

= Gevingåsen Tunnel =

Gevingsåsen Tunnel is a 4 @. @ 4 @- @ kilometer (2 @. @ 7 mi) single track railway tunnel between Hommelvik and Hell , Norway , on the Nordland Line . Blasting started in 2009 , and the tunnel opened on 15 August 2011 , having cost 635 million Norwegian krone (NOK) . Built by the Norwegian National Rail Administration , the tunnel has shortened travel time south of Stjørdal by five minutes and increased the capacity of the Trondheim ? Stjørdal to four trains per hour in each direction .

The tunnel was the first stage in a project to reduce travel time between Steinkjer and Trondheim to one hour . The tunnel section will not be suitable for high @- @ speed trains , as it was built with curves with too small a diameter , notwithstanding political debate about both these tight curves and the possibility of double track . The whole project involved 5 @. @ 7 kilometres (3 @. @ 5 mi) of new tracks and permanent way . The blasted rock is used to build a new apron at Trondheim Airport , Værnes .

= = Background = =

The tunnel was built between Hommelvik and Hell on the Nordland Line , through the hill Gevingåsen . The tunnel is 4 @. @ 4 kilometers (2 @. @ 7 mi) long , although the whole project consists of 5 @. @ 7 kilometres (3 @. @ 5 mi) of track . The tunnel carries a single track , reducing travel time by five minutes . It has also created the same distance between all passing loops between Trondheim and Stjørdal , allowing the capacity to increase from 5 @. @ 4 to 8 trains per hour (both directions combined) . The old right @- @ of @- @ way , located on a ledge over the sea and prone to landslides , is to be closed . In addition , 92 houses are projected to enjoy reduced noise pollution after the closing . Gevingsåsen was the first part of the plan to reduce rail travel time from Trondheim to Steinkjer to one hour . Politicians have suggested that after the tunnel is completed , they want to electrify the tracks from Trondheim to Steinkjer . The E6 motorway runs parallel through Gevingåsen in the Hell Tunnel .

= = Construction = =

Construction of the tunnel was done by drilling and blasting . During planning , use of a tunnel boring machine was considered , but the conventional drilling and blasting method was chosen because it was both cheaper and faster . At Hommelvik , the new section of track starts at the river of Homla , where it will run in a curve towards the tunnel entrance at Solbakken . Just within the entrance , there will be built a pool and pump to collect surface water . A crosscut is located at Muruvik , close to the quarry . At this point it is 275 meters (902 ft) to the tunnel and blasting will be performed in both directions from the tunnel 's interception with the crosscut . Muruvik will also serve as the operational hub ; transport of the masses to the airport will run along the old E6 . The third point of entry for blasting is the entrance at Hell . The works include replacing the level crossing at Hell Station with an overpass .

The builder is the Norwegian National Rail Administration , and construction of the tunnel is financed through state funding , with the project costing NOK 635 million . The construction will be undertaken at the same time as Avinor is expanding the nearby Trondheim Airport , Værnes , and the spoil from the tunnel will be used to build a new apron . Planning of the tunnel was completed at the end of 2008 . The tender for construction was completed in March 2009 , and won by Mika . The construction will extract 400 @, @ 000 cubic metres (14 @, @ 000 @, @ 000 cu ft) of blasted rock , that is transported out of the tunnel . The last blast was detonated on 12 August 2010 , completing the tunneling proper on time and on budget without injuries . The first revenue train ran through the tunnel on 15 August 2011 . But because schedules only change twice a year , the time saving cannot be incorporated until 2012 . Further plans include building a second track at Trondheim Airport Station . Due to the capacity increase created by the tunnel , this will allow dedicated airport trains to operate from Trondheim .

= = Controversy = =

The Trøndelag Council , an unofficial coordination council consisting of representatives from Nord @-@ Trøndelag County Municipality , Sør @-@ Trøndelag County Municipality and Trondheim Municipality , originally stated that they wanted a double @-@ track tunnel . In 2006 , the Norwegian National Rail Administration stated that it was not certain that a double @-@ track in a single tunnel would meet European Union regulations , and that they might have to delay construction while looking into the matter . Costs for a double track would be about 50 % higher than for a single track . Constructing a second barrel later for the a new track would cost as much as the first barrel . Trøndelag Council member Alf Daniel Moen (Labour) stated that the council abandoned the demand for a double @-@ track tunnel so the airport expansion and tunnel construction could be coordinated and because there was not sufficient funding at the time to build both tracks .

The tunnel has raised criticism for not being in line with the goals to build a high @-@ speed railway in Trøndelag . This plan requires double track from Trondheim to Stjørdal , but such a solution through the tunnel has been disregarded . Norsk Bane , which is working on plans for a high @-@ speed rail from Oslo to Steinkjer , has criticized the tunnel route for having curves that are too tight . With a radius of 320 metres (1 @, @ 050 ft) , this will only allow 110 kilometres per hour (68 mph) at Hommelvik Station and 60 kilometres per hour (37 mph) at Hell Station . So although the tunnel itself is straight enough to allow speeds of 210 kilometres per hour (130 mph) , limitations at both ends of the tunnel will not allow trains to reach a higher maximum speed of 160 kilometres per hour (99 mph) and an average speed of more than 130 kilometres per hour (81 mph) . Because of this , Gevingåsen Tunnel would not be able to allow high speeds , defined by parliament as minimum 250 kilometres per hour (160 mph) , and could not be part of a future high @-@ speed line north of Trondheim . Norsk Bane stated that part of the cause is that although the National Rail Administration has plans to build a high @-@ speed line from Trondheim to Steinkjer , no complete plans , nor any plans for the trackage on either side of the tunnel , have been made .

In January 2009 , just before construction commenced , the Nord @-@ Trøndelag County Cabinet , fronted by Chair Alf Daniel Moen and Councilor of Transport Tor Erik Jensen (Conservative) , stated that they did not want the tunnel to run along its planned route , but instead a less curved line that would allow it to be used as a high @-@ speed line in the future . This was rejected by the Ministry of Transport and Communications , who stated that they were building a " modern railway for the future " .

It could be added that most trains are regional trains which stop in both Hell and Hommelvik . For them high @-@ speed curves are meaningless .