

	Project Name	Country	Owner	Traffic start	Environment	LVT Type	Fastening	Rail	Axle load (t)	Spacing (mm)	Annual traffic (MGT)	Speed (km/h)	Length (m)
1	New York / New Jersey	USA	PATH	1991	Tunnel	Project specific	Sonneville S.75	100 lb	13	572			200
2	Channel Tunnel	England - France	EUROTUNNEL	1993	Tunnel	Standard	Sonneville S.75	UIC 60	23	600	150 projected / 120 actual	200 design / 160 actual	100'000
3	St Louis, MO	USA	METRO LINK	1993	Tunnel / @Grade	Low Profile	Pandrol e-clip	132 lb	13	762			2'800
4	Grauholz Tunnel	Switzerland	SBB	1995	Tunnel	Standard	Vossloh W14	UIC 60	23	600	30 actual	200 design / 160 actual	800
5	San Francisco, CA	USA	BART	1995	Tunnel	Standard	Pandrol e-clip	119 lb	13	762			400
6	Atlanta, GA	USA	MARTA	1996	Tunnel / @Grade	Low Profile	Sonneville S.75	115 lb	14	762			600
7	Dallas, TX	USA	DART	1997	Tunnel / Bridge	Standard	Pandrol e-clip	115 lb	14	762			9'900
8	Rio Metro	Brazil	RIO TRILHOS	1998	Tunnel / Viaduct	Standard	Sonneville S.75	TR 57	17	750	19 actual	85 actual	2'500
9	Lantau And Airport Railway, Hong Kong	China	MTRC	1998	Tunnel / @Grade / Viaduct	Standard	Pandrol e-clip	UIC 60	17	650	75 projected	140 actual	30'000
10	Portland, OR	USA	TRI-MET	1998	Tunnel / @Grade	Low Profile	Sonneville S.75	115 lb	11	762			10'200
11	Incheon Metro Line 1	South Korea	IRTC	1999	Tunnel	Standard	Pandrol e-clip	KS 60	17	625	17 actual	80 actual	49'000
12	Red Line, Los Angeles, CA	USA	LACMTA	1999	Tunnel	Project specific	Pandrol e-clip	115 lb	12	762			200
13	Connecticut	USA	DOT	1999	@Grade	Low Profile	Pandrol e-clip	132 lb	30	610			100
14	Oresund Tunnel	Denmark	ØK	2000	Tunnel	Low Profile	Pandrol Fastclip	UIC 60	25	600	10 actual	200 design / 200 actual	7'400
15	Porto Alegre	Brazil	TRENSURB	2000	Viaduct	Standard	Sonneville S.75	TR 57	21	650	20 actual	90 actual	5'000
16	Atlanta, GA	USA	MARTA	2000	Tunnel / @Grade	Low Profile	Sonneville S.75	115 lb	14	762			800
17	Quarry Bay, Hong Kong	China	MTRC	2001	Tunnel	Standard	Pandrol e-clip	UIC 60	17	650			3'400
18	Tseung Kwan O, Hong Kong	China	MTRC	2002	Tunnel	Standard	Pandrol e-clip	UIC 60	17	700			13'900
19	Copenhagen Metro	Denmark	METRO	2003	Tunnel / @Grade	Standard	Vossloh W14	UIC 54	12	700			19'000
20	West Rail, Hong Kong	China	KCRC	2003	Tunnel	Standard & Turnout	Pandrol e-clip	UIC 60	18	610			29'400
21	1st Bundang line Installation	South Korea	KRC	2003	Tunnel	Standard	Pandrol e-clip	KS 60	18	625		80 actual	10'000
22	San Francisco, CA	USA	BART	2003	Tunnel	Standard	Pandrol e-clip	119 lb	13	762			5'600
23	Philadelphia, PA	USA	SEPTA	2003	Tunnel	Project specific	Pandrol e-clip	100 lb	9	610			300
24	Newark, NJ	USA	AMTRAK	2003	@Grade	Special Cavity	Pandrol e-clip	136 lb	33	560			200
25	Pueblo, CO High Tonnage Loop	USA	TTCI	2003	@Grade	Standard	Sonneville STL	136 lb	36	610	100 actual	65 actual	80
26	Zimmerberg Tunnel	Switzerland	SBB	2004	Tunnel	Standard	Vossloh W14	UIC 60	23	600	23 actual	200 design / 160 actual	18'000
27	East Rail MOS & TST, Hong Kong	China	KCRC	2004	Tunnel / Viaduct	Standard & Turnout	Pandrol e-clip	UIC 60	18	700			2'500
28	1st Cholla Line Installation	South Korea	KRC	2004	Tunnel	Standard	Pandrol e-clip	KS 60	22	625	20 actual	100 actual	9'000
29	Minneapolis, MN	USA	HIAWATHA	2004	Tunnel / @Grade	Low Profile	Pandrol Fastclip	115 lb	14	762			5'950
30	New York, NY	USA	MTA	2004	Tunnel	Project specific	Pandrol e-clip	100 lb	19	572			100
31	Daegu Metro Line 2	South Korea	DRTC	2005	Tunnel	Standard & Turnout	Pandrol e-clip	KS 60	17	625	14 actual	80 actual	45'000
32	Busan Metro Line 3	South Korea	BUTA	2005	Tunnel	Standard & Turnout	Pandrol e-clip	KS 60	17	625	15 actual		22'300
33	St Louis, MO	USA	METRO LINK	2007	Tunnel / @Grade	Standard	Pandrol Fastclip	115 lb	13	762			5'900
34	Lötschberg Tunnel	Switzerland	BLS	2007	Tunnel	Standard	Vossloh W14	UIC 60	25 design	600		250 design	51'300
35	Trupo Tunnel	Taiwan	THSRC	2007	Tunnel	Standard	Vossloh W14	JIS 60	14 / 18 / 25	650			26'200
36	LMC, Hong Kong	China	KCRC	2007	Tunnel / Viaduct	Standard & Turnout	Pandrol e-clip	UIC 60	18	700			10'200
37	Incheon Airport Phase 1	South Korea	AREX	2008	Tunnel	Standard	Pandrol e-clip	KS 60	17	625	25 projected	100 projected	28'000
38	Ocean Parkway, New York	USA	MTA	2007	Tunnel	Project specific	Pandrol e-clip	100 lb	19	572			160
39	Rio Metro Copacabana Ext.	Brazil	RIO TRILHOS	2007	Tunnel	Standard	Sonneville S.75	TR 57	17	750		90 actual	2'900
41	Taebaek Line	South Korea	KRNA	Expectec 2012	Tunnel	Standard	Pandrol e-clip	KS 60	22	625		150 design	27'000
42	New South Ferry, New York	USA	MTA	2009	Tunnel	Project specific & Turnout	Pandrol e-clip	115 lb	19	572			900
43	Janghang Line	South Korea	KRNA	2007	Tunnel	Standard	Pandrol e-clip	KS 60	22	625		150 design	1'200
44	Gold Line, Los Angeles, CA	USA	LACMTA	Expected 2009	Tunnel	Low Profile & HA	Pandrol e-clip	115 lb	12	762			5'500
45	KyungJeon Line 3	South Korea	KRNA	Expected 2010	Tunnel	Standard	Pandrol e-clip	KS 60	22	625		150 design	12'000
46	RearRailway, New Busan Port 2	South Korea	KRNA	Expected 2010	Tunnel	Standard	Pandrol e-clip	KS 60	22	625		150 design	5'000
47	Seoul Metro Line 9	South Korea	SMG	2009	Tunnel	Standard	Pandrol e-clip	KS 60	16	625		80 actual	48'000
48	2nd Cholla Line Installation	South Korea	KRNA	Expected 2009	Tunnel	Standard	Pandrol e-clip	KS 60	22	625		150 design	9'000
49	Gautrain	South Africa	Gauteng Province	Expected 2010	Tunnel	Low Profile & Turnout	Pandrol Fastclip	NR60E2	16	700		160 design	21'200
50	East London Line	England	TfL	Expected 2010	Tunnel / Viaduct / @Grade	Standard & Turnout	Vossloh/Pandrol	CEN56E1	15	650			10'000
51	Dong (East) Gwangyang Line	South Korea	KRNA	Expected 2010	Tunnel	Standard	Pandrol e-clip	KS 60	22	625		150 design	7'000
52	3rd Cholla Line	South Korea	KRNA	Expected 2010	Tunnel	Standard	Pandrol e-clip	KS 60	22	625		150 design	9'000
53	Incheon Line 1 Extension	South Korea	IRTC	Expected 2010	Tunnel	Standard	Pandrol e-clip	KS 60	17	625	17 actual	80 actual	12'000
54	Citytunnel Malmö	Sweden	Banverket	Expected 2010	Tunnel	HA, Standard & Turnout	Pandrol/Vossloh	UIC 60	19	650		160 design	12'000
55	Incheon Airport Phase 2	South Korea	AREX	Expected 2010	Tunnel	Standard	Pandrol e-clip	KS 60	17	625	25 projected	120 projected	28'000
56	Daegu Line 2 Extension	South Korea	DRTC	Expected 2013	Tunnel	Standard	Pandrol e-clip	KS 60	17	625	14 projected	80 design	6'600
57	2nd Bundang Line Installation	South Korea	KRNA	Expected 2015	Tunnel	Standard	Pandrol e-clip	KS 60	18	625		110 design	13'600
58	Alptransit Gotthard	Switzerland	SBB	Expected 2017	Tunnel	Standard	Vossloh W14	UIC 60	25	600		250 design	114'000
60	Manises - Riba-Roja	Spain	GVA-CIT	Expected 2010	Tunnel	HA	Vossloh W3	UIC 54	14	720		80 design	1'800
61	KyungJeon Line 4	South Korea	KRNA	Expected 2010	Tunnel	Standard	Pandrol e-clip	KS 60	22	625		150 design	3'000
62	RearRailway, New Busan Port 3	South Korea	KRNA	Expected 2011	Tunnel	Standard	Pandrol e-clip	KS 60	22	625		150 design	4'000
63	Extension of Bundang Line	South Korea	KRNA	Expected 2011	Tunnel	Standard	Pandrol e-clip	KS 60	22	625		150 design	3'000
64	38th Street Yard New York	USA	MTA	Expected 2020	@Grade	Standard & Turnout	Pandrol e-clip	115 lb	19	572			260
65	Culver Viaduct New York	USA	MTA	Expected 2013	Viaduct	Standard	Pandrol e-clip	115 lb	19	572			5'020