

**Pre-Rule Quiet Zone Crossing Safety Measures Costs**

<b>Flashing Lights to Automatic Gates CHICAGO AREA</b>				
	Number of Installations	Cost of Installations	Annual Maintenance	Total
Year 1	0.0	\$0	\$0	\$0
Year 2	0.7	\$28,571	\$0	\$28,571
Year 3	0.7	\$28,571	\$357	\$28,929
Year 4	0.7	\$28,571	\$714	\$29,286
Year 5	0.7	\$28,571	\$1,071	\$29,643
Year 6	0.7	\$28,571	\$1,429	\$30,000
Year 7	0.7	\$28,571	\$1,786	\$30,357
Year 8	0.7	\$28,571	\$2,143	\$30,714
Year 9	0.0	\$0	\$2,500	\$2,500
Year 10	0.0	\$0	\$2,500	\$2,500
Year 11	0.0	\$0	\$2,500	\$2,500
Year 12	0.0	\$0	\$2,500	\$2,500
Year 13	0.0	\$0	\$2,500	\$2,500
Year 14	0.0	\$0	\$2,500	\$2,500
Year 15	0.0	\$0	\$2,500	\$2,500
Year 16	0.0	\$0	\$2,500	\$2,500
Year 17	0.0	\$0	\$2,500	\$2,500
Year 18	0.0	\$0	\$2,500	\$2,500
Year 19	0.0	\$0	\$2,500	\$2,500
Year 20	0.0	\$0	\$2,500	\$2,500
NPV 20	5	\$143,906	\$16,468	\$160,375

<b>Mountable Curbs w/ Frangible Delineators CHICAGO AREA</b>				
	Number of Installations	Installation and Baseline	Annual Maintenance	Total
Year 1	0.0	\$0	\$0	\$0
Year 2	4.0	\$52,000	\$0	\$52,000
Year 3	4.0	\$52,000	\$2,000	\$54,000
Year 4	4.0	\$52,000	\$4,000	\$56,000
Year 5	5.7	\$73,667	\$6,000	\$79,667
Year 6	5.7	\$73,667	\$8,833	\$82,500
Year 7	5.7	\$73,667	\$11,667	\$85,334
Year 8	4.0	\$52,000	\$14,500	\$66,500
Year 9	0.3	\$4,333	\$16,500	\$20,833
Year 10	0.3	\$4,333	\$16,667	\$21,000
Year 11	0.3	\$4,333	\$16,833	\$21,167
Year 12	0.0	\$0	\$17,000	\$17,000
Year 13	0.0	\$0	\$17,000	\$17,000
Year 14	0.0	\$0	\$17,000	\$17,000
Year 15	0.0	\$0	\$17,000	\$17,000
Year 16	0.0	\$0	\$17,000	\$17,000
Year 17	0.0	\$0	\$17,000	\$17,000
Year 18	0.0	\$0	\$17,000	\$17,000
Year 19	0.0	\$0	\$17,000	\$17,000
Year 20	0.0	\$0	\$17,000	\$17,000
NPV 20	34	\$311,906	\$108,618	\$420,524

<b>Photo-Enforcement: 3 Crossings Sharing Camera CHICAGO AREA</b>				
	Number of Installations	Installation and Baseline	Annual Maintenance	Total
Year 1	0.0	\$0	\$0	\$0
Year 2	0.4	\$16,786	\$0	\$16,786
Year 3	0.4	\$16,786	\$4,943	\$21,729
Year 4	0.4	\$16,786	\$9,885	\$26,671
Year 5	0.4	\$16,786	\$14,828	\$31,614
Year 6	0.4	\$16,786	\$19,771	\$36,557
Year 7	0.4	\$16,786	\$24,714	\$41,499
Year 8	0.4	\$16,786	\$29,013	\$45,799
Year 9	0.0	\$0	\$33,313	\$33,313
Year 10	0.0	\$0	\$32,670	\$32,670
Year 11	0.0	\$0	\$32,028	\$32,028
Year 12	0.0	\$0	\$31,385	\$31,385
Year 13	0.0	\$0	\$30,742	\$30,742
Year 14	0.0	\$0	\$30,099	\$30,099
Year 15	0.0	\$0	\$30,099	\$30,099
Year 16	0.0	\$0	\$30,099	\$30,099
Year 17	0.0	\$0	\$30,099	\$30,099
Year 18	0.0	\$0	\$30,099	\$30,099
Year 19	0.0	\$0	\$30,099	\$30,099
Year 20	0.0	\$0	\$30,099	\$30,099
NPV 20	3.0	\$84,546	\$211,548	\$296,093

**Pre-Rule Quiet Zone Crossing Safety Measures Costs  
Chicago Area**

<b>Medians OR Four-Quadrant Gates CHICAGO AREA</b>				
	Number of Installations	Cost of Installations	Annual Maintenance	Total Annual Cost
Year 1	0.0	\$0	\$0	\$0
Year 2	5.7	\$362,857	\$0	\$362,857
Year 3	5.7	\$362,857	\$8,571	\$371,429
Year 4	5.7	\$362,857	\$17,143	\$380,000
Year 5	5.7	\$362,857	\$25,714	\$388,571
Year 6	6.0	\$384,024	\$34,286	\$418,310
Year 7	6.0	\$384,024	\$43,357	\$427,381
Year 8	6.0	\$384,024	\$52,429	\$436,452
Year 9	0.0	\$0	\$61,500	\$61,500
Year 10	0.0	\$0	\$61,500	\$61,500
Year 11	0.0	\$0	\$61,500	\$61,500
Year 12	0.0	\$0	\$61,500	\$61,500
Year 13	0.0	\$0	\$61,500	\$61,500
Year 14	0.0	\$0	\$61,500	\$61,500
Year 15	0.0	\$0	\$61,500	\$61,500
Year 16	0.7	\$42,333	\$61,500	\$103,833
Year 17	0.7	\$42,333	\$62,500	\$104,833
Year 18	0.7	\$42,333	\$63,500	\$105,833
Year 19	0.0	\$0	\$64,500	\$64,500
Year 20	0.0	\$0	\$64,500	\$64,500
NPV 20	43	\$1,907,481	\$405,580	\$2,313,060

**Pre-Rule Quiet Zone Crossing Safety Measures Costs**

**Pre-Rule Quiet Zone Crossing Safety Measures Costs**

<b>Passive Devices to Flashing Lights NATION (Excluding Chicago Area)</b>				
	Number of Installations	Cost of Installations	Annual Maintenance	Total Annual Cost
Year 1	0.00	\$0	\$0	\$0
Year 2	1.3	\$120,857	\$0	\$120,857
Year 3	1.3	\$120,857	\$2,571	\$123,429
Year 4	1.3	\$120,857	\$5,143	\$126,000
Year 5	1.3	\$120,857	\$7,714	\$128,571
Year 6	2.0	\$183,524	\$10,286	\$193,810
Year 7	2.3	\$214,857	\$14,190	\$229,048
Year 8	2.6	\$246,190	\$18,762	\$264,952
Year 9	0.67	\$62,667	\$24,000	\$86,667
Year 10	0.33	\$31,333	\$25,333	\$56,667
Year 11	0.00	\$0	\$26,000	\$26,000
Year 12	0.00	\$0	\$26,000	\$26,000
Year 13	0.00	\$0	\$26,000	\$26,000
Year 14	0.00	\$0	\$26,000	\$26,000
Year 15	0.67	\$62,667	\$26,000	\$88,667
Year 16	1.00	\$94,000	\$27,333	\$121,333
Year 17	1.00	\$94,000	\$29,333	\$123,333
Year 18	1.00	\$94,000	\$31,333	\$125,333
Year 19	0.67	\$62,667	\$33,333	\$96,000
Year 20	0.67	\$62,667	\$34,667	\$97,333
NPV 20	18.00	\$977,625	\$164,249	\$1,141,874

<b>Flashing Lights to Automatic Gates NATION (Excluding Chicago Area)</b>				
	Number of Installations	Cost of Installations	Annual Maintenance	Total
Year 1	0.0	\$0	\$0	\$0
Year 2	5.0	\$200,000	\$0	\$200,000
Year 3	5.0	\$200,000	\$2,500	\$202,500
Year 4	7.0	\$280,000	\$5,000	\$285,000
Year 5	7.0	\$280,000	\$8,500	\$288,500
Year 6	7.0	\$280,000	\$12,000	\$292,000
Year 7	5.0	\$200,000	\$15,500	\$215,500
Year 8	5.7	\$226,667	\$18,000	\$244,667
Year 9	0.7	\$26,667	\$20,833	\$47,500
Year 10	0.7	\$26,667	\$21,167	\$47,833
Year 11	0.0	\$0	\$21,500	\$21,500
Year 12	0.3	\$13,333	\$21,500	\$34,833
Year 13	0.3	\$13,333	\$21,667	\$35,000
Year 14	0.3	\$13,333	\$21,833	\$35,167
Year 15	0.3	\$13,333	\$22,000	\$35,333
Year 16	0.3	\$13,333	\$22,167	\$35,500
Year 17	0.3	\$13,333	\$22,333	\$35,667
Year 18	0.0	\$0	\$22,500	\$22,500
Year 19	0.0	\$0	\$22,500	\$22,500
Year 20	0.0	\$0	\$22,500	\$22,500
NPV 20	45	\$1,252,497	\$140,597	\$1,393,094

**Pre-Rule Quiet Zone Crossing Safety Measures Costs**

<b>Mountable Curbs w/ Frangible Delineators NATION (Excluding Chicago Area)</b>				
	Number of Installations	Installation and Baseline	Annual Maintenance	Total
Year 1	0.0	\$0	\$0	\$0
Year 2	5.1	\$66,857	\$0	\$66,857
Year 3	5.1	\$66,857	\$2,571	\$69,429
Year 4	5.8	\$75,524	\$5,143	\$80,667
Year 5	6.5	\$84,190	\$8,048	\$92,238
Year 6	7.5	\$97,190	\$11,286	\$108,476
Year 7	8.5	\$110,190	\$15,024	\$125,214
Year 8	8.1	\$105,857	\$19,262	\$125,119
Year 9	2.0	\$26,000	\$23,333	\$49,333
Year 10	0.7	\$8,667	\$24,333	\$33,000
Year 11	0.3	\$4,333	\$24,667	\$29,000
Year 12	1.0	\$13,000	\$24,833	\$37,833
Year 13	1.3	\$17,333	\$25,333	\$42,667
Year 14	1.3	\$17,333	\$26,000	\$43,333
Year 15	1.0	\$13,000	\$26,667	\$39,667
Year 16	0.7	\$8,667	\$27,167	\$35,833
Year 17	0.0	\$0	\$27,500	\$27,500
Year 18	0.0	\$0	\$27,500	\$27,500
Year 19	0.0	\$0	\$27,500	\$27,500
Year 20	0.0	\$0	\$27,500	\$27,500
NPV 20	55	\$473,549	\$158,670	\$632,218

<b>Medians OR Four-Quadrant Gates NATION (Excluding Chicago Area)</b>				
	Number of Installations	Cost of Installations	Annual Maintenance	Total Annual Cost
Year 1	0.0	\$0	\$0	\$0
Year 2	4.6	\$290,286	\$0	\$290,286
Year 3	4.6	\$290,286	\$6,857	\$297,143
Year 4	4.6	\$290,286	\$13,714	\$304,000
Year 5	4.6	\$290,286	\$20,571	\$310,857
Year 6	4.6	\$290,286	\$27,429	\$317,714
Year 7	4.9	\$311,452	\$34,286	\$345,738
Year 8	5.2	\$332,619	\$41,643	\$374,262
Year 9	1.0	\$63,500	\$49,500	\$113,000
Year 10	1.0	\$63,500	\$51,000	\$114,500
Year 11	1.0	\$63,500	\$52,500	\$116,000
Year 12	0.7	\$42,333	\$54,000	\$96,333
Year 13	1.3	\$84,667	\$55,000	\$139,667
Year 14	1.0	\$63,500	\$57,000	\$120,500
Year 15	1.3	\$84,667	\$58,500	\$143,167
Year 16	0.3	\$21,167	\$60,500	\$81,667
Year 17	0.7	\$42,333	\$61,000	\$103,333
Year 18	0.7	\$42,333	\$62,000	\$104,333
Year 19	0.7	\$42,333	\$63,000	\$105,333
Year 20	0.3	\$21,167	\$64,000	\$85,167
NPV 20	43	\$1,756,411	\$354,600	\$2,111,011

**Pre-Rule Quiet Zone Crossing Safety Measures Costs**

<b>Photo-Enforcement: 2 Crossings Sharing Camera NATION (Excluding Chicago Area)</b>				
	Number of Installations	Installation and Baseline	Annual Maintenance	Total
Year 1	0.0	\$0	\$0	\$0
Year 2	1.1	\$54,286	\$0	\$54,286
Year 3	1.1	\$54,286	\$0	\$54,286
Year 4	1.1	\$54,286	\$35,200	\$89,486
Year 5	1.1	\$54,286	\$52,800	\$107,086
Year 6	1.1	\$54,286	\$70,400	\$124,686
Year 7	1.1	\$54,286	\$88,000	\$142,286
Year 8	1.1	\$54,286	\$103,886	\$158,171
Year 9	0.7	\$31,667	\$119,771	\$151,438
Year 10	0.7	\$31,667	\$130,038	\$161,705
Year 11	0.7	\$31,667	\$140,305	\$171,971
Year 12	0.0	\$0	\$150,571	\$150,571
Year 13	0.0	\$0	\$150,571	\$150,571
Year 14	0.0	\$0	\$150,571	\$150,571
Year 15	0.7	\$31,667	\$151,286	\$182,952
Year 16	0.7	\$31,667	\$162,267	\$193,933
Year 17	0.7	\$31,667	\$172,533	\$204,200
Year 18	0.0	\$0	\$183,800	\$183,800
Year 19	0.0	\$0	\$184,800	\$184,800
Year 20	0.0	\$0	\$184,800	\$184,800
NPV 20	12.0	\$354,018	\$929,968	\$1,283,986

<b>Photo-Enforcement: 3 Crossings Sharing Camera NATION (Excluding Chicago Area)</b>				
	Number of Installations	Installation and Baseline	Annual Maintenance	Total
Year 1	0.0	\$0	\$0	\$0
Year 2	0.4	\$16,786	\$0	\$16,786
Year 3	0.4	\$16,786	\$4,943	\$21,729
Year 4	0.4	\$16,786	\$9,885	\$26,671
Year 5	0.4	\$16,786	\$14,828	\$31,614
Year 6	0.4	\$16,786	\$19,771	\$36,557
Year 7	0.4	\$16,786	\$24,714	\$41,500
Year 8	0.4	\$16,786	\$29,013	\$45,803
Year 9	0.0	\$0	\$33,313	\$33,313
Year 10	0.0	\$0	\$32,670	\$32,670
Year 11	0.0	\$0	\$32,028	\$32,028
Year 12	0.0	\$0	\$31,385	\$31,385
Year 13	0.0	\$0	\$30,742	\$30,742
Year 14	0.0	\$0	\$30,099	\$30,099
Year 15	0.0	\$0	\$30,099	\$30,099
Year 16	0.0	\$0	\$30,099	\$30,099
Year 17	0.0	\$0	\$30,099	\$30,099
Year 18	0.0	\$0	\$30,099	\$30,099
Year 19	0.0	\$0	\$30,099	\$30,099
Year 20	0.0	\$0	\$30,099	\$30,099
NPV 20	3.0	\$84,546	\$211,548	\$296,094

**Pre-Rule Quiet Zone Crossing Safety Measures Costs**

<b>Photo-Enforcement: 4 Crossings Sharing Camera NATION (Excluding Chicago Area)</b>				
	Number of Installations	Cost of Installations	Annual Maintenance	Total
Year 1	0.0	\$0	\$0	\$0
Year 2	0.6	\$20,000	\$0	\$20,000
Year 3	0.6	\$20,000	\$5,486	\$25,486
Year 4	0.6	\$20,000	\$10,971	\$30,971
Year 5	0.6	\$20,000	\$16,457	\$36,457
Year 6	0.6	\$20,000	\$21,943	\$41,943
Year 7	0.6	\$20,000	\$27,429	\$47,429
Year 8	0.6	\$20,000	\$32,057	\$52,057
Year 9	0.0	\$0	\$36,686	\$36,686
Year 10	0.0	\$0	\$35,829	\$35,829
Year 11	0.0	\$0	\$34,971	\$34,971
Year 12	0.0	\$0	\$34,114	\$34,114
Year 13	0.0	\$0	\$33,257	\$33,257
Year 14	0.0	\$0	\$32,400	\$32,400
Year 15	0.0	\$0	\$32,400	\$32,400
Year 16	0.0	\$0	\$32,400	\$32,400
Year 17	0.0	\$0	\$32,400	\$32,400
Year 18	0.0	\$0	\$32,400	\$32,400
Year 19	0.0	\$0	\$32,400	\$32,400
Year 20	0.0	\$0	\$32,400	\$32,400
NPV 20	4.0	\$100,734	\$231,130	\$331,865

<b>Add Flashing Lights and Gates to Passive Crossings NATION (Excluding Chicago Area)</b>				
	Number of Installations	Installation and Baseline	Annual Maintenance	Total
Year 1	0.0	\$0	\$0	\$0
Year 2	1.7	\$240,000	\$0	\$240,000
Year 3	1.7	\$240,000	\$0	\$240,000
Year 4	1.7	\$240,000	\$8,571	\$248,571
Year 5	1.7	\$240,000	\$12,857	\$252,857
Year 6	1.7	\$240,000	\$17,143	\$257,143
Year 7	1.7	\$240,000	\$21,429	\$261,429
Year 8	1.7	\$240,000	\$25,714	\$265,714
Year 9	0.0	\$0	\$30,000	\$30,000
Year 10	0.0	\$0	\$30,000	\$30,000
Year 11	0.0	\$0	\$30,000	\$30,000
Year 12	0.0	\$0	\$30,000	\$30,000
Year 13	0.0	\$0	\$30,000	\$30,000
Year 14	0.0	\$0	\$30,000	\$30,000
Year 15	0.0	\$0	\$30,000	\$30,000
Year 16	0.0	\$0	\$30,000	\$30,000
Year 17	0.0	\$0	\$30,000	\$30,000
Year 18	0.0	\$0	\$30,000	\$30,000
Year 19	0.0	\$0	\$30,000	\$30,000
Year 20	0.0	\$0	\$30,000	\$30,000
NPV 20	5.0	\$1,208,813	\$194,121	\$1,402,934