

TRAFFIC AND TRANSPORTATION

TRAFFIC COUNTS

SR 58 PEAK HOUR AND ADT COUNTS

	2003		2004		2005		EXISTING (2006)		2010*		2011*	
	ADT	PEAK	ADT	PEAK	ADT	PEAK	ADT	PEAK	ADT	PEAK	ADT	PEAK
WEST OF SITE	650	75	660	80	720	85	720	80	835	93	864	96
EAST OF SITE	330	50	330	45	350	50	350	50	406	58	420	60

Source: California Department of Transportation, Traffic Operations Program, Traffic and Vehicle Data Systems. 2007.

* Estimated

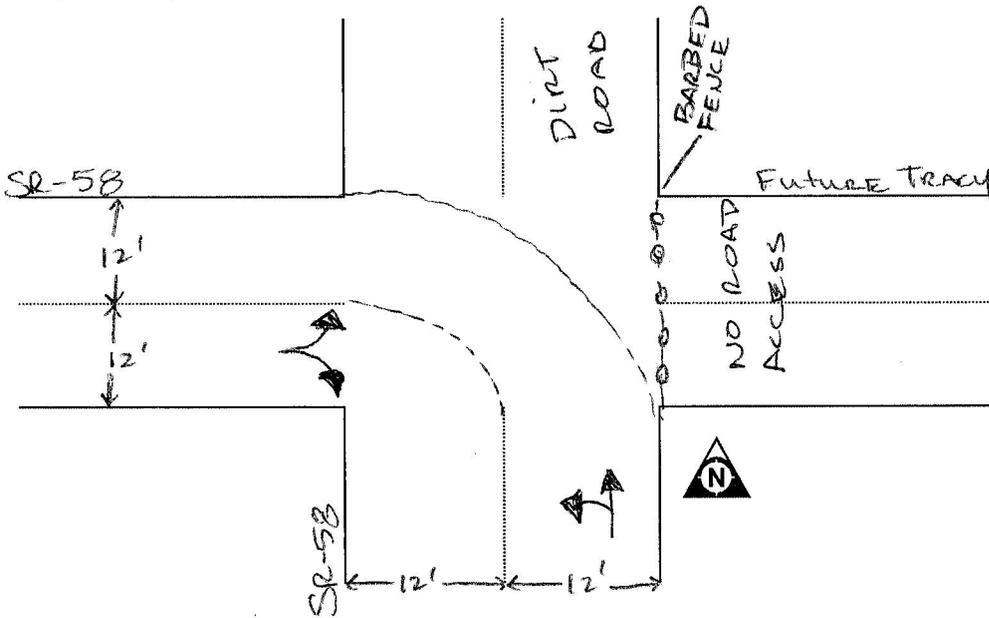
**TRAFFIC DATA COLLECTION
FIELD OBSERVATION SHEETS**

TRAFFIC DATA COLLECTION FIELD OBSERVATION SHEET

①

1) In the intersection below, provide the following information:

- Show stop control. Use ● for signalized intersections and ▲ to indicate a stop sign. Show location of all stop signs.
- Number of lanes and configuration at the intersection
- Are there any medians or continuous 2-way left turn lanes?
- Number of lanes
 - entering and leaving the intersection
 - (mid-block)



2) Posted approaching speed limits: E-W 55 N-S 55
 - NOT POSTED; ASSUMED 55

3) If intersection is signalized, determine type of signalization

- Pretimed
 - Look for lack of loop detection
 - Check with local agency for conformation
- Actuated - (Times change with traffic loads)
 - Left turns Lead, lag or Simultaneous (Left turn comes after or before coming through traffic)
 - Left turns - permitted or protected?
- Take 3 signal timings (green to green) _____ sec. _____ sec. _____ sec.

4) Check with local agency to determine if signals are coordinated.

5) If lead/ lag left, take 3 signal timings of each left turn signal (green to yellow)

_____ sec. _____ sec. _____ sec.

6) Is there an upstream signal?

- Distance (ft) _____
- Progression speed _____
- Cycle length _____

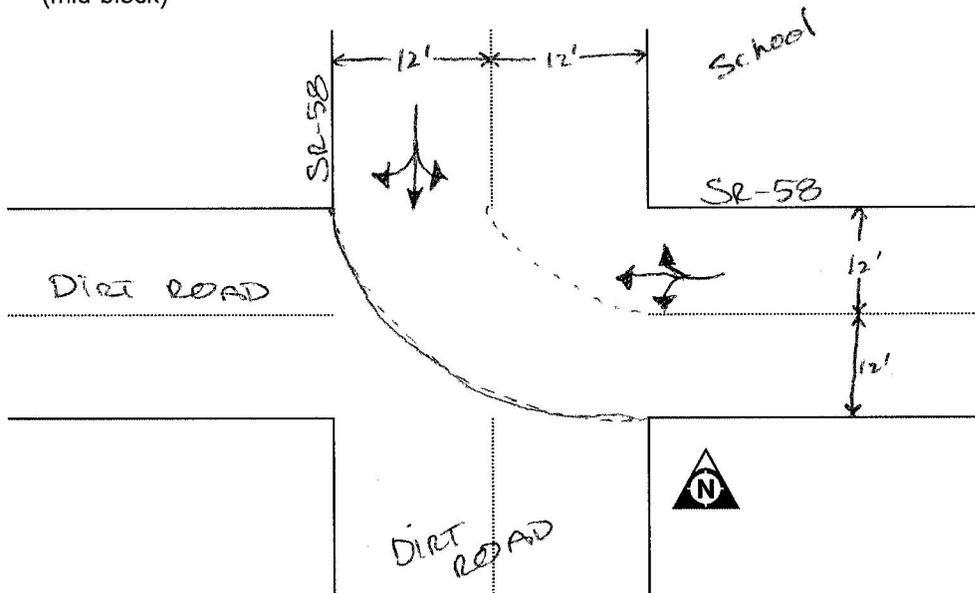
City/County Carissa Plains / San Luis
 Intersection SR 58 / FUTURE TRACY
 Job no. _____
 Date 6/25/07
 Reviewed by S. Quick

TRAFFIC DATA COLLECTION FIELD OBSERVATION SHEET

②

1) In the intersection below, provide the following information:

- Show stop control. Use ● for signalized intersections and ▲ to indicate a stop sign. Show location of all stop signs.
- Number of lanes and configuration at the intersection
- Are there any medians or continuous 2-way left turn lanes?
- Number of lanes
 - entering and leaving the intersection
 - (mid-block)



City/County Carissa Plains / San Luis

Intersection SR-58

Job no. _____

Date 6/25/07

Reviewed by Squick

2) Posted approaching speed limits: E-W 55 N-S 55

- NOT POSTED ; ASSUMED 55

3) If intersection is signalized, determine type of signalization

- Pretimed
 - Look for lack of loop detection
 - Check with local agency for conformation
- Actuated - (Times change with traffic loads)
 - Left turns Lead, lag or Simultaneous (Left turn comes after or before coming through traffic)
 - Left turns - permitted or protected?

Take 3 signal timings (green to green) _____ sec. _____ sec. _____ sec.

4) Check with local agency to determine if signals are coordinated.

5) If lead/ lag left, take 3 signal timings of each left turn signal (green to yellow) _____ sec. _____ sec. _____ sec.

6) Is there an upstream signal?

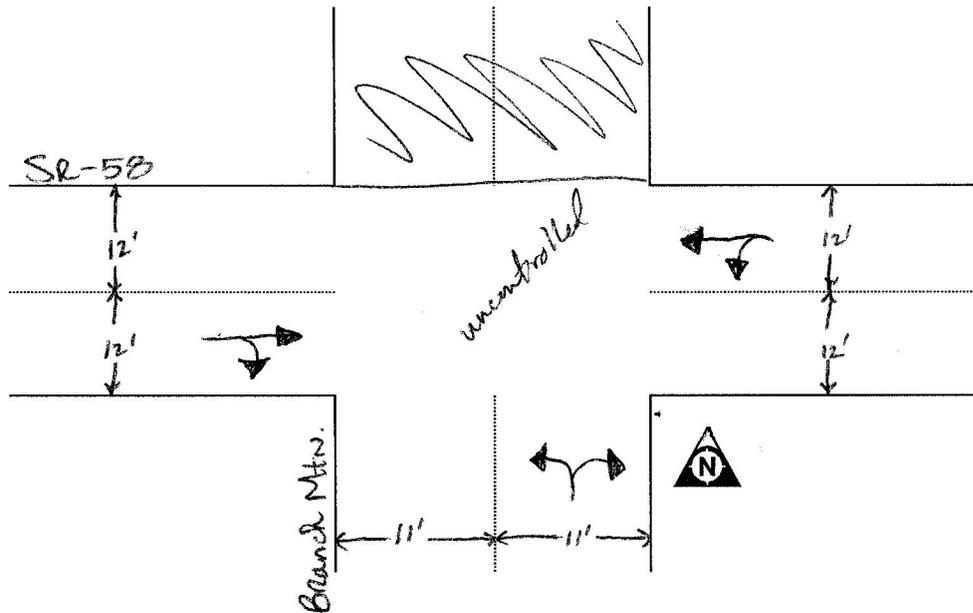
- Distance (ft) _____
- Progression speed _____
- Cycle length _____

TRAFFIC DATA COLLECTION FIELD OBSERVATION SHEET

③

1) In the intersection below, provide the following information:

- Show stop control. Use ● for signalized intersections and ▲ to indicate a stop sign. Show location of all stop signs.
- Number of lanes and configuration at the intersection
- Are there any medians or continuous 2-way left turn lanes?
- Number of lanes
 - entering and leaving the intersection
 - (mid-block)



City/County Carissa Plains / San Luis
 Intersection SR 58 / Branch Mtn.
 Job no. _____
 Date 6/25/07
 Reviewed by A. Quick

2) Posted approaching speed limits: E-W 55 N-S NA
 - NOT POSTED; ASSUMED 55

3) If intersection is signalized, determine type of signalization

- Pretimed
 - Look for lack of loop detection
 - Check with local agency for conformation
- Actuated - (Times change with traffic loads)
 - Left turns Lead, lag or Simultaneous (Left turn comes after or before coming through traffic)
 - Left turns - permitted or protected?
- Take 3 signal timings (green to green) _____ sec. _____ sec. _____ sec.

4) Check with local agency to determine if signals are coordinated.

5) If lead/ lag left, take 3 signal timings of each left turn signal (green to yellow) _____ sec. _____ sec. _____ sec.

6) Is there an upstream signal?

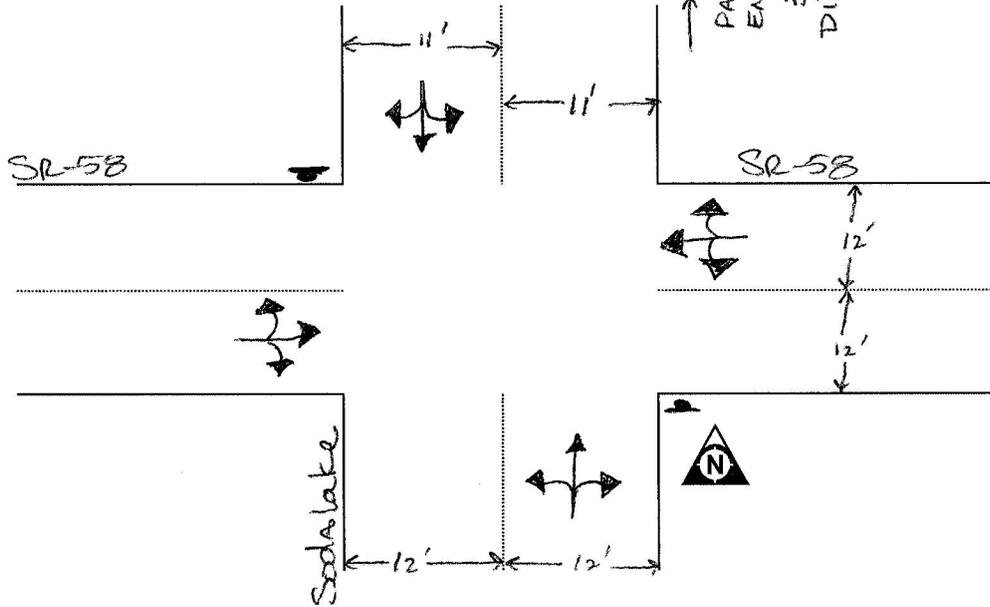
- Distance (ft) _____
- Progression speed _____
- Cycle length _____

TRAFFIC DATA COLLECTION FIELD OBSERVATION SHEET

④

1) In the intersection below, provide the following information:

- Show stop control. Use ● for signalized intersections and ▲ to indicate a stop sign. Show location of all stop signs.
- Number of lanes and configuration at the intersection
- Are there any medians or continuous 2-way left turn lanes?
- Number of lanes
 - entering and leaving the intersection
 - (mid-block)



City/County Carissa Plains/San Luis
 Intersection SR 58/Soda Lake
 Job no. _____
 Date 6/25/07
 Reviewed by S. Quirk

2) Posted approaching speed limits: E-W 55 N-S N/A

- NOT POSTED - ASSUMED 55

3) If intersection is signalized, determine type of signalization

- Pretimed
 - Look for lack of loop detection
 - Check with local agency for conformation
- Actuated - (Times change with traffic loads)
 - Left turns Lead, lag or Simultaneous
(Left turn comes after or before coming through traffic)
 - Left turns - permitted or protected?
- Take 3 signal timings (green to green) _____ sec. _____ sec. _____ sec.

4) Check with local agency to determine if signals are coordinated.

5) If lead/ lag left, take 3 signal timings of each left turn signal (green to yellow)

_____ sec. _____ sec. _____ sec.

6) Is there an upstream signal?

- Distance (ft) _____
- Progression speed _____
- Cycle length _____

**ROADWAY SEGMENT
LOS CALCULATION WORKSHEETS**

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
 2020 East First Street Suite 400
 Santa Ana CA 92705

Phone: Fax:
 E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
 Agency/Co. URS Corp
 Date Performed 8/22/2007
 Analysis Time Period Weekday Peak
 Highway SR 58
 From/To West of Site
 Jurisdiction Caltrans
 Analysis Year 2007 - Existing
 Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
Up/down		%			
Two-way hourly volume, V	80	veh/h			
Directional split	50 / 50	%			

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	155	pc/h
Highest directional split proportion (note-2)	78	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	57.8	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	131	pc/h
Highest directional split proportion (note-2)	66	
Base percent time-spent-following, BPTSF	10.9	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	10.9	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.05	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
2020 East First Street Suite 400
Santa Ana CA 92705

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
Agency/Co. URS Corp
Date Performed 8/22/2007
Analysis Time Period Weekday Peak
Highway SR 58
From/To East of Site
Jurisdiction Caltrans
Analysis Year 2007 - Existing
Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1			
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88
Lane width	12.0	ft	% Trucks and buses	14 %
Segment length	0.0	mi	% Recreational vehicles	4 %
Terrain type	Rolling		% No-passing zones	0 %
Grade: Length		mi	Access points/mi	4 /mi
Up/down		%		
Two-way hourly volume, V	50	veh/h		
Directional split	50 / 50	%		

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	97	pc/h
Highest directional split proportion (note-2)	49	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	58.2	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	82	pc/h
Highest directional split proportion (note-2)	41	
Base percent time-spent-following, BPTSF	7.0	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	7.0	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.03	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
 2020 East First Street Suite 400
 Santa Ana CA 92705

Phone: Fax:
 E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
 Agency/Co. URS Corp
 Date Performed 8/22/2007
 Analysis Time Period Weekday Peak
 Highway SR 58
 From/To West of Site
 Jurisdiction Caltrans
 Analysis Year 2010 - No Project
 Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
Up/down		%			
Two-way hourly volume, V	93	veh/h			
Directional split	50 / 50	%			

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	181	pc/h
Highest directional split proportion (note-2)	91	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	57.6	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	153	pc/h
Highest directional split proportion (note-2)	77	
Base percent time-spent-following, BPTSF	12.6	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	12.6	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
2020 East First Street Suite 400
Santa Ana CA 92705

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
Agency/Co. URS Corp
Date Performed 8/22/2007
Analysis Time Period Weekday Peak
Highway SR 58
From/To East of Site
Jurisdiction Caltrans
Analysis Year 2010 - No Project
Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
Up/down		%			
Two-way hourly volume, V	58	veh/h			
Directional split	50 / 50	%			

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	113	pc/h
Highest directional split proportion (note-2)	57	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	58.1	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	95	pc/h
Highest directional split proportion (note-2)	48	
Base percent time-spent-following, BPTSF	8.0	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	8.0	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
 2020 East First Street Suite 400
 Santa Ana CA 92705

Phone: Fax:
 E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
 Agency/Co. URS Corp
 Date Performed 8/22/2007
 Analysis Time Period Weekday AM Peak
 Highway SR 58
 From/To West of Site
 Jurisdiction Caltrans
 Analysis Year 2010 - Project Construction
 Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
	Up/down	%			
Two-way hourly volume, V	243	veh/h			
Directional split	50 / 50	%			

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	472	pc/h
Highest directional split proportion (note-2)	236	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	55.3	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	399	pc/h
Highest directional split proportion (note-2)	200	
Base percent time-spent-following, BPTSF	29.6	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	29.6	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.15	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
 2020 East First Street Suite 400
 Santa Ana CA 92705

Phone: Fax:
 E-Mail:

-----Two-Way Two-Lane Highway Segment Analysis-----

Analyst NVC
 Agency/Co. URS Corp
 Date Performed 8/22/2007
 Analysis Time Period Weekday PM Peak
 Highway SR 58
 From/To West of Site
 Jurisdiction Caltrans
 Analysis Year 2010 - Project Construction
 Description Carrizo Energy Solar Facility

-----Input Data-----

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
Up/down		%			
Two-way hourly volume, V	176	veh/h			
Directional split	50 / 50	%			

-----Average Travel Speed-----

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	342	pc/h
Highest directional split proportion (note-2)	171	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	56.3	mi/h

-----Percent Time-Spent-Following-----

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	289	pc/h
Highest directional split proportion (note-2)	145	
Base percent time-spent-following, BPTSF	22.4	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	22.4	%

-----Level of Service and Other Performance Measures-----

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.11	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
 2020 East First Street Suite 400
 Santa Ana CA 92705

Phone: Fax:
 E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
 Agency/Co. URS Corp
 Date Performed 8/22/2007
 Analysis Time Period Weekday AM Peak
 Highway SR 58
 From/To East of Site
 Jurisdiction Caltrans
 Analysis Year 2010 - Project Construction
 Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
	Up/down	%			
Two-way hourly volume, V	208	veh/h			
Directional split	50 / 50	%			

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	404	pc/h
Highest directional split proportion (note-2)	202	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	55.9	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	341	pc/h
Highest directional split proportion (note-2)	171	
Base percent time-spent-following, BPTSF	25.9	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	25.9	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.13	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
 2020 East First Street Suite 400
 Santa Ana CA 92705

Phone: Fax:
 E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
 Agency/Co. URS Corp
 Date Performed 8/22/2007
 Analysis Time Period Weekday PM Peak
 Highway SR 58
 From/To East of Site
 Jurisdiction Caltrans
 Analysis Year 2010 - Project Construction
 Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
Up/down		%			
Two-way hourly volume, V	140	veh/h			
Directional split	50 / 50	%			

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	272	pc/h
Highest directional split proportion (note-2)	136	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	56.9	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	230	pc/h
Highest directional split proportion (note-2)	115	
Base percent time-spent-following, BPTSF	18.3	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	18.3	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.09	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
2020 East First Street Suite 400
Santa Ana CA 92705

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
Agency/Co. URS Corp
Date Performed 8/22/2007
Analysis Time Period Weekday Peak
Highway SR 58
From/To West of Site
Jurisdiction Caltrans
Analysis Year 2011 - No Project
Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1			
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88
Lane width	12.0	ft	% Trucks and buses	14 %
Segment length	0.0	mi	% Recreational vehicles	4 %
Terrain type	Rolling		% No-passing zones	0 %
Grade: Length		mi	Access points/mi	4 /mi
	Up/down	%		
Two-way hourly volume, V	96	veh/h		
Directional split	50 / 50	%		

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	187	pc/h
Highest directional split proportion (note-2)	94	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	57.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	158	pc/h
Highest directional split proportion (note-2)	79	
Base percent time-spent-following, BPTSF	13.0	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	13.0	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
2020 East First Street Suite 400
Santa Ana CA 92705

Phone: Fax:
E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
Agency/Co. URS Corp
Date Performed 8/22/2007
Analysis Time Period Weekday Peak
Highway SR 58
From/To East of Site
Jurisdiction Caltrans
Analysis Year 2011 - No Project
Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
Up/down		%			
Two-way hourly volume, V	60	veh/h			
Directional split	50 / 50	%			

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	117	pc/h
Highest directional split proportion (note-2)	59	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	58.1	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	98	pc/h
Highest directional split proportion (note-2)	49	
Base percent time-spent-following, BPTSF	8.3	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	8.3	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.04	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
 2020 East First Street Suite 400
 Santa Ana CA 92705

Phone: Fax:
 E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
 Agency/Co. URS Corp
 Date Performed 8/22/2007
 Analysis Time Period Weekday AM Peak
 Highway SR 58
 From/To West of Site
 Jurisdiction Caltrans
 Analysis Year 2011 - Project Operation
 Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
Up/down		%			
Two-way hourly volume, V	134	veh/h			
Directional split	50 / 50	%			

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	260	pc/h
Highest directional split proportion (note-2)	130	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	57.0	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	220	pc/h
Highest directional split proportion (note-2)	110	
Base percent time-spent-following, BPTSF	17.6	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	17.6	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.08	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
 2020 East First Street Suite 400
 Santa Ana CA 92705

Phone: Fax:
 E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
 Agency/Co. URS Corp
 Date Performed 8/22/2007
 Analysis Time Period Weekday PM Peak
 Highway SR 58
 From/To West of Site
 Jurisdiction Caltrans
 Analysis Year 2011 - Project Operation
 Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1			
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88
Lane width	12.0	ft	% Trucks and buses	14 %
Segment length	0.0	mi	% Recreational vehicles	4 %
Terrain type	Rolling		% No-passing zones	0 %
Grade: Length		mi	Access points/mi	4 /mi
Up/down		%		
Two-way hourly volume, V	134	veh/h		
Directional split	50 / 50	%		

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	260	pc/h
Highest directional split proportion (note-2)	130	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	57.0	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	220	pc/h
Highest directional split proportion (note-2)	110	
Base percent time-spent-following, BPTSF	17.6	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	17.6	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.08	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
 2020 East First Street Suite 400
 Santa Ana CA 92705

Phone: Fax:
 E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
 Agency/Co. URS Corp
 Date Performed 8/22/2007
 Analysis Time Period Weekday AM Peak
 Highway SR 58
 From/To East of Site
 Jurisdiction Caltrans
 Analysis Year 2011 - Project Operation
 Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
	Up/down	%			
Two-way hourly volume, V	97	veh/h			
Directional split	50 / 50	%			

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	188	pc/h
Highest directional split proportion (note-2)	94	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	57.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	159	pc/h
Highest directional split proportion (note-2)	80	
Base percent time-spent-following, BPTSF	13.0	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	13.0	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value

HCS2000: Two-Lane Highways Release 4.1d

URS Corporation
 2020 East First Street Suite 400
 Santa Ana CA 92705

Phone: Fax:
 E-Mail:

Two-Way Two-Lane Highway Segment Analysis

Analyst NVC
 Agency/Co. URS Corp
 Date Performed 8/22/2007
 Analysis Time Period Weekday PM Peak
 Highway SR 58
 From/To East of Site
 Jurisdiction Caltrans
 Analysis Year 2011 - Project Operation
 Description Carrizo Energy Solar Facility

Input Data

Highway class	Class 1				
Shoulder width	6.0	ft	Peak-hour factor, PHF	0.88	
Lane width	12.0	ft	% Trucks and buses	14	%
Segment length	0.0	mi	% Recreational vehicles	4	%
Terrain type	Rolling		% No-passing zones	0	%
Grade: Length		mi	Access points/mi	4	/mi
	Up/down	%			
Two-way hourly volume, V	97	veh/h			
Directional split	50 / 50	%			

Average Travel Speed

Grade adjustment factor, fG	0.71	
PCE for trucks, ET	2.5	
PCE for RVs, ER	1.1	
Heavy-vehicle adjustment factor,	0.824	
Two-way flow rate,(note-1) vp	188	pc/h
Highest directional split proportion (note-2)	94	pc/h
Free-Flow Speed from Field Measurement:		
Field measured speed, SFM	-	mi/h
Observed volume, Vf	-	veh/h
Estimated Free-Flow Speed:		
Base free-flow speed, BFFS	60.0	mi/h
Adj. for lane and shoulder width, fLS	0.0	mi/h
Adj. for access points, fA	1.0	mi/h
Free-flow speed, FFS	59.0	mi/h
Adjustment for no-passing zones, fnp	0.0	mi/h
Average travel speed, ATS	57.5	mi/h

Percent Time-Spent-Following

Grade adjustment factor, fG	0.77	
PCE for trucks, ET	1.8*	
PCE for RVs, ER	1.0	
Heavy-vehicle adjustment factor, fHV	0.899	
Two-way flow rate,(note-1) vp	159	pc/h
Highest directional split proportion (note-2)	80	
Base percent time-spent-following, BPTSF	13.0	%
Adj.for directional distribution and no-passing zones, fd/np	0.0	
Percent time-spent-following, PTSF	13.0	%

Level of Service and Other Performance Measures

Level of service, LOS	A	
Volume to capacity ratio, v/c	0.06	
Peak 15-min vehicle-miles of travel, VMT15	0	veh-mi
Peak-hour vehicle-miles of travel, VMT60	0	veh-mi
Peak 15-min total travel time, TT15	0.0	veh-h

Notes:

1. If vp >= 3200 pc/h, terminate analysis-the LOS is F.
2. If highest directional split vp >= 1700 pc/h, terminate analysis-the LOS is F.

* These items have been entered or edited to override calculated value