Appendix F
2007 Queuing Analysis
Calculations

Project Name:	Carlton Transportation System Plan Update
Project #:	9086
Analysis Scenario:	2007 Existing Conditions
Analysis Period:	PM Peak Hour
Analyst:	CMS
Date:	June 14, 2008

Two-Minute Rule

S = (v)(t)(L)

S = 95th Percentile Storage Length (feet)

v = average left-turn volume arriving in a 2-minute interval

t = variable (ability to store all vehicles)

L = average vehicle length (feet)

"t" Value:	1.85
Veh. Length (ft):	25

PHV = peak hour left turn volume

		NB	SB	EB	WB
N Yamhill St/W Madison St	PHV		21		9
	v		0.7		0.3
	S		32		14
W Main St/Scott St	PHV	2	1	4	2
	v	0.07	0.03	0.13	0.07
	S	3	2	6	3
N Yamhill St/W Main St	PHV	5	208	116	0
	v	0.17	6.93	3.87	0.00
	S	8	321	179	0
S Pine St/W Main St	PHV	173	4	5	48
	v	5.77	0.13	0.17	1.60
	S	267	6	8	74
E Main St/N 4th St	PHV		4	4	
	v		0.13	0.13	
	S		6	6	
S Pine St/W Polk St	PHV	1	23	2	7
	v	0.03	0.77	0.07	0.23
	S	2	35	3	11

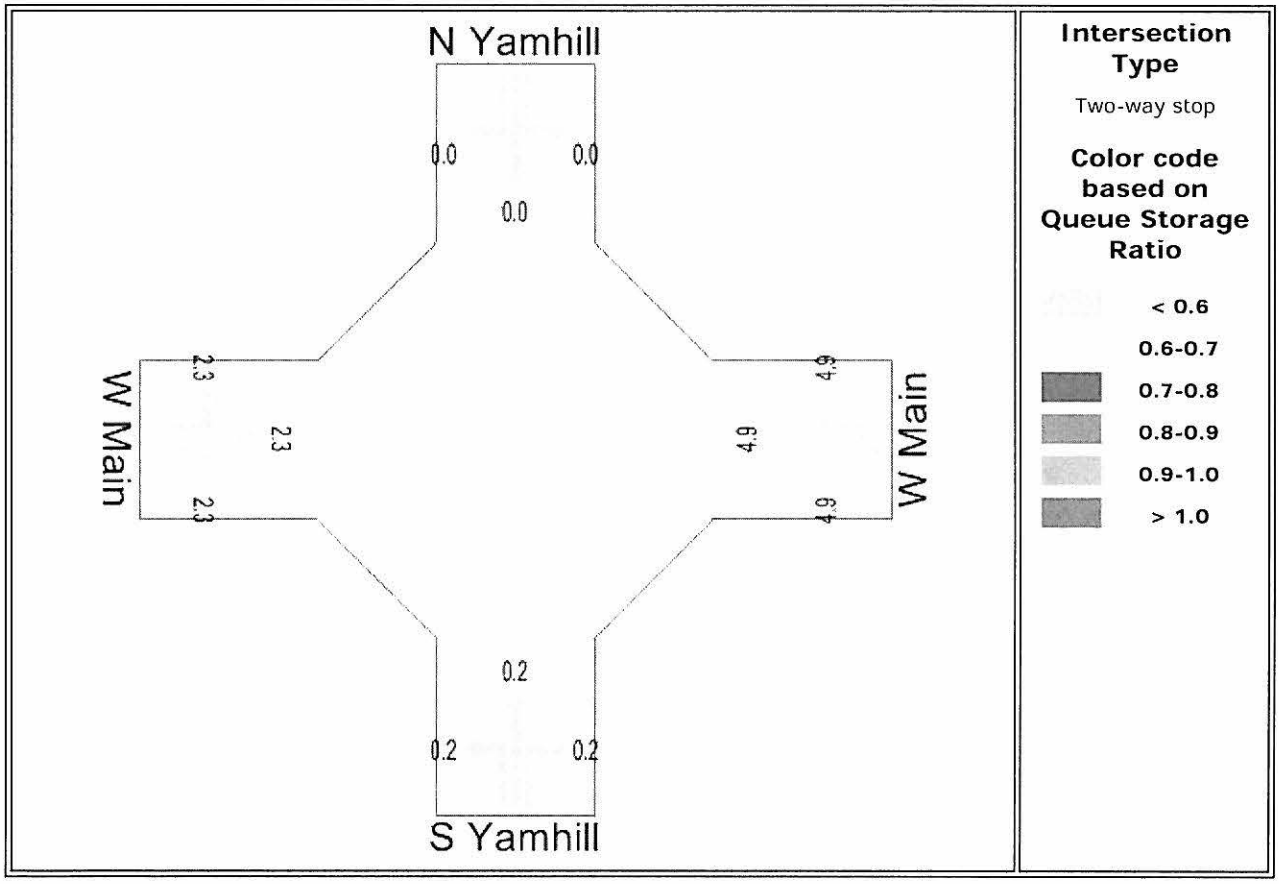
SIDRA INTERSECTION

Queue

Largest 95% Back of Queue for any lane used by movement (vehicles)

N Yamhill/W Main

Enter subtitle



SIDRA SOLUTIONS

Site: N Yamhill/W Main
H:\projfile\9086 - City of Carlton TSP Update\sidra\Courtesy.aap
Processed May 10, 2008 05:09:26PM

A1048, KAI, Large Office
Produced by SIDRA Intersection 3.2.0.1455

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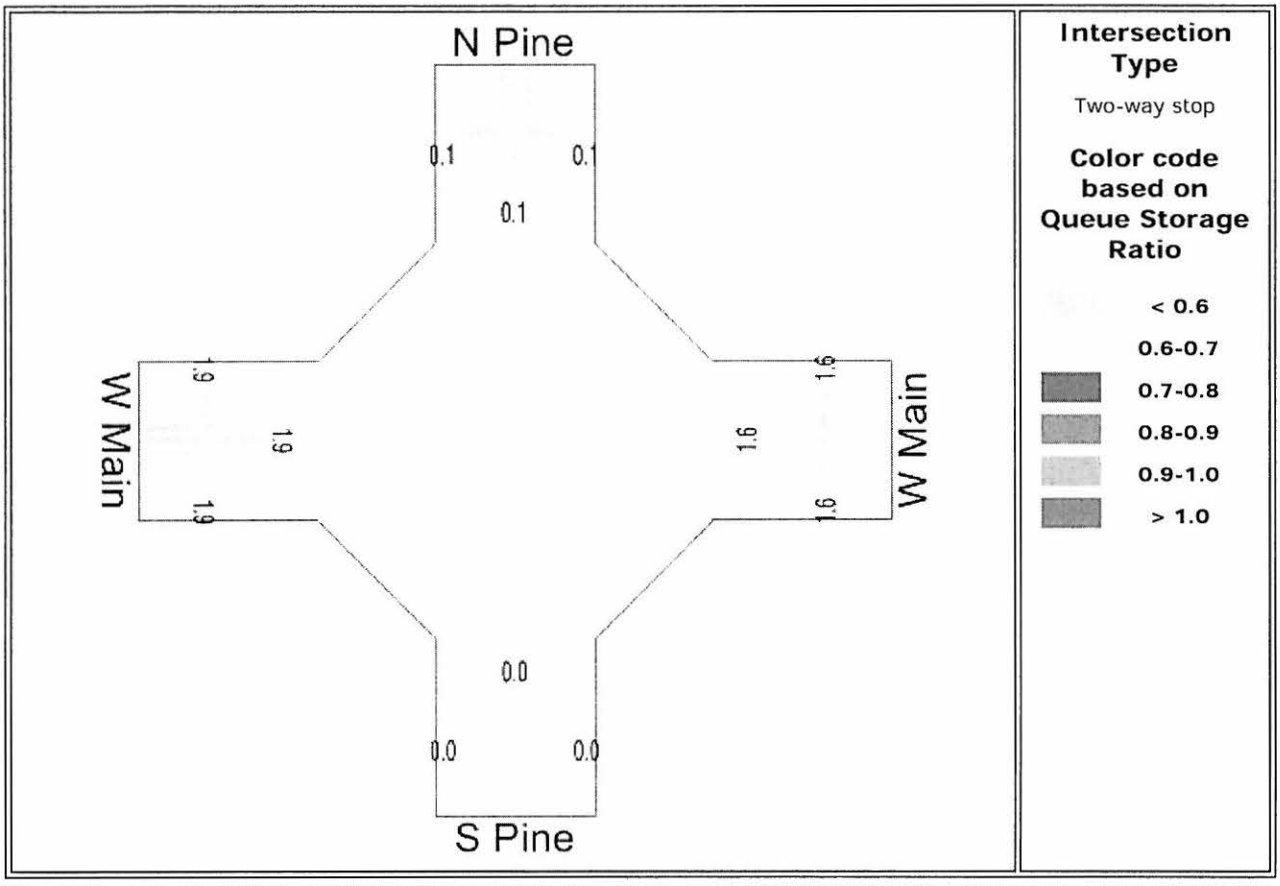
SIDRA INTERSECTION

Queue

Largest 95% Back of Queue for any lane used by movement (vehicles)

S Pine/W Main

Enter subtitle



SIDRA SOLUTIONS

Site: S Pine/W Main
H:\projfile\9086 - City of Carlton TSP Update\sidra\Courtesy.aap
Processed May 10, 2008 05:09:26PM

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Appendix G
Crash Data

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

N Yamhill Street at W Madison Street in Carlton
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR:														
TOTAL														
FINAL TOTAL														

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

W Main Street at S Scott Street in Carlton
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR:														
TOTAL														
FINAL TOTAL														

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

W Main Street at Yamhill Street in Carlton
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2005														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2005 TOTAL	0	0	2	2	0	0	0	2	0	2	0	2	0	0
YEAR: 2002														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2002 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
FINAL TOTAL	0	0	3	3	0	0	0	3	0	3	0	3	0	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

029 TUALATIN VALLEY

W Main Street at Yamhill Street in Carlton
1-1-2002 through 12-31-2006

SER# / INVEST	SPEC	DARK	SCHL	WORK	DATE / DAY / TIME	COUNTY / CITY / URBAN AREA	RD# / COMPNT / MLG / MILEPNT	FC / TYP	CONN # / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CNTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / VEH TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
00679	N	N	N		08/02/2005	YAMHILL	1	06		INTER	CROSS	N	N	CLR	S-1STOP	01	NONE 0	STRGHT											004	07
NONE					Tue	CARLTON	0	0	MAIN ST	N		UNKNOWN	N	DRY	REAR		PRVTE	N S										000		00
					2P		37.87		YAMHILL ST	06	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	00	M	OR-Y OR<25		026	000		07
																02	NONE 0	STOP									011	004	00
																	PRVTE	N S									000		00
																	PSNGR CAR		01	DRVR	NONE	30	M	OR-Y OR<25		000	000		00
00517	N	N	N		06/20/2005	YAMHILL	1	06		INTER	CROSS	N	N	CLR	O-1TURN	01	NONE 0	STRGHT												02
NO RPT					Mon	CARLTON	0	0	MAIN ST	CN		UNKNOWN	N	DRY	TURN		PRVTE	N S										000		00
					6P		37.87		YAMHILL ST	01	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	41	F	OR-Y OR<25		000	000		00
																02	NONE 0	TURN-L											
																	PRVTE	S W									000		00
																	PSNGR CAR		01	DRVR	NONE	18	F	OR-Y OR<25		004	000		02
00125	N	N	N	N	01/28/2002	YAMHILL	1	06		INTER	CROSS	N	N	CLR	ANGL-OTH	01	NONE 0	STRGHT												02
NO RPT					Mon	CARLTON	0	0	MAIN ST	CN		STOP SIGN	N	DRY	ANGL		PRVTE	E W										015		
					3P		37.87		YAMHILL ST	02	0		N	DAY	PDO		PSNGR CAR		01	DRVR	NONE	58	M	OR-Y OR<25		028			02
																02	NONE 0	STRGHT											
																	PRVTE	S N									000		
																	PSNGR CAR		01	DRVR	NONE	41	M	OR-Y OR<25		000			

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

W Main Street at S Pine Street in Carlton
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2004														
TURNING MOVEMENTS	0	0	1	1	0	0	2	1	0	1	0	1	0	0
2004 TOTAL	0	0	1	1	0	0	2	1	0	1	0	1	0	0
YEAR: 2003														
HEAD-ON	0	0	1	1	0	0	0	1	0	1	0	1	0	0
2003 TOTAL	0	0	1	1	0	0	0	1	0	1	0	1	0	0
FINAL TOTAL	0	0	2	2	0	0	2	2	0	2	0	2	0	0

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

029 TUALATIN VALLEY

W Main Street at S Pine Street in Carlton
1-1-2002 through 12-31-2006

SER# / INVEST	SPEC	DARK	SCHL	WEAK	DATE / DAY / TIME	COUNTY / CITY / URBAN AREA	RD# / COMPNT / MLG / MILEPNT	FC / TYP	CONN # / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS (#LANES)	INT-REL / TRAF- / CNTL	OFFRD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / VEH TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN EVENT	CAUSE
00999	N	N	N		11/11/2004	YAMHILL	1	06		INTER	CROSS	N		N	CLR	ANGL-STP	01	NONE	1	TURN-L									08,12
NO RPT					Thu	CARLTON	0	0	MAIN ST	W		FLASHBCN-R		N	DRY	TURN		PRVTE	S W										00
					12P		37.99		PINE ST	06	0			N	DAY	PDO		SEMI TOW		01	DRVR	NONE	62	M	OR-Y OR>25		002	000	08
																	02	NONE	1	STOP								
																		PRVTE	W E									00
																		SEMI TOW		01	DRVR	NONE	25	M	OR-Y OR>25		009	000	12

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

E Main Street at N 4th Street in Carlton
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2003														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	0	1	1	0	1
2003 TOTAL	0	0	1	1	0	0	0	0	1	0	1	1	0	1
FINAL TOTAL	0	0	1	1	0	0	0	0	1	0	1	1	0	1

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

CITY OF CARLTON, YAMHILL COUNTY

E Main Street at N 4th Street in Carlton

1-1-2002 through 12-31-2006

SER# / INVEST	SPEC	ALC	DRUG	SCHL	WORK	DATE / DAY / TIME	CLASS / DIST FROM	CITY STREET / FIRST STREET / SECOND STREET	RD CHAR / DIRECT / LOCTN	INT-TYP (MEDIAN) / LEGS / (#LANES)	INT-REL / TRAF- / CONTL	OFF-RD / RNDBT / DRVWY	WTHR / SURF / LIGHT	CRASH TYP / COLL TYP / SVRTY	V#	SPCL USE / TRLR QTY / OWNER / VEH TYPE	MOVE / FROM / TO	P#	PRTC TYPE	INJ SVRTY	AGE	SEX	LICNS RES	PED LOC	ERROR	ACTN	EVENT	CAUSE
01135	N	N	N	N	N	10/11/2003	07	MAIN ST	INTER	3-LEG	N	Y	RAIN	FIX OBJ	01	NONE 0	STRGHT										058,059	27
COUNTY						Sat	0	4TH ST	E		NONE	N	WET	FIX		PRVTE	E W						OR-Y			000	058,059	00
						7A			05	0		N	DAWN	PDO		PSNGR CAR		01	DRVR	NONE	24	M	OR>25	081		025		27

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

S Pine Street at W Polk Street in Carlton
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR:														
TOTAL														
FINAL TOTAL														

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

T V Hwy (Hwy 29, Route 47) from Main within the city limits of Carlton
1-1-2002 through 12-31-2006

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROPERTY DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
YEAR: 2006														
MISCELLANEOUS	0	0	1	1	0	0	1	1	0	1	0	0	0	1
2006 TOTAL	0	0	1	1	0	0	1	1	0	1	0	0	0	1
YEAR: 2005														
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	1	2	3	0	1	1	3	0	3	0	2	0	0
2005 TOTAL	0	1	3	4	0	1	1	4	0	4	0	3	0	0
YEAR: 2004														
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	1	0	0	0	1
PARKING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	0	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	2	2	0	2	0	2	0	0
2004 TOTAL	0	0	4	4	0	0	2	3	1	4	0	2	0	1
YEAR: 2002														
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
FIXED / OTHER OBJECT	0	0	2	2	0	0	0	0	2	0	2	0	0	2
2002 TOTAL	0	0	3	3	0	0	0	1	2	1	2	1	0	2
FINAL TOTAL	0	1	11	12	0	1	4	9	3	10	2	6	0	4

Note: Legislative changes to DMV's vehicle crash reporting requirements, effective 01/01/2004, may result in fewer property damage only crashes being eligible for inclusion in the Statewide Crash Data File.

05/23/2008

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
Highway 029 MP 37.37 to 37.86, Both Add and Non-Add mileage 01/01/2004 to 12/31/2006

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROP. DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
REAR-END	0	1	0	1	0	1	1	0	1	1	0	1	0	0
YEAR 2004 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**1**	**0**	**1**	**1**	**0**	**1**	**0**	**0**
FIXED / OTHER OBJECT	0	1	0	1	0	1	0	0	1	1	0	0	0	1
YEAR 2005 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
FINAL TOTAL	**0**	**2**	**0**	**2**	**0**	**2**	**1**	**0**	**2**	**2**	**0**	**1**	**0**	**1**

The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate.

05/23/2008

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Highway 029 MP 37.37 to 37.86, Both Add and Non-Add mileage 01/01/2002 to 12/31/2003

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROP. DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	1	0	0	1	0	0	1
REAR-END	0	1	0	1	0	2	0	1	0	1	0	0	0	0
YEAR 2002 TOTAL	**0**	**1**	**1**	**2**	**0**	**2**	**0**	**2**	**0**	**1**	**1**	**0**	**0**	**1**
FINAL TOTAL	**0**	**1**	**1**	**2**	**0**	**2**	**0**	**2**	**0**	**1**	**1**	**0**	**0**	**1**

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05/23/2008

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE
Highway 029 MP 37.86 to 38.00, Both Add and Non-Add mileage 01/01/2004 to 12/31/2006

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROP. DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
PARKING MOVEMENTS	0	0	1	1	0	0	0	1	0	1	0	0	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	2	2	0	2	0	2	0	0
YEAR 2004 TOTAL	**0**	**0**	**3**	**3**	**0**	**0**	**2**	**3**	**0**	**3**	**0**	**2**	**0**	**0**
REAR-END	0	0	1	1	0	0	0	1	0	1	0	1	0	0
TURNING MOVEMENTS	0	0	2	2	0	0	1	2	0	2	0	2	0	0
YEAR 2005 TOTAL	**0**	**0**	**3**	**3**	**0**	**0**	**1**	**3**	**0**	**3**	**0**	**3**	**0**	**0**
MISCELLANEOUS	0	0	1	1	0	0	1	1	0	1	0	0	0	1
YEAR 2006 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**1**	**1**	**0**	**1**	**0**	**0**	**0**	**1**
FINAL TOTAL	**0**	**0**	**7**	**7**	**0**	**0**	**4**	**7**	**0**	**7**	**0**	**5**	**0**	**1**

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05/23/2008

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Highway 029 MP 37.86 to 38.00, Both Add and Non-Add mileage 01/01/2002 to 12/31/2003

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROP. DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
ANGLE	0	0	1	1	0	0	0	1	0	1	0	1	0	0
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	0	1	0	0	1
YEAR 2002 TOTAL	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**1**	**0**	**1**
FINAL TOTAL	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**1**	**1**	**1**	**1**	**1**	**0**	**1**

The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate.

05/23/2008

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Highway 029 MP 38.00 to 38.53, Both Add and Non-Add mileage 01/01/2004 to 12/31/2006

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROP. DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FIXED / OTHER OBJECT	0	0	1	1	0	0	0	0	1	1	0	0	0	1
YEAR 2004 TOTAL	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**0**	**1**	**1**	**0**	**0**	**0**	**1**
TURNING MOVEMENTS	0	1	0	1	0	1	0	1	0	1	0	0	0	0
YEAR 2005 TOTAL	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**1**	**0**	**0**	**0**	**0**
FINAL TOTAL	**0**	**1**	**1**	**2**	**0**	**1**	**0**	**1**	**1**	**2**	**0**	**0**	**0**	**1**

The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate.

05/23/2008

OREGON DEPARTMENT OF TRANSPORTATION - TRANSPORTATION DEVELOPMENT DIVISION
TRANSPORTATION DATA SECTION - CRASH ANALYSIS AND REPORTING UNIT
CRASH SUMMARIES BY YEAR BY COLLISION TYPE

Highway 029 MP 38.00 to 38.53, Both Add and Non-Add mileage 01/01/2002 to 12/31/2003

COLLISION TYPE	FATAL CRASHES	NON-FATAL CRASHES	PROP. DAMAGE ONLY	TOTAL CRASHES	PEOPLE KILLED	PEOPLE INJURED	TRUCKS	DRY SURF	WET SURF	DAY	DARK	INTER-SECTION	INTER-SECTION RELATED	OFF-ROAD
FIXED / OTHER OBJECT	0	0	2	2	0	0	0	0	2	0	2	0	0	2
YEAR 2002 TOTAL	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**2**
FINAL TOTAL	**0**	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**2**	**0**	**2**	**0**	**0**	**2**

The information contained in this report is compiled from individual driver and police crash reports submitted to the Oregon Department of Transportation as required in ORS 811.720. The Crash Analysis and Reporting Unit is committed to providing the highest quality crash data to customers. However, because submittal of crash report forms is the responsibility of the individual driver, the Crash Analysis and Reporting Unit can not guarantee that all qualifying crashes are represented nor can assurances be made that all details pertaining to a single crash are accurate.

ACTION CODE TRANSLATION LIST

ACTION CODE	SHORT DESCRIPTION	LONG DESCRIPTION
000	NONE	NO ACTION OR NON-WARRANTED
001	SKIDDED	SKIDDED
002	ON/OFF V	GETTING ON OR OFF STOPPED OR PARKED VEHICLE
003	LOAD OVR	OVERHANGING LOAD STRUCK ANOTHER VEHICLE, ETC.
006	SLOW DN	SLOWED DOWN
007	AVOIDING	AVOIDING MANEUVER
008	PAR PARK	PARALLEL PARKING
009	ANG PARK	ANGLE PARKING
010	INTERFERE	PASSENGER INTERFERING WITH DRIVER
011	STOPPED	STOPPED IN TRAFFIC NOT WAITING TO MAKE A LEFT TURN
012	STP/L TRN	STOPPED BECAUSE OF LEFT TURN SIGNAL OR WAITING, ETC.
013	STP TURN	STOPPED WHILE EXECUTING A TURN
015	GO A/STOP	PROCEED AFTER STOPPING FOR A STOP SIGN/FLASHING RED.
016	TRN A/RED	TURNED ON RED AFTER STOPPING
017	LOSTCTRL	LOST CONTROL OF VEHICLE
018	EXIT DWY	ENTERING STREET OR HIGHWAY FROM ALLEY OR DRIVEWAY
019	ENTR DWY	ENTERING ALLEY OR DRIVEWAY FROM STREET OR HIGHWAY
020	STR ENTR	BEFORE ENTERING ROADWAY, STRUCK PEDESTRIAN, ETC. ON SIDEWALK OR SHOULDER
021	NO DRVR	CAR RAN AWAY - NO DRIVER
022	PREV COL	STRUCK, OR WAS STRUCK BY, VEHICLE OR PEDESTRIAN IN PRIOR COLLISION BEFORE ACC. STABILIZED
023	STALLED	VEHICLE STALLED
024	DRVR DEAD	DEAD BY UNASSOCIATED CAUSE
025	FATIGUE	FATIGUED, SLEEPY, ASLEEP
026	SUN	DRIVER BLINDED BY SUN
027	HDLGHTS	DRIVER BLINDED BY HEADLIGHTS
028	ILLNESS	PHYSICALLY ILL
029	THRU MED	VEHICLE CROSSED, PLUNGED OVER, OR THROUGH MEDIAN BARRIER
030	PURSUIT	PURSUING OR ATTEMPTING TO STOP ANOTHER VEHICLE
031	PASSING	PASSING SITUATION
032	PRKOFFRD	VEHICLE PARKED BEYOND CURB OR SHOULDER
033	CROS MED	VEHICLE CROSSED EARTH OR GRASS MEDIAN
034	X N/SGNL	CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT
035	X W/ SGNL	CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT
036	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
037	BTWN INT	CROSSING BETWEEN INTERSECTIONS
038	DISTRACT	DRIVER'S ATTENTION DISTRACTED
039	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
040	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
041	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
042	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
043	PLAYINRD	PLAYING IN STREET OR ROAD
044	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
045	WORK ON	WORKING IN ROADWAY OR ALONG SHOULDER
050	LAY ON RD	STANDING OR LYING IN ROADWAY
051	ENT OFFRD	ENTERING / STARTING IN TRAFFIC LANE FROM OFF-ROAD
088	OTHER	OTHER ACTION
099	UNK	UNKNOWN ACTION

CAUSE CODE TRANSLATION LIST

CAUSE CODE	SHORT DESCRIPTION	LONG DESCRIPTION
00	NO CODE	NO CAUSE ASSOCIATED AT THIS LEVEL
01	TOO-FAST	TOO FAST FOR CONDITIONS (NOT EXCEED POSTED SPEED
02	NO-YIELD	DID NOT YIELD RIGHT-OF-WAY
03	PAS-STOP	PASSED STOP SIGN OR RED FLASHER
04	DIS--RAG	DISREGARDED R-A-G TRAFFIC SIGNAL.
05	LEFT-CTR	DROVE LEFT OF CENTER ON TWO-WAY ROAD
06	IMP-OVER	IMPROPER OVERTAKING
07	TOO-CLOS	FOLLOWED TOO CLOSELY
08	IMP-TURN	MADE IMPROPER TURN
09	DRINKING	ALCOHOL OR DRUG INVOLVED
10	OTHR-IMP	OTHER IMPROPER DRIVING
11	MECH-DEF	MECHANICAL DEFECT
12	OTHER	OTHER (NOT IMPROPER DRIVING)
13	IMP LN C	IMPROPER CHANGE OF TRAFFIC LANES
14	DIS TCD	DISREGARDED OTHER TRAFFIC CONTROL DEVICE
15	WRNG WAY	WRONG WAY ON ONE-WAY ROADWAY
16	FATIGUE	DRIVER DROWSY/FATIGUED/SLEEPY
18	IN RDWY	NON-MOTORIST ILLEGALLY IN ROADWAY
19	NT VISBL	NON-MOTORIST CLOTHING NOT VISIBLE
20	IMP PKNG	VEHICLE IMPROPERLY PARKED
21	DEF STER	DEFECTIVE STEERING MECHANISM
22	DEF BRKE	INADEQUATE OR NO BRAKES
24	LOADSHFT	VEHICLE LOST LOAD OR LOAD SHIFTED
25	TIREFAIL	TIRE FAILURE
26	PHANTOM	PHANTOM / NON-CONTACT VEHICLE
27	INATTENT	INATTENTION
30	SPEED	DRIVING IN EXCESS OF POSTED SPEED
31	RACING	SPEED RACING (PER PAR)
32	CARELESS	CARELESS DRIVING (CITATION ISSUED)
33	RECKLESS	RECKLESS DRIVING (CITATION ISSUED)
34	AGGRESV	AGGRESSIVE DRIVING (PER PAR)
35	RD RAGE	ROAD RAGE (PER PAR)

COLLISION TYPE CODE TRANSLATION LIST

COLL CODE	SHORT DESCRIPTION	LONG DESCRIPTION
&	OTH	MISCELLANEOUS
-	BACK	BACKING
0	PED	PEDESTRIAN
1	ANGL	ANGLE
2	HEAD	HEAD-ON
3	REAR	REAR-END
4	SS-M	SIDESWIPE - MEETING
5	SS-O	SIDESWIPE - OVERTAKING
6	TURN	TURNING MOVEMENT
7	PARK	PARKING MANEUVER
8	NCOL	NON-COLLISION
9	FIX	FIXED OBJECT OR OTHER OBJECT

CRASH TYPE CODE TRANSLATION LIST

CRASH TYPE	SHORT DESCRIPTION	LONG DESCRIPTION
&	OVERTURN	OVERTURNED
0	NON-COLL	OTHER NON-COLLISION
1	OTH RDWY	MOTOR VEHICLE ON OTHER ROADWAY
2	PRKD MV	PARKED MOTOR VEHICLE
3	PED	PEDESTRIAN
4	TRAIN	RAILWAY TRAIN
6	BIKE	PEDALCYCLIST
7	ANIMAL	ANIMAL
8	FIX OBJ	FIXED OBJECT
9	OTH OBJ	OTHER OBJECT
A	ANGL-STP	ENTERING AT ANGLE - ONE VEHICLE STOPPED
B	ANGL-OTH	ENTERING AT ANGLE - ALL OTHERS
C	S-STRGHT	FROM SAME DIRECTION - BOTH GOING STRAIGHT
D	S-1TURN	FROM SAME DIRECTION - ONE TURN, ONE STRAIGHT
E	S-1STOP	FROM SAME DIRECTION - ONE STOPPED
F	S-OTHER	FROM SAME DIRECTION-ALL OTHERS, INCLUDING PARKING
G	O-STRGHT	FROM OPPOSITE DIRECTION - BOTH GOING STRAIGHT
H	O-1TURN	FROM OPPOSITE DIRECTION - ONE TURN, ONE STRAIGHT
I	O-1STOP	FROM OPPOSITE DIRECTION - ONE STOPPED
J	O-OTHER	FROM OPPOSITE DIRECTION-ALL OTHERS INCL. PARKING

DRIVER LICENSE CODE TRANSLATION LIST

LIC CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NOT LICENSED (HAD NEVER BEEN LICENSED)
1	OR-Y	VALID OREGON LICENSE
2	OTH-Y	VALID LICENSE, OTHER STATE OR COUNTRY
3	SUSP	SUSPENDED/REVOKED

DRIVER RESIDENCE CODE TRANSLATION LIST

RES CODE	SHORT DESC	LONG DESCRIPTION
1	OR<25	OREGON RESIDENT WITHIN 25 MILE OF HOME
2	OR>25	OREGON RESIDENT 25 OR MORE MILES FROM HOME
3	OR-?	OREGON RESIDENT - UNKNOWN DISTANCE FROM HOME
4	N-RES	NON-RESIDENT
9	UNK	UNKNOWN IF OREGON RESIDENT

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
000	NONE	NO ERROR
001	WIDE TRN	WIDE TURN
002	CUT CORN	CUT CORNER ON TURN
003	FAIL TRN	FAILED TO OBEY MANDATORY TRAFFIC TURN SIGNAL, SIGN OR LANE MARKINGS
004	L IN TRF	LEFT TURN IN FRONT OF ONCOMING TRAFFIC
005	L PROHIB	LEFT TURN WHERE PROHIBITED
006	FRM WRNG	TURNED FROM WRONG LANE
007	TO WRONG	TURNED INTO WRONG LANE
008	ILLEG U	U-TURNED ILLEGALLY
009	IMP STOP	IMPROPERLY STOPPED IN TRAFFIC LANE
010	IMP SIG	IMPROPER SIGNAL OR FAILURE TO SIGNAL
011	IMP BACK	BACKING IMPROPERLY (NOT PARKING)
012	IMP PARK	IMPROPERLY PARKED
013	UNPARK	IMPROPER START LEAVING PARKED POSITION
014	IMP STRT	IMPROPER START FROM STOPPED POSITION
015	IMP LGHT	IMPROPER OR NO LIGHTS (VEHICLE IN TRAFFIC)
016	INATTENT	FAILED TO DIM LIGHTS (UNTIL 4/1/97) / INATTENTION (AFTER 4/1/97)
017	UNSF VEH	DRIVING UNSAFE VEHICLE (NO OTHER ERROR APPARENT)
018	OTH PARK	ENTERING, EXITING PARKED POSITION WITH INSUFFICIENT CLEARANCE OR OTHER IMPROPER PARKING MANEUVER
019	DIS DRIV	DISREGARDED OTHER DRIVER'S SIGNAL
020	DIS SGNL	DISREGARDED TRAFFIC SIGNAL
021	RAN STOP	DISREGARDED STOP SIGN OR FLASHING RED
022	DIS SIGN	DISREGARDED WARNING SIGN, FLARES OR FLASHING AMBER
023	DIS OFCR	DISREGARDED POLICE OFFICER OR FLAGMAN
024	DIS EMER	DISREGARDED SIREN OR WARNING OF EMERGENCY VEHICLE
025	DIS RR	DISREGARDED RR SIGNAL, RR SIGN, OR RR FLAGMAN
026	REAR-END	FAILED TO AVOID STOPPED OR PARKED VEHICLE AHEAD OTHER THAN SCHOOL BUS
027	BIKE ROW	DID NOT HAVE RIGHT-OF-WAY OVER PEDALCYCLIST
028	NO ROW	DID NOT HAVE RIGHT-OF-WAY
029	PED ROW	FAILED TO YIELD RIGHT-OF-WAY TO PEDESTRIAN
030	PAS CURV	PASSING ON A CURVE
031	PAS WRNG	PASSING ON THE WRONG SIDE
032	PAS TANG	PASSING ON STRAIGHT ROAD UNDER UNSAFE CONDITIONS
033	PAS X-WK	PASSED VEHICLE STOPPED AT CROSSWALK FOR PEDESTRIAN
034	PAS INTR	PASSING AT INTERSECTION
035	PAS HILL	PASSING ON CREST OF HILL
036	N/PAS ZN	PASSING IN "NO PASSING" ZONE
037	PAS TRAF	PASSING IN FRONT OF ONCOMING TRAFFIC
038	CUT-IN	CUTTING IN (TWO LANES - TWO WAY ONLY)
039	WRNGSIDE	DRIVING ON WRONG SIDE OF THE ROAD
040	THRU MED	DRIVING THROUGH SAFETY ZONE OR OVER ISLAND
041	F/ST BUS	FAILED TO STOP FOR SCHOOL BUS

ERROR CODE TRANSLATION LIST

ERROR CODE	SHORT DESCRIPTION	FULL DESCRIPTION
042	F/SLO MV	FAILED TO DECREASE SPEED FOR SLOWER MOVING VEHICLE
043	TO CLOSE	FOLLOWING TOO CLOSELY (MUST BE ON OFFICER'S REPORT)
044	STRDL LN	STRADDLING OR DRIVING ON WRONG LANES
045	IMP CHG	IMPROPER CHANGE OF TRAFFIC LANES
046	WRNG WAY	WRONG WAY ON ONE-WAY ROADWAY (VEHICLE IS DELIBERATELY TRAVELING ON WRONG SIDE)
047	BASCRULE	DRIVING TOO FAST FOR CONDITIONS (NOT EXCEEDING POSTED SPEED)
048	OPN DOOR	OPENED DOOR INTO ADJACENT TRAFFIC LANE
049	IMPEDING	IMPEDING TRAFFIC
050	SPEED	DRIVING IN EXCESS OF POSTED SPEED
051	RECKLESS	RECKLESS DRIVING (PER PAR)
052	CARELESS	CARELESS DRIVING (PER PAR)
053	RACING	SPEED RACING (PER PAR)
054	X N/SGNL	CROSSING AT INTERSECTION - NO TRAFFIC SIGNAL PRESENT
055	X W/SGNL	CROSSING AT INTERSECTION - TRAFFIC SIGNAL PRESENT
056	DIAGONAL	CROSSING AT INTERSECTION - DIAGONALLY
057	BTWN INT	CROSSING BETWEEN INTERSECTIONS
059	W/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER WITH TRAFFIC
060	A/TRAF-S	WALKING, RUNNING, RIDING, ETC., ON SHOULDER FACING TRAFFIC
061	W/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT WITH TRAFFIC
062	A/TRAF-P	WALKING, RUNNING, RIDING, ETC., ON PAVEMENT FACING TRAFFIC
063	PLAYINRD	PLAYING IN STREET OR ROAD
064	PUSH MV	PUSHING OR WORKING ON VEHICLE IN ROAD OR ON SHOULDER
065	WK IN RD	WORKING IN ROADWAY OR ALONG SHOULDER
070	LAYON RD	STANDING OR LYING IN ROADWAY
073	DIS POL	DISREGARDING POLICE (ELUDING)
080	FAIL LN	FAILED TO MAINTAIN LANE
081	OFF RD	RAN OFF ROAD
082	NO CLEAR	DRIVER MISJUDGED CLEARANCE
083	OVRSTEER	OVER CORRECTING
084	NOT USED	CODE NOT IN USE
085	OVRLOAD	OVERLOADING OR IMPROPER LOADING OF VEHICLE WITH CARGO OR PASSENGERS
097	UNA DIS TC	UNABLE TO DETERMINE WHICH DRIVER DISREGARDED TRAFFIC CONTROL DEVICE

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
001	FEL/JUMP	OCCUPANT FELL, JUMPED OR WAS EJECTED FROM MOVING VEHICLE
002	INTERFER	PASSENGER INTERFERED WITH DRIVER
003	BUG INTF	ANIMAL OR INSECT IN VEHICLE INTERFERED WITH DRIVER
004	PED INV	PEDESTRIAN INVOLVED (NON-PEDESTRIAN ACCIDENT)
005	SUB-PED	"SUB-PED": PEDESTRIAN INJURED SUBSEQUENT TO COLLISION, ETC.
006	BIKE INV	TRICYCLE-BICYCLE INVOLVED
007	HITCHIKR	HITCHHIKER (SOLICITING A RIDE)
008	PSNGR TOW	PASSENGER BEING TOWED OR PUSHED ON CONVEYANCE
009	ON/OFF V	GETTING ON OR OFF STOPPED OR PARKED VEHICLE (OCCUPANTS ONLY)
010	SUB OTRN	OVERTURNED AFTER FIRST HARMFUL EVENT
011	MV PUSHD	VEHICLE BEING PUSHED
012	MV TOWED	VEHICLE TOWED OR HAD BEEN TOWING ANOTHER VEHICLE
013	FORCED	VEHICLE FORCED BY IMPACT INTO ANOTHER VEHICLE, PEDALCYCLIST OR PEDESTRIAN
014	SET MOTN	VEHICLE SET IN MOTION BY NON-DRIVER (CHILD RELEASED BRAKES, ETC.)
015	RR ROW	AT OR ON RAILROAD RIGHT-OF-WAY (NOT LIGHT RAIL)
016	LT RL ROW	AT OR ON LIGHT-RAIL RIGHT-OF-WAY
017	RR HIT V	TRAIN STRUCK VEHICLE
018	V HIT RR	VEHICLE STRUCK TRAIN
019	HIT RR CAR	VEHICLE STRUCK RAILROAD CAR ON ROADWAY
020	JACKNIFE	JACKKNIFE; TRAILER OR TOWED VEHICLE STRUCK TOWING VEHICLE
021	TRL OTRN	TRAILER OR TOWED VEHICLE OVERTURNED
022	CN BROKE	TRAILER CONNECTION BROKE
023	DETACH TRL	DETACHED TRAILING OBJECT STRUCK OTHER VEHICLE, NON-MOTORIST, OR OBJECT
024	V DOOR OPN	VEHICLE DOOR OPENED INTO ADJACENT TRAFFIC LANE
025	WHEELOFF	WHEEL CAME OFF
026	HOOD UP	HOOD FLEW UP
028	LOAD SHIFT	LOST LOAD, LOAD MOVED OR SHIFTED
029	TIREFAIL	TIRE FAILURE
030	PET	PET: CAT, DOG AND SIMILAR
031	LVSTOCK	STOCK: COW, CALF, BULL, STEER, SHEEP, ETC.
032	HORSE	HORSE, MULE, OR DONKEY
033	HRSE&RID	HORSE AND RIDER
034	GAME	WILD ANIMAL, GAME (INCLUDES BIRDS; NOT DEER OR ELK)
035	DEER ELK	DEER OR ELK, WAPITI
036	ANML VEH	ANIMAL-DRAWN VEHICLE
037	CULVERT	CULVERT, OPEN LOW OR HIGH MANHOLE
038	ATENUATN	IMPACT ATTENUATOR
039	PK METER	PARKING METER
040	CURB	CURB (ALSO NARROW SIDEWALKS ON BRIDGES)
041	JIGGLE	JIGGLE BARS OR TRAFFIC SNAKE FOR CHANNELIZATION
042	GDRL END	LEADING EDGE OF GUARDRAIL
043	GARDRAIL	GUARD RAIL (NOT METAL MEDIAN BARRIER)
044	BARRIER	MEDIAN BARRIER (RAISED OR METAL)
045	WALL	RETAINING WALL OR TUNNEL WALL
046	BR RAIL	BRIDGE RAILING (ON BRIDGE AND APPROACH)
047	BR ABUT	BRIDGE ABUTMENT (APPROACH ENDS)
048	BR COLMN	BRIDGE PILLAR OR COLUMN (EVEN THOUGH STRUCK PROTECTIVE GUARD RAIL FIRST)
049	BR GIRDR	BRIDGE GIRDER (HORIZONTAL STRUCTURE OVERHEAD)
050	ISLAND	TRAFFIC RAISED ISLAND
051	GORE	GORE
052	POLE UNK	POLE - TYPE UNKNOWN
053	POLE UTL	POLE - POWER OR TELEPHONE
054	ST LIGHT	POLE - STREET LIGHT ONLY
055	TRF SGNL	POLE - TRAFFIC SIGNAL AND PED SIGNAL ONLY
056	SGN BRDG	POLE - SIGN BRIDGE
057	STOPSIGN	STOP OR YIELD SIGN
058	OTH SIGN	OTHER SIGN, INCLUDING STREET SIGNS
059	HYDRANT	HYDRANT

EVENT CODE TRANSLATION LIST

EVENT CODE	SHORT DESCRIPTION	LONG DESCRIPTION
060	MARKER	DELINEATOR OR MARKER (REFLECTOR POSTS)
061	MAILBOX	MAILBOX
062	TREE	TREE, STUMP OR SHRUBS
063	VEG OHED	TREE BRANCH OR OTHER VEGETATION OVERHEAD, ETC.
064	WIRE/CBL	WIRE OR CABLE ACROSS OR OVER THE ROAD
065	TEMP SGN	TEMPORARY SIGN OR BARRICADE IN ROAD, ETC.
066	PERM SGN	PERMANENT SIGN OR BARRICADE IN/OFF ROAD
067	SLIDE	SLIDES, ROCKS OFF OR ON ROAD, FALLING ROCKS
068	FRGN OBJ	FOREIGN OBSTRUCTION/DEBRIS IN ROAD (NOT GRAVEL)
069	EQP WORK	EQUIPMENT WORKING IN/OFF ROAD
070	OTH EQP	OTHER EQUIPMENT IN OR OFF ROAD (INCLUDES PARKED TRAILER, BOAT)
071	MAIN EQP	WRECKER, STREET SWEEPER, SNOW PLOW OR SANDING EQUIPMENT
072	OTHER WALL	ROCK, BRICK OR OTHER SOLID WALL
073	IRRGL PVMT	SPEED BUMP, OTHER BUMP, POTHOLE OR PAVEMENT IRREGULARITY (PER PAR)
075	CAVE IN	BRIDGE OR ROAD CAVE IN
076	HI WATER	HIGH WATER
077	SNO BANK	SNOW BANK
078	HOLE	CHUCKHOLE IN ROAD, LOW OR HIGH SHOULDER AT PAVEMENT EDGE
079	DITCH	CUT SLOPE OR DITCH EMBANKMENT
080	OBJ F MV	STRUCK BY ROCK OR OTHER OBJECT SET IN MOTION BY OTHER VEHICLE (INCL. LOST LOADS)
081	FLY-OBJ	STRUCK BY OTHER MOVING OR FLYING OBJECT
082	VEH HID	VEHICLE OBSCURED VIEW
083	VEG HID	VEGETATION OBSCURED VIEW
084	BLDG HID	VIEW OBSCURED BY FENCE, SIGN, PHONE BOOTH, ETC.
085	WIND GUST	WIND GUST
086	IMMERSED	VEHICLE IMMERSED IN BODY OF WATER
087	FIRE/EXP	FIRE OR EXPLOSION
088	FENC/BLD	FENCE OR BUILDING, ETC.
089	OTH ACDT	ACCIDENT RELATED TO ANOTHER SEPARATE ACCIDENT
090	TO 1 SIDE	TWO-WAY TRAFFIC ON DIVIDED ROADWAY ALL ROUTED TO ONE SIDE
092	PHANTOM	OTHER (PHANTOM) NON-CONTACT VEHICLE (ON PAR OR REPORT)
093	CELL-POL	CELL PHONE (ON PAR OR DRIVER IN USE)
094	VIOL GDL	TEENAGE DRIVER IN VIOLATION OF GRADUATED LICENSE PGM
095	GUY WIRE	GUY WIRE
096	BERM	BERM (EARTHEN OR GRAVEL MOUND)
097	GRAVEL	GRAVEL IN ROADWAY
098	ABR EDGE	ABRUPT EDGE
099	CELL-WTN	CELL PHONE USE WITNESSED BY OTHER PARTICIPANT
100	UNK FIXD	UNKNOWN TYPE OF FIXED OBJECT
101	OTHER OBJ	OTHER OR UNKNOWN OBJECT, NOT FIXED
104	OUTSIDE V	PASSENGER RIDING ON VEHICLE EXTERIOR
105	PEDAL PSGR	PASSENGER RIDING ON PEDALCYCLE
106	MAN WHLCHR	PEDESTRIAN IN NON-MOTORIZED WHEELCHAIR
107	MTR WHLCHR	PEDESTRIAN IN MOTORIZED WHEELCHAIR
110	N-MTR	NON-MOTORIST STRUCK VEHICLE
111	S CAR VS V	STREET CAR/TROLLEY (ON RAILS AND/OR OVERHEAD WIRE SYSTEM) STRUCK VEHICLE
112	V VS S CAR	VEHICLE STRUCK STREET CAR/TROLLEY (ON RAILS AND/OR OVERHEAD WIRE SYSTEM)
113	S CAR ROW	AT OR ON STREET CAR/TROLLEY RIGHT-OF-WAY
114	RR EQUIP	VEHICLE STRUCK RAILROAD EQUIPMENT (NOT TRAIN) ON TRACKS
120	WIRE BAR	WIRE OR CABLE MEDIAN BARRIER
124	SLIPPERY	SLIDING OR SWERVING DUE TO WET, ICY, SLIPPERY OR LOOSE SURFACE
125	SHLDR	SHOULDER GAVE WAY

FUNCTIONAL CLASSIFICATION TRANSLATION LIST

FUNC CLASS	DESCRIPTION
01	RURAL PRINCIPAL ARTERIAL - INTERSTATE
02	RURAL PRINCIPAL ARTERIAL - OTHER
06	RURAL MINOR ARTERIAL
07	RURAL MAJOR COLLECTOR
08	RURAL MINOR COLLECTOR
09	RURAL LOCAL
11	URBAN PRINCIPAL ARTERIAL - INTERSTATE
12	URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXP
14	URBAN PRINCIPAL ARTERIAL - OTHER
16	URBAN MINOR ARTERIAL
17	URBAN COLLECTOR
19	URBAN LOCAL
78	UNKNOWN RURAL SYSTEM
79	UNKNOWN RURAL NON-SYSTEM
98	UNKNOWN URBAN SYSTEM
99	UNKNOWN URBAN NON-SYSTEM

HIGHWAY COMPONENT TRANSLATION LIST

CODE	DESCRIPTION
0	MAINLINE STATE HIGHWAY
1	COUPLET
3	FRONTAGE ROAD
6	CONNECTION
8	HIGHWAY - OTHER

INJURY SEVERITY CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
1	KILL	FATAL INJURY
2	INJA	INCAPACITATING INJURY - BLEEDING, BROKEN BONES
3	INJB	NON-INCAPACITATING INJURY
4	INJC	POSSIBLE INJURY - COMPLAINT OF PAIN
5	PRI	DIED PRIOR TO CRASH
7	NO<5	NO INJURY - 0 TO 4 YEARS OF AGE

LIGHT CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	DAY	DAYLIGHT
2	DLIT	DARKNESS - WITH STREET LIGHTS
3	DARK	DARKNESS - NO STREET LIGHTS
4	DAWN	DAWN (TWILIGHT)
5	DUSK	DUSK (TWILIGHT)

MEDIAN TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	NONE	NO MEDIAN
1	RSDMD	SOLID MEDIAN BARRIER
2	DIVMD	EARTH, GRASS OR PAVED MEDIAN

MILEAGE TYPE CODE TRANSLATION LIST

CODE	LONG DESCRIPTION
0	REGULAR MILEAGE
T	TEMPORARY
Y	SPUR
Z	OVERLAPPING

MOVEMENT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	STRGHT	STRAIGHT AHEAD
2	TURN-R	TURNING RIGHT
3	TURN-L	TURNING LEFT
4	U-TURN	MAKING A U-TURN
5	BACK	BACKING
6	STOP	STOPPED IN TRAFFIC
7	PRKD-P	PARKED - PROPERLY
8	PRKD-I	PARKED - IMPROPERLY

PEDESTRIAN LOCATION CODE TRANSLATION LIST

CODE	LONG DESCRIPTION
00	AT INTERSECTION - NOT IN ROADWAY
01	AT INTERSECTION - INSIDE CROSSWALK
02	AT INTERSECTION - IN ROADWAY, OUTSIDE CROSSWALK
03	AT INTERSECTION - IN ROADWAY, XWALK AVAIL UNKNWN
04	NOT AT INTERSECTION - IN ROADWAY
05	NOT AT INTERSECTION - ON SHOULDER
06	NOT AT INTERSECTION - ON MEDIAN
07	NOT AT INTERSECTION - WITHIN TRAFFIC RIGHT-OF-WAY
08	NOT AT INTERSECTION - IN BIKE PATH
09	NOT-AT INTERSECTION - ON SIDEWALK
10	OUTSIDE TRAFFICWAY BOUNDARIES
15	NOT AT INTERSECTION - INSIDE MID-BLOCK CROSSWALK
18	OTHER, NOT IN ROADWAY
99	UNKNOWN LOCATION

ROAD CHARACTER CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	INTER	INTERSECTION
2	ALLEY	DRIVEWAY OR ALLEY
3	STRGHT	STRAIGHT ROADWAY
4	TRANS	TRANSITION
5	CURVE	CURVE (HORIZONTAL CURVE)
6	OPENAC	OPEN ACCESS OR TURNOUT
7	GRADE	GRADE (VERTICAL CURVE)
8	BRIDGE	BRIDGE STRUCTURE
9	TUNNEL	TUNNEL

PARTICIPANT TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	OCC	UNKNOWN OCCUPANT TYPE
1	DRVR	DRIVER
2	PSNG	PASSENGER
3	PED	PEDESTRIAN
4	CONV	PEDESTRIAN USING A PEDESTRIAN CONVEYA
5	PTOW	PEDESTRIAN TOWING OR TRAILERING AN OB
6	BIKE	PEDALCYCLIST
7	BTOW	PEDALCYCLIST TOWING OR TRAILERING AN
8	PRKD	OCCUPANT OF A PARKED MOTOR VEHICLE
9	UNK	UNKNOWN TYPE OF NON-MOTORIST

TRAFFIC CONTROL DEVICE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
000	NONE	NO CONTROL
001	TRF SIGNAL	TRAFFIC SIGNALS
002	FLASHBCN-R	FLASHING BEACON - RED (STOP)
003	FLASHBCN-A	FLASHING BEACON - AMBER (SLOW)
004	STOP SIGN	STOP SIGN
005	SLOW SIGN	SLOW SIGN
006	REG-SIGN	REGULATORY SIGN
007	YIELD	YIELD SIGN
008	WARNING	WARNING SIGN
009	CURVE	CURVE SIGN
010	SCHL X-ING	SCHOOL CROSSING SIGN OR SPECIAL SIGNAL
011	OFCR/FLAG	POLICE OFFICER, FLAGMAN - SCHOOL PATROL
012	BRDG-GATE	BRIDGE GATE - BARRIER
013	TEMP-BARR	TEMPORARY BARRIER
014	NO-PASS-ZN	NO PASSING ZONE
015	ONE-WAY	ONE-WAY STREET
016	CHANNEL	CHANNELIZATION
017	MEDIAN BAR	MEDIAN BARRIER
018	PILOT CAR	PILOT CAR
019	SP PED SIG	SPECIAL PEDESTRIAN SIGNAL
020	X-BUCK	CROSSBUCK
021	THR-GN-SIG	THROUGH GREEN ARROW OR SIGNAL
022	L-GRN-SIG	LEFT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
023	R-GRN-SIG	RIGHT TURN GREEN ARROW, LANE MARKINGS, OR SIGNAL
024	WIGWAG	WIGWAG OR FLASHING LIGHTS W/O DROP-ARM GATE
025	X-BUCK WRN	CROSSBUCK AND ADVANCE WARNING
026	WW W/ GATE	FLASHING LIGHTS WITH DROP-ARM GATES
027	OVRHD SGNL	SUPPLEMENTAL OVERHEAD SIGNAL (RR XING ONLY)
028	SP RR STOP	SPECIAL RR STOP SIGN
029	ILUM GRD X	ILLUMINATED GRADE CROSSING
037	RAMP METER	METERED RAMPS
038	RUMBLE STR	RUMBLE STRIP
090	L-TURN REF	LEFT TURN REFUGE (WHEN REFUGE IS INVOLVED)
091	R-TURN ALL	RIGHT TURN AT ALL TIMES SIGN, ETC.
092	EMR SGN/FL	EMERGENCY SIGNS OR FLARES
093	ACCEL LANE	ACCELERATION OR DECELERATION LANES
094	R-TURN PRO	RIGHT TURN PROHIBITED ON RED AFTER STOPPING

095	BUS STPSGN	BUS STOP SIGN AND RED LIGHTS
099	UNKNOWN	UNKNOWN OR NOT DEFINITE

VEHICLE TYPE CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
01	PSNGR CAR	PASSENGER CAR, PICKUP, ETC.
02	BOBTAIL	TRUCK TRACTOR WITH NO TRAILERS (BOBTAIL)
03	FARM TRCTR	FARM TRACTOR OR SELF-PROPELLED FARM EQUIPMENT
04	SEMI TOW	TRUCK TRACTOR WITH TRAILER/MOBILE HOME IN TOW
05	TRUCK	TRUCK WITH NON-DETACHABLE BED, PANEL, ETC.
06	MOPED	MOPED, MINIBIKE, MOTOR SCOOTER, OR MOTOR BICYCLE
07	SCHL BUS	SCHOOL BUS (INCLUDES VAN)
08	OTH BUS	OTHER BUS
09	MTRCYCLE	MOTORCYCLE
10	OTHER	OTHER: FORKLIFT, BACKHOE, ETC.
11	MOTRHOME	MOTORHOME
12	TROLLEY	MOTORIZED STREET CAR/TROLLEY (NO RAILS/WIRES)
13	ATV	ATV
14	MTRSCTR	MOTORIZED SCOOTER
15	SNOWMOBILE	SNOWMOBILE
99	UNKNOWN	UNKNOWN VEHICLE TYPE

WEATHER CONDITION CODE TRANSLATION LIST

CODE	SHORT DESC	LONG DESCRIPTION
0	UNK	UNKNOWN
1	CLR	CLEAR
2	CLD	CLOUDY
3	RAIN	RAIN
4	SLT	SLEET
5	FOG	FOG
6	SNOW	SNOW
7	DUST	DUST
8	SMOK	SMOKE
9	ASH	ASH

Appendix H
2030 No-Build Conditions
Traffic Analysis
Worksheets

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Scenario Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Turning Movement Report
PM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 N Yamhill St/W Madison St													
Base	0	312	0	21	369	0	0	0	0	9	0	32	743
Added	0	138	0	2	174	0	0	0	0	0	0	2	316
Total	0	450	0	23	543	0	0	0	0	9	0	34	1059
#2 S Scott St/W Main St													
Base	2	1	2	1	0	2	4	179	1	2	299	3	496
Added	2	2	13	4	2	4	4	55	2	12	67	3	170
Total	4	3	15	5	2	6	8	234	3	14	366	6	666
#3 Yamhill St/W Main St													
Base	5	8	3	208	8	160	116	97	2	0	139	196	942
Added	0	6	2	138	6	60	43	30	0	1	22	114	422
Total	5	14	5	346	14	220	159	127	2	1	161	310	1364
#4 S Pine St/W Main St													
Base	173	13	32	4	7	2	5	88	181	48	156	5	714
Added	65	1	29	0	1	2	2	87	81	20	71	0	359
Total	238	14	61	4	8	4	7	175	262	68	227	5	1073
#5 N 4th St/E Main St													
Base	0	0	0	4	0	4	4	112	0	0	208	4	336
Added	0	0	0	2	0	7	10	105	0	0	86	3	213
Total	0	0	0	6	0	11	14	217	0	0	294	7	549
#6 S Pine St/W Polk St													
Base	1	225	3	23	226	1	2	1	0	7	2	12	503
Added	0	66	4	23	70	5	5	2	0	3	2	20	200
Total	1	291	7	46	296	6	7	3	0	10	4	32	703

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Del/ Veh	V/ C	Future LOS	Del/ Veh	V/ C	Change in
# 1 N Yamhill St/W Madison St	B	11.6	0.000	B	14.0	0.000	+ 2.431 D/V
# 2 S Scott St/W Main St	B	11.6	0.000	B	13.7	0.000	+ 2.127 D/V
# 3 Yamhill St/W Main St	F	135.9	0.000	F	OVRFL	0.000	+8979.796 D/
# 4 S Pine St/W Main St	C	18.6	0.000	F	83.4	0.000	+64.782 D/V
# 5 N 4th St/E Main St	B	10.1	0.000	B	11.2	0.000	+ 1.099 D/V
# 6 S Pine St/W Polk St	B	13.3	0.000	C	17.2	0.000	+ 3.933 D/V

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 N Yamhill St/W Madison St

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[14.0]

Street Name:	N Yamhill St									W Madison St								
Approach:	North Bound				South Bound				East Bound				West Bound					
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled				Uncontrolled				Stop Sign				Stop Sign					
Rights:	Include				Include				Include				Include					
Lanes:	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	1!	0	0
Volume Module: >> Count Date: 1 Oct 2007 << 4:45 to 5:45 p.m.																				
Base Vol:	0	312	0			21	369	0			0	0	0			9	0	32		
Growth Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
Initial Bse:	0	312	0			21	369	0			0	0	0			9	0	32		
Added Vol:	0	138	0			2	174	0			0	0	0			0	0	2		
PasserByVol:	0	0	0			0	0	0			0	0	0			0	0	0		
Initial Fut:	0	450	0			23	543	0			0	0	0			9	0	34		
User Adj:	1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00			1.00	1.00	1.00		
PHF Adj:	0.95	0.95	0.95			0.95	0.95	0.95			1.00	1.00	1.00			0.85	0.85	0.85		
PHF Volume:	0	474	0			24	572	0			0	0	0			11	0	40		
Reduct Vol:	0	0	0			0	0	0			0	0	0			0	0	0		
FinalVolume:	0	474	0			24	572	0			0	0	0			11	0	40		
Critical Gap Module:																				
Critical Gp:	xxxxx	xxxx	xxxxx			4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx					6.4	6.5	6.2		
FollowUpTim:	xxxxx	xxxx	xxxxx			2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx					3.5	4.0	3.3		
Capacity Module:																				
Cnflict Vol:	xxxx	xxxx	xxxxx			475	xxxx	xxxxx	xxxx	xxxx	xxxxx					1095	1095	475		
Potent Cap.:	xxxx	xxxx	xxxxx			1098	xxxx	xxxxx	xxxx	xxxx	xxxxx					239	216	594		
Move Cap.:	xxxx	xxxx	xxxxx			1097	xxxx	xxxxx	xxxx	xxxx	xxxxx					234	211	594		
Volume/Cap:	xxxx	xxxx	xxxx			0.02	xxxx	xxxx	xxxx	xxxx	xxxx					0.05	0.00	0.07		
Level Of Service Module:																				
2Way95thQ:	xxxx	xxxx	xxxxx			0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx					xxxx	xxxx	xxxxx		
Control Del:	xxxxx	xxxx	xxxxx			8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx					xxxxx	xxxx	xxxxx		
LOS by Move:	*	*	*			A	*	*	*	*	*					*	*	*		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	449	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx			0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx						
Shrd ConDel:	xxxxx	xxxx	xxxxx			8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.0	xxxxx						
Shared LOS:	*	*	*			A	*	*	*	*	*					B	*			
ApproachDel:	xxxxxx					xxxxxx					xxxxxx					14.0				
ApproachLOS:	*					*					*					B				

Note: Queue reported is the number of cars per lane.

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Future Volume Alternative

Intersection #1 N Yamhill St/W Madison St

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HevVeh:	0%			0%			0%			0%		
Grade:	0%			0%			0%			0%		
Peds/Hour:	0			0			0			1		
Pedestrian Walk Speed: 4.00 feet/sec												
LaneWidth:	12 feet			12 feet			12 feet			12 feet		
Time Period: 0.25 hour												

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 S Scott St/W Main St

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: B[13.7]

Street Name:	S Scott St						W Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0	0 0	1! 0	0
Volume Module: >> Count Date: 2 Oct 2007 << 4:45 to 5:45 p.m.												
Base Vol:	2	1	2	1	0	2	4	179	1	2	299	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	1	2	1	0	2	4	179	1	2	299	3
Added Vol:	2	2	13	4	2	4	4	55	2	12	67	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	3	15	5	2	6	8	234	3	14	366	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	5	4	18	6	2	7	9	260	3	16	407	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	4	18	6	2	7	9	260	3	16	407	7
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	725	724	262	731	722	410	413	xxxx	xxxxx	263	xxxx	xxxxx
Potent Cap.:	343	355	782	340	355	646	1156	xxxx	xxxxx	1313	xxxx	xxxxx
Move Cap.:	332	348	782	325	348	646	1156	xxxx	xxxxx	1313	xxxx	xxxxx
Volume/Cap:	0.01	0.01	0.02	0.02	0.01	0.01	0.01	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.1	xxxx	xxxxx	7.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	552	xxxxx	xxxx	427	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	11.8	xxxxx	xxxxx	13.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		11.8			13.7			xxxxxx			xxxxxx	
ApproachLOS:		B			B			*			*	

Note: Queue reported is the number of cars per lane.

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Future Volume Alternative

Intersection #2 S Scott St/W Main St

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
HevVeh:	0%			0%			0%			0%		
Grade:	0%			0%			0%			0%		
Peds/Hour:	0			0			0			0		
Pedestrian Walk Speed: 4.00 feet/sec												
LaneWidth:	12 feet			12 feet			12 feet			12 feet		

Time Period: 0.25 hour

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Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 N 4th St/E Main St

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B[11.2]

Street Name:	N 4th St									E Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0	0 0	0 0	0	0 0	1! 0 0	0	1 0	0 0	0	0 0	1 0
Volume Module: >> Count Date: 3 Oct 2007 << 4:45 to 5:45 p.m.												
Base Vol:	0	0	0	4	0	4	4	112	0	0	208	4
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	4	0	4	4	112	0	0	208	4
Added Vol:	0	0	0	2	0	7	10	105	0	0	86	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	6	0	11	14	217	0	0	294	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	0	0	7	0	13	16	241	0	0	327	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	0	7	0	13	16	241	0	0	327	8
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	6.4	6.5	6.2	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	xxxxx	3.5	4.0	3.3	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	603	603	331	334	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	465	416	716	1236	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	461	411	716	1236	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	xxxx	0.02	0.00	0.02	0.01	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	599	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	0.1	xxxxx	0.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	11.2	xxxxx	7.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	A	*	*	*	*	*
ApproachDel:	xxxxxx			11.2			xxxxxx			xxxxxx		
ApproachLOS:	*			B			*			*		

Note: Queue reported is the number of cars per lane.

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Future Volume Alternative

Intersection #5 N 4th St/E Main St

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
HevVeh:	0%	0%	0%	0%
Grade:	0%	0%	0%	0%
Peds/Hour:	0	0	0	0
Pedestrian Walk Speed: 4.00 feet/sec				
LaneWidth:	12 feet	12 feet	12 feet	12 feet

Time Period: 0.25 hour

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 S Pine St/W Polk St

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: C[17.2]

Street Name:	S Pine St						W Polk St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 1 0 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 1 Oct 2007 << 4:45 to 5:45 p.m.												
Base Vol:	1	225	3	23	226	1	2	1	0	7	2	12
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	225	3	23	226	1	2	1	0	7	2	12
Added Vol:	0	66	4	23	70	5	5	2	0	3	2	20
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	1	291	7	46	296	6	7	3	0	10	4	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	0.80	0.80	0.80	0.80	0.80	0.80
PHF Volume:	1	306	7	48	312	6	9	4	0	13	5	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	1	306	7	48	312	6	9	4	0	13	5	40
Critical Gap Module:												
Critical Gp:	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx	7.1	6.5	xxxxx	7.1	6.5	6.2
FollowUpTim:	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx	3.5	4.0	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	318	xxxx	xxxxx	315	xxxx	xxxxx	752	728	xxxxx	727	728	317
Potent Cap.:	1254	xxxx	xxxxx	1257	xxxx	xxxxx	329	352	xxxxx	342	353	728
Move Cap.:	1254	xxxx	xxxxx	1256	xxxx	xxxxx	296	338	xxxxx	329	338	724
Volume/Cap:	0.00	xxxx	xxxx	0.04	xxxx	xxxx	0.03	0.01	xxxx	0.04	0.01	0.06
Level Of Service Module:												
2Way95thQ:	0.0	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	7.9	xxxx	xxxxx	8.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	308	xxxx	xxxxx	xxxx	532	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	0.4	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	17.2	xxxx	xxxxx	xxxxx	12.6	xxxxx
Shared LOS:	*	*	*	*	*	*	C	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			17.2			12.6		
ApproachLOS:	*			*			C			B		

Note: Queue reported is the number of cars per lane.

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- PM Peak Hour

Level Of Service Detailed Computation Report
2000 HCM Unsignalized Method
Future Volume Alternative

Intersection #6 S Pine St/W Polk St

Approach:	North Bound	South Bound	East Bound	West Bound
Movement:	L - T - R	L - T - R	L - T - R	L - T - R
HevVeh:	0%	0%	0%	0%
Grade:	0%	0%	0%	0%
Peds/Hour:	0	6	0	1
LaneWidth:	12 feet	12 feet	12 feet	12 feet

Pedestrian Walk Speed: 4.00 feet/sec
Time Period: 0.25 hour

SIDRA INTERSECTION

Output Tables

N Yamhill/W Main

Enter subtitle

Run Information

```
* Basic Parameters:
  Intersection Type: Unsignalised - Two-Way Stop Control
  Driving on the right-hand side of the road
  Input data specified in Metric units
  Model Defaults: Standard Right
  Peak Flow Period (for performance): 30 minutes
  Unit time (for volumes): 60 minutes.
  Delay definition: Control delay
                    Geometric delay included
  SIDRA Standard Delay model used
  SIDRA Standard Queue model used
  Level of Service based on: Delay (HCM method)
  Queue definition: Back of queue, 95th Percentile
```

Table B.1 - Movement Definitions and Flow Rates (Origin-Destination)

```
N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection
```

From Approach	To Approach	Mov ID	Turn	Flow Rate LV	Flow Rate HV	Flow Scale	Peak Flow Factor
South: S Yamhill							
	East	3	Right	6	0	1.00	0.85
	North	2	Thru	16	0	1.00	0.85
	West	1	Left	6	0	1.00	0.85
East: W Main							
	South	4	Left	1	0	1.00	0.95
	North	6	Right	321	5	1.00	0.95
	West	5	Thru	169	0	1.00	0.95
North: N Yamhill							
	South	8	Thru	15	0	1.00	0.95
	East	7	Left	350	14	1.00	0.95
	West	9	Right	232	0	1.00	0.95
West: W Main							
	South	12	Right	2	0	1.00	0.90
	East	11	Thru	138	3	1.00	0.90

```
          North        10   Left    172      5    1.00      0.90
-------------------------------------------------------------------
Unit Time for Volumes =  60 minutes
Peak Flow Period =  30 minutes
Flow Rates include effects of Flow Scale and Peak Flow Factor
```

Table B.2A - Flow Rates (Separate Light and Heavy Vehicles)

```
N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

-----------------------------------------------
  Mov          Left       Through       Right
  ID        ---------    ---------    ---------
             LV    HV     LV    HV     LV    HV
-----------------------------------------------
Demand flows in veh/hour as used by the program
South: S Yamhill
    1 L       6     0      0     0      0     0
    2 T       0     0     16     0      0     0
    3 R       0     0      0     0      6     0
-----------------------------------------------
East: W Main
    4 L       1     0      0     0      0     0
    5 T       0     0    169     0      0     0
    6 R       0     0      0     0    321     5
-----------------------------------------------
North: N Yamhill
    7 L     350    14      0     0      0     0
    8 T       0     0     15     0      0     0
    9 R       0     0      0     0    232     0
-----------------------------------------------
West: W Main
   10 L     172     5      0     0      0     0
   11 T       0     0    138     3      0     0
   12 R       0     0      0     0      2     0
-----------------------------------------------
Unit Time for Volumes =  60 minutes
Peak Flow Period =  30 minutes
Flow Rates include effects of Flow Scale and Peak Flow Factor
```

Table B.2B - Flow Rates (Total Vehicles and Percent Heavy)

```
N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

-------------------------------------------------
  Mov          Left        Through        Right
  ID        ----------    ----------    ----------
           Total  %HV    Total  %HV    Total  %HV
-------------------------------------------------
Demand flows in veh/hour as used by the program
South: S Yamhill
```

1	L	6	0.0	0	0.0	0	0.0
2	T	0	0.0	16	0.0	0	0.0
3	R	0	0.0	0	0.0	6	0.0
East: W Main							
4	L	1	0.0	0	0.0	0	0.0
5	T	0	0.0	169	0.0	0	0.0
6	R	0	0.0	0	0.0	326	1.5
North: N Yamhill							
7	L	364	3.8	0	0.0	0	0.0
8	T	0	0.0	15	0.0	0	0.0
9	R	0	0.0	0	0.0	232	0.0
West: W Main							
10	L	177	2.8	0	0.0	0	0.0
11	T	0	0.0	141	2.1	0	0.0
12	R	0	0.0	0	0.0	2	0.0

Unit Time for Volumes = 60 minutes
Peak Flow Period = 30 minutes
Flow Rates include effects of Flow Scale and Peak Flow Factor

Table S.2 - Movement Capacity Parameters

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID		Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
South: S Yamhill											
1	L	6	0.0	559+	0.5	559	59	0.80	687	100	0.102
2	T	16	0.0	1001+	2.2	1001	157	0.80	685	100	0.102
3	R	6	0.0	506+	3.4	506	59	0.80	687	100	0.102
East: W Main											
4	L	1	0.0	544	3.1	544	2	0.80	60	100	0.500
5	T	169	0.0	446	1.1	446	334	0.80	58	100	0.506
6	R	326	1.5	0			645	0.80	58	100	0.505
North: N Yamhill											
7	L	364	3.8	0			1006	0.80	121	100	0.362
8	T	15	0.0	0			41	0.80	119	100	0.366
9	R	232	0.0	0			641	0.80	121	100	0.362
West: W Main											
10	L	177	2.8	896	2.1	896	315	0.80	42	100	0.562*
11	T	141	2.1	402	3.5	402	251	0.80	42	100	0.562*
12	R	2	0.0	16	0.0	16	4	0.80	60	100	0.500

\+ Percentage of exiting flow included in total opposing flow

Table S.3 - Intersection Parameters

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Intersection Level of Service	=	NA
Worst movement Level of Service	=	C
Average intersection delay (s/pers)	=	14.5
Largest average movement delay (s)	=	22.8
Largest back of queue, 95% (m)	=	67
Performance Index	=	31.09
Degree of saturation (highest)	=	0.562
Practical Spare Capacity (lowest)	=	42 %
Effective intersection capacity, (veh/h)	=	2589
Total vehicle flow (veh/h)	=	1455
Total person flow (pers/h)	=	2183
Total vehicle delay (veh-h/h)	=	5.87
Total person delay (pers-h/h)	=	8.80
Total effective vehicle stops (veh/h)	=	1031
Total effective person stops (pers/h)	=	1546
Total vehicle travel (veh-km/h)	=	876.1
Total cost ($/h)	=	706.61
Total fuel (L/h)	=	107.9
Total CO2 (kg/h)	=	270.01

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections. See Table S.15 or Movement Displays for individual movement LOS values.

Table S.5 - Movement Performance

Mov ID		Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue 95% Back (vehs)	Longest Queue 95% Back (m)	Perf. Index	Aver. Speed (km/h)
South: S Yamhill										
1	L	0.04	0.06	22.6	0.72	1.00	0.5	3	0.16	37.7
2	T	0.10	0.15	22.4	0.72	1.00	0.5	3	0.43	38.0
3	R	0.04	0.06	22.8	0.72	0.81	0.5	3	0.16	37.8
East: W Main										
4	L	0.01	0.01	20.0	0.86	1.17	9.4	67	0.03	39.7
5	T	0.93	1.39	19.8	0.86	1.16	9.4	67	4.79	40.0
6	R	1.61	2.42	17.8	0.86	0.09	9.4	67	7.15	40.3
North: N Yamhill										
7	L	0.87	1.31	8.6	0.00	0.70	0.0	0	5.93	48.6
8	T	0.00	0.00	0.0	0.00	0.00	0.0	0	0.15	60.0
9	R	0.53	0.79	8.2	0.00	0.67	0.0	0	3.72	49.0
West: W Main										
10	L	0.97	1.46	19.8	0.65	1.13	4.9	35	4.73	39.7
11	T	0.76	1.15	19.5	0.65	1.16	4.9	35	3.78	40.0
12	R	0.01	0.02	19.8	0.65	0.94	4.9	35	0.05	39.8

Table S.6 - Intersection Performance

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
South: S Yamhill									
28	0.102	0.18	0.26	22.5	0.72	0.96	3	0.75	37.9
East: W Main									
496	0.506	2.55	3.82	18.5	0.86	0.46	67	11.97	40.2
North: N Yamhill									
611	0.366	1.40	2.10	8.2	0.00	0.67	0	9.81	49.0
West: W Main									
320	0.562	1.75	2.62	19.6	0.65	1.14	35	8.57	39.8
ALL VEHICLES:									
1455	0.562	5.87	8.80	14.5	0.45	0.71	67	31.09	43.3
INTERSECTION (persons):									
2183	0.562		8.80	14.5	0.45	0.71		31.09	43.3

Queue values in this table are 95% back of queue (metres).

Table S.7 - Lane Performance

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue 95% Back (vehs)	Queue 95% Back (m)	Lane Length (m)
South: S Yamhill								
1 LTR	28	275	0.102	22.5	0.96	0.5	3.2	500.0
East: W Main								
1 LTR	496	981	0.506	18.5	0.46	9.4	66.6	500.0
North: N Yamhill								
1 LTR	611	1689	0.362	8.2	0.67	0.0	0.0	500.0
West: W Main								
1 LTR	320	569	0.562	19.6	1.14	4.9	34.8	500.0

Table S.8 - Lane Flow and Capacity Information

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Min Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
South: S Yamhill								
1 LTR	6	16	6	28	28	275	0.102	100
East: W Main								
1 LTR	1	169	326	496	496	981	0.506	100
North: N Yamhill								
1 LTR	364	15	232	611	611	1689	0.362	100
West: W Main								
1 LTR	177	141	2	320	60	569	0.562	100

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

Table S.10 - Movement Capacity and Performance Summary

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID	Mov Typ	Dem Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	95% Back of Queue (veh)	Perf. Index
South: S Yamhill									
1	L	6	59	100	0.102	22.6	1.00	0.5	0.16
2	T	16	157	100	0.102	22.4	1.00	0.5	0.43
3	R	6	59	100	0.102	22.8	0.81	0.5	0.16
East: W Main									
4	L	1	2	100	0.500	20.0	1.17	9.4	0.03
5	T	169	334	100	0.506	19.8	1.16	9.4	4.79
6	R	326	645	100	0.505	17.8	0.09	9.4	7.15
North: N Yamhill									
7	L	364	1006	100	0.362	8.6	0.70	0.0	5.93
8	T	15	41	100	0.366	0.0	0.00	0.0	0.15
9	R	232	641	100	0.362	8.2	0.67	0.0	3.72
West: W Main									
10	L	177	315	100	0.562*	19.8	1.13	4.9	4.73
11	T	141	251	100	0.562*	19.5	1.16	4.9	3.78
12	R	2	4	100	0.500	19.8	0.94	4.9	0.05

* Maximum degree of saturation

Table S.12A - Fuel Consumption, Emissions and Cost (TOTAL)

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID		Fuel Total L/h	Cost Total $/h	HC Total kg/h	CO Total kg/h	NOX Total kg/h	CO2 Total kg/h
South: S Yamhill							
1	L	0.4	3.21	0.002	0.09	0.003	1.1
2	T	1.2	8.50	0.005	0.24	0.007	3.0
3	R	0.4	3.22	0.002	0.09	0.003	1.1
		2.1	14.93	0.009	0.42	0.012	5.2
East: W Main							
4	L	0.1	0.52	0.000	0.02	0.000	0.2
5	T	12.4	86.57	0.055	2.59	0.074	31.1
6	R	24.6	167.93	0.107	5.07	0.148	61.6
		37.1	255.02	0.163	7.67	0.222	92.8
North: N Yamhill							
7	L	27.4	163.57	0.114	5.82	0.170	68.6
8	T	0.6	4.99	0.002	0.05	0.003	1.6
9	R	15.4	99.94	0.067	3.17	0.093	38.6
		43.5	268.49	0.182	9.03	0.266	108.8
West: W Main							
10	L	14.1	93.41	0.061	2.97	0.085	35.3
11	T	11.0	73.69	0.048	2.32	0.067	27.6
12	R	0.2	1.07	0.001	0.04	0.001	0.4
		25.3	168.17	0.109	5.33	0.153	63.2
INTERSECTION:		107.9	706.61*	0.464	22.46	0.654	270.0

PARAMETERS USED IN COST CALCULATIONS

Pump price of fuel ($/L)	=	1.200
Fuel resource cost factor	=	0.50
Ratio of running cost to fuel cost	=	3.0
Average income ($/h)	=	28.00
Time value factor	=	0.60
Light vehicle mass (1000 kg)	=	1.4
Heavy vehicle mass (1000 kg)	=	11.0
Light vehicle idle fuel rate (L/h)	=	1.350
Heavy vehicle idle fuel rate (L/h)	=	2.000

Table S.12B - Fuel Consumption, Emissions and Cost (RATE)

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID		Fuel Rate L/100km	Cost Rate $/km	HC Rate g/km	CO Rate g/km	NOX Rate g/km	CO2 Rate g/km
South: S Yamhill							
1	L	12.4	0.89	0.555	25.29	0.724	309.1
2	T	12.3	0.88	0.547	24.88	0.720	307.2
3	R	12.3	0.89	0.546	24.78	0.718	306.9
		12.3	0.89	0.549	24.95	0.721	307.5
East: W Main							
4	L	12.3	0.86	0.553	26.00	0.736	308.6
5	T	12.2	0.85	0.545	25.51	0.730	306.2
6	R	12.5	0.85	0.543	25.73	0.749	312.4
		12.4	0.85	0.543	25.65	0.743	310.3
North: N Yamhill							
7	L	12.5	0.75	0.520	26.62	0.778	313.7
8	T	7.1	0.55	0.245	5.13	0.323	177.8
9	R	11.0	0.71	0.474	22.58	0.665	275.0
		11.8	0.73	0.496	24.55	0.724	295.6
West: W Main							
10	L	13.2	0.88	0.573	27.97	0.802	331.6
11	T	13.0	0.87	0.563	27.34	0.788	325.7
12	R	13.8	0.88	0.635	33.20	0.881	345.1
		13.2	0.88	0.569	27.73	0.796	329.1
INTERSECTION:		12.3	0.81	0.529	25.63	0.746	308.2

Table S.14 - Summary of Input and Output Data

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
South: S Yamhill												
1 LTR	6	16	6	28	0				0.102	22.5	3	500
	6	16	6	28	0				0.102	22.5	3	
East: W Main												
1 LTR	1	169	326	496	1				0.506	18.5	67	500
	1	169	326	496	1				0.506	18.5	67	
North: N Yamhill												
1 LTR	364	15	232	611	2				0.362	8.2	0	500
	364	15	232	611	2				0.362	8.2		

West: W Main										
1 LTR	177	141	2	320	3		0.562	19.6	35	500
	177	141	2	320	3		0.562	19.6	35	

ALL VEHICLES	Total Flow	% HV	Max X	Aver. Delay	Max Queue
	1455	2	0.562	14.5	67

Peak flow period = 30 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Table S.15 - Capacity and Level of Service

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue 95% Back (vehs)	(m)
South: S Yamhill								
1	L	6	59	0.102	22.6	C	0.5	3
2	T	16	157	0.102	22.4	C	0.5	3
3	R	6	59	0.102	22.8	C	0.5	3
East: W Main								
4	L	1	2	0.500	20.0	C	9.4	67
5	T	169	334	0.506	19.8	C	9.4	67
6	R	326	645	0.505	17.8	C	9.4	67
North: N Yamhill								
7	L	364	1006	0.362	8.6	A	0.0	0
8	T	15	41	0.366	0.0	A	0.0	0
9	R	232	641	0.362	8.2	A	0.0	0
West: W Main								
10	L	177	315	0.562*	19.8	C	4.9	35
11	T	141	251	0.562*	19.5	C	4.9	35
12	R	2	4	0.500	19.8	C	4.9	35
ALL VEHICLES:		1455		0.562	14.5	NA	9.4	67

Level of Service calculations are based on average control delay including geometric delay (HCM criteria), independent of the current delay definition used. For the criteria, refer to the "Level of Service" topic in the SIDRA Output Guide or the Output section of the on-line help.

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections.

* Maximum v/c ratio, or critical green periods
" Movement Level of service has been determined using adjacent lane v/c ratio rather than short lane v/c ratio (v/c=1.0)

Table D.0 - Geometric Delay Data

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

From Approach	To Approach	Turn	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream (m)	Distance User Spec?
South: S Yamhill								
	East	Right	10.0	20.2	15.7	500	104	No
	North	Thru	S	20.0	10.0	500	101	No
	West	Left	6.6	17.2	10.4	500	101	No
East: W Main								
	South	Left	6.6	17.2	10.4	500	101	No
	North	Right	10.0	20.2	15.7	500	106	No
	West	Thru	S	20.0	10.0	500	101	No
North: N Yamhill								
	South	Thru	S	60.0	10.0	500	106	No
	East	Left	6.6	17.2	10.4	500	104	No
	West	Right	10.0	20.2	15.7	500	104	No
West: W Main								
	South	Right	10.0	20.2	15.7	500	104	No
	East	Thru	S	20.0	10.0	500	102	No
	North	Left	6.6	17.2	10.4	500	103	No

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

Table D.1 - Lane Delays

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Deg. Satn x	Stop-line Delay (seconds/veh) 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: S Yamhill										
1 LTR	0.102	12.2	0.0	12.2	1.5	10.7	0.0	10.7	10.4	22.5
East: W Main										
1 LTR	0.506	7.1	2.5	9.6	2.9	6.6	0.9	5.7	8.9	18.5
North: N Yamhill										
1 LTR	0.362	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.2	8.2
West: W Main										
1 LTR	0.562	6.5	2.7	9.1	1.3	7.9	2.5	5.4	10.5	19.6

dn is average stop-start delay for all vehicles queued and unqueued

Table D.2 - Lane Stops

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Deg. Satn x	-- Effective Stop Rate -- he1	he2	Geom. hig	Overall h	Prop. Queued pq	Queue Move-up Rate hqm
South: S Yamhill							
1 LTR	0.102	0.68	0.00	0.28	0.96	0.724	0.00
East: W Main							
1 LTR	0.506	0.30	0.06	0.11	0.46	0.864	0.46
North: N Yamhill							
1 LTR	0.362	0.00	0.00	0.67	0.67	0.000	0.00
West: W Main							
1 LTR	0.562	0.64	0.15	0.35	1.14	0.647	0.44

hig is the average value for all movements in a shared lane
hqm is average queue move-up rate for all vehicles queued and unqueued

Table D.3A - Lane Queues (veh)

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Deg. Satn x	Ovrfl. Queue No	Average (veh) Nb1	Nb2	Nb	Percentile (veh) 70%	85%	90%	95%	98%	Queue Stor. Ratio
South: S Yamhill											
1 LTR	0.102	0.0	0.1	0.0	0.1	0.3	0.3	0.4	0.5	0.5	0.01
East: W Main											
1 LTR	0.506	0.5	2.0	1.1	3.2	5.3	6.6	7.5	9.4	11.0	0.13
North: N Yamhill											
1 LTR	0.362	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
West: W Main											
1 LTR	0.562	0.3	1.1	0.5	1.6	2.8	3.4	3.9	4.9	5.7	0.07

Values printed in this table are back of queue (vehicles).

Table D.3B - Lane Queues (metres)

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Deg. Satn x	Ovrfl. Queue No	Average (metres) Nb1	Nb2	Nb	Percentile (metres) 70%	85%	90%	95%	98%	Queue Stor. Ratio
South: S Yamhill											
1 LTR	0.102	0.0	1.0	0.0	1.0	1.9	2.3	2.6	3.2	3.7	0.01
East: W Main											
1 LTR	0.506	3.7	14.3	8.1	22.4	37.5	46.4	53.1	66.6	77.8	0.13
North: N Yamhill											
1 LTR	0.362	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
West: W Main											
1 LTR	0.562	2.4	7.8	3.5	11.3	20.1	24.6	28.0	34.8	40.5	0.07

Values printed in this table are back of queue (metres).

Table D.4 - Movement Speeds (km/h) and Geometric Delay

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID	App. Speeds Cruise	Negn	Exit Speeds Negn	Cruise	Queue Move-up 1st Grn	2nd Grn	Av. Section Spd Running	Overall	Geom Delay (sec)
South: S Yamhill									
1 L	60.0	0.0	17.2	60.0			46.5	37.7	10.4
2 T	60.0	0.0	20.0	60.0			46.7	38.0	10.2
3 R	60.0	0.0	20.2	60.0			46.4	37.8	10.7
East: W Main									
4 L	60.0	0.0	17.2	60.0	17.8		43.8	39.7	10.4
5 T	60.0	0.0	20.0	60.0	16.9		44.1	40.0	10.2
6 R	60.0	20.2	20.2	60.0	0.0		45.4	40.3	8.2
North: N Yamhill									
7 L	60.0	17.2	17.2	60.0			48.6	48.6	8.6
8 T	60.0	60.0	60.0	60.0			60.0	60.0	0.0
9 R	60.0	20.2	20.2	60.0			49.0	49.0	8.2
West: W Main									
10 L	60.0	0.0	17.2	60.0	14.4		44.3	39.7	10.6
11 T	60.0	0.0	20.0	60.0	17.8		44.2	40.0	10.4
12 R	60.0	0.0	20.2	60.0	60.0		42.9	39.8	10.7

"Running Speed" is the average speed excluding stopped periods.

Table D.6 - Gap Acceptance Parameters

N Yamhill/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID	Mov Type	Opng Flow (pcu/h)	Critical Gap Hdwy (s)	Critical Gap Dist (m)	Foll-up Headway (s)	Entry HV Equiv
South: S Yamhill						
1 L	Normal	559+	7.00	39.2	4.00	2.00
2 T	Normal	1001+	6.50	33.9	3.50	2.00
3 R	Normal	506+	5.00	25.0	3.00	2.00
East: W Main						
4 L	Normal	544	4.50	24.0	2.50	2.00
5 T	Normal	446	6.50	34.1	3.50	2.00
North: N Yamhill						
No opposed movements on this approach						
West: W Main						
10 L	Normal	896	4.50	24.5	2.50	2.00
11 T	Normal	402	6.50	34.2	3.50	2.00
12 R	Normal	16	4.50	71.4	2.50	2.00

Values in this table are adjusted for heavy vehicles in the entry stream.
\+ Percentage of exiting flow included in total opposing flow

SIDRA SOLUTIONS

Site: N Yamhill/W Main
H:\projfile\9086 - City of Carlton TSP Update\sidra\Future_Courtesy.aap
Processed Jun 09, 2008 02:09:21PM

A1048, KAI, Large Office
Produced by SIDRA Intersection 3.2.0.1455

www.sidrasolutions.com

SIDRA INTERSECTION

Output Tables

S Pine/W Main

Enter subtitle

Run Information

```
* Basic Parameters:
  Intersection Type: Unsignalised - Two-Way Stop Control
  Driving on the right-hand side of the road
  Input data specified in Metric units
  Model Defaults: Standard Right
  Peak Flow Period (for performance): 30 minutes
  Unit time (for volumes): 60 minutes.
  Delay definition: Control delay
                    Geometric delay included
  SIDRA Standard Delay model used
  SIDRA Standard Queue model used
  Level of Service based on: Delay (HCM method)
  Queue definition: Back of queue, 95th Percentile
```

Table B.1 - Movement Definitions and Flow Rates (Origin-Destination)

```
S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection
```

From Approach	To Approach	Mov ID	Turn	Flow Rate LV	Flow Rate HV	Flow Scale	Peak Flow Factor
South: S Pine							
	East	3	Right	62	2	1.00	0.95
	North	2	Thru	15	0	1.00	0.95
	West	1	Left	248	3	1.00	0.95
East: W Main							
	South	4	Left	73	3	1.00	0.90
	North	6	Right	6	0	1.00	0.90
	West	5	Thru	246	7	1.00	0.90
North: N Pine							
	South	8	Thru	9	0	1.00	0.85
	East	7	Left	5	0	1.00	0.85
	West	9	Right	5	0	1.00	0.85
West: W Main							
	South	12	Right	248	28	1.00	0.95
	East	11	Thru	178	6	1.00	0.95

```
           North        10   Left      7     0    1.00      0.95
-------------------------------------------------------------------
Unit Time for Volumes =  60 minutes
Peak Flow Period =  30 minutes
Flow Rates include effects of Flow Scale and Peak Flow Factor
```

Table B.2A - Flow Rates (Separate Light and Heavy Vehicles)

```
S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

-----------------------------------------------
  Mov          Left       Through       Right
  ID        ---------    ---------    ---------
              LV    HV     LV    HV     LV    HV
-----------------------------------------------
Demand flows in veh/hour as used by the program
South: S Pine
    1 L     248     3      0     0      0     0
    2 T       0     0     15     0      0     0
    3 R       0     0      0     0     62     2
-----------------------------------------------
East: W Main
    4 L      73     3      0     0      0     0
    5 T       0     0    246     7      0     0
    6 R       0     0      0     0      6     0
-----------------------------------------------
North: N Pine
    7 L       5     0      0     0      0     0
    8 T       0     0      9     0      0     0
    9 R       0     0      0     0      5     0
-----------------------------------------------
West: W Main
   10 L       7     0      0     0      0     0
   11 T       0     0    178     6      0     0
   12 R       0     0      0     0    248    28
-----------------------------------------------
Unit Time for Volumes =  60 minutes
Peak Flow Period =  30 minutes
Flow Rates include effects of Flow Scale and Peak Flow Factor
```

Table B.2B - Flow Rates (Total Vehicles and Percent Heavy)

```
S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

-----------------------------------------------
  Mov          Left         Through        Right
  ID        ----------    ----------    ----------
           Total  %HV    Total  %HV    Total  %HV
-----------------------------------------------
Demand flows in veh/hour as used by the program
South: S Pine
```

1	L	251	1.2	0	0.0	0	0.0
2	T	0	0.0	15	0.0	0	0.0
3	R	0	0.0	0	0.0	64	3.1
East: W Main							
4	L	76	3.9	0	0.0	0	0.0
5	T	0	0.0	253	2.8	0	0.0
6	R	0	0.0	0	0.0	6	0.0
North: N Pine							
7	L	5	0.0	0	0.0	0	0.0
8	T	0	0.0	9	0.0	0	0.0
9	R	0	0.0	0	0.0	5	0.0
West: W Main							
10	L	7	0.0	0	0.0	0	0.0
11	T	0	0.0	184	3.3	0	0.0
12	R	0	0.0	0	0.0	276	10.1

Unit Time for Volumes = 60 minutes
Peak Flow Period = 30 minutes
Flow Rates include effects of Flow Scale and Peak Flow Factor

Table S.2 - Movement Capacity Parameters

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID		Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
South: S Pine											
1	L	251	1.2	0			1293	0.80	312	100	0.194
2	T	15	0.0	0			77	0.80	311	100	0.195
3	R	64	3.1	0			330	0.80	313	100	0.194
East: W Main											
4	L	76	3.9	740	5.0	743	157	0.80	65	100	0.484
5	T	253	2.8	287	1.0	287	521	0.80	65	100	0.486
6	R	6	0.0	22	0.0	22	12	0.80	60	100	0.500*
North: N Pine											
7	L	5	0.0	526+	2.9	526	82	0.80	1212	100	0.061
8	T	9	0.0	967+	4.6	969	148	0.80	1216	100	0.061
9	R	5	0.0	507+	2.0	507	82	0.80	1212	100	0.061
West: W Main											
10	L	7	0.0	539	1.9	539	17	0.80	94	100	0.412
11	T	184	3.3	169	3.0	169	453	0.80	97	100	0.406
12	R	276	10.1	0			679	0.80	97	100	0.406

\+ Percentage of exiting flow included in total opposing flow

Table S.3 - Intersection Parameters

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Intersection Level of Service	=	NA
Worst movement Level of Service	=	C
Average intersection delay (s/pers)	=	12.0
Largest average movement delay (s)	=	20.7
Largest back of queue, 95% (m)	=	32
Performance Index	=	22.83
Degree of saturation (highest)	=	0.500
Practical Spare Capacity (lowest)	=	60 %
Effective intersection capacity, (veh/h)	=	2302
Total vehicle flow (veh/h)	=	1151
Total person flow (pers/h)	=	1727
Total vehicle delay (veh-h/h)	=	3.83
Total person delay (pers-h/h)	=	5.74
Total effective vehicle stops (veh/h)	=	833
Total effective person stops (pers/h)	=	1249
Total vehicle travel (veh-km/h)	=	692.7
Total cost ($/h)	=	547.36
Total fuel (L/h)	=	89.9
Total CO2 (kg/h)	=	225.19

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections. See Table S.15 or Movement Displays for individual movement LOS values.

Table S.5 - Movement Performance

Mov ID		Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue 95% Back (vehs)	(m)	Perf. Index	Aver. Speed (km/h)
South: S Pine										
1	L	0.59	0.89	8.5	0.00	0.70	0.0	0	4.08	48.6
2	T	0.00	0.00	0.0	0.00	0.00	0.0	0	0.15	60.0
3	R	0.15	0.22	8.3	0.00	0.67	0.0	0	1.03	49.0
East: W Main										
4	L	0.34	0.51	16.2	0.53	1.07	4.4	32	1.88	42.4
5	T	1.12	1.68	15.9	0.53	1.02	4.4	32	6.18	42.7
6	R	0.03	0.04	16.2	0.53	0.81	4.4	32	0.14	42.4
North: N Pine										
7	L	0.03	0.04	20.5	0.68	0.95	0.3	2	0.13	39.1
8	T	0.05	0.08	20.3	0.68	1.00	0.3	2	0.23	39.4
9	R	0.03	0.04	20.7	0.68	0.81	0.3	2	0.12	39.2
West: W Main										
10	L	0.02	0.04	12.6	0.53	0.98	4.1	30	0.15	45.3
11	T	0.64	0.97	12.6	0.53	0.85	4.1	30	3.87	45.7
12	R	0.82	1.23	10.7	0.53	0.32	4.1	30	4.86	46.7

Table S.6 - Intersection Performance

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (m)	Perf. Index	Aver. Speed (km/h)
South: S Pine									
330	0.195	0.74	1.11	8.1	0.00	0.66	0	5.26	49.1
East: W Main									
335	0.500	1.49	2.23	16.0	0.53	1.03	32	8.20	42.6
North: N Pine									
19	0.061	0.11	0.16	20.4	0.68	0.94	2	0.48	39.3
West: W Main									
467	0.412	1.49	2.24	11.5	0.53	0.54	30	8.89	46.3
ALL VEHICLES:									
1151	0.500	3.83	5.74	12.0	0.38	0.72	32	22.83	45.7
INTERSECTION (persons):									
1727	0.500		5.74	12.0	0.38	0.72		22.83	45.7

Queue values in this table are 95% back of queue (metres).

Table S.7 - Lane Performance

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Dem Flow (veh /h)	Cap (veh /h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	Queue 95% Back (vehs)	Queue 95% Back (m)	Lane Length (m)
South: S Pine								
1 LTR	330	1700	0.194	8.1	0.66	0.0	0.0	500.0
East: W Main								
1 LTR	335	690	0.485	16.0	1.03	4.4	31.8	500.0
North: N Pine								
1 LTR	19	313	0.061	20.4	0.94	0.3	1.9	500.0
West: W Main								
1 LTR	467	1149	0.406	11.5	0.54	4.1	30.2	500.0

Table S.8 - Lane Flow and Capacity Information

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Dem Flow (veh/h) Lef	Thru	Rig	Tot	Min Cap (veh /h)	Tot Cap (veh /h)	Deg. Satn x	Lane Util %
South: S Pine								
1 LTR	251	15	64	330	330	1700	0.194	100
East: W Main								
1 LTR	76	253	6	335	60	690	0.485	100
North: N Pine								
1 LTR	5	9	5	19	19	313	0.061	100
West: W Main								
1 LTR	7	184	276	467	467	1149	0.406	100

The capacity value for priority and continuous movements is obtained by adjusting the basic saturation flow for heavy vehicle and turning vehicle effects. Saturation flow scale applies if specified.

Table S.10 - Movement Capacity and Performance Summary

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID	Mov Typ	Dem Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	95% Back of Queue (veh)	Perf. Index
South: S Pine									
1	L	251	1293	100	0.194	8.5	0.70	0.0	4.08
2	T	15	77	100	0.195	0.0	0.00	0.0	0.15
3	R	64	330	100	0.194	8.3	0.67	0.0	1.03
East: W Main									
4	L	76	157	100	0.484	16.2	1.07	4.4	1.88
5	T	253	521	100	0.486	15.9	1.02	4.4	6.18
6	R	6	12	100	0.500*	16.2	0.81	4.4	0.14
North: N Pine									
7	L	5	82	100	0.061	20.5	0.95	0.3	0.13
8	T	9	148	100	0.061	20.3	1.00	0.3	0.23
9	R	5	82	100	0.061	20.7	0.81	0.3	0.12
West: W Main									
10	L	7	17	100	0.412	12.6	0.98	4.1	0.15
11	T	184	453	100	0.406	12.6	0.85	4.1	3.87
12	R	276	679	100	0.406	10.7	0.32	4.1	4.86

* Maximum degree of saturation

Table S.12A - Fuel Consumption, Emissions and Cost (TOTAL)

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID	Fuel Total L/h	Cost Total $/h	HC Total kg/h	CO Total kg/h	NOX Total kg/h	CO2 Total kg/h
South: S Pine						
1 L	17.5	109.92	0.075	3.70	0.108	43.9
2 T	0.6	4.99	0.002	0.05	0.003	1.6
3 R	4.7	28.41	0.019	0.96	0.029	11.7
	22.8	143.32	0.097	4.72	0.139	57.1
East: W Main						
4 L	6.2	38.61	0.026	1.32	0.038	15.5
5 T	19.6	125.92	0.084	4.16	0.120	49.1
6 R	0.5	2.98	0.002	0.10	0.003	1.2
	26.3	167.51	0.112	5.59	0.161	65.8
North: N Pine						
7 L	0.4	2.60	0.002	0.08	0.002	0.9
8 T	0.7	4.64	0.003	0.13	0.004	1.6
9 R	0.4	2.61	0.002	0.07	0.002	0.9
	1.4	9.84	0.006	0.28	0.008	3.5
West: W Main						
10 L	0.5	3.23	0.002	0.11	0.003	1.2
11 T	14.3	87.19	0.060	3.04	0.089	35.7
12 R	24.6	136.27	0.096	5.27	0.156	61.8
	39.4	226.68	0.158	8.41	0.248	98.8
INTERSECTION:	89.9	547.36	0.373	19.01	0.557	225.2

PARAMETERS USED IN COST CALCULATIONS

Pump price of fuel ($/L)	=	1.200
Fuel resource cost factor	=	0.50
Ratio of running cost to fuel cost	=	3.0
Average income ($/h)	=	28.00
Time value factor	=	0.60
Light vehicle mass (1000 kg)	=	1.4
Heavy vehicle mass (1000 kg)	=	11.0
Light vehicle idle fuel rate (L/h)	=	1.350
Heavy vehicle idle fuel rate (L/h)	=	2.000

Table S.12B - Fuel Consumption, Emissions and Cost (RATE)

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID		Fuel Rate L/100km	Cost Rate $/km	HC Rate g/km	CO Rate g/km	NOX Rate g/km	CO2 Rate g/km
South: S Pine							
1	L	11.6	0.73	0.500	24.57	0.713	291.0
2	T	7.1	0.55	0.245	5.13	0.323	177.8
3	R	12.0	0.73	0.498	24.93	0.739	301.3
		11.5	0.72	0.488	23.75	0.700	287.8
East: W Main							
4	L	13.6	0.85	0.571	29.00	0.836	339.3
5	T	12.9	0.83	0.552	27.40	0.792	323.4
6	R	12.7	0.82	0.570	28.61	0.790	317.3
		13.1	0.83	0.556	27.78	0.802	326.9
North: N Pine							
7	L	12.2	0.86	0.547	25.25	0.722	305.9
8	T	12.2	0.86	0.540	24.84	0.718	304.0
9	R	12.2	0.86	0.539	24.73	0.716	303.8
		12.2	0.86	0.541	24.92	0.719	304.5
West: W Main							
10	L	11.8	0.77	0.519	25.07	0.715	294.1
11	T	12.9	0.79	0.541	27.55	0.802	323.4
12	R	14.8	0.82	0.574	31.57	0.938	370.6
		14.0	0.81	0.560	29.89	0.881	350.9
INTERSECTION:		13.0	0.79	0.538	27.44	0.804	325.1

Table S.14 - Summary of Input and Output Data

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Demand Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st 2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (m)	Shrt Lane (m)
South: S Pine											
1 LTR	251	15	64	330	2			0.194	8.1	0	500
	251	15	64	330	2			0.194	8.1		
East: W Main											
1 LTR	76	253	6	335	3			0.485	16.0	32	500
	76	253	6	335	3			0.485	16.0	32	
North: N Pine											
1 LTR	5	9	5	19	0			0.061	20.4	2	500
	5	9	5	19	0			0.061	20.4	2	

West: W Main									
1 LTR	7	184	276	467	7	0.406	11.5	30	500
	7	184	276	467	7	0.406	11.5	30	

ALL VEHICLES	Total Flow	% HV	Max X	Aver. Delay	Max Queue
	1151	4	0.500	12.0	32

Peak flow period = 30 minutes.

Queue values in this table are 95% back of queue (metres).

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Table S.15 - Capacity and Level of Service

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS	Longest Queue 95% Back (vehs)	(m)
South: S Pine								
1	L	251	1293	0.194	8.5	A	0.0	0
2	T	15	77	0.195	0.0	A	0.0	0
3	R	64	330	0.194	8.3	A	0.0	0
East: W Main								
4	L	76	157	0.484	16.2	C	4.4	32
5	T	253	521	0.486	15.9	C	4.4	32
6	R	6	12	0.500*	16.2	C	4.4	32
North: N Pine								
7	L	5	82	0.061	20.5	C	0.3	2
8	T	9	148	0.061	20.3	C	0.3	2
9	R	5	82	0.061	20.7	C	0.3	2
West: W Main								
10	L	7	17	0.412	12.6	B	4.1	30
11	T	184	453	0.406	12.6	B	4.1	30
12	R	276	679	0.406	10.7	B	4.1	30
ALL VEHICLES:		1151		0.500	12.0	NA	4.4	32

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
SIDRA Output Guide or the Output section of the on-line help.

NA Not Applicable - Intersection Level of Service is not calculated at two-way stop control or give-way/yield controlled intersections.

* Maximum v/c ratio, or critical green periods
" Movement Level of service has been determined using adjacent lane v/c ratio rather than short lane v/c ratio (v/c=1.0)

Table D.0 - Geometric Delay Data

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

From Approach	To Approach	Turn	Negn Radius (m)	Negn Speed (km/h)	Negn Dist. (m)	Appr. Dist. (m)	Downstream (m)	Distance User Spec?
South: S Pine								
	East	Right	10.0	20.2	15.7	500	107	No
	North	Thru	S	60.0	10.0	500	106	No
	West	Left	6.6	17.2	10.4	500	102	No
East: W Main								
	South	Left	6.6	17.2	10.4	500	104	No
	North	Right	10.0	20.2	15.7	500	104	No
	West	Thru	S	20.0	10.0	500	103	No
North: N Pine								
	South	Thru	S	20.0	10.0	500	101	No
	East	Left	6.6	17.2	10.4	500	101	No
	West	Right	10.0	20.2	15.7	500	104	No
West: W Main								
	South	Right	10.0	20.2	15.7	500	113	No
	East	Thru	S	20.0	10.0	500	104	No
	North	Left	6.6	17.2	10.4	500	101	No

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

Table D.1 - Lane Delays

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Deg. Satn x	Stop-line Delay (seconds/veh) 1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing Total dq	MvUp dqm	Stopd (Idle) di	Geom dig	Control dic
South: S Pine										
1 LTR	0.194	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.1	8.1
East: W Main										
1 LTR	0.485	4.1	1.4	5.5	1.1	4.5	1.3	3.1	10.5	16.0
North: N Pine										
1 LTR	0.061	10.0	0.0	10.0	1.4	8.7	0.0	8.7	10.4	20.4
West: W Main										
1 LTR	0.406	2.2	0.0	2.2	1.7	0.5	0.0	0.5	9.3	11.5

dn is average stop-start delay for all vehicles queued and unqueued

Table D.2 - Lane Stops

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Deg. Satn x	-- Effective Stop Rate -- he1	he2	Geom. hig	Overall h	Prop. Queued pq	Queue Move-up Rate hqm
South: S Pine							
1 LTR	0.194	0.00	0.00	0.66	0.66	0.000	0.00
East: W Main							
1 LTR	0.485	0.48	0.08	0.47	1.03	0.531	0.21
North: N Pine							
1 LTR	0.061	0.61	0.00	0.32	0.94	0.676	0.00
West: W Main							
1 LTR	0.406	0.16	0.00	0.38	0.54	0.525	0.00

hig is the average value for all movements in a shared lane
hqm is average queue move-up rate for all vehicles queued and unqueued

Table D.3A - Lane Queues (veh)

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Deg. Satn x	Ovrfl. Queue No	Average (veh) Nb1	Nb2	Nb	Percentile (veh) 70%	85%	90%	95%	98%	Queue Stor. Ratio
South: S Pine											
1 LTR	0.194	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
East: W Main											
1 LTR	0.485	0.2	1.0	0.4	1.4	2.6	3.1	3.6	4.4	5.2	0.06
North: N Pine											
1 LTR	0.061	0.0	0.1	0.0	0.1	0.2	0.2	0.2	0.3	0.3	0.00
West: W Main											
1 LTR	0.406	0.0	1.3	0.0	1.3	2.4	2.9	3.3	4.1	4.7	0.06

Values printed in this table are back of queue (vehicles).

Table D.3B - Lane Queues (metres)

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Lane No.	Deg. Satn x	Ovrfl. Queue No	Average (metres) Nb1	Nb2	Nb	Percentile (metres) 70%	85%	90%	95%	98%	Queue Stor. Ratio
South: S Pine											
1 LTR	0.194	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.00
East: W Main											
1 LTR	0.485	1.5	7.5	2.8	10.3	18.4	22.5	25.6	31.8	37.0	0.06
North: N Pine											
1 LTR	0.061	0.0	0.6	0.0	0.6	1.1	1.4	1.5	1.9	2.2	0.00
West: W Main											
1 LTR	0.406	0.0	9.8	0.0	9.8	17.5	21.4	24.3	30.2	35.0	0.06

Values printed in this table are back of queue (metres).

Table D.4 - Movement Speeds (km/h) and Geometric Delay

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID	App. Speeds Cruise	Negn	Exit Speeds Negn	Cruise	Queue Move-up 1st Grn	2nd Grn	Av. Section Spd Running	Overall	Geom Delay (sec)
South: S Pine									
1 L	60.0	17.2	17.2	60.0			48.6	48.6	8.5
2 T	60.0	60.0	60.0	60.0			60.0	60.0	0.0
3 R	60.0	20.2	20.2	60.0			49.0	49.0	8.3
East: W Main									
4 L	60.0	0.0	17.2	60.0	15.7		45.4	42.4	10.7
5 T	60.0	0.0	20.0	60.0	20.7		45.4	42.7	10.4
6 R	60.0	0.0	20.2	60.0	60.0		44.7	42.4	10.7
North: N Pine									
7 L	60.0	0.0	17.2	60.0			46.5	39.1	10.4
8 T	60.0	0.0	20.0	60.0			46.7	39.4	10.2
9 R	60.0	0.0	20.2	60.0			46.4	39.2	10.7
West: W Main									
10 L	60.0	0.0	17.2	60.0			46.5	45.3	10.4
11 T	60.0	0.0	20.0	60.0			46.7	45.7	10.4
12 R	60.0	20.2	20.2	60.0			46.7	46.7	8.6

"Running Speed" is the average speed excluding stopped periods.

Table D.6 - Gap Acceptance Parameters

S Pine/W Main
Enter subtitle
Intersection ID: 0
Stop Sign Controlled Intersection

Mov ID	Mov Type	Opng Flow (pcu/h)	Critical Gap Hdwy (s)	Critical Gap Dist (m)	Foll-up Headway (s)	Entry HV Equiv
South: S Pine						
No opposed movements on this approach						
East: W Main						
4 L	Normal	743	4.50	24.9	2.50	2.00
5 T	Normal	287	6.50	35.2	3.50	2.00
6 R	Normal	22	4.50	57.2	2.50	2.00
North: N Pine						
7 L	Normal	526+	7.00	40.1	4.00	2.00
8 T	Normal	969+	6.50	34.6	3.50	2.00
9 R	Normal	507+	5.00	25.9	3.00	2.00
West: W Main						
10 L	Normal	539	4.50	24.7	2.50	2.00
11 T	Normal	169	6.50	34.7	3.50	2.00

Values in this table are adjusted for heavy vehicles in the entry stream.
\+ Percentage of exiting flow included in total opposing flow

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Site: S Pine/W Main
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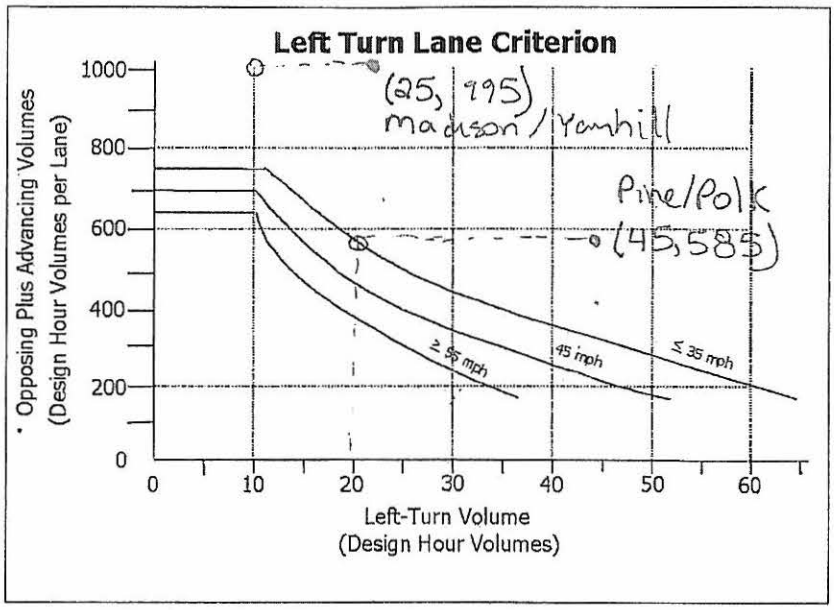
are low, the adverse safety and operations impacts may require installation of a left turn. The final determination will be based on a field study.

Figure 7-1 Left Turn Lane Criterion (TTI)



*(Advancing Volume/Number of Advancing Through Lanes) + (Opposing Volume/Number of Opposing Through Lanes))

Criterion 2: Crash Experience

The crash experience criteria are satisfied when:

1. Adequate trial of other remedies with satisfactory observance and enforcement has failed to reduce the accident frequency; **and**
2. A history of crashes of the type susceptible to correction by a left turn lane (such as where a vehicle waiting to make a left turn from a through lane was struck from the rear); **and**
3. The safety benefits outweigh the associated improvement costs; **and**
4. The installation of the left turn lane does not adversely impact the operations of the roadway.

Appendix I
2030 Queuing Analysis
Calculations

Project Name:	Carlton Transportation System Plan Update
Project #:	9086
Analysis Scenario:	2030 Future Conditions
Analysis Period:	PM Peak Hour
Analyst:	CMS
Date:	June 14, 2008

Two-Minute Rule

S = (v)(t)(L)

S = 95th Percentile Storage Length (feet)

v = average left-turn volume arriving in a 2-minute interval

t = variable (ability to store all vehicles)

L = average vehicle length (feet)

"t" Value:	1.85
Veh. Length (ft):	25

PHV = peak hour left turn volume

		NB	SB	EB	WB
N Yamhill St/W Madison St	PHV		23		9
	v		0.77		0.30
	S		35		14
W Main St/Scott St	PHV	4	5	8	14
	v	0.13	0.17	0.27	0.47
	S	6	8	12	22
N Yamhill St/W Main St	PHV	5	346	159	1
	v	0.17	11.53	5.30	0.03
	S	8	533	245	2
S Pine St/W Main St	PHV	238	4	7	68
	v	7.93	0.13	0.23	2.27
	S	367	6	11	105
E Main St/N 4th St	PHV		6	14	
	v		0.20	0.47	
	S		9	22	
S Pine St/W Polk St	PHV	1	46	7	10
	v	0.03	1.53	0.23	0.33
	S	2	71	11	15

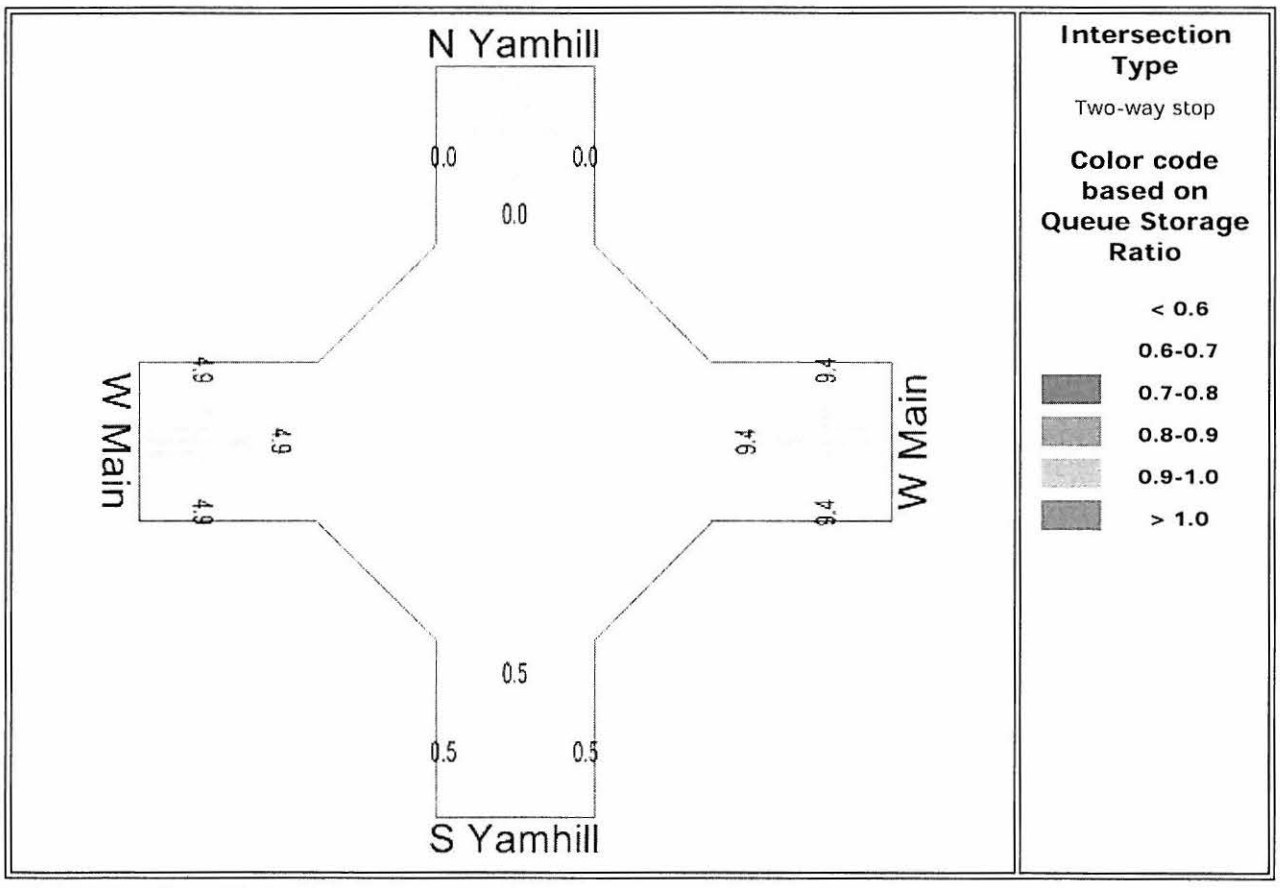
SIDRA INTERSECTION

Queue

Largest 95% Back of Queue for any lane used by movement (vehicles)

N Yamhill/W Main

Enter subtitle



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Site: N Yamhill/W Main
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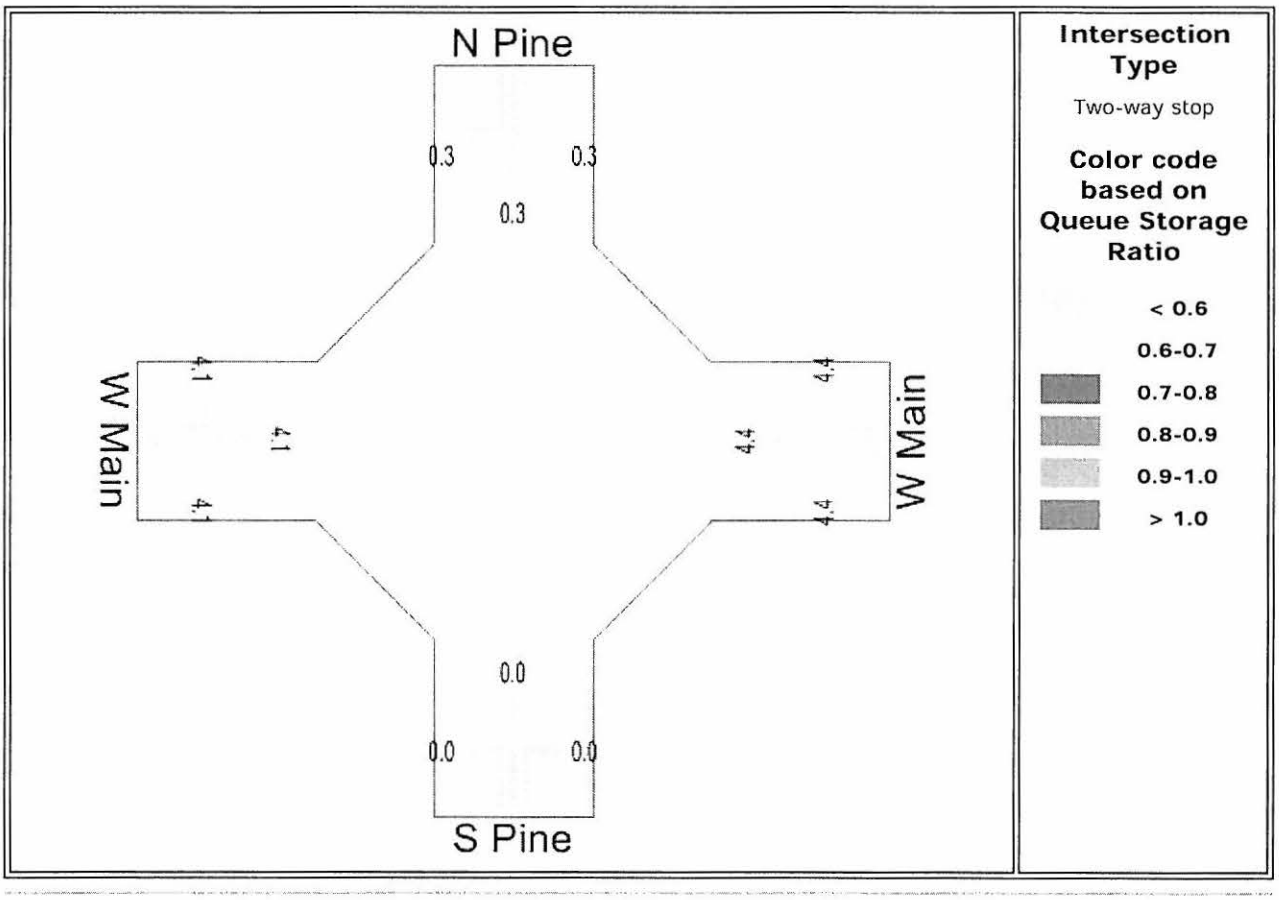
SIDRA INTERSECTION

Queue

Largest 95% Back of Queue for any lane used by movement (vehicles)

S Pine/W Main

Enter subtitle



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Appendix J
Construction Cost Index

Carlton Transportation Improvement Projects

Date Completed	Location	Improvements Completed	Estimated Cost	Funding Source	2007 Dollars
2008	W.Grant St (between Yamhill and S.Howe)	Pavement overlay, replace sidewalks on south side and add some on north with curb	$25,000	ODOT SCA grant	$25,000
2006	Pine St (from Main St to E. Monroe)	Grinding, pavement resurfacing, portions of new curb, gutter, and sidewalks on west side	$50,000	ODOT SCA grant- $25,000 City - $25,000	$48,589
2006	W. Main (Pine to Yamhill)	Sidewalk improvement project and pavement overlay	$400,775	CDBG grant - $244,025; ODOT "Quick Fix"-$141,200 City - $15,550	$389,463
2006	W. Main (from city limits to Cunningham)	Pavement overlay	$5,000	County	$4,859
2004	Washington St (2nd to 3rd Street)	New road improvement (dirt road)	$46,000	ODOT SCA grant	$68,432
2003	2nd Street (between Polk and Harrison)	Half street improvement	$30,000	ODOT SCA grant	$42,035
2003	Washington Street (S. Kutch to S. Yamhill Street	overlay	$5,000	City	$7,006
2002	Taylor Street (Hwy. 47 to S. Park Street)	overlay	$5,000	City	$7,348
2002	Highway 47 from Pine Street to southern city limits	Grinding, overlay, sidewalks from Pine and Main to Polk Street, concrete around manholes	$200,000	ODOT	$293,902
2000	Grant Street (S. Park to S. Yamhill Street)	overlay and striping	$7,000	City	$11,399
1995	N.Kutch (W.Johnson to W.Garfield)	improve gravel street to 36 ft paved improvement with new sidewalks, curb, gutter and storm drainage.	$29,400	ODOT SCA grant	$51,343
			$825,175		$995,480

		per year	5 yr	10 yr	20 yr
ODOT	$924,996	$61,666	$308,332	$616,664	$1,233,328
City	$65,625	$4,375	$21,875	$43,750	$87,500
County	$4,859	$324	$1,620	$3,239	$6,478
Total	$995,480	$66,365	$331,827	$663,653	$1,327,306

TSDC	$ 1,475,000	$ 73,750	$368,750	$737,500	$1,475,000
TOTAL	$2,470,480	$140,115	$700,577	$1,401,153	$2,802,306

CONSTRUCTION COST INDICES

YEAR	WASHINGTON 1990 = 110	FHWA 1987 = 100	CALIFORNIA 1987 = 100	COLORADO 1987 = 100	OREGON 1987 = 100	SOUTH DAKOTA 1987 = 100	UTAH 1987 = 100
1990	110	109	114	103	107	112	128
1991	121	108	108	111	119	114	126
1992	108	105	107	111	109	112	126
1993	106	108	113	115	115	117	151
1994	105	115	119	119	112	120	135
1995	124	122	115	122	138	133	166
1996	124	120	119	142	135	133	176
1997	139	131	125	140	150	147	163
1998	116	127	129	158	142	149	146
1999	120	137	139	159	155	169	143
2000	128	146	146	171	148	180	132
2001	129	145	154	157	130	153	153
2002	139	148	142	150	164	154	153
2003	145	150	149	154	172	161	127
2004	170	154	216	168	162	202	153
2005	176	184	268	255	206	196	260
2006	228	221	281	256	248	246	294
2007	230	___	261	271	241	268	253
2008	266	___	*	*	*	*	*

WSDOT 2008 Index is for quarter 1

California, Colorado, Oregon, South Dakota and Utah 2007 CCI is the annual index

* Data not available

WSDOT 2003 and 2004 CCI data points adjusted to correct for spiking bid prices on structural steel

Note: FHWA CCI discontinued in 2007

Washington State Department of Transportation

For more information, please call the WSDOT Construction Office at (360) 705-7822
or visit http://www.wsdot.wa.gov/biz/construction

5/23/2008

Appendix K
Alternative 1 Signal Warrant, Operations, and Queuing Analysis Worksheets

KITTELSON & ASSOCIATES, INC
610 SW Alder, Suite 700
Portland, Oregon 97205
(503) 228-5230
Fax: (503) 273-8169

Project #: 9086
Project Name: Carlton Transportation System Plan Update
Analyst: CMS
Date: 9/19/2008
File: H:\projfile\9086 - City of Carlton TSP Update\excel\[Sig Warrant.xls]Data Input
Intersection: N Yamhill Street/W Main Street
Scenario: Weekday PM Peak Hour

Warrant Summary

Warrant	Name	Analyzed?	Met?
#1	Eight-Hour Vehicular Volume	Yes	Yes
#2	Four-Hour Vehicular volume	Yes	Yes
#3	Peak Hour	Yes	Yes
#4	Pedestrian Volume	No	-
#5	School Crossing	No	-
#6	Coordinated Signal System	No	-
#7	Crash Experience	No	-
#8	Roadway Network	No	-

Raw Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
5:00 PM	6:00 PM	288	472	19	360
2nd	Highest Hour	276	453	18	346
3rd	Highest Hour	271	444	18	338
4th	Highest Hour	230	378	15	288
5th	Highest Hour	219	359	14	274
6th	Highest Hour	196	321	13	245
7th	Highest Hour	181	297	12	227
8th	Highest Hour	173	283	11	216
9th	Highest Hour	138	227	9	173
10th	Highest Hour	130	212	9	162
11th	Highest Hour	130	212	9	162
12th	Highest Hour	124	203	8	155
13th	Highest Hour	112	184	7	140
14th	Highest Hour	104	170	7	130
15th	Highest Hour	104	170	7	130
16th	Highest Hour	101	165	7	126
17th	Highest Hour	58	94	4	72
18th	Highest Hour	32	52	2	40
19th	Highest Hour	29	47	2	36
20th	Highest Hour	12	19	1	14
21st	Highest Hour	9	14	1	11
22nd	Highest Hour	9	14	1	11
23rd	Highest Hour	6	9	0	7
24th	Highest Hour	6	9	0	7

Input Parameters

Volume Adjustment Factor =	1.0
North-South Approach =	Minor
East-West Approach =	Major
Major Street Thru Lanes =	1
Minor Street Thru Lanes =	1
Speed > 40 mph?	No
Population < 10,000?	Yes
Warrant Factor	70%
Peak Hour or Daily Count?	Peak Hour
Major Street: 4th-Highest Hour / Peak Hour	80%
Major Street: 8th-Highest Hour / Peak Hour	60%
Minor Street: 4th-Highest Hour / Peak Hour	80%
Minor Street: 8th-Highest Hour / Peak Hour	60%

Analysis Traffic Volumes

Hour		Major Street		Minor Street	
Begin	End	EB	WB	NB	SB
5:00 PM	6:00 PM	288	472	19	360
2nd	Highest Hour	276	453	18	346
3rd	Highest Hour	271	444	18	338
4th	Highest Hour	230	378	15	288
5th	Highest Hour	219	359	14	274
6th	Highest Hour	196	321	13	245
7th	Highest Hour	181	297	12	227
8th	Highest Hour	173	283	11	216
9th	Highest Hour	138	227	9	173
10th	Highest Hour	130	212	9	162
11th	Highest Hour	130	212	9	162
12th	Highest Hour	124	203	8	155
13th	Highest Hour	112	184	7	140
14th	Highest Hour	104	170	7	130
15th	Highest Hour	104	170	7	130
16th	Highest Hour	101	165	7	126
17th	Highest Hour	58	94	4	72
18th	Highest Hour	32	52	2	40
19th	Highest Hour	29	47	2	36
20th	Highest Hour	12	19	1	14
21st	Highest Hour	9	14	1	11
22nd	Highest Hour	9	14	1	11
23rd	Highest Hour	6	9	0	7
24th	Highest Hour	6	9	0	7

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: AWSC with Left Turn Lanes

Scenario Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: AWSC with Left Turn Lanes

Turning Movement Report
PM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 N Yamhill St/W Madison St													
Base	0	312	0	21	369	0	0	0	0	9	0	32	743
Added	0	138	0	2	174	0	0	0	0	0	0	2	316
Total	0	450	0	23	543	0	0	0	0	9	0	34	1059
#2 S Scott St/W Main St													
Base	2	1	2	1	0	2	4	179	1	2	299	3	496
Added	2	2	13	4	2	4	4	55	2	12	67	3	170
Total	4	3	15	5	2	6	8	234	3	14	366	6	666
#3 Yamhill St/W Main St													
Base	5	8	3	208	8	160	116	97	2	0	139	196	942
Added	0	6	2	138	6	60	43	30	0	1	22	114	422
Total	5	14	5	346	14	220	159	127	2	1	161	310	1364
#4 S Pine St/W Main St													
Base	173	13	32	4	7	2	5	88	181	48	156	5	714
Added	65	1	29	0	1	2	2	87	81	20	71	0	359
Total	238	14	61	4	8	4	7	175	262	68	227	5	1073
#5 N 4th St/E Main St													
Base	0	0	0	4	0	4	4	112	0	0	208	4	336
Added	0	0	0	2	0	7	10	105	0	0	86	3	213
Total	0	0	0	6	0	11	14	217	0	0	294	7	549
#6 S Pine St/W Polk St													
Base	1	225	3	23	226	1	2	1	0	7	2	12	503
Added	0	66	4	23	70	5	5	2	0	3	2	20	200
Total	1	291	7	46	296	6	7	3	0	10	4	32	703

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: AWSC with Left Turn Lanes

Impact Analysis Report
Level Of Service

Intersection	Base LOS	Base Del/ Veh	Base V/ C	Future LOS	Future Del/ Veh	Future V/ C	Change in
# 1 N Yamhill St/W Madison St	B	11.6	0.000	B	14.0	0.000	+ 2.431 D/V
# 2 S Scott St/W Main St	B	11.6	0.000	B	13.7	0.000	+ 2.127 D/V
# 3 Yamhill St/W Main St	B	12.0	0.505	C	22.9	0.812	+ 0.306 V/C
# 4 S Pine St/W Main St	B	10.2	0.371	C	16.1	0.684	+ 0.313 V/C
# 5 N 4th St/E Main St	B	10.1	0.000	B	11.2	0.000	+ 1.099 D/V
# 6 S Pine St/W Polk St	B	13.3	0.000	C	17.2	0.000	+ 3.933 D/V

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: AWSC with Left Turn Lanes

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #1 N Yamhill St/W Madison St

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B[14.0]

Street Name:	N Yamhill St						W Madison St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	0	0	0 1	0	0 0	0 0 0	0	0	0 0 1!	0	0
Volume Module: >> Count Date: 1 Oct 2007 << 4:45 to 5:45 p.m.												
Base Vol:	0	312	0	21	369	0	0	0	0	9	0	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	312	0	21	369	0	0	0	0	9	0	32
Added Vol:	0	138	0	2	174	0	0	0	0	0	0	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	450	0	23	543	0	0	0	0	9	0	34
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	0.85	0.85	0.85
PHF Volume:	0	474	0	24	572	0	0	0	0	11	0	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	474	0	24	572	0	0	0	0	11	0	40
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.4	6.5	6.2
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.5	4.0	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	475	xxxx	xxxxx	xxxx	xxxx	xxxxx	1095	1095	475
Potent Cap.:	xxxx	xxxx	xxxxx	1098	xxxx	xxxxx	xxxx	xxxx	xxxxx	239	216	594
Move Cap.:	xxxx	xxxx	xxxxx	1097	xxxx	xxxxx	xxxx	xxxx	xxxxx	234	211	594
Volume/Cap:	xxxx	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	0.05	0.00	0.07
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	449	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	0.4	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	8.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	14.0	xxxxx
Shared LOS:	*	*	*	A	*	*	*	*	*	*	B	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			14.0		
ApproachLOS:	*			*			*			B		

Note: Queue reported is the number of cars per lane.

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: AWSC with Left Turn Lanes

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #2 S Scott St/W Main St

Average Delay (sec/veh): 1.0 Worst Case Level Of Service: B[13.7]

Street Name:	S Scott St						W Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module: >> Count Date: 2 Oct 2007 << 4:45 to 5:45 p.m.												
Base Vol:	2	1	2	1	0	2	4	179	1	2	299	3
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	1	2	1	0	2	4	179	1	2	299	3
Added Vol:	2	2	13	4	2	4	4	55	2	12	67	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	3	15	5	2	6	8	234	3	14	366	6
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.85	0.85	0.85	0.85	0.85	0.85	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	5	4	18	6	2	7	9	260	3	16	407	7
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	5	4	18	6	2	7	9	260	3	16	407	7
Critical Gap Module:												
Critical Gp:	7.1	6.5	6.2	7.1	6.5	6.2	4.1	xxxx	xxxxx	4.1	xxxx	xxxxx
FollowUpTim:	3.5	4.0	3.3	3.5	4.0	3.3	2.2	xxxx	xxxxx	2.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	725	724	262	731	722	410	413	xxxx	xxxxx	263	xxxx	xxxxx
Potent Cap.:	343	355	782	340	355	646	1156	xxxx	xxxxx	1313	xxxx	xxxxx
Move Cap.:	332	348	782	325	348	646	1156	xxxx	xxxxx	1313	xxxx	xxxxx
Volume/Cap:	0.01	0.01	0.02	0.02	0.01	0.01	0.01	xxxx	xxxx	0.01	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	8.1	xxxx	xxxxx	7.8	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	552	xxxxx	xxxx	427	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	0.1	xxxxx	xxxxx	0.1	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	11.8	xxxxx	xxxxx	13.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	B	*	*	B	*	*	*	*	*	*	*
ApproachDel:		11.8			13.7			xxxxxx			xxxxxx	
ApproachLOS:		B			B			*			*	

Note: Queue reported is the number of cars per lane.

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Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: AWSC with Left Turn Lanes

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #3 Yamhill St/W Main St

Cycle (sec):	60	Critical Vol./Cap.(X):	0.812
Loss Time (sec):	8 (Y+R=4.0 sec)	Average Delay (sec/veh):	22.9
Optimal Cycle:	0	Level Of Service:	C

Street Name:	Yamhill St									W Main St					
Approach:	North Bound				South Bound				East Bound				West Bound		
Movement:	L	T	-	R	L	T	-	R	L	T	-	R	L	T	R
Control:	Stop Sign				Stop Sign				Stop Sign				Stop Sign		
Rights:	Include				Include				Include				Include		
Min. Green:	0	0		0	0	0		0	0	0		0	0	0	0
Lanes:	0 0	1!	0	0	1	0	0	1	0	0	1!	0 0	0	0	1! 0 0
Volume Module: >> Count Date: 1 Oct 2007 << 4:45 to 5:45 p.m.															
Base Vol:	5	8		3	208	8		160	116	97		2	0	139	196
Growth Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00
Initial Bse:	5	8		3	208	8		160	116	97		2	0	139	196
Added Vol:	0	6		2	138	6		60	43	30		0	1	22	114
PasserByVol:	0	0		0	0	0		0	0	0		0	0	0	0
Initial Fut:	5	14		5	346	14		220	159	127		2	1	161	310
User Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80		0.80	0.95	0.95		0.95	0.90	0.90		0.90	0.95	0.95	0.95
PHF Volume:	6	18		6	364	15		232	177	141		2	1	169	326
Reduct Vol:	0	0		0	0	0		0	0	0		0	0	0	0
Reduced Vol:	6	18		6	364	15		232	177	141		2	1	169	326
PCE Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00
FinalVolume:	6	18		6	364	15		232	177	141		2	1	169	326
Saturation Flow Module:															
Adjustment:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00
Lanes:	0.21	0.58		0.21	1.00	0.06		0.94	0.55	0.44		0.01	0.01	0.34	0.65
Final Sat.:	86	242		86	486	34		542	294	235		4	1	209	402
Capacity Analysis Module:															
Vol/Sat:	0.07	0.07		0.07	0.75	0.43		0.43	0.60	0.60		0.60	0.81	0.81	0.81
Crit Moves:		****				****				****				****	
Delay/Veh:	11.0	11.0		11.0	27.8	13.2		13.2	18.2	18.2		18.2	28.0	28.0	28.0
Delay Adj:	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	1.00
AdjDel/Veh:	11.0	11.0		11.0	27.8	13.2		13.2	18.2	18.2		18.2	28.0	28.0	28.0
LOS by Move:	B	B		B	D	B		B	C	C		C	D	D	D
ApproachDel:		11.0				21.9				18.2				28.0	
Delay Adj:		1.00				1.00				1.00				1.00	
ApprAdjDel:		11.0				21.9				18.2				28.0	
LOS by Appr:		B				C				C				D	
AllWayAvgQ:	0.1	0.1		0.1	2.4	0.7		0.7	1.3	1.3		1.3	3.3	3.3	3.3

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Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #4 S Pine St/W Main St

Cycle (sec): 100 Critical Vol./Cap.(X): 0.684
Loss Time (sec): 0 (Y+R=4.0 sec) Average Delay (sec/veh): 16.1
Optimal Cycle: 0 Level Of Service: C

Street Name:	S Pine St						W Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 3 Oct 2007 << 4:45 to 5:45 p.m.												
Base Vol:	173	13	32	4	7	2	5	88	181	48	156	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	173	13	32	4	7	2	5	88	181	48	156	5
Added Vol:	65	1	29	0	1	2	2	87	81	20	71	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	238	14	61	4	8	4	7	175	262	68	227	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.85	0.85	0.85	0.95	0.95	0.95	0.90	0.90	0.90
PHF Volume:	251	15	64	5	9	5	7	184	276	76	252	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	15	64	5	9	5	7	184	276	76	252	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	251	15	64	5	9	5	7	184	276	76	252	6
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.77	0.04	0.19	0.25	0.50	0.25	0.02	0.39	0.59	0.22	0.76	0.02
Final Sat.:	437	26	112	110	220	110	11	269	403	139	463	10
Capacity Analysis Module:												
Vol/Sat:	0.57	0.57	0.57	0.04	0.04	0.04	0.68	0.68	0.68	0.54	0.54	0.54
Crit Moves:		****			****			****			****	
Delay/Veh:	15.7	15.7	15.7	9.7	9.7	9.7	17.6	17.6	17.6	14.6	14.6	14.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.7	15.7	15.7	9.7	9.7	9.7	17.6	17.6	17.6	14.6	14.6	14.6
LOS by Move:	C	C	C	A	A	A	C	C	C	B	B	B
ApproachDel:	15.7			9.7			17.6			14.6		
Delay Adj:	1.00			1.00			1.00			1.00		
ApprAdjDel:	15.7			9.7			17.6			14.6		
LOS by Appr:	C			A			C			B		
AllWayAvgQ:	1.1	1.1	1.1	0.0	0.0	0.0	1.8	1.8	1.8	1.0	1.0	1.0

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #5 N 4th St/E Main St

Average Delay (sec/veh): 0.6 Worst Case Level Of Service: B[11.2]

Street Name:	N 4th St									E Main St					
Approach:	North Bound				South Bound				East Bound				West Bound			
Movement:	L	-	T	- R	L	-	T	- R	L	-	T	- R	L	-	T	- R
Control:	Stop Sign				Stop Sign				Uncontrolled				Uncontrolled			
Rights:	Include				Include				Include				Include			
Lanes:	0	0	0	0 0	0	0	1!	0 0	0	1	0	0 0	0	0	0	1 0
Volume Module: >> Count Date: 3 Oct 2007 << 4:45 to 5:45 p.m.																
Base Vol:	0	0	0		4	0	4		4	112	0		0	208	4	
Growth Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
Initial Bse:	0	0	0		4	0	4		4	112	0		0	208	4	
Added Vol:	0	0	0		2	0	7		10	105	0		0	86	3	
PasserByVol:	0	0	0		0	0	0		0	0	0		0	0	0	
Initial Fut:	0	0	0		6	0	11		14	217	0		0	294	7	
User Adj:	1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00		1.00	1.00	1.00	
PHF Adj:	1.00	1.00	1.00		0.85	0.85	0.85		0.90	0.90	0.90		0.90	0.90	0.90	
PHF Volume:	0	0	0		7	0	13		16	241	0		0	327	8	
Reduct Vol:	0	0	0		0	0	0		0	0	0		0	0	0	
FinalVolume:	0	0	0		7	0	13		16	241	0		0	327	8	
Critical Gap Module:																
Critical Gp:	xxxxx	xxxx	xxxxx		6.4	6.5	6.2		4.1	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
FollowUpTim:	xxxxx	xxxx	xxxxx		3.5	4.0	3.3		2.2	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Capacity Module:																
Cnflict Vol:	xxxx	xxxx	xxxxx		603	603	331		334	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Potent Cap.:	xxxx	xxxx	xxxxx		465	416	716		1236	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Move Cap.:	xxxx	xxxx	xxxxx		461	411	716		1236	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Volume/Cap:	xxxx	xxxx	xxxx		0.02	0.00	0.02		0.01	xxxx	xxxx		xxxx	xxxx	xxxx	
Level Of Service Module:																
2Way95thQ:	xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx		0.0	xxxx	xxxxx		xxxx	xxxx	xxxxx	
Control Del:	xxxxx	xxxx	xxxxx		xxxxx	xxxx	xxxxx		7.9	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
LOS by Move:	*	*	*		*	*	*		A	*	*		*	*	*	
Movement:	LT - LTR - RT				LT - LTR - RT				LT - LTR - RT				LT - LTR - RT			
Shared Cap.:	xxxx	xxxx	xxxxx		xxxx	599	xxxxx		xxxx	xxxx	xxxxx		xxxx	xxxx	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx		xxxxx	0.1	xxxxx		0.0	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx		xxxxx	11.2	xxxxx		7.9	xxxx	xxxxx		xxxxx	xxxx	xxxxx	
Shared LOS:	*	*	*		*	B	*		A	*	*		*	*	*	
ApproachDel:	xxxxxx				11.2				xxxxxx				xxxxxx			
ApproachLOS:	*				B				*				*			

Note: Queue reported is the number of cars per lane.

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #6 S Pine St/W Polk St

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: C[17.2]

Street Name:	S Pine St									W Polk St								
Approach:	North Bound				South Bound					East Bound					West Bound			
Movement:	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R	L	-	T	-	R
Control:	Uncontrolled					Uncontrolled					Stop Sign					Stop Sign				
Rights:	Include					Include					Include					Include				
Lanes:	0	0	1!	0	0	0	0	1!	0	0	0	1	0	0	0	0	0	1!	0	0
Volume Module: >> Count Date: 1 Oct 2007 << 4:45 to 5:45 p.m.																				
Base Vol:	1	225		3		23	226		1		2		1		0	7		2		12
Growth Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00	1.00		1.00		1.00
Initial Bse:	1	225		3		23	226		1		2		1		0	7		2		12
Added Vol:	0	66		4		23	70		5		5		2		0	3		2		20
PasserByVol:	0	0		0		0	0		0		0		0		0	0		0		0
Initial Fut:	1	291		7		46	296		6		7		3		0	10		4		32
User Adj:	1.00	1.00		1.00		1.00	1.00		1.00		1.00		1.00		1.00	1.00		1.00		1.00
PHF Adj:	0.95	0.95		0.95		0.95	0.95		0.95		0.80		0.80		0.80	0.80		0.80		0.80
PHF Volume:	1	306		7		48	312		6		9		4		0	13		5		40
Reduct Vol:	0	0		0		0	0		0		0		0		0	0		0		0
FinalVolume:	1	306		7		48	312		6		9		4		0	13		5		40
Critical Gap Module:																				
Critical Gp:	4.1	xxxx	xxxxx			4.1	xxxx	xxxxx			7.1		6.5	xxxxx		7.1		6.5		6.2
FollowUpTim:	2.2	xxxx	xxxxx			2.2	xxxx	xxxxx			3.5		4.0	xxxxx		3.5		4.0		3.3
Capacity Module:																				
Cnflict Vol:	318	xxxx	xxxxx			315	xxxx	xxxxx			752		728	xxxxx		727		728		317
Potent Cap.:	1254	xxxx	xxxxx			1257	xxxx	xxxxx			329		352	xxxxx		342		353		728
Move Cap.:	1254	xxxx	xxxxx			1256	xxxx	xxxxx			296		338	xxxxx		329		338		724
Volume/Cap:	0.00	xxxx	xxxx			0.04	xxxx	xxxx			0.03		0.01	xxxx		0.04		0.01		0.06
Level Of Service Module:																				
2Way95thQ:	0.0	xxxx	xxxxx			0.1	xxxx	xxxxx			xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx		
Control Del:	7.9	xxxx	xxxxx			8.0	xxxx	xxxxx			xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx		
LOS by Move:	A	*		*		A	*		*		*		*		*	*		*		
Movement:	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT	LT	-	LTR	-	RT
Shared Cap.:	xxxx	xxxx	xxxxx			xxxx	xxxx	xxxxx			308	xxxx	xxxxx			xxxx		532	xxxxx	
SharedQueue:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			0.1	xxxx	xxxxx			xxxxx		0.4	xxxxx	
Shrd ConDel:	xxxxx	xxxx	xxxxx			xxxxx	xxxx	xxxxx			17.2	xxxx	xxxxx			xxxxx		12.6	xxxxx	
Shared LOS:	*	*		*		*	*		*		C	*		*		*		B	*	
ApproachDel:	xxxxxx					xxxxxx					17.2					12.6				
ApproachLOS:	*					*					C					B				

Note: Queue reported is the number of cars per lane.

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: AWSC without Left Turn Lanes

Scenario Report

Scenario:	Default Scenario
Command:	Default Command
Volume:	Default Volume
Geometry:	Default Geometry
Impact Fee:	Default Impact Fee
Trip Generation:	Default Trip Generation
Trip Distribution:	Default Trip Distribution
Paths:	Default Path
Routes:	Default Route
Configuration:	Default Configuration

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: AWSC without Left Turn Lanes

Turning Movement Report
PM

Volume	Northbound			Southbound			Eastbound			Westbound			Total
Type	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Volume
#1 N Yamhill St/W Madison St													
Base	0	312	0	21	369	0	0	0	0	9	0	32	743
Added	0	138	0	2	174	0	0	0	0	0	0	2	316
Total	0	450	0	23	543	0	0	0	0	9	0	34	1059
#2 S Scott St/W Main St													
Base	2	1	2	1	0	2	4	179	1	2	299	3	496
Added	2	2	13	4	2	4	4	55	2	12	67	3	170
Total	4	3	15	5	2	6	8	234	3	14	366	6	666
#3 Yamhill St/W Main St													
Base	5	8	3	208	8	160	116	97	2	0	139	196	942
Added	0	6	2	138	6	60	43	30	0	1	22	114	422
Total	5	14	5	346	14	220	159	127	2	1	161	310	1364
#4 S Pine St/W Main St													
Base	173	13	32	4	7	2	5	88	181	48	156	5	714
Added	65	1	29	0	1	2	2	87	81	20	71	0	359
Total	238	14	61	4	8	4	7	175	262	68	227	5	1073
#5 N 4th St/E Main St													
Base	0	0	0	4	0	4	4	112	0	0	208	4	336
Added	0	0	0	2	0	7	10	105	0	0	86	3	213
Total	0	0	0	6	0	11	14	217	0	0	294	7	549
#6 S Pine St/W Polk St													
Base	1	225	3	23	226	1	2	1	0	7	2	12	503
Added	0	66	4	23	70	5	5	2	0	3	2	20	200
Total	1	291	7	46	296	6	7	3	0	10	4	32	703

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: AWSC without Left Turn Lanes

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #3 Yamhill St/W Main St

Cycle (sec):	60	Critical Vol./Cap.(X):	1.055
Loss Time (sec):	8 (Y+R=4.0 sec)	Average Delay (sec/veh):	48.8
Optimal Cycle:	0	Level Of Service:	E

Street Name:	Yamhill St						W Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 1 Oct 2007 << 4:45 to 5:45 p.m.												
Base Vol:	5	8	3	208	8	160	116	97	2	0	139	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	8	3	208	8	160	116	97	2	0	139	196
Added Vol:	0	6	2	138	6	60	43	30	0	1	22	114
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	14	5	346	14	220	159	127	2	1	161	310
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.95	0.95	0.95	0.90	0.90	0.90	0.95	0.95	0.95
PHF Volume:	6	18	6	364	15	232	177	141	2	1	169	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	18	6	364	15	232	177	141	2	1	169	326
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	18	6	364	15	232	177	141	2	1	169	326
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.21	0.58	0.21	0.60	0.02	0.38	0.55	0.44	0.01	0.01	0.34	0.65
Final Sat.:	87	243	87	345	14	220	283	226	4	1	199	383
Capacity Analysis Module:												
Vol/Sat:	0.07	0.07	0.07	1.05	1.05	1.05	0.62	0.62	0.62	0.85	0.85	0.85
Crit Moves:		****			****		****				****	
Delay/Veh:	11.4	11.4	11.4	77.2	77.2	77.2	20.4	20.4	20.4	34.4	34.4	34.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	11.4	11.4	11.4	77.2	77.2	77.2	20.4	20.4	20.4	34.4	34.4	34.4
LOS by Move:	B	B	B	F	F	F	C	C	C	D	D	D
ApproachDel:		11.4			77.2			20.4			34.4	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		11.4			77.2			20.4			34.4	
LOS by Appr:		B			F			C			D	
AllWayAvgQ:	0.1	0.1	0.1	10.9	10.9	10.9	1.5	1.5	1.5	4.1	4.1	4.1

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: AWSC without Left Turn Lanes

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #4 S Pine St/W Main St

Cycle (sec):	100	Critical Vol./Cap.(X):	0.684
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	16.1
Optimal Cycle:	0	Level Of Service:	C

Street Name:	S Pine St						W Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 3 Oct 2007 << 4:45 to 5:45 p.m.												
Base Vol:	173	13	32	4	7	2	5	88	181	48	156	5
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	173	13	32	4	7	2	5	88	181	48	156	5
Added Vol:	65	1	29	0	1	2	2	87	81	20	71	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	238	14	61	4	8	4	7	175	262	68	227	5
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.95	0.95	0.95	0.85	0.85	0.85	0.95	0.95	0.95	0.90	0.90	0.90
PHF Volume:	251	15	64	5	9	5	7	184	276	76	252	6
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	251	15	64	5	9	5	7	184	276	76	252	6
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	251	15	64	5	9	5	7	184	276	76	252	6
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.77	0.04	0.19	0.25	0.50	0.25	0.02	0.39	0.59	0.22	0.76	0.02
Final Sat.:	437	26	112	110	220	110	11	269	403	139	463	10
Capacity Analysis Module:												
Vol/Sat:	0.57	0.57	0.57	0.04	0.04	0.04	0.68	0.68	0.68	0.54	0.54	0.54
Crit Moves:		****			****		****			****		
Delay/Veh:	15.7	15.7	15.7	9.7	9.7	9.7	17.6	17.6	17.6	14.6	14.6	14.6
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	15.7	15.7	15.7	9.7	9.7	9.7	17.6	17.6	17.6	14.6	14.6	14.6
LOS by Move:	C	C	C	A	A	A	C	C	C	B	B	B
ApproachDel:		15.7			9.7			17.6			14.6	
Delay Adj:		1.00			1.00			1.00			1.00	
ApprAdjDel:		15.7			9.7			17.6			14.6	
LOS by Appr:		C			A			C			B	
AllWayAvgQ:	1.1	1.1	1.1	0.0	0.0	0.0	1.8	1.8	1.8	1.0	1.0	1.0

Kittelson & Associates, Inc -- Project #9086
Carlton Transportation System Plan Update -- Carlton, Oregon
2030 Future Traffic Conditions -- Alternative 1: Signal

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #3 Yamhill St/W Main St

Cycle (sec):	60	Critical Vol./Cap.(X):	0.908
Loss Time (sec):	8 (Y+R=4.0 sec)	Average Delay (sec/veh):	29.3
Optimal Cycle:	81	Level Of Service:	C

Street Name:	Yamhill St						W Main St					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0	0	1! 0	0	0	1! 0	0	0	1! 0	0	0	1! 0
Volume Module: >> Count Date: 1 Oct 2007 << 4:45 to 5:45 p.m.												
Base Vol:	5	8	3	208	8	160	116	97	2	0	139	196
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	5	8	3	208	8	160	116	97	2	0	139	196
Added Vol:	0	6	2	138	6	60	43	30	0	1	22	114
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	5	14	5	346	14	220	159	127	2	1	161	310
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.80	0.80	0.80	0.95	0.95	0.95	0.90	0.90	0.90	0.95	0.95	0.95
PHF Volume:	6	18	6	364	15	232	177	141	2	1	169	326
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	18	6	364	15	232	177	141	2	1	169	326
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	18	6	364	15	232	177	141	2	1	169	326
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.90	0.90	0.90	0.75	0.75	0.75	0.47	0.47	0.47	0.91	0.91	0.91
Lanes:	0.21	0.58	0.21	0.60	0.02	0.38	0.55	0.44	0.01	0.01	0.34	0.65
Final Sat.:	354	992	354	850	34	540	493	393	6	4	590	1137
Capacity Analysis Module:												
Vol/Sat:	0.02	0.02	0.02	0.43	0.43	0.43	0.36	0.36	0.36	0.29	0.29	0.29
Crit Moves:					****			****				
Green/Cycle:	0.47	0.47	0.47	0.47	0.47	0.47	0.39	0.39	0.39	0.39	0.39	0.39
Volume/Cap:	0.04	0.04	0.04	0.91	0.91	0.91	0.91	0.91	0.91	0.73	0.73	0.73
Delay/Veh:	8.5	8.5	8.5	30.9	30.9	30.9	43.5	43.5	43.5	19.3	19.3	19.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	8.5	8.5	8.5	30.9	30.9	30.9	43.5	43.5	43.5	19.3	19.3	19.3
LOS by Move:	A	A	A	C	C	C	D	D	D	B	B	B
HCM2kAvgQ:	0	0	0	15	15	15	10	10	10	9	9	9

Note: Queue reported is the number of cars per lane.

Project Name:	Carlton Transportation System Plan Update
Project #:	9086
Analysis Scenario:	Alternative 1: All-Way Stop Control
Analysis Period:	PM Peak Hour
Analyst:	CMS
Date:	August 16, 2008

Two-Minute Rule

S = (v)(t)(L)

S = 95th Percentile Storage Length (feet)
v = average left-turn volume arriving in a 2-minute interval
t = variable (ability to store all vehicles)
L = average vehicle length (feet)

"t" Value:	1.85
Veh. Length (ft):	25

PHV = peak hour left turn volume

		NB	SB	EB	WB
N Yamhill St/W Madison St	PHV		23		9
	v		0.77		0.30
	S		35		14
W Main St/Scott St	PHV	4	5	8	14
	v	0.13	0.17	0.27	0.47
	S	6	8	12	22
N Yamhill St/W Main St	PHV	5	346	159	1
	v	0.17	11.53	5.30	0.03
	S	8	533	245	2
S Pine St/W Main St	PHV	238	4	7	68
	v	7.93	0.13	0.23	2.27
	S	367	6	11	105
E Main St/N 4th St	PHV		6	14	
	v		0.20	0.47	
	S		9	22	
S Pine St/W Polk St	PHV	1	46	7	10
	v	0.03	1.53	0.23	0.33
	S	2	71	11	15

Project Name:	Carlton Transportation System Plan Update
Project #:	9086
Analysis Scenario:	Alternative 1: All-way Stop Control
Analysis Period:	0.25 (peak 15 minute analysis)
Analyst:	CMS
Date:	August 16, 2008

V = flow rate for movement
C = capacity of movement
Q = 95th percentile queue (veh)
S = storage need (ft)

# of Int:	6
Veh. Length (ft):	25

* Queue length calculated using Equation (17-37) presented in *Highway Capacity Manual 2000*.

		NB LT	NB TH	NB RT	SB LT	SB TH	SB RT	EB LT	EB TH	EB RT	WB LT	WB TH	WB RT
	V												
	C												
	Q												
	S												
	V												
	C												
	Q												
	S												
N Yamhill St/W Main St	V		30		364	247			320			496	
	C		414		486	576			533			612	
	Q		0.2		6.3	2.1			3.9			8.2	
	S		25		175	75			100			225	
S Pine St/W Main St	V		330			19			467			334	
	C		575			440			683			612	
	Q		3.6			0.1			5.4			3.3	
	S		100			25			150			100	
	V												
	C												
	Q												
	S												
	V												
	C												
	Q												
	S												