)	28.0	28.0	28.0	28.0	18.0	18.0	18.0	18.0	7.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	
30th %ile Green (s)	28.0	28.0	28.0	28.0	18.0	18.0	18.0	18.0	7.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	
10th %ile Green (s)	28.0	28.0	28.0	28.0	18.0	18.0	18.0	18.0	7.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 33 (37%), Referenced to phase 3EBWB, Start of Green									
Control Type: Prelimed									

Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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Queues

3: Main Street & Ames Street

5/23/2014

	EBT	WBT	NBT	SBT
Lane Group				
Lane Group Flow (vph)	534	181	311	362
v/c Ratio	1.48	0.60	1.60	2.35
Control Delay	249.2	36.0	322.4	644.2
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	249.2	36.0	322.4	644.2
Queue Length 50th (ft)	~432	87	~256	~354
Queue Length 95th (ft)	m#556	131	#416	m#401
Internal Link Dist (ft)	403	410	456	202
Turn Bay Length (ft)				
Base Capacity (vph)	362	302	194	154
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	1.48	0.60	1.60	2.35
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.				

Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis

3: Main Street & Ames Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Movement												
Lane Configurations		◄◄		◄◄	◄◄			◄◄			◄◄	
Volume (vph)	65	364	73	26	58	58	200	21	71	104	125	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	12	12	12	12	12	12	12	12	12	12	12	
Total Lost time (s)	8.0							8.0				
Lane Util. Factor	1.00							1.00				
Frpb, ped/bikes	0.90							0.96				
Flpb, ped/bikes	0.94							0.96				
Frt	0.98							0.99				
Flt Protected	0.99							0.99				
Satd. Flow (prot)	1248							1366				
Flt Permitted	0.93							0.70				
Satd. Flow (perm)	1164							971				
Peak-hour factor, PHF	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90	0.83	0.83	
Adj. Flow (vph)	69	387	78	33	74	74	66	222	23	86	125	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	534	0	0	181	0	0	311	0	0	362	
Confl. Peds. (#/hr)	787		879	879	787	272		309	309	272		
Confl. Bikes (#/hr)		45			42			19				
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	
Parking (#/hr)	0							0				
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	
Protected Phases		3		3		3		1		1		
Permitted Phases	3			3			1			1		
Actuated Green, G (s)		28.0		28.0			18.0			18.0		
Effective Green, g (s)		28.0		28.0			18.0			18.0		
Actuated g/C Ratio		0.31		0.31			0.20			0.20		
Clearance Time (s)		8.0		8.0			8.0			8.0		
Lane Grp Cap (vph)		362		302			194			154		
v/s Ratio Prot		c0.46		0.19			0.32			c0.47		
v/s Ratio Perm		1.48		0.60			1.60			2.35		
Uniform Delay, d1		31.0		26.3			36.0			36.0		
Progression Factor		0.78		1.00			1.00			0.99		
Incremental Delay, d2		224.9		8.5			294.1			623.1		
Delay (s)		249.2		34.8			330.1			658.6		
Level of Service		F		C			F			F		
Approach Delay (s)		249.2		34.8			330.1			658.6		
Approach LOS		F		C			F			F		
Intersection Summary												
HCM Average Control Delay		346.1								F		
HCM Volume to Capacity ratio		1.82										
Actuated Cycle Length (s)		90.0								44.0		
Intersection Capacity Utilization		81.9%								D		
Analysis Period (min)		15										
c Critical Lane Group												

Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report
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Lanes and Geometrics

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↑↑	↑	↑	↑	↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	12	11	11	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	160		0	0	
Storage Lanes		0	1		1	0	
Taper Length (ft)		25	25		25	25	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.90		0.86		0.52		
Frt	0.976				0.914		
Flt Protected			0.950		0.982		
Satd. Flow (prot)	2643	0	1555	1637	835	0	
Flt Permitted			0.222		0.982		
Satd. Flow (perm)	2643	0	314	1637	785	0	
Right Turn on Red		No				Yes	
Satd. Flow (RTOR)					83		
Link Speed (mph)	30			30	30		
Link Distance (ft)	631			396	269		
Travel Time (s)	14.3			9.0	6.1		
Intersection Summary							
Area Type: CBD							

Volume

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Volume (vph)	582	110	127	583	164	289	
Confl. Peds. (#/hr)		392	392		85	443	
Confl. Bikes (#/hr)		16				10	
Peak Hour Factor	0.95	0.95	0.88	0.88	0.87	0.87	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)						0	
Mid-Block Traffic (%)	0%			0%	0%		
Adj. Flow (vph)	613	116	144	662	189	332	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	729	0	144	662	521	0	
Intersection Summary							

Timings

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL	ø3
Lane Configurations	↑↑	↑	↑	↑	
Volume (vph)	582	127	583	164	
Turn Type	pm+pt				
Protected Phases	1	2	1	4	3
Permitted Phases	1				
Detector Phase	1	2	1	4	
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	7.0
Minimum Split (s)	24.0	21.0	24.0	21.0	24.0
Total Split (s)	24.0	21.0	24.0	21.0	24.0
Total Split (%)	26.7%	23.3%	26.7%	23.3%	27%
Yellow Time (s)	3.0	2.0	3.0	2.0	3.0
All-Red Time (s)	3.0	5.0	3.0	5.0	14.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	
Total Lost Time (s)	6.0	7.0	6.0	7.0	
Lead/Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	18.0	31.0	18.0	14.0	
Actuated g/C Ratio	0.20	0.34	0.20	0.16	
v/c Ratio	1.38	0.48	2.02	2.60	
Control Delay	205.9	9.4	487.5	745.6	
Queue Delay	0.0	0.0	0.0	0.0	
Total Delay	205.9	9.4	487.5	745.6	
LOS	F	A	F	F	F
Approach Delay	205.9		402.1	745.6	
Approach LOS	F		F	F	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 60 (67%), Referenced to phase 1:EBWB, Start of Green					
Natural Cycle: 140					
Control Type: Prelimed					
Maximum v/c Ratio: 2.60					
Intersection Signal Delay: 419.6					
Intersection Capacity Utilization 83.7%					
Analysis Period (min) 15					
Intersection LOS: F					
ICU Level of Service E					

Splits and Phases: 4: Broadway east & Ames Street



Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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Phasings

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL	ø3
Protected Phases	1	2	1	4	3
Permitted Phases	1				
Minimum Initial (s)	4.0	4.0	4.0	4.0	7.0
Minimum Split (s)	24.0	21.0	24.0	21.0	24.0
Total Split (s)	24.0	21.0	24.0	21.0	24.0
Total Split (%)	26.7%	23.3%	26.7%	23.3%	27%
Maximum Green (s)	18.0	14.0	18.0	14.0	7.0
Yellow Time (s)	3.0	2.0	3.0	2.0	3.0
All-Red Time (s)	3.0	5.0	3.0	5.0	14.0
Lead/Lag	Lag	Lead	Lag	Lead	Lag
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	2.0	2.0	2.0	2.0	
Flash Dont Walk (s)	16.0	12.0	16.0	12.0	
Pedestrian Calls (#/hr)	0	0	0	0	
90th %ile Green (s)	18.0	14.0	18.0	14.0	7.0
90th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
70th %ile Green (s)	18.0	14.0	18.0	14.0	7.0
70th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
50th %ile Green (s)	18.0	14.0	18.0	14.0	7.0
50th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
30th %ile Green (s)	18.0	14.0	18.0	14.0	7.0
30th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
10th %ile Green (s)	18.0	14.0	18.0	14.0	7.0
10th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 60 (67%), Referenced to phase 1:EBWB, Start of Green					
Control Type: Prelimed					

Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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Queues

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL
Lane Group Flow (vph)	729	144	662	521
v/c Ratio	1.38	0.48	2.02	2.60
Control Delay	205.9	9.4	487.5	745.6
Queue Delay	0.0	0.0	0.0	0.0
Total Delay	205.9	9.4	487.5	745.6
Queue Length 50th (ft)	~300	33	~618	~478
Queue Length 95th (ft)	m#380	m35	m#725	m#424
Internal Link Dist (ft)	551		316	189
Turn Bay Length (ft)		160		
Base Capacity (vph)	529	301	327	200
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	1.38	0.48	2.02	2.60
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.				
Volume for 95th percentile queue is metered by upstream signal.				

HCM Signalized Intersection Capacity Analysis

4: Broadway east & Ames Street

5/23/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↓	↑	↑	↑
Volume (vph)	582	110	127	583	164	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width	10	12	11	11	12	12
Total Lost time (s)	6.0	7.0	6.0	7.0		
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	0.90	1.00	1.00	1.00	0.55	
Flpb, ped/bikes	1.00	0.98	1.00	1.00	1.00	
Frt	0.98	1.00	1.00	0.91		
Flt Protected	1.00	0.95	1.00	0.98		
Satd. Flow (prot)	2643	1517	1637	835		
Flt Permitted	1.00	0.22	1.00	0.98		
Satd. Flow (perm)	2643	355	1637	835		
Peak-hour factor, PHF	0.95	0.95	0.88	0.87	0.87	
Adj. Flow (vph)	613	116	144	662	189	332
RTOR Reduction (vph)	0	0	0	0	70	0
Lane Group Flow (vph)	729	0	144	662	451	0
Confl. Peds. (#/hr)	392	392		85	443	
Confl. Bikes (#/hr)	16				10	
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%
Parking (#/hr)					0	
Turn Type	pm+pt					
Protected Phases	1	2	1	4		
Permitted Phases	1					
Actuated Green, G (s)	18.0	32.0	18.0	14.0		
Effective Green, g (s)	18.0	32.0	18.0	14.0		
Actuated g/C Ratio	0.20	0.36	0.20	0.16		
Clearance Time (s)	6.0	7.0	6.0	7.0		
Lane Grp Cap (vph)	529	307	327	130		
v/s Ratio Prot	0.28	c0.07	c0.40	c0.54		
v/s Ratio Perm		0.09				
v/c Ratio	1.38	0.47	2.02	3.47		
Uniform Delay, d1	36.0	21.8	36.0	38.0		
Progression Factor	0.94	0.37	0.69	1.48		
Incremental Delay, d2	176.1	2.6	466.5	1116.6		
Delay (s)	209.9	10.6	491.2	1173.0		
Level of Service	F	B	F	F		
Approach Delay (s)	209.9		405.4	1173.0		
Approach LOS	F		F	F		
Intersection Summary						
HCM Average Control Delay		530.6			HCM Level of Service	F
HCM Volume to Capacity ratio		1.99				
Actuated Cycle Length (s)		90.0			Sum of lost time (s)	44.0
Intersection Capacity Utilization		83.7%			ICU Level of Service	E
Analysis Period (min)		15				
c Critical Lane Group						

Lanes and Geometrics

5: Broadway east & Third Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	12	11	11	12	12	12	10	10	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	340	125	0	0	0	0	0	0	0	0	0	160
Storage Lanes	1	1	0	0	0	0	0	0	0	0	0	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Frt	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980
Frt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1501	2857	0	0	2659	0	0	0	0	0	0	1343
FRT Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1501	2857	0	0	2659	0	0	0	0	0	0	1343
Right Turn on Red	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Satd. Flow (RTOR)	21	21	21	21	21	21	21	21	21	21	21	21
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30	30
Link Distance (ft)	581	581	581	581	581	581	581	581	581	581	581	581
Travel Time (s)	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
Intersection Summary												
Area Type: CBD												

Volume

5: Broadway east & Third Street

5/23/2014

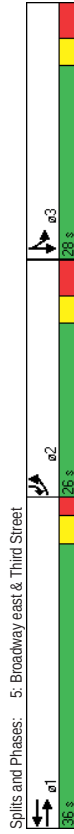
	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	325	566	87	36	36	123	207	0	0	454	44	223
Confl. Peds. (#/hr)	36	36	36	36	36	36	36	36	36	36	36	36
Confl. Bikes (#/hr)	20	20	20	20	20	20	20	20	20	20	20	20
Peak Hour Factor	0.95	0.95	0.95	0.87	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	342	596	92	0	566	238	0	0	0	483	48	242
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	342	688	0	0	804	0	0	0	0	0	541	242
Intersection Summary												

Timings

5: Broadway east & Third Street

5/23/2014

Lane Group	EBL	EBT	WBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔
Volume (vph)	325	566	492	44	223
Turn Type	Prot			Over	
Protected Phases	2	1	1	3	2
Permitted Phases					
Detector Phase	2	1	1	3	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	23.0	35.0	35.0	27.0	23.0
Total Split (s)	26.0	36.0	36.0	28.0	26.0
Total Split (%)	28.9%	40.0%	40.0%	31.1%	28.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	5.0	5.0	7.0	7.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	19.0	31.0	31.0	21.0	19.0
Actuated g/C Ratio	0.21	0.34	0.34	0.23	0.21
v/c Ratio	1.08	0.69	0.88	1.53	0.85
Control Delay	79.6	10.9	40.4	281.8	62.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	10.9	40.4	281.8	62.4
LOS	E	B	D	F	E
Approach Delay		33.7	40.4	214.0	
Approach LOS		C	D	F	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green					
Natural Cycle: 115					
Control Type: Prelimed					
Maximum v/c Ratio: 1.53					
Intersection Signal Delay: 89.7					
Intersection Capacity Utilization 90.8%					
Analysis Period (min) 15					



Phasings

5: Broadway east & Third Street

5/23/2014

Lane Group	EBL	EBT	WBT	SBT	SBR
Protected Phases	2	1	1	3	2
Permitted Phases					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	23.0	35.0	35.0	27.0	23.0
Total Split (s)	26.0	36.0	36.0	28.0	26.0
Total Split (%)	28.9%	40.0%	40.0%	31.1%	28.9%
Maximum Green (s)	19.0	31.0	31.0	21.0	19.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	3.0	15.0	15.0	7.0	3.0
Flash Dont Walk (s)	12.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
90th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
70th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
70th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
50th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
50th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
30th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
30th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
10th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
10th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green					
Control Type: Prelimed					

Queues

5: Broadway east & Third Street

5/23/2014



Lane Group	EBL	EBT	WBT	SBT	SBR
Lane Group Flow (vph)	342	688	804	541	242
v/c Ratio	1.08	0.69	0.88	1.53	0.85
Control Delay	79.6	10.9	40.4	281.8	62.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	79.6	10.9	40.4	281.8	62.4
Queue Length 50th (ft)	~227	167	223	~436	133
Queue Length 95th (ft)	m152	m64	#313	#632	#266
Internal Link Dist (ft)	501	313	1132		
Turn Bay Length (ft)	340				160
Base Capacity (vph)	317	998	916	353	284
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	1.08	0.69	0.88	1.53	0.85
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.					

Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report
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HCM Signalized Intersection Capacity Analysis

5: Broadway east & Third Street

5/23/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↰	↰	↰	↰	↰	↰					↰	↰
Volume (vph)	325	566	87	0	492	207	0	0	0	454	44	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	10	10	10
Total Lost time (s)	7.0	5.0			5.0						7.0	7.0
Lane Util. Factor	1.00	0.95			0.95						1.00	1.00
Frpb, ped/bikes	1.00	0.99			0.89						1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00						1.00	1.00
Prt	1.00	0.98			0.96						1.00	0.85
Flt Protected	0.95	1.00			1.00						0.96	1.00
Satd. Flow (prot)	1501	2857			2658						1511	1343
Flt Permitted	0.95	1.00			1.00						0.96	1.00
Satd. Flow (perm)	1501	2857			2658						1511	1343
Peak-Hour factor, PHF	0.95	0.95	0.95	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	342	596	92	0	566	238	0	0	0	493	48	242
RTOR Reduction (vph)	0	14	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	342	674	0	0	804	0	0	0	0	0	541	242
Confl. Peds. (#/hr)		36	36		123							
Confl. Bikes (#/hr)		20			159							
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Parking (#/hr)		0										
Turn Type	Prot	1			1					Split		Over
Protected Phases	2	1								3		2
Permitted Phases												
Actuated Green, G (s)	19.0	31.0			31.0						21.0	19.0
Effective Green, g (s)	19.0	31.0			31.0						21.0	19.0
Actuated g/C Ratio	0.21	0.34			0.34						0.23	0.21
Clearance Time (s)	7.0	5.0			5.0						7.0	7.0
Lane Grp Cap (vph)	317	984			916						353	284
v/s Ratio Prot	c0.23	0.24			c0.30						c0.36	0.18
v/s Ratio Perm												
v/c Ratio	1.08	0.69			0.88						1.53	0.85
Uniform Delay, d1	35.5	25.3			27.7						34.5	34.1
Progression Factor	1.07	0.42			1.00						1.00	1.00
Incremental Delay, d2	41.5	0.4			11.6						253.5	26.2
Delay (s)	79.5	11.1			39.4						288.0	60.4
Level of Service	E	B			D						F	E
Approach Delay (s)		33.8			39.4			0.0			217.7	
Approach LOS		C			D			A			F	
Intersection Summary												
HCM Average Control Delay			90.5								F	
HCM Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			90.0								19.0	
Intersection Capacity Utilization			90.8%								E	
Analysis Period (min)			15									
c Critical Lane Group												

Future Condition - Cycle Track 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report
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Lanes and Geometrics

6: Ames Street & 5/23/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		P			P
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	11	11	11	11
Grade (%)	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	0	0	0
Storage Lanes	1	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.929					
Flt Protected	0.977					
Satd. Flow (prot)	1552	0	1621	0	0	1637
Flt Permitted	0.977					
Satd. Flow (perm)	1552	0	1621	0	0	1637
Link Speed (mph)	30		30			30
Link Distance (ft)	239		282			269
Travel Time (s)	5.4		6.4			6.1
Intersection Summary						
Area Type: CBD						

Volume

6: Ames Street & 5/23/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	41	45	323	0	0	249
Confl. Peds. (#/hr)	320	330	275	275	275	
Confl. Bikes (#/hr)				41		
Peak Hour Factor	0.73	0.73	0.87	0.87	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	0%	0%	2%	2%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	56	62	371	0	0	300
Shared Lane Traffic (%)						
Lane Group Flow (vph)	118	0	371	0	0	300
Intersection Summary						

HCM Unsignalized Intersection Capacity Analysis

6: Ames Street & 5/23/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		P			4
Volume (veh/h)	41	45	323	0	0	249
Sign Control	Stop		Free			Free
Grade (%)	0%		0%			0%
Peak Hour Factor	0.73	0.73	0.87	0.87	0.83	0.83
Hourly flow rate (vph)	56	62	371	0	0	300
Pedestrians	275		320			330
Lane Width (ft)	12.0		11.0			11.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	23		24			25
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			282			269
pX platoon unblocked	0.87	0.87			0.87	
vC conflicting volume	1266	976			646	
VC1 stage 1 conf vol						
VC2 stage 2 conf vol						
vCu, unblocked vol	1230	896			516	
IC single (s)	6.4	6.2			4.1	
IC 2 stage (s)						
IF (s)	3.5	3.3			2.2	
pO queue free %	44	64			100	
cM capacity (veh/h)	100	171			705	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	118	371	300			
Volume Left	56	0	0			
Volume Right	62	0	0			
cSH	128	1700	705			
Volume to Capacity	0.92	0.22	0.00			
Queue Length 95th (ft)	151	0	0			
Control Delay (s)	125.4	0.0	0.0			
Lane LOS	F					
Approach Delay (s)	125.4	0.0	0.0			
Approach LOS	F					

Intersection Summary

Average Delay	18.7
Intersection Capacity Utilization	38.9%
Analysis Period (min)	15
ICU Level of Service	A

Lanes and Geometrics

7: Broadway east & 5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	P		P			4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)		0	40		0	0
Storage Lanes		0	1		0	1
Taper Length (ft)		25	25		25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.994		0.950		0.865	
Frt Protected						
Satd. Flow (prot)	1683	0	1608	1693	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1683	0	1608	1693	0	1479
Link Speed (mph)	30		30	30	30	
Link Distance (ft)	396		581	146		
Travel Time (s)	9.0		13.2	3.3		
Intersection Summary						
Area Type:	CBD					

Volume

7: Broadway east &

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	830	40	26	690	0	140
Confl. Peds. (#/hr)		358	358			215
Confl. Bikes (#/hr)	22					
Peak Hour Factor	0.95	0.95	0.88	0.88	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	874	42	30	784	0	167
Shared Lane Traffic (%)						
Lane Group Flow (vph)	916	0	30	784	0	167
Intersection Summary						



HCM Unsignalized Intersection Capacity Analysis

7: Broadway east &

5/23/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Volume (veh/h)	830	40	26	690	0	140
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.95	0.95	0.88	0.88	0.84	0.84
Hourly flow rate (vph)	874	42	30	784	0	167
Pedestrians					215	358
Lane Width (ft)					12.0	12.0
Walking Speed (ft/s)					4.0	4.0
Percent Blockage					18	30
Right turn flare (veh)						
Median type	None	None	None	None	None	None
Median storage (veh)						
Upstream signal (ft)	396				581	
pX, platoon unblocked			0.78		0.81	0.78
IC, conflicting volume			1274		2096	1468
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
VCu, unblocked vol			1210		1624	1459
IC, single (s)			4.1		6.4	6.2
IC, 2 stage (s)						
IF (s)			2.2		3.5	3.3
p0 queue free %			91		100	0
CM capacity (veh/h)			317		59	72
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	916	30	784	167		
Volume Left	0	30	0	0		
Volume Right	42	0	0	167		
cSH	1700	317	1700	72		
Volume to Capacity	0.54	0.09	0.46	2.31		
Queue Length 95th (ft)	0	8	0	395		
Control Delay (s)	0.0	17.5	0.0	723.3		
Lane LOS		C		F		
Approach Delay (s)	0.0	0.6		723.3		
Approach LOS		F		F		

Intersection Summary						
Average Delay			63.9			
Intersection Capacity Utilization			75.9%		ICU Level of Service	D
Analysis Period (min)			15			

2019 Future Condition
With Buffered Bike Lanes

Lanes and Geometrics

1. Broadway & Western Connector

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	10	10	11	10	11	11	11	12	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	100	0	295	0	295	0	250	0	225	0	225	0
Storage Lanes	1	0	1	0	1	0	1	0	1	0	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.85	0.96	0.87	0.98	0.98	0.87	0.98	0.98	0.96	0.96	0.96	0.64
Frt	0.981	0.981	0.992	0.992	0.992	0.992	0.978	0.978	0.950	0.950	0.950	0.850
Flt Protected	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (prot)	1501	2923	0	1486	2982	0	1525	2924	0	1583	1621	1330
Flt Permitted	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950	0.950
Satd. Flow (perm)	1283	2923	0	1290	2982	0	1323	2924	0	1535	1621	852
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	25	25	25	30	30	30	30	30	30	30	30	30
Link Speed (mph)	470	470	470	631	631	631	777	777	777	777	777	719
Travel Time (s)	12.8	12.8	12.8	14.3	14.3	14.3	17.7	17.7	17.7	17.7	17.7	16.3
Intersection Summary												
Area Type: CBD												

Volume

1. Broadway & Western Connector

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	185	471	67	171	542	30	142	600	104	116	371	209
Confl. Peds. (#/hr)	412	321	321	412	192	88	88	88	88	88	88	192
Confl. Bikes (#/hr)	27	27	27	230	230	230	230	230	230	230	230	230
Peak Hour Factor	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	218	554	79	201	638	35	158	667	116	130	417	235
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	218	633	0	201	673	0	158	783	0	130	417	235
Intersection Summary												

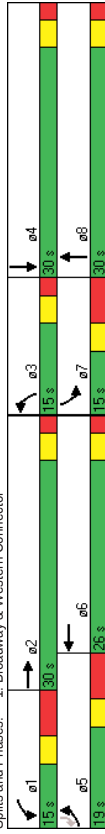
Timings

1: Broadway & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	4	4	4	4	4	4	4	4	4
Volume (vph)	185	471	171	542	142	600	116	371	209
Turn Type	Prot	Prot	Prot	Prot	Prot	Prot	Prot	Custom	Custom
Protected Phases	5	2	1	6	3	8	7	4	5
Detector Phase	5	2	1	6	3	8	7	4	5
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	12.0	27.0	12.0	22.0	9.0	27.0	12.0	27.0	12.0
Total Split (s)	19.0	30.0	15.0	26.0	15.0	30.0	15.0	30.0	19.0
Total Split (%)	21.1%	33.3%	16.7%	28.9%	16.7%	33.3%	16.7%	33.3%	21.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	5.0	2.0	5.0	2.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	5.0	8.0	5.0	5.0	8.0	5.0	8.0	5.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Act Effct Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	11.0	29.0	11.0
Actuated g/C Ratio	0.12	0.28	0.08	0.23	0.11	0.28	0.12	0.32	0.12
v/c Ratio	1.19	0.78	1.73	0.97	0.93	0.96	0.67	0.80	2.26
Control Delay	164.7	37.9	355.9	47.0	56.6	35.0	55.8	41.2	618.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	164.7	37.9	355.9	47.0	56.6	35.0	55.8	41.2	618.9
LOS	F	D	F	D	E	C	E	D	F
Approach Delay	70.4			118.1			38.6		217.2
Approach LOS	E			F			D		F
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 11 (12%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Natural Cycle: 120									
Control Type: Actuated-Coordinated									
Maximum v/c Ratio: 2.26									
Intersection Signal Delay: 107.1									
Intersection Capacity Utilization 78.4%									
Analysis Period (min) 15									

Splits and Phases: 1: Broadway & Western Connector



Future Condition - All Layout 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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Phasings

1: Broadway & Western Connector

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases	5	2	1	6	3	8	7	4	5
Permitted Phases	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Initial (s)	12.0	27.0	12.0	22.0	9.0	27.0	12.0	27.0	12.0
Minimum Split (s)	19.0	30.0	15.0	26.0	15.0	30.0	15.0	30.0	19.0
Total Split (%)	21.1%	33.3%	16.7%	28.9%	16.7%	33.3%	16.7%	33.3%	21.1%
Maximum Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	2.0	5.0	2.0	2.0	5.0	2.0	5.0	2.0
Lead/Lag	Lead	Lag	Lag	Lead	Lag	Lag	Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	None	C-Max	None	C-Max	None	C-Max	None	C-Max	None
Walk Time (s)	7.0			7.0			7.0		10.0
Flash Dont Walk (s)	15.0			10.0			15.0		12.0
Pedestrian Calls (#/hr)	0			0			0		0
90th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
90th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
70th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
70th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
50th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
50th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
30th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
30th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
10th %ile Green (s)	11.0	25.0	7.0	21.0	10.0	25.0	7.0	25.0	11.0
10th %ile Term Code	Max	Coord	Max	Coord	Max	Coord	Max	Coord	Max
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 11 (12%), Referenced to phase 2EBT and 6.WBT, Start of Green									
Control Type: Actuated-Coordinated									

Future Condition - All Layout 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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1: Broadway & Western Connector

[illegible]

HCM Signalized Intersection Capacity Analysis

1: Broadway & Western Connector

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SEB	
Lane Configurations	↖	↗	↘	↖	↗	↘	↖	↗	↘	↖	↗	↘	
Volume (vph)	185	471	67	171	542	30	142	600	104	116	371	209	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Lane Width	10	11	10	10	11	10	11	11	11	12	11	10	
Total Lost time (s)	8.0	5.0		8.0	5.0		5.0	5.0	4.0	1.0	8.0		
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95	1.00	1.00	1.00		
Frpb, ped/bikes	1.00	0.96		1.00	0.98		1.00	0.98	1.00	1.00	0.64		
Flpb, ped/bikes	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00		
Frt	1.00	0.98		1.00	0.99		1.00	0.98	1.00	1.00	0.85		
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00	0.95	1.00	1.00		
Satd. Flow (prot)	1501	2924		1486	2982		1525	2924	1593	1621	852		
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00	0.95	1.00	1.00		
Satd. Flow (perm)	1501	2924		1486	2982		1525	2924	1593	1621	852		
Peak-hour factor, PHF	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.89	0.89		
Adj. Flow (vph)	218	554	79	201	638	35	158	667	116	130	417	235	
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0	
Lane Group Flow (vph)	218	633	0	201	673	0	158	783	0	130	417	235	
Conf. Peds. (#/hr)	412		321	321		412	192		88	88	192	25	
Conf. Bikes (#/hr)			27			230			20		25	20	
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	3%	3%	3%	2%	2%	2%	
Turn Type	Prot	5	2	Prot	1	6	Prot	3	8	7	4	custom	
Protected Phases												5	
Permitted Phases													
Actuated Green, G (s)	11.0	25.0		7.0	21.0		10.0	25.0	7.0	25.0	11.0		
Effective Green, g (s)	11.0	25.0		7.0	21.0		10.0	25.0	11.0	29.0	11.0		
Actuated g/C Ratio	0.12	0.28		0.08	0.23		0.11	0.28	0.12	0.32	0.12		
Clearance Time (s)	8.0	5.0		8.0	5.0		5.0	5.0	8.0	5.0	8.0		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0	3.0	3.0	3.0		
Lane Grp Cap (vph)	183	812		116	686		169	812	195	522	104		
v/s Ratio Prot	0.15	c0.22		0.14	c0.23		c0.10	c0.27	0.08	0.26	c0.28		
v/s Ratio Perm													
vic Ratio	1.19	0.78		1.73	0.97		0.93	0.96	0.67	0.80	2.26		
Uniform Delay, d1	39.5	30.0		41.5	34.2		39.7	32.1	37.7	27.8	39.5		
Progression Factor	1.00	1.00		0.55	1.20		1.12	0.91	1.00	1.00	1.00		
Incremental Delay, d2	127.4	7.3		333.0	5.1		9.3	4.3	8.3	12.1	596.3		
Delay (s)	166.9	37.3		355.8	46.2		53.5	33.4	46.1	39.9	635.8		
Level of Service	F	D		F	D		D	C	D	D	F		
Approach Delay (s)		70.5			117.4			36.7		220.0			
Approach LOS		E			F			D		F			
Intersection Summary													
HCM Average Control Delay		107.1		HCM Level of Service									F
HCM Volume to Capacity ratio		1.29											
Actuated Cycle Length (s)		90.0		Sum of lost time (s)									28.0
Intersection Capacity Utilization		78.4%		ICU Level of Service									D
Analysis Period (min)		15											
Critical Lane Group													

Lanes and Geometrics

2: Main Street & Galileo Way

5/23/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	10	11	11	10	10	10	10	11	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	250	120	1	1	0	250	0	0	0	0	75
Storage Lanes	1	1	1	1	1	0	1	0	0	0	1	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95	1.00	1.00	1.00
Ped Bike Factor	0.77	0.96	0.88	0.94	0.94	0.94	0.90	0.90	0.92	0.92	0.84	0.84
Frt	0.950	0.977	0.974	0.974	0.974	0.974	0.955	0.955	0.950	0.950	0.850	0.850
Flt Protected	1593	1575	0	1501	1503	0	0	2591	0	1501	1637	1343
Satd. Flow (prot)	0.629	0.488	0.488	0.771	0.771	0.771	0.771	0.771	0.288	0.288	1129	1129
Flt Permitted	812	1575	0	677	1503	0	0	1998	0	418	1637	1129
Satd. Flow (perm)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Right Turn on Red	14	16	16	82	82	82	82	82	82	82	35	35
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	1009	483	483	810	810	810	810	810	810	810	777	777
Link Distance (ft)	22.9	11.0	11.0	18.4	18.4	18.4	18.4	18.4	18.4	18.4	17.7	17.7
Travel Time (s)												
Intersection Summary												
Area Type:	CBD											

Volume

2: Main Street & Galileo Way

5/23/2014

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	394	275	51	69	144	31	62	388	193	35	305	268
Confl. Peds. (#/hr)	508	199	199	199	508	67	67	180	180	180	67	67
Confl. Bikes (#/hr)	26	26	26	26	26	26	26	26	26	26	26	26
Peak Hour Factor	0.89	0.89	0.89	0.85	0.85	0.85	0.89	0.89	0.89	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	443	309	57	81	169	36	70	436	217	42	367	323
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	443	366	0	81	205	0	0	723	0	42	367	323
Intersection Summary												

Timings

2. Main Street & Galileo Way

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations	394	275	69	144	62	388	35	305	268
Volume (vph)									
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1	1	1	1	3	3	3	3	3
Permitted Phases	1	1	1	1	3	3	3	3	3
Detector Phase	1	1	1	1	3	3	3	3	3
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	55.6%	55.6%	55.6%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-3.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
Actuated g/C Ratio	0.47	0.47	0.47	0.47	0.36	0.36	0.36	0.36	0.36
v/c Ratio	1.17	0.49	0.26	0.29	0.95	0.28	0.63	0.76	0.76
Control Delay	126.8	18.8	27.6	24.1	48.5	32.7	36.8	37.5	37.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	126.8	18.8	27.6	24.1	48.5	32.7	36.8	37.5	37.5
LOS	F	B	C	C	D	C	D	D	D
Approach Delay	77.9		25.1		48.5		36.9		
Approach LOS	E		C		D		D		
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 1:EBWB, Start of Green									
Natural Cycle: 90									
Control Type: Prelimed									
Maximum v/c Ratio: 1.17									
Intersection Signal Delay: 51.9									
Intersection Capacity Utilization 139.3%									
Analysis Period (min) 15									

Splits and Phases: 2. Main Street & Galileo Way



Future Condition - Alt Layout 5:00 pm 4/24/2014 PM Peak Hour

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Phasings

2. Main Street & Galileo Way

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases									
Permitted Phases	1	1	1	1	3	3	3	3	3
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (s)	50.0	50.0	50.0	50.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	55.6%	55.6%	55.6%	55.6%	44.4%	44.4%	44.4%	44.4%	44.4%
Maximum Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	24.0	24.0	24.0	24.0	15.0	15.0	15.0	15.0	15.0
Flash Dont Walk (s)	18.0	18.0	18.0	18.0	17.0	17.0	17.0	17.0	17.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	42.0	42.0	42.0	42.0	32.0	32.0	32.0	32.0	32.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 69 (77%), Referenced to phase 1:EBWB, Start of Green									
Control Type: Prelimed									

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Queues

2: Main Street & Galileo Way

5/23/2014

	EBL	EBT	WBL	WBT	NBT	SBL	SBT	SBR	
Lane Group									
Lane Group Flow (vph)	443	366	81	205	723	42	367	323	
v/c Ratio	1.17	0.49	0.26	0.29	0.95	0.28	0.63	0.76	
Control Delay	126.8	18.8	27.6	24.1	48.5	32.7	36.8	37.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	126.8	18.8	27.6	24.1	48.5	32.7	36.8	37.5	
Queue Length 50th (ft)	~303	133	35	82	188	24	225	168	
Queue Length 95th (ft)	#478	209	m57	m130	#306	m26	m237	m182	
Internal Link Dist (ft)	929			403	730		697		
Turn Bay Length (ft)		120						75	
Base Capacity (vph)	379	742	316	710	763	149	582	424	
Starvation Cap Reductn	0	0	0	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	0	0	0	
Reduced v/c Ratio	1.17	0.49	0.26	0.29	0.95	0.28	0.63	0.76	
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.									

Future Condition - Alt Layout 5:00 pm 4/24/2014 PM Peak Hour

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HCM Signalized Intersection Capacity Analysis

2: Main Street & Galileo Way

5/23/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	394	275	51	69	144	31	62	388	193	35	305	268
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	10	11	11	10	10	10	10	11	10
Total Lost time (s)	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00
Frpb, ped/bikes	1.00	0.96	1.00	1.00	0.94	1.00	0.91	1.00	1.00	0.92	1.00	0.84
Flpb, ped/bikes	0.77	1.00	0.88	1.00	0.88	1.00	1.00	0.92	1.00	1.00	0.92	1.00
Frt	1.00	0.98	1.00	1.00	0.97	1.00	0.95	1.00	1.00	0.95	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	1.00	0.95	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1227	1575	1318	1502	1502	2578	1378	1637	1129	1378	1637	1129
Flt Permitted	0.63	1.00	0.49	1.00	1.00	0.77	0.29	1.00	1.00	0.29	1.00	1.00
Satd. Flow (perm)	813	1575	678	1502	1502	1998	418	1637	1129	418	1637	1129
Peak-hour factor, PHF	0.89	0.89	0.89	0.85	0.85	0.85	0.89	0.89	0.89	0.83	0.83	0.83
Adj. Flow (vph)	443	309	57	81	169	36	70	436	217	42	367	323
RTOR Reduction (vph)	0	7	0	0	9	0	53	0	0	0	23	30
Lane Group Flow (vph)	443	359	0	81	196	0	670	0	42	367	300	367
Confl. Peds. (#/hr)	508	199	199	508	67	180	180	67	180	180	67	67
Confl. Bikes (#/hr)	26			65		49			49		50	50
Heavy Vehicles (%)	2%	2%	2%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases	1			1	1		3	3		3		3
Permitted Phases	1			1			3			3		3
Actuated Green, G (s)	42.0	42.0		42.0	42.0		32.0	32.0		32.0		32.0
Effective Green, g (s)	42.0	42.0		42.0	42.0		32.0	32.0		32.0		32.0
Actuated g/C Ratio	0.47	0.47		0.47	0.47		0.36	0.36		0.36		0.36
Clearance Time (s)	8.0	8.0		8.0	8.0		8.0	8.0		8.0		8.0
Lane Grp Cap (vph)	379	735		316	701		710	710		149		582
v/s Ratio Prot	c0.55	0.23		0.12	0.13					0.22		
v/s Ratio Perm	1.17	0.49		0.26	0.28		0.94	0.94		0.28		0.75
v/c Ratio	1.17	0.49		0.26	0.28		0.94	0.94		0.28		0.75
Uniform Delay, d1	24.0	16.6		14.5	14.7		28.1	28.1		20.8		25.5
Progression Factor	1.00	1.00		1.70	1.68		1.00	1.00		1.44		1.53
Incremental Delay, d2	100.8	2.3		1.5	0.8		22.5	22.5		0.4		1.2
Delay (s)	124.8	18.9		26.2	25.5		50.7	50.7		30.3		40.2
Level of Service	F	B		C	C		D	D		C		D
Approach Delay (s)	76.9			25.7			50.7			37.4		
Approach LOS	E			C			D			D		
Intersection Summary												
HCM Average Control Delay	52.4				HCM Level of Service				D			
HCM Volume to Capacity ratio	1.07											
Actuated Cycle Length (s)	90.0				Sum of lost time (s)				16.0			
Intersection Capacity Utilization	139.3%				ICU Level of Service				H			
Analysis Period (min)	15											
Critical Lane Group												

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Lanes and Geometrics

3. Main Street & Ames Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Ideal Flow (vphpl)	12	12	12	12	12	12	12	12	12	12	12	12
Lane Width (ft)	12	12	12	12	12	12	12	12	12	12	12	12
Grade (%)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Length (ft)	0	0	0	0	0	0	0	0	0	0	0	0
Storage Lanes	0	0	0	0	0	0	0	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. 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
Ped Bike Factor	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84	0.84
Frt	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980	0.980
Flt Protected	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994	0.994
Satd. Flow (prot)	0	1338	0	0	1321	0	0	1432	0	0	1549	1439
Flt Permitted	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.930	0.930
Satd. Flow (perm)	0	1173	0	0	1087	0	0	1157	0	0	964	669
Right Turn on Red	No	No	No	No	No	No	No	No	No	No	No	No
Satd. Flow (RTOR)	30	30	30	30	30	30	30	30	30	30	30	30
Link Speed (mph)	483	483	483	483	483	483	483	483	483	483	483	483
Link Distance (ft)	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0
Travel Time (s)												
Intersection Summary												
Area Type: CBD												

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Volume

3. Main Street & Ames Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	65	364	73	26	58	58	59	200	21	71	104	125
Confl. Peds. (#/hr)	787	879	879	879	879	879	879	879	309	309	309	272
Confl. Bikes (#/hr)	45	45	45	45	45	45	45	45	19	19	19	6
Peak Hour Factor	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90	0.83	0.83	0.83
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	69	387	78	33	74	74	66	222	23	86	125	151
Shared Lane Traffic (%)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	534	0	0	181	0	0	311	0	0	211	151
Intersection Summary												

Future Condition - Alt Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report
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Timings

3: Main Street & Ames Street

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Lane Configurations									
Volume (vph)	65	364	26	58	59	200	71	104	125
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases									
Permitted Phases	3	3	3	3	1	1	1	1	1
Detector Phase	3	3	3	3	1	1	1	1	1
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	39.0	39.0	28.0	28.0	28.0	28.0	28.0
Total Split (s)	53.0	53.0	53.0	53.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	58.9%	58.9%	58.9%	58.9%	41.1%	41.1%	41.1%	41.1%	41.1%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	-1.0	0.0	-1.0	0.0	0.0
Total Lost Time (s)	8.0	8.0	8.0	8.0	7.0	8.0	7.0	8.0	8.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Act Effct Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
Actuated g/C Ratio	0.50	0.50	0.33	0.33	0.83	0.83	0.68	0.70	0.70
v/c Ratio	0.91	0.91	0.33	0.33	0.83	0.83	0.68	0.70	0.70
Control Delay	42.1	42.1	15.7	15.7	49.5	49.5	36.8	43.5	43.5
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	42.1	15.7	15.7	49.5	49.5	36.8	43.5	43.5
LOS	D	D	B	B	D	D	D	D	D
Approach Delay	42.1	42.1	15.7	15.7	49.5	49.5	39.6	39.6	39.6
Approach LOS	D	D	B	B	D	D	D	D	D
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 40 (44%), Referenced to phase 3EBWB, Start of Green									
Natural Cycle: 90									
Control Type: Prelimed									
Maximum v/c Ratio: 0.91									
Intersection Signal Delay: 39.7									
Intersection Capacity Utilization 80.3%									
Analysis Period (min) 15									

Splits and Phases: 3: Main Street & Ames Street



Future Condition - All Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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Phasings

3: Main Street & Ames Street

5/23/2014

Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT	SBR
Protected Phases									
Permitted Phases	3	3	3	3	1	1	1	1	1
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	39.0	39.0	39.0	39.0	28.0	28.0	28.0	28.0	28.0
Total Split (s)	53.0	53.0	53.0	53.0	37.0	37.0	37.0	37.0	37.0
Total Split (%)	58.9%	58.9%	58.9%	58.9%	41.1%	41.1%	41.1%	41.1%	41.1%
Maximum Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag									
Lead-Lag Optimize?									
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max	Max	Max	Max	Max
Walk Time (s)	12.0	12.0	12.0	12.0	6.0	6.0	6.0	6.0	6.0
Flash Dont Walk (s)	19.0	19.0	19.0	19.0	14.0	14.0	14.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0	0	0	0	0
90th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
90th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
70th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
70th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
50th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
50th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
30th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
30th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
10th %ile Green (s)	45.0	45.0	45.0	45.0	29.0	29.0	29.0	29.0	29.0
10th %ile Term Code	Coord	Coord	Coord	Coord	MaxR	MaxR	MaxR	MaxR	MaxR
Intersection Summary									
Cycle Length: 90									
Actuated Cycle Length: 90									
Offset: 40 (44%), Referenced to phase 3EBWB, Start of Green									
Control Type: Prelimed									

Future Condition - All Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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Queues

3: Main Street & Ames Street

5/23/2014

	EBT	WBT	NBT	SBT	SBR
Lane Group					
Lane Group Flow (vph)	534	181	311	211	151
v/c Ratio	0.91	0.33	0.83	0.68	0.70
Control Delay	42.1	15.7	49.5	36.8	43.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	42.1	15.7	49.5	36.8	43.5
Queue Length 50th (ft)	286	59	163	124	90
Queue Length 95th (ft)	m#411	88	#309	m174	m#132
Internal Link Dist (ft)	403	410	456	195	
Turn Bay Length (ft)					100
Base Capacity (vph)	587	544	373	311	216
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	0.91	0.33	0.83	0.68	0.70
Intersection Summary					
#	95th percentile volume exceeds capacity, queue may be longer.				
m	Queue shown is maximum after two cycles.				
	Volume for 95th percentile queue is metered by upstream signal.				

Future Condition - Alt Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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HCM Signalized Intersection Capacity Analysis

3: Main Street & Ames Street

5/23/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔		↔	↔			↔			↔	↔
Volume (vph)	65	364	73	26	58	58	59	200	21	71	104	125
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	12	12	12	12	16	12	12	12	12	12	10	12
Total Lost time (s)	8.0				8.0			8.0			8.0	8.0
Lane Util. 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
Frbp, ped/bikes	0.90			0.74			0.96				1.00	0.46
Frbp, ped/bikes	0.94			0.95			0.92				0.88	1.00
Frt	0.98			0.94			0.99				1.00	0.85
Flt Protected	0.99			0.99			0.99				0.98	1.00
Satd. Flow (prot)	1254			1257			1313				1370	669
Flt Permitted	0.93			0.86			0.87				0.69	1.00
Satd. Flow (perm)	1174			1087			1157				965	669
Peak-hour factor, PHF	0.94	0.94	0.94	0.78	0.78	0.78	0.90	0.90	0.90	0.83	0.83	0.83
Adj. Flow (vph)	69	387	78	33	74	74	66	222	23	86	125	151
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	534	0	0	181	0	0	311	0	0	211	151
Confl. Peds. (#/hr)	787		879	879	787	272		309	309		272	19
Confl. Bikes (#/hr)		45			42			19			6	
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%	1%
Parking (#/hr)	0							0				
Turn Type	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm	Perm
Protected Phases		3		3		3	1		1		1	
Permitted Phases	3			3			1			1		1
Actuated Green, G (s)	45.0			45.0			29.0			29.0		29.0
Effective Green, g (s)	45.0			45.0			29.0			29.0		29.0
Actuated g/C Ratio	0.50			0.50			0.32			0.32		0.32
Clearance Time (s)	8.0			8.0			8.0			8.0		8.0
Lane Grp Cap (vph)	587			544			373			311		216
v/s Ratio Prot												
v/s Ratio Perm	c0.45			0.17			c0.27			0.22		0.23
v/c Ratio	0.91			0.33			0.83			0.68		0.70
Uniform Delay, d1	20.6			13.5			28.3			26.5		26.7
Progression Factor	1.15			1.00			1.00			0.92		0.92
Incremental Delay, d2	16.6			1.6			19.3			10.7		16.3
Delay (s)	40.2			15.1			47.5			35.1		40.8
Level of Service	D			B			D			D		D
Approach Delay (s)	40.2			15.1			47.5			37.5		37.5
Approach LOS	D			B			D			D		D
Intersection Summary												
HCM Average Control Delay	37.9					HCM Level of Service						
HCM Volume to Capacity ratio	0.88					D						
Actuated Cycle Length (s)	90.0					Sum of lost time (s)						
Intersection Capacity Utilization	80.3%					ICU Level of Service						
Analysis Period (min)	15					D						
Critical Lane Group												

Future Condition - Alt Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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Lanes and Geometrics

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↑↑	↑↑	↑	↑	↑	↑	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width (ft)	10	12	11	11	12	12	
Grade (%)	0%			0%	0%		
Storage Length (ft)		0	160		0	100	
Storage Lanes		0	1		1	1	
Taper Length (ft)		25	25		25	50	
Lane Util. Factor	0.95	0.95	1.00	1.00	1.00	1.00	
Ped Bike Factor	0.91		0.84		0.87	0.36	
Frt	0.976				0.850		
Flt Protected			0.950		0.950		
Satd. Flow (prot)	2679	0	1555	1637	1593	1425	
Flt Permitted			0.239		0.950		
Satd. Flow (perm)	2679	0	330	1637	1390	519	
Right Turn on Red		Yes				Yes	
Satd. Flow (RTOR)	26					332	
Link Speed (mph)	30			30		30	
Link Distance (ft)	631			396		277	
Travel Time (s)	14.3			9.0		6.3	
Intersection Summary							
Area Type: CBD							

Future Condition - All Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report
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Volume

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR	
Volume (vph)	582	110	127	583	164	289	
Confl. Peds. (#/hr)		392	392		85	443	
Confl. Bikes (#/hr)		16				10	
Peak Hour Factor	0.95	0.95	0.88	0.88	0.87	0.87	
Growth Factor	100%	100%	100%	100%	100%	100%	
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	
Bus Blockages (#/hr)	0	0	0	0	0	0	
Parking (#/hr)							
Mid-Block Traffic (%)	0%			0%	0%		
Adj. Flow (vph)	613	116	144	662	189	332	
Shared Lane Traffic (%)							
Lane Group Flow (vph)	729	0	144	662	189	332	
Intersection Summary							

Future Condition - All Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report
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Timings

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Configurations	↑↑	↑	↑	↑	↑
Volume (vph)	582	127	583	164	289
Turn Type	pm+pt Perm				
Protected Phases	1	2	1	4	4
Permitted Phases	1	1	1	4	4
Detector Phase	1	2	1	4	4
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	7.0	6.0	7.0	7.0
Lead/Lag	Lead	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	29.0	50.0	29.0	19.0	19.0
Actuated g/C Ratio	0.32	0.56	0.32	0.21	0.21
v/c Ratio	0.83	0.30	1.26	0.56	0.89
Control Delay	30.5	26.1	145.6	32.3	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	26.1	145.6	32.3	32.9
LOS	C	C	F	C	C
Approach Delay	30.5		124.3	32.7	
Approach LOS	C		F	C	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 49 (54%), Referenced to phase 1:EBWB, Start of Green					
Natural Cycle: 90					
Control Type: Prelimed					
Maximum v/c Ratio: 1.26					
Intersection Signal Delay: 67.8					
Intersection Capacity Utilization 64.5%					
Analysis Period (min) 15					



Phasings

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Protected Phases	1	2	1	4	4
Permitted Phases	1	1	1	4	4
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	35.0	26.0	35.0	25.0	25.0
Total Split (s)	35.0	29.0	35.0	26.0	26.0
Total Split (%)	38.9%	32.2%	38.9%	28.9%	28.9%
Maximum Green (s)	29.0	22.0	29.0	19.0	19.0
Yellow Time (s)	3.0	2.0	3.0	2.0	2.0
All-Red Time (s)	3.0	5.0	3.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lead
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	13.0	7.0	13.0	4.0	4.0
Flash Dont Walk (s)	16.0	12.0	16.0	14.0	14.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
90th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
70th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
70th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
50th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
50th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
30th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
30th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
10th %ile Green (s)	29.0	22.0	29.0	19.0	19.0
10th %ile Term Code	Coord	MaxR	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 49 (54%), Referenced to phase 1:EBWB, Start of Green					
Control Type: Prelimed					

Queues

4: Broadway east & Ames Street

5/23/2014

Lane Group	EBT	WBL	WBT	NBL	NBR
Lane Group Flow (vph)	729	144	662	189	332
v/c Ratio	0.83	0.30	1.26	0.56	0.89
Control Delay	30.5	26.1	145.6	32.3	32.9
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	30.5	26.1	145.6	32.3	32.9
Queue Length 50th (ft)	217	59	~483	81	27
Queue Length 95th (ft)	m#271	m63	m#600	m117	m#56
Internal Link Dist (ft)	551		316	197	
Turn Bay Length (ft)		160			100
Base Capacity (vph)	881	483	527	336	371
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	0.83	0.30	1.26	0.56	0.89
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.					

Future Condition - Alt Layout 5:00 pm 4/24/2014 PM Peak Hour

SLW

Synchro 7 - Report

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HCM Signalized Intersection Capacity Analysis

4: Broadway east & Ames Street

5/23/2014

Movement	EBT	EBR	WBL	WBT	NBL	NBR	
Lane Configurations	↶↶	↶	↶	↶	↶	↶	
Lane Volume (vph)	582	110	127	583	164	289	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	
Lane Width	10	12	11	11	12	12	
Total Lost time (s)	6.0	7.0	7.0	6.0	7.0	7.0	
Lane Util. Factor	0.95	1.00	1.00	1.00	1.00	1.00	
Frpb, ped/bikes	0.91	1.00	1.00	1.00	1.00	0.36	
Flpb, ped/bikes	1.00	0.97	1.00	1.00	1.00	1.00	
Flt	0.98	1.00	1.00	1.00	1.00	0.85	
Flt Protected	1.00	0.95	1.00	0.95	1.00	1.00	
Satd. Flow (prot)	2679	1507	1637	1593	519	519	
Flt Permitted	1.00	0.24	1.00	0.95	1.00	1.00	
Satd. Flow (perm)	2679	379	1637	1593	519	519	
Peak-hour factor, PHF	0.95	0.95	0.88	0.88	0.87	0.87	
Adj. Flow (vph)	613	116	144	662	189	332	
RTOR Reduction (vph)	18	0	0	0	0	262	
Lane Group Flow (vph)	711	0	144	662	189	70	
Confl. Peds. (#/hr)		392	392		85	443	
Confl. Bikes (#/hr)		16			10		
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	
Turn Type	pm-pt						
Protected Phases	1	2	1	4			
Permitted Phases	1						
Actuated Green, G (s)	29.0	51.0	29.0	19.0	19.0	4	
Effective Green, g (s)	29.0	51.0	29.0	19.0	19.0	19.0	
Actuated g/C Ratio	0.32	0.57	0.32	0.21	0.21	0.21	
Clearance Time (s)	6.0	7.0	6.0	7.0	7.0	7.0	
Lane Grp Cap (vph)	863	491	527	336	110		
v/s Ratio Prot	0.27	c0.07	c0.40	0.12			
v/s Ratio Perm		0.09			c0.14		
v/c Ratio	0.82	0.29	1.26	0.56	0.64		
Uniform Delay, d1	28.1	18.0	30.5	31.8	32.4		
Progression Factor	0.89	1.87	0.62	0.81	2.50		
Incremental Delay, d2	5.4	0.8	123.3	5.9	22.2		
Delay (s)	30.5	34.4	142.3	31.6	103.1		
Level of Service	C	C	F	C	F		
Approach Delay (s)	30.5		123.0	77.2			
Approach LOS	C		F	E			
Intersection Summary							
HCM Average Control Delay	78.6					HCM Level of Service	E
HCM Volume to Capacity ratio	0.79						
Actuated Cycle Length (s)	90.0					Sum of lost time (s)	20.0
Intersection Capacity Utilization	64.5%					ICU Level of Service	C
Analysis Period (min)	15						
Critical Lane Group							

Future Condition - Alt Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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Lanes and Geometrics

5: Broadway east & Third Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	1	1	1	1	1	1	1	1	1	1	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width (ft)	10	11	12	12	11	11	12	12	12	10	10	10
Grade (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Storage Length (ft)	340	125	0	0	0	0	0	0	0	0	0	160
Storage Lanes	1	1	0	0	0	0	0	0	0	0	0	1
Taper Length (ft)	25	25	25	25	25	25	25	25	25	25	25	25
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Frt	0.980	0.980	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.850
Flt Protected	0.950	0.950	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.956
Satd. Flow (prot)	1501	2857	0	0	2659	0	0	0	0	0	0	1343
Flt Permitted	0.950	0.950	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.956	0.956
Satd. Flow (perm)	1501	2857	0	0	2659	0	0	0	0	0	0	1343
Right Turn on Red	Yes	Yes	Yes	Yes	No	No	No	No	Yes	Yes	No	No
Satd. Flow (RTOR)	21	21	21	21	21	21	21	21	21	21	21	21
Link Speed (mph)	30	30	30	30	30	30	30	30	30	30	30	30
Link Distance (ft)	581	581	581	581	581	581	581	581	581	581	581	581
Travel Time (s)	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2	13.2
Intersection Summary												
Area Type: CBD												

Volume

5: Broadway east & Third Street

5/23/2014

	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Volume (vph)	325	566	87	36	36	123	207	0	0	454	44	223
Confl. Peds. (#/hr)	36	36	36	36	36	36	36	36	36	36	36	36
Confl. Bikes (#/hr)	20	20	20	20	20	20	20	20	20	20	20	20
Peak Hour Factor	0.95	0.95	0.95	0.87	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	1%	2%	2%	1%	1%	1%
Bus Blockages (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Parking (#/hr)	0	0	0	0	0	0	0	0	0	0	0	0
Mid-Block Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Adj. Flow (vph)	342	596	92	0	566	238	0	0	0	483	48	242
Shared Lane Traffic (%)	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%
Lane Group Flow (vph)	342	688	0	0	804	0	0	0	0	0	541	242
Intersection Summary												

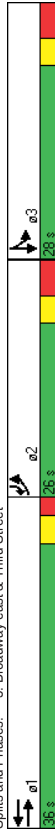
Timings

5: Broadway east & Third Street

5/23/2014

Lane Group	EBL	EBT	WBT	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔
Volume (vph)	325	566	492	44	223
Turn Type	Prot			Over	
Protected Phases	2	1	1	3	2
Permitted Phases					
Detector Phase	2	1	1	3	2
Switch Phase					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	23.0	35.0	35.0	27.0	23.0
Total Split (s)	26.0	36.0	36.0	28.0	26.0
Total Split (%)	28.9%	40.0%	40.0%	31.1%	28.9%
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	5.0	5.0	7.0	7.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Recall Mode	Max	Max	Max	Max	Max
Act Effct Green (s)	19.0	31.0	31.0	21.0	19.0
Actuated g/C Ratio	0.21	0.34	0.34	0.23	0.21
v/c Ratio	1.08	0.69	0.88	1.53	0.85
Control Delay	107.4	24.4	40.4	281.8	62.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	107.4	24.4	40.4	281.8	62.4
LOS	F	C	D	F	E
Approach Delay		51.9	40.4	214.0	
Approach LOS		D	D	F	
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green					
Natural Cycle: 115					
Control Type: Prelimed					
Maximum v/c Ratio: 1.53					
Intersection Signal Delay: 96.9					
Intersection Capacity Utilization 90.8%					
Analysis Period (min) 15					

Splits and Phases: 5: Broadway east & Third Street



Future Condition - All Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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Phasings

5: Broadway east & Third Street

5/23/2014

Lane Group	EBL	EBT	WBT	SBT	SBR
Protected Phases	2	1	1	3	2
Permitted Phases					
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	23.0	35.0	35.0	27.0	23.0
Total Split (s)	26.0	36.0	36.0	28.0	26.0
Total Split (%)	28.9%	40.0%	40.0%	31.1%	28.9%
Maximum Green (s)	19.0	31.0	31.0	21.0	19.0
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	4.0	2.0	2.0	4.0	4.0
Lead/Lag	Lag	Lead	Lead	Lag	Lag
Lead-Lag Optimize?					
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0
Minimum Gap (s)	3.0	3.0	3.0	3.0	3.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0
Recall Mode	Max	Max	Max	Max	Max
Walk Time (s)	3.0	15.0	15.0	7.0	3.0
Flash Dont Walk (s)	12.0	12.0	12.0	12.0	12.0
Pedestrian Calls (#/hr)	0	0	0	0	0
90th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
90th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
70th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
70th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
50th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
50th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
30th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
30th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
10th %ile Green (s)	19.0	31.0	31.0	21.0	19.0
10th %ile Term Code	MaxR	Coord	Coord	MaxR	MaxR
Intersection Summary					
Cycle Length: 90					
Actuated Cycle Length: 90					
Offset: 0 (0%), Referenced to phase 1:EBWB, Start of Green					
Control Type: Prelimed					

Future Condition - All Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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Queues

5: Broadway east & Third Street

5/23/2014



Lane Group	EBL	EBT	WBT	SBT	SBR
Lane Group Flow (vph)	342	688	804	541	242
v/c Ratio	1.08	0.69	0.88	1.53	0.85
Control Delay	107.4	24.4	40.4	281.8	62.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	107.4	24.4	40.4	281.8	62.4
Queue Length 50th (ft)	~224	205	223	~436	133
Queue Length 95th (ft)	m#316	m#247	#313	#632	#266
Internal Link Dist (ft)	501	313	1132		
Turn Bay Length (ft)	340				160
Base Capacity (vph)	317	998	916	353	284
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	1.08	0.69	0.88	1.53	0.85
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.					

HCM Signalized Intersection Capacity Analysis

5: Broadway east & Third Street

5/23/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔	↔
Volume (vph)	325	566	87	0	492	207	0	0	0	454	44	223
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Width	10	11	12	12	11	11	12	12	12	10	10	10
Total Lost time (s)	7.0	5.0			5.0						7.0	7.0
Lane Util. Factor	1.00	0.95			0.95						1.00	1.00
Frpb, ped/bikes	1.00	0.99			0.99						1.00	1.00
Flpb, ped/bikes	1.00	1.00			1.00						1.00	1.00
Prt	1.00	0.98			0.96						1.00	0.85
Flt Protected	0.95	1.00			1.00						0.96	1.00
Satd. Flow (prot)	1501	2857			2658						1511	1343
Flt Permitted	0.95	1.00			1.00						0.96	1.00
Satd. Flow (perm)	1501	2857			2658						1511	1343
Peak-Hour factor, PHF	0.95	0.95	0.95	0.87	0.87	0.87	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	342	596	92	0	566	238	0	0	0	493	48	242
RTOR Reduction (vph)	0	14	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	342	674	0	0	804	0	0	0	0	0	541	242
Confl. Peds. (#/hr)		36	36		123							
Confl. Bikes (#/hr)		20			159							
Heavy Vehicles (%)	1%	1%	1%	1%	1%	1%	2%	2%	2%	1%	1%	1%
Parking (#/hr)	0											
Turn Type	Prot	1			1					Split	3	2
Protected Phases	2	1										
Permitted Phases												
Actuated Green, G (s)	19.0	31.0			31.0						21.0	19.0
Effective Green, g (s)	19.0	31.0			31.0						21.0	19.0
Actuated g/C Ratio	0.21	0.34			0.34						0.23	0.21
Clearance Time (s)	7.0	5.0			5.0						7.0	7.0
Lane Grp Cap (vph)	317	984			916						353	284
v/s Ratio Prot	c0.23	0.24			c0.30						c0.36	0.18
v/s Ratio Perm												
v/c Ratio	1.08	0.69			0.88						1.53	0.85
Uniform Delay, d1	35.5	25.3			27.7						34.5	34.1
Progression Factor	1.24	0.87			1.00						1.00	1.00
Incremental Delay, d2	64.7	2.7			11.6						253.5	26.2
Delay (s)	106.8	24.6			39.4						288.0	60.4
Level of Service	F	C			D						F	E
Approach Delay (s)		52.6			39.4			0.0		217.7		
Approach LOS		D			D			A		F		
Intersection Summary												
HCM Average Control Delay			97.9								F	
HCM Volume to Capacity ratio			1.13									
Actuated Cycle Length (s)			90.0								19.0	
Intersection Capacity Utilization			90.8%								E	
Analysis Period (min)			15									
c Critical Lane Group												

Lanes and Geometrics

6: Ames Street &

5/23/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		P			P
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%	0%	0%	0%	0%	0%
Storage Length (ft)	0	0	0	0	0	0
Storage Lanes	1	0	0	0	0	0
Taper Length (ft)	25	25	25	25	25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.930					
Flt Protected	0.977					
Satd. Flow (prot)	1693	0	1863	0	0	1863
Flt Permitted	0.977					
Satd. Flow (perm)	1693	0	1863	0	0	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	239		275			277
Travel Time (s)	5.4		6.3			6.3
Intersection Summary						
Area Type: Other						

Future Condition - All Layout 5:00 pm 4/24/2014 PM Peak Hour

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Volume

6: Ames Street &

5/23/2014

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Volume (vph)	41	45	323	0	0	249
Confl. Peds. (#/hr)	160	165	275	275	275	
Confl. Bikes (#/hr)				41		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%		0%			0%
Adj. Flow (vph)	45	49	351	0	0	271
Shared Lane Traffic (%)						
Lane Group Flow (vph)	94	0	351	0	0	271
Intersection Summary						

Future Condition - All Layout 5:00 pm 4/24/2014 PM Peak Hour

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Synchro 7 - Report

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HCM Unsignalized Intersection Capacity Analysis

6: Ames Street & 5/23/2014

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	W		P			P
Volume (veh/h)	41	45	323	0	0	249
Sign Control	Stop		Free			Free
Grade (%)	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	45	49	351	0	0	271
Pedestrians	275		160			165
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	23		13			14
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)			275			277
pX, platoon unblocked						
vC, conflicting volume	1057	791			626	
VC1, stage 1 conf vol						
VC2, stage 2 conf vol						
vCu, unblocked vol	1057	791			626	
IC, single (s)	6.4	6.2			4.1	
IC, 2 stage (s)						
IF (s)	3.5	3.3			2.2	
pO queue free %	73	81			100	
cM capacity (veh/h)	167	259			737	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	93	351	271			
Volume Left	45	0	0			
Volume Right	49	0	0			
cSH	205	1700	737			
Volume to Capacity	0.46	0.21	0.00			
Queue Length 95th (ft)	54	0	0			
Control Delay (s)	36.5	0.0	0.0			
Lane LOS	E					
Approach Delay (s)	36.5	0.0	0.0			
Approach LOS	E					

Intersection Summary

Average Delay	4.8
Intersection Capacity Utilization	37.0%
Analysis Period (min)	15
ICU Level of Service	A

Future Condition - Alt Layout 5:00 pm 4/24/2014 PM Peak Hour

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Future Condition - Alt Layout 5:00 pm 4/24/2014 PM Peak Hour

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Lanes and Geometrics

7: Broadway east & 5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	P		P			P
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	12	12	12
Grade (%)	0%		0%		0%	
Storage Length (ft)		0	40		0	0
Storage Lanes		0	1		0	1
Taper Length (ft)		25	25		25	25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor						
Frt	0.994		0.950		0.865	
Frt Protected						
Satd. Flow (prot)	1683	0	1608	1693	0	1479
Flt Permitted			0.950			
Satd. Flow (perm)	1683	0	1608	1693	0	1479
Link Speed (mph)	30		30		30	
Link Distance (ft)	396		581		146	
Travel Time (s)	9.0		13.2		3.3	
Intersection Summary						
Area Type:	CBD					

Volume

7: Broadway east &

5/23/2014

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Volume (vph)	830	40	26	690	0	140
Confl. Peds. (#/hr)		358	358			215
Confl. Bikes (#/hr)	22					
Peak Hour Factor	0.95	0.95	0.88	0.88	0.84	0.84
Growth Factor	100%	100%	100%	100%	100%	100%
Heavy Vehicles (%)	1%	1%	1%	1%	0%	0%
Bus Blockages (#/hr)	0	0	0	0	0	0
Parking (#/hr)						
Mid-Block Traffic (%)	0%			0%	0%	
Adj. Flow (vph)	874	42	30	784	0	167
Shared Lane Traffic (%)						
Lane Group Flow (vph)	916	0	30	784	0	167
Intersection Summary						

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	EB	EB	WB	WB	NB	NB
Volume (veh/h)	830	40	26	690	0	140
Sign Control	Free	Free	Free	Free	Stop	Stop
Grade	0%	0%	0%	0%	0%	0%
Peak Hour Factor	0.95	0.95	0.88	0.88	0.84	0.84
Hourly flow rate (vph)	874	42	30	784	0	167
Pedestrians				215	358	
Lane Width (ft)				12.0	12.0	
Walking Speed (ft/s)				4.0	4.0	
Percent Blockage				18	30	
Right turn flare (veh)						
Median type	None	None	None	None	None	None
Median storage (veh)						
Upstream signal (ft)	396			581		
pX, platoon unblocked			0.72		0.85	0.72
VC, conflicting volume			1274		2096	1468
VC1, stage 1 conf vol						
VC2, stage 2 conf vol			1184		1449	1455
VCu, unblocked vol			4.1		6.4	6.2
IC, single (s)						
IC, 2 stage (s)			2.2		3.5	3.3
IF (s)						
p0 queue free %			90		100	0
CM capacity (veh/h)			238		78	66
Direction, Lane #	EB 1	WB 1	WB 2	NB 1		
Volume Total	916	30	784	167		
Volume Left	0	30	0	0		
Volume Right	42	0	0	167		
cSH	1700	298	1700	66		
Volume to Capacity	0.54	0.10	0.46	2.51		
Queue Length 95th (ft)	0	8	0	409		
Control Delay (s)	0.0	18.4	0.0	817.6		
Lane LOS		C		F		
Approach Delay (s)	0.0	0.7		817.6		
Approach LOS		F		F		
Intersection Summary						
Average Delay			72.2			
Intersection Capacity Utilization			75.9%		ICU Level of Service	D
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

7: Broadway east &

5/23/2014

Ames Street Residences
Transportation Impact Study
Technical Appendix
Garage Occupancy Counts

East Garage May 13-17, 2013

0:00 - 0:59	46	58	74	72	74	65
1:00 - 1:59	42	55	74	73	72	63
2:00 - 2:59	40	53	70	69	70	60
3:00 - 3:59	40	53	68	65	67	59
4:00 - 4:59	42	60	68	67	67	61
5:00 - 5:59	74	83	87	88	92	85
6:00 - 6:59	126	150	138	133	136	137
7:00 - 7:59	207	252	224	211	224	224
8:00 - 8:59	387	387	384	356	356	374
9:00 - 9:59	556	561	565	522	501	541
10:00 - 10:59	629	639	650	605	599	624
11:00 - 11:59	663	682	689	634	635	661
12:00 - 12:59	660	698	702	640	638	668
13:00 - 13:59	643	657	678	615	586	636
14:00 - 14:59	591	594	621	576	494	575
15:00 - 15:59	550	529	547	498	428	510
16:00 - 16:59	447	416	447	400	337	409
17:00 - 17:59	295	283	296	291	228	279
18:00 - 18:59	176	212	209	201	155	191
19:00 - 19:59	117	145	144	168	122	139
20:00 - 20:59	91	108	123	129	110	112
21:00 - 21:59	73	88	90	104	100	91
22:00 - 22:59	64	73	76	90	93	79
23:00 - 23:59	61	66	67	75	78	69

Mon

Tue

Wed

Thu

Fri

Weekday Av

North Garage M-F May 13-17, 2013

0:00 - 0:59	86	64	72	52	271	109
1:00 - 1:59	85	64	72	51	268	108
2:00 - 2:59	83	62	73	52	266	107
3:00 - 3:59	81	61	71	52	266	106
4:00 - 4:59	87	68	75	61	269	112
5:00 - 5:59	123	115	114	103	306	152
6:00 - 6:59	268	293	285	263	451	312
7:00 - 7:59	484	494	498	510	596	516
8:00 - 8:59	728	756	733	790	744	750
9:00 - 9:59	904	963	921	956	844	918
10:00 - 10:59	947	1,022	985	1,018	883	971
11:00 - 11:59	956	1,026	969	1,017	858	965
12:00 - 12:59	957	1,013	970	1,004	821	953
13:00 - 13:59	952	989	972	992	782	937
14:00 - 14:59	889	937	932	940	701	880
15:00 - 15:59	753	799	810	796	555	743
16:00 - 16:59	509	573	549	530	388	510
17:00 - 17:59	294	311	304	303	234	289
18:00 - 18:59	192	183	195	191	166	185
19:00 - 19:59	120	105	126	122	105	116
20:00 - 20:59	101	83	93	88	89	91
21:00 - 21:59	81	79	76	70	79	77
22:00 - 22:59	75	72	65	64	74	70
23:00 - 23:59	67	66	59	62	68	64
	Mon	Tue	Wed	Thu	Fri	Weekday Av

West Garage May 13-17, 2013

0:00 - 0:59	44	42	50	52	74	52
1:00 - 1:59	44	41	51	52	71	52
2:00 - 2:59	46	43	52	53	70	53
3:00 - 3:59	49	45	55	55	69	55
4:00 - 4:59	50	48	57	57	69	56
5:00 - 5:59	62	58	72	64	78	67
6:00 - 6:59	103	106	117	108	109	109
7:00 - 7:59	163	178	189	175	159	173
8:00 - 8:59	270	292	294	295	287	288
9:00 - 9:59	417	444	454	465	409	438
10:00 - 10:59	485	503	516	517	448	494
11:00 - 11:59	508	523	531	519	454	507
12:00 - 12:59	516	518	528	515	444	504
13:00 - 13:59	502	504	515	509	421	490
14:00 - 14:59	467	469	479	481	390	457
15:00 - 15:59	428	418	421	425	335	405
16:00 - 16:59	328	323	328	314	234	305
17:00 - 17:59	199	199	195	215	139	189
18:00 - 18:59	119	109	117	158	109	122
19:00 - 19:59	97	74	84	150	93	100
20:00 - 20:59	79	61	70	103	84	79
21:00 - 21:59	53	52	55	72	81	63
22:00 - 22:59	48	51	50	69	81	60
23:00 - 23:59	42	50	52	62	77	57
	Mon	Tue	Wed	Thu	Fri	Weekday Av