K2 OUTREACH 2026:3

Planning tool for Bus Rapid Transit (BRT) in Sweden

2026 edition / Accessible version

Jakob Allansson, Joel Hansson and Fredrik Pettersson-Löfstedt

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Summary

BRT is an umbrella term for high-quality bus services. The concept is based on a combination of measures in urban planning, infrastructure, vehicle selection, information technology, and service operations, with the aim of delivering fast, reliable, and attractive public transport.

This planning tool describes a method for assessing and developing BRT corridors in Swedish cities. Through a scoring system comprising 24 parameters across four categories – urban planning, public transport infrastructure, vehicles and supporting systems, and operations – the tool provides a structured framework for translating ideas about the development of high-quality bus services into concrete planning and design considerations.

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Introduction

This document presents a planning tool for the development of bus routes towards BRT (Bus Rapid Transit). As there is no single, unambiguous definition of BRT, there is a risk that expectations at the outset of each project differ between stakeholders. The planning tool is therefore designed as a platform for discussion and as a support for concretising ideas related to BRT and BRT-inspired projects.

BRT is an umbrella term for high-quality bus services. The concept is based on a combination of measures in urban planning, infrastructure, vehicle selection, information technology, and service operations, aimed at delivering fast, reliable, and attractive public transport. BRT is a broad concept with components that can be implemented to varying degrees – each project is unique.

Examples of such measures include public-transport-oriented street design with dedicated bus lanes or busways, all-door boarding, and a dedicated system identity or brand. These factors contribute to increased service quality and operational efficiency of bus services [1]. BRT is often compared with rail-based transit, with the fundamental idea of replicating the performance of high-quality rail systems without the need to construct rail infrastructure [2]. Overall, key motivations for investing in BRT are to strengthen the city's identity and functional performance [3].

The planning tool has been developed to support the process from initial concept through to implementation and is used, among other things, to:

- Translate ideas about BRT and BRT-inspired projects into concrete proposals
- Create a platform for discussion on ambition levels across different domains
- Safeguard system coherence and contribute to an integrated concept across different corridor segments
- Serve as a basis for implementation agreements and subsequently as a tool for evaluating compliance with these agreements

The planning tool has evolved from several earlier initiatives and experiences. Internationally, *The BRT Standard* [4] has been an important reference, focusing on the certification of high-quality BRT corridors through a scoring system. This standard is primarily tailored to large metropolitan areas, with requirements for very high capacity and BRT designs featuring metro-like characteristics.

In Sweden, guidelines for attractive public transport with a focus on BRT – the *BRT Guidelines* – were published in 2015 [3]. These describe criteria for green and yellow levels in more qualitative terms rather than through scoring. Building on this work, a scorecard-based assessment tool inspired by *The BRT Standard*, but adapted to Swedish conditions, was developed in 2018 [5].

Experience from that tool led to the current planning tool, which was first launched in 2024 and has now been updated. The update mainly consists of clearer definitions of the parameters in the scorecard, supplemented with examples and more detailed descriptions. A few minor adjustments have also been made to the scorecard itself in order to simplify its application.

How the planning tool works

100 points, 24 parameters, 4 categories

The planning tool is based on the assessment and scoring of 24 parameters across four categories: Urban planning, Public transport infrastructure, Vehicles and supporting systems, and Operations. The maximum total score across all parameters is 100 points.

The rationale behind the parameters and their scoring can be summarised as follows:

- The scores are intended to reflect a relationship with higher public transport quality, for example in terms of speed, reliability, and comfort
- The scores are based on consensus among BRT experts regarding what constitutes best practice in BRT planning, drawn on international expertise [4] which has been translated into the Swedish context through workshops and a survey conducted in connection with the development of the *BRT Guidelines* [3], the earlier assessment tool [5], and this planning tool [6]
- The scoring system rewards sound design decisions that are often politically challenging but that support higher public transport quality
- The parameters and weightings are designed to be easy to apply and scalable across different contexts – ranging from small and medium-sized cities and corridors with relatively low demand to corridors with high passenger volumes
- The basis for the scoring should be reasonably transparent and independently verifiable, without requiring access to information that is difficult to obtain

One-, two- and three-star BRT

A BRT corridor may be classified as one-, two-, or three-star BRT based on the total score achieved in the planning tool. There is no definition of BRT beyond the requirement that the corridor reaches at least the specified minimum score. Nor is there any requirement to achieve a certain number of points within a specific category. The total score is the result of multiple parameters, meaning that a given BRT level can be achieved in different ways. This reflects the diversity of perspectives on BRT in Sweden and implies that the concept is adaptable to different contexts. At the same time, the threshold score for achieving BRT status is sufficiently demanding that corridors reaching a BRT level will exhibit substantially higher quality, in several respects, than a conventional bus route.

There is no level below one-star BRT. However, the planning tool can also be used when the level of ambition is lower. In such cases, the involved parties may, for example, agree on a criterion whereby a good bus route is required to achieve at least *x* points, where *x* is a level jointly defined by the stakeholders.

Table: Point thresholds and descriptions of the three BRT levels. For each level, a set of reference routes is also presented; these routes were assessed and scored a few years after their inauguration [7].

BRT level	Minimum score	Description	Examples
Three-star BRT	85	Comparable to high-quality rail-based transit. Serves as inspiration for BRT planning in other Swedish cities as well as internationally.	LundaExpressen (line 1), Lund (light rail) Busway (line 4), Nantes (FR)
Two-star BRT	65	Comparable to other high-quality BRT corridors and similar concepts in Europe.	Mettis (lines A-B), Metz (FR) Plusbus (line 2), Aalborg (DK)
One-star BRT	45	Significantly higher quality than a conventional bus route. A role model for other Swedish cities seeking to develop their bus services.	HelsingborgsExpressen (line 1), Helsingborg BRT Barkarby (line 175), Stockholm MalmöExpressen (lines 5 and 8), Malmö Citybussarna (line 4), Jönköping Line S, Karlstad

Scope and limitations

The planning tool has been developed to support the planning of high-quality bus services in urban environments, which implies that applications outside this context may require certain adaptations. The tool is primarily tailored to urban settings where BRT projects can be integrated with existing urban traffic and street structures. It is therefore not intended for motorways, rural roads, or inter-regional corridors, where operating conditions differ in terms of higher speeds, longer station spacing, and different types of infrastructure.

The public transport perspective is central. A higher score indicates higher-quality public transport and presupposes that public transport is given priority in trade-offs against other considerations in overall urban planning. This may, for example, involve reallocating general traffic lanes to dedicated bus lanes, reducing on-street parking, or adapting walking and cycling routes to enable convenient transfer points. These broader aspects are outside the scope of the planning tool.

The tool is designed to provide guidance for strategic decisions, such as corridor alignment, overall corridor design, and station location. It is not intended for detailed design, and may therefore in some cases favour solutions which, at a more detailed level within the streetscape, do not function optimally for public transport.

The planning tool

Category A: Urban planning, 20 points

1) Integrated planning, 2 points
2) Station spacing, 7 points
3) Sharp curves, 4 points
4) Barrier effects, 3 points
5) Bicycle corridors, 2 points
6) Access to stations, 2 points

Category B: Public transport infrastructure, 46 points

7) Dedicated bus lanes or busways, 8 points
8) Bus lane alignment, 4 points
9) Other permitted uses of bus lanes, 3 points
10) Driveways and access points in the bus running way, 2 points
11) On-street parking, 3 points
12) Speed bumps, 3 points
13) Bus priority at intersections, 8 points
14) Turning traffic crossing the bus running way, 3 points
15) Station types and level boarding, 8 points
16) Station amenities and equipment, 4 points

Category C: Vehicles and supporting systems, 18 points

17) System identity, 4 points
18) Real-time passenger information, 4 points
19) All-door boarding, 8 points
20) Service regularity support, 2 points

Category D: Operations, 16 points

21) Daytime service frequency, 5 points
22) Evening and weekend service frequency, 5 points
23) First and last departure on weekdays, 3 points
24) First and last departure on weekends, 3 points

Category A + B + C + D = Maximum 100 points

Category A: Urban planning

Urban planning sets the fundamental conditions for how well a BRT corridor functions in practice and how it interacts with the surrounding urban environment. The category highlights how the design of the corridor – through choices regarding route alignment, station spacing, and coordination with other transport modes – can give BRT a clear role as the backbone of the city's transport system.

Parameters included in this category:

1) Integrated planning
2) Station spacing
3) Sharp curves
4) Barrier effects
5) Bicycle corridors
6) Access to stations

Parameter 1: Integrated planning

A BRT investment should be regarded as a catalyst for a broader transformation of the transport system. By integrating BRT with strategies for other transport modes, cities can create a more sustainable transport system. BRT should therefore not be viewed as an isolated solution; instead, BRT planning should be integrated with other parts of urban planning.

The availability and pricing of parking should be reviewed, partly because combinations of so-called carrot-and-stick measures have proven particularly effective in achieving a modal shift from private car use to public transport [8], and partly because the location of parking can have a significant impact on bus performance and reliability. The location and design of loading and servicing spaces for freight and service vehicles should also be coordinated with the BRT corridor to ensure that the needs of such traffic are met without compromising bus operations.

The same applies to walking and cycling routes, which may both affect bus performance and constitute important access routes to stations. High-quality pedestrian and cycling connections are essential for making the BRT line accessible and for enhancing its overall attractiveness.

Other policy instruments, such as congestion charging or environmental zones, can further strengthen the effects of BRT by reducing car traffic and creating incentives for public transport use. These measures are not included in the criteria, however, as they are not applicable to all corridors.

Table: Points for Integrated planning. The score is based on the sum of fulfilled criteria. No weighting is applied.

Integrated planning (maximum 2 points)	Points	Weighted by
A review of the pricing and location of on-street parking, as well as loading and servicing spaces for freight and service vehicles, is carried out as part of the BRT planning process	1	-
Planning documents and strategies for cycling and walking routes are coordinated with the BRT corridor	1	

Figure 1. Before and after the Kristianstad Link – a busway through central Kristianstad. As part of the planning of the Kristianstad Link, a review was carried out of both parking provision and cycling and walking routes. Along Västra Boulevarden, approximately one hundred on-street parking spaces were removed in favour of the busway, a new cycle path, a new footway, and additional street trees. Bottom image: PG Andersson, Trivector.

Parameter 2: Station spacing

BRT lines can have longer station spacing than conventional bus routes, as the higher service quality – characterised by frequent services, comfortable vehicles, and good running conditions – makes passengers more willing to accept longer walking distances to stations [9]. Fewer stations reduce the number of stops, resulting in shorter travel times and improved reliability – key factors for competing with private car use.

Station spacing of approximately 600 metres is generally considered well balanced for BRT lines, as it offers a good trade-off between accessibility and operational efficiency [10]. This reasoning is based on the assumption that a walking distance of around five minutes is acceptable to most passengers. Station spacing of about 600 metres then provides adequate coverage in dense urban areas while enabling fast and reliable operations.

The score is based on the share of inter-station segments that are at least 400, 450, 500, 550, and 600 metres long, respectively. For example, a line with eleven stations, i.e. ten inter-station segments, receives 4.0 points if two segments are slightly longer than 600 metres, four are slightly longer than 500 metres, two are slightly longer than 400 metres, and the remaining two are shorter than 400 metres:

$$20\% \times 7 + 40\% \times 5 + 20\% \times 3 = 4.0$$

If station spacing differs by direction, the proportions shall be calculated based on the combined total for both directions.

Figure 2. Along the Metromare BRT line in Rimini, Italy, stations are consistently spaced at approximately 600 metres. As a result of this, together with a fully segregated busway along the entire line, the average operating speed is both even and high, at approximately 25 km/h. Image: Start Romagna.

Table: Points for Station spacing. The score is based on the proportion of inter-station segments that are at least 400, 450, 500, 550, and 600 metres, respectively.

Station spacing (maximum 7 points)	Points	Weighted by
At least 600 metres	7	% of inter-station segments
550–599 metres	6	
500–549 metres	5	
450–499 metres	4	
400–449 metres	3	
Less than 400 metres	0	

Parameter 3: Sharp curves

In addition to contributing to high passenger comfort, a relatively straight alignment is of great importance for travel time. Sharp curves require drivers to reduce speed, which leads to longer running times. A smooth and straight route alignment without sharp bends is therefore crucial for achieving both comfort and operational efficiency [10].

The score is based on the number of curves with a radius of 25 metres or less. The method used to determine the radius depends on the tools available; however, a simple approach is to draw a circle with a radius of 25 metres on a map and position it over the centre point of the curve. If the curve fits entirely within the circle, its radius is less than 25 metres; otherwise, it is larger. This provides a quick visual check without the need for precise measurements. Each curve within a roundabout is counted separately – at the entry, within the roundabout, and at the exit.

The number of sharp curves is calculated for both directions and divided by the total route length (both directions combined), resulting in a value: x = number of sharp curves per kilometre.

- If $x \leq 0.25$, the maximum score of 4 points is awarded
- If $x \geq 1.00$, no points are awarded
- For values in between, a continuous scale is applied using the following formula:

$$\text{Score} = \frac{16 \times (1 - x)}{3}$$

Table: Points for Sharp curves. The score is based on the number of curves with a radius of 25 metres or less. The number is calculated for both directions and divided by the total route length, directions combined.

Sharp curves, radius of 25 metres or less (maximum 4 points)	Points	Weighted by
0.25 sharp curves per kilometre on average, or fewer	4	Continuous scale from 0 to 4 points
0.44 per kilometre	3	
0.63 per kilometre	2	
0.81 per kilometre	1	
1.00 per kilometre or more	0	

Figure 3. Straight through in Helsingborg: the busway runs directly through the roundabout, thereby avoiding three sharp curves – at the entry, within the roundabout, and at the exit. Image: PG Andersson, Trivector.

Parameter 4: Barrier effects

The size of intersections affects accessibility for pedestrians and cyclists. Smaller intersections result in shorter crossing distances, which improves both accessibility and safety. In addition, smaller intersections offer greater opportunities to provide signal priority for buses, as shorter distances allow for shorter signal phases. This parameter also takes into account whether the design is based on reallocating existing carriageway space or on widening the street, as these alternatives have different implications for both the urban environment and traffic operations.

Table: Points for Barrier effects. In the weighting, all intersections that include pedestrian crossings or crosswalks across the BRT corridor are taken into account.

Barrier effects (maximum 3 points)	Points	Weighted by
The BRT scheme results in unchanged or shorter crossing distances for pedestrians	3	% of intersections along the corridor
The BRT scheme results in longer crossing distances for pedestrians on at least one leg of the intersection	0	

Figure 4. Amiralsgatan, Malmö. Previously, the street consisted of four traffic lanes, on-street parking, and a narrow central refuge. When the two central lanes were converted into dedicated bus lanes, the overall carriageway width was reduced, creating space for two wider traffic refuges that improve safety for pedestrians.

Parameter 5: Bicycle corridors

Bicycle networks that are integrated with the BRT corridor improve accessibility, offer a comprehensive range of sustainable travel options, and enhance road safety. In many cities, BRT corridors are also attractive cycling routes, as they are typically aligned with corridors carrying high travel demand. If safe cycling infrastructure is lacking along BRT corridors, cyclists may instead choose to use the busway, creating both a road-safety risk and reduced operational performance for bus services [4].

The score is calculated based on the proportion of the BRT corridor that has cycle lanes either in direct alignment with the corridor or along a nearby parallel street.

- 100 percent coverage yields the maximum score of 2 points
- 50 percent or less yields 0 points
- For values in between, the score is calculated using the following formula, where x represents the percentage share:

$$\text{Score} = \frac{x - 50}{25}$$

Table: Points for Bicycle corridors. The score is based on the proportion of the BRT corridor that has cycle lanes either in direct alignment with the corridor or along a nearby parallel street.

Bicycle corridors (maximum 2 points)	Points	Weighted by
Cycle lanes along or parallel to the entire BRT corridor	2	
Cycle lanes along or parallel to 75 percent of the BRT corridor	1	Continuous scale from 0 to 2 points
Inadequate or no cycling infrastructure along at least half of the BRT corridor	0	

Figure 5. Davidshallsgatan, Malmö. Previously, buses shared traffic lanes with taxis and cyclists. As part of the reconstruction for MalmöExpressen, buses were given their own dedicated lane and cyclists a separate cycle lane, while taxi traffic was diverted to other streets. Image: PG Andersson, Trivector.

Parameter 6: Access to stations

Wayfinding to stations, through conventional signage or markings on the pavement, not only makes it easier for passengers to find their way but also increases the visibility of the BRT line in the urban environment.

Bicycle parking in close proximity to stations enables cyclists to combine cycling with BRT, thereby extending the line’s catchment area and strengthening its role as part of a sustainable transport system. The distance between bicycle parking and the station should not exceed 25 metres [11].

Proximity to interchange with other public transport services, as well as proximity to key destinations, is also important for the attractiveness of the line and its integration into the city. These aspects have not been included as criteria, however, as they are difficult to assess in a consistent and equitable manner due to widely varying conditions between different corridors.

Table: Points for Access to stations. The score is the sum of the criteria below. Weighting is applied based on the proportion of stations that meet each criterion.

Access to stations (maximum 2 points)	Points	Weighted by
Clear and legible wayfinding to stations in the urban environment	1	% of stations
Bicycle parking in close proximity to stations (maximum distance 25 metres)	1	

Figure 6:1. Wayfinding to the nearest station on Line H12 in Barcelona.

Figure 6:2. Wayfinding in Lund to two bus stops, Tunavägen and Professorsgatan. The sign also indicates that covered bicycle parking is available at the Professorsgatan stop.

Category B: Public transport infrastructure

Public transport infrastructure provides the technical and spatial conditions required for BRT to deliver fast and reliable service. This category highlights how bus operations can be made as uninterrupted as possible through dedicated running ways, clear priority at intersections, and well-designed stations. The design of the infrastructure has a major influence on travel times, service regularity, and perceived quality, and is often decisive in determining whether BRT can function as a competitive alternative to private car travel.

Parameters included in this category:

7) Dedicated bus lanes or busways
8) Bus lane alignment
9) Other permitted uses of bus lanes
10) Driveways and access points in the bus running way
11) On-street parking
12) Speed bumps
13) Bus priority at intersections
14) Turning traffic crossing the bus running way
15) Station types and level boarding
16) Station amenities and equipment

Parameter 7: Dedicated bus lanes or busways

The proportion of dedicated bus lanes along the line is a decisive factor for reliability, travel time, and, ultimately, service frequency. Dedicated bus lanes are one of the core components of a high-quality BRT corridor [4].

To minimise the risk of unauthorised traffic, dedicated lanes should be clearly delineated – visually and preferably also physically, for example through kerbs or median refuges. Clear delineation also helps to reinforce the identity of the BRT line.

The scoring is based on the total proportion of dedicated bus lanes or busways, considering both directions combined, as well as the degree of separation from general traffic. Although the assessment does not take into account the specific location of the lanes along the corridor, dedicated bus lanes should be prioritised where operational problems are most pronounced. Such problems are typically identified through travel time variability rather than average speed.

Points may also be awarded where bus lanes or busways are regulated through means other than the conventional mandatory signage for scheduled public transport vehicles.

For example, this may involve a general prohibition of motorised traffic, supplemented by an additional sign indicating exemptions for public transport vehicles or vehicles with special permits. This type of regulation fulfils the same function as a mandatory designation and helps to ensure bus priority and unobstructed operation, while offering greater flexibility in complex traffic environments.

Table: Points for Dedicated bus lanes or busways. The score is based on the proportion of the BRT corridor that has dedicated bus lanes, and on whether these are visually or physically separated from general traffic. Weighting is applied relative to the corridor as a whole, with both directions included.

Dedicated bus lanes or busways (maximum 8 points)	Points	Weighted by
Physically separated bus lanes or a busway, for example with kerbs or median refuges separating the bus lanes from general traffic lanes	8	% of corridor length
Visually marked bus lanes, distinguished by a contrasting surface colour and a continuous line, but without physical separation from general traffic	6	
Bus lanes separated by a painted line only	4	
Mixed traffic operations	0	

Figure 7:1. Physical separation of bus lanes using median refuges with trees in Stavanger, Norway. Image: PG Andersson, Trivector.

Figure 7:2. Physical separation of bus lanes using kerbs in Aalborg, Denmark. The bus lanes are slightly raised relative to the adjacent traffic lanes.

Figure 7:3. Visually marked bus lanes using red-coloured asphalt on Amiralsgatan in Malmö. Image: PG Andersson, Trivector.

Parameter 8: Bus lane alignment

The placement of bus lanes within the street space has a major influence on the types of conflict points encountered by bus services. When bus lanes are median-aligned, grouped together on one side of the carriageway, or fully segregated as a separate busway, there are generally fewer conflicts with other traffic. This is because such configurations avoid interactions with turning traffic to and from side streets, driveways, on-street parking, and loading or servicing activities [12].

Median-aligned bus lanes also have a strong symbolic effect: the fastest and most highly prioritised traffic is placed at the centre of the street, clearly signalling the status of bus services as an efficient and attractive mode of transport.

The alignment of bus lanes should be consistent, preferably along the entire length of the corridor, or at least across longer continuous sections [7]. This improves bus operations and creates a clearer traffic environment for all road users, thereby reducing uncertainty and the risk of conflicts. In addition, bus priority should be ensured all the way up to intersections, as time lost at intersections often has the greatest impact on overall travel time and punctuality. Although these aspects are not explicitly included in the scoring, they are nevertheless crucial for achieving high overall quality.

Table: Points for Bus lane alignment. The score is based on the proportion of the corridor length consisting of a busway, median-aligned bus lanes, or bus lanes grouped together on one side of the carriageway. Weighting is applied relative to the corridor as a whole, with both directions included.

Bus lane alignment (maximum 4 points)	Points	Weighted by
Median-aligned bus lanes or a busway, including a fully segregated busway or bus lanes where both directions are grouped together and separated from general traffic lanes	4	% of corridor length
Kerbside bus lanes, located at the outer edge of the carriageway, adjacent to the kerb or on-street parking	0	

Figure 8. Bus lanes with both directions grouped together alongside the general traffic lanes in Metz, France. Image: PG Andersson, Trivector.

Parameter 9: Other permitted uses of bus lanes

The highest level of bus performance is achieved when bus lanes are used exclusively by buses. This means that no other vehicles, with the exception of emergency vehicles, are permitted to use the lanes. The greater the proportion of the corridor that meets this condition, the higher the score awarded. In some cases, however, authorised traffic is permitted to use bus lanes to a limited extent, for example delivery vehicles with special permits or residents with exemptions. Such arrangements correspond to an intermediate score in the assessment.

Table: Points for Other permitted uses of bus lanes. The score is based on the proportion of the total corridor length (both directions combined) that consists of bus lanes with different degrees of exclusivity.

Other permitted uses of bus lanes (maximum 3 points)	**Points**	**Weighted by**
Only buses (and emergency vehicles) are permitted	3	
Authorised traffic permitted to a limited extent, in addition to buses	2	% of corridor length
Mixed traffic, or bus lanes where bicycles or taxis are allowed	0	

Parameter 10: Driveways and access points in the bus running way

Driveways and access points, for example from parking garages or individual properties, can create obstacles to bus operations and should therefore be avoided along the bus running way as far as possible. A driveway is defined as a connection from an individual property, parking area, or similar facility to a street. Under Swedish traffic regulations, traffic exiting such a connection is normally required to give way to through traffic. This differs from an intersection, which is a location where two or more streets meet and where traffic movements from different directions interact on a more equal basis.

The score is based on the presence of driveways in the bus running way, both where buses operate in mixed traffic and where access points intersect dedicated bus lanes, where applicable. The number of driveways is calculated for both directions and divided by the total route length (both directions combined), resulting in a value: x = number of driveways per kilometre.

- If no driveways are present, the maximum score of 2 points is awarded
- If $x \geq 0.5$, no points are awarded
- For values below 0.5, a continuous scale is applied using the following formula:

$$\text{Score} = 4 \times (0.5 - x)$$

Signal-controlled access points where buses are given priority shall not be included in the assessment.

Table: Points for Driveways and access points in the bus running way. The number of driveways is calculated for both directions and divided by the total route length, with both directions combined.

Driveways and access points in the bus running way (maximum 2 points)	Points	Weighted by
None	2	Continuous scale from 0 to 2 points
0.25 per kilometre on average	1	
0.50 per kilometre or more	0	

Parameter 11: On-street parking

On-street parking can create temporary obstacles to bus operations when vehicles stop or manoeuvre to park. This often leads to increased variation in travel times and consequently to reduced reliability of the bus service.

The score is based on the presence of kerbside parking along the bus running way, both in mixed-traffic sections and where access to parking is provided via bus lanes. The number of parking spaces is calculated for both directions and divided by the total route length (both directions combined), resulting in a value: x = number of parking spaces per kilometre.

- If no on-street parking is present, the maximum score of 3 points is awarded
- If $x \geq 1$, no points are awarded
- For values below 1, a continuous scale is applied using the following formula:

$$\text{Score} = 3 \times (1 - x)$$

Table: Points for On-street parking. The number of parking spaces is calculated for both directions and divided by the total route length, with both directions combined.

On-street parking (maximum 3 points)	Points	Weighted by
None	3	Continuous scale from 0 to 3 points
0.33 per kilometre on average	2	
0.67 per kilometre	1	
1.00 per kilometre or more	0	

Figure 11. Södra Kaserngatan in Kristianstad before and after the implementation of the Kristianstad Link. Previously, the bus route was lined with on-street parking on both sides; today, buses operate fully separated from general traffic. Bottom image: PG Andersson, Trivector.

Parameter 12: Speed bumps

Speed bumps negatively affect passenger comfort as well as the working environment of drivers, and they often cause greater delays for buses than for private cars [13]. To ensure speed control without compromising bus operations, alternative measures should be used instead, such as dynamic speed control measures, driver assistance systems on buses, or so-called geofencing, which automatically limits bus speeds along selected sections of the corridor.

The score is based on the number of speed bumps (excluding dynamic measures) along the bus running way. To avoid double counting, only measures where the carriageway is raised are included; measures where the carriageway is lowered are excluded. All types of raised speed calming devices are counted, including bus cushions, as these affect ride comfort and may cause delays to bus operations. The number of speed bumps is calculated for both directions and divided by the total route length (both directions combined), resulting in a value: x = number of speed bumps per kilometre.

- If no speed bumps are present, the maximum score of 3 points is awarded
- If $x \geq 0.5$, no points are awarded
- For values below 0.5, a continuous scale is applied using the following formula:

$$\text{Score} = 6 \times (0.5 - x)$$

Table: Points for Speed bumps. The number of speed bumps is calculated for both directions and divided by the total route length, with both directions combined.

Speed bumps (maximum 3 points)	Points	Weighted by
None	3	Continuous scale from 0 to 3 points
0.17 per kilometre on average	2	
0.33 per kilometre	1	
0.50 per kilometre or more	0	

Figure 12. In Jönköping, so-called geofencing is used to limit bus speeds within geographically defined areas. Image: Jönköpings Länstrafik.

Parameter 13: Bus priority at intersections

Intersections are a major source of delay for bus services, resulting in both longer travel times and greater variation in travel times, and consequently reduced reliability. To minimise these delays, buses should be given priority either through signal priority at signal-controlled intersections or through priority rules favouring the bus movement at unsignalised intersections [14].

Points are awarded for signal-controlled intersections with active priority, meaning that buses are detected in real time ahead of the intersection and, where necessary, trigger an adjustment to the signal programme in favour of the bus.

The score is based on the proportion of intersections with active signal priority in relation to the total number of intersections along the corridor that are either signal-controlled or where the bus is required to give way to other motor traffic. This includes, for example, roundabouts and intersections where the bus makes a left turn and must yield to oncoming traffic.

Unsignalised intersections where the bus has priority shall not be included in the assessment. Intersections where priority rules are changed in favour of the bus will nevertheless have an indirect positive effect on the score, as they reduce the number of intersections where the bus is required to give way.

Example: A line passes four signal-controlled intersections, all of which have active bus priority, and 15 unsignalised intersections, of which nine give priority to the bus movement and six require the bus to yield to other motor traffic. This results in:

$$\frac{4}{4+6} \times 8 = 3.2 \text{ points}$$

If priority rules are changed at two of the unsignalised intersections so that the bus movement is prioritised, the calculation becomes:

$$\frac{4}{4+4} \times 8 = 4 \text{ points}$$

Table: Points for Bus priority at intersections. The score is based on the proportion of intersections with active signal priority for buses.

Bus priority at intersections (maximum 8 points)	Points	Weighted by
Signal priority for buses is implemented or maintained	8	% of intersections along the corridor
No signal priority is provided, or buses on the corridor are required to give way to other traffic.	0	

Parameter 14: Turning traffic crossing the bus running way

Turning traffic movements that cross bus lanes can reduce bus performance and also pose significant road safety risks. Bus lanes that terminate shortly before an intersection, without ensuring that the bus retains priority all the way to the intersection, can likewise cause delays and increase the risk of conflicts.

The score is based on the presence of intersections where turning traffic crosses the bus lane, for example intersections with left-turning traffic where the bus lane is median-aligned, or intersections with right-turning traffic where buses operate in kerbside bus lanes. Examples of critical situations include:

- Conflicting traffic movements within the intersection itself, occurring during the same signal phase as the bus at signal-controlled intersections
- Conflicting traffic movements upstream of the intersection, where left-turn lanes merge inside median-aligned bus lanes, or right-turn lanes merge outside kerbside bus lanes
- Bus lanes that end shortly before the intersection without ensuring bus priority all the way to the stop line

Figure 14:1. Litteraturgatan, Gothenburg. The bus lanes run straight through the signal-controlled roundabout, meaning that no crossing traffic occurs when the bus passes. Image: PG Andersson, Trivector.

The score is based on the number of intersections with the situations described above in relation to the extent of bus lanes along the corridor: x = number of such intersections per kilometre of bus lane.

- If no turning traffic crosses the bus lanes, the maximum score of 3 points is awarded
- If $x \geq 2$, no points are awarded
- For values below 2, a continuous scale is applied using the following formula:

$$\text{Score} = 1.5 \times (2 - x)$$

The resulting score is then weighted by the total proportion of bus lanes along the corridor (see *Parameter 7: Dedicated bus lanes or busways*). For example, a corridor with 50 percent bus lanes and 0.67 intersections per kilometre of bus lane is awarded: 50% × 2 = 1 point.

Table: Points for Turning traffic crossing the bus running way. The score is based on the number of such intersections per kilometre of bus lane and is weighted by the total proportion of bus lanes along the corridor.

Turning traffic crossing the bus running way (maximum 3 points)	Points	Weighted by
Does not occur	3	Continuous scale from 0 to 3 points, weighted by % of bus lanes along the corridor
0.67 per kilometre on average	2	
1.33 per kilometre	1	
2.00 per kilometre or more	0	

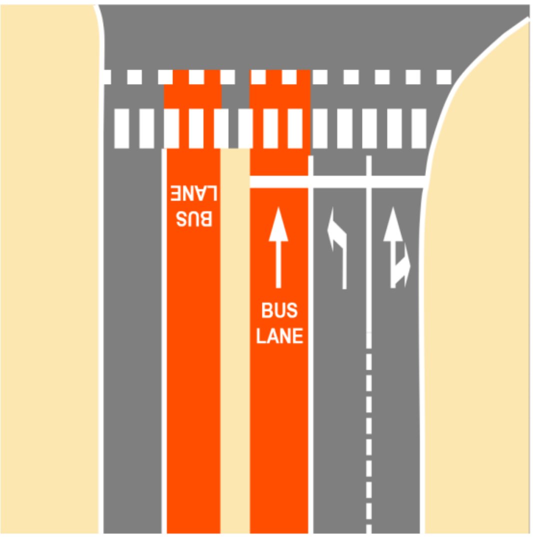

Figure 14:2. Crossing traffic movements within the intersection: a left-turn lane located outside a median-aligned bus lane. These traffic movements should be separated into different signal phases; in such cases, no point deduction is applied.

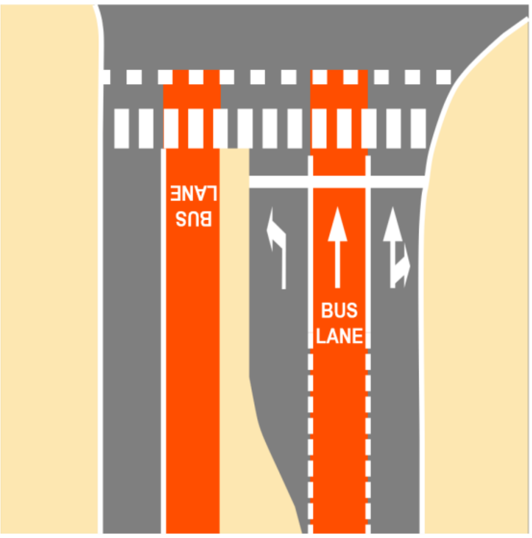

Figure 14:3. Crossing traffic movements upstream of the intersection, as shown here where a left-turn lane merges inside a median-aligned bus lane, result in a point deduction.

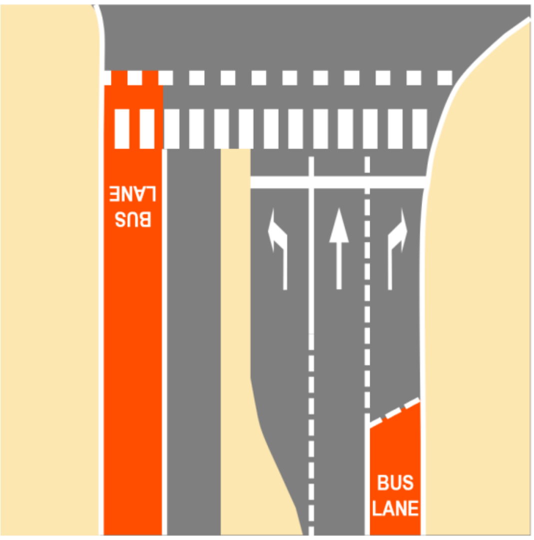

Figure 14:4. Bus lanes that terminate before the intersection without ensuring bus priority all the way to the intersection shall be included in the scoring of turning traffic crossing the bus running way.

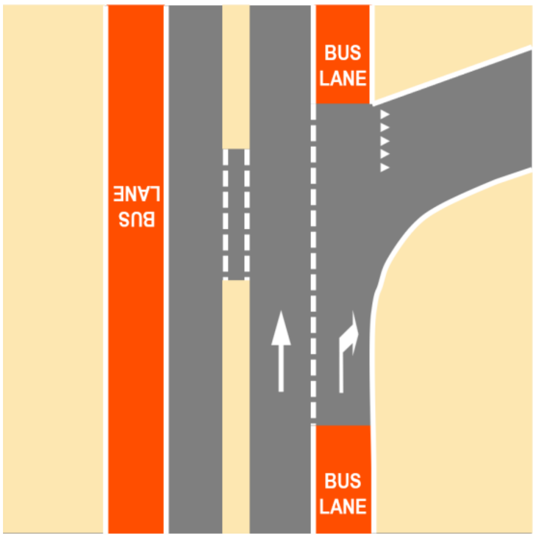

Figure 14:5. The assessment of turning traffic crossing the bus running way shall also include intersections where bus lanes are temporarily discontinued.

Parameter 15: Station types and level boarding

A straight approach into stations is important in order to minimise dwell time, improve ride comfort, and reduce the risk of on-board falls by avoiding lateral manoeuvres before and after stopping at the station. At the same time, level boarding should be pursued, meaning a minimal vertical and horizontal gap between the station interface and the bus entrance, achieved through platform design or other equivalent measures. This delivers both improved accessibility and faster boarding and alighting.

The scoring is based on the proportion of stop-type stations and the conditions for achieving platform-level boarding. Stop-type stations are stations where the bus stops directly in the running lane. This both reduces the need for lateral manoeuvres and automatically gives the bus priority when departing from the station. Platform-level boarding is defined as a maximum distance of approximately five centimetres, both horizontally and vertically, between the platform and the bus entrance.

Table: Points for Station types and platform-level boarding. The score is based on the proportion of in-lane bus stops (where the bus stops directly in the running lane), the design measures used to minimise the horizontal gap between bus and platform, and the platform height (to enable platform-level boarding).

Station types and platform-level boarding (maximum 8 points)	Points	Weighted by
In-lane bus stop with platform-level boarding without bus kneeling, using a "tram-style platform" approximately 25 cm high with a projecting platform edge (so-called platform extension or bus bulb), or other measures to minimise the horizontal gap between the bus and the platform	8	% of stations
In-lane bus stop with a projecting platform edge (so-called platform extension or bus bulb), or other measures to minimise the horizontal gap between the bus and the platform	7	
In-lane bus stop	4	
Bus bay, where the bus must make at least one lateral manoeuvre when entering or leaving the stop	0	

Figure 15. Along Line 2 in Aalborg, the stations feature 24-centimetre-high platforms to achieve platform-level boarding without bus kneeling. Platform extensions are also used. As a result, the busway is slightly narrower at station locations than along the sections in between.

Parameter 16: Station amenities and equipment

Stations are central to passenger comfort from a whole-journey perspective and at the same time function as a shop window for the bus line within the streetscape. A well-designed station signals quality, safety, and attractiveness, thereby strengthening the profile of the line and the overall experience of public transport.

The assessment of station amenities and equipment covers factors such as weather protection, seating, and lighting, as well as the extent to which waiting areas are covered by a canopy or roof.

Table: Points for Station amenities and equipment. The score is based on an assessment of the amenities provided at stations along the corridor, in both directions. Alighting-only stops at terminal stations are excluded from the assessment.

Station amenities and equipment (maximum 4 points)	Points	Weighted by
Weather protection, seating, and lighting are provided – the covered waiting area corresponds to the full length of the vehicle (or at least to the distance between the frontmost and rearmost doors)	4	
Weather protection, seating, and lighting are provided – the covered waiting area corresponds to at least half the length of the vehicle	3	% of stations
Weather protection, seating, and lighting are provided – the covered waiting area corresponds to less than half the length of the vehicle	2	
Weather protection, seating, or lighting is missing	0	

Figure 16. Spacious weather shelter on Citylinjen in Örebro. Image: Region Örebro län / Länstrafiken.

Category C: Vehicles and supporting systems

Vehicles and supporting systems strongly influence how BRT is perceived and used by passengers. This category focuses on how vehicle design, system identity, and various technical support systems can contribute to more efficient passenger flows, clear and accessible information, and regular and stable operations. Together, these components shape both the operational performance and the overall user experience of BRT as a high-quality public transport system.

Parameters included in this category:

17) System identity
18) Real-time passenger information
19) All-door boarding
20) Service regularity support

Parameter 17: System identity

One of the most important characteristics of a BRT line is that it is recognised as a flagship service within the city's route network and is given a distinct status [1]. Making this investment visible by providing the BRT line (or lines) with a clear and recognisable identity in the form of a dedicated brand can be an effective way of strengthening the line's profile and promoting public transport more broadly. However, branding on its own has been shown to be ineffective if it is not combined with other quality improvements; when combined with such measures, it can have a reinforcing effect [15]. A BRT line should be a premium product within the public transport network, and it should therefore be evident that it is distinct from other bus routes in the city.

The scoring is based on two criteria (with a maximum of four points, two points per criterion): vehicle design and visual identity. Points for vehicle design are awarded if BRT vehicles are clearly distinguishable from other buses in the city, for example through a unique colour scheme, a different vehicle model, or specific design features. For visual identity, two points are awarded if the BRT line is clearly branded and this identity is applied consistently across route maps and passenger information, all vehicles, and all stations. One point is awarded if the BRT line has some form of identity, but it is not fully implemented, for example if it is missing at certain stations or on some vehicles.

Table: Points for System identity. The score is the sum of the criteria below. For the second criterion, 1 point may be awarded if the criterion is only partially fulfilled.

System identity (maximum 4 points)	Points	Weighted by
All BRT vehicles have a uniform design that clearly distinguishes them from buses that do not form part of a BRT line	2	-
The BRT line has a distinct identity that sets it apart from other, conventional bus services in the area, and this differentiation is evident in route maps, station signage, and vehicles	2	

Figure 17. Line S in Karlstad has a cohesive and clearly defined visual identity that is reflected in both vehicles and stations. Image: Värmlandstrafik / Sofie Grahn.

Parameter 18: Real-time passenger information

Real-time passenger information is a core component of the BRT concept and contributes to increased passenger confidence and a reduced perceived waiting time. The information should be integrated with the wider public transport system and be physically accessible to all passengers – a mobile app on its own is not sufficient.

To meet the requirements, real-time information shall be provided:

- At stations, via displays showing the next departure and any service disruptions
- On board buses, through audiovisual systems providing information on upcoming stations, several stops ahead, as well as transfer opportunities

Table: Points for Real-time passenger information. The score is the sum of the criteria below.

Real-time passenger information (maximum 4 points)	Points	Weighted by
Audiovisual real-time information at stations showing the next departure (terminal stations excluded)	2	% of stations
Audiovisual real-time information on board buses, providing information on multiple upcoming stops and transfer opportunities	2	% of buses

Figure 18. Real-time passenger information, in the form of a countdown display, at a station in Helsingborg.

Parameter 19: All-door boarding

Improving the efficiency of station stops is one of the most important factors in reducing travel time and enhancing the passenger experience. Reduced variation in travel times also increases reliability for passengers. The most important measure for achieving efficient stops is to allow boarding through all available doors. This reduces queuing, which would otherwise occur when all passengers are required to board and validate tickets through a single door. For maximum effect, door positions should be marked on the platform, which presupposes that the bus stops at the same position at each visit.

Table: Points for All-door boarding. The score is the sum of the criteria below.

All-door boarding (maximum 8 points)	Points	Weighted by
All-door boarding is permitted	7	% of stations
All door positions are marked on the platform	1	

Parameter 20: Service regularity support

Service regularity is a key factor in delivering high-quality public transport on high-frequency urban routes. Irregular operations lead to bus bunching, which results in long waiting times, uneven passenger loads, inefficient use of capacity, and increased operating costs. This negatively affects both the passenger experience and the operational economics of the service [16].

Achieving good regularity requires IT-based support systems that assist drivers and traffic control centres in real time to prevent bus bunching and maintain even headways. For example, such systems may provide instructions on speed adjustments or shorter dwell times at stations. In addition to technical solutions, contracting and incentive models are needed that allow a focus on service regularity rather than strict timetable adherence. This means that operator incentives should be linked to service regularity rather than exclusively to fixed schedules.

Table: Points for Service regularity support. The criterion requires that both IT-based support systems and contractual arrangements promote good service regularity. No weighting is applied.

Service regularity support (maximum 2 points)	Points	Weighted by
IT systems and contractual arrangements that promote good service regularity	2	-

Category D: Operations

Operations determine the extent to which a BRT corridor is usable in everyday life. This category highlights how service frequency and the timing of the first and last departures affect accessibility, flexibility, and passengers' need for trip planning. A frequent service operating for a large part of the day, on all days of the week, is essential for BRT to be perceived as a robust and self-evident mode of transport for a wide range of trip purposes.

Parameters included in this category:

21) Daytime service frequency
22) Evening and weekend service frequency
23) First and last departure on weekdays
24) First and last departure on weekends

Parameter 21: Daytime service frequency

Service frequency is often considered the single most important factor for the attractiveness of public transport. With departures every ten minutes or more frequently, waiting times are short and passengers generally do not need to plan their trips around a timetable [10].

Figure 21. In Örebro, lines 1 and 2, both operating under the Citylinjen brand, run along the same corridor from Tegnérlunden via the Central Station to the University (approximately five kilometres). The timetables are synchronised so that, together, the two lines provide a five-minute service frequency along the corridor during peak hours.

Table: Points for Daytime service frequency. The score is based on the lowest service frequency between 06:00 and 18:00 on weekdays. If service frequency varies along the corridor, the score is weighted by the proportion of the corridor length.

Daytime service frequency (maximum 5 points)	Points	Weighted by
Maximum 8 minutes between departures	5	
Maximum 10 minutes between departures	3	% of corridor length
More than 10 minutes between departures (at any point during the period)	0	

Parameter 22: Evening and weekend service frequency

Public transport should be available and attractive during evenings and weekends as well. Experience shows that good service provision during these periods has a significant impact on overall ridership, even though passenger numbers per departure are typically lower [17].

It is important to look beyond the load factors of individual trips – even departures with relatively few passengers can have considerable strategic importance. They create a sense of safety and predictability, which in turn makes public transport perceived as a reliable alternative even when travel needs arise outside peak periods, such as for late journeys home or weekend activities.

Table: Points for Evening and weekend service frequency. The score is based on the lowest service frequency up to 22:00 on all days of the week. If service frequency varies along the corridor, the score is weighted by the proportion of the corridor length.

Evening and weekend service frequency (maximum 5 points)	Points	Weighted by
Maximum 15 minutes between departures	5	
Maximum 20 minutes between departures	3	% of corridor length
More than 20 minutes between departures (at any point during the period)	0	

Parameter 23: First and last departure on weekdays

Regular departures from early morning to late evening are crucial for public transport to be usable for a wide range of trip purposes, not only commuting to and from work, as well as for people with irregular working hours. A wide service span increases flexibility and makes public transport a viable option in a broader range of situations.

Table: Points for First and last departure on weekdays. The score is based on the time span between the first and last departure Monday–Friday (excluding services that operate on Fridays only). If service hours vary along the corridor, the score is weighted by the proportion of the corridor length.

First and last departure on weekdays (maximum 3 points)	Points	Weighted by
At least 19 hours between first and last departure (e.g. from 05:00 to midnight)	3	
At least 17 hours between first and last departure (e.g. from 06:00 to 23:00)	2	% of corridor length
Less than 17 hours between first and last departure	0	

Parameter 24: First and last departure on weekends

Public transport needs to be available from early morning until late evening, and on all days of the week. A consistent level of service during weekends as well makes public transport usable for a wider range of trip purposes.

Table: Points for First and last departure on weekends. The score is based on the time span between the first and last departure on Saturday–Sunday (Sunday is typically the determining day). If service hours vary along the corridor, the score is weighted by the proportion of the corridor length.

First and last departure on weekends (maximum 3 points)	Points	Weighted by
At least 17 hours between first and last departure (e.g. from 06:00 to 23:00)	3	
At least 15 hours between first and last departure (e.g. from 07:00 to 22:00)	2	% of corridor length
Less than 15 hours between first and last departure	0	

Figure 24. On the BRT service (line 175) between Barkarby and Akalla, buses operate from around 05:00 in the morning until after midnight, seven days a week. Image: Nobina.

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