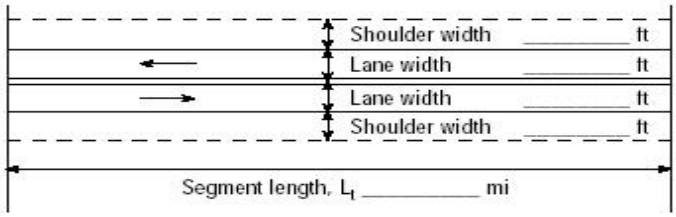
LOS CALCULATIONS FOR EXISTING CONDITIONS

TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*I-5 to Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*Existing AM*	Analysis Year	*2007*

Project Description: *San Joaquin 1&2 AFC*

Input Data



b Class I highway e Class II highway

Terrain	b Level e Rolling
Two-way hourly volume	*394* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.935*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*458*
v_p * highest directional split proportion[2] (pc/h)	*275*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*49.4*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*433*
v_p * highest directional split proportion[2] (pc/h)	*260*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*31.7*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.4*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*32.1*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.14*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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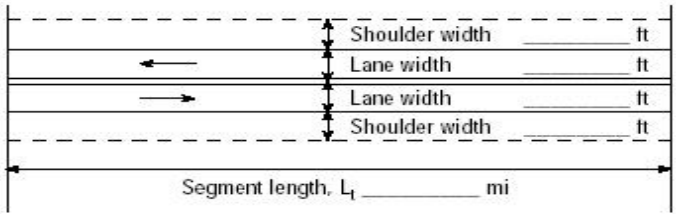
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*I-5 to Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*Existing PM*	Analysis Year	*2007*

Project Description: *San Joaquin 1&2 AFC*

Input Data



b Class I highway e Class II highway

Terrain	b Level	e Rolling
Two-way hourly volume	*486* veh/h	
Directional split	*60 / 40*	
Peak-hour factor, PHF	*0.92*	
No-passing zone	*0*	
% Trucks and Buses , P_T	*10 %*	
% Recreational vehicles, P_R	*2%*	
Access points/ *mi*	*8*	

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.935*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*565*
v_p * highest directional split proportion[2] (pc/h)	*339*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*48.6*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*534*
v_p * highest directional split proportion[2] (pc/h)	*320*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*37.5*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.2*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*37.6*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.18*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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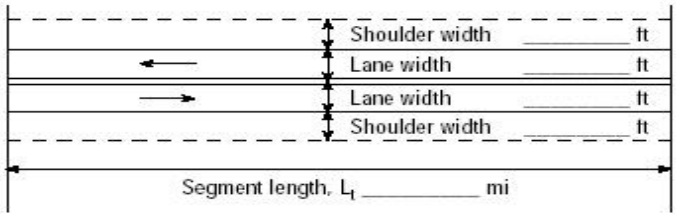
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*I-5 to Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2010 No Build AM Peak*	Analysis Year	*2010*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*404* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.935*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*470*
v_p * highest directional split proportion[2] (pc/h)	*282*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*49.4*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*444*
v_p * highest directional split proportion[2] (pc/h)	*266*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*32.3*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.4*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*32.7*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.15*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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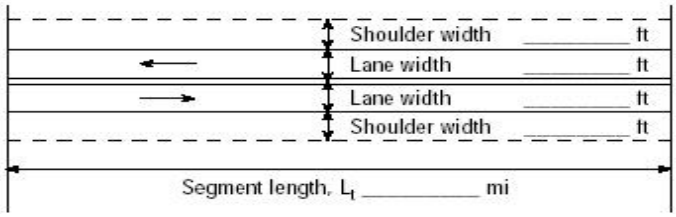
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*I-5 to Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2010 No Build PM Peak*	Analysis Year	*2010*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*500* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.935*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*582*
v_p * highest directional split proportion[2] (pc/h)	*349*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*48.5*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*549*
v_p * highest directional split proportion[2] (pc/h)	*329*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*38.3*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.1*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*38.4*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.18*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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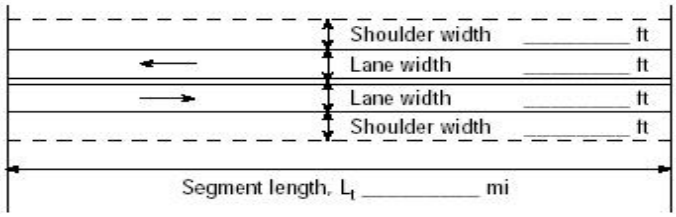
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*I-5 to Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2010 No Proj+Proj Cons AM Peak*	Analysis Year	*2010*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*787* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10* %
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*873*
v_p * highest directional split proportion[2] (pc/h)	*524*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*46.2*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*864*
v_p * highest directional split proportion[2] (pc/h)	*518*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*53.2*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*53.2*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.27*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

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Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
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Project Description: *San Joaquin 1&2 AFC*

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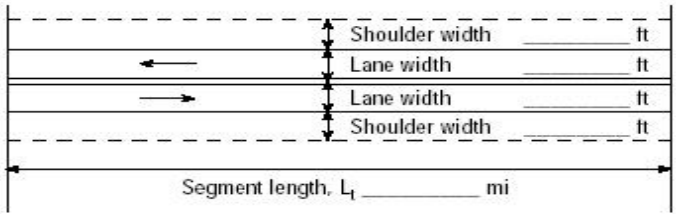

Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*883* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*979*
v_p * highest directional split proportion[2] (pc/h)	*587*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*45.4*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*969*
v_p * highest directional split proportion[2] (pc/h)	*581*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*57.3*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*57.3*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.31*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t$(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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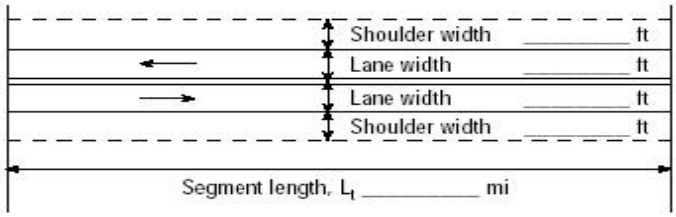
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*I-5 to Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2011 No Proj AM Peak*	Analysis Year	*2011*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain	Level Rolling
Two-way hourly volume	*407* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.935*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*473*
v_p * highest directional split proportion[2] (pc/h)	*284*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*49.3*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*447*
v_p * highest directional split proportion[2] (pc/h)	*268*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*32.5*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.4*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*32.9*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.15*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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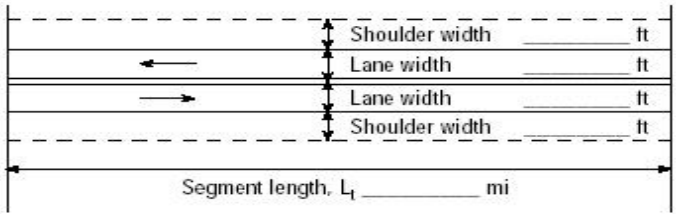
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*I-5 to Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2011 No Proj PM Peak*	Analysis Year	*2011*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain	Level Rolling
Two-way hourly volume	*503* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.935*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*585*
v_p * highest directional split proportion[2] (pc/h)	*351*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*48.5*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*552*
v_p * highest directional split proportion[2] (pc/h)	*331*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*38.4*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.1*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*38.6*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.18*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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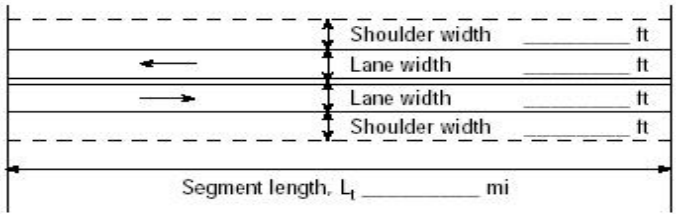
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*I-5 to Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2011 No Proj+ Proj Ops AM Peak*	Analysis Year	*2011*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*512* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.7*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.935*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*595*
v_p * highest directional split proportion[2] (pc/h)	*357*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*48.4*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*562*
v_p * highest directional split proportion[2] (pc/h)	*337*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*39.0*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.1*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*39.1*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.19*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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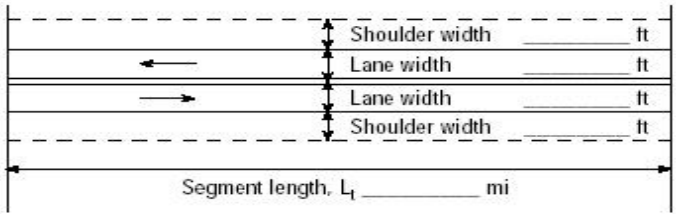
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		Site Information	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*I-5 to Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2011 No Proj+ Proj Ops PM Peak*	Analysis Year	*2011*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*605* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*671*
v_p * highest directional split proportion[2] (pc/h)	*403*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*47.8*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*664*
v_p * highest directional split proportion[2] (pc/h)	*398*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*44.2*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*44.2*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.21*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t$(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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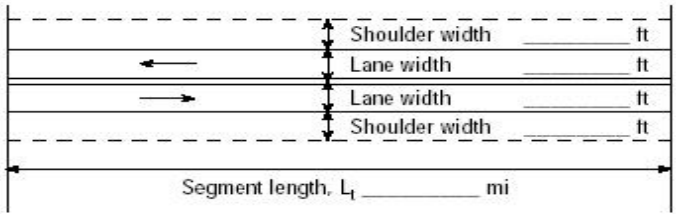
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*West of Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*Existing AM*	Analysis Year	*2007*

Project Description: *San Joaquin 1&2 AFC*

Input Data



b Class I highway e Class II highway

Terrain	b Level e Rolling
Two-way hourly volume	*636* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10* %
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*705*
v_p * highest directional split proportion[2] (pc/h)	*423*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*47.5*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*698*
v_p * highest directional split proportion[2] (pc/h)	*419*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*45.9*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*45.9*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.22*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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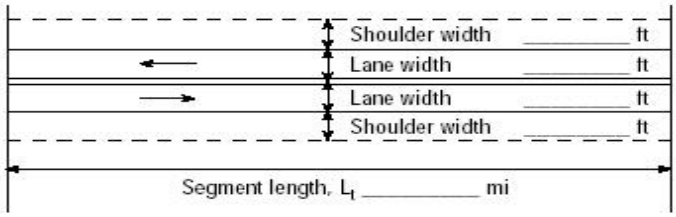
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*West of Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*Existing PM*	Analysis Year	*2007*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain	Level Rolling
Two-way hourly volume	*659* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*731*
v_p * highest directional split proportion[2] (pc/h)	*439*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*47.3*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*723*
v_p * highest directional split proportion[2] (pc/h)	*434*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*47.0*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*47.0*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.23*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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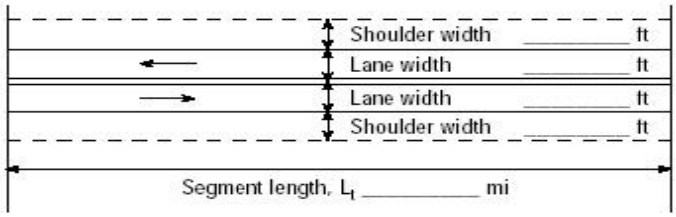
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*West of Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2010 No Build AM Peak*	Analysis Year	*2010*

Project Description: *San Joaquin 1&2 AFC*

Input Data



b Class I highway e Class II highway

Terrain	b Level	e Rolling
Two-way hourly volume	*652* veh/h	
Directional split	*60 / 40*	
Peak-hour factor, PHF	*0.92*	
No-passing zone	*0*	
% Trucks and Buses , P_T	*10 %*	
% Recreational vehicles, P_R	*2%*	
Access points/ *mi*	*8*	

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*723*
v_p * highest directional split proportion[2] (pc/h)	*434*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*47.4*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*716*
v_p * highest directional split proportion[2] (pc/h)	*430*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*46.7*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*46.7*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.23*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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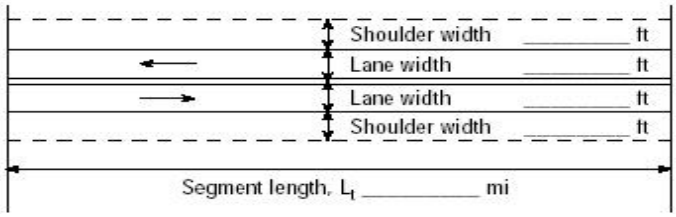
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*West of Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2010 No Build PM Peak*	Analysis Year	*2010*

Project Description: *San Joaquin 1&2 AFC*

Input Data



b Class I highway e Class II highway

Terrain	b Level	e Rolling
Two-way hourly volume	*676* veh/h	
Directional split	*60 / 40*	
Peak-hour factor, PHF	*0.92*	
No-passing zone	*0*	
% Trucks and Buses , P_T	*10 %*	
% Recreational vehicles, P_R	*2%*	
Access points/ *mi*	*8*	

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*749*
v_p * highest directional split proportion[2] (pc/h)	*449*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*47.2*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*742*
v_p * highest directional split proportion[2] (pc/h)	*445*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*47.9*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*47.9*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.23*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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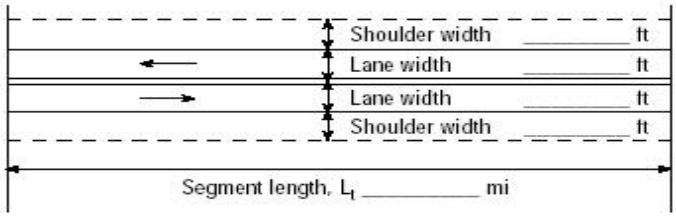
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*West of Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2010 No Proj+Proj Cons AM Peak*	Analysis Year	*2010*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*772* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10* %
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*856*
v_p * highest directional split proportion[2] (pc/h)	*514*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*46.4*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*848*
v_p * highest directional split proportion[2] (pc/h)	*509*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*52.5*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*52.5*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.27*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t$(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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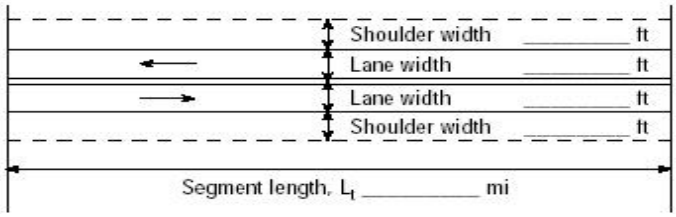
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*West of Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2010 No Proj+Proj Cons PM Peak*	Analysis Year	*2010*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*796* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10* %
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*883*
v_p * highest directional split proportion[2] (pc/h)	*530*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS $FFS=S_{FM}+0.00776(V_f/f_{HV})$	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS ($FSS=BFFS-f_{LS}-f_A$)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) $ATS=FFS-0.00776v_p-f_{np}$	*46.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, $f_{HV}=1/(1+P_T(E_T-1)+P_R(E_R-1))$	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*874*
v_p * highest directional split proportion[2] (pc/h)	*524*
Base percent time-spent-following, $BPTSF(\%)=100(1-e^{-0.000879v_p})$	*53.6*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, $PTSF(\%)=BPTSF+f_{d/np}$	*53.6*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, $v/c=V_p/3{,}200$	*0.28*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= $0.25L_t$(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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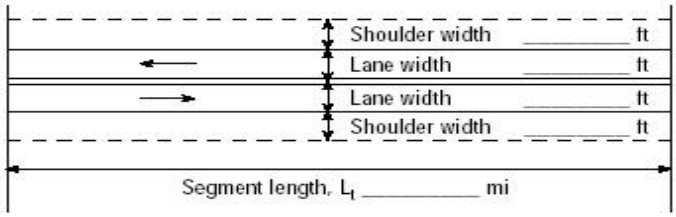
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*West of Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2011 No Proj AM Peak*	Analysis Year	*2011*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain	Level Rolling
Two-way hourly volume	*660* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*732*
v_p * highest directional split proportion[2] (pc/h)	*439*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*47.3*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*725*
v_p * highest directional split proportion[2] (pc/h)	*435*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*47.1*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*47.1*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.23*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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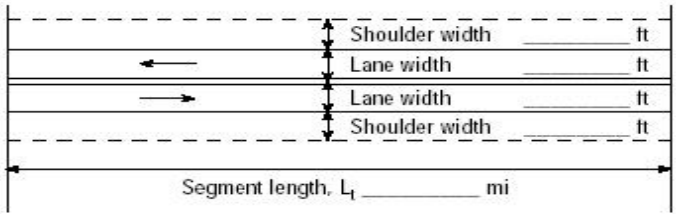
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*West of Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2011 No Proj PM Peak*	Analysis Year	*2011*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*682* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10* %
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*756*
v_p * highest directional split proportion[2] (pc/h)	*454*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*47.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*749*
v_p * highest directional split proportion[2] (pc/h)	*449*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*48.2*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*48.2*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.24*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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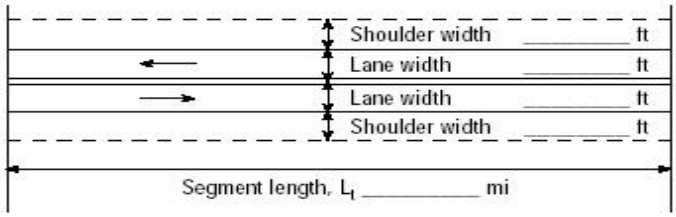
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*West of Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2011 No Proj+ Proj Ops AM Peak*	Analysis Year	*2011*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*690* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10 %*
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*765*
v_p * highest directional split proportion[2] (pc/h)	*459*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*47.1*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*757*
v_p * highest directional split proportion[2] (pc/h)	*454*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*48.6*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*48.6*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.24*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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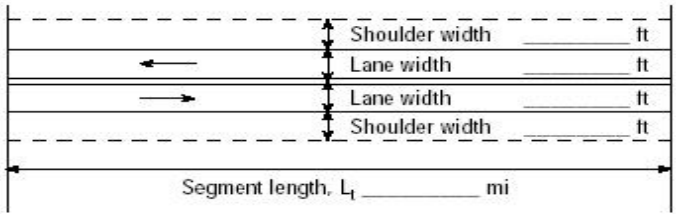
TWO-WAY TWO-LANE HIGHWAY SEGMENT WORKSHEET

General Information		***Site Information***	
Analyst	*SMA*	Highway	*W Jayne Ave*
Agency or Company	*URS*	From/To	*West of Site Access*
Date Performed	*10/31/2008*	Jurisdiction	*Fresno County*
Analysis Time Period	*2011 No Proj+ Proj Ops PM Peak*	Analysis Year	*2011*

Project Description: *San Joaquin 1&2 AFC*

Input Data



Class I highway Class II highway

Terrain Level Rolling

Two-way hourly volume	*712* veh/h
Directional split	*60 / 40*
Peak-hour factor, PHF	*0.92*
No-passing zone	*0*
% Trucks and Buses , P_T	*10* %
% Recreational vehicles, P_R	*2%*
Access points/ *mi*	*8*

Average Travel Speed

Grade adjustment factor, f_G (Exhibit 20-7)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-9)	*1.2*
Passenger-car equivalents for RVs, E_R (Exhibit 20-9)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.980*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*789*
v_p * highest directional split proportion[2] (pc/h)	*473*

Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed	
Field Measured speed, S_{FM}	*mi/h*	Base free-flow speed, $BFFS_{FM}$	*55.0 mi/h*
Observed volume, V_f	*veh/h*	Adj. for lane width and shoulder width[3], f_{LS} (Exhibit 20-5)	*0.0 mi/h*
Free-flow speed, FFS FFS=S_{FM}+0.00776(V_f/ f_{HV})	*mi/h*	Adj. for access points, f_A (Exhibit 20-6)	*2.0 mi/h*
		Free-flow speed, FFS (FSS=BFFS-f_{LS}-f_A)	*53.0 mi/h*

Adj. for no-passing zones, f_{np} (*mi/h*) (Exhibit 20-11)	*0.0*
Average travel speed, ATS (*mi/h*) ATS=FFS-0.00776v_p-f_{np}	*46.9*

Percent Time-Spent-Following

Grade Adjustment factor, f_G (Exhibit 20-8)	*1.00*
Passenger-car equivalents for trucks, E_T (Exhibit 20-10)	*1.1*
Passenger-car equivalents for RVs, E_R (Exhibit 20-10)	*1.0*
Heavy-vehicle adjustment factor, f_{HV}=1/ (1+ $P_T(E_T-1)+P_R(E_R-1)$)	*0.990*
Two-way flow rate[1], v_p (pc/h)=V/ (PHF * f_G * f_{HV})	*782*
v_p * highest directional split proportion[2] (pc/h)	*469*
Base percent time-spent-following, BPTSF(%)=100(1-$e^{-0.000879v_p}$)	*49.7*
Adj. for directional distribution and no-passing zone, $f_{d/np}$(%)(Exh. 20-12)	*0.0*
Percent time-spent-following, PTSF(%)=BPTSF+$f_{d/np}$	*49.7*

Level of Service and Other Performance Measures

Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	*C*
Volume to capacity ratio, v/c=V_p/ 3,200	*0.25*
Peak 15-min veh-miles of travel, VMT_{15} (veh- *mi*)= 0.25L_t(V/PHF)	*0*

Peak-hour vehicle-miles of travel, VMT_{60}(veh- *mi*)=V*L_t	*0*
Peak 15-min total travel time, TT_{15}(veh-h)= VMT_{15}/ATS	*0.0*
Notes	
1. If Vp >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest directional split Vp>= 1,700 pc/h, terminated anlysis-the LOS is F.	

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Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	104	12	1	200	1	33	0	5	3	0	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	113	13	1	217	1	36	0	5	3	0	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	218			126			405	384	120	382	390	218
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	218			126			405	384	120	382	390	218
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			93	100	99	99	100	97
cM capacity (veh/h)	1351			1460			535	541	932	565	536	822

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	22	126	220	41	25
Volume Left	22	0	1	36	3
Volume Right	0	13	1	5	22
cSH	1351	1700	1460	566	776
Volume to Capacity	0.02	0.07	0.00	0.07	0.03
Queue Length 95th (ft)	1	0	0	6	2
Control Delay (s)	7.7	0.0	0.0	11.9	9.8
Lane LOS	A		A	B	A
Approach Delay (s)	1.1		0.0	11.9	9.8
Approach LOS				B	A

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	30.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	124	18	1	237	0	0	0	0	4	1	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	135	20	1	258	0	0	0	0	4	1	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	258			154			411	395	135	395	414	258
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	258			154			411	395	135	395	414	258
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	98
cM capacity (veh/h)	1307			1426			538	542	914	565	528	781

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	135	20	259	22
Volume Left	0	0	1	4
Volume Right	0	20	0	16
cSH	1700	1700	1426	710
Volume to Capacity	0.08	0.01	0.00	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	10.2
Lane LOS			A	B
Approach Delay (s)	0.0		0.0	10.2
Approach LOS				B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	29.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	351	53	2	173	73	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	382	58	2	188	79	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			439		574	382
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			439		574	382
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		83	97
cM capacity (veh/h)			1121		479	666

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	382	58	190	100
Volume Left	0	0	2	79
Volume Right	0	58	0	21
cSH	1700	1700	1121	509
Volume to Capacity	0.22	0.03	0.00	0.20
Queue Length 95th (ft)	0	0	0	18
Control Delay (s)	0.0	0.0	0.1	13.8
Lane LOS			A	B
Approach Delay (s)	0.0		0.1	13.8
Approach LOS				B

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	30.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	6	362	180	61	33	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	393	196	66	36	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	262				635	229
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	262				635	229
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	99
cM capacity (veh/h)	1302				440	810

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	400	262	45
Volume Left	7	0	36
Volume Right	0	66	9
cSH	1302	1700	483
Volume to Capacity	0.01	0.15	0.09
Queue Length 95th (ft)	0	0	8
Control Delay (s)	0.2	0.0	13.2
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	13.2
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	33.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	190	20	4	113	3	33	0	1	2	3	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	207	22	4	123	3	36	0	1	2	3	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	126			228			387	352	217	341	361	124
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	126			228			387	352	217	341	361	124
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			93	100	100	100	99	96
cM capacity (veh/h)	1460			1340			546	571	822	611	564	926

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	0	228	130	37	40
Volume Left	0	0	4	36	2
Volume Right	0	22	3	1	35
cSH	1700	1700	1340	552	858
Volume to Capacity	0.00	0.13	0.00	0.07	0.05
Queue Length 95th (ft)	0	0	0	5	4
Control Delay (s)	0.0	0.0	0.3	12.0	9.4
Lane LOS			A	B	A
Approach Delay (s)	0.0		0.3	12.0	9.4
Approach LOS				B	A

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	26.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	268	37	7	172	0	0	0	0	2	1	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	291	40	8	187	0	0	0	0	2	1	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	187			332			504	493	291	493	534	187
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	187			332			504	493	291	493	534	187
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	100	100	100	99
cM capacity (veh/h)	1387			1228			470	474	748	484	450	855

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	291	40	195	13
Volume Left	0	0	8	2
Volume Right	0	40	0	10
cSH	1700	1700	1228	711
Volume to Capacity	0.17	0.02	0.01	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.4	10.2
Lane LOS			A	B
Approach Delay (s)	0.0		0.4	10.2
Approach LOS				B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	26.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	166	68	5	348	89	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	180	74	5	378	97	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			254		570	180
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			254		570	180
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		80	100
cM capacity (veh/h)			1311		481	862

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	180	74	384	99
Volume Left	0	0	5	97
Volume Right	0	74	0	2
cSH	1700	1700	1311	486
Volume to Capacity	0.11	0.04	0.00	0.20
Queue Length 95th (ft)	0	0	0	19
Control Delay (s)	0.0	0.0	0.2	14.3
Lane LOS			A	B
Approach Delay (s)	0.0		0.2	14.3
Approach LOS				B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	7	191	396	49	23	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	208	430	53	25	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	484				680	457
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	484				680	457
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	99
cM capacity (veh/h)	1079				414	604

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	215	484	33
Volume Left	8	0	25
Volume Right	0	53	8
cSH	1079	1700	446
Volume to Capacity	0.01	0.28	0.07
Queue Length 95th (ft)	1	0	6
Control Delay (s)	0.4	0.0	13.7
Lane LOS	A		B
Approach Delay (s)	0.4	0.0	13.7
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	33.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	107	12	1	206	1	33	0	5	3	0	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	116	13	1	224	1	36	0	5	3	0	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	225			129			415	393	123	392	399	224
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	225			129			415	393	123	392	399	224
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			93	100	99	99	100	97
cM capacity (veh/h)	1344			1456			527	534	928	557	530	815

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	22	129	226	41	25
Volume Left	22	0	1	36	3
Volume Right	0	13	1	5	22
cSH	1344	1700	1456	558	769
Volume to Capacity	0.02	0.08	0.00	0.07	0.03
Queue Length 95th (ft)	1	0	0	6	3
Control Delay (s)	7.7	0.0	0.0	12.0	9.8
Lane LOS	A		A	B	A
Approach Delay (s)	1.1		0.0	12.0	9.8
Approach LOS				B	A

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	127	18	1	244	0	0	0	0	4	1	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	138	20	1	265	0	0	0	0	4	1	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	265			158			422	405	138	405	425	265
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	265			158			422	405	138	405	425	265
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	98
cM capacity (veh/h)	1299			1422			529	534	910	556	521	773

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	138	20	266	22
Volume Left	0	0	1	4
Volume Right	0	20	0	16
cSH	1700	1700	1422	701
Volume to Capacity	0.08	0.01	0.00	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	10.3
Lane LOS			A	B
Approach Delay (s)	0.0		0.0	10.3
Approach LOS				B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	29.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	361	54	2	178	75	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	392	59	2	193	82	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			451		590	392
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			451		590	392
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		83	97
cM capacity (veh/h)			1109		469	656

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	392	59	196	102
Volume Left	0	0	2	82
Volume Right	0	59	0	21
cSH	1700	1700	1109	498
Volume to Capacity	0.23	0.03	0.00	0.21
Queue Length 95th (ft)	0	0	0	19
Control Delay (s)	0.0	0.0	0.1	14.1
Lane LOS			A	B
Approach Delay (s)	0.0		0.1	14.1
Approach LOS				B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	6	372	185	62	33	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	404	201	67	36	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	268				652	235
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	268				652	235
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				92	99
cM capacity (veh/h)	1295				430	804

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	411	268	45
Volume Left	7	0	36
Volume Right	0	67	9
cSH	1295	1700	473
Volume to Capacity	0.01	0.16	0.09
Queue Length 95th (ft)	0	0	8
Control Delay (s)	0.2	0.0	13.4
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	13.4
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	34.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	28	195	20	4	116	3	33	0	1	2	3	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	30	212	22	4	126	3	36	0	1	2	3	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	129			234			457	422	223	410	431	128
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	129			234			457	422	223	410	431	128
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			93	100	100	100	99	96
cM capacity (veh/h)	1456			1334			483	511	817	541	505	922

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	30	234	134	37	40
Volume Left	30	0	4	36	2
Volume Right	0	22	3	1	35
cSH	1456	1700	1334	489	835
Volume to Capacity	0.02	0.14	0.00	0.08	0.05
Queue Length 95th (ft)	2	0	0	6	4
Control Delay (s)	7.5	0.0	0.3	13.0	9.5
Lane LOS	A		A	B	A
Approach Delay (s)	0.9		0.3	13.0	9.5
Approach LOS				B	A

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	26.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	276	38	7	177	0	0	0	0	2	1	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	300	41	8	192	0	0	0	0	2	1	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	192			341			518	508	300	508	549	192
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	192			341			518	508	300	508	549	192
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	100	100	100	99
cM capacity (veh/h)	1381			1218			460	465	740	473	441	849

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	300	41	200	13
Volume Left	0	0	8	2
Volume Right	0	41	0	10
cSH	1700	1700	1218	702
Volume to Capacity	0.18	0.02	0.01	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.4	10.2
Lane LOS			A	B
Approach Delay (s)	0.0		0.4	10.2
Approach LOS				B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	26.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	170	70	5	358	91	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	185	76	5	389	99	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			261		585	185
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			261		585	185
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		79	100
cM capacity (veh/h)			1304		471	857

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	185	76	395	101
Volume Left	0	0	5	99
Volume Right	0	76	0	2
cSH	1700	1700	1304	476
Volume to Capacity	0.11	0.04	0.00	0.21
Queue Length 95th (ft)	0	0	0	20
Control Delay (s)	0.0	0.0	0.1	14.6
Lane LOS			A	B
Approach Delay (s)	0.0		0.1	14.6
Approach LOS				B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	7	196	407	50	23	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	213	442	54	25	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	497				698	470
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	497				698	470
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	99
cM capacity (veh/h)	1067				404	594

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	221	497	33
Volume Left	8	0	25
Volume Right	0	54	8
cSH	1067	1700	436
Volume to Capacity	0.01	0.29	0.07
Queue Length 95th (ft)	1	0	6
Control Delay (s)	0.4	0.0	13.9
Lane LOS	A		B
Approach Delay (s)	0.4	0.0	13.9
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	34.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	108	14	1	324	1	160	0	5	3	0	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	117	15	1	352	1	174	0	5	3	0	28
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	353			133			552	524	125	521	531	353
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	353			133			552	524	125	521	531	353
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			59	100	99	99	100	96
cM capacity (veh/h)	1205			1452			420	450	926	456	445	691

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	22	133	354	179	32
Volume Left	22	0	1	174	3
Volume Right	0	15	1	5	28
cSH	1205	1700	1452	427	656
Volume to Capacity	0.02	0.08	0.00	0.42	0.05
Queue Length 95th (ft)	1	0	0	51	4
Control Delay (s)	8.0	0.0	0.0	19.4	10.8
Lane LOS	A		A	C	B
Approach Delay (s)	1.1		0.0	19.4	10.8
Approach LOS				C	B

Intersection Summary			
Average Delay	5.6		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	130	20	1	495	0	0	0	0	4	1	142
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	141	22	1	538	0	0	0	0	4	1	154
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	538			163			836	682	141	682	703	538
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	538			163			836	682	141	682	703	538
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	72
cM capacity (veh/h)	1030			1416			204	372	907	364	362	543

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	141	22	539	160
Volume Left	0	0	1	4
Volume Right	0	22	0	154
cSH	1700	1700	1416	534
Volume to Capacity	0.08	0.01	0.00	0.30
Queue Length 95th (ft)	0	0	0	31
Control Delay (s)	0.0	0.0	0.0	14.6
Lane LOS			A	B
Approach Delay (s)	0.0		0.0	14.6
Approach LOS				B

Intersection Summary			
Average Delay	2.7		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	480	54	2	179	75	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	522	59	2	195	82	26
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			580		721	522
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			580		721	522
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		79	95
cM capacity (veh/h)			994		393	555

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	522	59	197	108
Volume Left	0	0	2	82
Volume Right	0	59	0	26
cSH	1700	1700	994	423
Volume to Capacity	0.31	0.03	0.00	0.25
Queue Length 95th (ft)	0	0	0	25
Control Delay (s)	0.0	0.0	0.1	16.4
Lane LOS			A	C
Approach Delay (s)	0.0		0.1	16.4
Approach LOS				C

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	6	486	186	62	38	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	528	202	67	41	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	270				777	236
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	270				777	236
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				89	99
cM capacity (veh/h)	1294				363	803

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	535	270	50
Volume Left	7	0	41
Volume Right	0	67	9
cSH	1294	1700	402
Volume to Capacity	0.01	0.16	0.12
Queue Length 95th (ft)	0	0	11
Control Delay (s)	0.2	0.0	15.2
Lane LOS	A		C
Approach Delay (s)	0.2	0.0	15.2
Approach LOS			C

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	40.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	34	313	147	4	117	3	35	0	1	2	3	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	37	340	160	4	127	3	38	0	1	2	3	35
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	130			500			668	633	420	553	711	129
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	130			500			668	633	420	553	711	129
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			100			89	100	100	99	99	96
cM capacity (veh/h)	1455			1064			347	385	633	433	347	921

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	37	500	135	39	40
Volume Left	37	0	4	38	2
Volume Right	0	160	3	1	35
cSH	1455	1700	1064	352	771
Volume to Capacity	0.03	0.29	0.00	0.11	0.05
Queue Length 95th (ft)	2	0	0	9	4
Control Delay (s)	7.5	0.0	0.3	16.5	9.9
Lane LOS	A		A	C	A
Approach Delay (s)	0.5		0.3	16.5	9.9
Approach LOS				C	A

Intersection Summary			
Average Delay	1.8		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	527	165	7	180	0	0	0	0	2	1	11
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	573	179	8	196	0	0	0	0	2	1	12
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	196			752			796	784	573	784	963	196
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	196			752			796	784	573	784	963	196
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	100	99	100	99
cM capacity (veh/h)	1377			858			298	322	519	309	253	846

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	573	179	203	15
Volume Left	0	0	8	2
Volume Right	0	179	0	12
cSH	1700	1700	858	597
Volume to Capacity	0.34	0.11	0.01	0.03
Queue Length 95th (ft)	0	0	1	2
Control Delay (s)	0.0	0.0	0.4	11.2
Lane LOS			A	B
Approach Delay (s)	0.0		0.4	11.2
Approach LOS				B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	171	70	10	477	91	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	186	76	11	518	99	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			262		726	186
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			262		726	186
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		75	100
cM capacity (veh/h)			1302		388	856

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	186	76	529	101
Volume Left	0	0	11	99
Volume Right	0	76	0	2
cSH	1700	1700	1302	393
Volume to Capacity	0.11	0.04	0.01	0.26
Queue Length 95th (ft)	0	0	1	25
Control Delay (s)	0.0	0.0	0.3	17.3
Lane LOS			A	C
Approach Delay (s)	0.0		0.3	17.3
Approach LOS				C

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	45.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	7	197	521	55	23	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	214	566	60	25	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	626				826	596
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	626				826	596
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				93	98
cM capacity (veh/h)	956				339	503

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	222	626	33
Volume Left	8	0	25
Volume Right	0	60	8
cSH	956	1700	367
Volume to Capacity	0.01	0.37	0.09
Queue Length 95th (ft)	1	0	7
Control Delay (s)	0.4	0.0	15.8
Lane LOS	A		C
Approach Delay (s)	0.4	0.0	15.8
Approach LOS			C

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	40.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	20	108	12	1	208	1	34	0	5	3	0	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	22	117	13	1	226	1	37	0	5	3	0	22
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	227			130			418	397	124	395	403	227
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	227			130			418	397	124	395	403	227
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			93	100	99	99	100	97
cM capacity (veh/h)	1341			1455			524	531	927	554	527	813

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	22	130	228	42	25
Volume Left	22	0	1	37	3
Volume Right	0	13	1	5	22
cSH	1341	1700	1455	555	766
Volume to Capacity	0.02	0.08	0.00	0.08	0.03
Queue Length 95th (ft)	1	0	0	6	3
Control Delay (s)	7.7	0.0	0.0	12.0	9.9
Lane LOS	A		A	B	A
Approach Delay (s)	1.1		0.0	12.0	9.9
Approach LOS				B	A

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	31.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	128	18	1	246	0	0	0	0	4	1	15
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	139	20	1	267	0	0	0	0	4	1	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	267			159			426	409	139	409	428	267
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	267			159			426	409	139	409	428	267
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	98
cM capacity (veh/h)	1296			1421			527	532	909	553	519	771

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	139	20	268	22
Volume Left	0	0	1	4
Volume Right	0	20	0	16
cSH	1700	1700	1421	699
Volume to Capacity	0.08	0.01	0.00	0.03
Queue Length 95th (ft)	0	0	0	2
Control Delay (s)	0.0	0.0	0.0	10.3
Lane LOS			A	B
Approach Delay (s)	0.0		0.0	10.3
Approach LOS				B

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	29.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	365	55	2	179	75	19
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	397	60	2	195	82	21
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			457		596	397
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			457		596	397
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		82	97
cM capacity (veh/h)			1104		466	653

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	397	60	197	102
Volume Left	0	0	2	82
Volume Right	0	60	0	21
cSH	1700	1700	1104	494
Volume to Capacity	0.23	0.04	0.00	0.21
Queue Length 95th (ft)	0	0	0	19
Control Delay (s)	0.0	0.0	0.1	14.2
Lane LOS			A	B
Approach Delay (s)	0.0		0.1	14.2
Approach LOS				B

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	31.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	6	376	187	63	34	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	409	203	68	37	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	272				659	238
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	272				659	238
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				91	99
cM capacity (veh/h)	1292				426	801

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	415	272	46
Volume Left	7	0	37
Volume Right	0	68	9
cSH	1292	1700	468
Volume to Capacity	0.01	0.16	0.10
Queue Length 95th (ft)	0	0	8
Control Delay (s)	0.2	0.0	13.5
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	13.5
Approach LOS			B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	29	197	20	4	117	3	34	0	1	2	3	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	32	214	22	4	127	3	37	0	1	2	3	36
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	130			236			463	427	225	416	436	129
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	130			236			463	427	225	416	436	129
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			92	100	100	100	99	96
cM capacity (veh/h)	1455			1331			478	507	814	536	501	921

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	32	236	135	38	41
Volume Left	32	0	4	37	2
Volume Right	0	22	3	1	36
cSH	1455	1700	1331	483	834
Volume to Capacity	0.02	0.14	0.00	0.08	0.05
Queue Length 95th (ft)	2	0	0	6	4
Control Delay (s)	7.5	0.0	0.3	13.1	9.5
Lane LOS	A		A	B	A
Approach Delay (s)	0.9		0.3	13.1	9.5
Approach LOS				B	A

Intersection Summary			
Average Delay	2.4		
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	278	38	7	178	0	0	0	0	2	1	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	302	41	8	193	0	0	0	0	2	1	10
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	193			343			521	511	302	511	552	193
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	193			343			521	511	302	511	552	193
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	100	100	100	99
cM capacity (veh/h)	1380			1216			457	463	737	471	439	848

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	302	41	201	13
Volume Left	0	0	8	2
Volume Right	0	41	0	10
cSH	1700	1700	1216	700
Volume to Capacity	0.18	0.02	0.01	0.02
Queue Length 95th (ft)	0	0	0	1
Control Delay (s)	0.0	0.0	0.4	10.2
Lane LOS			A	B
Approach Delay (s)	0.0		0.4	10.2
Approach LOS				B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	26.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	172	70	5	361	92	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	187	76	5	392	100	2
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			263		590	187
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			263		590	187
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		79	100
cM capacity (veh/h)			1301		468	855

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	187	76	398	102
Volume Left	0	0	5	100
Volume Right	0	76	0	2
cSH	1700	1700	1301	473
Volume to Capacity	0.11	0.04	0.00	0.22
Queue Length 95th (ft)	0	0	0	20
Control Delay (s)	0.0	0.0	0.1	14.7
Lane LOS			A	B
Approach Delay (s)	0.0		0.1	14.7
Approach LOS				B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	34.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	7	198	411	50	23	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	215	447	54	25	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	501				704	474
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	501				704	474
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				94	99
cM capacity (veh/h)	1063				400	590

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	223	501	33
Volume Left	8	0	25
Volume Right	0	54	8
cSH	1063	1700	433
Volume to Capacity	0.01	0.29	0.08
Queue Length 95th (ft)	1	0	6
Control Delay (s)	0.4	0.0	14.0
Lane LOS	A		B
Approach Delay (s)	0.4	0.0	14.0
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	34.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	21	115	20	1	224	1	65	0	5	3	0	24
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	23	125	22	1	243	1	71	0	5	3	0	26
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	245			147			454	428	136	422	439	244
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	245			147			454	428	136	422	439	244
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			86	100	99	99	100	97
cM capacity (veh/h)	1322			1435			493	510	913	531	503	795

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	23	147	246	76	29
Volume Left	23	0	1	71	3
Volume Right	0	22	1	5	26
cSH	1322	1700	1435	509	753
Volume to Capacity	0.02	0.09	0.00	0.15	0.04
Queue Length 95th (ft)	1	0	0	13	3
Control Delay (s)	7.8	0.0	0.0	13.3	10.0
Lane LOS	A		A	B	A
Approach Delay (s)	1.0		0.0	13.3	10.0
Approach LOS				B	A

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	33.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	145	28	1	297	0	0	0	0	4	1	42
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	158	30	1	323	0	0	0	0	4	1	46
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	323			188			529	483	158	483	513	323
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	323			188			529	483	158	483	513	323
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	94
cM capacity (veh/h)	1237			1386			430	483	888	494	464	718

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	158	30	324	51
Volume Left	0	0	1	4
Volume Right	0	30	0	46
cSH	1700	1700	1386	684
Volume to Capacity	0.09	0.02	0.00	0.07
Queue Length 95th (ft)	0	0	0	6
Control Delay (s)	0.0	0.0	0.0	10.7
Lane LOS			A	B
Approach Delay (s)	0.0		0.0	10.7
Approach LOS				B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	386	55	3	188	75	20
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	420	60	3	204	82	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			479		630	420
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			479		630	420
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		82	97
cM capacity (veh/h)			1083		444	634

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	420	60	208	103
Volume Left	0	0	3	82
Volume Right	0	60	0	22
cSH	1700	1700	1083	474
Volume to Capacity	0.25	0.04	0.00	0.22
Queue Length 95th (ft)	0	0	0	21
Control Delay (s)	0.0	0.0	0.2	14.7
Lane LOS			A	B
Approach Delay (s)	0.0		0.2	14.7
Approach LOS				B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	6	395	195	64	36	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	7	429	212	70	39	9
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	282				689	247
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	282				689	247
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				90	99
cM capacity (veh/h)	1281				409	792

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	436	282	48
Volume Left	7	0	39
Volume Right	0	70	9
cSH	1281	1700	449
Volume to Capacity	0.01	0.17	0.11
Queue Length 95th (ft)	0	0	9
Control Delay (s)	0.2	0.0	14.0
Lane LOS	A		B
Approach Delay (s)	0.2	0.0	14.0
Approach LOS			B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	35.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	33	213	47	4	124	3	44	0	1	2	3	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	232	51	4	135	3	48	0	1	2	3	37
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	138			283			512	476	257	449	499	136
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	138			283			512	476	257	449	499	136
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			100			89	100	100	100	99	96
cM capacity (veh/h)	1446			1280			441	474	782	508	460	912

Direction, Lane #	EB 1	EB 2	WB 1	NB 1	SB 1
Volume Total	36	283	142	49	42
Volume Left	36	0	4	48	2
Volume Right	0	51	3	1	37
cSH	1446	1700	1280	445	817
Volume to Capacity	0.02	0.17	0.00	0.11	0.05
Queue Length 95th (ft)	2	0	0	9	4
Control Delay (s)	7.6	0.0	0.3	14.1	9.6
Lane LOS	A		A	B	A
Approach Delay (s)	0.9		0.3	14.1	9.6
Approach LOS				B	A

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Volume (veh/h)	0	324	67	7	197	0	0	0	0	2	1	17
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	352	73	8	214	0	0	0	0	2	1	18
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	214			425			601	582	352	582	654	214
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	214			425			601	582	352	582	654	214
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			99			100	100	100	99	100	98
cM capacity (veh/h)	1356			1134			400	422	691	423	383	826

Direction, Lane #	EB 1	EB 2	WB 1	SB 1
Volume Total	352	73	222	22
Volume Left	0	0	8	2
Volume Right	0	73	0	18
cSH	1700	1700	1134	716
Volume to Capacity	0.21	0.04	0.01	0.03
Queue Length 95th (ft)	0	0	1	2
Control Delay (s)	0.0	0.0	0.3	10.2
Lane LOS			A	B
Approach Delay (s)	0.0		0.3	10.2
Approach LOS				B

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	28.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Volume (veh/h)	181	70	6	382	92	3
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	197	76	7	415	100	3
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			273		625	197
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			273		625	197
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			99		78	100
cM capacity (veh/h)			1290		446	844

Direction, Lane #	EB 1	EB 2	WB 1	NB 1
Volume Total	197	76	422	103
Volume Left	0	0	7	100
Volume Right	0	76	0	3
cSH	1700	1700	1290	453
Volume to Capacity	0.12	0.04	0.01	0.23
Queue Length 95th (ft)	0	0	0	22
Control Delay (s)	0.0	0.0	0.2	15.3
Lane LOS			A	C
Approach Delay (s)	0.0		0.2	15.3
Approach LOS				C

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Volume (veh/h)	7	206	430	52	24	7
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	224	467	57	26	8
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	524				735	496
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	524				735	496
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	99				93	99
cM capacity (veh/h)	1043				384	574

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	232	524	34
Volume Left	8	0	26
Volume Right	0	57	8
cSH	1043	1700	415
Volume to Capacity	0.01	0.31	0.08
Queue Length 95th (ft)	1	0	7
Control Delay (s)	0.3	0.0	14.4
Lane LOS	A		B
Approach Delay (s)	0.3	0.0	14.4
Approach LOS			B

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	35.8%	ICU Level of Service	A
Analysis Period (min)	15		