

YVT Selah Line Restoration

Proposed Assumptions: Total length of line to be restored 21,000 feet (3.97 miles)

This is the "DO IT RIGHT THE FIRST TIME" option.

1. Construction work and materials specified for infrastructure improvements will result in a railroad line that is capable of reliable weekly and up to daily operation with regular light maintenance and a useable, trouble free lifespan of 50 years, including all heavy cross-traffic intersections. This will reflect the quality of original 1913 construction and subsequent rebuilds performed by YVT and Union Pacific and will not require any extraordinary capital expense unless an unforeseen natural disaster occurs, i.e. 500 yr flood, earthquake, Mt. Rainier eruption etc...
2. Motive power restoration will reflect what is necessary to maintain "reliable" service without interruption due to most maintenance issues involving trolley car electro-mechanical systems and structure. An assumed active service life of 30 years of regular 2 days a week use is assumed for the primary car (1776), and occasional use of the secondary car (1976).

Part A: Track Work and Overhead wire restoration.

Type

Cost Per Unit Units # of Units Extended Cost

Paved Track:

New hardwood 8.5 x 8 foot ties at 3rd Ave., 5th Ave., Walnut St., Yakima Ave., MLK, Lincoln Ave., Fruitvale Blvd., and River Rd. north to end of street running track. Hardwood ties will span all cross-lanes plus a 50 foot approach on either side of each intersection. Hardwood ties to be used on 140ft radius at 6th and Pine St.	\$	90.00	Per Tie	1,100	\$	99,000.00
New Pine, Fir, or equivalent 8 x 8 foot ties on all tangent track and turnouts under pavement excluding areas designated for Hardwood tie construction	\$	60.00	Per Tie	6,100	\$	366,000.00
Relay condition 65lb ASCE steel 33 foot jointed rail to be used throughout construction of all YVT track. Dual upright guard rail with cross bolted web spacers to be used in all paved locations.	\$	375.00	Per Ton	455	\$	170,625.00
5/8" x 6" standard spikes	\$	65.00	Per 100lb Keg	420	\$	27,300.00

Tie Plates, to be used under all paved track	\$	15.00	Per Tie	7,200	\$	108,000.00
Rail Bonds, welded across each joint of each outside rail	\$	6.50	Each	650	\$	4,225.00
Rail joint bars, bolts, nuts, washers. 2 joint bars, 4 bolts, 4 washers, 4 nuts per joint	\$	18.00	Per Joint	650	\$	11,700.00
Ballast, crushed rock	\$	27.00	Per Ton	6,000	\$	162,000.00
Paving Finish, crushed rock, asphalt	\$	1.10	Per Sq. Foot	90,000	\$	99,000.00
Labor contract: Permitting, Engineering, Mobilization, demo, hauling, disposal, site management, construction, signage, traffic control, finishing	\$	175.00	Per Track Foot	10,500	\$	1,837,500.00

Embedded Turnouts:

Refurbish existing turnouts, new mechanism, new rail, welded up points and frogs	\$	15,000.00	Each	7	\$	105,000.00
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Ballasted Track: regular exposed trackwork not embedded in street.

New Treated Pine, Fir, or equivalent 8 x 8 x 8 foot or equivalent ties on all track	\$	60.00	Per Tie	7,200	\$	432,000.00
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Reuse most of existing rail. Selective rail replacement of existing rail with Relay condition 65lb ASCE steel 33 foot jointed rail to be used. Primary contact rails only, no guard rails.	\$	375.00	Per Ton	45	\$	16,875.00
5/8" x 6" standard spikes	\$	65.00	Per 100lb Keg	420	\$	27,300.00
Tie Plates, to be used under all track. Reuse most of existing tie plates with	\$	15.00	Per Tie	100	\$	1,500.00
Rail Bonds, welded across each joint of each outside rail. Add protection with guarding or substance to prevent stealing and reselling copper bonding.	\$	6.50	Each	650	\$	4,225.00
Reuse all Rail joint bars, bolts, nuts, washers. 2 joint bars, 4 bolts, 4 washers, 4 nuts per joint, selective replacement of existing joint bars and hardware.	\$	14.00	Per Joint	35	\$	490.00
Concrete driveway work at Jeld Wen, approx 30 yds. Of concrete, demo, prep, forms, rebar, pour, and finishing	\$	8,500.00	Total	1	\$	8,500.00
Private driveway wood plank crossings, approximately 265 track feet of crossings between Jeld Wen and Gordon Rd. Treated 4 x 12 construction	\$	12.75	Lineal Foot	1,060	\$	13,515.00
Asphalt drive way and street crossings, Gordon Rd. to Southern Ave.	\$	1.10	Square Feet	2,800	\$	3,080.00
Ballast, crushed rock	\$	27.00	Per Ton	10,000	\$	270,000.00
Retaining Wall Work, Selah gap	\$	1,000.00	Feet	600	\$	600,000.00
Bridge/Culvert work, as needed	\$	40,000.00	Total	1	\$	40,000.00
Labor contract: Permitting, Engineering, Mobilization, demo, hauling, disposal, site management, construction, signage, traffic control, finishing	\$	135.00	Per Track Foot	10,500	\$	1,417,500.00

Overhead Contact System (OCS):

Poles- wood, installed, replace as needed	\$	1,000.00	Each	357	\$	357,000.00
Guy wire, suspension, fittings, installation. Where OCS is missing	\$	65,000.00	Per Mile	1.98	\$	128,700.00
Guy wire, suspension, fittings, realignment, standard height 19 feet. Where OCS still exists	\$	35,000.00	Per Mile	1.98	\$	69,300.00

Substation, Booster Station & Wire (OCS) Security System Work:

Remote Substation, pad, building, rectifier, transformers, control system	\$	75,000.00	Total	1	\$	75,000.00
OCS Wire Security System	\$	30,000.00	Total	1	\$	30,000.00
Wire Security System installation	\$	15,000.00	Total	1	\$	15,000.00

Project Overhead and Management:

Engineering cost (5%)			Per		\$	325,016.75
Project Management and Oversight (5%)			Project %		\$	325,016.75
Contingency (10%)			of total		\$	650,033.50

Total Cost of Part A: \$ 7,800,402.00

7.80 Million Total Project Cost Part A

Part B: Motive Power restoration

Oporto Cars 1776 & 1976

Complete Restoration car 1776- Motors, compressor, electrical, metal underframe, wheels, wood car body	\$	750,000.00	Each	1	\$	750,000.00
Partial Restoration of Car 1976 to include: Complete underframe motors, compressor, electrical. Partial body and cosmetic wood; complete seat restoration.	\$	300,000.00	Each	1	\$	300,000.00

Total Cost of Part A: \$	1,050,000.00
1.05 Million Total Project Cost Part A	

Total Cost of Part A &B: \$	8,850,402.00
8.85 Million Total Project Cost	