

# CE 474 – Class 19

October 7, 2015

# States Search for Ways to Cut Traffic Deaths

*The federal government is helping states use data-driven information to determine which roads or intersections are the most deadly and make them safer.*

BY JENNI BERGAL, STATELINE / OCTOBER 7, 2014



SOLUTIONS FOR STATE AND LOCAL GOVERNMENT  
**GOVERNMENT TECHNOLOGY**  
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JUSTICE AND PUBLIC SAFETY

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# For next time...

7

## Class 18 (10.05)

Discuss: A36

Homework (due 10.07):

- Read: Chapter 7 overview
- Read: A39
- Do: A39 CTQ

Homework (due 10.08):

- Complete: Revised A36

## Class 19 (10.07)

Mini-lecture/CTQ: A39

Do/Discuss: A41, A42

Homework (due 10.08):

- Complete A41, A42
- Prepare: A43

## Class 20 (10.08)

Do/Discuss: A43 (due 10.12)

Homework (due 10.12):

- Read: Chapter 8 overview
- Read: A45
- Do: A45 CTQ

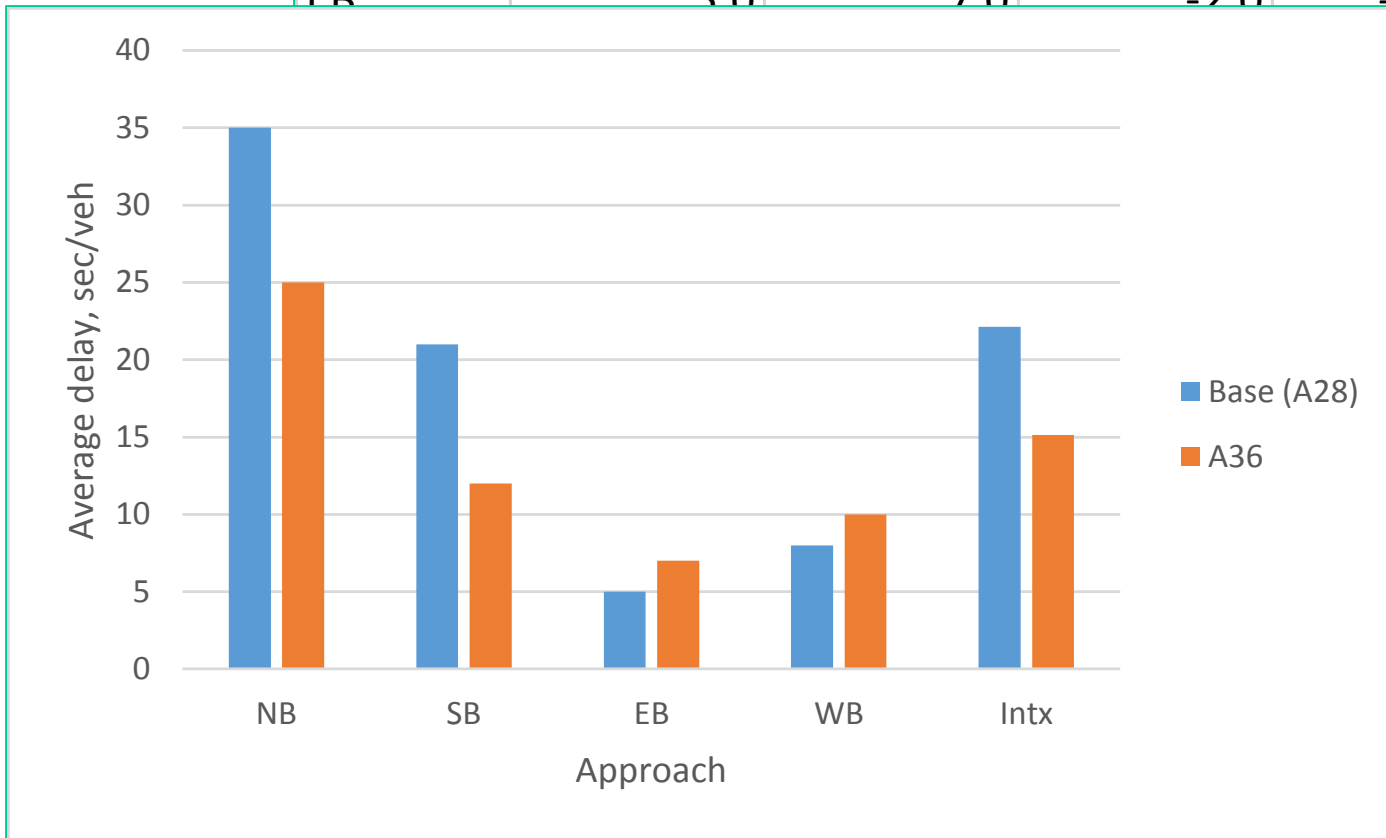
- A36 performance data based on A28 volumes

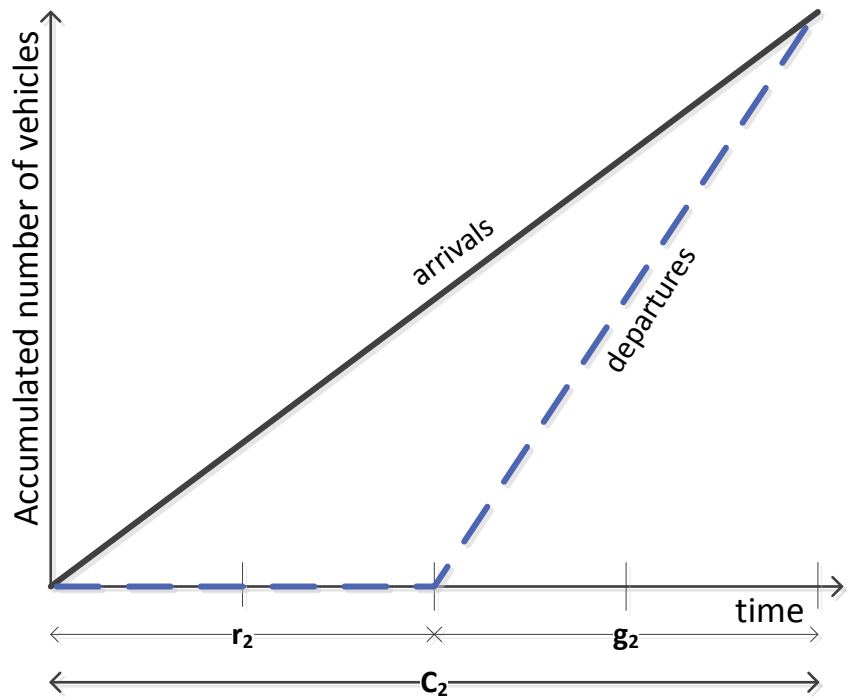
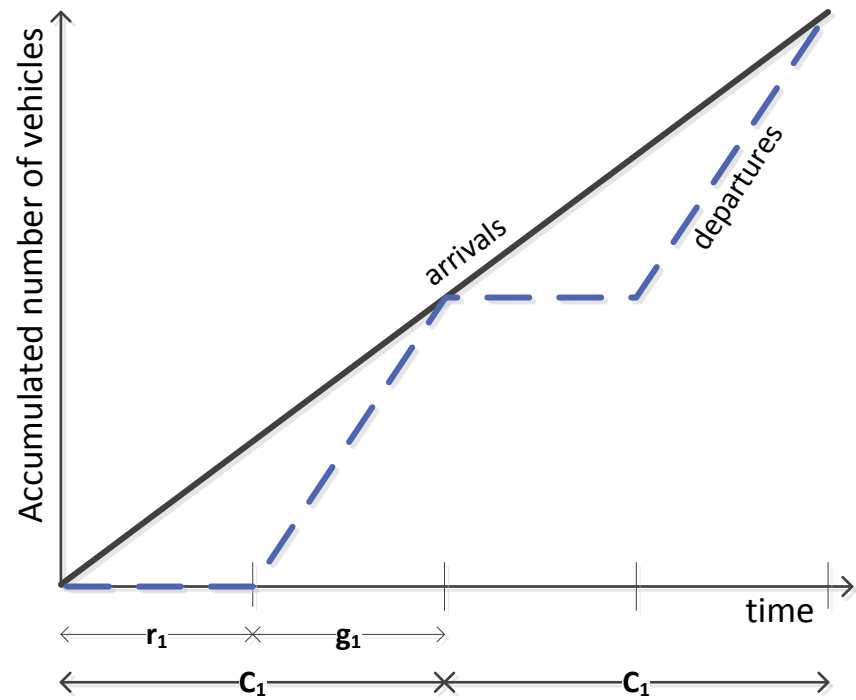
- List steps to complete A43
- Bring A36 VISSIM network with A28 volumes to Class 20

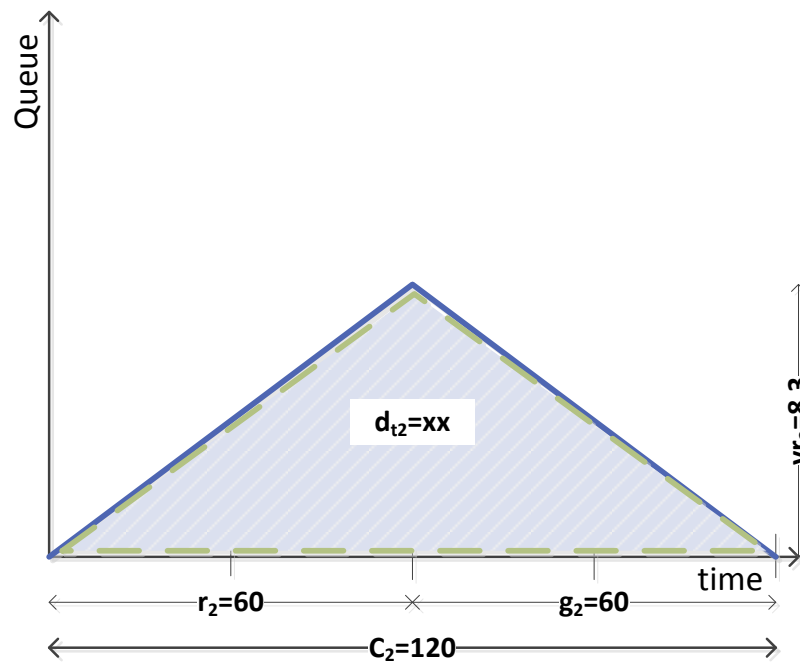
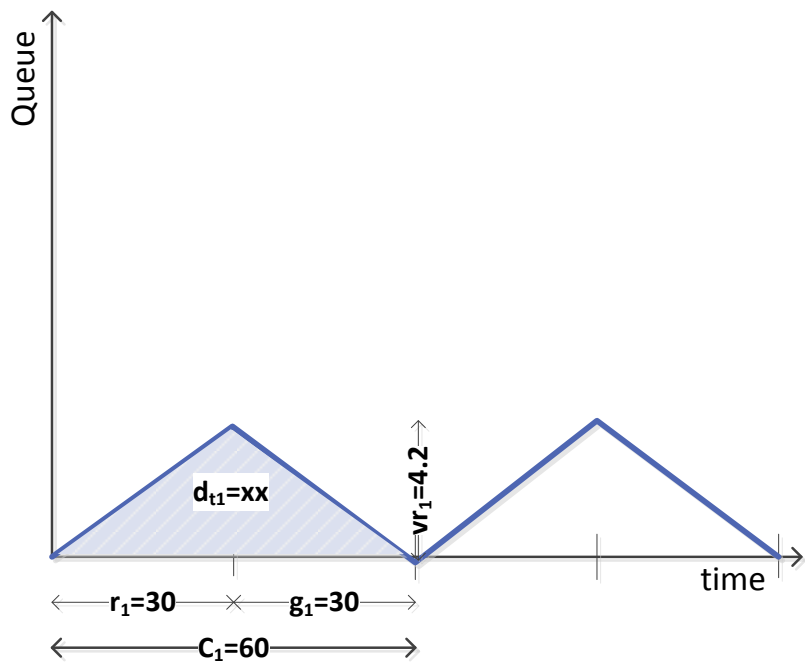
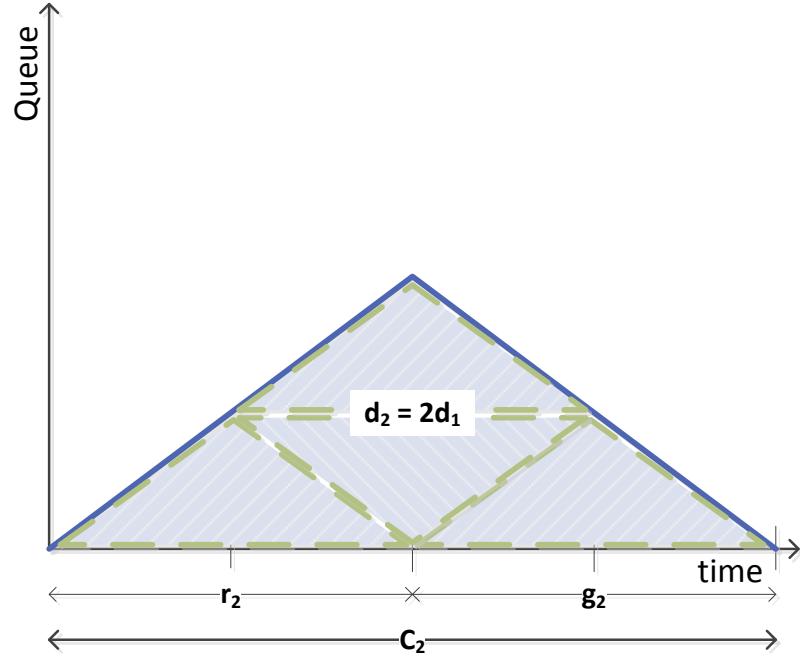
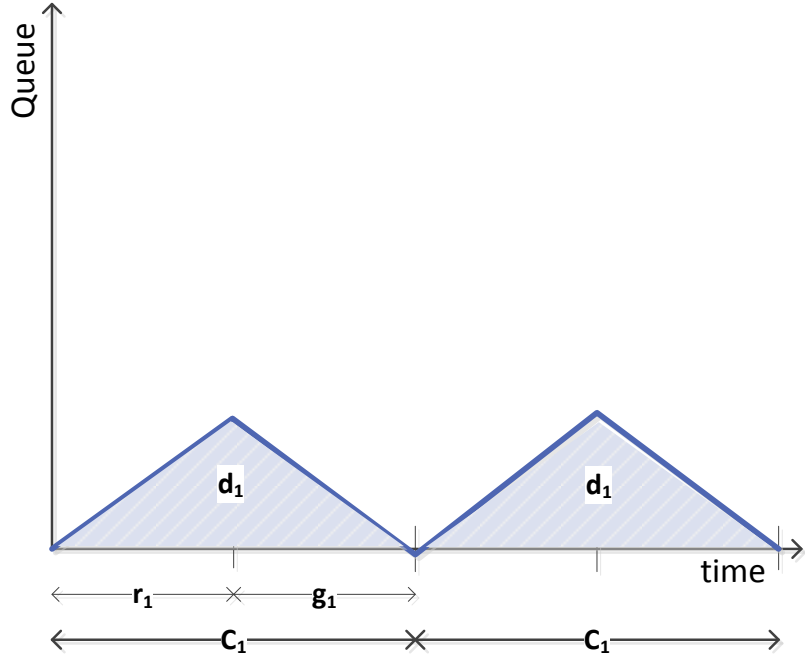
# Presenting Performance Comparison Data

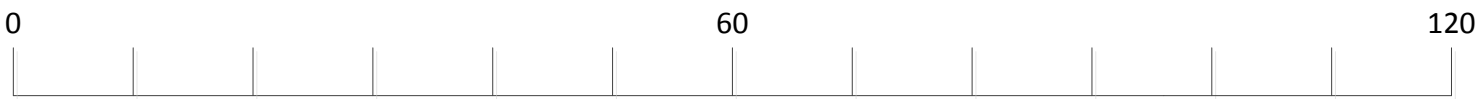
Average delay (sec/veh)		
Approach	Base (A28)	A36
NB	35	25
SB	21	12
EB		
WB		
Intx		

Average delay (sec/veh)					
Approach	Base (A28)	A36	Change	%Change	
NB	35.0	25.0	10.0	29%	
SB	21.0	12.0	9.0	43%	
EB	5.0	7.0	-2.0	-40%	25%
WB					32%









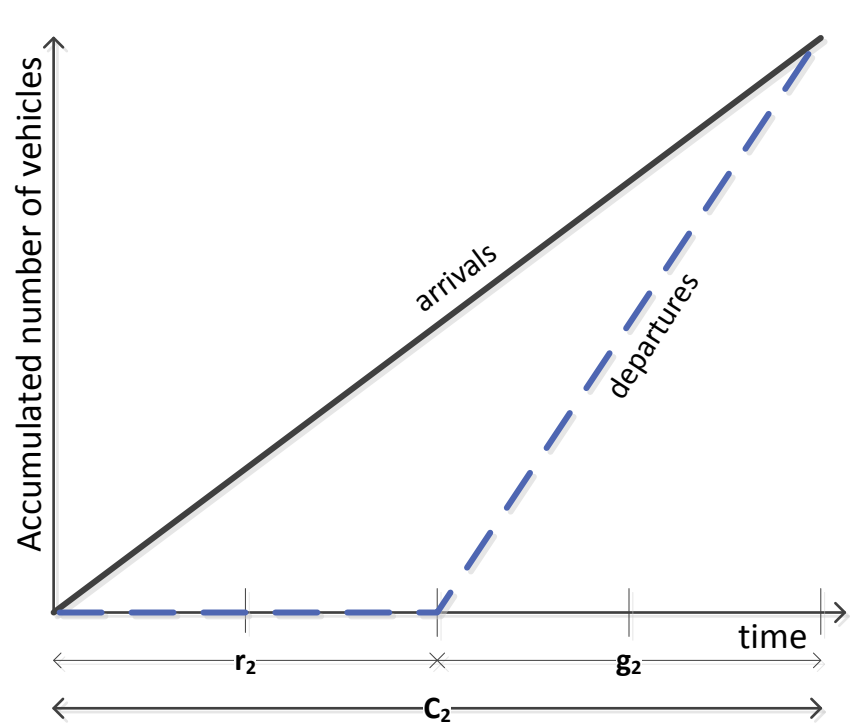
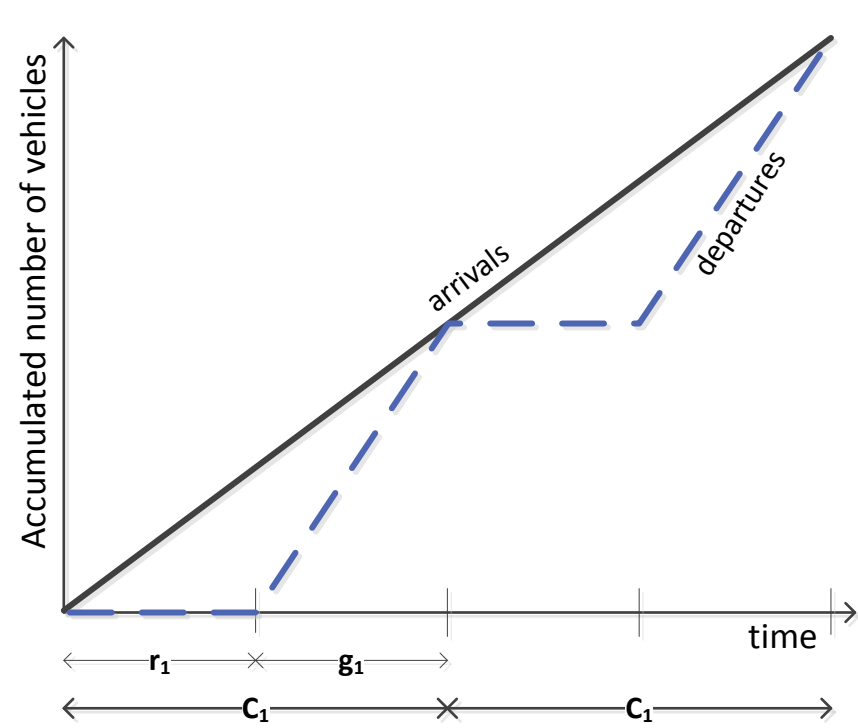
$C = 120 \text{ sec}$   
green ratio  $(g/C) = 0.92$



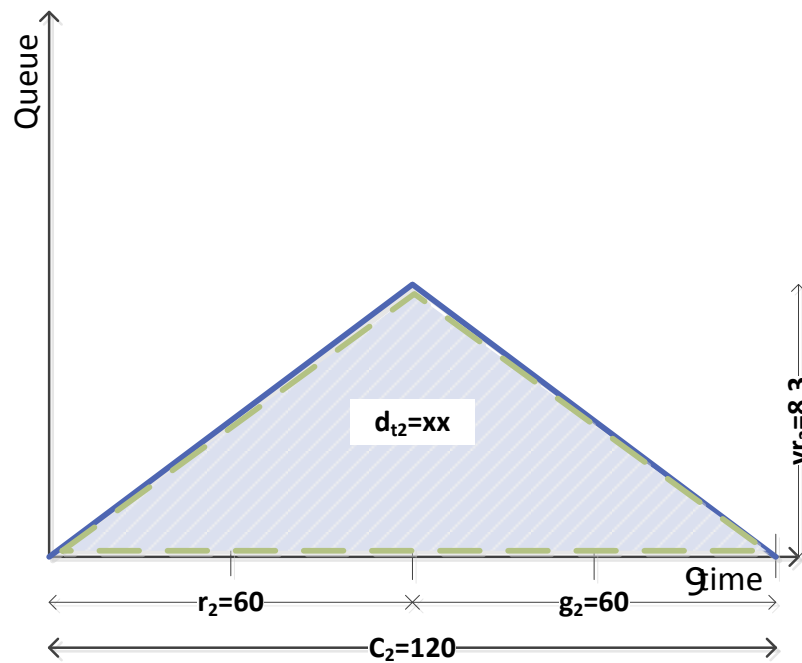
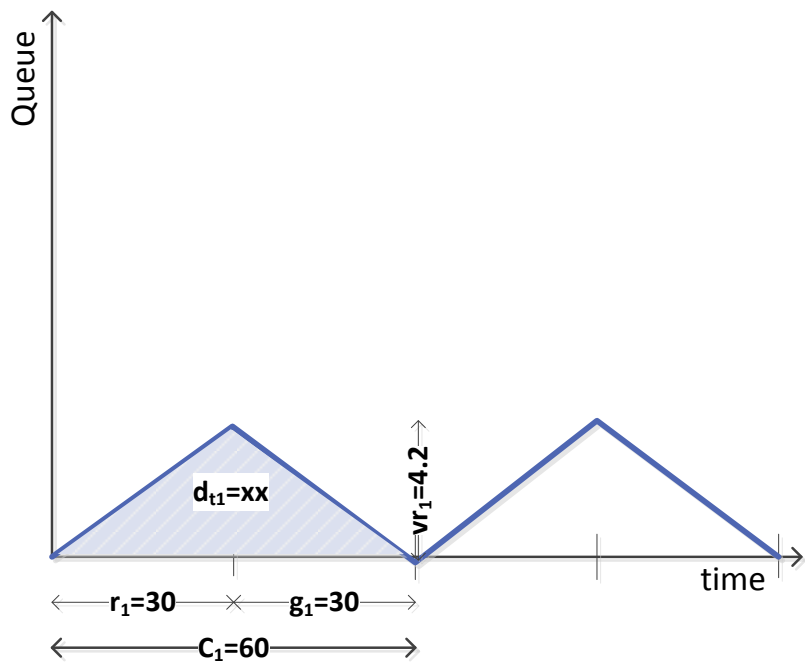
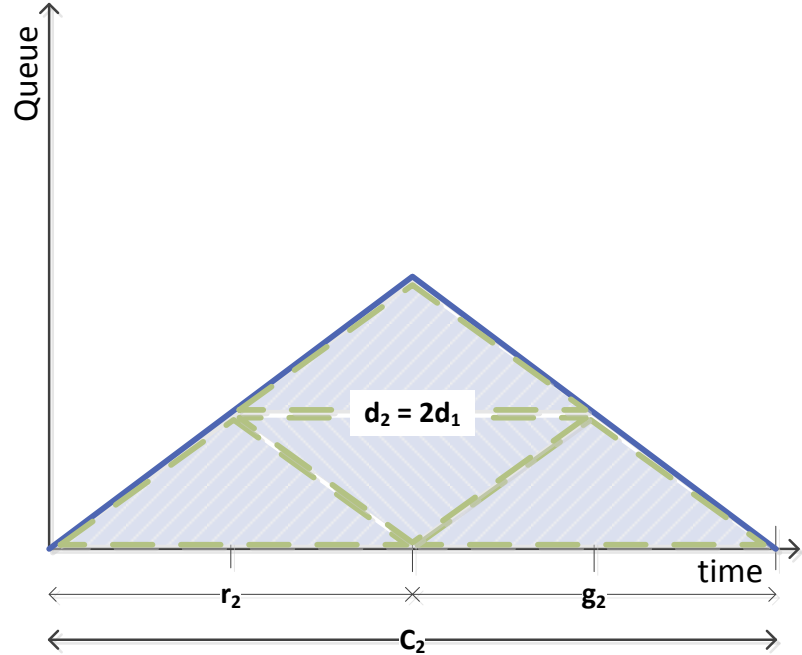
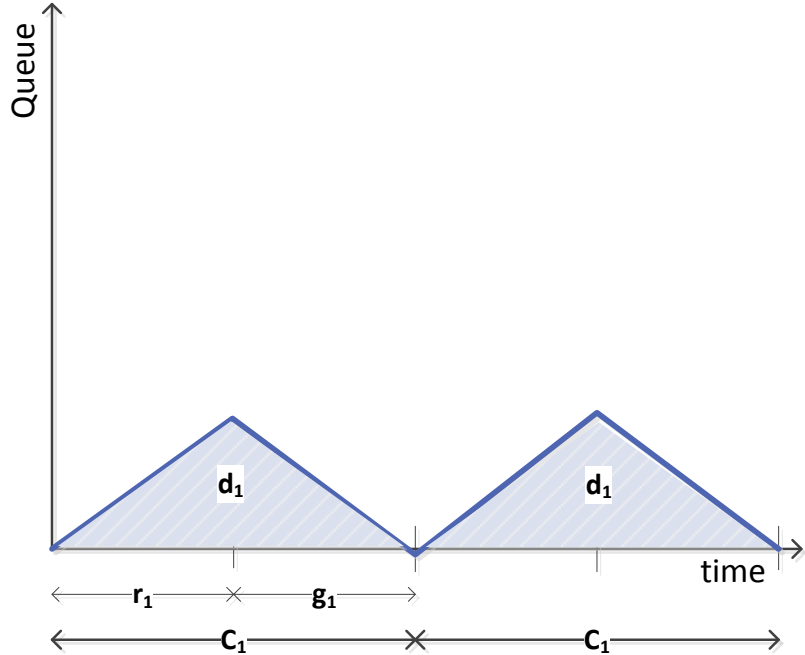
$C = 60 \text{ sec}$   
green ratio  $(g/C) = 0.83$

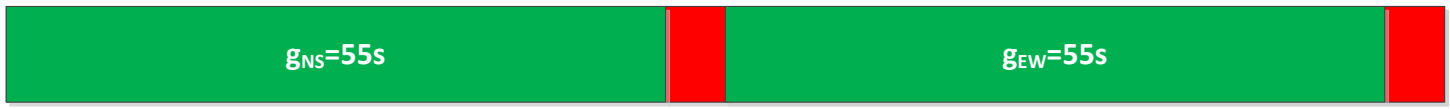
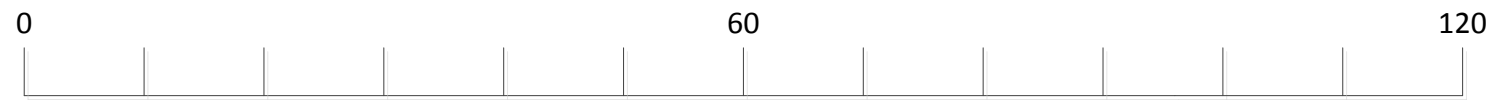


$C = 30 \text{ sec}$   
green ratio  $(g/C) = 0.67$





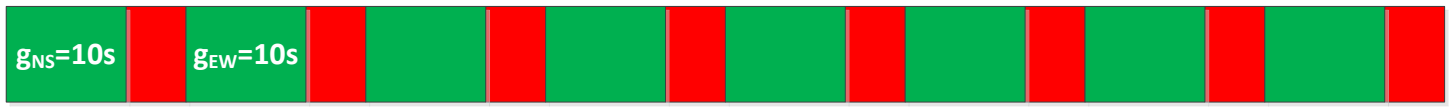




C = 120 sec  
green ratio (g/C) = 0.92



C = 60 sec  
green ratio (g/C) = 0.83



C = 30 sec  
green ratio (g/C) = 0.67



Case 2

**Case 1**  
Vehicle Extension time = 2 sec

**Case 1**  
Vehicle Extension time = 5 sec

15 vehicles/lane

10 vehicles/lane

Cycle	SB				EB			
	Green start, sec	Green end, sec	Vehicles in queue, start of green	Green duration, sec	Green start, sec	Green end, sec	Vehicles in queue, start of green	Green duration, sec
1								
2								
3								
4								
5								
	Mean →				Mean →			

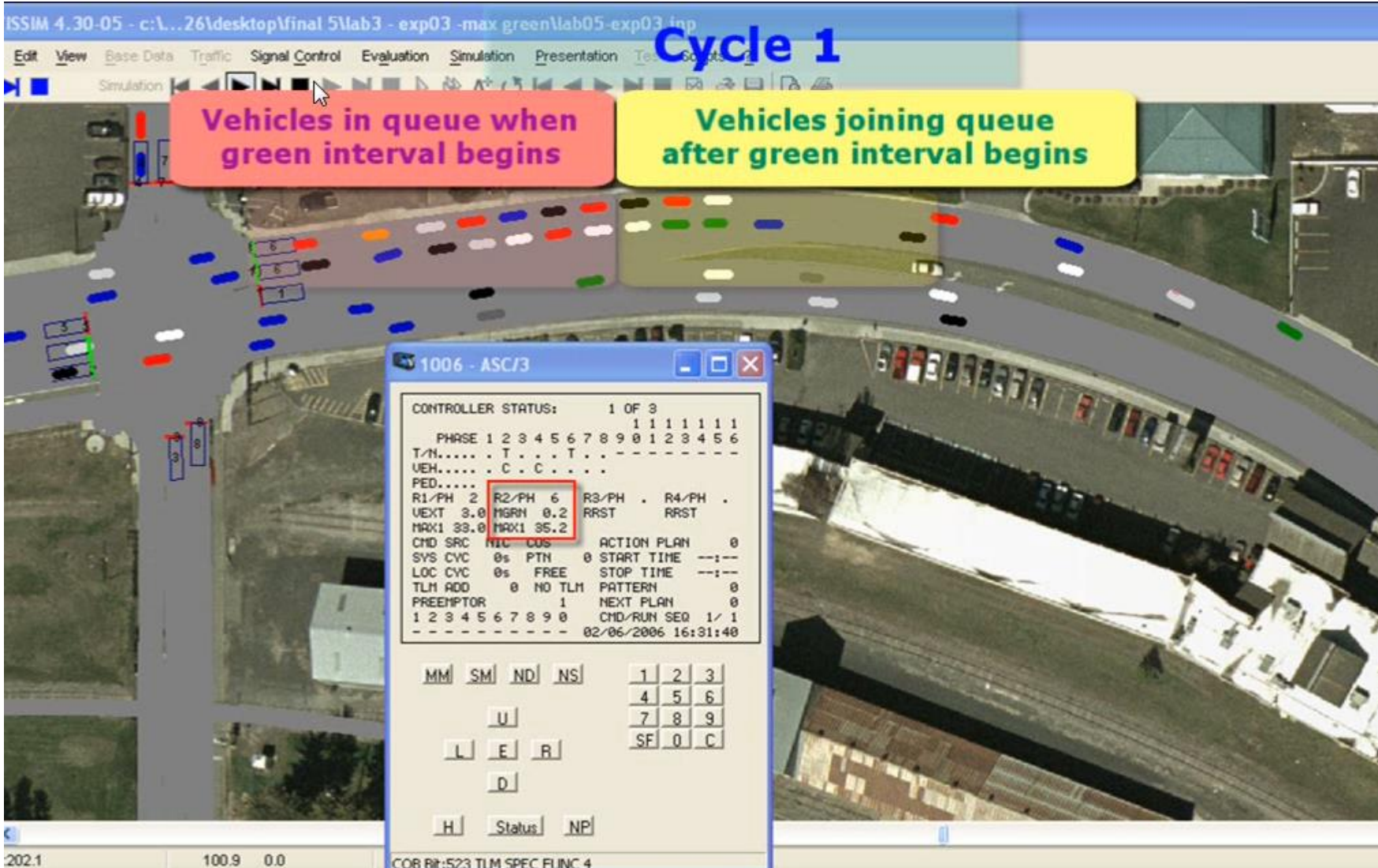
Table 20. Data collection table for queue and display status for case 1 (SB vehicle extension time of 2.0 seconds) (Left window)

ISSIM 4.30-05 - c:\...26\desktop\final 5\lab3 - exp03 - max green\lab05-exp03.inp

**Cycle 1**

**Vehicles in queue when green interval begins**

**Vehicles joining queue after green interval begins**



1006 - ASC/3

CONTROLLER STATUS: 1 OF 3  
1 1 1 1 1 1 1 1

PHASE 1 2 3 4 5 6 7 8 9 0 1 2 3 4 5 6  
T/N..... T . . . T . . . . .  
VEH..... C . C . . . . .  
PED.....

R1/PH 2 R2/PH 6 R3/PH . R4/PH .  
VEXT 3.0 MGRN 0.2 RRST RRST  
MAX1 39.0 MAX1 35.2

CHD SRC NTC COS ACTION PLAN 0  
SYS CVC 0% PTN 0 START TIME --:--  
LOC CVC 0% FREE STOP TIME --:--  
TLM ADD 0 NO TLM PATTERN 0  
PREEMPTOR 1 NEXT PLAN 0  
1 2 3 4 5 6 7 8 9 0 CHD/RUN SEQ 1/ 1  
----- 02/06/2006 16:31:40

MM SM ND NS 1 2 3  
4 5 6  
U 7 8 9  
L E R SF 0 C  
D

H Status NP

202.1 100.9 0.0 COB Bit:523 TLM SPEC FUNC 4

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# Mean Values for Case 1 and Case 2

	SB		EB	
	Case 1	Case 2	Case 1	Case 2
Green duration, sec	14.8	30.1	22.4	36.6
Cycle length, sec	44.5	77	44.5	77
Queue length, vehicles	5.6	7.3	8.2	19.3