Road Safety Audit
Main Street, Brockton

Old Colony Planning Council
70 School Street
Brockton, MA 02301

September, 2009

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The views and opinions of the Old Colony Planning Council expressed herein do not necessarily state or reflect those of the U. S. Department of Transportation.

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1.0 Introduction

This Road Safety Audit (RSA) was developed and managed by the Old Colony Planning Council (OCPC). The Brockton Traffic Commission initiated the study through a request to OCPC for a pedestrian safety study for Main Street adjacent to the Campello High Rise. The residents consist of elderly people, individuals with varying degrees of mobility limitations, and other transportation dependent populations. The Campello High Rise facilities are owned and operated by the Brockton Housing Authority.

The Brockton Traffic Commission cited safety concerns for pedestrians crossing Main Street at this location, especially elderly residents of the Campello High Rise. The request specifically included a warrant study for the feasibility of the installation of a pedestrian actuated traffic signal at a mid-block crosswalk across Main Street directly in front of the Campello High Rise. The geographic scope of the study area is shown in Figure 1, which is just over ¼ mile between the Main Street (Route 28)/Brookside Avenue/BAT Garage intersection north to the Main Street/Keith Avenue/Plain Street intersection. This section of Main Street contains destinations for pedestrians including doctors' offices, a convenience store, and fast food establishments.

The Road Safety Audit approach was utilized by the Old Colony Planning Council to address the safety concerns of the Brockton Traffic Commission in order to develop a professional, multi-disciplined, comprehensive study that will regard all road users. The audit will solicit a response from the Traffic Commission and the City of Brockton in implementing action strategies.

2.0 The Road Safety Audit

A Road Safety Audit (RSA) is defined by the Federal Highway Administration (FHWA) *Road Safety Audits Guidelines* as; "A formal safety performance examination of an existing or future road or intersection by an independent audit team." The RSA is designed to identify road safety issues as well as opportunities for safety improvements for all road users. The RSA includes the following elements:

- Performed by an independent team
- Performed by a multi-disciplined team
- Considers all potential road users
- Accounts for road user capabilities and limitations
- Generates a formal report
- Requires a formal response from the project owner (in this case the City of Brockton, which has requested this study)

In summary, the RSA is a proactive, formal examination that focuses on road safety, which is conducted by a multi-disciplinary team independent of the project owner (or the requester of the study).

Figure 1 Study Area

The RSA is qualitative in nature, although quantitative crash data, traffic data, and analyses are utilized. This report includes average daily traffic volume counts, crash data compilation and analyses, speed surveys, heavy vehicle classifications, and warrant analyses for pedestrian signal operation.

2.1 Choosing the Road Safety Audit Team

The Old Colony Planning Council (OCPC), upon receipt of the study request, agreed to act as the study manager. The first task was to organize the audit team. The main objective in selecting a team, according to the Federal Highway Administration's (FHWA) *Road Safety Audits Guidelines* is to choose an independent, qualified, and multi-disciplinary team of experts. Individuals with the following backgrounds were included based on the FHWA guidelines:

Road Safety Specialist - With expertise in causal factors that lead to crashes and effective treatments that address the occurrence of such crashes.
Traffic Operations Engineer – Qualified in the field of traffic operations and understand the principles of traffic flow, the causes of congestion, and the proper placement and uses of signs, pavement markings, and traffic signal operations.
Road Design Engineer – With extensive road design experience and familiarity with federal. state, and local standards.
Local Contact Person – With familiarity with the area under review and the traffic safety issues experienced there.
Other Areas of Specialties – These include specialists in human factors, maintenance, law enforcement, first response, pedestrian and bicycle use, and transit use.

The FHWA guidelines recommended that the best practice in regards to the size of the team should be achieved by limiting its size. The team should consult with other individuals if other skill sets are necessary. OCPC compiled a list of potential participants to fill the needs of the team that included the representatives from the following agencies:

Brockton Housing Authority
Brockton Fire Department
Brockton Police Department
Brockton Department of Public Works
Brockton Planning Department
Brockton Mayor James E. Harrington
Massachusetts Highway Department District 5
Executive Office of Transportation Construction and Public Works
State Representative Christine Canavan
State Representative Michael Brady
State Representative Geraldine Creedon
State Senator Thomas Kennedy
Brockton Area Transit
Old Colony Planning Council

Invitations to participate in the RSA were sent to the potential participants (previously listed.) The RSA took place on June 22, 2009 in the community room at the Campello High Rise at 10:00 AM. Those who attended the meeting and presentation on June 22, 2009 included:

Chief Kenneth Galligan, Brockton Fire Department
Captain Lee McCabe, Traffic Commissioner, Brockton Police Department
Pat Ciaramella, Executive Director, OCPC
Charles Kilmer, Transportation Program Manager, OCPC
Ray Guarino, Transportation Planner, OCPC
Owen Ahearn, Brockton Housing Authority
Michael Blondin, Brockton Area Transit
Paul Daley, Security, Brockton Housing Authority
Paul Studensky, Ward 4 Brockton Councilor
Thomas Rebello, MassHighway District 5 Traffic Operations
Richard Oliveira, MassHaighway District 5 Project Development
Joanne Telegen-Weinstock, EOT-Planning

A copy of the attendance sheet for the audit meeting is included in the appendix to this report. Agencies, state and local, and interested parties not able to attend the meeting were invited to respond and contribute to this report.

2.2 The RSA Procedure

Although there are specific, definite steps involved in the implementation of an RSA, the RSA procedure and program can be customized to the unique situations found in different agencies. The FHWA recommends a "top-down" strategic approach for agencies. This involves piloting RSA projects, developing a formal RSA policy, and monitoring and refining the process. Typical RSA steps include:

- Identify a project or road facility to be audited
- Select the RSA team
- Conduct a pre-audit meeting to review project information
- Perform field observations under various conditions
- Conduct audit and analyses and prepare a report of findings
- Present audit findings to the project owner
- The project owner prepares a formal response
- Incorporate/implement the findings and recommendations into the project

As previously stated, this RSA was initiated by a request from the Brockton Traffic Commission to OCPC regarding pedestrian safety concerns on Main Street. OCPC, acting as the RSA manager, identified and contacted (by mail) RSA participants who could act as the independent audit team. OCPC scheduled the RSA meeting June 22, 2009 in cooperation with the Brockton Housing Authority. In addition, OCPC compiled background traffic, pedestrian counts, and crash data for Main Street. OCPC conducted traffic counts, speed studies, gap studies, and truck classifications using automatic traffic recorders on Main Street. Crash data for Main Street (within the study area) was

compiled based on MassHighway's database for the latest available three years (2005, 2006, and 2007). This background data was distributed to the RSA participants at the June 22, 2009 meeting. OCPC presented the data and acted as the recording secretary at the meeting to document the team's findings and recommendations. In addition, team members were asked to complete a checklist of issues and deficiencies, or submit a narrative to OCPC for further input if warranted.

3.0 Background Data and Information for Main Street (Route 28)

3.1 Physical Attributes

Main Street (Route 28) is classified as an urban principal arterial under the Massachusetts Highway Department's road inventory system, and this portion of the road is under the jurisdiction of the City of Brockton. Main Street in Brockton runs north from West Bridgewater to Avon (and becomes North Main Street north of its intersection with Court Street in the downtown). Main Street is designated as Route 28 in Brockton from West Bridgewater to Plain Street, where Route 28 designation continues on to Plain Street and then Montello Street paralleling Main Street to the Avon line.

In the study area, in the vicinity of the Campello campus, Main Street consists of two lanes approximately 12 feet in width, with shoulders (approximately 6.5 feet wide, separated with a single solid, white line) along both sides of the road. The speed limit is posted at 30 miles per hour in the study area. Main Street within the study area is approximately 37 feet wide and a sidewalk is provided along both sides of the road. The sidewalk varies in width from six feet to eight feet wide. The eight foot sections contain a three foot buffer from the curb to a five foot cement walkway. The sidewalk is made up of Portland cement except for sections that open up to businesses and parking areas where it is made up of bituminous concrete.

Utility poles, signs, and roadside appurtenances are located within the sidewalk, and this section of Main Street appears to be well lit for night time pedestrian use. The land use along Main Street includes residential, institutional (school and day care), office (dentist, doctor, counseling), and commercial (convenience store and fast food.)

Main Street looking southbound toward the Campello Campus.

3.2 Average Daily Traffic, Speeds, Gap Data, and Truck Traffic

Traffic counts were conducted on Main Street, adjacent to the Campello High Rise, from May 11, 2009 through May 12, 2009 utilizing automatic traffic recorders, to determine the average daily traffic (total traffic within a 24-hour period), as well as the peak hour traffic (highest traffic within a one-hour period). The traffic counters also yielded information on vehicle classification (percent of heavy vehicles in the stream), the speeds at which vehicles are traveling on the road, and the number of vehicle gaps in the traffic stream. A gap is defined by the *Manual of Transportation Engineering Studies*, published by ITE, as the time between the rear bumper of one vehicle, as it passes a point on the road, and the front bumper of the vehicle following it in the traffic stream. A simultaneous gap is need in both north and southbound traffic of adequate time in order for a person to safely cross a street such as Main Street.

The prevailing speed of vehicles on Main Street is represented by the 85th Percentile speed, which is defined as the speed at which 85 percent of the traffic is traveling at or lower on the road. This speed is used as one of the criteria for the establishment of the legal speed limit in Massachusetts, and is considered the speed at which motorists feel most comfortable.

Table 1 summarizes the traffic volumes (24-hour and peak hour), the 85th percentile speeds, and the percentage of heavy vehicles on Main Street adjacent to the Campello High Rise.

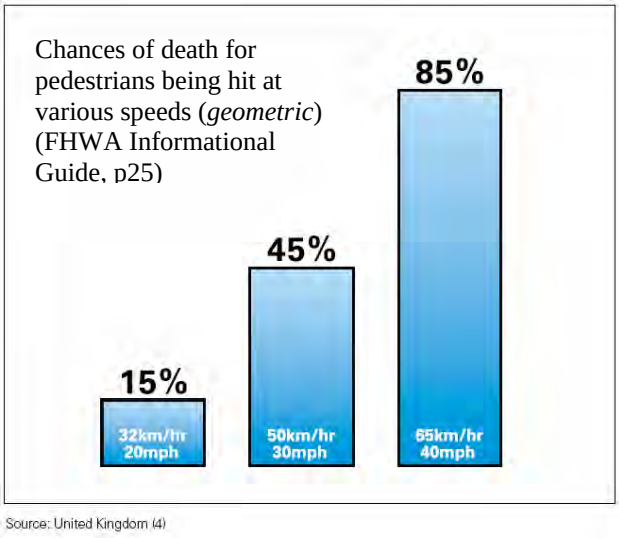
Table 1 – Main Street Traffic Volumes, 85th Percentile Speeds, and Percent of Heavy Vehicles

	Northbound	Southbound	Total Overall
Daily Traffic (24-hour period)	8,046	7,867	15,913
Morning Peak Hour Traffic 8 AM to 9 AM	377	565	942
Mid-Day Peak Hour 11 AM to Noon	550	508	1,058
Afternoon Peak Hour 4 PM to 5 PM	700	536	1,236
Percent truck traffic	6.4 %	6.0%	6.2%
85th Percentile speed	35 mph	33 mph	34 mph

As shown in Table 1, the twenty-four hour traffic on Main Street adjacent to the Campello campus is 15,913 vehicles per day. The peak hour varies between 942 vehicles per hour in the morning and 1,236 vehicles per hour during the afternoon. The traffic count results show that the volumes or vehicles per hour on Main Street increase from the morning to the afternoon peak. The peak hour volumes show that there is at least one vehicle on Main Street, traveling either northbound or southbound, every three to four seconds, depending on the time of day, between 8 AM and 5 PM.

Table 1 shows that the 85th percentile (prevailing speed) on Main Street is 34 miles per hour, which is above the posted 30 mile per hour speed limit. Truck traffic makes up 6.2 percent of the total traffic. The following graph in Figure 2 shows the likelihood of a fatal injury for pedestrians being struck by a motor vehicle at various speeds.

Figure 2 Chance of Death Being Hit at Various Speeds



The prevailing speed is 34 miles per hour and the posted speed is 30 miles per hour for Main Street. Based on the graph in Figure 2, the chances that a pedestrian will be killed when struck on Main Street at the Campello crosswalk are 45 percent under the prevailing speeds.

3.3 Crash Data

As recommended in the Institute of Transportation Engineers (ITE) Handbook, *Manual of Traffic Engineering Studies*, three years of data were compiled for crashes involving pedestrians in the study area. Table 2 summarizes the crash data for Main Street for the three-year period.

Table 2 - Main Street Crashes Involving Pedestrians 2005, 2006, 2007

Date/Location	Injury	Time	Vehicle Direction
3/20/06 at Main Street/Keith Street/Plain Street intersection	0	9:52 AM	westbound
5/7/05 at Main Street Clifton Street	1	3:40 PM	southbound
12/31/05 just south of Clifton Street	1	6:49 AM	northbound
1/7/06 100 feet south of Clifton Street	1	5:40 PM	Southbound

Source: MassHighway through the Registry of Motor Vehicles

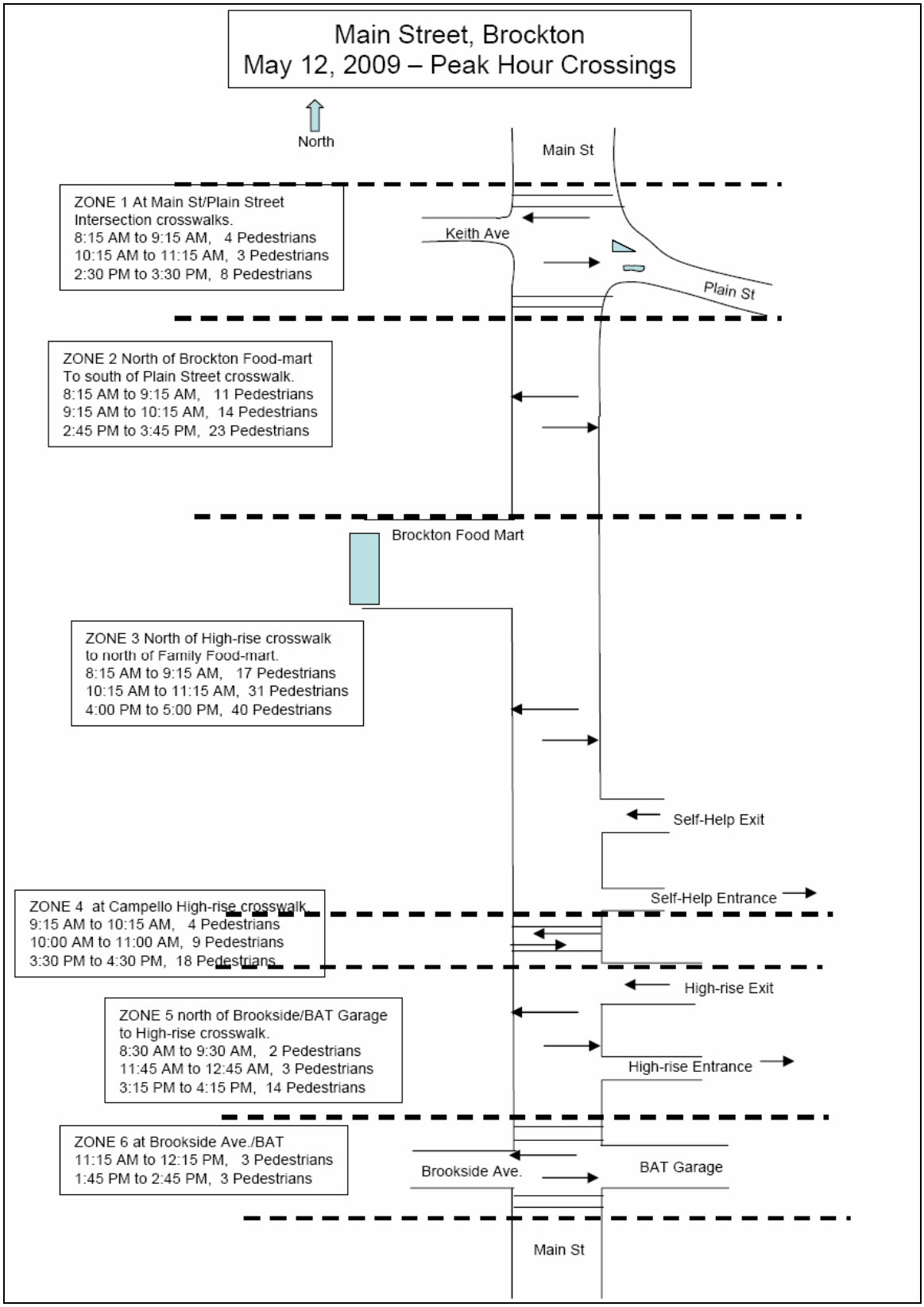
The crash data used for this study was based on information from MassHighway and the Massachusetts Registry of Motor vehicles (MRMV). The MRMV relies on reporting from local police departments to compile the data. Data up to 2007 were available from MassHighway; however, at the June 22nd meeting for this study, it was learned that within the past year, a pedestrian, a resident of the Campello High Rise, was struck crossing Main Street at the Campello High Rise crosswalk. That pedestrian survived the crash, but passed away shortly after the incident due to injuries sustained in the crash.

3.4 Pedestrian Volumes and Characteristics

3.4.1 Pedestrian Volumes

The study area was divided into six zones for the purpose of counting the volume of pedestrians crossing Main Street between 8 AM and 5 PM during an average weekday (one day between Monday and Friday). The pedestrian count was conducted on Wednesday, May 12, 2009, on a sunny, warm day that was favorable for pedestrian traffic.

Figure 3 Pedestrian Counts



The six zones, shown in Figure 3, include counting pedestrians across Main Street at the following locations:

- Zone 1, at the Main Street/Keith Avenue/Plain Street intersection crosswalks
- Zone 2, mid-block between the Main Street/Keith Avenue/Plain Street intersection and the convenience store
- Zone 3, mid-block between the convenience store and the Campello High Rise crosswalk
- Zone 4, at the existing Campello High Rise mid-block crosswalk
- Zone 5, mid-block from the existing Campello High Rise crosswalk to the Main Street/Brookside Avenue/BAT Garage intersection
- Zone 6, at the Main Street/Brookside Avenue/BAT Garage intersection crosswalks

As shown Figure 3, the highest number of pedestrians crossing Main Street occurred between 4 PM and 5 PM in zone 3, which is mid-block between the Campello High Rise crosswalk and the convenience store. The number of pedestrian crossing Main Street in this zone was 40 people. The highest number of pedestrians crossing at the Campello High Rise crosswalk was 18 persons between 3:30 PM and 4:30 PM.

3.4.2 Pedestrian Walking Speeds

In addition to counting pedestrians, on Wednesday, May 12, 2009, samples were taken of the time it took walkers to cross Main Street from curb to curb. The time samples of the walkers were taken utilizing a stop watch and only included pedestrians who crossed utilizing adequate gaps in the traffic, walking from curb to curb directly without pausing or stopping on the road. Those walkers that ran through inadequate gaps or who crossed one side, then stopped in the middle of the road to wait for a gap in the other directional stream of traffic, were not sampled. The samples were taken for non-elderly and elderly pedestrians.

Table 3 summarizes the timing samples taken for pedestrians crossing Main Street.

Table 3 – Pedestrian Crossing Speeds

	Non-Elderly		Elderly	
	Seconds	**Feet per Second**	**Seconds**	**Feet per Second**
1	7.00	5.3	10.00	3.7
2	7.87	4.7	10.10	3.7
3	8.09	4.6	11.26	3.3
4	8.24	4.5	11.61	3.2
5	8.78	4.2	11.73	3.2
6	9.00	4.1	11.90	3.1
7	9.04	4.1	12.26	3.0
8	9.24	4.0	12.55	3.9
9	9.54	3.9	13.39	2.8
10	9.81	3.8	13.10	2.7

The average overall for pedestrians crossing Main Street (approximately 37 feet from curb to curb) was 10.26 seconds (based on the time samples in Table 3). This is an average of 3.4 feet per second. The average for non-elderly pedestrians was 8.66 seconds, which is equal to 4.3 feet per second. This is close to the MUTCD standard, which is 4.0 feet per second, which translates to 9 seconds to cross 37 feet. The average speed for elderly pedestrians among the samples taken was 3.1 feet per second, or 11.86 seconds to cross the 37 feet across Main Street.

4.0 Signal Warrant for Pedestrian Mid-Block Signals

As stated in the introduction to this report, this study was initiated as a request for investigating the feasibility of installing a mid-block traffic signal on Main Street at the Campello High Rise crosswalk. The guidance on the installation of a pedestrian actuated traffic signal at a mid-block (to stop all traffic for pedestrians crossing) is covered under Chapter 4C (Section 4C.05 of the Manual on Uniform Traffic Control Devices (MUTCD). The MUTCD guidance states the following:

> The Pedestrian Volume signal warrant is intended for application where the traffic volume on a major street is so heavy that pedestrians experience excessive delay in crossing the major street.
>
> The need for a traffic control signal at an intersection or mid-block crossing shall be considered if an engineering study finds that both of the following criteria are met:
>
> > A. The pedestrian volume crossing the major street at an intersection or mid-block location during an average day is 100 or more for each of any 4 hours or 190 or more during any 1 hour; and
> > B. There are fewer than 60 gaps per hour in the traffic stream of adequate length to allow pedestrians to cross during the same period when the pedestrian volume criterion is satisfied. Where there is a divided street having a median of sufficient width for pedestrians to wait, the requirement applies separately to each direction of vehicular traffic.
>
> The Pedestrian Volume signal warrant shall not be applied at locations where the distance to the nearest traffic control signal along the major street is less than 90 m (300 ft), unless the proposed traffic control signal will not restrict the progressive movement of traffic. If this warrant is met and a traffic control signal is justified by an engineering study, the traffic control signal shall be equipped with pedestrian signal heads conforming to requirements set forth in Chapter 4E.
>
> The criterion for the pedestrian volume crossing the major roadway may be reduced as much as 50 percent if the average crossing speed of pedestrians is less than 1.2 m/sec (4 ft/sec). A traffic control signal may not be needed at the study location if adjacent coordinated traffic control signals consistently provide gaps of adequate length for pedestrians to cross the street, even if the rate of gap occurrence is less than one per minute.

The length for adequate gap time was estimated using the ITE publication *Manual on Traffic Engineering Studies*. Figure 4 shows the calculation used to develop the adequate gap time for crossing Main Street. Based on the automatic traffic count conducted by OCPC, it was determined that Main Street satisfies part B of the MUTCD warrant.

According to the automatic count, there are fewer than 60 adequate gaps per hour, of 14 second lengths, to allow safe crossing for pedestrians.

In regards to part A of the signal warrant, the traffic volumes from the pedestrian count were compared to the thresholds in the MUTCD for the signal warrant for the installation of a pedestrian actuated signal at a mid-block crossing. The volumes from the count did not satisfy these thresholds. The highest volume for pedestrian traffic crossing Main Street is 40 people per hour, falling short of both the 100 pedestrian per hour threshold (for each of four hours) and the 190 pedestrian threshold for any one hour of the day. In addition, the warrant allows the threshold to be reduced by 50 percent if the crossing speed is less than four feet per second. In the case of Main Street, the average crossing speed is less than four feet per second; however, the volumes, highest at 40 per hour, still do not meet this reduced threshold for mid-block signal installation.

Figure 4 Minimum Safe Gap Calculation

$$*\text{Minimum safe gap} = \frac{W\ (\text{width, } 37')}{S\ (\text{speed, } 3.4\ \text{ft/sec})} + (N - 1)\ H + R$$

$$*\text{Minimum safe gap} = \frac{37}{3.4} + (1 - 1)\ 2 + 3$$

$$*\text{Minimum safe gap} = 10.88$$

$$*\text{Minimum safe gap} = 13.88$$

$$= 14 \text{ Seconds}$$

N= Groups
H= Headway (2 sec.)
R = start-up time (3 sec)

5.0 Audit Meeting and Discussion

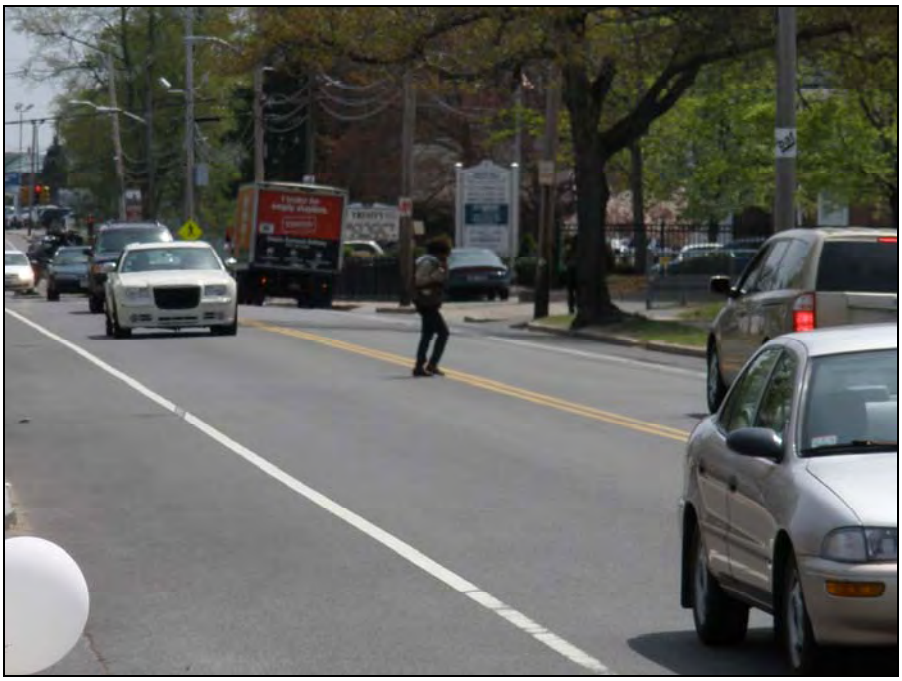
OCPC held an audit meeting and discussion with the RSA team on Monday, June 22, 2009 at 10:00 AM, in the meeting room at the Campello High Rise. OCPC presented background traffic and crash data to the RSA team at this meeting. OCPC reviewed the purpose, procedures, and timeline for the RSA. Videos and still photos were part of the presentation, which illustrated the prevailing traffic conditions as well as pedestrian travel characteristics under existing conditions. Truck traffic and deliveries, with trucks parking along the road, were shown as part of the prevailing conditions.

A portion of the video of traffic and pedestrian activity on Main Street was taken by OCPC during the spring and winter months. The video showed that the sidewalks on Main Street in front of the Campello High Rise were covered in snow and unusable by

pedestrians, who walked along Main Street using the shoulder of the road, thereby putting pedestrians closer to moving traffic. The video showed pedestrians using the shoulder of the road to access the mailbox in front of the Campello High Rise.

The videos of Main Street showed that pedestrians, in general, did not use crosswalks or pedestrian actuated signals, but instead tend to walk along Main Street, along the sidewalks and sometimes along the shoulders, waiting for a break in the traffic, and then cross the road. The videos showed a steady stream of traffic during an average weekday, with few adequate gaps and opportunities for pedestrians to cross the street. Consequently, pedestrians cross by stepping into traffic, thereby forcing vehicles to either slow down or stop, or wait for a break in traffic and dart across the road.

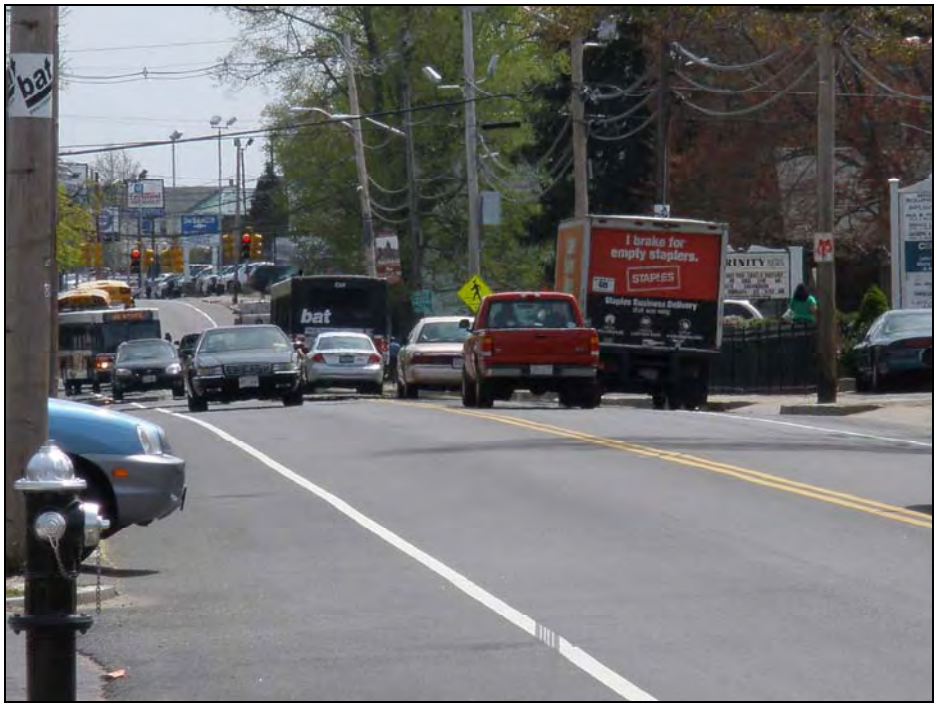
Pedestrian crossing Main Street at the Clifton Street crosswalk



Main Street looking south, with a pedestrian (talking on cell phone) crossing Main Street at BAT stop, just south of convenience store

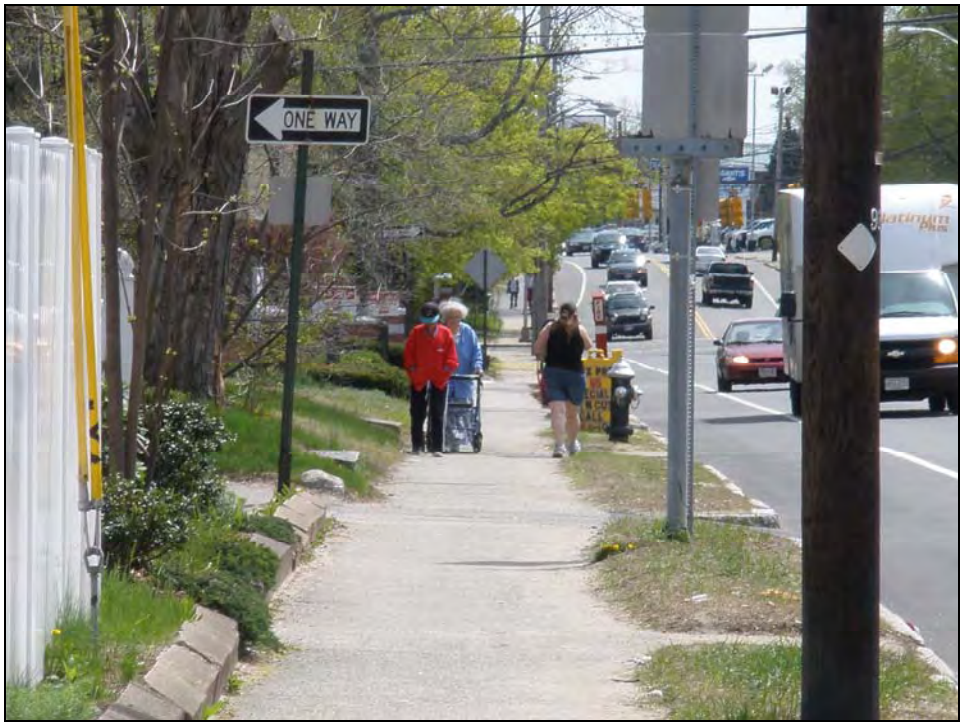
Main Street looking north, with a soda truck parked as the driver crosses through traffic to make a delivery.

Main Street looking south from Clifton Street showing a lack of adequate gaps for crossing the street or letting side traffic enter the traffic stream.

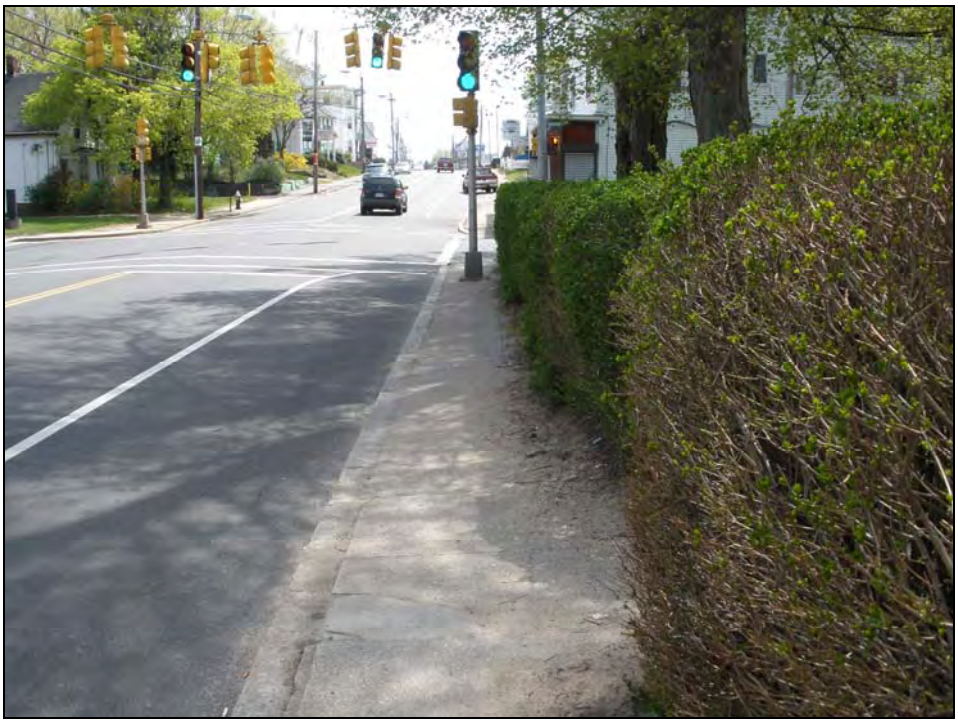


Main Street looking southbound at crosswalk in front of the Campello High Rise. A truck is parked along the road for deliveries.

Main Street looking northbound toward convenient store, with a pedestrian walking on the sidewalk, trucks parked near curb openings are blocking views as cars enter adjacent properties.



Main Street looking southbound with pedestrians walking along the sidewalk.



Main Street looking south at Brookside Avenue shows hedges blocking the sidewalk.

5.1 Audit Findings

After reviewing the background crash data, traffic volumes, pedestrian volumes, pedestrian walking speeds, vehicle speed data, heavy vehicle data, and discussing the issues, the RSA team considered a number of strategies to improve safety:

- Install a mid-block pedestrian actuated traffic signal (note, the pedestrian traffic does not satisfy the MUTCD warrants for a signal on Main Street at the Campello High Rise crosswalk location.)
- Install a traffic signal at Clifton Street that will be coordinated with the signals at the Main Street/Plain Street/Keith Avenue intersection. This traffic signal will have pedestrian actuation for the crosswalks.
- Make snow clearance on sidewalks on this section of Main Street a high priority.
- Move the Campello High Rise crosswalk a few feet north away from driveways at the High Rise and Self-Help center.
- Use textured surfaces in the crosswalks to make them stand out and be noticed by motorists.
- Install Rectangular Rapid Flashing Beacons (RRFB), or flashing lights on the pedestrian crossing signs. These are flashing lights that are pedestrian actuated on the pedestrian crossing signs (MUTCD W11)
- Move the mailbox in front of the Campello High Rise onto the Campello campus.
- Establish better enforcement of speeds along Main Street.
- Provide education at the Campello High Rise for residents in regards to safety when crossing streets.

- Enhanced signage (Yield to pedestrian in crosswalk MUTCD R1-5) along with yield markings on Main Street at the Campello High Rise crosswalk in accordance with the MUTCD. Add signs to discourage jay-walking, (R-92, and R9-3b MUTCD).
- Along with enhanced signage, textured sidewalks, and yield markings, construct bump-outs from sidewalks to prevent vehicles from going around other vehicles that stop for pedestrians at the Campello High Rise crosswalk.

Rectangular Rapid Flashing Beacons (RRFB) are flashing lights on pedestrian crossing signs at crosswalks that are actuated by the pedestrian via a push button. These flashing lights bring better visibility to the motorists that pedestrians are using the crosswalk.

Flashing lights on the W-11 sign (Rectangular Rapid Flashing Beacons - RRFB), used in conjunction with a crosswalk. These lights are pedestrian push-button actuated.

Another pedestrian button actuated flashing sign (W11 MUTCD) Rectangular Rapid Flashing Beacons – RRFB

Figure 5 shows the MUTCD standard signs, regulatory and warning, used in conjunction with crosswalks. Figure 6 shows MUTCD standards for the placement of the R1-5 sign, and the yield markings that are recommended for the Campello High Rise crosswalk. Further enhancements for crosswalks include a textured crosswalk and bump outs that would block vehicles from using the shoulder to go around vehicles in front of them that are stopped for pedestrians. Figure 7 shows signs from the MUTCD to encourage crosswalk use and discourage jay-walking.

Figure 5 Pedestrian crosswalk signs (MUTCD)

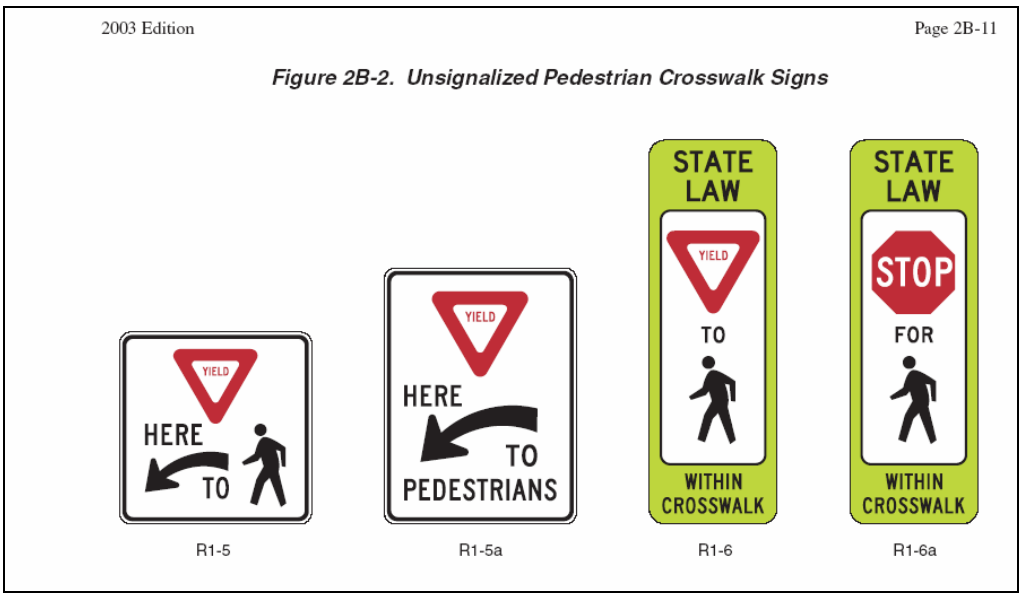


Figure 6 Crosswalk with yield signs and sign placement (MUTCD)

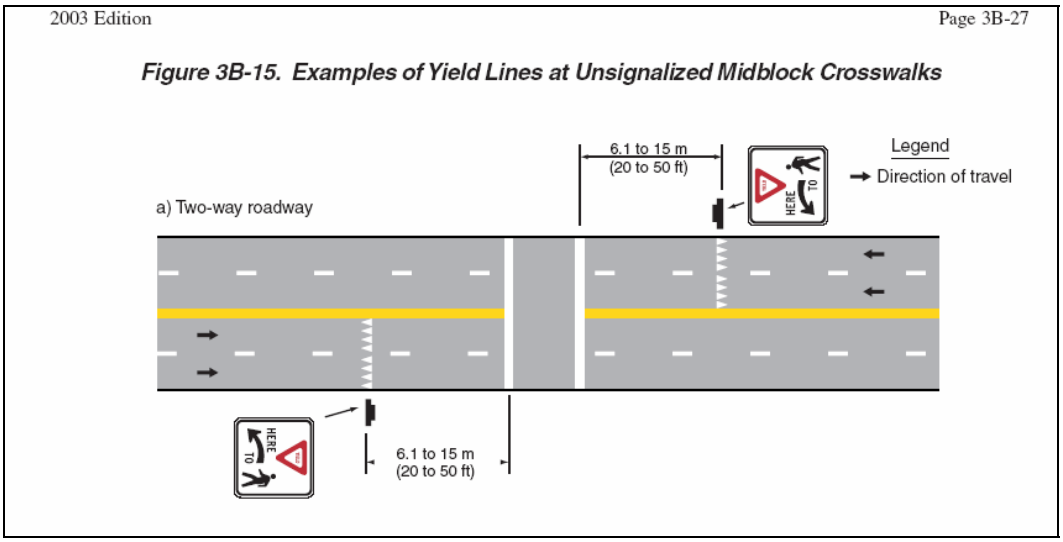
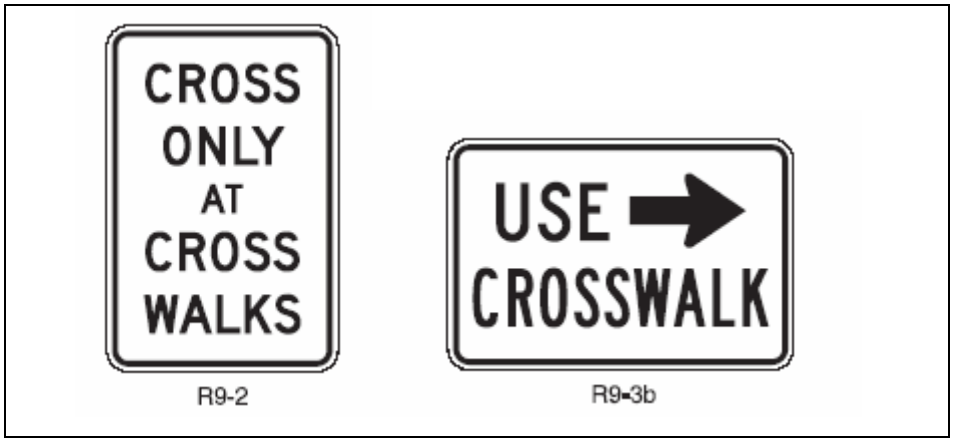


Figure 7 MUTCD signs to encourage crosswalk use (MUTCD)



Textured crosswalks Commercial Street, Brockton at Police Station and BAT Centre

Table 4 summarizes the deficiencies and issues as concluded and discussed by the RSA team. Table 5 shows the recommended improvements and the implications regarding the implementation of these recommendations.

Table 4 - Deficiencies and Issues

ISSUE:	COMMENTS:
A. Speed	- The posted speed limit is 30 miles per hour on Main Street in the vicinity of the Campello High Rise. - The prevailing speeds (85th percentile) are 35 northbound and 33 southbound, average overall 34 miles per hour
B. Alignment	- Main Street is straight; however, the grade is ascending northbound, which can hinder sight distances. - The roadway width is 37 feet – including two 12 foot travel lanes and shoulders, approximately 6.5 feet wide along both sides of the road.
C. Intersections	- Congestion at the Clifton Street intersection and at multiple curb-cuts and driveways along the road. - The un-signalized intersection is in close proximity to the Main Street/Plain Street/Keith Avenue intersection, and vehicles in queue at the Main Street/Plain Street/Keith Avenue intersection routinely back up through the Main Street/Clifton Street intersection.
D. Auxiliary Lanes	Not Applicable.
E. Clear Zones and Crash Barriers	- There are homes, office buildings, schools, and commercial buildings along this section of Main Street.
F. Bridges	- Not Applicable.
G. Pavement	- Main Street is in Good condition in this portion.
H. Lighting	- There appears to be adequate lighting along this portion of Main Street and auxiliary lighting in front of the Campello High Rise.
I. Signs	- There are pedestrian warning signs in advance of crosswalks along the road. - The speed limit is posted on Main Street at 30 miles per hour.
J. Traffic Signals	- The signal at the Main Street/BAT garage/Brookside Street intersection is in working condition, including pedestrian actuation, and includes a “chirping” signal for visually impaired pedestrians. - The signals at the Main Street/Plain Street/Keith Avenue intersection will be replaced, and the intersection will be reconstructed as part of the Old Colony TIP. The project is currently in the 75 percent design phase.
K. Markings and Delineation	- The center lines, stop lines, and markings are in good condition. - Some crosswalks are faded, especially at Clifton Street and Plain Street.
L. Roadway Activity	- Main Street is a principal arterial with heavy traffic flows all day long, with 15,914 vehicles per day. The volumes build from the morning and continue increasing at noon through to the afternoon peak hour. - Main Street is used heavily by commuters; however, this portion of Main Street also generates heavy local traffic and is a destination for residential, office, school, and commercial uses. - Sidewalks along Main Street are in generally good condition with a four to five foot cement walkway and a three foot grass buffer and curb. Approximately 30 to 50 feet of the sidewalk along the east side of Main Street is blocked by vegetation just north of the Brookside Ave. intersection (as shown previously in this report.) -Pedestrian activity is heavy along Main Street, especially during good weather, although the volumes fall short of warranting a mid-block pedestrian actuated signal. - Truck traffic is high on Main Street with trucks stopping in the shoulders intermittently to make deliveries.
M. Environmental Considerations	- There is room on the side of the road for deposit of snow during winter plowing. - Sidewalks were not plowed, at the time OCPC staff took pictures of Main Street last winter, forcing pedestrians to walk along the road’s shoulders.

Table 5 - RSA Recommendations

ISSUE:	RECOMMENDATIONS:	ADVANTAGES:	DISADVANTAGES:
PEDESTRIANS AND BICYCLISTS			
Are there appropriate travel paths and crossing points for pedestrians and bicyclists?	Move the Campello crosswalk north of driveways cuts at mid-block in front of Self-Help Center and provide ADA compliant curb ramps.	Reduces conflicts from vehicles turning in and out of driveways. Low cost-short term fix.	
Is traffic calming used where appropriate to improve safety? Is the application safe? (e.g., unsafe narrowings, unforgiving fixed objects are avoided)	Add bump-outs at Campello crosswalks to prevent vehicles from using the shoulders to by-pass vehicles stopped in front to allow pedestrians to cross. Add textured surface to the crosswalk.	Decreases risk for pedestrians crossing at crosswalk. Increases visibility of the cross walk for motorists.	Increases the cost of improvements. Certain textured sidewalks wear out quickly, Textured sidewalks not made of bituminous concrete, such as those on Commercial Street, add to the cost.
Are pedestrian footpaths or sidewalks provided where appropriate?	Sidewalks are provided along Main Street, but maintenance is needed.		
Are there an adequate number of pedestrian crossings along the route?	Add a crosswalk and signage just south at the convenient store at BAT fixed-route stops.	Low cost improvement, adds safety to a well-used crossing point that lacked crosswalk.	
Is there adequate provision for the elderly; the disabled; children; wheelchairs and baby carriages (curb and median crossings; ramps; sidewalk width, grades, cross slope, surface; detectable warnings)?	Install a mid-block pedestrian actuated traffic signal at Campello crosswalk.	Provides traffic control that increases safety. Vehicles on Main Street must stop for red signal.	High cost solution and the volumes do not satisfy the MUTCD warrants for a mid-block pedestrian actuated signal.
	Install a signal at Clifton Street that will be coordinated with the signals at the Main Street/Plain Street/Keith Avenue intersection. This signal will have pedestrian actuation for the crosswalks.	Provides traffic control that increases safety. Vehicles on Main Street must stop for red signal.	High cost solution the location should satisfy the MUTCD warrants for a signal. Warrant analysis and coordination with the Main Street/Plain Street intersection is necessary.
	Install a Rectangular Rapid Flashing Beacon at the Campello High Rise crosswalk. (RRFB).	Provides traffic control that increases safety. Low cost, short term solution.	
	Provide education to the public in regards to crossing streets safely (where to cross, when to cross, how to use amenities)	Will help the public to learn safe crossing techniques. Low cost, short term solution.	
Is the distance from the stop line to a cross walk sufficient for truck drivers to see pedestrians?	There are currently no stop lines or yield lines at Campello crosswalk. Add yield "shark-tooth" markings within 20 feet of the Campello crosswalk with R1-5 "Yield to Pedestrian in crosswalk" sign, in accordance with the MUTCD.	Low cost improvement that increases the visibility of crosswalk for motorist.	

Table 5 - RSA Recommendations (continued)

ISSUE:	RECOMMENDATIONS:	ADVANTAGES:	DISADVANTAGES:
Are the road and sidewalk surfaces free of significant rutting in the wheel paths that can accumulate water or snow?	Plow the sidewalks during winter to prevent snow build-up.	Low cost short term improvement that will prevent pedestrians from walking on road shoulders in winter.	
Are the information needs of blind and low-vision pedestrians met? (e.g., where pedestrian signals are provided, is crossing and timing information available, as well as chirping signal available to blind/low vision pedestrians?)	These amenities exist and are in working order at the Brookside/Main Street/BAT Garage intersection, they should be added to the Main Street/Plain Street/Keith Avenue intersection.		
The posted speed limit is 30 mph on Main Street. The prevailing speed is average overall 34 miles per hour. Adequate gaps for pedestrians to cross are not available in the traffic stream during the day. The wait for pedestrians trying to cross Main Street varies from 3 to 5 minutes.	Increase police enforcement of speed violators and drivers not yielding to pedestrians at crosswalks.	Low cost improvement that will increase safety.	

6.0 Conclusions and Next Steps

6.1 Recommendation Summary

A number of safety improvement opportunities have been described in this report, along with their potential impacts, to address the identified safety deficiencies on Main Street. It is important to note that many treatments are both low cost and short term and that there is a complementary nature of some of these safety strategies in that one improvement will aid with multiple safety issues. In addition, it should be noted that the approach towards improved safety is dynamic in nature and warrants revisiting over time.

6.2 Next Steps

The final steps in the Road Safety Audit process include finalizing the findings and presenting these findings and the opportunities to improve safety to the project owner, the Brockton Traffic Commission and the City of Brockton. Once the project owner (City of Brockton) has reviewed the findings and recommendations, a formal response should be prepared that includes the following considerations:

- Are the report findings and recommendations within the scope of the problem?
- Would the suggestions made in the RSA report address the safety issues, reducing the likelihood of occurrence and/or severity?
- Will the suggestions made in the RSA report lead to mobility, environmental, or other non-safety related problems?
- What would be the cost associated with implementing the suggestions? Are there more cost effective alternatives that would be equally effective?

Based on the outcome of the response, the project owner could agree with the recommendations, and commit to implementation, outlining a schedule for completion or the project owner can also choose to not implement any improvements due to constraints, but should document the reasons behind the decisions.

7.0 Appendix **(see enclosed CD-Rom)**

- Audit Meeting Agenda June 22, 2009
- Baystate Roads Technical Notes on Road Safety Audits
- Main Street Road Safety Audit and Meeting Sign-up Sheet (6/22/09)
- Pedestrian count data
- Automatic Traffic Recorder Vehicle Volumes, Speeds, and Vehicle Classifications for Main Street

OLD COLONY PLANNING COUNCIL

Jeammarie Kent-Joyce
President
70 School Street
Brockton, MA 02301-4097

Pasquale Ciaramella
Executive Director
Telephone: (508) 583-1833
Fax: (508) 559-8768
Email: info@ocpcrpa.org

~ Road Safety Audit ~
Campello High Rise
Main Street, Brockton, MA

At Campello High Rise First Floor Meeting Room
Monday, June 22, 2009
10:00 AM

Agenda

1. Welcome and Introductions

2. Study Overview
- Study Scope
- RSA procedure

3. Existing Conditions
- Traffic Patterns, Volumes, and Characteristics
- Speeds and Truck Traffic
- Pedestrian Characteristics
- Crash Experience

4. Potential Improvements
- Signal Warrant
- Potential Improvements

5. Next Steps
- RSA Report
- Written Response to the Report

6. Adjournment and Field Audit

Baystate Roads Program
Local Technical Assistance Program (LTAP)
Tech Notes

Tech Note #41

Road Safety Audits/Road Safety Audit Reviews

Road safety audits (RSAs) are a proactive approach to improving transportation safety. An RSA in an examination of a future or existing roadway, in which an independent, qualified audit team reports on safety issues. It is a way for your agency to improve safety and communicate to the public how your agency is proactively working toward crash reduction. The step-by-step procedure of an RSA can be performed during any or all stages of a project, including planning, preliminary design, detailed design, traffic control planning, construction, pre-opening, and on existing roads. For an existing road the RSA is effectively a review and is discussed as a road safety audit review (RSAR).

RSAs have been used successfully worldwide for a number of years. In only the last couple of years, agencies in the United States have begun to focus on RSAs. Worldwide, the RSA concept has proven to be highly effective in identifying and reducing the crash potential of roadway projects. Globally it is estimated that one million fatalities result from motor vehicle crashes each year. The potential savings--in lives, serious injuries, and property damage--are incalculable.

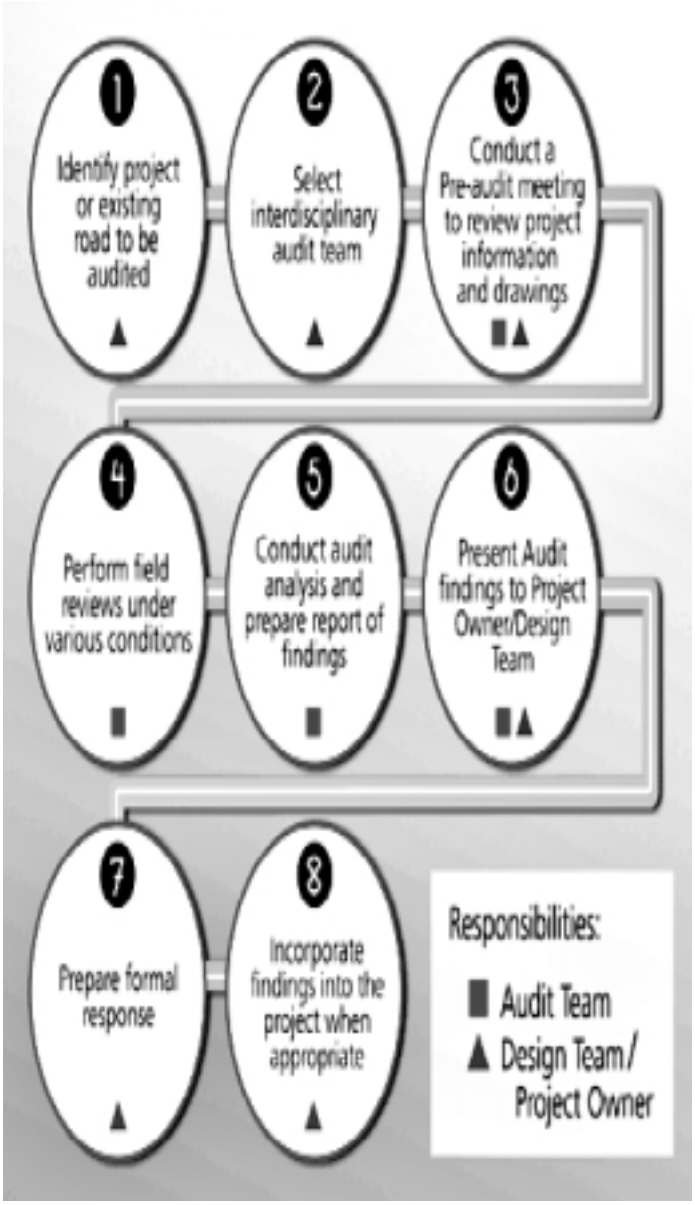
Although concerns have been raised that the use of road safety audits would increase an agency's liability, in fact, just the opposite is true. Implementing a plan to reduce the crash potential and improve the safety performance of a roadway is actually a proactive approach to safety and should be used in defense of tort liability. This is particularly true of RSAs performed in the early stages of a project. Identifying and documenting safety issues on an existing roadway is not an admission of guilt. Rather, it is the first step in a process designed to improve safety. Proper documentation, communication and logical prioritization of an agency's plan to address safety issues would be difficult to fault.

Road safety audits, adaptable to local needs and conditons, are a powerful tool for state and local agencies to enhance the state of safety practices. The value of the RSA process in identifying roadway safety issues makes it an important component of any agency's safety strategy. Most State DOTs have established traditional safety review processes through their high hazard identification and correction programs. However, an RSA and a traditional safety

ROAD SAFETY REVIEWS	RSAs
●A safety review uses a small (1-2 person) team with design expertise.	●A safety audit uses a larger (3-5 person) interdisciplinary team.
●Safety review team members are usually involved in the design.	●Safety audit team members are usually independent of the project.
●Field reviews are usually not part of safety reviews.	●The field review is a necessary component of the safety audit.
●Safety reviews concentrate on evaluating designs based on compliance with standards.	●Checklists and field reviews help to examine all design features.
●Safety reviews do not normally consider human factors issues, i.e. driver error, visibility issues, etc.	●Safety audits are comprehensive and attempt to consider all factors that may contribute to a crash.
●Safety reviews focus on the needs of roadway users.	●Safety audits consider the needs of pedestrians, cyclists, large trucks as well as automobile drivers.
●Safety reviews are reactive. Hazardous locations are identified through analysis of crash statistics or observations.	●Safety audits are proactive and look at locations prior to the development of crash patterns to correct hazards before they happen.

review are different processes. It is important to understand the difference between road safety reviews that are commonly performed and newer RSAs as described on page 1.

The FHWA is working with State and local jurisdictions to integrate Road Safety Audits into the project development process for new roads and intersections, and also encourage RSAs be conducted on existing roads and intersection. The following chart outlines the basic steps involved in conducting an RSA.



Conducting an RSA

Before

This is a photo of an intersection in Grand Rapids, Michigan, before a road safety audit was conducted. The two traffic signal heads are hung on a diagonal span of wire and only one head is over the travel lanes. There are two lanes approaching the intersection separated by a dashed white pavement marking.

After

This is the same intersection after a road safety audit was conducted. The traffic signals are now hung on a box span of wire and they are now able to be hung directly over the travel lanes. Now there are three traffic signal heads, two for the through lane and one for the left turn lane. Pavement markings now show a separate left-turn lane at the intersection.

Photos courtesy of AAA Michigan.

KEYS TO SUCCESSFUL IMPLEMENTATION

From an agency's experience, the keys to success are:

* Agency support and willingness to incorporate audit findings
* Small multidisciplinary audit team of 3-5 people
* Audit conducted at the earliest possible stage.
* Willingness to investigate new ideas outside the traditional scope of work.

GOOD CANDIDATES FOR RSAs

For new construction, project characteristics that could benefit from an RSA include:

* A complex design with high cost
* New or unusual features
* Several interacting modes
* A high public or political profile
* A context sensitive design

For existing roads and streets, good candidates may include:

* A poor safety performance record
* High public or political interest
* Traffic conditions that have changed

AUDIT TEAM KNOWLEDGE BASE

* *MUTCD*
* *AASHTO "Green Book"*
* *AASHTO Roadside Design Guide*
* *AASHTO Highway Safety Design/Operations Guide*
* Road Safety Audit Skills
* Tort Liability Issues
* Pedestrian/Bicycle Design Issues

DESIRABLE AUDIT TEAM SKILLS

* Highway/Traffic Safety
* Traffic Engineering
* Geometric Design
* Human Factors
* Planning
* Ped/Bike Speciality
* Accident Reconstruciton
* Enforcement
* Maintenance

SITE VISIT

* Team must be prepared to focus on safety issues
* Team will already have reviewed plans and have some background on the project
* Team will use checklists
* Team should use videotape/digital cameras

CHECKLISTS

* Formulated to guide the process
* Can be modified to fit the state of the audit project
* Should be considered an aid, not the final product
* Should be considered a tool, not a rigid requirement

Checklists help the team to consider all factors and provide a reminder of potentially overlooked safety issues. A measure of continuity is provided from audit to audit with accompanying documentation. Various safety issues to be assessed during a field review include:

* Roadside features
* Road surface conditions
* Pavement markings
* Signing and delineation
* Intersections and approaches
* Bridge structures
* Road users (motorized and non-motorized)
* Consistency of design parameters

AGENCY CONCERNS ABOUT RSAs

Local agencies may have concerns about potential drawbacks of conducting RSAs.

Project Development Delay

Delay is minimal. The audit process can be worked into the regular development process. From start-up to submission of the final report, a standard road safety audit requires about 1-3 weeks to complete.

Increased Project Costs

RSA team proposals should be kept in context with the project scope and focus primarily on low cost improvements. Any significant cost changes can be discussed with project managers prior to issuance of the final report.

It is up to project managers to select or defer any changes. It is generally less costly to make needed changes in project plans than to modify a new improvement after construction is completed.

Potential Increased Liability Exposure

A properly conducted and documented RSA should not result in additional liability exposure for an agency. In fact RSAs may actually reduce potential tort claim exposure by demonstrating a proactive approach to safety. However, managers may want to discuss liability implications with agency attorneys before undertaking an RSA. Identifying and documenting safety issues on a road is not an admission of guilt. Rather, this initiative is part of a management process to improve safety within a jurisdiction. Priorities can be established and a time line developed to implement improvements. Using accepted risk management techniques, safety concerns can be prioritized and addressed as funding becomes available.

RESOURCES

For more detailed information on how to conduct an RSA, visit the FHWA website at:

http://www.roadwaysafetyaudits.org

This Road Safety Audits website was developed by the Institute of Transportation Engineers (ITE) in cooperation with the Federal Highway Administration (FHWA) in the interest of information exchange. The site provides an easy centralized way to access a variety of resources related to safety audits including an overview of road safety audits and road safety audit reviews, the benefits of conducting road safety audits and incorporating them into safety programs, the legal considerations and implications of RSAs, how to conduct road safety audits, and links to various RSA resources.

To assist your agency in preparing a questionnaire, a prompt list is available from Baystate Roads Program by faxing a request to:

413-545-6471 or phoning 413-545-5403

This checklist is merely a guide to help the RSA team consider all factors particular to each community's needs and was prepared by FHWA's Office of Safety.

The National Cooperative Highway Research Program has published *NCHRP Synthesis 321* on "Roadway Safety Tools for Local Agencies" which is available from the Baystate Roads Program or through the Transportation Research Board at:

http://www.national-academies.org/trb/bookstore

The overriding message of this comprehensive report is that ***safety practices should be tailored to the problems and resources of an agency*** and that there is no one-size-fits-all safety solution. Emphasis is placed on the use of tools that will give local agencies a practical and affordable toolbox, with a stronger safety program as the result.

FHWA also offers a new Peer-to-Peer program for agencies either considering the use of or actually conducting RSAs. The RSA P2P program is provided at no cost to State and local tranportation agencies and allows easy access to the support of a knowledgeable peer. Contact the Road Safety Audit Peer-to-Peer Program at:

(866) P2P-FHWA or **email SafetyP2P@fhwa.dot.gov**

Thanks to Louisa Ward, FHWA RSA Program Manager and a former member of the Baystate Roads Advisory Board, and Thomas J. MacDonald, PE and Safety Circuit Rider for the Iowa LTAP Center, for assistance in preparation of this article.

MAIN STREET BROCKTON, ROAD SAFETY AUDIT
MONDAY JUNE22, 2009, 10 AM AT CAMPELLO HIGH RISE SIGN UP SHEET

NAME	ORGANIZATION
Pat Cinkamella	old Colony Planning Council
KENNETH GAHAGAN	BROCKTON FIRE CHIEF
Lee McCabe	Captain Brockton Police
OWEN AHEARN	Brockton Housing Authority
Michael Blondin	BAT
Paul Daley	BHA Security
Paul Studenski	WARD 4 Brockton Councillor
Thomas Rebello	MASSHIGHWAY DIST. 5 TRAFFIC OPS.
Richard Oliveira	MHD D5 Proj. Devel.
Joanne Telegen Weinstock	EOT - Planning
Charles Kilmar	OCPC

Linda Belzuti

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	Comment 2:		Weather: Overcast									
	Comment 3:		Board #: TDC-8 (2)									
	Comment 4:		Staff: RG & KW									
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08:15 AM	0	1	0	0	0	1	1		1		0	
08:30 AM	4	1	2	0	3	5	9		4		2	
08:45 AM	0	3	0	1	1	3	3	17	4	10	1	4
09:00 AM	0	0	1	0	2	0	0	13	2	11	1	4
09:15 AM	2	0	0	0	1	3	5	17	1	11	0	4
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Start Time:		8:00:00 AM										
Site Code:		44			**PEDESTRIANS CROSSING MAIN STREET**							
Comment 1:		Community: Brockton										
Comment 2:		Weather: Overcast										
Comment 3:		Board #: TDC-8 (1)										
Comment 4:		Staff: BH & KM										
	ZONE 4 5 6 Westbound			ZONE 4 5 6 Eastbound			Total Zone 4	Peaks zone 4	Total zone 5	Peak zone 5	Total zone 6	Peak zone 6
Start Time	zone 6	zone 5	zone 4	zone 4	zone 5	zone 6						
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08:45 AM	1	0	0	0	0	0	0	0	0	2	1	1
09:00 AM	0	0	0	0	0	0	0	0	0	2	0	1
09:15 AM	0	0	0	0	0	0	0	0	0	2	0	1
09:30 AM	0	0	0	0	0	0	0	0	0	0	0	1
09:45 AM	0	0	0	0	0	0	0	0	0	0	0	0
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12:00 PM	1	0	1	1	0	0	2	2	0	1	1	2
12:15 PM	1	1	0	1	0	0	1	3	1	2	1	3
12:30 PM	0	0	1	0	0	0	1	4	0	2	0	2
12:45 PM	0	0	1	1	0	0	2	6	0	1	0	2
01:00 PM	0	0	1	0	1	0	1	5	1	2	0	1
01:15 PM	0	1	0	0	0	2	0	4	1	2	2	2
01:30 PM	0	0	3	0	0	0	3	6	0	2	0	2
01:45 PM	0	0	0	3	1	0	3	7	1	3	0	2
02:00 PM	0	0	1	0	0	1	1	7	0	2	1	3

02:15 PM	2	0	0	0	0	0	0	7	0	1	2	3
02:30 PM	0	0	0	1	0	0	1	5	0	1	0	3
02:45 PM	0	1	0	1	0	0	1	3	1	1	0	3
03:00 PM	0	1	3	1	0	0	4	6	1	2	0	2
03:15 PM	0	0	0	0	0	1	0	6	0	2	1	1
03:30 PM	0	7	0	3	1	0	3	8	8	10	0	1
03:45 PM	0	1	4	0	0	0	4	11	1	10	0	1
04:00 PM	0	0	2	1	3	0	3	10	3	12	0	1
04:15 PM	0	0	2	6	2	0	8	18	2	14	0	0
04:30 PM	0	0	2	1	0	0	3	18	0	6	0	0
04:45 PM	0	0	1	2	0	0	3	17	0	5	0	0
							55		24		10	
							6.111111		2.666667		1.111111	

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Main St, north of Brookside Ave

Start	04-May-09		Tue		Wed		Thu		Fri		Sat		Sun		Week Average	
Time	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB	NB	SB
12:00 AM	*	*	*	*	73	62	80	79	*	*	*	*	*	*	76	70
01:00	*	*	*	*	40	32	36	34	*	*	*	*	*	*	38	33
02:00	*	*	*	*	12	17	15	30	*	*	*	*	*	*	14	24
03:00	*	*	*	*	14	14	11	13	*	*	*	*	*	*	12	14
04:00	*	*	*	*	44	37	49	33	*	*	*	*	*	*	46	35
05:00	*	*	*	*	95	101	92	100	*	*	*	*	*	*	94	100
06:00	*	*	*	*	172	243	182	235	*	*	*	*	*	*	177	239
07:00	*	*	*	*	325	506	321	472	*	*	*	*	*	*	323	489
08:00	*	*	*	*	375	**593**	379	**536**	*	*	*	*	*	*	377	**564**
09:00	*	*	*	*	468	482	402	468	*	*	*	*	*	*	435	475
10:00	*	*	*	*	**522**	491	473	494	*	*	*	*	*	*	498	492
11:00	*	*	*	*	516	504	**585**	511	*	*	*	*	*	*	**550**	508
12:00 PM	*	*	*	*	544	510	558	570	*	*	*	*	*	*	551	540
01:00	*	*	*	*	587	**560**	595	523	*	*	*	*	*	*	591	542
02:00	*	*	*	*	582	535	588	**572**	*	*	*	*	*	*	585	**554**
03:00	*	*	*	*	608	526	645	544	*	*	*	*	*	*	626	535
04:00	*	*	*	*	**673**	521	**726**	552	*	*	*	*	*	*	**700**	536
05:00	*	*	*	*	613	509	655	490	*	*	*	*	*	*	634	500
06:00	*	*	*	*	534	454	512	442	*	*	*	*	*	*	523	448
07:00	*	*	*	*	406	385	385	365	*	*	*	*	*	*	396	375
08:00	*	*	*	*	296	332	294	275	*	*	*	*	*	*	295	304
09:00	*	*	*	*	190	206	232	227	*	*	*	*	*	*	211	216
10:00	*	*	*	*	167	169	173	175	*	*	*	*	*	*	170	172
11:00	*	*	*	*	121	94	128	111	*	*	*	*	*	*	124	102
Total	0	0	0	0	7977	7883	8116	7851	0	0	0	0	0	0	8046	7867
Day	0		0		15860		15967		0		0		0		15913	
AM Peak					10:00	08:00	11:00	08:00							11:00	08:00
Vol.					522	593	585	536							550	564
PM Peak					16:00	13:00	16:00	14:00							16:00	14:00
Vol.					673	560	726	572							700	554

Comb. Total	0	0	15860	15967	0	0	0	15913

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Main St, north of Brookside Ave

Start Time	04-May-09 Mon	05-May-09 Tue	06-May-09 Wed	07-May-09 Thu	08-May-09 Fri	09-May-09 Sat	10-May-09 Sun	Week Average
12:00 AM	*	*	135	159	*	*	*	147
01:00	*	*	72	70	*	*	*	71
02:00	*	*	29	45	*	*	*	37
03:00	*	*	28	24	*	*	*	26
04:00	*	*	81	82	*	*	*	82
05:00	*	*	196	192	*	*	*	194
06:00	*	*	415	417	*	*	*	416
07:00	*	*	831	793	*	*	*	812
08:00	*	*	968	915	*	*	*	942
09:00	*	*	950	870	*	*	*	910
10:00	*	*	1013	967	*	*	*	990
11:00	*	*	**1020**	**1096**	*	*	*	**1058**
12:00 PM	*	*	1054	1128	*	*	*	1091
01:00	*	*	1147	1118	*	*	*	1132
02:00	*	*	1117	1160	*	*	*	1138
03:00	*	*	1134	1189	*	*	*	1162
04:00	*	*	**1194**	**1278**	*	*	*	**1236**
05:00	*	*	1122	1145	*	*	*	1134
06:00	*	*	988	954	*	*	*	971
07:00	*	*	791	750	*	*	*	770
08:00	*	*	628	569	*	*	*	598
09:00	*	*	396	459	*	*	*	428
10:00	*	*	336	348	*	*	*	342
11:00	*	*	215	239	*	*	*	227
Total	0	0	15860	15967	0	0	0	15914
Percentage	0.0%	0.0%	99.7%	100.3%	0.0%	0.0%	0.0%	
AM Peak			11:00	11:00				11:00
Vol.			1020	1096				1058
PM Peak			16:00	16:00				16:00
Vol.			1194	1278				1236

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/06/09	0	0	3	15	20	24	8	2	1	0	0	0	0	0	73
01:00	0	0	2	10	12	9	6	1	0	0	0	0	0	0	40
02:00	0	0	0	2	5	5	0	0	0	0	0	0	0	0	12
03:00	0	0	0	1	1	8	4	0	0	0	0	0	0	0	14
04:00	0	1	2	4	19	13	5	0	0	0	0	0	0	0	44
05:00	0	0	4	13	43	22	10	2	1	0	0	0	0	0	95
06:00	8	5	10	34	67	37	8	3	0	0	0	0	0	0	172
07:00	35	17	30	88	102	40	13	0	0	0	0	0	0	0	325
08:00	55	21	45	92	111	48	3	0	0	0	0	0	0	0	375
09:00	43	29	40	135	164	49	7	0	1	0	0	0	0	0	468
10:00	63	22	73	189	135	31	9	0	0	0	0	0	0	0	522
11:00	49	23	77	206	131	28	1	0	1	0	0	0	0	0	516
12 PM	58	37	73	198	133	41	3	1	0	0	0	0	0	0	544
13:00	77	26	78	194	168	40	4	0	0	0	0	0	0	0	587
14:00	54	23	82	180	177	53	11	1	1	0	0	0	0	0	582
15:00	70	45	70	187	165	63	8	0	0	0	0	0	0	0	608
16:00	60	16	109	234	201	44	8	1	0	0	0	0	0	0	673
17:00	56	32	83	194	178	60	10	0	0	0	0	0	0	0	613
18:00	33	12	66	214	153	48	8	0	0	0	0	0	0	0	534
19:00	26	11	42	127	150	40	9	1	0	0	0	0	0	0	406
20:00	17	5	28	82	120	40	4	0	0	0	0	0	0	0	296
21:00	5	1	9	50	80	37	7	0	1	0	0	0	0	0	190
22:00	5	0	4	36	71	40	10	1	0	0	0	0	0	0	167
23:00	0	0	10	24	42	35	7	3	0	0	0	0	0	0	121
Total	714	326	940	2509	2448	855	163	16	6	0	0	0	0	0	7977

Daily

15th Percentile :	21 MPH
50th Percentile :	29 MPH
85th Percentile :	35 MPH
95th Percentile :	39 MPH
Mean Speed(Average) :	28 MPH
10 MPH Pace Speed :	26-35 MPH
Number in Pace :	4957
Percent in Pace :	62.1%
Number of Vehicles > 30 MPH :	3488
Percent of Vehicles > 30 MPH :	43.7%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/07/09	0	0	2	9	25	33	10	1	0	0	0	0	0	0	80
01:00	0	0	1	6	16	4	8	1	0	0	0	0	0	0	36
02:00	0	0	0	1	9	4	1	0	0	0	0	0	0	0	15
03:00	1	0	0	1	5	3	1	0	0	0	0	0	0	0	11
04:00	0	0	1	6	22	10	8	2	0	0	0	0	0	0	49
05:00	1	1	3	20	34	26	5	2	0	0	0	0	0	0	92
06:00	16	4	13	32	78	33	6	0	0	0	0	0	0	0	182
07:00	23	8	34	90	131	30	5	0	0	0	0	0	0	0	321
08:00	46	15	52	113	118	31	4	0	0	0	0	0	0	0	379
09:00	40	14	54	112	136	37	9	0	0	0	0	0	0	0	402
10:00	47	31	107	133	124	28	3	0	0	0	0	0	0	0	473
11:00	42	17	100	214	169	41	2	0	0	0	0	0	0	0	585
12 PM	57	33	79	185	159	42	3	0	0	0	0	0	0	0	558
13:00	62	25	73	224	160	43	7	1	0	0	0	0	0	0	595
14:00	56	24	81	234	157	32	4	0	0	0	0	0	0	0	588
15:00	78	36	121	207	162	39	0	0	0	2	0	0	0	0	645
16:00	85	87	180	221	132	17	4	0	0	0	0	0	0	0	726
17:00	63	30	137	222	154	41	7	0	1	0	0	0	0	0	655
18:00	27	11	56	175	171	62	10	0	0	0	0	0	0	0	512
19:00	13	5	43	115	143	61	3	2	0	0	0	0	0	0	385
20:00	6	1	22	88	123	45	8	1	0	0	0	0	0	0	294
21:00	7	1	13	58	95	50	7	1	0	0	0	0	0	0	232
22:00	3	0	9	30	68	51	12	0	0	0	0	0	0	0	173
23:00	3	0	4	20	63	28	8	1	1	0	0	0	0	0	128
Total	676	343	1185	2516	2454	791	135	12	2	2	0	0	0	0	8116

Daily

15th Percentile :	21 MPH
50th Percentile :	29 MPH
85th Percentile :	35 MPH
95th Percentile :	39 MPH
Mean Speed(Average) :	28 MPH
10 MPH Pace Speed :	26-35 MPH
Number in Pace :	4970
Percent in Pace :	61.2%
Number of Vehicles > 30 MPH :	3396
Percent of Vehicles > 30 MPH :	41.8%

Grand Total	1390	669	2125	5025	4902	1646	298	28	8	2	0	0	0	0	16093

Overall

15th Percentile :	21 MPH
50th Percentile :	29 MPH
85th Percentile :	35 MPH
95th Percentile :	39 MPH
Mean Speed(Average) :	28 MPH
10 MPH Pace Speed :	26-35 MPH
Number in Pace :	9927
Percent in Pace :	61.7%
Number of Vehicles > 30 MPH :	6884
Percent of Vehicles > 30 MPH :	42.8%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/06/09	0	0	3	14	34	10	1	0	0	0	0	0	0	0	62
01:00	0	0	1	6	21	3	1	0	0	0	0	0	0	0	32
02:00	0	1	2	4	8	2	0	0	0	0	0	0	0	0	17
03:00	0	0	1	1	8	2	2	0	0	0	0	0	0	0	14
04:00	3	1	2	9	14	8	0	0	0	0	0	0	0	0	37
05:00	2	0	6	38	37	15	3	0	0	0	0	0	0	0	101
06:00	12	3	25	81	84	33	5	0	0	0	0	0	0	0	243
07:00	42	30	77	158	169	29	1	0	0	0	0	0	0	0	506
08:00	61	68	176	206	73	8	1	0	0	0	0	0	0	0	593
09:00	36	19	75	202	123	23	4	0	0	0	0	0	0	0	482
10:00	43	35	134	195	74	9	1	0	0	0	0	0	0	0	491
11:00	39	49	124	210	71	10	0	1	0	0	0	0	0	0	504
12 PM	57	25	148	187	84	8	1	0	0	0	0	0	0	0	510
13:00	58	34	148	216	88	14	2	0	0	0	0	0	0	0	560
14:00	57	30	90	235	109	14	0	0	0	0	0	0	0	0	535
15:00	57	34	119	184	104	26	2	0	0	0	0	0	0	0	526
16:00	58	19	103	224	100	15	2	0	0	0	0	0	0	0	521
17:00	57	20	100	205	114	12	1	0	0	0	0	0	0	0	509
18:00	38	13	60	214	103	25	1	0	0	0	0	0	0	0	454
19:00	23	11	77	159	97	18	0	0	0	0	0	0	0	0	385
20:00	22	7	58	131	96	17	1	0	0	0	0	0	0	0	332
21:00	3	2	9	79	95	17	1	0	0	0	0	0	0	0	206
22:00	2	2	8	54	76	26	1	0	0	0	0	0	0	0	169
23:00	2	0	4	17	43	23	4	1	0	0	0	0	0	0	94
Total	672	403	1550	3029	1825	367	35	2	0	0	0	0	0	0	7883

Daily

15th Percentile :	21 MPH
50th Percentile :	28 MPH
85th Percentile :	33 MPH
95th Percentile :	36 MPH
Mean Speed(Average) :	26 MPH
10 MPH Pace Speed :	26-35 MPH
Number in Pace :	4854
Percent in Pace :	61.6%
Number of Vehicles > 30 MPH :	2229
Percent of Vehicles > 30 MPH :	28.3%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/07/09	0	1	0	19	36	19	3	1	0	0	0	0	0	0	79
01:00	0	0	0	4	18	9	2	1	0	0	0	0	0	0	34
02:00	0	0	0	9	15	5	1	0	0	0	0	0	0	0	30
03:00	0	0	1	2	7	3	0	0	0	0	0	0	0	0	13
04:00	0	0	2	7	15	8	1	0	0	0	0	0	0	0	33
05:00	4	0	4	29	43	18	2	0	0	0	0	0	0	0	100
06:00	10	3	30	88	71	32	1	0	0	0	0	0	0	0	235
07:00	28	23	95	169	135	21	1	0	0	0	0	0	0	0	472
08:00	42	45	105	203	114	27	0	0	0	0	0	0	0	0	536
09:00	31	11	79	218	112	15	2	0	0	0	0	0	0	0	468
10:00	36	32	120	181	108	16	1	0	0	0	0	0	0	0	494
11:00	43	4	105	225	123	10	1	0	0	0	0	0	0	0	511
12 PM	51	45	155	227	82	10	0	0	0	0	0	0	0	0	570
13:00	43	20	129	222	95	13	1	0	0	0	0	0	0	0	523
14:00	67	26	141	229	94	12	3	0	0	0	0	0	0	0	572
15:00	79	36	141	203	64	21	0	0	0	0	0	0	0	0	544
16:00	95	58	143	164	76	15	1	0	0	0	0	0	0	0	552
17:00	50	14	100	191	111	23	1	0	0	0	0	0	0	0	490
18:00	26	7	101	178	101	29	0	0	0	0	0	0	0	0	442
19:00	18	18	52	154	97	26	0	0	0	0	0	0	0	0	365
20:00	16	5	33	127	77	16	1	0	0	0	0	0	0	0	275
21:00	8	2	23	76	90	23	5	0	0	0	0	0	0	0	227
22:00	8	3	8	56	71	26	3	0	0	0	0	0	0	0	175
23:00	2	0	3	29	51	20	6	0	0	0	0	0	0	0	111
Total	657	353	1570	3010	1806	417	36	2	0	0	0	0	0	0	7851

Daily

15th Percentile :	21 MPH
50th Percentile :	28 MPH
85th Percentile :	33 MPH
95th Percentile :	36 MPH
Mean Speed(Average) :	27 MPH
10 MPH Pace Speed :	26-35 MPH
Number in Pace :	4816
Percent in Pace :	61.3%
Number of Vehicles > 30 MPH :	2261
Percent of Vehicles > 30 MPH :	28.8%

Grand Total	1329	756	3120	6039	3631	784	71	4	0	0	0	0	0	0	15734

Overall

15th Percentile :	21 MPH
50th Percentile :	28 MPH
85th Percentile :	33 MPH
95th Percentile :	36 MPH
Mean Speed(Average) :	27 MPH
10 MPH Pace Speed :	26-35 MPH
Number in Pace :	9670
Percent in Pace :	61.5%
Number of Vehicles > 30 MPH :	4490
Percent of Vehicles > 30 MPH :	28.5%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB, SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/06/09	0	0	6	29	54	34	9	2	1	0	0	0	0	0	135
01:00	0	0	3	16	33	12	7	1	0	0	0	0	0	0	72
02:00	0	1	2	6	13	7	0	0	0	0	0	0	0	0	29
03:00	0	0	1	2	9	10	6	0	0	0	0	0	0	0	28
04:00	3	2	4	13	33	21	5	0	0	0	0	0	0	0	81
05:00	2	0	10	51	80	37	13	2	1	0	0	0	0	0	196
06:00	20	8	35	115	151	70	13	3	0	0	0	0	0	0	415
07:00	77	47	107	246	271	69	14	0	0	0	0	0	0	0	831
08:00	116	89	221	298	184	56	4	0	0	0	0	0	0	0	968
09:00	79	48	115	337	287	72	11	0	1	0	0	0	0	0	950
10:00	106	57	207	384	209	40	10	0	0	0	0	0	0	0	1013
11:00	88	72	201	416	202	38	1	1	1	0	0	0	0	0	1020
12 PM	115	62	221	385	217	49	4	1	0	0	0	0	0	0	1054
13:00	135	60	226	410	256	54	6	0	0	0	0	0	0	0	1147
14:00	111	53	172	415	286	67	11	1	1	0	0	0	0	0	1117
15:00	127	79	189	371	269	89	10	0	0	0	0	0	0	0	1134
16:00	118	35	212	458	301	59	10	1	0	0	0	0	0	0	1194
17:00	113	52	183	399	292	72	11	0	0	0	0	0	0	0	1122
18:00	71	25	126	428	256	73	9	0	0	0	0	0	0	0	988
19:00	49	22	119	286	247	58	9	1	0	0	0	0	0	0	791
20:00	39	12	86	213	216	57	5	0	0	0	0	0	0	0	628
21:00	8	3	18	129	175	54	8	0	1	0	0	0	0	0	396
22:00	7	2	12	90	147	66	11	1	0	0	0	0	0	0	336
23:00	2	0	14	41	85	58	11	4	0	0	0	0	0	0	215
Total	1386	729	2490	5538	4273	1222	198	18	6	0	0	0	0	0	15860

Daily

15th Percentile :	21 MPH
50th Percentile :	29 MPH
85th Percentile :	34 MPH
95th Percentile :	38 MPH
Mean Speed(Average) :	27 MPH
10 MPH Pace Speed :	26-35 MPH
Number in Pace :	9811
Percent in Pace :	61.9%
Number of Vehicles > 30 MPH :	5717
Percent of Vehicles > 30 MPH :	36.0%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB, SB

Start Time	1 15	16 20	21 25	26 30	31 35	36 40	41 45	46 50	51 55	56 60	61 65	66 70	71 75	76 999	Total
05/07/09	0	1	2	28	61	52	13	2	0	0	0	0	0	0	159
01:00	0	0	1	10	34	13	10	2	0	0	0	0	0	0	70
02:00	0	0	0	10	24	9	2	0	0	0	0	0	0	0	45
03:00	1	0	1	3	12	6	1	0	0	0	0	0	0	0	24
04:00	0	0	3	13	37	18	9	2	0	0	0	0	0	0	82
05:00	5	1	7	49	77	44	7	2	0	0	0	0	0	0	192
06:00	26	7	43	120	149	65	7	0	0	0	0	0	0	0	417
07:00	51	31	129	259	266	51	6	0	0	0	0	0	0	0	793
08:00	88	60	157	316	232	58	4	0	0	0	0	0	0	0	915
09:00	71	25	133	330	248	52	11	0	0	0	0	0	0	0	870
10:00	83	63	227	314	232	44	4	0	0	0	0	0	0	0	967
11:00	85	21	205	439	292	51	3	0	0	0	0	0	0	0	1096
12 PM	108	78	234	412	241	52	3	0	0	0	0	0	0	0	1128
13:00	105	45	202	446	255	56	8	1	0	0	0	0	0	0	1118
14:00	123	50	222	463	251	44	7	0	0	0	0	0	0	0	1160
15:00	157	72	262	410	226	60	0	0	0	2	0	0	0	0	1189
16:00	180	145	323	385	208	32	5	0	0	0	0	0	0	0	1278
17:00	113	44	237	413	265	64	8	0	1	0	0	0	0	0	1145
18:00	53	18	157	353	272	91	10	0	0	0	0	0	0	0	954
19:00	31	23	95	269	240	87	3	2	0	0	0	0	0	0	750
20:00	22	6	55	215	200	61	9	1	0	0	0	0	0	0	569
21:00	15	3	36	134	185	73	12	1	0	0	0	0	0	0	459
22:00	11	3	17	86	139	77	15	0	0	0	0	0	0	0	348
23:00	5	0	7	49	114	48	14	1	1	0	0	0	0	0	239
Total	1333	696	2755	5526	4260	1208	171	14	2	2	0	0	0	0	15967

Daily

15th Percentile :	21 MPH
50th Percentile :	28 MPH
85th Percentile :	34 MPH
95th Percentile :	38 MPH
Mean Speed(Average) :	27 MPH
10 MPH Pace Speed :	26-35 MPH
Number in Pace :	9786
Percent in Pace :	61.3%
Number of Vehicles > 30 MPH :	5657
Percent of Vehicles > 30 MPH :	35.4%

Grand Total	2719	1425	5245	11064	8533	2430	369	32	8	2	0	0	0	0	31827

Overall

15th Percentile :	21 MPH
50th Percentile :	28 MPH
85th Percentile :	34 MPH
95th Percentile :	38 MPH
Mean Speed(Average) :	27 MPH
10 MPH Pace Speed :	26-35 MPH
Number in Pace :	19597
Percent in Pace :	61.6%
Number of Vehicles > 30 MPH :	11374
Percent of Vehicles > 30 MPH :	35.7%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total	Truck Total
05/06/09	0	57	10	1	4	0	0	1	0	0	0	0	0	73	6
01:00	0	33	7	0	0	0	0	0	0	0	0	0	0	40	0
02:00	0	9	1	0	1	0	0	1	0	0	0	0	0	12	2
03:00	0	9	5	0	0	0	0	0	0	0	0	0	0	14	0
04:00	0	28	12	2	2	0	0	0	0	0	0	0	0	44	4
05:00	0	67	20	1	7	0	0	0	0	0	0	0	0	95	8
06:00	0	114	43	1	13	1	0	0	0	0	0	0	0	172	15
07:00	3	220	69	8	16	4	0	0	3	0	0	0	0	323	31
08:00	2	247	99	8	12	3	0	3	0	0	0	0	0	374	26
09:00	5	301	125	8	18	6	0	3	1	0	0	0	0	467	36
10:00	2	362	114	12	29	4	0	0	1	0	0	0	0	524	46
11:00	2	360	106	7	28	3	0	8	1	0	0	0	0	515	47
12 PM	4	409	98	6	21	2	0	0	2	0	0	0	0	542	31
13:00	6	415	127	10	25	3	0	3	0	0	0	0	0	589	41
14:00	6	414	130	6	16	4	0	6	0	0	0	0	0	582	32
15:00	3	453	121	4	23	4	0	1	0	0	0	0	0	609	32
16:00	6	508	112	7	30	7	0	1	1	0	0	0	0	672	46
17:00	2	478	98	3	27	2	0	0	1	0	0	0	0	611	33
18:00	4	412	97	8	12	0	0	0	0	0	0	0	0	533	20
19:00	1	319	69	2	11	1	0	1	1	0	0	0	0	405	16
20:00	1	228	60	2	3	1	0	1	0	0	0	0	0	296	7
21:00	1	152	25	6	6	0	0	0	0	0	0	0	0	190	12
22:00	0	141	22	1	3	0	0	0	0	0	0	0	0	167	4
23:00	1	104	13	2	1	0	0	0	0	0	0	0	0	121	3
Total	49	5840	1583	105	308	45	0	29	11	0	0	0	0	7970	498
Percent	0.6%	73.3%	19.9%	1.3%	3.9%	0.6%	0.0%	0.4%	0.1%	0.0%	0.0%	0.0%	0.0%		6.2%
AM Peak	09:00	10:00	09:00	10:00	10:00	09:00		11:00	07:00					10:00	11:00
Vol.	5	362	125	12	29	6		8	3					524	47
PM Peak	13:00	16:00	14:00	13:00	16:00	16:00		14:00	12:00					16:00	16:00
Vol.	6	508	130	10	30	7		6	2					672	46

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total	Truck Total
05/07/09	0	72	5	1	1	0	0	1	0	0	0	0	0	80	3
01:00	0	29	3	0	2	1	0	0	1	0	0	0	0	36	4
02:00	0	14	1	0	0	0	0	0	0	0	0	0	0	15	0
03:00	0	7	2	0	2	0	0	0	0	0	0	0	0	11	2
04:00	0	34	13	1	1	0	0	0	0	0	0	0	0	49	2
05:00	0	66	21	2	2	1	0	0	0	0	0	0	0	92	5
06:00	0	126	38	2	14	1	0	0	0	0	0	0	0	181	17
07:00	2	228	71	5	9	5	0	1	0	0	0	0	0	321	20
08:00	2	254	83	18	14	3	0	2	2	0	0	0	0	378	39
09:00	0	269	100	9	15	4	0	2	2	0	0	0	0	401	32
10:00	5	330	99	6	26	2	0	3	1	0	0	0	0	472	38
11:00	5	405	125	9	30	5	0	3	3	0	0	0	0	585	50
12 PM	7	393	113	8	29	3	0	3	1	0	0	0	0	557	44
13:00	4	425	124	12	23	5	0	3	1	0	0	0	0	597	44
14:00	3	439	107	8	21	6	0	1	1	0	0	0	0	586	37
15:00	1	471	141	4	22	4	0	1	2	0	0	0	0	646	33
16:00	6	547	130	3	35	3	0	2	1	0	0	0	0	727	44
17:00	7	499	116	7	20	6	0	1	0	0	0	0	0	656	34
18:00	2	389	84	12	18	4	0	1	1	0	0	0	0	511	36
19:00	2	308	63	2	8	0	0	1	0	0	0	0	0	384	11
20:00	1	233	49	1	9	1	0	0	0	0	0	0	0	294	11
21:00	1	188	26	5	11	1	0	0	0	0	0	0	0	232	17
22:00	3	136	29	4	1	0	0	0	0	0	0	0	0	173	5
23:00	0	101	25	1	1	0	0	0	0	0	0	0	0	128	2
Total	51	5963	1568	120	314	55	0	25	16	0	0	0	0	8112	530
Percent	0.6%	73.5%	19.3%	1.5%	3.9%	0.7%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%		6.5%
AM Peak	10:00	11:00	11:00	08:00	11:00	07:00		10:00	11:00					11:00	11:00
Vol.	5	405	125	18	30	5		3	3					585	50
PM Peak	12:00	16:00	15:00	13:00	16:00	14:00		12:00	15:00					16:00	12:00
Vol.	7	547	141	12	35	6		3	2					727	44
Grand Total	100	11803	3151	225	622	100	0	54	27	0	0	0	0	16082	1028
Percent	0.6%	73.4%	19.6%	1.4%	3.9%	0.6%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%		6.4%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total	Truck Total
05/06/09	0	50	10	1	0	0	0	1	0	0	0	0	0	62	2
01:00	0	29	3	0	0	0	0	0	0	0	0	0	0	32	0
02:00	0	15	0	0	0	0	0	1	1	0	0	0	0	17	2
03:00	0	11	1	0	1	1	0	0	0	0	0	0	0	14	2
04:00	0	23	10	1	2	0	0	0	1	0	0	0	0	37	4
05:00	0	67	18	4	11	0	0	0	1	0	0	0	0	101	16
06:00	0	159	48	7	23	2	0	0	4	0	0	0	0	243	36
07:00	2	373	92	3	32	0	0	2	0	0	0	0	0	504	37
08:00	4	441	94	4	38	4	0	7	0	0	0	0	0	592	53
09:00	2	360	90	2	23	4	0	0	0	0	0	0	0	481	29
10:00	4	370	87	3	18	3	0	3	1	0	0	1	0	490	29
11:00	3	375	87	5	22	5	0	4	2	0	0	0	0	503	38
12 PM	8	391	86	6	14	4	0	1	1	0	0	0	0	511	26
13:00	6	439	72	12	24	6	0	2	1	0	0	0	0	562	45
14:00	8	418	79	6	17	6	0	2	0	0	0	0	0	536	31
15:00	8	408	80	4	15	6	0	3	1	0	0	0	0	525	29
16:00	12	420	73	3	10	3	0	1	1	0	0	0	0	523	18
17:00	5	410	76	0	13	3	0	0	1	0	0	0	0	508	17
18:00	6	390	46	1	9	1	0	0	0	0	0	0	0	453	11
19:00	4	333	38	1	7	1	0	1	0	0	0	0	0	385	10
20:00	2	285	33	1	8	1	0	1	1	0	0	0	0	332	12
21:00	1	183	18	1	3	0	0	0	0	0	0	0	0	206	4
22:00	0	153	13	1	1	1	0	0	0	0	0	0	0	169	3
23:00	0	90	3	1	0	0	0	0	0	0	0	0	0	94	1
Total	75	6193	1157	67	291	51	0	29	16	0	0	1	0	7880	455
Percent	1.0%	78.6%	14.7%	0.9%	3.7%	0.6%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%		5.8%
AM Peak	08:00	08:00	08:00	06:00	08:00	11:00		08:00	06:00			10:00		08:00	08:00
Vol.	4	441	94	7	38	5		7	4			1		592	53
PM Peak	16:00	13:00	12:00	13:00	13:00	13:00		15:00	12:00					13:00	13:00
Vol.	12	439	86	12	24	6		3	1					562	45

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total	Truck Total
05/07/09	0	72	5	0	0	1	0	1	0	0	0	0	0	79	2
01:00	0	28	5	0	0	1	0	0	0	0	0	0	0	34	1
02:00	0	27	2	0	1	0	0	0	0	0	0	0	0	30	1
03:00	0	9	1	0	2	1	0	0	0	0	0	0	0	13	3
04:00	0	24	7	1	1	0	0	0	0	0	0	0	0	33	2
05:00	0	65	13	5	12	4	0	0	1	0	0	0	0	100	22
06:00	0	161	46	5	16	4	0	0	3	0	0	0	0	235	28
07:00	4	350	84	5	23	2	0	2	0	1	0	0	0	471	33
08:00	5	400	91	3	32	2	0	0	1	0	0	0	0	534	38
09:00	3	355	75	6	25	2	0	1	1	0	0	0	0	468	35
10:00	1	368	87	4	23	6	0	2	1	0	0	0	0	492	36
11:00	4	392	74	4	28	3	0	2	3	0	0	0	0	510	40
12 PM	3	426	98	5	26	4	0	2	4	0	0	0	0	568	41
13:00	7	371	88	15	27	9	0	2	4	0	0	0	0	523	57
14:00	9	440	85	6	21	6	0	5	1	0	0	0	0	573	39
15:00	7	416	90	4	21	4	0	2	1	0	0	0	0	545	32
16:00	10	435	77	4	15	8	0	2	2	0	0	0	0	553	31
17:00	9	394	70	4	8	4	0	0	0	0	0	0	0	489	16
18:00	4	374	50	1	8	1	0	2	1	0	0	0	0	441	13
19:00	1	302	48	2	10	1	0	1	0	0	0	0	0	365	14
20:00	0	226	43	1	4	1	0	0	0	0	0	0	0	275	6
21:00	1	194	26	1	3	0	0	1	0	0	0	0	0	226	5
22:00	1	160	13	0	0	0	0	0	0	0	0	0	0	174	0
23:00	0	104	7	0	0	0	0	0	0	0	0	0	0	111	0
Total	69	6093	1185	76	306	64	0	25	23	1	0	0	0	7842	495
Percent	0.9%	77.7%	15.1%	1.0%	3.9%	0.8%	0.0%	0.3%	0.3%	0.0%	0.0%	0.0%	0.0%		6.3%
AM Peak	08:00	08:00	08:00	09:00	08:00	10:00		07:00	06:00	07:00				08:00	11:00
Vol.	5	400	91	6	32	6		2	3	1				534	40
PM Peak	16:00	14:00	12:00	13:00	13:00	13:00		14:00	12:00					14:00	13:00
Vol.	10	440	98	15	27	9		5	4					573	57
Grand Total	144	12286	2342	143	597	115	0	54	39	1	0	1	0	15722	950
Percent	0.9%	78.1%	14.9%	0.9%	3.8%	0.7%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%		6.0%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total	Truck Total
05/06/09	0	107	20	2	4	0	0	2	0	0	0	0	0	135	8
01:00	0	62	10	0	0	0	0	0	0	0	0	0	0	72	0
02:00	0	24	1	0	1	0	0	2	1	0	0	0	0	29	4
03:00	0	20	6	0	1	1	0	0	0	0	0	0	0	28	2
04:00	0	51	22	3	4	0	0	0	1	0	0	0	0	81	8
05:00	0	134	38	5	18	0	0	0	1	0	0	0	0	196	24
06:00	0	273	91	8	36	3	0	0	4	0	0	0	0	415	51
07:00	5	593	161	11	48	4	0	2	3	0	0	0	0	827	68
08:00	6	688	193	12	50	7	0	10	0	0	0	0	0	966	79
09:00	7	661	215	10	41	10	0	3	1	0	0	0	0	948	65
10:00	6	732	201	15	47	7	0	3	2	0	0	1	0	1014	75
11:00	5	735	193	12	50	8	0	12	3	0	0	0	0	1018	85
12 PM	12	800	184	12	35	6	0	1	3	0	0	0	0	1053	57
13:00	12	854	199	22	49	9	0	5	1	0	0	0	0	1151	86
14:00	14	832	209	12	33	10	0	8	0	0	0	0	0	1118	63
15:00	11	861	201	8	38	10	0	4	1	0	0	0	0	1134	61
16:00	18	928	185	10	40	10	0	2	2	0	0	0	0	1195	64
17:00	7	888	174	3	40	5	0	0	2	0	0	0	0	1119	50
18:00	10	802	143	9	21	1	0	0	0	0	0	0	0	986	31
19:00	5	652	107	3	18	2	0	2	1	0	0	0	0	790	26
20:00	3	513	93	3	11	2	0	2	1	0	0	0	0	628	19
21:00	2	335	43	7	9	0	0	0	0	0	0	0	0	396	16
22:00	0	294	35	2	4	1	0	0	0	0	0	0	0	336	7
23:00	1	194	16	3	1	0	0	0	0	0	0	0	0	215	4
Total	124	12033	2740	172	599	96	0	58	27	0	0	1	0	15850	953
Percent	0.8%	75.9%	17.3%	1.1%	3.8%	0.6%	0.0%	0.4%	0.2%	0.0%	0.0%	0.0%	0.0%		6.0%
AM Peak	09:00	11:00	09:00	10:00	08:00	09:00		11:00	06:00			10:00		11:00	11:00
Vol.	7	735	215	15	50	10		12	4			1		1018	85
PM Peak	16:00	16:00	14:00	13:00	13:00	14:00		14:00	12:00					16:00	13:00
Vol.	18	928	209	22	49	10		8	3					1195	86

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB, SB

Start Time	Bikes	Cars & Trailers	2 Axle Long	Buses	2 Axle 6 Tire	3 Axle Single	4 Axle Single	<5 Axl Double	5 Axle Double	>6 Axl Double	<6 Axl Multi	6 Axle Multi	>6 Axl Multi	Total	Truck Total
05/07/09	0	144	10	1	1	1	0	2	0	0	0	0	0	159	5
01:00	0	57	8	0	2	2	0	0	1	0	0	0	0	70	5
02:00	0	41	3	0	1	0	0	0	0	0	0	0	0	45	1
03:00	0	16	3	0	4	1	0	0	0	0	0	0	0	24	5
04:00	0	58	20	2	2	0	0	0	0	0	0	0	0	82	4
05:00	0	131	34	7	14	5	0	0	1	0	0	0	0	192	27
06:00	0	287	84	7	30	5	0	0	3	0	0	0	0	416	45
07:00	6	578	155	10	32	7	0	3	0	1	0	0	0	792	53
08:00	7	654	174	21	46	5	0	2	3	0	0	0	0	912	77
09:00	3	624	175	15	40	6	0	3	3	0	0	0	0	869	67
10:00	6	698	186	10	49	8	0	5	2	0	0	0	0	964	74
11:00	9	797	199	13	58	8	0	5	6	0	0	0	0	1095	90
12 PM	10	819	211	13	55	7	0	5	5	0	0	0	0	1125	85
13:00	11	796	212	27	50	14	0	5	5	0	0	0	0	1120	101
14:00	12	879	192	14	42	12	0	6	2	0	0	0	0	1159	76
15:00	8	887	231	8	43	8	0	3	3	0	0	0	0	1191	65
16:00	16	982	207	7	50	11	0	4	3	0	0	0	0	1280	75
17:00	16	893	186	11	28	10	0	1	0	0	0	0	0	1145	50
18:00	6	763	134	13	26	5	0	3	2	0	0	0	0	952	49
19:00	3	610	111	4	18	1	0	2	0	0	0	0	0	749	25
20:00	1	459	92	2	13	2	0	0	0	0	0	0	0	569	17
21:00	2	382	52	6	14	1	0	1	0	0	0	0	0	458	22
22:00	4	296	42	4	1	0	0	0	0	0	0	0	0	347	5
23:00	0	205	32	1	1	0	0	0	0	0	0	0	0	239	2
Total	120	12056	2753	196	620	119	0	50	39	1	0	0	0	15954	1025
Percent	0.8%	75.6%	17.3%	1.2%	3.9%	0.7%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%		6.4%
AM Peak	11:00	11:00	11:00	08:00	11:00	10:00		10:00	11:00	07:00				11:00	11:00
Vol.	9	797	199	21	58	8		5	6	1				1095	90
PM Peak	16:00	16:00	15:00	13:00	12:00	13:00		14:00	12:00					16:00	13:00
Vol.	16	982	231	27	55	14		6	5					1280	101
Grand Total	244	24089	5493	368	1219	215	0	108	66	1	0	1	0	31804	1978
Percent	0.8%	75.7%	17.3%	1.2%	3.8%	0.7%	0.0%	0.3%	0.2%	0.0%	0.0%	0.0%	0.0%		6.2%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB

Start	1	3	5	7	9	11	13	15	17	19	21	23	25	27
Time	2	4	6	8	10	12	14	16	18	20	22	24	26	999
05/06/09	4	3	2	1	4	2	5	0	2	3	1	1	2	43
01:00	2	0	0	1	0	0	1	1	0	1	0	1	0	33
02:00	0	0	0	0	0	0	0	0	0	0	0	0	0	12
03:00	0	1	0	0	0	0	1	0	0	0	0	0	0	12
04:00	2	2	1	2	2	3	1	0	0	1	0	2	1	27
05:00	7	8	6	5	7	4	2	4	0	2	3	2	3	42
06:00	17	23	15	10	11	11	2	8	6	6	8	6	7	42
07:00	61	63	37	23	23	24	18	5	9	8	3	8	9	34
08:00	94	56	40	32	21	29	21	16	12	8	12	7	6	21
09:00	128	99	55	55	23	29	15	13	13	7	5	4	4	18
10:00	158	117	74	37	37	25	14	16	13	2	7	6	3	13
11:00	139	133	86	33	32	19	16	10	11	10	9	4	2	12
12 PM	150	150	63	58	39	20	11	11	9	5	5	7	4	12
13:00	187	144	75	56	27	27	19	15	10	5	9	6	2	5
14:00	157	170	82	47	36	30	19	8	6	5	6	4	5	7
15:00	194	172	67	48	38	20	14	19	9	5	10	4	2	6
16:00	261	179	64	44	33	32	16	11	11	7	5	2	4	4
17:00	197	162	92	49	28	26	11	11	7	7	4	4	3	12
18:00	150	131	75	40	40	27	25	8	5	7	10	2	2	12
19:00	84	108	48	39	22	14	12	11	12	13	7	5	6	25
20:00	51	55	33	29	15	19	11	14	8	7	12	6	5	31
21:00	21	25	18	9	10	12	4	7	8	12	6	8	6	44
22:00	22	20	19	12	4	7	7	12	1	1	3	1	5	53
23:00	15	13	8	8	4	5	6	3	1	3	3	3	4	45
Total	2101	1834	960	638	456	385	251	203	153	125	128	93	85	565

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB

Start	1	3	5	7	9	11	13	15	17	19	21	23	25	27
Time	2	4	6	8	10	12	14	16	18	20	22	24	26	999
05/07/09	6	6	5	2	3	1	3	2	4	1	1	2	3	41
01:00	1	0	0	0	0	0	1	0	0	1	0	0	1	32
02:00	0	0	1	0	0	0	0	0	0	0	1	0	0	13
03:00	1	1	0	0	0	0	1	0	0	0	0	0	0	8
04:00	2	3	2	3	0	2	0	0	1	1	0	1	1	33
05:00	12	7	6	3	5	4	2	0	1	0	0	1	1	50
06:00	17	30	16	12	7	7	9	8	4	7	6	3	6	50
07:00	59	54	37	32	25	21	6	13	10	13	6	11	6	28
08:00	87	84	39	38	22	18	9	13	7	9	12	7	5	29
09:00	94	93	42	39	24	18	15	10	9	11	10	6	5	26
10:00	128	101	75	40	25	18	15	8	19	9	11	7	4	13
11:00	179	164	75	49	39	20	18	7	10	5	1	6	2	10
12 PM	169	152	72	38	29	19	23	10	9	9	5	6	5	12
13:00	187	152	84	38	32	32	15	19	12	9	4	4	1	6
14:00	192	158	69	47	30	29	20	11	6	3	6	3	5	9
15:00	239	173	82	43	26	15	14	10	11	12	5	2	5	8
16:00	272	211	91	54	25	27	11	6	11	6	5	2	1	4
17:00	231	177	83	56	32	22	12	11	7	6	6	2	2	8
18:00	138	123	69	47	37	21	17	18	12	6	3	8	2	11
19:00	76	86	56	36	30	15	10	9	12	13	9	3	6	24
20:00	50	53	29	28	25	13	16	14	6	7	8	5	4	36
21:00	29	25	25	12	19	15	10	11	12	8	8	8	7	43
22:00	18	18	16	16	4	9	8	10	9	3	7	2	6	47
23:00	13	11	8	5	2	7	5	8	3	6	6	3	3	48
Total	2200	1882	982	638	441	333	240	198	175	145	120	92	81	589
Grand Total	4301	3716	1942	1276	897	718	491	401	328	270	248	185	166	1154

Statistics

Number of Gaps > 10 Secs. : 3961
Percent of Gaps > 10 Secs. : 24.6%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

SB

Start	1	3	5	7	9	11	13	15	17	19	21	23	25	27
Time	2	4	6	8	10	12	14	16	18	20	22	24	26	999
05/06/09	2	5	4	3	2	2	0	1	0	1	1	1	1	39
01:00	0	2	1	1	0	0	0	0	3	1	0	1	1	22
02:00	1	1	0	0	0	0	0	0	0	0	0	0	1	14
03:00	0	0	0	0	0	0	0	0	0	0	0	0	1	13
04:00	4	2	3	1	0	0	1	1	0	1	0	0	1	23
05:00	8	5	4	3	2	5	5	5	2	3	4	7	5	43
06:00	38	43	18	17	20	16	9	10	8	4	3	3	5	49
07:00	189	124	48	25	14	17	18	13	13	6	3	9	6	21
08:00	225	154	58	39	27	16	24	11	10	5	6	2	3	13
09:00	164	108	44	39	27	20	12	11	6	9	8	10	3	21
10:00	164	114	49	35	27	20	16	13	13	6	3	4	5	22
11:00	155	121	58	41	29	21	12	10	11	9	7	7	5	18
12 PM	164	110	70	41	23	23	17	8	13	10	7	4	3	17
13:00	168	156	64	49	33	19	19	16	6	4	6	1	7	12
14:00	180	126	64	37	32	22	13	10	11	11	4	1	6	18
15:00	168	140	65	30	30	17	15	8	11	10	3	9	3	17
16:00	181	118	56	46	22	19	16	9	14	7	7	5	0	21
17:00	190	107	53	32	23	20	22	7	11	5	2	8	6	23
18:00	148	98	51	26	25	18	7	15	11	7	14	11	4	19
19:00	109	82	44	19	17	14	14	10	13	8	9	7	7	32
20:00	81	60	34	30	15	13	12	13	10	11	1	13	8	31
21:00	32	28	16	8	6	14	11	13	10	8	3	4	2	51
22:00	18	19	11	14	9	3	10	5	9	8	3	4	6	50
23:00	5	5	3	3	1	2	2	4	4	2	4	1	3	55
Total	2394	1728	818	539	384	301	255	193	189	136	98	112	92	644

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

SB

Start	1	3	5	7	9	11	13	15	17	19	21	23	25	27
Time	2	4	6	8	10	12	14	16	18	20	22	24	26	999
05/07/09	4	5	4	2	1	2	7	1	4	3	1	1	1	43
01:00	3	3	1	0	1	0	0	1	1	0	0	1	0	23
02:00	0	2	1	0	0	0	0	0	1	1	0	1	0	24
03:00	0	1	0	1	0	0	0	0	0	0	0	0	1	10
04:00	1	0	0	1	1	0	1	0	0	0	0	0	1	28
05:00	9	7	5	0	8	6	6	1	3	4	2	1	4	44
06:00	43	34	17	18	15	9	11	7	12	6	9	9	1	44
07:00	160	129	38	23	16	18	19	12	5	9	12	4	1	26
08:00	208	120	42	27	31	29	20	12	9	9	3	3	5	18
09:00	157	104	46	35	19	20	15	9	12	5	5	6	8	27
10:00	151	129	47	37	27	27	15	10	9	7	6	6	2	21
11:00	172	116	69	28	20	21	15	15	9	12	6	6	3	19
12 PM	191	143	74	33	34	21	19	12	11	6	5	6	4	11
13:00	162	129	62	37	26	26	25	11	14	6	4	2	5	14
14:00	187	155	61	42	36	25	18	11	7	6	7	3	0	14
15:00	193	141	67	27	24	16	12	12	8	4	8	10	3	19
16:00	176	154	59	44	26	17	16	14	11	9	5	1	4	16
17:00	160	108	51	34	30	24	18	7	13	8	7	4	1	25
18:00	130	108	52	23	30	13	14	10	8	5	9	9	4	27
19:00	105	75	34	28	19	15	14	7	4	9	4	6	5	40
20:00	66	46	23	15	16	11	10	8	6	8	5	8	4	49
21:00	44	25	24	15	12	12	7	8	6	5	7	6	6	50
22:00	25	28	13	13	8	4	6	6	8	6	5	8	0	45
23:00	10	12	10	5	4	2	9	5	2	1	3	1	1	46
Total	2357	1774	800	488	404	318	277	179	163	129	113	102	64	683
Grand Total	4751	3502	1618	1027	788	619	532	372	352	265	211	214	156	1327

Statistics

Number of Gaps > 10 Secs. : 4048
Percent of Gaps > 10 Secs. : 25.7%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

COMBINED

Start	1	3	5	7	9	11	13	15	17	19	21	23	25	27
Time	2	4	6	8	10	12	14	16	18	20	22	24	26	999
05/06/09	10	11	11	6	9	5	8	3	6	3	6	3	2	52
01:00	2	1	3	2	6	0	1	2	6	1	1	2	1	44
02:00	0	2	0	0	0	0	0	0	1	0	0	0	1	25
03:00	0	1	0	0	0	0	1	0	0	0	0	0	1	25
04:00	9	4	5	5	2	3	3	2	2	0	1	4	1	40
05:00	17	26	20	21	12	15	10	6	6	4	5	6	5	43
06:00	101	84	52	32	27	25	16	16	13	9	5	5	7	23
07:00	327	245	87	54	27	27	23	7	7	3	4	3	7	10
08:00	420	275	107	57	40	26	12	8	4	7	4	1	4	3
09:00	410	270	95	68	40	30	10	8	9	5	1	2	0	2
10:00	459	280	123	54	34	21	18	7	6	4	0	3	1	3
11:00	428	306	138	65	35	13	6	7	10	4	0	2	2	4
12 PM	465	305	137	61	40	17	11	3	4	4	4	0	0	3
13:00	530	349	126	61	29	19	16	7	1	5	1	1	1	1
14:00	521	335	108	69	36	23	8	5	3	2	3	1	2	1
15:00	521	375	101	59	34	15	11	9	2	2	2	2	0	1
16:00	633	306	109	62	31	21	12	8	5	1	2	2	0	2
17:00	518	316	132	65	38	18	11	6	7	5	1	1	0	4
18:00	410	304	115	58	42	23	16	4	4	3	3	2	2	2
19:00	291	213	123	48	36	21	11	10	12	10	3	2	2	9
20:00	185	157	92	53	31	34	20	11	9	15	8	4	2	7
21:00	83	83	55	26	22	26	16	17	18	8	5	3	3	31
22:00	64	58	41	32	18	12	15	14	11	14	10	5	10	32
23:00	32	27	21	12	9	10	14	12	8	8	5	3	7	47
Total	6436	4333	1801	970	598	404	269	172	154	117	74	57	61	414

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

COMBINED

Start	1	3	5	7	9	11	13	15	17	19	21	23	25	27
Time	2	4	6	8	10	12	14	16	18	20	22	24	26	999
05/07/09	12	15	15	9	4	9	12	3	10	7	3	3	6	51
01:00	4	3	2	3	1	1	0	3	2	3	1	0	2	45
02:00	0	5	1	0	0	0	0	0	1	2	1	0	0	35
03:00	2	2	0	1	0	1	0	0	0	0	0	0	1	17
04:00	3	5	5	4	3	6	1	1	2	4	4	1	1	42
05:00	27	23	15	11	11	11	8	6	9	7	2	3	5	54
06:00	82	102	52	25	26	22	19	18	10	8	11	11	5	26
07:00	326	207	96	45	27	23	16	13	10	14	8	3	2	3
08:00	402	247	90	53	40	32	17	10	6	5	2	2	2	7
09:00	341	252	100	69	31	23	11	9	10	4	6	3	4	7
10:00	422	271	122	56	36	19	18	8	3	5	2	2	0	3
11:00	524	324	119	46	25	22	9	6	3	5	2	4	2	5
12 PM	515	345	123	49	40	23	13	10	5	0	1	0	2	2
13:00	515	314	149	60	33	23	10	6	6	1	0	1	0	0
14:00	544	352	125	58	37	21	15	1	1	1	2	1	0	2
15:00	588	353	128	43	31	13	15	4	5	1	2	3	0	3
16:00	652	379	120	62	24	13	12	7	0	2	1	2	0	4
17:00	535	325	130	70	40	13	6	10	3	6	2	1	0	4
18:00	374	305	109	60	38	22	16	11	9	1	3	1	0	5
19:00	284	189	93	62	44	15	18	15	6	6	6	3	4	5
20:00	171	135	62	56	42	26	16	13	11	6	8	3	6	14
21:00	104	83	65	43	36	29	22	15	16	9	9	5	4	19
22:00	70	62	40	31	20	24	15	14	12	9	8	3	4	36
23:00	30	38	21	21	14	14	14	14	5	4	10	7	5	42
Total	6527	4336	1782	937	603	405	283	197	145	110	94	62	55	431
Grand Total	12963	8669	3583	1907	1201	809	552	369	299	227	168	119	116	845

Statistics

Number of Gaps > 10 Secs. : 3504
Percent of Gaps > 10 Secs. : 11.0%

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
Tube Layout: L6 Basic

Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB, SB, COMBINED

Start	1	3	5	7	9	11	13	15	17	19	21	23	25	27
Time	2	4	6	8	10	12	14	16	18	20	22	24	26	999
05/06/09	16	19	17	10	15	9	13	4	8	7	8	5	5	134
01:00	4	3	4	4	6	0	2	3	9	3	1	4	2	99
02:00	1	3	0	0	0	0	0	0	1	0	0	0	2	51
03:00	0	2	0	0	0	0	2	0	0	0	0	0	2	50
04:00	15	8	9	8	4	6	5	3	2	2	1	6	3	90
05:00	32	39	30	29	21	24	17	15	8	9	12	15	13	128
06:00	156	150	85	59	58	52	27	34	27	19	16	14	19	114
07:00	577	432	172	102	64	68	59	25	29	17	10	20	22	65
08:00	739	485	205	128	88	71	57	35	26	20	22	10	13	37
09:00	702	477	194	162	90	79	37	32	28	21	14	16	7	41
10:00	781	511	246	126	98	66	48	36	32	12	10	13	9	38
11:00	722	560	282	139	96	53	34	27	32	23	16	13	9	34
12 PM	779	565	270	160	102	60	39	22	26	19	16	11	7	32
13:00	885	649	265	166	89	65	54	38	17	14	16	8	10	18
14:00	858	631	254	153	104	75	40	23	20	18	13	6	13	26
15:00	883	687	233	137	102	52	40	36	22	17	15	15	5	24
16:00	1075	603	229	152	86	72	44	28	30	15	14	9	4	27
17:00	905	585	277	146	89	64	44	24	25	17	7	13	9	39
18:00	708	533	241	124	107	68	48	27	20	17	27	15	8	33
19:00	484	403	215	106	75	49	37	31	37	31	19	14	15	66
20:00	317	272	159	112	61	66	43	38	27	33	21	23	15	69
21:00	136	136	89	43	38	52	31	37	36	28	14	15	11	126
22:00	104	97	71	58	31	22	32	31	21	23	16	10	21	135
23:00	52	45	32	23	14	17	22	19	13	13	12	7	14	147
Total	10931	7895	3579	2147	1438	1090	775	568	496	378	300	262	238	1623

Old Colony Planning Council
70 School Street
Brockton, MA 02301
508-583-1833

Community: Brockton
Com #_U/RFC: 44_U5
Recorder #: Jamar #11
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Station ID:
Site Code: 44
Date Start: 06-May-09
Date End: 07-May-09
Date Start: 06-May-09
Main St, north of Brookside Ave

NB, SB, COMBINED

Start	1	3	5	7	9	11	13	15	17	19	21	23	25	27
Time	2	4	6	8	10	12	14	16	18	20	22	24	26	999
05/07/09	22	26	24	13	8	12	22	6	18	11	5	6	10	135
01:00	8	6	3	3	2	1	1	4	3	4	1	1	3	100
02:00	0	7	3	0	0	0	0	0	2	3	2	1	0	72
03:00	3	4	0	2	0	1	1	0	0	0	0	0	2	35
04:00	6	8	7	8	4	8	2	1	3	5	4	2	3	103
05:00	48	37	26	14	24	21	16	7	13	11	4	5	10	148
06:00	142	166	85	55	48	38	39	33	26	21	26	23	12	120
07:00	545	390	171	100	68	62	41	38	25	36	26	18	9	57
08:00	697	451	171	118	93	79	46	35	22	23	17	12	12	54
09:00	592	449	188	143	74	61	41	28	31	20	21	15	17	60
10:00	701	501	244	133	88	64	48	26	31	21	19	15	6	37
11:00	875	604	263	123	84	63	42	28	22	22	9	16	7	34
12 PM	875	640	269	120	103	63	55	32	25	15	11	12	11	25
13:00	864	595	295	135	91	81	50	36	32	16	8	7	6	20
14:00	923	665	255	147	103	75	53	23	14	10	15	7	5	25
15:00	1020	667	277	113	81	44	41	26	24	17	15	15	8	30
16:00	1100	744	270	160	75	57	39	27	22	17	11	5	5	24
17:00	926	610	264	160	102	59	36	28	23	20	15	7	3	37
18:00	642	536	230	130	105	56	47	39	29	12	15	18	6	43
19:00	465	350	183	126	93	45	42	31	22	28	19	12	15	69
20:00	287	234	114	99	83	50	42	35	23	21	21	16	14	99
21:00	177	133	114	70	67	56	39	34	34	22	24	19	17	112
22:00	113	108	69	60	32	37	29	30	29	18	20	13	10	128
23:00	53	61	39	31	20	23	28	27	10	11	19	11	9	136
Total	11084	7992	3564	2063	1448	1056	800	574	483	384	327	256	200	1703
Grand Total	22015	15887	7143	4210	2886	2146	1575	1142	979	762	627	518	438	3326

Statistics

Number of Gaps > 10 Secs. : 11513
Percent of Gaps > 10 Secs. : 18.1%