# **ROAD SAFETY AUDIT**

**Central Street** 

Avon, MA

September 2019

Prepared For:

Avon, MA

Prepared By:
Old Colony Planning Council
70 School Street, Brockton, MA 02301
Prepared under MassDOT Contract 88826

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# The Road Safety Audit

The Federal Highway Administration (FHWA) defines a Road Safety Audit (RSA) as the formal safety examination of an existing or future road or intersection by an independent, multidisciplinary team. The purpose of the RSA is to identify potential safety issues and possible opportunities for safety improvements considering all roadway users. The RSA is intended to be a proactive process based on collaborative, qualitative, and quantitative analyses.

This Road Safety Audit (RSA) is for Central Street in Avon, and it was conducted by the Old Colony Planning Council upon request by the Town of Avon over concerns regarding numerous crashes along the road. The study area includes the section of Central Street, approximately 1.22 miles in Avon, which runs north from the Stoughton town line to the Stoughton town line in the western section of Avon (parallel and west of Route 24). This report documents the findings of the RSA, and includes crash data compilation, automatic traffic counts, and vehicle speeds.

## The Road Safety Audit Meeting and Team

The Road Safety Audit took place on August 13, 2019 at the Avon Town Offices, 65 East Main Street in Avon. The meeting was facilitated by OCPC staff. OCPC provided a collision diagram and a compilation of the latest three year crash experience based on crash reports provided by the Avon Police Department.

The RSA meeting consisted of three components. The first portion of the meeting focused on a discussion of the issues and concerns. The participants then departed the office and visited the intersection for observations for the



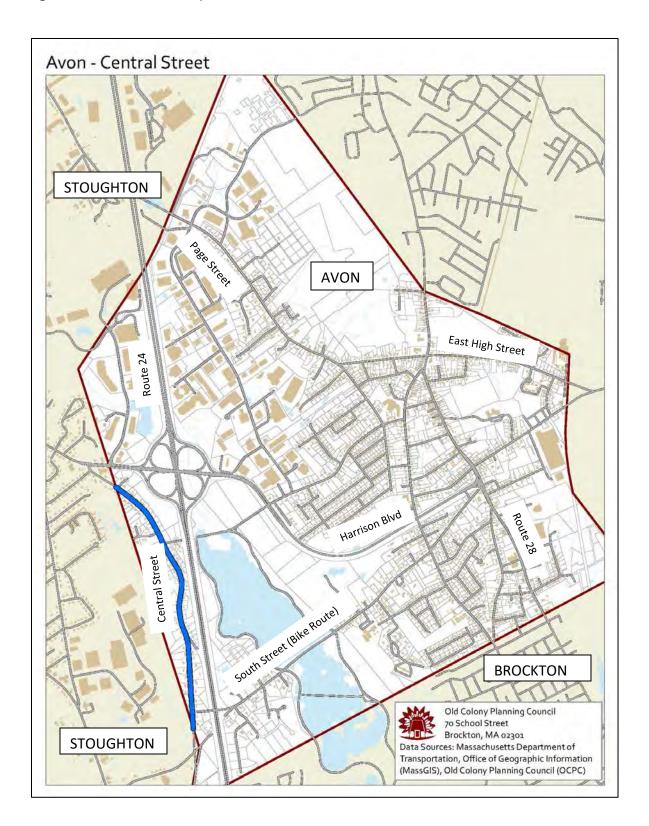
The Road Safety Audit for Central Street in Avon took place on August 13, 2019 at the Avon Town Offices, 65 East Main Street in Avon, and was facilitated by OCPC staff.

second portion of the meeting. The discussion of issues was continued during the site visit as OCPC staff took notes. The third portion of the meeting focused on potential short term and long term potential improvements for the intersection. The agenda and the background materials are included in the appendix to this report. Table 1 lists the names and affiliations of the audit participants. The study area location is shown in Figure 1.

## Table 1. Participating Audit Team Members

Audit Team Member	Agency/Affiliation
Brian Martin	Avon Department of Public Works
Robert Spurr	Avon Fire Department
Gregory Enos	Avon Town Manager
Bill Fitzgerald	Avon Department of Public Works
Bianca Marshall	Massachusetts Department of Transportation District 5 – Traffic
Jimmy Pereira	Old Colony Planning Council
Paul Chenard	Old Colony Planning Council
Raymond Guarino	Old Colony Planning Council

Figure 1. Locus Map



## **Project Location and Description**

#### **Central Street, Avon**

Central Street in Avon is classified as an urban collector street and is under the jurisdiction of the Town of Avon. Central Street, which is also called Reservoir Street south of Old South Street, (in Avon and Brockton) connects between Oak Street in Brockton and Harrison Boulevard (and Route 24) in Avon, as well as Central Street in Stoughton. South of South Street, Central Street is in the Town of Stoughton. Central Street re-enters Avon south of the Central Street/Old South Street intersection, and is named Reservoir Street, and from there, the street enters into Brockton as Reservoir Street and intersects with Oak Street. Central Street has a two lane cross section and the width of the road varies. It is approximately 30 feet wide at the south most point at the Stoughton line. In the vicinity of the South Street intersection, Central Street is 35 feet wide. The width of the pavement on Central Street gets narrower in the vicinity of Old Central Street and is approximately 25 feet wide north of this intersection. The horizontal and vertical alignment along Central Street also vary with limitations in sight distance due to grade variations (just north of South Street) and reverse curves (just north of Old Central Street beginning at house number 233 Central Street).

The land use along Central Street is mainly residential single family homes. The Pines apartment complex is located in Brockton off of Reservoir Street just over the town line. The posted speed limit is 25 miles per hour in the northbound and the southbound directions. It is also posted at 30 miles per hour in the southbound direction at the Stoughton line south of South Street. A Special Speed Regulation (Number 756) was endorsed by MassDOT in 1972 for Central Street. This speed regulation set the legal speed limit for both directions of travel at 30 miles per hour for 0.83 miles from the north (through the reverse curve), and 45 miles per hour in the vicinity of the South Street intersection to the Stoughton town line. The speed limit reverts to the prima fascia south of Old South Street as Central Street is named Reservoir Street in Stoughton, Avon, and then Brockton. South Street connects Central Street to West Main Street and Route 28 in Avon. The South Street to Central Street route is used as an alternative route during times of congestion on Route 24 between Harrison Boulevard in Avon and Oak Street in Brockton. This South Street to Central Street route is also used by bicyclists and joggers. South Street in Stoughton, South Street in Avon, and the portion of Central Street (approximately 1,000 feet) that connects the two streets, are a designated bicycle route in the Old Colony Planning Council's *Bicycle and Pedestrian Connectivity and Livability Study*.

Old Colony Planning Council completed automatic traffic counts at three locations in Avon on Central Street including; Central Street south of Crescent Ridge Lane (just south of the north most Stoughton line), Central Street south of Old Pond Street, and Central Street north of Old South Street (just north of the Stoughton south most line). On Central Street south of Crescent Ridge Lane there were 3,860 vehicles per day. On Central Street south of Old Pond Street there were 3,620 vehicles per day. There were 6.472 vehicles per day on Central Street north of Old South Street (just north of the south most Stoughton line), between South Street in Stoughton and South Street in Avon. The higher vehicle counts at this location is due to the eastbound cut through route from South Street in Stoughton, north to Central Street for about 1,000 feet, and then continuing eastbound on South Street in Avon.

### Crash Details and Overview

Crash reports were compiled from the Avon Police Department for the latest three year period, (2016, 2017, and 2018). The crashes are included in the appendix to this report. There were a total of 14 crashes along Central Street in Avon in the study area. Four of the 14 crashes (approximately 28 percent) resulted in personal injury. Four of the crashes (approximately 28 percent) were single vehicle crashes whereby the vehicle left the travel lane and hit an object along the side of the road. Three of these ran off the road type crashes were clustered within the reverse curve (around number 233 Central Street). The collision diagrams and a summary of the crash data is included in the appendix of this report.

## Audit Observations and Potential Safety Enhancements

During the RSA meeting prior to the field visits, an introduction of the RSA process and a summary of the crash information for the intersection was presented to the audit participants. Following the presentation, the members of the audit team were asked to discuss the existing issues that may affect safety. The audit team then visited the intersection as a group, at which time observations, safety concerns, and deficiencies were identified and documented by OCPC staff.

The following sections list the safety concerns and the potential enhancements that were identified during the RSA.

Safety Issue: There is a pattern of single vehicle lane-departure crashes within the reverse curve (around number 233 Central Street).

Three of the single vehicle ran off the road type crashes were clustered within the reverse curve (around number 233 Central Street). There are high speeds and a lack of sight distance throughout this section of the road.

**Enhancement:** Reconstruct the road and add a sidewalk with raised curb.

**Enhancement:** Remove vegetation within this section of the road to improve sight lines.

Safety Issue: The posted speed limit signs are not consistent with the



There have been a number of single vehicle lane departure crashes within the reverse curve where the vehicle ran off the road. This picture shows the damage to the wall of one of those crashes caused within the property of a residence along the road (to the left of the photo).

legal limits set in Special Speed Regulation (Number 756, Speed Permit).

Special Speed Regulation (Number 756) was endorsed by MassDOT in 1972 and the town for Central Street. This speed regulation set the legal speed limit for both directions of travel at 30 miles per hour for

0.83 miles from the north (through the reverse curve), and 45 miles per hour in the vicinity of the South Street intersection. The posted speed limit on Central Street is 25 miles per hour in the northbound and the southbound directions, which is inconsistent with the legally established speed limits in Special Speed Regulation (Number 756).

**Enhancement:** The posted speed limit signs on Central Street should be consistent with Special Speed Regulation (Number 756), which calls for the posted legal speed limit for both directions of travel at 30 miles per hour for 0.83 miles from the north (through the reverse curve), and 45 miles per hour in the vicinity of the South Street intersection.

**Enhancement:** The Town should consider a study of speeds through the reverse curve portion of the road using a ball-bank indicator to determine a possible posted warning sign speed (this would be for determining a posted warning sign and not for preceding the existing established legal speed limit in Special Speed Regulation, Number 756).

**Enhancement:** The Town should consider installing speed feedback signs for vehicles entering the reverse curve area in the northbound and southbound directions.

#### **Enhancement:**

Safety Issue: The sight distance and sight lines along Central Street south of South Street are poor due to the variations in the grade, and the signs along the road are faded, antiquated, and create "sign clutter".

**Enhancement:** The Town should consider a sign study revising the types of warning signs, sign placement, and updates for sign reflectivity. Design, place and implement signs in accordance with the *Manual On Uniform Traffic Control Devices* (MUTCD).

Safety Issue: There is poor lighting throughout the length of the street.

**Enhancement:** Re-evaluate and improve lighting along the street.

Safety Issue: There is a lack of fog lines along the road.

**Enhancement:** Re-evaluate pavement markings and add fog lines along the side of the road.

Safety Issue: Central Street, between South Street in Stoughton and South Street in Avon, is a designated bicycle route and used heavily by pedestrians and joggers.

**Enhancement:** Consider adding a separate shared use path on Central Street to connect the route between South Street in Stoughton and South Street in Avon, if the right of way is wide enough.



The sidewalk on South Street ends at Central Street (in the center of the photo).

**Enhancement:** The Town of Avon should consider adopting and approving a Complete Streets Policy. In addition to planning and designing roads to include all road users, such as walkers and bicycle riders, the adoption of a Complete Streets Policy will make the town eligible for State funds for projects through the State's Complete Streets Program.

**Enhancement:** The Butler Elementary School and Avon Middle School should consider joining the Safe Routes to School program to participate in its safety and education program, and to encourage walking and bicycling to school. The Butler Elementary School is located on South Street in Avon just under one mile to the east of Central Street. The Avon Middle School is located further away on West Main Street next to the Avon High School.

**Safety Issue:** The pavement is in fair to poor condition on Central Street.

**Enhancement:** The Town of Avon has filed a \$1.3 million dollar MassWorks application for reclaiming and repaving the pavement surface. This project includes adding a 5,800 shared walking, bicycling path along the east side of the road. The MassWorks grant award will be announced in November of 2019, which will affect the timing of this recommendation.

## Summary of Road Safety Audit

Based on the review of data, on-site field observations and group discussion, the RSA team identified possible enhancements that could improve safety on Central Street. Further study and design work will need to be conducted to determine the feasibility of making some of the improvements. Table 2 summarizes the estimated time frame and costs breakdown and Table 3 summarizes the safety issues, possible enhancements, estimated safety payoff, time frame, cost, and responsibility. Safety payoff estimates are based on engineering judgment and are categorized as low, medium, and high. The time frame is categorized as short-term (<1 year), midterm (1 to 3 years), or long-term (typically >3 years). Long-term improvements are typically considered to be substantial improvements with an expected time frame for implementation greater than 3 years. The costs are categorized as low (<\$10,000), medium (\$10,001 to \$50,000), or high (>\$50,000).

Table 2: Estimated Time Frame and Cost Breakdown

Frame
<1 Year
1-3 Years
>3 Years

C	osts
Low	<\$10,000
Medium	\$10,001-\$50,000
High	>\$50,000

Table 3: Potential Safety Enhancement Summary – Central Street, Avon

Safety Issue	Potential Safety Enhancement	Safety Payoff	Time Frame	Cost	Responsible Agency
There is a pattern of single vehicle lane-departure crashes within the	Reconstruct the road and add a sidewalk with raised curb.	High	> 3 Years	High	Town of Avon
reverse curve (around number 233 Central Street).	Remove vegetation within this section of the road to improve sight lines.	Medium	< 1 Year	Low	Town of Avon
	The posted speed limit signs on Central Street should be consistent with Special Speed Regulation (Number 756), which calls for the posted legal speed limit for both directions of travel at 30 miles per hour for 0.83 miles from the north (through the reverse curve), and 45 miles per hour in the vicinity of the South Street intersection.	Medium	< 1 Year	Low	Town of Avon
The posted speed limit signs are not consistent with the legal limits set in Special Speed Regulation (Number 756, Speed Permit).	The Town should consider a study of speeds (utilizing an engineering consultant) through the reverse curve portion of the road using a ball-bank indicator to determine a possible posted warning sign speed (this would be for determining a posted warning sign and not for superseding the existing established legal speed limit in Special Speed Regulation, Number 756).	Medium	< 1 Year	Low	Town of Avon
	Consider installing speed feedback signs for vehicles entering the reverse curve area in the northbound and southbound directions.	Medium	< 1 Year	Medium	Town of Avon
The sight distance and sight lines along Central Street south of South Street are poor due to the variations in the grade, and the signs along the road are faded, antiquated, and create "sign clutter".	The town should consider a sign study (utilizing an engineering consultant) revising the types of warning signs, sign placement, and updates for sign reflectivity. Design, place, and implement signs in accordance with the MUTCD.	Medium	< 1 Year	Medium	Town of Avon

Table 3: Potential Safety Enhancement Summary – Central Street, Avon (continued)

Safety Issue	Potential Safety Enhancement	Safety Payoff	Time Frame	Cost	Responsible Agency
There is poor lighting throughout the length of the street.	Re-evaluate and improve lighting along the street.	Medium	< 1 Year	Medium	Town of Avon
There is a lack of fog lines along the road.	Re-evaluate pavement markings and add fog lines along the side of the road.	Medium	< 1 Year	Medium	Town of Avon
	The Town should consider adding a separate shared use path on Central Street to connect the route between South Street in Stoughton and South Street in Avon, if the right of way is wide enough.	Medium	< 1 Year	Low	MassDOT
Central Street, between South Street in Stoughton and South Street in Avon, is a designated bicycle route and used heavily by pedestrians and joggers.	The Town of Avon should consider adopting and approving a Complete Streets Policy. In addition to planning and designing roads to include all road users, such as walkers and bicycle riders, the adoption of a Complete Streets Policy will make the town eligible for State funds for projects through the State's Complete Streets Program.	High	> 3 Years	High	MassDOT
	The Butler School and Avon Middle School should consider joining the Safe Routes to School program to encourage walking and bicycling to school.	Medium	1-3 Years	Medium/ High	MassDOT
The pavement is in fair to poor condition on Central Street.	The Town of Avon has filed a \$1.3 million dollar MassWorks application for reclaiming and repaving the pavement surface. This project includes adding a 5,800 shared walking, bicycling path along the east side of the road. The MassWorks grant award will be announced in November of 2019, which will affect the timing of this recommendation.	High	> 3 Years	High	MassDOT/ Town of Avon

# Appendix A. RSA Meeting Agenda



### **Road Safety Audit**

#### Avon, MA Central Street

Meeting Location: Avon Town Offices 65 East Main Street Avon, MA 02322 Tuesday, August 13, 2019 10:00 AM – 12:00 PM

Type of meeting: Road Safety Audit

Attendees: Invited Participants to Comprise a Multidisciplinary Team

Please bring: Thoughts and Enthusiasm

10:00 AM Welcome and Introductions

10:05 AM Review of Site Specific Material - Review and Discuss Project

· Review of Traffic Data

• Existing Conditions and Known Challenges

10:45 AM Visit the Intersection and Discussion

· Identify deficiencies at the study area location

· OCPC staff will document all observations and comments

11:30 AM Wrap up Site Visit and Post Visit Discussion Meeting

· Discuss issues and document and finalize potential improvements

12:00 PM Adjourn for the Day

#### Instructions for Participants:

- Before attending the RSA, participants are encouraged to drive through the intersection and complete/consider elements on the RSA Prompt List with a focus on safety.
- . All participants will be actively involved in the process throughout.
- After the RSA meeting, participants will be asked to comment and respond to the document materials to assure it is reflective of the RSA completed by the multidisciplinary team.
- CONTACT: Please direct questions regarding this RSA to Raymond Guarino, OCPC, (508) 583-1833, Ext 212, rguarino@ocpcrpa.org.



Old Colony Planning Council 70 School Street Brockton, MA 02301

# Appendix B: RSA Audit Team Contact List

### Participating Audit Team Members

Date: August 13, 2019 Location: Avon Town Offices, Avon, MA

Audit Team Members	Agency/Affiliation	Email Address
Brian Martin	Avon DPW	bmartin @avon-ma.gov
Robert Spurr	Avon Fire Department	rspurr@avon-ma.gov
Greg Enos	Town of Avon	genos@avon-ma.gov
Bill Fittzgerald	Avon DPW	wfitzgerald@avon-ma.gov
Bianca Marshall	Massachusetts Department of Transportation District 5 – Traffic	Bianca.marshall@dot.state.ma.us
Jimmy Pereira	Old Colony Planning Council	jpereira@ocpcrpa.org
Paul Chenard	Old Colony Planning Council	pchenard@ocpcrpa.orh
Raymond Guarino	Old Colony Planning Council	rguarino@ocpcrpa.org

Road Safety Audit — Central Street – Avon Prepared by Old Colony Planning Council – *Final* 

# Appendix C: Detailed Crash Data

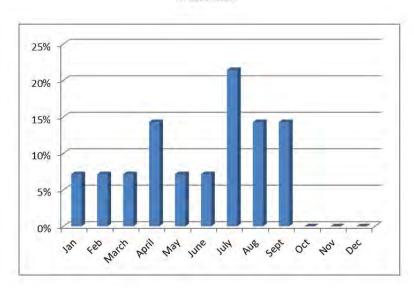


#### Crash Data Summary Table Central Street in Avon

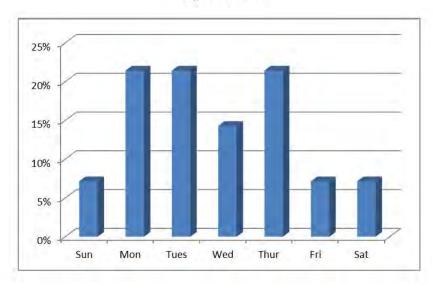
Crash			Crash	_	Manner			Road				200
Num	P.D. Code	Crash Date	Day	Time of Day	of Coll	Light Cond	Weather	Surf	1	2	Comments Vehicle backing out of	Injury
						Dark Lighted					driveway at Number 182 Central Street was hit by another vehicle	
1	I- 2016 - 0381	1/14/2016	Thur	7:16 PM	Angle	Road	Clear	dry	22	55	headed south. Vehicle turning left to 313 Central St southbund rear-ended	PDO
2	1-2016 - 01797	3/14/2016	Mon	3:23 PM	Rear-end	Daylight	Rain	wet	19	58	by another southbound vehicle.	INJ
3	1 - 2016 - 03408	5/23/2016	Mon	11:32 AM	NA	NA	NA	NA			Minor Crash at 243 Central Street.	PDO
	1 - 2016 -										Vehicle exiting 332 Central collided with	
4	04482	7/6/2016	Wed	3:06 PM	Angle	Daylight	Clear	dry	26	20	southbound vehicle. Single vehicle crash	PDO
											distracted due to cell phone at 230 Central St southbound - Citation	
5	1 - 2016 - 05116	8/3/2016	Tue	8:24 AM	Ran off Road	Daylight	Clear	dry	56		issued for operating after revoked license. Northbound vehicle	PDO
6	I- 2016 - 08581	12/27/2016	Tue	5:24 PM	Rear-end	Dark Lighted Road	Clear	dry	51	45	rear-ended another waiting to turn left to South Street	PDO
	00001	12/2//2010		2,2,1,1,1,1	Total Old	Dark Lighted	Civia	· · · · ·	~.		DOME SHOOT	
7	I -2018 - 0862	2/21/2018	Wed	10:32 PM	Animal Sideswip	Road	NA	NA			Car hit deer	PDO
8	1 - 2018 - 01663	4/5/2018	Thur	4:08 PM	e same direction	Daylight	Clear	dry	37	61	Sideswipe same direction southbound	PDO
	I - 2018 -	2/10/2010		225 016		Dark Lighted					Angle crash at intersection South St at	DDO
9	02967	6/18/2018	Mon	9:35 PM	Angle	Road	Rain	wet	47		Central St Ran off road, operator cited for marked lane	PDO
10	I - 2018 - 03328	7/8/2018	Sun	9:02 AM	Ran off road	Daylight	Clear	dry	20		violation and operating to endanger.	INJ
	1 - 2018 -				Ran off	Dark Lighted					Ran off the road due to deer at 233 Central	
11	03499	7/14/2018	Sat	11:37 PM	road	Road	Clear	dry	22		Street. Motorist tried passing a	PDO
12	1 - 2018 - 04489	8/30/2018	Thur	7:34 PM	Head-on	Dark Lighted Road	Clear	dry	21	38	car in front of it and hit a vehicle in the opposite direction.	INJ
13	1 - 2018 - 06777	12/21/2018	Fri	10:21 AM	Ran off	Doublight	Clear	wat	62		Ran off road.	PDO
13	00///	12/21/2018	rn	10:21 AM	road	Daylight Dark Lighted	Clear	wet	62		Int crash at Central and	PDO
14	4370264	4/11/2017	Tues	10:58 PM	Angle	Road	Clear	Dry			South Sts	INJ

Central Street - Avon

Crash Month

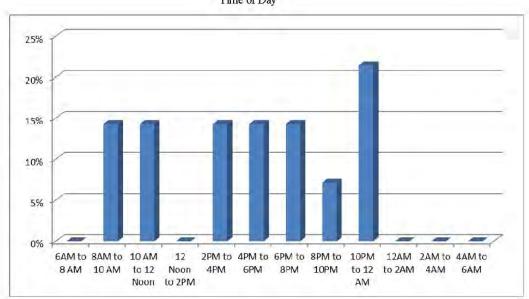


Day of the Week

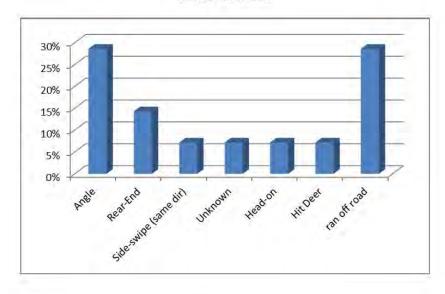


Central Street - Avon

Time of Day

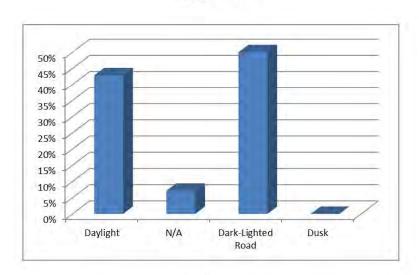


Manner of Collision

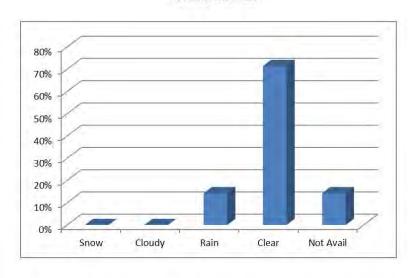


Central Street - Avon

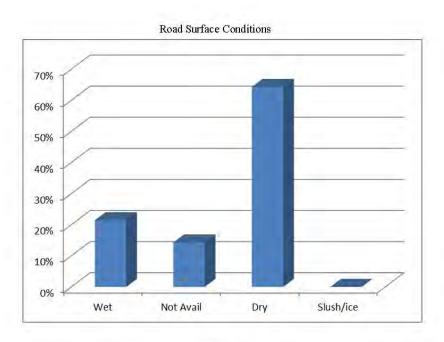
Light Conditions

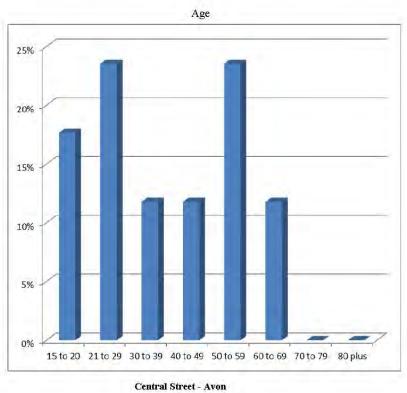


Weather Conditions



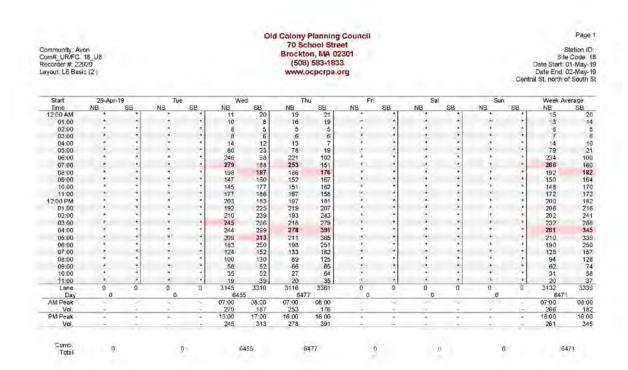
Central Street - Avon





# Appendix D: Additional Information

• Automatic Traffic Counts

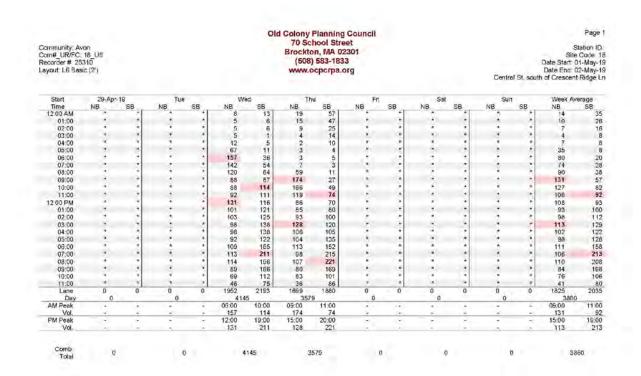


Community Com#_UR. Recorder # Layout: L6 NB, SB	/FC: 18 : 22929					Broc (5	kton, N 08) 583	Street AA 0230 -1833 rpa.org		Station ID: Site Code: 18 Date Start: 01-May-19 Date End: 02-May-19 Central St, north of South St					
Start	1	36	41	46	51	56	61	66	71	76	81	86	91	96	
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	Total
05/02/19	15	14	9	1	1	D	0	0	0	0	0	0	0	D	40
01.00	21	9	5	0	0	0	0	0	0	0	0	0	0	0	35
02:00	3	5	2	ō	0	0	0	0	o.	o o	o	0	0	0	10
03:00	7	4	1	0	0	0	0	0	0	0	0	0	0	0	12
04:00	10	4	4	1	1	0	0	0	0	0	0	0	0	0	20
05:00	29	32	22	10	3	1	0	0	0	0	0	0	0	0	97
06:00	147	113	43	15	5	0	0	0	0	0	0	0	0	0	323
07:00	175	149	65	12	2	4	0	0	0	0	0	0	0	0	404
08:0D	183	114	54	10	1	0	0	0	0	0	.0	0	0	0	362
09:00	176	108	30	4	1	0	0	0	0	0	0	0	0	0	319
10:00	170	98	36	7	1	0	0	0	0	0	1	0	0	0	313
11:00	159	113	47	6	0	0	0	0	0	0	0	0	0.	0	325
12 PM	197	135	34	11	1	0	0	0	0	0	0	0	0	0	378
13:00	233	136	44	9	4	0	0	0	0	0	0	0	0	0	426
14:00	251	141	41	2	7	0	0	0	0	0	0	0	0	0	436
15:00	260	162	62	11	- 1	1	0	0	0	0	0	0	0	0	497
16:00	441	175	46	7	0	0	0	0	0	0	0	0	0	0	669
17:00	306	200	61	7	2	0	0	0	0	0	0	0	0	0	576
18:00	229	157	55	4	3	0	1	0	0	0	0	0	0	0	449
19:00	143	109	35	7	1	0	0	0	0	0	0	0	0	0	295
20:00	120 80	61	23	7	2 2	0	0	t D	0	0	0	0	0	0	214
21:00 22:00	38	32 35	15	6 2	1	0	0	0	0	ő	0	0	0	0	131
23:00	26	16	10	2	0	1	0	0	0	0	0	0	0	0	55
Total	3419	2122	755	141	33	4	Ť	9	0	ō	1	0	0	Ö	6477
Daily		Number of	50th F 85th F 95th F ean Speed( 10 MPH Par Numbe	ce Speed : r in Pace : it in Pace : 30 MPH :		9 MPH 33 MPH 39 MPH 44 MPH 28 MPH 45 MPH 2877 44.4% 3546 54.8%									
Grand Total	6590	4325	1579	346	80	6	2	1	ì	1	1	0	0	0	12932
Overall			50th F 85th F	Percentile : Percentile : Percentile : Percentile :		10 MPH 34 MPH 40 MPH 44 MPH									
		Number of		r in Pace : t in Pace : 30 MPH :		29 MPH 45 MPH 5904 45.7% 7283 56.3%									

Community: Avon Com#\_UR/FC: 18\_U6 Recorder #: 22929 Layout: L6 Basic (2') Old Colony Planning Council 70 School Street Brockton, MA 02301 (508) 583-1833 www.ocpcrpa.org

Page 6
Station ID:
Site Code; 18
Date Stat: 01-May-19
Date End: 02-May-19
Central St, north of South St

NB, SB Start		Cars &	2 Axle	_	2 Axle	3 Axle	4 Axie	<5 AxI	5 Axie	>6 Axl	<6 AxI	6 Axle	>6 Axl		Truck
	16.1			History	6 Tire			Double						Total	Total
Time 05/02/19	Motorc	Trailer 32	Long	Buses	6 rire	Single	Single		Double	Double	Multi	Multi	Multi	Total 40	Total
01:00	0	26	8	0	4	0	0	0	0	0	0	0	0	35	4
02:00	0	8	0	0	2	0	0	0	0	0	0	0	0	10	
03:00	0	9	2	0	1	0	0	0	0	0	0	0	0	12	1
04:00	0	16	4	Ď	0	ő	0	ő	0	0	0	0	0	20	n
05:00	0	71	19	0	7	0	D	0	0	0	0	Ď	0	97	7
06:00	0	252	50	0	18	1	0	2	0	0	0	0	0	323	21
07:00	0	328	55	2	16	2	0	4	.0	.0	0	0	0	404	21
	100		64			-		1	100			-			
09:00	0	278	56	0	17	.0	0	.0	0	0	0	0	0	362 319	20
10:00		251	49		12	0	0	.0	0	0	0	0	0	313	13
	3	252		-		Ö	0	0		0		0	0		
11:00			55	1	14				0		0			325	15
12 PM	0	303	51	2	19	3	0	0	0	0	.0	0	0	378	24
13:00	3	343	61	0	16	2	0	1	.0	0	0	0	0	426	19
14:00	3	348	68	0	16	0	0	1	0	0	0	0	0	436	17
15:00	1	402	71	2	19	2	0	0	0	0	0	0	0	497	-23
16:00	3	547	94	1	24	.0	0	.0	0	.0	.0	0	0	669	25
17:00	0	457	92	0	25	1	0	0	0	0	0	0	0	575	26
18:00	1	375	57	1	13	0	0	2	0	0	0	O	0	449	16
19:00	1	247	41	0	6	0	0	0	0	0	0	0	0	295	6
20:00	1	1.95	13	0	4	1	0	0	0	0	0	0	0	214	5
21:00	0	115	13	0	3	0	0	0	0	0	0	0	0	131	3
22:00	1	79	9	. 0	2	0	.0	0	0	0	.0	.0	.0	91	2
23:00	0	45	7	. 0	3	.0	0	0	0	0	0	0	0	55	3
Total	18	5233	943	10	250	13	- 1	8	0	0	0	0	0	6476	282
Percent	0,3%	80,8%	14.6%	0.2%	3.9%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%		4.4%
AM Peak	11:00	07:00	08:00	07:00	06:00	07:00	08:00	06:00						07:00	06:00
Val.	3	328	64	.2	18	2	1	.2						404	21
PM Peak	13:00	16:00	16:00	12:00	17:00	12:00		18:00						16:00	17:00
Vol.	3	547	94	2	25	3		2						669	26
Grand Total	65	10441	1855	27	490	28	1	23	0	0	0	0	0	12930	.569
Percent	0.5%	80.8%	14.3%	0.2%	3.8%	0.2%	0.0%	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%		4.4%

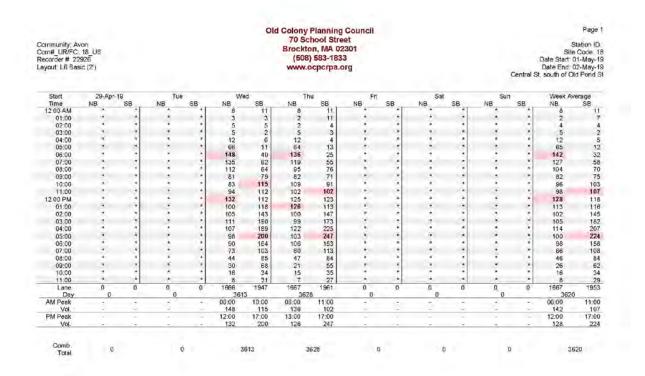


Community Com#_UR/ Recorder# Layout: L6	FC: 18 : 25310				O	Broc (5	School kton, N 08) 583	Street NA 0230	11		Cer	ntral St. s	Date	Site of Start: 0	2-May-19
NB, SB		-			-		-				-				
Start	1	36	41	46	51	56	61	66	71	76	81	86	91	96	
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	Total
05/02/19	37	30	.9	.0	0	0	0	0	0	0	0	0	0	0	76
01:00	34	19	5	2	2	0	0	0	0	0	.0	0	0	0	62
02:00	12	15	6	1	0	0	0	0	0	0	0	D	0	0	34
03:00	11	4	3	.0	0	0	0	0	0	0	0	0	0	0	18
04:00	6	4	1	1	0	0	0	0	0	0	0	0	0	0	12
05:00	2	2	2	0	0	1	0	0	0	0	0	.0	0	0	/
06:00 07:00	3 7	4	1	0	0	0	0	0	0	0	0	0	0	0	10
08:00	37	16	10	4	2	1	0	0	0	0	0	0	0	0	70
09:00	100	70	23	8	0	Ď.	0	0	0	0	0	0	0	0	201
10:00	115	70	26	2	0	0	0	Ö	0	0	ő	0	0	0	215
11:00	82	84	22	1	4	0	0	0	0	ō	0	.0	0	0	193
12 PM	99	42	14	1	0	0	o.	D	D	0	0	0	ő	D	156
13:00	100	48	15	2	0	0	0	0	0	0	0	0	0	0	165
14:00	113	60	19	1	0	0	0	0	0	ō	0	0	0	0	193
15:00	161	71	13	3	0	0	0	0	0	0	0	0	0	0	248
16:00	128	.75	7	0	,	0	0	0	0	0	0	0	0	0	211
17:00	132	80	24	2	3	0	0	0	0	0	.0	0	0	0	239
18:00	146	97	26	6	0	0	0	0	0	0	0	.0	.0	0.	265
19:00	171	106	33	3	0	0	0	0	0	0	0	0	0	0	313
20:00	196	107	23	1	0	1	0	0	0	0	.0	0	0	0	328
21:00	152	72 56	22 16	2 2	0	0	0	0	0	0	0	0	0	0	249 184
23:00	74	34	12	2	0	0	0	0	0	0	0	0	0	0	122
Total	2027	1159	333	45	11.	4	ő	ő	ő	ő	ő	ő	ő	ō	3579
Daily		Number of	50th F 95th F 95th F san Speed( 0 MPH Par Numbe	r in Pace : t in Pace : 30 MPH :		9 MPH 30 MPH 39 MPH 43 MPH 27 MPH 45 MPH 1492 41.7% 1842 51.5%									
Grand Total	4351	2565	676	108	15	7	2	0	0	0	0	0	0	0	7724
Overall			50th F 85th F 95th F san Speed(			9 MPH 31 MPH 39 MPH 43 MPH									
		Number of		r in Pace : t in Pace : 30 MPH :	36-	45 MPH 3241 42.0% 3995 51.7%									

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

Page 6 Station ID: Site Code: 44
Date Start: 01-May-19
Date End: 02-May-19
th of Crescent Ridge Ln

Commun Com#_Ul Recorder Layout: L	R/FC: 18 #: 25310	)	70 School Street Brockton, MA 02301 (508) 583-1833 www.ocpcrpa.org Central St. soc									Date	Station ID: Site Code: 44 Date Start: 01-May-19 Date End: 02-May-19 outh of Crescent Ridge Ln			
Start		Cars &	2 Axle		2 Axle	3 Axle	4 Axle	<5 Axl	5 Axle	>6 Axl	<6 AxI	6 Axle	>6 AxI		Truck	
Time	Motorc	Trailer	Long	Buses	6 Tire	Single	Single	Double	Double	Double	Multi	Multi	Multi	Total	Total	
05/02/19	0	63	11	0	2	0	0	0	0	0	0	0	0	76	2	
01:00	1	55	6	0	D	0	0	0	0	0	0	0	0	62	.0	
02:00	1	27	4	0	1	1	0	0	0	0	0	0	0	34	2	
03:00	0	14	3	0	- 1	0	0	0	0	.0	0	0	0	18	1	
04:00	0	12	0	0	0	0	0	0	0	0	0	0	0	12	.0	
05:00	0	7	0	0	0	0	0	0	0	0	0	0	0	7	0	
06:00	0	7	1	0	0	0	0	0	0	0	0	0	0	В	0	
07:00	0	8	20	0	0	0	0	0	0	0	0	0	0	10 70	0	
08:00	0	48		0	2	0	0	0	0	0	0	0	0		2	
09:00	2	155	42	0	2	0	0	0	0	0	0	0	0	201	2	
10:00	0	159	42	3	11	0	0	0	0	0	0	0	0	215	14	
11:00	2	164	21	0	5	1	0	0	0	0	0	0	0	193	6	
12 PM	0	121	29	0	3	0	0	3	0	0	0	0	0	156	6	
13:00	0	126	29	0	10	0	0	0	0	0	0	0	0	165	10	
14:00	0	151	36	0	5	1	0	0	0	0	0	0	0	193	6	
15:00	0	195	44	0	8	0	0	1	0	0	0	0	0	248	9	
16:00	3	167	35	1	4	1	0	0	0	0	0	0	0	211	6	
17:00	2	193	36	2	6	0	0	.0	0	0	0	0	.0	239	8	
18:00	2	208	48	. 1	4	4	0	0	14	0	0	a	0	265	7	
19:00	1	245	56	O.	10	1	0	0	0	0	0	0	0	313	11	
20:00	0	273	49	0	6	0	0	0	0	. 0	0	0	0	328	6	
21:00	0	203	35	- 1	9	1	0	0	0	0	0	0	0	249	11	
22:00	0	162	20	0	2	0	0	0	0	0	0	0	0	184	2	
23:00	0	1.03	17	0	2	0	0	0	0	0	0	0	0	122	2	
Total	14	2866	586		93	7	0	4		. 0	0	0	0	3579	113	
Percent	0.4%	80.1%	16.4%	0.2%	2.6%	0.2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%		3.2%	
AM Peak	09:00	11:00	09:00	10:00	10:00	02:00								10:00	10:00	
Vol.	2	164	42	3	11	- 1								215	14	
PM	16:00	20:00	19 00	17:00	13:00	14:00		12:00	18:00					20:00	19:00	
Peak		40.140		200	0.000	14.00										
Vol.	3	273	56	2	10	1		3	1					328	-13	
Grand	32	6176	1268	26	197	15	0	9	1	0	0	0	0	7724	248	
Total		A. mar	No.	7	1,440				0.000	4 4 6	all and a second		1000			
Percent	0.4%	80.0%	16.4%	0.3%	2.6%	0,2%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%		3.2%	



Community: Avon Com#_UR/FC: 18_U6 Recorder #: 22926 Layout: L6 Basic (2')						Old Colony Planning Council 70 School Street Brockton, MA 02301 (508) 583-1833 www.ocpcrpa.org						Page 6 Station ID: Site Code: 18 Date Start: 01-May-19 Date End: 02-May-19 Central St, south of Old Pond St					
VB, SB						- 44	~ 1	-	-	-					10015		
Start	_1	36	41	46	51	56	61	66	71	76	81	86	91	96	-		
Time	35	40	45	50	55	60	65	70	75	80	85	90	95	999	Total		
05/02/19	5	9	3 2	2	0	0	0	0	0	0	0	0	0	0	19		
01:00	7	3	0	2	0	0	0	0	0	0	0	0	0	0	13		
03:00	7	1	0	ő	0	ő	0	o o	0	0	0	Ö	0	0	8		
04:00	9	3	3	1	0	0	ő	ő	ő	0	0	ő	ő	0	16		
05:00	40	27	7	2	1	0	0	0	0	0	0	0	0	0	77		
06:00	85	53	22	î	Ď	Ö	ő	ő	ő	o	ő	ő	ő	Ö	161		
07:00	102	62	7	3	0	0	0	0	0	0	0	0	0	0	174		
08:00	109	53	9	0	ō	0	ő	ō	o	0	0	ő	ő	o o	171		
09:00	104	42	4	2	0	1	0	0	0	0	0	0	0	0	153		
10:00	141	49	9	0	1	0	0	0	0	0	0	0	0	0	200		
11:00	136	60	8	0	0	0	0	0	0	0	0	0	0	.0	204		
12 PM	184	49	11	3	1	0	0	0	0	0	0	0	0	0	248		
13:00	153	67	17	2	0	0	0	0	0	0	0	0	0	0	239		
14:00	150	81	15	1	0	0	0	0	0	0	0	0	0	0	247		
15:00	160	87	21	3	1	0	0	0	0	0	0	0	0	0	272		
16:00	223	94 114	25 28	6	0	0	0	0	0	0	0	0	0	0	347 350		
17:00 18:00	152	81	23	2	0	1	0	0	0	0	0	0	ő	0	259		
19:00	92	63	12	2	1	2	Ö	ő	0	0	0	0	o	0	173		
20:00	61	52	16	2	Ó	ō	ō	0	0	0	0	o	ō	o o	131		
21:00	34	27	10	i	2	1	1	0	0	0	0	o o	0	o o	76		
22:00	22	18	5	4	1	0	0	0	0	0	0	0	0	0	50		
23:00	- 11	17	3	1	1	- 1	.0	0	0	0	0	0	0	0	34		
Total	2190	1116	260	45	10	6	1	0	0	0	0	0	0	0	3629		
Daily			50th P 85th P	ercentile : ercentile : ercentile : ercentile :		8 MPH 28 MPH 39 MPH 42 MPH											
		Number of		e Speed : r in Pace : t in Pace : 30 MPH :		26 MPH 40 MPH 1429 39.4% 1751 48.3%											
Grand Total	4158	2331	615	107	19	10	ń	0	0	0	0	0	0	0	7241		
Overall			50th F 85th F	ercentile : ercentile ; ercentile ; ercentile ;		9 MPH 30 MPH 39 MPH 43 MPH											
		Number of		e Speed: rin Pace: tin Pace: 30 MPH:		27 MPH 45 MPH 2946 40.7% 3677 50.8%											

Old Colony Planning Council 70 School Street Brockton, MA 02301 (508) 583-1833 www.ocpcrpa.org

Page 6 Station ID: Site Code: 18 Date Start: 01-May-19 Date End: 02-May-19 St, south of Old Pond St

Com#_U Recorder Layout: L	nity: Avon R/FC: 18 r #: 22926 .6 Basic (	3	70 School Street Brockton, MA 02301 (508) 583-1833 www.ocpcrpa.org									Station ID; Site Code: 18 Date Start: 01-May-19 Date End: 02-May-19 Central St, south of Old Pond St				
NB, SB Start		Cars &	2 Axle		2 Axle	3 Axle	4 Axle	<5 Axl	5 Axle	>6 Axl	<6 AxI	6 Axle	>6 AxI		Truck	
Time	Motorc	Trailer	Long	Buses	6 Tire	Single	Single	Double	Double	Double	Multi	Multi	Multi	Total	Total	
05/02/19	0	17	- 1	0	1	0	0	0	0	0	0	0	0	19	- 1	
01:00	0	7	4	0	2	0	0	0	0	0	0	0	0	13	2	
02:00	0	6	0	0	0	0	0	0	0	0	0	0	0	6	0	
03:00	0	. 7	1	0	0	0	0	0	0	0	0	0	0	8	0	
04:00 05:00	0	14 58	17	0	0 2	0	0	0	0	0	0	0	0	16 77	0	
06:00	0	134	22	0	-	0	0	0	0	0	0	0	Ö	161	2	
07:00	0	143	22	3	5	0	0	1	0	0	0	0	0	174	9	
08:00	4	129	31	~	8	0	0	- 4	0		0	0	o	171	10	
09:00	1	122	24	0	6	0	0	0	0	n	0	0	0	153	6	
10:00	0	166	26	1	7	0	o o	n	0	0	0	0	0	200	8	
11:00	0	163	36	4	4	0	0	0	0	0	0	0	0	204	5	
12 PM	0	196	39	4	12	ő	ő	ő	Ö	Ď	ő	0	o o	248	13	
13:00	2	193	29	0	12	3	0	0	0	0	0	0	0	239	15	
14:00	0	183	47	2	15	0	0	0	0	D	0	0	0	247	17	
15:00	0	209	40	2	21	0	0	0	0	0	0	0	0	272	23	
16:00	2	270	61	ō	12	Ö	o	2	0	0	Ö	0	0	347	14	
17:00	0	285	48	0	16	1	0	0	0	0	0	0	0	350	17	
18:00	0	224	27	1	6	Ó	ő	1	0	0	0	ő	ő.	259	8	
19:00	0	147	23	0	3	0	0	0	0	0	0	0	0	173	3	
20:00	0	112	16	0	3	0	0	0	0	0	0	0	0	131	3	
21:00	0	68	6	0.	2	0	0	0	0	0	0	0	0	76	2	
22:00	0	40	9	0	1	0	0	0	0	0	0	0	0	50	1	
23:00	0	29	4	0	1	0	0	0	0	0	0	0	0	34	1 205	
Total Percent	0.2%	2922 80.5%	535 14.7%	12 0.3%	144 4.0%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%	3628	165 4.5%	
AM Peak	08:00	10:00	11:00	07:00	08:00			07:00						11:00	08:00	
Vol.	1	166	36	3	8			1						204	10	
PM Peak	13:00	17:00	16:00	14:00	15:00	13:00		16:00						17:00	15:00	
Vol	2	285	61	2	21	3		2						350	23	
Grand	20	5795	1095	31	283	7	0	10	0	0	0	0	0	7241	331	
Total											1			1241		
Percent	0.3%	80.0%	15.1%	0.4%	3.9%	0.1%	0.0%	0.1%	0.0%	0.0%	0.0%	0.0%	0.0%		4.6%	

Road Safety Audit — Central Street – Avon Prepared by Old Colony Planning Council – <i>Final</i>									
Annendix F	Road Safety Audit References								

### Road Safety Audit References

- FHWA Office of Safety Proven Safety Countermeasures, U.S. Department of Transportation, Federal Highway Administration https://safety.fhwa.dot.gov/provencountermeasures/.
- Road Safety Audits, A Synthesis of Highway Practice. NCHRP Synthesis 336. Transportation Research Board, National Cooperative Highway Research Program, 2004.
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- Road Safety Audit, 2nd edition. Austroads, 2000.
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