CAMBRIDGE SYSTEMATICS

Think Forward

Aimsun Model Review Training

Day 2: Review Model Setup

Caltrans On-Call Traffic Simulation Training

presented to

Caltrans District 7

presented by

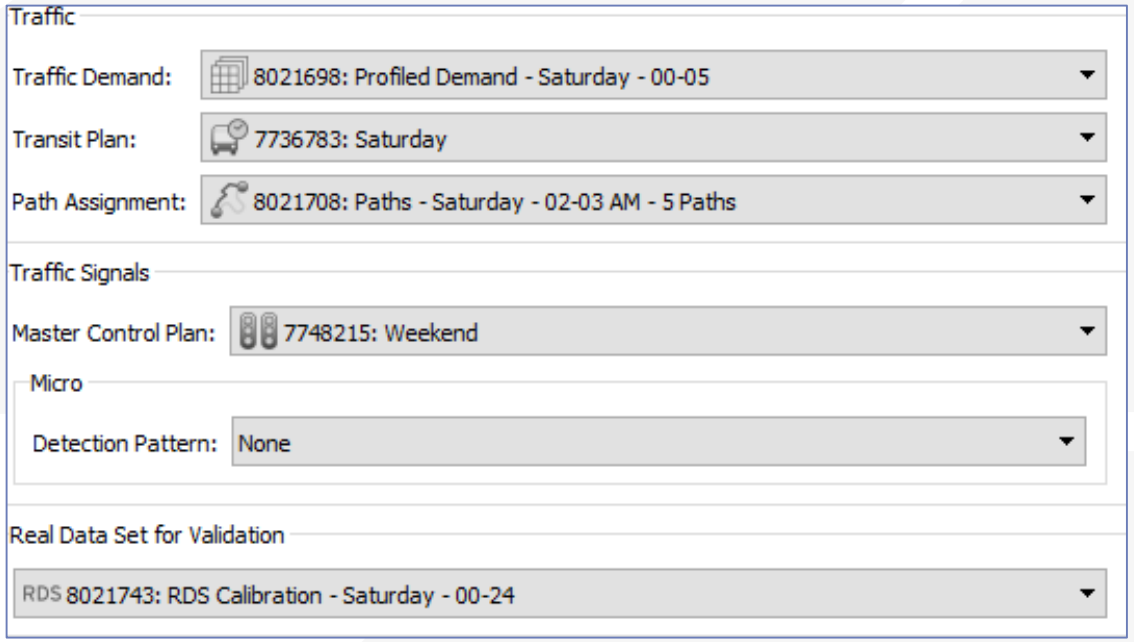
Cambridge Systematics & Aimsun

Keir Opie

Laura Torres

Scenario: Main

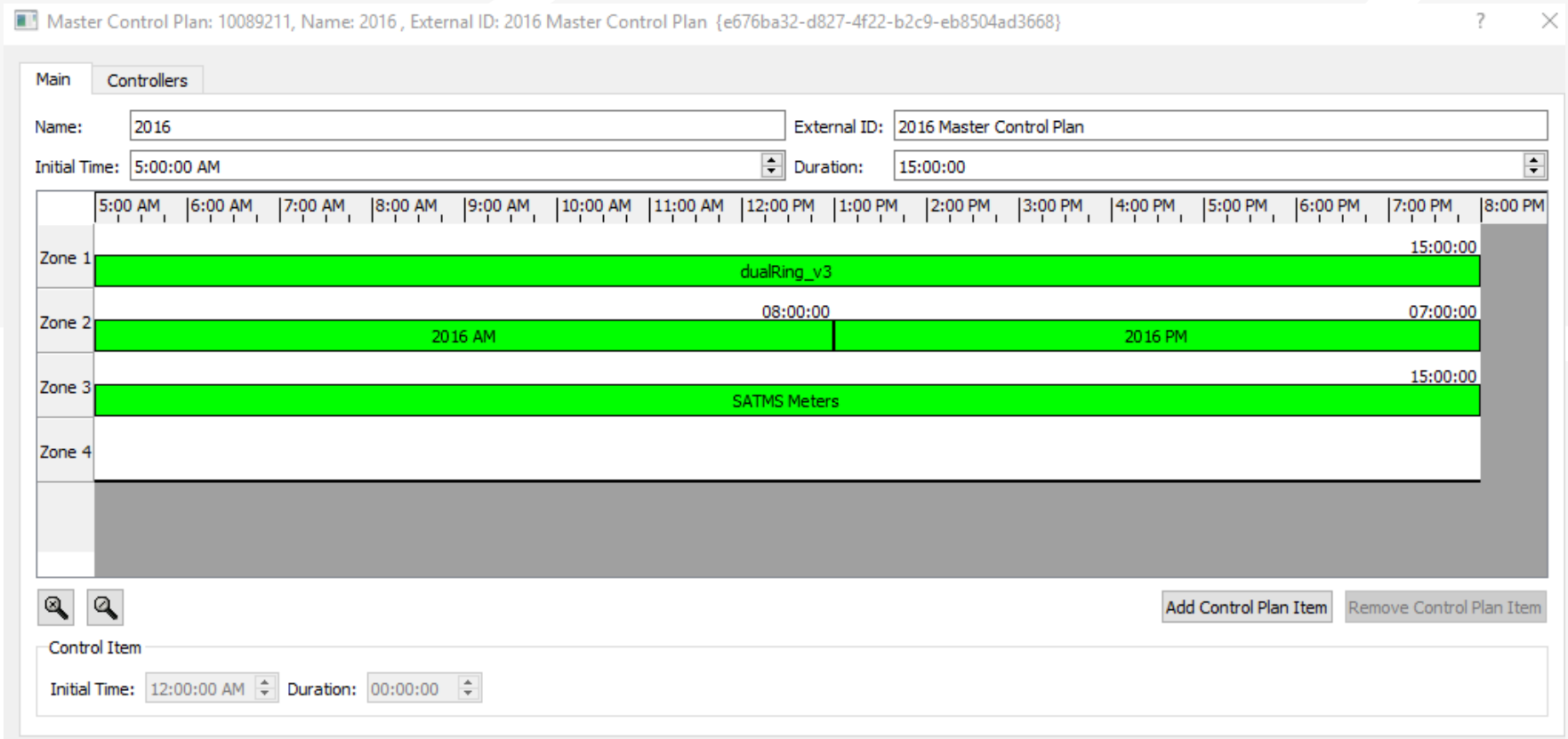
- Simulation settings
  - Traffic demand
  - Transit plans
  - Path assignment
  - Master control plans
  - Real Data Set
- Geometric Configurations



Caltrans

CAMBRIDGE SYSTEMATICS

Scenario:
Master Control Plan

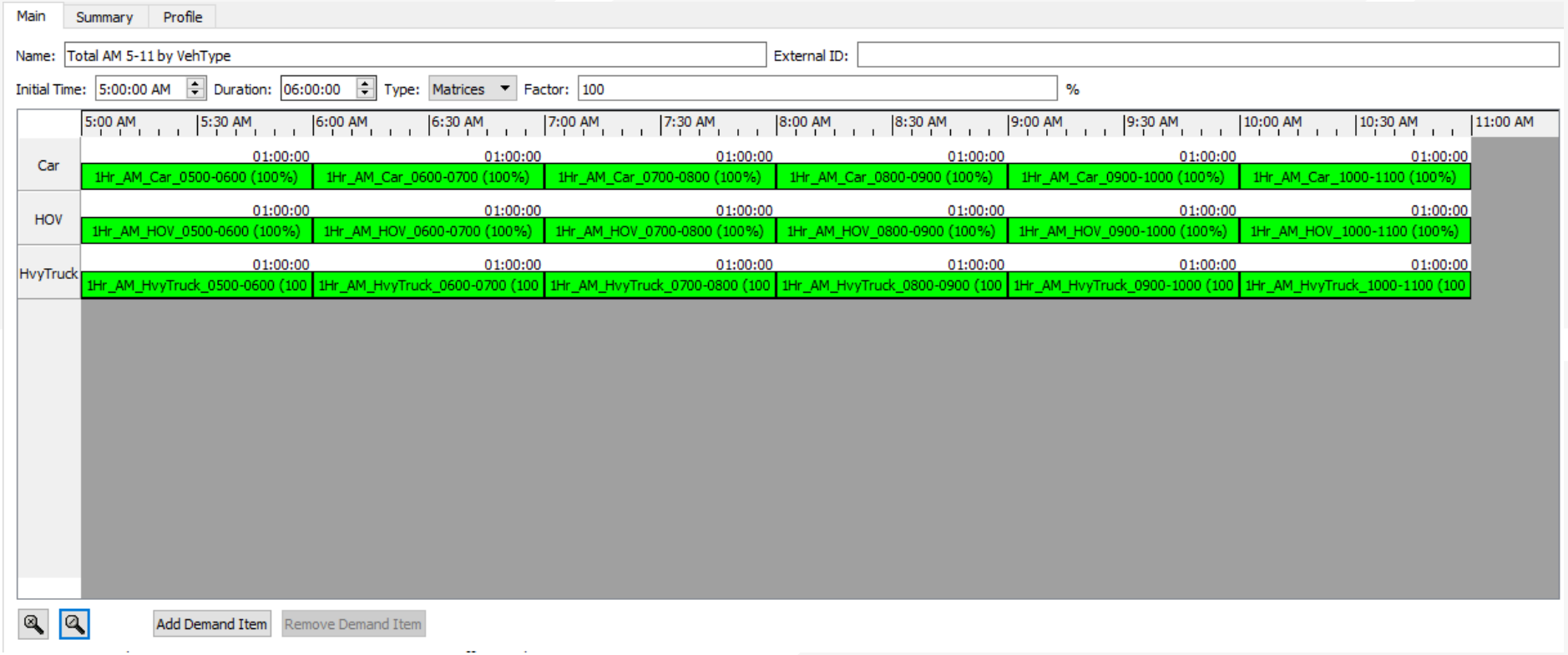


Caltrans

CAMBRIDGE SYSTEMATICS

Scenario: Demands

Demand Makeup

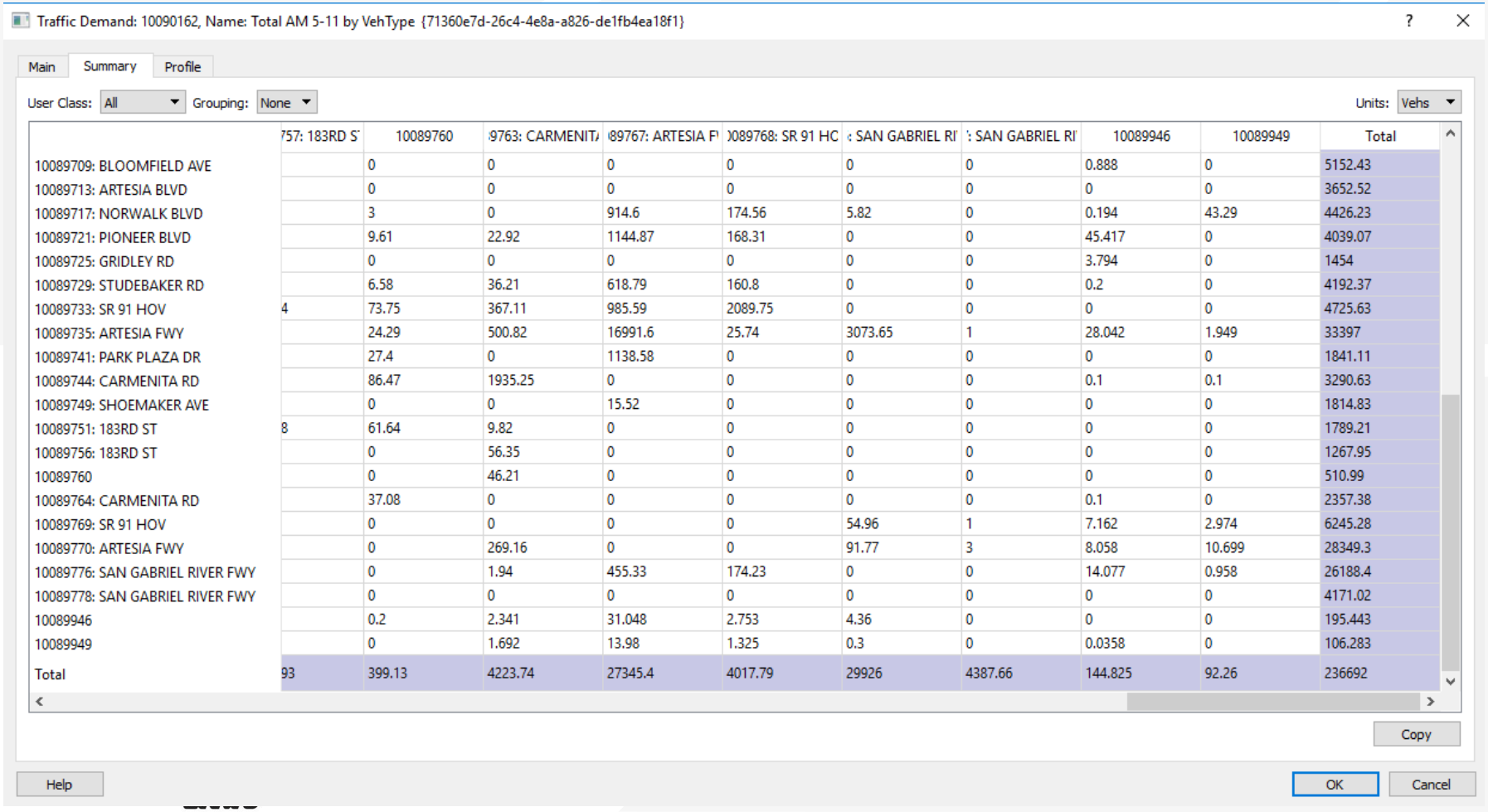


Caltrans

CAMBRIDGE SYSTEMATICS

Scenario: Demand Summary

- Sum of all input matrices (by class)


Traffic Demand: 10090162, Name: Total AM 5-11 by VehType {71360e7d-26c4-4e8a-a826-de1fb4ea18f1}

Main | Summary | Profile

User Class: All Grouping: None Units: Vehs

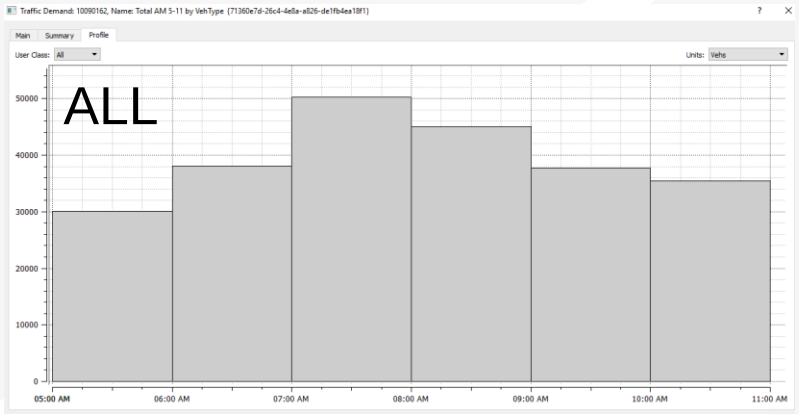
	757: 183RD S	10089760	9763: CARMENIT	89767: ARTESIA F	089768: SR 91 HC	: SAN GABRIEL RI	: SAN GABRIEL RI	10089946	10089949	Total
10089709: BLOOMFIELD AVE		0	0	0	0	0	0	0.888	0	5152.43
10089713: ARTESIA BLVD		0	0	0	0	0	0	0	0	3652.52
10089717: NORWALK BLVD		3	0	914.6	174.56	5.82	0	0.194	43.29	4426.23
10089721: PIONEER BLVD		9.61	22.92	1144.87	168.31	0	0	45.417	0	4039.07
10089725: GRIDLEY RD		0	0	0	0	0	0	3.794	0	1454
10089729: STUDEBAKER RD		6.58	36.21	618.79	160.8	0	0	0.2	0	4192.37
10089733: SR 91 HOV	4	73.75	367.11	985.59	2089.75	0	0	0	0	4725.63
10089735: ARTESIA FWY		24.29	500.82	16991.6	25.74	3073.65	1	28.042	1.949	33397
10089741: PARK PLAZA DR		27.4	0	1138.58	0	0	0	0	0	1841.11
10089744: CARMENITA RD		86.47	1935.25	0	0	0	0	0.1	0.1	3290.63
10089749: SHOEMAKER AVE		0	0	15.52	0	0	0	0	0	1814.83
10089751: 183RD ST	8	61.64	9.82	0	0	0	0	0	0	1789.21
10089756: 183RD ST		0	56.35	0	0	0	0	0	0	1267.95
10089760		0	46.21	0	0	0	0	0	0	510.99
10089764: CARMENITA RD		37.08	0	0	0	0	0	0.1	0	2357.38
10089769: SR 91 HOV		0	0	0	0	54.96	1	7.162	2.974	6245.28
10089770: ARTESIA FWY		0	269.16	0	0	91.77	3	8.058	10.699	28349.3
10089776: SAN GABRIEL RIVER FWY		0	1.94	455.33	174.23	0	0	14.077	0.958	26188.4
10089778: SAN GABRIEL RIVER FWY		0	0	0	0	0	0	0	0	4171.02
10089946		0.2	2.341	31.048	2.753	4.36	0	0	0	195.443
10089949		0	1.692	13.98	1.325	0.3	0	0.0358	0	106.283
Total	93	399.13	4223.74	27345.4	4017.79	29926	4387.66	144.825	92.26	236692

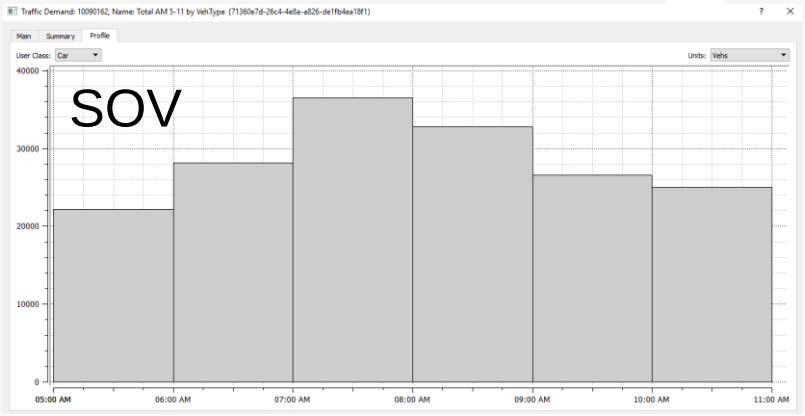
Copy

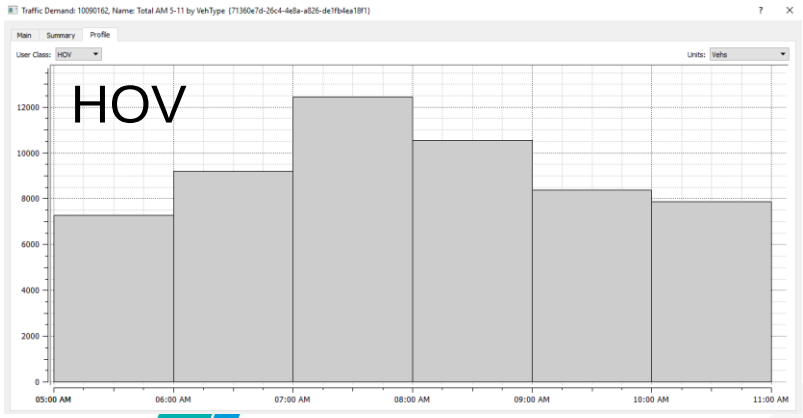
Help OK Cancel

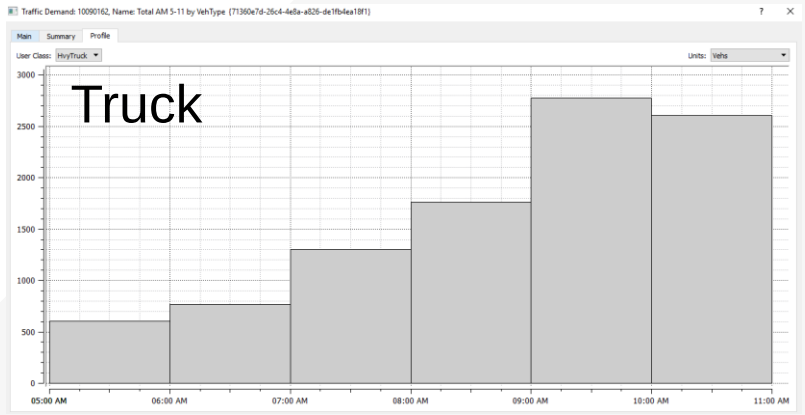
Scenario: Demand Profile

By Class









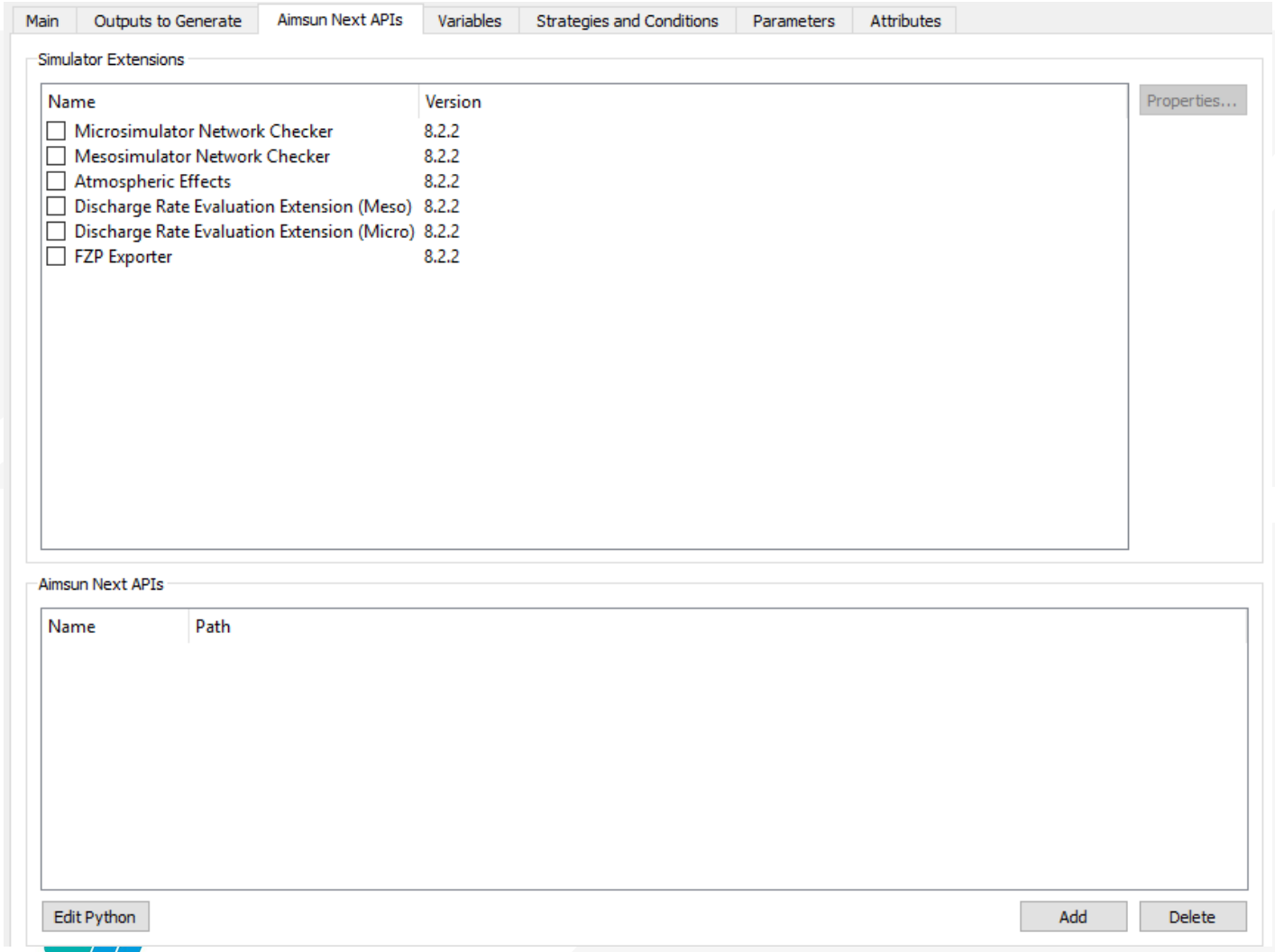
Caltrans

CAMBRIDGE SYSTEMATICS

Scenario:
Outputs to Generate

- Are the right statistics being saved?
- Where are results saved?
- Keep in memory vs Store

Scenario: Aimsun Next APIs

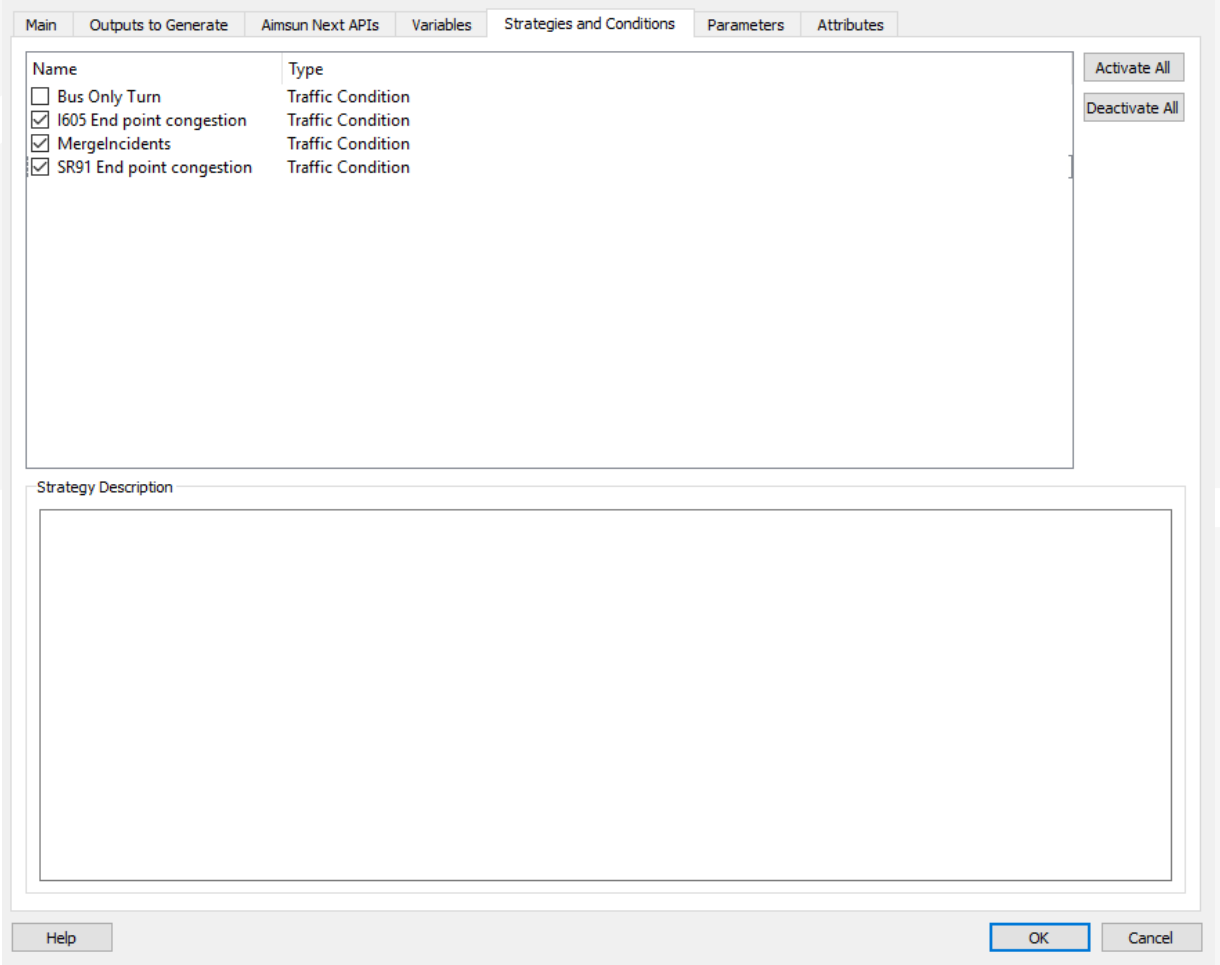


Caltrans

CAMBRIDGE SYSTEMATICS

Scenario: Strategies and Conditions

- What strategies are used?
- What do they do?

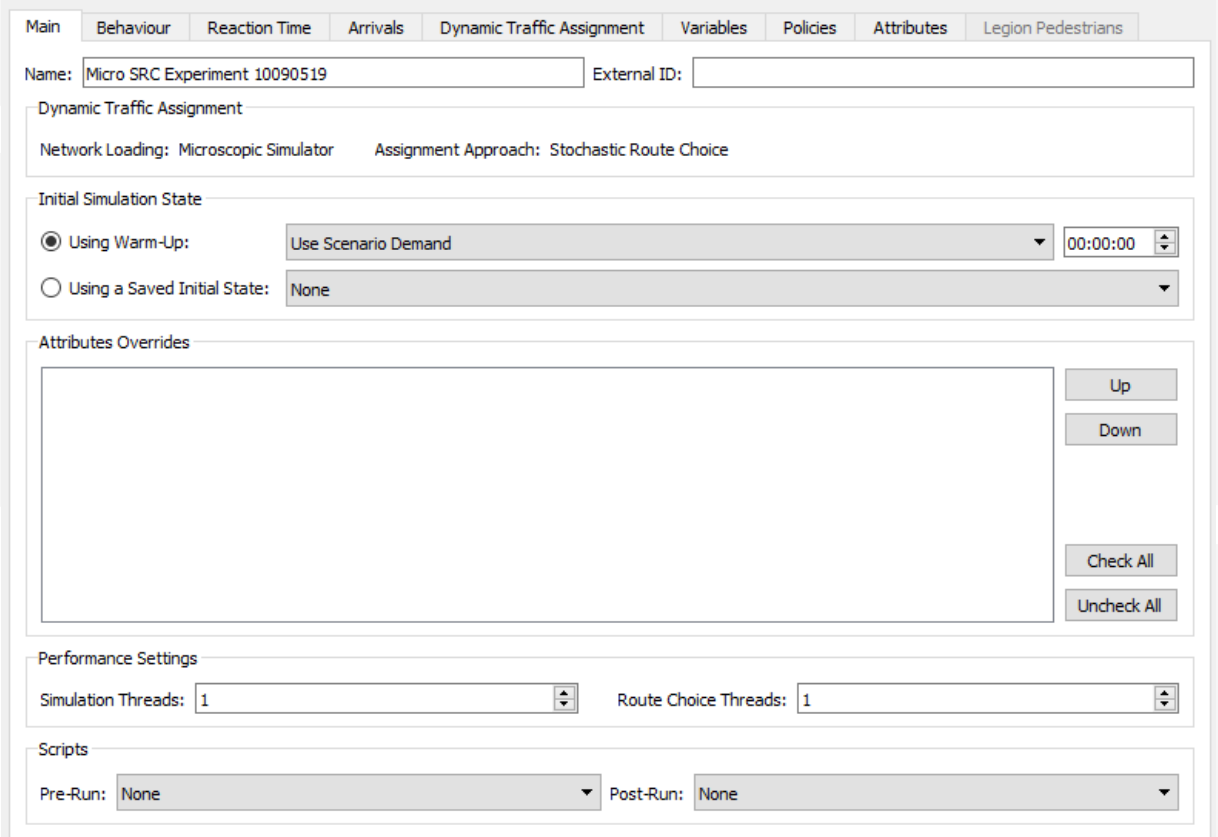


Caltrans

CAMBRIDGE SYSTEMATICS

Experiment: Main

- Warmup vs Initial State
- Attribute Overrides?
- Performance Settings



Caltrans

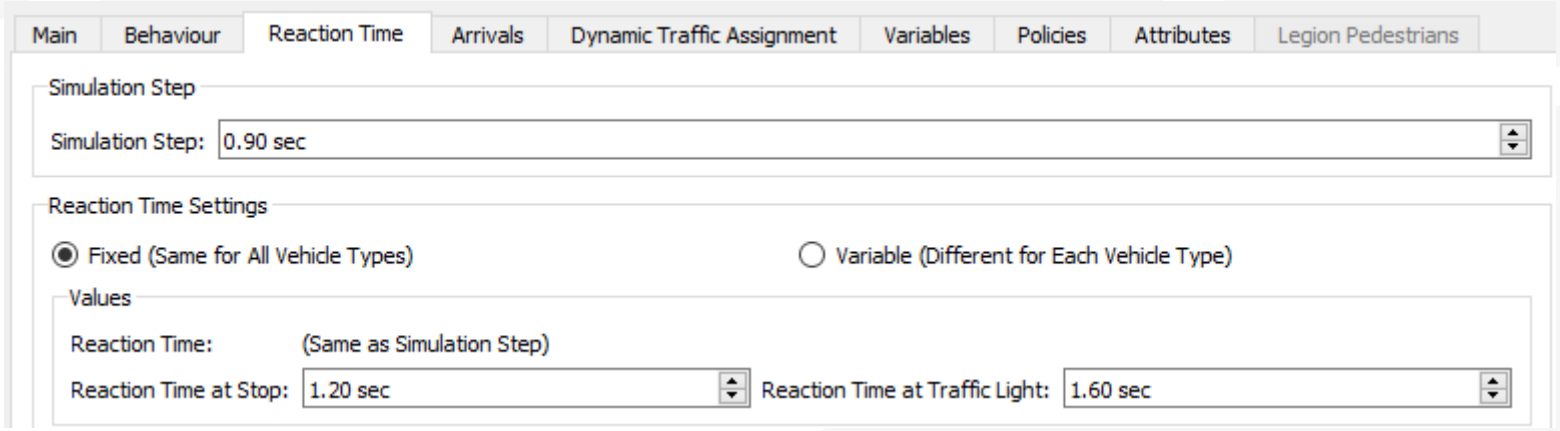
CAMBRIDGE SYSTEMATICS

Experiment: Behavior

- Car Following
  - Two-Car Following
  - Slope Model
- Lane Changing
  - Distance Zone Variability
  - Two-Way Overtaking model
- Queue Speeds

Experiment: Reaction Time

- Simulation Step
- Reaction Time Settings
  - Fixed (Same for all vehicle types)
  - Variable (Different for all vehicle types)

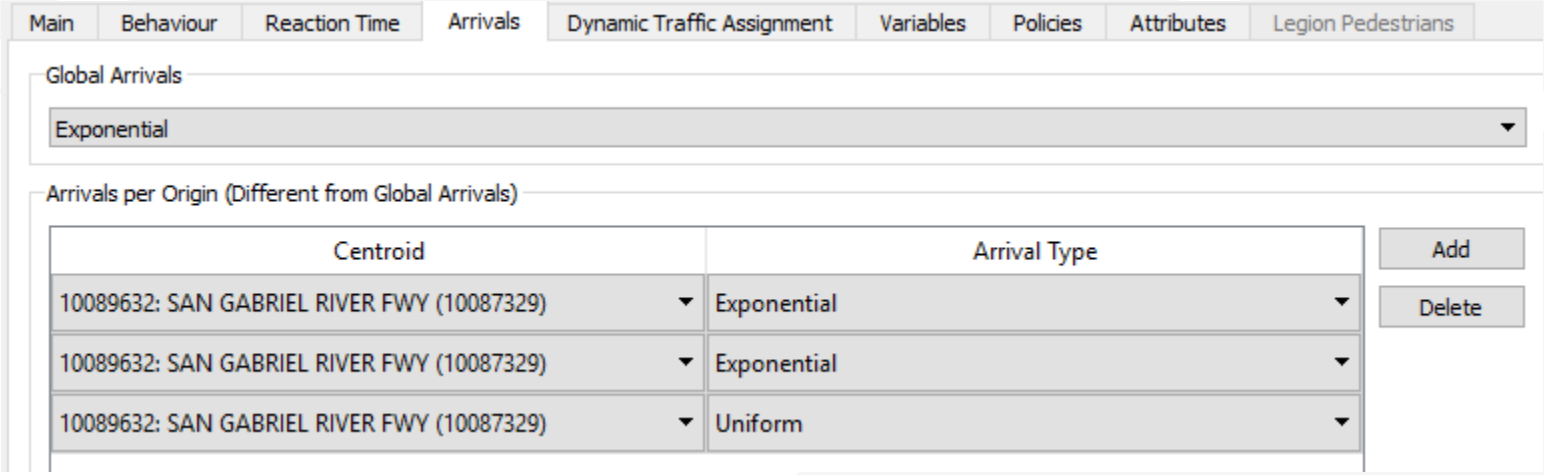


Caltrans

CAMBRIDGE SYSTEMATICS

Experiment: Arrivals

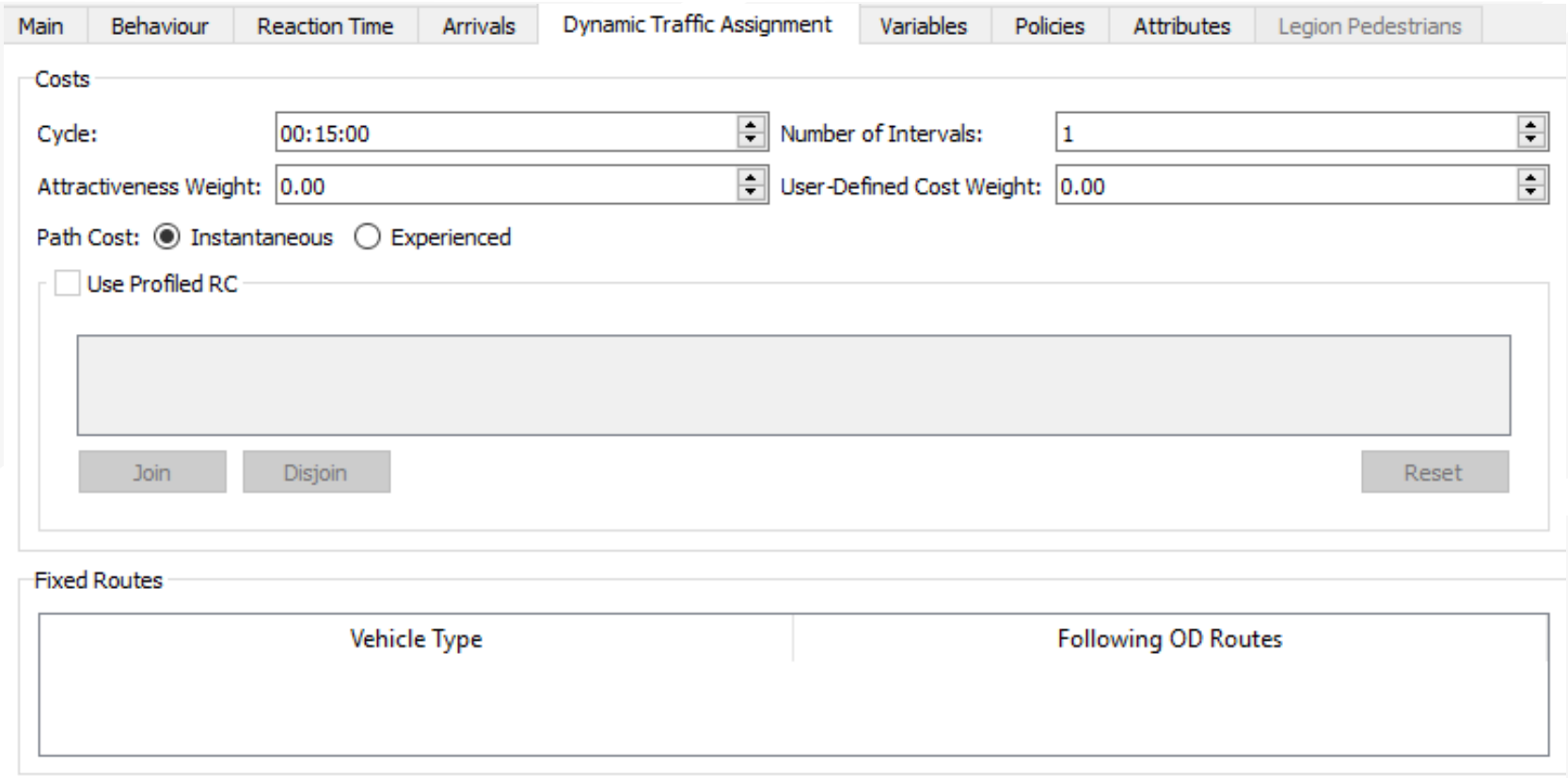
- Exponential
- Uniform
- Normal
- Constant
- External (API)
- ASAP



Caltrans

CAMBRIDGE SYSTEMATICS

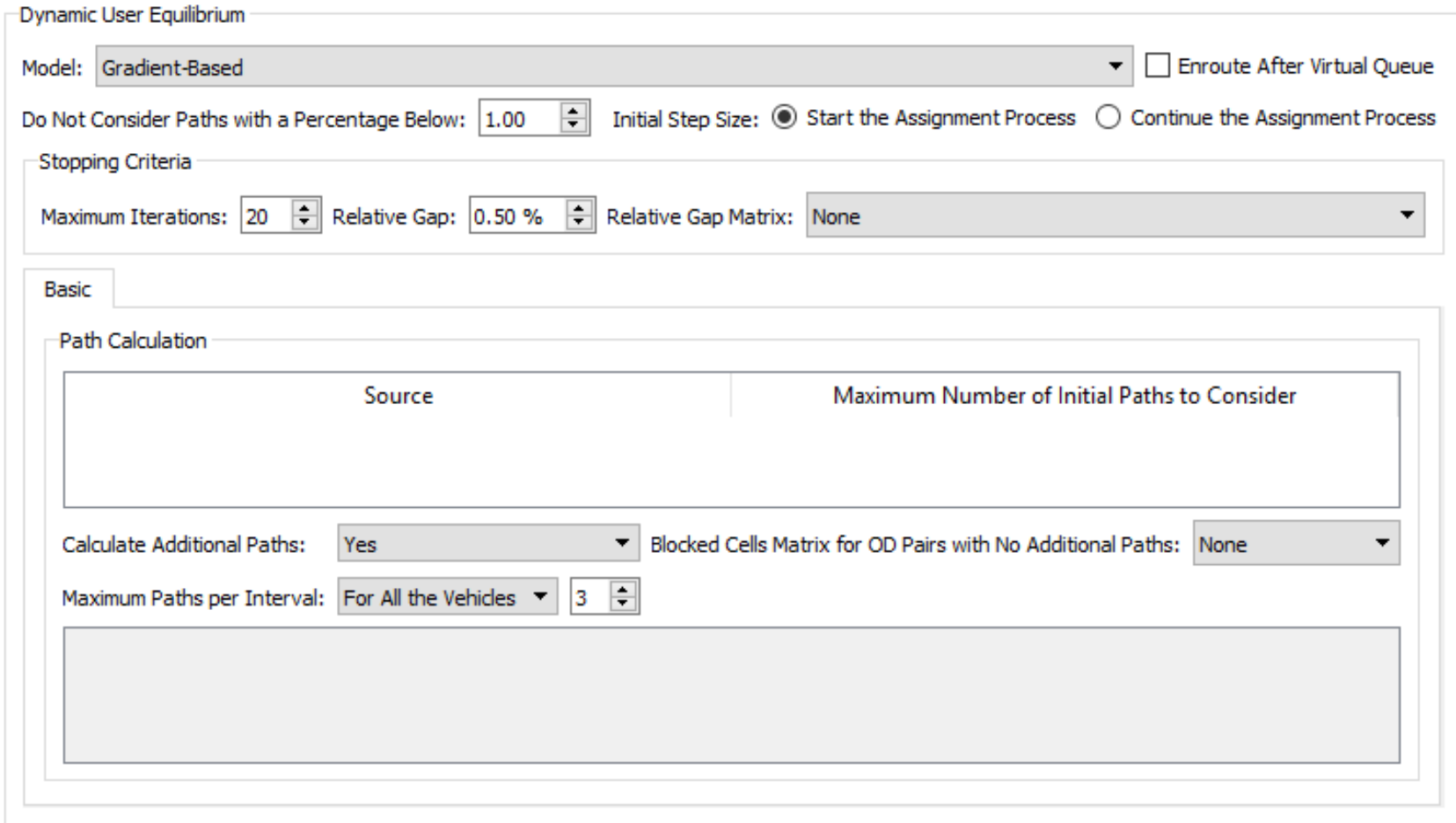
Experiment:
DTA – DUE (1/2)



Caltrans

CAMBRIDGE SYSTEMATICS

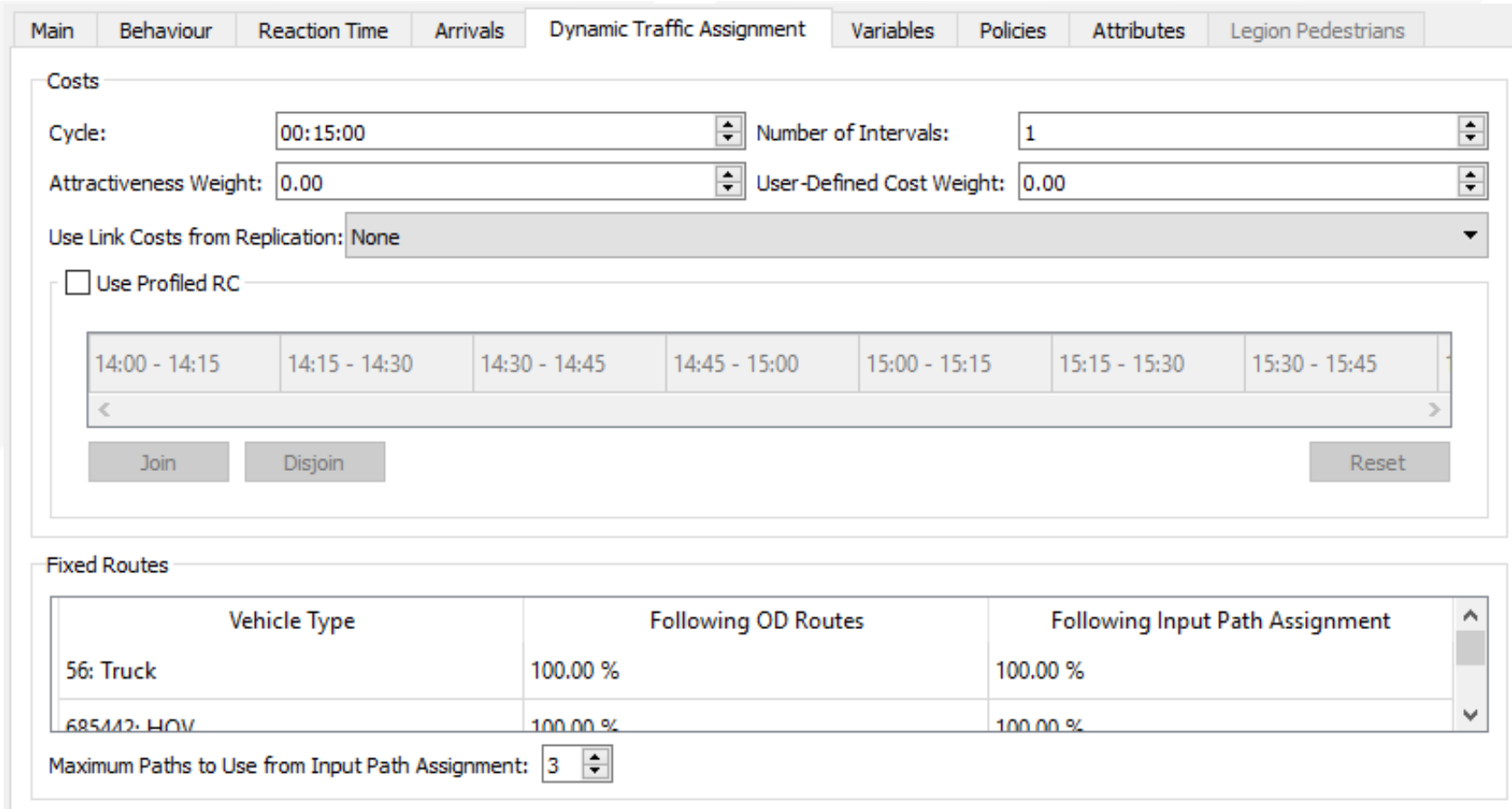
Experiment: DTA – DUE (2/2)



Caltrans

CAMBRIDGE SYSTEMATICS

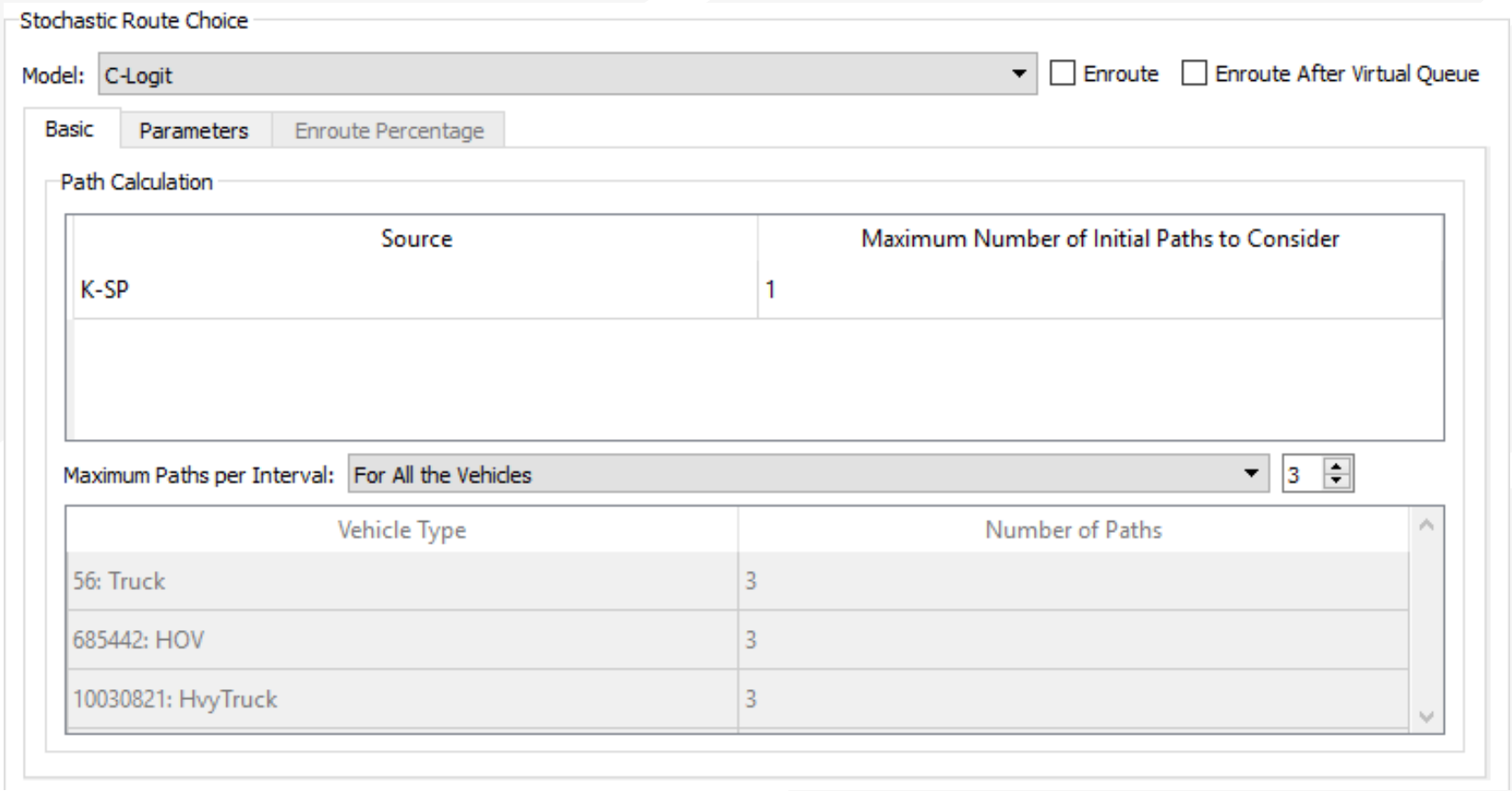
Experiment: DTA – SRC (1/2)



Caltrans

CAMBRIDGE SYSTEMATICS

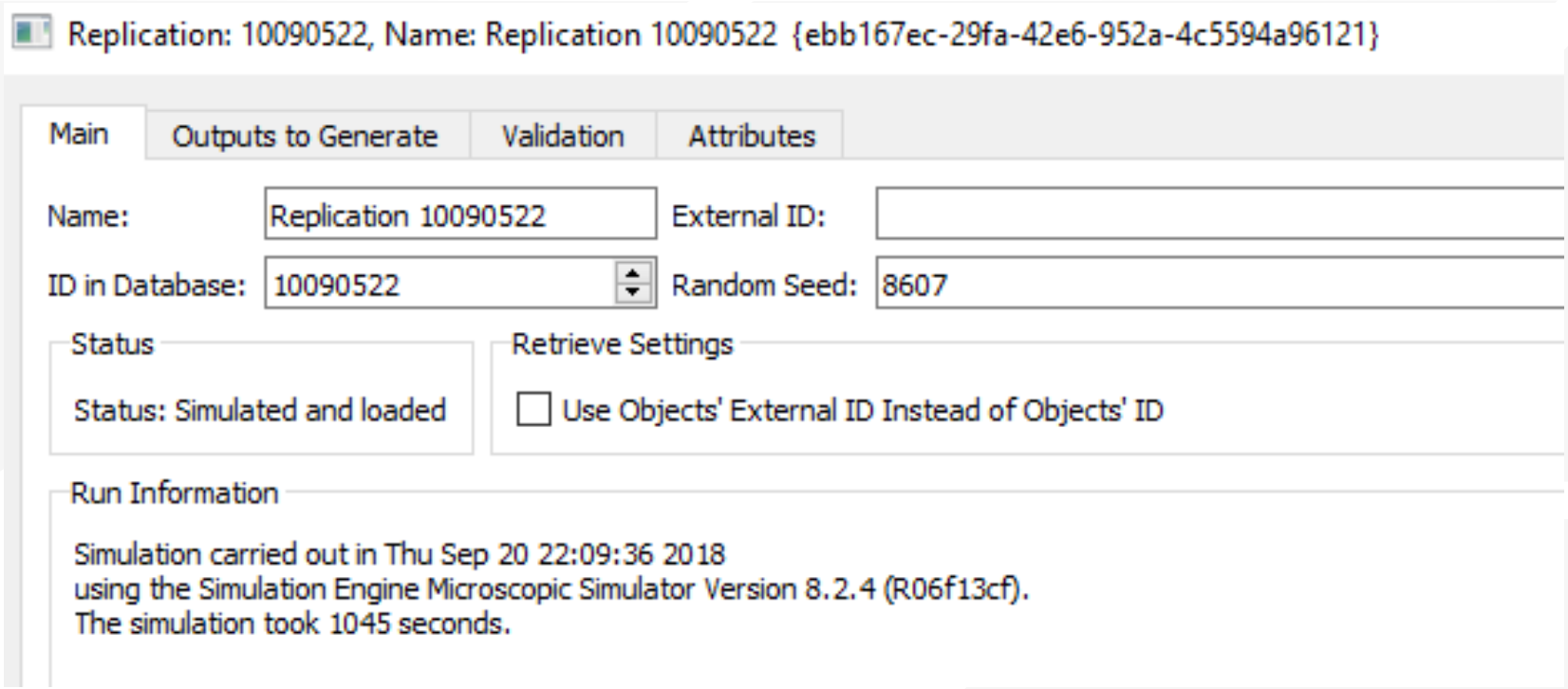
Experiment: DTA – SRC (2/2)



Caltrans

CAMBRIDGE SYSTEMATICS

Replication (SRC) or Result (DUE): Main



Caltrans

CAMBRIDGE SYSTEMATICS

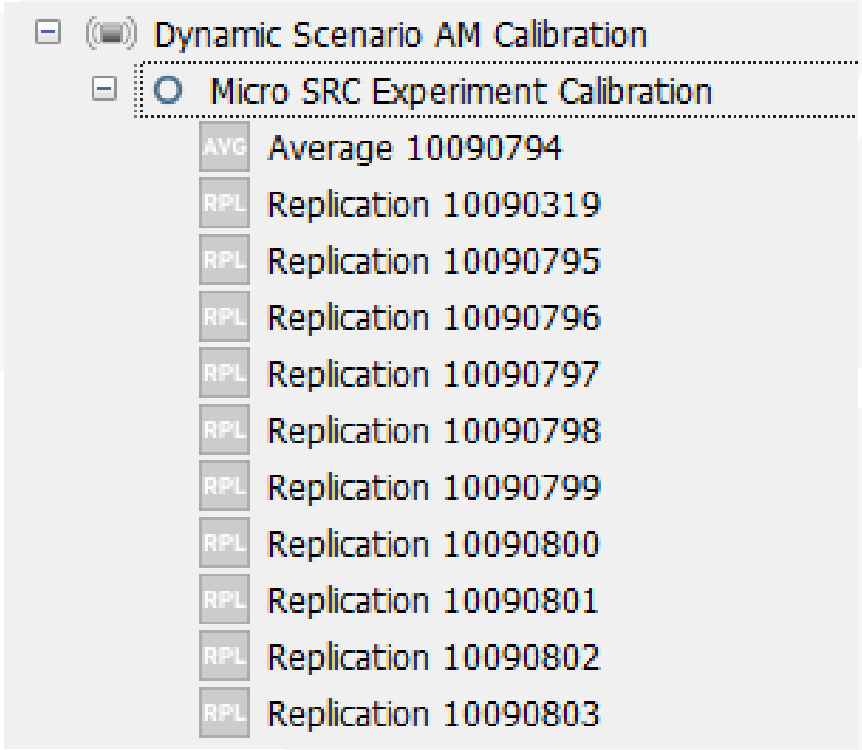
Replication or Results: Outputs to Generate

Caltrans

CAMBRIDGE SYSTEMATICS

Replications

- Number of Replications
- Averages



Caltrans

CAMBRIDGE SYSTEMATICS