

# APPENDIX H VISSIM CALIBRATION RESULTS

The model was calibrated using PTV Vissim to ensure the simulation accurately reflects real-world traffic conditions and aligns with the model's outputs such as vehicle volume, speeds, delays, queue lengths, and lane changing behavior with the observed field data. **Exhibit H-1** shows the calibration locations. Numbers in Exhibit H-1 indicate the Automatic Traffic Recorder (ATR) locations and letters indicate intersection locations used in calibrating the Vissim model. **Table H-1** through **Table H-8** shows the calibration results.

EXHIBIT H-1 VISSIM CALIBRATION LOCATIONS



SOURCE: Ricondo & Associates, Inc., September 2023 (analysis).

TABLE H-1 CALIBRATION RESULTS AT CURBSIDE AND TERMINAL AREA ROADWAYS

LOCATION NUMBER	DESCRIPTION	ARRIVALS PEAK				COMBINED PEAK				DEPARTURES PEAK			
		ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH
1	Upper Drive	500	448	-52	2.388439	674	635	-39	1.524438	666	654	-12	0.467099
2	Lower Drive	74	66	-8	0.956183	113	101	-12	1.160084	74	74	0	0
3	TNC Garage Entry	346	350	4	0.214423	278	280	2	0.119737	10	15	5	1.414214
4	Taxi, TNC Exit	314	348	34	1.868809	262.3222	278	16	0.953839	22	14	-8	1.885618
5	Recirculation Ramp	198.8556	176	-23	1.66946	258.9285	162	-97	6.681322	60.60101	62	1	0.178683
6	Cedar Springs Road Inbound	715	653	-62	2.370629	1030	1004	-26	0.815291	1528	1444	-84	2.179063
7	Cedar Springs Road Outbound	1067	1044	-23	0.707944	1223	1149	-74	2.148767	1150	1031	-119	3.60358
8	Herb Kelleher Way Inbound	789	743	-46	1.662048	1060	1066	6	0.184028	1479	1463	-16	0.417171
9	Herb Kelleher Way Outbound	994	990	-4	0.127	1146	1130	-16	0.474295	1165	1146	-19	0.558944

## NOTES:

ATR – Automatic Traffic Recorder

GEH – GEH is a statistical formula and is named after its developer, Geoffrey E. Havers

TNC – Transportation Network Company

The location numbers are identified in Exhibit H-1.

Departures Peak – 4:30 a.m. – 5:30 a.m.; Arrivals Peak – 11:00 p.m. – 12:00 a.m.; Combined Peak – 5:30 p.m. – 6:30 p.m.

SOURCE: Ricondo &amp; Associates, Inc., September 2023.

TABLE H-2 CALIBRATION RESULTS AT THE INTERSECTION OF A – WEST MOCKINGBIRD LANE AND HERB KELLEHER WAY

DESCRIPTION	ARRIVALS PEAK				COMBINED PEAK				DEPARTURES PEAK			
	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH
NBL	297.8261	290	-8	0.456493	414.0157	440	26	1.257458	579.3145	545	-34	1.447267
NBT	152.1205	204	52	3.887875	1273.069	1268	-5	0.142217	163.0867	122	-41	3.44134
NBR	25.89285	38	12	2.142055	186.6443	182	-5	0.342084	13.38869	13	0	0.107007
SBL	20.49851	29	9	1.70889	127.9862	136	8	0.697527	14.14087	11	-3	0.885879
SBT	118.6756	171	52	4.34774	1100.431	1125	25	0.736548	195.2256	169	-26	1.94337
SBR	177.1714	104	-73	6.171215	447.9518	407	-41	1.980694	676.3344	643	-33	1.297866
WBL	32.36606	30	-2	0.423709	201.1964	185	-16	1.165545	16.49768	2	-14	4.767106
WBT	239.1286	220	-19	1.262497	167.8783	148	-20	1.581738	272.2117	250	-22	1.37459
WBR	30.20833	33	3	0.496584	122.0281	96	-26	2.49288	24.74652	4	-21	5.472271
EBL	407.7123	410	2	0.113139	533.4751	494	-39	1.741615	501.6513	414	-88	4.096457
EBT	150.4132	151	1	0.047803	154.6964	144	-11	0.875261	102.9926	83	-20	2.073182
EBR	509.1704	497	-12	0.542606	534.6125	475	-60	2.653232	545.1223	447	-98	4.405549

## NOTES:

ATR – Automatic Traffic Recorder; EBL–Eastbound Left; EBT–Eastbound Through; EBR–Eastbound Right; NBL–Northbound Left; NBT–Northbound Through; NBR–Northbound Right; SBL–Southbound Left; SBT–Southbound Through; SBR–Southbound Right; WBL–Westbound Left; WBT–Westbound Through; WBR–Westbound Right

The intersection location is identified in Exhibit H-1.

Departures Peak – 4:30 a.m. – 5:30 a.m.; Arrivals Peak – 11:00 p.m. – 12:00 a.m.; Combined Peak – 5:30 p.m. – 6:30 p.m.

SOURCE: Ricondo & Associates, Inc., September 2023.

TABLE H-3 CALIBRATION RESULTS AT THE INTERSECTION OF B – HERB KELLEHER WAY AND TOM BRANIFF LANE

DESCRIPTION	ARRIVALS PEAK				COMBINED PEAK				DEPARTURES PEAK			
	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH
SBL	80.20534	78	-2	0.247959	108.9658	106	-3	0.286065	4.713622	13	8	2.784364
SBR	62.99702	62	-1	0.126115	67.96874	83	15	1.730083	20.03289	8	-12	3.214039
WBR	7.552082	4	-4	1.477978	31.2872	35	4	0.644915	19.75548	12	-8	1.946321
WBT	707.2594	650	-57	2.198014	1114.471	967	-147	4.57128	1452.974	1439	-14	0.367486
EBT	986.8812	967	-20	0.636076	961.8648	1043	81	2.562607	1145.217	1019	-126	3.83693
EBL	7.473213	13	6	1.727407	67.8017	62	-6	0.720162	75.41796	111	36	3.685548

NOTES: ATR – Automatic Traffic Recorder; EBL–Eastbound Left; EBT–Eastbound Through; SBL–Southbound Left; SBR–Southbound Right; WBT–Westbound Through; WBR–Westbound Right  
The intersection location is identified in Exhibit H-1.

Departures Peak – 4:30 a.m. – 5:30 a.m.; Arrivals Peak – 11:00 p.m. – 12:00 a.m.; Combined Peak – 5:30 p.m. – 6:30 p.m.

SOURCE: Ricondo & Associates, Inc., September 2023.

TABLE H-4 CALIBRATION RESULTS AT THE INTERSECTION OF C – HERB KELLEHER WAY AND AVIATION PLACE

DESCRIPTION	ARRIVALS PEAK				COMBINED PEAK				DEPARTURES PEAK			
	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH
NBL	198.8556	176	-23	1.66946	258.9285	162	-97	6.681322	60.60101	62	1	0.178683
SBT	150.991	164	13	1.036593	108.9599	111	2	0.194532	36.76347	39	2	0.363379
WBR	23.47321	13	-10	2.452494	8.630951	7	-2	0.583396	3.535217	4	0	0.239452
WBT	31.67994	10	-22	4.749081	81.52666	49	-33	4.026288	8.015944	17	9	2.540265
EBT	713.7923	688	-26	0.974235	909.078	950	41	1.342216	1178.381	1166	-12	0.361623
EBL	43.95917	47	3	0.450904	69.24182	67	-2	0.271619	292.9196	280	-13	0.76334

NOTES: ATR – Automatic Traffic Recorder; EBL–Eastbound Left; EBT–Eastbound Through; NBL–Northbound Left; SBT–Southbound Through; WBT–Westbound Through; WBR–Westbound Right  
The intersection location is identified in Exhibit H-1.

Departures Peak – 4:30 a.m. – 5:30 a.m.; Arrivals Peak – 11:00 p.m. – 12:00 a.m.; Combined Peak – 5:30 p.m. – 6:30 p.m.

SOURCE: Ricondo & Associates, Inc., September 2023.

TABLE H-5 CALIBRATION RESULTS AT THE INTERSECTION OF D – WEST MOCKINGBIRD LANE AND AIRDROME DRIVE

DESCRIPTION	ARRIVALS PEAK				COMBINED PEAK				DEPARTURES PEAK			
	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH
SBL	-	-	-	-	-	-	-	-	-	-	-	-
SBR	143.8869	176	32	2.539214	762.3526	794	32	1.134487	176.7608	195	18	1.337791
WBT	167.6892	193	25	1.884753	909.0132	976	67	2.181961	708.8649	626	-83	3.207503
WBR	2.157738	0	-2	2.077372	5.394344	0	-5	3.284614	1.178406	0	-1	1.535191
EBL	162.3571	175	13	0.973456	582.7216	583	0	0.011531	99	82	-17	1.787
EBT	432.5222	459	26	1.254094	1350.507	1291	-60	1.637413	590.7608	463	-128	5.565981

NOTES: ATR – Automatic Traffic Recorder; SBL–Southbound Left; SBR–Southbound Right; WBT–Westbound Through; WBR–Westbound Right; EBL–Eastbound Left; EBT–Eastbound Through  
The intersection location is identified in Exhibit H-1.

Departures Peak – 4:30 a.m. – 5:30 a.m.; Arrivals Peak – 11:00 p.m. – 12:00 a.m.; Combined Peak – 5:30 p.m. – 6:30 p.m.

SOURCE: Ricondo & Associates, Inc., September 2023.

TABLE H-6 CALIBRATION RESULTS AT THE INTERSECTION OF E – WEST MOCKINGBIRD LANE AND LEMMON AVENUE

DESCRIPTION	ARRIVALS PEAK				COMBINED PEAK				DEPARTURES PEAK			
	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH
NBL	55.99702	70	14	1.764231	193.1175	235	42	2.862634	101.3429	118	17	1.590571
NBT	110.0446	94	-16	1.58848	825.3347	809	-16	0.571419	77.77477	36	-42	5.538677
NBR	4.315475	3	-1	0.687823	25.89285	22	-4	0.795513	2.356811	1	-1	1.0473
SBL	13.38107	9	-4	1.309649	84.15177	79	-5	0.570395	80.68738	65	-16	1.838038
SBT	105.7174	74	-32	3.345939	657.0311	642	-15	0.589789	73.58307	63	-11	1.280643
SBR	6.024975	5	-1	0.436555	28.05059	25	-3	0.592316	28.75316	2	-27	6.822526
WBL	0	0	0	0	2.157738	0	-2	2.077372	0	0	0	0
WBT	108.056	123	15	1.390343	693.7127	745	51	1.912221	579.7755	508	-72	3.077668
WBR	11.86756	6	-6	1.963088	118.6756	94	-25	2.392894	5.892028	0	-6	3.432791
EBL	0	0	0	0	1.078869	0	-1	1.468924	0	0	0	0
EBT	366.8154	393	26	1.343405	1090.736	1066	-25	0.753273	468.5132	370	-99	4.811213
EBR	65.811	62	-4	0.476727	258.9285	242	-17	1.069661	122.3745	89	-33	3.246415

NOTES: ATR – Automatic Traffic Recorder; EBL–Eastbound Left; EBT–Eastbound Through; EBR–Eastbound Right; NBL–Northbound Left; NBT–Northbound Through; NBR–Northbound Right; SBL–Southbound Left; SBT–Southbound Through; SBR–Southbound Right; WBL–Westbound Left; WBT–Westbound Through; WBR–Westbound Right

The intersection location is identified in Exhibit H-1.

Departures Peak – 4:30 a.m. – 5:30 a.m.; Arrivals Peak – 11:00 p.m. – 12:00 a.m.; Combined Peak – 5:30 p.m. – 6:30 p.m.

SOURCE: Ricondo & Associates, Inc., September 2023.

TABLE H-7 CALIBRATION RESULTS AT THE INTERSECTION OF F – LEMMON AVENUE AND AIRDROME DRIVE

DESCRIPTION	ARRIVALS PEAK				COMBINED PEAK				DEPARTURES PEAK			
	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH
SBL	107.8869	84	-24	2.438663	736.2135	723	-13	0.489184	173.2256	128	-45	3.685136
SBR	143.7827	176	32	2.547865	762.7603	794	31	1.119725	175.8123	195	19	1.409161
WBL	-	-	-	-	-	-	-	-	-	-	-	-
WBR	121.7544	98	-24	2.266162	944.8272	904	-41	1.342815	82.23955	36	-46	6.013776
EBT	147.6473	171	23	1.850108	554.5386	556	1	0.062019	90.73723	80	-11	1.162099
EBR	17.2619	5	-12	3.675291	33.40099	25	-8	1.55466	9.427245	2	-7	3.10722

NOTES: ATR – Automatic Traffic Recorder; EBT–Eastbound Through; EBR–Eastbound Right; SBL–Southbound Left; SBR–Southbound Right; WBL–Westbound Left; WBR–Westbound Right

The intersection location is identified in Exhibit H-1.

Departures Peak – 4:30 a.m. – 5:30 a.m.; Arrivals Peak – 11:00 p.m. – 12:00 a.m.; Combined Peak – 5:30 p.m. – 6:30 p.m.

SOURCE: Ricondo & Associates, Inc., September 2023.

TABLE H-8 CALIBRATION RESULTS AT THE INTERSECTION OF G – WEST MOCKINGBIRD LANE AND DENTON DRIVE

DESCRIPTION	ARRIVALS PEAK				COMBINED PEAK				DEPARTURES PEAK			
	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH	ATR COUNT	VISSIM VOLUME	DIFFERENCE	GEH
NBL	6.473213	3	-3	1.595871	24.81398	19	-6	1.242174	10.60565	2	-9	3.427805
NBT	422.1655	460	38	1.801473	1545.355	1567	22	0.548698	708.2217	613	-95	3.704787
NBR	9.709819	5	-5	1.736663	78.75742	57	-22	2.640831	7.070433	1	-6	3.021943
SBL	27.98899	30	2	0.373471	179.5464	177	-3	0.190717	40.33758	32	-8	1.38635
SBT	604.5546	640	35	1.420913	1476.914	1453	-24	0.624804	676.2176	555	-121	4.885549
SBR	27.98899	30	2	0.373471	179.5464	177	-3	0.190717	40.33758	34	-6	1.039523
WBL	33.4298	46	13	1.994644	250.2878	276	26	1.585051	41.24419	53	12	1.712537
WBT	22.65625	18	-5	1.032731	299.9255	274	-26	1.530435	21.2113	12	-9	2.26044
WBR	10.78869	8	-3	0.909844	44.23362	41	-3	0.495335	8.248839	5	-3	1.262276
EBL	5.394344	4	-1	0.643357	63.65326	68	4	0.535751	5.892028	5	-1	0.382243
EBT	18.34077	13	-5	1.349162	127.3065	111	-16	1.493855	17.67608	15	-3	0.662064
EBR	20.27366	29	9	1.758085	78.07141	85	7	0.76731	5.892028	10	4	1.457313

NOTES: ATR – Automatic Traffic Recorder; EBL–Eastbound Left; EBT–Eastbound Through; EBR–Eastbound Right; NBL–Northbound Left; NBT–Northbound Through; NBR–Northbound Right; SBL–Southbound Left; SBT–Southbound Through; SBR–Southbound Right; WBL–Westbound Left; WBT–Westbound Through; WBR–Westbound Right

The intersection location is identified in Exhibit H-1.

Departures Peak – 4:30 a.m. – 5:30 a.m.; Arrivals Peak – 11:00 p.m. – 12:00 a.m.; Combined Peak – 5:30 p.m. – 6:30 p.m.

SOURCE: Ricondo & Associates, Inc., September 2023.