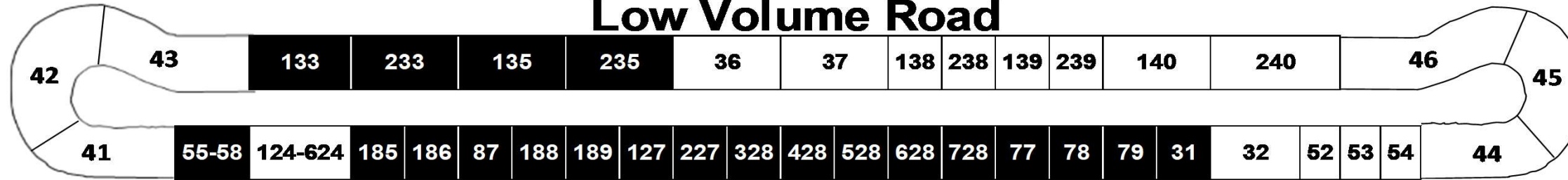


MnROAD

Low Volume Road



Minnesota Local Road Research Board
Supported since 1994

Cell numbers in **RED**
were built by NRRRA in
2017

December 2017

North Side Cells (West to East)																		
West Loop			Cold Central Plant Recycling (CCPR)				Original PCC		Reduced Cementitious PCC		Fiber Reinforced PCC Street		Thin Unbonded Concrete Overlay		East Loop			
41	42	43	133	233	135	235	36	37	138	238	139	239	140	240	46	45	44	
12" PCC New Ulm Quartz	12" PCC North Concrete Luverne	12" PCC Shiely Lakeland	2X Chip 4" CCPR Emulsion	2X Chip 4" CCPR Foam	1.5" HMA 4" CCPR Foam	1.5" HMA 4" CCPR Emulsion	6" PCC 15'x12'W 1" dowel Trans Tined	6" PCC 12'x12'W Trans Tined	8" PCC 1" Dowel 15'x12'W Astro Turf 500 lbs Cement	8" PCC 1" Dowel 15'x12'W Astro Turf 470 lbs Cement	3" Fiber Reinf PCC Turf	4" Fiber Reinf PCC Turf	3" Fiber Reinf PCC Thin Fabric 5.5"-7.0" PCC 15'x12'W	3" Fiber Reinf PCC Std Fabric 5.5"-7.0" PCC 15'x12'W	12" PCC High Early Mix	12" PCC Type III Mix	12" PCC Control	
15'x12'W 1" dowel Trans Tined	15'x12'W 1" dowel Trans Tined	15'x12'W 1" dowel Trans Tined	12" Class 6	12" Class 6	12" Class 6	12" Class 6	5" Class 5	5" Class 5	5" Class 5	5" Class 5	6" Class 5	6" Class 5	5" Class 5	5" Class 5	15'x12'W 1" dowel Trans Tined	15'x12'W 1" dowel Trans Tined	15'x12'W 1" dowel Trans Tined	
Clay	Clay	Clay	Clay	Clay	Clay	Clay	Sand	Sand	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay	
Opened Jul 93	Opened Jul 93	Opened Jul 93	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened Jul 93	Opened Jul 93	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened Jul 13	Opened Jul 13	Opened Jul 93	Opened Jul 93	Opened Jul 93	
Length (ft) 491	Length (ft) 490	Length (ft) 494	Length (ft) 425	Length (ft) 425	Length (ft) 425	Length (ft) 437	Length (ft) 480	Length (ft) 504	Length (ft) 240.5	Length (ft) 270	Length (ft) 275.5	Length (ft) 258.5	Length (ft) 225	Length (ft) 234	Length (ft) 508	Length (ft) 489	Length (ft) 442	
Gap (ft) 97	Gap (ft) 147	Gap (ft) 175	Gap (ft) 102	Gap (ft) 152	Gap (ft) 175	Gap (ft) 127	Gap (ft) 42	Gap (ft) 19.5	Gap (ft) 8	Gap (ft) 26	Gap (ft) 108	Gap (ft) 98	Gap (ft) 146	Gap (ft) 0	Gap (ft) 0	Gap (ft) 0		
Cell (ft) 510	Cell (ft) 510	Cell (ft) 508	Cell (ft) 493	Cell (ft) 511	Cell (ft) 463													

Low Volume Road ESALS per Year						
Year	Inside Lane (80,000 lbs)			Outside Lane (102,000 lbs)		
	Laps	Flexible	Rigid	Laps	Flexible	Rigid
1994	3,283	7,682	12,311	889	6,285	10,241
1995	7,748	18,130	29,055	2,927	20,694	33,719
1996	8,598	20,119	32,243	2,576	18,212	29,676
1997	6,874	16,085	25,778	2,172	15,356	25,021
1998	10,165	23,786	38,119	2,236	15,809	25,759
1999	4,658	10,900	17,468	1,694	11,977	19,515
2000	8,888	20,798	33,330	2,451	17,329	28,236
2001	8,155	19,083	30,581	2,203	15,575	25,379
2002	9,849	23,047	36,934	1,797	12,705	20,701
2003	6,923	16,200	25,961	2,820	19,937	32,486
2004	3,950	9,243	14,813	1,202	8,498	13,847
2005	5,986	14,007	22,448	2,082	14,720	23,985
2006	6,634	15,524	24,878	2,246	15,879	25,874
2007	5,295	12,390	19,856	935	6,610	10,771
2008	2,958	6,922	11,093	Since 2008 MnROAD has not loaded the outside lane to learn more about the environmental deterioration without traffic		
2009	6,229	14,576	23,359			
2010	6,623	15,498	24,836			
2011	5,336	12,486	20,010			
2012	8,447	19,766	31,676			
2013	6,335	14,824	23,756			
2014	8,739	20,449	32,771			
2015	8,160	19,094	30,600			
2016	7,962	18,631	29,858			
2017	75,141	175,830	281,780			

Located at the MnROAD Site - not on LVR

PCC Previous Pavements		
64	2007	7" PCC/ 12" CA-15 Base/Geotextile /clay (Park Lot)
64-1	2011	6" Precast/1"base /12"CA-15 Base/Fab/clay (Park Lot)
74	2006	4" PCC/6"washed Stone/Geotextile/clay (SideWalk)

Implements of Husbandry

83	2007	3.5" HMA/8" C-5 Base/Clay (Stockpile Area)-450 ft
84	2007	5.5" HMA/9" C-5 Base/Clay (Stockpile Area)-450 ft

West Loop Tie to Cell 41

South Side Cells (West to East)																													
Open Graded Friction Coarse				Concrete - Early Opening to Traffic						Recycled Unbound Base				Large Subbase		Large Subbase and Geogrid Cells					Stabilized Full Depth Reclamation			Mesabi Rock	Thin PCC	PCC Dowels	60-Year PCC	Mesabi PCC	East Loop Tie to Cell
55	56	57	58	124	224	324	424	524	624	185	186	87	188	189	127	227	328	428	528	628	728	77	78	79	31	32	52	53	54
1" OGFC Reg Tack	1" OGFC Trackless	1" OGFC Trackless 3" HMA 58-34	1" OGFC Reg Tack 3" HMA 58-34	6" PCC 15'x12'W 1" dowel Astro Turf	6" PCC 15'x12'W 1" dowel Astro Turf	6" PCC 15'x12'W 1" dowel Astro Turf	6" PCC 15'x12'W 1" dowel Astro Turf	6" PCC 15'x12'W 1" dowel Astro Turf	6" PCC 15'x12'W 1" dowel Astro Turf	3.5" HMA	3.5" HMA	4" HMA	3.5" HMA	3.5" HMA	3.5" HMA	3.5" HMA	3.5" HMA	3.5" HMA	3.5" HMA	3.5" HMA	3.5" HMA	4" 58-34 Elvaloy + PPA	4" 58-34 Elvaloy + PPA	4" 58-34 Elvaloy + PPA	4" 64-34	5" PCC	7.5" PCC 15'x13/14'W Astro Turf	12" PCC 1.5" SS dowels Trans Broom	7.5" PCC 15'x12'W 1" dowel Astro Turf
12" PCC	12" PCC	4" Class 6	4" Class 6	6" Class 6	6" Class 6	6" Class 6	6" Class 6	6" Class 6	6" Class 6	12" Coarse RCA	12" Fine RCA	4" Mesabi Ballast	12" Limestone Agg Base Class 6	12" Agg Base RAP+RCA Class 6	6" Class 6	6" Class 6	6" Class 5Q	6" Class 5Q	6" Class 5Q	6" Class 5Q	6" Class 5Q	8" FDR	8" Class 6	8" FDR + Fly Ash	4" Class 5	7" Class 5Q	5" Class 4	5" Class 5	12" Class 6
12x15 1" dowel Trans Tined	12x15 1" dowel Trans Tined	Sand	Sand	6" Class 6	6" Class 6	6" Class 6	6" Class 6	6" Class 6	6" Class 6	Sand	Sand	11"	Sand	Sand	18" Large Subbase	18" Large Subbase	Fabric 9" Large Subbase	Fabric Grid 1 9" Large Subbase	Fabric Grid 2 9" Large Subbase	Grid 2 9" Large Subbase	No Grid or fabric 9" Large Subbase	Clay	Clay	Clay	12" Class 3	Clay	Clay	Clay	Clay
Clay	Clay			Sand	Sand	Sand	Sand	Sand	Sand	3.5" Select Granular Borrow Sand	3.5" Select Granular Borrow Sand	Clay Sand	3.5" Select Granular Borrow Clay	3.5" Select Granular Borrow Clay	1 lift Clay	2 lifts Clay	Clay	Clay	Clay	Clay	Clay				Clay	2012 Repairs Diamond Grind	Number of different Dowels	PCC Shld	Clay
Opened Sept 2016	Opened Sept 2016	Opened Sept 2016	Opened Sept 2016	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened Oct 08	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened 2017	Opened Oct 07	Opened Oct 07	Opened Sep 07	Opened Sep 04	Opened June 00	Opened Jun 00	Opened Oct 08	Opened Oct 04
Length (ft) 50	Length (ft) 50	Length (ft) 50	Length (ft) 49	Length (ft) 130	Length (ft) 120	Length (ft) 120	Length (ft) 120	Length (ft) 60	Length (ft) 18	Length (ft) 201	Length (ft) 201	Length (ft) 226	Length (ft) 201	Length (ft) 200	Length (ft) 258	Length (ft) 260	Length (ft) 109	Length (ft) 108	Length (ft) 108	Length (ft) 113	Length (ft) 131	Length (ft) 286	Length (ft) 365	Length (ft) 324	Length (ft) 500	Length (ft) 460	Length (ft) 285	Length (ft) 115	Length (ft) 194
Gap (ft) 50	Gap (ft) 50	Gap (ft) 50	Gap (ft) 49	Gap (ft) 130	Gap (ft) 120	Gap (ft) 120	Gap (ft) 120	Gap (ft) 60	Gap (ft) 18	Gap (ft) 201	Gap (ft) 201	Gap (ft) 1.5	Gap (ft) 1	Gap (ft) 200	Gap (ft) 258	Gap (ft) 260	Gap (ft) 109	Gap (ft) 108	Gap (ft) 108	Gap (ft) 113	Gap (ft) 131	Gap (ft) 30	Gap (ft) 49	Gap (ft) 49	Gap (ft) 69	Gap (ft) 30	Gap (ft) 285	Gap (ft) 115	Gap (ft) 194