



# TRANSPORTATION SYSTEM OPERATIONAL ANALYSIS UPDATE

Section-Line Arterial Roadways  
and  
Section-Line Arterial Intersections

Prepared for:  
City of Broken Arrow

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Prepared by:  
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## Arterial Street Levels-of-Service for 2022 and 2027

Street	Segment	Current Lanes	LOS C ADT	2017			2022			2027		
				ADT	LOS	% of LOS C	ADT	LOS	% of LOS C	ADT	LOS	% of LOS C
37th Street	Rockford St to Dearborn St	2	11,900	4130	A	35%	4449	A	37%	4793	A	40%
	Dearborn St to Omaha St	2	11,900	4281	A	36%	4611	A	39%	4968	A	42%
	Omaha St to Albany St	3	14,000		A	0%		A	0%		A	0%
	Albany St to Kenosha St	2	11,900	3478	A	29%	3747	A	31%	4036	A	34%
	Kenosha St to Houston St	2	11,900	4280	A	36%	4611	A	39%	4967	A	42%
51st St	Omaha St to Albany St	2	11,900	839	A	7%	903	A	8%	973	A	8%
	Kenosha St to Houston St	2	11,900	2000	A	17%	2155	A	18%	2321	A	20%
	Houston St to Washington St	2	11,900	1845	A	16%	1988	A	17%	2141	A	18%
65th St	Albany St to Kenosha St	2	11,900	1521	A	9%	1639	A	10%	1765	A	11%
	Kenosha St to Houston St	2	11,900	4345	A	24%	4681	A	27%	5043	A	30%
	Houston St to Washington St	2	11,900	2358	A	17%	2540	A	19%	2737	A	21%
79th St	Albany St to Kenosha St	2	11,900	1853	A	12%	1997	A	13%	2151	A	15%
	Kenosha St to Houston St	2	11,900	2566	A	19%	2765	A	21%	2978	A	23%
93rd St	Albany St to Kenosha St	2	11,900	1781	A	12%	1919	A	13%	2067	A	15%
	Kenosha St to Houston St	2	11,900	1137	A	7%	1225	A	8%	1320	A	8%

## Arterial Street Levels-of-Service for 2022 and 2027

Street	Segment	Current Lanes	LOS C ADT	2017			2022			2027		
				ADT	LOS	% of LOS C	ADT	LOS	% of LOS C	ADT	LOS	% of LOS C
Rockford St	23rd St to 37th St	2	11,900	5245	B	44%	5650	B	i74/ e74	6087	B	51%
Dearborn St	23rd St to 37th St	2	11,900	6443	B	54%	6940	B	58%	7477	B	63%
	37th St to 51st St	2	11,900	1454	A	12%	1566	A	13%	1687	A	14%
Omaha St	Aspen St to Elm Place	2	11,900	8591	C	72%	9255	C	78%	9970	C	84%
	Elm Place to 9th St	2	11,900	13139	D	110%	14154	D	119%	15248	D	128%
	9th St to 23rd St	2	11,900	12642	D	106%	13619	D	114%	14671	D	123%
	23rd St to 37th St	2	11,900	7619	B	64%	8208	B	69%	8842	C	74%
	37th St to 51st St	2	11,900	3046	A	26%	3281	A	28%	3535	A	30%
	51st St to 65th St	2	11,900	2406	A	20%	2591	A	22%	2792	A	23%
Albany St	Garnett Rd to Olive Ave	5	25,200	15846	B	63%	17071	B	68%	18390	C	73%
	Olive Ave to Aspen Ave	5	25,200	14524	B	58%	15647	B	62%	16856	B	67%
	Aspen St to Elm Place	5	25,200	11255	B	45%	12125	B	48%	13062	B	52%
	Elm Place to 9th St	4	26,600	10247	A	39%	11039	A	42%	11892	B	45%
	9th St to 23rd St	5	25,200	11350	B	45%	12227	B	49%	13172	B	52%
	23rd St to 37th St	2	11,900	3525	A	30%	3797	A	32%	4091	A	34%
	37th St to 51st St	2	11,900	2320	A	19%	2499	A	21%	2693	A	23%
	51st St to 65th St	2	11,900	1548	A	13%	1668	A	14%	1797	A	15%
Kenosha St	Garnett Rd to Olive Ave	5	25,200	25114	C	100%	27055	D	107%	29146	D	116%
	Olive Ave to Aspen Ave	5	25,200	19883	C	79%	21420	C	85%	23075	C	92%
	Aspen St to Elm Place	4	23,800	20300	C	85%	21868	C	92%	23558	C	99%
	Elm Place to 9th St	5	25,200	22906	C	91%	24676	C	98%	26583	D	105%
	9th St to 23rd St	7	42,200	28693	B	68%	30910	C	73%	33299	C	79%
	23rd St to 37th St	5	25,200	21108	C	84%	22739	C	90%	24496	C	97%
	37th St to 51st St	4	23,800	18754	C	79%	20204	C	85%	21765	C	91%
	51st St to 65th St	4	23,800	13198	B	55%	14218	B	60%	15316	C	64%
	65th St to 79th St	4	23,800	8660	A	36%	9329	A	39%	10050	A	42%
	79th St to 93rd St	4	23,800	6126	A	26%	6599	A	28%	7109	A	30%
Houston St	Garnett Rd to Olive Ave	3	14,000	21038	F	150%	22664	F	162%	24415	F	174%
	Olive Ave to Aspen Ave	3	14,000	15732	D	112%	16948	D	121%	18258	E	130%
	Aspen St to Elm Place	3	14,000	15524	D	111%	16724	D	119%	18017	E	129%
	Elm Place to 9th St	2	11,900	6920	B	58%	7455	B	63%	8031	B	67%
	9th St to 23rd St	2	11,900	7170	B	60%	7725	B	65%	8322	B	70%
	23rd St to 37th St	2	11,900	8519	C	72%	9178	C	77%	9887	C	83%
	37th St to 51st St	2	11,900	5991	B	50%	6454	B	54%	6953	B	58%
	51st St to 65th St	2	11,900	4885	A	41%	5262	B	44%	5669	B	48%
	65th St to 79th St	2	11,900	3545	A	30%	3819	A	32%	4114	A	35%
Washington St	Garnett Rd to Olive Ave	5	25,200	17372	B	69%	18714	C	74%	20161	C	80%
	Olive Ave to Aspen Ave	3	14,000	15421	D	110%	16613	D	119%	17897	D	128%
	Aspen St to Elm Place	3	14,000	13161	C	94%	14178	D	101%	15274	D	109%
	Elm Place to 9th St	3	14,000	10264	C	73%	11057	C	79%	11911	C	85%
	9th St to 23rd St	2	11,900	4812	A	40%	5184	B	44%	5585	B	47%
	east of 23rd St	2	11,900	2113	A	18%	2276	A	19%	2452	A	21%
New Orleans St	Mingo Rd to Garnett Rd	2	11,900	10144	C	85%	10928	C	92%	11772	C	99%
	Garnett Rd to Olive Ave	2	11,900	11704	C	98%	12609	D	106%	13583	D	114%
	Olive Ave to Aspen Ave	3	14,000	11085	C	79%	11941	C	85%	12864	C	92%
	Aspen St to Elm Place	3	14,000	15054	D	108%	16217	D	116%	17470	D	125%
	Elm Place to 9th St	5	25,200	11401	B	45%	12282	B	49%	13231	B	53%
	9th St to 23rd St	3	14,000	9414	B	67%	10141	C	72%	10925	C	78%
	23rd St to 37th St	3	14,000	7830	B	56%	8435	B	60%	9087	B	65%

## Intersection Levels-of-Service for 2017, 2022 and 2027

	Intersection	Type of Traffic Control	AM Peak Hour					PM Peak Hour				
			Critical Approach			Intersection		Critical Approach			Intersection	
			Approach	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Approach	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
36	9th St and Omaha St	Signal	WB	69.0	E	55.4	E	EB	64.7	E	44.3	D
37	9th St and Albany St	Signal	EB	40.6	D	30.0	C	EB	45.4	D	34.5	C
38	9th St and Kenosha St	Signal	SB	31.0	C	27.0	C	WB	37.8	D	33.0	C
39	9th St and Houston St	Signal	EB	27.0	C	18.6	B	EB	44.2	D	31.0	C
40	9th St and Washington St	Signal	EB	21.3	C	14.9	B	EB	32.0	C	22.7	C
41	9th St and New Orleans St	Signal	WB	30.2	C	24.9	C	WB	35.5	D	30.4	C
42	9th St and Florence St	3-way Stop	NB	9.3	A	9.1	A	SB	10.1	B	9.7	A
43	9th St and Tucson St	1-way Stop	SB	10.3	B	3.7	A	SB	11.1	B	4.3	A
44	23rd St and Rockford St	4-way Stop	NB	63.2	F	37.2	E	SB	88.1	F	48.8	E
45	23rd St and Dearborn St	4-way Stop	WB	67.0	F	41.6	E	EB	147.4	F	122.8	F
46	23rd St and Omaha St	Signal	SB	31.2	C	26.5	C	EB	46.7	D	40.5	D
47	23rd St and Albany St	Signal	WB	25.6	C	19.9	B	EB	15.5	B	14.2	B
48	23rd St and Kenosha St	Signal	WB	50.9	D	42.4	D	WB	64.8	E	42.1	D
49	23rd St and Houston St	Signal	WB	41.1	D	27.3	C	EB	41.2	D	32.3	C
50	23rd St and Washington St	4-way Stop	NB	48.1	E	31.6	D	SB	26.5	D	19.8	C
51	23rd St and New Orleans St	Signal	WB	32.0	C	21.4	C	WB	35.2	D	27.1	C
52	23rd St and Florence St	1-way Stop	EB	9.1	A	0.6	A	EB	9.8	A	0.2	A
53	23rd St and Tucson St	4-way Stop	NB	24.6	C	18.1	C	SB	28.2	D	20.9	C
54	37th St and Dearborn St	4-way Stop	NB	10.3	B	9.8	A	EB	15.0	B	14.0	B
55	37th St and Omaha St	4-way Stop	SB	13.0	B	12.0	B	EB	11.7	B	10.5	B
56	37th St and Albany St	4-way Stop	WB	11.8	B	10.7	B	NB	8.9	A	8.7	A
57	37th St and Kenosha St	Signal	NB	23.2	C	18.0	B	SB	39.4	D	24.7	C
58	37th St and Houston St	3-way Stop	WB	33.6	D	27.3	D	WB	14.1	B	13.3	B
59	37th St and New Orleans St	Signal	NB	27.1	C	21.8	C	WB	26.2	C	21.2	C
60	37th St and Florence St	4-way Stop	NB	7.5	A	7.3	A	SB	7.8	A	7.5	A
61	51st St and Omaha St	1-way Stop	NB	11.2	B	0.9	A	NB	10.7	B	2.3	A
62	51st St and Albany St	4-way Stop	WB	9.2	A	8.6	A	EB	8.2	A	7.9	A
63	51st St and Kenosha St	Signal	NB	39.3	D	19.1	B	NB	28.8	C	18.7	B
64	51st St and Houston St	4-way Stop	WB	27.0	D	21.1	C	EB	14.3	B	12.2	B
65	51st St and Washington St	4-way Stop	WB	8.9	A	8.5	A	EB	11.8	B	10.8	B
66	65th St and Kenosha St	Signal	NB	25.8	C	23.1	C	NB	22.6	C	18.5	B
67	65th St and Houston St	4-way Stop	NB	54.8	F	37.5	E	EB	25.8	D	18.6	C
68	79th St and Kenosha St	Signal	NB	10.7	B	6.9	A	NB	10.4	B	5.9	A
69	79th St and Houston St	4-way Stop	NB	8.9	A	8.4	A	EB	8.8	A	8.6	A
70	93rd St and Kenosha St	2-way Stop	NB	16.3	C	4.3	A	NB	14.2	B	2.6	A



## Intersection Levels-of-Service for 2017, 2022 and 2027

	Intersection	Type of Traffic Control	AM Peak Hour					PM Peak Hour				
			Critical Approach			Intersection		Critical Approach			Intersection	
			Approach	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Approach	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
36	9th St and Omaha St	Signal	EB	86.9	F	67.5	E	EB	80.5	F	53.9	D
37	9th St and Albany St	Signal	EB	57.1	E	35.7	D	EB	58.9	E	36.8	D
38	9th St and Kenosha St	Signal	WB	33.9	C	29.1	C	NB	56.5	E	41.2	D
39	9th St and Houston St	Signal	EB	29.9	C	19.8	B	EB	46.1	D	33.7	C
40	9th St and Washington St	Signal	EB	25.5	C	17.0	B	EB	39.4	D	27.9	C
41	9th St and New Orleans St	Signal	WB	33.4	C	27.6	C	SB	37.1	D	33.4	C
42	9th St and Florence St	3-way Stop	NB	9.6	A	9.4	A	SB	10.6	B	10.1	B
43	9th St and Tucson St	1-way Stop	SB	10.6	B	3.8	A	SB	11.5	B	4.4	A
44	23rd St and Rockford St	4-way Stop	NB	99.8	F	54.2	F	SB	139.4	F	72.9	F
45	23rd St and Dearborn St	4-way Stop	WB	110.2	F	62.4	F	EB	199.1	F	166.9	F
46	23rd St and Omaha St	Signal	SB	33.8	C	28.6	C	EB	61.6	E	49.7	D
47	23rd St and Albany St	Signal	WB	29.5	C	22.2	C	EB	15.5	B	14.8	B
48	23rd St and Kenosha St	Signal	WB	65.1	E	51.8	D	WB	76.1	E	47.9	D
49	23rd St and Houston St	Signal	WB	42.9	D	29.1	C	EB	43.4	D	36.1	D
50	23rd St and Washington St	4-way Stop	NB	78.6	F	47.7	E	SB	38.3	E	26.5	D
51	23rd St and New Orleans St	Signal	WB	32.5	C	23.1	C	WB	37.8	D	30.2	C
52	23rd St and Florence St	1-way Stop	EB	9.1	A	0.6	A	EB	10.0	B	0.2	A
53	23rd St and Tucson St	4-way Stop	NB	34.3	D	23.2	C	SB	43.4	E	29.0	D
54	37th St and Dearborn St	4-way Stop	NB	10.9	B	10.4	B	EB	17.7	C	16.2	C
55	37th St and Omaha St	4-way Stop	SB	14.3	B	13.0	B	EB	12.6	B	11.1	B
56	37th St and Albany St	4-way Stop	WB	12.8	B	11.4	B	NB	9.2	A	9.0	A
57	37th St and Kenosha St	Signal	NB	23.7	C	19.1	B	SB	36.9	D	26.4	C
58	37th St and Houston St	3-way Stop	WB	54.2	F	42.5	E	WB	15.7	C	14.9	B
59	37th St and New Orleans St	Signal	NB	30.3	C	29.1	C	WB	29.1	C	22.4	C
60	37th St and Florence St	4-way Stop	NB	7.6	A	7.4	A	SB	7.8	A	7.5	A
61	51st St and Omaha St	1-way Stop	NB	11.6	B	0.9	A	NB	11.0	B	2.4	A
62	51st St and Albany St	4-way Stop	WB	9.5	A	8.9	A	EB	8.3	A	8.0	A
63	51st St and Kenosha St	Signal	NB	40.2	D	19.0	B	NB	33.7	C	18.9	B
64	51st St and Houston St	4-way Stop	WB	38.7	E	28.8	D	EB	16.7	C	13.6	B
65	51st St and Washington St	4-way Stop	WB	9.1	A	8.6	A	EB	12.8	B	11.5	B
66	65th St and Kenosha St	Signal	NB	30.8	C	25.5	C	NB	25.0	C	19.3	B
67	65th St and Houston St	4-way Stop	NB	83.2	F	52.7	F	EB	35.4	E	23.2	C
68	79th St and Kenosha St	Signal	NB	10.7	B	7.1	A	NB	10.7	B	6.1	A
69	79th St and Houston St	4-way Stop	NB	9.1	A	8.6	A	EB	9.1	A	8.8	A
70	93rd St and Kenosha St	2-way Stop	NB	17.9	C	4.6	A	NB	15.0	C	2.8	A

## Intersection Levels-of-Service for 2017, 2022 and 2027

	Intersection	Type of Traffic Control	AM Peak Hour					PM Peak Hour				
			Critical Approach			Intersection		Critical Approach			Intersection	
			Approach	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS	Approach	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
36	9th St and Omaha St	Signal	WB	109.8	F	88.3	F	EB	100.3	F	67.3	E
37	9th St and Albany St	Signal	EB	63.7	E	40.6	D	EB	64.0	E	41.2	D
38	9th St and Kenosha St	Signal	WB	52.7	D	35.5	D	NB	73.1	E	50.2	D
39	9th St and Houston St	Signal	EB	32.8	C	22.5	C	EB	51.9	D	39.3	D
40	9th St and Washington St	Signal	EB	28.1	C	19.4	B	EB	53.0	D	36.0	D
41	9th St and New Orleans St	Signal	WB	36.0	D	29.8	C	SB	47.8	D	42.1	D
42	9th St and Florence St	3-way Stop	NB	10.0	A	9.8	A	SB	11.3	B	10.6	B
43	9th St and Tucson St	1-way Stop	SB	10.9	B	3.8	A	SB	12.0	B	4.6	A
44	23rd St and Rockford St	4-way Stop	NB	144.2	F	75.0	F	SB	205.9	F	104.6	F
45	23rd St and Dearborn St	4-way Stop	WB	179.7	F	98.1	F	EB	242.1	F	205.2	F
46	23rd St and Omaha St	Signal	EB	41.3	D	32.7	C	EB	66.7	E	59.9	E
47	23rd St and Albany St	Signal	WB	33.0	C	24.1	C	EB	19.4	B	17.3	B
48	23rd St and Kenosha St	Signal	WB	80.3	F	63.8	E	WB	92.7	F	56.4	E
49	23rd St and Houston St	Signal	WB	47.2	D	31.5	C	EB	54.6	D	43.8	D
50	23rd St and Washington St	4-way Stop	NB	122.3	F	70.9	F	SB	64.6	F	40.4	E
51	23rd St and New Orleans St	Signal	WB	36.1	D	27.6	C	WB	44.6	D	36.2	D
52	23rd St and Florence St	1-way Stop	EB	9.2	A	0.6	A	EB	10.1	B	0.2	A
53	23rd St and Tucson St	4-way Stop	NB	53.4	F	32.8	D	SB	77.9	F	46.1	E
54	37th St and Dearborn St	4-way Stop	NB	11.6	B	10.9	B	EB	21.4	C	19.2	C
55	37th St and Omaha St	4-way Stop	SB	16.5	C	14.6	B	EB	13.6	B	11.9	B
56	37th St and Albany St	4-way Stop	WB	13.9	B	12.1	B	NB	9.5	A	9.3	A
57	37th St and Kenosha St	Signal	NB	26.0	C	20.4	C	SB	36.8	D	27.2	C
58	37th St and Houston St	3-way Stop	WB	72.9	F	56.3	F	NB	18.0	C	17.1	C
59	37th St and New Orleans St	Signal	NB	36.6	D	29.3	C	WB	29.1	C	23.5	C
60	37th St and Florence St	4-way Stop	NB	7.6	A	7.4	A	SB	7.9	A	7.6	A
61	51st St and Omaha St	1-way Stop	NB	11.9	B	0.9	A	NB	11.3	B	2.5	A
62	51st St and Albany St	4-way Stop	WB	9.8	A	9.1	A	EB	8.5	A	8.1	A
63	51st St and Kenosha St	Signal	NB	42.0	D	19.3	B	NB	46.0	D	20.3	C
64	51st St and Houston St	4-way Stop	WB	57.1	F	41.0	E	WB	19.5	C	15.3	C
65	51st St and Washington St	4-way Stop	WB	9.4	A		A	EB	14.0	B	12.4	B
66	65th St and Kenosha St	Signal	NB	34.6	C	28.5	C	NB	35.5	D	22.9	C
67	65th St and Houston St	4-way Stop	NB	121.0	F	73.5	F	EB	55.5	F	32.2	D
68	79th St and Kenosha St	Signal	NB	13.0	B	8.5	A	NB	11.1	B	6.3	A
69	79th St and Houston St	4-way Stop	NB	9.3	A	8.8	A	EB	9.4	A	9.0	A
70	93rd St and Kenosha St	2-way Stop	NB	19.7	C	4.8	A	NB	15.9	C	2.9	A