

# CE 474 – Class 14

September 24, 2015

## For next time...

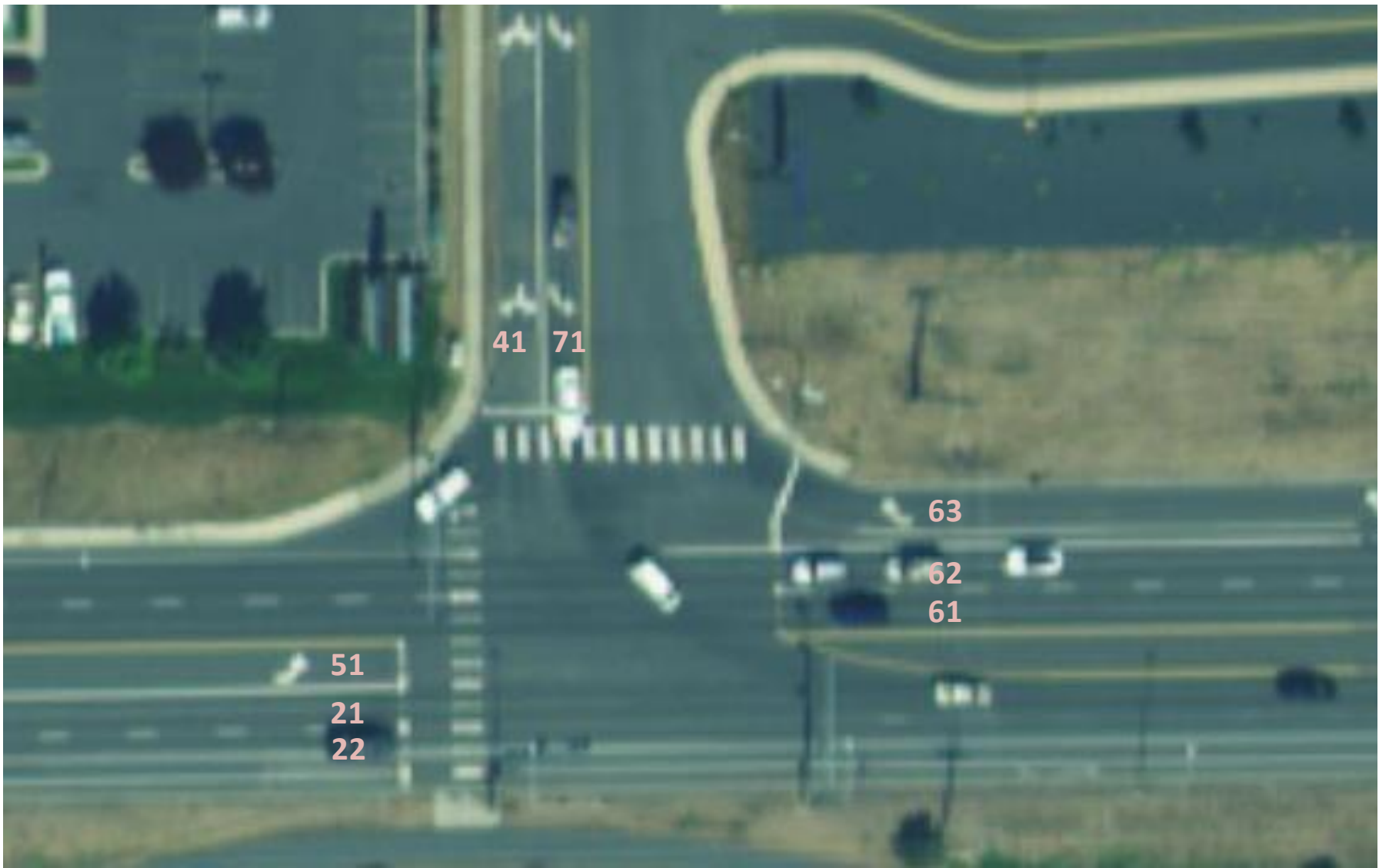
- Read: Chapter 6 overview
- Read: A30; complete CTQ and hand in on Monday (Q1, Q3, Q4, Q9 only)
- Your network should be completed in lab today and reviewed by me or Ben before your leave; the deliverables (spreadsheet and VISSIM files in a zip folder) should be available in class on Monday and submitted to BBLearn by Monday at 200 pm.



Group	Team	Name	Intersection	Network
A	2	Morris Cornwell Keller	SH 8/Warbonnet	1
B	3	Hartzell LeCates Landa	Palouse River Drive	5
C	5	Larrea Cupps	SH 8/Line	2
	6	Saras Skinner		
D	7	Scheel Kury Geibel	US 95/Sweet	4
E	9	Bode Hale	SH 8/Blaine	3
	10	Dashti Maffey		
F	12	Almakrab Crow Elmore	SH 8/Warbonnet	1
G	13	Ryu Alrashdi	SH 8/Line	2
	14	Bernauer Taylor-Stiffarm		



1. Download network and unzip contents to local drive
2. Begin tutorial steps and build your network!



- Links
- Desired Speed Deci
- Reduced Speed Are
- Conflict Areas
- Priority Rules**
- Stop Signs
- Signal Heads
- Detectors
- Vehicle Inputs
- Vehicle Routes
- Parking Lots
- Public Transport Sto
- Public Transport Lin
- Nodes
- Data Collection Poi
- Vehicle Travel Times
- Queue Counters
- Sections
- Background Images
- Pavement Markings
- 3D Traffic Signals
- Static 3D Models
- Vehicles In Network
- Pedestrians In Netw
- Areas
- Obstacles
- Ramps & Stairs
- Pedestrian Inputs
- Pedestrian Router



Signal Controllers / Signal Groups

Select layout...



Count: 1	No	Name	Type	CycTm	CycTmlsVar	SupplyFile1
▶ 1	2		Fixed	0	<input checked="" type="checkbox"/>	vissig.config



Right click to add controller



Count: 0	No	Name	Type
----------	----	------	------



Signal Control

No.:  Name:

Active Type: **Ring Barrier Controller**

Time:   s  variable Offset:  s

**Ring Barrier Controller** SigTimTbl Config LDP Config

Program file:  ...

Dialog DLL file:  ...

**Edit Signal Groups**

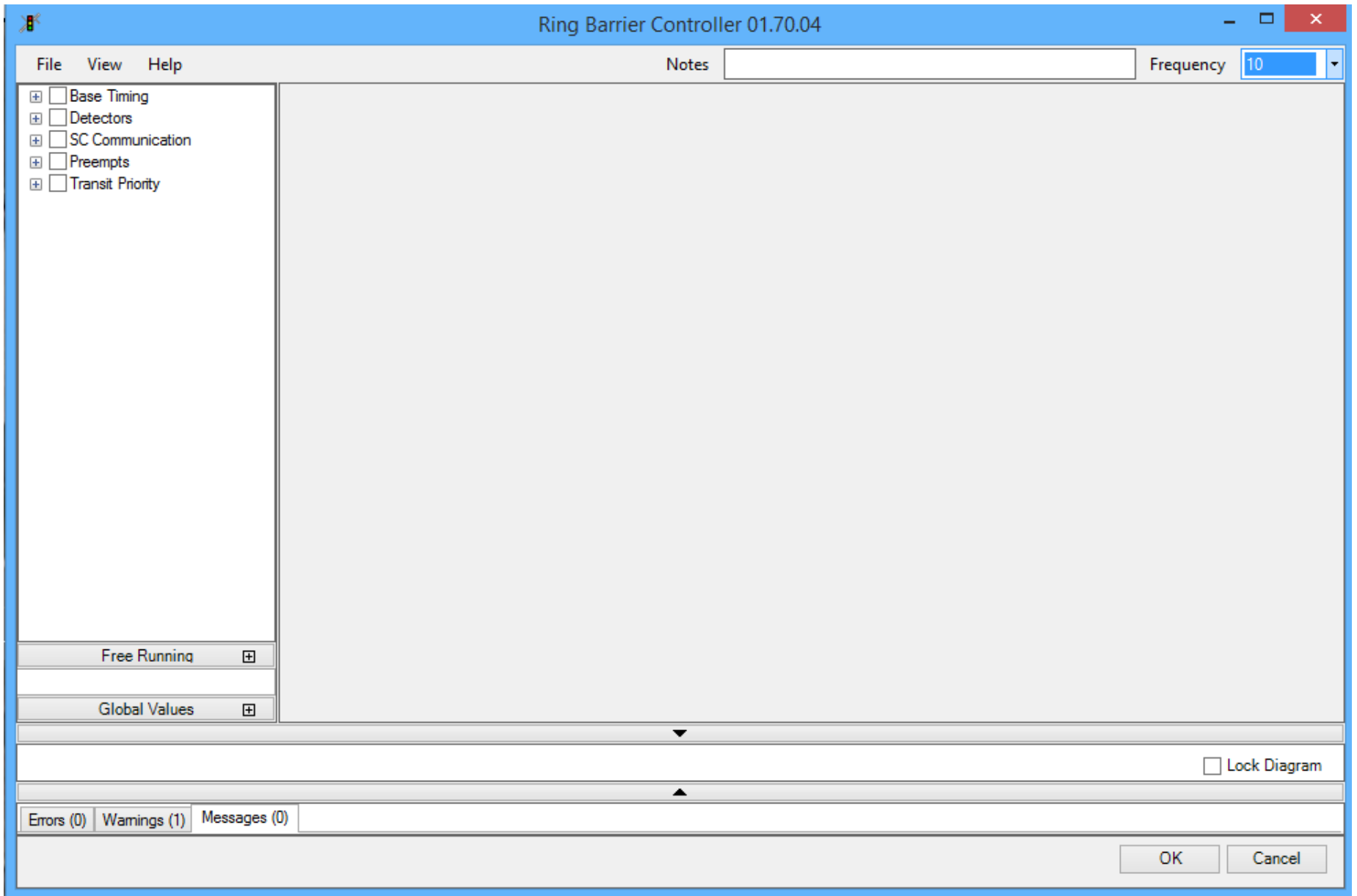
Data file 1:

Data file 2:

WTT files:

OK Cancel





- Base Timing
  - Timing by SG
    - Basic
      - SG Number
      - SG Name
      - Min Green
      - Vehicle Extension
      - Max 1
      - Yellow
      - Red Clearance
      - Ped SG Number
      - Walk
      - Ped Clear (FDW)
      - Start Up
      - Min Recall
      - Max Recall
      - Ped Recall
      - Soft Recall
      - NSE Max Recall
      - Dual Entry
    - Advanced
  - Patterns / Coordination
    - Pattern Schedule
    - Sequence

**Basic**

▶ SG Number																	
SG Name																	
Min Green																	
Veh Extension																	
Max 1																	
Yellow																	
Red Clearance																	
Start Up	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dual Entry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Lock Diagram

Errors (0) Warnings (1) Messages (0)

OK Cancel

File View Help

Notes

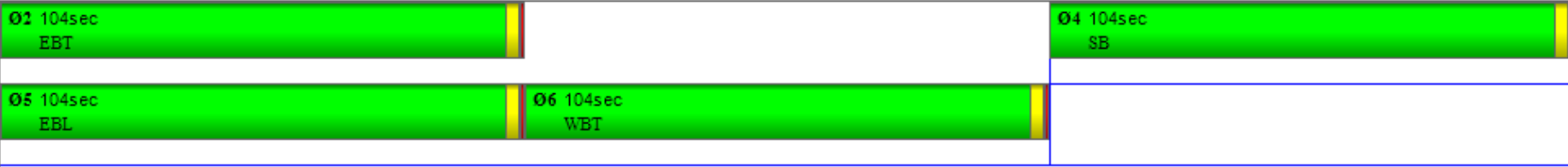
Frequency 10

**Basic**

SG Number	2	4	5	6															
SG Name	EBT	SB	EBL	WBT															
Min Green	15	15	15	15															
Veh Extension	5	5	5	5															
Max 1	100	100	100	100															
Yellow	3	3	3	3															
Red Clearance	1	1	1	1															
Start Up	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dual Entry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Sequence**

Ring 1		2		4															
Ring 2	5	6																	
Ring 3																			
Ring 4																			



Lock Diagram

Errors (0) Warnings (1) Messages (1)

OK Cancel

Ring Barrier Controller 01.70.04 (intx1.rbc)

File View Help Notes  Frequency 10

- Pattern Schedule
- Sequence
- Conflict SGs
- Overlaps
- Detectors
- Vehicle
  - Detector Number
  - Delay
  - Extend
  - Carry Over
  - Queue Limit
  - Detector Mode
  - Added Initial Mode
  - Call
  - Yellow Lock
  - Red Lock
  - Extend SGs
  - XSwitch SGs

Pattern 1

CycleLength 0

Global Values

Red Clearance	1	1	1	1														
Start Up	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dual Entry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Sequence**

Ring 1		2		4														
Ring 2		5	6															
Ring 3																		
Ring 4																		

**Veh Detectors**

Detector Number	21	22	41	71	51	61	62	63
Call	2	2	4	4	5	6	6	6
Extend SGs	2	2	4	4	5	6	6	6

02 104sec EBT

04 104sec SB

05 104sec EBL

06 104sec WBT

Lock Diagram

Errors (0) Warnings (1) Messages (1)

OK Cancel

Ring Barrier Controller 01.70.04 (intx1.rbc)

File View Help

Notes  Frequency 10

Pattern Schedule  
 Sequence  
 Conflict SGs  
 Overlaps  
 Detectors  
 Vehicle  
 Detector Number  
 Delay  
 Extend  
 Carry Over  
 Queue Limit  
 Detector Mode  
 Added Initial Mode  
 Call  
 Yellow Lock  
 Red Lock  
 Extend SGs  
 XSwitch SGs

**Basic**

SG Number	2	4	5	6														
SG Name	EBT	SB	EBL	WBT														
Min Green	15	15	15	15														
Veh Extension	5	5	5	5														
Max 1	100	100	100	100														
Yellow	3	3	3	3														
Red Clearance	1	1	1	1														
Start Up	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dual Entry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**Sequence**

Ring 1		2		4														
Ring 2		5	6															
Ring 3																		
Ring 4																		

Pattern 1

CycleLength 0

Global Values

Ø2 104sec  
EBT

Ø4 104sec  
SB

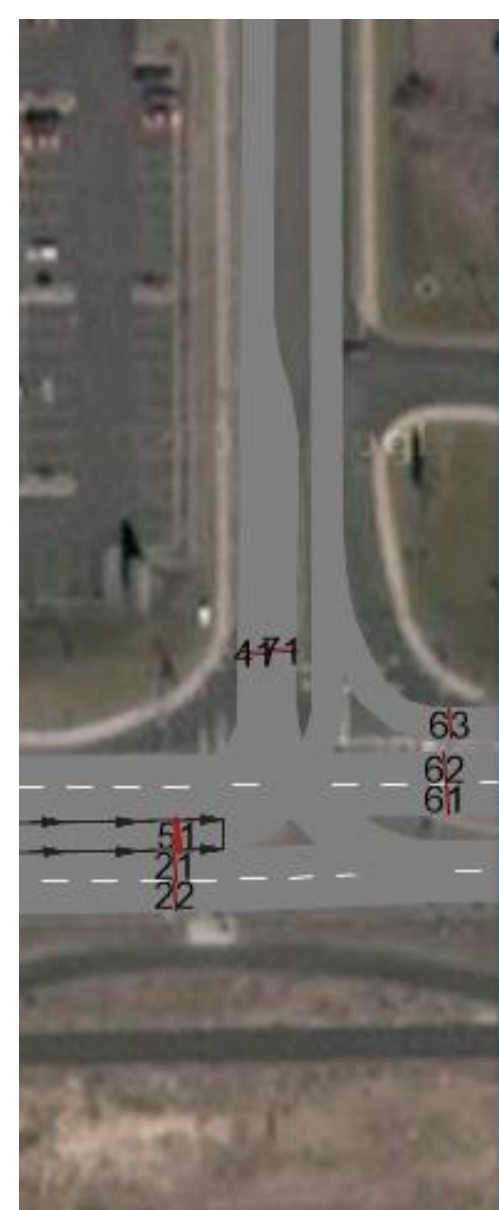
Ø5 104sec  
EBL

Ø6 104sec  
WBT

Lock Diagram

To add the barriers, click on the row on top of Ring 1...

...the outcome is shown here.



### Signal Head

No.:  Name:

Link: 2

Lane:

At:  ft

SC:  ▼

Signal group:  ▼

Type:  ▼

Or signal group

SC:  ▼

Signal group:  ▼

Rate of compliance:  %

Discharge record active

Block signal

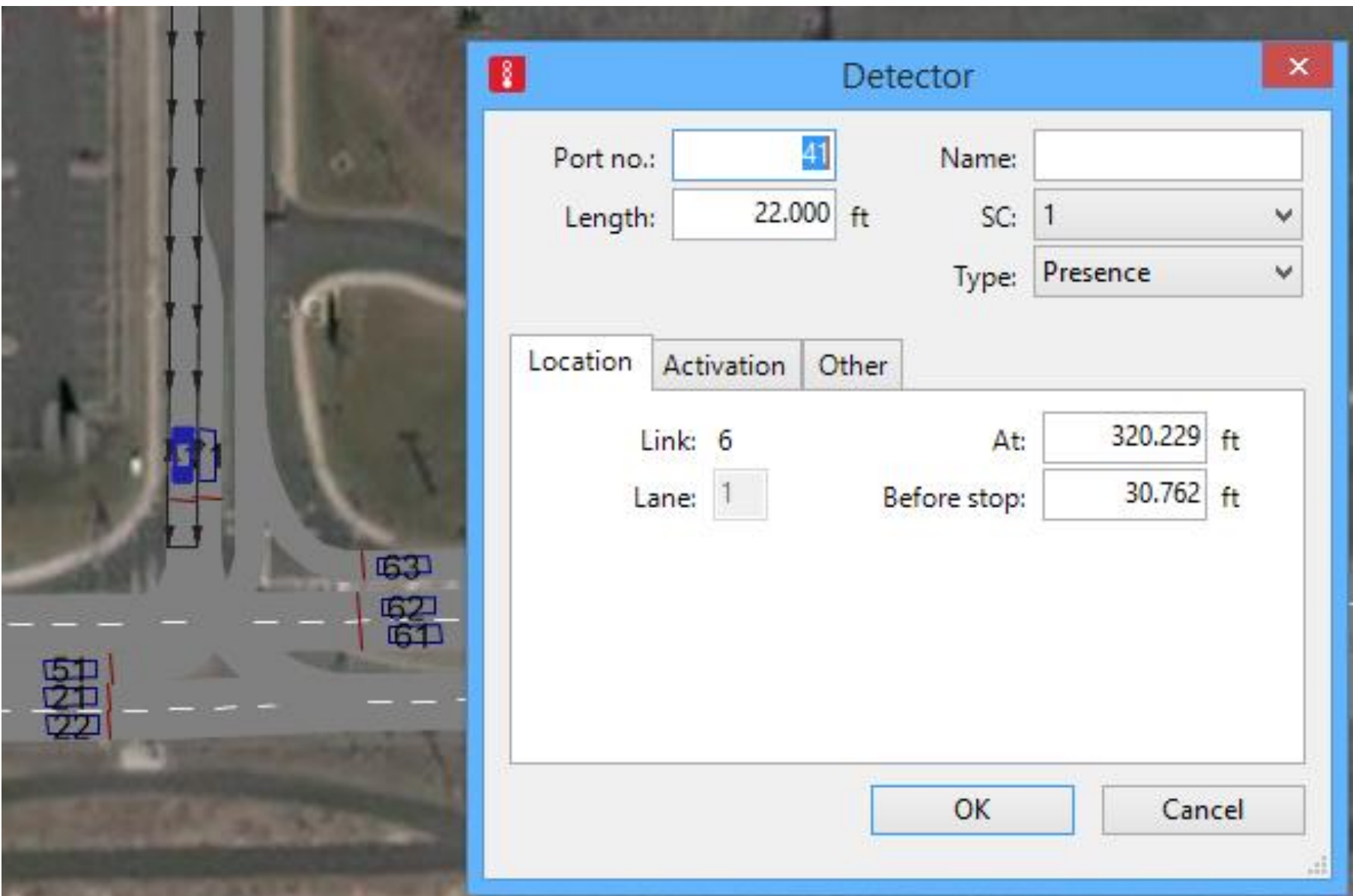
Amber speed:  mph

Label

**Vehicle Classes**

All Vehicle Types

10	Car
20	HGV
30	Bus
40	Tram
50	Pedestrian
60	Bike



# Detector



Port no.:

Name:

Length:  ft

SC:

Type:

Location

Activation

Other

Link:

At:  ft

Lane:

Before stop:  ft

OK

Cancel

**Simulation Parameters**

Comment:

---

Period:  Simulation seconds

Start Time:  [hh:mm:ss]

Start Date:  [DD.MM.YYYY]

---

Simulation resolution:  Time step(s) / Sim. sec.

Random Seed:

---

Number of runs:

Random seed increment:

Dynamic assignment volume increment:  %

---

Simulation speed:   Sim. sec. / s  
 maximum  
 Retrospective synchronization

Break at:  Simulation seconds

---

Number of cores:



## Evaluation Configuration

Evaluation output directory: C:\Users\mkyte\Documents\documents\01. Teaching-UI\1-0

Result Attributes Direct Output

- Overwrite all previous results  
 Keep results from previous simulation runs  
 Add list columns for new simulation runs automatically

Additionally collect data for these classes:

Vehicle Classes

10: Car  
20: HGV  
30: Bus  
40: Tram  
50: Pedestrian  
60: Bike

Pedestrian Classes

1: People

	Collect data	From time	To time	Interval	
Area measurements	<input type="checkbox"/>	0	99999	99999	
Areas & ramps	<input type="checkbox"/>	0	99999	999999	More...
Data collection	<input type="checkbox"/>	0	99999	99999	
Delays	<input type="checkbox"/>	0	99999	99999	
Links	<input type="checkbox"/>	0	99999	999999	More...
Network performance	<input type="checkbox"/>	0	99999	999999	
Nodes	<input checked="" type="checkbox"/>	300	3600	3300	More...
Pedestrian travel times	<input type="checkbox"/>	0	99999	99999	
Queue counters	<input type="checkbox"/>	0	99999	99999	More...
Vehicle travel times	<input type="checkbox"/>	0	99999	99999	More...

OK

Cancel

## Evaluation Configuration

Evaluation output directory: c:\users\mkyte\documents\documents\01. teaching-ui\1-079

Result Attributes Direct Output

	Write to file	Write database	From time	To time	
Area measurements (raw data)	<input type="checkbox"/>		0	99999	
Convergence	<input type="checkbox"/>				
Data collection (raw data)	<input checked="" type="checkbox"/>		0	900	
Discharge record	<input type="checkbox"/>		0	99999	
Green time distribution	<input checked="" type="checkbox"/>		0	99999	
Lane changes	<input type="checkbox"/>		0	99999	More...
Managed lanes	<input type="checkbox"/>				
Nodes (raw data)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	0	900	More...
Pedestrian record	<input type="checkbox"/>		0	99999	More...
Pedestrian travel time (OD data)	<input type="checkbox"/>		0	99999	More...
Pedestrian travel time (raw data)	<input type="checkbox"/>		0	99999	
Public transport waiting times	<input type="checkbox"/>				
Signal changes	<input type="checkbox"/>	<input type="checkbox"/>			
Signal control detector record	<input type="checkbox"/>				
SSAM	<input type="checkbox"/>				
Vehicle input data	<input type="checkbox"/>				
Vehicle record	<input type="checkbox"/>		0	99999	More...
Vehicle travel times (raw data)	<input type="checkbox"/>	<input type="checkbox"/>	0	99999	

OK

Cancel

Node Results						
Count: 0						
SimRun	TimeInt	Movement	QLen	Vehs(All)	VehDelay(All)	
Signal Controllers / Signal Groups						
Node Results						

Node Results						
Select layout...						
Count: 7						
SimRun	TimeInt	Movement	QLen	Vehs(All)	VehDelay(All)	
1	1	300-900	1 - 1: SH8 E	26.70 ft	206	9.45 s
2	1	300-900	1 - 2: SH8 E	128.80 ft	65	63.10 s
3	1	300-900	1 - 4: SH8	81.23 ft	173	27.22 s
4	1	300-900	1 - 5: SH8	25.14 ft	32	26.44 s
5	1	300-900	1 - 6: Warb	85.74 ft	19	58.80 s
6	1	300-900	1 - 6: Warb	85.74 ft	15	40.99 s
7	1	300-900	1 - 7: Warb	67.35 ft	29	52.87 s

Signal Controllers / Signal Groups

Node Results

```

SC 1, Average Green Times:
Signal group;      t;
                2;      91.7;
                4;      32.2;
                5;      26.0;
                6;      67.3;
  
```



# TT-Measurement Configuration



Active travel times:

- 1 (US 95 NB)
- 2 (US 95 SB)

Time

from:  s

until:  s

Interval:  s

Aggregation by time of passing the

- start section
- destination section

Output

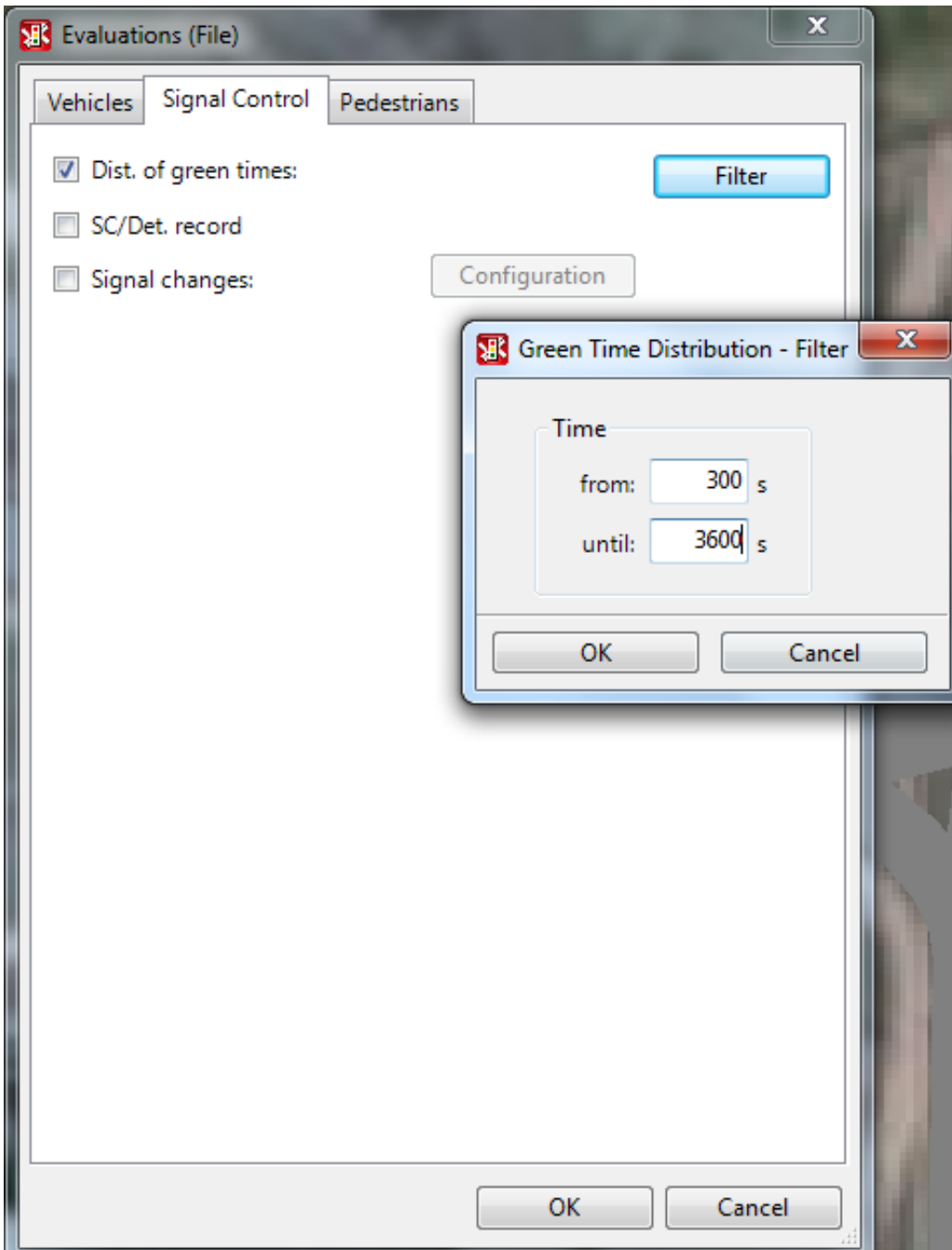
- Compiled data
- Raw data

Database

Table name:

OK

Cancel



```
team1_lab3 - Notepad
File Edit Format View Help
|
Node evaluation
File:      c:\users\michael kyte\desktop\team4\sweet and us95 high volume\team1_lab3.inp
Comment:
Date:      Friday, September 07, 2012 4:38:35 PM
VISSIM:    5.40-01 [31360]

Node 1

Movement:  Movement (Bearing from-to)
Node:       Node Number
aveQueue:   Average Queue Length [ft]
Delay(All): Average delay per vehicle [s], All vehicle types

Movement;  Node;  aveQueue;  Delay(All);
N-S;       1;      86.4;      42.2;
W-S;       1;      126.2;     26.4;
W-N;       1;      126.2;     20.2;
W-N;       1;       7.1;      38.3;
N-W;       1;      36.7;      28.3;
S-N;       1;      31.0;      21.8;
S-W;       1;      59.6;      72.0;
All;       1;      67.6;      34.4;
All;       0;      67.6;      34.4;
```

```
team1_lab3 - Notepad
File Edit Format View Help

Table of Travel Times

File:      c:\users\michael kyte\desktop\team4\sweet and us95 high volume\team1_lab3.inp
Comment:
Date:      Friday, September 07, 2012 4:38:35 PM
VISSIM:    5.40-01 [31360]

No.    1 (US 95 NB           ): from link    7 at   22.5 ft to link    9 at  452.9 ft, Distance  903.6 ft
No.    2 (US 95 SB           ): from link    1 at   19.6 ft to link    2 at  361.8 ft, Distance  915.5 ft

Time; Trav;#Veh; Trav;#Veh;
VehC; All;; All;;
No.;; 1; 1; 2; 2;
Name;US 95 NB;US 95 NB;US 95 SB;US 95 SB;
300; 43.0; 32; 61.6; 40;
```

## Distribution of Signal Times

File: c:\users\michael kyte\desktop\team4\sweet and us95 high volume\team1\_lab3.inp

Comment:

Date: Friday, September 07, 2012 4:39:06 PM

VISSIM: 5.40-01 [31360]

Time: 0.0 - 300.0

SC 1, Average Green Times:

Signal group;	t;
2;	58.5;
3;	57.0;
5;	20.5;
6;	48.5;
7;	57.0;

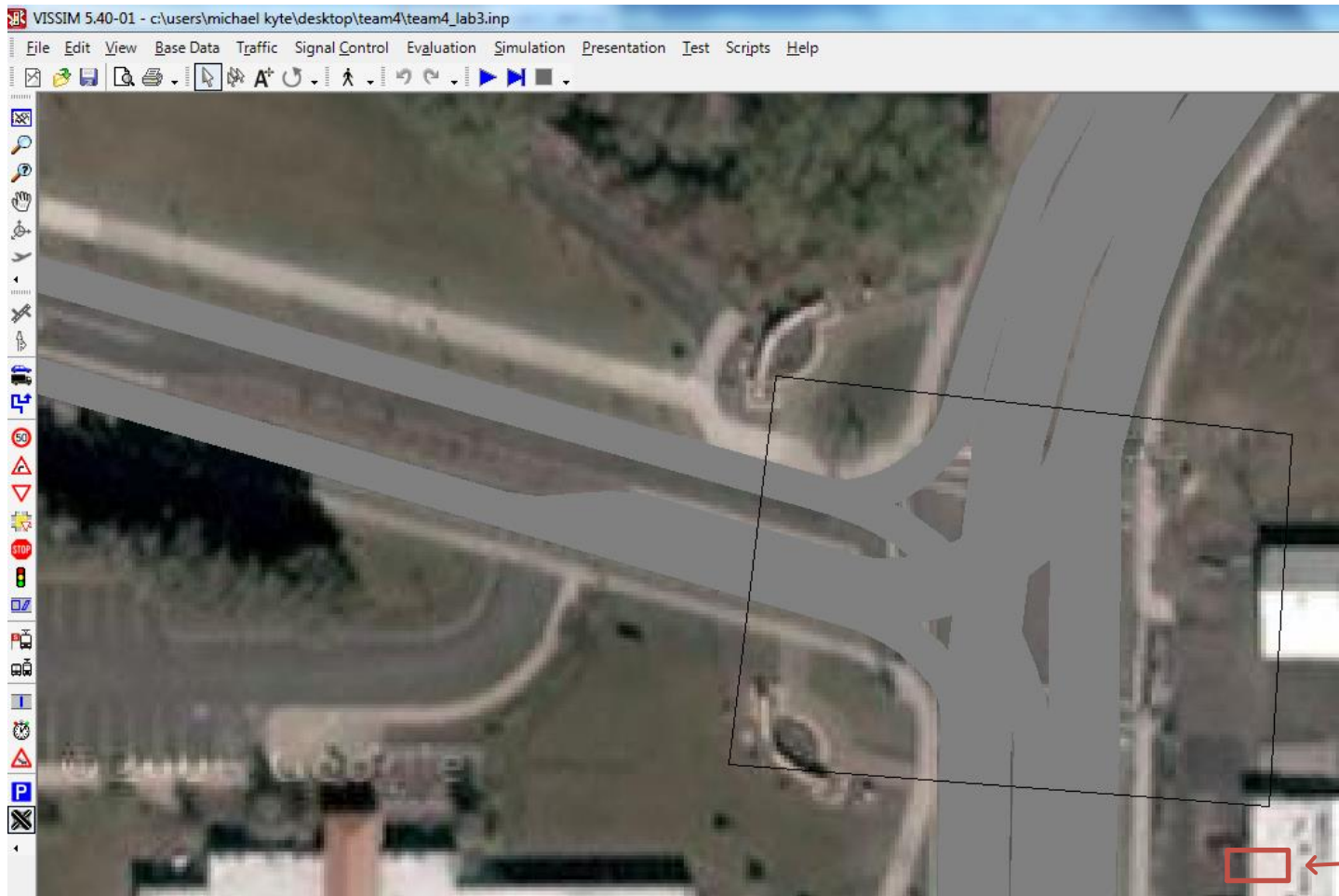
SC 1, signal group 2, Green Times: (Mean: 58.5)  
14 1 \*  
103 1 \*

SC 1, signal group 2, Red Times: (Mean: 41.3)  
0 1 \*  
28 1 \*  
96 1 \*

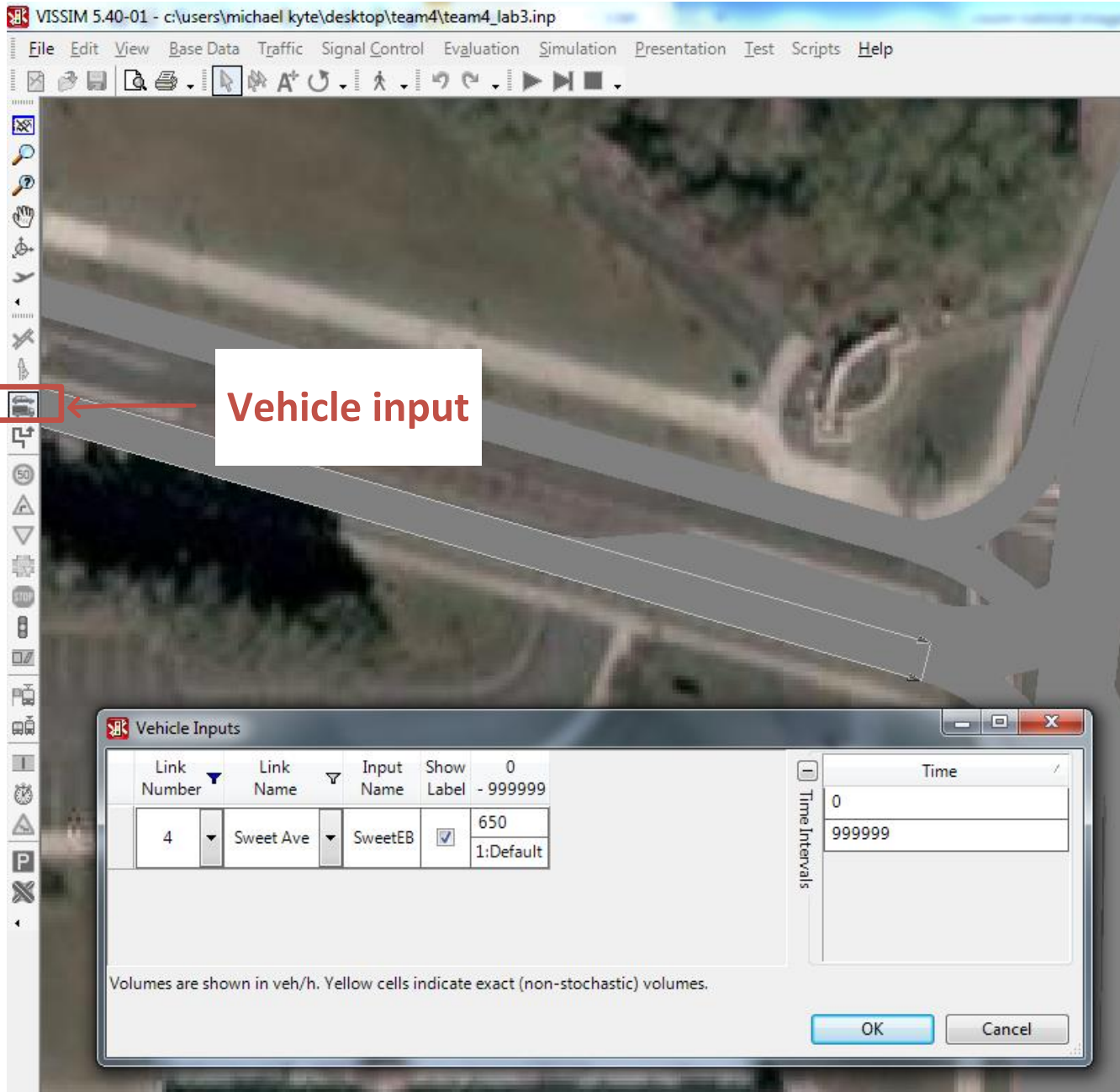
SC 1, signal group 3, Green Times: (Mean: 57.0)  
23 1 \*  
91 1 \*

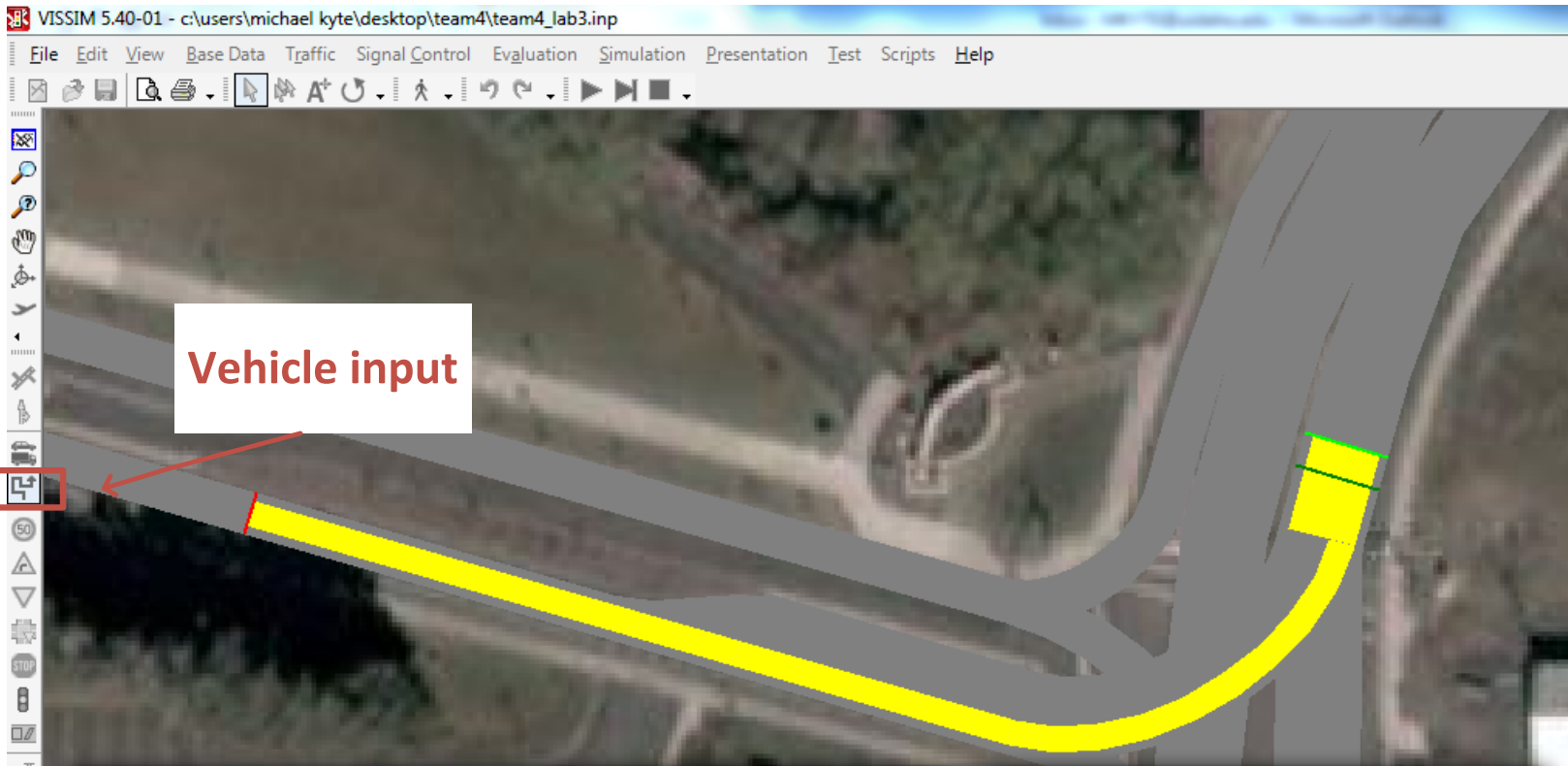
SC 1, signal group 3, Red Times: (Mean: 63.5)  
19 1 \*  
108 1 \*





Node





Routes

Static Partial Parking Dynamic Closures Managed Lanes

Decisi No.	Decision Name	Start Link	At [ft]	
1	95NB	7:HW 95	11.4731	All Ve
2	SweetEB	4:Sweet Ave	295.758	All Ve

Decision

No.: 2 Name: SweetEB

At: 295.758 ft Link: 4:Sweet Ave

Vehicle Class(es): All Vehicle Types

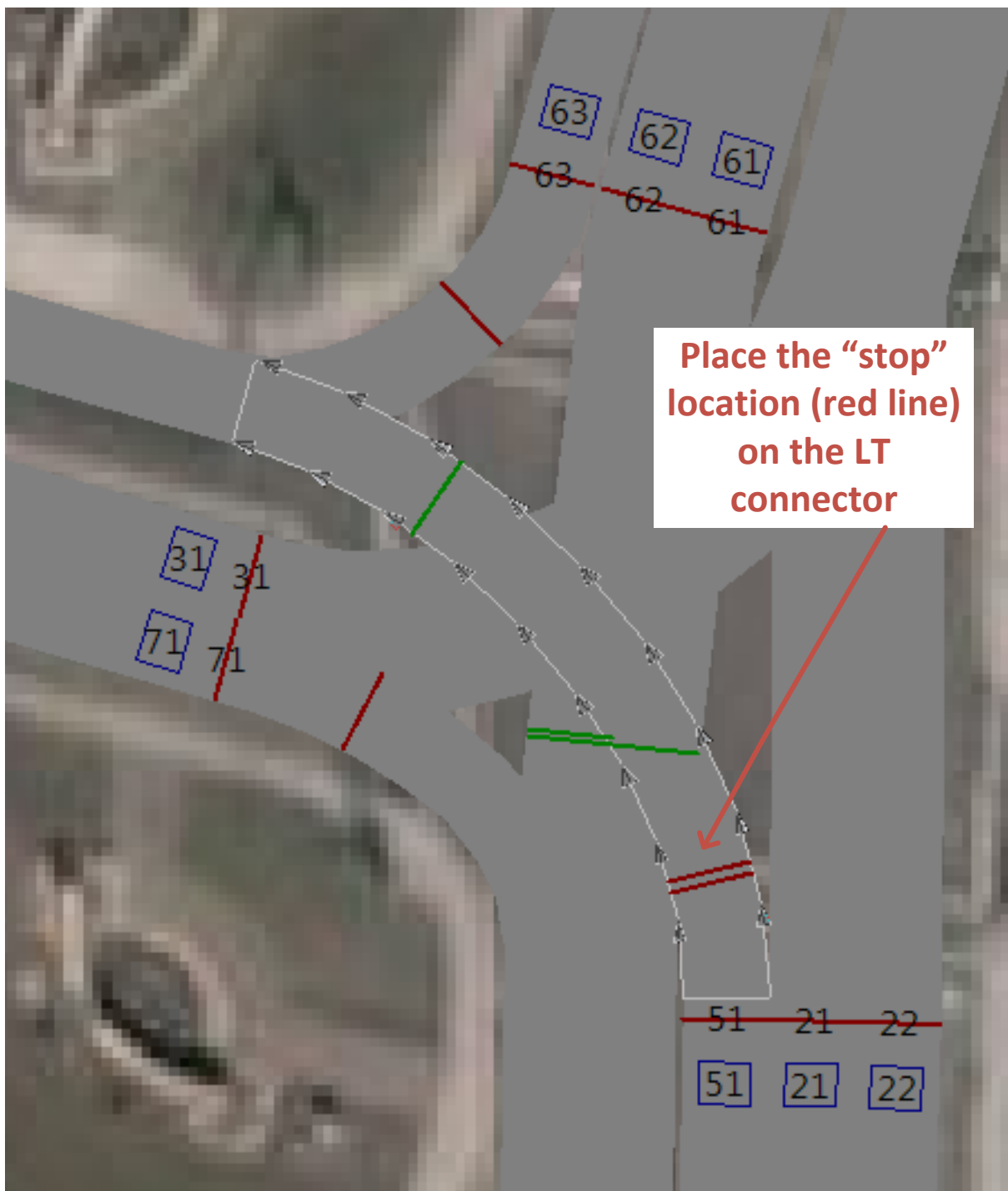
Decision No.	Route No.	Dest. Link	At [ft]	0 - 99999
2	1	9:HW 95	30.771	140

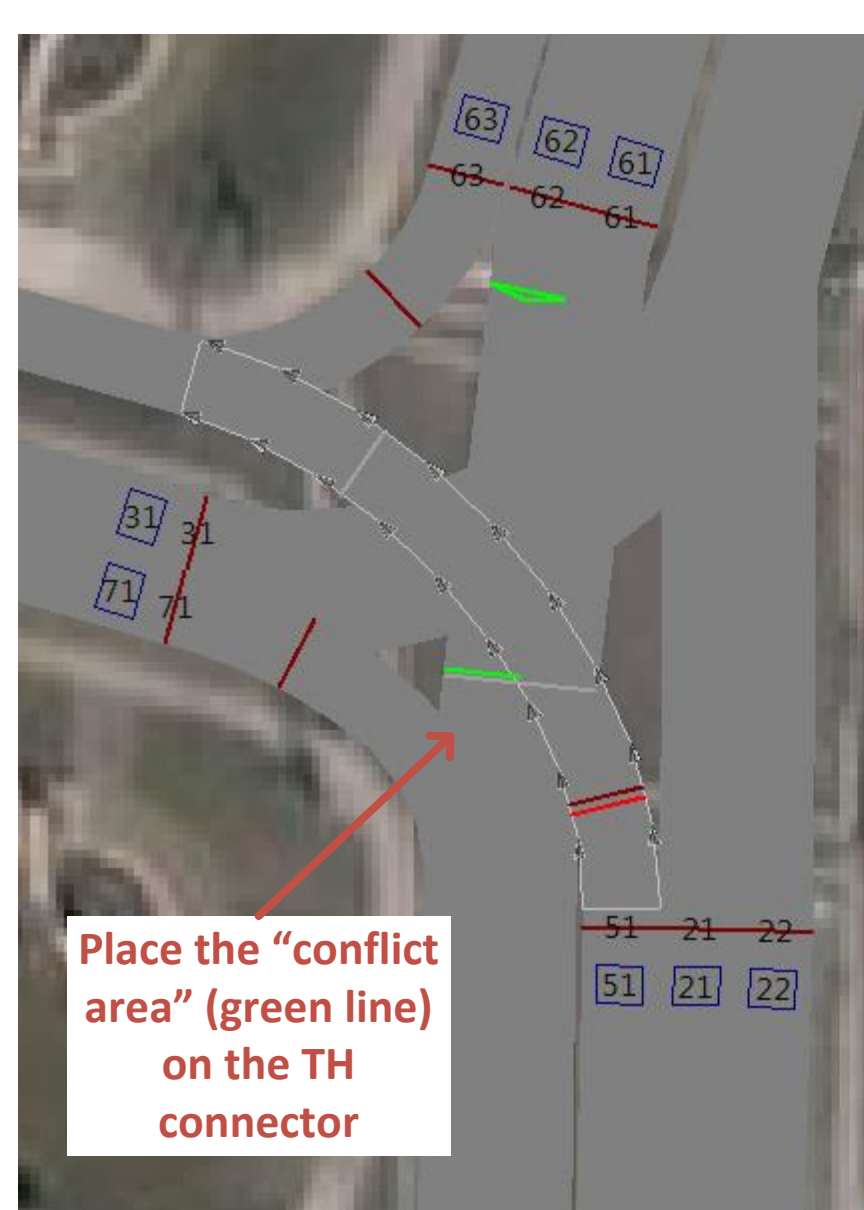
show only routes over link

Static Routing Decisions: 2  
Static Routes: 5

OK Cancel







Place the “conflict area” (green line) on the TH connector

**Priority Rule**

No.: 1 Name: 95 NB LT

Stop line (red)

Link: 10003  
Lane: 1  
At: 16.578 ft

All lanes

Vehicle Classes

All Vehicle Types
10 Car
20 HGV

Conflict marker (green)

Link: 10008  
Lane: 1  
At: 67.943 ft

All lanes

Vehicle Classes

All Vehicle Types
10 Car
20 HGV

Min. Gap Time: 3.0 s

Min. Headway: 200 ft

Max. Speed: 111.8 mph

Look beyond red signals

OK Cancel

Set the minimum headway to 200 feet