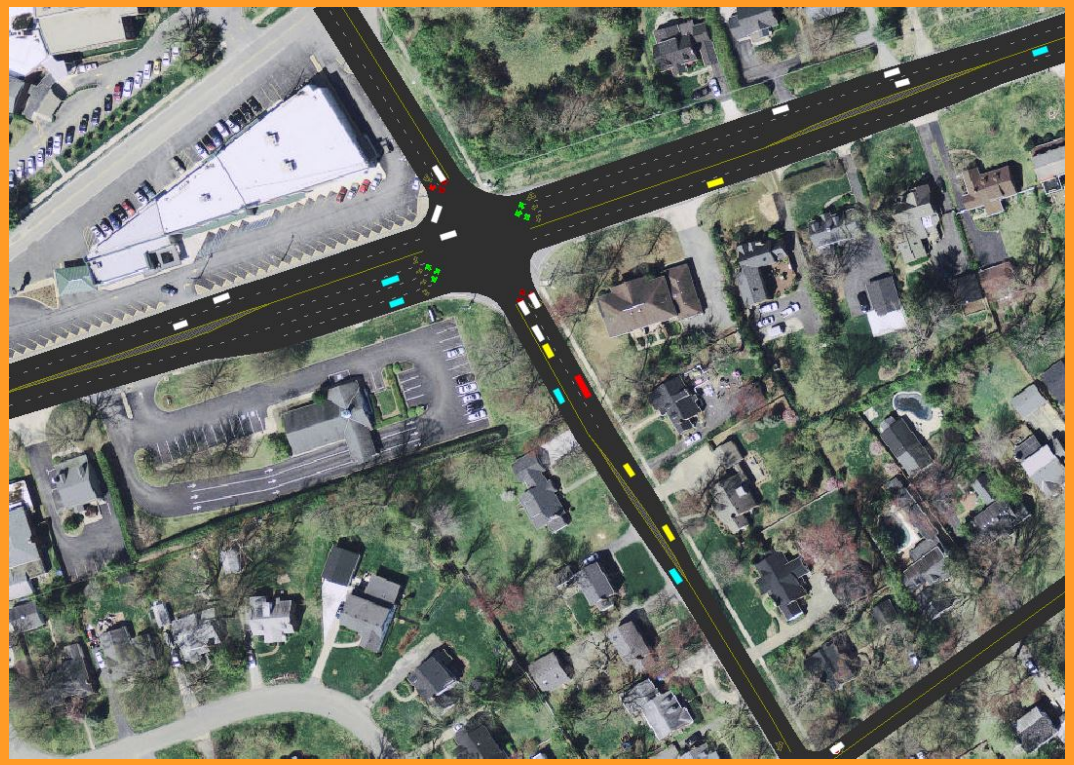
KY 1932 Chenoweth Lane

Traffic Simulation and Analysis

November 16, 2015

Broadway Baptist Church
Louisville, Kentucky



KYTC Item
No. 5-531.00

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Simulation Model

- TransModeler v.4 / Caliper Corporation
- AM and PM Peak Hours
- 2015 and 2035
- Includes autos and trucks
- 3 ½ minute train disruption
- Incorporates randomness
- 10 simulations are averaged per scenario

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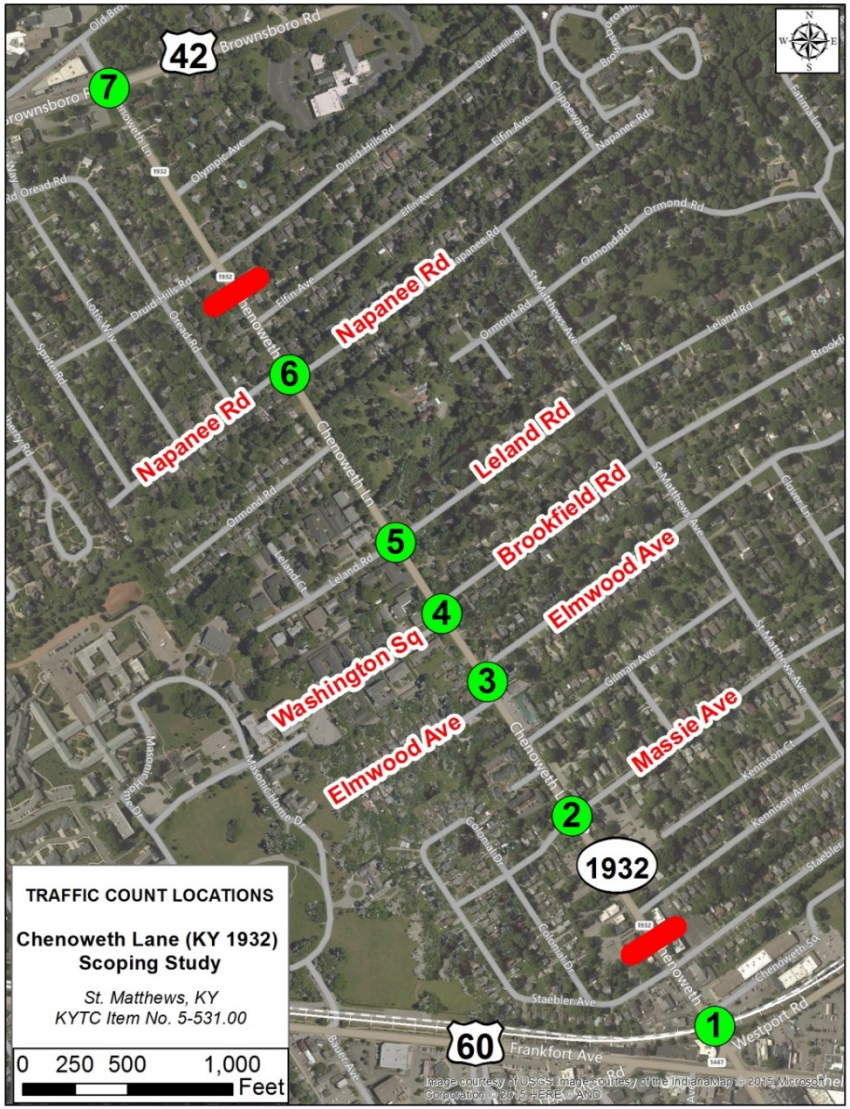
Traffic Counts



May 2015

7 Turn Movement Counts

2 Directional Counts

11,900 vehicles per day

960 vehicles in AM Peak Hour

1,160 vehicles in PM Peak Hour

9.7 % Trucks

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Trains

- Camera recorded crossing from 5 PM Wednesday to midnight Saturday
- 53 Trains recorded in 55 hours
- Average train disruption: 3 ½ minutes
- Average in peak period: 2 ½ min.

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2035 Forecast

- **Corridor and surrounding area built out.**
- **KYTC historical counts on Chenoweth Lane and surrounding roads show declining trend.**
- **KIPDA Travel Demand Model:**
  - 2015 and 2035year traffic forecasts are significantly lower than current counts.
  - Model predicts flat or declining traffic for surrounding area.

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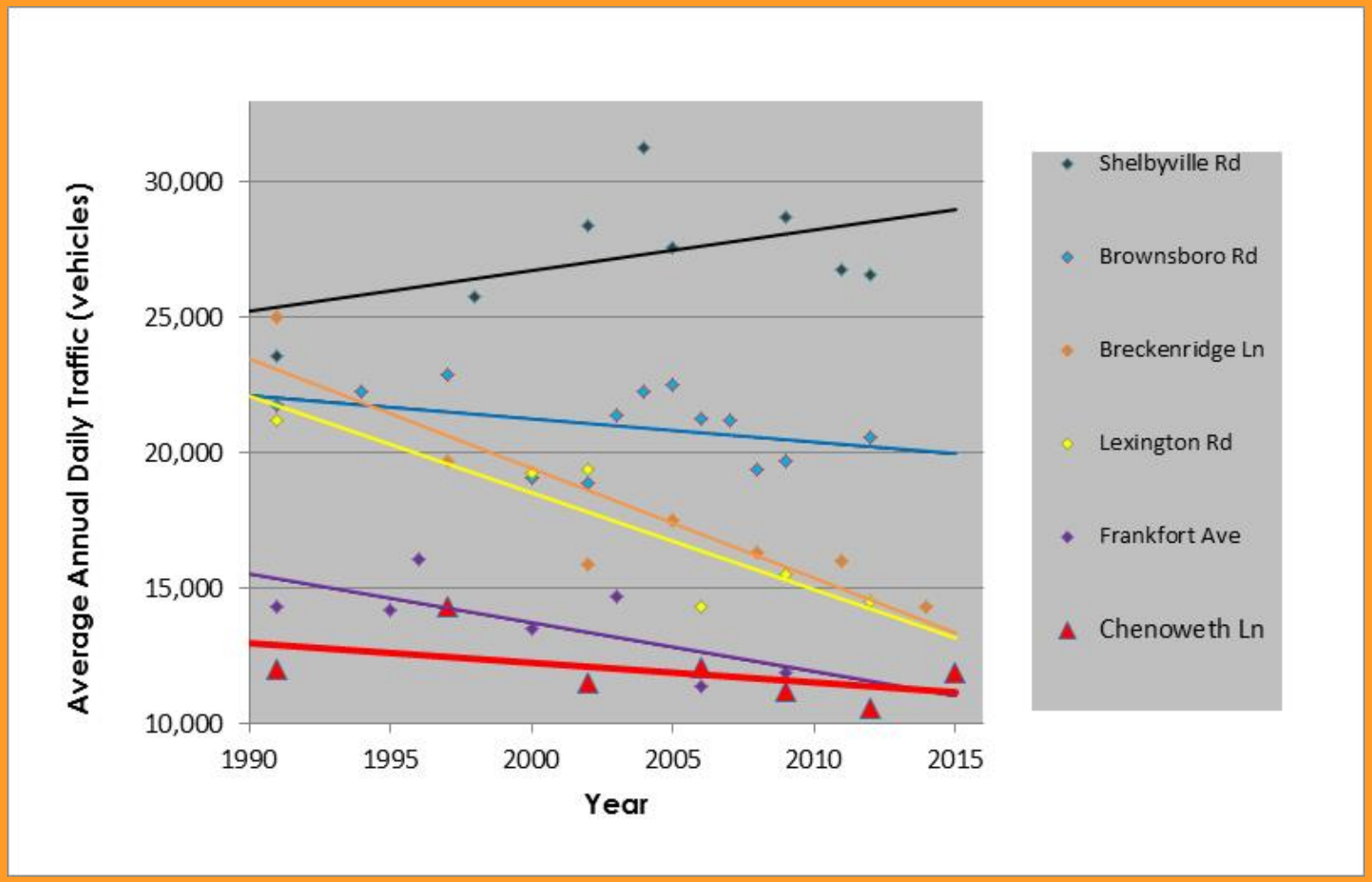
KYTC Historical Traffic Counts



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Volume to Capacity Ratio

- The V/C ratio reflects the percentage of a roadway's carrying capacity currently utilized.

- A V/C ratio over 1.0 indicates the roadway is carrying more traffic than it is designed to carry.

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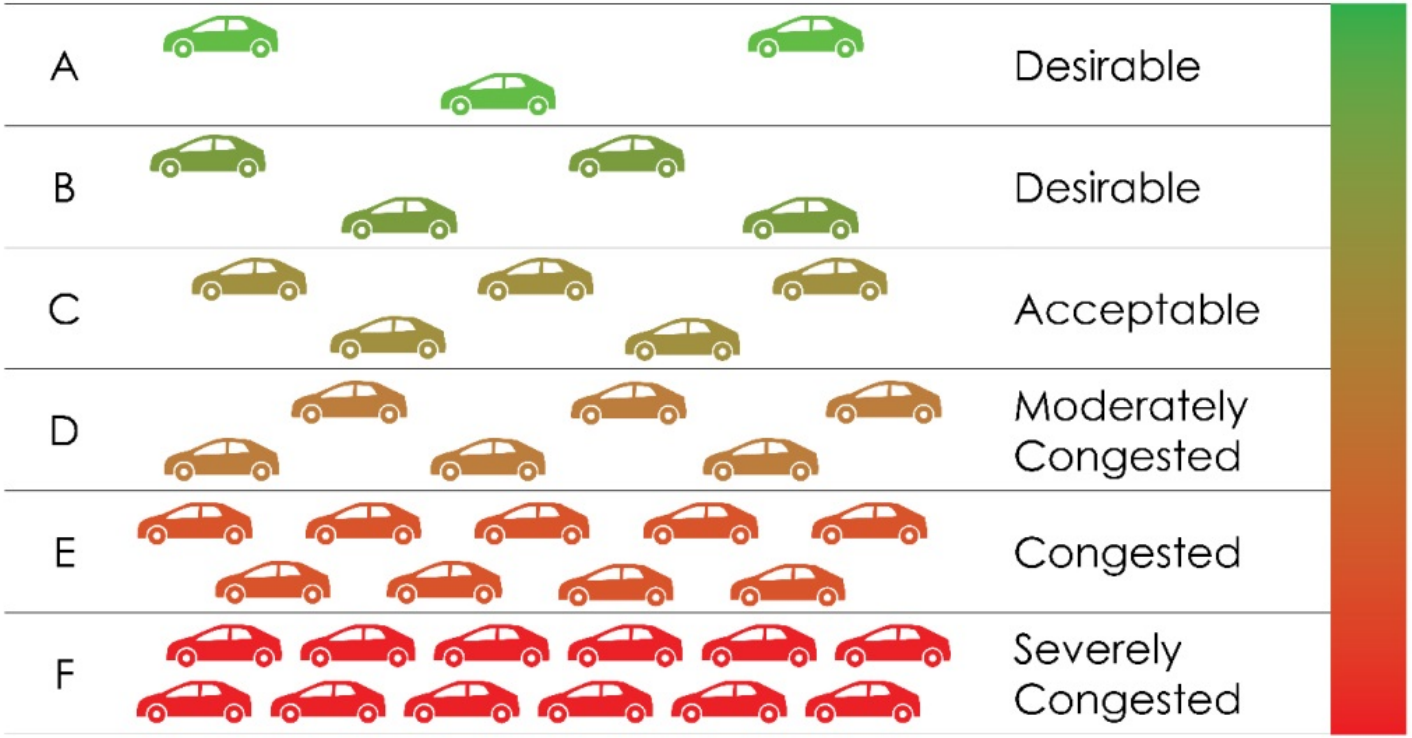
Level of Service

What is Level of Service (LOS)?



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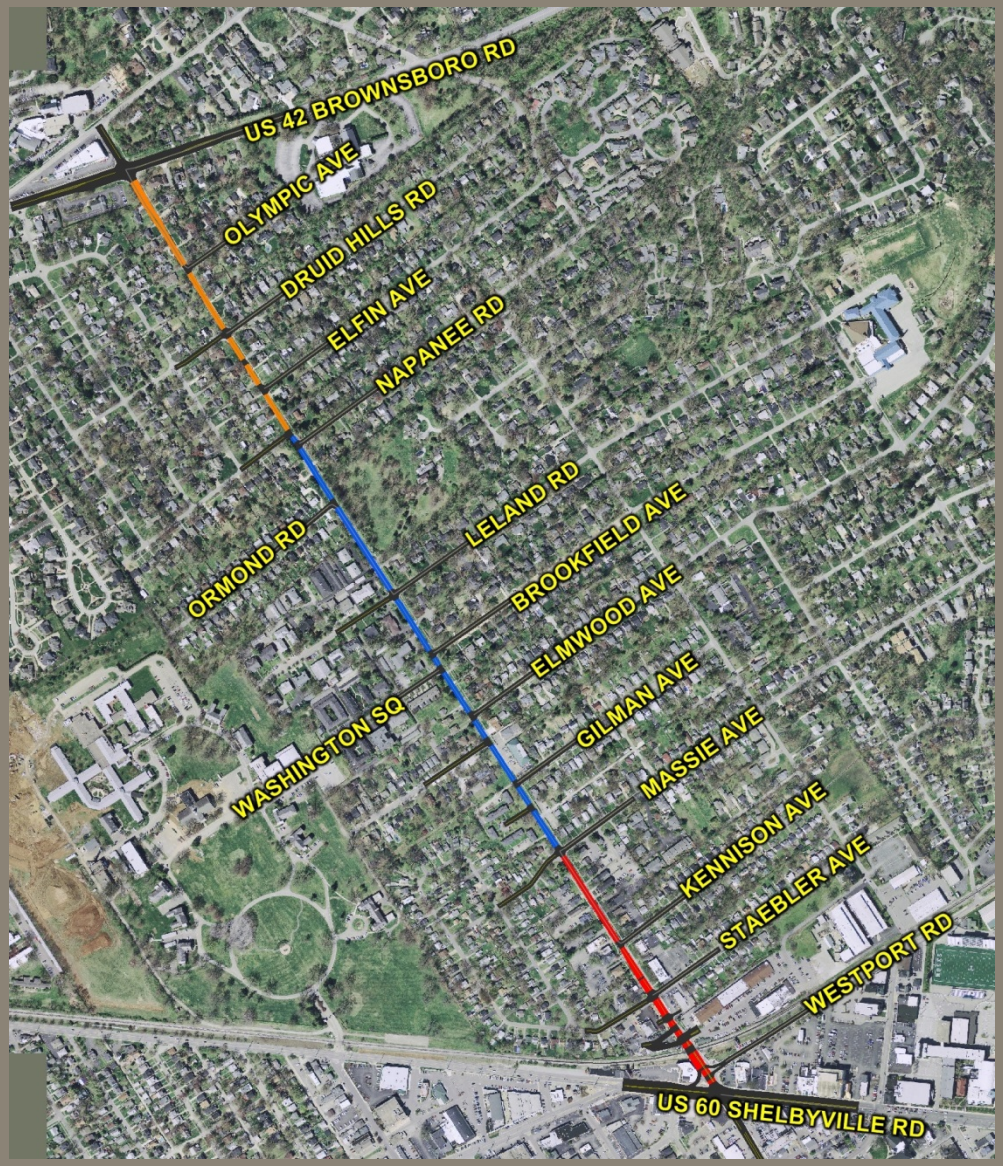
Corridor Segments



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AM Traffic Conditions

		2015		2035	
		Southbound	Northbound	Southbound	Northbound
Volume to Capacity (V/C) Ratio	North	0.61	0.44	0.70	0.49
	Middle	0.68	0.38	0.78	0.43
	South	0.67	0.36	0.74	0.39
Level of Service	North	A	B/C	A	C
	Middle	A	A	A	A
	South	D	A	D	A/B
Off-peak Travel Time (min:sec)		2:20	2:35	2:20	2:35
Peak Hour Travel Time (min:sec)		2:39	2:59	2:41	3:11
Stops per vehicle		1.4	1.1	1.7	1.4

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PM Traffic Conditions

		2015		2035	
		Southbound	Northbound	Southbound	Northbound
Volume to Capacity (V/C) Ratio	North	0.69	0.6	0.72	0.63
	Middle	0.72	0.63	0.75	0.66
	South	0.6	0.53	0.62	0.56
Level of Service	North	A	C	A	C
	Middle	A	A	A	A
	South	D	A	D/E	B
Off-peak Travel Time (min:sec)		2:20	2:35	2:20	2:35
Peak Hour Travel Time (min:sec)		2:58	3:25	3:16	3:58
Stops per vehicle		1.6	1.8	1.7	1.9

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Intersection Analysis: Chenoweth Lane at US 42

		AM		PM	
		2015	2035	2015	2035
Adjusted Flow veh/hr	NB Left	312	323	337	362
	NB Through/Right	86	99	138	155
Control Delay sec/veh	NB Left	46	47	46	46
	NB Through/Right	34	35	35	36
	NB Approach	43	44	43	43
	Intersection	26	28	29	31
Level of Service	NB Left	D	D	D	D
	NB Through/Right	C	D	D	D
	NB Approach	D	D	D	D
	Intersection	C	C	C	C

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Queue Lengths

Chenoweth at US 42: Northbound Approach

		2015	2035
AM	Avg. Queue (Feet)	80	80
	Avg. Max Queue* (Feet)	280	330
	Avg. Vehicles	4	4
	Avg. Max Vehicles	13	14
PM	Avg. Queue (Feet)	130	130
	Avg. Max Queue* (Feet)	480	500
	Avg. Vehicles	6	6
	Avg. Max Vehicles	21	22

* Longest queue averaged over 10 simulation runs

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Queue Lengths

Chenoweth at US 60: Southbound Approach

		2015	2035
AM	Avg. Queue (Feet)	70	80
	Avg. Max Queue* (Feet)	290	380
	Avg. Vehicles	4	4
	Avg. Max Vehicles	11	13
PM	Avg. Queue (Feet)	100	100
	Avg. Max Queue* (Feet)	430	450
	Avg. Vehicles	4	4
	Avg. Max Vehicles	15	15

* Longest queue averaged over 10 simulation runs

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Thank You!

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