

Application for MDOT Permit
for the
Proposed Aroma Joe's / Retail Development
Auburn, Maine

Prepared for:

Site Design Associates
Topsham, ME

Prepared by:

Eaton Traffic Engineering
67 Winter Street Ste 1
Topsham, ME 04086
207/ 725-9805

and

Site Design Associates
23 Whitney Way
Topsham, ME 04086
207/ 449-4275

Department of Transportation
Traffic Engineering Division
16 State House Station
Augusta, Maine 04333
Telephone: 207-287-3775

FOR MDOT USE
ID #

1/2000

Total Fees:

Date: Received

PERMIT APPLICATION - TRAFFIC
TRAFFIC MOVEMENT PERMIT, 23 M.R.S.A. § 704 - A

Please type or print:

This application is for:

Traffic 100-200 PCE's
Traffic 200+ PCE's

Name of Applicant: Pinstripes, LLC

Address: 682 Maine Street South Portland, ME 04106 Telephone: 207-450-7030

Name of local contact or agent: Tom Saucier, Site Design Associates

Address: 23 Whitney Way Topsham, ME 04086 Telephone: 207-449-4275

Name and type of development: Restaurant/Retail

Location of development including road, street, or nearest route number:
166 Center Street Auburn

City/Town/Plantation: Auburn, County: Androscoggin, Tax Map #261, Lot #005

Do you want a consolidated review with DEP pursuant to 23 M.R.S.A. § 704-A (7)? Yes No

Was this development started prior to obtaining a traffic permit? No

Is the project located in an area designated as a growth area (as defined in M.R.S.A. title 30 - A, chapter 187)?
Yes No

Is this project located within a compact area of an urban compact municipality? Yes No

Is this development or any portion of the site currently subject to state or municipal enforcement action?
No

Existing DEP or MDOT permit number (if applicable): _____

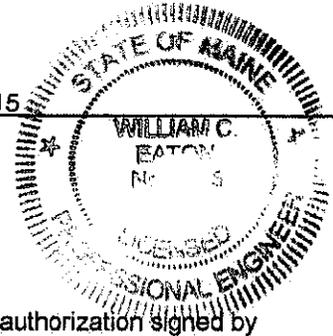
Name(s) of DOT staff person(s) contacted concerning this application: _____

Name(s) of DOT staff person(s) present at the scoping meeting for 200+ applications: _____

CERTIFICATION

The traffic engineer responsible for preparing this application and/or attaching pertinent site and traffic information hereto, by signing below, certifies that the application for traffic approval is complete and accurate to the best of his/her knowledge.

Signature: *William C. Eaton* Re/Cert/Lic No.: 3715
Name (print): William C. Eaton, P.E.
Date: 7/2/14



If the signature below is not the applicant's signature, attach letter of agent authorization signed by applicant.

"I certify under penalty of law that I have personally examined the information submitted in this document and all attachments thereto and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the information is true, accurate, and complete. I authorize the Department to enter the property that is the subject of this application, at reasonable hours, including buildings, structures or conveyances on the property, to determine the accuracy of any information provided herein. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

William C. Eaton
Signature of applicant

07/02/14
Date

NOTICE OF INTENT TO FILE

Please take notice that Site Design Associates, 23 Whitney Way, Topsham, Maine, acting as Agent for Pinstripes, LLC, 382 Main Street, South Portland, Maine 04106 is intending to file a Traffic Movement Permit application with the Maine Department of Transportation pursuant to the provisions of 23 M.R.S.A. § 704 - A on or about July 7, 2014.

The application is for a 1,500 square foot Aroma Joe's coffee shop and 1,800 square feet of unspecified retail space, all in one 3,300 square foot building. Estimated peak hour trip generation over and above existing traffic is 190 vehicle trips during the AM peak hour and 190 trips during the PM peak hour. The project, if approved, is expected to be complete in **2014** at the following location:

166 Center Street, Auburn, Maine

A request for a public hearing must be received by the Department, in writing, no later than 20 days after the application is found by the Department to be complete and is accepted for processing. Public comment on the application will be accepted throughout the processing of the application. The application will be filed for public inspection at the Department of Transportation Division office in **Dixfield, Maine** during normal working hours. A copy of the application may also be seen at the municipal offices in **Auburn, Maine**.

Written public comments may be sent to the Department of Transportation, Traffic Engineering Division, 16 State House Station, Augusta, Maine 04333.

Section 1

Site and Traffic Information

1.0 Overview

Site Design Associates and Eaton Traffic Engineering have been retained to prepare plans and permit applications for the proposed 1,500 square foot Aroma Joe's coffee kiosk and 1,800 square feet of retail development to be located at 166 Center Street (just north of Stanley Street on the westerly side) in Auburn, Maine. The development will involve the removal of an existing building and construction of a new 3,300 square foot building. Direct access to the building will be via a one-way drive on Center Street at the northerly portion of the site, and a one-way exit on Center Street at the southerly end.

1.1 Site Description

The project site is on the westerly side of Center Street on the northerly side of Stanley Street. The site is relatively level and is currently occupied by a building which will be razed as part of this project.

1.2 Existing and Proposed Uses

The site is currently contains a vacant building which will be razed and replaced with a 3,300 square foot building to house an Aroma Joe's coffee shop (1,500 sf) and unknown retail (1,800 sf).

1.3 Site and Vicinity Boundaries

Figure 1, following this page, shows the project location and the vicinity of the site.

1.4 Proposed Uses in Vicinity of the Proposed Development

The Applicant is not aware of any other proposed development in the vicinity of the site and has contact the City of Auburn, who confirms that no other pending or approved un-built development is in the vicinity.

1.5 Trip Generation

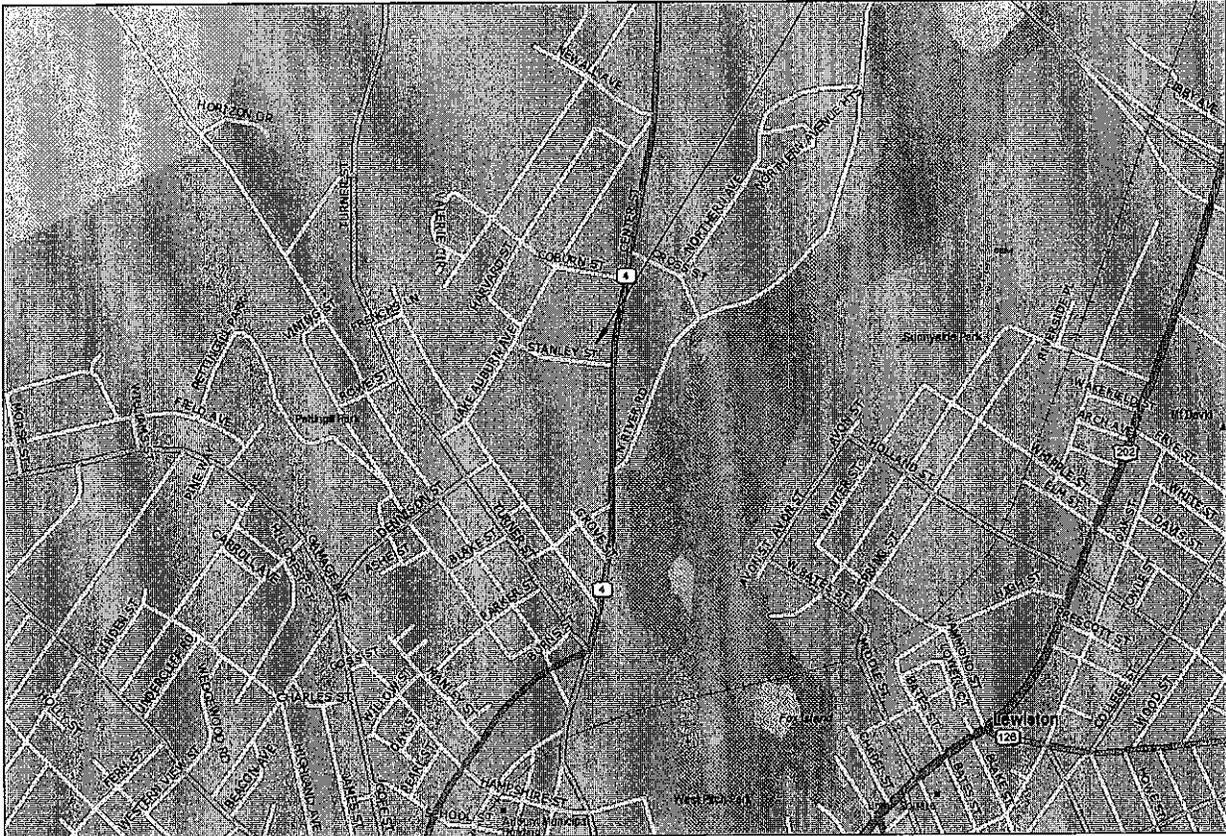
See Attachment by Eaton Traffic Engineering.

1.6 Trip Distribution and Assignment

See Attachment by Eaton Traffic Engineering.



SITE



DeLORME
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www.delorme.com

MN (15.8° W)

0 500 1000 ft
Data Zoom 14-9

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67 Winter Street Ste. 1 - Topsham, Maine

Figure 1
Site Location

Aroma Joe's and Retail / Center Street, Auburn, Maine

Aroma Joe's / Retail Development –Auburn -Trip Generation

In determining projected peak hour trip generation, it should be noted that there are no Institute of Transportation Engineers data on this type of facility. For a Dunkin' Donut, MDOT typically uses estimates based upon surveys of those facilities, which currently are 330 trips in the AM peak hour and 90 trips in the PM peak hour. Based upon the menu, the proposed Aroma Joe's is more like a Starbucks or similar "trendy" coffee bar. Starbucks operates differently than a Dunkin' Donuts, and application of that rate to the proposed facility would be inappropriate.

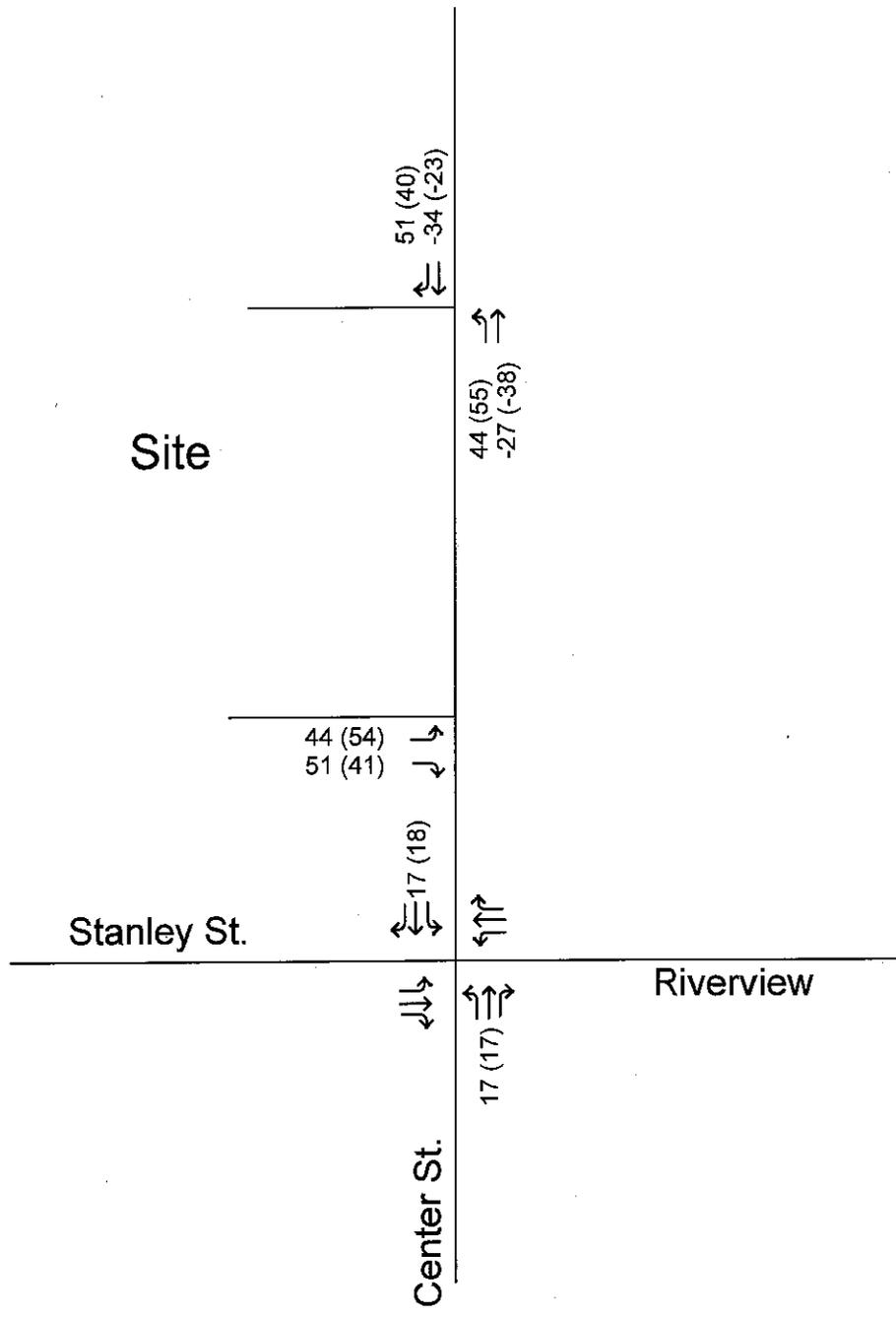
A 2006 trip generation survey done by Casey & Godfrey Engineers for three Starbucks (Brunswick, Saco and Topsham) determined an AM peak hour trip rate of 61.14 trips per 1000 square feet of floor area. In addition, Eaton Traffic Engineering conducted a similar survey at the Topsham facility and included the PM peak hour as well. Unlike Dunkin' Donuts, it was found that the AM peak hour may not be the major peak for the day. The ETE survey counted 120 AM peak hour trips (compared to 118 in the Casey & Godfrey survey) and 114 PM peak hour trips. Additionally, like Dunkin' Donut, it appears that this type of land use generates trips independent of its size – all appear to generate approximately the same number of trips and seem more related to the area type and general traffic volumes in the area. In this case the proposed Aroma Joe's will be located on Route 4 (Center Street) in Auburn, which has very high peak AM and PM volumes throughout the year. Accordingly trip generation for the proposed Aroma Joe's is estimated at 130 vehicle trips during both the AM and PM peak hour. A rate of 120 vehicle trips was used for MDOT reviewed studies in both Wells and Saco, Maine, but more recent information from surveys done at Aroma Joe's facilities in New Hampshire indicates that 130 vehicle trips may be more appropriate. In addition to the Aroma Joe's kiosk (with walk-in service), it is possible to develop up to an additional 1,800 square feet of floor area for a retail land use. It is not known at this time what that land use will be. Using the ITE Trip Generation publication a review of retail land uses evaluating the highest trip generators was conducted. No gasoline sales are proposed thus a convenience market or a fast-food restaurant (no drive-thru) would be the highest trip generators, ranging from 50 to 80 vehicle trips. Because it is not known what use will be located here in the future, it has been decided to prepare a study assuming 190 vehicle trips for both the AM and PM peak hour. This will serve as a trip

“ceiling” for any future proposal on this site. A MDOT Traffic Movement Permit will be required for this development; in this case the City of Auburn has jurisdiction over TMP projects involving 100 – 200 PCE (Passenger Car Equivalents).

Pass-by traffic during the AM peak period (i.e. trips drawn from traffic already passing the site) for Dunkin’ Donut was found to be approximately 70 percent of all traffic in a study by Gorrill Palmer Consulting Engineers (for 6 Dunkin’ Donut locations in Maine). For most fast-food restaurants and convenience markets the pass-by proportion is generally about 50 percent. Assuming the same breakdown of trips for this proposed development, Total, primary and pass-by trips are estimated as follows:

Land Use	Total Trips		Primary Trips		Pass-by Trips	
	Total	In/Out	Total	In/Out	Total	In/Out
Aroma Joe’s	130	65/65	39	19/20	91	46/45
Retail	60	30/30	30	15/15	30	15/15
Total	190	95/95	69	34/35	121	61/60

Assignment of pass-by and primary trips was based upon the distribution of traffic on Route 4 observed during the AM and PM peak hour (pass-by) and likely source of new trips (generally divided 50 percent from north and south). Figures 2A and 2B present the assignment of pass-by and primary trips respectively. Figure 2 presents estimated net AM and PM peak hour site generated traffic for the proposed Aroma Joe’s / Retail in Auburn.



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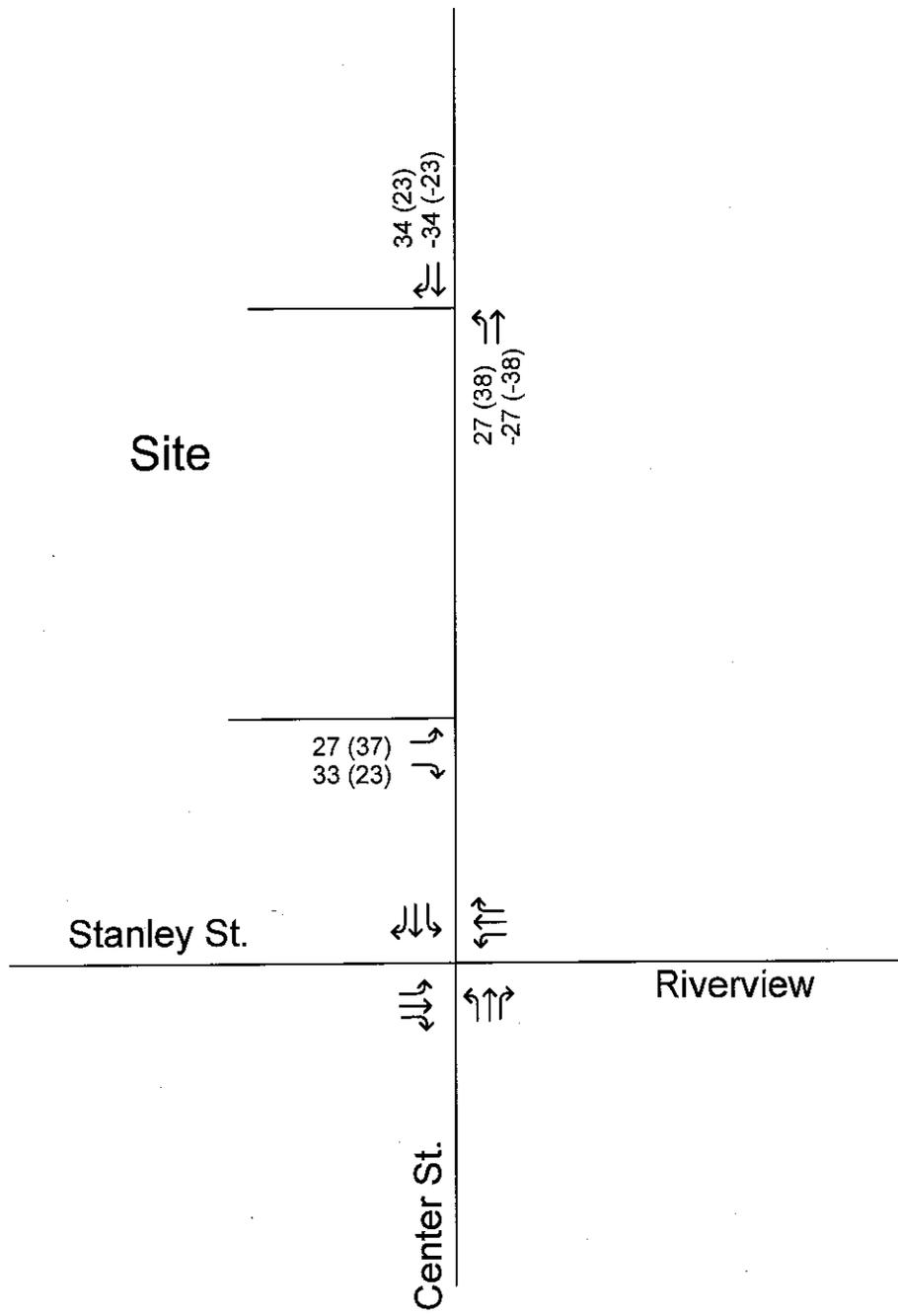


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67 Winter Street Ste.1 - Topsham, Maine

Figure 2
Net AM (PM) Site Generated Trips

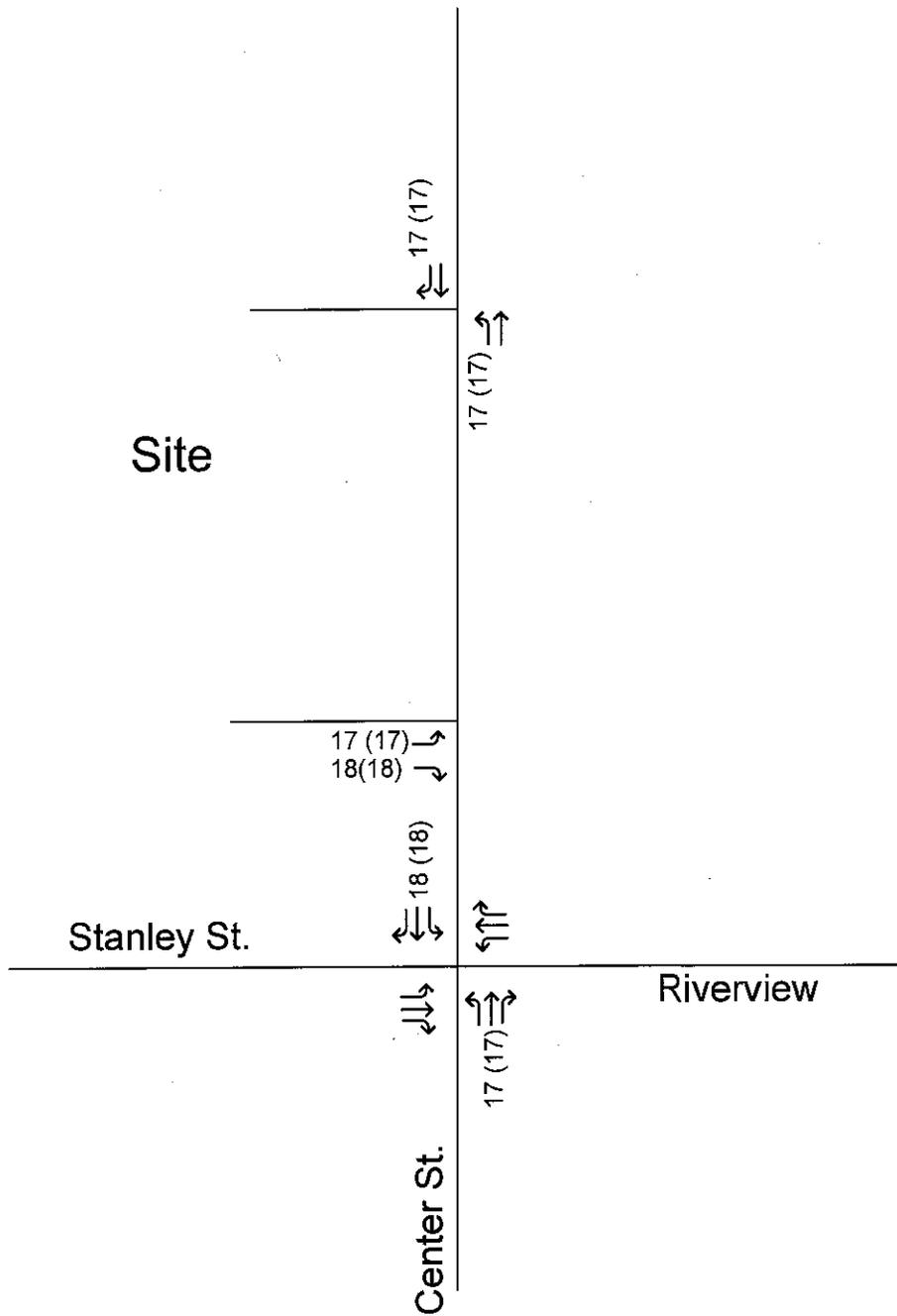
Aroma Joe's and Retail / Center Street, Auburn, Maine



Not to Scale

Figure 2A
Site Generated AM (PM) Pass-by Trips

Aroma Joe's and Retail / Center Street, Auburn, Maine



Not to Scale

Figure 2B
Site Generated AM (PM) Primary Trips

Aroma Joe's and Retail / Center Street, Auburn, Maine

Section 2
Traffic Accidents

2.1 Accident Analysis

See Attachment by Eaton Traffic Engineering.

Safety Assessment

2011-13 Accident History in Site Vicinity

Proposed Auburn Aroma Joe's/Retail Development

LOCATION	2011-13 ACCIDENTS	ANNUAL AVERAGE	CRITICAL RATE FACTOR ¹
Center St. @ Stanley St.	4	1.33	<1.00
Center St./Stanley St. to Motel Drive (250'+/- north)	0	0	0

MDOT guidelines for identification of a High Crash Location (HCL - indicating a potential safety deficiency) is that a location must experience both 8 or more accidents in a 3 year period and have a Critical Rate Factor of 1.00 or greater. None of the locations in the vicinity of the site satisfies the criteria.

¹ The Critical Rate Factor is a statistical measure which compares the accident frequency at a location to similar locations throughout the State. A Critical Rate Factor of 1.00 or greater indicates that the location has a higher frequency of accidents than would be expected due to random occurrence, with a 99 percent level of confidence.

Section 3
Entrances and Exits

3.1 Location of Driveways

See Attached Site Plan and Survey

3.2 Plan View

See Attached Site Plan and Survey

Section 4
Title, Right or Interest

4.1 Title, Right or Interest

See Attached document(s)

Section 5
Public or Private Rights of Way

5.1 Public/Private Rights of Way

No new public or private rights of way will be created as a result of this project

Section 6
Schedule

6.1 Schedule

The project will be initiated as soon as all permits are received and expected to be completed in 2014.

Section 7
Post-Development LOS Analysis

Pre-Development AM and PM Peak Hour Traffic

Traffic impact analysis is typically performed for traffic conditions that occur during a weekday peak hour, as this is usually the time of heaviest traffic flow that occurs on a roadway. As part of the process of estimating both weekday AM and PM peak hour traffic volumes in the vicinity of the site, manual turning movement counts was conducted at the intersection of Route 4 @ Stanley Street on Tuesday, June 17, 2014 (AM) and Monday, June 30, 2014 (PM). These volumes were adjusted using MDOT traffic count data to reflect peak seasonal flows. This adjustment amounted to an increase of 2 percent over the June 17th volumes, and no adjustment to the June 30 volumes. Figure 3 (attached) presents the estimated 2014 pre-development peak hour volumes.

Post-Development AM and PM Peak Hour Traffic Volumes

Post-development weekday AM and PM peak hour volumes are the combination of pre-development volumes presented in Figure 3, and site generated traffic presented in Figure 2 (Section 1). Figure 4 (attached) presents projected 2014 weekday AM and PM peak hour post-development traffic volumes.

Operational Assessment Pre/ Post-Development Traffic Volumes

Capacity analysis was performed for the post-development AM and PM peak hour traffic projections for the intersection of Route 4 @ Stanley Street and the site entrance and exit using

the procedures outlined in the Highway Capacity Manual¹. Capacity analysis provides a quantitative assessment of the quality of traffic flow at an intersection, and "rates" this quality in terms of its Level of Service (LOS). LOS ratings range from A to F, and much like a school rank card, A indicates very good conditions, and F indicates extremely congested conditions with long delays.

LOS for unsignalized intersections is based upon average control delay, which takes into account the delay involved in entering a vehicle queue, waiting in a vehicle queue and start-up delay.

The relationship between LOS and average total delay is shown below:

Level of Service Measurement for Unsignalized Intersections

Level of Service	Average Total Delay Per Vehicle
A	≤ 10 Seconds
B	>10 - 15 Seconds
C	>15 - 25 Seconds
D	>25 - 35 Seconds
E	>35 - 50 Seconds
F	> 50 Seconds

Capacity analysis was conducted using the computer program Synchro/SimTraffic, which replicates the procedures contained in the Highway Capacity Manual. Consistent with MDOT procedures, LOS is based upon the average vehicle delay recorded on 5 iterations of the SimTraffic Model. The results of the analysis are as follows (output summaries attached):

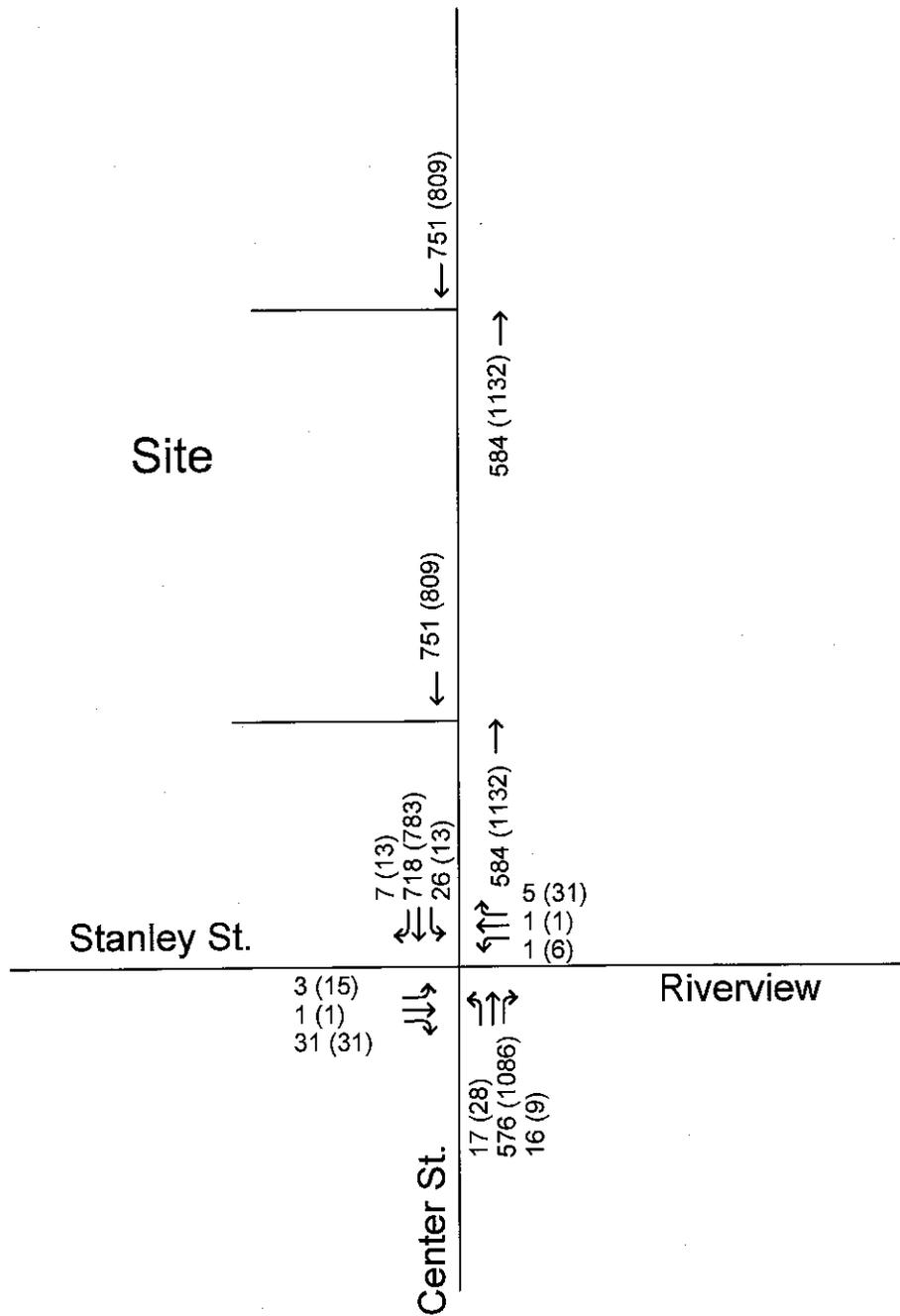
¹, Highway Capacity Manual, HCM2000, Transportation Research Board, 2000

Street - Movement	Pre-Development AM (PM)		Post-Development AM (PM)	
	Delay (sec)	LOS	Delay (sec)	LOS
Center Street @ Stanley Street				
EBL (Stanley)	31.1 (209.5)	D (F)	21.1 (152.6)	C (F)
EBT	5.0 (139.3)	A (F)	8.0 (86.9)	A (F)
EBR	6.5 (144.1)	A (F)	4.7 (125.9)	A (F)
WBL (Riverview)	- (45.7)	- (D)	6.0 (46.7)	C (D)
WBT	32.8 (59.8)	C (E)	23.4 (74.8)	C (E)
WBR	5.5 (40.6)	A (D)	5.1 (40.4)	A (D)
NBL (Center)	5.4 (5.9)	A (A)	4.8 (5.4)	A (A)
NBT	1.8 (4.0)	A (A)	2.0 (4.3)	A (A)
NBR	1.4 (3.3)	A (A)	1.4 (2.1)	A (A)
SBL (Center)	4.9 (11.9)	A (B)	4.8 (9.1)	A (A)
SBT	0.1 (0.1)	A (A)	0.1 (0.1)	A (A)
SBR	0.1 (0.0)	A (A)	0.1 (0.1)	A (A)
ALL	1.2 (307)	A (A)	1.2 (6.4)	A (A)

Street - Movement	Pre-Development AM (PM)		Post-Development AM (PM)	
	Delay (sec)	LOS	Delay (sec)	LOS
Center Street @ Aroma Joe's / Retail Exit				
EBL (Aroma Joe's)	-	-	24.5 (194.1)	C (F)
EBR	-	-	12.5 (144.2)	B (F)
NBL (Center)	-	-	-	-
NBT	-	-	0.2 (0.4)	A (A)
SBT (Center)	-	-	0.7 (0.7)	A (A)
SBR	-	-	-	-
ALL	-	-	0.7 (0.7)	A (A)

Street - Movement	Pre-Development AM (PM)		Post-Development AM (PM)	
	Delay (sec)	LOS	Delay (sec)	LOS
Center Street @ Aroma Joe's / Retail Entrance				
EBL (Aroma Joe's)	-	-	-	-
EBR	-	-	-	-
NBL (Center)	-	-	4.8 (4.9)	A (A)
NBT	-	-	0.3 (0.4)	A (A)
SBT (Center)	-	-	0.7 (0.7)	A (A)
SBR	-	-	0.9 (0.5)	A (A)
ALL	-	-	0.7 (0.7)	A (A)

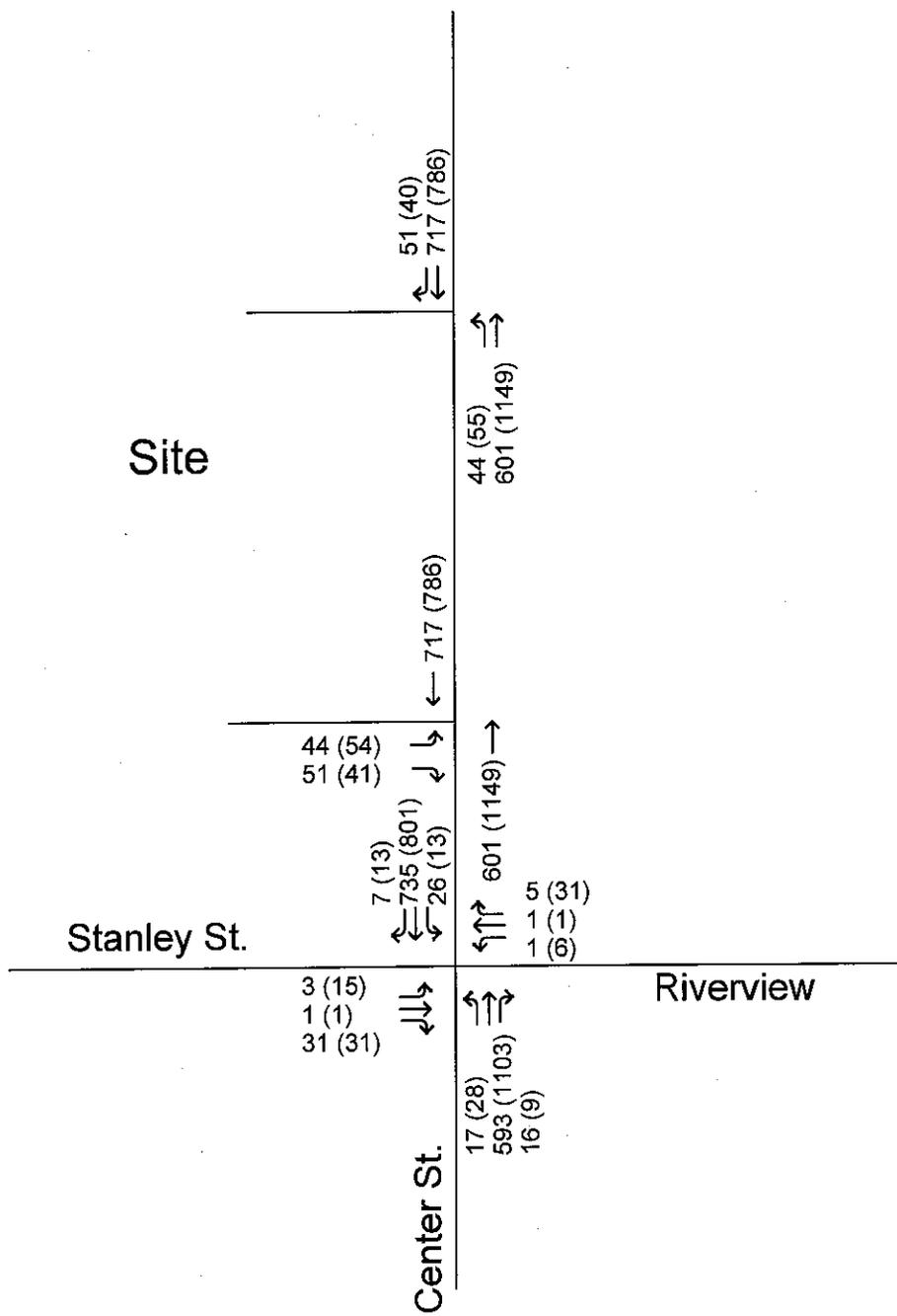
As can be seen in the tables above, the overall Level of Service is good, with minor street movements operating with very high delays during the PM peak hour. The SimTraffic program is a microscopic model which models individual vehicles and records data for each vehicle (including delay) for the one hour modeling period. Unfortunately it does not model a two-way left turn lane, which allows vehicles exiting from Stanley Street, Riverview and the proposed site exit to break the left turn into two movements, turning left into the center and then merging into the through lane. In actuality, left turns from minor streets operate better than the model indicates, but there are still relatively high delays. Typical Highway Capacity Manual analyses procedures are more macroscopic in nature and evaluate the entire one hour of vehicle flow from an overall rather than individual vehicle basis. The Unsignalized Intersection analyses using these procedures (which are generated by the Synchro software) indicate somewhat different levels of service for both Stanley/Riverview and the proposed Aroma Joe's drive (see summary attached). As noted above, MDOT procedures generally use the SimTraffic results; the HCM Unsignalized results are included for completeness.



Not to Scale

Figure 3
2014 AM (PM) Peak Hour Traffic Volumes

Aroma Joe's and Retail / Center Street, Auburn, Maine



Not to Scale

Figure 4
2014 AM (PM) Peak Hour Traffic Volumes - Post-Development
Aroma Joe's and Retail / Center Street, Auburn, Maine

1: Stanley & Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NEL	NBT	INR	SBL	SBT	SEB
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Delay / Veh (s)	31.1	5.0	6.5		32.8	5.5	5.4	1.8	1.4	4.9	0.1	0.1
Stop Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
St Del/Veh (s)	29.5	3.5	6.4		29.0	5.6	3.7	0.5	0.5	3.8	0.0	0.0

1: Stanley & Performance by movement

Movement	All
Total Delay (hr)	0.5
Delay / Veh (s)	1.2
Stop Delay (hr)	0.2
St Del/Veh (s)	0.5

4: AJ Exit & Performance by movement

Movement	NBT	SBT	All
Total Delay (hr)	0.0	0.0	0.1
Delay / Veh (s)	0.2	0.2	0.2
Stop Delay (hr)	0.0	0.0	0.0
St Del/Veh (s)	0.0	0.0	0.0

6: AJ Entry & Center St. Performance by movement

Movement	NBT	SBT	All
Total Delay (hr)	0.0	0.1	0.1
Delay / Veh (s)	0.3	0.5	0.4
Stop Delay (hr)	0.0	0.0	0.0
St Del/Veh (s)	0.0	0.2	0.1

Total Network Performance

Total Delay (hr)	0.9
Delay / Veh (s)	2.3
Stop Delay (hr)	0.3
St Del/Veh (s)	0.7

Queuing and Blocking Report
Center-Stanley AM Base

7/2/2014

Intersection: 1: Stanley &

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	LT	TR
Maximum Queue (ft)	62	28	48	31	10
Average Queue (ft)	24	6	9	5	0
95th Queue (ft)	55	24	34	25	5
Link Distance (ft)	573	406	1229	28	28
Upstream Blk Time (%)				1	0
Queuing Penalty (veh)				3	0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: AJ Exit &

Movement	NB	SB
Directions Served	T	T
Maximum Queue (ft)	30	44
Average Queue (ft)	1	2
95th Queue (ft)	12	21
Link Distance (ft)	28	81
Upstream Blk Time (%)	0	0
Queuing Penalty (veh)	0	0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 6: AJ Entry & Center St.

Movement
Directions Served
Maximum Queue (ft)
Average Queue (ft)
95th Queue (ft)
Link Distance (ft)
Upstream Blk Time (%)
Queuing Penalty (veh)
Storage Bay Dist (ft)
Storage Blk Time (%)
Queuing Penalty (veh)

Network Summary

Network wide Queuing Penalty: 3

1: Stanley & Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Delay / Veh (s)	21.1	8.0	4.7	6.0	23.4	5.1	4.8	2.0	1.4	4.8	0.1	0.0
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
St Del/Veh (s)	19.5	6.5	4.6	5.0	19.2	5.2	2.9	0.5	0.5	3.8	0.0	0.0

1: Stanley & Performance by movement

Movement	All
Total Delay (hr)	0.5
Delay / Veh (s)	1.2
Stop Delay (hr)	0.2
St Del/Veh (s)	0.5

4: AJ Exit & Performance by movement

Movement	EBL	EBR	NBL	SBL	All
Total Delay (hr)	0.3	0.2	0.0	0.1	0.6
Delay / Veh (s)	24.5	12.5	0.2	0.4	1.4
Stop Delay (hr)	0.3	0.2	0.0	0.0	0.5
St Del/Veh (s)	22.9	12.3	0.0	0.1	1.1

6: AJ Entry & Center St. Performance by movement

Movement	NBL	NBT	SBL	SBR	All
Total Delay (hr)	0.1	0.1	0.1	0.0	0.3
Delay / Veh (s)	4.8	0.3	0.7	0.9	0.7
Stop Delay (hr)	0.0	0.0	0.0	0.0	0.1
St Del/Veh (s)	3.4	0.0	0.2	0.3	0.2

Total Network Performance

Total Delay (hr)	1.5
Delay / Veh (s)	3.5
Stop Delay (hr)	0.8
St Del/Veh (s)	1.8

Queuing and Blocking Report
Center St. AM Build

7/2/2014

Intersection: 1: Stanley &

Movement	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	LT	TR
Maximum Queue (ft)	50	28	40	19	39	24
Average Queue (ft)	22	6	8	1	14	1
95th Queue (ft)	46	25	32	11	40	10
Link Distance (ft)	573	406	1229	1229	28	28
Upstream Blk Time (%)					3	0
Queuing Penalty (veh)					11	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: AJ Exit &

Movement	EB	EB	SB	SB
Directions Served	LR	T	T	TR
Maximum Queue (ft)	104	6	59	12
Average Queue (ft)	46	0	8	1
95th Queue (ft)	82	4	38	9
Link Distance (ft)	404	28	81	81
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: AJ Entry & Center St.

Movement	WB	WB
Directions Served	L	TR
Maximum Queue (ft)	52	4
Average Queue (ft)	20	0
95th Queue (ft)	48	3
Link Distance (ft)	81	776
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 12

1: Stanley & Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay (hr)	0.8	0.0	1.1	0.1	0.0	0.4	0.0	1.2	0.0	0.0	0.0	0.0
Delay / Veh (s)	209.5	139.3	144.1	45.7	59.8	40.6	5.9	4.0	3.3	11.9	0.1	0.0
Stop Delay (hr)	0.8	0.0	1.1	0.1	0.0	0.4	0.0	0.4	0.0	0.0	0.0	0.0
St Del/Veh (s)	207.8	136.5	144.0	44.2	57.8	40.6	3.9	1.4	1.2	10.9	0.0	0.0

1: Stanley & Performance by movement

Movement	All
Total Delay (hr)	3.7
Delay / Veh (s)	6.6
Stop Delay (hr)	2.9
St Del/Veh (s)	5.1

4: AJ Exit & Performance by movement

Movement	NBT	SBT	All
Total Delay (hr)	0.1	0.1	0.2
Delay / Veh (s)	0.3	0.3	0.3
Stop Delay (hr)	0.0	0.0	0.1
St Del/Veh (s)	0.1	0.2	0.1

6: AJ Entry & Center St. Performance by movement

Movement	NBT	SBT	All
Total Delay (hr)	0.1	0.1	0.3
Delay / Veh (s)	0.4	0.5	0.5
Stop Delay (hr)	0.0	0.1	0.1
St Del/Veh (s)	0.0	0.2	0.1

Total Network Performance

Total Delay (hr)	4.6
Delay / Veh (s)	8.1
Stop Delay (hr)	3.0
St Del/Veh (s)	5.4

Queuing and Blocking Report
Center-Stanley PM Base

7/2/2014

Intersection: 1: Stanley &

Movement	EB	WB	NB	SB	SB	
Directions Served	LTR	LTR	L	TR	LT	TR
Maximum Queue (ft)	209	89	40	10	39	24
Average Queue (ft)	73	32	14	0	8	1
95th Queue (ft)	212	71	41	8	31	11
Link Distance (ft)	573	406	1229	1229	28	28
Upstream Blk Time (%)					3	0
Queuing Penalty (veh)					12	0
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 4: AJ Exit &

Movement	NB	SB	SB
Directions Served	T	T	TR
Maximum Queue (ft)	36	74	15
Average Queue (ft)	2	7	0
95th Queue (ft)	19	40	10
Link Distance (ft)	28	81	81
Upstream Blk Time (%)	0	0	0
Queuing Penalty (veh)	0	2	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 6: AJ Entry & Center St.

Movement	SB	SB
Directions Served	T	TR
Maximum Queue (ft)	6	7
Average Queue (ft)	0	0
95th Queue (ft)	4	5
Link Distance (ft)	776	776
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 14

1: Stanley & Performance by movement

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SEL	SBT	SEB
Total Delay (hr)	0.6	0.0	1.2	0.1	0.0	0.3	0.0	1.3	0.0	0.0	0.0	0.0
Delay / Veh (s)	152.6	86.9	125.9	46.7	74.8	40.4	5.4	4.3	2.1	9.1	0.1	0.1
Stop Delay (hr)	0.5	0.0	1.2	0.1	0.0	0.3	0.0	0.4	0.0	0.0	0.0	0.0
St Del/Veh (s)	150.9	83.0	125.8	45.2	73.7	40.6	3.6	1.4	0.8	8.2	0.0	0.0

1: Stanley & Performance by movement

Movement	All
Total Delay (hr)	3.6
Delay / Veh (s)	6.4
Stop Delay (hr)	2.7
St Del/Veh (s)	4.8

4: AJ Exit & Performance by movement

Movement	EBL	EBR	NBL	SBT	All
Total Delay (hr)	2.9	1.6	0.1	0.1	4.7
Delay / Veh (s)	194.1	144.2	0.4	0.3	8.3
Stop Delay (hr)	2.9	1.6	0.0	0.0	4.5
St Del/Veh (s)	194.0	145.4	0.1	0.1	8.1

6: AJ Entry & Center St. Performance by movement

Movement	NBL	NBT	SEB	SEB	All
Total Delay (hr)	0.1	0.1	0.1	0.0	0.4
Delay / Veh (s)	4.9	0.4	0.7	0.5	0.7
Stop Delay (hr)	0.1	0.0	0.0	0.0	0.1
St Del/Veh (s)	3.5	0.0	0.2	0.2	0.2

Total Network Performance

Total Delay (hr)	9.1
Delay / Veh (s)	15.2
Stop Delay (hr)	7.4
St Del/Veh (s)	12.4

Queuing and Blocking Report
Center-Stanley PM Build

7/2/2014

Intersection: 1: Stanley &

Movement	EB	WB	NB	SB	SB
Directions Served	LTR	LTR	L	TR	LT
Maximum Queue (ft)	180	98	52	32	35
Average Queue (ft)	66	30	15	2	8
95th Queue (ft)	213	72	43	15	31
Link Distance (ft)	573	406	1229	1229	28
Upstream Blk Time (%)					2
Queuing Penalty (veh)					10
Storage Bay Dist (ft)					0
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 4: AJ Exit &

Movement	EB	NB	SB	SB
Directions Served	LR	T	T	T
Maximum Queue (ft)	298	10	52	53
Average Queue (ft)	140	0	4	6
95th Queue (ft)	294	5	25	32
Link Distance (ft)	404	28	28	81
Upstream Blk Time (%)	0	0	0	0
Queuing Penalty (veh)	0	0	0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 6: AJ Entry & Center St.

Movement	NB	SB
Directions Served	L	T
Maximum Queue (ft)	54	6
Average Queue (ft)	21	0
95th Queue (ft)	48	4
Link Distance (ft)	81	776
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 11

HCM Unsignalized Intersection Capacity Analysis

1: Stanley &

7/2/2014

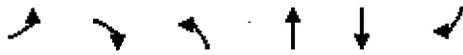


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↔			↔		↑	↑↑			↑↑		
Volume (veh/h)	3	1	31	1	1	5	17	576	9	7	718	26	
Sign Control		Stop			Stop			Free			Free		
Grade		0%			0%			0%			0%		
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60	0.92	0.92	0.92	0.92	0.92	0.92	
Hourly flow rate (vph)	5	2	52	2	2	8	18	626	10	8	780	28	
Pedestrians													
Lane Width (ft)													
Walking Speed (ft/s)													
Percent Blockage													
Right turn flare (veh)													
Median type							None			None			
Median storage veh													
Upstream signal (ft)													
pX, platoon unblocked													
vC, conflicting volume	1169	1483	404	1126	1492	318	809				636		
vC1, stage 1 conf vol													
vC2, stage 2 conf vol													
vCu, unblocked vol	1169	1483	404	1126	1492	318	809				636		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.3				4.2		
tC, 2 stage (s)													
tR (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3				2.2		
p0 queue free %	96	99	91	99	99	99	98				99		
cM capacity (veh/h)	140	119	593	143	121	684	775				923		
All-Approach Lane													
Volume Total	58	12	18	417	218	398	418						
Volume Left	5	2	18	0	0	8	0						
Volume Right	52	8	0	0	10	0	28						
cSH	427	310	775	1700	1700	923	1700						
Volume to Capacity	0.14	0.04	0.02	0.25	0.13	0.01	0.25						
Queue Length 95th (ft)	12	3	2	0	0	1	0						
Control Delay (s)	14.8	17.1	9.8	0.0	0.0	0.3	0.0						
Lane LOS	B	C	A				A						
Approach Delay (s)	14.8	17.1	0.3				0.1						
Approach LOS	B	C											
Intersection Summary													
Average Delay			0.9										
Intersection Capacity Utilization			35.6%					ICU Level of Service			A		
Analysis Period (min)	15												

HCM Unsignalized Intersection Capacity Analysis

4: AJ Exit &

7/2/2014



Movement	EBL	EBR	NBL	NB	SEB	SBR
Lane Configurations	↙		↙	↑↑	↑↑	
Volume (veh/h)	0	0	0	584	751	0
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)	0	0	0	635	816	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1134	408	816			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1134	408	816			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	199	598	820			
Direction Lane	EBL	NBL	NB	SEB	SBR	
Volume Total	0	0	317	317	544	272
Volume Left	0	0	0	0	0	0
Volume Right	0	0	0	0	0	0
cSH	1700	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.19	0.19	0.32	0.16
Queue Length 95th (ft)	0	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	A					
Approach Delay (s)	0.0	0.0			0.0	
Approach LOS	A					
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	24.1%			ICU Level of Service		A
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis
 6: AJ Entry & Center St.

7/2/2014



Movement	EBL	EBR	NBL	NBT	SEB	SEB
Lane Configurations			↶	↷	↷	
Volume (veh/h)	0	0	0	584	751	0
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)	0	0	0	635	816	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1134	408	816			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1134	408	816			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tP (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	199	598	820			
Approach Lane #						
Volume Total	0	317	317	544	272	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.19	0.19	0.32	0.16	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0		0.0			
Approach LOS						
Intersection Summary						
Average Delay	0.0					
Intersection Capacity Utilization	24.1%		ICU Level of Service		A	
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

1: Stanley &

7/2/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBR
Lane Configurations		↕			↕		↙	↕			↕
Volume (veh/h)	3	1	31	1	1	5	17	593	16	26	735
Sign Control		Stop			Stop			Free			Free
Grade		0%			0%			0%			0%
Peak Hour Factor	0.60	0.60	0.60	0.60	0.60	0.60	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	2	52	2	2	8	18	645	17	28	799
Pedestrians											
Lane Width (ft)											
Walking Speed (ft/s)											
Percent Blockage											
Right turn flare (veh)											
Median type											
Median storage (veh)											
Upstream signal (ft)											
pX, platoon unblocked											
vC, conflicting volume	1228	1558	403	1199	1553	331	807			662	
vC1, stage 1 conf vol											
vC2, stage 2 conf vol											
vCu, unblocked vol	1228	1558	403	1199	1553	331	807			662	
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.3			4.2	
tC, 2 stage (s)											
f (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2	
p0 queue free %	96	98	91	99	98	99	98			97	
cM capacity (veh/h)	125	104	594	124	108	671	776			903	
Detailed Summary											
Volume Total	58	12	18	430	232	428	407				
Volume Left	5	2	18	0	0	28	0				
Volume Right	52	8	0	0	17	0	8				
cSH	408	283	776	1700	1700	903	1700				
Volume to Capacity	0.14	0.04	0.02	0.25	0.14	0.03	0.24				
Queue Length 95th (ft)	12	3	2	0	0	2	0				
Control Delay (s)	15.3	18.3	9.7	0.0	0.0	1.0	0.0				
Lane LOS	C	C	A			A					
Approach Delay (s)	15.3	18.3	0.3			0.5					
Approach LOS	C	C									
Intersection Summary											
Average Delay			1.1								
Intersection Capacity Utilization			49.5%	ICU Level of Service		A					
Analysis Period (min)			15								

HCM Unsignalized Intersection Capacity Analysis

4: AJ Exit &

7/2/2014



Movement	EBL	EBR	NBL	NBT	SBL	SBR
Lane Configurations	↘		↙	↑↑	↑↘	
Volume (veh/h)	44	51	0	601	786	0
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)	48	55	0	653	854	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1181	427	854			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1181	427	854			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tE (s)	3.5	3.3	2.2			
p0 queue free %	74	90	100			
cM capacity (veh/h)	186	581	794			
Direction Lane #	EBL	EBR	NBL	NBT	SBL	SBR
Volume Total	103	0	327	327	570	285
Volume Left	48	0	0	0	0	0
Volume Right	55	0	0	0	0	0
cSH	293	1700	1700	1700	1700	1700
Volume to Capacity	0.35	0.00	0.19	0.19	0.34	0.17
Queue Length 95th (ft)	38	0	0	0	0	0
Control Delay (s)	23.8	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	23.8	0.0			0.0	
Approach LOS	C					
Intersection Summary						
Average Delay	1.5					
Intersection Capacity Utilization	34.0%			ICU Level of Service		A
Analysis Period (min)	15					

HCM Unsignalized Intersection Capacity Analysis

6: AJ Entry & Center St.

7/2/2014

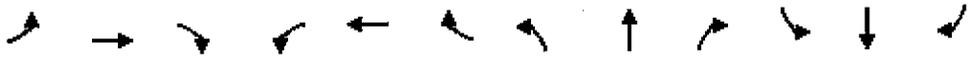


Movement	EBL	EBR	NBL	NBT	SBT	SEB
Lane Configurations			↵	↑↑	↑↵	
Volume (veh/h)	0	0	44	601	717	51
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	48	653	779	55
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1229	417	835			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1229	417	835			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	94			
cM capacity (veh/h)	163	590	807			
Direction/Lane #						
	NB1	NB2	NB3	SB1	SB2	
Volume Total	48	327	327	520	315	
Volume Left	48	0	0	0	0	
Volume Right	0	0	0	0	55	
cSH	807	1700	1700	1700	1700	
Volume to Capacity	0.06	0.19	0.19	0.31	0.19	
Queue Length 95th (ft)	5	0	0	0	0	
Control Delay (s)	9.7	0.0	0.0	0.0	0.0	
Lane LOS	A					
Approach Delay (s)	0.7			0.0		
Approach LOS						
Intersection Summary						
Average Delay			0.3			
Intersection Capacity Utilization			31.4%		ICU Level of Service A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

1: Stanley &

7/2/2014



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↙	↕			↕	
Volume (veh/h)	15	1	31	6	1	31	28	1086	9	13	783	13
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.77	0.77	0.77	0.70	0.70	0.70	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	19	1	40	9	1	44	30	1180	10	14	851	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type												
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1582	2138	433	1741	2140	595	865			1190		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1582	2138	433	1741	2140	595	865			1190		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	68	97	93	83	97	90	96			98		
cM capacity (veh/h)	60	44	566	49	46	452	761			571		
Direction Lane												
Volume Total	61	54	30	787	403	440	440					
Volume Left	19	9	30	0	0	14	0					
Volume Right	40	44	0	0	10	0	14					
cSH	144	179	761	1700	1700	571	1700					
Volume to Capacity	0.42	0.30	0.04	0.46	0.24	0.02	0.26					
Queue Length 95th (ft)	47	30	3	0	0	2	0					
Control Delay (s)	47.4	33.7	9.9	0.0	0.0	0.7	0.0					
Lane LOS	E	D	A			A						
Approach Delay (s)	47.4	33.7	0.2			0.4						
Approach LOS	E	D										
Intersection Summary												
Average Delay	2.4											
Intersection Capacity Utilization	43.1%											
ICU Level of Service	A											
Analysis Period (min)	15											

HCM Unsignalized Intersection Capacity Analysis

4: AJ Exit &

7/2/2014



Movement	EB	WB	NB	SB	EB
Lane Configurations	↵		↵	↕↕	↕↕
Volume (veh/h)	0	0	0	1132	809
Sign Control	Stop			Free	Free
Grade	0%			0%	0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92
Hourly flow rates (vph)	0	0	0	1230	879
Pedestrians					
Lane Width (ft)					
Walking Speed (ft/s)					
Percent Blockage					
Right turn flare (veh)					
Median type					
Median storage (veh)					
Upstream signal (ft)					
pX, platoon unblocked					
vC, conflicting volume	1495	440	879		
vC1, stage 1 conf vol					
vC2, stage 2 conf vol					
vCu, unblocked vol	1495	440	879		
tC, single (s)	6.8	6.9	4.1		
tC, 2 stage (s)					
tP (s)	3.5	3.3	2.2		
p0 queue free %	100	100	100		
cM capacity (veh/h)	116	571	777		
Operational					
Volume Total	0	0	615	615	586
Volume Left	0	0	0	0	0
Volume Right	0	0	0	0	0
cSH	1700	1700	1700	1700	1700
Volume to Capacity	0.00	0.00	0.36	0.36	0.34
Queue Length 95th (ft)	0	0	0	0	0
Control Delay (s)	0.0	0.0	0.0	0.0	0.0
Lane LOS	A				
Approach Delay (s)	0.0	0.0		0.0	
Approach LOS	A				
Performance Summary					
Average Delay	0.0				
Intersection Capacity Utilization	34.6%		ICU Level of Service		A
Analysis Period (min)	15				

HCM Unsignalized Intersection Capacity Analysis
 6: AJ Entry & Center St.

7/2/2014



Movement	EBL	EBR	WB	NBT	SB	SEB
Lane Configurations			↵	↑↑	↑↑	
Volume (veh/h)	0	0	0	1132	809	0
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)	0	0	0	1230	879	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None	None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1495	440	879			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1495	440	879			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	116	571	777			
Detailed Capacity						
Volume Total	0	615	615	586	293	
Volume Left	0	0	0	0	0	
Volume Right	0	0	0	0	0	
cSH	1700	1700	1700	1700	1700	
Volume to Capacity	0.00	0.36	0.36	0.34	0.17	
Queue Length 95th (ft)	0	0	0	0	0	
Control Delay (s)	0.0	0.0	0.0	0.0	0.0	
Lane LOS						
Approach Delay (s)	0.0				0.0	
Approach LOS						
Intersection Summary						
Average Delay				0.0		
Intersection Capacity Utilization				34.6%	ICU Level of Service	A
Analysis Period (min)				15		

HCM Unsignalized Intersection Capacity Analysis

1: Stanley &

7/2/2014



Movement	NBL	EBT	EBR	WBL	WBT	WBR	SBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↖	↗			↕
Volume (veh/h)	15	1	31	6	1	31	28	1103	9	13	801	13
Sign Control		Stop			Stop			Free				Free
Grade		0%			0%			0%				0%
Peak Hour Factor	0.77	0.77	0.77	0.70	0.70	0.70	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	19	1	40	9	1	44	30	1199	10	14	871	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None				None
Median storage veh												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1611	2176	442	1769	2178	604	885			1209		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1611	2176	442	1769	2178	604	885			1209		
IC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2		
IC, 2 stage (s)												
IF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	66	97	93	82	97	90	96			97		
CM capacity (veh/h)	57	42	557	47	44	446	748			562		
Volume												
Volume Total	61	54	30	799	409	449	449					
Volume Left	19	9	30	0	0	14	0					
Volume Right	40	44	0	0	10	0	14					
cSH	137	172	748	1700	1700	562	1700					
Volume to Capacity	0.46	0.32	0.04	0.47	0.24	0.03	0.26					
Queue Length 95th (ft)	50	32	3	0	0	2	0					
Control Delay (s)	50.9	35.4	10.0	0.0	0.0	0.7	0.0					
Lane LOS	F	E	B			A						
Approach Delay (s)	50.9	35.4	0.2			0.4						
Approach LOS	F	E										
ICU (Capacity/Utilization)												
Average Delay				2.5								
Intersection Capacity Utilization			43.6%									
ICU Level of Service										A		
Analysis Period (min)				15								

HCM Unsignalized Intersection Capacity Analysis
 4: AJ Exit &

7/2/2014



Movement	EB	NB	NBL	NB	SB	WB
Lane Configurations	↘		↙	↑↑	↑↑	
Volume (veh/h)	54	41	0	1149	786	0
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)	59	45	0	1249	854	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1479	427	854			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1479	427	854			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	51	92	100			
CM capacity (veh/h)	119	581	794			
Direction: EB						
Volume Total	103	0	624	624	570	285
Volume Left	59	0	0	0	0	0
Volume Right	45	0	0	0	0	0
cSH	181	1700	1700	1700	1700	1700
Volume to Capacity	0.57	0.00	0.37	0.37	0.34	0.17
Queue Length 95th (ft)	76	0	0	0	0	0
Control Delay (s)	48.5	0.0	0.0	0.0	0.0	0.0
Lane LOS	E					
Approach Delay (s)	48.5	0.0			0.0	
Approach LOS	E					
Intersection Summary						
Average Delay			2.3			
Intersection Capacity Utilization			43.9%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis

6: AJ Entry & Center St.

7/2/2014



Movement	EBL	EBR	NBL	NBT	SEB	SEB
Lane Configurations			↵	↕	↕	↵
Volume (veh/h)	0	0	55	1149	786	40
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)	0	0	60	1249	854	43
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type						
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1620	449	898			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1620	449	898			
tC, single (s)	6.8	6.9	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	92			
cM capacity (veh/h)	88	563	765			
Directional Data						
	NBL	NBT	SEB	SEB		
Volume Total	60	624	624	570	328	
Volume Left	60	0	0	0	0	
Volume Right	0	0	0	0	43	
cSH	765	1700	1700	1700	1700	
Volume to Capacity	0.08	0.37	0.37	0.34	0.19	
Queue Length 95th (ft)	6	0	0	0	0	
Control Delay (s)	10.1	0.0	0.0	0.0	0.0	
Lane LOS	B					
Approach Delay (s)	0.5			0.0		
Approach LOS						
Analysis Summary						
Average Delay			0.3			
Intersection Capacity Utilization			35.1%	ICU Level of Service		A
Analysis Period (min)			15			