

Divača–Koper Second Track

DOUBLE-TRACK RAILWAY LINE



About the Second Track Project

The Divača–Koper Second Track railway line is a new, initially single-track line, designed with the option to upgrade to a double-track line. A building permit for the construction of the right-hand track was obtained in 2016, and procedures to begin construction of the parallel left-hand track started in 2025. Construction of the right-hand track began in 2019 with the building of access roads, while the main construction work started in 2021.

Because the three longest tunnels on the route of the right-hand track were built as twin-tube tunnels, 61% of the parallel left-hand track has already been constructed alongside the right-hand track. In 2024, the company 2TDK took on the role of investor also for this track, but before construction of the parallel left-hand track can begin, the following must be secured: acquisition of the necessary land for construction, preparation of environmental impact and project documentation, and obtaining a building permit.

The Second Track will provide significant relief to the existing line, reduce bottlenecks, and enable faster and more reliable transport between the country's hinterland and the Port of Koper.



The Second Track is part of the Trans-European TEN-T transport network. Three core network corridors run through the territory of Slovenia:

- the Baltic – Adriatic Corridor,
- the Mediterranean Corridor,
- the Western Balkans – Eastern Mediterranean Corridor.



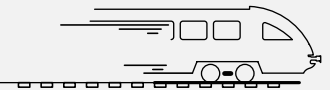
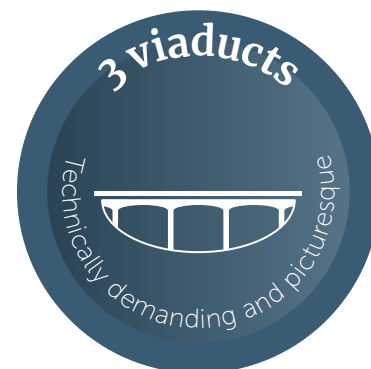
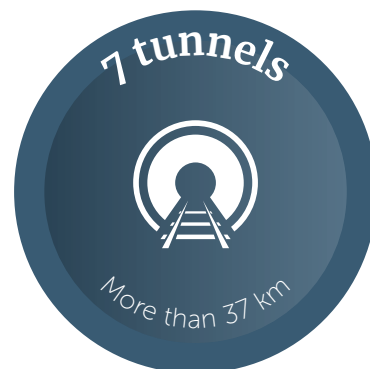
The Divača–Koper Second Track Project will shape Slovenia's future by enabling greater economic growth, improved traffic flow, logistical connectivity, and long-term stability of key transport flows. This project is more than just the construction of railway infrastructure; it lays the foundation for a modern transportation system capable of meeting the challenges of globalization and the growing flow of goods.

Advantages of the Right-Hand Track

The Second Track is a 27.1-kilometre-long new railway line from Divača to Koper, which runs through 7 tunnels and over 3 viaducts. 20.5 km, or 75% of the line, runs through tunnels, as this is the only way to overcome the 430-metre altitude difference over the relatively short distance between Divača and Koper. The total length of the tunnels, service tunnels, and exit tubes is 37.4 km, while the total length of the viaducts is 1,250 metres.

The construction of the right-hand track will:

- increase the throughput capacity from the current 94 trains/day to 212 trains/day,
- increase the transport capacity from the current 14 to 36.9 million tons/year,
- shorten the rail distance from 44.6 km (existing track) to 27.1 km,
- reduce the travel time from 100–110 minutes (existing track) to 30 minutes,
- increase the maximum possible train speed on the section from 65–75 km/h (existing track) to 160 km/h.



Tunnels



Tunnel		Length [m]
Lokev (T1)	MT – main tube	6,714
	ST – service tube	6,683
Beka (T2)	MT – main tube	6,017
	ST – service tube	6,041
Stepani (T3)	MT – main tube	335
Tinjan (T4)	MT – main tube	1,949
Osp (T5-6)	MT – main tube	513
Mlinarji (T7)	MT – main tube	1,154
Škofije (T8)	MT – main tube	3,808
	ST – service tube	3,818
Total	MT – main tube	20,489
Total	ST – service tube	16,543
Total MT – main tube + ST – service tube		37,032

The route of the right-hand track includes seven tunnels with a total length of just over 20 kilometres. Alongside the three longest tunnels, service tubes have been constructed with the same profile as the main tunnel tubes, which are now used for rescue purposes. This means that 61% of the line is already prepared for future double-tracking. The tunnels were constructed using the New Austrian Tunnelling Method (NATM), which is better suited for challenging geological and geomechanical conditions where rock properties vary along the route.

Two types of tunnel portals have been constructed on the Divača–Koper Second Track project, adapted to the varying geological and spatial characteristics of the terrain. The first type is designed as a polygon that follows the configuration of the terrain, resolves the contact with the embankment and protects the track from any debris. The second type, on the other hand, is a classic, simpler design, located in areas where terrain conditions are less demanding and allow for a more standard construction.

Total length of tunnels	20.5 km
Total length of tunnels, service tubes and rescue tubes	37.4 km
The Lokev Tunnel (T1) is the longest tunnel in Slovenia	6,714 m



Viaducts

Glinščica, Gabrovica, and Vinjan are the three railway viaducts on the Second Track spanning three major valleys – the Glinščica River Valley, the Osp Valley, and the Vinjan Valley. The viaducts differ significantly in terms of their structural design and construction technology. Each is structurally and architecturally adapted to its location, the topography of the terrain, the geology, and environmental protection requirements.

The enclosed-box design of the Glinščica Viaduct provides protection against noise, wind, and derailment, and safeguards the protected area of the Beka Landscape Park. The Gabrovica Viaduct is designed as a U-shaped concrete trough, which addresses noise issues, prevents frequent strong gusts of the bora wind, and protects against derailment. As the Gabrovica railway viaduct is built under the Črni Kal motorway viaduct, it is important that it is designed in such a way as to prevent a train from colliding with a pillar of the Črni Kal viaduct in the event of a derailment. The Vinjan Viaduct, meanwhile, features a windbreak on one side and a noise barrier on the other.

Gabrovica Viaduct

Length: 416 metres

Pillar height: 13–64 metres

Technology: incremental launching



Glinščica Viaduct

Length: 215 metres

Pillar height: 10 metres

Technology: monolithic concrete construction



Vinjan Viaduct

Length: 620 metres

Pillar height: 10–55 metres

Technology: free cantilever construction



Karst Features

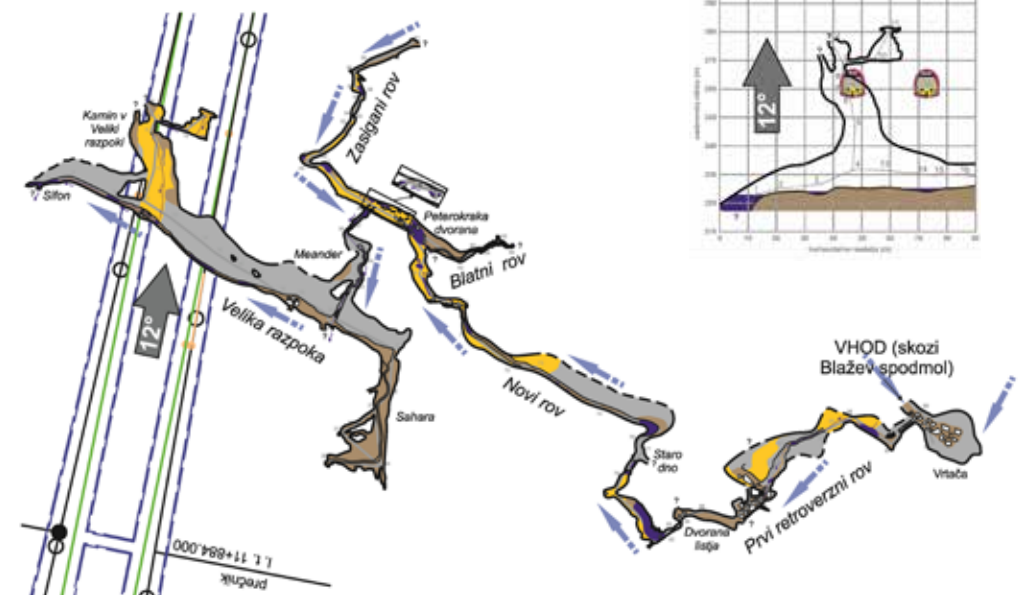
The route of the Second Track between Divača and Koper runs through an area where two completely different rock types converge: limestone and flysch. In the landscapes composed predominantly of limestone, karst features were discovered, as had been anticipated during the tunnel excavation. Every Karst feature along the route was surveyed, measured, and documented with photos and video; larger caves were also 3D-scanned.

Preliminary surveys predicted 100 smaller and 10 larger Karst features along the Karst section of the Second Track. The total length of the discovered caves is 6.6 kilometres, which is almost as long as the longest tunnel on the route.

Caves predicted	110
Caves actually discovered	99
Deepest cave	168 m
Longest cave	702 m
Total length of the caves discovered	6,559 m



Ocizla Cave

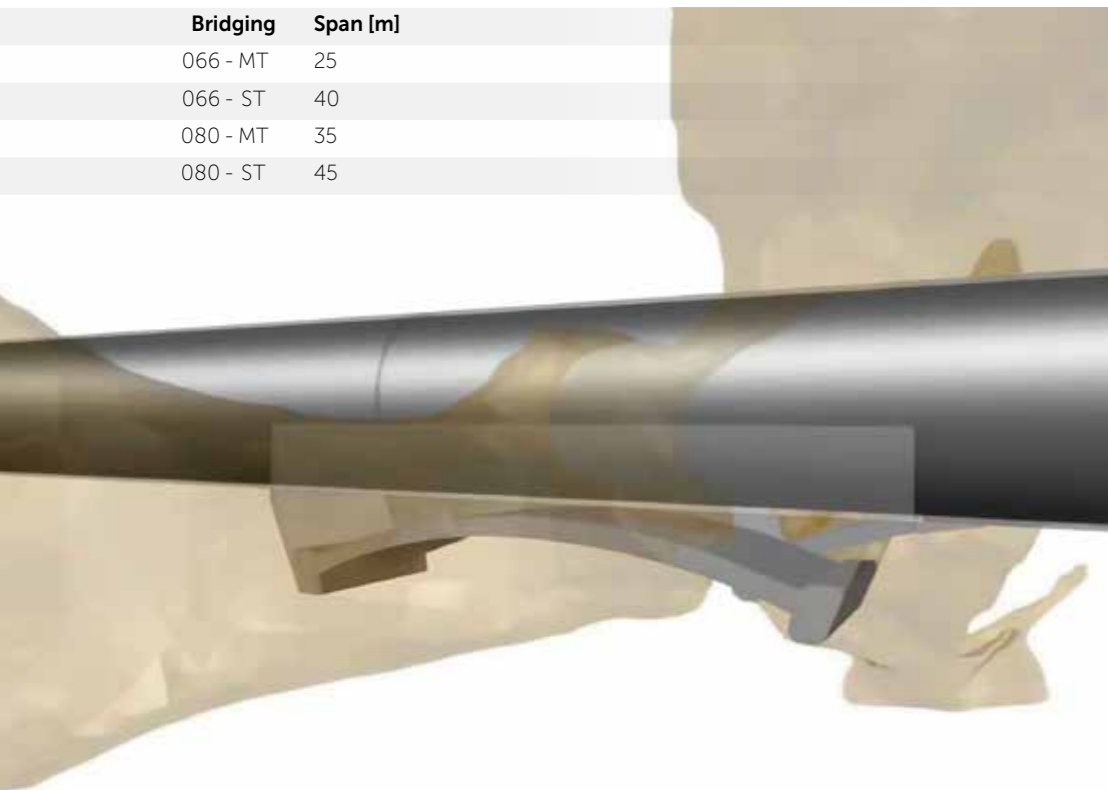


Underground Bridges

During tunnel excavation, larger Karst caves were discovered that required special bridging solutions.

Taking into account all aspects and factors, including environmental requirements, the simplicity of the solutions, safety during construction, the machinery available on construction sites, and, ultimately, time and cost considerations, an arch structure was selected as the most optimal solution for bridging the larger Karst caves. Arch structures, or bridges, are essential for the safe passage of Karst caves, as the ground does not provide adequate stability. Such structures were required at caves 2TDK-066 and 2TDK-080 in the main and service tubes of the Beka Tunnel (T2). The longest bridge spans 45 metres. A more complex bridging structure was also constructed over Cave 2TDK-076 in the Lokev Tunnel (T1).

Bridging	Span [m]
066 - MT	25
066 - ST	40
080 - MT	35
080 - ST	45

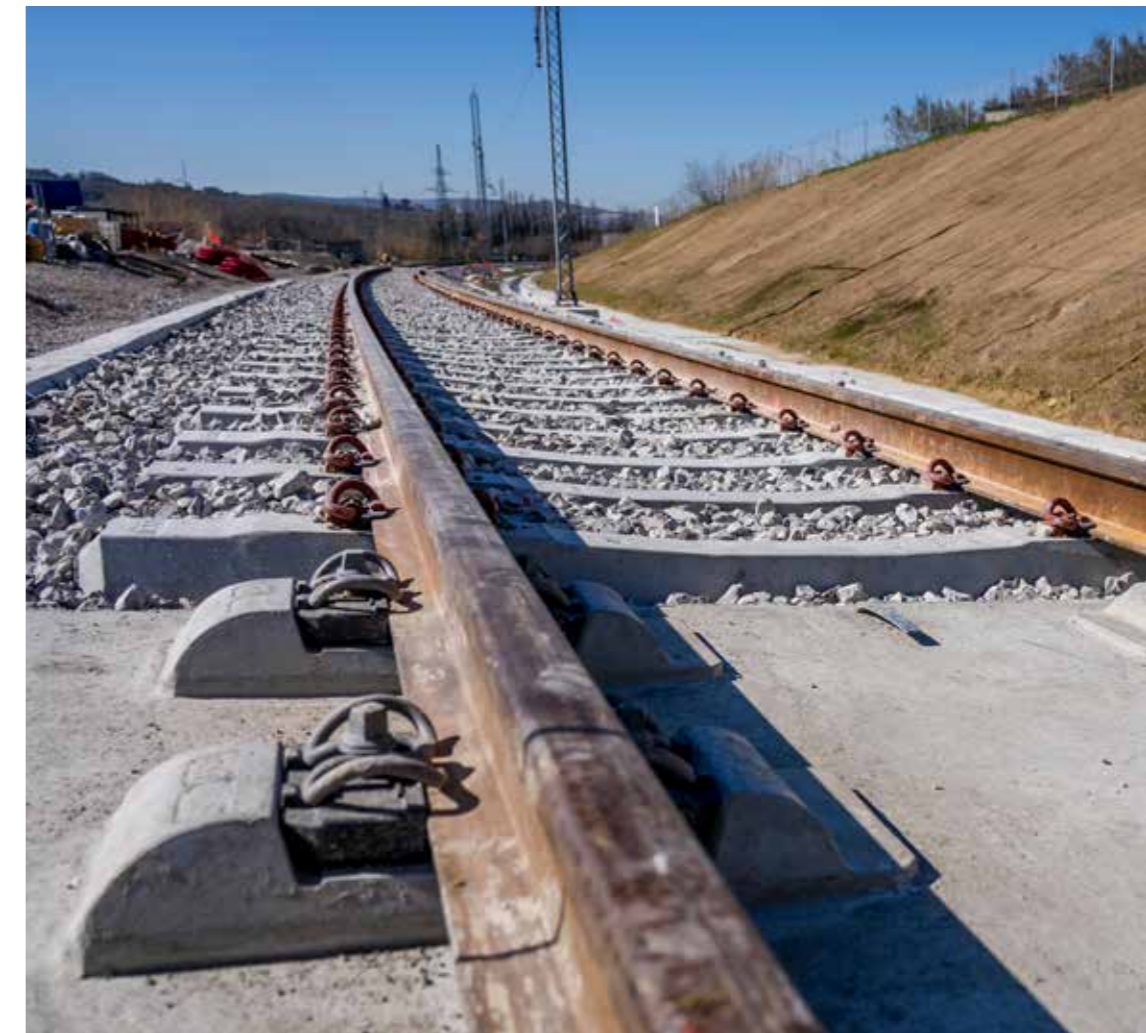


The arch bridges are built under the tunnel and will not be visible during the operation of the line; however, the construction of such bridges presented a unique engineering challenge. Along the route of the Second Track, seven additional Karst features were encountered in the tunnels, requiring bridging lengths of more than 15 metres.

Bridging Karst features during the construction of the Divača–Koper Second Track demonstrated that it is possible to construct durable, safe, and environmentally friendly structures even under very demanding geological conditions, provided that geological expertise, precise planning, and engineering innovation work together. The arch structures in the Beka Tunnel represent a breakthrough in construction practice and will serve as a reference model for future infrastructure projects in Karst areas.

Tracks

As a general rule, ballasted tracks are installed on the Slovenian railway network. On the Second Track, however, they are only installed on the open sections of the route, covering 15% of the line. 85% of the Second Track, totalling 23 kilometres, features slab tracks. The expected service life of slab tracks is 50 to 60 years, which is longer than that of ballasted tracks, which is 30 to 40 years. Even once the line is in use, the slab track is more suitable because it requires lower operating costs (and fewer disruptions to traffic) than the ballasted track, which requires constant and intensive maintenance.



From the Construction of Access Roads to Line Operability

To begin construction of the Second Track, access roads had to be built to individual construction sites, tunnel portals, and viaducts along the route between Divača and Koper. The construction of the right-hand track itself took 5 years. During construction, the Second Track project faced numerous challenges – from the consequences of the COVID-19 pandemic, the Ukraine crisis, the energy crisis, and high inflation to challenging geological and geotechnical conditions (landslides and major Karst features) and financial difficulties experienced by the foreign contractor.



March 2019 Start of construction of access roads



May 2021 Start of main construction works



September 2021 Start of tunnel excavation



June 2022 Breakthrough of the first tunnel

December 2023 Completion of the main construction works on the Gabrovica and Vinjan viaducts



May 2024 Breakthrough of the Lokev Tunnel – Slovenia's longest tunnel was excavated



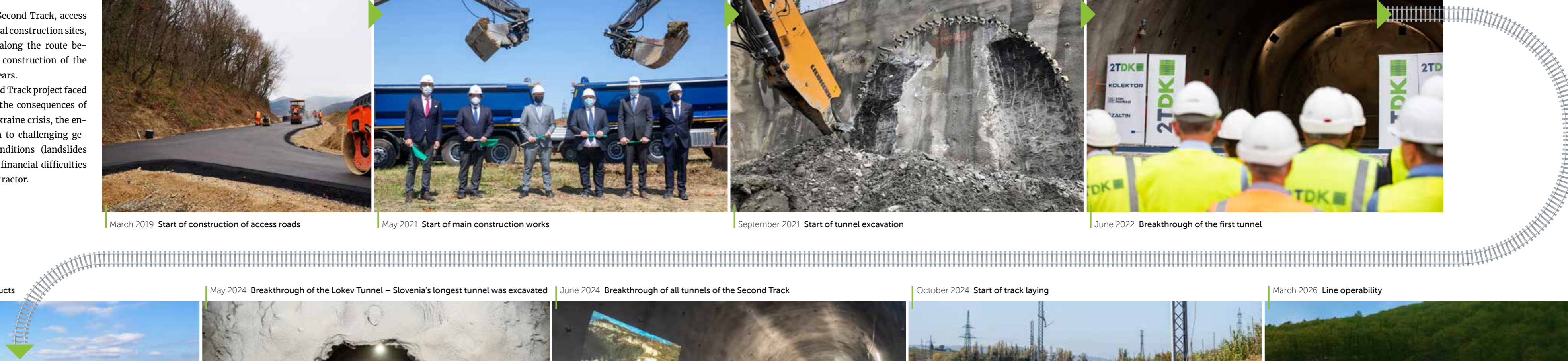
June 2024 Breakthrough of all tunnels of the Second Track



October 2024 Start of track laying



March 2026 Line operability



Parallel Left-Hand Track

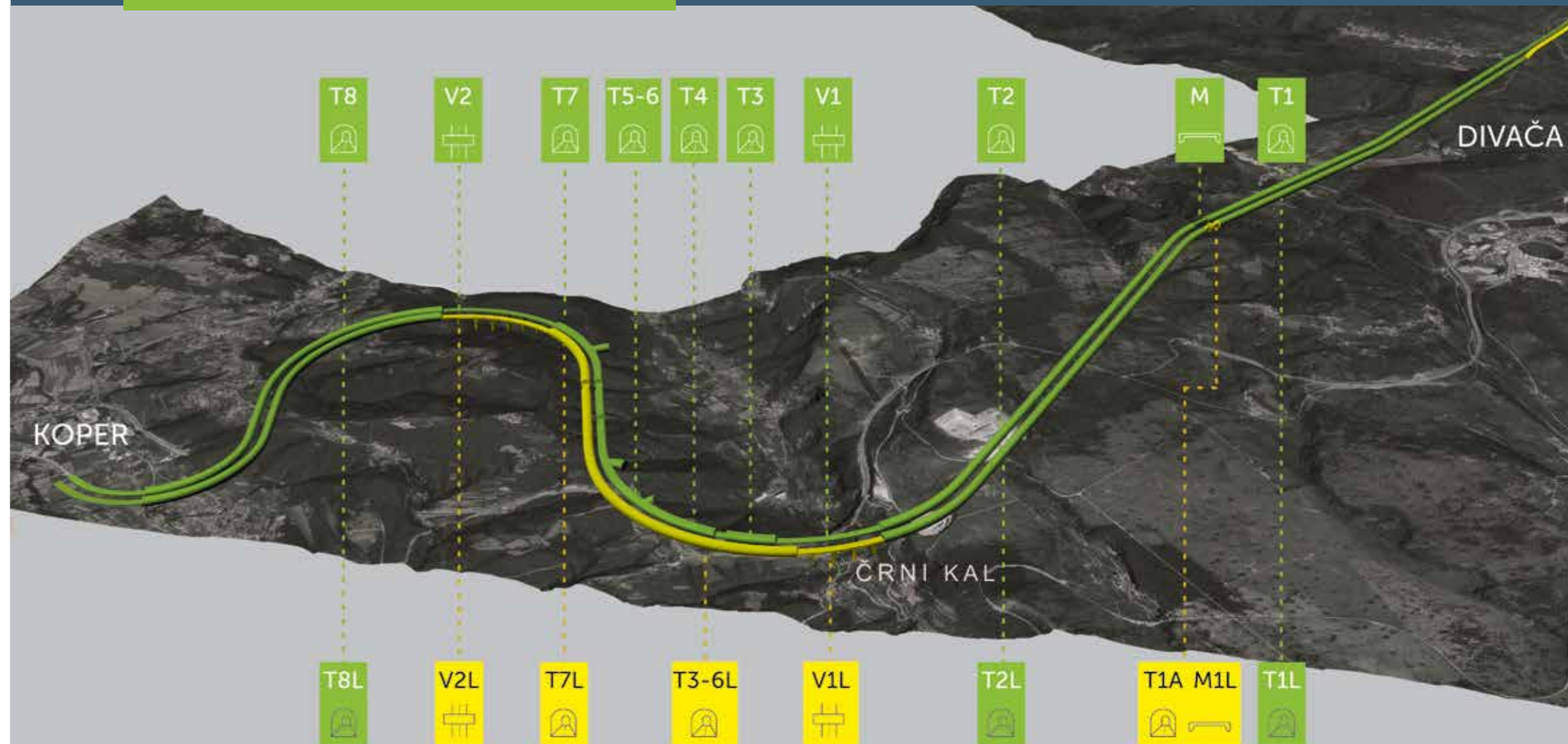
The Second Track consists of a left- and a right-hand track, which together form a full double-track railway line. The right-hand track has already been built, and until the parallel left-hand track is also built, rail traffic in the Divača and Koper area will run on the right-hand track and on the old railway line, which was built in 1967.

The route of the parallel left-hand track runs parallel to the right-hand track, within the same corridor, at a distance ranging from 4.5 meters to 25 meters. As part of the construction of the right-hand track, the three longest tunnels (T1, T2, and T8) of the left-hand track have already been built; until its completion, these will serve as service tubes. They were constructed to full profile, which is identical to the profile of the main tubes of the right-hand track.

The project to construct the parallel left-hand track represents an important next step toward increasing rail traffic flow between the country's hinterland and the Port of Koper.



Double-Tracking



Key to the new structures on the left-hand track:

M1L: Glinščica Bridge, left-hand side: 60 m
T1A: T1A tunnel, left tube: 80 m
V1L: Gabrovica viaduct, left-hand side: 325 m
T3-6L: left-hand tube of tunnels T3 to T6: 3,200 m
T7L: left-hand tube of tunnel T7: 1,128 m
V2L: Vinjan viaduct, left-hand side: 708 m

Key to the existing structures on the left-hand track:

(conversion of service tubes to full double-track)
T1L: T1A tunnel, left-hand tube: 6,683 m
T2L: left-hand tube of tunnel T2: 6,041 m
T8L: left-hand tube of tunnel T8: 3,818 m

Characteristics of the Left-Hand Track

The route of the parallel left-hand track will include the following major structures: six tunnel tubes, two viaducts, and a bridge.

Three tunnel tubes have already been constructed on the parallel left-hand track; these currently serve as service tubes for the right-hand track and will be converted into tunnels once the parallel left-hand track is completed: the first tunnel tube (T1L) is 6,681 meters long, the second (T2L) is 6,042 meters long, and the eighth (T8L) is 3,818 meters long. The following new tunnel tubes will be constructed: T1A, 80 meters long; T3-6L, 3,200 meters long; and T7, 1,127 meters long.

In the Glinščica Valley, the Glinščica (1L) bridge will be built as a closed-profile structure, 64 meters long. Below the Črni Kal viaduct, the Gabrovica (V1L) viaduct, 352 meters long, and the Vinjan (V2L) viaduct, 708 meters long, will be built.

	Right-hand track	Left-hand track
Length	27.101 km	26.948 km
Number of tunnels on the line	7	6 (3 already constructed, 3 new)
Total length of railway tunnels	20.322 km	20.950 km (the total length of the three newly constructed tunnels will be 4.407 km)
Proportion of tunnels relative to the total route	75%	77.7%
Number of viaducts	3 (Gabrovica V1, Vinjan V2 and Glinščica V3)	2 (Gabrovica V1L and Vinjan V2L)
Total length of viaducts	1.251 km	1.060 km
Number of bridges	/	1 (Glinščica M1L)



The parallel left-hand track will significantly increase the capacity of the railway connection between Divača and Koper and contribute to a more reliable and smooth flow of traffic. The existing old track will gradually lose its primary transport function and take on a new role – it will be transformed into an attractive tourist route featuring a dedicated cycling route. The parallel left-track project is designed to meet modern technical standards and sustainable construction requirements, while also ensuring the infrastructure's long-term adaptability to future traffic growth needs.

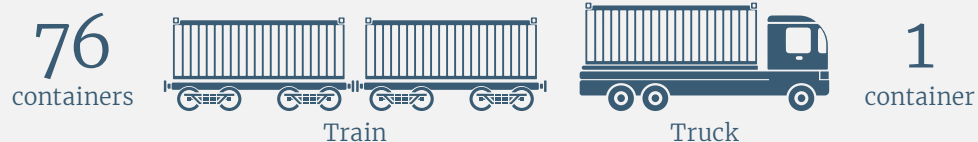
When construction of the right track began, the area was undeveloped, as at that time the route ran outside all existing corridors. Therefore, during the construction of the right-hand track, there were no requirements related to the operation of the existing railway service. Construction of the left-hand track, however, will take place once traffic on the right-hand track is already operational. The line is electrified, which is particularly important for safety during construction. This calls for a very precise approach right from the planning phase. This means that the designer will have to develop a precise work execution plan and, if necessary, adapt the design solution accordingly, ensuring that the solutions minimize disruptions to line operations. However, if it becomes necessary to halt traffic and implement track closures, which means delays and consequently additional costs, the closure must be announced three years in advance, as this affects international traffic operating on an established schedule.

Economic Impact

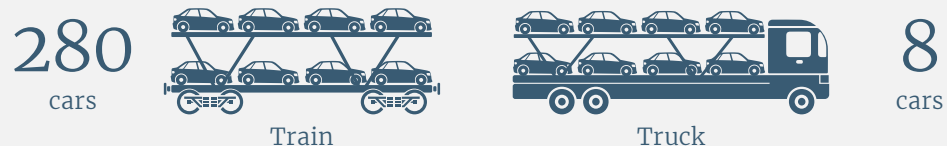
One of the main objectives of the Second Track project is to increase economic competitiveness. The completion of the parallel left-hand track will make it possible to fully replace the existing Divača–Koper line. Throughput capacity will increase from 212 (right-hand track + existing line) to approximately 252 (right-hand track + left-hand track) trains per day. During the operation of the existing old line, the capacity was 94 trains per day.

Rail transport allows for significantly higher cargo throughput, as a single freight train can replace dozens of trucks on the roads.

Transport of containers



Transport of cars



The construction of the Divača–Koper Second Track is not merely an infrastructure investment, but a strategic decision that will shape Slovenia's future, meaning that it will:

- maintain the competitiveness of the Port of Koper and the Slovenian economy,
- generate billions of euros in economic added value,
- create thousands of high-quality jobs,
- reduce emissions and make the shift toward sustainable mobility,
- strengthen Slovenia's geostrategic position.



Had the Second Track not been built, it would have resulted in a loss of added value for the Slovenian economy between 2026 and 2055, amounting to between 3.36 and 5.27 billion euros in present-value terms. This would amount to an average of approximately 214 million euros in current value for each of the years mentioned.



Environmental Protection

The 27.1-kilometer-long Second Track takes into consideration, to the greatest extent possible, the protection of natural and cultural values and is optimal in minimizing negative environmental impacts. In planning the Second Track, particularly regarding its spatial layout, numerous nature conservation considerations were factored in and solutions were sought that were more nature-friendly, as the track runs through environmentally sensitive and protected areas. Before construction began on the Second Track, numerous environmental studies and environmental impact assessments were conducted. It was determined that the greatest impacts on the environment and nature were to be expected during the construction of the Second Track.

During the construction of the Second Track, measures to protect the environment and preserve nature had to be observed. To this end, a comprehensive environmental monitoring plan was developed, which outlined obligations for both the contractor and the contracting authority. It included monitoring of Karst features, nature conservation, and the environment, aimed at preserving nature and taking action in the event of any deterioration in conditions.



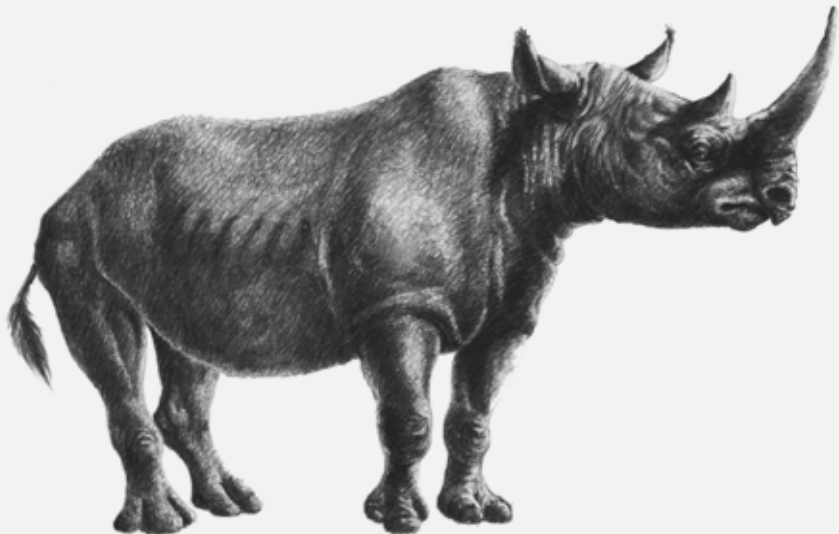
During construction, monitoring of flora and fauna was conducted, including birds, fish, and crustaceans, as well as amphibians and bats. The loss of tree roosts for bats due to forest clearing during construction was partially offset by the installation of 45 bat boxes, which served as a mitigation measure for the impact of construction.

Environmental protection will remain a key priority during the construction of the parallel left-hand track as well, with the continued implementation of measures to preserve nature and careful monitoring of environmental impacts.



Did You Know?

- Differences in rock types can determine how quickly construction progresses. During the construction of the Second Track, more than 10 meters of tunnel were excavated daily in suitable rock.
- Bats can eat half their body weight in insects in a single night.
- All the material excavated during tunnel construction could fill 2,130 Olympic-sized swimming pools.
- Certain subterranean organisms have such a unique way of life that they could not survive without darkness.
- 120,000-year-old rhinoceros bones were found just outside the first portal of the first tunnel (T1), about three kilometers from Divača. It is thought to be a *Stephanorhinus rhinoceros* dating back to the Middle Pleistocene.
- The existing line between Divača and Koper was built in 1967 and is the only rail link between the port of Koper and the hinterland. As of July 2018, this line is also officially congested, with increasingly slower and delayed traffic. This is one of the reasons for the construction of the Second Track.



- In 1967, the first freight train arrived at the Koper freight station; it came from Czechoslovakia and it transported 40 wagons of sugar.
- Karst shepherds used to cross the tracks with their sheep without bothering too much about train schedules – at least until the line became a key transport link to the Port of Koper. At that time, railway workers would often warn shepherds to pay more attention as the trains became faster and more frequent.
- The archaeologists exploring the route of the railway line made an exceptionally interesting discovery: a scarab-shaped pendant made of Egyptian faience. Only two such pendants have been discovered in Slovenia, and they arrived here via the trade routes of the time.

Information Points

The Information Points at Klanec and Divača and the Karst Edge Visitor Centre offer interactive exhibitions on the Second Track project, and their contents intertwine and complement one another. Whether visiting just one of these points or all three, each visitor can gain insight into the importance of this infrastructural project, which is shaping the future of the region, and also learn about some of the local specificities of the municipalities of Koper, Hrpelje–Kozina and Divača.

Each point is set in its own unique local environment and offers visiting opportunities for both individuals and groups. Certain tours must be arranged in advance.

At Klanec, visitors can learn about archaeological excavations and discoveries, gain insight into the main construction works and the construction of the Glinščica Viaduct, or try out a special stone musical instrument discovered during geological surveys of the route. You can also visit a special exhibition dedicated to the Beka Landscape Park.

The exhibition in Divača presents information on the significance of the railway for the Slovenian region, georadar surveys, and electrical and mechanical infrastructure along the route. The route deviation in Divača is also featured.

At the Kraški rob Visitor Center, located under the Črni Kal viaducts, visitors can learn more about environmental protection, the stunning Karst landscape, various viaduct construction techniques, and land recultivation. For the more curious, there is also a quiz about the Second Track.

Klanec near Kozina



Advance booking required for group tours: obcina.hrpelje-kozina@hrpelje-kozina.si

Črni Kal



The Kraški rob Visitor Centre. Operating hours are posted on the website of the Koper Institute for Youth, Culture and Tourism.

You are invited to explore the information points, discover the stories of the past and the future and indulge in a unique combination of technology, nature and cultural heritage.

Admission is free!

Divača



Open every day of the year and freely accessible.



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