HCM-CALC

Calculation Software for the Uninterrupted Flow Analysis Methodologies of the Highway Capacity Manual

Sample Screenshots from the Segment Modules

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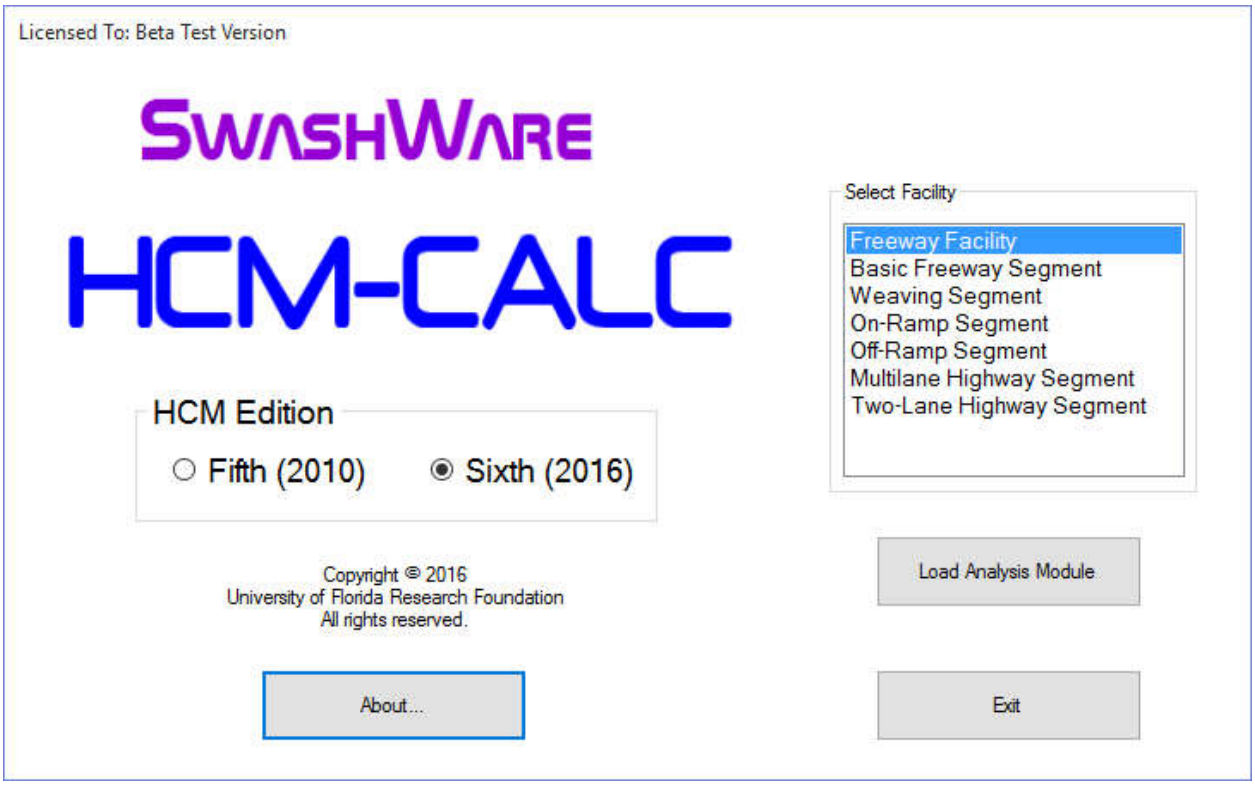
Contents

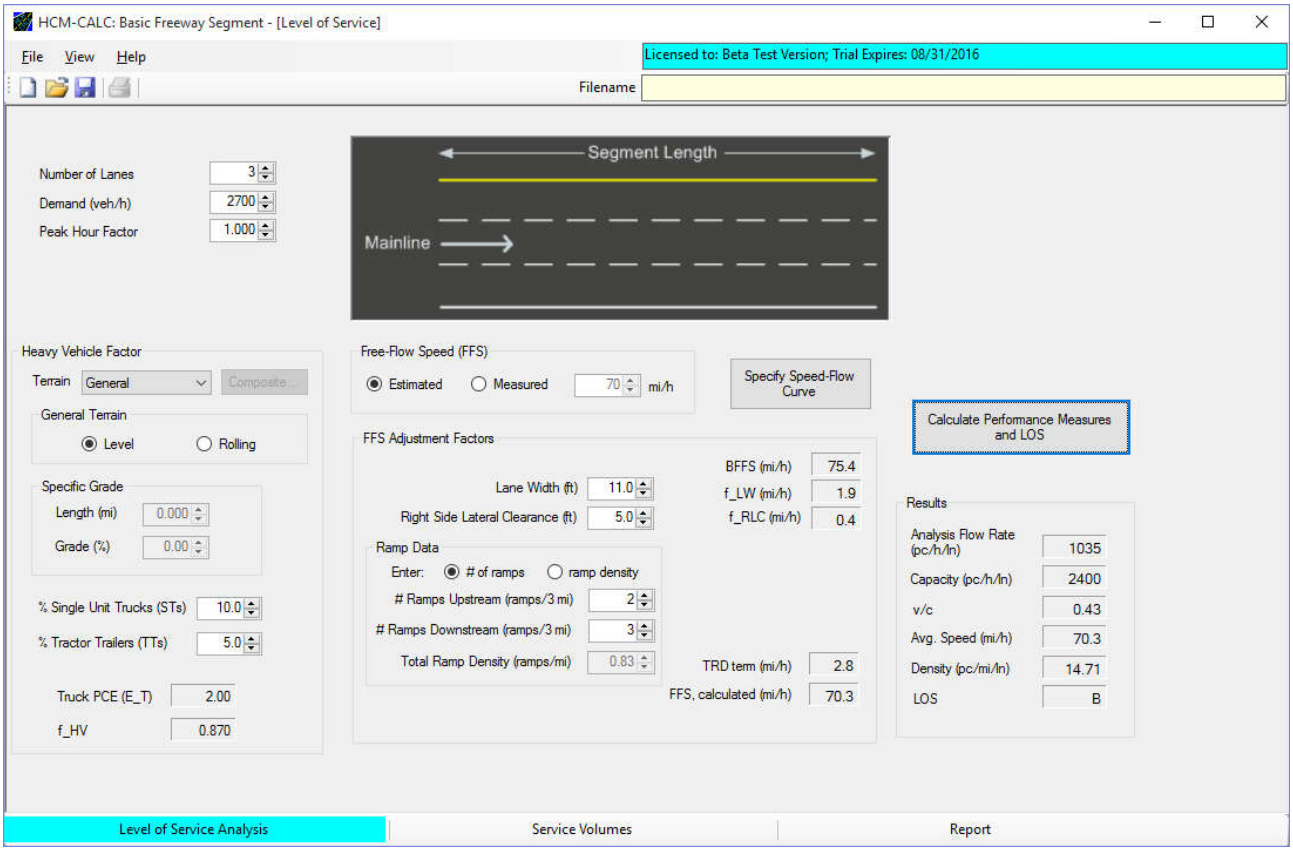
Startup Screen



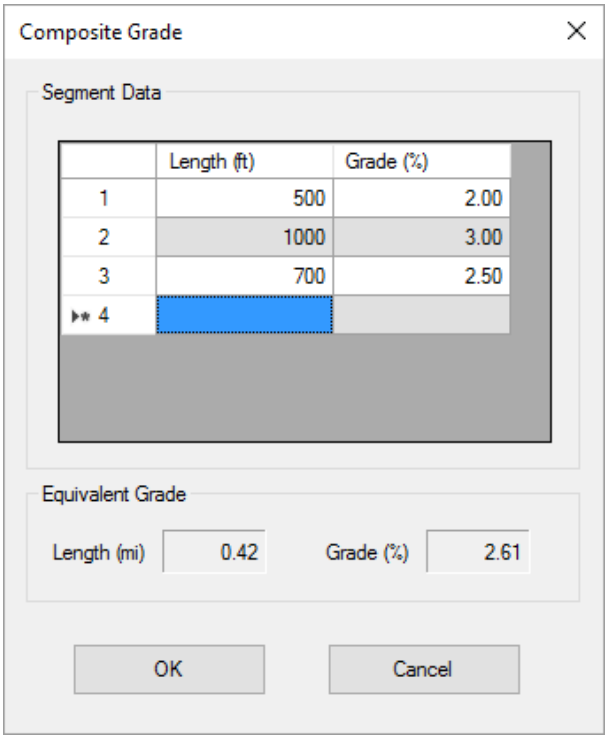
All of the available calculation methodologies are shown in the panel on the right.

Basic Freeway Segment

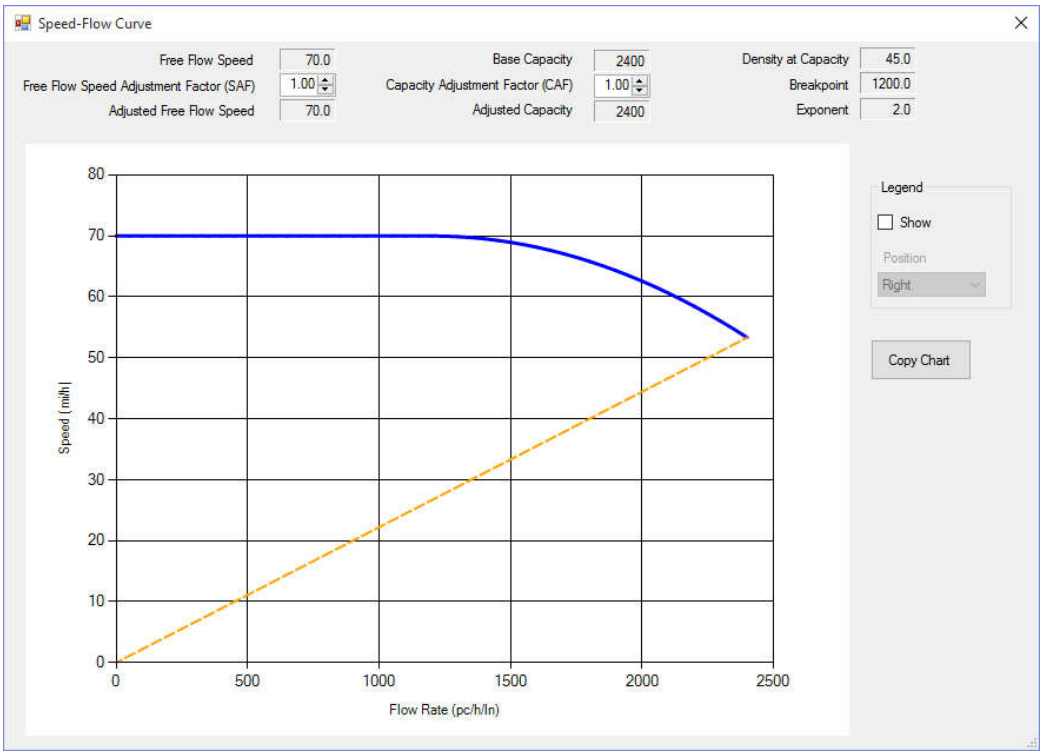
Level of Service Calculation Screen



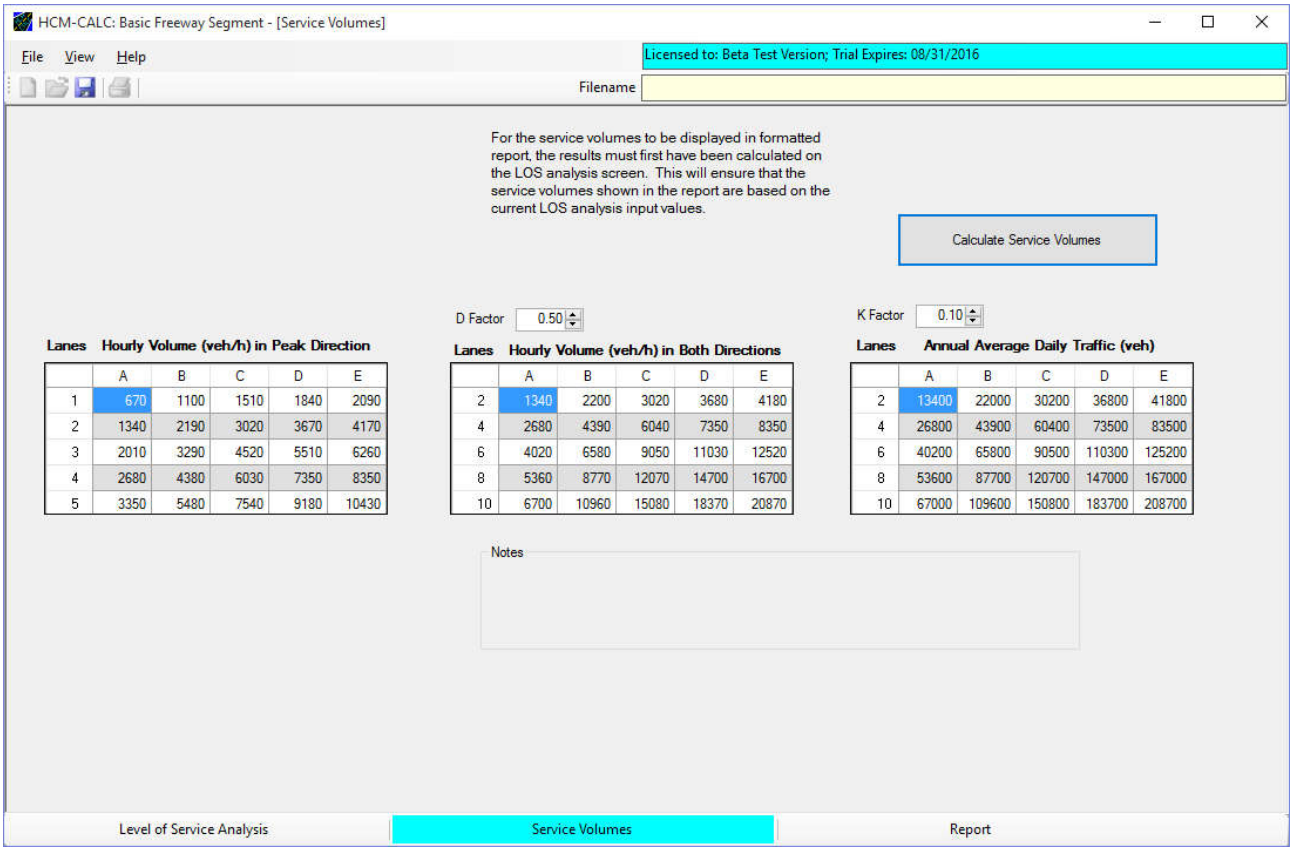
Composite Grade Specification Screen



Speed-Flow Curve Specification Screen (for HCM 6th Edition)



Service Volumes Calculation Screen



Lanes	A	B	C	D	E
1	670	1100	1510	1840	2090
2	1340	2190	3020	3670	4170
3	2010	3290	4520	5510	6260
4	2680	4380	6030	7350	8350
5	3350	5480	7540	9180	10430

Lanes	A	B	C	D	E
2	1340	2200	3020	3680	4180
4	2680	4390	6040	7350	8350
6	4020	6580	9050	11030	12520
8	5360	8770	12070	14700	16700
10	6700	10960	15080	18370	20870

Lanes	A	B	C	D	E
2	13400	22000	30200	36800	41800
4	26800	43900	60400	73500	83500
6	40200	65800	90500	110300	125200
8	53600	87700	120700	147000	167000
10	67000	109600	150800	183700	208700

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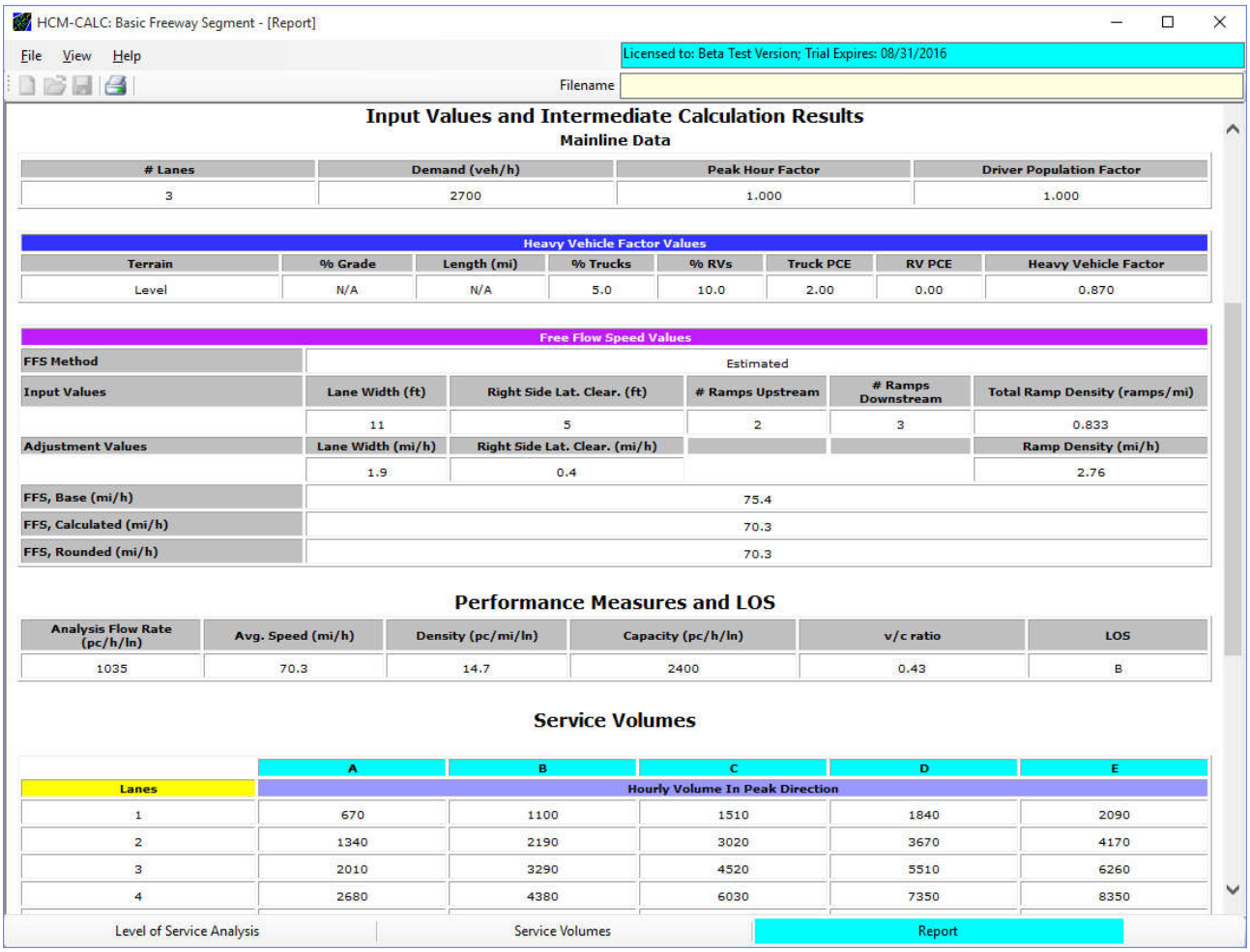


Input Values and Intermediate Calculation Results

Mainline Data

# Lanes	Demand (veh/h)	Peak Hour Factor	Driver Population Factor
3	2700	1.000	1.000

Heavy Vehicle Factor Values

Terrain	% Grade	Length (mi)	% Trucks	% RVs	Truck PCE	RV PCE	Heavy Vehicle Factor
Level	N/A	N/A	5.0	10.0	2.00	0.00	0.870

Free Flow Speed Values

FFS Method	Estimated				
Input Values	Lane Width (ft)	Right Side Lat. Clear. (ft)	# Ramps Upstream	# Ramps Downstream	Total Ramp Density (ramps/mi)
	11	5	2	3	0.833
Adjustment Values	Lane Width (mi/h)	Right Side Lat. Clear. (mi/h)			Ramp Density (mi/h)
	1.9	0.4			2.76
FFS, Base (mi/h)	75.4				
FFS, Calculated (mi/h)	70.3				
FFS, Rounded (mi/h)	70.3				

Performance Measures and LOS

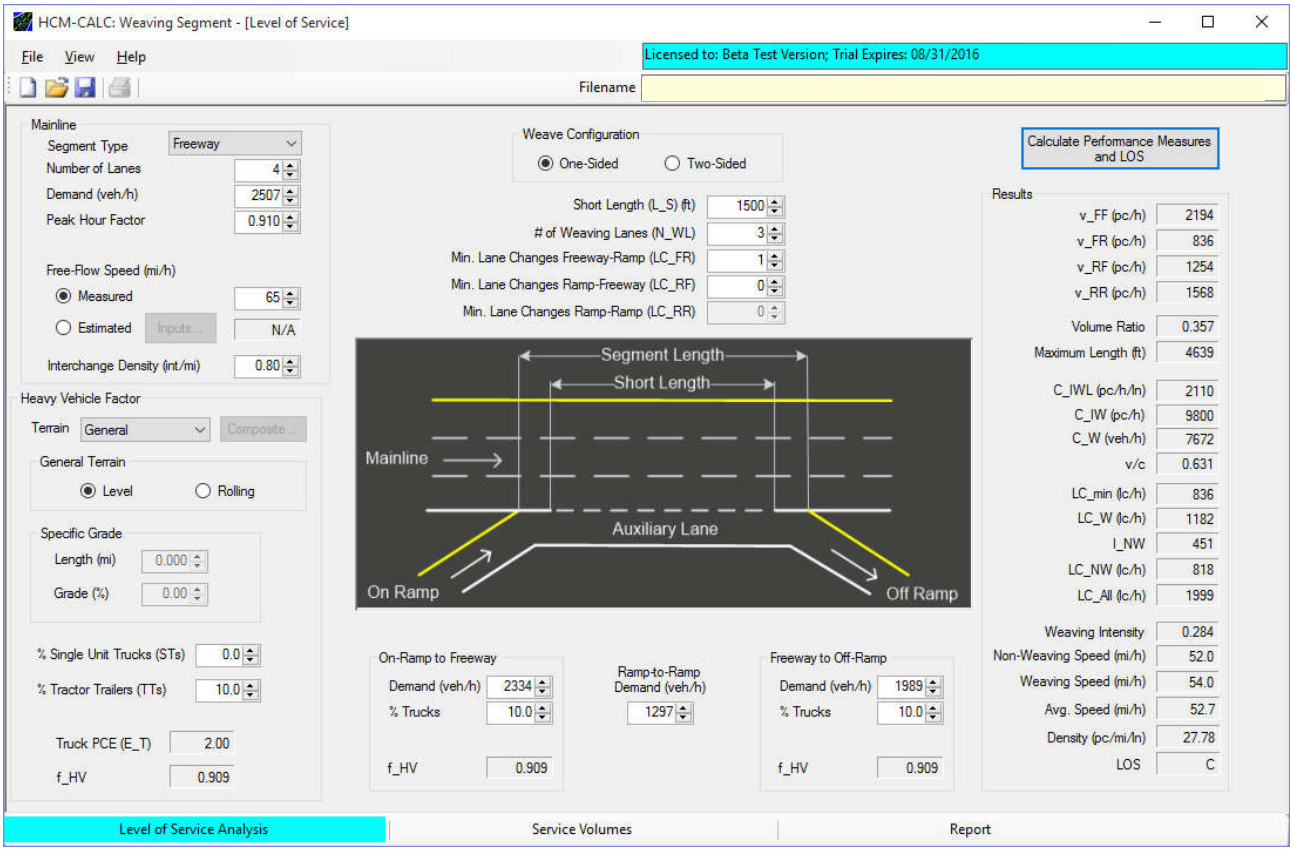
Analysis Flow Rate (pc/h/ln)	Avg. Speed (mi/h)	Density (pc/mi/ln)	Capacity (pc/h/ln)	v/c ratio	LOS
1035	70.3	14.7	2400	0.43	B

Service Volumes

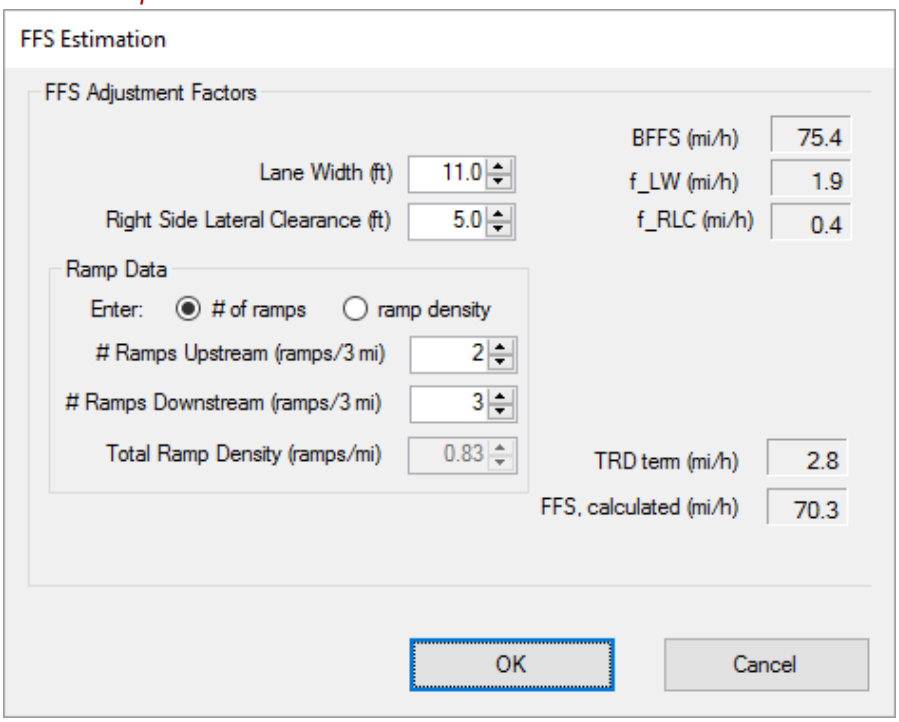
	A	B	C	D	E
Lanes	Hourly Volume In Peak Direction				
1	670	1100	1510	1840	2090
2	1340	2190	3020	3670	4170
3	2010	3290	4520	5510	6260
4	2680	4380	6030	7350	8350

Weaving Segment

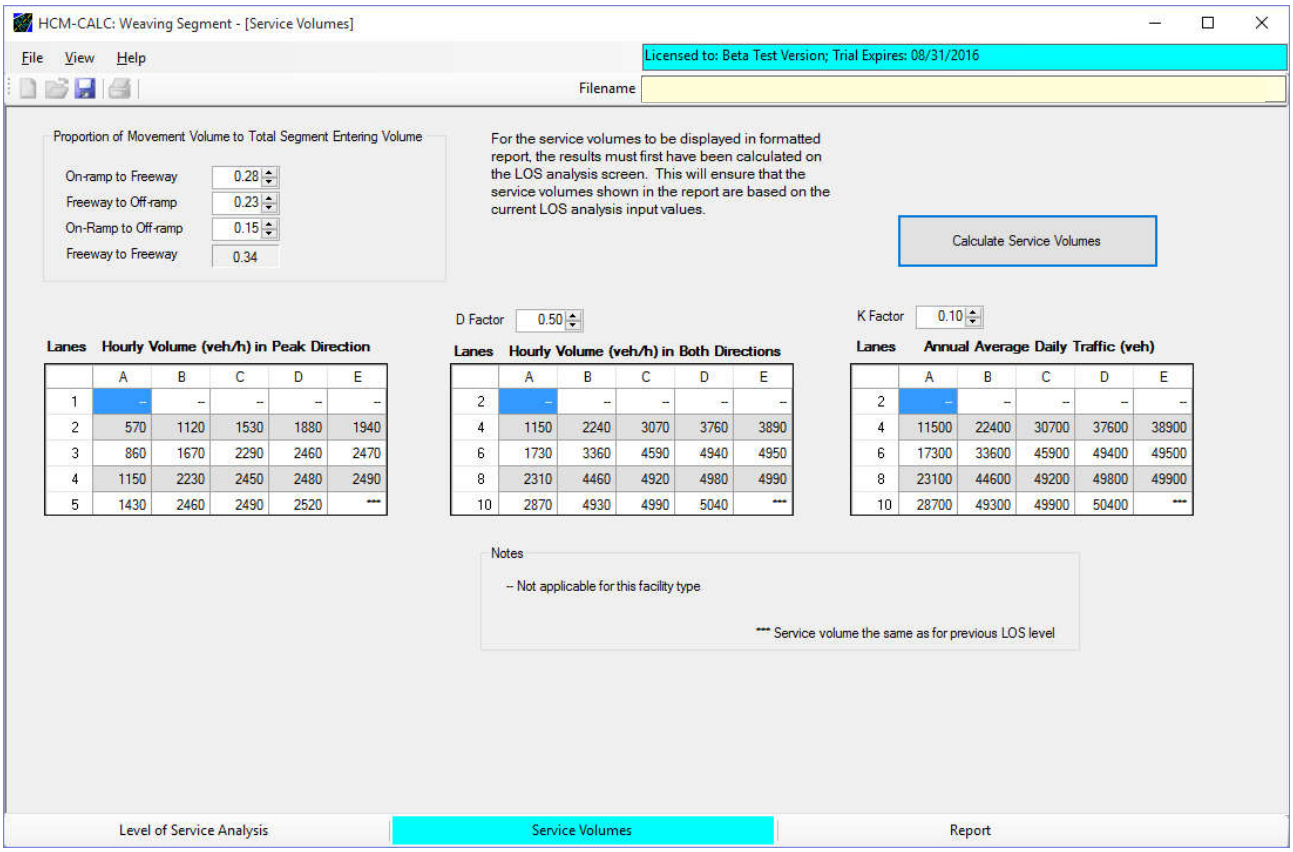
Level of Service Calculation Screen



Free-Flow Speed Estimation Screen



Service Volumes Calculation Screen



Lanes	A	B	C	D	E
1	--	--	--	--	--
2	570	1120	1530	1880	1940
3	860	1670	2290	2460	2470
4	1150	2230	2450	2480	2490
5	1430	2460	2490	2520	***

Lanes	A	B	C	D	E
2	--	--	--	--	--
4	1150	2240	3070	3760	3890
6	1730	3360	4590	4940	4950
8	2310	4460	4920	4980	4990
10	2870	4930	4990	5040	***

Lanes	A	B	C	D	E
2	--	--	--	--	--
4	11500	22400	30700	37600	38900
6	17300	33600	45900	49400	49500
8	23100	44600	49200	49800	49900
10	28700	49300	49900	50400	***

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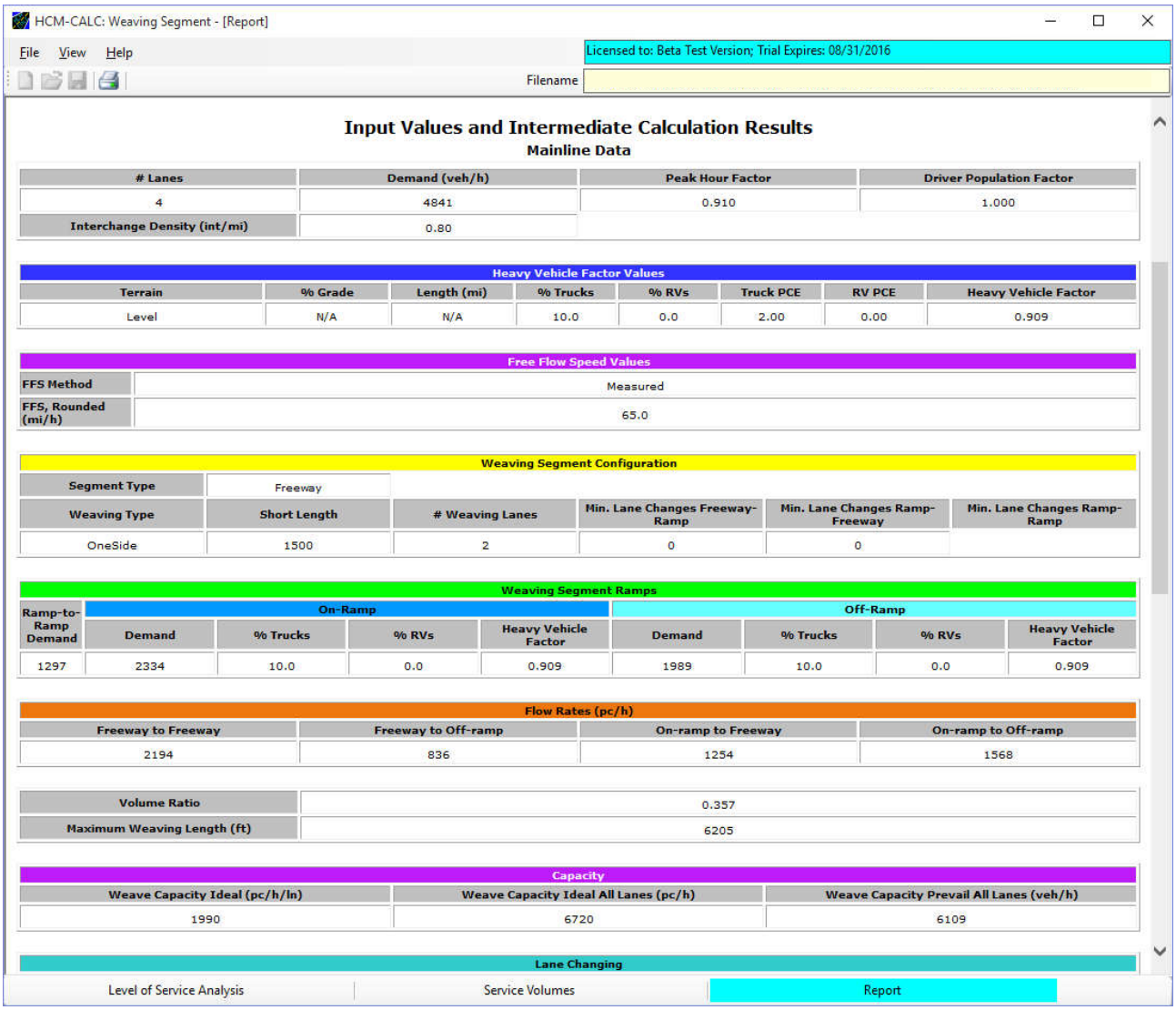
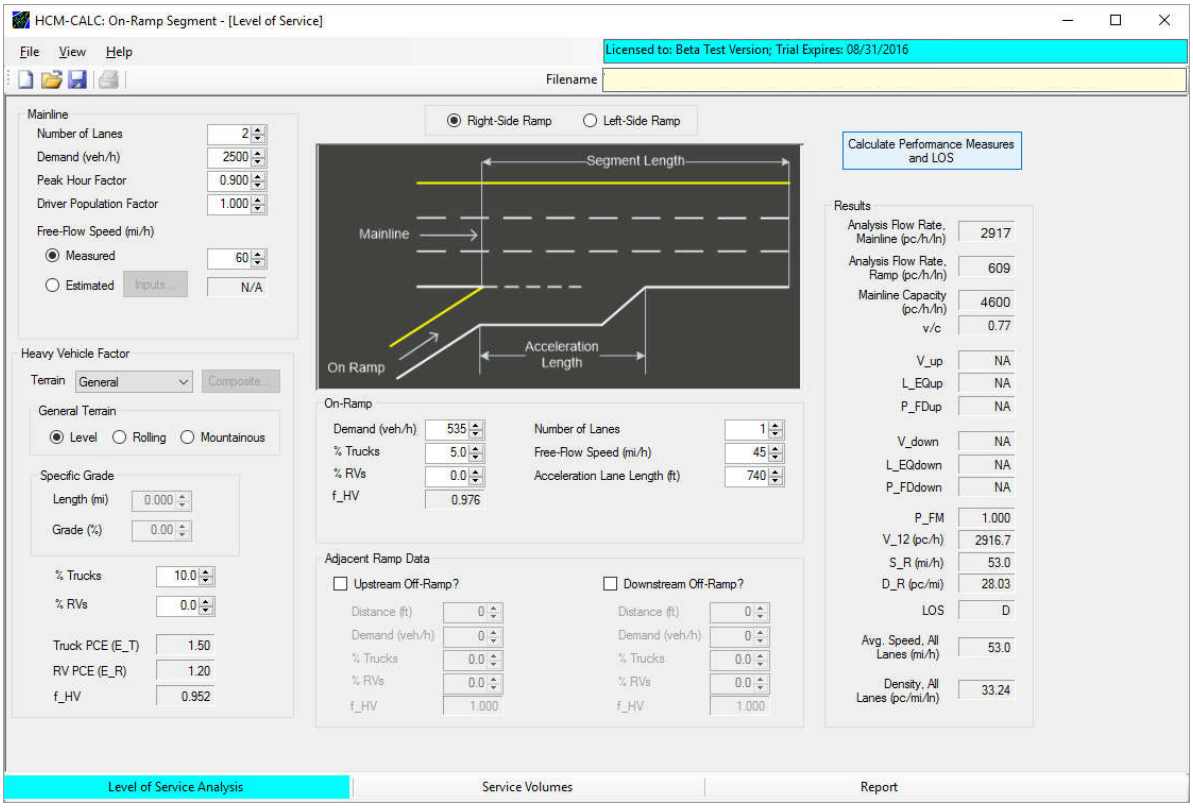
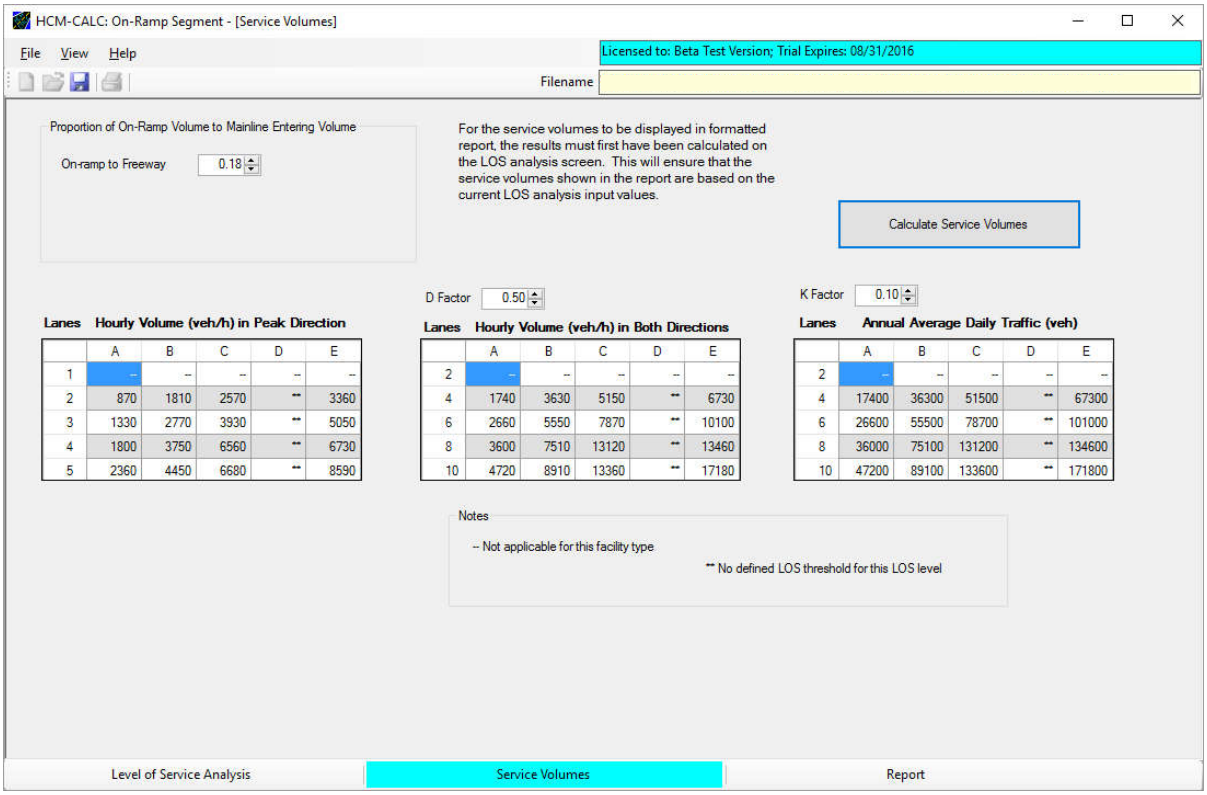


On-Ramp Segment

Level of Service Calculation Screen



Service Volumes Calculation Screen



Lanes	A	B	C	D	E
1	--	--	--	--	--
2	870	1810	2570	**	3360
3	1330	2770	3930	**	5050
4	1800	3750	6560	**	6730
5	2360	4450	6680	**	8590

Lanes	A	B	C	D	E
2	--	--	--	--	--
4	1740	3630	5150	**	6730
6	2660	5550	7870	**	10100
8	3600	7510	13120	**	13460
10	4720	8910	13360	**	17180

Lanes	A	B	C	D	E
2	--	--	--	--	--
4	17400	36300	51500	**	67300
6	26600	55500	78700	**	101000
8	36000	75100	131200	**	134600
10	47200	89100	133600	**	171800

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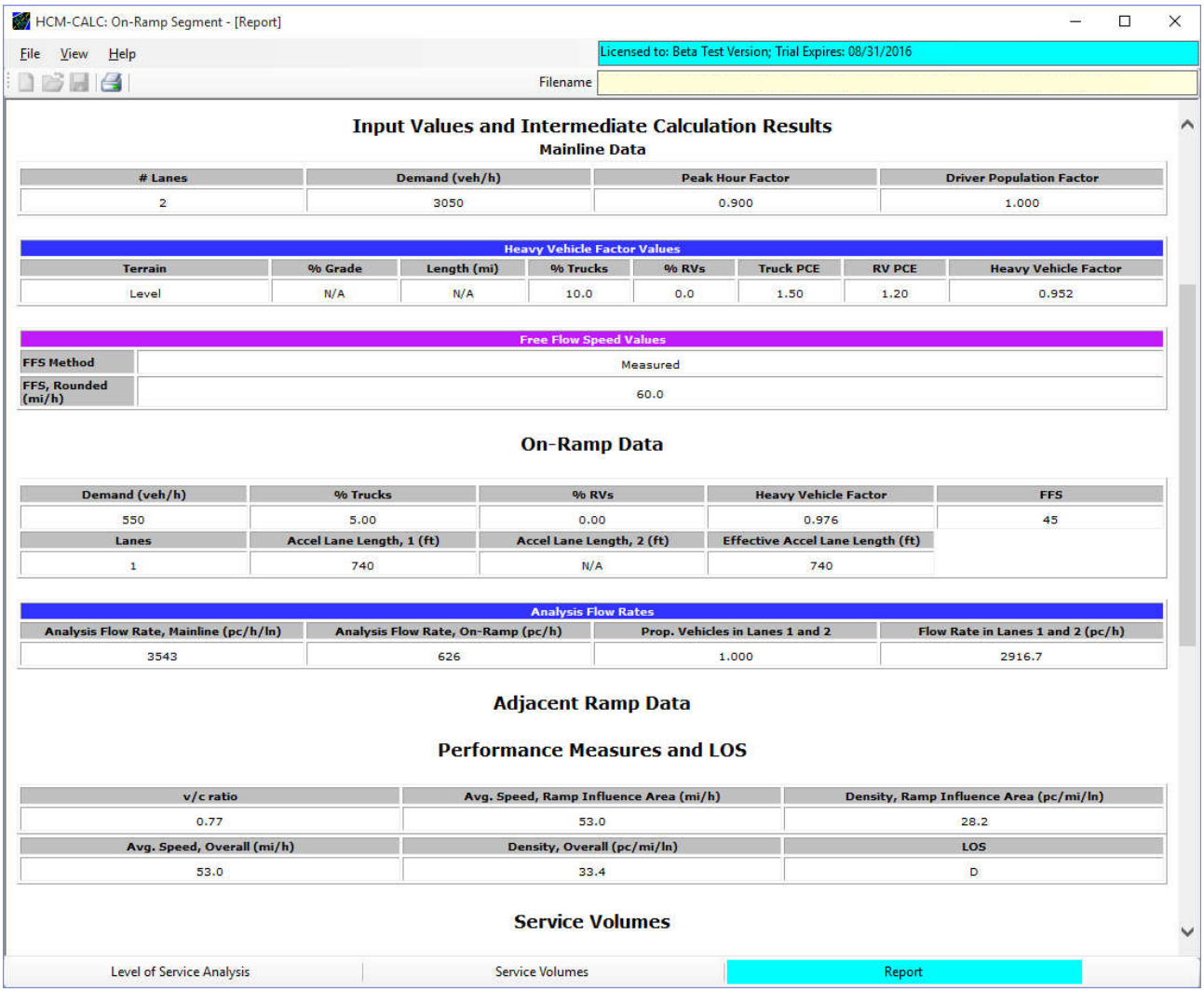
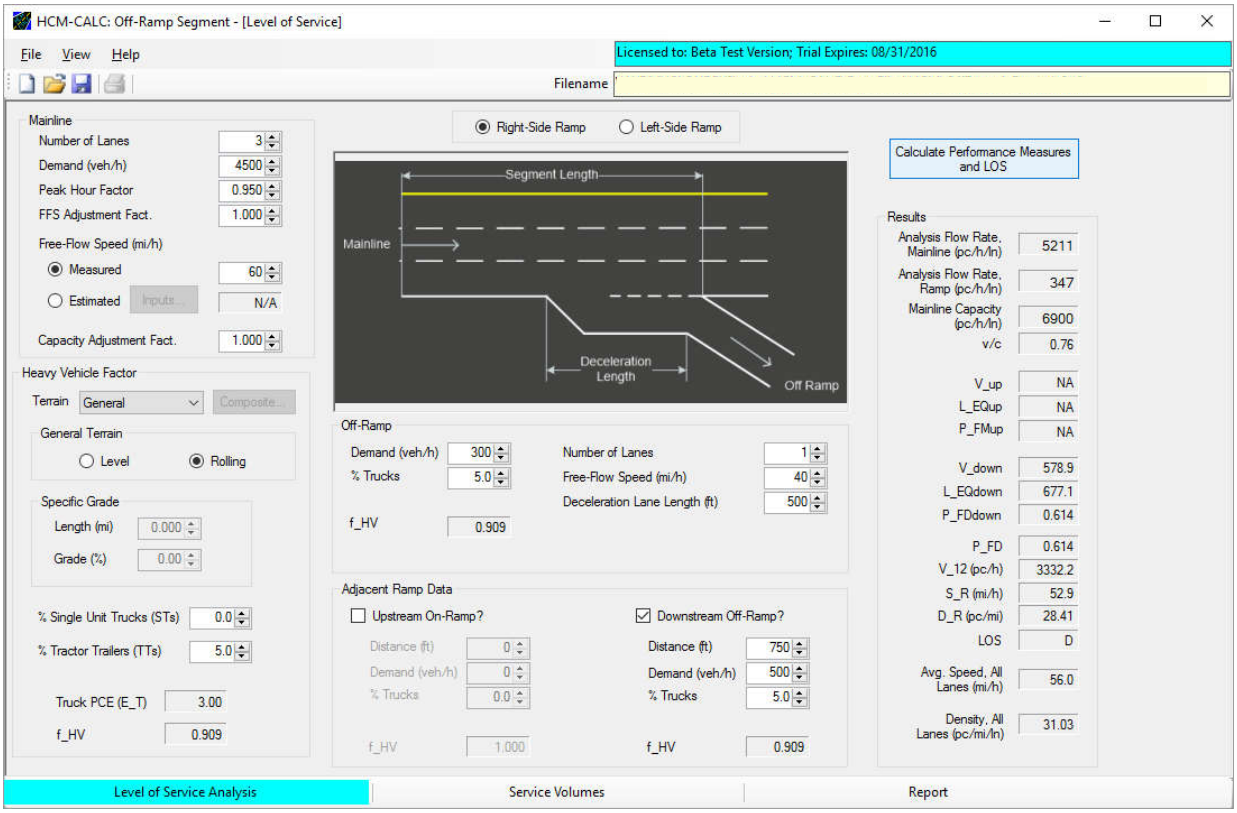
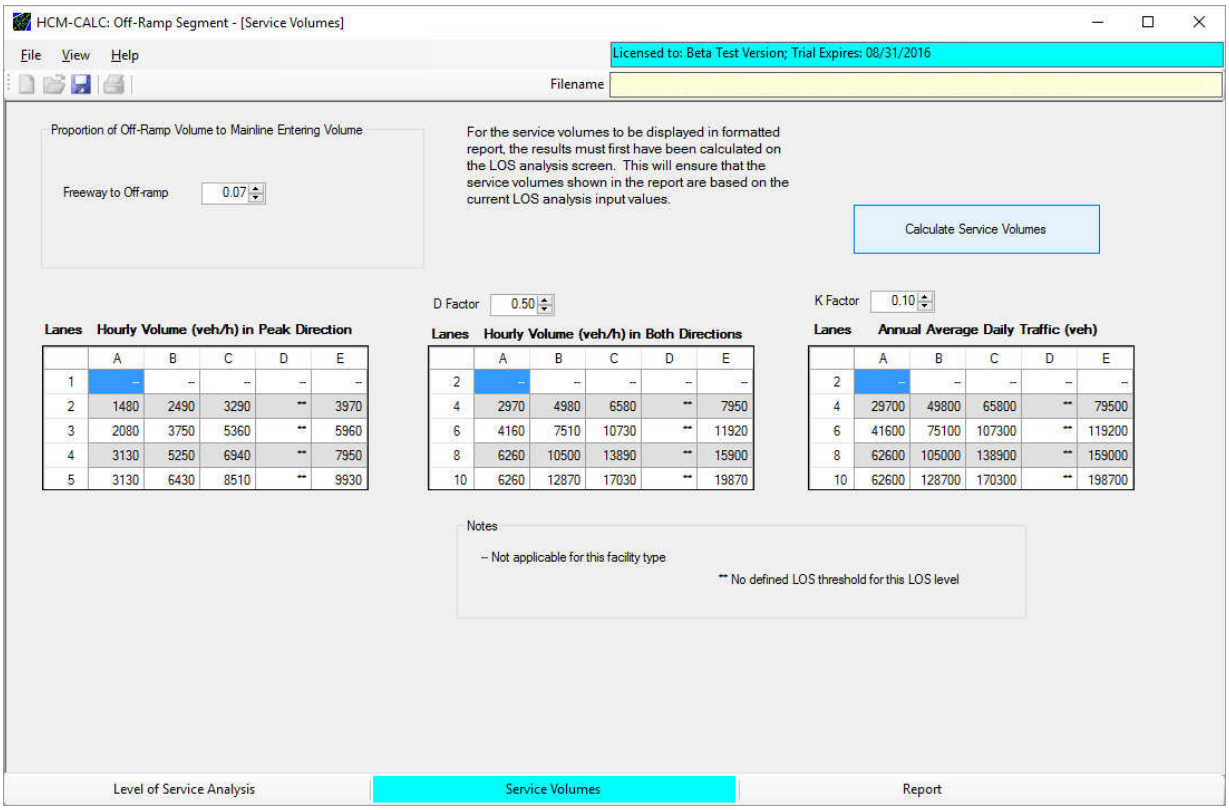


Off-Ramp Segment

Level of Service Calculation Screen



Service Volumes Calculation Screen



Lanes	A	B	C	D	E
1	--	--	--	--	--
2	1480	2490	3290	**	3970
3	2080	3750	5360	**	5960
4	3130	5250	6940	**	7950
5	3130	6430	8510	**	9930

Lanes	A	B	C	D	E
2	--	--	--	--	--
4	2970	4980	6580	**	7950
6	4160	7510	10730	**	11920
8	6260	10500	13890	**	15900
10	6260	12870	17030	**	19870

Lanes	A	B	C	D	E
2	--	--	--	--	--
4	29700	49800	65800	**	79500
6	41600	75100	107300	**	119200
8	62600	105000	138900	**	159000
10	62600	128700	170300	**	198700

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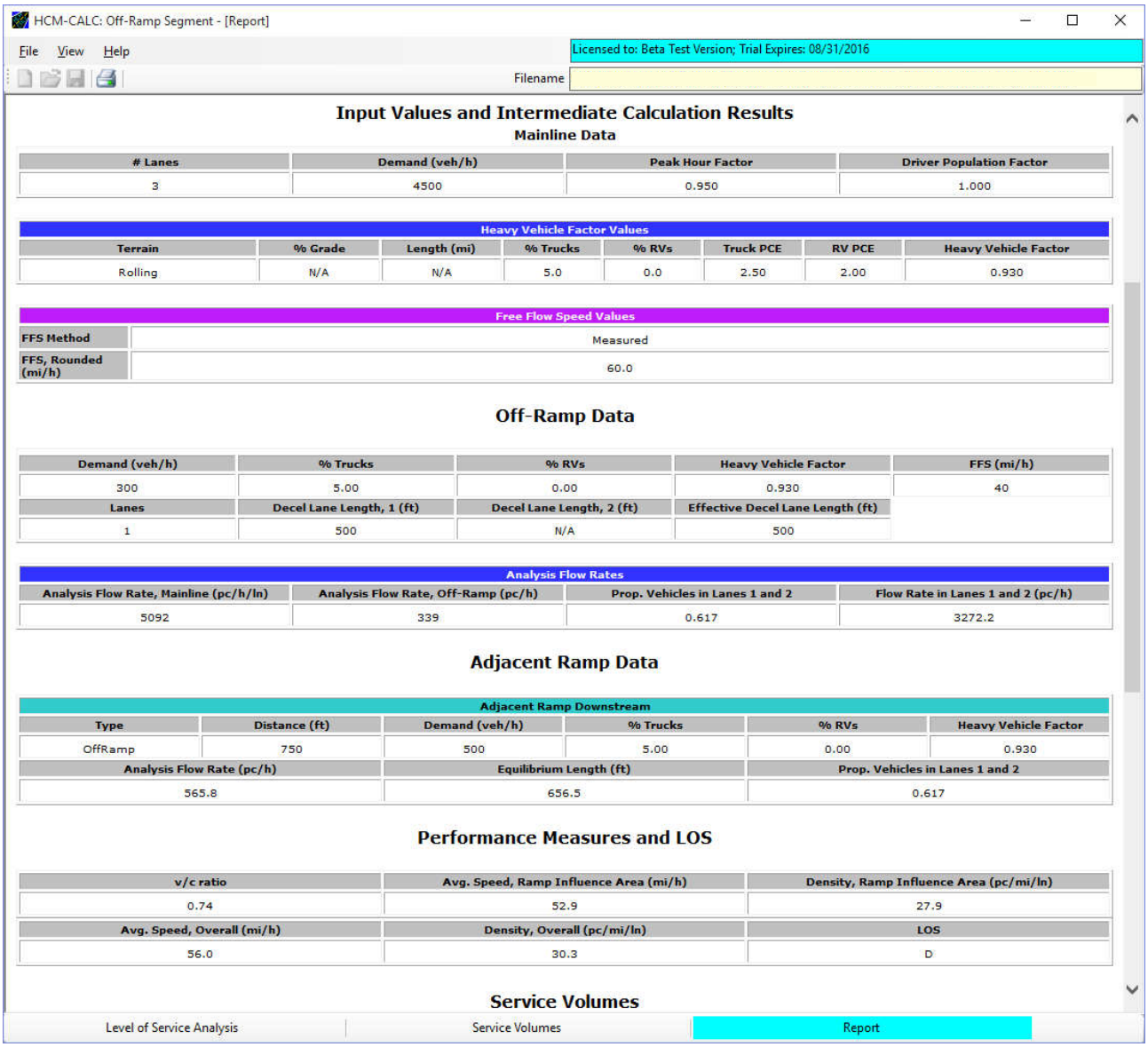
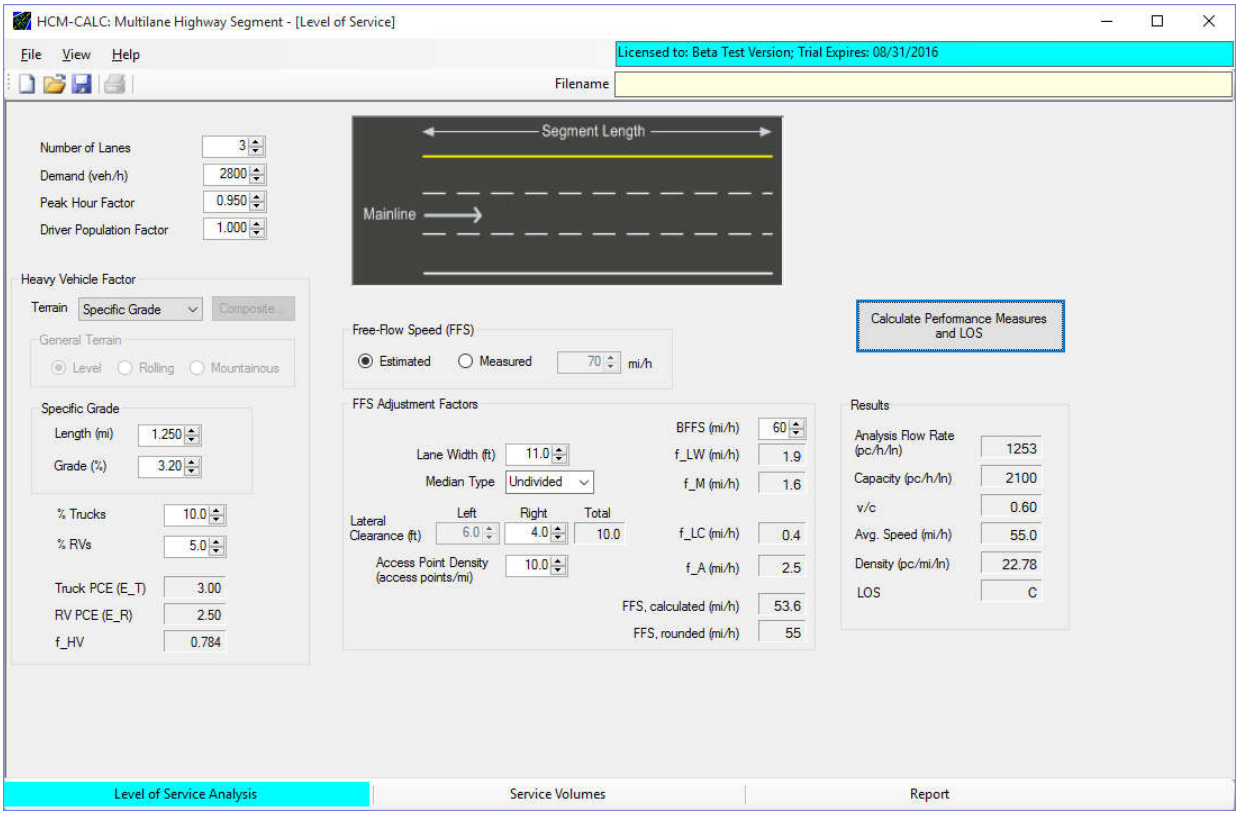
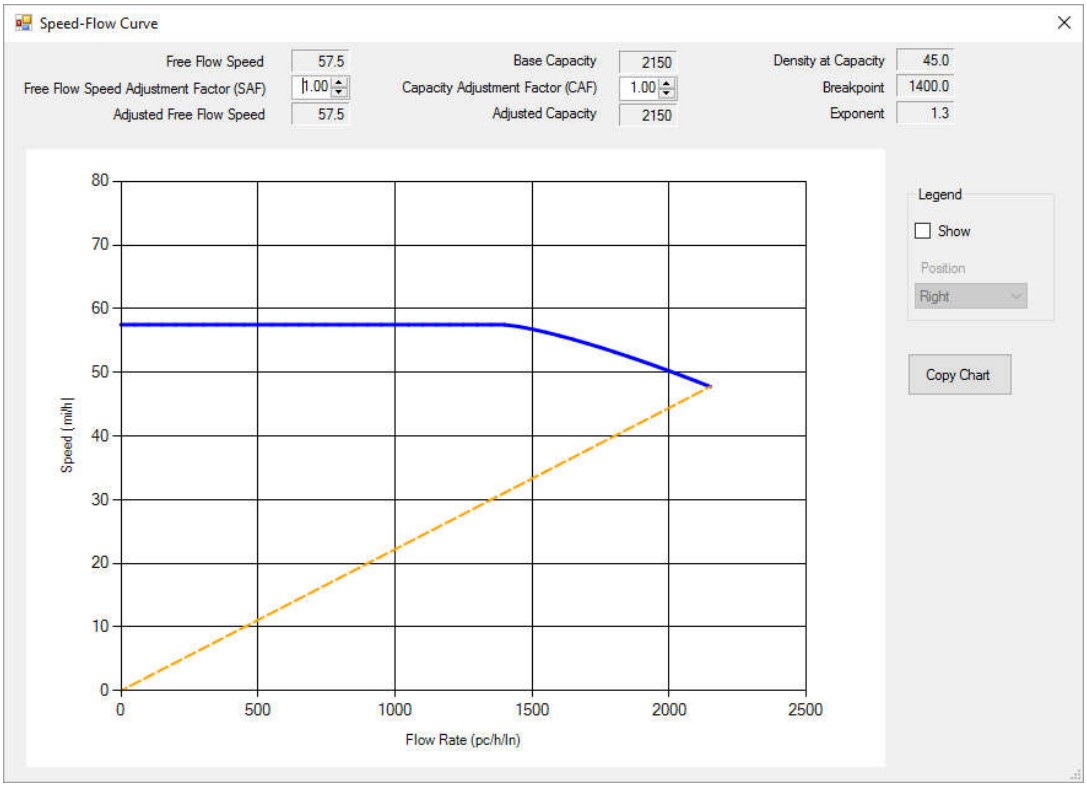


Multilane Highway Segment

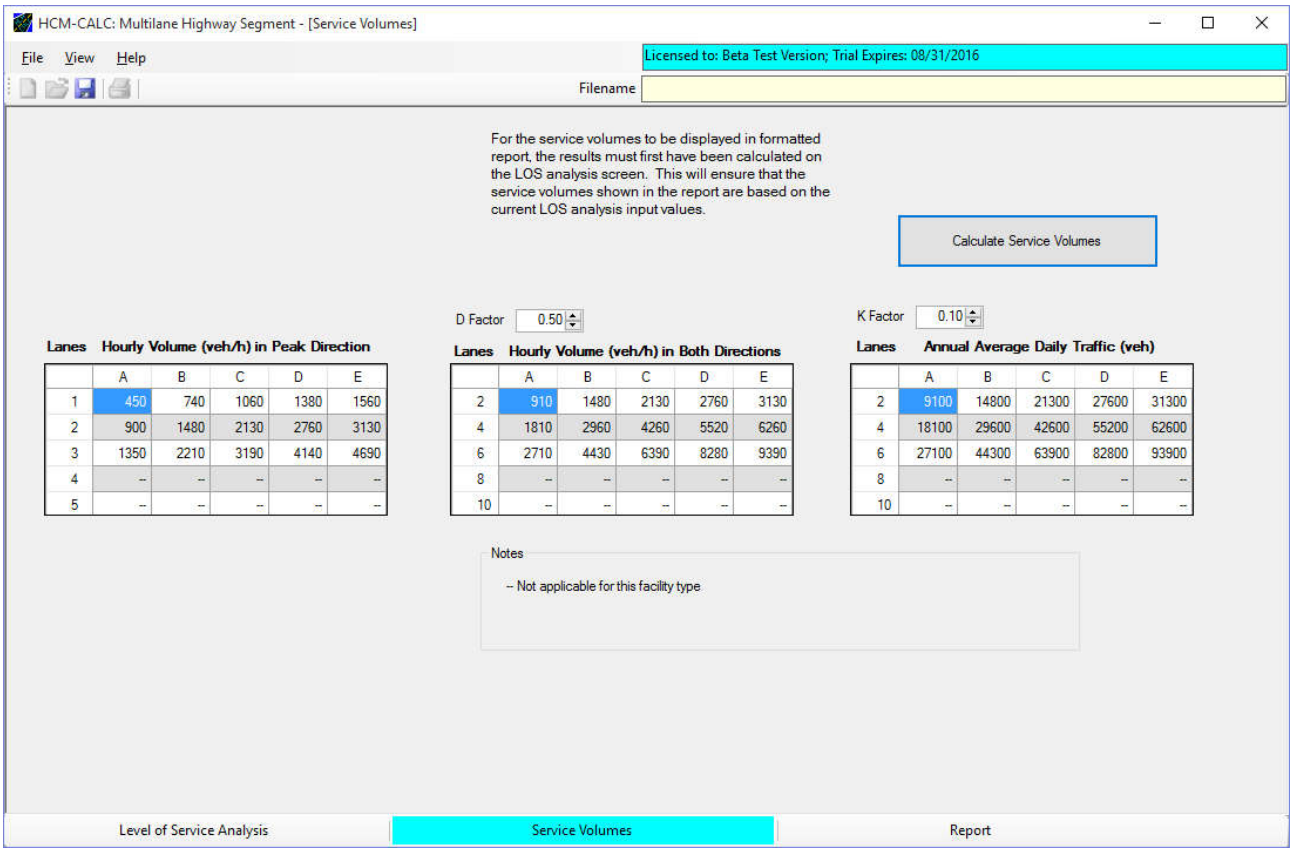
Level of Service Calculation Screen



Speed-Flow Curve Specification Screen (for HCM 6th Edition)



Service Volumes Calculation Screen



Lanes	A	B	C	D	E
1	450	740	1060	1380	1560
2	900	1480	2130	2760	3130
3	1350	2210	3190	4140	4690
4	--	--	--	--	--
5	--	--	--	--	--

Lanes	A	B	C	D	E
2	910	1480	2130	2760	3130
4	1810	2960	4260	5520	6260
6	2710	4430	6390	8280	9390
8	--	--	--	--	--
10	--	--	--	--	--

Lanes	A	B	C	D	E
2	9100	14800	21300	27600	31300
4	18100	29600	42600	55200	62600
6	27100	44300	63900	82800	93900
8	--	--	--	--	--
10	--	--	--	--	--

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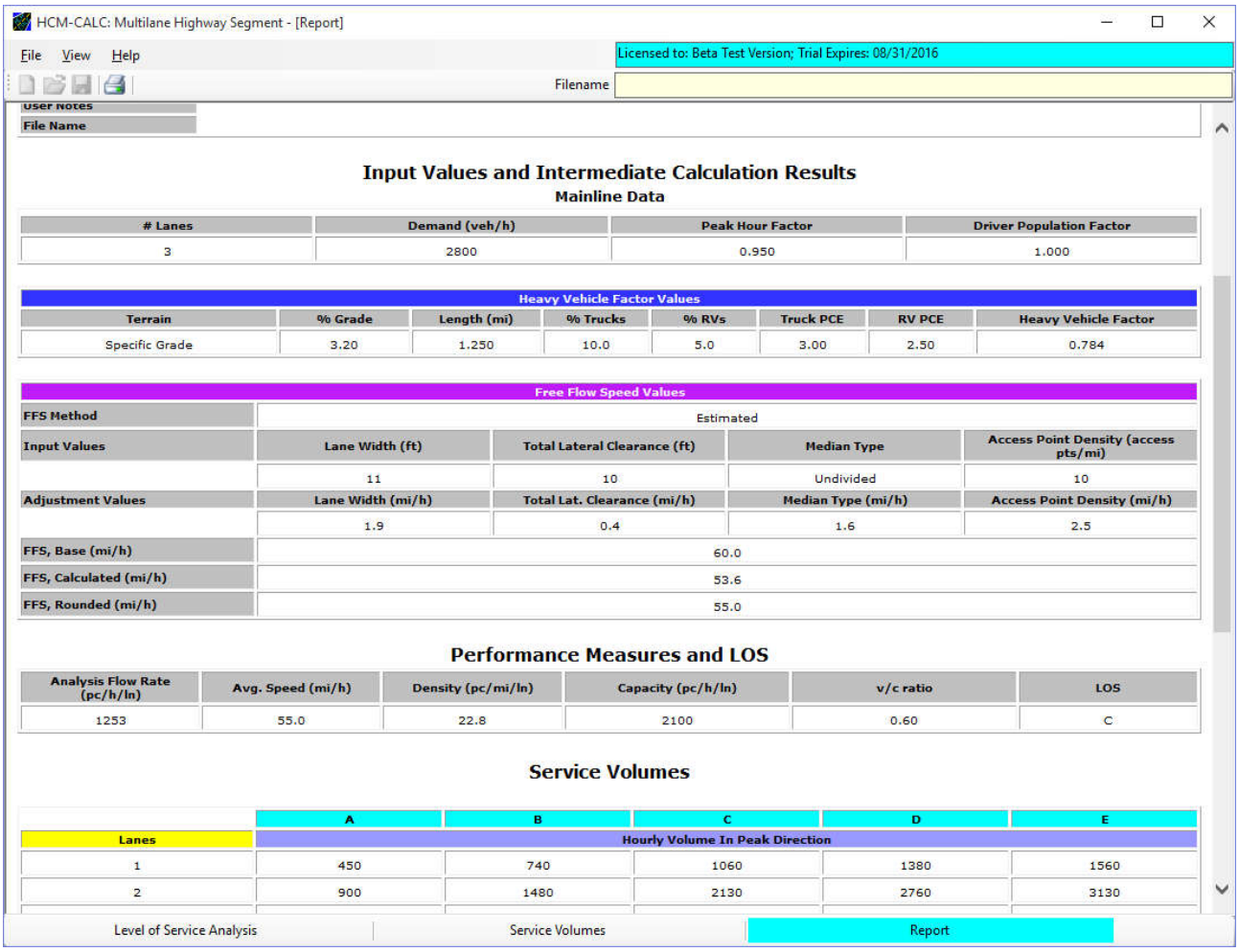
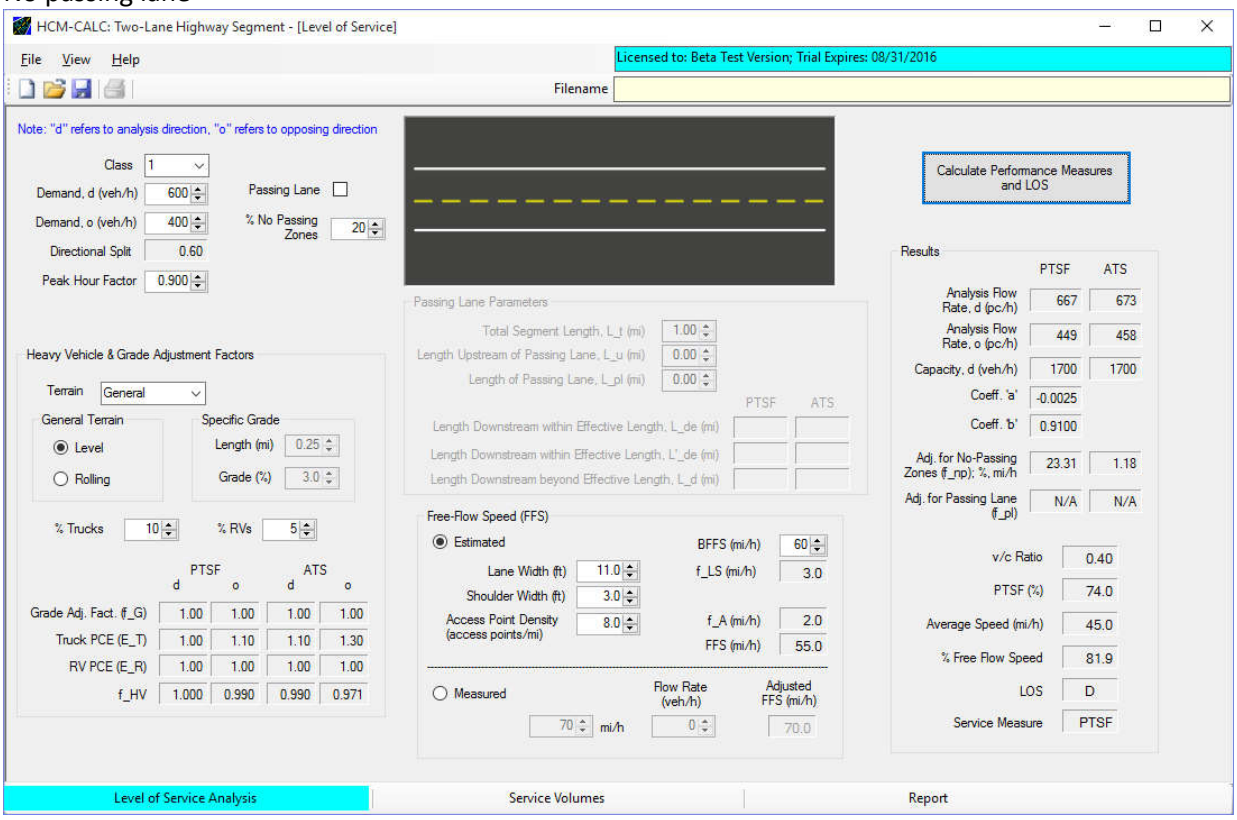


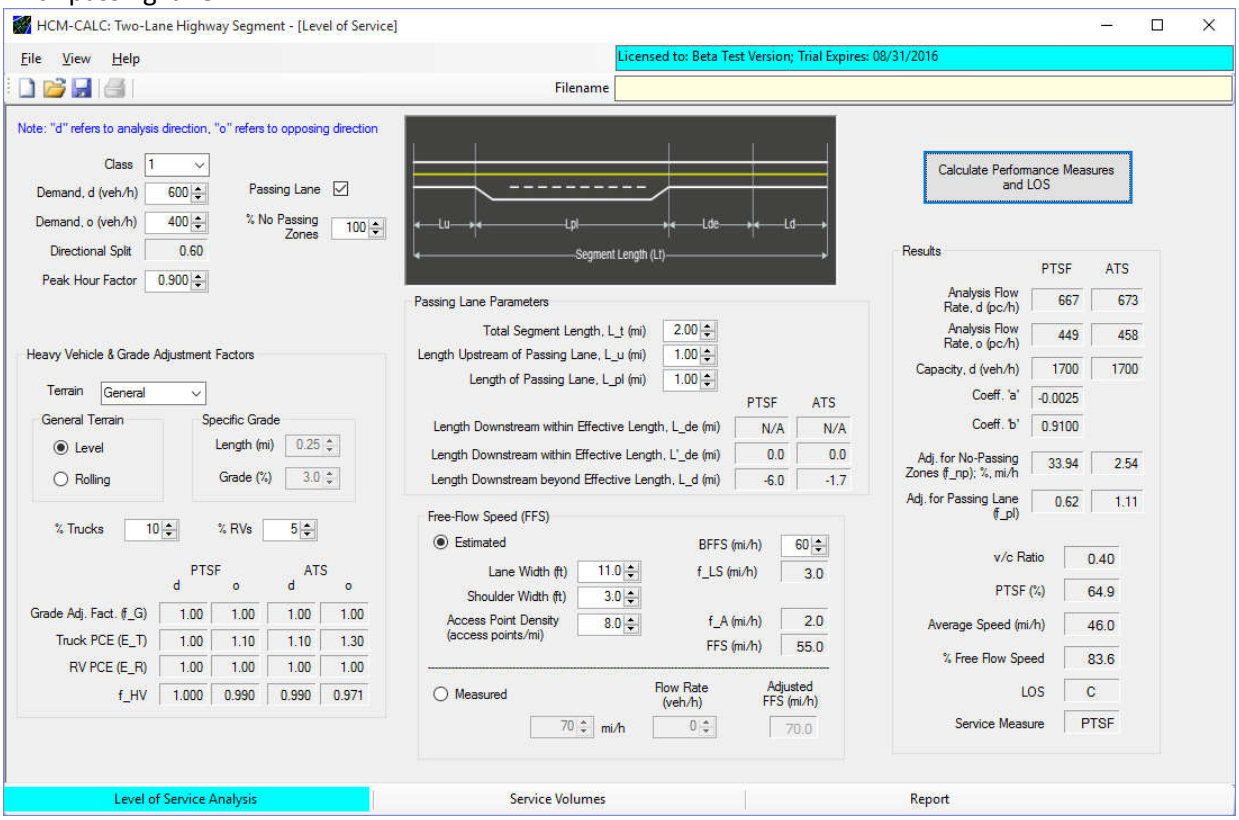
Two-Lane Highway Segment

Level of Service Calculation Screen

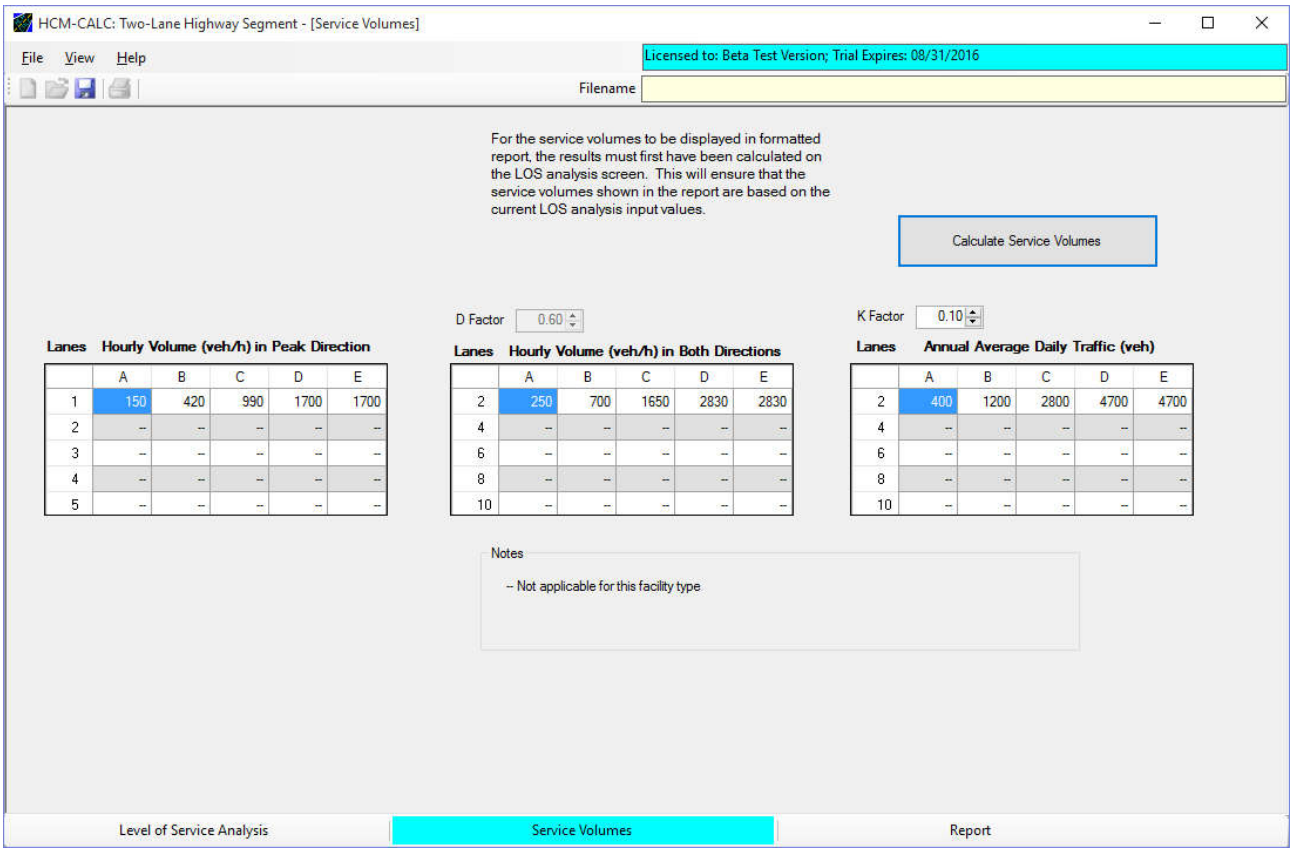
No passing lane



With passing lane



Service Volumes Calculation Screen



Lanes	A	B	C	D	E
1	150	420	990	1700	1700
2	--	--	--	--	--
3	--	--	--	--	--
4	--	--	--	--	--
5	--	--	--	--	--

Lanes	A	B	C	D	E
2	250	700	1650	2830	2830
4	--	--	--	--	--
6	--	--	--	--	--
8	--	--	--	--	--
10	--	--	--	--	--

Lanes	A	B	C	D	E
2	400	1200	2800	4700	4700
4	--	--	--	--	--
6	--	--	--	--	--
8	--	--	--	--	--
10	--	--	--	--	--

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