BRADLEY SQUARE

TRAFFIC AND PARKING STUDY

prepared for

The Martha's Vineyard Commission

Oak Bluffs, Massachusetts

prepared by

C3 Consulting Group

April 2008

CONTENTS

FIGURES Page

APPENDIX

INTRODUCTION

Project Site

The project site is located on Masonic Avenue, Oak Bluffs, Massachusetts. It consists of Parcels 193 and 195 containing a total area of approximately 19,523 square feet. The boundary on the Dukes County Road side of the property is 81 feet and the frontage on Masonic Avenue is 244 feet. The site location is presented in Figure 1 and is the area on Masonic Avenue between Masonic Avenue and Warwick Avenue. The Denniston Building, former home of the Bradley Memorial Church and presently vacant, is located on Parcel 195. Parcel 193 is zoned B-1 Commercial District, and Parcel 195 is comprised of B-1 Commercial and R-1 Residential Districts. Two art galleries are located immediately north of the Dukes County Avenue and Masonic Avenue intersection and in close proximity to the proposed project.

Study Methodology

This study methodology consists of four general phases, beginning with a field visit to view the site and observe traffic operations at key intersections in proximity to the Masonic Avenue site. An assessment of existing parking opportunities on the site and on adjacent roadways was also conducted.

In the second phase, existing traffic volumes (No-Build Conditions) were quantified through the installation of automatic traffic recorders (ATR) at strategic locations within the study area. Manual turning movement (MTM) counts were conducted at key intersections. Other existing conditions, such as vehicular crash history, sight distances, and traffic control devices, were also quantified.

The third phase estimates, to the extent possible, the likely activities (Build Conditions) at the proposed Bradley Square development and an estimated change in traffic and parking demands resulting from the proposed development. Traffic count data are factored to a summer season to reflect the additional background traffic generated by summer residents and visitors and then factored to a 2010 level. The estimate of trips generated by the forecast of activities at Bradley Square are added to the forecast
build-out year (2010) conditions and traffic operations analyses are conducted for the key intersections.

The final phase addresses conclusions and mitigation action suggestions regarding the potential impact of improvements at Bradley Square, specifically as related to traffic and parking.

EXISTING CONDITIONS

Roadway System

The Bradley Square development property has its northerly frontage on Masonic Avenue. The westerly boundary of the site is Dukes County Avenue. Residential properties make up the easterly and southerly boundaries.

The Masonic Avenue pavement is approximately 20 feet wide within a 40 foot
right-of-way. The roadway connects to Dukes County Avenue at its westerly end and to Circuit Avenue at the easterly end. Circuit Avenue is located one residential property

Figure 1 Bradley Square Site Location

removed from the proposed Bradley Square development. Dukes County Avenue and Circuit Avenue are major north-south roadways in Oak Bluffs, and Vineyard Avenue is a major east west roadway.

In addition to the Dukes County Avenue and Vineyard Avenue intersections with Masonic Avenue, the intersection of Dukes County Avenue and Vineyard Avenue is included in the study as an intersection of interest in terms of traffic operations. The intersection is located approximately 110 feet north of the intersection of Masonic Avenue and Dukes County Avenue.

Vineyard Avenue has a curbed sidewalk on the northerly side. There are no sidewalks on Dukes County Avenue in the project area. On Circuit Avenue, there is a curbed sidewalk on the easterly side and to the south of Masonic Avenue.

Traffic Control Devices

An inventory of traffic control devices was conducted at the three key intersections. The findings are as follow:

- Masonic Avenue, Dukes County Avenue, and Pocasset Avenue
  - stop sign on Masonic Avenue
  - stop sign on Pocasset Avenue
  - painted stop-bar is barely visible on the pavement
  - STOP legend is barely visible on the pavement
  - 25 mph speed sign on northbound Dukes County Avenue

- Masonic Avenue and Circuit Avenue
  - stop sign on Masonic Avenue
  - painted stop-bar is barely visible on the pavement
  - SHARE THE ROAD bicycle sign on Circuit Avenue south of Masonic Avenue

- Vineyard Avenue and Dukes County Avenue
  - stop signs on three approaches
  - NO PARKING HERE TO CORNER signs both sides of Vineyard Avenue and on Dukes County Avenue southbound both sides of the intersection
  - double yellow center line on Vineyard Avenue
  - double yellow center line on Dukes County Avenue
  - Vineyard Avenue is posted for a speed of 30 mph

Traffic Counts

Automatic Traffic Recorders:
Automatic traffic recorders (ATR) were installed from March 21 to March 27 at the following locations:

- Masonic Avenue, between Dukes County Avenue and Circuit Avenue
- Dukes County Avenue between Masonic Avenue and Vineyard Avenue
- Circuit Avenue between Masonic Avenue and Warwick Avenue

The traffic data were recorded to establish a 2008 No-Build existing base condition for the hours during which unit owners are most probably exiting and entering the buildings. A morning (AM) time of 7:00 to 8:00, an evening (PM) time of 5:00 to 6:00, and a Saturday Mid-Day time of 11:00 to 12:00 were selected. These times are assumed peak hours of the trip generator (Bradley Square) rather than the peak hour of traffic on adjacent streets. The 24-hour count data are contained in the Appendix.

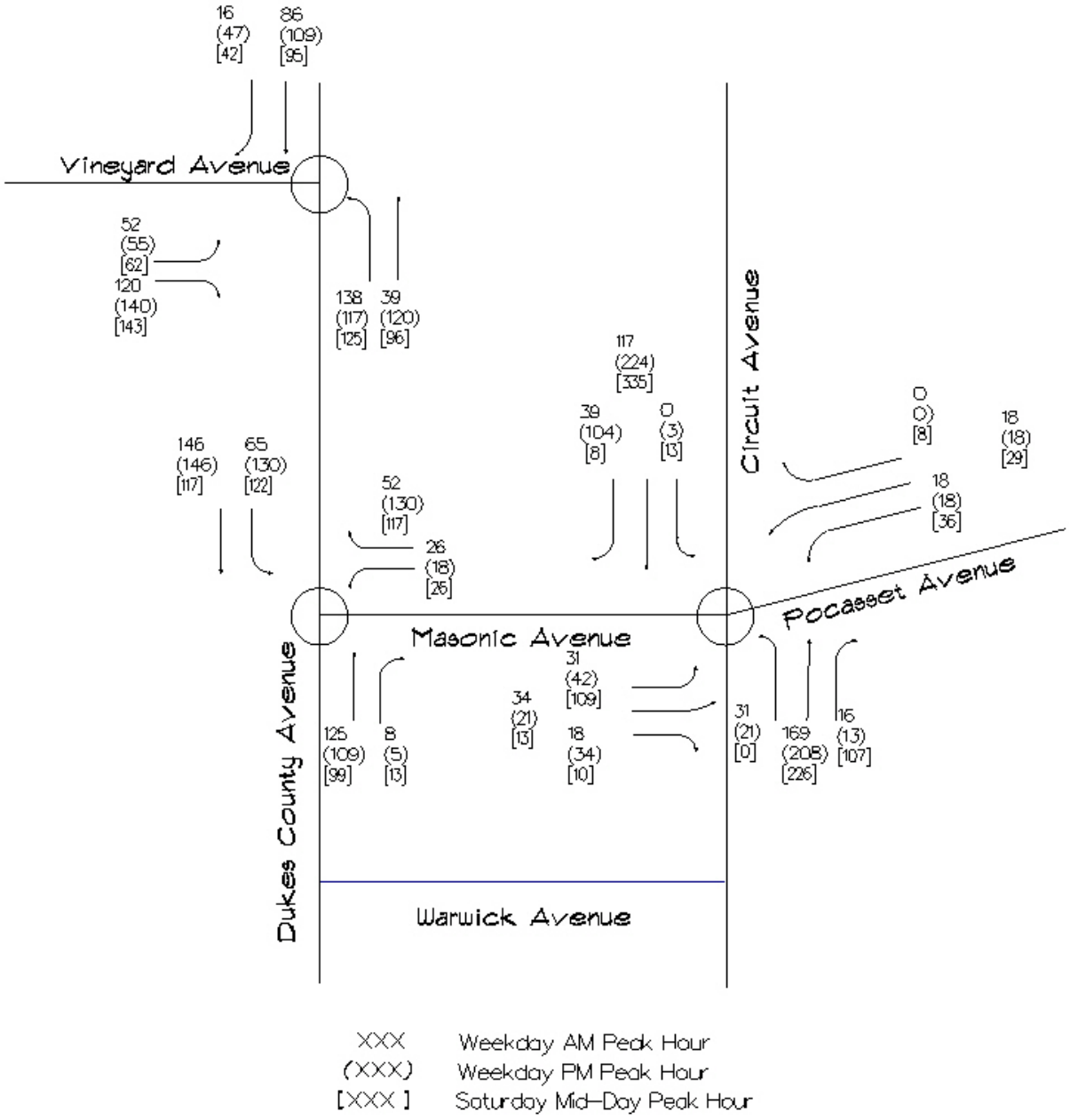
Manual Turning Movement Counts:
Manual turning movement (MTM) counts were conducted for the March 2008 peak weekday hour (AM and PM) and the Saturday Mid-Day peak hour at the intersections of:

- Masonic Avenue/Pocasset Avenue/Circuit Avenue
- Masonic Avenue/Dukes County Road
- Dukes County Road/Vineyard Avenue

Other traffic studies conducted on the Vineyard have used a factor of 2.6 to adjust

off-season traffic counts to a summer season level. Therefore, the existing March 2008 turning movement counts for the three peak periods were increased by a factor of 2.6 to represent 2008 summer traffic. The results are presented in Figure 2.

Figure 2 2008 No-Build Summer Peak Turning Movements



Vehicle Speeds

Speeds were recorded at three locations over an eleven-day period in March, 2008. The average of vehicles traveling at or under 30 mph during the observation period for each of the locations follows:

Masonic Avenue - 85 percent
Circuit Avenue - 63 percent
Dukes County Avenue - 99 percent

The high percentage of speeds under 30 mph on Dukes County Avenue is a result of the three-way stop conditions at the Vineyard Avenue intersection where vehicles are either accelerating or decelerating at the point where the speeds were recorded.

Sight Distance

Sight distance observations were made at the Masonic Avenue/Dukes County Avenue, the intersection most affected by the physical location Bradley Square project buildings. This location is assessed because of the construction of the Bradley I building, which has a proposed building setback at the right front corner of approximately nine (9) feet from the property line at Dukes County Avenue. On the northeast corner of the intersection, the front of the Periwinkle Studio is approximately four (4) feet from edge of Dukes County Avenue pavement and a fence is less than two (2) off the pavement edge.

The intersection sight distance (ISD) for vehicles exiting a side street onto a roadway with an average speed of 30 mph is 110 feet. This distance provides the entering vehicle driver the time required to react and accelerate to safely merge (right turn) or cross (left turn) oncoming traffic.

On Masonic Avenue (Figure 3), at the intersection and looking left, the alignment of Dukes County Avenue is straight with a slight rise and is in view a distance of over 110 feet. Drivers exiting Masonic Avenue at Dukes County Avenue must almost enter the intersection to have a clear view southerly because of trees. Looking to the right, Dukes County Avenue is relatively straight and level for a distance beyond the Vineyard
Avenue intersection, which is approximately 110 feet to the north. A similar sight line condition exists to the north because of the proximity of the Periwinkle Gallery to the road right-of-way. Both photographs were taken as if the vehicle were nearly into the intersection.

Parking

Existing Masonic Avenue on-street parking is informal with parking on unmarked shoulders available on both sides. Off-pavement parking is possible due to the absence of raised curbing. Parking on adjacent roadways is similar. There are “No Parking” signs which prohibit parking within 20 feet (typical) at the Dukes County Avenue and Vineyard Avenue intersection approaches.

On a broader scale, parking in the neighborhood was quantified by three parties: a Dukes County Avenue resident, Ms. Alison Shaw, identified 123 spaces within a three-minute walk to the proposed project; the applicant identified 187 spaces; and MVC staff identified 82 possible spaces within a shorter distance.

Figure 3 Masonic Avenue Sight Distances at Dukes County Avenue

The applicant advises that starting summer 2008, shuttle bus services along Dukes County Avenue and Circuit Avenue will go into operation. Larger events, 30 – 74 people, will be provided with off-site parking at the high school and town hall. In the off-season, the sponsors of large events will be responsible for shuttle service.

Vehicle Crash History

For the three most recent years (2004-2006) for which MassHighway data are available, five (5) of the six (6) reported vehicle crashes occurred at the Masonic Avenue/Circuit Avenue intersection, four of which were angle-type collisions. The one vehicle crash reported for the Dukes County Avenue/Vineyard Avenue intersection was a rear-end collision. No incidents were reported at the Dukes County Avenue/Masonic Avenue intersection. The reported vehicle crash data are summarized in Table 1.

Public Transportation

The Vineyard Transit Authority (VTA) Route No. 7 passes through the Circuit Avenue/Masonic Avenue/Pocasset Avenue intersection. The service is provided throughout the year, with a more frequent schedule in the summer. The applicant advises that the town will be establishing off-site parking and a shuttle bus that will serve Dukes County Avenue from May to September 2008.

Table 1 - MassHighway Crash Data - Oak Bluffs, Massachusetts

Year	Time	Severity	Collision Type	Road Surface	Ambient Light	Weather	Intersection
2006	5:49 AM	P.D.	Angle	Wet	Dark	Cloudy	Circuit Ave./Masonic Ave.
	5:21 PM	N.F.I.	Angle	Wet	Dark	Rain	Circuit Ave./Masonic Ave.
	11:45 AM	N.F.I.	Angle	Dry	Daylight	Cloudy	Circuit Ave./Masonic Ave.
	2:15 PM	P.D.	Angle	Dry	Daylight	Clear	Circuit Ave./Masonic Ave.
2005	3:40 PM	N/R	Rear-End	Dry	Daylight	Cloudy	Circuit Ave./Masonic Ave.
2004	9:00 AM	N.F.I.	Rear-End	Dry	Daylight	Cloudy	Dukes County Ave./Vineyard Ave.
	Severity:	P.D. - Property Damage;		N.F.I. - Non-Fatal Injury;		N/R - No Record	

Bicycle Paths

There are no bicycle paths in the vicinity of the Bradley Square development. There is a “Share the Road” bicycle sign on southbound Circuit Avenue south of Masonic Avenue.

FUTURE CONDITIONS

Proposed Bradley Square

According to information provided by the co-applicants (Island Housing Trust and Island Affordable Housing Fund), the intent of the proposed Bradley Square project is to move the Denniston Building, the former Bradley Memorial Church, approximately 70 feet to the east onto a new foundation with a full basement, renovate the first floor sanctuary into a multi-use Cultural Center, and renovate the back of the first floor into an office and public restroom. Refer to Figure 4 for a revised site plan layout prepared by Hutker Architects, dated March 13, 2008.The second floor of the Denniston Building will be renovated into two affordable residential units. A full basement in the Denniston Building will include a second public restroom, a room for a

commercial kitchen that will be designed but not built, and storage space for the Cultural Center, the office, and the two residential units. On the side of the Denniston Building will be a small community green.

Two identical 4,033 square foot buildings (not including basement area) will be constructed. Bradley I fronting on Dukes County Road, and Bradley II fronting on Masonic Avenue, will each include two affordable live/work artist units on the ground floor, two affordable residential units on the second floor, and one market rate residential unit on the third floor. Full basements in each Bradley Building will include storage space for each of the residential units and the artist live/work units. The proposed uses are presented in Table 2.

Table 2 - Proposed Bradley Square Buildings Use

Use	Bradley I	Bradley II	Denniston Building	Totals
1 Bedroom	2	2	1	5
2 Bedroom	1	1	1	3
Live/Work Studio	2	2	0	4
Office	0	0	1	1
Cultural Center	0	0	1	1

The Town of Oak Bluffs has notified the Martha's Vineyard Commission of its intent to construct sidewalks on the proposed Bradley Square frontage on Dukes County Avenue and Masonic Avenue. Six (6) parking spaces, within the Masonic Avenue right-of-way, will be integrated with the new sidewalk.

As an integral part of the proposed Bradley Square development, a driveway constructed of pervious material will provide circulation behind the buildings and includes spaces for parking eight (8) vehicles. Off-street and on-street parking will serve the residential units and the office, as well as one (1) handicap parking space for the Cultural Center.

The plan is for four (4) live/work artist studios and six (6) residential units to be sold for between $150,000 - $325,000 to families earning between $35,000 - $95,000 annually. There would also be two (2) market rate units. The 10 non-market rate units would have permanent rental and re-sale restrictions.

Background Traffic Growth

Background traffic is defined as the traffic that exists on adjacent roadways under a No-Build condition. As described earlier in this report, the base year turning movement counts recorded in March of 2008 were increased by a factor of 2.6 to approximate peak summer season conditions. In addition to the seasonal adjustment, the traffic volumes are further adjusted by an average growth rate of two (2) percent per year to estimate the expected growth in background traffic in 2010, an estimated projected completion date with full occupancy of the proposed project. The MVC staff advises that a 10-unit affordable housing development is being proposed two blocks away, across from Tony's.

Figure 4 Revised Site Plan

Site Generated Traffic - 2010

The proposed Bradley Square site is presently unoccupied. The development of the land, as described earlier in this report, will primarily be devoted to residential condominiums, live/work studios, a small office, and a Cultural Center that will be available for a variety of un-defined uses. Each of the potential uses has different trip-making characteristics. Trip generation estimates used are the peak hour of the generator and do not necessarily coincide with peak hours of the adjacent streets.

The basis for estimating the trip generation rates of each follow:

Residential:
To estimate the number of trips generated by the residential component of the proposed Bradley Square site, the *ITE Trip Generation Manual* rates for residential condominium/townhouse (LUC 230) is used. No trip generation data are available for uses such as the live/work studios. However, during the peak hours being considered, the trip rates for LUC 230 are appropriate for occupants of the studios.

Special events in the area and potentially at the studios, such as art strolls, are likely to be concentrated during summer months and at non-peak hours. The strolls are typically held in the summer and generate a demand for parking in the neighborhood.

Office:
The applicant has provided information that the NCAAP will occupy the 213 sf office in the Denniston Building. In the preparation of this report, average rates for ITE LUC 710, General Office Building, will be applied.

Cultural Center:
The applicant has cited the nature of the center's use in the permit application as being "owned or operated by either a non-profit organization or municipality who will rent the 738 sf of net space for appropriately sized public and private functions of 35 to 74 person occupancy depending upon the type of use. Typical hours of operation are 8:00 AM to 9:30 PM.

The ITE *Trip Generation Manual* does not have a land use category that is representative of the proposed Cultural Center. To estimate the amount of traffic that will directly impact the intersections at each end of Masonic Avenue, an assessment of the number of vehicles that could park on Masonic Avenue is used as a base. Given that the parking spaces fronting on the proposed Bradley Square property will be assigned to the residential and studio units, only parking on the opposite side of the roadway will be available. Under the conditions that no parking is allowed within 20 feet of an intersection and to account for residential driveways and utility poles, at most eight (8) vehicles could be parked. With a capacity of 74 persons, and at a rate of one (1) trip per three persons, an additional 25 vehicles could pick-up or drop-off passengers within a short time period. The intersections would experience temporary delays but will not experience a significant degradation in the expected levels-of-service (LOS). The trip generation calculations for the various proposed uses are presented in Table 3.

Trip Distribution and Assignment

The 2010 trips projected to be generated by Bradley Square were apportioned according to the directional distribution reported in the *ITE Trip Generation Manual* and in combination with the intersection manual turning movement counts.

Future No-Build Traffic

The Bradley Square project is expected to be fully occupied by 2010. The 2010 No-Build traffic estimates associated with the Bradley Square project are derived by factoring the 2008 No-Build Condition peak season traffic to account for an average traffic growth of two (2) percent per year. The estimated 2010 No-Build traffic is presented in Figure 5.

Table 3 Trip Generation Estimates

Time	Use	Independent Variable	Value	Trips per Ind. Variable	Total Trips[4]	Directional Distribution Enter	Directional Distribution Exit
Weekday AM Peak	Residential[1]	Units	12	0.44	5	18%	82%
	Office[2]	1000 sf	0.209	1.55	1	88%	12%
	Cultural Center[3]	Parking Spaces	8	1	8	50%	50%
			Total		14		
Weekday PM Peak	Residential	Units	12	0.54	6	65%	35%
	Office	1000 sf	0.209	1.49	1	17%	83%
	Cultural Center	Parking Spaces	8	1	8	50%	50%
			Total		15		
Saturday Mid-Day Peak	Residential	Vehicles	14	0.47	7	54%	46%
	Office	1000 sf	0.209	0.41	1	54%	46%
	Cultural Center	Parking Spaces	8	1	8	50%	50%
			Total		16		

Notes: 1 Based on ITE Manual LUC 231 Peak Hour of Generator
2 Based on ITE Manual LUC 710 Peak Hour of Generator
3 Based on assumption that available parking limits trips to eight on Masonic Avenue.
4 Rounded to whole number

Future Build Traffic

The Bradley Square trip generation estimates for the 2010 Build summer traffic are added to the 2010 No-Build to develop a 2010 Build database of turning movements at the three intersections being evaluated. The results are presented in Figure 6.

Figure 5 2010 No–Build Summer Peak Turning Movements

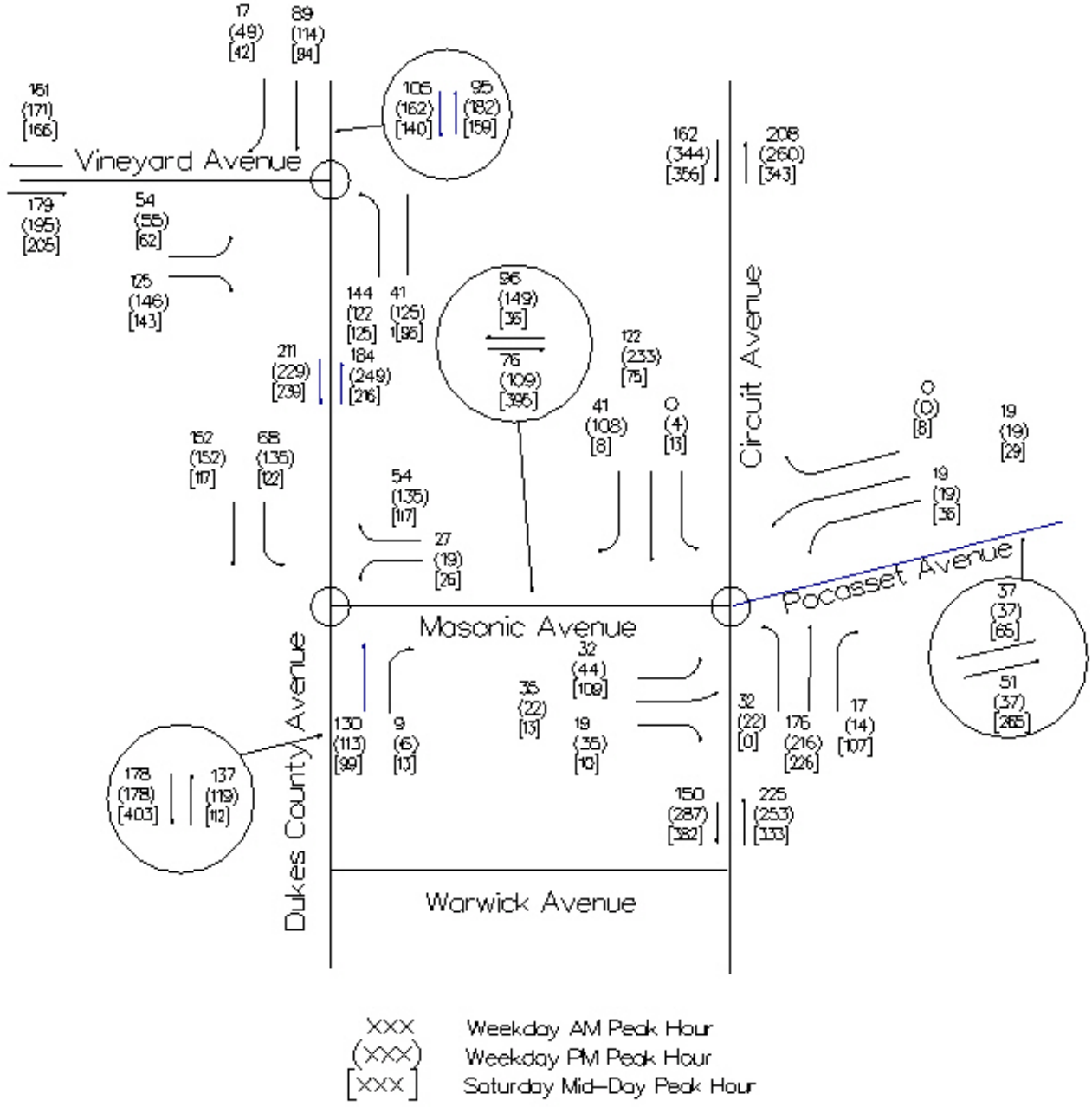
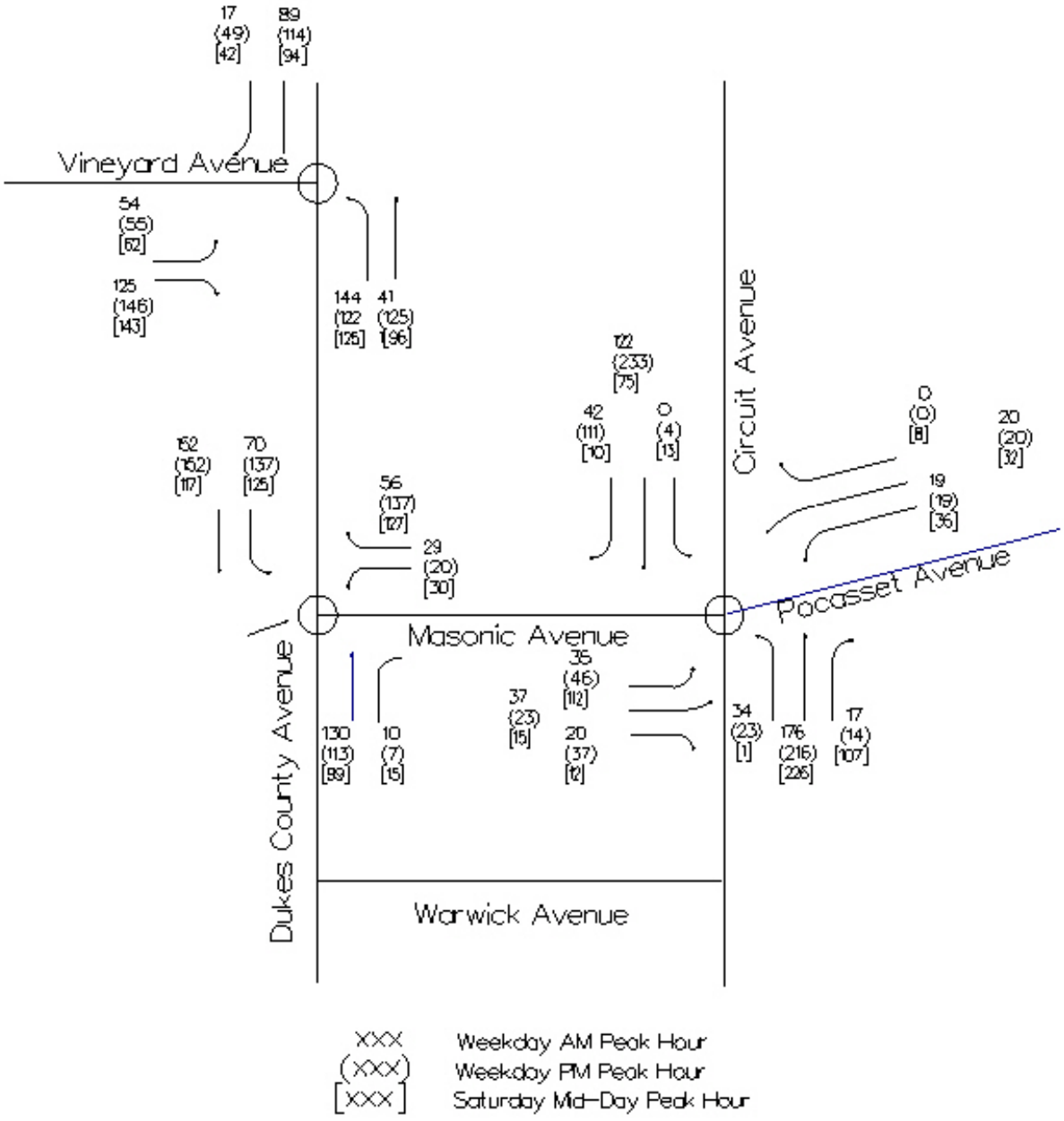


Figure 6 2010 Build Summer Peak Turning Movements



TRAFFIC OPERATIONS ANALYSIS

Intersection Operations Analysis

The assessment of two sets of traffic conditions, in this case No-Build and Build scenarios, is based on the quantification of traffic flow on the affected roadways. Intersections being the critical areas of operation, capacity analyses provide an indication of how well the intersections will serve the demand placed upon them.

Intersection operation conditions are defined by calculated levels of service. Level-of-Service (LOS) is a term used to quantitatively classify operating conditions under various traffic loads. LOS designations range from A to F, with A representing the best operating conditions and F representing generally constrained operating conditions. Table 4 lists the evaluation criteria published in the *Highway Capacity Manual, HCM2000.*

Table 4 - Un-Signalized Intersection LOS Criteria

		Avg. Delay		
LOS		(secs/veh)		
A		0-10		
B		>10-15		
C		>15-25		
D		>25-35		
E		>35-50		
F		>50		

LOS were calculated for the following as stand-alone, un-signalized, intersections:

- Circuit Avenue, Masonic Avenue, and Pocasset Avenue
- Dukes County Avenue and Masonic Avenue
- Dukes County Avenue and Vineyard Avenue

Each of the three intersections currently operate at LOS A during the three time periods evaluated. For the proposed future conditions of the proposed Bradley Square, each of the three intersections will continue to operate at LOS A. Changes in delay time at each intersection are negligible.

Table 5 presents the results of the LOS calculations. Based on the results of the LOS calculations, the additional traffic generated by Bradley Square will not affect forecast summer intersection traffic operations.

Table 5 Un-Signalized Intersection LOS Summary - Summer

	2008 No-Build AM		2010 No-Build AM		2010 Build AM		Change: 2010 No-Build/Build	
Intersection	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Vineyard Ave/Dukes County Ave	6.7	A	6.8	A	6.8	A	0	None
Masonic Ave/Dukes County Ave	3.3	A	3.3	A	3.4	A	0.1	None
Masonic Ave/Circuit Ave	3.6	A	3.7	A	3.9	A	0.2	None
	2008 No-Build PM		2010 No-Build PM		2010 Build PM		Change: 2010 No-Build/Build	
Intersection	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Vineyard Ave/Dukes County Ave	12.2	A	5.8	A	5.8	A	0	None
Masonic Ave/Dukes County Ave	5.0	A	5.0	A	5.1	A	0.1	None
	3.2							
Masonic Ave/Circuit Ave	3.7	A	3.3	A	3.5	A	0.2	None
	2008 No-Build SAT		2010 No-Build SAT		2010 Build SAT		Change: 2010 No-Build/Build	
Intersection	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
Vineyard Ave/Dukes County Ave	6.7	A	6.5	A	5.7	A	0.8	None
Masonic Ave/Dukes County Ave	3.3	A	5.2	A	5.4	A	0.2	None
Masonic Ave/Circuit Ave	3.7	A	5.7	A	5.0	A	0.7	None

Site Driveway

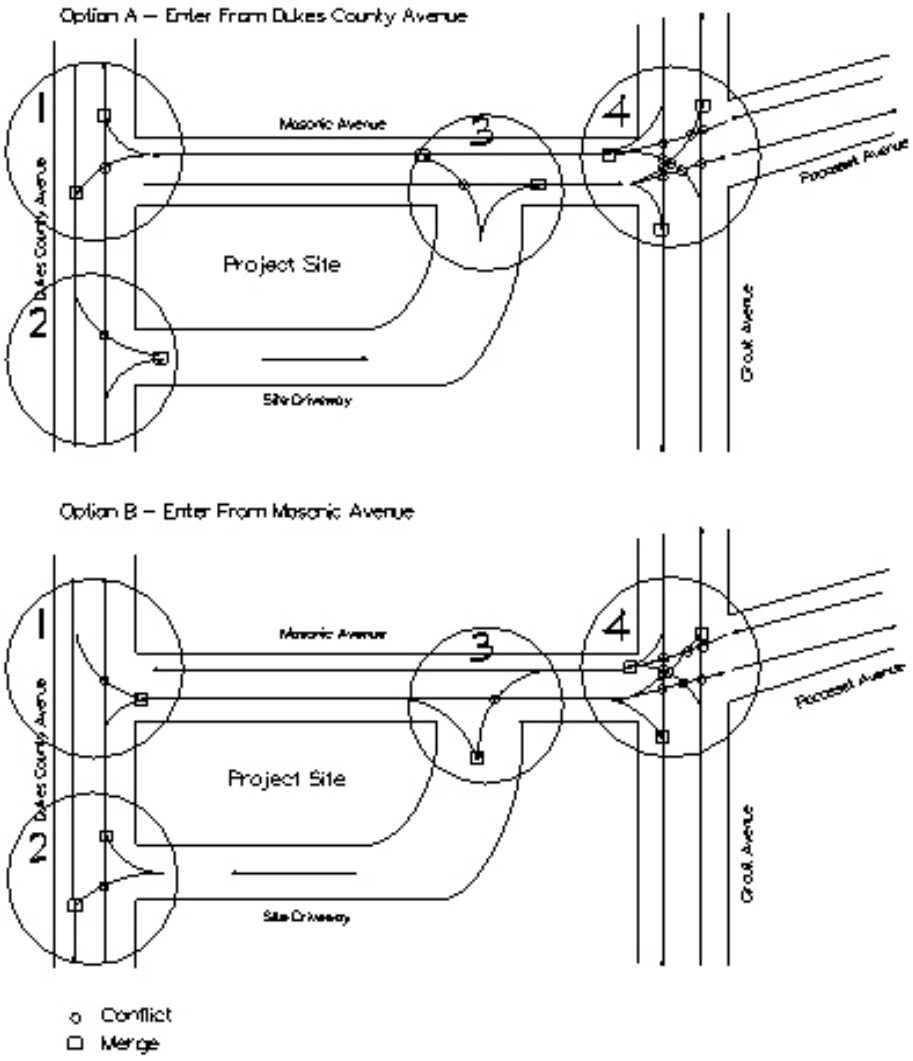
The latest revision to the site plan (Figure 4 preceding) shows the site driveway as a one-way direction from Dukes County Avenue to Masonic Avenue (Option A). An earlier version of the site plan showed the driveway as one-way in the opposite direction from Masonic Avenue to Dukes County Avenue (Option B). Figure 7 graphically presents the conflicts and merges at affected intersections created by each of the above options.

Table 6 presents the data in tabular form. Option A and Option B have the same number of conflicts while Option A has four (4) fewer merges than Option B. This analysis confirms the proposed Option A is the better of the two.

Table 5 Site Driveway Directional Options

	Option A		Option B	
Intersection	Coinflicts	Merges	Coinflicts	Merges
1	1	2	1	1
2	1	1	1	2
3	1	2	1	1
4	8	3	8	8
Totals	11	8	11	12

Figure 7 – Driveway Direction Options



Parking

A plan of the Bradley Square development (Figure 4 preceding) shows six (6) spaces for Masonic Avenue on-street parking and eight (8) spaces on the driveway behind the proposed buildings, for a total of 14 spaces.

The ITE *Parking Generation* (third edition) is an informational report and does not provide standards for parking demand. The report can be used as a guideline to estimate parking demands, based on experiences of other sources.

The parking demands for the various uses of the proposed Bradley Square complex follow:

Multi-Family Residential Units:
Data in the ITE report indicate an average weekday peak period parking demand of 1.46 vehicles per dwelling unit for Land Use Group (LUG) 230, Residential Condominium/Townhouse. For this use category, the municipal rates for multi-unit residential dwellings are consistent with the ITE published data. An average of 1.5 spaces per unit is applied, resulting in a demand of 18 spaces. It could be argued that, since this project is located within walking distance of the center of town, the demand for resident's parking spaces might go down to 1.0 spaces per unit, the lower end of the range in the ITE manual; however, keeping it at 1.5 compensates for the visitation to studios when they are open to the public.

Office:
The ITE data for LUG 701 indicate an average peak parking demand of 2.84 spaces per 1000 sf GFA. The 213 sf of office space proposed in the Denniston Building creates a demand for one (1) parking space.

Assemblage:
There is no comparable category in the ITE *Trip Generation Manual* to the Cultural Center. The data summarized for several municipalities will be used. The space requirements for a potential assembly of individuals in the Cultural Center averages one space per three (3) seats. Applying that rate to the stated 74 seats maximum, 25 spaces are required to satisfy the demand.

In total, under assumed conditions, the project generates a demand of 44 spaces. The Bradley Square project site plan identifies parking nine (9) spaces on the property – one of which is for handicap parking – and six (6) on-street, for a shortfall of 29 spaces. The applicant has not decided yet whether the 8 non-handicap off-street spaces will be assigned to the residential units and artist live/work units.

The balance of the required spaces will have to be provided on-street or at remote parking facilities.

CONCLUSIONS

Traffic

The addition of trips generated by the residential component of the proposed Bradley Square project to traffic operations at the three intersections considered in this study will not result in the degradation of levels-of-service or safety.

Because of the limited on-street parking on Masonic Avenue, visitors will undoubtedly seek parking elsewhere in the area. An additional 25 – 30 trips added to the traffic flow on Masonic Avenue will not adversely alter the levels-of-service at the Masonic Avenue intersections or at the Dukes County Avenue/Vineyard Avenue.

Parking

The proposed Bradley Square development is complex in terms of its uses, in particular, the parking aspects. Each demand is described following:

Residential:
The analysis of parking demand for the residential units and the live/work artist quarters indicates a short-fall of four (4) spaces when the average rate of 1.5 spaces per unit is applied. For 12 units, there is a demand of 18 spaces and a supply of 14 spaces (includes six on-street spaces).

Office:
The 209 sf office will generate a demand of one (1) space. If the 14 spaces are assigned to unit owners, office parking will have to be on-street.

Cultural Center:
Given un-defined uses of the Cultural Center, the number of spaces required is also un-definable. It is clear that parking will be on-street or at remote locations. The supply of on-street parking in surrounding neighborhoods will be dependent upon the distance one is willing to walk and a competing use for spaces by residents. An informal survey of available on-street parking does not account for summer demands of seasonal renters and visitors. Remote locations will require a shuttle service for special events.

Art Stroll:
While not an official use of Bradley Square, visitors attracted to the area by galleries and the art strolls will require parking opportunities similar to the Cultural Center. Once they have parked, in addition to walking to the many galleries on Dukes County Avenue in close proximity to the Bradley Square development, visitors might also walk to the artists in the live/work studios or to activities in the cultural center. It is not clear whether this would add to the overall parking demand of art strolls. In any event, these are infrequent, major events and a single project cannot be expected to resolve parking issues related to this activity. The Town's implementation of a shuttle bus service with remote parking does start to address this issue.

The residential and live/work components of the complex can be analyzed using standard procedures and fairly-well established trip generation relationships. There is little data for the Cultural Center and its potential uses as described herein.

Safety

The MassHighway vehicle crash data reported for the three intersections do not indicate unsafe conditions at any location. Masonic Avenue at Circuit Avenue had a reported four (4) angle type crashes and one rear-end over a two-year period. The conditions could be improved by implementing the Traffic Control Devices recommendations suggested in the Mitigation section following.

MITIGATION

Traffic Control Devices

- Paint the stop bar pavement markings on Masonic Avenue at both ends for improved visibility.
- Consider painting crosswalks at the same locations.
- Install “No Parking to Corner” signs at the Masonic Avenue/Dukes County intersection approaches.

Public Transportation

- Install VTA bus route signs at strategic locations to inform visitors that public transportation is available via Route 7.
- Consider implementing a bus stop at the Masonic Avenue/Circuit Avenue/Pocasset Avenue intersection.

Parking

- Determine if the Masonic Avenue on-street spaces, that will be created when the sidewalks are installed, can legally be assigned to dwelling unit/artist studio owners.
- If the six (6) official on-street can be reserved for private use, assign one parking space to each owner (12) and consider reserving one or two additional spaces for handicapped visitors to the Cultural Center.
- As proposed by the applicant, use the remote parking facilities (town hall and school) that will be available for special functions at the Cultural Center, with public shuttle during the summer and special shuttle for larger events off-season. The applicant should commit to providing a shuttle service for larger events during the summer, outside the hours of operation of the Town shuttle, and in the event that the Town stops offering the shuttle service. There would not appear to be any need to offer a shuttle service in the winter or at other times when there is plentiful street parking in the area.
- If the remote parking and shuttle bus proves ineffective and the nearby residential streets suffer unduly from a shortage of parking for residents, the Town should consider implementing a system “Resident-Only Parking”.

APPENDIX

MARCH 2008 ATR COUNTS

MetroCount Traffic Executive
Vehicle Counts

VehicleCount-765 -- English (ENU)

Datasets:

Site:	[778032108] Dukes County Avenue midway between Vineyard Avenue and Masonic
Direction:	7 - North bound A>B, South bound B>A., **Lane:** 2
Survey Duration:	17:23 Friday, March 21, 2008 => 16:02 Tuesday, April 01, 2008
File:	C:\Program Files\MetroCount v315\User\Data\77803210801Apr2008.EC2
(Regular) **Identifier:**	M917HFEF MC56-L4 [MC55] (c)Microcom 19Sep03
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class, Speed, Count)

Profile:

Filter time:	17:23 Friday, March 21, 2008 => 16:02 Tuesday, April 01, 2008
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (ARX)
Units:	Metric (meter, kilometer, m/s, km/h, kg, tonne)
In profile:	Vehicles = 25609 / 25684 (99.71%)

*** Friday, March 21, 2008 - Total=377 (incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	130	88
60	48	33	31																
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	48	36
11	9	5	9	14															
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	36	17
14	13	5	10	3															
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17	29	21
18	11	4	6	1															
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25	31	18
17	12	9	6	3															

*** Saturday, March 22, 2008 - Total=2190, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
21	6	2	4	8	20	67	98	121	164	196	195	176	165	132	152	136	128	113	82
86	53	28	36																
14	2	0	3	3	3	12	28	27	36	40	53	50	57	25	41	32	40	33	21
20	8	4	4	5															
3	1	0	1	1	3	14	21	27	36	46	50	55	42	40	32	29	34	26	23
16	24	6	6	5															
1	3	2	0	2	7	10	21	30	44	55	48	43	46	35	40	37	32	20	20
18	8	9	14	1															
3	1	0	0	2	7	23	20	37	48	57	44	40	38	32	39	33	29	26	18
32	13	9	12	1															

AM Peak 1030 - 1130 (213), AM PHF=0.93 PM Peak 1215 - 1315 (185), PM PHF=0.81

*** Sunday, March 23, 2008 - Total=1683, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
16	6	3	1	6	19	46	81	139	189	142	183	138	113	124	133	103	69	67	45
27	17	14	2																
9	3	1	0	1	4	6	13	37	28	45	32	24	38	18	38	30	22	18	11
7	5	3	0	0															
6	2	1	1	2	4	8	16	42	36	31	46	41	29	32	26	21	16	23	10
11	5	4	0	1															
1	1	0	0	2	8	11	14	32	77	34	57	40	24	37	36	23	17	13	16
6	2	5	1	1															
1	0	1	0	1	3	23	39	27	48	42	40	33	22	37	33	29	14	13	8
3	5	2	1	1															

AM Peak 0915 - 1015 (206), AM PHF=0.67 PM Peak 1215 - 1315 (162), PM PHF=0.93

*** Monday, March 24, 2008 - Total=2765, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
3	0	1	3	10	35	147	246	227	225	223	275	239	274	170	180	152	143	81	49
42	23	11	6																
0	0	1	2	4	7	16	73	63	51	66	70	70	17	48	49	42	38	30	20
13	3	1	3	0															
1	0	0	1	1	2	33	60	54	54	57	62	56	73	51	47	37	42	17	10
17	6	4	2	1															
1	0	0	0	4	12	29	59	50	60	46	70	47	75	44	51	34	27	10	11
11	0	3	0	0															
1	0	0	0	1	14	69	54	60	60	54	73	66	79	27	33	39	36	24	8
2	6	3	1	3															

AM Peak 1100 - 1200 (275), AM PHF=0.94 PM Peak 1315 - 1415 (278), PM PHF=0.87

*** Tuesday, March 25, 2008 - Total=2802, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
4	1	0	4	8	36	180	241	224	204	203	288	228	198	184	203	185	159	102	63
37	31	13	6																
0	1	0	1	2	6	36	73	60	49	52	73	63	62	45	49	51	29	30	21
14	12	5	3	1															
1	0	0	1	1	3	22	70	61	51	49	67	51	44	50	39	44	43	24	20
5	6	3	0	1															
0	0	0	0	2	14	45	46	48	54	52	79	61	41	46	45	45	41	26	17
11	6	1	2	0															
3	0	0	2	3	13	87	52	55	50	50	69	53	51	43	50	35	46	22	5
7	7	4	1	0															

AM Peak 1100 - 1200 (288), AM PHF=0.91 PM Peak 1200 - 1300 (228), PM PHF=0.90

*** Wednesday, March 26, 2008 - Total=2721, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
2	1	0	4	16	41	188	279	212	201	217	270	134	176	190	192	212	130	96	79
39	24	10	9																
1	0	0	1	3	4	33	78	72	44	43	81	40	50	49	47	67	35	27	19
11	9	5	1	1															
1	1	0	1	3	6	37	87	47	48	51	80	32	40	50	57	49	35	29	22
10	3	3	5	1															
0	0	0	2	5	10	49	88	47	52	66	63	35	42	38	41	50	33	20	21
8	7	3	2	0															
0	0	0	0	5	21	79	59	46	57	57	46	27	35	53	47	46	27	29	17
10	5	0	1	3															

AM Peak 0645 - 0745 (299), AM PHF=0.86 PM Peak 1645 - 1845 (213), PM PHF=0.79

* Thursday, March 27, 2008 - Total=2826, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
4	3	2	4	9	33	181	240	203	202	226	267	218	204	197	220	182	145	106	61
46	37	20	16																
1	1	0	1	3	6	22	73	47	63	63	64	59	62	56	36	53	40	26	16
15	15	8	7	1															
1	1	0	1	3	5	26	71	39	43	34	75	53	39	51	56	43	35	29	12
17	8	7	4	0															
0	1	1	1	2	11	41	48	50	50	39	54	48	50	50	69	41	33	24	18
7	5	2	1	0															
2	0	1	1	2	11	90	48	67	86	70	74	58	53	40	59	45	37	27	17
7	9	3	4	0															

AM Peak 0645 - 0745 (282), AM PHF=0.78 PM Peak 1515 - 1615 (237), PM PHF=0.86

* Friday, March 28, 2008 - Total=2478, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
1	10	2	4	10	48	135	147	173	138	149	230	160	177	182	235	187	138	100	104
59	43	27	17																
1	1	2	1	3	5	20	46	42	26	46	61	41	35	47	62	55	44	29	18
22	6	11	5	0															
0	2	0	3	3	6	24	38	49	35	28	55	35	48	47	47	41	27	30	32
11	8	3	3	5															
0	0	0	0	3	15	35	40	37	31	40	54	36	42	39	71	49	34	23	31
17	16	11	1	2															
0	7	0	0	1	22	61	23	45	46	35	60	40	52	49	55	42	33	18	23
9	13	2	8	2															

AM Peak 1100 - 1200 (230), AM PHF=0.94 PM Peak 1500 - 1600 (235), PM PHF=0.83

* Saturday, March 29, 2008 - Total=2132, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
17	4	4	1	13	28	66	93	150	178	188	181	163	165	137	154	137	122	125	75
58	38	22	13																
8	0	0	0	4	4	7	27	46	44	41	43	40	35	27	43	44	46	38	21
18	15	8	3	2															
5	0	0	0	5	3	10	18	33	41	41	52	41	44	37	42	34	32	36	20
17	8	6	6	0															
2	1	3	0	4	10	25	33	38	42	48	46	25	35	30	37	35	22	23	31
10	10	5	3	1															
2	3	1	1	0	11	24	26	33	61	58	40	57	51	43	42	24	22	28	13
13	5	6	1	2															

AM Peak 1030 - 1130 (201), AM PHF=0.87 PM Peak 1245 - 1345 (171), PM PHF=0.75

* Sunday, March 30, 2008 - Total=1584, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
5	2	0	1	2	5	24	56	120	143	157	164	130	101	113	99	109	122	88	66
29	21	14	3																
2	0	0	1	1	0	1	4	30	23	37	40	30	26	31	32	30	44	22	18
7	3	3	2	1															
0	2	0	0	0	1	4	5	34	52	42	40	47	22	22	25	27	38	29	16
6	6	3	1	2															
1	0	0	0	0	3	7	27	27	28	41	54	26	27	31	22	28	24	20	21
10	4	7	0	1															
2	0	0	0	1	1	12	30	29	40	37	30	27	36	29	20	24	24	17	11
6	8	1	0	0															

AM Peak 1045 - 1145 (171), AM PHF=0.79 PM Peak 1200 - 1300 (130), PM PHF=0.89

* Monday, March 31, 2008 - Total=2073, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
4	2	0	1	2	18	83	169	163	143	156	165	170	188	158	191	160	99	91	45
26	21	10	8																
1	1	0	0	0	2	9	50	44	41	30	47	53	35	40	49	45	24	24	10

13	7	3	1	2															
	2	1	0	0	1	2	12	42	44	36	40	48	36	40	52	44	40	26	27	8
6	0	1	1	0																
	1	0	0	0	1	7	32	48	37	41	38	32	36	65	38	31	38	32	40	14
6	1	2	0	1																
	0	0	0	1	0	7	30	32	38	32	36	31	47	41	36	47	26	27	20	9
2	5	4	0	0																

AM Peak 1030 - 1130 (173), AM PHF=0.90 PM Peak 1330 - 1430 (197), PM PHF=0.77

* Tuesday, April 01, 2008 - Total=1874 (Incomplete) , 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
3	6	1	3	10	50	125	167	159	139	170	248	244	257	227	65	-	-	-	-
-	-	-	-																
0	1	0	0	2	6	36	68	40	37	60	47	61	75	64	51	-	-		-
	-	-		-															
0	1	0	1	3	11	22	45	42	43	47	56	45	44	63	14		-	-	
-		-	-																
1	1	0	0	2	15	34	30	41	30	40	50	69	72	65	0		-	-	
	-	-																	
0	0	0	2	2	18	33	33	36	30	33	95	69	66	45	0	-			-
-			-	-															

AM Peak 1145 - 1245 (270), AM PHF=0.71

MetroCount Traffic Executive
Vehicle Counts

VehicleCount-772 -- English (ENU)

Datasets:

Site:	**[776040208] Masonic Avenue midway between Dukes County and Circuit**
Direction:	6 - West bound A>B, East bound B>A., **Lane:** 2
Survey Duration:	10:11 Thursday, April 03, 2008 => 14:41 Monday, April 07, 2008
File:	C:\Program Files\MetroCount v315\User\Data\77604020807Apr2008.EC2 (Regular)
Identifier:	M917HFEF MC56-L4 [MC55] (c)Microcom 19Sep03
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class, Speed, Count)

Profile:

Filter time:	**10:11 Thursday, April 03, 2008 => 14:45 Saturday, April 05, 2008**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	6 - 99 mph.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (ARX)
Units:	Non metric (ft, mi, ft/s, mph, lb, ton)
In profile:	Vehicles = 900 / 920 (97.83%)

The counts recorded between March 21 and April 1 were invalid due a counter malfunction. The count was repeated April 3 to April 5.

* Thursday, April 03, 2008 - Total=337 (Incomplete) , 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
-	-	-	-	-	-	-	-	-	-	18	16	16	33	37	35	44	27	26	11	6	4	1	3	
-									-	1	15	9	16	12	11	11	7	9	6	3	2	0	0	1
			-	-				-	-	0	3	16	8	10	7	7	5	6	3	0	1	1	1	0
-	-	-				-	-	-		2	9	11	6	9	12	17	10	6	1	2	0	0	1	0
-			-	-	-			-	-	16	13	8	9	6	5	9	5	5	1	1	1	0	1	0

PM Peak 1215 - 1315 (53), PM PHF=0.74

* Friday, April 04, 2008 - Total=433, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
1	0	0	0	0	10	15	26	41	29	34	35	30	22	33	56	19	15	11	23	7	4	5	13	
1	0	0	0	0	0	2	9	17	6	7	9	9	8	9	12	8	6	2	6	4	0	1	1	3
0	0	0	0	0	1	4	5	14	4	11	8	5	1	10	12	2	2	2	4	1	1	1	4	2
0	0	0	0	0	3	3	2	4	14	12	12	10	5	9	20	5	3	4	8	2	2	0	6	0
0	0	0	0	0	6	10	10	6	5	4	6	6	8	10	12	4	4	3	5	0	1	3	2	2

AM Peak 0745 - 0845 (45), AM PHF=0.66 PM Peak 1500 - 1600 (56), PM PHF=0.70

* Saturday, April 05, 2008 - Total=130 (Incomplete) , 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	
7	2	2	0	0	9	4	14	25	25	36	6	0	0	-	-	-	-	-	-	-	-	-	-	
3	0	0	0	0	0	0	3	7	12	7	6	0	0	0	-	-	-	-	-	-	-	-	-	
2	0	0	0	0	2	0	4	5	3	11	0	0	0	0	-	-	-	-	-	-	-	-	-	-
0	0	2	0	0	4	2	3	7	5	13	0	0	0	0	-	-	-	-	-	-	-	-	-	-
2	2	0	0	0	3	2	4	6	5	5	0	0	0	-	-	-	-	-	-	-	-	-	-	-

AM Peak 0945 - 1045 (36), AM PHF=0.69

MetroCount Traffic Executive
Vehicle Counts

VehicleCount-763 -- English (ENU)

Datasets:

Site:	**[777032108] Circuit Avenue midway between Masonic and Warwick**
Direction:	4 - West bound, A hit first., Lane: 2
Survey Duration:	17:14 Friday, March 21, 2008 => 15:51 Tuesday, April 01, 2008
File:	C:\Program Files\MetroCount v315\User\Data\777032108O1Apr2008.EC2
(Plus)	
Identifier:	S38219Y1 MC56-L5 [MC55] (c)Microcom 19Oct04
Algorithm:	Factory default
Data type:	Axle sensors - Paired (Class, Speed, Count)

Profile:

Filter time:	**17:14 Friday, March 21, 2008 => 15:51 Tuesday, April 01, 2008**
Included classes:	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12
Speed range:	10 - 160 km/h.
Direction:	North, East, South, West (bound)
Separation:	All - (Headway)
Name:	Factory default profile
Scheme:	Vehicle classification (ARX)
Units:	Metric (meter, kilometer, m/s, km/h, kg, tonne)
In profile:	Vehicles = 25367 / 25376 (99.96%)

*** Friday, March 21, 2008 - Total=718 (Incomplete) , 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
82	69	43	39	-	-	-	-	-	-	-	-	-	-	-	-	-	172	177	134
23	20	9	10	17	-	-	-	-	-	-	-	-	-	-	-	-	3	63	46
28	22	14	12	9	-	-	-	-	-	-	-	-	-	-	-	-	49	40	34
21	15	4	7	1	-	-	-	-	-	-	-	-	-	-	-	-	46	40	32
18	12	16	7	1	-	-	-	-	-	-	-	-	-	-	-	-	72	36	23

*** Saturday, March 22, 2008 - Total=2971, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
28	6	2	7	3	21	66	107	194	224	243	274	275	213	210	205	179	151	151	84
120	87	73	48																
17	3	0	3	1	3	6	40	53	61	59	66	58	41	55	54	49	37	39	38
28	26	28	16	19															
9	1	0	3	0	4	10	20	42	50	56	65	77	60	49	60	47	36	27	20
16	22	14	5	13															
1	0	2	1	0	7	26	37	46	50	55	65	70	53	53	51	47	48	47	21
32	16	15	10	2															
1	2	0	0	2	7	24	30	53	63	73	78	65	59	53	40	37	30	38	21
44	23	16	17	1															

AM Peak 1145 - 1245 (284), AM PHF=0.91 PM Peak 1200 - 1300 (275), PM PHF=0.88

*** Sunday, March 23, 2008 - Total=1813, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
35	8	3	4	3	8	60	77	195	214	136	167	167	126	120	106	101	79	81	50
39	23	10	3																
15	0	2	0	4	2	5	7	39	32	55	56	36	34	25	22	23	24	23	10
9	3	4	0	0															
13	2	0	3	0	1	4	7	87	50	26	44	41	43	28	18	24	16	21	7
12	4	3	2	1															
2	4	1	0	1	4	16	24	37	71	24	44	49	24	39	35	17	20	25	25
13	7	3	0	0															
1	2	0	1	1	1	25	39	32	61	30	46	41	25	28	31	31	19	12	8
6	9	0	1	0															

AM Peak 0815 - 1015 (237), AM PHF=0.83 PM Peak 1200 - 1300 (167), PM PHF=0.85

*** Monday, March 24, 2008 - Total=1857, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
1	2	2	6	9	41	95	86	77	77	101	116	106	144	181	241	177	140	88	59
49	37	19	5																
0	1	1	1	0	7	26	23	15	9	29	23	23	40	26	62	49	41	31	19
13	6	6	3	2															
1	1	0	2	1	12	26	24	28	20	21	24	21	44	47	57	41	40	14	9
22	18	4	0	0															
0	0	0	1	4	0	17	19	16	21	24	35	20	34	48	65	54	30	26	16
9	8	4	1	1															
0	0	1	2	4	14	28	30	18	27	27	32	34	36	60	57	37	29	17	19
5	8	6	1	0															

AM Peak 1100 - 1200 (114), AM PHF=0.81 PM Peak 1445 - 1545 (244), PM PHF=0.94

*** Tuesday, March 25, 2008 - Total=1951, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
3	5	0	4	10	44	84	92	70	92	89	132	100	185	195	231	194	151	105	71
43	29	15	7																
2	1	0	1	0	5	17	24	16	22	23	30	32	33	49	68	56	47	38	10
13	9	7	2	3															
0	2	0	2	1	13	34	23	27	21	10	23	22	49	42	62	50	38	31	20
12	6	5	1	4															
1	0	0	0	3	17	11	20	11	24	34	41	26	45	53	56	46	35	20	16
6	10	0	3	0															
0	2	0	1	6	9	22	25	16	25	24	38	20	58	51	45	42	30	16	15
13	4	3	1	0															

AM Peak 1115 - 1215 (134), AM PHF=0.82 PM Peak 1445 - 1545 (237), PM PHF=0.87

*** Wednesday, March 26, 2008 - Total=2175, 15 minute drops**

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
7	9	0	5	7	50	73	106	78	81	97	160	166	192	224	224	198	139	123	73
54	36	21	12																
3	4	0	0	3	11	23	21	22	19	15	35	55	33	47	63	50	39	27	28
24	12	4	2	3															
4	4	0	2	1	18	21	35	16	22	18	31	49	47	52	58	57	38	27	11
10	5	6	6	2															
0	1	0	2	1	10	17	24	17	22	41	52	40	39	56	58	48	34	36	18
10	14	8	1	0															
0	0	0	1	2	11	14	26	21	18	19	62	42	73	69	45	41	28	33	16
10	5	1	3	2															

AM Peak 1130 - 1230 (218), AM PHF=0.88 PM Peak 1445 - 1545 (248), PM PHF=0.90

* Thursday, March 27, 2008 - Total=2196, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
7	2	4	3	10	37	76	81	88	93	125	111	124	213	231	274	208	152	149	66
50	41	24	30																
3	0	1	0	0	5	23	14	22	17	37	23	39	38	62	61	52	40	33	22
21	13	7	2	2															
2	0	0	2	1	13	20	23	18	27	38	34	39	54	56	68	61	31	43	14
10	9	6	9	0															
0	2	1	0	5	10	15	23	24	24	25	30	25	56	65	71	39	38	39	12
10	7	4	11	3															
2	0	2	1	4	9	18	21	31	25	35	24	21	64	58	74	56	43	34	18
9	12	7	8	1															

AM Peak 1130 - 1230 (132), AM PHF=0.85 PM Peak 1500 - 1600 (274), PM PHF=0.93

* Friday, March 28, 2008 - Total=2824, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
6	0	1	4	6	44	101	158	171	168	185	192	197	239	217	244	197	205	139	124
70	85	32	39																
3	0	0	2	1	9	20	39	58	37	42	51	49	62	59	60	58	55	46	39
23	24	11	8	14															
0	0	0	1	2	11	24	45	30	37	49	38	48	64	61	71	51	51	39	18
15	20	10	9	8															
3	0	1	1	1	10	29	34	33	48	47	47	50	73	58	57	42	48	30	41
19	25	6	7	1															
1	0	0	0	2	14	28	40	50	46	47	56	60	60	49	56	45	54	24	36
13	16	6	15	2															

AM Peak 1145 - 1245 (203), AM PHF=0.91 PM Peak 1500 - 1600 (244), PM PHF=0.88

* Saturday, March 29, 2008 - Total=2687, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
25	6	3	11	4	18	63	113	185	212	204	237	200	220	215	212	128	142	152	102
93	68	43	31																
14	2	0	2	0	1	7	15	41	42	43	65	47	54	51	56	50	40	34	24
25	13	13	5	8															
8	2	1	4	2	3	9	31	47	57	46	61	54	53	41	49	20	35	47	25
28	25	9	8	10															
1	2	2	1	1	10	22	32	58	46	56	65	44	51	55	40	24	33	33	26
22	19	11	4	4															
2	0	0	4	1	4	25	35	39	67	60	56	55	62	68	67	34	34	36	37
18	11	10	14	1															

AM Peak 1030 - 1130 (241), AM PHF=0.93 PM Peak 1430 - 1530 (228), PM PHF=0.84

* Sunday, March 30, 2008 - Total=1934, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
23	2	1	11	3	12	45	76	139	172	195	222	147	134	130	140	124	122	93	57
37	25	16	8																
8	0	1	4	1	0	11	13	30	24	58	71	49	38	30	30	40	43	24	15
16	13	6	5	3															
10	1	0	4	0	4	4	13	41	42	44	59	42	27	27	30	27	26	31	10
9	9	7	0	0															
4	1	0	3	0	5	13	18	42	46	42	42	38	36	37	24	26	23	20	14
7	1	0	1	1															
1	0	0	0	2	3	17	33	26	60	51	50	27	33	28	56	31	30	18	18
5	2	3	1	0															

AM Peak 1030 - 1130 (223), AM PHF=0.79 PM Peak 1515 - 1615 (150), PM PHF=0.67

* Monday, March 31, 2008 - Total=2422, 15 minute drops

0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900
2000	2100	2200	2300																
4	0	1	6	5	56	97	171	148	152	178	194	197	215	238	241	171	131	93	51
38	16	14	5																
3	0	0	0	0	6	15	39	38	40	38	49	41	51	61	67	54	28	26	19

13 7 4 0 1
0 0 0 5 1 11 27 56 41 39 19 48 55 57 53 59 46 36 24 8

[illegible]

1 0 0 0 1 [illegible]

11 4 1 1 0
0 0 1 1 3 26 26 36 31 43 45 38 59 55 64 62 24 37 22 12

0 2 6 1 1

AM Peak 1045 - 1145 (201), AM PHF=0.85 PM Peak 1430 - 1530 (250), PM PHF=0.93

* Tuesday, April 01, 2008 - Total=1821 (Incomplete) , 15 minute drops

0000 0100 0200 0300 0400 0500 0600 0700 0800 0900 1000 1100 1200 1300 1400 1500 1600 1700 1800 1900 2000 2100 2200 2300

3 1 1 4 5 46 102 164 170 148 193 214 187 259 223 - - - - -

1 0 0 0 1 7 19 35 31 41 41 56 49 61 53 56 - - -

[illegible]

0 0 0 0 1 14 22 44 44 36 43 56 39 55 44 1 - -

1 0 1 1 2 17 37 43 52 36 51 56 50 78 63 - - -

AM Peak 1100 - 1200 (214), AM PHF=0.96

2008 TURNING MOVEMENT COUNTS

Martha's Vineyard Commission
Turning Movement Counts
DRI# 612 - Bradley Square Project

File Name : untitled3
Site Code : 00000777
Start Date : 04/03/2008
Page No : 1

Groups Printed- Unshifted

	Circuit Avenue From North				Pocasset Avenue From East				Circuit Avenue From South				Masonic Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	3	11	0	0	0	3	2	0	0	13	3	0	2	1	2	0	40
07:15 AM	4	7	0	0	0	2	2	0	0	15	1	0	1	5	2	0	39
07:30 AM	6	14	0	0	0	1	3	0	5	14	5	0	1	5	3	0	57
07:45 AM	2	13	0	0	0	1	0	0	1	23	3	0	3	2	5	0	53
Total	15	45	0	0	0	7	7	0	6	65	12	0	7	13	12	0	189
05:00 PM	12	25	0	0	0	1	7	0	2	22	0	0	4	3	5	0	81
05:15 PM	10	26	1	0	0	1	1	0	2	16	5	0	2	2	6	0	72
05:30 PM	9	16	0	0	0	3	0	0	1	29	2	0	2	2	3	0	67
05:45 PM	9	16	0	0	0	2	0	0	0	13	1	0	5	1	4	0	51
Total	40	83	1	0	0	7	8	0	5	80	8	0	13	8	18	0	271
Grand Total	55	128	1	0	0	14	15	0	11	145	20	0	20	21	30	0	460
Apprch %	29.9	69.6	0.5	0.0	0.0	48.3	51.7	0.0	5.3	82.4	11.4	0.0	28.2	29.6	42.3	0.0	
Total %	12.0	27.8	0.2	0.0	0.0	3.0	3.3	0.0	2.4	31.5	4.3	0.0	4.3	4.6	6.5	0.0	

Martha's Vineyard Commission
Turning Movement Counts
DRI# 612 - Bradley Square Project

File Name : untitled4
Site Code : 00000777
Start Date : 04/05/2008
Page No : 1

Groups Printed- Unshifted

	Circuit Avenue From North				Pocasset Avenue From East				Circuit Avenue From South				Masonic Avenue From West				
Start Time	Right	Thru	Left	Trck	Right	Thru	Left	Trck	Right	Thru	Left	Trck	Right	Thru	Left	Trck	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
11:00 AM	11	21	0	0	0	0	1	0	1	33	1	0	1	1	13	0	83
11:15 AM	9	18	0	0	0	1	9	0	0	33	2	0	1	1	11	0	85
11:30 AM	17	25	0	0	1	7	3	0	2	30	1	0	2	2	12	0	102
11:45 AM	4	23	0	0	2	3	1	0	0	33	1	0	0	1	8	0	74
Total	41	87	0	0	3	11	14	0	3	129	5	0	4	5	42	0	344
Grand Total	41	87	0	0	3	11	14	0	3	129	5	0	4	5	42	0	344
Apprch %	32.0	68.0	0.0	0.0	10.7	39.3	50.0	0.0	2.2	94.2	3.6	0.0	7.8	9.8	82.4	0.0	
Total %	11.9	25.3	0.0	0.0	0.9	3.2	4.1	0.0	0.9	37.5	1.5	0.0	1.2	1.5	12.2	0.0	

Martha's Vineyard Commission
Turning Movement Counts
DRI# 612 - Bradley Square Project

File Name : untitled1
Site Code : 00000444
Start Date : 04/03/2008
Page No : 1

Groups Printed- Unshifted

	Dukes County Avenue From North				N/A From East				Dukes County Avenue From South				Vineyard Avenue From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	1	6	0	0	0	0	0	0	0	0	0	0	9	0	4	0	20
07:15 AM	3	6	0	0	0	0	0	0	0	0	0	0	9	0	3	0	21
07:30 AM	0	10	0	0	0	0	0	0	0	0	0	0	14	0	4	0	28
07:45 AM	2	11	0	0	0	0	0	0	0	0	0	0	14	0	9	0	36
Total	6	33	0	0	0	0	0	0	0	0	0	0	46	0	20	0	105
05:00 PM	6	9	0	0	0	0	0	0	0	14	13	0	17	0	4	0	63
05:15 PM	4	10	0	0	0	0	0	0	0	8	10	0	19	0	6	0	57
05:30 PM	3	11	0	0	0	0	0	0	0	11	11	0	11	0	8	0	53
05:45 PM	5	12	0	0	0	0	0	0	0	13	11	0	7	0	5	0	53
Total	18	42	0	0	0	0	0	0	0	46	45	0	54	0	21	0	226
Grand Total	24	75	0	0	0	0	0	0	0	46	45	0	100	0	41	0	331
Apprch %	24.2	75.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	50.5	49.5	0.0	70.9	0.0	29.1	0.0	
Total %	7.3	22.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	13.9	13.6	0.0	30.2	0.0	12.4	0.0	

Martha's Vineyard Commission
Turning Movement Counts
DRI# 612 - Bradley Square Project

File Name : untitled2
Site Code : 00000444
Start Date : 04/05/2008
Page No : 1

Groups Printed- Unshifted

	Dukes County Avenue From North				N/A From East				Dukes County Avenue From South				Vineyard Avenue From West				
Start Time	Right	Thru	Left	Trck	Right	Thru	Left	Trck	Right	Thru	Left	Trck	Right	Thru	Left	Trck	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
11:00 AM	6	8	0	0	0	1	0	0	0	9	8	0	16	0	6	0	54
11:15 AM	3	13	1	0	0	1	0	0	0	12	12	0	15	0	5	0	62
11:30 AM	1	8	0	0	0	0	0	0	0	9	25	0	13	0	6	0	62
11:45 AM	6	9	0	0	0	0	0	0	0	7	3	0	11	0	7	0	43
Total	16	38	1	0	0	2	0	0	0	37	48	0	55	0	24	0	221
Grand Total	16	38	1	0	0	2	0	0	0	37	48	0	55	0	24	0	221
Apprch %	29.1	69.1	1.8	0.0	0.0	100.0	0.0	0.0	0.0	43.5	56.5	0.0	69.6	0.0	30.4	0.0	
Total %	7.2	17.2	0.5	0.0	0.0	0.9	0.0	0.0	0.0	16.7	21.7	0.0	24.9	0.0	10.9	0.0	

Martha's Vineyard Commission
Turning Movement Counts
DRI# 612 - Bradley Square Project

File Name : untitled1
Site Code : 00000000
Start Date : 04/03/2008
Page No : 1

Groups Printed- Unshifted

	Dukes County Avenue From North				Masonic Avenue From East				Dukes County Avenue From South				N/A From West				
Start Time	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
07:00 AM	0	12	5	0	3	0	3	0	0	11	0	0	0	0	0	0	34
07:15 AM	0	7	4	0	4	0	4	0	0	9	0	0	0	0	0	0	28
07:30 AM	0	17	8	0	5	0	1	1	2	10	0	0	0	0	0	0	44
07:45 AM	0	20	8	0	8	0	2	0	1	18	0	0	0	0	0	0	57
Total	0	56	25	0	20	0	10	1	3	48	0	0	0	0	0	0	163
05:00 PM	0	17	9	0	13	0	2	0	1	15	0	0	0	0	0	0	57
05:15 PM	0	14	10	0	9	0	2	0	0	9	0	0	0	0	0	0	44
05:30 PM	0	16	9	0	14	0	1	0	0	8	0	0	0	0	0	0	48
05:45 PM	0	9	12	0	14	0	2	0	1	10	0	0	0	0	0	0	48
Total	0	56	40	0	50	0	7	0	2	42	0	0	0	0	0	0	197
Grand Total	0	112	65	0	70	0	17	1	5	90	0	0	0	0	0	0	360
Apprch %	0.0	63.3	36.7	0.0	79.5	0.0	19.3	1.1	5.3	94.7	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	31.1	18.1	0.0	19.4	0.0	4.7	0.3	1.4	25.0	0.0	0.0	0.0	0.0	0.0	0.0	

Martha's Vineyard Commission
Turning Movement Counts
DRI# 612 - Bradley Square Project

File Name : untitled2
Site Code : 00000555
Start Date : 04/05/2008
Page No : 1

Groups Printed- Unshifted

	Dukes County Avenue From North				Masonic Avenue From East				Dukes County Avenue From South				N/A From West				
Start Time	Right	Thru	Left	Trck	Right	Thru	Left	Trck	Right	Thru	Left	Trck	Right	Thru	Left	Trck	Int. Total
Factor	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	
11:00 AM	0	10	15	0	8	0	3	1	1	8	0	0	0	0	0	0	46
11:15 AM	0	14	12	0	10	0	1	0	1	14	0	0	0	0	0	0	52
11:30 AM	0	9	13	0	22	0	4	0	2	11	0	0	0	0	0	0	61
11:45 AM	0	12	7	0	5	0	2	0	1	5	0	0	0	0	0	0	32
Total	0	45	47	0	45	0	10	1	5	38	0	0	0	0	0	0	191
Grand Total	0	45	47	0	45	0	10	1	5	38	0	0	0	0	0	0	191
Apprch %	0.0	48.9	51.1	0.0	80.4	0.0	17.9	1.8	11.6	88.4	0.0	0.0	0.0	0.0	0.0	0.0	
Total %	0.0	23.6	24.6	0.0	23.6	0.0	5.2	0.5	2.6	19.9	0.0	0.0	0.0	0.0	0.0	0.0	

LOS CALCULATIONS

2008 No-Build Am
HCM Unsignalized Intersection Capacity Analysis
3: Int 4/8/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1>		0				0	<1		1>	0	
Volume (veh/h)		52		120				138	39	86	16	
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)		57		130				150	42	93	17	
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None				
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume		445		102				111				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol		445		102				111				
tC, single (s)	6.4		6.2				4.1					
tC, 2 stage (s)												
tF (s)	3.5		3.3				2.2					
p0 queue free %		89		86				90				
cM capacity (veh/h)		513		953				1479				

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	187	192	111
Volume Left	57	150	0
Volume Right	130	0	17
cSH	757	1479	1700
Volume to Capacity		0.25	0.10	0.07
Queue Length 95th (ft)		24	8	0
Control Delay (s)	11.3	6.2	0.0
Lane LOS	B	A	
Approach Delay (s)		11.3	6.2	0.0
Approach LOS		B	

Intersection Summary											
Average Delay					6.7						
Intersection Capacity Utilization						33.3%	ICU Level of Service				
	A										
Analysis Period (min)					15						

2008 No-Build PM
HCM Unsignalized Intersection Capacity Analysis
3: Int 4/9/2008

Movement		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
	SBL	SBT	SBR							
Lanes		1>		0				0	<1	
	1>	0								
Volume (veh/h)			55		140				117	120
	109	47								
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)			60		152				127	130
	118	51								
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			529		144				170	
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol			529		144				170	
tC, single (s)		6.4		6.2				4.1		
tC, 2 stage (s)										
tF (s)		3.5		3.3				2.2		
p0 queue free %			87		83				91	
cM capacity (veh/h)			464		903				1408	

Direction, Lane #	EB 1	NB 1	SB 1

Volume Total	212	258	170	
Volume Left	60	127	0	
Volume Right	152	0	51	
cSH	713	1408	1700	
Volume to Capacity		0.30	0.09	0.10
Queue Length 95th (ft)		31	7	0
Control Delay (s)	12.2	4.2	0.0	
Lane LOS	B	A		
Approach Delay (s)		12.2	4.2	0.0
Approach LOS		B		

Intersection Summary				
Average Delay			5.7	
Intersection Capacity Utilization			43.1%	ICU Level of Service
	A			
Analysis Period (min)			15	

2008 No-Build SAT
HCM Unsignalized Intersection Capacity Analysis
3: Int 4/8/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1>		0				0	<1		1>	0	
Volume (veh/h)		62		143				125	96	95	42	
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)		67		155				136	104	103	46	
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		502		126				149				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol		502		126				149				

tC, single (s)	6.4		6.2		4.1	
tC, 2 stage (s)						
tF (s)	3.5		3.3		2.2	
p0 queue free %		86		83		91
cM capacity (veh/h)		479		924		1433

Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	223	240	149			
Volume Left	67	136	0			
Volume Right	155	0	46			
cSH	721	1433	1700			
Volume to Capacity		0.31	0.09	0.09		
Queue Length 95th (ft)		33	8	0		
Control Delay (s)	12.2	4.7	0.0			
Lane LOS	B	A				
Approach Delay (s)		12.2	4.7	0.0		
Approach LOS		B				

Intersection Summary					
Average Delay			6.3		
Intersection Capacity Utilization				41.8%	ICU Level of Service
	A				
Analysis Period (min)			15		

2010 No-Build AM
HCM Unsignalized Intersection Capacity Analysis
3: Int 4/9/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1>		0				0	<1		1>	0	
Volume (veh/h)		54		125				144	41	89	17	
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		136				157	45	97	18	
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		464			106				115	
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol		464			106				115	
tC, single (s)	6.4		6.2					4.1		
tC, 2 stage (s)										
tF (s)	3.5		3.3					2.2		
p0 queue free %		88			86				89	
cM capacity (veh/h)		498			948				1474	

Direction, Lane #	EB 1	NB 1	SB 1				
Volume Total	195	201	115				
Volume Left	59	157	0				
Volume Right	136	0	18				
cSH	745	1474	1700				
Volume to Capacity		0.26	0.11	0.07			
Queue Length 95th (ft)		26	9	0			
Control Delay (s)	11.5	6.2	0.0				
Lane LOS	B	A					
Approach Delay (s)		11.5	6.2	0.0			
Approach LOS		B					

Intersection Summary					
Average Delay			6.8		
Intersection Capacity Utilization				34.1%	ICU Level of Service
	A				
Analysis Period (min)			15		

2010 No-Build PM
HCM Unsignalized Intersection Capacity Analysis
3: Int 4/8/2008

Movement		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
	SBL	SBT	SBR							
Lanes		1>		0				0	<1	
	1>	0								
Volume (veh/h)			55		146				122	125
	114	49								
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)			60		159				133	136
	124	53								
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		552			151				177	
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol		552			151				177	
tC, single (s)	6.4		6.2					4.1		
tC, 2 stage (s)										
tF (s)	3.5		3.3					2.2		
p0 queue free %		87			82				91	
cM capacity (veh/h)		448			896				1399	

Direction, Lane #	EB 1	NB 1	SB 1				
Volume Total	218	268	177				
Volume Left	60	133	0				
Volume Right	159	0	53				
cSH	703	1399	1700				
Volume to Capacity		0.31	0.09	0.10			
Queue Length 95th (ft)		33	8	0			
Control Delay (s)	12.4	4.3	0.0				
Lane LOS	B	A					
Approach Delay (s)		12.4	4.3	0.0			
Approach LOS		B					

Intersection Summary					
Average Delay			5.8		
Intersection Capacity Utilization				44.4%	ICU Level of Service
A					
Analysis Period (min)			15		

2010 No-Build SAT
HCM Unsignalized Intersection Capacity Analysis
3: Int 4/9/2008

Movement		EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR
SBL	SBT	SBR								
Lanes		1>		0				0	<1	
1>	0									
Volume (veh/h)			65		149				130	100
99	44									
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)			71		162				141	109
	108	48								
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			523		132				155	
vC1, stage 1 conf vol										
vC2, stage 2 conf vol										
vCu, unblocked vol			523		132				155	
tC, single (s)		6.4		6.2				4.1		
tC, 2 stage (s)										
tF (s)		3.5		3.3				2.2		
p0 queue free %			85		82				90	
cM capacity (veh/h)			463		918				1425	

Direction, Lane #	EB 1	NB 1	SB 1	
Volume Total	233	250	155	
Volume Left	71	141	0	
Volume Right	162	0	48	
cSH	707	1425	1700	
Volume to Capacity		0.33	0.10	0.09
Queue Length 95th (ft)		36	8	0
Control Delay (s)	12.6	4.8	0.0	
Lane LOS	B	A		
Approach Delay (s)		12.6	4.8	0.0
Approach LOS		B		

Intersection Summary					
Average Delay			6.5		
Intersection Capacity Utilization				43.1%	ICU Level of Service
	A				
Analysis Period (min)			15		

2010 Build AM
HCM Unsignalized Intersection Capacity Analysis
3: Int 4/9/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1>		0				0	<1		1>	0	
Volume (veh/h)		54		125				144	41	89	17	
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		136				157	45	97	18	
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		464		106				115				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol		464		106				115				
tC, single (s)	6.4		6.2				4.1					
tC, 2 stage (s)												
tF (s)	3.5		3.3				2.2					
p0 queue free %		88		86				89				
cM capacity (veh/h)		498		948				1474				

Direction, Lane #	EB 1	NB 1	SB 1									
Volume Total	195	201	115									
Volume Left	59	157	0									
Volume Right	136	0	18									
cSH	745	1474	1700									
Volume to Capacity		0.26	0.11	0.07								
Queue Length 95th (ft)		26	9	0								
Control Delay (s)	11.5	6.2	0.0									
Lane LOS	B	A										
Approach Delay (s)		11.5	6.2	0.0								
Approach LOS		B										

Intersection Summary												
Average Delay				6.8								
Intersection Capacity Utilization					34.1%	ICU Level of Service						
A												
Analysis Period (min)				15								

2010 Build PM
HCM Unsignalized Intersection Capacity Analysis
3: Int 4/9/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1>		0				0	<1		1>	0	
Volume (veh/h)		55		146				122	125	114	49	
Sign Control		Stop						Free				
Grade		0%						0%				
Peak Hour Factor		0.92		0.92				0.92	0.92	0.92	0.92	
Hourly flow rate (vph)		60		159				133	136	124	53	
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None				
Median storage veh)										None		
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume		552		151				177				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol		552		151				177				
tC, single (s)	6.4		6.2				4.1					
tC, 2 stage (s)												
tF (s)	3.5		3.3				2.2					
p0 queue free %		87		82				91				
cM capacity (veh/h)		448		896				1399				

Direction, Lane #	EB 1	NB 1	SB 1
Volume Total	218	268	177
Volume Left	60	133	0
Volume Right	159	0	53
cSH	703	1399	1700
Volume to Capacity		0.31	0.09	0.10

Queue Length 95th (ft)		33	8	0			
Control Delay (s)	12.4	4.3	0.0				
Lane LOS	B	A					
Approach Delay (s)		12.4	4.3	0.0			
Approach LOS		B					

Intersection Summary				
Average Delay			5.8	
Intersection Capacity Utilization			44.4%	ICU Level of Service
	A			
Analysis Period (min)			15	

2010 Build SAT
HCM Unsignalized Intersection Capacity Analysis
3: Int 4/9/2008

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lanes	1>		0				0	<1		1>	0	
Volume (veh/h)		62		143				125	196	94	42	
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)		67		155				136	213	102	46	
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None				
Median storage veh)											None	
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume		610		125				148				
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol		610		125				148				
tC, single (s)	6.4		6.2				4.1					
tC, 2 stage (s)												

tF (s)	3.5		3.3		2.2	
p0 queue free %		84		83		91
cM capacity (veh/h)		414		926		1434

Direction, Lane #	EB 1	NB 1	SB 1	
Volume Total	223	349	148	
Volume Left	67	136	0	
Volume Right	155	0	46	
cSH	674	1434	1700	
Volume to Capacity		0.33	0.09	0.09
Queue Length 95th (ft)		36	8	0
Control Delay (s)	13.0	3.5	0.0	
Lane LOS	B	A		
Approach Delay (s)		13.0	3.5	0.0
Approach LOS		B		

Intersection Summary			
Average Delay	5.7		
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection Summary			
Average Delay	5.0		
Intersection Capacity Utilization	37.2%	ICU Level of Service	A
Analysis Period (min)	15		