



TRAFIKVERKET
SWEDISH TRANSPORT ADMINISTRATION

Network Statement 2023

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Contents

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ANNEXES INCLUDED IN THE NETWORK STATEMENT VII

GLOSSARY VIII

Abbreviations VIII

Definitions VIII

LAWS, REGULATIONS AND LEGISLATIVE HISTORY XI

1 GENERAL INFORMATION 1

1.1 Introduction 1

1.2 Purpose of the Network Statement 1

1.3 Legal aspects 1

1.3.1 Legal framework 1

1.3.2 Legal status and liability 2

1.3.2.1 General remarks 2

1.3.3 Appeals procedure 2

1.4 Structure of the Network Statement 2

1.5 Validity period, updating and publishing 3

1.5.1 Validity period 3

1.5.2 Updating 3

1.5.3 Publishing 3

1.6 Contacts 3

1.7 Cooperation between European IMs 4

1.7.1 Rail Freight Corridors 4

1.7.2 Corridor One-Stop Shop 4

1.7.3 RailNetEurope 4

1.7.4 National One-Stop Shop 4

2 INFRASTRUCTURE 6

2.1 Introduction 6

2.2 Extent of network 6

2.2.1 Limits 6

2.2.2 Connecting railway networks 6

2.3 Network description 7

2.3.1 Track typologies 7

2.3.2 Track gauges 7

2.3.3 Stations and nodes 7

2.3.4 Reference profile (loading gauge) 7

2.3.5 Weight limits 9

2.3.6 Line gradients 9

2.3.7 Maximum line speed 10

2.3.8 Maximum train length 10

2.3.9 Power supply 10

2.3.10 Signalling systems 10

2.3.11 Traffic control systems 10

2.3.12	Communication systems	11
2.3.13	Train control systems	11
2.3.14	Other technical facilities.....	12
2.4	Traffic restrictions	12
2.4.1	Specialised infrastructure.....	12
2.4.1.1	Routes reserved for passenger traffic	12
2.4.1.2	Routes reserved for commuter trains	13
2.4.1.3	Railway lines where special condition apply	14
2.4.2	Environmental restrictions	16
2.4.3	Dangerous goods.....	16
2.4.4	Tunnel restrictions	17
2.4.5	Bridge restrictions	17
2.5	Availability of the infrastructure	17
2.6	Infrastructure development.....	17
3	ACCESS CONDITIONS	19
3.1	Introduction.....	19
3.2	General access requirements	19
3.2.1	Conditions for applying for capacity	19
3.2.2	Conditions for access to the railway infrastructure	19
3.2.3	Licences	20
3.2.3.1	License.....	20
3.2.3.2	National safety permit.....	20
3.2.3.3	Review of permit.....	20
3.2.3.4	Revoking a permit	20
3.2.3.5	Safety management system.....	21
3.2.4	Single safety certificate	21
3.2.5	Liability and insurance.....	21
3.2.5.1	Insurance.....	22
3.3	Contractual agreements.....	22
3.3.1	Framework agreements	22
3.3.2	Track access agreements with railway undertakings	22
3.3.3	Track Access Agreements with non-railway undertakings.....	23
3.3.4	General terms and conditions	24
3.4	Specific access requirements	24
3.4.1	Rolling stock acceptance	24
3.4.1.1	Communication system GSM-R	25
3.4.2	Staff acceptance	26
3.4.3	Exceptional transport	26
3.4.4	Dangerous goods.....	26
3.4.5	Test run	27
3.5	Operating restrictions	27
3.6	Requirement for ETCS equipment.....	27
3.6.1	Requirements for ERTMS cryptographic keys	27
4	CAPACITY ALLOCATION	28
4.1	Introduction.....	28
4.2	General description of the process	28
4.2.1	Capacity prerequisites.....	29
4.2.1.1	Pre-arranged train paths for international corridors	29
4.2.1.2	Temporary Capacity Restrictions	29
4.2.1.3	Capacity plans.....	29
4.2.1.4	Capacity for services at operational points	30
4.2.2	Application for capacity.....	32
4.2.2.1	International capacity for train paths.....	32
4.2.2.2	Planning conditions in the allocation process	32
4.2.2.3	Proposal for the annual timetable	33
4.2.3	Late path request	34
4.2.4	Ad hoc applications	35
4.3	Capacity allocation for Temporary Capacity Restrictions	36

4.3.1	Temporary Capacity Restrictions	36
4.3.2	Deadlines and information provided to applicants	36
4.3.2.1	Criteria and train types for re-routing during TCR that have major impact on traffic ..	36
4.3.3	Designated Temporary Capacity Restrictions	38
4.4	Impacts of Framework Agreements	38
4.5	Path allocation process	39
4.5.1	Annual timetable path request	41
4.5.1.1	The Swedish Transport Administration's requirements for capacity for engineering works	41
4.5.2	Late path request for annual timetable	42
4.5.3	Ad hoc path request	42
4.5.4	Coordination process	43
4.5.5	Dispute resolution process	43
4.5.6	Congestion of infrastructure and allocation with support of priority criteria	44
4.5.7	Established annual timetable	44
4.6	Congested infrastructure	44
4.6.1	Allocation of capacity after congestion	45
4.6.2	Updated annual timetable	45
4.6.3	Capacity analysis	45
4.6.4	Capacity reinforcement plan	45
4.7	Exceptional transports and dangerous goods	46
4.8	Rules after path allocation	46
4.8.1	Rules for path modification by the applicant	46
4.8.2	Rules for path alteration by the infrastructure manager	47
4.8.2.1	Revision of the annual timetable	47
4.8.2.2	Unacceptable risks	47
4.8.3	Non-usage rules by the applicant	47
4.8.4	Rules for cancellation by the applicant	48
4.9	TTR for smart capacity management	48
5	SERVICES AND CHARGES	49
5.1	Introduction	49
5.2	Charging principles	50
5.2.1	Prices for international train paths	52
5.3	Minimum access package and charges	52
5.3.1	Train paths for passenger traffic	53
5.3.2	Train paths for freight traffic	54
5.3.3	Train paths for service trains	54
5.3.4	Traffic information	54
5.3.4.1	Traffic information for applicants and traffic operators	54
5.3.4.2	Traffic information for passengers	55
5.3.4.3	Permanent signage	56
5.3.5	Charging system for minimum access package (train path)	57
5.3.6	Charges for minimum access package (train path)	58
5.3.6.1	Track charge	59
5.3.6.2	Train path charge	59
5.3.6.3	Passage charge in Stockholm, Göteborg and Malmö	59
5.3.6.4	Passage charge for freight traffic crossing the Öresund Link	59
5.4	Additional services and charges	59
5.4.1	Provision of traction current	59
5.4.1.1	Charge for provision of traction current	60
5.4.2	Transport conditions and transport permits for exceptional transports	62
5.4.2.1	Charges for exceptional transport services	64
5.5	Ancillary services and charges	65
5.5.1	Telecommunications network	65
5.5.1.1	Charges, GSM-R	65
5.5.2	Additional traffic information	65
5.5.2.1	Charge for additional traffic information	66
5.5.3	Technical inspection of rolling stock	66

5.5.3.1	Charge for extended traffic information via detectors	66
5.5.4	Test runs	66
5.5.4.1	Charge for conditions for test runs with vehicles	67
5.6	Financial incentives	67
5.6.1	Reservation charge	67
5.7	Performance scheme	67
5.7.1	Delay and cancellation charges	68
5.7.1.1	Delay charge for double-direction model	68
5.7.1.2	Delay charge for cumulative delays, single-direction model	68
5.7.1.3	Cancellation charge for trains cancelled at short notice, double-direction model	69
5.7.1.4	Cancellation charge for cancelled trains, single-direction model	69
5.7.2	Deviations from supplemented established annual timetable and track access agreement	69
5.7.2.1	Cumulative delays, double direction model	69
5.7.2.2	Trains cancelled at short notice, double-direction model	70
5.7.2.3	Cancelled trains, single-direction model	70
5.7.3	Reporting of deviations from supplemented established timetable and track access agreement	71
5.7.4	Liability to pay delay and cancellation charges	71
5.7.4.1	Cumulative delays	71
5.7.4.2	trains cancelled at short notice, double-direction model	72
5.7.4.3	Cancelled trains, single-direction model	72
5.7.5	Exemption from performance scheme	72
5.7.6	Request for renewed assessment of the Swedish Transport Administration's cause coding	73
5.7.6.1	Cumulative delays	73
5.7.6.2	Cancelled train	75
5.7.6.3	Dispute resolution	76
5.8	Changes to charges	77
5.9	Billing	77
6	OPERATIONS	79
6.1	Introduction	79
6.2	Operational rules	79
6.2.1	Regulations on electrical safety	79
6.2.2	Information	79
6.2.2.1	Information from the Swedish Transport Administration to railway undertakings, before and during the operation of traffic	79
6.2.2.2	Information from the railway undertaking to the Swedish Transport Administration during the operation of traffic	79
6.2.3	Other rules	80
6.2.3.1	The Driver's Order System	80
6.2.3.2	Train order	81
6.2.3.3	Reserve order	81
6.2.3.4	Operative train information	81
6.2.3.5	Operative language	81
6.3	Operational measures	82
6.3.1	Principles	82
6.3.1.1	Evacuation of passengers and clearance of railway vehicles	82
6.3.1.2	Recovery	82
6.3.2	Operation regulation	82
6.3.3	Disturbances	83
6.3.3.1	Disruption plans	83
6.3.3.2	Weather- and season-related contingency plans	83
6.3.3.3	Clearance and emergency situations	84
6.3.3.4	Management of accidents	85
6.3.3.5	Crisis situations	85
6.4	Tools for train information and monitoring	85
6.4.1	Technical inspection of rolling stock	85
6.4.2	Train path information for international trains	85
7	SERVICE FACILITIES	86

7.1	Introduction.....	86
7.2	Service facility overview	86
7.3	Service facilities managed by the Swedish Transport Administration	87
7.3.1	Common provisions	87
7.3.2	Passenger stations.....	87
7.3.2.1	General information	87
7.3.2.2	Services	87
7.3.2.3	Service facility description	88
7.3.2.4	Charges.....	88
7.3.2.5	Access conditions.....	88
7.3.2.6	Allocation of service	88
7.3.3	Freight terminals	88
7.3.3.1	General information	88
7.3.3.2	Services	89
7.3.3.3	Service facility description	90
7.3.3.4	Charges.....	90
7.3.3.5	Access conditions.....	90
7.3.3.6	Allocation of service	91
7.3.4	Marshalling yards and train formation facilities	91
7.3.4.1	General information	91
7.3.4.2	Services	91
7.3.4.3	Service facility description	93
7.3.4.4	Charges.....	93
7.3.4.5	Access conditions.....	93
7.3.4.6	Allocation of service	94
7.3.5	Storage sidings	94
7.3.5.1	General information	94
7.3.5.2	Services	94
7.3.5.3	Service facility description	95
7.3.5.4	Charges.....	95
7.3.5.5	Access conditions.....	96
7.3.5.6	Allocation of service	96
7.3.6	Maintenance facilities	96
7.3.7	Other technical facilities.....	96
7.3.7.1	General information	96
7.3.7.2	Services	96
7.3.7.3	Service facility description	97
7.3.7.4	Charges.....	97
7.3.7.5	Access conditions.....	97
7.3.7.6	Allocation of service	97
7.3.8	Maritime and inland port facilities	97
7.3.9	Relief facilities	97
7.3.9.1	General information	97
7.3.9.2	Services	98
7.3.9.3	Service facility description	98
7.3.9.4	Charges.....	98
7.3.9.5	Access conditions.....	99
7.3.9.6	Allocation of service	99
7.3.10	Refuelling facilities	99
7.3.11	Connection to electricity when holding railway vehicles	99
7.3.11.1	General information	99
7.3.11.2	Services	99
7.3.11.3	Service facility description.....	99
7.3.11.4	Charges	99
7.3.11.5	Access conditions	100
7.3.11.6	Allocation of service	100
8	THE SWEDISH TRANSPORT ADMINISTRATION'S GENERAL TERMS AND CONDITIONS.....	101
8.1	Track access agreements.....	101
8.2	General	101
8.3	Performance of the parties	101
8.3.1	The Swedish Transport Administration's delivery.....	101

8.3.2	The contracting party's usage	102
8.3.3	Recovery resources prior to use.....	102
8.3.4	Payment for service.....	102
8.3.5	Environmental responsibility	103
8.4	Deviations from the agreement	103
8.4.1	Delay charge in the event of deviations.....	103
8.4.2	Charge in the event of re-routing.....	103
8.5	Remedy of deviations	103
8.5.1	In cooperation and in dialogue	103
8.5.2	Notification in the event of deviations and errors	103
8.5.3	Forecast for remedies and continuing traffic	104
8.5.4	Response time	104
8.5.5	In the event of accidents	104
8.5.6	Resources for clearance	104
8.5.7	Compensation for clearance	105
8.6	Liability for compensation	106
8.6.1	General.....	106
8.6.2	Damages caused by negligence.....	106
8.6.3	Contributory negligence.....	107
8.6.4	Compensation amount.....	107
8.6.5	Liability to pay compensation for damages suffered by a third party	107
8.6.6	Responsibility during railway operation.....	108
8.6.7	Liability to pay compensation in the event of damages connected to clearance	108
8.6.8	Data for investigation of damages	108
8.6.9	Time limit on claims for compensation	108
8.6.10	Demonstration of negligence	109
8.6.11	Cause of damage	109
8.7	Grounds for exemption.....	109
8.7.1	Notification about grounds for exemption	109
8.7.2	The State's right to use the railway.....	109
8.8	The validity of the agreement.....	110
8.8.1	Track access agreements.....	110
8.8.2	Termination in the event of a breach of contract	110
8.8.3	The agreement ceases to be valid in the event of bankruptcy and revocation of the license	110
8.9	Disputes.....	110
8.9.1	Consultation body in the first instance	110
8.10	Certain international transports	110
8.10.1	Rules in accordance with COTIF	110
8.11	Liability for economic damage	111

Annexes included in the network statement

Annex 1 A – Contacts

Annex 1 B – Charges

Annex 2 A – Barrier-free length and platforms

Annex 2 B – Track standard data

Annex 2 C – Highest permitted speed per line

Annex 2 D – Gradients per line

Annex 2 E – Other availability impacts

Annex 3 B – Governing documents

Annex 4 A – Monitoring of operational points

Annex 4 B – Priority criteria

Annex 4 C – Traffic calendar

Annex 4 D – Capacity requirements

Annex 4 F – Capacity plans

Annex 5 A – Train path and passage charges

Annex 5 B – Delay and cancellation codes

Annex 5 C – Calculation examples for electricity costs

Annex 6 A – Information before departure of train

Annex 6 B – Routines in the event of evacuation and clearance

Annex 6 C – Safety in track area

Annex 7 A – Available infrastructure for holding

Annex 8 A – Management rules in the event of accidents and incidents

Annex 8 B – Procedures during the settlement of claims

Glossary

Abbreviations

BAP: Engineering Work Plan

COTIF: Convention concerning International Carriage by Rail

EEA: European Economic Area

EC: European Community

ERTMS: European Rail Traffic Management System

ETCS: European Train Control System

EU: European Union

GSM-R: Global System for Mobile Communication – Railway

HPS: highest permitted speed

NJDB: National railway database

OSS: One-Stop Shop

PaP: Pre-Arranged Paths (International corridor)

RNE: RailNetEurope

STAX: maximum load per axle

STVM: maximum vehicle weight per metre

TDOK: The Swedish Transport Administration's governance documents

TCR: Temporary Capacity Restrictions

TSI: technical specification for interoperability

TTJ: Traffic rules of the Swedish Transport Administrations for railway

Definitions

Access services: Services that are included in either the minimum package category of access services (train paths) or in the service category basic services.

Allocated train path: Reserved capacity agreed on between the Swedish Transport Administration and external party for a specific transportation task.

Amendment - deviation notification: Notification from the Swedish Transport Administration relating to the changing or supplementation of information in the network statement.

Annual timetable: Plan covering the use of railway infrastructure during a specific period of time.

Applicant: A railway undertaking or an international grouping of railway undertakings or other persons or legal entities, such as competent authorities under Regulation (EC) No 1370/2007 and shippers, freight forwarders and combined transport operators, with a public-service or commercial interest in procuring infrastructure capacity.

Blocked line operation: traffic activity for movement of railway vehicle in any direction on a blocked line section monitored by signaller. The blocked line operation also includes the railway vehicle's blocked line operation to and from the adjacent station.

Capacity plan: Plan describing the possible traffic on an infrastructure that has temporary limitations or capacity restrictions. Applicants must follow the capacity plan when applying for capacity.

Carrier: The railway undertaking with which the passenger or consignor has entered into the transport contract or a number of consecutive railway undertakings which, under the agreement, have liability.

Clearance: Actions taken, when necessary, after a rescue action for the purpose of clearing obstacles and restoring tracks for service.

Codified line: Consists of lines and stations that are codified. A line is codified based on which codification class of the load that can be transported without restriction.

Codified transport: A codified transport is intermodal and requires that the track for the transport is codified according to decided levels and that the units in question are codified according to IRS 50596-6 (formerly UIC 596-6). If the planned route has the same codification class as, or than, the load transported, the codified transport can be conveyed.

Contracting party: Those who buy the right to operate on the railway and provide services to travellers and freight buyers.

Cumulative delay: Delays according to the timetable at the first measurement point, or an additional delay between two sequential measurement points in the Transport Administration's system for deviations.

Delay charge: A charge for deviation from the use of the infrastructure that is established in the timetable and track access agreement.

Designated temporary capacity restrictions: Temporary capacity restrictions that have been announced in the Network Statement and which are planning prerequisites.

Established annual timetable: Allocated capacity for applications for capacity and services received by the last day for annual timetable application.

Exceptional load: Transportations that exceed any of the requirements in Chapter 2 and which may only be operated in accordance with conditions determined by the Swedish Transport Administration

Freight terminal: Facility for the reloading of goods from one form of transport to another.

Gross tonne kilometre: The gross tonne kilometre of a train is calculated as the trains gross weight times the distance the train has travelled in kilometres.

Infrastructure manager: An entity that administers railway infrastructure and manages facilities that belong to the infrastructure. For example, the Swedish Transport Administration and Inlandsbanan AB.

Intermodal unit: A unit that can be conveyed by more than one mode of transport. Can consist of containers, swap bodies and trailers.

Maximum load per axle (STAX): A measurement of how much load each wheel axle may exert onto the track, expressed in tonnes.

Maximum vehicle weight per metre (STVM): The weight of the vehicle divided by the length of the vehicle, expressed in tonnes per metre.

Operational period: Weekday after another weekday, the operating period starts at 00:00 and lasts until kl. 24:00 the same day. Day that is not weekday, the operating period starts at 00:00 and runs until 24:00 next weekday. Weekdays are days that are not Saturday, Sunday, public holidays, Midsummer's Eve, Christmas Eve or New Year's Eve.

Operational point: Common term for station, station part, line location, stop and halt. Each operational point has an established name specified in the route description (*linjeboken*).

Passengers: People travelling with a vehicle on a train journey, blocked line operation or shunting, excluding the personnel on duty.

Production plan: Summary of all planned services and capacity and how they are planned to be produced. The plan is available both as a preliminary version and a published/established version.

Railway infrastructure: Tracks, traffic management structures, devices for electricity supply to traffic, signals and safety facilities that are intended for railway traffic as well as other fixed devices that are required for the existence, operation or use of the facilities.

Railway network: Railway infrastructure that is administered by the same infrastructure manager.

Railway system: Railway infrastructure and railway vehicles, as well as operation and administration of the infrastructure and vehicles.

Railway undertaking: An entity is authorised, through the possession of a licence or national safety permit, to provide traction power and perform railway services.

Railway vehicle: A motorised vehicle and other rolling equipment that can be operated on railway tracks, and that are comprised of one or more subsystems, or parts of a subsystem.

Reason code: A code that explains the cause of the deviation from the use of the infrastructure that is established in the timetable and track access agreement.

Recovery: Measures taken when necessary, once clearance is completed, for the purpose of preserving the railway undertaking's vehicles or property.

Requested train path: Requested need of transportation of passengers, goods or vehicle in the application for the train path.

Rescue: Actions performed by the State rescue services in accordance with the Civil Protection Act (2003:778).

Station: An area of the track demarcated from the line that can be monitored by dispatchers in more detail than is required for the line.

Subsystem: Part of the railway system which may be referred to any of the subsystem category referred to in Annex II to Directive 2008/57/EC of the European Parliament and of the Council of June 17th 2008 on the interoperability of the railway system within the European Community.

Supplemented established annual timetable: Established annual timetable updated with the applications that have been incorporated in the process Late path request.

Swedish Transport Administration's railway network: The state-owned railway infrastructure that is managed and administered by the Swedish Transport Administration.

Temporary capacity restrictions: Early planned measure that affects available capacity in the infrastructure. The restriction implies closed tracks or restrictions on speed, axle load, train lengths, traction or the free space for a limited time period.

Timetable: Plan indicating the train journey's designation, line, times and other necessary information.

Track access agreement: An agreement between the Swedish Transport Administration and a railway undertaking, or an entity that has the right to organise railway traffic, relating to the conditions and requirements for traffic on the Administration's railway network.

Traffic operator: The railway company that operates rail services for a traffic organiser.

Traffic organiser: Other persons or legal entities with a public-service or commercial interest in procuring for infrastructure capacity, but not to operate it.

Train cancelled at short notice: A train that is cancelled, in whole or in part, within 24 hours before the scheduled departure time from the departure station. The train must also be cancelled prior to the scheduled departure time from the first station on the cancelled route.

Train formation facilities: The collective term for the places where trains are formed, regardless of whether it is freight or passenger traffic. There are two types of train formation facilities: marshalling yards and other railway yards.

Train paths: The infrastructure capacity that, in accordance with what is specified in a timetable, may be utilised to operate railway vehicles, excluding work vehicles, from one location to another during a certain period of time.

Train route: Specific production solution of a train path, i.e. how a train path is intended to be produced.

Transport conditions: The specific conditions that apply to the transportation of exceptional loads.

Transport permit: Permit to transport exceptional loads with extensive conditions.

Other English terms that are used internationally can be found in the RNE's Network Statement Glossary, available at www.rne.eu.

Laws, regulations and legislative history

The following is a list of national laws, regulations and legislative history as well as EU regulations and EU directives to which this document refers. The legislation is being revised, which means that the listed acts may be amended or replaced. To reach all legal acts, please refer to riksdagen.se and eur-lex.europa.eu..

- Commission Implementing Regulation (EU) No 402/2013 of 30 April 2013 on the common safety method for risk evaluation and assessment and repealing Regulation (EC) No 352/2009. Text with EEA relevance.
- Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight. Text with EEA relevance.

- Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area. Text with EEA relevance.
- Regulation (EC) No 1371/2007 of the European Parliament and of the Council of 23 October 2007 on rail passengers' rights and obligations
- Commission Implementing Regulation (EU) 2017/2177 of 22 November 2017 on access to service facilities and rail-related services. Text with EEA relevance.
- Commission Implementing Regulation (EU) 2018/545 of 4 April 2018 establishing practical arrangements for the railway vehicle authorisation and railway vehicle type authorisation process pursuant to Directive (EU) 2016/797 of the European Parliament and of the Council. Text with EEA relevance.
- Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety. Text with EEA relevance.
- The Act (2015:338) on international railway traffic
- Uniform Rules concerning the Contract of International Carriage of Passengers by Rail (CIV) (Appendix A to COTIF)
- Uniform Rules concerning the Contract of International Carriage of Goods by Rail (CIM) (Appendix B to COTIF)
- Uniform Rules concerning the Contract of Use of Infrastructure in International Rail Traffic (CUI) (Appendix E to COTIF)
- The Government's Proposition 2017/18:62 for new railway traffic law
- The Swedish Railway Act (2004:519)
- The Railway Ordinance (2004:526) until and including. SFS 2020:38
- Public Access to Information and Secrecy Act (2009:400)
- The Swedish Act (2015:953) on the rights of public transport passengers
- The Act (2006:263) on carriage of dangerous goods
- The Ordinance (2006:311) on carriage of dangerous goods
- The Act (2011:725) on the certification of train drivers
- The Regulation (2011:728) of competence for train drivers
- The Electricity Act (1197:857)
- The Environmental Code (1998:808)
- The Swedish Transport Agency's regulations and general advice for access to railway infrastructure (TSFS 2017:99)
- The Swedish Transport Agency's regulations on other safety regulations for movements with railway vehicles and for work in the railway infrastructure (TSFS 2019: 51)

1 General Information

1.1 Introduction

The Swedish Transport Administration (Trafikverket) is an government authority that is accountable to the Swedish Government. The Ministry of Infrastructure is responsible for railway matters.

According to the ordinance with instruction for the Swedish Transport Administration, the authority is an infrastructure manager in accordance with the Swedish Railways Act (2004:519) for the railway network that belongs to the state. The Swedish Transport Administration is responsible for collective long-term infrastructure planning and for construction, operation and maintenance of State roads and railways.

When producing a network statement, during capacity allocation, collection of charges, and so on, the Swedish Transport Administration applies the law generally applicable to infrastructure managers. In addition to this, the Swedish Transport Administration has a special assignment to collect and compile information from all infrastructure managers and service providers, in order to describe the overall Swedish railway network.

The Swedish Transport Agency is the supervising authority for railway and therefore of the Swedish Transport Administration's infrastructure management.

1.2 Purpose of the Network Statement

Anybody intending to apply for capacity on the railway network that the Swedish Transport Administration manages shall get necessary information regarding the conditions to be met in the network statement.

The network statement presents the services that the Swedish Transport Administration offers, with information regarding where they are accessible, how the allocation of services functions, which charges apply, and the conditions that apply for gaining access to the services.

1.3 Legal aspects

1.3.1 Legal framework

Several EU regulations for railway operation have been implemented in Sweden via the Swedish Railway Act (2004:519). In accordance with this legislation, an infrastructure manager shall, amongst other things, produce and make a network statement public. This document constitutes the Swedish Transport Administration's network statement.

Swedish and international railway operation is not only regulated by national legislation but also some directly applicable EU legislation, for example the schedule for the allocation process is regulated by an EU regulation. In addition to this, the national regulatory authority's regulations apply, for example the Swedish Transport Agency's regulations and general advice for access to railway infrastructure (TSFS 2017:99).

Current regulations on national and international level is available at riksdagen.se, eurlex.europa.eu and transportstyrelsen.se.

1.3.2 Legal status and liability

The network statement is incorporated into the track access agreement, and regulates the contractual conditions between the parties in concluded agreements.

The Swedish Transport Administration is responsible for the information in the network statement in accordance with what is prescribed by law

1.3.2.1 General remarks

The Swedish Transport Administration publishes the network statement for the purpose of ensuring transparency, predictability and non-discriminatory access to the services that it provides. The statement is developed in consultation with involved parties and actors that have previously applied for capacity or registered their interest in participating. How to participate in the process is describes on [the Swedish Transport Administration's website](#).

1.3.3 Appeals procedure

As the supervisory agency, the Swedish Transport Agency may examine whether the Swedish Transport Administration's network statement has been produced in accordance with the applicable regulations.

1.4 Structure of the Network Statement

The Network Statement follows a document structure, which is shared by RailNetEurope so applicants can find the same information in the same place in all countries documents.

The structure of this network statement follows the "Network Statement Common Structure", adopted by European infrastructure managers belonging to RailNetEurope (see 1.7.2), on the basis of the applicable legal framework. The goal of this Common Structure is that all applicants and interested parties can find the same information at the same place in the network statement of other countries.

The Network Statement is thus structured in 8 Sections and its annexes:

- Chapter 1 gives general information about the Network Statement and contacts.
- Chapter 2 describes the main technical and functional characteristics of the railway network.
- Chapter 3 defines legal requirements and access proceedings to the railway network.
- Chapter 4 sets the procedure for the allocation of the train paths.
- Chapter 5 describes the train path services, charges and the technical and functional characteristics where the services are provided.
- Chapter 6 contains operational rules.
- Chapter 7 describes services (apart from the train path services), the service facilities and charges.
- Chapter 8 contains the Swedish Transport Administration's general terms and conditions.

1.5 Validity period, updating and publishing

1.5.1 Validity period

The information in the network statement relates to the time period for Annual Timetable 2023:

- From 11 December 2022 at 00.00
- To 9 December 2023 at 24.00

1.5.2 Updating

If a published network statement has to be changed, consultation shall be held in good time unless there is an acute safety reason, a change in the law or some other binding statute. If the deviation is to the advantage of the applicants/traffic operators, this can be notified without consultation. Anyone who wishes to participate in the consultations on changes to the Network Statement will be invited to do so by registering in the Swedish Transport Administration's registry, at <http://trafikverket.se/jnb>. The invitation is sent approximately one week before the consultation period starts. In the case of larger deviations, risk and impact analyses must be carried out. These will be communicated together with the amendment. Amendments are incorporated into the network statement on an ongoing basis and are published on the Swedish Transport Administration's website.

Annex 1 A - Contacts, is updated continually without the issuance of an amendment.

1.5.3 Publishing

The network statement, including amendments (deviation notifications), is published on the Swedish Transport Administration's website www.trafikverket.se/jnb. The regulations on safety that are to be found on the above website are the current versions of the regulations that are included in the general conditions of contract stipulated in the annexes to Section 3 of the Network Statement.

The network statement is published in Swedish and English. In the event of discrepancies between the Swedish and English version of the network statement, the Swedish text takes precedence.

The Swedish Transport Administration also publish the network statement on Rail Net Europe's Network and Corridor Portal, where other European infrastructure managers also publish their network statements, nci.rne.eu/.

The Swedish Transport Administration's website also publishes network statements produced by other Swedish infrastructure managers who request this. The Swedish Transport Administration is not responsible for the content matter in these statements.

The Swedish Transport Administration provides a compilation of such service providers of railway related services that shall establish a facility description. The compilation is available on Trafikverket.se and contains links to the service providers which have supplied information to the Swedish Transport Administration.

1.6 Contacts

See Annex 1 A, Contacts.

1.7 Cooperation between European IMs

1.7.1 Rail Freight Corridors

In accordance with Regulation (EU) No. 913/2010 concerning a European rail network for competitive freight, a rail freight corridor has been established from Stockholm/Oslo via Malmö-Trelleborg/Peberholm, Hamburg and Innsbruck to Palermo in Italy, called Scandinavian-Mediterranean Corridor.

The rail freight corridor is described in the Corridor Information Document, CID, which is updated annually.

For more information www.scanmedfreight.eu.

1.7.2 Corridor One-Stop Shop

There is a difference between ScanMed RFC Corridor One-stop-shop (C-OSS) and national One-stop-shop (OSS) referred to in Section 1.7.2.1. Each rail freight corridor has its own C-OSS, which is responsible for allocation of the corridors pre-arranged border-crossing train paths.

C-OSS provides for cross-border traffic in the corridor:

- pre-arranged train paths (PaPs)
- reserve capacity (RC) for ad hoc applications
- information on corridor

1.7.3 RailNetEurope

RailNetEurope (RNE) is an organisation consisting of a majority of the European railway Infrastructure Managers and Allocation Bodies (IMs/ABs), to facilitate international railway traffic. RNE is a non-profit organisation whose goal is to facilitate international traffic on the European railway network.

The task of RNE is to simplify, harmonise and optimise the international railway process, including capacity planning, traffic management and sales, as well as monitoring and reporting.

More information is available on RNE:s website.

1.7.4 National One-Stop Shop

A network of One-Stop Shops (OSS) represents the Infrastructure Managers in international traffic. An applicant that applies for international capacity only needs to contact one of these OSS, via an application in Path Coordination System. If the application is for a pre-arranged train path in ScanMed RFC requests are addressed directly to the C-OSS.

The OSS that is contacted works closely with the relevant infrastructure managers, and:

- offers the applicant support and information for the entire product and service chain of infrastructure managers
- offers information for the applicant to have access to the infrastructure of each individual infrastructure manager within RNE

- provides train services for the entire international path; application/coordination with other infrastructure managers is done via RNE's Path Coordination System.

A list of the OSS contact persons is available at: <http://www.rne.eu/organisation/oss-c-oss/>.

The Swedish Transport Administration's OSS can be reached via e-mail:

oss@trafikverket.se. See also Annex 1 A.

2 Infrastructure

2.1 Introduction

This chapter describes the Swedish Transport Administration's available infrastructure for Timetable 2023 and refers to the application process for the allocation of capacity for each service.

An outline of technical information is available in the form of maps in the network statement's map service on [the Swedish Transport Administration's website](#), called 'the map service' below. A link to the map service is available on the Swedish Transport Administration's website in connection to the current network statement. The map service does not show connection dates for new railway infrastructure. Any infrastructure taken into service or decommissioned during the year may thus be displayed in the map service as applicable for the whole year. In the event of contradictory information in the map service and network statement, the information in the network statement takes precedence.

Information in Annex 2 A and 2 E is retrieved from the Swedish Transport Administration's infrastructure register. The sheets in the appendices reflect the contents of the infrastructure register on the date shown in each sheet. Changes made after the specified date are reported in the sheet *Planned changes* in each annex.

Certain sections are given with the station name in brackets. In these cases, the relevant information applies only as far as the boundary of the station.

2.2 Extent of network

2.2.1 Limits

The Swedish Transport Administration's railway network including the limits where the railway borders with other countries' railway network is shown in the map service.

The Swedish Transport Administration's railway network is delimited by the following boundary points:

- Riksgränsen, km 1,542+573: Norway, infrastructure manager Bane Nor SF
- Haparanda, km 86+671: Finland, infrastructure manager Liikennevirasto
- Storlien, border, km 751+825: Norway infrastructure manager Bane Nor SF
- Charlottenberg, border, km 438+820: Norway, infrastructure manager Bane Nor SF
- Kornsjö, border, km 63+575: Norway, infrastructure manager Bane Nor SF
- Lernacken, km 281+810: Öresundsbron/Denmark, infrastructure manager Øresundsbro Konsortiet

2.2.2 Connecting railway networks

Major connected infrastructure:

- Inlandsbanan (administered by Inlandsbanan AB)
- Öresundsbron (administered by Øresundsbro Konsortiet)

- Arlandabanan (administered by A-train AB)

There are several connecting railway networks that are not described in the network statement, including municipal tracks, industrial tracks, heritage railways, harbour tracks, freight and intermodal terminals and other private railways within Sweden. In [the national railway database](#), which is available on the Swedish Transport Administration's website, you can get a complete picture of Sweden's railways and how they connect to each other.

2.3 Network description

The description of the railway network is presented on a general level, with the aid of the map service. Basic data for the map service is also presented in Annex 2 B. The current railway network are also shown at [NJDB on the web](#), which is available on the Swedish Transport Administration's website. Information about the railway network can also be downloaded from [Lastkajen](#), which is also available on the Swedish Transport Administration's website.

For more information about the division of line sections and routes, refer to TDOK 2015:0096. In NJDB on the web at the Swedish Transport Administration's website, you can see how the railway network is divided into line sections and routes.

2.3.1 Track typologies

Types of tracks such as single-track, double-track, multiple track or tracks under construction are presented on a general level in the map service.

2.3.2 Track gauges

The track gauge of the Swedish Transport Administration's railway network is 1,435 mm. In Haparanda the tracks numbered 21-26 have gauge, 1,524 mm. At the station Västervik there are connected narrow-gauge tracks at halt Jenny in direction to Verkeböck. The track gauge is 891 mm and the line is a three-rail-track along the normal main track in 4 km.

2.3.3 Stations and nodes

Detailed information about major operational points can be found in the basic data for [the route description](#) (*linjeboken*) section E, "Trafikplatsinstruktioner" is available on the web at the Swedish Transport Administration. It also contains descriptions of local traffic conditions for the operational points and simple track sketches. The operational points are searchable in the map service, which also can be used to measure the distances between points. Track lengths at operational points are presented in Annex 2 A.

2.3.4 Reference profile (loading gauge)

The reference profile defines the maximum height and width for railway vehicles and their loads.

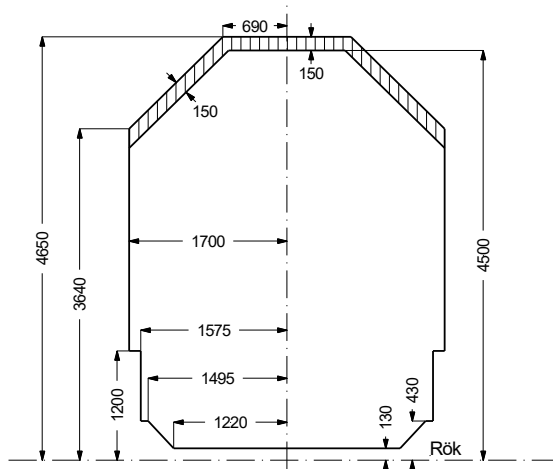
The entire railway network can be operated by vehicles that fulfil the requirements for dynamic reference profile SEa and static reference profile A.

The reference profiles measurement apply on certain specific conditions, and are linked to calculation rules for the determination of the maximum permitted load and vehicle size, refer to TDOK 2014:0143.

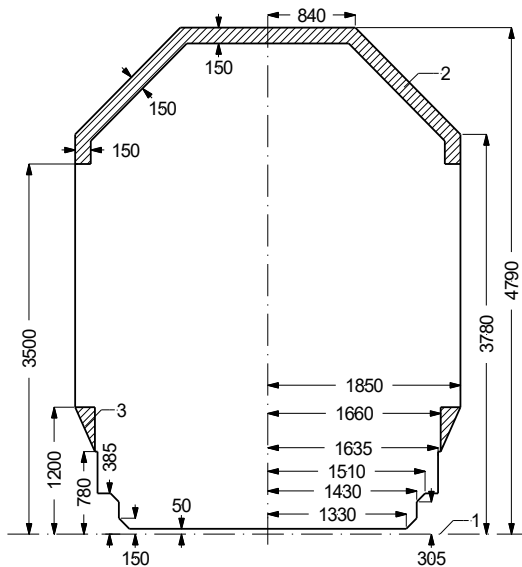
Dynamic reference profile SEc is an extended profile that is being implemented on new lines. **Reference profile SEc may only be shipped as an exceptional transports at certain lines at the moment**, see Section 5.4.2.

The European profiles G1, GA and GB as well as the national profiles G2 and NO1 fit into Swedish profiles SEa and A. The European profile GC fits into the Swedish profile SEc. See below.

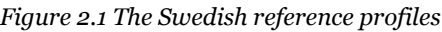
Static reference profile A



Dynamic reference profile SEa



Dynamic reference profile SEc



The carrying capacity of a railway line is specified by maximum load per axle (STAX, unit: tonne) and maximum weight per metre (STVM, unit: tonne/metre), taking into account the geometry of the vehicle, see TDOK 2014:0078. The division into line categories and categorisation of railway vehicles follows the European standard SS-EN 15528:2015.

The line categories are based on 4-axle and 6-axle reference carriages. Permitted axle load for 6-axle carriages is normally lower than for 4-axle carriages. The carriages shall meet the European standard, see SS-EN 15528:2015, see also Section 3.2.1 and Section 4.2.3 in TDOK 2014:0078.

Line category D2 (STAX 22.5 tonnes and/or STVM 6.4 tonnes/m) is most common in the Swedish Transport Administration's railway network.

2.3.6 Line gradients

9

2.3.7 Maximum line speed

Annex 2 C contains information about maximum permitted speed per line. The highest permitted speed per line describes the speed that applies for a certain section of the line, but this does not necessarily mean that the stated speed applies for the entire line.

For detailed information about speeds, refer to [the basic data in the route description \(linjeboken\)](#), section D, on the Swedish Transport Administration's website.

2.3.8 Maximum train length

Normal train length on the Swedish Transport Administration's network is 630 meters. The train lengths that are permitted for a specific line are determined in the process for allocation of capacity.

2.3.9 Power supply

A large part of the railway network is electrified. The map service indicates which lines are electrified. The trains receive their power supply through a catenary that produces a voltage of 15 kV, 16 2/3 Hz.

For detailed information on the preconditions that apply for achieving the quality and compatibility between electric railway vehicles and the power supply system, reference is made to:

- TDOK 2014:0774: Elektriska krav på fordon med avseende på kompatibilitet med Infrastrukturen och andra fordon (*Electrical requirements for vehicles with respect to compatibility with the infrastructure and other vehicles*).
- TDOK 2014:0775: Krav på strömvtagare och interaktionen mellan strömvtagaren och kontaktledningen. (*Requirements for pantographs and interaction between the pantograph and the catenary*).

In addition to these documents, any local restrictions that apply both on the line and at operational points in the input for the route description that is published on the Swedish Transport Administration's website <http://www.trafikverket.se/Linjeboken>.

2.3.10 Signalling systems

See the sections on the traffic control and communications systems below.

The map service shows where the various traffic control systems are used.

2.3.11 Traffic control systems

The traffic control system is designed to monitor the trains' movements on the railway network in real time and to take the necessary measures in the event of disruptions.

Main tracks

The traffic is monitored and controlled operatively by the train dispatcher, through the manoeuvring of track switches and signals at the operational points. The different types of traffic control systems provide different grades of technical support to the train dispatcher, and certain systems also contain technical protection for the traffic. There are traffic safety instructions for the different systems. These specify how traffic is to be operated in normal situations and in the event of disruptions.

The traffic control systems are described in TDOK 2015:0309.

2.3.12 Communication systems

The Swedish Transport Administration's radio system GSM-R follows European standards. The system has been specially adapted for the railway.

The map service shows which lines have access to the GSM-R network.

2.3.13 Train control systems

ATC system

The ATC system (Automatic Train Control) is currently the predominant standard of ATP (Automatic Train Protection) in Sweden. It is used on nearly all railways operating passenger traffic. The system monitors that the trains maintain the correct speeds and prevents trains from driving past stop signals if the train driver does not react accordingly. Train journeys that are undertaken on routes with ATC must in general have an active train protection system on-board. For further information see TDOK 2015:0309.

There are operational points which do not use ATC which are nevertheless a part of longer lines that do use ATC. These are Gävle godsbangård, Kil, Kisa, Luleå, Vetlanda, Vimmerby and Värnamo.

The map service shows which lines have access to ATC.

ETCS

ETCS (European Train Control System) is a European standard for ATP (Automatic Train Protection). The European Rail Traffic Management System (ERTMS) is comprised of ETCS together with GSM-R, Eurobalises and Radio Block Centres. The system monitors that the trains maintain the correct speeds and prevents trains from driving past stop signals if the train driver does not react accordingly. Train journeys that are undertaken on routes with ETCS must in general have an active ETCS train protection system on-board. For further information see TDOK 2015:0309.

Traffic operations on lines equipped with ERTMS require that the on-board system has undergone approved integration with the trackside system of the line.

- In order to operate on the Haparanda line, the Botnia line, and the Ådal line after upgrading the trackside systems of these lines to BL3.6, the on-board system must meet the requirements of BL3.4 (Specification set no. 2, ETCS Baseline 3, Maintenance Release 1 and GSM-R Baseline 1), or a higher version of the system.
- The first part of Malmbanan line (Gällivare–Råtsi) will be upgraded to ERTMS BL3R2 during June 2023.

On-board systems that meet the requirements of BL3.4 or higher can in general be used to operate traffic on lines with trackside systems that correspond to BL2.3.0d.

ETCS together with STM (Specific Transmission Module) replaces ATC equipment in the vehicles, and allows the vehicles to be operated throughout Swedish railway network, regardless of whether the infrastructure is constructed for ERTMS or the older ATC system.

In order to get access to necessary ERTMS cryptographic keys, each vehicles equipment for the train protection system ETCS must be connected to a KMC (Key Management Centre). KMC is responsible for key management for connected vehicle-based and trackside

equipment for ERTMS. KMC is also responsible for exchange of cryptographic keys for other KMC:s. For access to ERTMS cryptographic keys from the Swedish Transport Administration's KMC, the KMC which the vehicle-based equipment is connected to must have an agreement on cryptographic key management with the Swedish Transport Administration and demand cryptographic keys well in advance (3 months). For questions about cryptographic keys, contact the Swedish Transport Administration's KMC via kmc@trafikverket.se.

The map service shows which lines have access to ETCS.

2.3.14 Other technical facilities

Detectors

The Swedish Transport Administration has different types of stationary detectors for technical control of railway vehicles. Their primary purpose is to maintain safety, but also to protect the track against damage. In the event of an alarm, the Swedish Transport Administration has the right to take action in accordance with TDOK 2020:0074. The existence of detectors does not exempt railway undertakings from liability for damages.

The detectors are mainly intended for the monitoring of overheating and unintentional brake application, but there are also wheel damage detectors with weighing functions, as well as facilities for the monitoring of carbon contact strips and upward pressure on pantographs.

The Swedish Transport Administration has also installed RFID readers for passage detection of vehicles. The readers are partly located in connection with the detector systems in the railway network, and partly installed independently from these detector systems. The map service indicates where the detectors are located and the functions that they have. These data is also presented in Annex 2 C. See also Section 5.5.3.

2.4 Traffic restrictions

Temporary traffic restrictions may arise as a result of damage to the infrastructure, for example due to accidents, floods and landslip. Furthermore, restrictions on the weight of vehicles may be stipulated on certain lines as the result of external conditions, such as leaf slip. It is incumbent on railway undertakings to adapt the vehicle weight to the existing conditions, but the Swedish Transport Administration can always make decisions regarding general restrictions on the weight of vehicles for all railway undertakings within a particular geographical area when the restrictions of the railway undertakings themselves are deemed insufficient.

Traffic restrictions may also apply due to the nature of the infrastructure and the traffic.

2.4.1 Specialised infrastructure

2.4.1.1 Routes reserved for passenger traffic

The following routes are reserved for passenger traffic, in accordance with Chapter 6, Section 3 of the Swedish Railway Act:

- (Kattarp)–Helsingborgs central [Refer to the tunnel "Helsingborg"]
- (Helsingborgs godsbangård)–(Landskrona östra)

- (Kävlinge)–(Lunds central)
- Malmö central–Hyllie–(Lernacken/Svågertorp) [Refer to the Citytunnel.]

The following conditions apply for traffic on these lines:

- Excess loads are prohibited.
- The train combinations shall be composed in such a way that they can operate on these routes without problems caused by the gradient conditions.
- All railway vehicles shall fulfil the technical requirements that apply for each line (loading gauges/reference profile, traction power and braking capacity).

Re-routing of freight traffic via the reserved routes above requires written permission from the Transport Administration before the transport is carried out.

2.4.1.2 Routes reserved for commuter trains

The following routes is reserved for commuter train, in accordance with Chapter 6, Section 3 of the Swedish Railway Act:

- Citybanan and the inner tracks on the four-track routes Tomtebodavägen–Skavstaby/Huvudsta, Spånga–Kallhäll and Årstaberg¹–Flemmingsberg. Residual capacity on the four-track routes can be used by other train traffic.

The following conditions apply for traffic on this line:

- Excess loads are prohibited.
- The train combinations shall be composed in such a way that they can operate on these routes without problems caused by the gradient conditions.
- All railway vehicles shall fulfil the technical requirements that apply for each line (loading gauges/reference profile, traction power and braking capacity) and door configuration for train with passenger exchange at Stockholm Odenplan and Stockholm City, because the stations have separating glass walls with door lock between the platform and tracks.

Re-routing of freight traffic via the reserved route above requires written permission from the Swedish Transport Agency before the transport is carried out.

Alternative routes for freight traffic:

- Freight traffic between Helsingborgs godsbangård and Landskrona östra is operated via the Rååbanan to Teckomatorp, Godsstråket genom Skåne to Kävlinge and further on by Väst kustbanan to Landskrona östra. (see also the scheme below).
- Freight traffic between (Ängelholm) and Helsingborgs godsbangård is operated via Skånebanan, the route Kattarp–Åstorp–Helsingborgs godsbangård. Long distance traffic operates via Godsstråket genom Skåne and further on by Skånebanan to Helsingborgs godsbangård. (see also the scheme below).
- Alternative to the route (Kävlinge) – (Lunds central) include Godsstråket i Skåne (the route Ängelholm–Åstorp–Teckomatorp–Kävlinge–Arlövs industriell spår) and Södra stambanan, or in exceptional cases via Rååbanan–Skånebanan and Södra stambanan. (see also the scheme below).

¹ The route Stockholms södra–Årstaberg via Nya Årstabron (track U2, N2).

- Alternative to the route Malmö central–Hyllie–(Lernacken/Svågertorp) comprises Malmö godsbangård–via Fosiëby to Öresundsbron or in direction to Ystad/Trelleborg.
- Alternative to the route (Stockholm södra)–(Tomtebodavästra) via Citybanan comprises (Stockholm södra)–(Tomtebodavästra) via Stockholm central.

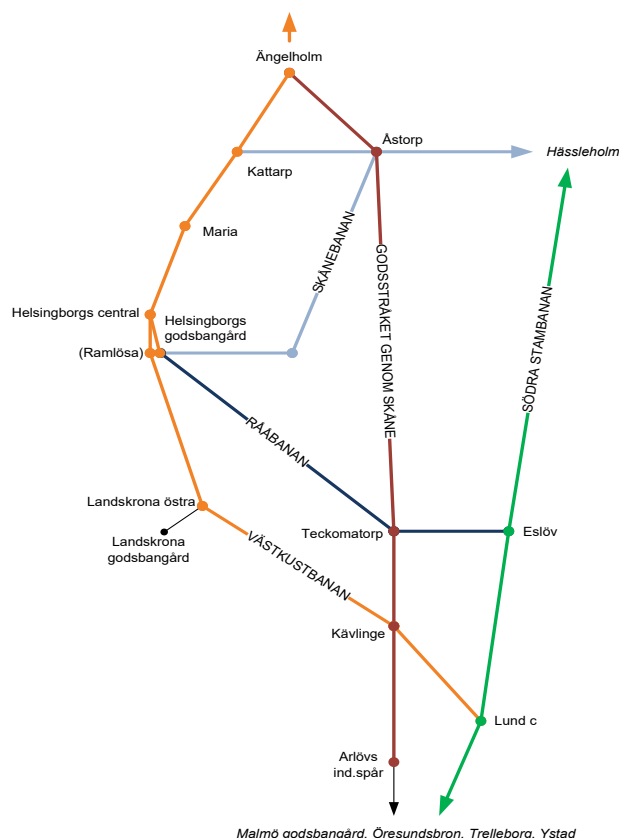


Figure 2.2 Sketch Alternative lines.

2.4.1.3 Railway lines where special condition apply

Line/route where a decision of “discontinued maintenance” has been taken

The Swedish Transport Administration may, in accordance with the Railway Ordinance (2004:526), decide to cease maintenance on parts of the railway network owned and managed by the state when “the traffic on this part of the network is of only insignificant extent”. See the table below.

Line sections	Route where maintenance has been discontinued
136 (Morjärv)–Karungi–(Haparanda)	(Morjärv)–Karungi–(Haparanda)
236 (Vallvik)–Stugsund	(Sandarne)–Stugsund
251 (Bollnäs)–Edsbyn–(Furudal)	(Bollnäs)–Edsbyn–(Furudal)
313 Avesta Krylbo–(Frövi)	(Sällinge)–Rockhammar
361 (Mora)–Vika	(Lomsmyren)–Vika
371 (Mora)–Märbäck	(Blyberg)–Märbäck
623 (Munkedal)–Lysekil	(Munkedal)–Lysekil
742 Smålands Burseryd–(Landeryd)	Smålands Burseryd–(Landeryd)
751 (Värnamo)–Helmershus	(Värnamo)–Helmershus
872 (Vetlanda)–Jämforsen/Pauliström	(Kvillsfors)–Jämforsen
964 (Östervärn)–Brågårp	(Östervärn)–Brågårp

Table 2.1

The Swedish Transport Administration may, in accordance with the Railway Ordinance (2004:526), decide that a part of the railway network owned and managed by the state shall be closed down if it was either at least three years since the decision to cease maintenance (Chapter 6, Section 6) or if the part of the railway network that is closed is replaced elsewhere in the state railway network (Chapter 6, Section 6 a).

Line sections and routes sensitive to increases in traffic

Due to the track standard on these routes, the Swedish Transport Administration may assess applications that entail a comprehensive increase in the amount of traffic.

Line section	Affected section	Comments
149 (Mellansel) - (Örnsköldsvik)		
152 (Hällnäs) - (Storuman)		
153 (Forsmo) - (Höting)		
340 (Fagersta) - (Ludvika)		
344 (Ängelsberg) - (Snyten)		
361 (Mora) - Lomsmyren		
364 (Kristinehamn) - (Nykroppa), (Daglösen) - Filipstad		
371 (Mora) - Blyberg		
376 (Repbäcken) - Malung		
391 (Grängesberg) - (Ställdalen) - (Frövi)	"Silverhögsspåret" (Grängesberg) - (Ställdalen)	
393 Bofors - (Strömtorp)		
435 (Örbyhus) - Hallstavik		
452 (Folkesta) - (Nybybruk)		
453 Åkers styckebruk - (Grundbro)		
552 (Gårdsjö) - (Håkantorps)		
563 (Kimstad) - Finspång		
591 (Kumla) - Närke Kvantorp		
621 (Uddevalla) - Strömstad		
661 (Kil) - Torsby		
662 (Mellerud) - Billingsfors		
666 (Alvhem) - Lilla edet		
731 (Jönköping gbg) - (Vaggeryd)		
732 (Nässjö) - (Värnamo) - (Landeryd)	(Värnamo) - (Landeryd)	
733 Landeryd - (Furet)	Landeryd - (Torup)	
735 (Torup) - Hyltebruk		
829 (Nässjö C) - Vetlanda		
831 (Nässjö C) - (Hultsfred)	(Eksjö) - (Hultsfred)	
832 Hultsfred - Berga		
833 (Berga) - Oskarshamn		
841 (Bjärka-Säby) - (Hultsfred)		
843 (Linköping) - Bjärka-Säby		Remedied during annual timetable 2023
845 (Bjärka-Säby) - Västervik		
872 (Vetlanda) - Kvillefors		
873 (Kvillefors) - (Paulström)		
875 (Blomstermåla) - (Berga)		
876 (Kalmar S) - Blomstermåla		
877 (Mönsterås bruk) - Mönsterås - (Blomstermåla)		
952 (Kristianstad) - Åhus		

Table 2.2

Conditions to operate on a line/route where maintenance has been discontinued or on a line/route with special conditions

If applications regarding capacity are received for routes that are not in use, or where maintenance has been discontinued, the Transport Administration performs an inspection to ascertain the standard of the line and then notifies the applicant of the traffic conditions and any restrictions that will apply, if a decision is made to prepare the line for traffic.

The Swedish Transport Administration's inspection may, however, show that the line is in such a poor state of repair that the possibility of operating services on it cannot be considered. The Transport Administration will in such case not allocate any capacity to the route in question. In the inspection, consideration will also be given to whether or not, on the basis of a socio-economic assessment, it is possible to put the section into operation with respect to any need for maintenance before operations commence.

Line section/route with special conditions for traffic operations

Below are the routes that are severely limited in terms of load per axle and speed. This can apply during the whole year, or certain parts of the year. The routes that, pursuant to the Network Statement validity period, are closed to traffic due to extensive renovation are also described here.

Line section	Route with special conditions
552 Mariestad–Håkantorp	(Mariestad)–(Lugnås), (Tromlen)–Källby, (Lidköping)–(Håkantorp)

Table 2.3

Line section 552 Mariestad–Håkantorp

On the routes (Mariestad)–(Lugnås), km 40+800 – 50+193; (Tromlen)–Källby, km 75+400 – 84+584 and (Lidköping)–(Håkantorp), km 95+210 – 120+424, the speed has been reduced to 80 km/h.

2.4.2 Environmental restrictions

On the following lines there are special conditions regarding noise (see the judgement from the Land and Environment Court of Appeal with journal number 2016-07-08, M11100-14)

- Östervärn–Fosieby–Lockarp–(Kontinentalbanan).

Diesel traffic has been judged by the Swedish Transport Administration (formerly the Swedish Rail Administration) to give rise to particularly affecting noise. Such traffic may be permitted in certain cases, but an application for permission is required on every single occasion and the Swedish Transport Administration examines whether the traffic in question can be permitted with consideration for the environmental judgement.

2.4.3 Dangerous goods

For transportation of dangerous goods, provisions apply in accordance with Section 3.4.4. The following routes are not allowed to be used to transport dangerous goods:

- (Maria) - Helsingborg C
- (Helsingborgs godsbangård) – (Landskrona östra)
- Malmö C – Hyllie – (Lernacken/Svågertorp)
- (Stockholms södra) – Stockholm City – (Tomtebodavägen)

In exceptional cases, an exemption may be granted for the occasional transport of dangerous goods, if there would be an inevitable need for such transportation.

For the above locations, there are alternative railway infrastructures for freight traffic with dangerous goods, see Section 2.4.1.

2.4.4 Tunnel restrictions

Citybanan (Stockholms södra–Tomtebodavägen via Stockholm City) is designed solely for passenger trains. Freight trains, regardless of type, may only be operated subject to a decision on dispensation.

Besides the tunnel restrictions mentioned in Sections 2.4.1 and 2.4.3, the following applies:

The following tunnels are only to be used by vehicles according to TSD SRT, by date (EC certificate of verification):

- Line section 405 Stockholms norra, Norra stationstunneln – 2018-10-11
- Line section 405 Värtan, Ruddammstunneln – 2018-04-16
- Line section 434 (Uppsala C)–(Samnan), tunnel Gamla Uppsala – 2017-04-26
- Line section 451 Strängnäs–(Härad) track 1 USP, tunnel Nya Strängnästunneln – 2018-06-26
- Line section 603 Göteborg Lindholmen track 1, tunnel Krokängstunneln – 2023-10-02

2.4.5 Bridge restrictions

Train traffic generally has priority over shipment with regard to movable bridges. The Swedish Transport Administration intends to coordinate its timetables with those of marine vessels as far as possible, in accordance with applicable agreements.

2.5 Availability of the infrastructure

The availability of the infrastructure is affected by the Swedish Transport Administration's needs for access to the railway facility in order to maintain and further develop it. Rules for this are described in Section 4.3 and Annex 2 E.

On parts of the railway network there is an increased risk of permanent reductions in speed or axle load. These parts are presented in Annex 2 E.

2.6 Infrastructure development

In order to see what sort of development is planned for the infrastructure, reference is made to the following documents:

- National Plan for Transport 2018–2029. Also the county plans comprising different forms of traffic for regional transport infrastructure (the county transport plans) for 2018–2029 may contain measures for the railway system. New twelve-year plans for the transport infrastructure are adopted every four years, and there will be a new plan for the annual timetable 2023. For more information, see the Swedish Transport Administration's website <https://www.trafikverket.se/for-dig-i-branschen/Planera-och-utreda/langsiktig-planering-av-infrastruktur/nationell-plan/>
- The Swedish Transport Administration's [implementation plan](#) of investments and reinvestments, which comprises the next six years and is updated annually.

- Implementation Plan of ERTMS in Sweden (TRV 2015/63202). For more information about the forecast for ERTMS implementation at operational points, see [the Swedish Transport Administration's website](#).

The feasibility of these initiatives is dependent on the financial resources allocated to the Swedish Transport Administration in the annual budget decision from the Swedish Parliament.

Information about major changes leading to a changed function in the infrastructure during the validity period of the Network Statement is presented on [the Swedish Transport Administration's website](#).

3 Access Conditions

3.1 Introduction

This chapter explains the terms and conditions that apply for access to the Swedish Transport Administration's services, and for train operation on its railway network. The terms and conditions are stipulated by statutes as well as agreements with the Transport Administration.

A railway undertaking, or other applicant, may refer disputes to the Swedish Transport Agency concerning whether or not the Swedish Transport Administration's decision under the Swedish Railway Act is in accordance with Chapters 5, 6 and 7 of the Swedish Railway Act or regulations issued related to these chapters.

3.2 General access requirements

The Swedish Transport Administration's range of services is directed at railway undertakings and other applicants.

If some form of permit is required to apply for the use of a service, the requirement must be fulfilled by the last day of the application period.

For information concerning last date for application for capacity and transport permits, see Sections 4.2 and 4.5.3, and figure 4.2.

3.2.1 Conditions for applying for capacity

An entity that has the right, in accordance with the Swedish Railway Act, to organise or operate railway traffic, may apply for a train path. The Act stipulates the requirement of a permit for operate railway traffic, see Section 3.2.3.

3.2.2 Conditions for access to the railway infrastructure

A railway undertaking that has its registered office within the EEA or in Switzerland has the right to operate freight traffic and passenger traffic on the Swedish railway network, including the Swedish Transport Administration's railway network. Other persons or legal entities who has its residence or registered office within the EEA or in Switzerland, with a public-service or commercial interest in infrastructure capacity and meets the requirements of the Swedish Transport Administration with the support of Chapter 6 Section 5a of the Swedish Railway Act, has the right to organise railway traffic on the Swedish Transport Administration's railway network.

With regard to passenger traffic, the Government may issue regulations regarding limitations of the right to pick up and drop off passengers on the line between Stockholm central and Arlanda airport. This type of limitation, however, may not apply to international passenger traffic.

The Government may issues regulations regarding who may operate or organize traffic on the rail infrastructure that is only intended to be used for urban or suburban traffic.

The Government also issues regulations regarding who has the right to organise or operate traffic on the Swedish Transport Administration's railway network, in addition to what is specified by the information in this section of the network statement.

3.2.3 Licences

For companies wishing to operate traffic on the Swedish railway infrastructure, a permit is required in the form of:

- a licence (if traffic on the European Union's railway network) and a single safety certificate, or
- national safety permit

Safety certificate part A and part B cannot be applied for after 31 October 2020. Safety certificates issued before 31 October 2020 will be valid until the certificates' validity expires.

3.2.3.1 *License*

Railway undertakings that have their registered office or residence in Sweden apply for license at the Swedish Transport Agency.

The processing of applications includes an examination of professional expertise, financial stability and a company's reputation in terms of these operations, as well as checks to ensure the company is able to cover, through insurance or other equivalent protection, the liability to pay damages that may arise as a result of the railway traffic. Licences or other corresponding permit issued in a state within the EEA or in Switzerland are valid in Sweden.

3.2.3.2 *National safety permit*

A national safety permit can be granted to railway undertakings that have their registered office or residence and that intend only to operate within Sweden:

- passenger or museum traffic on local or regional independent railway infrastructure, or
- freight traffic on railway network that are not managed by the state and only used by the owner or the infrastructure manager for the transport of their own goods

The application is made to the Swedish Transport Agency

3.2.3.3 *Review of permit*

A permit holder is obligated to report to the Swedish Transport Agency changes in its operations that may lead to a review of the permit or the terms and conditions.

3.2.3.4 *Revoking a permit*

The Swedish Transport Agency may decide to revoke a permit if:

- the conditions for the permit are no longer fulfilled
- the railway undertaking does not fulfil its obligations in accordance with the railway legislation, regulations or decisions issued in connection with legislation and other national rules, or
- the railway undertaking does not fulfil its obligations under such directly applicable EU acts as have been issued pursuant to Directive (EU) 2016/798

- the permit holder does not use a licence during a minimum six month period, in accordance with Chapter 3, Section 2 of the Swedish Railway Act, or during a minimum one year period does not use another permit, in accordance with Chapter 3 of the Swedish Railway Act.

3.2.3.5 *Safety management system*

Railway undertakings shall have a safety management system. Such a system consists of the organisation set up and the measures and procedures established to ensure safe operation. The safety management system must be documented.

The safety management system must be designed so that the railway undertaking can handle the risks that the operation may give rise to. In the safety management system, the risks that arise in connection with activities conducted by others must also be taken into account.

3.2.4 Single safety certificate

To carry out traffic on the European Union's rail network, the railway undertaking must have a single safety certificate.

The application for a single safety certificate must be submitted to the One Stop Shop (OSS). If the application refers to traffic in more countries than Sweden, the European Union Agency for Railways (ERA) will handle the matter.

If the railway undertaking is only to operate in Sweden, a safety certificate is issued by either the supervisory authority or the ERA. In such a case, the applicant chooses which of the instances is to examine the application. In other cases, the safety certificate is issued by the ERA.

3.2.5 Liability and insurance

The matter of which provisions are most important for the railway sector as such is addressed in Section 1.3.1. However, an entity that manages operations by organising or operating traffic on the railway network must abide by additional regulatory frameworks simultaneously. These regulatory frameworks entail responsibility and obligations, such as the rules associated with labour legislation and the provisions of environment and health protection legislation. The rules of criminal law also apply to the performance of operations, and the general rules for order and safety.

Which statutes are applicable is determined by the nature, scope and form of the operations. The statutes are available at <http://www.lagrummet.se>.

In addition to the generally applicable rules, special provisions concerning liability also apply for the railway and its actors:

- The rules that apply for the transportation of dangerous goods are the Act on carriage of dangerous goods (2006:263), the Ordinance on carriage of dangerous goods (2006:311), and the regulations issued with the support of these statutes.
- The Rail Traffic Act (2018:181) contains provisions on transport of passengers and goods by rail and agreements on the use of carriages and infrastructure in rail traffic. The provisions apply to both national and international traffic. By the act tort rules in the Convention concerning International Carriage by Rail (COTIF), as modified by the Protocol for the modification of 3 June 1999, also apply to national traffic. The Act introduces provision on liability for the infrastructure

manager regarding financial damage caused to the carrier as a result of its liability regarding delays under Regulation (EC) No 1371/2007 of the European Parliament and of the Council of 23 October 2007 on rail passengers' rights and obligations and Swedish Act (2015:953) on the rights of public transport passengers. Because of its status as a special law, the Railway Traffic Act has precedence over general rules concerning liability to pay damages. However, certain other acts are also simultaneously applicable to railway operations, including the Electricity Act (1997:857) and the Environmental Code (1998:808).

Provisions concerning liability are also specified in the agreement to be concluded with the Swedish Transport Administration in connection with the allocation of a train path, see Section 3.3.2 and 3.3.3. In addition to regulating which provisions concerning liability shall apply between the parties, the agreement also regulates which of the parties is liable to third parties. With the support of the track access agreement, either party has the right of regress against the other, subject to certain conditions, in respect of claims made by third parties.

3.2.5.1 Insurance

A requirement for a licence to be granted is insurance or equivalent that covers the liability to pay damages that may arise as a result of the railway operations. The requirements may be modified according to the operations. In the licence, the supervisory agency shall specify how requirements are adapted and the activities for which the licence applies. If the railway undertaking does not have a license, the same requirements for insurance or equivalent applies for railway undertakings with single safety certificate.

Also for railway undertakings with national safety permit, the same requirements apply for insurance or equivalent that covers the liability to pay damages that may arise as a result of the railway operations. The supervisory agency may also adapt the requirements according to the nature and scope of the operations.

The insurance issued is examined by the Swedish Transport Agency in conjunction with the granting of a permit for railway undertakings, and is monitored via the Swedish Transport Agency supervision.

3.3 Contractual agreements

3.3.1 Framework agreements

A framework agreement is an agreement regarding the use of infrastructure that relates to a longer period than an annual timetable. Infrastructure Managers can, in accordance with the Swedish Railway Act, conclude these types of agreements with railway undertakings or traffic organisers. Framework agreements cannot be enforced upon another applicant to the extent that the agreement specifies particular train paths or if the agreement is otherwise formulated so that it denies other applicants the right to use the infrastructure.

The Swedish Transport Administration currently does not enter any framework agreements.

3.3.2 Track access agreements with railway undertakings

In conjunction with the allocation of a train path, the Swedish Transport Administration and railway undertaking shall conclude the necessary administrative, technical and financial agreements for use of the train path. It is only after the Swedish Transport Administration and the railway undertaking have signed track access agreements that the railway

undertaking is given the right to use allocated train paths. Railway traffic may not be operated before a track access agreement has been concluded, and in case the track access agreements terminates prematurely the railway undertaking also loses the right to use the allocated train paths. The agreement must be signed in connection with the allocation, which means no later than 10 working days after:

- allocation in established annual timetable
- allocation in supplemented established annual timetable for applicants who have not already signed a track access agreement for the year, or
- allocation in the ad hoc process for applicants who have not already signed a Track Access Agreement for the year.

The track access agreement specifies the conditions for the traffic, as well as which of the Swedish Transport Administration's governance documents the contracting party must follow. The terms and conditions also contain rules about the parties' responsibilities, operational management with delay charges, consultation and information exchange.

The terms and conditions in a track access agreement do not need to be approved by bodies other than the contracting parties in order to be valid. In the event of disagreement concerning the terms and conditions in a track access agreement, however, the Swedish Transport Agency may, upon request of one of the parties, establish the terms and conditions for the traffic in question, to the extent necessary for the terms and conditions to fulfil the provisions of the railway legislation. The Swedish Transport Agency decision may be appealed to the Administrative Court in Falun.

Those services that are not regulated by the track access agreement require a special agreement.

In cases where a railway undertaking or a traffic organiser feel they need to be exempt from a rule in the Network Statement, a written application must be submitted to the Swedish Transport Administration. When the application is received, the Swedish Transport Administration assesses its complexity and notifies the applicant of the estimated processing time for the case. The basis for a decision in such a case includes an assessment of the safety risks, the environmental impact and the capacity impact that may occur if the Swedish Transport Administration grants the exemption. The applicant must therefore count on a relatively long processing time in some cases.

For international train traffic, there is a model agreement that has been developed by the association RailNetEurope. It can be used in parts as a basis for drawing up track access agreements for international traffic.

[Templates for track access agreements](#) can be found on the Swedish Transport Administration's website.

3.3.3 Track Access Agreements with non-railway undertakings

The Swedish Transport Administration signs traffic organiser agreement with applicants other than railway undertakings. Such an agreement provides the traffic organiser with the right of disposition over allocated infrastructure capacity, but involves limited responsibility for damage in connection with the use of train paths.

Traffic organiser agreements require a traffic agreement between the Transport Administration and the railway company that the traffic organiser engages to utilise the allocated capacity.

[Templates for track access agreements.](#)

3.3.4 General terms and conditions

The Swedish Transport Administration's general business terms and conditions are regulated by the Administration's track access agreement, see chapter 8.

Documents submitted to the Transport Administration are classed as official documents. The principal rule is that these are public. The Transport Administration may apply confidentiality to information contained in documentation if there are specific reasons to assume that the individual will incur damages if the information is revealed. For example, an entity that applies for capacity. In accordance with the Public Access to Information and Secrecy Act (2009:400), the Transport Administration may not, without further notice, publish or utilise information that the applicant provided regarding their business and operational affairs in connection with the application. The applicant should therefore specify in the application which information should be regarded as business and operational affairs, and why this information should be subject to confidentiality. If somebody requests a document, the Transport Administration makes the decision as to whether the document may be released or if it shall be subject to confidentiality. The applicant's understanding is therefore not decisive, but it may be significant for the assessment of confidentiality.

The Swedish Transport Administration applies delay charges to operational management. The aim is to prevent disruptions in the railway system. The delay charge is a charge paid by a party in the event of deviations caused by them through use of the infrastructure established in the timetable and the track access agreement. The more detailed terms and conditions for operational management with delay charges appear in Chapters 5 and 6, and in the General Terms and Conditions.

3.4 Specific access requirements

Traffic on the Swedish Transport Administration's infrastructure must be operated in accordance with the regulations set out in Annex 3 B

Railway undertakings must have the necessary supplementary provisions in their traffic safety instructions, in accordance with the Swedish Transport Agency's regulations (TSFS 2019:51).

Additional information is available on the Swedish Transport Agency website <http://transportstyrelsen.se>.

3.4.1 Rolling stock acceptance

From 31 October 2020, the approval process described in EU Regulation 2018/545 on practical arrangements for railway vehicle authorisation shall be applied. In order for railway vehicle to be put into service it is necessary that they are approved. This also applies to modifications which affect safety.

There are exceptions to the requirement for approval. Policy documents for vehicle approval area are available on the Swedish Transport Agency's website transportstyrelsen.se.

3.4.1.1 *Communication system GSM-R*

GSM-R vehicle equipment that fulfils the requirements in TSI "Traffic Control Command and Signalling" as well as the EIRINE² specifications must be installed in all vehicles where communication with the Transport Administration's traffic centre is essential.

The process of accessing the Swedish Transport Administrations GSM-R-network is described in Section 5.5.1.

For protection of CAB-radio and EDOR (ETCS Data Only Radio):

- For CAB-radio
 - o The Swedish Transport Administration requires that protection for the CAB-radio's radio module is installed in the vehicles in accordance with:

Fulfil at least the protection requirements that are stipulated in ETSI specification TS 102 933-1 V2.1.1 (2015-06) for radio modules in CAB-radio by an improved radio module, external protective filter or other combination of these.

Without the above described protection for CAB-radio on-board, a vehicle is not allowed to operate on the Swedish railway system.

- For EDOR
 - o The Swedish Transport Administration recommends that protection for radio module EDOR is installed in accordance with:

Protection in accordance with document GSM-R Terminal filter Technical Specification (TRV 2014/71742), "Type 1 Passive downlink and uplink band pass filter".

For vehicles with GSM-R equipment (EDOR) that do not meet the above recommended protection requirements, the railway undertaking must handle risks in accordance with CSM-RA which shows how it has managed the common traffic safety risks that are identified in the risk analysis (TRV 2015/9709). The risk management must fulfil requirements in accordance with Implementation Ordinance (EU) No 402/2013. CSM-RA must be submitted at the same time as the application for capacity is made or at a later point in time that is determined by agreement with the Swedish Transport Administration.

With the CSM-RA as the basic starting point, the Swedish Transport Administration will make an assessment of the extent to which it is justifiable to make restrictions on the operation of the vehicle in question. If it is not made clear that the risks can be fully managed, the Swedish Transport Administration will for the track access agreement make demands for restrictions, which could, for instance, concern geographical restrictions for the use of the vehicle, restrictions concerning the operating speed, etc. The document GSM-R Terminal filter Technical Specification (TRV 2014/71742) and Risk analysis (TRV 2015/9709) is available on the Swedish Transport Administration's website.

² EIRENE – European Integrated Railway Radio Enhanced Network

3.4.2 Staff acceptance

For personnel who are to drive vehicles on the Swedish Transport Administration's track system, certain requirements must be fulfilled, as specified in the Swedish Railway Act (2004:519), the Railway Ordinance (2004:526), the Act on the certification of train drivers (2011:725), the regulation of competence for train drivers (2011:728), and regulations that apply with the support of these statutes.

The railway undertakings' fulfilment of these requirements is reviewed through the Swedish Transport Agency's permit examination, including the railway undertaking's provisions concerning training and certification requirements, health requirements and medical examinations for personnel with duties of importance to traffic safety.

It is the railway undertaking's responsibility to ensure that the provisions and conditions which determine whether or not a permit is granted are observed.

For access to a railway yard with increased safety, an ID06 authorisation card and training in emergency status plans, among other things, are required, see TDOK 2013:0657.

Personnel who do not perform duties of importance to traffic safety, but who must work line side, shall be trained in and follow the Swedish Transport Administration's rules for working environment and safety for railway undertakings when performing activities line side, in accordance with the General Terms and Conditions.

3.4.3 Exceptional transport

An exceptional transport is a transport that deviates from the requirements or prerequisites specified in Chapter 2. These types of transports may be transported on the condition that the Swedish Transport Administration has issued transport conditions that describe the prerequisites and, where applicable, transport permit. See Section 5.4.2.

For information about the last date for applications relating to capacity and transport permits, see Section 4.5 and diagram 4.2.

3.4.4 Dangerous goods

What is meant by dangerous goods, and the rules that apply for transportation on the railway are specified by:

- the Act on carriage of dangerous goods (2006:263),
- the Ordinance on carriage of dangerous goods (2006:311),
- The regulations of the Swedish Civil Contingencies Agency, (RID-S), concerning the transportation of dangerous goods, [msb.se](https://www.msb.se)

Prior to the commencement of the journey, railway undertakings that intend to transport dangerous goods shall report this to the Swedish Transport Administration, see Annex 6 A. The Swedish Transport Agency is the supervising agency of transportations of dangerous goods on the railway. See also Section 4.7.

Railway undertakings shall on request provide information, in accordance with the Swedish Civil Contingencies Agency's regulations, about the dangerous goods geographical location. If necessary the railway undertaking is contacted via the emergency number used in case of an accident. For contact in case of an accident, see Annex 8 A, Section 1.3.

At blocked line operation and shunting, UN-number shall be provided if requested in case of an accident or pollution.

3.4.5 Test run

A test run is an inspection of vehicles or vehicle combinations and/or track systems. The inspection requires temporary changes to the infrastructure's technical operation and/or that the infrastructure is used in a way that differs from the ordinary routines.

In order to perform a test run with a vehicle, the approval of the Swedish Transport Agency is required for temporary use of the vehicle or vehicle combination. A valid train path adjusted to the test run is also required. The test run shall be performed in accordance with the conditions established by the Transport Administration, see Section 5.5.4.1.

3.5 Operating restrictions

Operating restrictions relate to the Swedish Transport Administration's general restrictions concerning how vehicles may be used, including restrictions on axle load, weight per metre and speed.

3.6 Requirement for ETCS equipment

For routes and operational points equipped with ERTMS, the vehicles that are to perform the operations are required to have the ETCS train protection system, which must be used in accordance with the traffic rules during the test run within the traffic system. The routes that are equipped with the ERTMS level 2 (E2) and ERTMS level 3 (E3) traffic systems are shown in the map service.

3.6.1 Requirements for ERTMS cryptographic keys

In order to operate vehicles with the train protection system ETCS on the sections and operational points equipped with ERTMS, access is required to valid ERTMS cryptographic keys. These keys must be installed in the vehicles train protection system.

The railway undertakings/traffic operators are responsible for ensuring that vehicles used for each individual train path have the necessary and valid ERTMS cryptographic keys for the relevant ETCS-equipped sections.

If the ERTMS cryptographic key for use in the infrastructure managed by the Swedish Transport Administration is suspected to have been exposed, the railway undertaking/traffic operator must immediately notify the Swedish Transport Administration via email at kmc@trafikverket.se. The message must state the ETCS ID on the relevant on-board equipment.

4 Capacity Allocation

4.1 Introduction

In this chapter, the Swedish Transport Administration's process for allocation of capacity for train paths and for services as well as engineering works is described. "Allocation of services" refers to services, in accordance with Sections 5.3 and 7.3.

4.2 General description of the process

Path Coordination System (PCS) is an international path request coordination system for Railway Undertakings (RUs) and other Applicants, Infrastructure Managers (IMs), Allocation Bodies (ABs) and Rail Freight Corridors (RFCs). The internet-based application optimises international path coordination by ensuring that path requests and offers are harmonised by all involved parties. Furthermore, PCS is the only tool for publishing the binding PaP and RC offer and for managing international path requests on RFCs. Access to PCS is free of charge. All international traffic shall be applied for via PCS.

A user account can be requested via the RNE PCS Support: support.pcs@rne.eu. More information can be found on <http://pcs.rne.eu/>.

More information and requirements for international train path applications is available on the Swedish Transport Administration's website.

Due to the introduction of TAF/TAP, a Company code is required. Application and allocation is free of charge at the following link <https://uic.org/support-activities/it/rics>.

If an application applies to capacity on more than one infrastructure manager's railway network, it is sufficient to submit an application to just one of the managers. This manager then coordinates the application with the other concerned infrastructure managers for national traffic.

The process is divided into:

- Allocation process that produces an annual timetable for the period 2022-12-11 – 2023-12-09. The process is divided in two phases: Phase 1 includes applications for capacity for train paths and services received before the last date for application and allocated capacity in the established annual timetable. Phase 2 complements the established annual timetable with applications received as additional applications and results in a supplemented established annual timetable. Capacity that has been allocated to an applicant in the established annual timetable may only be coordinated and adjusted in Phase 2 if the applicant consents thereto.
- Process for revision of the annual timetable, see Section 4.8.2.1.
- Ad hoc process for updating the supplemented established timetable for new capacity requirements (e.g., the adjustment of allocated capacity or entirely new requirements).
- Successive planning – based on the allocated train path in the annual timetable, the supplemented established annual timetable, and ad hoc, the Swedish Transport Administration has the possibility to continuously adjust and optimise train routes for the train path up to five days before the train departs or, when needs arise due

to late changes, no later than 24 hours before the train departs. The Swedish Transport Administration does not optimise and adjust agreed times and locations. When publishing the production plan, however, the times and locations for a train are locked along the entire route and the operational train number, OTN, is distributed.

4.2.1 Capacity prerequisites

4.2.1.1 *Pre-arranged train paths for international corridors*

No later than eleven months before traffic commencement of the timetable, the pre-arranged train paths (PaPs) for ScanMed RFC are published. They are published at the corridor's website www.scanmedfreight.eu, and in the web application Path Coordination System (PCS).

The corridor's pre-arranged train paths are reserved for international freight traffic in the annual timetable. The train paths are produced by infrastructure managers in consultation with the corridor organization and are based on studies of the transport market. The capacity is directly applied to and allocated by the C-OSS.

Since these PaPs have a high priority and shall be protected from changes during the timetable process, it may be more advantageous for international freight traffic to apply for these.

4.2.1.2 *Temporary Capacity Restrictions*

The Swedish Transport Administration published temporary capacity restrictions in accordance with Annex VII to the Directive 2012/34/EU. Designated capacity restrictions of the category high impact and major impact are planning conditions when applying for capacity. These capacity restrictions constitute a part of the prerequisites for the allocation process, for instance when it comes to availability and speeds on the railway network. All applications for capacity for train paths or services must be adapted after the designated capacity restrictions that are reported in accordance with Section 4.3.3, unless the Swedish Transport Administration has stated otherwise. If a designated capacity restriction for example causes traffic disruption on the ordinary path between two stations, applicants wishing to operate trains between these two operational points must apply for path for re-routing.

For the ad hoc process, the *supplemented established annual timetable* comprises the prerequisites for availability and speed on the railway network. All applications for capacity for train paths or requirements for services in the ad hoc process shall be adapted to the established capacity allocation for the engineering works.

4.2.1.3 *Capacity plans*

In order to maximise the capacity to be able to satisfy applications as far as possible in accordance with Chapter 6, Section 9 of the Railways Act, the Swedish Transport Administration, in consultation with applicants, develop so called capacity plans. This is only done where the capacity availability for different reason is highly restricted. These capacity constraints are such that point 17 of Annex VII to the Directive 2012/34/EU becomes applicable. Section 4.3.2.1 sets out the criteria that specify which trains for each type of traffic are to be re-routed. In the capacity plans, the Swedish Transport Administration presents the preliminary distribution of the remaining capacity between the different types of train traffic in accordance with point 17. A planned temporary limitation of

capacity due to infrastructure work is usually expressed in the form of closed tracks or restrictions on speed, axle load, train length, traction or structure gauge for a limited period of time.

Capacity limitations that cause traffic impacts occur on those parts of the railway network where capacity requirement for train paths is higher than the available capacity. Applications for train paths cannot be satisfied entirely in this event. On lines with capacity limitations the Swedish Transport Administration establishes planning conditions for the rail traffic that are possible to meet with good transport quality as well as efficient capacity utilisation in a so called capacity plan.

The capacity plan shall be used as planning conditions in the capacity allocation process for the purpose of:

- to be able to achieve efficient utilisation of capacity in the area
- to ensure punctuality by means of robust timetables

The entire capacity plan is presented in Annex 4 F and at the early dialogue prior to the upcoming timetable.

After the deadline for submitting applications in the allocation process for the annual timetable, the Swedish Transport Administration can contact applicants whose application is considered to be incorrect or need to be supplemented to meet the requirements for the capacity plan.

In these contacts, it is important that the applicants respond quickly to any queries, to not cause unnecessary delays in the allocation process. In cases where the response is not submitted within the timeframe (normally five working days), the Swedish Transport Administration may, after reminding the respondent, reject all or part of the application for train paths related to the capacity plan. Prior to the annual timetable 2023, the Swedish Transport Administration has prepared a capacity plan for Örebro C-Frövi that meets the criteria in point 17 in Annex VII to the SERA Directive 2012/34 / EU.

4.2.1.4 Capacity for services at operational points

Many access services requires access to tracks at operational points, such as train path, the need for space at the loading area, the need for space in the shunting yard, tracks and track area for train formation and the need for holding tracks. The same track can be used at different times for several different access services at one operational point. An example of this is a track for the *train formation* and *holding* services. For tracks that can be used for several basic services the Swedish Transport Administration can, in the event of a conflict of interest between several applications in conjunction to the allocation process, state which services that have priority .

When allocating of the service *tracks for holding*, the Swedish Transport Administration will, when necessary, prioritise vehicle circulation with shorter turn-around times than 14 hours. Saturdays, Sundays, and holidays count as zero hours.

The holding of freight traffic vehicles in connection with shunting in a marshalling yard or holding in other railway yards, the time from an arriving train to a departing train shall not exceed 36 hours on weekdays and 60 hours during the period Friday–Monday. The time is calculated per vehicle, i.e., per separate wagon or separate engine.

In connection with the holding of freight traffic vehicles in a railway yard waiting for loading or unloading, the time shall not exceed 72 hours. Saturdays, Sundays, and holidays count as

zero hours. In order to determine the vehicles and the train paths, the railway undertakings shall in their applications to the Swedish Transport Administration state which turn-rounds they intend to use.

These rules of priority may be viewed as guidance for how the Swedish Transport Administration will allocate capacity. Assessments are always based on the general rules of procedure.

The minimum access package and/or the basic services are a prerequisite for the facilitation of additional services, regardless of whether or not the Swedish Transport Administration provides them. Additional services that the Swedish Transport Administration provide, and which assume capacity, are services relating to special transportations and dangerous goods. Conflicts of interest can also arise among the basic services, and certain guiding principles can be specified. One example is that shunting is attributed a higher value than holding at Hallsberg marshalling yard.

The applicant must design their application in accordance with the planned vehicle's properties and state the vehicle length. The application must also show how the train path connects to the service.

In support of the application for track capacity for Stockholm central, Göteborg central and Malmö central, the Swedish Transport Administration will cite guidelines for track usage. The guidelines are produced based on previous train planning work. The guidelines do not constitute limitations in terms of how the capacity can be applied for; they suggest how the infrastructure should be used in order to achieve efficient traffic operation and the greatest societal benefits, see Annex 4 D.

It is preferable for the applicant to participate actively in the process of allocating capacity at operational points where the access services of marshalling and train formation are to be carried out. The Swedish Transport Administration also invites those who provide these services. Participation is important in the event of conflicts of interest and capacity shortages, in order to facilitate solutions that are effective for all actors.

Guiding principles in the event of conflicts of interest at operational points

An application for the service *tracks for holding* without direct connection to a train path is always granted on certain conditions. If the application for holding tracks linked to a train path is then received and approved, the company granted conditional holding must move its vehicles (at least 14 days' notice is given).

During the allocation of the services *tracks to intermodal terminals* and *access to loading areas*, Section 7.3.3, applications that can be linked to unloading and loading of goods will be attributed a higher value than other use of the tracks (e.g., holding tracks) at these areas. Access required for only holding on tracks where the services are offered, will always be subject to conditions. A presumption is that no application that can be linked to loading or unloading for the services *access to loading area* or *tracks to intermodal terminal* have been received. The conditional holding is revoked if the service is applied for and allocated to another entity. In this case, the entity that was allocated the conditional capacity must hold its vehicles in another location (following a minimum 14 days' notice period).

During the allocation of capacity at marshalling yards, applications that can be linked to the service *access to marshalling yards* will be valued higher than others will (e.g., holding), see Section 7.3.4.6.

Track for the holding of vehicles adjacent to a platform is normally only awarded for the embarkation and disembarkation of passengers, the replenishment of catering supplies and lighter operational maintenance.

Track for the holding of freight trains vehicles in connection to adjoining facilities, such as access to facilities within cargo terminals, is normally only awarded in direct association with the use of the relevant facility.

The service *connection to electricity when holding railway vehicles* is offered to an entity that is simultaneously applying for tracks for holding.

4.2.2 Application for capacity

An application for capacity for train paths and access to services is made via the e-service on the Swedish Transport Administration's website. There are also instructions for what must be included in an application for capacity for train paths. Corresponding instructions are also available for applications for services (access to the e-service is required).

An application for a train path is required for transportation over operational point boundaries, or between parts of a point, see Section 5.3.

With regard to applications for the use of the brake testing facility at Skandiahamnen in Gothenburg, see instructions in the e-service on the Swedish Transport Administration's website.

The portals for applications (*MPK Långtid* and *MPK Korttid*) are based on the same principle, where a standard daily calendar is used as a basis for describing running days. However, in *MPK Korttid* there is an extension function where it is possible to describe running days even from a deviating traffic calendar in accordance with Annex 4 C. That calendar in turn translates the description into the daily calendar.

Documents like timetable planning rules and such, with more detailed information on the annual timetable process, is available in the external workspace *Kundinformation järnväg* (access is required).

4.2.2.1 International capacity for train paths

Capacity for international train paths (including the Swedish path) is applied for in the internet-based tool "Path Coordination System" (PCS), <http://pcs.rne.eu/>. Contact the Swedish Transport Administration OSS to gain access to the tool. For contact details, see Annex 1 A. Services linked to the international train path is applied for in the national application system on the Swedish Transport Administration's website.

All pre-arranged paths (PaPs) in the Scandinavian-Mediterranean Rail Freight Corridor (ScanMed RFC) should be applied directly to the Corridor One-stop-shop (C-OSS). For more information; <http://www.scanmedfreight.eu/>.

4.2.2.2 Planning conditions in the allocation process

The allocation process aims to achieve an annual train plan that provides the railway undertakers with the conditions to deliver high-quality rail traffic that meets the market's need for rail transport. The timetable must be designed so that there are conditions for maintaining very high punctuality in the entire traffic system. It should be well planned and robust. The risk of unnecessary disruptions in traffic should be minimized by not incorporating high interference sensitivity in the timetable.

In recent years, the number of train path applications has increased to a greater extent than the available capacity. These factors together may mean that not all applications for train paths can be granted. With a well-functioning timetable that satisfies the needs of both long-term and short-term planned traffic as far as possible, the ambition is to make the railway an even more competitive mode of transport in accordance with Directive 2012/34/EU.

As a tool to achieve this, the Swedish Transport Administration uses the following planning conditions during the allocation process:

- pre-arranged train paths for freight trains (PaPs) for ScanMed RFC
- temporary capacity restrictions designated as planning prerequisites
- capacity plans, see Section 4.2.1.3.
- capacity restrictions, see Annex 4 D
- engineering work extensions
- service windows extensions
- time interval between trains
- retardation extensions
- nodes in the railway system
- simulation of driveability

Of these, the applicant must take into account at least designated capacity restrictions and capacity plans in its application.

4.2.2.3 Proposal for the annual timetable

Applications for capacity for train paths and services, both national and international, services and the Swedish Transport Administration's identified needs for engineering works provide the basis of the proposal for annual timetable.

Capacity for international traffic, including border passages, is coordinated with BaneNor and Banedanmark before the proposal for annual timetable is published. This takes place at a conference managed by RNE.

If the statements of opinion regarding the proposal for annual timetable include the need for amendments, the coordination stage of the process begins. If no amendments are necessary, the annual timetable can be established.

Definition of opinion from applicants regarding the proposal for annual timetable

The applicant's opinions regarding the proposal for annual timetable shall be submitted as comments.

Opinions on capacity shall be submitted via the e-service for applications. Opinions that cannot be submitted via the e-service can instead be submitted via e-mail to trafikplanering.jarnvag@trafikverket.se.

Opinions can be either general or specific, meaning they can be general regarding a traffic layout. It can also be regarding specific needs for train paths and services that diverge from the application.

Examples:

- interrupted association
- divergent points of reference
- times of departure or times of arrival that diverge from the application
- running time.

The following examples are not opinions

- changes compared to the application
- new trains
- altered points of reference
- increased weight, length, or change of designation that mean that the suggested train route cannot be maintained
- extended or moved running days
- requests regarding changed times from the application.

The above changes, that are not considered as opinions, will be treated as a late path request.

Withdrawal of application

The one who wants to withdraw an applied-for train path or holding before it is allocated in the timetable can send the request for reduced needs via the Swedish Transport Administration's e-service for late path request.

Proposal for annual timetable

Includes allocation of capacity based on:

- all applications for train paths, national and international received by 2022-04-11
- applications for services in accordance to Section 7.1
- the Swedish Transport Administration's identified needs for engineering works
- the estimated need for reserve capacity for ad hoc applications pertaining to train paths and services, both national and international
- the need for reserve capacity for engineering works that cannot be booked in the allocation process
- the need for reserve capacity for transportation of work vehicles
- residual capacity.

When the draft annual timetable is produced, the Swedish Transport Administration may contact the applicants informally.

4.2.3 Late path request

An application for capacity for train paths and other services can also be submitted after the last day for application. Late path request can be submitted no later than the date specified in the schedule in Section 4.5. Application for capacity for train paths and other services shall be submitted via the e-service on the Swedish Transport Administration's website. There is also instructions for what an application for capacity for train paths must include.

Applications are processed through a queuing system in the order that they are received by the Swedish Transport Administration and are established in the supplemented annual timetable. Capacity assigned to an applicant in the established annual timetable can be coordinated and adjusted only if the applicant gives its consent.

4.2.4 Ad hoc applications

An application for capacity for train paths and other services is submitted via the e-service on the Swedish Transport Administration's website. There are also instructions for what must be included in an application. Corresponding instructions are also available for applications for services (access is needed in order to apply).

The Swedish Transport Administration will respond to ad hoc applications as quickly as possible. The processing time may vary depending on the complexity of the application. The answers will be given in close connection to future timetable or in the current timetable.

See Section 4.5.3.

Guidelines for ad hoc applications

An application for ad hoc is an application that is processed after the updated annual timetable is established, see Section 4.5.3.

Applications are processed through a queuing system in the order that they are received by the Transport Administration. The total need for transports shall be applied for as a whole. It is possible for the Swedish Transport Administration to divide the needs into several partial offers to the applicant. The applicant must accept or decline offers from the Swedish Transport Administration. If no answer is given, the offer expires.

The following guidelines may be useful for processing ad hoc requests:

- Clear headings as well as what an application concerns, e.g. "System M" to facilitate processing.

Situations may arise where an application needs to be handled urgently. Example:

- locomotive malfunction that require replacement vehicles
- major disruptions, such as derailment, where the consequences must be taken care of
- breakdowns in industry that risk downtime that have extensive economic consequences.

Such an application requires an application for priority. This application is submitted via the Swedish Transport Administration's e-service for applications. In such a case where the application for priority is exceptionally made separately, it must be received no later than 30 minutes after the application for capacity.

The application for priority must include an explanation of why the application is received at short notice and what consequences arise if the capacity is not granted.

4.3 Capacity allocation for Temporary Capacity Restrictions

4.3.1 Temporary Capacity Restrictions

In Annex VII of the Directive 2012/34/EU defines the requirements for an internationally harmonised process for coordination and publication of known Temporary Capacity Restrictions (TCRs), including the consultation of applicants. There are different categories of TCRs – taking into consideration the consecutive days of TCRs and its impact on traffic. These are:

Category	Consecutive days	Impact on traffic (estimated traffic cancelled, re-routed or replaced by other modes of transport)
Major impact TCR	More than 30 consecutive days	More than 50% of the estimated traffic volume on a railway line per day
High impact TCR	More than 7 consecutive days	More than 30% of the estimated traffic volume on a railway line per day
Medium impact TCR	7 consecutive days or less	More than 50% of the estimated traffic volume on a railway line per day
Minor impact TCR		More than 10% of the estimated traffic volume on a railway line per day

Table 4.1

4.3.2 Deadlines and information provided to applicants

Annex VII of the Directive 2012/34/EU describes at what time information about planned TCRs shall be published. The Swedish Transport Administration publishes and adjusts TCRs according to the directive.

In connection with the Swedish Transport Administration's publication of temporary capacity restrictions, information is also provided on the planned engineering works that give rise to the respective temporary capacity restriction.

The Swedish Transport Administration conducts consultations for TCRs in accordance with the schedule in Section 4.5. Opinions shall be submitted to trafikplanering.jarnvag@trafikverket.se.

4.3.2.1 *Criteria and train types for re-routing during TCR that have major impact on traffic*

In the consultation process during the development of the capacity plan between the Swedish Transport Administration and known railway undertakings, types of traffic is used to distribute the preliminary capacity on the route with temporary capacity restrictions. The train types have been developed on the basis of Annex 4 B, section 3.2 for freight traffic, section 3.3 for passenger traffic and section 3.4 for empty transports. Which train types that are to be used during the allocation of preliminary capacity is based on the latest application and which priority category and code specified in the application for the current annual timetable in consultation with known applicants during the development of the capacity plan.

The following train types, with associated priority category and code covered by Annex 4 B, Section 3.2, 3.3 and 3.4, are: commuter trains (SP, RP), regional trains (RX, RS, RL, RI, PO),

long-distance trains (FX, FS, FL, FI, PO), freight trains (GS, GT, GR, GN, GF, GO), and service trains (TT, EL).

Consideration is also given to relevant factors in order to, as far as possible, meet the shifting needs of the railway undertakings and to minimise the negative consequences of the restriction, as well as the commercial and operative limitations of the applicants and the expected development of traffic.

In case of reduction of the traffic and in the cases where consensus regarding the allocation of preliminary capacity is not reached, the Swedish Transport Administration takes into consideration the following circumstances during the preliminary allocation of capacity:

- Supply
 - Supply refers to how much traffic with different train types is operated on the route/location in question. The purpose is to ensure that the different types of traffic can be operated even when the availability of capacity is reduced. This is done as an assessment based on experience on what the traffic normally looks like, supplemented with any other knowledge about the development of the traffic. The number of trains running is reduced to a combination of different train types, which means that the transport needs that are normally met can also be maintained, albeit to a limited extent. It also means that the available capacity can be distributed differently over the hours of the day and weekdays. The distribution is consulted with potential applicants in connection with the development of the capacity plan.
- Difficulties to replace with other modes of transport
 - Another component in the assessment of which train types are to be prepared for capacity in the event of limited availability is the possibilities of replacing a train type in another way. It can, for example, be the conditions for
 - replacing train with bus or other type of traffic
 - refer to another train
 - re-route trains via other lines
 - transfer freight transports to another type of traffic
 - move forward or postpone transports
- Time sensitivity for different types of traffic
 - A third component is the assessment of how time-sensitive the transports in the different train types are. Balances must be made against any travel time or transport time extension that arises if a train cannot run at the available capacity. Factors weighed into this are
 - time sensitivity for passengers and the reasonableness of the travel time being extended if the train is replaced by a bus or that passengers are referred to another train
 - the goods cannot arrive at all
 - that the transport time for goods is extended and means that goods are destroyed or unusable

- that the transport does not reach an important connection for onward transport.

The priority between different types of trains may vary over the day.

If the application for the next annual timetable shows that the applications exceed the preliminary distribution according to the capacity plan for the train types concerned, the resulting shortcoming in the ordinary allocation process, but within the same train type, is handled and regulated.

TCRs will be published on the Swedish Transport Administration's website in accordance with point 8 of Annex VII of the Directive 2012/34/EU.

4.3.3 Designated Temporary Capacity Restrictions

Designated temporary capacity restriction shall be considered as planning prerequisites. The applicant shall therefore adapt its applications for capacity to these.

More information about current temporary capacity restrictions is available on the Swedish Transport Administration's website <https://www.trafikverket.se/for-dig-i-branschen/jarnvag/tagplan-att-skapa-tidtabeller-for-tag/tagplan-2023/trafikpaverkanande-atgarder/>

In connection with the Swedish Transport Administration's publishing of known temporary capacity restrictions, 24 months before the start of the annual timetable(X-24), the Swedish Transport Administration also submits proposals for which temporary capacity restrictions that shall be planning prerequisites for the annual timetable, so called designated temporary capacity restrictions. The industry has the opportunity to submit their opinions. The Swedish Transport Administration takes a position on the opinions and decides which capacity restrictions that are to be presented as designated temporary capacity restrictions. These are included in the ordinary consultation process for temporary capacity restrictions X-12 that are presented on the Swedish Transport Administration's website. The number of temporary capacity restrictions must be manageable for both applicants and the Swedish Transport Administration in the planning of the annual timetable.

In order for an object to be regarded as a temporary capacity restriction it must result in traffic disruption.

Also, see Section 4.2.1.1.

4.4 Impacts of Framework Agreements

The Swedish Transport Administration is not signing any framework agreements at present.

4.5 Path allocation process

Schedule for allocation of capacity

Reference to process map	Date	Activity
	January-February 2022	Early dialogue: The Swedish Transport Administration invites railway undertakings and contracting parties to a dialogue on conditions prior to future timetables. Early dialogue is part of the Swedish Transport Administration's proactive work and is intended to facilitate applications for the annual timetable 2023.
	December 2021–June 2022	Strategic dialogue, 2-3 years in the future: The Swedish Transport Administration invites railway undertakings and contracting parties for a dialogue to share and discuss preliminary conditions that may affecting traffic for timetables 2024 and 2025 for a mutual exchange of information and to adapt traffic and temporary capacity restrictions for both parties in the best possible way.
	2022-01-10	Pre-arranged train paths (PaP) for ScanMed Rail Freight Corridor in the annual timetable 2023 are published.
	2022-02-14	First date for application in annual timetable 2023.
1	2022-04-11	Last date for application for train paths and services for annual timetable 2023.
2	2022-04-12	First date for late path request in the annual timetable 2023.
	2022-04-11–2022-05-16	Consultation period for Temporary Capacity Restrictions with medium and minor impact for annual timetable 2023.
3	2022-07-04	Proposal for annual timetable 2023 is published. Establishment of Temporary Capacity Restrictions with medium and minor impact for annual timetable 2023.
	2022-07-05 – 2022-08-05	Period for opinions and coordination for train paths and services for annual timetable 2023.
	2022-08-05	Opinions on the proposal for annual timetable 2023 must have been received by the Swedish Transport Administration no later than 09:00.
	2022-08-22	Establishment of international traffic applied by PCS. Applies also to national train paths applied for as feeders/outflows to ScanMed RFCs pre-arranged train path (PaP).
4	2022-08-05 – 2022-09-02	Continued coordination period for annual timetable 2023.
5	2022-09-05	Last date of request for dispute resolution for train paths for annual timetable 2023.
	2022-09-16	Last date for when dispute resolution for annual timetable 2023 must be concluded.

Reference to process map	Date	Activity
6	2022-09-16	Last date for decision to declare the infrastructure congested.
7	2022-09-21	Capacity allocation with application of priority criteria.
8	2022-09-23	Established annual timetable 2023 is published.
	September 2022	Strategic dialogue, 4-6 years in the future: The Swedish Transport Administration invites railway undertaking and contracting parties to participate in a dialogue to share and discuss overall preliminary capacity restricting conditions for the annual timetables 2026, 2027 and 2028.
	2022-10-07	Late date for signing Track Access Agreement based on established annual timetable.
9	2022-10-17	Last date for late path request and services for annual timetable 2023.
	2022-10-10	Reserve capacity for ScanMed Rail Freight Corridor is published.
	2022-10-18	The ad hoc process for annual timetable 2023 begins.
	2022-10-26 – 2022-11-15	Consultation period for Temporary Capacity restrictions with major and high impact for annual timetable 2023.
10	2022-11-14	Supplemented established annual timetable 2023 is published.
	2022-11-18	The last date for the submission of announcement information for passenger trains in annual timetable 2023.
	2022-11-28	Late date for signing Track Access Agreement based on supplemented established timetable. Only for applicants who only have applied for capacity by late path request.
	2022-12-09	Establishment of Temporary Capacity Restrictions with major and high impact for annual timetable 2024.
	2022-12-11	Annual timetable 2023 takes effect (traffic commencement).

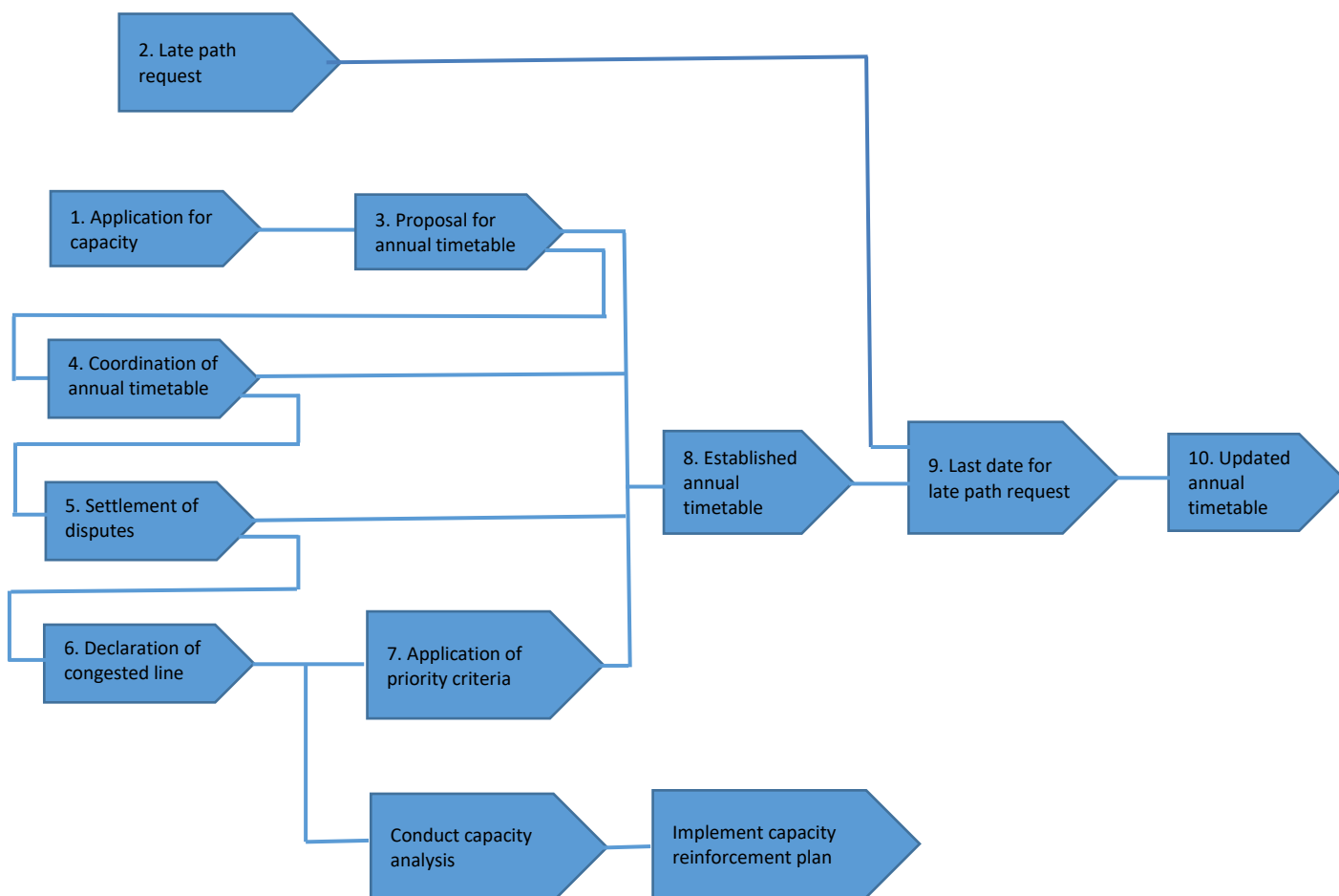


Figure 4.1 Schedule and process map for allocation of capacity

4.5.1 Annual timetable path request

Applications for capacity for train paths and other services received no later than 2022-04-11 are managed in the allocation process and result in an established annual timetable. The annual timetable encompasses the capacity allocation for train paths and services for the period 2022-12-11 – 2023-12-09, as well as the reserved capacity for engineering works during the same period.

4.5.1.1 The Swedish Transport Administration's requirements for capacity for engineering works

The Swedish Transport Administration determines its need for times for work in tracks for the upcoming annual timetable on two occasions. At the first occasion, capacity restrictions are established with a major and high impact on traffic. At the second occasion, temporary capacity restrictions are established with medium and minor impact on traffic. Prior to the establishments, those concerned are consulted. For schedule, see table in Section 4.5.

Certain temporary capacity restrictions are designated as planning prerequisites. Applicants must take these into account when applying for capacity or services.

Temporary capacity restrictions are presented on the Swedish Transport Administration's website, see Section 4.3.3.

Once the temporary capacity restrictions have been established, there may for various reasons be a need to carry out additional capacity impacting measures or to make changes to an already established capacity restriction.

Situations that may be relevant according to the regulations (SERA Directive Annex VII) according to the points below.

- To restore safe train traffic.
- If the need arises at a time that is beyond the Swedish Transport Administration's control.
- If the time limits for the publication of temporary capacity restrictions set out in Annex VII are cost-effective or unnecessarily adverse to the lifespan or condition of the infrastructure.
- If all the applicants concerned agree to it.

When such a situation arises, the Swedish Transport Administration must immediately consult with the applicants concerned. In cases where train paths have been allocated, traffic will be adapted based on the new conditions.

Condition monitoring (rolling examination of the status) of the railway network is based upon measuring plans connected to the draft annual timetable.

4.5.2 Late path request for annual timetable

Additional requirements for services as well as applications for capacity for train paths received after 2022-04-11 will be processed in the order in which they are received and are established in the supplemented established annual timetable. Figure 4.2 specifies when the late path requests are processed. Capacity that has been allocated to an applicant in the established annual timetable can be coordinated and adjusted only if the applicant gives its consent.

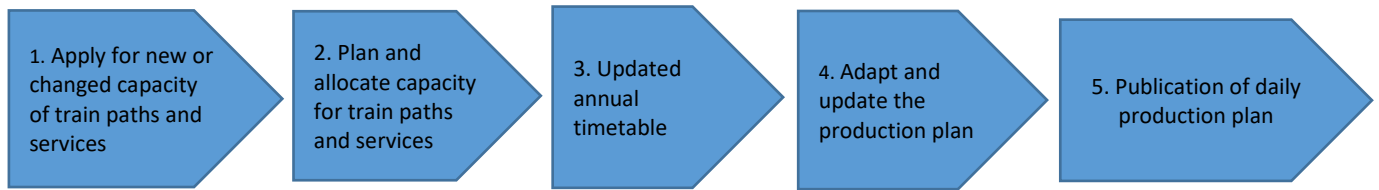
4.5.3 Ad hoc path request

Additional applications for capacity, services and/or adjustments to capacity for train paths received after 2022-10-17 are processed in the ad hoc process. Figure 4.1 specifies when the applications are processed.

Submitted applications will be processed in the order in which they are received. If a change needs to be made to an application, the applicant shall recall the submitted application and replace it with a new one. The replacement application will then be given a new arrival date.

Specified in Annex 4 A are the time limits for an ad hoc application when additional monitoring of stations is necessary.

Engineering works of an acute nature may be planned at short notice, and must for safety reasons sometimes claim capacity that was previously agreed with another applicant in the *established timetable* or ad hoc.



1. Application for capacity for train paths and other services is made by railway undertakings using the Swedish Transport Administration's e-service for applications.
2. Train paths and other services are signed for in the same way as in the annual allocation process.
3. When allocating capacity for train paths and services, the current annual timetable is updated.
4. The production plan is adapted and updated to take into account new and changed conditions. This means that apart from agreement points, other production data can be changed up until the time of publication.
5. Publication of daily production plan.

Figure 4.2 Process for updating the annual timetable

4.5.4 Coordination process

The aim of the coordination process is to coordinate the needs of the applicants for capacity and services, in order to produce an established annual timetable without conflicts of interest. During the coordination, the Swedish Transport Administration may contact the applicants informally or invite them to the coordination meetings.

This step of the process is only managed if conflicts of interest exist. If all conflict of interest are resolved during this step, the annual timetable can be established.

4.5.5 Dispute resolution process

If a conflict of interest with incompatible applications between train paths is judged not to be resolved during the coordination, the applicants that are involved in the conflict can request dispute resolution at the latest at a given point in time, see figure 4.1. A request for dispute resolution must be submitted in writing to the Swedish Transport Administration. When an applicant requests dispute resolution, they must at the same time submit to the Swedish Transport Administration:

- a description of the conflict of interests,
- a description of the consequences for their own production
- a justification of why the solution suggested during the coordination was not accepted.

Along with a request for dispute resolution, an applicant may suggest other solutions to the conflict of interests.

After the dispute resolution has been requested, the Swedish Transport Administration summons the parties involved to a dispute resolution consultation, where the Administration, in consultation with applicants, tries to find solutions. If a conflict of interests was not resolved, the Swedish Transport Administration shall declare the relevant part of the infrastructure to be “congested”. If all conflict of interest are resolved during this step, the annual timetable can be established.

4.5.6 Congestion of infrastructure and allocation with support of priority criteria

This is described in Section 4.6.

4.5.7 Established annual timetable

The capacity allocated is specified in the *established annual timetable*, which is presented via the Swedish Transport Administration’s e-service.

The capacity is reported in the form of:

- allocated train paths, both national and international
- capacity reserved for temporary capacity restrictions
- reserve capacity for ad hoc applications for train paths and services, both national and international
- reserve capacity for engineering works that cannot be booked in the allocation process
- reserve capacity for transportation of work vehicles
- remaining capacity
- allocated services in accordance with Section 7.1.

An application for a train path shall specify whether the train path was applied for on the behalf of the railway undertaking or traffic organiser. The entity that applied for the train path is the entity that it can be allocated to. In conjunction with the allocation of train paths, the applicant concludes a track access agreement with the Swedish Transport Administration.

An entity that has been allocated a train path may not transfer it to another party. A train path shall not, however, be regarded as transferred if a traffic organiser engages a railway undertaking to operate the traffic. An entity that has transferred a train path may be refused allocation of train paths during the current or next annual timetable.

An applicant may refer disputes to the Swedish Transport Agency regarding whether an infrastructure manager’s decision concerning capacity allocation corresponds with the acts, or regulations stipulated with support of the acts.

4.6 Congested infrastructure

If a conflict of interests between applicants was not resolved during coordination or dispute resolution, the Swedish Transport Administration shall declare the relevant part of the infrastructure to be “congested”. The Swedish Transport Administration notifies the applicants concerned of the decision and publishes it on the Swedish Transport Administration’s website.

The congestion decision shall contain information:

- about which part of the infrastructure the conflict of interest relates to, at which times the problems arise,
- the parties that are involved,
- the reasons why the conflict could not be resolved.

The decision to declare the infrastructure congested is a condition required for the Swedish Transport Administration to be able to unilaterally settle the conflict of interest.

If the infrastructure is declared congested, a capacity analysis and a capacity reinforcement plan shall be developed. For details, see also Sections 4.6.3 and 4.6.4.

If it is clear that there will be a considerable capacity shortage on part of the infrastructure, the Swedish Transport Administration can declare that part congested prior to coordination.

4.6.1 Allocation of capacity after congestion

When a part of the infrastructure has been declared congested, the Swedish Transport Administration allocated the capacity through a decision on allocation of capacity with support of priority criteria. For details regarding the priority criteria, see Annex 4 B.

In the cases where the priority criteria does not solve the conflict, i.e. when the socio-economic calculation for the solutions result in equal values, separation will be applied. This is described in Annex 4 B, Section 6.7.

The decision on allocation becomes part of the established annual timetable.

4.6.2 Updated annual timetable

The established annual timetable is updated continuously based on changing needs for capacity for train paths and services in accordance with Section 4.5.2 from late path requests. This results in a supplemented established annual timetable.

4.6.3 Capacity analysis

Within six months of the infrastructure being declared congested, the Swedish Transport Administration publishes a capacity analysis on its website.

The capacity analysis will be performed based on the decision concerning congested infrastructure.

The capacity analysis states:

- the cause of the congestion
- proposed methods to remedy the congested infrastructure
- proposed measures in the short-term (up to one year) and the long-term (up to three years).

4.6.4 Capacity reinforcement plan

Within six months of the capacity analysis having been concluded, the Swedish Transport Administration publishes a capacity reinforcement plan on its website.

The plan is developed after consultation with applicants of the congested infrastructure, and been a party to a completed dispute settlement plan states:

- the cause of the congestion
- the probable future traffic development
- obstacles to infrastructure development
- alternatives and costs for capacity reinforcement.

The capacity reinforcement plan also contains a cost and benefits analysis for possible measures, information about the measures which the Swedish Transport Administration intend to implement on the basis of this analysis, and a schedule for this work. The schedule encompasses a maximum of three years. The measures that are analysed and proposed may relate to the infrastructure, modifications to train paths or to the railway undertakings' vehicles and carriages.

If there is a capacity reinforcement plan for the congested infrastructure, and if this plan is to be implemented, no new capacity analysis or reinforcement plan is produced.

4.7 Exceptional transports and dangerous goods

An application for capacity is lodged in accordance with Section 4.2.2. For handling of transport conditions and transport permits, see Sections 3.4.3 and 5.4.2.

If a train path involves the transportation of dangerous goods, this must be communicated when applying for the train path. An application for a train path is lodged in accordance with Section 4.2.2. Transportation of dangerous goods must be reported in accordance with Section 3.4.4.

4.8 Rules after path allocation

4.8.1 Rules for path modification by the applicant

If the allocated capacity of a train path will not be fully used or not used at all, the railway undertaking or traffic organiser must promptly inform the Swedish Transport Administration by modifying or cancelling the entire train path or cancelling the train at short notice.

A train path that is modified or cancelled must be registered by the railway undertaking or traffic organiser via the Swedish Transport Administration's e-service for applications.

The train path shall also be modified in the following situations:

- new or expanded traffic activity outside the scope of the running schedule
- the maximum train weight or length will be exceeded
- a train formation that diverts from the allocated or permitted level, and which impedes the performance of the railway system.

Information about reservation charges (Section 5.6.1) and delay charges (Section 5.7.1) for trains that have been cancelled at short notice.

4.8.2 Rules for path alteration by the infrastructure manager

4.8.2.1 *Revision of the annual timetable*

The annual timetable is adapted to the engineering works that are not adapted in the annual timetable. This is done in the revision process. Meetings are held with the railway undertakings and the traffic organisers within this process. Due to the short timeframe between the establishment of the annual timetable and traffic commencement, the deadlines specified below, in number of weeks, will not be maintained in the beginning of the annual timetable. The Swedish Transport Administration has a dialogue in advance with those concerned regarding the dates in the upcoming year's revisions.

The Swedish Transport Administration undertakes to do the following:

- send a message to those concerned that the train path is not available and may be in need of adjustment, this message is called Non-available train path (*Inte tillgängligt tågläge*).
- provide solution proposals which include the train paths that have been announced.
- if those concerned wish to provide documentation as for a solution proposal, accept such documentation as a basis.
- base the solution proposals on the published temporary capacity restrictions.
- send offers on modified train path according to decided solution proposal. There offers must be provided to the one concerned at the latest 18 weeks before the adapted train path is to be operated.

In cases where train routes will be delivered with a shorter notice than what is stated above, the Swedish Transport Administration will enter into a written agreement with those concerned.

Railway undertakings and traffic organisers affected by the revision undertake to

- inform about train paths that need to be adapted instead of being cancelled.
- reply to offer about updated train path from the Swedish Transport Administration.

4.8.2.2 *Unacceptable risks*

The Swedish Transport Administration is entitled, after consultation, to withdraw an allocated capacity or service if the Swedish Transport Administration deems the use of the capacity or service to be associated with unacceptable risks of personal injury or damages. A likelihood that extensive damage will occur, for example in extreme weather conditions, is such an unacceptable risk.

When the Swedish Transport Administration has resumed an allocated service, no contracting party of the Swedish Transport Administration is entitled to any compensation from the Swedish Transport Administration, other than what may result from the Swedish Transport Administration's operational management system in the form of delay charges.

4.8.3 Non-usage rules by the applicant

If allocated capacity is not used, this will be taken into consideration at later allocations of capacity, which means that a train path may be given a lower priority (Annex 4 B) or that the contracting party in question may be denied allocation.

The Swedish Transport Administration is entitled to withdraw an allocated train path if the Swedish Transport Administration's contracting party does not use the train path to a sufficient extent. The Swedish Transport Administration's contracting party must be afforded an opportunity to make a statement in this regard.

A "sufficient extent" refers to the Swedish Transport Administration's contracting party using the train path at least once per calendar month, and at no less than 60 per cent of the allocated capacity of the train path during a three-month period (calendar months).

This does not apply if the non-usage is a result of factors of a non-financial nature beyond the owner's control.

4.8.4 Rules for cancellation by the applicant

See information on reservation charges (Section 5.6.1) and delay charges (Section 5.7.1) for acute cancelled trains.

4.9 TTR for smart capacity management

Information about the ongoing project Redesign of the International Timetabling Process (TTR) is available at the following links.

Link to the Swedish Transport Administration's website: [Ny process ska ge effektivare kapacitetsplanering](#).

Link to Rail Net Europe's website: [Redesign of the International Timetabling Process](#).

5 Services and Charges

5.1 Introduction

Chapter 5 gives an account of the services within the minimum package of access services as well as the additional services and ancillary services associated with the train path on the Swedish Transport Administration's main network. All services are regulated in Annex II in Directive 2012/34/EU, as implemented via amendments in the Swedish Railway Act (2004:519).

The services are divided into the following categories:

- **Minimum package of access services (train paths)**
The minimum package corresponds to the train path service, see Section 5.3. This includes the right to use the infrastructure capacity allocated in accordance with the definition of a train path. Traffic control, necessary information for use of the allocated capacity etc., also comprise parts of the service.
- **Access to services facilities and supply of services (see Section 7)**
This category includes access to tracks in addition to what is encompassed by the minimum package, for example: sidings, train formation and access to adjoining facilities in the form of loading areas, marshalling yards and access to the services which are provided.
- **Additional services**
These include services that the Swedish Transport Administration offers in connection with the minimum package of access services, for example, traction current and transport conditions for exceptional transports, see Section 5.4.
- **Ancillary services**
This category includes services such as extra information and access to GSM-R, see Section 5.5.

The chapter describes the services that the Swedish Transport Administration provides, as well as the requirements and conditions that must be fulfilled in order to use the services. The right to use allocated services may be limited fully or partially, and/or altered due to traffic disruptions. The purpose is always to achieve safe and efficient use of the infrastructure.

Service facilities and the associated services are provided on the Swedish Transport Administration's sidings as described in Chapter 7.

Applicants who via the service train path transport a vehicle to a service facility in order to use a service that is describes in Chapter 7, also have the responsibility for the vehicle during the time of using the service and until it is used in another service. This includes, amongst other things, the payment responsibility for using services which have not been allocated in accordance with Section 8.3.2.

[The Swedish Transport Administration's website](#) lists it-systems and e-services, both mandatory and voluntary, which are to support users of the railway services. It also describes how to gain access to them. The Swedish Transport Administration is not responsible for the equipment that is necessary for accessing the information between the Swedish Transport Administration and applicants, nor the applicant's receipt of delivery.

5.2 Charging principles

The Swedish Transport Administration imposes charges pursuant to Chapter 7 of the Swedish Railway Act (2004:519).

Charge for use of the infrastructure

The Swedish Transport Administration shall establish charges for the use of the infrastructure at the cost that is directly incurred as a result of operation the train service, in accordance with Chapter 7, Section 2 of the Swedish Railway Act (2004:519). The charges are to be competitively neutral and non-discriminatory, in accordance with Chapter 7, Section 1 of the same act.

The cost that is directly incurred as a result of operation the train service is the short-run marginal cost, pursuant to proposition 2003/04:123. This means that the charge, within the infrastructure manager's costs, will be set at the cost of an additional train when the rail infrastructure capacity and design is kept unchanged. This cost refers to maintenance (operation, upkeep, and reinvestments) of railway infrastructure.

The cost at present is estimated to be approximately 0.0152 SEK per gross tone kilometre, plus approximately 3.33 SEK per train kilometre in price level 2016. The estimates come from two research reports which was produced by the Swedish National Road and Transport Research Institute (VTI) in 2018³.

The Swedish Transport Administration may levy higher charges in order to achieve cost recovery, in accordance with Chapter 7, Section 4 of the Swedish Railway Act. These special charges may not be set so high that the market segments that are able to pay at least the cost, plus a rate of return which the market can bear, are prevented from using the infrastructure.

The market segments identified by the Swedish Transport Administration are:

- high-speed trains
- long-distance intercity trains
- commuter trains
- regional trains
- freight trains.

The Swedish Transport Administration levies special charges in the form of passage charges (see Section 5.3.5.3) for passenger trains and service trains as well as a part of *train path charge high*. The Swedish Transport Administration has calculated the effects that the charges in total have on these market segments to ensure that no undue crowding-out occurs. The analysis can be found at the website of the Swedish Transport Administration, in a background report with an impact statement.

Charges for a specific investment projects

In accordance with Chapter 7, Section 5 of the Swedish Railway Act the infrastructure manager may, on the basis of the long-term cost of a specific infrastructure project that increases the efficiency of the railway system and which has been completed after 1988, impose higher charges than those pursuant to Chapter 7, Sections 2 and 3 of the Swedish

³ CTS Working paper 2018:22, Marginalkostnader för reinvesteringar i järnvägsanläggningar: En delrapport inom SAMKOST 3, and CTS Working paper 2018:24, Marginalkostnader för järnvägsunderhåll: trafikens påverkan på olika anläggningar.

Railway Act, if the project would not have come about if the charges had been limited in the way that is implied by Sections 2 and 3. Such a special charge is imposed for freight traffic on the railway network of the Øresundsbro Konsortiet and is paid to the Swedish Transport Administration.

Reservation charge

The Transport Administration may, pursuant to Chapter 7, Section 7 of the Swedish Railway Act, collect all or part of the charge for allocated capacity that has not been used, see Section 5.6.

The infrastructure capacity that has been allocated but which will not be used shall be cancelled, in some cases for a charge. For the allocated capacity that is not used and which has not been cancelled or cancelled at short notice, the same charges shall be paid as though the capacity had been used. If the applicant has not provided information pursuant to Annex 6 A, charges will be calculated in accordance with the application for capacity.

Performance scheme

A track access agreement shall contain provisions for a system of performance scheme with delay and cancellation charges (see Section 5.7) that will apply under normal operating conditions, in accordance with Chapter 6, Section 22 a of the Swedish Railway Act. The delay or cancellation charge is to be paid by the party that causes deviations from the infrastructure usage that is established in the timetable and track access agreement. Delay and cancellation charges are to be designed so that both the infrastructure manager and the user of the infrastructure take reasonable measures to prevent disruptions to railway system operations, in accordance with Chapter 7, Section 5 a of the Swedish Railway Act.

Charges for services

Charges for the basic services provided by the Swedish Transport Administration are levied pursuant to Chapter 7, Section 8 of the Swedish Railway Act and shall, according to this paragraph, be set at prime cost for providing the service, including reasonable profit. The same applies to the additional services and ancillary services that the Swedish Transport Administration provides, if it is the sole provider of these services.

Reduction of charges for certain traffic

Non-profit museum associations that conduct museum traffic do not have to pay charges for using the minimum package of access services. A prerequisite for this is that the train paths are applied for in the ad hoc process, see Section 4.5.3.

Public works vehicles

When rail vehicles are used in direct connection with the Swedish Transport Administration's contracted works on the Swedish Transport Administration's infrastructure, they are treated as public works vehicles and charges are only imposed for electricity.

This implies that vehicles are not charged if they are operated for the purpose of:

- being transported to or from a work that is agreed with the Swedish Transport Administration, and/or
- transporting materials or other good to or from a work that is agreed with the Swedish Transport Administration, and/or
- carrying out a work in motion on behalf of the Swedish Transport Administration

When applying for capacity, it must be clear which work the application applies to.

A prerequisite for the exemption from charges is that no other train path is operated at the same time, for example a freight transport for third parties.

Vehicles operating on behalf of an infrastructure manager other than the Swedish Transport Administration are not exempt from charges.

Emissions

The Swedish Transport Administration collects information on the amount of fuel consumed by order of the Swedish Energy Agency. Information regarding the number of consumed litres of liquid fuel and/or consumed cubic metres of gaseous fuel per vehicle category/individual vehicle must therefore be reported by railway undertaking or traffic organisers. The information is to be submitted no later than the 20th of the month following the month in which the services are used. The railway undertakings and traffic organisers must personally keep records and store the data necessary for reporting and inspection. Declaration is conducted via a web interface on the Swedish Transport Administration's website. Login authorisation is required.

VAT

The charges are subject to 25 percent VAT, except for the reservation and the delay charges where no VAT is levied.

5.2.1 Prices for international train paths

Charging Information System (CIS) offers calculation of prices for international train paths. Using the CIS system is free of charge and login does not require registration.

More information is available at <http://cis.rne.eu/> or can be ordered via RNE CIS Support: support.cis@rne.eu.

5.3 Minimum access package and charges

The Swedish Transport Administration provides minimum packages of access services in the form of the service *train path*, which is divided into the following categories:

- train paths for passenger traffic
- train paths for freight traffic
- train paths for service trains.

The service *train path* encompasses the entire transportation from one location to another, from when vehicle movement commences at the first station in the train path until the vehicle has stopped at the final station. Included in a train path is a stop of up to 60 minutes per intermediate location with traffic exchange. See figure 5.1, train path Option A. The maximum stop of up to 60 minutes also applies when turning between two train paths at an operational point with traffic activity (at their common start/end station).

When a traffic activity at an intermediate location or turning between two train paths at an operational points is 60 minutes or more, , an application for the service *track for holding* is required, see Section 7.3.5. Om the application for this service is missing, the Swedish Transport Administration reserves the right to allocate and charge for the service *track for holding*.

A train path application is also required for transportation over operational point boundaries, or between parts of a site. See figure 5.1, train path Option B.

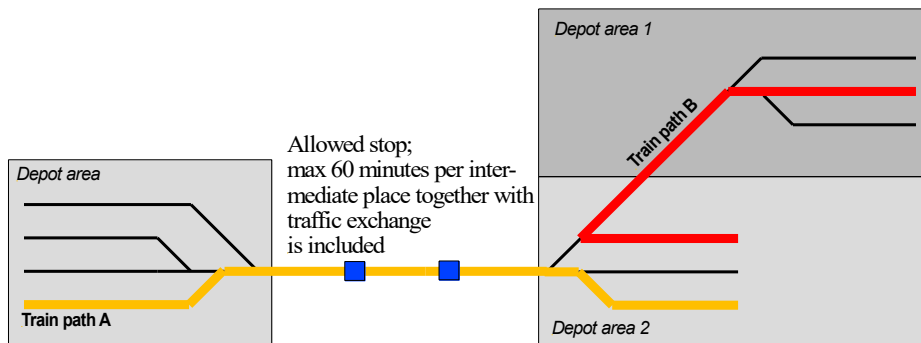


Figure 5.1 Train path Option A – between operational points
Train path Option B – between parts of operational points

5.3.1 Train paths for passenger traffic

If the traffic assignment involves the transportation of passengers, the application must concern train paths for passenger traffic. A train path for passenger traffic includes:

1. **The infrastructure agreed for the operation of the train**
The right to operate the vehicle on tracks and through track switches so that the allocated capacity can be used in accordance with the terms and conditions that were established in the annual timetable. The usage must be in line with the track access agreement, as well as permits, licences and regulations.
2. **Overhead electricity, catenary**
The right to use the Swedish Transport Administration's catenary on electrified lines.
3. **Traffic control**
Traffic control includes train dispatch, monitoring and management of traffic operations, as well as information about train movements. Also included in this context are prerequisites and conditions for traffic operation, such as running schedules and running orders as well as measurement values from Transport Administration detectors. Via the Swedish Transport Administration's traffic control and communication system, it is also possible to receive the operational information that is necessary for use of the train path. See also Sections 2.3.10–2.3.14.

The Swedish Transport Administration's traffic control on sidings are done in accordance with applicable railway traffic regulations. The actors working at the location are responsible for the coordination of these movements.
4. **Traffic information for applicants and traffic operators**
Encompasses information before, as well as during and after use of the train path. This relates to the information (in addition to point 3) necessary to operate or manage the railway traffic for which the capacity has been allocated. See also Section 5.3.4.1.

For information about operational rules, see Chapter 6.

For information that shall be submitted prior to a train's departure, see Annex 6 A.

5. Traffic information for passengers

This implies that passengers receive the information necessary for them to make their train journey. See also Section 5.3.4.2.

6. Platforms for passenger exchange or for minor service

This relates to the right to use platforms with associated platform equipment for passenger exchange or for minor service when using an allocated train path.

5.3.2 Train paths for freight traffic

Train paths for freight traffic include access to the offer described in Section 5.3.1, points 1-4.

5.3.3 Train paths for service trains

The service is intended solely for the transportation of traction vehicles or passenger traffic vehicles that are not in service. This may involve the transportation of vehicles for reasons of circulation, to a departure station or from an arrival station, or to and from a holding location, service facility or workshop.

Train paths for service trains include access to the offer described in Section 5.3.1, points 1-4.

If the traffic assignment requires access to platforms, this is also included in the offer in Section 5.3.1, point 6.

5.3.4 Traffic information

5.3.4.1 Traffic information for applicants and traffic operators

The information is supplied to applicants or traffic operators via a number of different channels, including e-mail, the internet, direct access to the Swedish Transport Administration's IT systems or verbally via telephone.

Where technically possible, the following information is included:

1. planned arrival and departure times at stations with traffic exchange
2. details of where the trains are located geographically in real time (where it is technically possible)
3. punctuality (presented in minutes in relation to the established Timetable)
4. relevant arrival or departure track at stations that are interchanges
5. estimated arrival and departure times in the event of traffic disruptions leading to a delay of five minutes or more
6. presumed cause of delay for a delay of three minutes or more
7. traffic events, information regarding action (if any) to restore track and traffic, as well as forecasts for.

When traffic operations take place in the form of blocked line operation, only the services in items 1 and 7 are included. Blocked line operation only arises in cases where the technical requirements for train movement cannot be fulfilled.

5.3.4.2 Traffic information for passengers

The traffic information is based on planned information and is updated with information about traffic changes. The information aims to provide a complete and up-to-date traffic information about the current or upcoming traffic situation, which includes information about the passengers' expected travel time, service and/or comfort.

Based on agreed train paths, the Swedish Transport Administration compiles a basic announcement.

The announcement information is used for announcements on stations, when publishing traffic information on the internet and via the Swedish Transport Administration's IT systems. The information must, when needed, be supplemented and changes by the applicant/traffic organiser.

The presentation in the different traffic information channels may vary, based on needs and technical possibilities.

The Swedish Transport Administration's basic announcement is based on established train path and information on the traffic situation. It includes:

1. advertised train number*
2. advertised start/end station*
3. intermediate stations, that are decisive for the journey*
4. name of the applicant*
5. traffic operator*
6. announced arrival and departure times at stations that are interchanges*
7. current arrival or departure platform at stations that are interchanges
8. estimated arrival and departure times for trains delayed 5 minutes and more (related to timetable). If the cause for the delay is known, it will be given for delays of 10 minutes or more
9. aggregated information with cause and forecast of events that result in traffic impacts for a number of trains.

** May in some cases be changed by the applicant/traffic operator.*

The applicant/traffic operator shall supplement with information on:

10. booking, other information, information on train formation, deviation, service, and product information
11. instructions in the event of traffic disruption (e.g., replacement traffic).

Material from the applicant/traffic operator to the Swedish Transport Administration

In order to be able to give passengers general traffic information in advance regarding a planned event, the Swedish Transport Administration requires basic input from the applicant /traffic operator.

This information shall clearly describe changes and/or additions in terms of both traffic structure and any form of replacement traffic. This input must reach the Swedish Transport Administration no later than seven (7) days before the event is due to take place, see contact information in Annex 1 A, Section 5.4.

The applicant/traffic operator is always responsible for, within the framework of the Swedish Transport Administration's guidelines, updating and supplementing the announcement information in the Swedish Transport Administration's e-services.

All known changes and additional data must contain information per train path and station and be submitted via the Swedish Transport Administration's the e-service by the applicant/traffic operator according to following:

Announcement information per train path:	Completed at the latest:	Updated via:
Information on announced train number and announced times	Continuously	The capacity portal (<i>Kapacitetsportalen</i>)
Supplemented basic announcement	2 weeks before the annual timetable takes effect	Planno
Known deviations, for example planned track engineering work and weekend adaptations	5 working days before the operating period in question	Planno
Other changes for the upcoming operating period	18.15 weekday before the next operating period	Planno
After 18.50 ¹⁾ weekday before the upcoming operating period and for train path within the current operating period	As soon as the change becomes known	Duwa/MTM

1) The time may vary depending on the amount of data at the time of transmission

Table 5.1

The information that the applicant/train path holder/traffic operator cannot change via the Swedish Transport Administration's e-services must be provided in accordance with the contact details in Annex 1 A, Section 5.4.

Detailed descriptions about working with announcements is available on [the Swedish Transport Administration's website](#).

Stops for replacement traffic

Applicants/traffic operators shall inform the Swedish Transport Administration about both temporary and permanent stops for substitute traffic for trains, at the respective railway station.

The stops should be described with geographical location (bus stop, street address, or other clear characteristics). If the stop has a designated indication, for example stop A, this must also be included in the description.

The information on stops for replacement traffic is used for updating fixed signage and in the Swedish Transport Administration's announcement system, so that dynamic traffic information for replacement traffic can be communicated.

Changes to the stops are to be notified to the Swedish Transport Administration, [Support Railway](#), at least 12 weeks before the change becomes effective. If there are several stops for replacement traffic at the same station, it must be stated which stop has changed, and when applicable, for which direction/destination the replacement traffic applies.

5.3.4.3 Permanent signage

Permanent signage in and around the station informs passengers how to find their way to and from the trains. Many stations have a fixed location for train replacement traffic. Within the Swedish Transport Administration's property, it is responsible for fixed reference signage to these stops. See also Section 5.3.4.2.

It is normally the property owner that is responsible for the permanent signage within its own property (both buildings and area). The framework for the Swedish Transportation Administration's sign standard is open to all responsible parties for use. This provides the opportunity to create a comprehensive solution for signage and information flow.

5.3.5 Charging system for minimum access package (train path)

For the service *minimum access package* (train path), in accordance to Section 5.3, the following charges are levied:

- Track charge (SEK per gross tonne kilometres), differentiated by mean axle load
- Train path charge (SEK per train kilometre)
- Passage charge for passenger traffic and service trains in metropolitan areas (SEK per passage)
- passage charge for freight traffic that pass the Öresund Link (SEK per passage).

Track charge

The maintenance costs correlates with the gross weight and mean axle load of trains. The relationship is maintenance costs increase with the trains' mean weight per axle⁴. Therefore the track charge is charged per gross tonne kilometre and is differentiated by mean axle load.

In order to reflect this relationship, the track charge for freight traffic and service trains is divided into four levels and the track charge for passenger traffic into two levels. For freight trains weight varies more than for passenger trains, which justifies a greater number of levels.

The mean axle load is calculated as the gross weight of the entire train divided by the train's total number of axles. For freight trains, the mean axle load is calculated as:

$$(\sum \text{service weight}_{\text{traction vehicle}} + \sum (\text{unladen weight}_{\text{freight wagons}} + \text{load weight}_{\text{freight wagons}})) / \sum \text{axles of the train}$$

This formula implies that the service weight of each vehicle is added to the sum of the unladen weight and the load weight for each freight wagon. This provides the total weight of the train, which is then divided by the number of axles on the train. Thus all the vehicles that are part of the train will affect the charge.

In the corresponding manner, the mean axle load for passenger trains is calculated through the following formula:

$$\sum \text{service weight}_{\text{traction vehicle, control car, passenger carriage}} / \sum \text{axles on the train}$$

This means that the service weight stated for each traction vehicle, control car, and passenger carriage is added up to provide the total weight of the train, which is then divided by the number of axles on the train.

The gross weight is one part of the information to be provided by the applicant before the departure of the train. The number of axles is specified by the applicant for the train in question via the same IT system as the other reporting done in accordance with Annex 6 A.

If the applicant has not specified the total train weight or the number of axles in accordance with Annex 6 A, the mean axle load cannot be calculated. Instead, the maximum load per

⁴ CTS Working Paper 2016:21. The impact of axle loads on rail infrastructure maintenance costs

axle (STAX) specified by the applicant in the application for the train path for the track charge will be used in such a case, see Chapter 4. The mean axle load, the STAX class, and the maximum number of tonnes for the STAX class in question are related to each other as shown in table 5.2 below.

	Mean axle load	STAX-class	Maximum number on tons for the STAX-class
Track charge freight traffic and service trains	≤ 10 tonnes	-	-
	> 10 tonnes ≤ 17 tonnes	A	16
	> 17 tonnes ≤ 25 tonnes	B, C, D, E	18; 20; 22,5; 25
	>25 tonnes	F	30
Track charge passenger traffic	≤ 17 tonnes	A	16
	>17 tonnes	B, C, D	18; 20; 22,5

Table 5.2

Train path charge

Train path charges are based on train kilometres and levied at two levels: high level (red) and base level (yellow). The base level shall reflect average the cost directly incurred as a result of operation train vehicles. Train path charge high includes a mark-up, in accordance with Chapter 7, Section 4 of the Swedish Railway Act.

Annex 5 A shows the lines for each level described.

Passage charge

Passage charge is imposed for the allocated train paths on parts of the railway network in Stockholm (area F, G and H), Göteborg (area C) and Malmö (area D and E) on non-holiday weekdays, Monday-Friday, 6.00–09.00 and 15.00–18.00. Capacity utilisation is greatest at these times in these places. Traffic calendar is available in Annex 4 C. Detailed information regarding passage charge can be found in Annex 5 A, Section 2.

The passage charge is levied even if the allocated train path is only partially within the specified times. If several of the areas are traversed, the charge is levied for each area.

Passage charge for freight traffic crossing the Öresund Link

For freight traffic that cross the Öresund Link, a passage charge is levied. Neither track charge nor train path charge is levied for freight traffic on this section.

5.3.6 Charges for minimum access package (train path)

For the minimum access package, the charges are levied for track charge (per gross tonne kilometre), train path charge (per train kilometre) and eventual passage charge, in accordance to Section 5.3.5 as well as Chapter 7, Section 2 to 5 of the Swedish Railway Act.

5.3.6.1 *Track charge*

	Mean axle load	STAX-class (if mean axle load cannot be calculated)	Charge per gross tonne kilometre
Track charge freight traffic and service trains	≤ 10 tonnes	-	SEK 0.0115
	> 10 tonnes ≤ 17 tonnes	A	SEK 0.0128
	> 17 tonnes ≤ 25 tonnes	B, C, D, E	SEK 0.0140
	>25 tonnes	F	SEK 0.0151
Track charge passenger traffic	≤ 17 tonnes	A	SEK 0.0180
	>17 tonnes	B, C, D	SEK 0.0197

Table 5.3

5.3.6.2 *Train path charge*

	Charge per train kilometre
Train path charge base for freight traffic, passenger traffic and service trains	SEK 3.94
Train path charge high for freight traffic and service trains	SEK 8.00
Train path charge high for passenger traffic	SEK 9.00

Table 5.4

5.3.6.3 *Passage charge in Stockholm, Göteborg and Malmö*

Passage	Charge
Passenger traffic and service trains operating Stockholm area	SEK 433
Passenger traffic and service trains operating Göteborg area	SEK 433
Passenger traffic and service trains operating Malmö area	SEK 433

Table 5.5

5.3.6.4 *Passage charge for freight traffic crossing the Öresund Link*

Passage	Charge
Freight traffic crossing the Öresund Link	SEK 3 183

Table 5.6

5.4 **Additional services and charges**5.4.1 **Provision of traction current**

The Swedish Transport Administration procures electricity, and offers it to railway undertakings and traffic operators. Electricity is delivered as traction current by using catenary, also offered in the service holding via train heating point or via catenary. The charge for the service *connection to electricity when holding of rail vehicles* consists of two parts, the electricity consumption described in this section and the connection to electricity described in Section 7.3.11.4.

An application for access to traction current is included in the application automatically for the services covering *train paths*, *access to marshalling yards*, and *track or track area for train formation*. The permission to use electricity is obtained when the track access agreement is signed with the Swedish Transport Administration.

The electricity supplied by the Swedish Transport Administration is entirely produced by hydro power and certified as “Good Environmental Choice” according to the Swedish Society for Nature Conservation’s criteria. Electricity that is produced in another way and marked “Good Environmental Choice” can be ordered from the Swedish Transport Administration with a surcharge. One condition is that it is possible to purchase the product on the electricity market.

In accordance with Chapter 4 in the law (2011:1200) concerning electricity certificate, all consumers must in 2023 purchase certified electricity equivalent to 27.1 per cent of their consumption. The Swedish Transport Administration purchases and provides electrical certificate to the railway undertakings and traffic operators who consume traction current and electricity when using the service holding.

5.4.1.1 Charge for provision of traction current

The Swedish Transport Administration supplies traction current to the railway undertakings based on a prime cost of providing the service in accordance with Chapter 7, Section 8 of the Swedish Railway Act. The electricity cost is invoiced on to the end users. The prime cost includes the cost for electricity certificate and the Swedish Transport Administration’s costs for managing the electricity purchases, such as charges paid to electricity exchanges, remuneration for the external portfolio managers who trade on the exchanges, and the Swedish Transport Administration’s personnel costs for precisely these activities.

The basis for the billing of electricity consumption is the actual consumption for vehicles with energy meters or is based on standardised templates. To calculate consumption using standardised templates, the Swedish Transport Administration must be aware of the number and type of vehicles. This information is to be submitted to the Swedish Transport Administration through self-declaration.

The forecast price for traction current is published in [the Swedish Transport Administration’s electricity price report](#) which can be found on the Administration’s website. The forecast price in the electricity price report should only be seen as information regarding the price level. The price that is charged depends on the current month’s electricity supply.

The Swedish Transport Administration will not make any profit or loss from the supply of electricity. Therefore, following the year end, any volume difference that may arise between the declared amount of energy and the amount of energy that the Swedish Transport Administration has supplied to the net is adjusted. The difference is distributed between vehicles without energy meters per consumed kilowatt-hour (kWh).

Vehicles either have the Swedish Transport Administration’s meter, their own meter or no meter. Railway undertakings that have vehicles that are equipped with their own energy meters and that are being operated for the first time in Sweden, shall declare that the on-board-based energy measuring systems fulfil the requirements in TSI 1302/2014 and report this in accordance with EN 50463-5 Railway applications – Energy measurement on board trains – Part 5: Conformity assessment.

Vehicles with the Swedish Transport Administration's energy meter

The Swedish Transport Administration's energy meter has time resolution and GPS, and it is therefore possible to read the time and place of electricity consumption. The Swedish Transport Administration will charge the railway undertakings that have the Swedish Transport Administration's energy meter hourly with the amount of the current electricity price including network charges for each electricity area.

For railway undertakings that have the Swedish Transport Administration's energy meter, all data is sent directly to the Swedish Transport Administration's settlement system. If measurement data is lacking, billing is handled in the same way as for vehicles without a meter.

Agreements regarding the use of the Swedish Transport Administration's energy meters are handled by Purchasing and Logistics function at the Swedish Transport Administration.

Vehicles with energy meters that meets requirement stated in TSD 1302/2014

Energy meters that meet requirement stated in TSD 1302/2014 meter has time resolution and GPS, and it is therefore possible to read the time and place of electricity consumption. The Swedish Transport Administration will charge the railway undertakings that have this kind of energy meter hourly with the amount of the current electricity price including network charges for each electricity area. For railway undertakings that have energy meters that meets these standards, all data is sent directly to the Swedish Transport Administration's settlement system. If measurement data is lacking, billing is handled in the same way as for vehicles without an energy meter.

Vehicles with another energy meter

Railway undertakings that have vehicles with their own energy meter shall report the electricity consumption through self-declaration, monthly with data on the energy consumed per vehicle. They are charged the amount of the mean price after the time-resolved volume and cost have been deducted, see electricity price report. They will not be charged an electricity price for each electricity area since the energy meters do not provide information about the time and place of consumption. Declaration is conducted via a web interface on [the Swedish Transport Administration's website](#). Login authorisation is required.

Information regarding the number of kWh consumed according to meter indication per vehicle type is due to be submitted no later than the 20th of the month following the month in which the services have been used. The railway undertakings and traffic organisers must personally keep records and store the data necessary for reporting and inspection.

Vehicles without meters

Railway undertakings that have no energy meters installed must submit monthly reports of the transportation work completed per vehicle type in gross tonne-kilometres, in accordance with Annex 5 C, Table 3. The calculated amount of energy is used as the basis for the charge.

Information regarding the number of gross tonne-kilometres completed per vehicle type as a basis for the standardised calculation is due to be submitted no later than the 20th of the month following the month in which the services have been used. The railway undertakings and traffic organisers must personally keep records and store the data necessary for reporting and inspection. Declaration is conducted via a web interface on [the Swedish Transport Administration's website](#). Login authorisation is required.

Tables and examples

Annex 5 C provides examples for consumption, loss surcharge and example of calculations of the costs of traction current for vehicles with or without energy meters.

5.4.2 Transport conditions and transport permits for exceptional transports

In the map service, the line category of each sections is presented at an overall level, see also Section 2.3.5 and Annex 2 B. The line category applies to normal main tracks. Deviating main tracks and side tracks at a traffic junction may have a different line category than the normal main track.

In order to achieve a safe transportation, an application for transport conditions must be made for vehicles or transports that:

- exceed static reference profile A, with the exception of codified transports which can be conveyed on a predefined and codified line according to [map available on Trafikverket.se](https://www Trafikverket.se)
- exceed dynamic reference profile Sea, with the exception of codified transports which can be conveyed on a predefined and codified line according to [map available on Trafikverket.se](https://www Trafikverket.se)
- exceed code P/C 371 in accordance with UIC 596-6 (see Section 5.4.3 for codified transports)
- utilise the European reference profile GC
- utilise dynamic reference profile SEc
- exceed valid line category
- exceed line category D2 (STAX 22.5 tonnes and/or STVM 6.4 tonnes/metre)
- has inner wheelbase greater than 17.5 metres
- has outer wheelbase less than 4.5 metres
- has buffer overhang greater than 2.5 metres from outer axle tree (does not apply to RIV/TEM marked carriages)
- is particularly power consuming, i.e. a vehicle weight of more than 2 400 tonnes and have more three or more locomotives (with raised pantograph).

Exceptional transports that can be operated without transport permit:

- exceptional, non-heavy – exceeds the reference profile, but does not exceed the line's maximum load per axle and/or weight per metre
- exceptional, heavy – exceeds line's maximum axle load and/or weight per metre, and possibly the reference profile as well
- power consuming transports.

Exceptional transports that require transport permit

- exceptional, substantial – exceeds reference profile and line's maximum axle load and/or weight per metre, and requires temporary extraordinary measures in the facilities in connection with the operation of the vehicle

Exceptional loads may be transported on the condition that the Swedish Transport Administration has received an application for and made a decision concerning (in the following order):

1. transport conditions
2. capacity, customised to transport conditions (see Section 4.7)
3. transport permit (for transports with extensive conditions)

The railway undertaking/traffic operator is responsible for the exceptional load being transported in accordance with applicable transport conditions and permit, that has been issued when required. See more in the section below.

Address details for questions regarding transport conditions and permits for exceptional transports, see Annex 1 A, Section 5.8.

Transport conditions

A transport condition describes the circumstances under which a vehicle may be operated. It might be, for example, that the vehicle may only be operated on certain tracks, or that it shall be driven with limited speed on a specific line. Application of transport conditions shall contain all routes where the transport is to be operated on. Exceptions can, however, be made for transport conditions for vehicles with at least 12 axles.

Applications concerning transport conditions for exceptional transports shall be submitted via an IT system available on [the Swedish Transport Administration's website](#).

The lines (routes) in the transport conditions are continually monitored in terms of accessibility.

The processing time is normally 5 working days but for heavy vehicles, 10 working days will be added. Transports with extraordinary exceeds of the reference profile may require longer turnaround time. Transport conditions are processed during non-holiday Monday-Friday between 8.00 and 16.00. Exceptions occur, with days off on working days between two holidays (*klämdag*) and days with reduced working hours.

A decision regarding transport conditions cannot be delegated to another entity. An entity that receives a decision regarding transport conditions can specify one or two alternative providers of the transport. These have the opportunity to apply for transport permit for exceptional transports in the transport condition.

A decision regarding transport conditions may have either a specific end date or an indefinite end date. If the circumstances upon which a decision regarding transport conditions change, the decision may be immediately revoked. If restrictions for exceptional transport mean that the train cannot be operated in accordance with the previously established train path, an application for a new train path and, where applicable, a new transport permit is always required.

Transport permit

The transport permit is an acknowledgement that the applicant may transport an exceptional transport with extensive conditions. These transports require extraordinary measures such as protection, supplementary inspection or actions to the infrastructure. An application for a transport permit shall contain information about the valid decision regarding transport conditions, and information about the capacity that has been agreed for the exceptional transport. The railway undertaker is responsible for ensuring that the transport has valid transport permits before departure.

Application for transport permit for exceptional transports shall be made via the IT system available on [the Swedish Transport Administration's website](#).

The processing time is 10 working days. Transport permits are processed during non-holiday Monday-Friday between 8.00 and 16.00. Exceptions occur, with days off on working days between two holidays (*klämdag*) and days with reduced working hours. In special cases, transport permits can be processed outside of office hours.

Applications concerning transport permits for exceptional transports shall be submitted via an IT system available on [the Swedish Transport Administration's website](#).

If there is a change in the circumstances upon which a decision regarding a transport permit is based, the decision may be revoked immediately.

Table 5.9

Codified transports

The Swedish Transport Administration provides the opportunity to convey codified transports under the conditions specified in IRS 50596-6 (formerly UIC 596-6). This applies to the codification up to P/C 422. On the Swedish Transport Administration's website there is a [map](#) available where routes codified for P/C 422 are marked. If the route's codification is the same or higher than the units codification, the codified transport in question can be conveyed.

In the event of acute re-routing, the codified transport will be handled as an exceptional transport. When the train path for a codified transport cannot be used in its entirety, the Swedish Transport Administration provides a nationwide transport condition. The transport is then diverted as exceptional transport according to ordinary routines.

5.4.2.1 Charges for exceptional transport services

The Swedish Transport Administration imposes a processing charge for applications regarding conditions of carriage for exceptional loads.

Service	Charge
Application regarding conditions of carriage for exceptional load, processing	SEK 1,000 per commenced hour
Application regarding transport permit for exceptional load, processing	SEK 375 per commenced half-hour
Coverage of routes in the conditions of carriage: - conditions of carriage without weight conditions - conditions of carriage with weight conditions - conditions of carriage with comprehensive conditions	1 SEK/kilometre and commenced month 1 SEK/kilometre and commenced month 1 SEK/kilometre and commenced month
Any measures taken in conjunction with the processing and the transportation	The Swedish Transport Administration's prime cost

Table 5.7

If services relating to exceptional loads are used in case of acute re-routing of codified transports, no charge is levied.

The charge for capacity is levied in accordance with Section 5.2.

If extraordinary measures are required for the conveyance of exceptional loads, the party that applied for the transport is responsible for any costs that may arise as a result of these measures.

5.5 Ancillary services and charges

5.5.1 Telecommunications network

GSM-R

Access to the Swedish Transport Administration's mobile network, GSM-R, see Sections 2.3.12 and 3.4.1.1, can be provided in two ways:

- The applicant signs a subscription agreement with the Swedish Transport Administration.
- If a railway undertaking/traffic operator has a GSM-R subscription agreement in another country's GSM-R network, that subscription can also be used to gain access to the Swedish Transport Administration network if an agreement (roaming agreement) has been concluded between the Administration and the other country's GSM-R network operator.

For more information, see [the Swedish Transport Administration's website](#).

5.5.1.1 *Charges, GSM-R*

Communication between locomotive drivers and traffic control centre is free of charge. Other charges for access to GSM-R are levied under agreement with the Swedish Transport Administration. The charge is based on prime costs and in accordance with Chapter 7, Section 8 of the Swedish Railway Act (2004:519).

5.5.2 Additional traffic information

In addition to the "traffic information for applicants and traffic operators" and "traffic information for passengers", see Section 5.3.1 and 5.3.4, the Swedish Transport Administration offers services with extra information to applicants and traffic operators.

Access to digital traffic and railway network information

The service gives applicants and traffic operators access to digital railway-related traffic information as well as some information about the railway network, for use in their own systems and applications. For more information about the service see [the Swedish Transport Administration's website](#).

If the contracting party itself supplies the traffic information to its passengers, the contracting party is responsible for ensuring that the information does not change or is published in a misleading way.

The information pertaining to railway traffic that is displayed on the Swedish Transport Administration's website is also available as open data to third parties who develop traffic information services.

5.5.2.1 Charge for additional traffic information

Service	Charge
Access to digital traffic and railway network information	The service is free of charge

Table 5.8

5.5.3 Technical inspection of rolling stock

Information is included for allocated train paths in the form of raw data from the Swedish Transport Administration's detection equipment along the line. See also Section 2.3.14 and 6.4.1.

Access to extended information via detectors

With the help of RFID technique (Radio Frequency Identification), the Swedish Transport Administration can supply detector information that is linked to the exact vehicle for which the information concerns. The vehicle is identified via wireless data exchange between RFID reader and RFID tag attached to the vehicle.

The service provides the opportunity to identify the vehicles that operate on the railway network based on readings of RFID tags and axle pulses from axle counters.

The service makes it possible to receive, search among and sort the measurement values that were registered in connection with the entity's vehicles' detector passages via the Swedish Transport Administration's IT-system. The Swedish Transport Administration's subscription service delivers measured value reports for detector measured values and train composition. Also, see [the Swedish Transport Administration's website](#).

5.5.3.1 Charge for extended traffic information via detectors

The service is currently free of charge.

5.5.4 Test runs

Conditions for test runs of vehicles

Test runs of vehicles are offered in accordance with the conditions stated in Section 3.4.5.

The application shall be made in writing to the Swedish Transport Administration using the form "[Application regarding conditions for test run](#)" on the Swedish Transport Administration's website. The technical data for the vehicle or vehicle combination must be detailed in the application, as well as the actual journey and the vehicle functions that are to be tested. All documentation must have been received by the Swedish Transport Administration no later than one month before the test run.

Test runs may take place on the condition that the Swedish Transport Administration has received an application and made decisions regarding:

- conditions for test run
- capacity, adapted to the decision on conditions for test run.

The railway undertaking/traffic operator is responsible for the safety-oriented forms for those periods that are spent on tracks by the personnel who are involved in the test runs (Swedish Transport Administration personnel and contractors are exempted).

For contact details relating to applications for test runs, see Annex 1 A, Section 6.1.

5.5.4.1 Charge for conditions for test runs with vehicles

Service	Charge
Conditions for the test-driving of vehicles - processing	SEK 1,000 per commenced hour
Any measures taken in conjunction with processing and test-driving	The Swedish Transport Administration's prime cost

Table 5.9

The charge for allocated capacity when test-driving is conducted is levied in accordance with Section 5.3.5.

5.6 Financial incentives

5.6.1 Reservation charge

A reservation charge is imposed for allocated capacity for train paths when a railway undertaker or traffic organiser request a modification that results in a reduced need for capacity or that the capacity is cancelled altogether. The reservation charge is based on information regarding allocated capacity, the cause of the modification or cancellation and the registered time of the modification or cancellation. The reservation charge is only imposed for causes for which the railway undertaking is directly responsible and is registered with code "Järnvägsföretag" (railway undertaking).

The modified or cancelled capacity is measured in relation to the agreement signed between the Swedish Transport Administration and the applicant, including capacity to be allocated in the ad hoc process.

Upon modification or cancellation of allocated capacity for train paths, the following reservation charges are imposed:

Period of time	Passenger traffic (passenger trains)	Freight traffic
Between 48 days and 15 days prior to the planned departure time at the departure station	20 % of the train path charge	10 % of the train path charge
Between 14 days and 24 hours prior to the planned departure time at the departure station	40 % of the train path charge	20 % of the train path charge

Table 5.10

Reservation charges are calculated based on the planned train path's modified or cancelled route. Allocated capacity cannot be cancelled retrospectively.

For allocated capacity subject to modification or cancelled at short notice, a delay charge is levied but no reservation charge.

5.7 Performance scheme

The Swedish Transport Administration employs a system of performance scheme with delay and cancellation charges in accordance with Chapter 6, Section 22a of the Swedish Railway

Act (2004:519). The purpose is to prevent disruptions to railway system operations. The delay and cancellation charges are to be designed so that both the infrastructure manager and the user of the infrastructure take reasonable measures to prevent disruptions, in accordance with Chapter 7, Section 5a of the Swedish Railway Act.

Cancellation codes for cancelled trains is under review. Changes will be published via an amendment during 2022.

5.7.1 Delay and cancellation charges

The charges are based on cumulative delays and modifications that result in a reduced need for capacity or cancelled trains compared with the timetable. The charges for cumulative delays and modifications or cancelled trains are determined on the basis of a delay or cause code. The Swedish Transport Administration initially compiles the deviations on the basis of a delay or cancellation code and cumulative delay in executed traffic and cancelled trains respectively, and then calculates the total outcome. With the Swedish Transport Administration's compilations as the basic starting point, delay and cancellation charges are levied for cumulative delays (double- and single-direction model) and modified or cancelled trains (double-direction model) on a monthly basis.

In the double-directed models, delay and cancellation charges are paid by both the Swedish Transport Administration and the traffic organisers. In the single-direction model, delay and cancellation charges are only paid by the Swedish Transport Administration.

Annex 5 B shows delay and cause codes for delay and cancellation charges for cumulative delays and modified or cancelled trains.

5.7.1.1 Delay charge for double-direction model

Delay charges apply for cumulative delay for passenger transport, freight traffic and service trains with the following delay codes:

Delay code	Charge
Operational management, Infrastructure, "Not reported",	SEK 75 per cumulative delay minute
Railway Undertaking	SEK 75 per cumulative delay minute

Table 5.11

5.7.1.2 Delay charge for cumulative delays, single-direction model

As a supplement to the model in general, the Swedish Transport Administration pays (see above) a delay charge for larger deviations for passenger traffic and freight traffic with the delay code Operational management or Infrastructure:

Time period	Passenger and freight trains
(30-59 cumulative delay minutes)	SEK 6,000 per occasion
(60 cumulative delay minutes or more)	SEK 14,000 per occasion

Table 5.12

The delay charge for cumulative delays is based on the number of disruption occasions with a cumulative delay within given limits cumulative delay minutes per occasion in executed traffic compared with the timetable and delay code.

Service trains are not included in the single-direction model with delay charges.

5.7.1.3 Cancellation charge for trains cancelled at short notice, double-direction model

Cancellation charges apply for acute modifications that results in a reduced need for capacity or fully cancelled trains at short notice in passenger traffic and freight traffic:

Cause codes	Charge
Operational management, Infrastructure, Track engineering works – changed or new	SEK 1,000 + SEK 20 per train kilometre
Railway Undertaking	SEK 500 + 50 % of train path charge

Table 5.13

The cancellation charge for acute modified trains or trains cancelled at short notice is based on allocated capacity, cause code and time for acute modification or trains cancelled at short notice.

5.7.1.4 Cancellation charge for cancelled trains, single-direction model

A cancellation charge for modified trains that results in a reduced need for capacity or acute fully cancelled trains, single-direction model, is imposed for the allocated train path capacity that is modified or cancelled. The cancellation charge is based on information regarding the allocated capacity, the cause for the modification or cancellation, and the registered time of the modification or cancellation. The cancellation charge is only imposed for causes for which the Swedish Transport Administration is directly responsible and that have been registered with the delay code *Driftledning* (Operational Management) (D), *Infrastruktur* (Infrastructure) (I) and *Banarbete- förändrat/nyttillkommet* (Track engineering works – changed or new) (E).

The modified or cancelled capacity is measured in relation to the agreement signed between the Swedish Transport Administration and the applicant, including any capacity to be allocated in the ad hoc process.

Upon modification or cancellation of any allocated capacity for train paths, the following delay charges are imposed:

Period of time	Passenger trains and freight trains
Between 125 days and 84 days prior to the planned departure time at the departure station	SEK 500 + SEK 10 per km per cancelled train
Between 83 days and 15 days prior to the planned departure time at the departure station	SEK 750 + SEK 15 per km per cancelled train
Between 14 days and 24 hours prior to the planned departure time at the departure station	SEK 750 + SEK 15 per km per cancelled train

Table 5.14

Cancellation charges are based on the route of the planned train path that has been modified or cancelled.

5.7.2 Deviations from supplemented established annual timetable and track access agreement

5.7.2.1 Cumulative delays, double direction model

Being involved in causing deviation that results in delay charges means that a train will be delayed by 5 minutes or more on a journey between two measuring points which follow

immediately after each other in the Swedish Transport Administration's system for monitoring punctuality and disruptions. Being involved in causing deviation that results in delay charges also means that a train will be delayed by 5 minutes or more compared with timetable at the first measuring point.

The infrastructure manager is responsible for deviations that mainly comprise cumulative delays caused by disruptions in Infrastructure or Operational management.

The railway undertaking or traffic organisers are responsible for deviations that cover their operations.

Deviations that are a result of consequential causes and accidents, near accidents, or external circumstances do not burden any of the parties.

5.7.2.2 Trains cancelled at short notice, double-direction model

Being involved in causing a deviation means that a train path is modified that results in a reduced need for capacity or is acute fully cancelled compared with the timetable. The term "acute" means that the train path is cancelled within 24 hours before the scheduled departure time at the departure station.

The infrastructure manager is responsible for deviations in the cancellation charge model that covers acute modified trains or trains cancelled at short notice that were caused by disruptions coded as Operational management, Infrastructure and excluding track engineering works – changed or newly added.

The responsibility of the railway undertaking or traffic organisers for deviations covers the railway undertaking's operations.

Acute modified trains or trains cancelled at short notice that are a consequence of track engineering works, the Swedish Transport Administration's established Engineering Work Plan (BAP), wrong planning, subsequent causes, accidents/near-accidents and external events do not burden any of the parties.

In the case of museum associations that operate museum-based transport activities, they shall pay the fixed part of the charge (SEK 500) but not the variable part (50% of the train path charge) when booking is performed in the ad-hoc process. Museum-related traffic that is booked and allocated in the annual timetable shall pay both the fixed and the variable parts of the cancellation charge for acute modified trains or trains cancelled at short notice.

Service trains are not covered by the double-direction model with cancellation charges for trains cancelled at short notice.

5.7.2.3 Cancelled trains, single-direction model

A cancellation charge for acute modified or acute cancelled trains, single-direction model, is imposed for the allocated train path capacity that is reduced or cancelled. The cancellation charge is based on information regarding the allocated capacity, the cause for the cancellation, and the registered time of the modification or cancellation. The cancellation charge is only imposed for causes for which the Swedish Transport Administration is directly responsible and that have been registered with the delay code *Driftledning* (Operational Management) (D), *Infrastruktur* (Infrastructure) (I) and *Banarbete-förändrat/nyttillkommet* (Track engineering works – changed or new) (E).

Service trains are not covered by the single-direction model with cancellation charges for cancelled trains.

Museum associations are exempted from a delay charge for cancelled trains with respect to the cancellation of allocated train paths in the short-term process since they have not been charged a train path charge. When a train path that has been allocated in the long-term process gets cancelled, however, the museum associations shall be compensated with a delay charge for cancelled trains.

The modified or cancelled capacity is measured in relation to the agreement signed between the Swedish Transport Administration and the applicant, including any capacity to be allocated in the ad hoc process.

5.7.3 Reporting of deviations from supplemented established timetable and track access agreement

The Swedish Transport Administration shall provide "a system for reporting and registering deviations from established use of the infrastructure in timetables and track access agreements and the causes of such deviations" (Chapter 6, Section 4 a of the Swedish Railway Act).

The Swedish Transport Administration automatically registers all deviations from the timetable at a large number of measuring points in the Swedish Transport Administration's railway network. For cumulative delays that occur on a journey between two measuring points that follow directly after each other and which last for 3 minutes or more, a delay code is specified in the Opal⁵ system no later than during the third day after the train's planned departure date and departure station. The basic principles for the reporting of delay and cause codes and the delay and cause codes themselves are presented in Annex 5 B.

Via the system Här&Nu⁶, the railway undertaking and traffic organisers have access to real-time information on cumulative delays and delay/cancellation codes. In the Lupp⁷ system, information from the other systems is compiled. The Swedish Transport Administration provides reports with compilations of deviations.

The cause codes for cancelled trains are proposed by the railway undertaking when applying for cancellation and the Swedish Transport Administration's establishes them in the Administration's planning tool for capacity. The cause codes for cancelled trains are presented in Annex 5 B.

5.7.4 Liability to pay delay and cancellation charges

5.7.4.1 Cumulative delays

The party that causes deviations is obliged to pay a delay charge for each minute of delay, from and including the first cumulative delay minute in cases where the delay is more than five minutes.

The Swedish Transport Administration shall pay a delay charge when the deviations are given one of the delay codes Operational management (D) and Infrastructure (I) and in those cases where a delay code has not been registered.

The Swedish Transport Administration shall also pay a delay charge for larger deviations for which the Swedish Transport Administration is responsible, in accordance with the above paragraph.

⁵ Opal – The Traffic Control Centre's common tool for all event reporting.

⁶ Här&Nu – A web application that shows current train paths. Permits a certain amount in reporting-in.

⁷ Lupp – A follow-up system for statistics on punctuality and disruptions.

Railway undertaking and traffic organisers shall pay delay charges when the deviations are allocated the delay code Railway Undertaking (J).

The liability to pay does not apply if the cumulative delay is fundamentally caused by the other party.

The railway undertaking and traffic organisers cannot question the liability to pay a delay charge for a deviation unless it has requested a renewed assessment of the delay code in accordance with Section 5.7.6.

5.7.4.2 *trains cancelled at short notice, double-direction model*

The party that causes deviations according to Section 5.7.4.1 will be liable to pay a cancellation charge based on the route of the planned train path that has been modified or cancelled.

The Swedish Transport Administration shall pay a cancellation charge when the deviations are given one of the cause codes Operational management (D), Infrastructure (I) and track engineering work – changed or new (E).

The railway undertaking and traffic organisers shall pay cancellation charges when the deviations are allocated the cause code Railway Undertaking (J).

Liability to pay does not apply if the acute modified trains or trains cancelled at short notice is basically caused by the other party.

5.7.4.3 *Cancelled trains, single-direction model*

A cancellation charge for modified or cancelled trains, single-direction model, is imposed for the allocated train path capacity that is modified or cancelled. The cancellation charge is based on information regarding the allocated capacity, the cause for the cancellation, and the registered time of the modification or cancellation. The cancellation charge is only imposed for causes for which the Swedish Transport Administration is directly responsible and that have been registered with the delay code *Driftledning* (Operational Management) (D), *Infrastruktur* (Infrastructure) (I) and *Banarbete- förändrat/nyttillkommet* (Track engineering works – changed or new) (E).

The modified or cancelled capacity is measured in relation to the agreement signed between the Swedish Transport Administration and the applicant, including any capacity to be allocated in the ad hoc process.

5.7.5 Exemption from performance scheme

The system of performance scheme with delay and cancellation charges is only applied under normal operating conditions, when the preconditions for a meaningful application exist. When the Swedish Transport Administration finds that the operating conditions are no longer normal, the Swedish Transport Administration will decide to temporarily discontinue with the application of the system. The Swedish Transport Administration shall take the opportunity to not apply the delay and cancellation charge model restrictively. The Swedish Transport Administration provides information on the Administration's website. When the operating conditions are once again normal, the Swedish Transport Administration will decide that application of the model can be resumed, after the parties concerned have been given the chance to express themselves. The parties can reach agreement on additional information provision in the track access agreement

Delay and cancellation charges are not paid for the use of the infrastructure that is established in the annual timetable and track access agreement and which come up during the time in which the system is not being applied. If the train path has started to be used during normal operating conditions, a delay charge shall be paid for all cumulative delays.

The Swedish Transport Administration decides to temporarily cease with application of the delay and cancellation charge system if the circumstances have disruption effects on the traffic at a national level. The Swedish Transport Administration's assessment is based on the following three conditions:

- the extent of the delays that are taking place in the rail traffic
- the picture of disruptions that have arisen which the Swedish Transport Administration's operation levels indicate
- the knowledge the Swedish Transport Administration has about external conditions that are of decisive importance for the possibilities to operate railway traffic

The Swedish Transport Administration makes an overall assessment with respect to these three conditions, which does not exclude that application of the system is stopped as a result of the prevailing situation in only one of these conditions if the disruption effect has an impact on the traffic at national level.

5.7.6 Request for renewed assessment of the Swedish Transport Administration's cause coding

5.7.6.1 *Cumulative delays*

Railway undertakings and traffic organisers (called contracting party in Section 5.7.6) can send a written request for renewed assessment of delay code (a request hereafter called BONO) to the Swedish Transport Administration, if they think that the Swedish Transport Administration has specified the wrong delay code for a cumulative delay. This applies on condition that the individual cumulative delay is 5 minutes or more. The BONO shall be in accordance with the procedure describe at [the Swedish Transport Administration's website](#). The BONO shall be complete, include a proposal for new delay code on at least level 2 and include an adequate motivation for the code change that reflects the proposed code. The application cannot be supplemented afterwards.

The Swedish Transport Administration's contracting party can attach information to the BONO in order to support the proposal for new delay code presented.

The BONO must reach the Swedish Transport Administration no later than during the sixth calendar day after the train's planned departure date and departure station. The Swedish Transport Administration shall present its position at the latest during the ninth calendar day after the train's planned departure date and departure station.

If the BONO has resulted in a new delay code, i.e. that the result of the BONO was a decision that was neither the delay code established by the Swedish Transport Administration nor the code proposed by the contracting party in BONO, and there still and there is still disagreement about established delay code, the contracting parties concerned of the changed code may send a written request for an additional renewed assessment (hereafter called BONO+) to the Swedish Transport Administration. The BONO+ shall be in accordance with the procedure describe at [the Swedish Transport Administration's website](#). The BONO+ shall be complete, include a proposal for new delay code on at least level 2,

include an adequate motivation for the code change that reflects the proposed code. The application cannot be supplemented afterwards. The Swedish Transport Administration's contracting party can attach information to the BONO+ in order to support the proposal for new delay code presented.

If it is possible for the contracting party to use the BONO+ after the end the BONO, this option must be used before any dispute resolution is initiated, see Section 5.7.6.3.

The BONO+ must reach the Swedish Transport Administration no later than during the twelfth calendar day after the train's planned departure date and departure station. The Swedish Transport Administration shall present its position at the latest during the 15th calendar day after the train's planned departure date and departure station.

If there is still disagreement about the delay code, the Swedish Transport Administration's contracting party has the opportunity to initiate dispute resolution, see Section 6.5.6.3.

For the delay code Further investigation required (YUK), the contracting party shall, apart from the information mandatory for BONO and BONO+, also attach its available information about the case as well as assist and participate in the investigation of the actual cause of the event.

The process is described below:

Calendar day	Process step	Event/activity
0	Train path commences	Train operates on the railway in accordance to the allocated train path.
0–3	Delay coding	Event that results in cumulative delay (≥ 3 minutes) occurs. Operational staff at the traffic control centre reports the initial delay code. The Swedish Transport Administration reviews all reported delay codes, and make any necessary adjustments if needed.
4–6	Request BONO	The Swedish Transport Administration's contracting party can review the delay codes in the system "Här och Nu" and thereafter request renewed assessment of the delay code (BONO).
7–9	Processing of BONO	The Swedish Transport Administration investigates the BONO and decides whether to accept or reject, which serves as the basis for future invoicing and follow-up. The Swedish Transport Administration's contracting party can review the established delay code in a sent decision. If the parties agree, the delay code is locked on the ninth calendar day. If the parties disagree on the delay code after the BONO process, it is possible for the parties to take the matter further to either BONO+ or dispute resolution.
10–12	Request BONO+	If the BONO has resulted in a new delay code and the parties disagree on the established delay code, it is possible for the contracting parties have the option to request an additional renewed assessment of the delay code (BONO+).

Calendar day	Process step	Event/activity
10–12	Request dispute resolution	<p>If the parties still disagree on the established delay code after BONO, and the BONO+ process is not applicable, the contracting party has the option to initiate dispute resolution.</p> <p>The request for dispute resolution after the BONO must reach the Swedish Transport Administration at the latest during the twelfth calendar day after the train's planned departure date and departure station, see Section 5.7.6.3.</p>
13–15	Processing of BONO+	<p>The Swedish Transport Administration investigates the BONO+ and decides whether to accept or reject.</p> <p>The decision serves as a basis for follow-up and eventual adjustment of invoiced delay charges in cases where no dispute resolution is initiated.</p> <p>The Swedish Transport Administration's contracting parties can review the established delay code in a sent decision.</p> <p>If the parties agree, the delay code is established on the 15th calendar day after the train's planned departure date and departure station.</p> <p>If the parties disagree on the delay code after the BONO+ process, it is possible for the parties to take the matter further to dispute resolution.</p>
16–18	Request dispute resolution	<p>The request for dispute resolution after the BONO+ must reach the Swedish Transport Administration at the latest during the 18th calendar day after the train's planned departure date and departure station, see Section 5.7.6.3.</p>

Table 5.15

The BONO and BONO+ shall be submitted by e-service or the applicable form that can be downloaded from [the Swedish Transport Administration's website](#).

In Annex 1 A, Section 8.1, the address is specified to where the BONO and BONO+ are to be sent

5.7.6.2 Cancelled train

The Swedish Transport Administration's contracting party can send a written request for renewed assessment of cancellation codes (hereafter called BRIO) to the Swedish Transport Administration if the party thinks that the Swedish Transport Administration has specified an incorrect cancellation code for modified or cancelled trains. BRIO must be performed according to the procedure described on [the Swedish Transport Administration's website](#).

The request shall be complete, include a proposal for new cancellation code and include an adequate motivation for a code change that reflects the proposed code. The application cannot be supplemented afterwards. The Swedish Transport Administration's contracting party can attach information to the BRIO in order to support the proposal for new cancellation code presented.

A request regarding codes for cancelled trains shall reach the Swedish Transport Administration no later than during the 60th calendar day from the train's planned departure date from the departure station.

BRIO shall be submitted by e-service or form that can be downloaded from [the Swedish Transport Administration's website](#).

In Annex 1 A, Section 8.2, the address is specified to where the BRIO is to be sent.

5.7.6.3 *Dispute resolution*

The Swedish Transport Administration's contracting party has the option to initiate dispute resolution, if there is continued disagreements regarding the Swedish Transport Administration's coding after the BONO, BONO+ or BRIO has ended.

The dispute resolution function makes all decisions in the dispute resolution process.

Contacts for request for dispute resolution for delay and cancellation codes will be available in Annex A (the contact annex) in the track access agreement.

The request for dispute resolution after the BONO must reach the Swedish Transport Administration at the latest during the twelfth calendar day after the train's planned departure date and departure station.

The request for dispute resolution after the BONO+ must reach the Swedish Transport Administration at the latest during the 18th calendar day after the train's planned departure date and departure station.

The request for dispute resolution after the BRIO must reach the Swedish Transport Administration at the latest during the 30th calendar day after the calendar day on which the train path started.

The dispute resolution will start as soon as the request for dispute resolution has reached the Swedish Transport Administration.

The Swedish Transport Administration's contracting party can attach information to the dispute resolution in order to support its request. Due to the limited processing time available for dispute resolution, it is expected that extensive documentation is either summarised or that the documentation specifies what is relevant to the dispute in question.

The dispute resolution function decides based on available information and based on the investigation.

Decision in the matter will be sent to the parties no later than ten working days after the dispute resolution started.

The process for the dispute resolution is described below:

Calendar day	Event/activity
1	Request for dispute resolution is received from the contracting party and is registered. Dispute resolution is started. The Swedish Transport Administration's contracting party attached eventual new information to the request for dispute resolution. .
2–10	The dispute is examined. Decision in the matter will be sent to the parties no later than ten working days after the dispute resolution started. The decision serves as a basis for follow-up and eventual adjustment of invoiced delay and cancellation charges.

Table 5.16

The request for dispute resolution shall be submitted by e-service or the applicable form that can be downloaded from [the Swedish Transport Administration's website](#).

In Annex 1 A, Section 8.3, the address is specified to where the request for dispute resolution is to be sent

5.8 Changes to charges

The charges apply as the principal rule throughout the annual timetable. Any exception from this principle is specified in the section concerned.

During the upcoming years, the track charge for freight trains and service trains will continue to increase. The reason is that the charge shall reflect the direct cost incurred as a result of operation the train service, in accordance with Chapter 7, Section 2 of the Swedish Railway Act. The latest research indicates this cost equals SEK 0.0152 per gross tonne (price level 2016). Differentiation by mean axle load remains.

The track charge for freight trains and service trains will therefore increase by approximately 10 percent annually until it has reached the marginal cost level. The adjustment is expected to take place until the annual timetable 2028.

The track access charges included in the minimum access package shall generate annual revenues in accordance to the current national plan for the transport system 2018–2029. In order to reach the revenue targets, the Swedish Transport Administration plans to levy the high level train path charge and passage charge to the extent necessary in the years coming.

5.9 Billing

The Swedish Transport Administration will issue invoices for all charges. The party responsible for payment is the company that signs an agreement for allocated service. The charges will be billed monthly.

All charges shall be invoiced on the basis of the information and documents submitted and on the basis of the documents from the Swedish Transport Administration. If the applicant fails to submit the above-mentioned information to the Swedish Transport Administration within the time limit specified in the Network Statement, the Swedish Transport Administration has the right to issue an invoice on the basis of the allocated services.

Invoices must be paid within 30 days of the invoice date, otherwise penalty interest will be imposed in accordance with the Interest Act. Invoicing data may be provided in electronic form. The railway undertakings or traffic organisers are responsible for the printing out of electronic documents on paper, or the conversion of documents into the format of their choice.

The party questioning any part of an invoice must still pay the remainder of the invoice and submit an explanation of what it is that is being disputed before the invoice due date, in order to avoid penalty interest.

In order to minimize credit risks, the Swedish Transport Administration reserves the right in certain cases to demand a financial guarantee. Applicants can meet the requirement either by payment in advance or through a contractual arrangement, whereby a financial institution such as a bank undertakes to ensure that such payments are paid when due. The demand for a financial guarantee may be made on companies that have defaulted on a payment or that have not carried out their payments to the Swedish Transport Administration in a satisfactory manner. If the Swedish Transport Administration waives the requirement of a financial guarantee, it may instead stipulate other payment terms than 30 days from date of invoice.

If the applicant chooses to fulfil the requirement for a financial guarantee through a contractual arrangement with a financial institution, the guarantee shall enter into force no later than ten days before the month in which the railway undertaking commences the train operation whose infrastructure charges it intends to cover.

The Swedish Transport Administration's contracting party is not entitled to withhold payment of charges and does not have right of set-off against receivables relating to charges.

The Swedish Transport Administration will not repay charges owing to conflicting circumstances that are attributable to unused capacity.

If a railway undertaking or a traffic organiser makes late payments on two or more occasions during a single timetable period, the Swedish Transport Administration is entitled to stop delivery of services or terminate the parties' track access agreement with immediate effect.

For suppliers' invoices issued to the Swedish Transport Administration, the payment condition is to be 30 days, unless otherwise agreed.

6 Operations

6.1 Introduction

This chapter describes operational rules and rules for disturbances in planned operations.

6.2 Operational rules

6.2.1 Regulations on electrical safety

The overall requirements for electrical safety can be found in the National Electrical Safety Board's regulations ELSÄK-FS 2008:1, 2008:2 and 2008:3, with associated amended regulations. More information is available at the National Electrical Safety Board's website <https://www.elsakerhetsverket.se/>

See also Annex 6 C – Safety in track area.

In order to reduce the risks of unauthorised persons climbing on vehicles and suffering electrical accidents, there are rules regarding how vehicles may be parked under a live overhead contact wire (catenary). The rules are found in the Swedish Transport Administration's regulation TDOK 2014:0415.

Bridging is a problem that exists on the railway network. Bridging is when a rail vehicle's raised pantograph transfers the voltage to a section of catenary where work is in progress (for more information, see TDOK 2015:0309). In order to prevent bridging, E-protection (*E-skydd*) and/or A-protection (*A-skydd*) is organised in accordance with TDOK 2015:0309, Module 12 and 14.

6.2.2 Information

6.2.2.1 *Information from the Swedish Transport Administration to railway undertakings, before and during the operation of traffic*

Railway undertakings that operate on the railway network shall use and follow the documents specified in the General Terms and Conditions and in Annex 3 B. The Swedish Transport Administration is responsible for the documentation and for it being available on its website.

The railway undertaking shall compile a route description with a description of the lines that are to be operated on, based on information that the Transport Administration shall provide. The route description shall contain information about the current conditions for traffic operation. These clarify any limitations and rules that apply both on the line and at operational points. Guidance information for the route description is available at trafikverket.se/Linjeboken.

6.2.2.2 *Information from the railway undertaking to the Swedish Transport Administration during the operation of traffic*

The railway undertaking shall notify traffic centre at the Swedish Transport Administration of deviations they cause of 3 minutes or more in relation to train paths, as well as deviations in the use of other allocated services. In conjunction with this notification, the railway undertaking shall also submit a forecast that shows if and when the deviation can be remedied.

6.2.3 Other rules

6.2.3.1 *The Driver's Order System*

The Driver's Order System (*körordersystem*) is used by the Swedish Transport Administration to convey safety orders to drivers. Gaining access to the system requires a track access agreement with the Swedish Transport Administration and a list of names with authorized clients at the company submitted to the Swedish Transport Administration.

There are two ways for a driver to log in and obtain safety orders:

1. Manually via the website
2. Via web service, computer-to-computer (refers only to train orders)

Alternative 1. Each user requires a personal user account from the Swedish Transport Administration (an OP account) and authorisation to access the system. It is only an authorised client who is allowed to apply for an account and authorisation.

Alternative 2. Via the Swedish Transport Administration's web service, drivers can take out driver's orders through computer-to-computer calls. The preconditions for this are that the undertaking for which the driver works provides a system that uses the Swedish Transport Administration's web service. In order for the undertaking to be able to use the web service, a corporate account and a link to the Swedish Transport Administration are needed. In order to access this the information the Swedish Transport Administration recommends a browser that fulfils the requirements described on the Swedish Transport Administration's website.

The web browser must allow pop-up windows. Cell phones don't work very well in this case due to the screen size.

It is only authorised clients who are allowed to order a corporate account by filling in a *Driver's Order Form*, which can be found on [the Swedish Transport Administration's website](#) and sent to trafikstyrning.jarnvag@trafikverket.se.

Instructions for applying for authorisation to access the Driver's Order System and on how authorised undertakings can use the Swedish Transport Administration's web service are published on [the Swedish Transport Administration's website](#). The following preconditions apply for using the web service to take out timetables and train orders:

- The Swedish Transport Administration for ensuring that information is correct on delivery.
- The Swedish Transport Administration is not liable for faults that occur in data transport or the conversion of messages to and from the railway undertaking's computer system.
- Railway undertakings that use this service have the legal and practical responsibility for:
 - Acquiring any necessary permits that are required from the Swedish Transport Agency
 - Communicating orders to drivers in unchanged form and with an unchanged content
 - For at least a year, and in a safe manner, logging and saving the following information on train orders taken out: driver's name, date, time and train

order ID. The undertaking shall, on request, communicate this information to the Swedish Transport Agency or to the Swedish Transport Administration within twenty-four (24) hours.

6.2.3.2 *Train order*

The driver shall have a valid train order for the routes that are to be operated. The driver normally receives the train order via the driver's order system. If the driver's order system is not accessible, or if for any other reason the driver does not have a valid train order, the driver shall report this to the train dispatcher for the station where the train is standing, in order to obtain the information contained in the train order by other means.

6.2.3.3 *Reserve order*

Reserve order is a back-up in case the Driver's Order System is affected by major disruptions.

The Swedish Transport Administration's National Operational Management (NOL) decides on when the backup procedure Reserve order will apply.

NOL ensures that the railway undertakings affected are informed about where current Reserve order and timetables are available. The reserve order system will be made available through a link on the Swedish Transport Administration's website. The railway undertakings are responsible for distributing information to their staff.

There is more information on managing the reserve order system in the routine description TDOK 2015:0129.

6.2.3.4 *Operative train information*

Prior to the use of train paths (see Section 5.3), and no later than in connection with the train's departure, the railway undertaking shall report information concerning vehicles, etc. to the Swedish Transport Administration. This is done by machine via the Swedish Transport Administration's service or Common Interface, or manually via a web application, and the information that is to be submitted is specified in Annex 6 A.

In connection with operations, the database is also used for the Swedish Transport Administration's information about the traffic to railway undertakings or traffic organisers.

The information reported to the Swedish Transport Administration by a railway undertaking or traffic organiser is only available to the Administration and contracting parties, with the exception of traffic information that benefits passengers and the public. The information is also available to market actors who are developing traffic information services for passengers and the public.

6.2.3.5 *Operative language*

Swedish must be used for all safety related communication between train crews and the Swedish Transport Administration's traffic management staff. This applies to the railway network managed by the Swedish Transport Administration. Predetermined messages and forms are available in Swedish. The Swedish Transport Administration provides information in Swedish, as required by the TSD Operations and Traffic Management.

6.3 Operational measures

6.3.1 Principles

Guidelines for operational traffic management are issued prior to the creation of every timetable. Capacity allocation in face of unforeseen events, such as railway accidents or other damage to the infrastructure, are determined by the Swedish Transport Administration on a case-by-case basis. In order to minimise the consequences and restore the capacity on the affected part of the railway network as soon as possible, there are specific procedures for the management of accidents. The operational traffic management at the Swedish Transport Administration shall, in each case of a disturbance, in collaboration with the railway undertaking concerned, identify and work out optimal measures in order to minimise the consequences for passengers and freight carriers, in accordance with Section 8.5.1.

6.3.1.1 *Evacuation of passengers and clearance of railway vehicles*

In the event of disturbance in rail traffic, where the state emergency service or other public operator is responsible according to the constitution, the Swedish Transport Administration is responsible for initiating evacuation and/or clearance in accordance with Section 8.5.1. Both the Swedish Transport Administration and the railway company concerned must then work to ensure that evacuation and/or clearance can be started within the following deadlines:

Evacuation started:

- within 60 minutes in metropolitan areas
- within 120 minutes in all other parts of the country.

Started evacuation is defined as when the first passenger must leave the train unplanned at a different location than the platform.

Clearance started:

- within 120 minutes in metropolitan area
- within 180 minutes in all other parts of the country.

Clearing started is defined as when the start permit is granted to start a blocked line operation with special emergency vehicle, or shunting (clearance within station) to the vehicle in need of assistance.

6.3.1.2 *Recovery*

In the event of accident, the state emergency service is responsible for rescue and the railway undertaker is responsible for recovery. The railway undertakers are required to report to the Swedish Transport Administration their own available resources for recovery, or to sign a recovery agreement with some other entity.

6.3.2 Operation regulation

Trains that depart and operate in accordance with their running schedule are given priority to their planned position. The reason is to prevent the disturbance of trains operating on time by trains that are delayed or early in relation to their running schedules. Exceptions from the rules concerning prioritisation of on-time trains can be made if special reasons exist, such as serious traffic disruptions, agreed deviations from the running schedule, or if

the traffic situation clearly calls for another action. The rule shall not apply in cases where it would lead to unreasonable consequences for the traffic as a whole. It is always the goal of the Swedish Transport Administration to remove traffic disturbances as smoothly as possible and restore the traffic to the production plan.

If the consequences of a disruption are particularly severe for certain trains, an applicant can submit a request for these trains to be given priority over other (on-time) trains operated by the same applicant. Several applicants can also reach an agreement with one another whereby certain trains operating on time that belong to the same applicant are given a lower priority than individual trains of particular importance that belong to another applicant. These types of agreements must be reported to the Swedish Transport Administration in accordance with ordinary operational contacts.

A request for altered operational priority shall specify which trains are deemed particularly sensitive to disruptions, and the motives for this (for example, traffic information, connecting transportation, tight vehicle circulation). It must also be specified which trains the applicant is prepared to give up priority for. The request must be sent to the Swedish Transport Administration no later than in conjunction with the application for capacity. This is so that the request may be taken into consideration when the guidelines for prioritisation in traffic management are developed.

6.3.3 Disturbances

Information about international disturbances that affect railway traffic in Sweden is distributed in joint and predetermined forums, in which the Swedish Transport Administration and railway undertakings concerned consult on how a disturbance should be handled. One such example is the strategic customer meeting that the Swedish Transport Administration and the railway undertakings concerned hold in the event of major disruptions. Among other things, the parties draw up an action plan for how the disturbance is to be handled.

More information on international disruptions can be found in the document "International Contingency Management Handbook" on RailNetEurope's website: <https://rne.eu/tm-tpm/incident-management/>.

6.3.3.1 *Disruption plans*

In order to minimise the negative impact on passengers and freight transport clients in connection with train disruptions within the current operating period, the Swedish Transport Administration is working on pre-defined disruption plans for selected areas/parts of the line. Disruption plans are prepared in cooperation with the railway undertakings and traffic organisers concerned, and revised at least once a year in conjunction with the new timetable. Each individual plan describes which traffic-related plan measures it could be necessary to take with a link to both passenger management and traffic information.

The railways undertaking and traffic organisers are expected to be involved in the production of disruption plans. For operative disruptions within an operating period, work in connection with disruption management is based on these approved disruption plans.

6.3.3.2 *Weather- and season-related contingency plans*

In order to minimise season-related disruptions, the Swedish Transport Administration works together with entrepreneurs and railway undertakings to implement preventive

measures. These are described in the Swedish Transport Administration's weather- and season-related contingency plans. All season-related contingency plans follow an annual calendar containing specific weeks for preparation and activation in accordance with the table below.

	Spring contingency (week no.)	Summer contingency (week no.)	Autumn contingency (week no.)	Winter contingency (week no.)
BEFORE – national draft season-related contingency plan ready	5	16	29	40
Season-related contingency plan				
• Complementary additions by parties concerned, both internal and external	6-9	17-20	30-33	41-44
• Establishment of the contingency plan	10	21	34	45
DURING – Activation period, season-related contingency plans	12-22	23-35	36-46	47-11
AFTER – national draft follow-up report ready	23	36	47	12
Follow-up season-related contingency plan				
• Complementary additions by parties concerned, both internal and external	24-25	37-38	48-50	13-14
• Establishment follow-up report	26	39	51	15

Table 6.1

The Swedish Transport Administration's weather- and season-related contingency plans are presented on [the Swedish Transport Administration's website](#).

6.3.3.3 Clearance and emergency situations

The established routine for how evacuation and clearance situations are to be handled can be found in Annex 6 B, where the railway undertaker and the Swedish Transport Administration will find a solution to the problem through dialogue. If this is not possible, the Swedish Transport Administration has the authority to decide how the situation should be handled.

When clearance has been completed, the railway undertaking is responsible for the recovery of its own vehicles from the location specified by the Swedish Transport Administration. In order to minimise traffic disruptions, it is important that this is done as quickly as possible. If the vehicles are not towed within a reasonable time, the Swedish Transport Administration will tow the railway undertaking's vehicles and property.

The Swedish Transport Administration and the railway undertaking can reach an agreement that recovery may begin before clearance has been completed.

Clearance with damaged pantograph

Prior to clearance, the railway undertaking shall temporarily earth its vehicles and ensure that necessary measures are taken. If the railway undertaking is using another model of pantograph or other vehicle, in accordance with Annex 6 A, the railway undertaking shall submit photographs and other information to the Swedish Transport Administration.

During clearance, the Swedish Transport Administration will fasten down or dismantle the railway undertaking's pantographs. In emergency situations, the Swedish Transport Administration can remove pantographs by whatever means the situation demands. The

Swedish Transport Administration is not responsible for damage to pantographs unless it can be proven that the damage was caused by incorrect actions.

If the railway undertaking's vehicles or pantograph model are not present in Annex 6 A, or are otherwise different from the descriptions provided, the Swedish Transport Administration may request that the railway undertaking immediately send personnel of its own to the accident side. These personnel shall perform the temporary connection to earth and fastening down or dismantling of the pantographs.

6.3.3.4 *Management of accidents*

The procedures for management, reporting and coordination in the event of accidents and incidents, as well as deviations that give rise to risks for accidents involving railway traffic are specified in the general terms and conditions in Chapter 8.

6.3.3.5 *Crisis situations*

In crises and heightened state of alert, the Swedish Transport Administration has the right to make official decisions in its capacity as an authority, instead of simply a supplier of services. The decisions are made based on social gains and function in society. The Swedish Transport Administration will inform those concerned when a crisis situation applies.

The operational contact paths that apply during normal conditions shall also be used as far as possible during a crisis.

6.4 Tools for train information and monitoring

6.4.1 Technical inspection of rolling stock

When vehicles pass detector equipment, the measurement value is registered in real time. The process in case of an alarm is described in TDOK 2020:0074.

See also Section 2.3.14 and 5.5.3.

6.4.2 Train path information for international trains

Train Information System (TIS) shows train path information for international trains. Access to TIS is free of charge. A user account can be requested via the RNE TIS Support: support.tis@rne.eu. More information can be found on <http://tis.rne.eu>.

7 Service Facilities

7.1 Introduction

This chapter describes the basic services as well as additional and ancillary services (in accordance with Chapter 6, Section 23 and 23c of the Swedish Railway Act) that are linked to the service facilities managed by the Swedish Transport Administration, in accordance with Directive 2012/34/EU and Regulation 2017/2177/EU. The service facilities and services described in this chapter include:

- passenger stations
- freight terminals, marshalling yards and train formation facilities
- storage sidings
- maintenance facilities
- other technical facilities
- maritime and inland port facilities
- relief facilities
- refuelling facilities
- connection to electricity when holding railway vehicles.

Facilities for services include installations, ground, buildings and equipment that have been partially or completely erected to allow the provision of the services described in this chapter.

The services that are related to train path are described in Chapter 5.

7.2 Service facility overview

According to EU Regulation 2017/2177, service providers for services related to railway transport shall establish a service facility description. What a service facility description should include is described in Article 4 of the regulation.

According to the same regulation, the Swedish Transport Administration is required to provide a summary links to service providers' service facility descriptions. The list includes all service facility descriptions received by the Swedish Transport Administration from the service providers.

The Swedish Transport Agency supervises the service facility descriptions and service providers. The Swedish Transport Administration provides the website trafikverket.se for publishing of links to the service facility descriptions.

The Swedish Transport Administration updates the website continuously with the links to the service facility descriptions that have been submitted from those who fulfil the criteria as a service provider in accordance with the Swedish Railway Act (2004:519). In order for the links to be published, the form available on the Swedish Transport Administration's website must be fully completed.

The list of links and more information is available on the Swedish Transport Administration's website.

Rail Facilities Portal (RFP) is a common European web portal where service providers can publish their service facility descriptions. It is free of charge to use RFP, and it does not require any registration to use. More information is available at <http://railfacilitiesportal.eu>.

7.3 Service facilities managed by the Swedish Transport Administration

The following sections include information on the Swedish Transport Administration's service facilities, including description of services, charges, access conditions and allocation of service. For access to other suppliers' services facilities, see section 7.2.

7.3.1 Common provisions

The information in this section includes common provisions applicable for all services in Chapter 7. In case other rules apply, these are stated under each service.

Charges for services

For information on charges for services and charging principles, see Section 5.2.

Allocation of services

Information on the application process and allocation of services are described in detail in Chapter 4. For information on application and allocation of services at stations and guiding principles in conflicts of interest, see Section 4.2.1.4.

Access conditions

For access to the Swedish Transport Administration's services and facilities, the conditions in Chapter 3 need to be met. For technical requirements, such as weight limits and maximum train lengths, see Section 2.3.

7.3.2 Passenger stations

7.3.2.1 General information

The Swedish Transport Administration's services at passenger stations are described below.

7.3.2.2 Services

The basic services offered by the Swedish Transport Administration in these facilities are *tracks adjacent to platforms* and *access to platforms*.

Tracks adjacent to platforms

The Swedish Transport Administration provides tracks adjacent to platforms as part of the service *train path*, or in the form of the service *tracks for holding*. See Section 5.3.1 and 7.3.5.2.

Access to platforms

The Swedish Transport Administration manages, in some locations, a number of platforms and in many cases platform connections, such as footbridges and tunnels, with different types of equipment, such as weather shields and benches, elevators, escalators, platform roofs and general lighting.

The service includes access to platforms for passenger exchange. In connection with the use of train paths for passenger traffic, or paths for service trains in special cases, the service is included in the train path. See Section 5.3.1, point 6. In other cases, the service is applied for in connection with other applications for capacity.

Access to station buildings and public areas for passengers

The Swedish Transport Administration provides, in some locations, access to public areas for passengers on platforms.

7.3.2.3 Service facility description

Operational points with the possibility of passenger exchange are shown in the map service and in Annex 2 B. More detailed information, on height, barrier-free length, tracks with the possibility of passenger exchange and useful information on platform length, is available in Annex 2 A, tab Platforms. See also tab Planned changes.

7.3.2.4 Charges

Track adjacent to platforms

The charge for the service is included in the service *train path* and the service *tracks for holding*.

Access to platform

No charge for the service.

7.3.2.5 Access conditions

See common provisions, Section 7.3.1.

7.3.2.6 Allocation of service

See common provisions, Section 7.3.1.

7.3.3 Freight terminals

7.3.3.1 General information

The Swedish Transport Administration manages no multi-modal terminals, but has railway connecting to several of them. The map service presents these terminals. Also see Annex 2 B. Read more about the service *tracks to intermodal terminals* under Section 7.3.3.2. For access to other infrastructure for services other than those managed by the Swedish Transport Administration, see Section 7.2.

The Swedish Transport Administration provides a number of areas for the loading and unloading of goods. Available loading areas for freight at the Swedish Transport Administration's facilities are presented in the map service, Annex 2 B, as well as in Annex 7 A. Learn more about the service *access to loading area* under Section 7.3.3.2.

In the following section, the basic services in connection to terminals and loading areas are presented. These refers to a delimited area that is connected to the railway network, and which is intended for the loading and unloading of goods and pallets, or reloading from railway to other forms of transport.

An intermodal terminal is a larger and more extensive facility, often with more than one loading track and a large area for holding and stockpiling purposes. The Swedish Transport Administration owns no intermodal terminals, but these are often owned by local authorities, private actors and Jernhusen AB.

A loading area is a simpler and smaller facility that generally consists of a loading track or siding with an adjacent loading area. Adjoining the loading area there may be a storage area. The Swedish Transport Administration owns a number of loading areas, some 60 of which are offered in the service below. Other owners of loading areas are local authorities and private actors.

The Swedish Transport Administration's loading areas are primarily used for loading and unloading of timber, stone and gravel and for other wagonload traffic. Container and trailer traffic should primarily be conducted at intermodal terminals and ports, not at loading areas.

There are some limitations with regard to the condition of the loading areas, in terms of e.g., carrying capacity, pollutants and littering. Certain locations may have restrictions on noisy operations.

7.3.3.2 Services

The basic services intended for use in connection with the loading and unloading of goods are the services *tracks to intermodal terminal* and *access to loading area*.

Tracks to intermodal terminals

The Swedish Transport Administration administers tracks to intermodal terminals where other actors provide ground space, facilities and services. For applications intended for holding in connection with loading and unloading on the tracks to these terminals, see Section 7.3.5. The map service also presents where terminals are located. See also Annex 2 B.

Access to loading area

The service involves leasing the track and a limited ground space adjacent to the track (up to 12 metres, measured from the outer edge of the nearest rail) for loading and unloading with own management resources. Some places also include the use of a loading dock. Storage of goods is not permitted. Available loading areas on the Swedish Transport Administration's facilities are presented in the map service and in Annex 2 B and 7 A.

Suitable spaces connected to loading areas may be available for lease, for a minimum duration of 6 months. See properties on [the Swedish Transport Administration's website](#).

The service has following conditions:

- linked to an arriving or departing train path
- is permitted solely for loading and unloading
- is agreed in periods of up to twelve hours.

When the loading area is left, the entity that has used the service shall ensure that:

- the loading area is free from goods
- the loading area is cleaned/brushed to remove waste of handling
- whatever waste are collected during cleaning are removed from the loading area
- walking paths adjacent to the track are cleared of obstacles
- the railway infrastructure can be inspected (for example, rails, sleepers, fortifications and seams), which means that the facility must be cleared of litter.

The Swedish Transport Administration clears snow from tracks, switches and crossings. If rail-bound vehicles are used, snow may be piled up on the part of the loading area closest to the track. The entity using the service is responsible for snow clearance and gritting on the loading area and, in some cases, on the access roads to the loading area as well. Cleared snow must be piled up in a suitable location.

The entity using the service is responsible for participating in the coordination maintained by the Swedish Transport Administration, in accordance with the Work Environment Act. This can also afford the entity using the loading area the opportunity to coordinate the contractors that they engage for tasks such as snow clearance.

The service access to loading area includes access to

1. the tracks allocated at the loading area

This relates to the right to use agreed tracks for holding of vehicles in connection with the loading and unloading of goods. This should be done in accordance with the conditions established in the annual timetable, track access agreements, permits and licences, as well as regulations.

2. loading area

The loading area closest to the load track may be used. The loading area can consist of a loading dock or a ground space. The use must be in accordance with the established conditions.

3. traffic control

The Swedish Transport Administration's traffic control on sidings are done in accordance with applicable railway traffic regulations. The actors working at the location are responsible for the coordination of these movements.

4. traffic information for railway undertakings or traffic organisers

This include information in connection with the use of the service, as well as during and after the use. The traffic information includes traffic events, information regarding any measures to restore tracks and traffic, as well as related forecasts. See also Section 5.3.1, point 4.

The Swedish Transport Administration also offers the service *tracks for holding* (without loading area), see Section 5.3.1.4.

For more information about loading areas, as well as conditions for their use, contact the Swedish Transport Administration, see Annex 1 A.

7.3.3.3 Service facility description

More detailed information, including name of operational points, type of loading are and technical characteristics such as track lengths, is available in Annex 7 A. In Annex 2 B, tab Operational points, operational points with loading areas and intermodal terminals are listed. The map service offers an overview over location of loading areas and intermodal terminals with connection to railway.

7.3.3.4 Charges

Service	Charge
Access to loading area	SEK 8 per commenced hour and commenced hundred metres of track

Table 7.1

The charge is levied based on agreed, non-cancelled service.

7.3.3.5 Access conditions

See common provisions, Section 7.3.1.

7.3.3.6 *Allocation of service*

See common provisions, Section 7.3.1.

7.3.4 **Marshalling yards and train formation facilities**

7.3.4.1 *General information*

There are two types of railway yards: marshalling yards and other railway yards. Below is a short description of the conditions that apply for these two types:

Marshalling yards are defined according to the following features:

- turn-out track
- automated switching
- hump with approach and/or exit group
- lining of the track.

Marshalling yards are divided into category 1 and 2 according to the following:

- Marshalling yard category 1 with track braking system: Borlänge rangerbangård, Gävles godsbangård, Hallsbergs rangerbangård, Helsingborgs godsbangård, Malmö godsbangård, Sundsvalls rangerbangård, Sävenäs rangerbangård, and Ånge godsbangård; see map service.
- Marshalling yard category 2 without track braking system: Jönköpings godsbangård and Västerås västra; see map service.

Other railway yards

Other railway yards are located at stations, and are defined on the basis of the two following points being fulfilled.

- 1 switch or more
- 1 track or more

Train formation services

Train formation services include gravity shunting, shunting by pushing of wagons and other associated services for the planning and coordination of vehicle movements, and splitting and forming trains. The Swedish Transport Administration does not offer the service, but refer to other suppliers. See Section 7.3.4.6.

7.3.4.2 *Services*

The basic services offered by the Swedish Transport Administration in these facilities are *access to marshalling yards* and *track or track area for train formation*.

Access to marshalling yards

A marshalling yard is a facilities constructed to split, sort and form trains. The marshalling yards and the tracks that belong to respective facilities are described in Section 7.3.4.3. The service comprises access to tracks and facilities within a marshalling yard. The service is linked to an arriving train path and is allocated by the Swedish Transport Administration in dialogue with the applicant.

The service includes access to

1. **the sidings, switches and marshalling-specific facilities in the marshalling yard**

This relates to the right to use the service in accordance with the conditions established in the annual timetable, track access agreements, permits and licences, as well as regulations. There may be restrictions at some marshalling yards.

2. **catenary and electricity via heating posts**

The right to use the Swedish Transport Administration's catenary at electrified marshalling yards. The right to connect to electricity via a heating post is also included.

3. **traffic control**

This relates to the right of access, where possible, to operational information via the Swedish Transport Administration's traffic control and communication system. The actors working at the location are responsible for the coordination of the traffic activities.

4. **traffic information for applicants and traffic operators**

This include information in connection with the use of the service, as well as during and after. The traffic information includes traffic incidents, information regarding any measures to restore facilities, as well as related forecasts. See also Section 5.3.1, point 4.

Track or track area for train formation

The service *Track or track area for train formation* is a track access service intended for provision at stations where the Swedish Transport Administration sees the need to detail vehicle movements, on tracks that do not belong to the marshalling yards reported in Section 7.3.4.1.

The service involves the right to perform vehicle movements during a specific time period within a station or part of a station. The service is only available for an entity that has, or is applying for, *track for holding* and specifically only for the movement of vehicles on and between these tracks.

Because the Swedish Transport Administration lacks planning support that makes it possible to allocate infrastructure capacity in such detail, the service is not provided in the annual timetable 2023. This means that the arrangement of trains and movement of vehicles can take place in the operationally situation; for example, by means of the railway undertaking requesting the track shunting routes that are necessary for the movement. In this way, train movement can take place outside of the signal that delimits the allocated *track for holding*.

The train formation service includes access to:

1. **the tracks and switches required for the task**

This relates to the right to use allocated the service in accordance with the conditions established in the annual timetable, track access agreements, permits and licences, as well as regulations.

2. **catenary**

The right to use the Swedish Transport Administration's catenary at electrified stations.

3. **traffic control**

The Swedish Transport Administration's traffic control on sidings are done in

accordance with applicable railway traffic regulations. The actors working at the location are responsible for the coordination of the traffic activities. Traffic control also include the right of access, where possible, to operational information via the Swedish Transport Administration's traffic control and communication system.

4. **traffic information for applicants and traffic operators**

This include information in connection with the use of the service, as well as during and after. The traffic information includes traffic incidents, information regarding any measures to restore facilities, as well as related forecasts. See also Section 5.3.1, point 4

7.3.4.3 *Service facility description*

The marshalling yards in category 1 and 2 where the Swedish Transport Administration offers *access to marshalling yards* are listed below.

Marshalling yard	Operational point signature	Tracks included in the marshalling yard	Increased security	Facility for test of brake systems
Borlänge rangerbangård	Blg	10–31	Yes	
Gävle godsbangård	Gäb	102–119	Yes	
Hallsbergs rangerbangård	Hrbg	11–18, 21–28, 31–38, 41–48, 201–211, 301–309	Yes	Track 11–48, 201–212
Helsingborgs godsbangård	Hbgb	11g–35g, 73g–82g	Yes	
Jönköpings godsbangård	Jögb	1–12, 40–42		
Malmö godsbangård	Mgb	14–39	Yes	
Sundsvalls rangerbangård	Suc	5–7, 10–14		
Sävenäs rangerbangård	Sär	101–110, 1–34	Yes	Track 1–30
Västerås västra	Väv	5–14, 201–204		
Ånge godsbangård	Åggb	11–31, 102–106		

Table 7.2

7.3.4.4 *Charges*

Service	Charge
Access to marshalling yard	SEK 70 per arriving train

Table 7.3

The charge is levied for allocated, non-cancelled service.

Track or track area for train formation

No charge for the service.

Train formation services at the Hagalund station

Information regarding charges can be obtained from ISS Facility Service Sverige AB. See Section 7.3.4.6 and Annex 1 A.

7.3.4.5 *Access conditions*

See common provisions, Section 7.3.1.

Some of these have a higher security level, which includes area protection and emergency plan. For these marshalling yards there are requirements of completed training. Contact the Swedish Transport Administration for more information about the training, see Annex 1 A.

More information on emergency plans is available on [the Swedish Transport Administration's website](#), Enter *nödlägesplan* (emergency status plan) in the box headed *Dokumenttitel* (Title of document).

Permission to use the Swedish Transport Administration's marshalling-specific facilities is subject to requirements regarding competence and the relevant training. For more information, contact the Swedish Transport Administration, see Annex 1 A.

7.3.4.6 Allocation of service

See common provisions, Section 7.3.1.

Application for access to marshalling yard

The application for *access to marshalling yard* (Section 7.3.4.1) for the service *shunting* must state how the service will be operated and by whom. This information shall be submitted to the Swedish Transport Administration via e-mail, in connection to the capacity application, see Annex 1 A.

In marshalling yards with a number of interested parties, the Swedish Transport Administration is managing an ongoing dialogue with the parties, both during the timetable process and timetable period, in order to ensure that operations at the sites can be managed in accordance with the intentions that the allocation was based on. The interested parties shall act together to determine the most suitable procedures in marshalling yards, for example, through purchasing services from one another or procuring another common service provider.

Train formation services at Hagalund station

Train formation services are available at the Swedish Transport Administration's infrastructure at Hagalund, daily between 05.00-23.00. The services are provided by ProTrain Trafik AB on commission from the Swedish Transport Administration. The services are ordered directly from ProTrain Trafik AB. Contact details for information, application, charges and signing of an agreement on the service, see Annex 1 A. In case of need for train formation services at times other than between 05.00-23.00 ProTrain Trafik AB can be contacted. Depending on access to staff, etc., ProTrain Trafik AB may deliver train formation services also at other times than between 05.00-23.00.

7.3.5 Storage sidings

7.3.5.1 General information

The Swedish Transport Administration offers track for holding. For *connection to electricity when holding railway vehicles*, see Section 7.3.11. If the holding includes loading or unloading at a loading area where the service *access to loading area* (see Section 7.3.3.2) is offered, this service must be applied for.

7.3.5.2 Services

The Swedish Transport Administration offers the basic services *tracks for holding* and *tracks for long-term holding*.

Tracks for holding

The service offers the opportunity to hold trains in connection to arrival/departure that is established in the annual timetable. An application for *tracks for holding* is required for all holding of vehicles.

The service holding includes access to:

1. the tracks allocated for holding

This relates to the right to use allocated capacity in accordance with the conditions established in the annual timetable, track access agreements, permits and licences, as well as regulations.

2. traffic control

The Swedish Transport Administration's traffic control on sidings are done in accordance with applicable railway traffic regulations. The actors working at the location are responsible for the coordination of the traffic activities.

3. traffic information for applicants or traffic operators

This include information for railway undertakings or traffic organisers in connection with the use of the service, as well as during and after the use. The traffic information includes traffic events, information regarding any measures to restore tracks and traffic, as well as related forecasts. See also Section 5.3.1, point 4.

For stop within the service *train path*, see Section 5.3.

Tracks for long-term holding

The service comprises the long-term holding of vehicles on tracks with low maintenance levels, i.e. sidings in addition to what is presented in Annex 7 A. These tracks can be put into operation after a predetermined period of time. This period of time is necessary for the Swedish Transport Administration to be able to inspect the tracks and make them trafficable.

7.3.5.3 Service facility description

Annex 7 A presents available tracks for holding, track length for holding as well as access to power outlet (heating post).

7.3.5.4 Charges**Tracks for holding**

The charges for the service is divided into Zone A and Zone B and is levied for allocated, non-cancelled service.

Service	Charge
Holding Zone A	SEK 5.50 per allocated track length per track, per commenced hour and commenced hundred metres of track.
Holding Zone B	SEK 0.30 per allocated track length per track, per commenced hour and commenced hundred metres of track.

Table 7.4

Zone A covers in Stockholm: Stockholm central, Hagalund, Tomtebodan and Älvsjö. In Göteborg Zone A covers Göteborgs central, Kville, Skandiahamnen and Sävenäs. In Malmö Zone A covers Malmö central, Malmö godsbangård and Hyllie.

Zone B covers the holding sites not covered by Zone A.

Long-term holding

The charge for long-term holding is based on allocated, non-cancelled service.

Service	Charge
Processing of application	SEK 700 per commenced hours
Long-term holding	SEK 3 per commenced day and commenced hundred metres of track
Any measures taken within the facility	The Swedish Transport Administration's prime cost for measures taken within the facility

Table 7.5

7.3.5.5 Access conditions

See common provisions, Section 7.3.1.

Holding of vehicle is regulated from an electrical safety perspective by TDOK 2014:0415.

7.3.5.6 Allocation of service

See common provisions, Section 7.3.1.

Applications for holding shall firstly be formulated on the basis of the desired track length and time for the holding – not specific tracks. For more information, see the instructions in the e-service on the Swedish Transport Administration's website.

The Swedish Transport Administration refers to Annex 7 A, which lists recommended tracks for holding. On special occasions, other tracks for holding can be allocated, and the Swedish Transport Administration then decides the suitability.

An application for the basic service for long-term holding can only include time within one annual timetable period. Long-term holding is not included in the Swedish Transport Administration's infrastructure undertakings, but may be allocated any available capacity on tracks. Based on prior contact with a description of the requirements, see contact details in Annex 1 A, the Swedish Transport Administration will suggest suitable locations and tracks for long-term holding. An application for the service is then lodged, see Section 4.2. The applicant transporting a vehicle there also has responsibility for it during the holding.

In support of the application for holding the Swedish Transport Administration reports the guidelines for track usage, see Annex 4 D.

7.3.6 Maintenance facilities

The Swedish Transport Administration neither owns nor manages any maintenance facilities.

For information on suppliers of such services, see Section 7.2.

7.3.7 Other technical facilities

7.3.7.1 General information

The Swedish Transport Administration offers the basic service *access to brake testing facilities* in Göteborg Skandiahallen. Brake testing facilities are also available at Sävenäs rangerbangård and Hallsbergs rangerbangård but are offered by other service providers.

7.3.7.2 Services

The Swedish Transport Administration offers the basic service *access to brake testing facilities*.

Access to brake testing facilities

In Göteborg Skandiahamnen (Gsh), adjacent to tracks 31–35, the Swedish Transport Administration has a facility for testing brake systems, for the charging of air into the brake system's mains, leakage detection and brake testing, as well as maintenance charging of connected sets of carriages. There are training requirements for anybody intending to use the facilities.

On Sävenäs rangerbangård and Hallsberg rangerbangård the facility is included in the service *access to marshalling yards*, see Section 7.3.4.

7.3.7.3 Service facility description

Technical details about the tracks, such as track length, at Göteborg Skandiahamnen is available in Annex 7 A, tab Holdings.

There are also facilities for test of brake systems at Sävenäs rangerbangård, tracks 1–30, and at Hallsbergs rangerbangård, tracks 11–48 and 201–212, but these are included in the service *access to marshalling yards*, see Section 5.3.1.3.

7.3.7.4 Charges

Service	Charge
Access to the brake testing facility in Göteborg Skandiahamnen, track 31–35	SEK 60 per brake test

Table 7.6

The charge is levied for allocated service.

7.3.7.5 Access conditions

There are training requirements for anybody who intends to use the facilities at Göteborg Skandiahamnen. For more information on training, contact the Swedish Transport Administration, see Annex 1 A.

7.3.7.6 Allocation of service

See common provisions, Section 7.3.1.

For applications for the use of the brake testing facility at Skandiahamnen in Gothenburg, see instructions in the e-service on the Swedish Transport Administration's website.

7.3.8 Maritime and inland port facilities

The Swedish Transport Administration manages no maritime and inland port facilities, but has a rail connection to several of them. The map service presents these facilities. Here, intermodal transport is made possible through a combination of railway and shipping facilities. See also Annex 2 B.

For information on suppliers of such services, see Section 7.2.

7.3.9 Relief facilities

7.3.9.1 General information

The Swedish Transport Administration provides a service for relief facilities. The service is introduced according to the plan as shown on the map on [the Swedish Transport Administration's website](#).

The map also shows that the service is available only on the infrastructure managed by the Swedish Transport Administration, with the exception of specifically marked sections.

The map is updated with three months' notice before the service is made available in a coverage area.

7.3.9.2 Services

The Swedish Transport Administration provides the basic service *recovery vehicle for clearance of railway vehicles*.

Recovery vehicle for clearance of railway vehicles

The service is aimed at railway undertakers and is intended to clear its railway vehicle in situations where the vehicle for some reason prevents traffic on the railway managed by the Swedish Transport Administration.

The service includes recovery vehicle with associated operative personnel.

7.3.9.3 Service facility description

The recovery vehicles are diesel trains with traction for at least 900 tonnes. The trains are equipped with movable coupling hooks, breaking pipes and feeder cable to enable transport, with coupler adapter/transition coupler, of vehicles with automatic coupler on the vehicle requiring assistance.

The level of preparedness for the service is adapted to enable a clearance to commence within the deadlines and definitions specified in Section 6.3.1.1. The service aims to strengthen the ability for a quick, efficient and safe clearance of the vehicle in need of assistance. The vehicle is transported to a place designated by the Swedish Transport Administration. Recovery is not included in the service.

Specific information regarding signing agreements and delivery of the service, see Section 8.5.6.

7.3.9.4 Charges

Service	Charge for up to 3 hours work (per recovery vehicle)	Additional charge for work that exceeds 3 hours (per recovery vehicle)
Provision of recovery vehicle for clearance of railway vehicle	SEK 20,000	SEK 5,000 per commenced hour

Table 7.7

The time is counted from (the charge is applied):

- from the time that the starting permission has been granted to start blocked line operation with recovery vehicle, alternatively shunting, to the vehicle requiring assistance
- to the time that the vehicle requiring assistance is located in the area designated by the Swedish Transport Administration.

If the Swedish Transport Administration has caused the recovery situation, no charge will be levied for the use of the service. The same applies when another railway undertaker, within the scope of the service, carries out the clearance at the request of the Swedish Transport Administration.

7.3.9.5 Access conditions

See Section 8.5.6.

7.3.9.6 Allocation of service

Service agreement is signed in connection with signing of the track access agreement, see Section 8.5.6.

7.3.10 Refuelling facilities

The Swedish Transport Administration does not have any fuel depots or supply fuel in any other manner.

For information on suppliers of such services, see Section 7.2.

7.3.11 Connection to electricity when holding railway vehicles

7.3.11.1 General information

The Swedish Transport Administration offers a service for connection to electricity when holding railway vehicles on the Swedish Transport Administration's infrastructure.

7.3.11.2 Services

The Swedish Transport Administration offers the additional service *connection to electricity when holding railway vehicles*.

Connection to electricity when holding railway vehicles

It is possible to connect railway vehicles to an electricity supply (for warming and cooling, for example) during holding via:

- train heating posts (1 000 V)
- locomotive heating posts (230 V)
- diesel locomotive heating posts (400 V)
- raised pantograph.

7.3.11.3 Service facility description

Information on which type of heating posts available at each track for holding is presented in Annex 7 A, tab Heating posts. Tracks for holding with the possibility for connection to electricity via pantograph is presented in the same annex, in the tab Holdings.

7.3.11.4 Charges

The charge for access to electricity during the holding of vehicles, see Section 5.3.4, consists of two parts; access to the facility and electricity consumption. The cost of electricity at the holding is presented in 5.4.1 regarding the provision of traction current.

The charge for access to electricity relates to access to heating posts and access through raised pantographs. The cost charged for access to electricity for the holding of rail vehicles is based on a fixed cost per commenced day for each allocated connection to the energy or heat source.

Service	Charge
Connection to train heating post, locomotive heating post or diesel locomotive heating post	SEK 50 per commenced day
Connection to electricity via a raised pantograph for vehicles with or without energy meters	SEK 50 per raised pantograph and commenced day.

Table 7.8

For locomotives and cars that have a raised pantograph and energy meter, electricity is charged during holding, along with traction current.

For locomotives and cars without an energy meter, a standard calculation of electricity consumption is applied during holding, which is adapted for each vehicle/car. Standard calculation applies also to locomotives and coaches with energy meters but which use electricity via a train/locomotive heating post. Annex 5 C presents standardised templates for consumption, loss surcharge and calculation examples.

For locomotives and cars without a raised pantograph, information regarding the number of holding hours per vehicle type is to be submitted no later than the 20th of the month following the month in which the services have been used. The railway undertakings and traffic organisers must personally keep records and store the data necessary for reporting and inspection. Declaration is conducted via a web interface on [the Swedish Transport Administration's website](#). Login authorisation is required.

The price is based on the current month's electricity supply, see [the electricity price report](#). The forecast price in the electricity price report should only be seen as an indication of the price level.

7.3.11.5 Access conditions

See common provisions, Section 7.3.1.

For technical requirements regarding power supply, see Section 2.3.9.

7.3.11.6 Allocation of service

See common provisions, section 7.3.1.

8 The Swedish Transport Administration's General Terms and Conditions

8.1 Track access agreements

The Swedish Transport Administration's General Terms and Conditions begin to apply with the signing of a track access agreement. The terms and conditions contain provisions for the use of train paths and other railway services.

The track access agreement (or other specially drawn up agreement concerning the use of services) contains agreements between the Swedish Transport Administration and railway undertakings or traffic organisers regarding what applies during the provision and use of a service.

What is specified in track access agreements, or other agreements concerning the use of a service, applies primarily with respect to what is specified in the Swedish Transport Administration's Network Statement along with the General Terms and Conditions.

8.2 General

During the exercising of rights and responsibilities, the parties may engage substitutes. If the Swedish Transport Administration's contracting parties engages a substitute, they must inform the Administration of this in writing 14 calendar days before a service is to be used. The information must include a clear indication of the substitute's authorization. An entity that is enlisted as a substitute may not appoint another entity to take its place without special consent from the Swedish Transport Administration.

The parties are responsible to each other in all respects for the substitute that the party enlists, as well as the equipment, personnel and other resources that they use or enlist. In the event of a claim for compensation that results from the obligation, the parties shall make these claims to one another. Invoices issued to the Swedish Transport Administration shall include conditions of payment within 30 days.

Unless otherwise specified in the Traffic Access Agreement, or in some other specific agreement concerning the use of services, the provisions of the Swedish Transport Administration's General Conditions of Contract regulate the entitlement of one of the parties to the agreement to receive payment from the other party.

8.3 Performance of the parties

8.3.1 The Swedish Transport Administration's delivery

Based on the scope of the track access agreement, the Swedish Transport Administration shall supply train paths and other services to the contracting party in accordance with the decision concerning the establishment of the Timetable including documents necessary for performing agreed train paths, as well as additions and changes that apply in accordance with decisions on capacity allocation for additional needs.

If the parties have agreed upon more detailed terms and conditions for the supply and use of services, the services shall be used in accordance with these detailed terms and conditions.

To enable necessary maintenance and inspection according to an annual maintenance plan of facilities for services (e.g. tracks for erection), the Swedish Transport Administration may, with 6 weeks' notice, temporarily change allocated service to a track other than the agreement (at a manageable distance from the agreed track).

Such a move from a track (and possibly back) can take place on a maximum of three occasions per year. If the Swedish Transport Administration requests the applicant to move the vehicles on additional occasions, or with shorter notice than 6 weeks, the Swedish Transport Administration shall reimburse the applicant for the direct costs incurred as a result of the applicant's moving of the vehicle.

8.3.2 The contracting party's usage

The Swedish Transport Administration's contracting party shall use the Administration's services in connection with the terms and conditions specified in the Transport Administration's allocation decision.

If the contracting party considers that the use of a service will differ from the allocation, it must immediately notify the Swedish Transport Administration of this. The contracting party must cancel allocated services not needed. If the contracting party still uses services that have not been allocated, the usual charge for the service will be levied, as well as charges for any costs for complaints from other railway companies and traffic organizers as well as costs for possible removal of obstructing vehicles.

During the use of the services supplied by the Swedish Transport Administration, the contracting party shall follow:

- the terms and conditions stipulated in the Track Access Agreement
- rules and conditions stipulated in the Network Statement
- the statutes that regulate the operations in question
- the regulations stated in Annex 3 B.

If the contracting party does not comply with the aforementioned terms and conditions for use of the service, it does not have the right to use the service, unless permission is provided by the Transport Administration, either through a new decision regarding the allocation of services or through special consent. The Swedish Transport Administration may grant this permission if the deviation is minor or if there are clear reasons for the deviation and if no-one else is affected in a negative way.

8.3.3 Recovery resources prior to use

Prior to use of the service, the Swedish Transport Administration's contracting parties must show that they have access to the resources necessary for recovery, whether this be by means of their own resources or through agreement with another party.

8.3.4 Payment for service

The Swedish Transport Administration's contracting partner shall pay for the services provided as well as in the event of cancellation, in accordance with the rules and conditions specified in the Network Statement.

The Swedish Transport Administration's contracting partner shall pay charges according to the invoice.

8.3.5 Environmental responsibility

The entity using a service is responsible for any residues, for example service and maintenance of vehicles, will be cleared in a safe and quick manner. The expenses for cleaning may be charged.

8.4 Deviations from the agreement

8.4.1 Delay charge in the event of deviations

The parties shall reciprocally supply and use the train paths without causing deviations from established timetable and track access agreement.

The party that causes deviations from the timetable shall pay a delay charge, in accordance with Section 5.7.

The liability to pay delay charges applies during normal operational conditions.

If operational conditions are not normal, the Swedish Transport Administration shall provide notice of this.

8.4.2 Charge in the event of re-routing

If the Swedish Transport Administration begins track works late or postpones planned track works as a result of its own operations, the contracting party shall pay charges for re-routing in accordance with allocated train paths.

8.5 Remedy of deviations

8.5.1 In cooperation and in dialogue

The railway undertaker and the Swedish Transport Administration shall, in dialogue, strive to resolve the situation through cooperation. If it is not possible reach an agreement, the Swedish Transport Administration shall, according to Chapter 6, Section 17 of the Swedish Railway Act (2004:519), in the event of disruptions in railway traffic implement the necessary measures to restore traffic to normal conditions. The responsibility includes the authority to decide on the necessary measures to be taken for the preparation of evacuation and/or execution of clearance. Defined deadlines in Sections 6.3.1.1 form the basis for the decision taken by the Swedish Transport Administration. Procedures for evacuation and/or clearance situations can be found in Annex 6 B.

8.5.2 Notification in the event of deviations and errors

One party shall immediately notify the other party in the event of disruptions. Disruptions will be remedied so that safety is maintained and traffic impacts are minimised according to the following priority:

1. taking care of passengers on the affected train
2. minimise impacts on traffic.

The Swedish Transport Administration shall, as soon as necessary information is available, consult with the railway undertakings and traffic organisers on what measures that it plans to take in the event of weather warnings or other similar circumstances (reported by SMHI, MSB or another authority or organisation), where there is a risk that these circumstances will have a large-scale impact on the railway traffic. The Swedish Transport Administration shall give special consideration to the various preconditions of the trains concerned. The Swedish Transport Administration shall, as soon as further actions have been decided, inform the railway undertaking and traffic organisers of those measures which the Swedish Transport Administration plans to take.

If a railway undertaking (or traffic organiser) discovers errors or deficiencies in the Swedish Transport Administration's facilities or in the information that will be delivered to passengers, it shall report this to the Administration. The Swedish Transport Administration shall send information to the entity that reported the error concerning the actions that will be taken in order to remedy the situation.

The contracting party shall also inform the Swedish Transport Administration's traffic centre about changes that affect the planned traffic information.

8.5.3 Forecast for remedies and continuing traffic

The party that causes the disruption shall provide a forecast of when the disruption can be remedied.

If emergency measures do not completely remedy the disruption, the Swedish Transport Administration shall develop a forecast of the possibilities for rectification. The Swedish Transport Administration's contracting party shall be informed of the content of the forecast.

The Swedish Transport Administration shall also provide a forecast of how the relevant train paths are affected, and inform passengers via its information channels. In the event of major disruptions, the contracting parties will be consulted in order to determine which traffic measures will be taken prior to the final information being provided to passengers.

8.5.4 Response time

The Swedish Transport Administration shall endeavour to achieve a response time of a maximum one (1) hour and, where possible, to remedy the fault within the same window.

8.5.5 In the event of accidents

Work at the site of the accident is carried out in accordance with Annex 8 A.

8.5.6 Resources for clearance

The railway shall at the latest by the signing of the track access agreement inform the Swedish Transport Administration on what resources for clearance the undertaker has at its disposal in the event of traffic disruption, by its own vehicles or via agreement with a service provider, which meets the deadlines in Section 6.3.1.1. This only applies if the railway undertaker does not intend to sign a service agreement (as specified in Section 7.3.9) in all coverage areas.

The Swedish Transport Administration is gradually establishing a service for providing recovery vehicles for clearance of railway vehicles. Where and when the service is available and how the Swedish Transport Administration informs about the availability in a specific coverage area is stated in Section 7.3.9.

The railway undertaking signs an agreement on the service in connection with the signing of the track access agreement (see track access agreement, Annex B, point 3). If the railway undertaking does not provide information as stated above, the railway undertaking, with the signing of the track access agreement, shall be deemed to have concluded an agreement with the Swedish Transport Administration regarding the service (see track access agreement, Annex B, point 3).

Regardless of the above, if the deadline specifically in Section 6.3.1.1 cannot be considered to be held, the Swedish Transport Administration can decide to put in resources in the form of recovery vehicles for clearance according to Chapter 6, Section 17 of the Swedish Railways Act. Furthermore, if the situation requires as above, the railway undertaker shall, at the Swedish Transport Administration's request, leave vehicles and drivers to the disposal of the Swedish Transport Administration, for clearance in accordance with Section 8.5.1 in the Network Statement and in accordance with Chapter 6, Section 18 of the Swedish Railway Act (2004:519).

Traffic organiser

A traffic organiser shall, when signing the track access agreement, or at least 30 days before traffic commences, inform the Swedish Transport Administration how the required clearance capacity for the relevant traffic is ensured. This means that the traffic organiser must report how the traffic operator hired for the traffic fulfils the requirement for clearance capacity in accordance with the above.

8.5.7 Compensation for clearance

For the resources placed at the disposal of the Transport Administration by its contracting party for clearance on behalf of a party other than the contracting party, the contracting party has the right to compensation. The compensation refers to direct costs that have arisen from the time the contracting party has made its clearance vehicle available, until the transfer of the vehicle/property has been completed or until the clearance vehicle has returned to its original place after the clearance has been completed.

The Swedish Transport Administration's contracting party is liable for costs relating to recovery and clearance of its own vehicles, and shall compensate the Administration for specified costs incurred when applicable. The Swedish Transport Administration will invoice this on a running basis, and the terms of payment will be 90 days.

When the Swedish Transport Administration can be regarded as being the responsible party, the Swedish Transport Administration's party to the agreement shall be entitled to receive compensation for clearance and towing costs even though no property damage has been occasioned. A request for this type of compensation must have been received by the Transport Administration within sixty (60) days of the performed clearance. Failure to observe the deadline will result in non-payment.

The Swedish Transport Administration's contracting party may conclude a special agreement regarding invoicing with a party other than the Administration.

8.6 Liability for compensation

8.6.1 General

Unless otherwise explicitly specified in the track access agreement, another special agreement on the use of a service, or another provision in the Swedish Transport Administration's General Terms and Conditions, a party is not liable for compensation towards the other party for damage other than property damage that has been caused by the first-mentioned party to that other party and that in each individual case exceeds 0.5 price base amounts.

Furthermore, unless otherwise explicitly specified in the track access agreement, another special agreement on the use of a service, or another provision in the Swedish Transport Administration's General Terms and Conditions, a party is under no circumstances liable for compensation or damages towards the other party for the following:

- a) damage that arise as a result of the other party not fulfilling their obligations in accordance with the track access agreement or other special agreement regarding the use of a service,
- b) consequential or indirect damage, or
- c) damage that arise as a result of conditions that constitute grounds for release from liability in accordance with the below.

8.6.2 Damages caused by negligence

A party shall always be considered to have caused the other party damages through negligence if:

- a) the damage was caused by the party's vehicles (railway vehicles owned, leased, borrowed or used in another manner), machines or the operation of vehicles and machinery, including but not limited to overheating
- b) damage caused by the load, including inadequate packaging or incorrect loading that the party was managing for transportation, or
- c) damage caused by the party's railway network, including but not limited to heat distortion or rail fracture.

In addition, the Swedish Transport Administration shall always be considered to have caused damage through negligence if:

- the damage is caused by trees on the Swedish Transport Administration's property or on land that is covered by the vegetation clearance easement (routes in accordance with a list, see [the Swedish Transport Administration's website](#).) for the benefit of the Administration's property, or
- the damage is caused by boulders from rock cutting or tunnels that are being constructed or maintained by the Swedish Transport Administration.

With regard to winter-equipped vehicles, in addition to the other provisions in this agreement, the Transport Administration is always considered to have caused damage to these types of vehicles if the damage is caused by the vehicle being driven lineside in snow masses, where the presence of these masses was a result of neither railway traffic nor the snow clearance of a third party's infrastructure or property.

Vehicles with ploughs are regarded as winter-equipped vehicles, in accordance with the specifications published on the Swedish Transport Administration's website at the time when the track access agreement was concluded, as are vehicles or carriages with equivalent equipment.

The Swedish Transport Administration is considered to have caused damage where this is a result of the Administration neglecting to take measures to clear obstacles other than snow from the tracks or delaying unreasonably before taking such measures, provided the obstacle is reported as an emergency incident in accordance with this agreement, and on the condition that the Administration is managing clearance of the obstacle.

8.6.3 Contributory negligence

Compensation that a party is liable to pay as a result of damages can be adjusted if the other party has contributed to the damage. The adjustment must be reasonable, taking into consideration the damage caused by each party.

8.6.4 Compensation amount

The liability to pay compensation in the event of property damage covers the object's value after the cost of repairs (but not costs exceeding the object's value), loss of value, and compensation for losses during a period of inactivity, as well as other direct damages. See Annex 8 B.

8.6.5 Liability to pay compensation for damages suffered by a third party

If a third party claims damages from a party, and that party believes the other party should ultimately be liable for the damages, the party may not approve or have any other form of control over the claim without having reached an agreement with the other party in this respect. This means that the party must file the claim for damages with the other party as soon as possible.

If a party receives a claim for damages from a third party and believes that the other party should ultimately be liable for the damages, the other party may bring an action in the matter at its own risk and cost, after having received the claim in accordance with the above. If the other party then chooses not to bring an action, the party shall not approve the claim or arrive at a settlement regarding the claim without having first obtained the other party's opinions, which shall be taken into reasonable consideration. The parties shall act quickly with the application of this provision.

If a party, with regard to what is stated in the first and second paragraph above, has paid damages or compensation to a third party (in accordance with the track access agreement or other special agreement regarding the use of services) that shall be borne by the other party, the party then has right of recourse against the other party. The right of recourse applies regardless of what is prescribed by the law or other statutes with regard to liability. However, this only applies to compensation that is paid to third parties as a result of liability in accordance with statutes or the track access agreement.

Beyond the right to compensation as per points 8.4 and 8.10, the contracting party does not have the right of regress to obtain compensation from the Swedish Transport Administration for compensation paid by the contracting party to another party that was

affected by delays or other disruptions in the traffic. The limitation does not apply to compensation that paid with the support of the Railway Traffic Act (2018:181).

Despite the above, the Swedish Transport Administration may reclaim compensation for damages from the contracting party - where these have been paid to a third party in accordance with the law or another statute - only if the Administration is able to demonstrate that the contracting party caused the damage.

8.6.6 Responsibility during railway operation

The Swedish Transport Administration's contracting party bears the responsibility for damages suffered by its personnel, passengers or agents, as well as goods and similar that that entity was in charge of transporting, where these have been caused by railway operations. If the contracting party has paid out compensation for these types of damages, the compensation may be reclaimed from the Transport Administration only if the damage was caused by the Administration.

8.6.7 Liability to pay compensation in the event of damages connected to clearance

In the case of clearance situations where the Swedish Transport Administration's recovery vehicle is used, the Swedish Transport Administration is responsible to the contracting party for the recovery vehicle in accordance with the provisions of Section 8.2.

If damage occurs in connection with clearance requested by the Swedish Transport Administration, the Administration is liable for the damages on the condition that the contracting party had placed resources at its disposal in accordance with what was stated in Section 8.5.6. This does not apply, however, if the contracting party's driver is guilty of negligence in connection with the clearance. In the assessment of what constitutes negligence in connection with the clearance, the parties shall take into consideration the difficulties involved in clearance.

If damage occurs as a result of resources placed at the Swedish Transport Administration's disposal not fulfilling the requirements in accordance with Section 8.5.6, the contracting party is liable for the Administration's damages or any compensation paid by the Administration to a third party, in the same manner as with negligence.

8.6.8 Data for investigation of damages

In the event of damage, the parties shall ensure that the necessary investigation is conducted in order to identify what caused the damage. The party that has control over facilities, vehicles or machines shall provide the technical data requested by the other party which is relevant to the investigation.

8.6.9 Time limit on claims for compensation

Claims resulting from damages shall be made to the other party as soon as possible, and at the latest ninety (90) days (a) from the incident that caused the damage, or (b) if it is a claim from a third party, from the time when the party received the claim. The right of the parties to compensation shall lapse completely if the time limit for making a claim for compensation is not adhered to

A claim shall be made in writing, but do not need to specify the amount initially. They shall, however, contain a preliminary account of the conditions that are being stated as the grounds for the claim.

8.6.10 Demonstration of negligence

The party that incurs damages is not required to demonstrate that the other party was negligent if, in cases such as those described in Section 8.6.3, the connection between cause and damage is established.

8.6.11 Cause of damage

If the investigation does not identify what caused the damage, the parties shall bear their own costs.

8.7 Grounds for exemption

8.7.1 Notification about grounds for exemption

The parties are free from liability for failure to fulfil their contractual obligations if the latter is as a result of war, terrorism, riot, shortage of energy in the country, blockade, fire or explosion, authority decision or other incident beyond the parties' control, or when these type of circumstances affect a subcontractor. The parties do not have the right to cite incidents caused by their own actions or decisions as grounds for exemption.

If there are grounds for exemption in accordance with the above, the party citing the ground for exemption shall take justifiable measures to reduce and nullify the effects of the incident.

The party that requests an exemption in accordance with the aforementioned provisions shall immediately inform the other party, and notify as soon as possible when the grounds for exemption have ceased to apply.

8.7.2 The State's right to use the railway

With consideration for the country's defence, security, preparedness and mobilisation, or due to military or preparedness exercises under a state of emergency or similar reasons, the State has the right to use the Swedish Transport Administration's railway network, which also encompasses the operating rights and capacity allocation obtained by the Administration's contracting party, to the scope and extent that the State considers necessary. The Transport Administration is free from liability for failure to fulfil its contractual obligations in such cases. In this context, the Swedish Transport Administration's contracting party has the right to compensation from the State for the encroachment that the State's usage entailed, to the extent that compensation is stipulated by laws or statutes. In this case, the compensation shall be paid out by the authority that is liable to pay compensation in accordance with laws or statutes.

8.8 The validity of the agreement

8.8.1 Track access agreements

The track access agreement, or other special agreement regarding the use of services, is valid for a maximum of one (1) timetable period. Alternatively the termination of these agreements may be provided in writing. The agreements cease to be valid at the turn of the month falling three (3) months after the day on which the notification is received by the addressee.

8.8.2 Termination in the event of a breach of contract

If one party commits a material breach of contract, the other party, regardless of what is stated in Section 8.8.1, has the right to terminate the agreement for its immediate cessation after thirty (30) days, if the other party has informed the party in writing that the agreement is to be terminated as the result of a major breach of contract. The right only applies if the breach of contract is not remedied before the end of the 30 day period.

The party that receives written notification shall, in consultation with the other party and to the best of their ability, take measures to rectify the breach of contract as quickly as possible.

The Swedish Transport Administration is however entitled to immediately terminate the parties' track access agreements if a railway undertaking or a traffic organiser is in default of payment (see Section 5.9).

8.8.3 The agreement ceases to be valid in the event of bankruptcy and revocation of the license

The track access agreement or other special agreement regarding the use of services ceases to apply with immediate effect, without specific notice, if one party declares bankruptcy or if the permit allowing the railway undertaking to operate traffic is revoked.

8.9 Disputes

8.9.1 Consultation body in the first instance

Disputes between the parties relating to the track access agreement or other agreement or document that was drawn up with support of the track access agreement shall in the first instance be settled by the consultation body appointed by the parties. Unless the parties have agreed on something else, the Swedish Transport Agency or Swedish public court applies as the exclusive forum when a dispute cannot be resolved through consultation.

8.10 Certain international transports

8.10.1 Rules in accordance with COTIF

For international transports where COTIF appendices A and B can be applied (Convention concerning International Carriage by Rail of 9 May 1980 as amended by the Vilnius Protocol of 3 June 1999), the parties shall apply the provisions stipulated by COTIF Appendix E.

The provisions in this agreement are also applicable to the extent that they are consistent with COTIF Appendix E.

8.11 Liability for economic damage

In accordance with the Rail Traffic Act (2018:181), the Swedish Transport Administration, as the administrator of railway infrastructure, shall be responsible for demonstrated economic damage arising for a carrier resulting from that carrier's obligations, in accordance with COTIF 1999 along with its appendices, the Regulation (1371/2007) on rail passengers rights and obligations, and the Act (2015:953) on the rights of public transport passengers.

The Swedish Transport Administration is responsible to the extent that such damage has been caused by a carrier while utilising the railway infrastructure and the damage is due to the railway infrastructure. The carrier shall limit the damage, and damage that arises in addition to the legal obligations of the carrier in accordance with the references above is not covered by the liability of the Swedish Transport Administration.

The Swedish Transport Administration is not responsible when any of the grounds for freedom from liability in CUI Appendix E are present. This means, among other things, that the Swedish Transport Administration is not responsible when the damage has been caused by an event that cannot be attributed to the railway operation in itself, or when the damage has been caused by an event that is due to third-party behaviour, the consequences of which have not been possible to avoid or prevent by the infrastructure manager even when necessary care has been taken.

The carrier can apply, in writing, for compensation for economic damage. Carrier refers to the entity who holds the train path for the traffic in question. The carrier may, in accordance with Appendix E (delegation from traffic organiser to traffic operator) to the track access agreement, delegate the right to apply for compensation and to receive compensation.

The application for compensation shall contain a description of events, grounds for the request and documentation that specifies the financial damage.

The Swedish Transport Administration shall, in accordance with section 10 of the Rail Traffic Act, deduct delay and cancellation charges paid to the carrier due to the same incident. The Swedish Transport Administration makes this deduction regardless of whether it is the carrier itself or a traffic operator appointed by it which has suffered the economic damage.

If causes that can be attributed to the Swedish Transport Administration and causes that can be attributed to someone else have contributed to economic damage, the Swedish Transport Administration shall be responsible only to the extent that the causes that can be attributed to the Swedish Transport Administration have contributed to the damage in question.

The prescription time for the carrier's claim against the infrastructure manager according to the Rail Traffic Act is three years, see also COTIF, Appendix E (CUI), for the complete requisites.

However, the Swedish Transport Administration recommends that an application for economic damage be made within 180 days of the occurrence of the economic damage, in order to facilitate the parties' opportunity for efficient handling of the case.

Contacts

1 Information about the Network Statement

For more detailed information about the content of the Network Statement, please use the address below, unless otherwise stated. Any information about errors in the text should also be sent to that address.

The Swedish Transport Administration
Avdelning Trafikplanering, enhet Affärsregler och modeller
781 89 Borlänge

E-mail: networkstatement@trafikverket.se

Website: <https://www.trafikverket.se/jnb/jnb>

2 Telephone numbers and addresses

The Swedish Transport Administration
781 89 Borlänge

Phone: +46 771-921 921

E-mail: trafikverket@trafikverket.se

Website: <http://www.trafikverket.se>

3 Other Contacts

Transportstyrelsen (the Swedish Transport Agency)

Website: <https://www.transportstyrelsen.se/sv/jarnvag/>

Phone: +46 771-503 503

Regeringskansliet (Government Offices of Sweden)
Infrastrukturdepartementet (Ministry of Infrastructure)
103 33 Stockholm

Phone: +46 8-405 10 00

Website: <http://www.regeringen.se>

4 Support Railway

At Support Railway you get help with access to the Swedish Transport Administration's systems, IDo6, keys, announcing of train information and questions and matters of a general nature.

The Swedish Transport Administration
Support järnväg
781 89 Borlänge

Phone: +46 10-123 20 20

E-mail: support.jarnvag@trafikverket.se

For information regarding contacts for application for services in chapter 5, see contact details below or The Swedish Transport Administration's website (<http://www.trafikverket.se>).

5 Application for capacity and services

The application relates to:

- minimum package of access services (train path)
- minimum package of access services (train path) for international traffic
- minimum package of access services (train path) for an exceptional transport
- announcements for passenger trains
- passenger stations
- freight terminals
- marshalling yards and train formation facilities
- storage sidings
- other technical facilities
- train formation services¹
- connection to electricity when holding railway vehicles

5.1 Applications no later than 11th April 2022

The Swedish Transport Administration
Avdelning Trafikplanering, enhet Produktionsplanering järnväg
781 89 Borlänge

Via the Swedish Transport Administration's e-service (Application for capacity/Ansökan om kapacitet)

¹ The applicant shall submit supplementary information regarding who will perform the shunting according to Section 7.3.4.6. Information is to be sent via e-mail to unit Produktionsplanering järnväg at The Swedish Transport Administration.

E-mail: Support.jarnvag@trafikverket.se

Via the Swedish Transport Administration's IT-system for announced train information (Planno), allocated train path must be updated with announced train information at a time which will be announced later.

5.2 Application until 15:00 weekdays before the next operational period

A description of what an operational period is can be found in the list of definitions in the beginning of the network statement..

The Swedish Transport Administration
Avdelning Trafikplanering, enhet Produktionsplanering järnväg
781 89 Borlänge

Phone: +46 771-921 921

Via the Swedish Transport Administration's e-service (Application for capacity/Ansökan om kapacitet)

E-mail: support.jarnvag@trafikverket.se

5.3 Application later than 15:00 weekdays before the next operational period and during the operational period

A description of what an operational period is can be found in the list of definitions in the beginning of the network statement.

The Swedish Transport Administration
Avdelning Trafikplanering, enhet Produktionsplanering järnväg
781 89 Borlänge

E-mail: Support.jarnvag@trafikverket.se

5.4 Announcement for passenger trains

Announcement information which cannot be adjusted via the Swedish Transport Administration's e-service (in accordance with section 5.3.4.2) and support for overall traffic information about planned events shall be sent to

trafikinformationsledaren.syd@trafikverket.se
trafikinformationsledaren.vast@trafikverket.se
trafikinformationsledaren.ost@trafikverket.se
trafikinformationsledaren.nord@trafikverket.se

5.5 Details on vehicle type and pantograph model/type according to Annex 6 A

The Swedish Transport Administration
781 89 Borlänge

E-mail address for questions about power supply:

elkraft@trafikverket.se

E-mail address for questions about railway infrastructure:

sparsystem@trafikverket.se

E-mail address for questions about railway work vehicles

Uhtt.trafiksakerhetjvg@trafikverket.se

5.6 Preliminary contact concerning the need of long-term holding according to Section 7.3.5

Written description of the needs is sent to the Swedish Transport Administration:

The Swedish Transport Administration
Avdelning Trafikplanering, enhet Produktionsplanering järnväg
781 89 Borlänge

E-mail: trafikplanering.jarnvag@trafikverket.se

5.7 Train formation services at Hagalund station according to Section 7.3.4.6

ProTrain Trafik AB
Contact: Kim Bäckström

ProTrain Trafik AB
Box 107
595 21 Mjölby

Mobile phone: +46 700 037 643

E-mail: kim.backstrom@protrain.se

5.8 Additional services according to Section 5.4.2

Questions about permits and conditions for exceptional transports:

The Swedish Transport Administration
Avdelning Trafik, enhet Transporttjänster – Support järnväg
781 89 Borlänge

Phone – Transport conditions: +46 10-123 20 20

E-mail: specialtransporter.jarnvag@trafikverket.se

Phone – Transport permits: +46 10-124 20 20

E-mail: specialtransporter.tillstand@trafikverket.se

5.9 Other recipient of application for capacity other than the Swedish Transport Administration in accordance with Section 4.2

Applications for capacity which other Swedish infrastructure manager must forward to the Swedish Transport Administration:

E-mail: trafikplanering.jarnvag@trafikverket.se

6 Ancillary services

6.1 Application for other ancillary services:

Conditions for test running of vehicles:

The Swedish Transport Administration
Avdelning Teknik och miljö
781 89 Borlänge

E-mail: provkorning.jarnvag@trafikverket.se

7 Damages, complaints about services and invoicing issues

7.1 Submission of claims for property damage in accordance with section 8.6

The Swedish Transport Administration
TRAV-skador
781 89 Borlänge

E-mail: TRAV-skador@trafikverket.se

7.2 Complaints about services and invoicing issues

The Swedish Transport Administration
Avdelning Trafik, enhet Transporttjänster - Eftermarknad
781 89 Borlänge

E-mail: fakturerings.jarnvag@trafikverket.se

7.3 Request for reassessment of the Swedish Transport Administration's cause coding for cumulative delays according to Section 5.7.6

E-mail: begaranomnyorsakskod@trafikverket.se

7.4 Invoice about clearance work in accordance with Section 8.5.7

The Swedish Transport Administration
FE 851, EF 1207
838 26 FRÖSÖN

**7.5 Invoice about property damage according to Annex 8 B
Procedures during the settlement of claims, Section 1.7.4**

The Swedish Transport Administration
FE 851, EF 1207
838 26 FRÖSÖN

7.6 Application for economic damage – right of regress

The Swedish Transport Administration
Avdelning Trafikplanering, enhet Transporttjänster – Eftermarknad
781 89 Borlänge

Phone: +46 10-123 20 20

E-mail: ekonomisk.skada.jarnvag@trafikverket.se

For more information on contacts and form for application for economic damage in Section 8.11, see the Swedish Transport Administration's website:

trafikverket.se/ekonomisk-skada-persontrafik/
trafikverket.se/ekonomisk-skada-godstrafik/.

8 Delay and cancellation codes

**8.1 Request for renewed assessment (BONO and BONO+) of the
Swedish Transport Administration's delay coding in accordance
with Section 5.7.6.1**

E-mail: begaranomnyorsakskod@trafikverket.se

**8.2 Request for renewed assessment (BRIO) of the Swedish Transport
Administration's cancellation coding in accordance with Section
5.7.6.2**

E-mail: begaranomnyorsakskod@trafikverket.se

**8.3 Request for dispute resolution for coding in accordance with
Section 5.7.6.3**

E-mail: tvistlosningorsakskod@trafikverket.se

9 International traffic

9.1 International traffic in accordance with Section 1.7.1.1

Information about ScanMed RFC and C-OSS contact for pre-arranged paths
www.scanmedfreight.eu (see also Sections 4.2 and 4.5).

9.2 International traffic in accordance with Section 1.7.2

Information about RNE (RailNetEurope), contacts, capacity according to international train path's OSS www.rne.eu/organisation/oss-c-oss, system Path Coordination System (PCS) and common definitions in RNE represents on RNE:s website
www.rne.eu/organisation/network-statements (see also Section 4.2).

9.3 National One-Stop Shop in accordance with Section 1.7.2.1

The Swedish Transport Administration
Box 366
SE - 20123 MALMÖ

E-mail: oss@trafikverket.se

Charges

Minimum access package (train path) on the Swedish Transport Administration's infrastructure

Charge	Amount (SEK)	Unit	Segment	Section
Passage charge area C	433	passage	Passenger traffic, service trains	5.3.6
Passage charge area D	433	Passage	Passenger traffic, service trains	5.3.6
Passage charge area E	433	Passage	Passenger traffic, service trains	5.3.6
Passage charge area F	433	Passage	Passenger traffic, service trains	5.3.6
Passage charge area G	433	Passage	Passenger traffic, service trains	5.3.6
Passage charge area H	433	Passage	Passenger traffic, service trains	5.3.6
Track charge average axle load ≤ 10 tonnes	0.0115	Gross-tonne-kilometre	Freight traffic, service trains	5.3.6
Track charge average axle load > 10 tonnes ≤ 17 tonnes	0.0128	Gross-tonne-kilometre	Freight traffic, service trains	5.3.6
Track charge average axle load > 17 ton ≤ 25 ton	0.0140	Gross-tonne-kilometre	Freight traffic, service trains	5.3.6
Track charge average axle load > 25 ton	0.0151	Gross-tonne-kilometre	Freight traffic, service trains	5.3.6
Track charge average axle load ≤ 17 ton	0.0180	Gross-tonne-kilometre	Passenger traffic	5.3.6
Track charge average axle load > 17 ton	0.0197	Gross-tonne-kilometre	Passenger traffic	5.3.6
Train path charge base level	3.94	Train kilometre	Passenger traffic, freight traffic, service trains	5.3.6
Train path charge high level	8.00	Train kilometre	Freight traffic, service trains	5.3.6
Train path charge high level	9.00	Train kilometre	Passenger traffic	5.3.6

Passage over the Öresund Link

Charge	Amount (SEK)	Unit	Segment	Section
Track charge average axle load ≤ 17 ton	0.0180	Gross-tonne-kilometre	Passenger traffic	5.3.6
Track charge average axle load > 17 ton	0.0197	Gross-tonne-kilometre	Passenger traffic	5.3.6
Track charge average axle load ≤ 10 ton	0.0115	Gross-tonne-kilometre	Service trains	

Network Statement 2023
Annex 1 B – Charges
Edition 2021-12-10

Track charge average axle load > 10 ton ≤ 17 ton	0.0128	Gross-tonne-kilometre	Service trains	
Track charge average axle load > 17 ton ≤ 25 ton	0.0140	Gross-tonne-kilometre	Service trains	
Track charge average axle load > 25 ton	0.0151	Gross-tonne-kilometre	Service trains	
Train path charge high level	9.00	Train kilometre	Passenger traffic, service trains	5.3.6
Passage charge Öresund Link	3 183	Passage	Freight traffic	5.3.6

Basic services, additional services and ancillary services

Charge	Amount (SEK)	Unit	Section
Brake testing facility in Göteborg Skandiahammen tracks 31–35, access to	60	per brake test	7.3.7
Electricity via train heating post, locomotive heating post or diesel locomotive heating post, connection to	50	per commenced day	7.3.11
Electricity via raised pantograph for vehicles with or without electricity metres, connection to	50	per raised pantograph and commenced day	7.3.11
Recovery vehicle for clearance of railway vehicles, provision of	20 000	per recovery vehicle for up to 3 hours work	7.3.9
Recovery vehicle for clearance of railway vehicles, provision of	5 000	per recovery vehicle and commenced hour exceeding 3 hours	7.3.9
Loading area, access to	8	per hour and commenced hundred metres of track	7.3.3
Long-term holding	3	per commenced day and commenced hundred metres of track	7.3.5
Long-term holding, any measures taken within the facility	The Swedish Transport Administration's prime cost		7.3.5
Long-term holding, process of application	700	Per commenced hour	7.3.5
Test-driving of vehicles, any measures taken in conjunction with processing and test-driving	The Swedish Transport Administration's prime cost		5.5.4
Test-driving of vehicles, processing of conditions	1 000	per commenced hour	5.5.4
Marshalling yard, access to	70	per arriving train	7.3.4
Exceptional load, coverage of routes in the conditions of carriage	1	per kilometre and commenced month	5.4.2

Network Statement 2023
Annex 1 B – Charges
Edition 2021-12-10

Exceptional load, any measures taken in conjunction with the processing and the transportation	The Swedish Transport Administration's prime cost		5.4.2
Exceptional load, processing of application for transport permit	375	per commenced half-hour	5.4.2
Exceptional load, processing of application for transport conditions	1 000	per commenced hour	5.4.2
Holding zone A	5.50	per allocated track length per track, per commenced hour and commenced hundred metres of track	7.3.5
Holding zone B	0.30	per allocated track length per track, per commenced hour and commenced hundred metres of track	7.3.5

Barrier-free length and platforms

The document is not suitable for publication in this format because it contains a large amount of rows and multiple sheets. The document is available on the Swedish Transport Administration's website.

https://www.trafikverket.se/contentassets/da0e860ed4e9477ba0287bc71d3e4074/annex_2_a_ns_2023_barrier-free_lengths_and_platforms_am1.xlsx

Track standard data

The document is not suitable for publication in this format because it contains a large amount of rows and multiple sheets. The document is available on the Swedish Transport Administration's website.

https://www.trafikverket.se/contentassets/da0e860ed4e9477ba0287bc71d3e4074/annex_2_b_ns_2023_track_standard_data_am1.xlsx

NS 2023 Annex 2 C HPS per line

Informationen i bilagan är gällande så länge den inte står i konflikt med den information som återfinns i JNB kapitel 2.4.1. Vid eventuella skillnader mellan dessa två dokument är det uppgifterna i JNB kapitel 2.4.1. som i första hand är gällande.

Bandel	Sträcka från	Sträcka till	Största tillåtna hastighet (km/h) med procentuellt hastighetsöverskridande	Kommentarer
111	(Peuravaara)	Riksgränsen	130	
112	Peuravaara	Kiruna Malmbangård	100	
113	(Gällivare)	(Peuravaara)	160	
114	Gällivare	Koskullskulle	100	
116	(Råtsi)	Svappavaara	80	
118	(Boden central)	(Gällivare)	135	
118	(Koijuvaara)	Aitik	70	
119	(Boden central)	(Luleå)	140	
120	Buddbyn - Boden central	Bodens södra	120	
124	Bastuträsk	(Bodens södra)	160	
126	(Vännäs)	(Bastuträsk)	140	
129	(Mellansel)	(Vännäs)	160	
130	(Långsele)	Mellansel	130	
132	(Morjärv)	Bredviken	200	
133	(Bredviken)	(Haparanda)	250	
137	(Buddbyn)	Morjärv	160	
141	(Nyfors)	Piteå/Svedjan	90	
143	(Bastuträsk)	Skelleftehamns övre	100	
146	(Vännäs)	Umeå central	135	
147	(Umeå central)	Holmsund	180	
149	(Mellansel)	(Örnsköldsviks C)	80	
152	(Hällnäs)	(Storuman)	90	
153	(Forsmo)	(Hoting)	70	
171	Örnsköldsviks central	(Gimonäs)	250	
173	(Husum norra)	Rågön	50	
175	(Västerasby)	(Örnsköldsviks central)	250	
211	(Bräcke)	Långsele	120	
212	(Ånge)	Bräcke	180	
215	(Ramsjö)	(Ånge)	160	
216	(Ljusdal)	Ramsjö	160	
217	Ljusdal	Bollnäs	160	
218	(Bollnäs)	Ockelbo	200	
221	(Östersunds central)	Storlien riksgränsen	140	
222	Östersunds central		160	
223	(Bräcke)	(Östersunds centra)	160	

NS 2023 Annex 2 C HPS per line

Informationen i bilagan är gällande så länge den inte står i konflikt med den information som återfinns i JNB kapitel 2.4.1. Vid eventuella skillnader mellan dessa två dokument är det uppgifterna i JNB kapitel 2.4.1. som i första hand är gällande.

Bandel	Sträcka från	Sträcka till	Största tillåtna hastighet (km/h) med procentuellt hastighetsöverskridande	Kommentarer
224	(Ånge)	(Sundsvall c)	160	
231	(Timrå)	Tunadal	40	Gäller t.o.m. 2023-10-22.
231	(Birsta)	Tunadal	80	Ny linjesträckning. Gäller fr.o.m. 2023-10-22
232	(Härnösand)	Västerasby	200	
232	(Västerasby)	(Långsele)	70	
233	(Sundsvall)	Härnösand	200	
234	Sundsvall c		130	
235	(Sundsvall c)	(Gävle central)	200	
236	Stugsund	(Åänge)	40	
242	(Kilafors)	(Söderhamns västra)	140	
243	(Ockelbo)	(Gävle central)	160	
251	(Furudal)	(Bollnäs)	40	
302	(Gävle central)	Fliskär	40	
303	Gävle central		140	
306	Borlänge fr. Avesta Krylbo	(Repbäcken)	120	
311	(Ockelbo)	(Storvik)	120	
312	(Storvik)	(Avesta Krylbo)	130	
313	(Frövi)	Avesta Krylbo	130	
315	Storvik	(Gävle central)	160	
322	(Falun cental)	(Storvik)	120	
323	Falun central	(Borlänge)	120	
324	(Borlänge central)	Ludvika	140	
325	(Ludvika)	Ställdalen	140	Via Hörkenspåret
326	Hällefors	(Kil)	140	
327	(Ställdalen)	(Hällefors)	140	
331	Repbäcken	Mora	140	
333	(Avesta Krylbo)	(Borlänge central)	180	
334	Grycksbo	(Falun central)	30	
340	(Fagersta centrum)	(Ludvika)	90	
341	Brattheden	(Fagersta centrum)	140	
344	(Snyten)	(Ängelsberg)	40	
345	(Kolbäck)	(Brattheden)	140	
348	Tillberga	(Västerås norra)	130	
349	Västerås norra	Kolbäck	200	
350	(Kolbäck)	Jädersbruk	200	

NS 2023 Annex 2 C HPS per line

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Bandel	Sträcka från	Sträcka till	Största tillåtna hastighet (km/h) med procentuellt hastighetsöverskridande	Kommentarer
351	(Frövi)	(Jädersbruk)	120	
354	(Jädersbruk)	(Hovsta)	200	
361	Vika	(Mora)	40	
364	(Kristinehamn)	Filipstad/Persberg	90	
371	(Blyberg)	Märbäck	10	
371	(Mora)	Blyberg	40	
375	(Malung)	Malungfors		Uppgift saknas
376	(Repbäcken)	Malung	70	
382	(Kil)	Karlstad Välsviken	195	
383	(Laxå)	(Karlstad Välsviken)	200	
391	(Grängesberg)	(Frövi)	115	Via Silverhöjden
393	Bofors	(Strömtorp)	50	
395	(Karlstads central)	Skoghall	30	
401	Ulriksdal	Stockholms central, km 0	200	
401	Älvsjö	Stockholms central, km 0	160	
402	(Solna) - Hagalund			Endast växling
403	Tomtebodas rangerbangård	(Huvudsta)	20	
404	(Karlberg)	Sundbyberg	140	
405	(Tomtebodas)	Värtan	40	
406	(Älvsjö rbg)	Liljeholmen		Endast växling
407	(Älvsjö)	Älvsjö gbg	70	
409	(Tomtebodas övre)	(Stockholms södra)	90	
410	(Älvsjö)	Södertälje hamn	160	
412	(Södertälje hamn)	Järna	200	
413	Södertälje centrum	(Södertälje hamn)	85	
414	(Järna)	(Katrineholms central)	200	
416	(Katrineholms central)	(Hallsberg)	200	
418	(Flemingsberg)	(Järna)	250	
419	Hallsberg pbg	Östansjö	200	
419	Hallsberg pbg	Skymossen	90	
420	Katrineholms central fr. Baggetorp		200	
420	Katrineholms central fr. Strångsjö		200	
421	(Järna)	(Åby)	160	
422	(Katrineholms central)	(Åby)	200	
429	Uppsala central	Uppsala norra	200	

NS 2023 Annex 2 C HPS per line

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Bandel	Sträcka från	Sträcka till	Största tillåtna hastighet (km/h) med procentuellt hastighetsöverskridande	Kommentarer
430	(Märsta)	(Uppsala central)	200	
431	Sala	(Uppsala norra)	160	
433	(Ulriksdal)	Märsta	200	
434	(Uppsala central)	(Gävle central)	200	
			40	
435	(Örbyhus)	Hallstavik		
441	(Sala)	(Avesta Krylbo)	180	
443	(Tillberga)	(Sala)	130	
444	(Kungsängen)	(Västerås norra)	200	
445	(Sundbyberg)	Kungsängen	70	
450	Eskilstuna central	Rekarne	200	
452	(Folkesta)	Nybybruk	30	
453	Åkers styckebruk	(Grundbro)	40	
476	Västerhaninge	(Älvsjö)	160	
477	(Västerhaninge)	Nynäshamn	160	
490	(Rekarne)	(Valskog)	160	
492	Oxelösund	(Flens övre)	100	
493	(Rekarne)	(Kolbäck)	135	
494	Flens övre	(Eskilstuna central)	120	
502	Linköpings central		200	
504	Norrköpings central		180	
505	Åby	(Mjölby)	200	
511	(Östansjö)	Laxå	200	
512	(Laxå)	Falköpings central	200	
522	(Skymossen)	(Mjölby)	160	Ändras till 190 km/h 2023-08-14
524	(Hallsberg pbg)	Frövi	140	
552	(Gårdsjö)	(Håkantorp)	100	
563	(Kimstad)	Finspång	40	
591	(Kumla)	Närkes Kvarntorp		Trafikeras som sidospår.
601	(Göteborg Kville)	(Göteborg Marieholm)	90	
601	(Olskroken)	Gubbero	70	
601	Almedal	Göteborg central	105	Via Gubbero
601	Göteborg central	Partille	150	Via Olskroken
601	Göteborg norra	Olskroken	40	
601	Olskroken	Göteborg Marieholm	110	

NS 2023 Annex 2 C HPS per line

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Bandel	Sträcka från	Sträcka till	Största tillåtna hastighet (km/h) med procentuellt hastighetsöverskridande	Kommentarer
601	Ölskroken	Göteborg Kville	80	
602	Sävenäs rangerbangård		20	
603	Göteborg Kville	Göteborg Skandiahallen	40	
611	(Falköpings central)	(Alingsås)	200	
612	Alingsås	(Partille)	180	
621	(Uddevalla central)	Strömstad	110	
623	(Munkedal)	Lysekil		Uppgift saknas
624	(Stenungsund)	(Uddevalla central)	140	
625	(Göteborg Kville)	Stenungsund	140	
626	(Almedal)	Kungsbacka	180	
627	(Kungsbacka)	Kistinge	200	Varbergstunneln, 2021-2024, Innebär hastighetsnedsättning runt bygget bland annat.
628	(Eldsberga)	Ängelholm	200	
629	(Torebo)	Falkenberg godsstation	105	
630	Furet	Kistinge	200	Via Halmstads central
631	Kil	Charlottenberg gräns	160	
634	Älvängen	(Göteborg Marieholm)	200	
635	Öxnered	(Älvängen)	200	
636	(Skälebol)	(Kornsjö-gränsen)	200	
637	(Kil)	(Öxnered)	160	
640	Halmstad rangerbangård		130	
641	(Almedal)	(Borås central)	140	
651	Uddevalla central	(Öxnered)	140	
652	(Öxnered)	(Håkantorp)	110	
653	Håkantorp	(Herrljunga)	160	
654	(Herrljunga)	(Borås central)	110	
655	Borås central		100	
656	(Borås central)	(Varberg)	110	
661	(Kil)	Torsby	90	
662	(Mellerud)	Billingsfors	80	
666	(Alvhem)	Lilla Edet	40	
710	(Falköpings central)	(Sandhem)	160	
711	Sandhem	(Nässjö central)	160	
715	(Jönköpings central)	Jönköpings gbg	60	
720	Värnamo	(Alvesta)	160	

NS 2023 Annex 2 C HPS per line

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Bandel	Sträcka från	Sträcka till	Största tillåtna hastighet (km/h) med procentuellt hastighetsöverskridande	Kommentarer
721	(Borås)	(Värnamo)	160	
731	(Jönköping gbg)	(Vaggeryd)	100	
732	(Nässjö central)	(Landeryd)	125	
733	Landeryd	(Furet/Halmstads central)	120	
735	(Torup)	Hyltebruk	40	
742	Smålands Burseryd	(Landeryd)	40	
751	(Värnamo)	Helmershus	40	
810	Mjölby		140	
811	(Mjölby)	(Nässjö central)	200	
813	(Nässjö central)	(Alvesta)	200	
814	Alvesta	Älmhult	200	
815	(Älmhult)	(Hässleholm)	200	
817	Nässjö central		200	
821	(Alvesta)	Växjö	160	
822	(Växjö)	Emmaboda	160	
823	(Emmaboda)	Karlskrona central	200	
824	(Emmaboda)	(Kalmar södra)	200	
827	Kalmar södra	Kalmar central	140	
829	(Nässjö central)	Vetlanda	100	
831	(Nässjö central)	(Hultsfred)	100	På sträckan (Nässjö)-(Eksjö) sth 120 km/h i samband med införande av ATC
832	Hultsfred	Berga	110	
833	(Berga)	Oskarshamn	100	
841	(Bjärka-Säby)	(Hultsfred)	120	
843	(Linköpings central)	Bjärka Säby	100	
845	(Bjärka-Säby)	Västervik	110	
851	(Älmhult)	Olofström	70	
872	(Vetlanda)	Kvillsfors	40	Kvillsfors-Järnforsen trafikeras som sidospår
873	(Kvillsfors)	(Pauliström)		trafikeras som sidospår
875	(Blomstermåla)	(Berga)	120	
876	(Kalmar södra)	Blomstermåla	120	
877	Mönsterås	(Blomstermåla)	70	
901	(Malmö central)	Lockarp	200	
901	Arlöv	(Malmö godsbangård)		Uppgift saknas
901	Arlöv	Lockarp		Uppgift saknas

NS 2023 Annex 2 C HPS per line

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Bandel	Sträcka från	Sträcka till	Största tillåtna hastighet (km/h) med procentuellt hastighetsöverskridande	Kommentarer
910	(Hässleholm)	(Höör)	200	
912	Höör	(Arlöv)	200	
913	(Lockarp)	(Trelleborg)	160	
914	Trelleborg		110	
919	(Fosieby)	Lernacken	200	
920	(Ängelholm)	(Helsingborgs central)	180	
922	(Ängelholm)	(Åstorp)	130	
923	(Åstorp)	(Kattarp)	120	
924	(Åstorp)	(Teckomatorp)	160	
925	(Kävlinge)	(Arlöv)	160	
926	(Helsingborgs central)	Teckomatorp	140	
927	(Teckomatorp)	(Kävlinge)	140	
931	(Eldsberga)	(Hässleholm)	130	
932	(Hässleholm)	(Åstorp)	130	
933	(Helsingborgs rbg)	Åstorp	130	
935	(Teckomatorp)	(Eslöv)	120	
938	(Helsingborgs central)	(Kävlinge)	200	via Landskrona östra
940	Kävlinge	(Lund c)	200	
941	(Hässleholm)	(Karpalund)	160	
942	Karpalund	Kristianstads gbg	160	via Kristianstads central
943	(Kristianstads central)	(Karlskrona central)	160	
952	(Kristianstads central)	Åhus	40	
960	(Malmö central)	(Lernacken)	200	via Hyllie
960	(Malmö central)	(Svågertorp)	160	via Hyllie
961	(Lockarp)	Ystad	160	
964	(Östervärn)	Brågårp		
969	(Ystad)	Simrishamn	160	
990	(Lernacken)	(Köbenhavns Lufth. Kastrup)	200	
451a	(Södertälje hamn)	Södertälje centrum	85	
451a	(Södertälje hamn)	(Södertälje syd övre)	80	
451b	(Södertälje syd övre)	(Eskilstuna central)	200	

NS 2023 Annex 2 C Change log

datum	ändring
2021-12-27	ändrad hastighet på bandel 522

Gradients per line

The document is not suitable for publication in this format because it contains a large amount of rows and multiple sheets. The document is available on the Swedish Transport Administration's website.

https://www.trafikverket.se/contentassets/da0e860ed4e9477ba0287bc71d3e4074/annex_2_d_ns_2023_gradients_per_line.xlsx

Other availability impacts

1 Sections with a risk of prolonged reductions

In part of the railway network is a heightened risk of prolonged reductions in speed or axle load. These are presented below.

Line/section with risk of prolonged restrictions
113 Gällivare–(Peuravaara)
143 (Bastuträsk)–Skelleftehamn Övre
152 (Hällnäs)–(Storuman)
153 (Forsmo)–(Hoting)
221 (Östersund C)–Storlien
224 (Ånge)–(Sundsvall)
303 Gävle–Strömsbro
305 Borlänge rangerbangård
325 (Ludvika)–Ställdalen
331 Repbäcken–Mora
340 (Fagersta C)–(Ludvika)
349 Västerås Norra–Kolbäck
364 (Kristinehamn)–(Nykroppa), (Daglösen)–Filipstad
376 (Repbäcken)–Vansbro–Malung
383 (Laxå)–(Karlstad Välsviken)
391 (Grängesberg)–(Ställdalen)–(Frövi)
435 (Örbyhus)–Hallstavik
505 Åby–(Norrköping)–(Linköping)–(Mjölby)
512 (Laxå)–(Falköping)
524 (Hallsbergs personbangård)–Örebro C–Frövi
552 (Gårdsjö)–(Håkantorp)
621 (Uddevalla C)–Strömstad
631 Kil–Charlottenberg
652 (Öxnered)–(Håkantorp)
661 (Kil)–Torsby
732 (Nässjö)–(Värnamo)–(Landeryd)
831 (Nässjö)–(Hultsfred)
832 Hultsfred–Berga
845 (Bjärka Säby)–Västervik

Line section 113 Gällivare–(Peuravaara)

(Gällivare)–(Råtsi) km 1313+529 – 1404+588: There is a risk of prolonged reduction to 40 km/h for transports with STAX 30 due to bad rails.

Line section 143 (Bastuträsk)–Skelleftehamn Övre

(Finnforsfallet)–(Skellefteå), the bridge over Skellefte river, km 33+220: Reduced speed over the bridge due to brittle steel in the beams. Risk of further reductions of speed and axle load.

Line section 152 (Hällnäs)–(Storuman)

The bridges over Umeå river in Lycksele, (Kattisavan)–(Lycksele) km 62+871 – 63+138 (three bridges), brittle steel in the beams. Risk of further reductions of speed and axle load.

Line section 153 (Forsmo)–(Hoting)

(Hoting)–(Rossön), the bridge over Rörströms river km 96+466 – 96+552: There is a risk of prolonged reductions of axle load and speed due to carrying capacity problem.

The bridge over Fjällsjö river between (Betåsen)–(Ådalsliden) km 34+198 – 34+366: There is a risk of prolonged reductions of axle load and speed due to carrying capacity problems.

Line section 221 (Östersund C)–Storlien

The bridge over Järpströmmen, (Järpen)–(Mörsil) km 666+382. There is a risk of prolonged reductions of speed due to problems with the bridge construction layers.

Line section 224 (Ånge)–(Sundsvall C)

The bridge over Ljungan river, (Ånge)–(Erikslund), km 489+462: There is a risk of prolonged reduction of axle load due to carrying capacity problems.

Line section 303 Gävle–Strömsbro

Drottninggatan street in Gävle, km 114+370: There is risk of prolonged reduction of axle load and speed due to carrying capacity problems.

Line section 305 Borlänge rangerbangård

The bridge over the river Dalälven at Domnarvet, siding number 103, km 21+750: There is risk of prolonged reductions of axle load and speed due to carrying capacity problems.

Line section 324 (Borlänge)–Ludvika

Ulvshyttan-Rämshyttan, km 50+646 – 50+813: There is risk of reduction to 40 km/h due to problems in the Rämshytte tunnel.

Line section 325 (Ludvika)–Ställdalen

The bridge over Ställdalsån river, Ställdalen km 463+564: There is risk for prolonged reduction of axle load and speed due to carrying capacity problems.

Line section 331 Repbäcken–Mora

The bridge over Dalälven river at Tunsta, (Insjön)–(Leksand) km 100+837: There is risk of prolonged reductions of axle load and speed due to carrying capacity problems.

Line section 340 (Fagersta C)–(Ludvika)

Fagersta C–Ludvika, km 167+455 – 212+049: There is risk of prolonged reduction to 70 km/h due to bad tracks.

Line section 349 Västerås norra–Kolbäck

Västerås C–Västerås V up track km 111+226 - 114+365, and down track km 111+368 - 114+120: There is risk of prolonged reduction to 140 km/h due to bad rails.

Line section 364 (Kristinehamn)–(Nykroppa), (Daglösen)–Filipstad

(Kristinehamn)–(Sjöändan), km 0+566 – 9+350: There is risk of prolonged reduction to 80 km/h due to bad tracks.

(Sjöändan)–Storfors, km 12+285 – 28+140: There is risk of prolonged reduction to 80 km/h due to bad tracks.

Line section 376 (Repbäcken)–Vansbro–Malung

Repbäcken–Rågsveden, km 30+784 – 162+119: There is risk of prolonged reduction to 40 km/h.

Section (Björbo)–(Dala Järna), bridge over Västerdalsälven river, km 269+344: There is risk of prolonged reduction of axle load and speed.

Line section 383 (Laxå)–Karlstad Välsviken

Laxå-Kristinehamn, km 228+036 – 290+153: There is risk of greater reductions for heavy transport and the risk of prolonged speed reduction to 140 km/h due to bad rails.

Line section 391 (Grängesberg)–(Ställdalen)–(Frövi)

Silverhøjdspåret, km 462+371 – 480+069: There is risk of prolonged reduction to 40 km/h.

Line section 435 (Örbyhus)–Hallstavik

Örbyhus, the bridge Örbyhusån river, km 0+485: There is risk of prolonged reductions of axle load and speed due to carrying capacity problems.

Line section 505 Åby–(Norrköping)–(Linköping)–(Mjölby)

Åby Södra–(Norrköping C), up track, km 175+809 – 178+523: There is risk of prolonged reduction to 140 km/h due to bad tracks.

Line section 512 (Laxå)– Falköping C

The bridge over Göta Kanal river at Töreboda, km 274+130: There is risk of prolonged reduction of axle load and speed.

Line section 524 (Hallsbergs personbangård)–(Örebro C)–Frövi

Örebro–Frövi, up track, km 225+360 – 249+157 and down track km 224+725 – 249+157: There is risk of prolonged speed reduction to 120 km/h due to bad rails.

Line section 552 (Gårdsjö)–(Håkantorp)

(Gårdsjö)–Mariestad km 0+488 – 41+490, Lugnås–Råbäck km 50+193 – 72+350, (Källby)–Lidköping km 84+584 – 94+390: There is risk of prolonged speed reduction to 80 km/h due to bad tracks.

Line section 621 (Uddevalla C)–Strömstad

Uddevalla–Överby, km 89+590 – 166+050: There is risk of prolonged reductions of speed to 80 km/h due to bad tracks.

Line section 631 Kil–Charlottenberg

The bridge over Norsälven river between Kil and Fagerås, km 353+85 – 353+263: There is risk of prolonged reductions of axle load and speed due to carrying capacity problems.

Line section 652 (Öxnered)–(Håkantorp)

The bridge over channel Trollhätte kanal in Vänersborg, km 25+609: There is risk of prolonged reductions of axle load and speed. There is also risk of temporary traffic stoppage.

Line section 661 (Kil)–Torsby

Kil–Rotternos km 1+008–35+939, Sunne–(Lysvik) km 42+656 – 60+940, Lysvik–Torsby km 62+265 – 82+637: There is risk of prolonged reduction to 80 km/h due to bad tracks.

Line section 732 (Nässjö)–(Värnamo)–(Landeryd)

Värnamo–Landeryd, km 83+766 – 136+256: There is risk of prolonged speed reduction to 80 km/h due to bad tracks.

The two bridges in Malmbäck, km 21+048 and 20+224: There is risk of prolonged reductions of axle load and speed due to carrying capacity problems.

Line section 831 (Nässjö)–(Hultsfred)

Eksjö–Hultsfred, km 21+039 – 82+561: There is risk of speed reduction to 40 km/h due to bad tracks.

Line section 832 Hultsfred–Berga

Hultsfred–Berga, km 82+561 – 93+000 and km 103+289 – 199+945: There is risk of prolonged speed reduction to 80 km/h due to bad tracks.

Line section 845 (Bjärka Säby–Västervik

Överum, km 81+940: There is risk of prolonged reductions of axle load and speed due to carrying capacity problems.

Governing documents

Document	Title	Version
TDOK 2017:0701	Points–control and stop block using a local setter, and control <i>Växlar och spårspärrar – lokal manövrering och kontroll</i>	1.0
TDOK 2013:0657	Order- and protection regulations for railway yards <i>Ordnings- och skyddsregler för bangårdar</i>	2.0
TDOK 2020:0074	Detectors: Handling of alarms and measures after established damage <i>Detektorer. Hantering av larm samt åtgärder efter konstaterade skador</i>	1.0
TDOK 2020:0074		2.0*
TDOK 2014:0415	Electricity safety regulations for stations <i>Elsäkerhetsföreskrifter för trafikplatser</i>	2.0
TDOK 2016:0193	Use of GSM-R on the Swedish Transport Administration's railway facility <i>Användning av GSM-R på Trafikverkets järnvägsanläggning</i>	3.0
TDOK 2015:0309	Traffic Regulations for Railways <i>Trafikbestämmelser för järnväg, TTJ</i>	8.0
TDOK 2021:0412	Temporary changes in Traffic Regulations for Railways <i>Tillfälliga ändringar i Trafikbestämmelser för järnväg, TTJ</i>	2.0
TDOK 2015:0309	Traffic Regulations for Railways <i>Trafikbestämmelser för järnväg, TTJ</i>	9.0**
TDOK 2014:0774	Electric requirements for vehicles regarding compatibility with the infrastructure and other vehicles <i>Elektriska krav på fordon avseende på kompatibilitet med infrastrukturen och andra fordon</i>	1.0
TDOK 2014:0775	Requirements for pantographs and interaction between the pantograph and catenary line <i>Krav på strömavtagare och interaktionen mellan strömavtagen och kontaktledningen</i>	1.0
TRVINFRA-00164 KRAV	REQUIREMENTS Catenary. Holding of vehicles with raised pantograph. Technical requirements for vehicles. <i>Kontaktledning. Uppställning av fordon med uppfälld strömavtagare. Tekniska krav på fordon</i>	1.0
TRVINFRA-00164 RÅD	ADVICE ON REQUIREMENTS Catenary. Holding of vehicles with raised pantograph. Technical requirements for vehicles. <i>Kontaktledning: Uppställning av fordon med uppfälld strömavtagare. Tekniska krav på fordon</i>	1.0

* TDOK 2020:0074 Detektorer. Hantering av larm samt åtgärder efter konstaterade skador, version 2.0, is valid from 2022-01-01.

** TDOK 2015:0309 Trafikbestämmelser för järnväg, version 9, is valid from 2022-06-01.

Contents

MONITORING OF OPERATIONAL POINTS.....	1
1 CATEGORY A.....	1
1.1 Stations that are locally monitored permanently	1
2 CATEGORY B.....	2
2.1 Operational points that are locally monitored at some times and remotely controlled at other times, according to a plan.....	2
2.2 Stations which are locally monitored at some times, according to a plan	2
3 CATEGORY C.....	3
3.1 Operational points that may be locally monitored at times	4
4 CATEGORY D	4
4.1 Operational points that are not locally monitored	4

Monitoring of operational points

The Swedish Transport Administration plans monitoring of operational points in accordance with this annex.

1 Category A

Operational points controlled remotely from a dispatch centre and operational points that are locally monitored permanently belong to Category A. No special conditions are specified for capacity allocation on these stations because of monitoring.

1.1 Stations that are locally monitored permanently

- Kil
- Luleå
- Nässjö
- Trelleborg

2 Category B

Operational points that are locally monitored for a certain time according to a plan belong to Category B. The Swedish Transport Administration plans monitoring at these stations on the basis of:

- the needs that follow from applications for train paths ahead of the future annual timetable, and the resources available to The Swedish Transport Administration
- the additional needs for monitoring that follow from applications for train paths after the establishment of the annual timetable (“ad hoc applications”) and the resources available to The Swedish Transport Administration.

An ad hoc train path application that would result in additional monitoring must be submitted to The Swedish Transport Administration eight weeks in advance.

This category also includes operational points that are remotely controlled from a dispatch centre at certain times and which are locally monitored for the rest of the time. During periods when the station is locally monitored, the conditions for capacity allocation may be limited.

2.1 Operational points that are locally monitored at some times and remotely controlled at other times, according to a plan

- Jönköpings godsbangård

2.2 Stations which are locally monitored at some times, according to a plan

- Bengtsfors
- Berga
- Blomstermåla
- Bofors
- Bäckebrom
- Dingle
- Eksjö
- Forsheda
- Forshem.
- Hjärtevad
- Hultsfred
- Kisa
- Landeryd
- Lidköping

- Lycksele
- Lysvik
- Mariestad
- Munkedal
- Mönsterås
- Olofström
- Oskarshamn
- Reftele
- Rottneros
- Skene
- Smålandsstenar
- Storfors
- Strömstad
- Sunne
- Tanum
- Torsby
- Torup
- Veddige
- Vetlanda
- Vimmerby
- Viskafors
- Värnamo

3 Category C

Stations with no plan for local monitoring belong to Category C. The Swedish Transport Administration plans the monitoring of these stations on the basis of the additional needs for monitoring that follow from applications for train paths after establishment of the annual timetable (“ad hoc applications”) and the resources available to The Swedish Transport Administration.

An ad hoc train path application that would result in additional monitoring must be submitted to The Swedish Transport Administration twelve weeks in advance.

3.1 Operational points that may be locally monitored at times

- Lyrestad*
- Mörlunda

* This station is not fully equipped. The Swedish Transport Administration may decline an ad hoc train path application that results in additional monitoring even if the application is received earlier than twelve weeks in advance.

4 Category D

Operational points with no plan for local monitoring belong to Category D. The Swedish Transport Administration does not plan monitoring at these stations.

4.1 Operational points that are not locally monitored

- Billingsfors
- Dals Långed
- Finnforsfallet
- Horred
- Hova
- Järpås
- Mariannelund
- Oskarström
- Rossön
- Skee
- Skelefteå
- Sollefteå
- Ådalsliden
- Åsensbruk
- Österalnö

Contents

PRIORITY CRITERIA	3
1 THE STRUCTURE OF THE PRIORITY CRITERIA.....	3
1.1 The purpose of the priority criteria	3
1.2 Scope	3
1.3 Train paths	3
1.4 Associations	3
1.5 Basic principles.....	3
1.6 Details in the application.....	4
1.7 Categorise the objects.....	4
1.8 Pre-defined cost parameters for the categories	4
1.9 Calculate cost differences between solutions.....	4
1.10 Prioritise the most efficient solution	4
2 INFORMATION THAT DIRECTLY OR INDIRECTLY HAVE A PRIORITY AFFECT	5
2.1 Apply correctly – become correctly prioritised	5
2.2 Type of information in the application data	5
2.3 Mandatory or optional data in application information	5
2.4 Data in the application used for priority purposes	6
2.5 Recommended application data for correct priority.....	6
2.6 Data regarding train paths	6
2.7 Data regarding associations between train paths.....	9
3 PRIORITY CATEGORY GROUPING	11
3.1 Categorisation of train paths and associations	11
3.2 Priority categories for train paths – freight transports	11
3.3 Priority categories for train paths – passenger transports.....	13
3.4 Priority categories for train paths – empty transports.....	14
3.5 Priority categories for associations – connections	14

3.6 Priority categories for associations – turn-round cycle	14
4 IDENTIFICATION OF PRIORITY CATEGORIES.....	15
4.1 Identification conditions for priority categories	15
4.2 The Swedish Transport Administration can re-examine priority categories in the application .	15
4.3 Variations and uncertainties in identification conditions	16
4.4 Identification of priority categories when commencing new traffic	16
5 COST PARAMETERS	18
5.1 Cost parameters for trains	18
5.2 Cost parameters for associations	19
6 CALCULATION OF SOCIO-ECONOMIC COSTS	20
6.1 Terms of cost calculation of solution options	20
6.2 Calculation of the socio-economic effect costs	21
6.3 Calculation of socio-economic costs of solution options	21
6.4 Definition and cost for "Excluded train path"	22
6.5 Manual corrections for limitations of the model	22
6.6 Priority by selecting the most favourable conflict resolution	22
6.7 Separation and revision of priority category	22

Priority criteria

1 The structure of the priority criteria

1.1 The purpose of the priority criteria

Chapter 6, Section 3 of the Swedish Railway Act (2004:519) says that in case not all applications for infrastructural capacity can be coordinated, the infrastructure manager has to allocate capacity by levying charges or by employing priority criteria that lead to socio-economic efficient use of the infrastructure.

The priority criteria is the Swedish Transport Administration's tool for solving conflicts of interest that arise during capacity allocation for a new annual timetable ranging over one year.

1.2 Scope

The priority criteria use the calculation of socio-economic costs for two types of objects that are dealt with in the capacity allocation process: train paths and associations.

1.3 Train paths

The train path carries the bulk of the costs that may be associated with railway transport. Some costs are dealt with in the calculation model not as costs for the train path but rather as the object-type associations.

1.4 Associations

Associations between train paths are planning objects that contain only information on conditions about relations between train paths and which help to keep track of commercial and technical production "networks". Associations describe temporal connections between train paths, which can be assigned either to commercial needs, or production needs (vehicle schedule). The sole purpose of associations is to direct the position in time of associated train paths through demands and thus they do not include any timings, but specified time differences. An association carries all socio-economic costs that are affected by how relations between trains change and are maintained. Many costs that intuitively could be tied to empty vehicle transports in the flows will instead, in the calculation model, be costs for interrupted vehicle circulations.

1.5 Basic principles

The basic principle of the Swedish Transport Administration's priority criteria is to choose the solution to a conflict between applicants that provides the greatest socio-economic benefit. This assumes that there is a conflict of interests that cannot be resolved without the

use of priority criteria as arguments for coordination or as a basis for the established timetable.

The priority criteria do not provide a specific priority between trains. No train is prioritised in favour of another. The priority criteria point out the solution that will be recommended with the help of a calculation model. The model is based on a number of simplifications and standards.

1.6 Details in the application

In order for the calculation model to work, a number of details from the applicants must be processed. This, in turn, requires that all requisite information/details are specified in connection with the application, and for this purpose, there is an e-service to apply for capacity allocation on the Swedish Transport Administration's website. This service must be used for a correct processing in the construction of the annual timetable.

1.7 Categorise the objects

For all applied train paths, a relevant priority category must be specified. The specification takes place with the help of a number of identification conditions, see Sections 3.2-3.4 in this annex. The same goes for associations, but identification conditions for the priority categories is found in Section 3.5-3.6 within this annex.

1.8 Pre-defined cost parameters for the categories

Every train path or association that belongs to the same category is dealt with, in the priority calculations, in the same way and uses the same cost parameters.

1.9 Calculate cost differences between solutions

The Swedish Transport Administration must often modify train paths that have been applied for in order to create valid train paths for all trains. Each modification leads to planning effects that have an impact on the socio-economic benefits. These planning effects are measured and calculated in terms of costs.

1.10 Prioritise the most efficient solution

The calculation model provides answers as to which solution results in the lowest cost and which should therefore be recommended.

2 Information that directly or indirectly have a priority affect

2.1 Apply correctly – become correctly prioritised

When applying for capacity for train paths, it is important, and sometimes decisive, that all details in the information that directly or indirectly affect the priority criteria calculation model, when needed are specified with their correct values.

If the applicant aims at describing their needs rather than solutions to their needs, the possibilities for the Swedish Transport Administration to coordinate different requests and to create better and more efficient solutions will increase. This principle can be exemplified by the fact that information about “earliest acceptable departure time” and “latest acceptable arrival time” gives the Swedish Transport Administration better basis for efficient solutions than the corresponding information about “preferred departure time” and “preferred arrival time”.

2.2 Type of information in the application data

Designation	Type of information	Description of what sort of information from the applicant there is within each info-type
Spec	Specification	Fundamental information or requirements that the Swedish Transport Administration mainly should not alter.
Cond	Conditions	Conditions that constitute the applicants acceptance limits to the Swedish Transport Administration’s proposed allocation. To indicate a more extensive values as an acceptance limit than what the applicant most of all desire, will facilitate everyone’s effort in the construction of established timetable, leading to a more speedy result.
Pref.	Preference	The applicants preferences that the Swedish Transport Administration should consider and meet as far as possible
Decl.	Declaration	Fundamental information involving data provided according to rules and regulations. If the Swedish Transport Administration consider it justified, i.e. in case the information appear doubtful, incorrect or uncertain for any other reason, the Swedish Transport Administration might re-examine data provided and decide to use such revised data that is concluded to be more correct.
Info	Other information	Other information that normally is not discussed or negotiated between the involved parties.

2.3 Mandatory or optional data in application information

Notes	Type of information	Explanation
*	Mandatory	An asterisk (*) adjacent to data means mandatory , this information must always be included in a capacity application.

Network Statement 2023
Annex 4 B – Priority criteria
Edition 2021-12-10

Notes	Type of information	Explanation
No *	Optional	Data which has no asterisk (*) is optional , but the Swedish Transport Administration's construction of the annual timetable could be facilitated if stated. This information could thus be specified when considered suitable, but the applicant is not obliged to include it in the application for capacity.

2.4 Data in the application used for priority purposes

Notes	Used for:	Explanation
⁺	Priority calculation	A superscripted plus sign (⁺) adjacent to data means that the corresponding data is utilized when calculating the socio-economic effect that settles the priority between conflict solutions. In case data is used for priority calculation (there is a ⁺) but is optional at the same time (there is no *), the consequence of not specify this information should carefully be considered. The calculation of the total socio-economic effect will in such case not include any effect due to the optional data, unless given.
⁰	Planning, allocation but indirectly also prioritising	A superscripted zero (⁰) adjacent to data means that the corresponding data is used in connection with planning, allocation and indirectly with prioritising. It might as well be used at conflict resolution, thus having an influence on priority and the result thereof.

2.5 Recommended application data for correct priority

Notes	Data marked with notes showing if the information is recommended to specify in an application in order to get the correct priority.
**	Mandatory, must be specified
*0	Mandatory, must be specified
+	Optional, but highly recommended to ensure the application correct priority
⁰	Optional, could indirectly have a marginal impact on priority

2.6 Data regarding train paths

Data	Sub-data	Info type	Description
Running data		Spec	Running data for each train path. Running data is composed of five sub-data: From date, Until date, Days of week, Deviation type and Deviation dates.
- " -	From date ^{**}	Spec	First day in proposed running period.
- " -	Until date ^{**}	Spec	Last day in proposed running period.
- " -	Days of week ^{**}	Spec	Days of week in proposed running period.

Network Statement 2023
Annex 4 B – Priority criteria
Edition 2021-12-10

Data	Sub-data	Info type	Description
- " -	Additio- nal/ Except dates ⁺	Spec	Possible deviation, defined as Deviation type and Deviation date .
Location		Spec	Locations will be specified by its Location code and defines the route for the train path.
- " -	Origin location ++	Spec	Origin location sometimes indicated as: From location
- " -	Destina- tion location ++	Spec	Destination location sometimes indicated as: To location
- " -	Traffic activity location 0*	Spec	Locations where the train must stop for traffic activities. Stops for other reasons (e.g. crossing) is considered as technical stops and should not be included in the application. Such stops does not affect the priority.
Train path service 0*		Spec	Passenger traffic, freight traffic or service train.
Priority category ⁺ *		Decl	Priority category for a train path is to be selected by the applicant based on its assessment of the correct category based upon the identification conditions in Section 3.2, 3.3 and 3.5. Only categories that match the selected train path service can be chosen.
Traffic activity at traffic activity location 0*		Spec	Traffic activities referring to all type of stops for the benefit of the applicant, necessary to accomplish the train path, however not activities considered as technical stops (e.g. for crossing etc.). Traffic activities can be for commercial needs (such as boarding and alighting of passengers, couple and uncouple freight wagons, etc.) or for train operational resource needs (like on-board personnel change, holding for personnel's breaks, changeover of locomotive, etc.). Multiple traffic activities could be selected for a single stop but only those that match the chosen train path service.
Train stop duration at traffic activity location 0*		Spec	Estimated duration required (minutes, seconds) for all traffic activities at all traffic activity locations. Applied stop duration must only include time for applied traffic activities and should not include time for technical reasons (e.g. additional time for train meet), time to synchronise departure time with connections etc.
Preferred arrival time	Destinat ion location 0	Pref	The applicant's preferred arrival time to the destination. This information is optional. (No departure time can be specified at the destination).
- " -	Traffic activity location 0	Pref	The applicant's preferred arrival time to any of the traffic activity locations.

Network Statement 2023
Annex 4 B – Priority criteria
Edition 2021-12-10

Data	Sub-data	Info type	Description
Preferred departure time	Traffic activity location ⁰	Pref	The applicants preferred departure time to any of the traffic activity locations. This information is optional.
- " -	Origin location [*]	Pref	The applicants preferred departure time to the train path's origin location. This information is mandatory unless the preferred arrival time to the destination location is specified in which case this information is optional. (No arrival time can be given on the origin location).
Preference time ⁺		Spec	The applicant can specify any of the preferred departure or arrival times as Preference time, preferably the time that is considered most business critical. The calculation of the displaced path time in the calculation model is controlled by the Preference time. In case the applicant has not specified any Preferences time, the displaced path time is instead calculated on the location with the lowest time difference between any preferred time and corresponding allocated time. Preference time can be given on one location only.
Acceptance time	Latest accepted arrival time ⁰	Cond	The latest arrival time that the applicant will accept. This type of data could be given for any location but is most important for the destination location.
- " -	Earliest accepted departure time ⁰	Cond	The earliest departure time that the applicant will accept. This type of data could be given for any location but is most important for the origin location.
Business critical time window (freight trains only)	<u>Freight trains</u> Time limit at arrival ⁺	Decl	Intended for better control of socio-economic costs by allowing the applicant to specify a business critical time window for freight trains. The absolute latest arrival a freight train can have to the destination location (or to optional traffic activity location) where exceeding the time means that the train's business task will be lost. In conflict resolution options where this limit is run over, the cost will be equal to the one of an excluded train path, and no train path will thus be allocated.
Business critical time window (freight trains only)	<u>Freight trains</u> Time limit at departure ⁺	Decl	Intended for better control of socio-economic costs by allowing the applicant to specify a business critical time window for freight trains. The absolute earliest departure a freight trains can have from the origin location (or from optional traffic activity location) where exceeding the time means that the train's business task will be lost. In conflict resolution options where this limit is run over, the cost will be equal to the one of an excluded train path, and no train path will thus be allocated.

Network Statement 2023
Annex 4 B – Priority criteria
Edition 2021-12-10

Data	Sub-data	Info type	Description
Max transit time ⁰		Cond	Max transit time , an optional expression for Longest acceptable total time , is an acceptance limit, meaning the longest possible total transportation time from origin to destination location that will be accepted by the applicant. In case the applicant does not specify any value for Max transit time the replacement value Max transit time (" = bis = double prime) will be applied as the acceptance limit instead. See below for further information about Max transit time and its calculation.
Max transit time ⁰⁰		Cond	Max transit time (" = bis = double prime), a replacement value sometimes used (see above), that will be calculated as follows: Max transit time =time difference in application given between Earliest acceptable departure time from origin location ¹ and Latest acceptable arrival time to destination location ² . 1) If Acceptance time departure is not specified, the Preferred departure time from origin location , will be used instead 2) If Acceptance time arrival is not specified, the Preferred arrival time to destination location , will be used instead.

2.7 Data regarding associations between train paths

This list contains only a selection of the data for associations that could be entered when applying for train paths, mainly data that is important for priority and conflict resolution. Explanation to * + ⁰ and "Data-type" is found in Section 2.2-2.5.

Data	Sub-data	Data type	Description
Location*			An association links two train paths together on a traffic activity location where both have a stop with a traffic activity of a type that is required for the intended type of association (see below).
From Train ID *			Sometimes called Train ID from or Business ID from . ID for the train that the association is connecting FROM.
To Train ID*			Sometimes called Train ID to or Business ID to . ID for the train that the association is connecting TO.
Running data		Spec	For the dates in force for an association, the term used is Running data, which defines its validity range in calendar time. If an association's dates in force exactly correspond with the trains it connects, no running data has to be specified. Running dates for associations are to be specified in the same way as running data for train paths and is composed of five sub-data: From date, Until date, Days of week, Deviation type and Deviation dates. The running data for the two trains connected by the association will restrict the dates, for which the association is effective, since an association never will have an effect on any date when not both connected trains are running (due to their running data).

Network Statement 2023
Annex 4 B – Priority criteria
Edition 2021-12-10

Data	Sub-data	Data type	Description
- " -	From date**	Spec	First day in proposed running period.
- " -	Until date**	Spec	Last day in proposed running period.
- " -	Days of week**	Spec	Days of week during proposed running period.
- " -	Additional/ Except dates ⁺	Spec	Possible deviation, defined as Deviation type and Deviation date .
Duration		Info	Duration in this context means the time at the association location, between the two trains connected by the association. Duration = the time between the From Train ID arrival to the To Train ID departure. An association's duration is a key information to whether it work as intended or not. Association time = Duration. The term Association time is sometimes used instead of duration, but meaning the same thing.
- " -	Min. possible duration**	Cond	This means the shortest duration that is possible based on the applicant's assessed practical conditions for each individual association. If the association's duration will go below this length in time, the association will not function and it will be "interrupted". This will in turn lead to the inclusion of a cost according to Section 4.2, when calculating the socio-economic costs.
- " -	Max. acceptable duration ⁰	Cond	The longest duration for each individual association that the applicant consider acceptable to avoid commercially bad solutions or high production costs for each association.
Priority category ⁺ *		Decl	Priority category for an association is to be selected by the applicant based on its assessment of the correct category based upon the identification conditions in Section 3.6-3.7. Only categories that match the selected train path service for the two trains that the association connects will be available.
Association type ⁺		Decl	This information does not have to be specified in the application since it is directly derived from the association's priority category. There are three different association types: - A. Connection freight transport - B. Connection passenger service - C. Vehicle turn-round cycle

3 Priority category grouping

3.1 Categorisation of train paths and associations

Train paths and associations have each been divided into predetermined categories in order to facilitate a practical handling of the calculation of socio-economic costs for alternative conflict resolutions. Each of these categories - priority categories - is intended to represent all individual trains classified within the same category. For each category, there are linked cost parameters, which are used for cost calculations. There are priority categories for train paths and associations.

3.2 Priority categories for train paths – freight transports

Priority categories must comply with all identification conditions in one (and only one) of the rows (with a unique key) belonging to the priority category of interest.

Network Statement 2023
Annex 4 B – Priority criteria
Edition 2021-12-10

Priority categories for train paths – freight transports

Priority Category		Identification key	Identification conditions								Type of traffic, description	Example
Name	Code		Traffic concept: Rapid* transport	Time sensitive. Logistics	Custom. agreed fast transport	Required Delivery precision	Flexibility	Goods quantity (weight)	Level of refinement	Train configuration	Note: The text in these two columns are aimed to give an estimation of the signification for each category	
Gods–snabb freight–fast	GS	GS1	4	5	-	5	-	3	5	-	Very time-sensitive transport of industrial products with just-in-time freight, where a very short transport time is required.	Just-in-time-freight train
		GS2	4	-	5	5	-	3	-	-	Very time-sensitive transport of post, parcels and part load where a very short transport time is required.	Postal/mail train
		GS3	4	-	5	4	-	3	-	Inter-modal	Very time-sensitive intermodal transport, + a very short transport time is required.	High priority intermodal
Gods–övernatt freight–over-night	GT	GT1	2	5	-	4	-	3	4	Train Load	Time-sensitive transport of industrial products with tight logistics chains, where a short transport time is required.	High priority Train Load Services
		GT2	2	4	4	4	-	3	4	Train load	Time-sensitive transport for high-value goods + requires a short transport time	High priority Train Load
		GT3	2	-	4	-	-	3	-	Inter-modal	Intermodal transport where a short transport time is required.	Standard Intermodal
		GT4	-	-	5	-	-	3	-	Wagon Load	Wagonload trains with tight connections due to customer commitments, requiring a short transport time	High priority Wagon Load
Gods–reguläritet freight–regularity	GR	GR1	-	4	-	4	-	3	4	Train Load	Transport of industrial products within logistics and supply chains, where high delivery precision is required	Regularly going Train load services
		GR2	-	4	-	4	-	4	-	Train Load	Transport of products integrated with the industrial process, where high delivery precision is required.	Regularly going Train load services
Gods–nätverk freight network	GN	GN1	-	-	4	-	-	3	-	Wagon Load	Wagon load trains with connections due to customer commitments	Standard Wagon Load
Gods–flexibilitet freight–flexibility	GF	GF1	-	-	-	-	4	3	-	Train Load	Train Load Services where flexibility is more important than short transport time	Flexible Train load services
		GF2	-	-	-	-	-	3	-	Train Load	Train load services where short transport time cannot be justified or verified	Other Freight trains
		GF3	-	-	-	-	-	3	-	Wagon Load	Wagon Load trains where short transport time cannot be justified or verified.	Other Freight trains
		GF4	-	-	-	-	-	3	-	Wagon Load	Wagon Load trains without connections due to customer commitments	Low priority Wagon Load
Ospec. unsspec	GO	GO1	-	-	-	-	-	-	-	-	Unspecified freight train	Undefined freight trains

Key to the signs in the table above

5	Very high
4	High
3	Medium

2	Low
1	Very low
0	Non
-	No specific demands

*	Vehicles and stopping pattern must facilitate short running times
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3.3 Priority categories for train paths – passenger transports

Priority category		Identification key	Identification conditions				Type of traffic, description	Example
			Number	Time sensitive share	Regional share	Traffic concept: <i>Rapid*</i>	Note: The text in these two columns are aimed to give an estimation of the signification for each category	
Name	Code		of passengers					
Stor-pendel ¹	SP	SP1	≥ 700	≥ 75 %	≥ 75 %	-	High share of time sensitive regional passengers, maximum load factor	Stockholm commuter train, peak periods
Regio-Pendel <i>Regional commuter</i>	RP	RP1	≥ 300	≥ 75 %	≥ 75 %	-	High share of time-sensitive regional passengers, very high load factor	Big cities commuter train, peak periods
		RP2	≥ 300	≥ 75 %	≥ 75 %	-	High share of time-sensitive regional passengers, very high load factor	Very heavy regional relations, peak periods
Regio-max <i>Regional max</i>	RX	RX1	≥ 200	≥ 75 %	≥ 75 %	-	High share of time-sensitive regional passengers, high load factor	Heavy regional relations
		RX2	≥ 75	≥ 75 %	-	Must	High share of time-sensitive passengers, medium high load factor + Rapid transport	Regional express traffic, peak and mid-peak periods
Regio-standard <i>Regional standard</i>	RS	RS1	≥ 75	≥ 75 %	≥ 75 %	-	High share of time-sensitive regional passengers, medium high load factor	Medium-principal regional trains, peak periods
		RS2	≥ 25	≥ 25 %	-	Must	Frequent regional traffic, medium-high share of time-sensitive regional pass low load factor. Rapid transport	Regional express traffic, off-peak periods
Regio-låg <i>Regional low</i>	RL	RL1	≥ 25	≥ 75 %	≥ 75 %	-	High share of time-sensitive regional passengers, low load factor	Light regional trains, peak periods
		RL2	≥ 75	-	≥ 25 %	-	Medium-high share of time-sensitive regional passengers, medium-high load factor	Medium-heavy regional trains
		RL3	≥ 25	-	≥ 25 %	-	Medium-high proportion of regional passengers, low load factor	Medium-principal regional trains, off-peak
Regio-mini ²	RI	RI1	≥ 0	-	≥ 25 %	-	Medium-high share of regional passengers, very low load factor	Medium-principal regional trains, off-peak
Fjärr- ³ express	FX	FX1	≥ 200	≥ 75 %	-	Must	High share of time-sensitive passengers, high load factor. Rapid transp.	Business trains, peak periods
Fjärr- ⁴ standard	FS	FS1	≥ 75	≥ 25 %	-	-	Medium-high share of time-sensitive passengers medium-high load factor	Heavy Inter-regional trains, peak periods
Fjärr-låg <i>Distant-low</i>	FL	FL1	≥ 25	≥ 25 %	-	-	Medium-high share of time-sensitive passengers, low load factor	Light traffic, interregional trains, peak/mid-peak
		FL2	≥ 75	-	-	-	Low share of time-sensitive passengers, medium-high load factor	Night trains
Fjärr-mini <i>Distant-mini</i>	FI	FI1	≥ 0	-	-	-	Very low load factor	Light traffic, interregional trains, off-peak
		FI2	≥ 0	-	-	-	Train excursion where the journey itself is the objective	Excursion train, no transport assignment
Ospecificerat ⁵	PO	PO1	-	-	-	-	Unspecified passenger train (long-distance or regional)	-

Key to the signs in the table above

-	No specific requirements	*	Vehicles and stopping pattern must facilitate short running times The stopping pattern must have
1)	<i>Large commuter</i>		
2)	<i>Regional mini</i>		

3)	<i>Distant Express</i>		significantly fewer stops than other rail traffic on the same route
4)	<i>Distant standard</i>	5)	<i>Unspecified</i>

3.4 Priority categories for train paths – empty transports

Priority Category	Code	Identification key	Identification conditions	Type of traffic. Transport of:	Example
			Type of transport		
Empty traffic <i>Tomtransport</i>	TT	TT1	Engine + carriages	Engine/Coach/Wagon	No passenger or freight transport
		TT2	Multiple-unit set	Motor coaches etc.	
Running light <i>Ensamt lok</i>	EL	EL1	Freight train engine	Engine without coaches	
		EL2	Pass. train engine	Engine without wagons	

3.5 Priority categories for associations – connections

Priority categories must comply with all identification conditions in one (and only one) of the rows (with a unique key) belonging to the priority category of interest.

Priority Category			Identification key	Type of Traffic	Identification conditions	
Name		Code			Number of passengers	Load hauled in wagons of interest
Anslutning godstransport <i>Connection Freight transport</i>	max	AGX	AGX1	Freight transport	-	≥ 750 gross tons
	hög <i>high</i>	AGH	AGH1		-	≥ 450 gross tons
	standard	AGS	AGS1		-	≥ 300 gross tons
	låg <i>low</i>	AGL	AGL1		-	≥ 150 gross tons
	mini	AGI	AGI1		-	≥ 0 gross tons
Anslutning person-transport <i>Connection Passenger service</i>	max	APX	APX1	Passenger service	≥ 125	-
	hög <i>high</i>	APH	APH1		≥ 75	-
	standard	APS	APS1		≥ 50	-
	låg <i>low</i>	APL	APL1		≥ 20	-
	mini	API	API1		≥ 0	-

3.6 Priority categories for associations – turn-round cycle

This category deals only with the risk of interrupting vehicle turn-round cycles.

Priority categories must comply with all identification conditions in one (and only one) of the rows (with a unique key) belonging to the priority category of interest.

Priority Category			Identification key	Identification conditions	
Name		Code		Turn-around decisive for the size of vehicle fleet*	Train composition
Fordonsomlopp <i>Vehicle schedule</i>	hög <i>high</i>	FOH	FOH1	X	Engine + coaches (passenger)
			FOH2	X	Engine + wagons (freight)
			FOH3	X	Larger multiple-unit set
			FOH4	X	Medium sized multiple-unit set
	standard	FOS	FOS1	X	Solely coaches (no engine)
			FOS2	X	Solely wagons (no engine)
	låg <i>low</i>	FOL	FOL1	X	Single engine (no carriages)
			FOL2	X	Single motor coach

Key to the signs in the table above

*	Turn-around decisive for the size of vehicle fleet is understood only to mean a situation where no other equivalent vehicle is available in the location where the turnaround takes place which could be used as a replacement for the one that is to be turned around
---	--

4 Identification of priority categories

4.1 Identification conditions for priority categories

In order to determine which priority category each train path belongs to, the applicant itself must declare its evaluation. The evaluation must be objective and truthful and be based on the identification conditions described in Sections 4.3-4.6 in this annex and be matched against the properties of the train path based on experience of previously established traffic.

The evaluation means that the applicant checks whether the train path (or the association) fulfils all identification conditions as specified for the priority category, which is assumed to be correct. Unless all conditions are fulfilled, another priority category must be chosen.

In many cases, there is more than one set of conditions that lead to the same priority category. Each set has a unique identification key shown on a separate line. Every key includes one possible set of requirements that must be met for validation. All conditions on the same line (identification key) must be fulfilled, but it is sufficient that one of the lines (one identification key) is fulfilled in order for the category to apply. In the application, the identification keys are not specified, only the priority category that it points to. For the applicant, it may however be appropriate to save the details regarding the evaluations made, as this may facilitate any scrutiny of the information.

The priority category must be chosen on an individual basis for each specific train path. It is not allowed to specify the same prioritisation category for an entire traffic system based on the valuation of only one of the constituent trains. Taking information on one individual train and using it as some kind of collective priority category for an entire group of trains together is not allowed. Each individual train path must fulfil the conditions in order for the priority category to apply. There may however be variations throughout the year, on some routes etc. This requires some consideration, see below.

4.2 The Swedish Transport Administration can re-examine priority categories in the application

The applicant must follow the identification conditions specified, and may not at own discretion, declare a priority category for own trains. The Swedish Transport Administration will analyse the information presented, and if there are any doubts, the Swedish Transport Administration will re-examine the information. In such cases, the Swedish Transport Administration may request verification of the information, to ensure that the correct priority category is set for a train path. If the applicant does not comply with such a request,

the Swedish Transport Administration will enforce the right of interpretation of the priority category.

4.3 Variations and uncertainties in identification conditions

For all trains, variations can arise in the identification conditions (number of travellers, share of time-sensitive travellers etc.). These variations may relate to time (certain days or periods) or space (certain routes). Normally, a train may only have one unique train path product if it is to be managed rationally in the capacity allocation process. This means that the train must be represented by some kind of mean value, even if variations occur over time and along its journey. The general rule is that, if the identification conditions for the chosen priority category are met (or exceeded) by at least 40 percent of the train's distance and by at least 40 percent of the train's running days, the priority category is applied over the train's entire journey and all periods/days.

4.4 Identification of priority categories when commencing new traffic

When a train path that has been applied for concerns new traffic that does not correspond with already established traffic, special rules apply for the identification of priority categories during the first years of such traffic. Normally, the identification conditions shall be matched against properties in the train path that are to be based on experience from previously established traffic. In this case, the properties of the train path shall also be based on the anticipated future traffic that is estimated possible to achieve after a certain time.

Definitions

New traffic (mainly the opposite of established traffic)

Train paths where there is a lack of experience from established traffic and there are thereby no properties to match against the identification conditions

1. Priority-category-established

Priority categories in which the identification conditions have been matched against properties that are based on experience of established traffic.

If priority category established shall be used despite the fact that established traffic is lacking, priority category established shall be either unspecified passenger trains or unspecified freight trains.

2. Priority-category-new-start

Priority categories in which the identification conditions have been matched against properties that are based on estimates of anticipated future values that are judged to be achieved once the newly started traffic has been fully established.

Identification of correct category

In the identification of priority categories, the value of a train path applied for* (e.g. transport volumes) or other properties* shall be matched against identification conditions that are presented in the Tables in Section 4.3 - 4.6.

*) It is the content of these values and properties that distinguish between "established" and "new start".

If the applicant wishes to use “Priority-category-new-start”, the applicant shall specify which train paths thereby are considered to constitute “New-traffic”.

The Swedish Transport Administration will check whether the train paths, specified as “New-traffic”, fulfils the definition in Item 1 and can reject the applicant’s information.

In order to evaluate the reasonableness of the estimates made in Item 3, the Swedish Transport Administration may appeal against the priority category new start that are specified in the application. The Swedish Transport Administration may then require a presentation of those assumptions that the estimates, as per the previous paragraph, are based on.

Extent of priority-category-new-start

The table shows the extent, i.e. the period during which and with what share, the “priority-category-new-start” may be alleged in the application for train path that constitutes “new-traffic”.

Notice that Year 1, Year 2 etc. refers to the first respectively the second **traffic year** (365 days) during which the newly started traffic has been operating.

At application for year 2 there can be at the most 4 months of traffic operation.

At application for year 3 there can be at the most 4+12 months of traffic operation.

Type of priority category	Running time from starting date for new traffic			
	Year 1	Year 2	Year 3	Year 4 and following.
“Priority-category-established” (share)	0%	0%	100%	100%
“Priority-category-new-start” (share)	100%	100%	0%	0%
Days and years are calculated from the start of train path traffic and are not linked to the timetable changeover Year 1 concerns the period from Day 1 (start of train path traffic) until Day 365 Year 2 concerns the period from Day 366 until Day 730 Year 3, etc.				

Figure 4.1 Extent of priority-category-new-start

Impact on the cost parameters during calculation

Within one individual year, for each train path a calculation is made of the total output cost by the total output cost for the priority categories established and new start, respectively, being weighted on the basis of the shares as percentage that are specified in Figure 4.1.

This means that the calculation is in practice performed as though it was two different train paths each with its own priority category and different arrangements for cost parameters, in which the different results are then weighted together.

To invoke “new-traffic”/”priority-category-new-start”

To invoke the possibility of using priority-category-new-start instead of priority-category-established is voluntary and an applicant can always refrain from it.

To refer to the use of priority-category-new-start can at most be done during the period shown in the table in Figure 4.1. Once this period has expired, these conditions cannot be

referred to. The Swedish Transport Administration may, however, grant an exception at the request of the applicant if such circumstances exist whereby the applicant has still not been able to fully evaluate the outcome. One condition is that the discrepancy is due to factors beyond the applicant's control and are not of an economic nature

5 Cost parameters

The tables below show the cost parameters used for categorised objects (trains and associations) when calculating the socio-economic cost in the model.

5.1 Cost parameters for trains

Cost parameters for the effects below specified per train for each priority category.

Priority category	Cost parameters for the following effects calculated per train				Parameters for exclusion of train path		
	Transport time	Transport distance	Displaced path time	Excluded train path	Benefit limit for train path	Corr. factor basic time	Running time template
Code	SEK/min	SEK/km	SEK/min	SEK/km	%	%	Code
A	B	C	D	I	J	K	L
GS	297	69	183	-	15	2	GB201211
GT	259	69	155	-	25	2	GR401410
GN	174	74	90	-	35	2	GR401409
GR	226	68	130	-	35	2	GB200710
GF	94	66	31	-	45	2	GR401410
GO	70	50	23	-	50	2	60 km/h
SP	1297	80	911	-	15	20	PX600616
RP	816	79	551	-	15	15	PX600616
RX	548	75	247	-	15	15	PX410020
RS	272	17	153	-	20	12	PX610016
RL	211	27	112	-	30	12	PX510018
RI	74	24	12	-	40	12	PY310014

Network Statement 2023
Annex 4 B – Priority criteria
Edition 2021-12-10

FX	839	58	500	-	20	6	PX2-2000
FS	550	35	339	-	25	8	PR600616
FL	279	28	145	-	35	8	PR600416
FI	132	27	36	-	45	8	PX620018
PO	56	13	9	-	50	8	PR600616
TT	76	31	0	-	100	0	PR600616
EL	54	33	0	-	100	0	ellok120

Table 5.1

5.2 Cost parameters for associations

Cost parameters for the effects below specified per association for each priority category.

Priority category	Cost parameters for the following effect	
	Duration	Interrupted
Code	SEK/min	SEK/association
K	L	M
APX	752	64 300
APH	354	30 265
APS	221	18 915
APL	124	10 590
API	35	3 030
AGX	130	99 510
AGH	78	59 700
AGS	49	37 320
AGL	29	22 390
AGI	10	7 460
FOH	-	39 600
FOS	-	20 480
FOL	-	12 540

Table 5.2

6 Calculation of socio-economic costs

6.1 Terms of cost calculation of solution options

The basis of the priority criteria is that different solutions for conflicts of interest are compared. The solutions should always be possible to implement in accordance with the regulations for resolving conflicts with regard to train paths. This means that a comparative solution may not contain unresolved sequential effects of conflicts. For train paths, these forms are referred to as valid train paths. An alternative solution must only consist of valid train paths in order to be included in a comparative alternative.

Valid train paths

In order for a train path to be approved as valid, and thereby included in a socio-economic analysis where the planning effects are measured and the costs are calculated, the following must be directly applied for the train path's time indications:

1. prerequisites in the form designated temporary capacity restrictions, published capacity plans and other planning conditions published in the Network Statement.
2. time used during the journey (running time)

The amount of time used is produced with the help of the track and vehicle/technical conditions, which affect the running times of the trains. Vehicles running time performance are represented of as so-called running-time templates. The amount of running time templates and definition may vary from one annual timetable to another.

3. time used at stops

The time required for traffic changes at stops for a train may vary. Normally there is a minimum possible time in which a traffic change can be carried out, so that the amount of time taken is realistic. Until further notice, the time values the industry used by tradition will be employed, but regulated information on minimum times for traffic changes may be included in the Network Statement.

4. adaptation of train paths for delivery precision

In order to create train paths that can be delivered with the intended punctuality, an adaptation is often required, primarily because of two reasons:

- a. The train path should be able to be delivered in accordance with the punctuality requirements that apply.
- b. The train path should be able to be delivered with respect to all surrounding train paths in the annual timetable (the train paths should therefore be mutually valid).

These conditions mean that train paths in different respects must include time margins internally within the train and externally between trains.

Train paths that comply with the above requirements of valid in the sense that the Swedish Transport Administration can undertake the delivery of the train path. They therefore make up a fundamental requirement for train paths that can be included in the comparisons.

The train paths in an application that has been submitted need not comply with the requirements in order to be valid, but rather the requirement only applies for those suggestions for train paths that can make up a part of a possible conflict resolution where priority criteria can be used.

6.2 Calculation of the socio-economic effect costs

For all train paths and associations that are part of delimited groups (see Section 6.3), total costs per day shall be calculated based on the following effect costs.

Effect cost (calculation item)	Description of calculation (bold letter, see below)
Trains cost for transport distance	= Transport distance {km} x C {SEK/km}
Trains transport time cost	= Total transport time {min} x B {SEK/min}
Displaced path time cost	= Displaced path time {min} x D {SEK/min}
Cost for “Excluded train path”	= (Transport time {exclusion} x B) + (Transport distance x C) <u>Where</u> Transport time {exclusion} = Basic running time {direct}* x (100+ K) x (100+ J)
Cost for “freight train without time limit”	= Cost for “Excluded train path”
Cost for an association’s duration	= Duration {min} x L {SEK/min}
Cost for a broken association	= M {SEK/association}
Total cost	= Summary of all calculation items above for all detailed plan days:

Bold letter= Letter in column heading in tables 5.1 and 5.2

*) Basic running time {direct} refers to the train path running time calculated with the running time model that is specified in Table 5.1, Column L, conducted without stopping between its starting and finishing point. Generally, basic running time never contains any supplement for quality and congestion.

6.3 Calculation of socio-economic costs of solution options

Delimiting and forming a conflict resolution group for cost calculations

If a calculation is to be performed in accordance with the model for the priority criteria for a particular conflict of interests, the area of calculation must first be geographically delimited. The delimitation determines how far out in the railway network secondary conflicts of interests need to be resolved. From the delimitation, it is possible to unequivocally deduce which individual train paths and associations will be affected, and these will therefore together make up the conflict resolution group for which calculations must be performed.

Socio-economic costs of an individual solution option

The socio-economic costs of an individual solution option are made up of the sum of the output costs for each of all the train paths and associations included in the conflict resolution group.

Comparison among different solution options

In order to determine which solution to a conflict of interests the priority criteria point to as the most socio-economically appropriate one, alternative solutions to the conflict must be proposed. All alternative solutions that have been developed for a specific conflict of interests and that will become the subject of reciprocal comparison include all output costs that belong to the conflict resolution group.

6.4 Definition and cost for "Excluded train path"

By "excluded train path" is meant a train path that has been applied for but for which, contrary to the applicant's wishes, capacity has not been allocated due to capacity shortage.

The cost for the days when a train path that has been applied for cannot be allocated (due to congestion) is called the cost of an "Excluded train path". This effect cost also arises when the number of train paths applied for exceeds the capacity of the route in question. The cost is set at the same value as the maximum delay of the train before it loses its commercial value. The maximum delay is set at a value equal to a percentage, with regard to cost parameters; it is called a "benefit limit" (%), multiplied by the train's basic time, i.e. the transport time the train has (including the applied-for stop except for the first and last) without encountering any congestion.

In order to harmonise cost in connection with variations in transport time for the same section of line, the basic running time is used without stopping with a predetermined running time model. This time is converted into base time with the aid of a correction factor.

6.5 Manual corrections for limitations of the model

The calculation model that forms the basis of the priority criteria is a substantial simplification of reality. In many cases, deviations between the model and reality may be considerable. It is in the nature of the model to work in this manner and the parties to some degree must be prepared to tolerate such effects in order for the annual timetable to be carried out within an acceptable period of time.

In cases when considerable deviations occur, the applicant may submit information to show that the model's substantial standardisation of reality has caused large deviations. The Swedish Transport Administration can then, subsequent to a special review, correct the models values with calculations manually.

6.6 Priority by selecting the most favourable conflict resolution

In order to settle a conflict of interests, the conflict resolution option that according to the described calculation model provides the lowest cost will be chosen in front of all other options that provides a higher cost.

6.7 Separation and revision of priority category

In the event that congestion cannot be solved with the priority criteria, a solution must be found by applying the priority criteria model with situation-specific information. For these

situations, the Swedish Transport Administration will request information from the applicants concerned in order to calculate train path-specific cost parameters for the categories concerned. This will, for timesaving reasons, take place already when the applicant requests a dispute resolution.

In order for the submitted information to be used, it must be in the format described below to make it possible to correct the model's calculations and be relevant from a socio-economic perspective.

Submitted information must also be supplemented with an appropriate verification document, such as statistics or other equivalent information in order for a correction of values to be made. The Swedish Transport Administration will review the data and assess the credibility. The Swedish Transport Administration may reject those that do not seem reasonable or credible.

The information that may be relevant to request on these occasions is that which is reported in the tables below.

Passenger traffic

Parameters	Unit	Explanation/verification
Number of seats on the train	Quantity	Number of seats for the applied train path
Average travel on the train	Quantity	Average travel for the applied train path (statistics or similar)
Share of business travellers	Share in %	Percentage of average travel for the applied train path (statistics or similar). A business traveler is defined as a traveler who has the trip paid for by the employer. It must be possible to verify this.

Freight traffic

Parameters	Unit	Explanation/verification
Hauling engine	Quantity	Number of hauling engines for the applied train path
2-axle wagons	Quantity	Number of 2-axle wagons for the applied train path
4-axle wagons	Quantity	Number of 4-axle wagons for the applied train path
Loaded wagons	%	Percentage of loaded wagons (regardless of number of axles)
Load	Tonne	Volume gross tonne load on the train, on average, for the applied train path

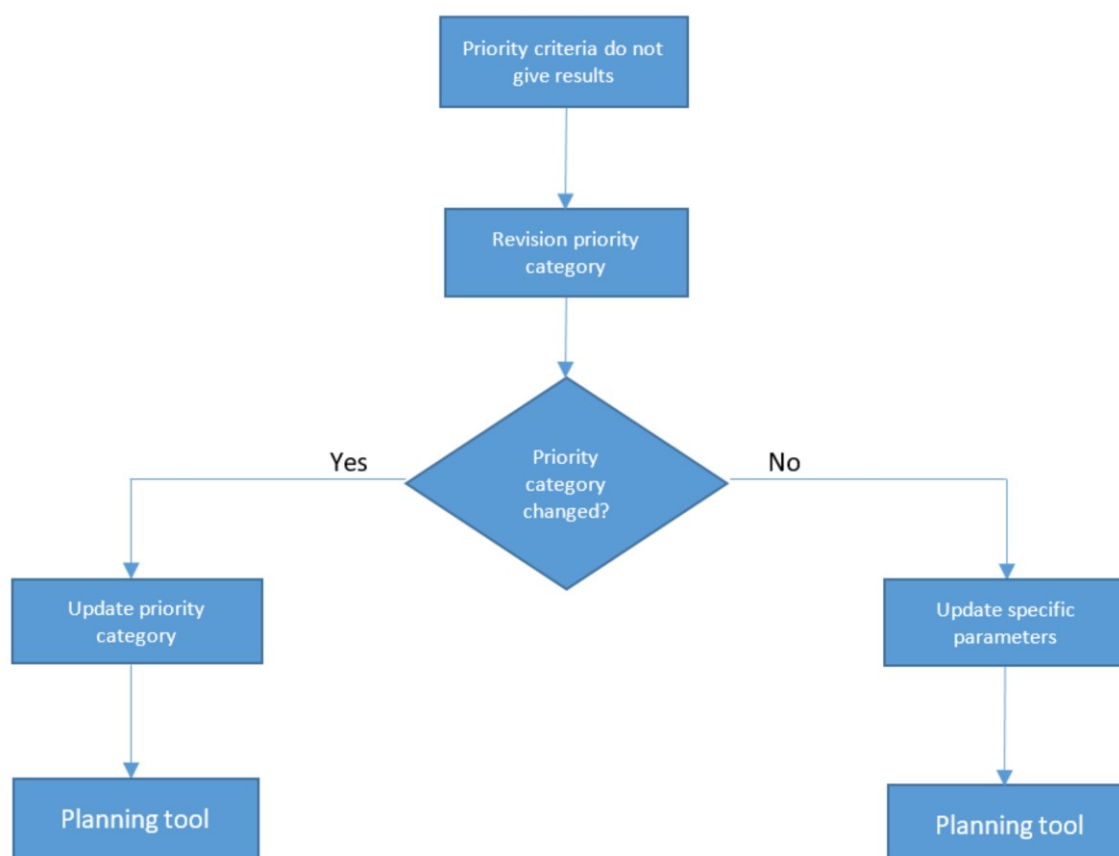
The information submitted shall be based on the same conditions that apply to identify the conditions for entering the correct priority category. See Annex 4 B, Section 4.3. The cost of the priority categories are based on ASEK (principles and prices for social cost-benefit analysis in the Swedish transport sector). See link:

<https://www.trafikverket.se/for-dig-i-branschen/Planera-och-utreda/Planerings--och-analysmetoder/Samhallsekonomisk-analys-och-trafikanalys/asek-analysmetod-och-samhallsekonomiska-kalkylvarden/>

Application of submitted information

Before separation with train path-specific cost parameters is applied, an examination will be made as to whether the trains involved in the conflict meet the train category as specified in the application. If it shows that the application for train path has been made with the wrong train category (or categories), the correct train category (or categories) will be used for new application of priority categories. If none of the applications' train categories are changed, a distinction will instead be made with train-specific cost parameters.

The information provided by the applicants is used to calculate train-specific cost parameters instead of the standard values reported in Section 5.1. These train-specific cost parameters are then used in the planning tool to calculate the socio-economic cost for the various solution alternatives.



New traffic

If the alternatives tested with the priority criteria include completely new traffic, see definition Annex 4B Section 4.4, and for which there are no prerequisites for submitting situation-specific information, the standard values that apply to the category specified by the applicant in their application are used.

Traffic calendar 2023

Date	Year	Day	Day of week	Operated as
23/12	2022		F	F
24/12	”	Christmas Eve	Sa	Sa
25/12	”	Christmas Day	Su	Su
26/12	”	Boxing Day	M	Su
27/12	”		Tu	M
30/12	”		F	F
31/12	”	New Year’s Eve	Sa	Sa
1/1	2023	New Year’s Day	Su	Su
5/1	”	Twelfth Night	Th	F
6/1	”	Epiphany	F	Sa
6/4	”	Maundy Thursday	Th	F
7/4	”	Good Friday	F	Sa
8/4	”	Holy Saturday	Sa	Sa
9/4	”	Easter Sunday	Su	Su
10/4	”	Easter Monday	M	S
11/4	”		Tu	M
1/5	”	Labour Day	M	Su
2/5	”		Tu	M
17/5	”		W	F
18/5	”	Ascension Day	Th	Su
6/6	”	National Day	Tu	Su
7/6	”		W	M
22/6	”		Th	F
23/6	”	Midsummer’s Eve	F	Sa
24/6	”	Midsummer’s Day	Sa	Su

Contents

1 CAPACITY REQUIREMENTS.....	1
STOCKHOLM.....	1
1.1 Fel! Bokmärket är inte definierat.	
1.1.1 Citybanan	1
1.1.2 North of Stockholm Central	2
1.1.3 South of Stockholm Central	2
1.1.4 Stockholms central.....	2
1.2 Göteborg.....	3
1.2.1 Routes within Göteborg.....	3
1.2.2 Göteborgs central	4
1.3 Malmö	5
1.3.1 Coordination with connected Danish route.....	5
1.3.2 Citytunneln.....	6
1.3.3 Malmö central.....	6
1.3.4 Helsingborg Central	6

1 Capacity requirements

Apart from the general timetable planning rules, specific timetable planning rules apply on some sections and in the city areas Stockholm, Gothenburg and Malmö.

1.1 Stockholm

1.1.1 Citybanan

Citybanan and the inner tracks on the four-track routes Tomtebodavägen–Skavstaby/Huvudsta, Spånga–Kallhäll and Årsta–Flemmingsberg is reserved for commuter train traffic. However, residual capacity on the four-track routes can be used by other train traffic.

On the four-track routes the trains must drive strictly in the designated lines (without crossing the tracks) to achieve maximum capacity, planned crossings from the outer tracks to the inner tracks are not allowed if it affects capacity negatively.

The stopping times at Stockholm City are normally restricted to two minutes during peak traffic. During off-peak traffic, exceptions can be made for fulfilling special wishes, for example equip trains and train set changes. On these occasions, changing of direction can be done on tracks 1-4. The stopping times at Stockholm Odenplan are restricted to one minute, but shorter stopping times are desirable in order to achieve an efficient flow on the Citybanan. This also applies to the stations Stockholms södra and Årstaberg.

See also Section 2.4.1.2.

Shunting

Shunting movements between different tracks is not allowed at Stockholm Odenplan, Stockholm City and Stockholms södra.

1.1.2 North of Stockholm Central

Passenger trains operating on Stockholm Central shall use the outer tracks on the four-track part of line Tomtebodavägen – Skavsta (Ostkustbanan) and Spånga–Kallhäll (Mälardalen). On the four-track routes the trains must drive strictly in the designated lines (without crossing the tracks) to achieve maximum capacity. Planned crossings from the outer tracks to the inner tracks are not allowed if it affects capacity negatively.

The route Stockholm Central – Tomtebodavägen (track U1, U3 and N1, N3) enables trains to and from Ostkustbanan and Mälardalen to operate independently. The double track Citybanan connects at Tomtebodavägen (tracks U2, N2). It is a part of the inner track system within the Stockholm area.

1.1.3 South of Stockholm Central

Passenger trains operating on Stockholm Central shall use the outer tracks on the four-track part of line (Stockholms södra)–Årstadavägen–Flemingsberg. On the four-track routes the trains must drive strictly in the designated lines (without crossing the tracks) to achieve maximum capacity. Planned crossings from the outer tracks to the inner tracks are not allowed if it affects capacity negatively.

The double track Citybanan connects at Stockholms södra (track 1-2). It is a part of the inner track system within the Stockholm area. Passenger exchange is only possible on the platform on track 1-2. The platform on track 3-4 can only be used when special conditions apply, such as during a disruption in traffic in Citybanan.

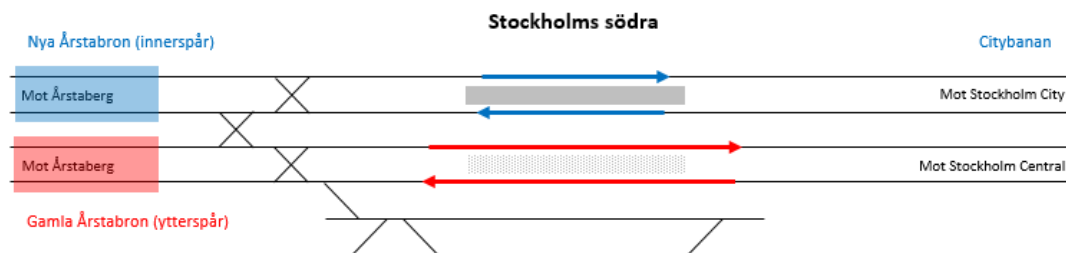


Figure 1: Schematic track plan Stockholms södra. South of Årstadavägen the two double tracks change to one four-track.

1.1.4 Stockholms central

In order to achieve better utilisation of the track capacity at platforms, special planning conditions apply for Stockholm Central. They concern primarily passenger traffic, but the capacity available on the platform tracks is also an important precondition in order for the flow of goods trains and other movements to be able to function efficiently without stopping.

The planning assumptions apply during peak traffic; at other times, exceptions can be made in order to meet specific wishes.

Thoroughfare yard (tracks 8-19)

Through-trains from the south shall normally operate on tracks 14-19 and through-trains from the north shall operate on tracks 10-16 in order to prevent that crossing train paths occur in the south end of Stockholms central (Tegelbacken). Turning passenger trains can use all tracks on the thoroughfare yard, provided that no more train paths are claimed, for example by crossing train paths.

Due to limited track capacity during peak traffic, the planned stop time for passenger through-trains shall not exceed ten minutes at the platform tracks. For the same reason, the stop time for turning passenger trains must not lead to more train paths being claimed, for example by blocking of platform tracks.

The composition of the passenger trains must be adapted to the track lengths available at the thoroughfare yard. Trains with exceeding length may only be operated after special agreement.

Terminal yard (tracks 1-7)

For operations on tracks 1-7 (the terminus), the following applies:

- Tracks 1–2 are reserved for Arlanda Express airport shuttle services.
- Track 3 possible for locomotive turn-around
- The composition of the passenger trains must be adapted to the track lengths available at the terminus.

Shunting

The coupling and uncoupling of trains and shunting movements between different tracks shall be avoided during peak traffic since these activities consume more capacity at the station.

Locomotive turn-around is allowed under the condition that no more train paths are claimed.

A limited possibility for holding of uncoupled vehicles is available on track A4 and track E4. However holding of vehicles for a longer period of time should be avoided as it affects the capacity of Stockholm Central.

1.2 Göteborg

1.2.1 Routes within Göteborg

The operational point Göteborg consists of the station parts Partille, Sävedalen, Göteborg Sävenäs, Olskroken, Göteborgs Central, Gubbero, Almedal, Göteborg Marieholm, Göteborg Kville, Pölsebo and Göteborg Skandiahamnen. In addition, it includes the station Sävenäs rangerbangård (marshalling yard) that is controlled from its own signal box.

The capacity within the operational point is restricted in the first instance by the crossing train paths that occur when grade-separated crossings are not extended to the extent that today's traffic requires.

Hamnbanan

Göteborgs hamnbana, even though this in its entirety is considered to be located within the station parts Göteborg Kville, Pölsebo and Göteborg Skandiahamnen, is in practice a single-track line with densely positioned signals in order to provide ample capacity for trains that are driven in the same direction, but not for oncoming traffic. There are two tracks on the route Pölsebo-Skandiahamnen but one track is expected to be used primarily for shunting. Göteborgs hamnbana has sufficient capacity to cope with five trains per hour and direction.

Marieholmsbroarna

In connection with the allocation process, a balance must be achieved between the need for bridge openings and the capacity of the railway. The bridges needs to be opened 18 times per day. This means one bridge opening per hour, excluding the period between 6.00-9.00 and 15.00-18.00. The opening time for the Marieholmsbroarna is 15 minutes.

The route of line from Göteborg Kville over the Göta älv at Marieholmsbroarna has three different destination points:

- Göteborg Marieholm for trains to Norway /Vänerbanan
- Gustavsplatsen for trains to Sävenäs and Västra stambanan
- Olskrokskrysset for trains to Göteborgs Central and Gubbero (Västkustbanan and Kust till kust-banan).

Marieholmsbroarna are openable for shipping along Göta älv. In general, rail traffic has precedence over boat traffic.

Olskroken

During the construction of grade separated crossing at Olskroken it will not be possible to operate directly between Göteborg Sävenäs and Gubbero. Trains that operate on this link must change direction or locomotive terminal looping at Göteborg Kville or other location that is appropriate.

The capacity between Göteborg Central and Göteborg Sävenäs will be very limited and only consist of tracks 71 and 72 towards Västra Stambanan. All movements between Göteborg Central and Göteborg Sävenäs must therefore be planned and conflict handled in relation to trains to and from Västra Stambanan.

1.2.2 Göteborgs central

General

Göteborg Central is a terminus with three double-track connections:

- Olskroken-Västra stambanan (tracks 71 and 72)
- Olskroken-Norge/Vänerbanan (tracks 73 and 74)
- Gubbero (tracks 85 and 86).

Adjacent to the platform tracks there is a holding yard and a depot with a cleaning hall and two different service halls for vehicles. The railway yard has low-speed operations. The capacity is determined in the first place by the number of crossing trains routes and shunting routes.

Subdivision of platform tracks

In order to create the highest possible capacity, the platform tracks must be used on the basis of a certain pattern in order to avoid crossing train paths between the lines. Trains that arrive from a certain line may not for the same reason depart towards another line unless the situation is studied in each individual case. The best flow is achieved by using the track groups in accordance with the following table, which was also a precondition when creating the plans. Track 11 and 12 can be used in both track group B and C depending on the needs.

Track group	Comprises tracks	Used to/from
A	1–7	Västra stambanan
B	8–10	Norway/Vänerbanan, Bohusbanan
C	11–16	Västkustbanan, Kust till kust-banan

Time at platforms

It is allowed to be at the platform 15 minutes before departure or after arrival. In some cases, longer times at the platforms can be offered.

Intervals between trains on platform tracks

The trains have predetermined departure and arrival times at Göteborgs central every fifth minute. This interval is determined by the fact that it takes about 4.5 minutes from the departure of a train until the next train can arrive as a consequence of intersecting train paths at the terminus railway yard.

Shunting

During the peak traffic periods (6.00–8.00 and 16.00–18.00), shunting can only take place after special consideration in each individual case. Each shunting movement shall then be placed on an equal footing with a train movement in a corresponding track section. In order for shunting to be possible, a train path shall thus be unused so that the shunting movement can use the interval in time that will thereby be made available.

Locomotive terminal looping

Loco-hauled trains that arrive and that will then depart with the same hauling locomotive shall have at least 45 minutes between the time of arrival and the time of departure. Furthermore, there must be two channels available for the train to be able to shunt the train to the O-group for locomotive terminal looping and then shunt it back to a platform track. Track lengths on the O-group limit the possible train length to 200 meters, which corresponds to one locomotive and seven carriages.

1.3 Malmö

1.3.1 Coordination with connected Danish route

For Öresundsförbindelsen (the Öresund link), shall the timetables be coordinated so that they also serve on the connecting Danish section from Peberholm to København H (passenger traffic) and the border station Padborg (freight traffic).

For the route Malmö central–Hyllie (Citytunneln)–Lernacken only a small number of vehicle types operate due to the tunnel restrictions.

1.3.2 Citytunneln

To attain maximum utilization of capacity in the tunnel, planned stopping times must not exceed one minute at station Triangeln and two minutes at station Hyllie.

1.3.3 Malmö central

Platform use tracks 1–4

In order to utilise the track capacity at platform tracks better, special planning conditions apply for the through-tracks 1–4 at Malmö central. These tracks shall be used on the basis of the following principles:

- Trains shall be through-trains, i.e. not have Malmö central as their final or outgoing station.
- The composition of the train shall not be changed, for example in the form of the coupling on or uncoupling of a trainset(s)
- The stopping time shall be between two and four minutes.

These planning conditions apply for the larger part of the traffic day. Certain exceptions can be made during off-peak traffic (approximately 20.00-5.00).

Shunting

Shunting between platform tracks and depot/holding sidings means in most cases crossing movements. During rush hours (at 6.00-9.00 and 15.00-18.00), shunting will only be done after special examination in each case.

Locomotive terminal looping

Loco-hauled trains that arrive and that will then depart with the same hauling locomotive shall have at least 45 minutes between the time of arrival and the time of departure.

1.3.4 Helsingborg Central

Platform tracks are optimised for train lengths of up to 160 metres. The possibilities to conduct operations using longer trains is handled in the timetable process in each individual case.

CAPACITY PLANS

Contents

1	INTRODUCTION	1
2	CAPACITY PLAN ÖREBRO C–FRÖVI	2
2.1	BACKGROUND	2
2.2	PURPOSE.....	2
2.3	SCOPE	2
2.4	REQUIREMENTS INFRASTRUCTURE	3
2.4.1	Available infrastructure on re-routing lines.....	3
2.4.2	Division of available infrastructure into stages	4
2.4.3	Running time adjustment due to available infrastructure	5
2.5	REQUIREMENTS TRAFFIC.....	6
2.5.1	Traffic on the Örebro C–Hovsta section	6
2.5.2	Traffic on the Hovsta–Frövi section.....	6
2.5.3	Traffic on re-routing lines	6
2.6	POSSIBLE TRAFFIC DURING THE VARIOUS STAG.....	7
2.6.1	Timetable variant 1 Örebro–(Hovsta)	8
2.6.2	Timetable variant 2 (Örebro)–(Ervalla).....	8
2.6.3	Timetable variant 3 (Hovsta)–(Frövi).....	9
2.6.4	Timetable variant 4 (Ervalla)–Frövi.....	10
2.6.5	Timetable variant 5 Örebro–(Hovsta)	11
2.6.6	Timetable variant 6 (Örebro)–(Ervalla).....	12
2.6.7	Timetable variant 7 (Hovsta)–(Frövi)	13
2.6.8	Timetable 8 (Ervalla)–Frövi.....	14
2.7	MISCELLANEOUS.....	15

1 Introduction

The Swedish Transport Administration has compiled the following capacity plan in order to maximise capacity, to be able to cater for applications as far as possible in accordance with Chapter 6, Section 9 of the Swedish Railway Act. Capacity plans shall be compiled when temporary capacity restrictions are of such extent that point 17 of Annex VII to the SERA Directive 2012/34/EU is applicable. Section 4.2.1.3 of the Network Statement specifies the requirements indicating which trains for every type of traffic are to be re-routed. The Swedish Transport Administration presents in its capacity plans the preliminary distribution of the remaining capacity between the different types of traffic in accordance with point 17.

2 Capacity plan Örebro C–Frövi

2.1 Background

In 2023, a track replacement work is planned on the Örebro C – Frövi section, during weeks 11–19. Under normal conditions, adjacent tracks can be operated, but not in this case, due to too short distance between up-track and down-track. This has an extremely large impact on traffic, even though work only will be done on one track at a time. There will be stoppage for 12 hours per day and single-track operation for the remaining 12 hours.

The track replacement work is intended to start in Örebro and go north towards Hovsta on the up-track. The work on this section is estimated to take about two weeks. After that, the work continues on the up-track towards Frövi, estimated time is about three weeks. The track replacement train returns to Örebro and then works its way north on the down-track towards Frövi according to the corresponding arrangement.

2.2 Purpose

This capacity plan is developed on the basis of Directive 2021/34/ECs and is to be used as a planning prerequisite in the capacity allocation process, in order to create efficient capacity utilisation during the period when the (Örebro C) - (Frövi) section is affected by capacity constraints due to track replacement work.

When traffic is to be planned according to a capacity plan, timetables must be constructed according to applicable capacity rules, along with the restrictions and any time supplements indicated in the capacity plan, unless stated otherwise.

The time supplements and restrictions due to the number of trains in the plan must correspond to the reduction in capacity occurring during the engineering work. This means that a time supplement according to the capacity plan cannot be offset against a supplement according to other capacity rules. The capacity plan complements the capacity rules applicable to the line but does not replace them.

2.3 Scope

The works will also have an extremely large impact on traffic outside the actual work zone. This capacity plan describes how capacity on the (Örebro C)–Hovsta och Hovsta–(Frövi) sections will be allocated.

The capacity on concerned re-routing lines will only be described in general and the capacity will be allocated in the allocation process.

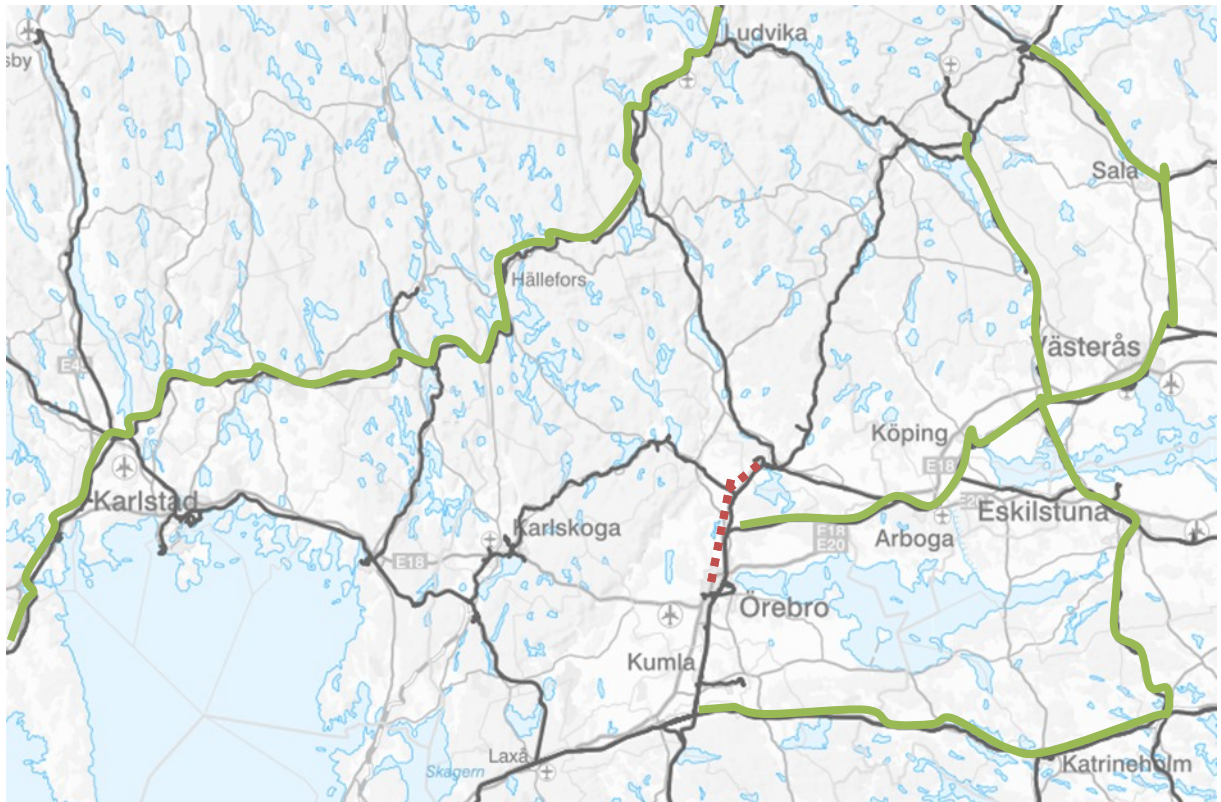


Figure 1. Shows the concerned area (dashed red) and available re-routing lines (green)

2.4 Requirements infrastructure

The capacity plan is based on the requirements that were known in September 2021. The Örebro–Frövi section is an electrified double-track section with ATC and traffic management system H. The speed is about 130 km/h.

2.4.1 Available infrastructure on re-routing lines

The Örebro–Frövi section is the artery for Sweden's export industries and their transport by rail. The number of freight trains that will be affected is significant. For trains going to and from Hallsberg (marshalling yard), only three routes are available and they are primarily via Katrineholm–Flen–Eskilstuna–Kolbäck, either via Snyten or via Västerås–Sala. When the track replacement work is being done north of Hovsta, some freight trains¹ can be re-routed via Alväng–Arboga–Kolbäck. This will probably mean that some passenger traffic needs to be reduced.

Freight trains going to Gothenburg, without shunting in Hallsberg, can advantageously use the Bergslagen Line and Norway Line/Vänern Line via Ställdalen–Kil. However, one must take into account the steep slopes between Falun and Storvik, which may cause need for reduction of train weight.

¹ Due to steep gradients between Hovsta and Jädersbruk (up to 2.5 percent), the weight of the vehicles must be reduced on concerned freight trains.

The Hallsberg–Katrineholm–Flen section has the highest capacity utilisation, with freight trains, regional trains and the high-speed trains between Stockholm and Gothenburg/Malmö.

A new station with passing tracks will be built in Högsjö Västra, but it will not be ready by 2023.

2.4.1.1 Other temporary capacity restrictions

Week 13 2023: traffic stoppage 72 hours Björneborg (between Kristinehamn and Laxå), from Friday at 5.00 to Monday at 5.00.

Week 14 2023 (Easter): traffic stoppage Hallsberg–Degerön, from Thursday at 0.00 to Tuesday at 5.00.

Traffic stoppage 103 hours Karlstad C, from Thursday at 22.00 to Tuesday at 5.00.

Traffic stoppage west Herrljunga, from Thursday at 14.00 to Monday at 14.00.

Week 15 2023: traffic stoppage 53 hours Väse (between Karlstad and Kristinehamn), from Saturday at 0.00 to Monday at 5.00.

Week 18 2023: traffic stoppage 53 hours Karlstad C and Väse, from Saturday at 0.00 to Monday at 5.00.

Week 19 2023: traffic stoppage 53 hours Karlstad C and Väse, from Saturday at 0.00 to Monday at 5.00.

Traffic stoppage Falun, between 9.00–15.00 Monday to Friday.

2.4.2 Division of available infrastructure into stages

The track replacement work will start in Örebro C on the up-track week 11 2020 (the work starts on Sunday in week 10 2023, at 18.30). The section from Örebro C to Hovsta is the part with most affected trains since the regional trains on the Mälarmälarbanan also will be affected. During the track replacement work, adjacent tracks also need to be closed for traffic, for safety reasons.

When each track is open for traffic is shown below. At other times in week 10 2023 from Saturday at 18.30, to week 20 2023 Monday at 06.30, there is traffic stoppage, and all trains must be re-routed or cancelled. Division into stages will be as follow:

1. Week 11 2023, Örebro²–(Hovsta), the down-track open for traffic between 6.30 and 18.30, Monday to Friday.
2. Weeks 11-12 2023, (Örebro)–(Ervalla), the down-track open for traffic between 6.30 and 18.30, Saturday to Tuesday.
3. Week 12 2023, (Hovsta)–(Frövi), the down-track open for traffic between 19.00 and 7.00, Tuesday to Sunday.

² Örebro C, week 10 2023, track 3, 4 och 5 are closed from Sunday at 18.30 to Monday at 6.30.

4. Week 13 2023, (Ervalla)–(Frövi), the down-track open for traffic between 19.00 and 7.00, Monday to Sunday.
5. Weeks 13-14 2023, (Ervalla)–Frövi, the down-track open for traffic between 19.00 and 7.00, Monday to Wednesday.
6. The track replacement train will be transported to Örebro during Easter for service and maintenance, and both tracks will be open for traffic from Thursday in week 14 2023 at 7.00.
7. Week 15 2023, Örebro³–(Hovsta), the up-track is open for traffic between 6.30 and 18.30, Tuesday to Saturday.
8. Weeks 15-16 2023, (Örebro)–(Ervalla), the up-track is open for traffic between 6.30 and 19.00, Saturday to Friday (does not apply for trains going to Mälärbanan).
9. Week 17 2023, (Hovsta)–(Frövi), the up-track is open for traffic between 19.00 and 7.00, Monday to Tuesday.
10. Weeks 17-18 2023, (Ervalla)–(Frövi), the up-track is open for traffic between 19.00 and 7.00, Wednesday to Tuesday.
11. Weeks 18-19 2023, (Ervalla)–Frövi, the up-track is open for traffic between 19.00 and 7.00, Wednesday to Thursday.
12. Week 19 2023, (Ervalla)–Frövi, the down-track is open for traffic from Friday at 19.00.
13. Week 20 2023, double-track operations from Monday at 5.00.

Miscellaneous: Week 12 2023, Saturday between 7.00 and 21.00, the traffic stoppage in Ervalla due to replacement of point switch.

2.4.3 Running time adjustment due to available infrastructure

For protection of workers during single-track operation, speed is reduced to 70 km per hour on the affected section. The running time adjustment is distributed according to the following table:

Train type	Örebro–Hovsta	Hovsta–Ervalla	Ervalla–Frövi
Freight trains	1.5 minutes	2.5 minutes	2 minutes
Regional trains	4 minutes	4 minutes	3.5 minutes

³ Örebro C, week 15 2023, track 1 and 2 are closed from Tuesday at 6.30 to Wednesday at 6.30.

The reduced speed limits will remain a few days due to tonnage services.

2.5 Requirements traffic

2.5.1 Traffic on the Örebro C–Hovsta section

The Örebro C–Hovsta section is operated by about 200 trains per weekday, of which about 90 are freight trains. In Hovsta, the Mälarbanan connects via a level connection (crossing train paths). About 70 trains continue towards Arboga from Hovsta.

2.5.2 Traffic on the Hovsta–Frövi section

The Hovsta–Frövi section is operated by about 140 trains per day, of which about 90 are freight trains. In Frövi, both Mälarbanan and Bergslagsbanan connects to the section.

2.5.3 Traffic on re-routing lines

2.5.3.1 *Västra stambanan between Hallsberg and Flen/Stockholm*

Västra stambanan between Hallsberg and Flen/Stockholm is one of Sweden's most important sections and has extensive traffic. High-speed trains between Stockholm and Gothenburg dominates. Freight traffic is also significant, as is regional traffic. There is capacity shortage between 5.00 and 23.00, Monday to Friday. This section will be the most difficult to handle with all re-routed trains.

Train type	Hallsberg–Katrineholm (T22)	Katrineholm–Flen (T22)
High speed trains	86	121
Freight trains	25	37
Regional trains	36	109

2.5.3.2 *Hovsta–Jädersbruk–Kolbäck*

When the track replacement work is being done north of Hovsta, Mälarbana can also be used as a re-routing line for freight trains. However, the steep slopes lead to a reduction of vehicle weight. The section only has a short double-track section, about 5 km, so the capacity is limited. Traffic is dominated by regional trains. About 65 regional trains pass every day. In addition, two night trains, three freight trains and three service trains.

2.5.3.3 *Flen–Kolbäck*

The Flen–Kolbäck section is dominated by the so-called UVEN⁴, which is a regional traffic system. The section is operated by about 80 trains per day, of which 15 are freight trains. It is a single-track section and has short passing loop stations. There is capacity shortage during daytime.

⁴ UVEN = Uppsala–Västerås–Eskilstuna–Norrköping (Linköping)

2.5.3.4 *Kolbäck–Snyten*

The Kolbäck–Snyten section is a single-track section and has a low capacity. The section is dominated by the so-called Bergslagspendeln from Västerås to Ludvika. The section is also an important re-routing line for freight trains. The section is operated by about 40 trains per day, of which 6 are freight trains. There is spare capacity, except during rush hour. It is important that the infrastructure on the Ängelsberg–Snyten section is able to handle all re-routed trains.

2.5.3.5 *Kolbäck–Västerås–Sala–Avesta Krylbo*

The Kolbäck–Västerås–Sala–Avesta Krylbo section is a double-tracks section from Kolbäck to Västerås north, and there is spare capacity. From Västerås Norra to Sala is a single-track section. Mälardalstrafik intends to run 30-minute traffic on the section between 6.00 and 20.00, Monday to Friday, and then no other train can operate the section. The traffic may have to be reduced during the time of the track replacement to use the capacity for the affected freight trains.

2.5.3.6 *Sala–Avesta Krylbo*

The Sala–Avesta Krylbo (Dalabanan) section is operated by about 40 trains a day, of which about half of them are freight trains. There is spare capacity.

2.6 Possible traffic during the various stages

Given the requirements resulting from the track closure stages (see “Division of available infrastructure into stages” above), the following timetable solutions will be applied in annual timetable 2023:

1. Timetable variant 1 will apply when the down-track is open to traffic between Örebro and (Hovsta).
2. Timetable variant 2 will apply when the down-track is open to traffic between (Örebro) and (Ervalla).
3. Timetable variant 3 will apply when the down-track is open to traffic between (Hovsta) and (Frövi).
4. Timetable variant 4 will apply when the down-track is open to traffic between (Ervalla) and Frövi.
5. Timetable variant 5 will apply when the up-track is open to traffic between Örebro and (Hovsta).
6. Timetable variant 6 will apply when the up-track is open to traffic between (Örebro) and (Ervalla).
7. Timetable variant 7 will apply when the up-track is open to traffic between (Hovsta) and (Frövi).

8. Timetable variant 8 will apply when the up-track is open to traffic between (Ervalla) and Frövi.

2.6.1 Timetable variant 1 Örebro–(Hovsta)

Timetable variant 1 will apply when the up-track is closed to traffic between Örebro and (Hovsta).

2.6.1.1 Requirement

Throughout this period the down-track will be open to traffic between 6.30 and 18.30.

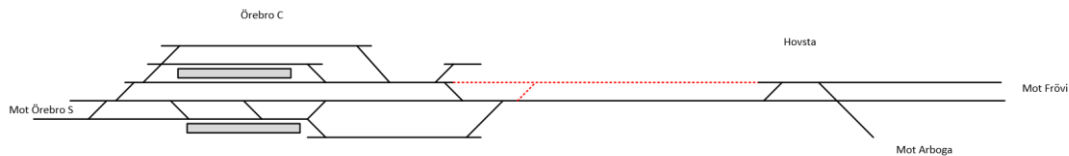


Figure 2 shows the closed section and which point switches that can be used.

Running time for a multiple-unit train is estimated to 4 minutes + 4 minutes due to the reduced speed limit = running time 8 minutes.

Running time for a freight train is estimated to 6 minutes + 1.5 minutes due to the reduced speed limit = running time 7.5 minutes.

Depending on whether there is column traffic or not, the section can be operated by about 7 trains per hour.

2.6.1.2 Capacity solution

The capacity is distributed according to the following table (based on the annual timetable 2022)

Time	Number of freight trains	Number of regional trains Mälarbanan	Number of regional trains
6.30–8.30	6	4	2
8.30–10.30	6	4	2
10.30–12.30	9	4	2
12.30–14.30	6	4	2
14.30–16.30	8	4	2
16.30–18.30	9	4	2

The channels are prioritised by the freight trains being given the highest priority. If there is a channel free per hour, it is reserved for freight trains that do not have a channel or for delayed long-distance freight trains that have missed their channel.

Passenger trains that have not been allocated capacity turn around in Örebro, Lindesberg or Skinnskatteberg, due to capacity shortage in Frövi.

2.6.2 Timetable variant 2 (Örebro)–(Ervalla)

Timetable variant 2 will apply when the up-track is closed to traffic between (Örebro) and (Ervalla).

2.6.2.1 Requirement

Throughout this period the down-track will be open to traffic between 6.30 and 18.30.



Figure 3 shows the closed up-track between (Örebro) and (Ervalla).

Running time for a multiple-unit train is estimated to 9 minutes + 7 minutes due to the reduced speed limit = running time 16 minutes.

Running time for a freight train is estimated to 12 minutes + 4 minutes due to the reduced speed limit = running time 16 minutes.

Depending on whether there is column traffic or not, the section can be operated by about 4 to 6 trains per hour.

2.6.2.2 Capacity solution

The capacity must be distributed according to the following table (based on the annual timetable 2022)

Kapaciteten fördelas enligt tabellen nedan (baseras på T22)

Time	Number of freight trains	Number of regional trains Mälardalen	Number of regional trains
6.30–8.30	6	2	0
8.30–10.30	6	2	0
10.30–12.30	9	2	0
12.30–14.30	6	2	0
14.30–16.30	8	2	0
16.30–18.30	9	2	0

The channels are prioritised by the freight trains being given the highest priority. If there is one channel free per hour, it is reserved for freight trains that do not have a channel or for delayed long-distance freight trains that have missed their channel.

Passenger trains that have not been allocated capacity turn around in Örebro, Lindesberg or Skinnskatteberg, due to capacity shortage in Frövi.

2.6.3 Timetable variant 3 (Hovsta)–(Frövi)

Timetable variant 3 will apply when the up-track is closed to traffic between (Hovsta) and (Frövi).

2.6.3.1 Requirement

Throughout this period the down-track will be open to traffic between 19.00 and 7.00.

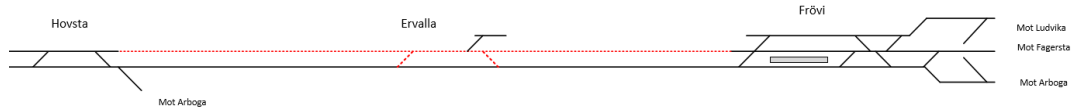


Figure 4 shows the closed up-track between (Hovsta) and (Frövi).

Running time for a multiple-unit train is estimated to 10 minutes + 7.5 minutes due to the reduced speed limit = running time 17.5 minutes.

At this time of day, the traffic is usually one-way, it is estimated that about 10 trains per hour can operate the section.

2.6.3.2 Capacity solution

The capacity must be distributed according to the following table (based on the annual timetable 2022).

Time	Number of freight trains	Numbers of regional trains
19.00–21.00	10	0
21.00–23.00	10	0
23.00–5.00	All freight trains are allocated capacity if possible.	0
5.00–7.00	10	0

The channels are prioritised by the freight trains being given the highest priority. If there is one channel free per hour, it is reserved for freight trains that do not have a channel or for delayed long-distance freight trains that have missed their channel.

Passenger trains that have not been allocated capacity turn around in Örebro, Lindesberg or Skinnskatteberg, due to capacity shortage in Frövi.

2.6.4 Timetable variant 4 (Ervalla)–Frövi

Timetable variant 4 will apply when the up-track is closed to traffic between (Ervalla) and Frövi.

2.6.4.1 Requirements

Throughout this period the down-track will be open to traffic between 19.00 and 7.00.

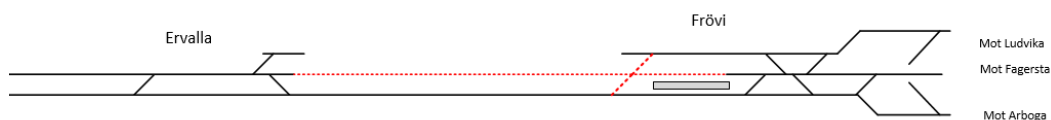


Figure 5 shows the closed up-track between Ervalla and Frövi.

Running time for a multiple-unit train is estimated to 5 minutes + 3.5 minutes due to the reduced speed limit = running time 8.5 minutes.

Running time for a freight train is estimated to 7 minutes + 2 minutes due to the reduced speed limit = running time 9 minutes.

Depending on whether there is column traffic or not, the section can be operated by about 6 to 8 trains per hour.

2.6.4.2 Capacity solution

The capacity must be distributed according to the following table (based on the annual timetable 2022).

Time	Number of freight trains	Number of regional trains
19.00–21.00	10	2
21.00–23.00	10	2
23.00–5.00	All freight trains are allocated capacity if possible.	0
5.00–7.00	10	2

The channels are prioritised by the freight trains being given the highest priority. If there is one channel free per hour, it is reserved for freight trains that do not have a channel or for delayed long-distance freight trains that have missed their channel.

Passenger trains that have not been allocated capacity turn around in Örebro, Lindesberg or Skinnskatteberg, due to capacity shortage in Frövi.

2.6.5 Timetable variant 5 Örebro–(Hovsta)

Timetable variant 5 will apply when the down-track is closed to traffic between Örebro and (Hovsta).

2.6.5.1 Requirements

Throughout this period the up-track will be open to traffic between 6.30 and 18.30.

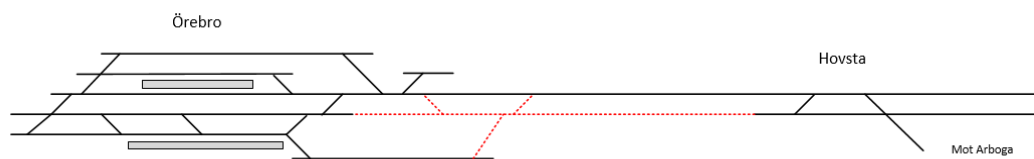


Figure 6 shows the closed section and which point switches that can be used.

Running time for a multiple-unit train is estimated to 4 minutes + 4 minutes due to the reduced speed limit = running time 8 minutes.

Running time for a freight train is estimated to 6 minutes + 1.5 minutes due to the reduced speed limit = running time 7.5 minutes.

Depending on whether there is column traffic or not, the section can be operated by about 7 trains per hour.

2.6.5.2 Capacity solution

The capacity must be distributed according to the following table (based on the annual timetable 2022).

Time	Number of freight trains	Numbers of regional trains Mälardalen	Number of regional trains
6.30–8.30	6	4	2
8.30–10.30	6	4	2
10.30–12.30	9	4	2
12.30–14.30	6	4	2
14.30–16.30	8	4	2
16.30–18.30	9	4	2

The channels are prioritised by the freight trains being given the highest priority. If there is one channel free per hour, it is reserved for freight trains that do not have a channel or for delayed long-distance freight trains that have missed their channel.

Passenger trains that have not been allocated capacity turn around in Örebro, Lindesberg or Skinnskatteberg, due to capacity shortage in Frövi.

2.6.6 Timetable variant 6 (Örebro)–(Ervalla)

Timetable variant 6 will apply when the down-track is closed to traffic between (Örebro) and (Ervalla).

2.6.6.1 Requirements

Throughout this period the up-track will be open to traffic between 6.30 and 18.30. No traffic towards Mälardalen.



Figure 7 shows the closed up-track between (Örebro) and (Ervalla).

Running time for a multiple-unit train is estimated to 9 minutes + 7 minutes due to the reduced speed limit = running time 16 minutes.

Running time for a freight train is estimated to 6 minutes + 1.5 minutes due to the reduced speed limit = running time 7.5 minutes.

Depending on whether there is column traffic or not, the section can be operated by about 4 to 6 trains per hour.

2.6.6.2 Capacity solution

The capacity must be distributed according to the following table (based on the annual timetable 2022).

Time	Number of freight trains	Numbers of regional trains Mälardalen	Number of regional trains
6.30–8.30	6	2	0
8.30–10.30	6	2	0
10.30–12.30	9	2	0
12.30–14.30	6	2	0
14.30–16.30	8	2	0
16.30–18.30	9	2	0

The channels are prioritised by the freight trains being given the highest priority. If there is one channel free per hour, it is reserved for freight trains that do not have a channel or for delayed long-distance freight trains that have missed their channel.

Passenger trains that have not been allocated capacity turn around in Örebro, Lindesberg or Skinnskatteberg, due to capacity shortage in Frövi.

2.6.7 Timetable variant 7 (Hovsta)–(Frövi)

Timetable variant 7 will apply when the down-track is closed to traffic between (Hovsta) and (Frövi).

2.6.7.1 Requirements

Throughout this period the up-track will be open to traffic between 19.00 and 7.00.

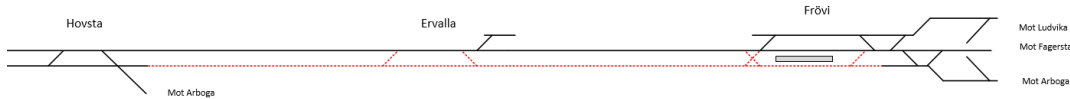


Figure 8 shows the closed up-track between (Hovsta) and (Frövi).

Running time for a multiple-unit train is estimated to 10 minutes + 7.5 minutes due to the reduced speed limit = running time 17.5 minutes.

Running time for a freight train is estimated to 13 minutes + 4.5 minutes due to the reduced speed limit = running time 17.5 minutes.

At this time of day, the traffic is usually one-way, it is estimated that about 5 trains per hour can operate the section.

2.6.7.2 Capacity solution

The capacity must be distributed according to the following table (based on the annual timetable 2022).

Time	Number of freight trains	Numbers of regional trains
19.00–21.00	10	0
21.00–23.00	10	0
23.00–5.00	All freight trains are allocated capacity if possible.	0
5.00–7.00	10	0

The channels are prioritised by the freight trains being given the highest priority. If there is one channel free per hour, it is reserved for freight trains that do not have a channel or for delayed long-distance freight trains that have missed their channel.

Passenger trains that have not been allocated capacity turn around in Örebro, Lindesberg or Skinnskatteberg, due to capacity shortage in Frövi.

2.6.8 Timetable 8 (Ervalla)–Frövi

Timetable variant 7 will apply when the down-track is closed to traffic between (Ervalla) and Frövi.

2.6.8.1 Requirements

Throughout this period the up-track will be open to traffic between 19.00 and 7.00.

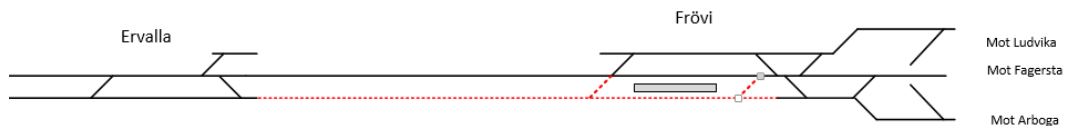


Figure 9 shows the closed up-track between Ervalla and Frövi.

Running time for a multiple-unit train is estimated to 5 minutes + 3.5 minutes due to the reduced speed limit = running time 8.5 minutes.

Running time for a freight train is estimated to 7 minutes + 2 minutes due to the reduced speed limit = running time 9 minutes.

Depending on whether there is column traffic or not, the section can be operated by about 6 to 8 trains per hour.

2.6.8.2 Capacity solution

The capacity must be distributed according to the following table (based on the annual timetable 2022).

Time	Number of freight trains	Numbers of regional trains
19.00–21.00	10	2
21.00–23.00	10	2
23.00–5.00	All freight trains are allocated capacity if possible.	0
5.00–7.00	10	2

The channels are prioritised by the freight trains being given the highest priority. If there is one channel free per hour, it is reserved for freight trains that do not have a channel or for delayed long-distance freight trains that have missed their channel.

Passenger trains that have not been allocated capacity turn around in Örebro, Lindesberg or Skinnskatteberg, due to capacity shortage in Frövi.

2.7 Miscellaneous

Planning requirements for other periods in annual timetable 2023 are shown in Annex 4 D.

Contents

1 TRAIN PATH CHARGE.....	1
2 PASSAGE CHARGE.....	4
2.1 Example Stockholm.....	4
2.2 Example Göteborg.....	6
2.3 Example Malmö.....	7

Train path and passage charges

1 Train path charge

The train path charge is a kilometre-(mileage-) based fee with two levels: high and basic. The geographic distribution of the different levels are presented below. The charge is based on agreed capacity.

High level applied on the following routes:

- Falun–Borlänge
- Uppsala central–Märsta–Stockholms central
- Barkarby–Stockholms central
- Routes of line within the Stockholm area:
 - Solna–Tomtebodavägen/ Tomtebodavägen bangård
 - Ulriksdal–Hägalund–Solna
 - Huvudsta–Tomtebodavägen/ Tomtebodavägen bangård
 - Tomtebodavägen/ Tomtebodavägen bangård–Karlberg–Stockholms central–Stockholms södra
 - Tomtebodavägen–Stockholm City–Stockholms södra (Citybanan)
- Stockholms södra–Årstadavägen–Älvsjö godsbangård–ÄlvsjöStockholms central–Göteborgs central:
 - Stockholms central–Älvsjö
 - Älvsjö–Södertälje syd övre–Partille
 - Partille–Göteborgs central
- Hallsbergs personbangård–Hallsbergs rangerbangård–Hallsberg Posten

- Laxå–Charlottenberg:
 - Laxå–Kristinehamn–Karlstad–Kil
 - Kil–Charlottenberg (riksgränsen)
- Stockholms central–Malmö central:
 - Stockholms central–Älvsjö
 - Älvsjö–Södertälje Syd övre–Katrineholm
 - Katrineholm–Åby–Arlöv
 - Arlöv–Malmö central
- Nässjö–Jönköping
- Alvesta–Växjö
- Hässleholm–Kristianstads central
- Sävedalen–Sävenäs rangerbangård–Göteborg Sävenäs
- Älvängen–Göteborg Marieholm–Göteborg Kville–Pölsebo–Skandiahammen
- Olskroken–Gubbero
- Olskroken–Göteborg Marieholm–Göteborg Kville–Pölsebo–Skandiahammen
- Göteborg Olskroken–Älvängen
- Göteborgs central–Almedal
- Almedal–Halmstad
- Torebo–Falkenbergs godsstation
- Helsingborgs godsbangård–Åstorp
- Ängelholm–Helsingborgs central–Landskrona östra–Kävlinge–Lund
- Lund–Malmö central
- Helsingborgs godsbangård–Åstorp
- Malmö central–Triangeln–Hyllie–Lernacken
- Arlöv–Malmö godsbangård
- Fosieby–Svågertorp
- Lockarp–Svågertorp–Hyllie
- Fosieby–Svågertorp
- Svågertorp–Lernacken
- Lernacken–Peberholmen

Base level applies for the network in general.

Network Statement 2023
Annex 5 A – Train path and passage charges
Edition 2021-12-10



The map should be considered as a visualization of the information above. If the map does not match the information above, the information applies.

The Swedish Transport Administration has developed a simulation system to calculate the Administration's charges for railway transports. In the system it is possible to calculate the train paths charges between given stations. The calculator system is a web application and is available via <https://jvk.trafikverket.se/>.

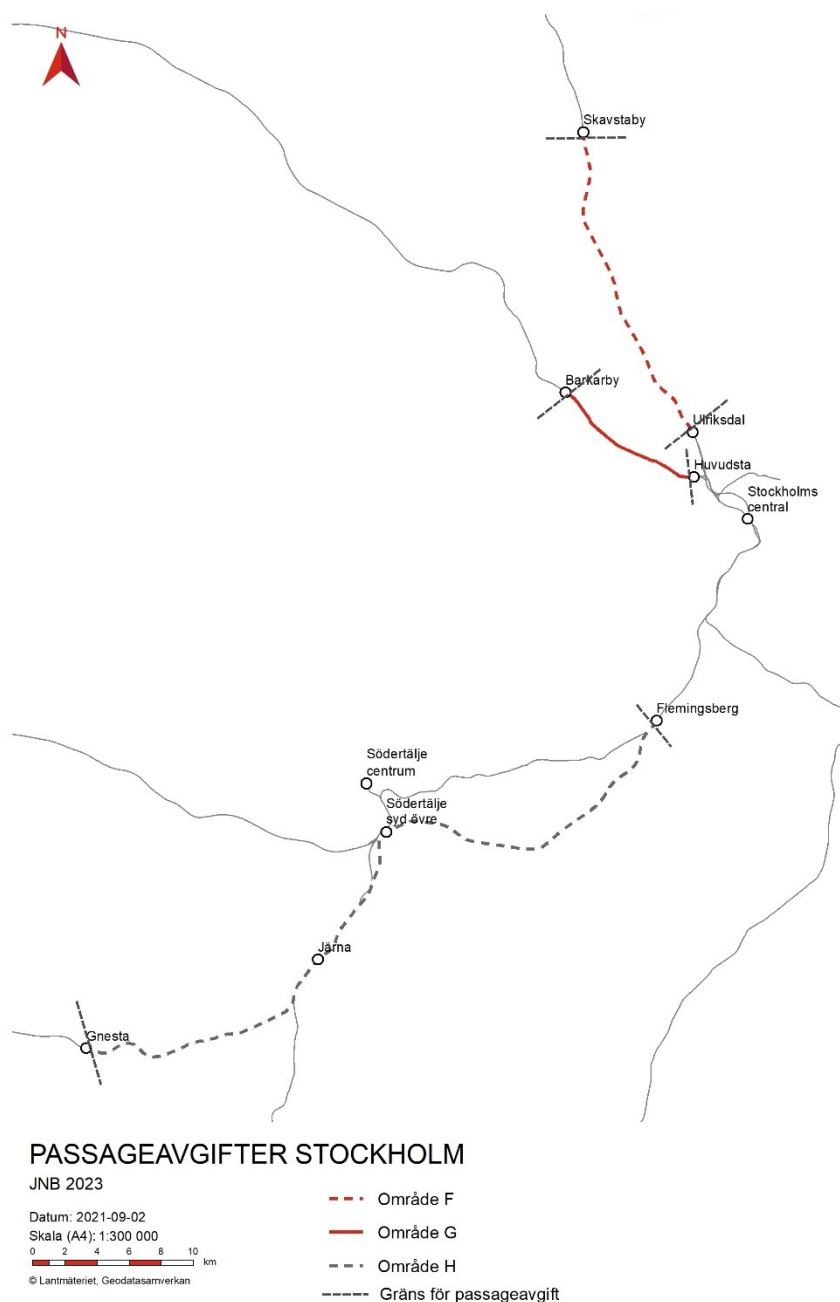
2 Passage charge

Passage charge is imposed for passenger trains and service trains on parts of the railway network in Stockholm, Göteborg and Malmö on weekdays, Monday-Friday, 6.00–9.00 and 15.00–18.00 in the areas described below.

2.1 Example Stockholm

In Stockholm, a charge is levied for:

- Ulriksdal–Skavstaby (area F)
- Huvudsta–Barkaby (area G).
- Flemingsberg–Björnkulla–Malmsjö–Södertälje Syd övre (south upper)-Järna–Gnesta (area H)



Examples for Stockholm:

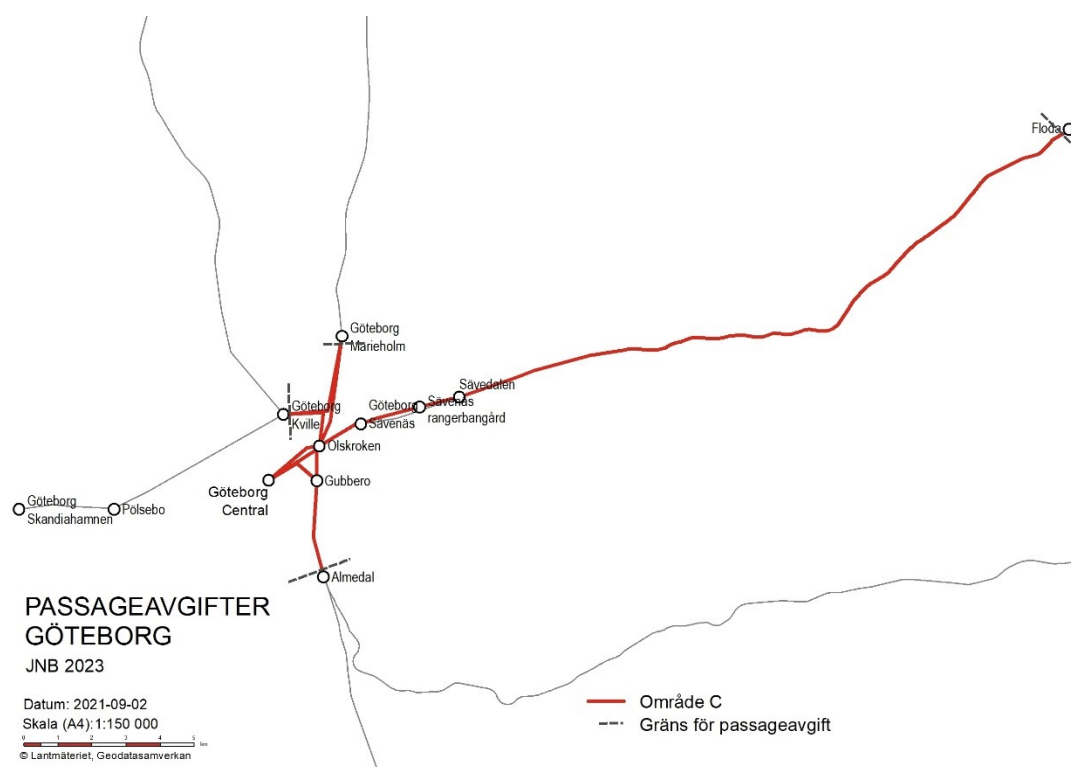
1. A train from Uppsala runs to Norrköping through Stockholms central. The train runs via Skavstaby at 6.15 on a non-holiday weekday and will be charged a passage charge (Skavstaby - Ulriksdal). The train comes to Stockholm Central and at 6.30 drives continues towards Norrköping via Flemingsberg – Björnkulla – Malmö – Södertälje Syd övre (south upper), and is charged an additional passage charge (area H). The train continues from Södertälje via Nyköping.

A total of 2 x passage charges for the train path.

2. A train from Falun drives towards Stockholms central. The train passes Skavstaby at 15.40 on a non-holiday weekday and will be charged a passage charge (Skavstaby - Ulriksdal).
1 (one) passage charge for the train path.
3. The train in example 2 has turned around at Stockholms central and will run a new train path to Falun at 16.05 the same day. At 16.05 on departure, a passage charge will be levied (Skavstaby - Ulriksdal).
1 (one) passage charge for the train path.
4. A train from Falun drives towards Stockholms central. The train passes Karlberg at 17.40 on a non-holiday weekday and will be charged a passage charge (Karlberg – Stockholms central).
1 (one) passage charge for the train path.
5. A train from Gävle drives to Linköping via Stockholm Central. The train runs via Skavstaby at 17.55 on a non-holiday weekday and will be charged a passage charge (Skavstaby -Ulriksdal). The train arrives at Stockholm Central at 18.00 and at 18.05 it leaves for Linköping via area H. A passage charge will not be levied because the train will not be operated in the area for the train path within the time when the passage charge is levied.
1 (one) passage charge for the train path.
6. A train from Uppsala drives towards Stockholm Central. The train passes Skavstaby at 15.08 on a non-holiday weekday and will be charged a passage charge (Skavstaby - Ulriksdal). Passengers alight at Stockholm Central.
1 (one) passage charge for the train path.
7. A train from Göteborg drives towards Stockholm Central. The train passes Gnesta at 15.08 on a non-holiday weekday. The train passes Södertälje South at 15.25. A passage charge is charged for area H. The passengers alight at Stockholm Central.
1 (one) passage charge for the train path.
8. A train from Västerås drives towards Stockholm Central. The train passes Barkarby 7:00 on a non-holiday weekday and will be charged a passage charge (Huvudsta – Barkarby). The passengers alight at Stockholm Central.
1 (one) passage charge for the train path.

2.2 Example Göteborg

In Göteborg, a charge is made for all the tracks in an area limited by the "Boundary for passage charge" at Floda, Almedal, Göteborg Kville, Göteborgs Marieholm and Sävenäs marshalling yards (area C).



Example for Göteborg:

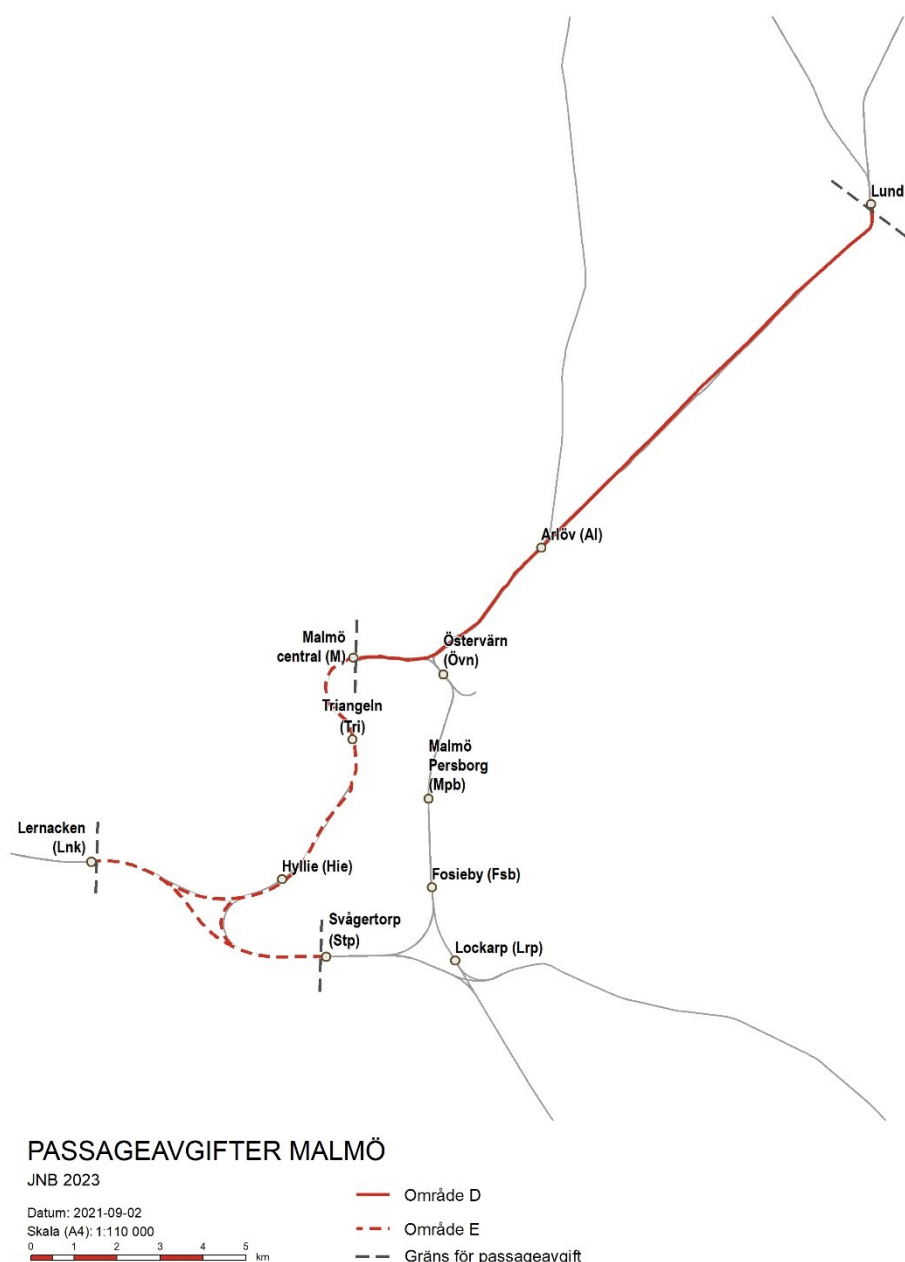
1. A train from Stockholm is on its way towards Göteborgs central. The train runs via Floda 6.30 a non-holiday weekday. A passage charge is levied as the train passes Floda (Floda–Göteborgs central).
1 (one) passage charge for the train path.

2.3 Example Malmö

In Malmö, the charge is levied for

- all tracks in an area limited by the "Boundary for passage charge" at Lund and Malmö Central (area D). For Malmö godsbangård/central-Östervärn no charge will be levied
- all track in the area limited by the "Boundary for passage charge" Malmö Central, Svågertorp and Lernacken (area E).

If both areas D and E are used, a maximum of two passage charges will be levied per agreed train path.



Exemples for Malmö:

1. A train from Stockholm is on its way to Lernacken. The train runs via Lund 7.30 a non-holiday weekday. A passage charge is levied when the train passes Lund (Lund – Malmö Central). The train runs towards Malmö Central, where it continues to the City Tunnel at 8.00. As it passes Malmö Central on the way to the City Tunnel, a further charge is levied (Malmö Central – Lernacken).
A total of 2 x passage charges for the train path.

2. A train from Göteborg is on its way to Lernacken. The train runs via Lund 7.30 a non-holiday weekday. A passage charge is levied when the train passes Lund (Lund–Malmö central). The train runs to via Östervärn - Fosieby towards Svågertorp and where it passes Lernacken at 8.00.
2 (two) passage charges for the train path.

Contents

1 DELAY AND CANCELLATION CODES.....	1
1.1 Introduction	1
1.2 Code structure for cumulative delays	2
1.3 Principles for use in the event of cumulative delays.....	2
1.4 Code structure for train cancelled at short notice and for cancellation	3
1.5 Code structure for the need for an investigation following an accident/incident	3
2 CODE LIST IN THE EVENT OF CUMULATIVE DELAYS	3
2.1 Operations management reasons (D).....	3
2.2 Consequential reasons (F)	4
2.3 Infrastructure reasons (I).....	4
2.4 Railway undertakings' reasons (J)	6
2.5 Accidents and incidents (O).....	8
2.6 Further investigation (Y).....	9
3 CODE LIST FOR TRAINS CANCELLED AT SHORT NOTICE AND IN CONNECTION WITH CANCELLATION	9

1 Delay and cancellation codes

1.1 Introduction

To monitor what causes disruptions to operations and cancellations, train signallers/dispatchers report what they perceive is the cause. Delay codes are used in the reporting system, using a standardised code list (see Section 2 below). In the event of disruptions to operations, a report should be submitted immediately following the disturbance but it is possible to provide additional information or correct the delay code up to nine days after the event. The aim is to find the cause and who it is that can attend to the problems.

Cancellation codes for cancelled trains is under review. Changes will be published via an amendment during 2022.

The code list is divided into six main groups linked to who is considered to be the owner of the problem. Under these main groups, it is possible to more clearly describe the problem in a further two levels (subgroups) and provide more details.

- The main groups are:

- Operations management (D)
- Consequential reason (F)
- Infrastructure (I)
- Railway undertaking (J)
- Accidents/Incidents and external factors (O)
- Further investigation.

1.2 Code structure for cumulative delays

The code structure has three levels (see Section 2 below). For the first level, a letter is used for the main group in accordance with Section 1.1. For level 2, a combination of letters is used to describe what happened and for level 3, a number is used.

Example

DPS 1 should be interpreted as: Operations management, Personnel, mistakes or incorrect handling.

1.3 Principles for use in the event of cumulative delays

For the main groups Operations Management (D), Infrastructure (I) and Accidents/Incidents and External Factors (O), all trains affected by the incident will receive the primary delay code.

The signaller/dispatcher must first of all define the first two levels, while the third level can be added later within the time limit the system is open in order to allow for changes to be made (see above). For railway undertakings (J codes) it is assumed that the railway undertakings or drivers contact the signaller/dispatcher when delays of 3 minutes or more arise and the codes at level 3 have been supplemented.

Exceptions

For codes in the group Railway undertakings (J) only the train that causes the incident is coded, while other trains affected by delays receive a delay code in the group Consequential reason – Disruption by other train (FAT).

In practice, it may be difficult for signallers/dispatchers to have knowledge of the fundamental cause for long-distance trains and therefore sometimes the other codes in the group Consequential reason (F) may be used even when the root cause lies within the groups Operations management (D), Infrastructure (I), Accidents/Incidents and External factors (O) and railway undertakings (J).

1.4 Code structure for train cancelled at short notice and for cancellation

To follow the reason of cancelled trains, the perceived cause is reported. Reporting is made with delay codes according to a standardized code list (see Section 3 below). Disruption of reporting should be made in direct connection with the disturbance. The aim is to find the cause and who can fix the problems.

1.5 Code structure for the need for an investigation following an accident/incident

For the codes OTÅ 01 – Derailment/collision, OTÅ 02 – Accident at level crossing, OTÅ 05 – Damaged points, IEA 01 – Catenary, and JDM03 – Pantograph, the Swedish Transport Administration or the applicant can request the code Further investigation required (YUK). This will be done through a renewed assessment in accordance with Section 6.5.6. A decision and notification regarding the final code is provided as soon as possible after the completion of the investigation.

2 Code list in the event of cumulative delays

2.1 Operations management reasons (D)

Operations management reasons			
Code level 1	Code level 2	Code level 3	Description of code level 3
D	OG		Issuing of orders due to train operation
D	OS		Operative support systems
D	OS	2	Administrative support system
D	OS	3	Reading error/Lost number
D	PR		Prioritisation
D	PR	3	Operational prioritisation
D	PR	4	Operational management prioritises
D	PS		Personnel
D	PS	1	Operations management personnel
D	PS	2	Operations management personnel, lack of resources
D	PS	4	Operational management
D	PS	5	Operational management, lack of resources
D	PS	6	Causal investigation
D	TT		Suspected errors in timetable/wrong planning
D	TT	1	Operational guidelines

2.2 Consequential reasons (F)

Consequential reasons (F)			
Code level 1	Code level 2	Code level 3	Description of code level 3
F	AT		Disruption by other train
F	OI		Turnaround/waiting
F	OI	3	Turnaround train staff
F	OI	5	Train turn/Turnaround/Train chain
F	OI	7	Turnaround locomotive
F	OI	8	Turnaround wagon
F	TF		Train operation
F	TF	1	Meeting/Convergence of train routes
F	TF	2	Passing another train
F	TF	3	Train ahead/track shortage

2.3 Infrastructure reasons (I)

Infrastructure reasons			
Code level 1	Code level 2	Code level 3	Description of code level 3
I	AK		Cut off cable
I	AK	1	Cut off signal cable
I	AK	2	Cut off telecommunications cable
I	AK	3	Cut off power cable
I	BA		Marshalling yard facilities
I	BA	1	Lighting at marshalling yards and on platforms
I	BA	2	Platform and loading bay
I	BA	3	Platform crossing
I	BA	4	Retarder system
I	BA	5	Derailer
I	BA	6	Buffer stop
I	BA	7	Brake test facility
I	BA	8	Train and locomotive heating facility
I	BA	9	Weighing machine
I	BA	10	Shunting table
I	BA	11	Water post
I	BT		Engineering works/transport
I	BT	20	Planned exceeded engineering work
I	BT	21	Maintenance
I	BT	22	Investments

Network Statement 2023
Annex 5 B – Delay and cancellation codes
Edition 2021-12-10

I	BT	23	Major projects
I	BT	24	Market and Planning
I	BT	30	Directly planned traffic disruptive engineering work
I	BT	40	Delays by reason of planned engineering work
I	BU		Ballast reinforcement
I	BU	1	Bank
I	BU	2	Cutting
I	BU	3	Drum
I	BU	4	Bridge
I	BU	5	Tunnel
I	BÖ		Track superstructure
I	BÖ	1	Tracks
I	BÖ	2	Track switch
I	BÖ	3	Obscured visibility due to vegetation
I	EA		Electrical installations
I	EA	1	Catenary
I	EA	2	Auxiliary power line
I	EA	3	Switching station
I	EA	4	Switching centres
I	EA	5	Feeder cable
I	EA	6	Cut-out switch station
I	EA	7	Network station
I	EA	8	Power converter station
I	EA	9	Sectioning station
I	EA	10	Transformer station
I	EA	11	Electric power system
I	EA	12	Construction engineering
I	EA	13	External electricity supplier
I	FK		Passability on the tracks due to the weather
I	FK	1	Verified slippery rail
I	FK	2	Snow and ice
I	FK	3	Tree
I	SA		Signalling devices
I	SA	1	Balise group
I	SA	2	Level crossing
I	SA	3	Positioning system
I	SA	4	Signal
I	SA	5	Signal interlocking, radio block central (RBC) and blocking system
I	SA	6	Ranger switchgear
I	SA	7	Board
I	SA	8	Rail Traffic Management System – SNTL ¹⁾
I	SA	10	Rail Traffic Management System - EBICOS 900 ²⁾
I	SA	12	Rail Traffic Management System - ERTMS

Network Statement 2023
Annex 5 B – Delay and cancellation codes
Edition 2021-12-10

I	SA	15	Central automation
I	SA	16	Digital time-distance graph/STEG/AEF ³⁾
I	SA	17	Local automatic machines
I	TA		Telecommunications facilities
I	TA	1	Detectors
I	TA	8	Dynamic sign
I	TA	9	Loud speaker system
I	TA	10	Clocks
I	TA	11	Operational telephony (MATS)
I	TA	12	Cable installation – telecommunications cable (optic or copper)
I	TA	13	Train radio MobiSIR
I	TA	14	Telecommunications transmission/Data communication
I	TA	15	Computerised signal box
I	ÖA		Other facilities
I	ÖA	1	Property
I	ÖA	2	Enclosed area
I	ÖA	3	Deducting
I	ÖA	4	Lubrication device for rails
I	ÖA	5	Snow gallery
I	ÖA	7	Drainage, pumping system
I	ÖA	8	Surveillance camera

1) System for national rail traffic management

2) Local control system for relays and computerised switchgear

3) System for traffic management

2.4 Railway undertakings' reasons (J)

Railway undertakings' reasons			
Code level 1	Code level 2	Code level 3	Description of code level 3
J	AS		Deviating formation
J	AS	1	Excess load profile/Exceptional transport
J	AS	2	Unplanned train length
J	AS	3	Unplanned train weight
J	AS	6	Unplanned/deviating HPS
J	AS	7	Dangerous goods
J	DM		Traction vehicle/railcar¹⁾
J	DM	1	ATC/ETCS error
J	DM	3	Pantograph
J	DM	4	Wheel damage alarm
J	DM	5	Brake error/Brake system/Unintentional brake alarm
J	DM	6	Rebooting of the system/System recovery
J	DM	9	Door malfunction
J	DM	10	Typhoon

Network Statement 2023
Annex 5 B – Delay and cancellation codes
Edition 2021-12-10

J	DM	11	Emergency troubleshooting
J	DM	12	Overheating alarm
J	IA		Before departure
J	IA	1	Cleaning
J	IA	2	Loading/Unloading/Platform services
J	IA	3	Provisioning
J	IA	4	Workshop measure
J	IA	5	Change of train set
J	IA	6	Train not prepared/completed
J	IA	7	Late shunting from contractor
J	IA	8	Awaiting wagons from customer
J	IA	9	Late report from customer center
J	IA	10	Late information from operational center
J	IA	11	IT-system error
J	IA	12	Blocking shunting route
J	IA	13	Shunting locomotive missing
J	PR		Prioritisation
J	PR	1	A railway undertaking has decided on the priority between own trains
J	PR	2	Two railway undertakings have given priority among each other's trains
J	PR	3	Waiting
J	PR	4	Shunting/switching in addition to plan
J	PR	5	Unplanned composition
J	PR	6	Turnaround change
J	PR	7	Extra order of train path
J	PR	8	Extra stay requested
J	PS		Personnel
J	PS	1	Driver staff
J	PS	2	Stationary staff
J	PS	3	Onboard staff
J	PS	4	Handling error
J	PS	5	Unauthorised stop passage A
J	UF		During journey
J	UF	1	Platform services
J	UF	2	Running time loss
J	UF	3	Time loss at timetable stop
J	UF	4	Blocking shunting route
J	VA		Wagon
J	VA	1	Door malfunction
J	VA	2	Brake error/Brake system/Unintentional brake alarm
J	VA	3	Wheel damage alarm
J	VA	4	Load shift/Incorrect loading /Load adjustment
J	VA	5	Self-uncoupling/Worn train
J	VA	6	Wagon inspection
J	VA	7	Damaged wagon/Emergency troubleshooting
J	VA	8	Overheating alarm

2.5 Accidents and incidents (O)

Accidents and incidents			
Code level 1	Code level 2	Code level 3	Description of code level 3
O	BÖ		Bridge opening
O	BÖ	1	Bridge opening time exceeded
O	BÖ	2	Planned bridge opening
O	DJ		Animals
O	DJ	1	Hit game
O	DJ	2	Live game in track area
O	DJ	3	Hit reindeer
O	DJ	4	Hit cattle
O	DJ	5	Live cattle in track area
O	MÄ		Humans
O	MÄ	1	Person run over/hit
O	MÄ	2	Unauthorised person on the track
O	MÄ	3	Police/Acute illness/Eviction/Threatening situation
O	MÄ	4	Sabotage/threat
O	MÄ	5	Suicidal
O	NA		Natural events
O	NA	1	Fire
O	NA	2	Flooding
O	NA	3	Storm/Snow storm
O	NA	4	Avalanche
O	NA	5	Landslide
O	NA	6	Cold
O	NA	7	Slippery rail
O	NA	8	Birds
O	NA	9	Tree
O	NA	10	Thunder
O	NK		Serious incident, crisis and danger
O	NK	1	Pandemic
O	NK	2	Act of terror
O	ST		Strike
O	ST	1	Planned strike
O	ST	2	Unplanned strike
O	SY		Inspection of track/vehicle
O	SY	1	Inspection of track
O	SY	2	Inspection of vehicle
O	TÅ		Train/work movements
O	TÅ	1	Derailment/collision
O	TÅ	2	Accident at level crossing

Network Statement 2023
Annex 5 B – Delay and cancellation codes
Edition 2021-12-10

O	TÅ	3	ATC ¹⁾ emergency brake
O	TÅ	5	Damaged points
O	TÅ	6	Test run/Test train
O	UT		Late to/from abroad
O	UT	1	Border control
O	UT	2	At the requested of a foreign authority
O	UT	3	Other infrastructure manager/Property manager

1) ATC – Automatic Train Control

2.6 Further investigation (Y)

For more information see Section 1.5

Further investigation (Y)			
Code level 1	Code level 2		Description of code level
Y	UK		Further investigation required

3 Code list for trains cancelled at short notice and in connection with cancellation

Cause code cancellation	Abbreviation	Description
Track engineering work – established Engineering Work Plan	B	The code shall be used when a train is cancelled because of established engineering works in the Swedish Transport Administration's Engineering Work Plan.
Track engineering work – changed/new	E	The code shall be used when a train is cancelled because of engineering work has been changed, displaced or cancelled after the Swedish Transport Administration's Engineering Work Plan is established and when new engineering work is added Engineering works owing to acute infrastructure failure/accident being reported on respective cause codes.
Operational control	D	The code shall be used for trains cancelled at short notice due to shortfalls in traffic control.
Infrastructure	I	The codes shall be used when it is necessary to cancel trains owing to an infrastructure fault which is disruptive to train operation and is reported as an event in Opal. The codes shall also be used for changed line standard on the basis of an established Railway Network description. In the event of cancellation, the codes "Infrastruktur" and external events shall remain until the line has retained its original performance irrespective of the fact that track engineering works are often needed in order to reinstate the line.
Accident/External near accident and External occurrence	O	The code shall be used in connection with accidents/external near-accidents and when weather conditions, police or rescue actions prevent rail traffic and is reported as an event in Opal. In connection with cancellations, the code accident/near accident and external occurrence will remain until the line has regained its original performance regardless of the fact that it normally requires track engineering works to restore the line. Occurrence at other infrastructure manager that causes need for cancellation

Network Statement 2023
Annex 5 B – Delay and cancellation codes
Edition 2021-12-10

Cause code cancellation	Abbreviation	Description
Erroneous planning	W	The code shall only be used when erroneous planning has occurred during the Swedish Transport Administration's planning phase.
Consequential cause	F	To be used when trains are cancelled at short notice as a consequence of disruption from another train.
Railway undertaking	J	To be used for both cancellations and trains cancelled at short notice. The code is used when a railway undertaking wishes to cancel a train for which there is no obstacle against it not being operated and provided that it is the railway undertaking that is responsible for the cancelled train (e.g. damaged locomotive).

Contents

1 CALCULATION EXAMPLES FOR ELECTRICITY COSTS.....	1
1.1 Introduction	1
1.2 The provision of traction current (NS Section 5.4.1)	1
1.2.1 General information – traction current	1
1.2.2 Calculation example 1 – Rc locomotive without energy meter	2
1.2.3 Calculation example 2 – Rc locomotive with energy meter	3
1.3 Charge for access to electricity for the holding of vehicles (NS Section 7.3.11).....	4
1.3.1 Example calculation 3 - holding	4

1 Calculation examples for electricity costs

1.1 Introduction

The following example calculation aims to provide an understanding of how the cost for traction current and electricity for holding is calculated. Note that this is only an example. For current figures, see [the electricity price report](#) on our website. In other respects we refer you to the texts in Section 5.4.1 and Section 7.3.11.

1.2 The provision of traction current (NS Section 5.4.1)

1.2.1 General information – traction current

For vehicles that have energy meters installed, the cost is invoiced based on the actual usage (example of how a cost is reported is shown in the calculation example 2 below). For vehicles with no meter, the charge is based on the reported transportation work and the standard values in accordance with table 1 below.

Passenger services		Wh/gross tonne-kilometre
Locomotives <130 km/h		31.4
Locomotives >130 km/h		33.9
X2 > 160 km/h		30.8
X2 > 160 km/h		34.5
X1/X10 SL services (trains with passengers)		85.5
X10 Göteborg local services (Göteborgs lokaltrafik) and Skånetrafiken trains		72.7
Other multiple-unit trains (mean value)		53.9

Network Statement 2023
Annex 5 C – Calculation examples for electricity costs
Edition 2021-12-10

Freight traffic		Wh/gross tonne-kilometre
Wagon-load trains, Rc locos/Ma locos		19.5
Iron ore trains (the Iron Ore Line)		11.6
Intermodal trains		21.2
Freight trains > 130 km/h		33.9
Museum services		Wh/gross tonne-kilometre
Museum vehicles in accordance with the Railway Act (2004:519), chapter 3. (4§) Section 4.		20

Table 1 Templates for charging electricity cost

Vehicle type	Loss surcharge*
Rc, Rd, RM	E x 1.07
Ma	E x 1.07
Mb	E
BR 243	E
BR 193	E
ER1	E
IORE	E
Dm	E x 1.13
BR 185, BR 241, BR 242, Re	E
BR 189, BR 441, BR 141	E
BR 142	E x 1.03
BR 161	E x 1.04
X2	E
X3	E
X31–32	E
X40	E
X50–55	E
X60–62	E
X1	E x 1.03
X10–14	E x 1.03
Museum vehicles in accordance with the Railway Act (2004:519), chapter 3. (4§) Section 4.	E

* E = normal loss surcharge = 1.14

Tabel 2 Loss surcharge

The total loss surcharge varies from vehicle to vehicle type according to the above table.

1.2.2 Calculation example 1 – Rc locomotive without energy meter

The examples below are from 2011. For a current example, see the electricity price report and the tables above.

Assumptions:

Train type	Rc loco
Gross weight tons	1000
Distance km	500
Consumption as per table 1	19.5
Loss surcharge (E x 1.08 as per table 4)	1.23
Calculated volume difference, SEK/kWh	0.015
Electricity price, SEK/kWh	0.48
Network cost, SEK/kWh	0.09
Certificate, SEK/kWh	0.045

For up to date price information, see the electricity price report

Cost estimate in accordance with the information above:

An Rc locomotive uses 19.5 Wh/gross tonne-km. The distance is 500 km and with a gross weight of 1,000 tonnes, this means 500,000 gross tonne-km.

Used kWh = 500,000 gross tonne-km x (19.5/1000) kWh = 9,750 kWh

Estimated price per kWh = Loss surcharge x (electricity trading price + network charge) + electricity certificate + calculated volume difference.

$1.23 \times (0.48 + 0.09 \text{ SEK}) = 0.7011 + 0.045 \text{ SEK electricity certificate} + 0.015 \text{ SEK in the calculated volume difference produces the estimated price of } 0.7611 \text{ SEK.}$

This means $9,750 \text{ kWh} \times \text{SEK } 0.7611/\text{kWh} = \text{SEK } 7,421$

1.2.3 Calculation example 2 – Rc locomotive with energy meter

Assumptions:

Train type	Rc loco
Usage as per meter kWh	10 000
Loss surcharge (E x 1.08 as per table 4)	1.23
Electricity price, SEK/kWh	0.48
Network cost, SEK/kWh	0.09
Electricity certificate, SEK/kWh	0.045

For up-to-date price information, see the electricity price report

Consumption to be multiplied by the estimated price/kWh which is (loss surcharge) x (electricity trading price + network charge) + (price electricity certificate)

$1.23 \times (0.48 + 0.09 \text{ SEK}) + 0.045 \text{ SEK} = (0.7011 + 0.045) \text{ produces a forecast cost of } 0.7461 \text{ SEK per kWh}$

If the Rc locomotive used 10,000 kWh according to the meter it will cost in this example $10,000 \times 0.7461 = 7,461 \text{ SEK}$

The electricity price, including the electricity certificate etc. above is only a calculation example.

The forecast electricity price in the electricity price report should only be regarded as an indication of the price level.

1.3 Charge for access to electricity for the holding of vehicles (NS Section 7.3.11)

For vehicles with energy meters with raised pantograph during holding, electricity cost will be charged in accordance with Section 5.4.1.1.

For those vehicles without meters or that use a train heating post, locomotive heating post or diesel heating post, see below for standard rates.

Vehicle type	Mean power in kW	Mean power in kW
	April–October	November–March
Day carriage	2.9	9.2
Restaurant car	3.2	11.6
Courette car	2.5	7.2
Sleeping car	2.5	7.2
Special-purpose cars	1.3	7.6
X1–X14	11.2	22
X2 loco	3	3
X2 car	5	12
X31	5	18
X50-53	5	15
Rc loco heating	2.5	2.5
Diesel motor car Y1	5	10
Diesel motor car Y2, Y31-32	5	18

Table 3 Templates for charging energy consumption per vehicle type

The templates are based on mean temperatures for the winter and summer periods and a calculated car temperature of between 12 and 14 degrees Celsius.

For vehicles where the table above applies and without energy meters, the loss surcharge E = normal loss surcharge (1.14) for the calculations. For those vehicles that take power via a raised pantographs and which have a meter, electricity is included in the monthly charge for traction current (see example calculation 3 under 1.3.1).

1.3.1 Example calculation 3 - holding

Examples of calculation of energy consumption (conducted in 2011)

Network Statement 2023
Annex 5 C – Calculation examples for electricity costs
Edition 2021-12-10

Train type	Regina X 50-53 without energy meter
Holding time days, April – October	214
Holding time – days, November – March	151
Holding time in hours/day	6
Electricity price, SEK/kWh	0.48
Network cost, SEK/kWh	0.09
Certificate, SEK/kWh	0.045
Loss surcharge = E	1.14
Estimated volume loss, SEK/kWh	0.015

Current data as listed above can be seen in the electricity price report

Cost per kWh

(electricity price + network charge) x loss surcharge + electricity certificate + volume difference

$$(0.48+0.09 \text{ SEK}) \times 1.14 + 0.045 + 0.015 = 0.7098 \text{ SEK}$$

Average power output:

April–October 5 kW (as per table 2 above)
November–March 15 kW (as per table 2 above)

Calculation:

April–October 214 days x 6 hours= 1,284 hours
November–March 151 days x 6 hours = 906 hours

Assumed electricity price 0.7098 SEK/kWh

Cost: April–October 5 kW x 1 284 hours x 0.7098 SEK/kWh gives SEK 4,556

Cost: November–March 15 kW x 906 hours x 0.7098 SEK/kWh gives SEK 9,646

In addition to the costs above, there is also a fixed cost per holding occasion, train heating post/locomotive heating post, in accordance with Section 7.3.11.4.

The number of days are for the example year with the charge for 2020 for the train heating post//locomotive heating post which means 365 (214+151) days x SEK 50, i.e. SEK 18,250.

The total cost in our example for a year for a heating post: the preliminary figure is SEK 18,250 + 4,556 SEK + 9,646 = SEK 32,452.

The electricity price, including certificate etc. above is only a calculation example. The price charged is based on the outcome of electricity trading for the month in question (see Section 5.4.1.1 and the electricity price report).

Contents

1 REPORTING OF INFORMATION.....	1
2 INFORMATION.....	1
3 CHANGES TO INFORMATION	2
4 DETAILS ON VEHICLE TYPE AND PANTOGRAPH MODEL/TYPE	2

Information to be provided before the departure of a train

1 Reporting of information

It is the responsibility of the railway undertakings to submit information to the Swedish Transport Administration in accordance with the details set out below, at the latest when the train departs. The information listed here for train journeys must also be provided, insofar as it is applicable, for works train movement and shunting.

2 Information

Information must be provided either:

- by machine in accordance with the EU legislation TAF/TAP via Common Interface, *or*
- manually via the Swedish Transport Administration's IT-system Topas.

a) By machine via Common Interface

The railway undertakings can, via Common Interface send, send the message TrainCompositionMessage or PassengerTrainCompositionProcessMessage. The information, apart from the mandatory information according to both messages, that are mandatory in Sweden are presented on the Swedish Transport Administration's website and corresponds de information that has been possible to report via the IT-system Opera. See more information about the IT-system Topas on [the Swedish Transport Administration's website](#).

b) Manually via the IT-system Topas

The railway undertakings can manually report information via the Swedish Transport Administration's IT-system Topas which is available on the website. Reporting in Topas is adapted to the EU regulations TAF/TAP as well as information that is nationally mandatory in Sweden. Se the IT-system on [the Swedish Transport Administration's website](#).

3 Changes to information

Changes to information submitted in accordance with Section 2 must be reported to the Swedish Transport Administration. The report must state the location where the change takes place. The information must be submitted before the train departs after a change.

4 Details on vehicle type and pantograph model/type

Details of vehicle type used and pantograph model must be presented to the Swedish Transport Administration if the information is **not** specified in table 1 below. Address details on where to send the information, see Annex 1 A.

Panthograpg											
Fordonstyp	DSA 200	LLX 235	LLXIA 135	LSFC 201/202	LSFC 204	SB 10A	SB 10 BL	SIEMENS typ 6	WBL 85/88	8WLO 120	Rickard RM 374
X31K/X32K	•										
X20			•								
X11-X14				•	•						
X10				•			•				
X3									•		
X2/X2K/X2NK	•								•		
X1				•			•				
Type 73/73B									•		
Rm		•		•					•		
Rc/Rd		•		•	•			•	•		
Ra			•						•		
Ma			•								
IORE									•		
EL16							•		•		
EL15	•		•								
EL14						•					
EL13						•					
EG										•	
Dm3			•								
Da			•								
Bm 68 B						•					
X420								•			
X60/X61/X62									•		
X50-X55									•		
X40									•		
BR241/RE/185	•										
BR441									•		
DOSTO ER1											•

Table 1

Routines in the event of evacuation and clearance

1 Routines in the event of evacuation and clearance

Important timeframes to relate to in the event of an incident

In the event of an incident, the train driver shall contact the train dispatcher immediately, however, at the latest within 3 minutes, for exchange of information about the incident.

If vehicle troubleshooting is needed, the train driver should come back to the train dispatcher with a status update at no later than 5 minutes after the first call ended. Status update is required to start parallel processes. The troubleshooting can continue after the call.

When the Swedish Transport Administration considers that the incident occurred may lead to an evacuation and/or clearance, the Swedish Transport Administration is responsible for updating the recorded incident partly with the words "Prepare solution proposals for evacuation and/or clearance" and partly with applicable deadlines for the current route. The update is distributed as a traffic announcement to the railway undertaking. When the traffic announcement is distributed, all parties are aware of the situation and that the deadlines specified in Section 6.3.1.1 become effective. The point in time is referred to as the "Zero Point".

From the Zero Point,

- the parties of interest must get back to the Swedish Transport Administration in writing within 15 minutes with a proposed solution for the situation, using the established form¹. At the same time, the Swedish Transport Administration proposes a solution for the incident.
- the Swedish Transport Administration shall within 22 minutes (at the latest 7 minutes after the proposed solution according to the timeframe specified above) assess the relevant solution proposals and decided what action to take according to Section 8.5.1.

Information to prevent spontaneous evacuation

To prevent spontaneous evacuation, internally established guidelines for safety-related information be available at each railway undertaking. The guidelines shall be in accordance with those in the Traffic Regulations for Railways (TDOK 2015:0309), module 6, Section 3.3.

On whose permit clearance carried out?

Regarding permits see Section 2.2.3. From time when the recovery vehicle and the vehicle requiring assistance have been connected, to the time when the vehicles have been

¹ In exceptional cases, the proposed solution can be communicated in writing via other channels, given equivalent content as the form. The form is provided by the Swedish Transport Administration. If the form is not used, equivalent content is submitted via e-mail.

disconnected at a location designated by the Swedish Transport Administration, the drive is carried out on the cleared railway undertaking's permit.

Checklist for preparation for clearance

Prior to a clearance, the checklist shall be reviewed, completed and sign by both train drivers (the recovery vehicle's train driver and the vehicle requiring assistance's train driver).

It is the train driver of the assisting (recovering) railway undertaker who is responsible for completing and submitting the checklist.

The checklist is mandatory in all clearance situations.

The completed and signed checklist must be saved for at least 1 year at the assisting (recovering) railway undertaker.

The checklist is provided by the Swedish Transport Administration and can be downloaded here:

<https://www.trafikverket.se/for-dig-i-branschen/jarnvag/jarnvagsnatsbeskrivningen-jnb/blanketter/>

Contents

1 ELECTRICAL SAFETY	1
1.1 Damaged or fallen cables	1
1.2 Ladders and other long objects	1
1.3 Switch-heat facilities	2
1.4 Access to operation rooms	2
2 SAFETY ZONE	2
3 SAFETY CLOTHING	2

Safety in track area

1 Electrical safety

1.1 Damaged or fallen cables

Damaged or fallen cables and other objects in their vicinity shall always be regarded as being live, and thus dangerous. Do not approach a fallen cable or a derailed vehicle with an extended pantograph. The pantograph shall, if possible, be retracted. If this is not possible, the electrical operations engineer shall be immediately contacted for voltage disconnection.

Immediately call the emergency number 112 or the Swedish Transport Administration's traffic centre. Warn other individuals and guard, depending on the circumstances, until an electrical works supervisor or a responsible officer from the rescue services arrives on the scene and takes over responsibility.

1.2 Ladders and other long objects

Objects made of conductive material may not be handled in such a way that there is a risk of them coming into the immediate area.

A moveable ladder that is longer than 2 m and which is handled within 4 m of a high-voltage facility shall be made of non-conductive material and be provided with a warning sign for electrical danger.

The warning sign shall be designed in accordance with the requirements of ELSÄK-FS 2008:2, *General warning for electrical danger* and be placed approximately 2 m from the base of the ladder.

1.3 Switch-heat facilities

During work in low voltage systems, the rules stipulated in SS-EN 50110-1:2013 Maintenance of electrical installations (*Skötsel av elektriska anläggningar*) must be followed.

In order to prevent the risk of damage due to an error in switch-heat facility reassuring measures must be taken so that dangerous touch voltage is prevented.

The same applies for electrically heated point machines.

For work where there is no direct contact with the rails (for example during snow clearance or the cleaning of switch rod pits with broom or other equipment of non-conductive material), switch-heat facilities do not need to be disconnected.

In risk assessments, it shall be stated whether switch-heat facilities need to be disconnected.

1.4 Access to operation rooms

In order to be given access to operation rooms without personal supervision, the personnel concerned need to be sufficiently well instructed to avoid the dangers that electricity can lead to. Personnel who are not sufficiently well instructed may only access operation rooms under the supervision of a technically competent person. Other regulations for operation rooms are stipulated in ELSÄK-FS 2008:2.

2 Safety zone

The safety zone extends at least 2.20 meters out from the nearest rail.

Nobody is allowed to be within the safety zone 10 seconds before a rail vehicle passes.

Stockpiles or similar are not allowed to extend into the safety zone in a track in operation, or closer than 3.5 m to a live infrastructure component.

3 Safety clothing

People who access the track area must wear safety clothing on the upper body that meets the requirements of Standard SS-EN 471 ISO 20471:2013, Class 3. Persons who due to size cannot meet the requirements of Class 3 must meet it by wearing jacket or vest and pants in Class 2. Logotypes or other colours that are not fluorescent may not have an influence on the area specified by the standard.

Available infrastructure for holding

The document is not suitable for publication in this format because it contains a large amount of rows and multiple sheets. The document is available on the Swedish Transport Administration's website:

https://www.trafikverket.se/contentassets/dao860ed4e9477ba0287bc71d3e4074/annex_7_a_ns_2023_available_infrastructure_for_holding_am1.xlsx

Contents

CONTENTS.....	1
MANAGEMENT RULES IN THE EVENT OF ACCIDENTS AND INCIDENTS.....	1
1 REPORT AND APPROVAL FOR CLEARANCE.....	1
1.1 Reporting accidents and incidents.....	1
1.2 Reporting collisions with animals	1
1.3 Railway undertakings, contact persons and approval for clearance	2
1.4 Cooperation and access to factual data	2
2 ACCIDENT SITE MANAGER	2
3 APPROVAL AND CLEARANCE PERMITS.....	2
4 RESCUE EXERCISES	3

Management rules in the event of accidents and incidents

1 Report and approval for clearance

1.1 Reporting accidents and incidents

All accidents, incidents and deviations entailing the risk of accidents and which have occurred on the railway network administered by the Swedish Transport Administration shall immediately be reported to the Administration's traffic centre. Electricity accidents and incidents can also be reported to the Swedish Transport Administration's electric operation centre..

1.2 Reporting collisions with animals

Collisions with animals are also reported as above. These include collisions with wild animals that are covered by the duty to report in accordance with the Hunting Regulation (e.g., moose, deer, roe, wild boar, mouflon, bear, lynx, wolf, wolverine, otter and eagle) as well as domestic animals (e.g., reindeer, cow, horse, sheep and dog).

1.3 Railway undertakings, contact persons and approval for clearance

Accidents that come to the attention of the Swedish Transport Administration's traffic centre are immediately reported to the railway undertakings involved. This does not apply to collisions with animals. The railway undertaking shall provide the Swedish Transport Administration with details of a person who can be contacted immediately in order to report incidents. The contact person will make a decision as to whether the railway undertaking shall investigate the incident. When a railway undertaking has been made aware of the occurrence of an accident or incident, any intention to investigate the incident shall be immediately reported to the Swedish Transport Administration's traffic centre.

1.4 Cooperation and access to factual data

The railway undertaking shall immediately give the Swedish Transport Administration's investigators access to information from the vehicle's registration equipment, and generally obtain the factual data necessary for conducting the Swedish Transport Administration's investigation, such as data about vehicles and tools, technical investigations and evidence statements from personnel. The Swedish Transport Administration shall immediately allow the railway undertaking's investigators access to information necessary for conducting the railway undertaking's investigation, such as workshop registrations and registered safety conversations.

The investigation shall be conducted cooperatively between the Swedish Transport Administration and involved parties. This does not apply, however, if impartiality in the investigation is jeopardised.

A party shall, upon request, provide the other party with the written investigation report.

2 Accident site manager

The Swedish Transport Administration appoints an accident site manager. The accident site manager is responsible for the coordination of work at the accident site, including the clearance work and determining what amount of traffic can be allowed to pass by the site. The responsibility also encompasses protective measures for common work areas in accordance with the Work Environment Act. The accident site manager is also responsible for issuing clearance permits. If the accident site manager has not been summoned, the Swedish Transport Administration's operating technician issues clearance permit.

3 Approval and clearance permits

Before anything may be moved or before other measures are taken that may in some way affect clues regarding the sequence of events, a clearance permit (see below) must be issued. An exception is for rescue operations which can of course be carried out without any clearance permit.

When the gathering of facts has ended, each accident investigator provides their approval for clearance to the accident site manager.

When the accident site manager, alternatively the Swedish Transport Administration's operating technician, has obtained the approval of all parties, and the accident site is safe from an electricity and traffic safety perspective, a clearance permit may be issued to those leading the clearance work. In conjunction with the clearance permit being issued, the prospective directives that may be required for work environment reasons are also issued.

The approval and permit for clearance may only relate to parts of the accident site in some cases.

4 Rescue exercises

For the purposes of prevention, the railway undertaking and Swedish Transport Administration shall perform rescue exercises cooperatively in the scope agreed upon by the parties.

If several railway undertakings traffic routes of the railway in the same municipality, rescue services may make the request for coordination between the undertakings from the Swedish Transport Administration. The railway undertaking shall comply with the requirements stipulated by this.

Contents

1 INTRODUCTION.....	2
1.1 Accident categories	2
1.2 Reporting	2
1.2.1	2
1.2.2	2
1.3 Investigation	3
1.3.1	3
1.3.2	3
1.4 Principles for damage assessment and property	4
1.4.1	4
1.4.2	4
1.4.3	5
1.4.4	5
1.4.5	5
1.5 Principles for pricing of services	5
1.5.1	5
1.5.2	5
1.5.3	5
1.5.4	5
1.5.5	6
1.5.6	6
1.5.7	6
1.6 Forms for the regulation of damages (compensation rules)	6
1.7 Payment.....	6
1.7.1	6
1.7.2	7
1.7.3	7
1.7.4	7
1.8 Limitation of time	7

Procedures during the settlement of claims

1 Introduction

Liability and compensation in the event of property damage or personal injury are specified in the Swedish Transport Administration's General Terms and Conditions. The purpose of these directions is to achieve uniform and correct management and settlement of claims. The directions do not apply to a party's claim for recourse for damages suffered by a third party.

1.1 Accident categories

Railway accidents are divided into the following categories with regard to the investigation and processing:

- Accidents during train journeys, blocked line operations or shunting.
- Collisions between railway vehicles and vehicles subject to insurance (level crossing accidents).

1.2 Reporting

1.2.1

When accidents occur during train journeys, blocked line operations or shunting route, the Swedish Transport Administration submits information to:

- SOS Alarm (where applicable)
- Swedish Transport Administration's traffic centre which, where applicable, will contact recovery companies and concerned railway undertakings.

1.2.2

In the event of collisions between railway vehicles and vehicles subject to compulsory insurance (level crossing accidents), the Swedish Transport Administration provides information to the railway undertaking. The railway undertaking acts in accordance with the following:

a) Own insured railway vehicle

- Obtains the road vehicle's licence number through the Police or Swedish Transport Administration
- Contacts the road vehicle's insurance provider
- Lodges its claim for damages with the road vehicle's insurance provider.

b) Insured railway vehicle owned by another party

- Obtains the road vehicle's licence number through the Police or Swedish Transport Administration
- Contacts the railway vehicle owner's insurance provider or broker
- Compiles and submits its claim, costs from a period of inactivity, extra charge to the road vehicle's insurance provider.

1.3 Investigation

1.3.1

Accidents occurring during train journeys, blocked line operations or shunting are investigated by the Swedish Transport Administration and the railway undertaking.

Note:

Investigations shall also be conducted by the Police and/or the Swedish Accident Investigation Authority.

Collisions between railway vehicles and vehicles subject to insurance are investigated by the Swedish Transport Administration and the Police, and by railway undertakings when these incidents result in extensive damages for the railway undertaking.

Collisions between railway vehicles and vehicles subject to insurance (road vehicles) shall be regulated by the road vehicle's insurance provider in the first instance. The administration is performed by the railway undertaking involved in the case of vehicle damages, and by the Swedish Transport Administration if infrastructure is damaged.

1.3.2

Investigation reports are produced by the Swedish Transport Administration and the railway undertaking in accordance with the directions established by the Swedish Transport Agency and other entities. So that the damage can be regulated financially, the report must include descriptions of:

a) Facility

- Technical standard; rails, sleepers, ballast etc.
- Age of the facility.

b) Vehicle/machine

- Class and vehicle number,
- Age of vehicle/machine,
- Vehicle owner.

c) Equipment belonging to third party (including other railway undertakings)

Investigation reports must be produced as soon as possible, and may not be delayed due to uncertainty of the cost of the damage.

Note:

It is important to secure as much information as possible at the accident site in order to establish who, or what, has caused the damage. Approval for recovery or clearance may be given following a guarantee that the fact-finding is complete, in order to clarify the cause of the accident to the greatest extent possible.

1.4 Principles for damage assessment and property

1.4.1

Total damage has arisen when the cost for replacement or repair exceeds the calculated current value (V) below.

a) Object

b) Replacement value (SEK A)

The replacement value is what a damaged object, or an object of equivalent standard and function to the damaged object, would cost to replace including all costs involved in putting it in the right location, or into production.

If the object can be replaced, the replacement value is calculated by adjusting the value of the object on the date of acquisition in accordance with the index (CPI), from the stated point of time until the date on which the damages were incurred.

c) Service life (N years)

d) Age (Y years)

Number of full years from the first time the object was put into operation.

e) Depreciation percentage (P)

The object's age is divided by its service life to obtain the depreciation percentage $((Y / N) * 100) = P$. The maximum depreciation, however, is limited to 80 percent, which is practice for functioning objects that are in operation or production.

Note:

The cost of repairs on tracks with concrete sleepers is compensated with the replacement value if the length of damaged track is less than 5,000 track metres.

f) Current value (SEK V)

The object's current value is equal to the replacement value multiplied by the non-depreciated value in SEK, $V = (A \times (100 - P))$.

1.4.2

The repair costs are the verified costs that arose during the restoration of the damaged object to the same level of function and condition that it had before the damage occurred. The repairs shall be performed using adequate measures and during normal working hours, under normal conditions.

The costs for repair may not exceed the value of total damage, in accordance with point 1.4.1 above. The cost for provisional measures to restore tracks following damages, for example,

may be added under certain circumstances, such as when frozen ground prevents normal work being performed.

1.4.3

Increasing work speed entails overtime work, additional costs for transportation, materials and tools etc. purchased on site, meals delivered to the accident site, etc., all with the intention of speeding up repairs. The purpose of the supplement is to make the quicker pace the norm; i.e., the Swedish Transport Administration restores the service as quickly as possible after an accident. The cost of increasing work speed could be justified through savings in disrupted time, and shall be reported separately to normal repair costs.

1.4.4

It is the responsibility of the parties to attempt to minimise the total damage cost to the best of their ability.

1.4.5

Compensation for periods of inactivity is paid for the period of time during which the damaged vehicle or machine cannot be used for its purpose.

Daily compensation for periods of inactivity is calculated in accordance with the following formula for vehicles and machines:

$$\frac{RF * \frac{R}{2}}{100} + \frac{R}{D} \text{ [SEK/day]}$$

365

where RF = current reference interest rate + 2 [%]

R = replacement value [SEK]

D = depreciation period [years]

1.5 Principles for pricing of services

1.5.1

Compensation is paid out only for direct costs attributable to established damage.

1.5.2

No additional administrative costs are covered.

1.5.3

Each party is liable for its own investigation costs.

1.5.4

Purchased materials are invoiced at the charged price.

1.5.5

Reasonable costs are invoiced for machines and vehicles that are used in both train operations and track repairs, according to vouchers.

1.5.6

For machines and vehicles rented by the railway undertaking, the insurance value is that which was specified in the agreement between the railway undertaking and vehicle leaser.

1.5.7

Leased services, contractors, suppliers, transport services etc., are charged according to verified costs.

1.6 Forms for the regulation of damages (compensation rules)

Compensation is paid out for repair costs or costs for replacement, to a maximum value equalling the object's current value, in accordance with point 1.4.1. Costs shall always be verified in accordance with point 1.7.1, unless another special arrangement has been agreed upon.

If the damaged object is not repaired or replaced, compensation is paid at an amount corresponding to the costs for its restoration, to a maximum of the object's current value.

1.7 Payment

1.7.1

A claim for compensation made to the party that caused the accident shall be lodged using an invoice. Before the invoice is issued, the parties must be in agreement over which of them caused the damage. The agreement must be documented by both parties in a signed protocol. The signing will take place no later than 10 days after the agreement.

Invoicing includes the parties certifying their claims for compensation through e.g., a copy of the voucher. If the parties are in disagreement concerning parts of the invoice, the undisputed amount shall be paid within a given time frame.

The invoice shall be divided into the following individual items:

- recovery/clearance
- increasing work speed
- restoration of facility
- other direct cost (specify).

For each individual item, the reported costs are divided into:

- personnel costs (hours and rate)
- machine costs

- material costs
- external costs

Partial invoicing can take place after agreement between the parties.

If an amount of compensation is divided up into several invoices, it shall be stated on the last invoice that it is the final invoicing.

1.7.2

Interest for the claim is paid in accordance with the Interest Act.

1.7.3

No VAT is paid on damages.

1.7.4

Invoice address relating to property damage caused by:

- a) the Swedish Transport Administration, see Annex 1 A.
Trafikverket
FE 851, EF 1207
838 26 FRÖSÖN
- b) Railway undertaking; sent to the address stated in the track access agreement.

1.8 Limitation period

If no invoice is issued within three years of the agreement regarding the matter of responsibility, the claim is considered to have expired.

Trafikverket, Swedish Transport Administration
SE-781 89 Borlänge. Street address: Röda vägen 1.
Telephone: +46 771-921 921, Text telephone: +46 10-123 50 00.
trafikverket.se