

# Appendix A: Assessment of Existing K-10



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**Table A-1: K-10 Physical Evaluation - Existing Side Roads** (support data for Section 3.1)

					Typical Section			Alignment					Horizontal Curvature		Vertical Clearance					Other	
	ML Intersection Station	Access Control	Design Speed (mph)	Design Vehicle	Lane Width (ft)	Shoulder Width (ft)		Percent Grade		Min Stopping Sight Dist. (ft)	K Value		Min Radius (ft)	Max. Superelevation (%)	Over highways & local roads w/ I/C (ft)	Railway separation (ft)	Over local roads (ft)	Curb Return Radii (ft)	Clear Zone (ft)	Terminal spacing (ft)	Side road skew angle
						Outside (Rt)	Inside (Lt)	Min	Max		Sag Vertical	Crest Vertical									
<b>West</b>																					
1900th	ML Sta 254+50		50	WB-50 (Ck WB-62)	14	0	0	-0.20%	4.00%	494	95	175	1432.3945	RC	16.33	NA	NA	60 in / 75 out	10	275	82° 00' 00"
Church	ML Sta 412+50		50	WB-50 (Ck WB-62)	12	10	10		4.27%		100	159	1909.8593	5.30%	16.52	NA	NA	60 in / 75 out	10	275	90°
1400th	Sta 487+75		40	WB-50 (Ck WB-62)	12	10	10	0.13%	4.67%	483	137	167	520.8707	7.90%	16.54	NA	NA	60 in / 75 out	31	275	90°
Evening Star Rd	MLSta 589+58.28		50	WB-50 (Ck WB-62)	12	6	6	1.30%	3.53%		134	333	NA	NC	16.63	NA	NA	60 in / 75 out	21	333.35	64° 09' 04"
Edgerton Rd	MLSta 667+32.57		45	WB-50 (Ck WB-62)	12	6' turf	6' turf	0.27%	5.30%	350	86	119	NA	NC	16.92	NA	NA	60 in / 75 out	21	340.61	61° 44' 10"
Lexington Ave			60	WB-50 (Ck WB-62)	12	6	6	1.40%	2.52%	497	153	185	3819.80'R (1° 30' 00")	0.04	22.36	22.34	NA	60 in / 75 out	28	600 / 800	NA
Kill Creek Rd	ML Sta 409+10		60	WB-50 (Ck WB-62)	12	10	10	0.50%	4.98%	476	89	162	2291.8312'R (2° 30' 00")	0.06	16.44	NA	NA	60 in / 75 out	32	275	93° 00'
Mize/Cedar Creek Pkwy	ML Sta 618+80		55 <sup>T</sup>	WB-50 (Ck WB-62)	12	10	10	0.50%	5.00%	NA	133	NA	3274.04'R (1° 45' 00")	0.04	15.4	NA	NA	60 in / 75 out	32	275 / 300	93° 00'
K-7 / K-10 Interchange			75	WB-50 (Ck WB-62)	12	10	6	0.48%	-1.13%	725	NA	1491	34377.47'R (0° 45' 00")	NC	16.5'	NA	NA	NA	32	NA	89° 18' 30"
95th St				WB-50 (Ck WB-62)	12	10	10	-0.29%	-1.87%	NA	268	NA	NA	NC	16.32'	NA	NA	60 in / 75 out	30	275	90° 35' 01"
<b>East</b>																					
I-435	ML Sta 85+40	Full																			
Renner Rd	ML Sta 310+14	Full	50	WB-50 (Ck WB-62)		C&G	C&G	1.51%	6.20%	417	139	81	NA	NC	15.45	NA	NA	60 in / 75 out	22	700	89° 28' 57"
Ridgeview Rd	ML Sta 884+28	Full	60	WB-50 (Ck WB-62)	12	8	C&G	0.31%	3.48%	510	117	189	NA	NC	16.42	NA	NA	60 in / 75 out		275	90° 06'
Woodland Rd	ML Sta 831+13	Full	50	WB-50 (Ck WB-62)	12	8	C&G	-0.36%	6.98%	500	78	167	NA	NC	16.64	NA	NA	60 in / 75 out		275	90° 16'

KDOT Standards (side roads)				
	Access Control	Design Speed (mph)	Design Vehicle	Lane Width
Minor Arterial	Partial	45	WB-50	12
Principal Arterial	Full	50	WB-50 (Ck WB-62)	12

Legend	
NA =	Not Applicable
NC =	No Curvature
RC =	Reverse Curvature
C&G =	Curb & Gutter
T =	from 8% super table



**Table A-2: K-10 Physical Evaluation - Existing Ramps** (support data for Section 3.1)

General		Typical Section						Alignment					Horizontal Curvature		Miscellaneous				
Access Control	Design Speed (mph)	Lane Width (ft) [plan/template]	Shoulder (ft)		Clear Zone (ft) [T = from template]	Percent Grade	Min Stopping Sight Dist. (ft)	Min K Value	Sag Vertical	Crest Vertical	Min Radius (ft)	Max. Superelevation (%) [T = from 8% table]	Decel Lane		Ent Ramp Accel				
			Outside (Rt)	Inside (Lt) [=template]									inside	outside	Min	Max	Length (ft)	Taper (ft)	Length (ft)
<b>KDOT Standards</b>																			
Entrance	Full	50 (gore)	16	8	1 In - 2; 2+ Ins - 4(no CSB) or 6(w/ CSB)	25 (22 min)	0.5% (0.3%min)	5.00%	425	96	84	760	8.00%	60 in/75 out	660		≥ 75°		
Exit	Full	55 (gore)	16	8		25	0.5% (0.3%min)	5.00%	495	115	114	965	8.00%	60 in/75 out	660		≥ 75°		
<b>ML Sta 254+50 (E 1900 Rd)</b>																			
Entrances	Ramp B	50 (gore)	16	6	4	30	*	*	*	*	*	996.45 (5°45'00")	*	60 in/75 out		425	250	> 75°	
	Ramp D	50 (gore)	16	6	4	30	*	*	*	*	*	1145.92 (5°)	*	60 in/75 out		425	250	<75°	
Exits	Ramp A	55 (gore)	16	6	4	30	*	*	*	*	*	1432.39 (4°)	*	60 in/75 out	450 (30:1)	275		>75°	
	Ramp C	55 (gore)	16	6	4	30	*	*	*	*	*	1637.02 (3°30'00")	*	60 in/75 out	450 (30:1)			<75°	
<b>ML Sta 412+50 (Church St)</b>																			
Entrances	Ramp B	50 (gore)	16	10lo or 4hi	4lo or 10hi	30	*	*	*	*	*	1432.39(50mph), 716.2 (45mph)	*	60 in/75 out		360	250		
	Ramp D	50 (gore)	16	10lo or 4hi	4lo or 10hi	30	*	*	*	*	*	996.45'R (@ 50 mph)	*	60 in/75 out		550	250		
Exits	Ramp A	55 (gore)	16	10lo or 4hi	4lo or 10hi	30	*	*	*	*	*	1432.39(@55mph)	*	60 in/75 out	450				
	Ramp C	55 (gore)	16	10lo or 4hi	4lo or 10hi	30	*	*	*	*	*	1432.39(55mph), 739.30 (45mph)	*	60 in/75 out	450				
<b>Sta 487+75 (N 1400 Rd)</b>																			
Entrances	Ramp B	50 (gore)	16	10lo or 4hi	4lo or 10hi	30	25hi,31lo	*	*	*	*	1041.74'R (@50mph)	*	60 in/75 out	NA	550	250		
	Ramp D	50 (gore)	16	10lo or 4hi	4lo or 10hi	30	25hi,31lo	*	*	*	*	1145.92'R (@50 mph)	*	60 in/75 out	NA	415	250		
Exits	Ramp A	55 (gore)	16	10lo or 4hi	4lo or 10hi	30	25hi,31lo	*	*	*	*	1432.39(55mph) - 716.2 (45mph)	*	60 in/75 out	550		NA		
	Ramp C	55 (gore)	16	10lo or 4hi	4lo or 10hi	30	25hi,31lo	*	*	*	*	1432.39(55mph) - 954.93(45mph)	*	60 in/75 out	450		NA		
<b>Int @ MLSta 589+58.28 (Evening Star)</b>																			
Entrances	Ramp A	Full	50 (gore)	18/20	6	6 [4]	19 [T]	27 [T]	-2.21%		68.7	176.7	996.45 (5° 45'00")	7.20% (7.60% T)	60 in/75 out	NA	440	250	56°05'54.2"
	Ramp D	Full	50 (gore)	18/20	6	6 [4]	19 [T]	27 [T]	2.87%		50.3	159.4	1145.92'R (5°) to 1909.86'R (3°)	7.1% to 5.3%(6.4% to 5.3% T)	60 in/75 out	NA	550	250	67°35'00"
Exits	Ramp B	Full	55 (gore)	18/20	6	6 [4]	19 [T]	27 [T]	-1.32%		60	434.8	1909.86 (3°) to 954.93 (6°)	5.30% to 7.20% (6.1%to7.7% T)	60 in/75 out	300	250	NA	71°15'00"
	Ramp C	Full	55 (gore)	18/20	6	6 [4]	19 [T]	27 [T]	3.84%		42.4	99.2	1432.39 (4°)	6.30% (7.1% T)	60 in/75 out	300	250	NA	68°2'47.9"
<b>Int @ MLSta 667+32.57 (Edgerton Rd)</b>																			
Entrances	Ramp A	Full	50 (gore)	18/20	6	6 [4]	19 [T]	27 [T]	-1.49%	-4.75%	29.7	122.7	1909.86'R (3°) to a 1145.92'R (5°)	5.3% to 7.1% (5.3% to 6.4% T)	60 in/75 out	NA	550	250	53°00'00"
	Ramp D	Full	50 (gore)	18/20	6	6 [4]	19 [T]	27 [T]	2.34%	-4.43%	66.6	---	996.45'R (5° 45'00")	7.20% (7.60% T)	60 in/75 out	NA	550	250	53°54'42.5"
Exits	Ramp B	Full	55 (gore)	18/20	6	6 [4]	19 [T]	27 [T]	0.41%	-1.64%	162.6	816.3	1432.39'R (4°)	6.30% (7.1% T)	60 in/75 out	300	250	NA	68°54'03.7"
	Ramp C	Full	55 (gore)	18/20	6	6 [4]	19 [T]	27 [T]	-1.76%	4.29%	33	198	1909.86'R (3°) to 954.93'R (6°)	5.30% to 7.10% (6.1%to7.7% T)	60 in/75 out	300	250	NA	69°00'00"
<b>Int @ Jct K-10 (Lexington Ave)</b>																			
Exits	Ramp 1	Full	50 mph (gore)	18/20	6	6 [4]		25'	0.84%	-3.50%	32	67	999.35'R (5° 44' 00")	6.30% (7.6% T)	60 in/75 out	NA	400	250	NA
	Loop 2	Full	30 mph	18/20	6	6 [4]		25'	0.03%	4.47%	45	112	230'R / 460'R	8% (>8% from table)	60 in/75 out		1000	250	
Entrances	Ramp 2	Full	55 mph (gore)	18/20	6	6 [4]		25'	-0.34%	-5.47%	100	68	1432.39'R (4°) / 954.93'R (6°)	7.2% (7.1% T)	60 in/75 out	444.26		NA	NA
	Loop 1	Full	30 mph	18/20	6	6 [4]		25'	0.00%	2.58%	116	76	460'R / 230'R	8% (>8% from table)	60 in/75 out	511.62	250		
<b>Int @ ML Sta 409+10.00 (Kill Creek Rd)</b>																			
Exits	Ramp 1	Full	55 mph (gore)	18/20	6	6 [4]		25'	-0.26%	4.21%	69	50	1432.39'R (4°)	8.01% (7.6% T)	60 in/75 out	450			
	Ramp 3	Full	55 mph (gore)	18/20	6	6 [4]		25'	0.32%	4.91%	85	43	1432.39'R (4°) / 1432.39'R (4°)	8.01% (>8% from table) / 3.50%	60 in/75 out	450			
Entrances	Ramp 2	Full	50 mph (gore)	18/20	6	6 [4]		25'	0.64%	4.77%	96	53	999.35'R (5° 44') / 1432.39'R (4°)	7.5% (7.1% T) / 3.50%	60 in/75 out		435'	250'	
	Ramp 4	Full	50 mph (gore)	18/20	6	6 [4]		25'	-1.00%	-3.85%	71	70	999.35'R (5° 44' 00")	7.51% (>8% from table)	60 in/75 out		435'	250'	
<b>Int @ ML Sta 618+80 (Mize / Cedar Creek Pkwy)</b>																			
Exits	Ramp 1	Full	55 mph (gore)	18/20	6	6 [4]		25'	0.30%	3.10%	107	163	1432.39'R (4°) / 954.93'R (6°)	? (7.10% & 7.00% T 55&45 mph)	60 in/75 out	450			85°00'00"
	Ramp 3	Full	55 mph (gore)	18/20	6	6 [4]		25'	-0.03%	2.32%	134	145	1432.39'R (4°)	??? ( 7.1% T)	60 in/75 out	407.28			80°59'10"
Entrances	Ramp 2	Full	50 mph (gore)	18/20	6	6 [4]		25'	0.68%	2.78%	---	115	999.35'R (5° 44') / 954.93'R (6°)	7.87%/3.44% (8.00% & 7.00% T)	60 in/75 out		429	250	76°00'00"
	Ramp 4	Full	50 mph (gore)	18/20	6	6 [4]		25'	0.12%	4.30%	36	100	999.35'R (5° 44' 00")	??? (7.60% T)	60 in/75 out		414	250	81°31'20"

**Table A-2: K-10 Physical Evaluation - Existing Ramps** (support data for Section 3.1)

		General		Typical Section				Alignment					Horizontal Curvature		Miscellaneous						
		Access Control	Design Speed (mph)	Lane Width (ft) [plan/template]	Shoulder (ft)		Clear Zone (ft) [T = from template]		Percent Grade		Min Stopping Sight Dist. (ft)	Min K Value	Sag Vertical	Crest Vertical	Min Radius (ft)	Max. Superelevation (%) [T = from 8% table]	Decel Lane		Ent Ramp Accel		
					Outside (Rt)	Inside (Lt) [=template]	inside	outside	Min	Max							Radii (ft)	Length (ft)	Taper (ft)	Length (ft)	Taper (ft)
<b>K-7 / K-10 Interchange</b>																					
NE quad	Ramp 1	Full	55 mph ???	18/20	6	6 [4]	25'	0.30%	2.14%			102	67	954.93'R (6°)	8% (inadequate from T,55 mph)	NA	450	400	250	NA	
	Loop 1	Full	30 mph ???	18/20	6	6 [4]	25'	0.11%	2.53%			164	203	460'R to 230'R	6.5% to 8% (inadequate from T,30 mph)	NA	437' weave	437' weave		NA	
NW quad	Ramp 2	Full	55 mph ???	18/20	6	6 [4]	25'	0.20%	2.07%			112	163	954.93'R (6°)	8% (inadequate from T,55 mph)	NA	450	256'	250'	NA	
	Loop 2	Full	30 mph ???	18/20	6	6 [4]	25'	0.45%	-2.60%			69	114	460'R to 230'R	6.5% to 8% (inadequate from T,30 mph)	NA	437' weave	437' weave		NA	
SW quad	Ramp 3	Full	55 mph ???	18/20	6	6 [4]	25'	-0.31%	2.54%			119	208	954.93'R (6°)	8% (inadequate from T,55 mph)	NA	450			NA	
	Loop 3	Full	30 mph ???	18/20	6	6 [4]	25'	0.44%	-3.30%			60	89	460'R to 230'R	6.5% to 8% (inadequate from T,30 mph)	NA	437' weave	437' weave		NA	
SE quad	Ramp 4	Full	55 mph ???	18/20	6	6 [4]	25'	0.21%	-1.94%	373		177	185	954.93'R (6°)	8% (inadequate from T,55 mph)	NA	450	433'	250'	NA	
	Loop 4	Full	30 mph ???	18/20	6	6 [4]	25'	0.51%	2.89%			84	99	460'R to 230'R	6.5% to 8% (inadequate from T,30 mph)	NA	437' weave	437' weave		NA	
<b>95 th St Int</b>																					
Exits	SE Ramp	Full	55 mph (gore)	18/20	6	6 [4]	25'	0.30%	4.04%			63	53	1432.39'R (4°)	7.00%	60 in/75 out	450				
	NW Ramp	Full	55 mph (gore)	18/20	6	6 [4]	25'	-0.21%	4.54%			74	37	1432.39'R (4°) / 1000'R	7.0% / 6.0%	60 in/75 out	450				
Entrances	SW Ramp	Full	50 mph (gore)	18/20	6	6 [4]	25'	1.61%	3.32%			76	110	996.45'R (5° 45')	7.00%	60 in/75 out		430'	250'		
	NE Ramp	Full	50 mph (gore)	18/20	6	6 [4]	25'	0.54%	-3.60%			77	52	1000'R / 996.45'R (5° 45' 00")	6.0% / 7.5%	60 in/75 out		427'	250'		
<b>ML Sta 85+40 (Jct I-435)</b>																					
Entrances	Ramp K-1	Full	55 @ gore	16	8		7.5	0.5% (0.3%min)	0.05	495		115	114	965	0.08	60 in/75 out				> 75°	
	Ramp K-2	Full	*	16	8lo or 6hi	2	30				*	*	*	*					*	NA	
	K-12 East	Full	*	18	10lo or 8hi	4lo or 2hi	29hi,31lo	29hi,31lo				*	*	*	*					*	NA
	K-12 West	Full	*	24	10lo or 8hi	6lo or 4hi	29hi,31lo	29hi,31lo				*	*	*	*					*	NA
<b>ML Sta 310+14 (Renner Road)</b>																					
Entrances	Ramp B	Full	*	24	10lo or 8hi	6lo or 4hi	29hi,31lo	29hi,31lo				*	*	*	*	1637.022' - 1273.24' - 2864.79'	*	*	*	NA	
	Ramp D	Full	*	**	**	**	**	**				*	*	*	*	***	***	*	*	*	
Exits	Ramp A	Full	*	**	**	**	**	**				*	*	*	*	***	***	*	*	*	
	Ramp C	Full	*	**	**	**	**	**				*	*	*	*	***	***	*	*	*	
<b>ML Sta 884+28 (Ridgeview Road)</b>																					
Entrances	NW Ramp	Full	*	**	**	**	**	**				*	*	*	*	***	***	*	*	*	
	SE Ramp	Full		16	8lo or 6hi	2	31hi,30lo	29hi,26lo	*			*	*	*	1000			N/A	250'	≈90°	
Exits	SW Ramp	Full		16	8lo or 6hi	2	31hi,30lo	29hi,26lo	*			*	*	*	999.34			N/A	250'	≈90°	
	NE Ramp	Full		16	8lo or 6hi	2	31hi,30lo	29hi,26lo	*			*	*	*	1000			450	N/A	≈90°	
<b>ML Sta 831+13 (Woodland Road)</b>																					
Entrances	NW Ramp	Full		16	8lo or 6hi	2	31hi,30lo	29hi,26lo	*			*	*	*	1492.39			440	N/A	≈90°	
	SE Ramp	Full		16	8lo or 6hi	2	31hi,30lo	29hi,26lo	0.404%	-3.98%	280 sag, 587 crest	57	160	999.345	0.07			N/A	979'	250'	≈75°
Exits	SW Ramp	Full		16	8lo or 6hi	2	31hi,30lo	29hi,26lo	0.40%	-3.98%	280 sag, 587 crest	57	160	999.34	0.07			N/A	422'	250'	≈75°
	NE Ramp	Full		16	8lo or 6hi	2	31hi,30lo	29hi,26lo	0.41%	5.74%	186 sag, 433 crest	33	87	1432.39	0.07			450	N/A	≈75°	

\*Ramp profiles unavailable      \*\*Ramp typicals unavailable      \*\*\* Ramp plan sheet unavailable