

Options for the second track of the Koper-Divača railway line

- The existing track**
- 'Preparation work' – clearing the forest and constructing access roads**
- Government project 2TDK "Second Track" by Professor Bogdan Zgonc**

The second track with escape tunnels
Track length: 27.1km, track incline: 17%.
Number of tunnels: 8, length: 20.5km, incline of underground sidings: 17%
Number of escape tunnels: 3, total length: 16.5km, escape passages every 500m
Number of viaducts: 2, total length: 1,099m, number of bridges: 2
For freight trains travelling in the direction Divača-Koper the existing 48km line, with an incline of up to 27%, would remain inadequate solving of the problem of wildfires, risk of fire damage in the tunnel Estimated cost of investment: 1.4 billion euros (excluding modernisation of the existing track and excluding 18 locomotives)
Construction time: 7-8 years

Second and third track built together

Track length: 27.1km, track incline: 17%, incline of underground sidings: 17%
Number of tunnels: 16, length: 40.8km, escape tunnels every 500m, risk of fire damage in the tunnel
Number of escape tunnels: 0, number of viaducts: 4, total length: 2,198m, number of bridges: 4
Estimated cost of investment: 2.5-4.5 billion euros (excluding 18 locomotives)
Construction time: 10-14 years

Shortened version by Miha Jazbinšek

Length of the double-track line exclusively for freight traffic: 23.1km, track incline: 20%
Number of tunnels: 3 double-track, length: 18.1km, remote operation of trains without conductors
Number of viaducts: 2, total length: 400m, number of bridges: 0
The existing track would remain for passenger trains - length: 48km, incline: up to 27%
Fire safety is in line with regulations, danger of fire damage in the tunnel
Comparative cost of investment: 1.1 billion euros at the most (excluding renovation of the existing track and 18 locomotives)
Estimated time of construction: 5-6 years

Version by Rudi Varl, bypassing Crni Kal in the tunnel

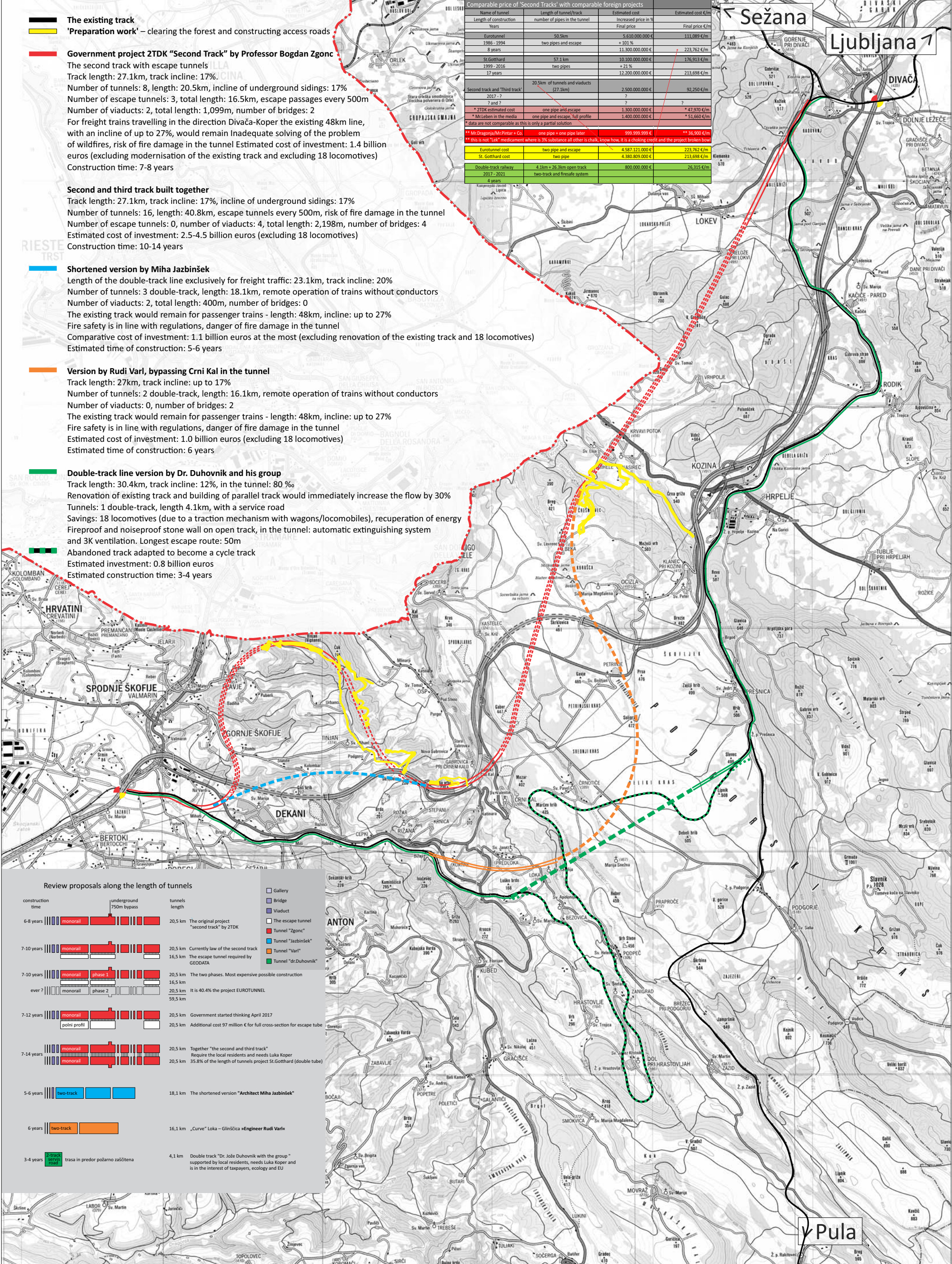
Track length: 27km, track incline: up to 17%
Number of tunnels: 2 double-track, length: 16.1km, remote operation of trains without conductors
Number of viaducts: 0, number of bridges: 2
The existing track would remain for passenger trains - length: 48km, incline: up to 27%
Fire safety is in line with regulations, danger of fire damage in the tunnel
Estimated cost of investment: 1.0 billion euros (excluding 18 locomotives)
Estimated time of construction: 6 years

Double-track line version by Dr. Duhovnik and his group

Track length: 30.4km, track incline: 12%, in the tunnel: 80 %
Renovation of existing track and building of parallel track would immediately increase the flow by 30%
Tunnels: 1 double-track, length 4.1km, with a service road
Savings: 18 locomotives (due to a traction mechanism with wagons/locomobiles), recuperation of energy
Fireproof and noiseproof stone wall on open track, in the tunnel: automatic extinguishing system and 3K ventilation. Longest escape route: 50m
Abandoned track adapted to become a cycle track
Estimated investment: 0.8 billion euros
Estimated construction time: 3-4 years

Comparable price of 'Second Tracks' with comparable foreign projects			
Name of tunnel	Length of tunnel/track	Estimated cost	Estimated cost €/m
Length of construction	number of pipes in the tunnel	Increased price in %	Final price
Years		Final price	Final price €/m
Eurotunnel	50.5km	5.610.000.000 €	111.089 €/m
1986 - 1994	two pipes and escape	+ 301 %	
8 years		11.300.000.000 €	223.762 €/m
St. Gotthard	57.1 km	10.100.000.000 €	176.913 €/m
1999 - 2016	two pipes	+ 21 %	
17 years		12.200.000.000 €	213.698 €/m
Second track and 'Third track'	20.5km of tunnels and viaducts (27.1km)	2.500.000.000 €	92.250 €/m
2017 - ?		?	?
7 and 7		?	?
* 2TDK estimated cost	one pipe and escape	1.300.000.000 €	* 47.970 €/m
* Mr. Lohm in the media	one pipe and escape, full profile	1.400.000.000 €	* 51.660 €/m
* data are not comparable as this is only a partial solution			
* Mr. Dragonja/Mr. Pintar + Co.	one pipe + one pipe later	999.999.999 €	** 36.300 €/m
* this is not "Loka" - medication where is 3% substance all other is chalk, know how, it is a choking draft and the project broken down			
Eurotunnel cost	two pipe and escape	4.587.121.000 €	223.762 €/m
St. Gotthard cost	two pipe	4.380.809.000 €	213.698 €/m
Double-track railway	4.1km + 26.3km open track	800.000.000 €	26.315 €/m
2017 - 2021	two-track and firesafe system		
4 years			

Sežana
Ljubljana
Divača



Review proposals along the length of tunnels

