



Roslagstull a junction is being built with slip roads at several levels. It is here under Albanoberget that Norra länken connects with Frescati and Värtan.

#### Roslagstull

When Norra länken is operational most things will be as before in Roslagstull. The only change in the cityscape will be the two tunnel openings at Roslagstull roundabout which connect Roslagstull with the eastbound Norra länken tunnels. In order to minimize the time of disruption to traffic on Roslagsvägen, we have chosen to build the tunnels in a different way. We will start by constructing the walls, and after that we will build the roof on top of the walls and excavate the tunnel below ground.

#### Bellevue

From Norrtull the tunnel passes north of the Wenner-Gren Center, then under Bellevueberget and Roslagsvägen. Bellevueparken is part of Nationalstadsparken and is a popular recreation area for Stockholmers. Although the link road will involve some disturbance in Nationalstadsparken during the construction period, the historical park with its 18th century character will be completely restored when the tunnel is opened to traffic in 2015.

#### Norrtull

In Norrtull the construction of Norra länken is conspicuous at the moment, but when traffic starts flowing in 2015 the new dual carriageway will hardly affect the cityscape at all. The biggest change is the roundabout that will be built. It will include connections to Norra Stationsgatan, Sveavägen and the tunnels of Norra länken. It will be a greener and more pleasant Norrtull and the new bicycle and pedestrian paths will make it easier for people to reach Hagaparken and Brunnsviken.

#### Karlberg to Norrtull

The Norra Stations area has long been a no-man's land separating Solna from Stockholm city.

The area will soon be refurbished and a new city district, Hagastaden, will be expanded so that the inner city of Stockholm can grow. Housing will be built here, as well as premises for world-leading research and companies in the life science field. Two new parks will be constructed linking the Norra Stations area with Hagaparken. The construction of Norra länken is necessary for this transformation. Through building decks above the current Norra länken (E4/E20) and the Värtabanan, space is created for the new district.

In order to avoid congestion and slow traffic in the tunnels, we are expanding Norra länken. We will do this by moving slip roads outwards so that there is more space for lanes, and by building new bridges over the railroad area at Tomtebodan.



#### Hjorthagen and Värtan

Norra länken starts by Värtan. It is an important precondition for the new district, Norra Djurgårdsstaden, but also to create a new link road, the E20, for traffic and goods to and from the port. Heavy traffic driving through the city has long been a problem but when the traffic starts rolling on Norra länken, it will relieve the pressure on Lidingövägen and Valhallavägen.

#### Frescati

When Norra länken is completed, the traffic from Roslagsvägen will no longer have to drive through Nationalstadsparken or via Roslagstull to get to Värtan and Norrtull. Instead, traffic is taken underground and can drive in the tunnel almost up to Värtan.

The new section of the link road by Frescati also makes it possible to move traffic away from Lill-Jansskogen.

#### Under Lill-Jansskogen

Norra länken goes in bed-rock underneath Lill-Jansskogen, and at ground level there are hardly any visible signs of the road. Inside the tunnel just before



## Norra länken

...in brief

- solves problems and creates new opportunities for the Stockholm region.
- provides benefits to residents and road users in the area by moving passenger cars and heavy traffic into tunnels.
- stretches between Karlberg and Värtan and has a connection to Roslagsvägen by the University.
- will be about 5 km long and for the most part will be in tunnels underground.
- is planned to be open for traffic by the end of 2015. Start of construction was 2006.
- the stretch between Karlberg and Norrtull will be completed in 2017.



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A main carriageway in a tunnel is not just a road through bedrock. For it to be safe and pleasant to drive in, advanced technical equipment is required. Lighting in the tunnels is positioned to provide good illumination and guidance when the road turns. There must be good ventilation to provide fresh air in the tunnels, and water from the road surfaces is collected and pumped to a treatment plant before being discharged. Because radio signals from the surface do not penetrate below ground, the tunnels are equipped with antennae and equipment for the retransmission of radio and mobile telephone signals. The police, fire brigade and ambulances will have full coverage for their radio systems in the tunnels.

#### Technical installations

Safety has top priority in the design and selection of technical solutions in the tunnel. Vehicles that stop in the tunnel will be automatically detected by cameras; a vehicle fire will activate a number of safety systems, and if an accident blocks the tunnel the driver and passengers can evacuate through emergency routes. The technical equipment in the tunnels is powered by a very secure electrical system.

#### Safety

Design is an important part of the construction of Norra länken. Landmarks and variation for motorists driving in the tunnels will be created. It is mainly at the seven interchanges of Norra länken that the landmarks will be built. Using coloured lights in the tunnel ceiling, pictures along the walls and an installation in the refuge area between the two parallel tunnel sections, each site will have its own identity so that drivers can find their way more easily.

#### Design



