



MOBILISING PUBLIC TRANSPORT

RAIL ENGINEERING AND CONSULTANCY SERVICES

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LIGHT RAIL



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Light rail is a popular transportation solution for urban areas.

The urban environment and rapidly growing cities call for public transportation solutions that are cost-effective, reliable and sustainable. Light rail is becoming increasingly popular, particularly in mid-sized cities in the Nordic countries. Several Norwegian and Swedish cities have adopted light rail transportation, and cities such as Stockholm, Gothenburg, Norrköping, Helsinki, Bergen, Trondheim and Oslo are studying and conducting network extensions.

Light rail as part of urban revitalisation projects

Light rail provides an optimal solution, not just for infrastructure purposes alone, but also as part of urban revitalisation and design projects. For this reason, mid-sized Nordic cities such as Malmö, Lund, Helsingborg, Tampere, Turku, Stavanger, Copenhagen, Odense and Aarhus are developing or considering light rail as part of urban development plans.

Ramboll is involved in several light rail projects across Northern Europe. Our expertise within rail engineering, traffic planning and urbanism covers all disciplines of light rail projects. We take a holistic approach and provide multidisciplinary consultancy from regional and comprehensive planning to designing tracks and signalling. Light rail must be a natural part of the city infrastructure.

Traffic safety at all levels

Traffic safety is a primary focus area in all infrastructure projects. The street layout and road planning must be carefully designed in a balanced way to improve traffic safety for all road users as many light rail projects will be constructed in areas with heavy existing road traffic.

Rail safety is principally focused on preventing incidents from happening. This can be achieved by controlling processes through the regulation of technological devices.

Multidisciplinary solutions

Ramboll has many years of experience and advanced technical know-how regarding tram-specific technology, and at a system level, we understand how the specific sub-systems work together. Our focus is to integrate technological studies and investigations with planning processes in order to deliver optimal functionality cost-effectively. This enables us to deliver holistic and multidisciplinary consultancy solutions for our customers. Our experts also have experience with simulation in Open Track (railway) with input from Vissim (micro simulation).

HOLISTIC AND EXPERT SERVICES

- Studies, strategies, analysis (cost/benefit – traffic), functional aspects
- Planning
- Detailed design
- Project management, building management, inspection, on site validation
- Maintenance and operation



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PROJECT REFERENCES

01 Tvärbanan Light Rail, Stockholm, Sweden. Ramboll has participated in the development of the Tvärbanan Light Rail system from early feasibility studies, via multidisciplinary design, to building management.

02 Spårväg City, Stockholm, Sweden. As part of a reassessment of priorities for mobility and urban life in the inner city, the idea was born to reintroduce light rail in the inner city (Spårväg City). Ramboll participates by delivering services in all fields of this development such as feasibility studies, traffic simulations and buildings and design.

03 Metro Copenhagen, Denmark. Ramboll has been the client's consultant on the transportation system for the metro in Copenhagen, covering the existing as well as the coming line, "Cityringen". The metro has been awarded world's best several times.

04 Light rail feasibility study in Tampere, Finland. Ramboll has together with a Swiss firm conducted a study with the customer experience as starting point instead of the more traditional technology based way. This innovative way of regarding light rail won the city's appreciation and has cleared the way for further studies such as a preliminary master plan for the first phase.

05 Tram to Tonsenhagen, designing new routes of trams in Oslo, Norway. Ramboll has headed alignment and street design for the planning programme.