Synchro

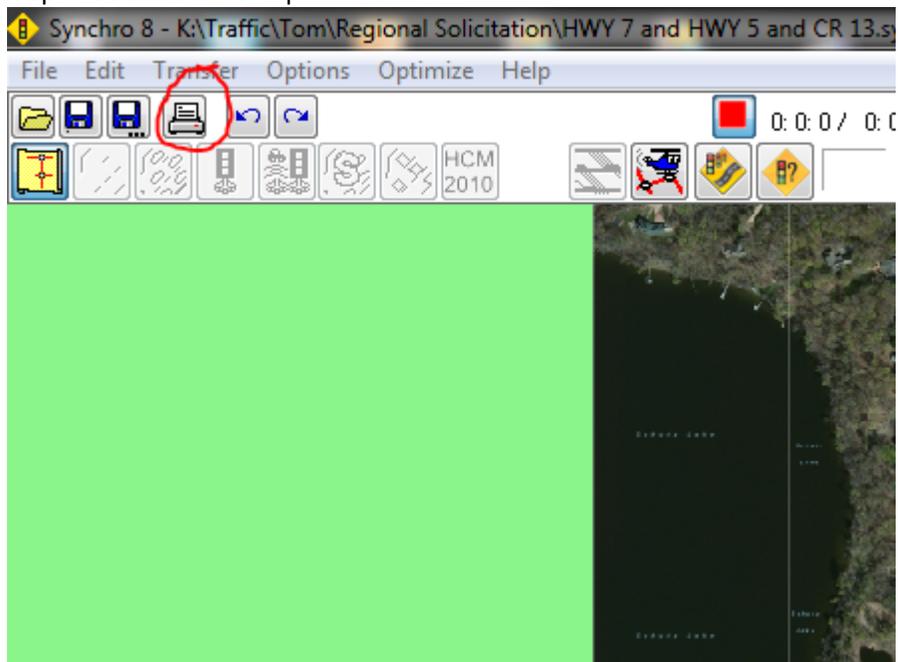There are four steps necessary to create Synchro output reports for the funding applications:

Step 1: Select Create Reports Button
Step 2: Click on the Measures of Effectiveness Report button, select the Summary Report, default measures are shown
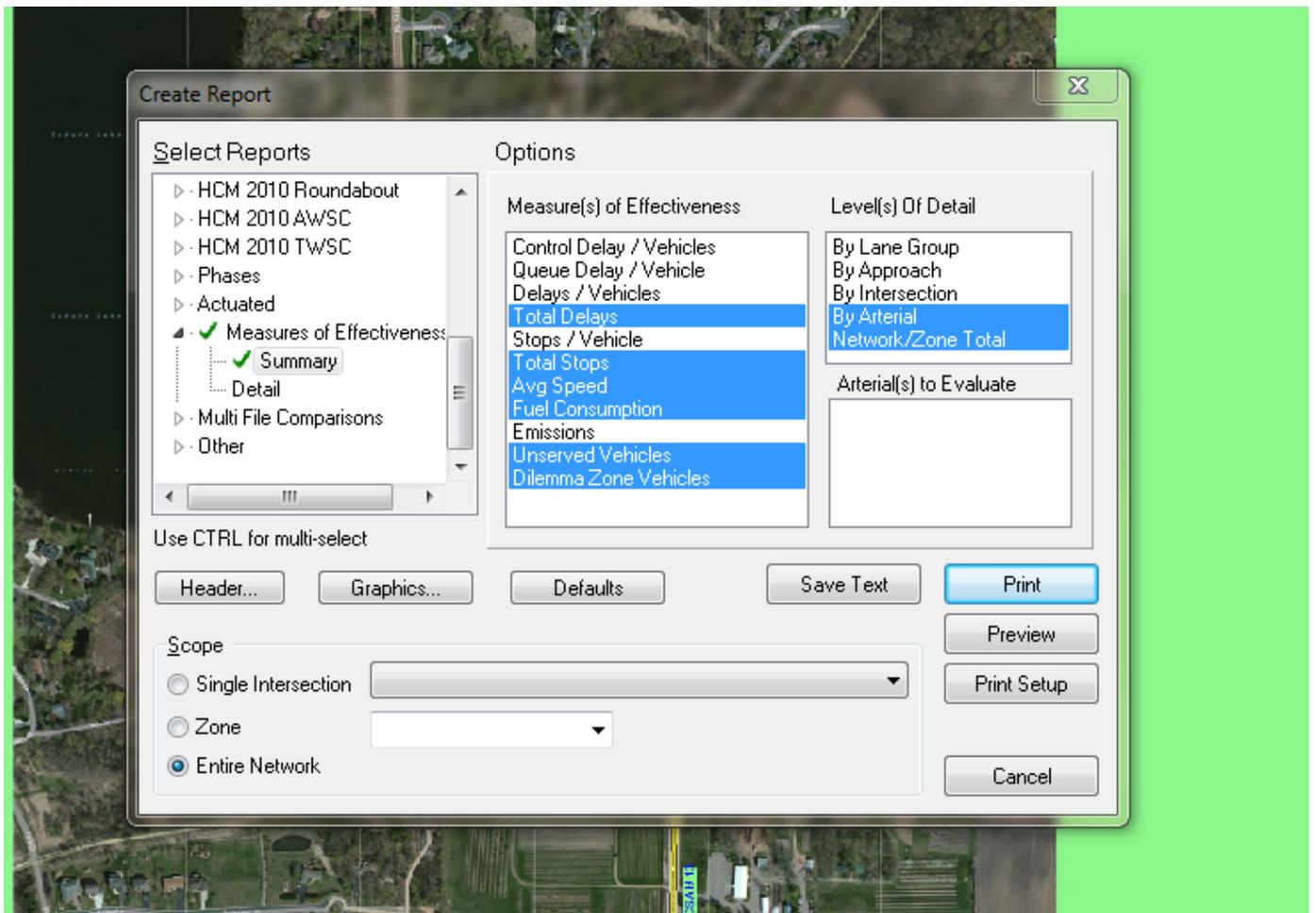Step 3: In the Options side of the Create Report window select the Delays/Vehicle and Emissions options, on the Levels of Detail side select By Intersection
Step 4: Click the print button to create your report. This report displays your vehicle volume, total delay/vehicle (in s/veh) and the emissions in kilograms. In order to get your Total Delay, just simply multiply the number of vehicles by the Total Delay/Vehicle.
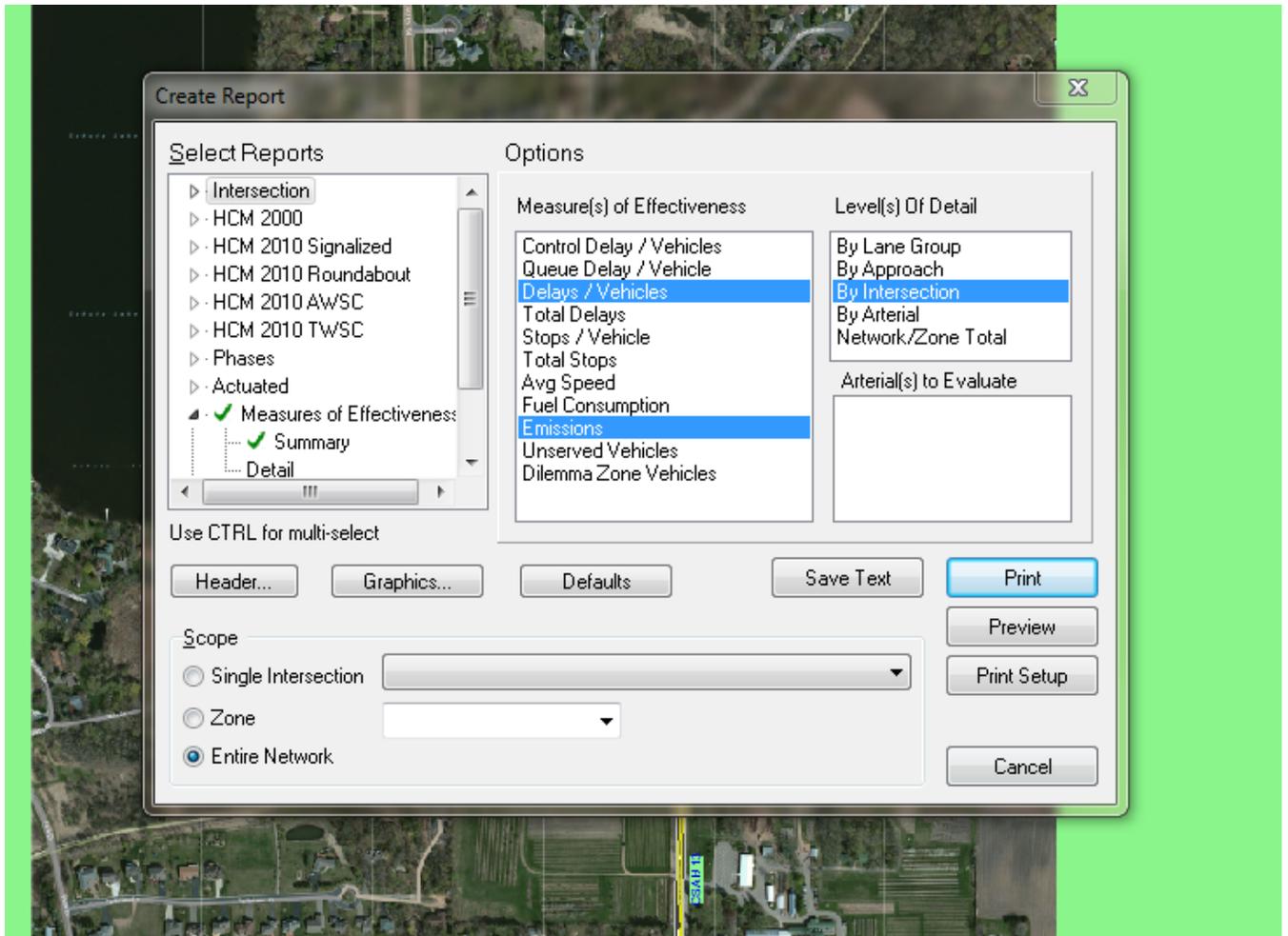
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Step 4: Click the print button to create your report. This report displays your vehicle volume, total delay/vehicle (in s/veh) and the emissions in kilograms. In order to get your Total Delay (in seconds), just simply multiply the number of vehicles by the Total Delay/Vehicle.

Measures of Effectiveness

3: CSAH 13/Smithtown Rd & Hwy 7

Direction	All
Volume (vph)	1864
Total Delay / Veh (s/v)	45
CO Emissions (kg)	3.55
NOx Emissions (kg)	0.69
VOC Emissions (kg)	0.82

8: CSAH 13 & Hwy 5

Direction	All
Volume (vph)	2173
Total Delay / Veh (s/v)	22
CO Emissions (kg)	3.14
NOx Emissions (kg)	0.61
VOC Emissions (kg)	0.73

Roundabouts

Synchro can produce emissions for roundabouts. You need to run the model through SimTraffic (the microsimulation module for Synchro) first. At least 10 runs as SimTraffic is a microsimulation model. Then, when you create a report, under performance report look under other. There you will find fuel consumption, fuel efficiency, and emissions (among others). Make sure they are checked with a green checkmark (hold down the CTRL key to check multiple options. If you don't, checking another item will uncheck any items already marked). The emissions SimTraffic will report are HC, CO, and NOx (all in grams). Attached is a sample Synchro file and report for a roundabout. Synchro 11 is needed.

SimTraffic Performance Report
2016 Optimized AM   3/18/2022

13: Everton Ave & TH 97 Performance by movement

Movement	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	All
Denied Del/Veh (s)	0.1	0.2	0.4	0.2	0.1	0.2	0.1	0.3	0.1	0.1	0.1	0.2
Total Del/Veh (s)	7	2.4	7.9	10.6	3.4	4.3	5.1	4	4	5.7	2.6	8.2
Fuel Used (gal)	2.2	0.4	0.2	4.6	0	0.7	0	0.2	0	0	0	8.3
Fuel Eff. (mpg)	32.6	32.7	43	37.6	20.6	30	28.2	30	47.5	38.9	38.2	35.4
HC Emissions (g)	39	16	5	78	0	8	0	6	0	0	0	152
CO Emissions (g)	1854	471	184	3607	21	316	3	142	0	1	3	6603
NOx Emissions (g)	122	46	13	230	1	27	0	15	0	0	0	455
Vehicles Exited	294	61	46	769	2	223	2	51	3	3	11	1465
Hourly Exit Rate	294	61	46	769	2	223	2	51	3	3	11	1465
Input Volume	257	52	56	762	1	215	1	46	2	4	9	1406
% of Volume	114	117	82	101	200	104	200	111	150	75	122	104

Total Network Performance

Denied Del/Veh (s)	0.2
Total Del/Veh (s)	8.7
Fuel Used (gal)	32.8
Fuel Eff. (mpg)	22.1
HC Emissions (g)	599
CO Emissions (g)	30720
NOx Emissions (g)	1804
Vehicles Exited	1454
Hourly Exit Rate	1454
Input Volume	2812
% of Volume	52

Queuing and Blocking Report - Intersection: 13: Everton Ave & TH 97

Movement	EB	WB	NB	SB
Directions Served	LT	LT	LTR	LTR
Maximum Queue (ft)	31	111	76	36
Average Queue (ft)	6	45	34	7
95th Queue (ft)	25	87	68	29
Link Distance (ft)	1252	1181	464	328
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary
Network wide Queuing Penalty: 0