Autorità di Regolazione dei Trasporti

ANNEX "A" TO DECISION NO. 53/2024

Courtesy translation – only the Italian text is authentic

REGULATORY MEASURES LAYING DOWN "MINIMUM QUALITY REQUIREMENTS FOR LOCAL TRANSPORT SERVICES BY ROAD, THAT ARE SUBJECT TO PUBLIC SERVICE OBLIGATIONS, PURSUANT TO ARTICLE 37 (2) (D) OF DECREE-LAW NO. 201 OF 6 DECEMBER 2011, CONVERTED, WITH AMENDMENTS, INTO LAW NO. 214 OF 22 DECEMBER 2011"

Contents

Definitions

1. For the purpose of these regulatory measures, the following definitions shall apply:
   (a) *AVM*: automatic vehicle monitoring, generally referred to AVM systems as tools also suitable for localisation of the vehicle typically supplied with automatic vehicle location (AVL) devices that make up AVM systems;
   (b) *Awarding Entity (AE)*: public body, or entity delegated by a public body, that is entrusted with the responsibility of awarding a public service contract to a CC, and oversees the management, monitoring, verification and control of the PSC, by any form and method of awarding permitted by law;
   (c) *Commuting or peak time slots:* time slots (and corresponding journeys) where the largest demand flows are observed, usually corresponding to the time span 06:00-09:00 a.m. (with reference to the time of arrival at the stations of destination) and 05:00-08:00 p.m. (with reference to the time of departure from the stations of origin), Mondays through Fridays, unless otherwise specified by the AE in relation to the demand flows that may be observed in its territory;
   (d) *Competent authority (CA)*: public body, or entity delegated by a public body, that is entrusted with transport network planning and service scheduling in accordance with the legislation in force. This may be the AE where it is also the entity that concludes the PSC with the CC;
   (e) *Consumer associations*: associations included in the list referred to in Article 137 of the Consumer Code (Legislative Decree No. 206/2005) or in the regional lists of consumer and user associations, established under the legislation of each Region, and other consumer protection associations that concluded a memorandum of understanding with the AE, as well as representatives of public transport season-ticket holders through appropriate representative committees;
   (f) *Contracting company (CC)*: LPT company entering into a PSC with the competent AE, for the provision of awarded LPT services, whether it concerns a new operator or the incumbent operator. An aggregated CC refers to a CC formed by an aggregation of undertakings, in accordance with the legislation in force, each clearly identified in the awarding process, excluding subcontracted companies;
   (g) *Coverage ratio (CR)*: ratio of traffic revenues to operating costs, as defined by Legislative Decree No. 422 of 19 November 1997, calculated in accordance with the schemes set out in Appendix 5 to Annex A to ART Decision No. 154/2019;
   (h) *Delivered quality*: quality level achieved, as resulting from objective measurements;
   (i) *Disabled person or Persons with reduced mobility or PRM*: any person who has a permanent or temporary physical, mental, intellectual or sensory impairment which, in interaction with various barriers, may hinder his or her full and effective use of transport on an equal basis with other passengers or whose mobility when using transport is reduced due to age;
   (j) *Expected quality*: quality level that is explicitly or implicitly requested by customers (expectations);
   (k) *Failures* (related to commercial accessibility): data connectivity anomalies or malfunctioning of hardware or software components (or both) of equipment for self-service or automatic ticketing machines (TVM) or for the validation of electronic or digital tickets;
   (l) *Flexible transport services*: non-scheduled transportation services supplied to the public without discrimination and on a continuous basis upon request, typically operated in a manner that allows users to book trips using electronic or other communications. These services may include the boarding and alighting of passengers at the stops designated by the operator upon request or at the designated public transport stops;
   (m) *Greenhouse gas* (GHG): gaseous constituent of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation

emitted by the Earth's surface, the atmosphere and clouds (cf. UNI EN ISO 14083:2023); the main GHGs are: carbon dioxide, methane, and nitrous oxide; water vapour and ozone are anthropogenic as well as natural GHGs, but are not included as recognized GHGs due to difficulties, in most cases, in isolating the human-induced component of global warming attributable to their presence in the atmosphere (ibid.);

(n) *Infrastructure manager (IM)*: entity responsible for the infrastructure serving the LPT services (tram, underground network infrastructure, etc.);

(o) *Load factor*: vehicle capacity coefficient, typically referring to a trip or a transport route, measured at a given time and potentially aggregated (e.g. average value on a weekday), given by the ratio of passengers-km (demand) to seat-km (supply). This applies across various modes of transport, where:

- passenger-km: sum of the products of the number of passengers carried on each journey multiplied by the respective distance travelled;
- seat-km: sum of the available seats in each vehicle in operation (including seats, standing places and wheelchair spaces for disabled persons) multiplied by the length of each journey performed;

(p) *Local public road transport* (LPT by road): LPT provided by bus, trolleybus, tram and metro, at the local level (underground, urban, peri-urban, suburban, extra-urban);

(q) *Local Public Transport (LPT)*: Public passenger transport services of general economic interest provided to the public without discrimination and on a continuous basis, subject to public service obligations. These services are operated through various modes of transport including land - road, rail, or other infrastructure (e.g., cable car systems), maritime, lagoon, lake, river, or air (not excluding due to technological developments leading to the commercialization of new locally disseminated air transport means) at the local or regional level;

(r) *LPT stopping points*: unstaffed boarding point or alighting point of passengers of road transport services (bus, tram, etc.), generally consisting of a platform, including a levelled platform, with equipment such as seating, shelters, poles, etc., typically without a specific building;

(s) *Non-relevant demand*: travel demand outside commuting hours;

(t) *Off-peak time slots*: time slots other than peak hours, pertaining to non-relevant demand;

(u) *Online ticketing systems (OTS):* systems that allow to independently purchase tickets remotely (for example, but not limited to: website, mobile site, app);

(v) *Perceived quality*: passengers' impressions/opinions/views on the quality of the services supplied;

(w) *Quality factors*: relevant aspects for user's perception of service quality;

(x) *Quality indicators*: quantitative variables or qualitative parameters for an adequate representation, for each quality factor, of the performance levels of the service provided. In this context, they are identified as follows:

- General indicators, measured through an average value referring to the overall performance related to the same indicator:
  (a) typically included in the PSC and monitored by the entity that awards and monitors the service;
  (b) based on average values that provide a valid reference for the community as a whole and for the same entity that awards and monitors the service;
  (c) their non-compliance cannot give rise to any claim by the user;
- Specific indicators or standards, referred to the individual performance, expressed by a minimum or maximum threshold that can be verified by each user:
  (a) allow immediate verification of their compliance by each user;
  (b) typically included in the PSC and monitored by the entity that awards and monitors the service;

(y) *Quality levels, standards or targets*: value to be predetermined for each quality indicator, based on users' expectations and the capabilities of the service provider;

(z) *Relevant demand*: travel demand in commuting hours;

(aa) *Relevant intermediate stations*: network nodes (stations, stops) as identified by the AE which, taking into account the functional classification referred to in Measure 3 (3) and the intensity of served demand, are of particular interest and may be selected for verification of quality indicators as provided for in the measures;

(bb) *Report of award (RoA)*: report referred to in Measure 2 (2) of Annex A to ART's Decision No. 154/2019 of 28 November 2019;

(cc) *Report of lots (RoL):* report referred to in Measure 4 (11) and Measure 6 (2) of Annex A to ART's Decision No. 48/2017 of 30 March 2017;

(dd) *Rolling stock*: usually referred to the vehicles used for LPT services, bus, trolleybus, tram, underground vehicles, etc.;

(ee) *Seat-km:* unit of measure for the supply of a passenger transport service. When referring to an individual trip, it is calculated as the product of the length of the trip route multiplied by the capacity of the vehicle (understood as the maximum number of passengers that may be carried on board including seated and standing spaces) used for the journey. When calculating the provision of a service referred to a specific time period (e.g. annual), the result is obtained by summing the values of the seats-km of all trips involved in the period of interest (e.g. seat-km/year);

(ff) *Station manager (SM)*: entity responsible for management of the facilities necessary for the transport services, typically referring to underground stations;

(gg) *Stations*: referred to underground, an integrated system of infrastructure facilities designed for passenger access, boarding, and alighting from the transport service, consisting of surface or underground structures, which may be staffed or automated;

(hh) *Tactile paths*: tactile pathways or routes embedded in floorings or pavements that, through appropriate reliefs and colours, help blind and visually impaired people moving through spaces;

(ii) *Terminal*: "a staffed [bus] terminal where according to the specified route a regular service is scheduled to stop for passengers to board or alight, equipped with facilities such as a check-in counter, waiting room or ticket office" (see article 3 (m) of Regulation (EU) No. 181/2011 of the European Parliament and of the Council of 16 February 2011 concerning the rights of passengers in bus and coach transport, hereinafter also Regulation (EU) No. 181/2011);

(jj) *Territorial segmentation*: reference to a specific type of road-based public transport service, where it is appropriate to distinguish between urban/suburban and rural/regional. For simplicity, the term "urban" also includes services provided in metropolitan, peri-urban, and suburban areas, while "rural" also includes services provided at the regional level;

(kk) *Transport modes*: transport technologies such as air, maritime, railway, road (bus and coach), trolleybuses, trams, underground, cable cars, etc.

Acronyms

(a) *AE*: awarding entity;
(b) *ART*: Transport Regulation Authority;
(c) *AVM*: automatic vehicle monitoring;
(d) *BEV*: battery electric vehicle;
(e) *TVM*: self-service or automatic ticketing vending machines;
(f) *CA*: competent authority;
(g) *CC*: contracting company;
(h) *CNG*: compressed natural gas;
(i) *CR*: coverage ratio;
(j) *CSS*: customer satisfaction surveys (see perceived quality);
(k) *d.l.*: decree-law;
(l) *EREV*: *Extended-Range Electric Vehicle* (with internal combustion engine acting as a generator to recharge the vehicle's battery);
(m) *GHG*: greenhouse gases;
(n) *GRI*: Global Reporting Initiative (*link*);
(o) *IM/SM*: Infrastructure/Station Manager;
(p) *lgs.d.*: legislative Decree;
(q) *LNG*: liquefied natural gas;
(r) *LPG*: liquefied petroleum gas;
(s) *LPT*: local public transport;
(t) *MaaS*: Mobility as a Service (integrated system of multiple public, collective and private transport services, accessible through a single digital channel);
(u) *MQR*: minimum quality requirements;
(v) *O/D*: Origin-Destination;
(w) *OS:* Operating schedule;
(x) *OTS*: online ticketing systems;
(y) *PHEB*: plug-in hybrid electric vehicle;
(z) *PRM*: person with reduced mobility or disabilities;
(aa) *PSC*: public service contract;
(bb) *PSO*: Public service obligations;
(cc) *RoA*: Report of Award pursuant to ART's Decision No. 154/2019 of 28 November 2019 (Annex "A", Measure 2 (2);
(dd) *RoL*: Report of lots pursuant to ART's Decision No. 48/2017 of 30 March 2017 (Annex "A", Measure 4 (11) and Measure 6 (2);
(ee) *SPS*: surveys on stated preferences and reasons for non-use of the service by non-users.

Title I — GENERAL CRITERIA

Measure 1. Purpose and scope of application

1. These regulatory measures lay down the MQR, and related regulatory measures, of LPT passenger services by road, that are subject to PSO, as identified according to territorial characteristics of demand and supply, pursuant to article 37 (2) (d) of Decree-Law No. 201 of 6 December 2011, converted, with amendments, into Law No. 214 of 22 December 2011 establishing ART, and pursuant to Article 7 (1) of Legislative Decree No. 201 of 23 December 2022 (hereinafter: lgs.d. 201/2022).
2. The measures referred to herein shall be applied by the AEs of LPT services, the CCs and, if applicable, the IMs/SMs.
3. The regulatory measures shall apply to the PSC of LPT referred to in (1) above awarded in accordance with the different procedures permitted by the legal framework, within the time limits set out under (5).
4. The AE may extend the application of these Measures also to public passenger transport services by inland waterway (lagoon, lake and river) and to transport services on fixed installations (funiculars, cable cars), in particular where these services are integrated within a wider urban, suburban or regional network, adapting their contents to the technological and/or regulatory specificities of the above transport modes.
5. The Measures referred to herein shall apply:
   (a) in the case of tendering procedures: to the PSCs for which the tender notice is published after the date of entry into force of this regulatory act or invitation letters are sent after that date, except in cases where the relevant RoA has already been sent to the Authority;
   (b) in the case of direct or in-house award: to the PSCs for which the award decision is approved after the date of entry into force of this regulatory act, except in cases where the relevant RoA has already been sent to the Authority;
   (c) to the negotiated arrangements between the AE and the IM/SM, concluded after the entry into force of this regulatory act;
   (d) to the existing PSCs as of the date of entry into force of this regulatory act in cases where measures are approved to extend these contracts pursuant to Article 4 (4) of Regulation (EC) No. 1370/2007, following the entry into force of this regulatory act.
6. The measures referred to herein shall not apply:
   (a) to PSCs with an annual production volume below the threshold laid down in Article 7 (2) of Regulation (EC) No. 1370/2007;
   (b) to PSCs falling within the thresholds set out in Article 5 (4) of Regulation (EC) No. 1370/2007 concluded within the three years following the date of entry into force of this regulatory act.

Measure 2. Minimum quality requirements and related application criteria, public service obligations, minimum levels

1. The MQR of LPT services by road, to be measured through qualitative and quantitative indicators and levels, identify (minimum) obligations and/or performance that ensure the fulfilment of the users' essential mobility needs under efficient use of public resources allocated to compensate the PSO.
2. The minimum qualitative and quantitative levels of services are identified so as to meet the PSO for scheduled services, that are defined at least in terms of relations or areas to be served, frequencies, timetables, periodicity, provision of seats, seating availability and accessibility of facilities for PRM, fares and related discounts/exemptions so as to determine an adequate service supply that meets the users' needs, as defined by the AE according to the criteria under Measure 3.

3. The minimum qualitative and quantitative indicators and levels are defined, measured, monitored and verified by considering:
   (a) territorial, social, economic, and temporal characteristics of demand;
   (b) territorial characteristics of supply within each mobility area of reference for the awarded services;
   (c) characteristics of infrastructure, classification of lines and stops/stations (hereinafter also nodes) as referred to in Measure **Errore. L'origine riferimento non è stata trovata.** (3), and rolling stock, in particular with reference to the opportunities arising from technological developments and automatic diagnostic devices as set out in the following Measures.
4. The identification of MQR is relevant for the purposes of Articles 10 (4), 14 (2) and 17 (2) of lgs.d. 201/2022. Indicators and minimum levels, to be defined in compliance with the regulatory measures set out herein, are established by the AEs, with the stakeholders' participation, through special public consultation procedures referred to in Measure 4 of Decision No. 154/2019.
   The comments collected in this consultation stage and, in general, the outcome thereof, shall be taken into account in the choice of indicators and quality levels to be included in the PSC, as well as the results of:
   (a) periodic checks on the operational management of LPT services by road, as referred to in Article 30 of lgs.d. 201/2022, where applicable;
   (b) systematic monitoring and control of delivered quality, also entrusted to third parties, including consumer associations, as regulated in the PSC;
   (c) monitoring of alerts, proposals and complaints received by the CC and AE, and by the SM/IM;
   (d) surveys on the expected quality by users and non-users (potential users), referred to in Measure 6 below, that are carried out either directly or through third parties by the competent authority in charge of service scheduling;
   (e) surveys on the perceived quality (including customer satisfaction surveys or CSS) by regular and occasional users, carried out by the CC and the SM/IM, by addressing third parties, as well as by the AE.
5. Indicators and associated minimum service levels referred to in the Measures under Title II of this act shall be identified for each of the quality factors listed below:
   (a) (multi)modal integration;
   (b) compliance of rolling stock (available seats);
   (c) service regularity and punctuality;
   (d) commercial accessibility;
   (e) prevention of fare evasion;
   (f) accessibility of vehicles and infrastructure to the public (in particular to PRM);
   (g) environmental sustainability;
   (h) information to users;
   (i) transparency;
   (j) cleanliness and comfort of rolling stock and infrastructure for the public;
   (k) travel and passenger safety, both personal and financial.
6. The measures under Title II of this Act shall consider, where relevant, the differentiation of indicators and minimum levels based on the classifications of lines and nodes referred to under Measure **Errore. L'origine riferimento non è stata trovata.**.
7. For all the indicators under Title II of this Act, both where the AE defines the relevant minimum levels or where the AE sets only minimum or maximum thresholds of parameters that affect the calculation of the same indicators, as indicated in the Measures, the awarding entity shall apply criteria of continuous improvement, taking into account the annual results of the CSS.
8. In the case of minimum levels set by the AE, in addition to the provisions under (7), and where not otherwise indicated in the Measures, the AE provides for improved levels both in relation to the final

values of previous management and with respect to the minimum levels set in previous years by the same PSC, taking into account the technical specificities of the services based on the different modes of transport (e.g. bus vs. tram) and territorial division concerned (urban, suburban, regional LPT, etc.), the demand concerned, where relevant (typically in peak hours) or not relevant (off-peak hours), and the investments planned in the contractual period. In particular:

(a) for the first year of the contractual period, the value set is not lower than the higher of the average of the actual values over the previous three years and the target value of the year prior to the commencement of the contract;

(b) if no actual data are available for the valorisation of the indicator for the years preceding the first contractual period, benchmark or standard values of the industry shall be used, following discussions with stakeholders in the context of the consultation referred to under (4); in the same case, at the end of the third year of the contractual period, the target values of the following years will be updated according to the data reported in the first three years, in accordance with the criteria set out under (a).

9. In the case of in-house award, the adoption of the MQR is a necessary but not sufficient condition to justify the choice of that method of award under Article 17 (2) of lgs.d. 201/2022. For the purpose of the qualified statement of reasons referred to in that article, as regards qualitative aspects, the AE, in the context of the new PSC, also cumulatively:

(a) complements the MQR introduced by this act by providing additional quality indicators and associated levels, demonstrating – if they are already in place in any previous in-house management – an improvement over previously achieved results;

(b) amends the specification of some or all the indicators referred to in the Measures of this act for which the relevant minimum level is set at 100%, enhancing the procedures, timelines, minimum or maximum thresholds, and parameters indicated in the same Measures for the purpose of their measurement;

(c) in the case of indicators whose minimum level is defined by the AE, sets levels above the highest value between the average of the actual values reported in the previous three years of past management and the target value of the year preceding the year of the award and of any relevant benchmark values set by the Authority.

10. In tendering procedures, the AE shall include in the PSC schemes annexed to the tender notices or letters of invitation the quality indicators referred to herein, as well as the Plans with their minimum content as stipulated in the relevant Measures. Participants in the tendering procedure may submit bids with enhanced levels or specifications for these indicators and for the actions identified in the Plans. Additional indicators may also be submitted, provided they are based on the principle of proportionality in accordance with the nature and objectives of the award, as specified in the procedure. These will be considered in the context of the tender evaluation. In the tender documentation, the AE shall disclose the maximum scores attributable to enhanced bids, in accordance with the principle of proportionality, in terms of indicators and minimum levels, along with their respective calculation methods.

Measure 3. Planning criteria for LPT services by road and MQR

1. In order to ensure an adequate supply of various modes and types of transport services, the AE or other CA shall plan the LPT services to meet essential mobility needs, in accordance with the criteria set out in Measure 3 of the Annex to ART Decision No. 48/2017 of 30 March 2017 (hereinafter: Decision No. 48/2017), as specified in the RoL. This planning shall align with the scheduling and organisation of transport services as referred to in Articles 14 and 16 of Legislative Decree No. 422/1997 and Article 3(7) of Legislative Decree No. 257/2016.

2. The scheduled supply of services for each LPT mode, also flexible, and the corresponding qualitative and quantitative service levels shall be defined by considering the specifications in the RoL, which sets out the criteria adopted for the purpose of point 1 and, in particular:
   (a) the extent of the demand for actual and potential mobility and its distribution over the territory and over time, for each mobility area;
   (b) the objectives identified in terms of comfort and trip occupancy to be measured through the load factor. In this context, the AE defines the average load factor as a reference threshold for sizing the service, to be identified by considering the provisions of Measure 10 (6);
   (c) the objectives and policies to increase the modal share to be achieved through LPT services;
   (d) environmental objectives and policies to reduce polluting emissions and promote energy savings;
   (e) promotion of interconnection and multimodality among services;
   (f) efficiency and economic sustainability of the awarded LPT services.

3. The AE or other CA shall plan the LPT road services by considering their functional role and hierarchy, including for the purpose of setting indicators and minimum levels. For these reasons, regardless of the transport mode, LPT services – in terms of lines and nodes – included in the PSC are classified by the AE as follows:
   (a) as regards lines:
      I. *main lines*: first-tier lines, related to the services that ensure connectivity between the most relevant O/D pairs of served urban centres or territorial areas, generally characterized by longer routes, fewer stops, higher commercial speed, and a high demand to meet;
      II. *feeder lines*: second-tier lines, not necessarily local, terminating at or serving at least one node that feeds into the main lines. These lines are characterised by a service designated so as to ensure both the connection to the main network service and the movements in the area of competence;
      III. *completion/distribution lines*: third-tier lines tasked with ensuring and enhancing the territorial coverage of transport services;
   (b) as regards nodes:
      I. *relevant first-tier nodes*: consisting of stops acting as a (direct or indirect) multimodal interchange hub between road services and at least one of the following public transportation services: airport, railway, maritime, underground;
      II. *relevant two-tier nodes*: consisting of stops that serve as interchanges between services of different territorial jurisdictions but operated with similar transport modes. These are interchange nodes that involve at least two of the following services: urban services, suburban services, medium- to long-distance services;
      III. *third-tier nodes*: the remaining stops that do not fall into the previous categories, which may serve multiple transport lines within the same territorial division (e.g., only urban services or only suburban services), are characterized by a significant number of passengers and ensure the territorial coverage of the service.

4. The scheduled supply of LPT road services shall also consider the existing available infrastructure and the investment programmes, including in terms of:
   (a) infrastructure components that affect the capacity of lines and nodes, rolling stock power supply, and their evolution;
   (b) coherence of rolling stock with route constraints and curvature of the lines;
   (c) infrastructure components that affect the accessibility of stations/stops, including improvements in the interconnection with other transport modes;
   (d) infrastructure components affecting punctuality.

5. The AE shall disclose in a dedicated LPT section on its website, easily accessible by all users, all acts underlying the scheduling of the service, explicitly detailing the criteria used to size the road LPT services to meet the needs, including comfort, of commuters during peak hours. In the same way, also disclosed

are the criteria used, in line with those laid down in the RoL, to define all quality indicators and standards in the PSC, with particular reference to:
(a) territorial, temporal and subjective characteristics of demand that were assumed as a reference;
(b) available public resources, investment plan and related minimum service programme;
(c) characteristics of rolling stock related to the supply of capacity in total number of seats and seat-km (possibly including a maximum number of standing passengers), existing air conditioning and/or heating facilities, characteristics of accessibility, safety and related costs.

6. In compliance with existing safety regulations, the scheduled supply of LPT road services takes into account, once the service frequency is established, the type of rolling stock to be used and its equipment, as well as the geographical area covered by the service. The PSC mandates the CC to identify, as defined by the AE under Measure 4 (8) and (10), and report at least annually, the average crowding index measured through the load factor. This should preferably be achieved through passenger counting systems onboard, categorized by time slot, day of the week, period of the year and, where appropriate, for specific routes. The AE shall include in the PSC mechanisms aimed at progressively reducing the crowding index for cases identified by the AE as critical, e.g. for exceeding specified thresholds (see below).

Measure 4. Monitoring and periodic verification of minimum quality requirements. Transparency on the efficient use of resources and obligation of data access

1. In line with the purposes and specifics of the measures on MQR as set forth herein and the penalty system adopted for this purpose, the AE lays down in the PSC the monitoring and reporting obligations to be borne by the CC and the procedures to assess and verify performances under its responsibility. In this respect it shall apply criteria that ensure the effectiveness and efficiency of the solutions adopted, maximum transparency and accessibility of data and results by the stakeholders concerned, and their regular publication and sharing. In this context, the AE defines in the PSC the reporting deadlines for the provision of information and data by the CC, useful for calculating the indicators and verifying compliance with contractual obligations, in order to ensure compliance with the deadlines specified in Measure 20 regarding transparency.
2. Performance monitoring by the CC may be conducted automatically or through manual data collection with periodic reporting to the AE. The choice between automatic or manual monitoring also considers existing technological equipment or those expected from planned investments in the contractual period. In cases of automatic monitoring, the CC grants the AE access to the information systems for data retrieval for verification of the indicators. For manual monitoring and/or inspection activities, the AE regulates in the PSC the relevant procedures, including random sampling methods, certification procedures for collected data and/or conditions for the counterpart's participation during inspections, ensuing reliability and effectiveness of the monitoring process in all cases.
3. The AE shall verify whether the minimum requirements are appropriate by involving consumer associations, pursuant to Article 2 (461) of Law No. 244 of 24 December 2007.
4. The AE shall carry out its verifications with random sampling surveys at least every six months. The choice of the items to inspect may be supplemented by considering information from any reports and/or complaints received. The verification methods are subject to an improvement plan during the term of the PSC to progressively achieve quarterly verification, based on monthly data collection for each PSC. The AE develops the improvement plan within one year of conclusion of the PSC and makes it available on its website. Additionally, as per the aforementioned provisions, the AE defines in the PSC, at least every six months, a performance review with the CC based on reported data of the service provided.
5. The qualitative and quantitative levels of services defined in the PSC, including the minimum levels, are subject to periodic assessment, at intervals corresponding to three- or five-year regulatory periods, if

consistent with the duration of the PSC. The choice of the interval duration, to be specified in the PSC, is made by the AE based on the specificities of the transport service concerned and the characteristics of the demand to be met. The periodic assessment should also address the adequacy of the qualitative and quantitative parameters or indicators of the service supplied, as set forth in the existing PSC, to meet user needs and should be carried out with the participation of consumer associations, pursuant to Article 2 (461) of Law No. 244/2007. Following the above-mentioned assessment, the AE modifies the contract accordingly (e.g. increased frequency of monitoring, modification of the definition of indicators, increase of minimum levels and/or penalties), in accordance with the specific review clauses of the PSC provided therein, including after the adoption of actions within its remit (e.g. mobility management measures that may affect travel distances and commercial speed of public transport).

6. Without prejudice to the provisions set out in (3) to (5), in the case of in-house award, the results of the CSS, to be conducted in accordance with the criteria under Measure 6 (3) and (4), which record user dissatisfaction, also in relation to the service quality objectives stated in the decision for the service award, contribute to the AE's assessment of the continuation of in-house management pursuant to Article 17 (5) of lgs.d. 201/2022.

7. To promote the development of mobility services and widespread monitoring of the ways public passenger transport services are provided, the efficient use of public resources to compensate for the PSO, to encourage participation in the public debate, as well as to enforce the provisions of Article 30 of lgs. d. No. 201/2022, the data needed to define the indicators and minimum levels referred to herein, that are produced either directly or indirectly by the CC, SM or IM, are held by the AE and/or CA in charge of service scheduling and are made accessible and reusable by third parties as specified in paragraph 8 et seq. of this Measure, in compliance with regulations on personal data protection and commercial protection of industrial data, while ensuring the application of principles of equitable and non-discriminatory access and use of data.

8. The AE regulates in the PSC the automatic or manual methods of passenger counting, including for the application of the provisions of article 27 (11b) of Legislative Decree No. 50/2017; the data made available are used by the AE for the purpose of sizing an adequate service supply, pursuant to Measure 3 (1) and (6), and for determining the amount of penalties, in accordance with Measure 5 (5). In the case of automatic counting, continuous data collection is ensured on all vehicles equipped with the necessary equipment. In the case of manual counting, the monitoring of the passengers carried is based on the results of the counting of boarding and alighting passengers, at least in a reference week with a frequency of at least two counts for each of the so-called school and non-school periods. The passengers data are processed for each trip, for each day of the week, and each time slot (peak and off-peak hours). In the case of manual counting, the AE defines a sample of trips to monitor, that allows for the valuation of data for the previously mentioned time slots.

9. Prior to the conclusion of the PSC, the AE defines a “Data Access Plan”, to be attached to the PSC, with the consultation of the major stakeholders, such as, for example, LPT companies, the IM or SM, economic operators providing passenger transport and ancillary services, also in the form of intermediation, and by identifying at least the following:
   (a) set of basic data available to the AE, as referred to in (8);
   (b) mode of data collection, broken down into either automatic or manual. The mode of automatic collection takes place in real-time; in the absence of automatic monitoring systems, the manual data collection provides “ex post” data, that are accounted for based on a defined time interval;
   (c) mode of data access by third parties, subject to compliance with the restrictions on personal data processing and with the information that cannot be disclosed due to industrial secrecy, which is guaranteed by the AE, by promoting both “*open access*” in editable format, as a general rule and with particular reference to real-time basic data, and online data requests;
   (d) the data provider, that is subject to the obligation to provide the information to the AE.

This consultation may be carried out in the same ways referred to under Measure 2 (4).

10. The AE promotes access to real-time basic data, that are useful to enhance the travel experience on the whole, before, during and after the journey, with a user-friendly approach. This is achieved through the inclusion of specific contractual obligations for data provision, including specifications on their delivery methods, in line with the types and purposes of their use and reuse, even by third parties. To facilitate a wider use of transport services by citizens, the AE, as the data controller referred to under (7) and (8), shall ensure equitable and non-discriminatory access and reuse of such data to economic operators providing passenger transport and ancillary services, including intermediaries. In this regard, to facilitate the data provision through the national access point as per Commission Delegated Regulation (EU) 2017/1926, and to promote the development of innovative mobility systems in a MaaS context, leveraging the opportunities arising from new technological platforms, where available, the minimum set of information to be made accessible to users includes basic data concerning:
    (a) scheduled and delivered service, position and vehicle movements and state of departures and arrivals at stations/stops;
    (b) georeferencing of stops/stations;
    (c) crowding rate: average estimated data, e.g. through load factor, or in real-time through measurement of actually on-board passengers;
    (d) service accessibility in terms of stops/stations involved, available equipment for PRM accessibility, available bicycle and scooter transport;
    (e) access mode to ticket sales systems for commercial entities.

11. The AE provides appropriate clauses in the PSC to ensure the update of the ‘Data Access Plan’, with reference to real-time data, depending on technological progress, by verifying its suitability, at least at the end of each regulatory period.

12. The AE makes at least the following documents available and updated on its website:
    (a) documents referred to under Measure 3 (5) (a) through (e);
    (b) inquiries on potential mobility demand, as governed by Measure 1 (1) of Decision No. 48/2017;
    (c) RoA referred to in Measure 2 (2) of Decision No. 154/2019 and the outcome of the consultations referred to in Measure 2 (4) and Measure 4 (9) where not already included in the aforementioned RoA;
    (d) Report referred to in Measure 5 (9);
    (e) improvement plan referred to in Measure 4 (4);
    (f) (Quality) Customer Charters;
    (g) for each quality indicator included in the PSC, the annual summary of applied penalties (gross of bonuses), bonuses granted, and total value of penalties imposed (net of bonuses);
    (h) existing PSC including all annexes; where the contracts have been awarded with prior tendering procedures, the AE shall disclose data and information ensuring the protection of commercial/industrial confidentiality where the conditions for the application of the relevant legislation are met;
    (i) documentation referred to in Measure 2 (4) (a) through (e);
    (j) statistics on complaints received by the CC and AE, classified by reason for complaint, as referred to in the “Complaint form” for rail, bus and coach, and sea and inland waterway transport available on ART’s website, under the “Online submission of complaints (SiTe)” section;
    (k) summary results of CSS and SPS, as referred to in Measure 6, carried out by the AE;
    (l) all final levels relating to the indicators included in the PSC and defined in accordance with this Act;
    (m) summary of the main contractual items, with reference to:
        i. contractually stipulated total compensation and final compensation (annual total amount in euro);
        ii. investments planned and realised in the contract period (annual values in euro);

iii. public financing provided for the purchase of rolling stock (values in euro and percentage of coverage of total purchase cost);
iv. annual compensation for subsidised or exempted users (in euro);
v. percentage share of the total cost of the service covered with traffic revenues and residual percentage share borne by public finances.

Concerning the documentation referred to under (a) through (g), the AE provides for its publication, and timely updating, on its website in a public transport dedicated section, easily accessible to all users.
For the documentation referred to in (h) through (m), which is required to be published on the website of the AE pursuant to Article 31 of Legislative Decree 201/2022, as well as on the "Transparency of local public services of economic relevance – Transparency LPS" section of ANAC online portal, the implementing measures adopted by ANAC[1] in this regard shall apply.

13. As part of the monitoring activities, the AE establishes a customer feedback system to collect complaints according to the procedures set out in Authority's Decision No. 28/2021 (Measure 7) and to analyse the suggestions for improvement received.

14. The AE sets out in the PSC the obligations and deadlines for drafting the Quality Customer Charter and related penalties for non-compliance, as well as the deadlines for data monitoring and reporting by the CC, and other related activities, so as to ensure the completeness of the information on the reported performance and on the penalties imposed within a useful timeframe for the timely preparation of the documents to be published by the AE (Measure 4 (12)) and by the CC with regard to the Quality Customer Charter and the documents referred to in Measure 20 concerning transparency.

Measure 5. Criteria for application of penalties

1. In accordance with the minimum quality requirements under these measures, the AE includes in the PSC a penalty system aimed at ensuring, throughout the contract period, compliance with the minimum levels established for each quality factor and indicator of the service as set out in the PSC agreed upon between the parties, as well as compliance with reporting and publication activities for transparency purposes. The penalty system is integrated with the system for improving the delivered and perceived quality of the service and with the efficiency and effectiveness incentive system outlined in Measure 16 of ART Decision No. 154/2019.

2. In the case of binary indicators, which involve verifying the adoption of specific requirements, the AE defines a system of penalties proportional to the delay in implementing the specified requirements.

3. For each non-binary indicator, for each year "x", the penalty is calculated by taking into account the deviation from the minimum level, a penalty relief system that is related to the improvement process implemented by the CC and a progressive penalty coefficient in case of reiteration, based on the following expression:

$$P_x = \alpha[P_u \cdot (MQR_x - L_x) \cdot K_x \cdot R_x]$$

where:
α = progressive coefficient, that considers a downward reduction of the penalty in relation to the gradual application of the measures described herein. The coefficient takes on the following values:
i. for in-house awards: α = 1 for all years of the contract period;
ii. for the remaining awards:
- α = not less than 0.5 for the first year of the regulatory period of application of the Measures provided for herein;

[1] TN: Italian Anti-Corruption Authority.

- α = not less than 0.8 for the second year of the regulatory period of application of the Measures provided for herein;
- α = 1 for the years of the regulatory period following the second year of application of the Measures provided for herein;

P_u = unit penalty amount set by the AE;
MQR = minimum performance level required for each indicator in year *x*;

and for each year *x*:
P_x = total final penalty related to the indicator;
L_x = annual average value of the indicator achieved at the end of year x of calculation;
K_x = coefficient of mitigation of penalty, expressed as follows:

$$K_x = \begin{cases} 0{,}10 \; per \; \Delta_x \geq 0{,}9 \\ 1 - \Delta_x \; per \; 0 < \Delta_x < 0{,}9 \\ 1 \; per \; \Delta_x \leq 0 \end{cases}$$

Δx = annual performance variation expressed as:

$$\Delta_x = \frac{L_x - L_{(x-1)}}{L_{(x-1)}}$$

where:
L_x = annual average value of the indicator achieved at the end of year *x*;
$L_{(x-1)}$ = annual average value of the indicator achieved at the end of the year preceding the year of calculation, (x-1). The value at time (x-1) in the first regulatory year is defined as indicated in Measure 2 (6).
Rx = annual incremental coefficient for reiterated non-compliance not less than that resulting from the following expression:

$$R_x = 1+0{,}05 \cdot n$$

where:
n = number of consecutive years (excluding the first) in which the individual indicator records a level L_x below the MQR.

4. The AE may also provide a bonus system linked to the achievement of performance above the MQR by the CC. This system, defined by the AE in the PSC, must be appropriately proportionate so as not to undermine the incentive role of the penalty system and must in no way lead to overcompensation. For the purpose of establishing a system of financial compensation between bonuses and penalties, the following definitions and criteria shall be adopted in a given reference year:
   (a) applicable penalties are defined as those imposed for performance below the minimum level in areas covered by these regulatory measures;
   (b) imposed penalties are defined as applicable penalties net of bonuses. Imposed penalties shall not exceed a cap equal to the reasonable profit as identified in the EFP; any excess above the cap constitutes a penalty debt to be accounted for in the following financial year;
   (c) excess of bonuses over applicable penalties results in a bonus credit for the CC which, if not paid to the CC on an annual basis, is set aside and contributes to offsetting penalties in subsequent years;
   (d) in case of earmarking, without prejudice to the payment of any residual bonus credit upon contract expiration, the AE may identify interim deadlines for the payment of the credit accrued up to that point.

5. The AE adopts a penalty system which, in compliance with the foregoing, determines the unit and overall amount of the penalties laid down for each non-compliance in accordance with the following criteria of effectiveness and proportionality, by considering the following factors:
   (a) hierarchy of lines and nodes as a result of the application of the criteria referred to in Measure 3 (2);
   (b) relevant and non-relevant demand;
   (c) rolling stock and investments;
   (d) state of infrastructure;
   (e) severity level of non-compliance: identified based on the assessment of relevance arising from the outcome of the surveys on perceived quality and user and non-user demand, stakeholder consultation and in relation to the expected impact, including over time, concerning the fulfilment of the contractual MQR and the specific implementation methods;
   (f) absence of measurable improvements or recurrent non-compliance.

6. The AE may provide for reduced annual penalties imposed on the CC in relation to:
   (a) amount of reimbursement, re-issue of tickets, compensation and customer assistance to reduce inconvenience caused by poor service, even where they do not depend on the CC, pursuant to legislative measures and/or measures adopted by ART in the exercise of the functions referred to in Article 37 (2) (e) of Decree-Law No. 201/2011. The effects referred to in this subparagraph (a) may result in a maximum reduction of 10 % of the penalties imposed;
   (b) proven effectiveness of the actions implemented by the CC for prompt and lasting restoration of regularity and adequate levels of the services provided;
   (c) objective effectiveness of the actions implemented by the CC to mitigate and equitably compensate the negative impact of the event on the users involved, whether regular or occasional.

7. Serious non-compliance, which may lead to contract termination, occurs when, for at least three accounting periods, even if not consecutive, the annual amount of applicable penalties, as defined under (4), exceeds the relevant profit declared in the EFP. The AE explicitly outlines this circumstance in the PSC.

8. The penalty system adopted by the AE is further identified in accordance with the following criteria:
   (a) economic value of the penalties, for each case of non-compliance and annual total amount for the whole system, that is balanced against the aggregate economic PSC value and adjusted to ensure the effectiveness and efficacy of the system for timely and full achievement of the minimum contractual terms;
   (b) reference to objective variables, that are proportionally and percentage-wise related to economic parameters and contractual purposes, e.g. unit price per vehicle-km as defined in the PSC;
   (c) application of automatic systems of indexation and adjustment, to be specified in the PSC, that keep unchanged over time, i.e. in each regulatory period and throughout the entire contract period, the economic relevance as well as the effectiveness and efficacy, in terms of discouragement and determent, of the parameters applied.

9. The revenues arising from the application of penalties, net of any bonuses, are allocated by the AE to actions aimed at compensating passengers for the inconvenience suffered and/or to investments aimed at improving the quality of service. In the first-mentioned case, more directly favourable to users, the AE defines the compensation mechanism, identifying, by way of example, but not limited to, the target beneficiaries, the types of tickets involved, and the payment system. Full communication and transparency of this system are ensured through publication on both the AE's and CC's websites. In the second-mentioned case, as provided under Measure 4 (12), the AE annually publishes a summary report in the aforementioned section of its website, describing the planned interventions that will be funded by the collected penalties.

Measure 6. User and non-user surveys on expected and perceived service quality

1. In order to assess the potential demand for mobility and its spatial and temporal distribution, in line with the criteria laid down in ART's Decision No. 48/2017, and to ensure an adequate supply of services, the AE or other CA in charge of transport service planning, as per Articles 14 and 16 of Legislative decree No. 422/97, consults consumer associations and conducts specific SPS on the reasons for non-use of the service. SPS are typically conducted every three years, in accordance with the deadlines for the scheduling of local public transport services, pursuant to article 14 (3) of Legislative decree No. 422/97.
2. According to Measure 2 (4), the AE:
   (a) takes into account the findings of service and user surveys for the purpose of identifying criteria to determine penalties, particularly concerning the determination of the rankings of importance of individual cases;
   (b) provides in the PSC for the obligation for the CC to participate in consultations launched by the AE, involving users, consumers, their associations and relevant business associations. These consultations take place in the design phase of the survey specifications, the analysis of survey results and the planning of ensuing actions, to be implemented both by the CC within the framework of the PSC and by other entities, by acquiring proposals and comments from the stakeholders involved.
3. To measure the perception of both regular and occasional users regarding the quality of service and to identify the most important or critical quality factors for them, including due to the potential limited use of LPT, the AE regulates in the PSC the obligations of the CC concerning the assessment of expected and perceived service quality by users, through CSS surveys. The AE reserves the possibility for itself or instrumental entities of the same administration to directly conduct CSS, including by involving consumer associations upon request and providing specific measures to ensure the surveys are conducted impartially and independently. The AE involves consumer associations in the ongoing monitoring activities of the compliance with parameters set in the PSC and with the provisions laid down in the Customer Charters, pursuant to Article 2 (461) of Law No. 244 of 24 December 2007, and identifies methods to ensure these activities are carried out with neutrality and impartiality.
4. The AE regulates in the PSC the obligations outlined in the preceding paragraphs, in cooperation with the CC and after consulting consumer associations, including through user surveys, subject to the provisions of Measure 4 (5). These Such surveys are carried out using methodological criteria that ensure their statistical significance and comply with the principles of publicity and transparency referred to under Measure 20, and with the following criteria:
   (a) consistency and exhaustiveness of the survey methodological specifications, including factors and indicators applied in the survey and their ranking, as compared to the MQR identified herein concerning the different stages and the overall travel experience, as transposed in the contract and in the service Quality Customer Charter;
   (b) balanced frequency of surveys, adequate in relation to the objectives and duration of the contract, its overall structure and, in particular, the provisions under the incentive system, ensuring at least an annual frequency of the CSS. This is consistent with the deadlines and sequence of periodic review periods, in order to provide valuable support to define the relevant updates and associated adjustments, and to assess the reasons for any in-house award;
   (c) adequacy, efficacy and effectiveness of rating scales, which in the case of CSS can represent and associate, with the necessary granularity and objectivity, the users' level of satisfaction and order of importance for each minimum requirement. The rating scale to be adopted includes values ranging from 1 to 9, with 7 being the first level of satisfaction and 9 the highest;
   (d) qualification and impartiality of the body in charge of the survey, which is independent from the CC, and has proven expertise and experience;

(e) consistency and homogeneity of methods and criteria, that ensure comparability of results over time, historical series and sections, for the purpose of benchmarking at the corporate and sectoral level;

(f) consistency and integration of the survey system in the broader corporate information system, ensuring easy accessibility of results for stakeholders, in accordance with their respective competences and responsibilities. This guarantees the possibility of cross-analysis of the CSS results with data and findings arising from other study, monitoring and survey activities conducted by the CC across different contractual areas, so as to enhance the level of consistency between supply and demand and between delivered, expected and perceived quality, and to plan the necessary actions for continuous improvement over time.

Title II – MINIMUM QUALITY REQUIREMENTS IN PUBLIC SERVICE CONTRACTS – INDICATORS AND LEVELS

Chapter I – (Multi)modal integration

The Measures under this Chapter govern the MQR aimed at ensuring adequate integration of LPT road services with (the supply of) other sustainable mobility solutions, whether collective and/or shared, public or private, available in the relevant territory. This objective should be placed in a quality chain perspective, necessarily involving a wide range of public entities, including those other than the AE (e.g., in urban and transport planning, management of infrastructure and technological investments, etc.). However, their actions must be coordinated with regulatory purposes, limited to interventions that can be implemented by the AE within the framework of the PSC, in terms of operating conditions, characteristics of rolling stock used, and adopted tariff system.

Measure 7. Minimum modal interchange requirements

1. The AE identifies the relevant nodes referred to in Measure 3 (3) (b) falling within the scope of the LPT services covered by the PSC.
2. The AE designs the LPT service covered by the PSC to optimise modal interchange at the relevant nodes referred to under (1). This aims to facilitate the quickest transport solution while minimising route overlaps of the various services involved, considering mobility demand and infrastructure constraints.
3. The AE establishes in the PSC the minimum requirements for interchange of LPT services covered by the PSC, to be implemented at each identified relevant node, and incorporates them into the OS.

Measure 8. Indicator and minimum levels of integrated transport

1. The **Integrated Transport** indicator **(IT)** is calculated annually as the percentage ratio between the journeys carried out with vehicles allowing on-board transport of bicycles/scooters to the total production volume:

$$IT = \left(\frac{V_t}{V_{tot}}\right) \cdot 100$$

where:

V_t = annual journeys, in vehicle-km/year, provided with vehicles allowing on-board transport of bicycles/scooters in dedicated areas;

V_{tot} = annual final production volume of the service in vehicle-km/year.

2. For the purpose of calculating the IT indicator, V_t is given by the sum of the journeys carried out by the vehicles used for on-board transport of bicycles/scooters:

$$V_t = V_{t1} + ... + V_{ti}$$

where:
i= no of vehicles operating LPT allowing on-board transport of bicycles/scooters in dedicated areas;
V_{ti} = vehicle-km/year carried out by generic equipped vehicle "i".

3. **The minimum levels of the IT indicator**, to be achieved in the PSC period, and the respective evaluation periods are defined by the AE on the basis of:
   (a) territorial segmentation of LPT service concerned;
   (b) concerned mode of road transport: car, tramway, underground, other;
   (c) rolling stock investment plans providing for the purchase of vehicles suitable for on-board transport of bicycles/scooters.

4. In case of scheduling of flexible services in the PSC, the AE may identify specific minimum levels of the IT indicator, using the same methods of calculation as set out under (2).

Measure 9. Indicator and minimum levels of fare integration

1. The **Ticket Fare Integration** indicator **(ITV)** is a descriptive indicator defined annually as the percentage ratio of the number of ticket types that can be used on LPT services covered by the PSC and featuring fare integration characteristics with other LPT services (TV_{int}), also falling under other PSC, to the total number of ticket types made available to users under the PSC (TV_{tot}):

$$ITV = \left(\frac{TV_{int}}{TV_{tot}}\right) \cdot 100$$

where, for example, "type of ticket" (TV) refers to any category falling within the following segmentation based on validity period of the ticket:
(a) annual or equivalent travel pass (e.g. 10-month student pass);
(b) monthly or multi-monthly travel pass;
(c) weekly travel pass;
(d) any other long-term ticket solution (> 1 week);
(e) multi-day single ticket;
(f) daily single ticket;
(g) one-way ticket or ticket for a single day;
(h) any other short-term ticket solution (<1 day).

2. The value of TV_{int} is given by the number of ticket types adopted by the CA under the PSC; e.g., if the PSC provides for all the previous types, but only the tickets referred to under (a), (b), (c), (f) and (g) above can be used also for other carriers, the value of TV_{int} will be 5.

3. Where, taking into account also the specificities of the PSC and the investments required from CC, the annual availability of integrated tickets is subject to activities falling under the responsibilities of the CC, the AE shall identify the minimum levels of the indicator and the relevant penalty system in the PSC.

Chapter I - Compliance of rolling stock (seat availability)

The Measures under this Chapter are related to the minimum requirements aimed at ensuring that users of road services subject to PSO are provided with rolling stock in accordance with what is specified in the PSC in terms of available seats and technological equipment for monitoring service operation and collecting passenger data. These measures also aim to limit crowding within acceptable thresholds, in order to enhance the travel experience and allow the AE to continuously verify the accuracy of planning and the level of implementation/use of technological systems, considering the significant support they can provide to deliver better services.

Measure 10. Indicators and minimum levels of rolling stock compliance

1. The MQR for rolling stock compliance is ensured and monitored through the following indicators:
   (a) Service potential compliance (POT);
   (b) Service crowding (AFF);
   (c) Monitoring system compliance (AVM);
   (d) Data collection system compliance (RIL).

2. The **Service potential compliance (POT) indicator**, calculated annually for each line *L* identified by the AE and for services related to different types of demand (relevant and non-relevant), measures the percentage of journeys operated with a seats*km supply compliant with the minimum supply requirements set forth in the PSC:

$$POT_L = \frac{No.\,operated\ compliant\ journeys\ _L}{total\ No.\,operated\ journeys\ under\ OS_L} \cdot 100$$

   where:

   operated compliant journeys = journeys made based on a seat*km supply equal to or greater than the minimum supply provided in the PSC;

   L = each line identified by the AE for the purpose of calculating the indicator; for suburban and underground services, the indicator is evaluated individually for all lines.

3. The POT indicator is measured by reference to:
   i. service related to relevant transport demand: services operated curing commuter hours – on weekdays from Mondays to Fridays – and any high-frequency services on an average weekday;
   ii. service related to non-relevant transport demand: services operated on other days and time slots.

   For the purpose of calculating the indicator, services that reached their destination are considered as operated and subject to assessment of compliance; therefore, cancelled, partially cancelled, or inadequately replaced services are excluded from the calculation (both in the numerator and the denominator).

4. **The minimum level of the POT indicator is set at 100 %.**

5. The **service crowding indicator (AFF)**, calculated annually for each line *L* identified by the AE and for relevant demand services, measures the percentage of journeys operated with a level of crowding below the maximum acceptable occupancy threshold of the vehicle defined by the AE:

$$AFF_L = \frac{No.\,uncrowded\ operated\ journeys_L}{total\ No.\,opeated\ journeys\ under\ OS_L} \cdot 100$$

   where:
   No. of uncrowded operated journeys = number of uncrowded journeys on an annual basis. For the purposes of the indicator, defining the route as the part of the journey between two consecutive

stops, a journey is considered uncrowded if no more than 20% of its route (understood as the sum of individual segments, even if not necessarily consecutive), is operated with a load factor exceeding the threshold defined in the following point 6;

L = each line identified by the AE for the purpose of calculating the indicator. For underground services, given the limited number of lines, the indicator is evaluated individually for all lines. For other services, the AE identifies the lines subject to verification to ensure territorial coverage of the analysed service, considering the classification adopted under Measure 3 (3).

6. In order to determine the maximum acceptable load factor threshold, the AE conducts specific surveys through interviews with users who use the lines identified as high traffic during peak hours, the results of which are subject to consultation as per Measure 2 (4). This maximum acceptable load factor threshold, to be defined considering available resources, is specific to each individual segment and is expressed as the coefficient of vehicle occupancy, understood as a percentage of the maximum capacity of seats (both seated and standing) certified for the vehicle; therefore, it shall be <= 100 %.

7. The indicator is measured by differentiating between school-term and non-school term periods, with reference to the service related to relevant transport demand (services operated during commuting hours – on weekdays from Mondays to Fridays – and any high-frequency services on an average weekday). For each of the lines included in the indicator calculation, the AE identifies the relevant services which, in case of manual passenger counting, may be selected based on a sample respecting the above-mentioned temporal segmentation criteria; in this case, the indicator is calculated based on the entire set of trips surveyed in the sample.

   For the calculation of the indicator, services that reached their destination are considered as operated and subject to assessment of compliance; therefore, cancelled, partially cancelled, or inadequately replaced services are excluded from the calculation (both in the numerator and the denominator).

8. **The AFF indicator is descriptive and is not associated with any minimum level. Where the PSC provides for CC's responsibility in designing the service, the AE defines a minimum level for the AFF indicator and the corresponding penalties for non-compliance.**

9. The **Monitoring system compliance (AVM)** indicator evaluates the actual functioning of on-board systems that enable monitoring of the service provided as compared to the provisions under the OS in terms of vehicles equipped with AVM systems. The indicator is calculated annually as a percentage of the service provided and recorded by the AVM systems compared to the service which, according to the PSC, is expected to be operated with rolling stock equipped with AVM:

$$AVM = \frac{distance\ recorded\ with\ AVM}{distance\ to\ be\ travelled\ with\ vehicles\ equipped\ with\ AVM} \cdot 100$$

   where:
   journeys counted with AVM = vehicle*km recorded with AVM;

   journeys to be carried out with vehicles equipped with AVM = journeys, expressed in vehicle*km, which under the PSC shall be operated with vehicles equipped with on-board AVM systems.

10. For the calculation of the indicator, the AE, based on the availability of AVM systems onboard fleet vehicles, determines the distances to be travelled with vehicles equipped with AVM – e.g. by identifying the routes (and their lengths) where vehicles equipped with AVM should be prioritised, favouring those that develop a greater service supply in terms of length (km). Where possible, this is achieved through fleet management that allows for coverage with AVM recording on the widest possible number of lines – including providing for changes over the duration of the contractual period based on the implementation of AVM systems, which may occur progressively, and taking into account planned investments, either under the responsibility of the CC or the AE itself.

11. **The minimum level of the AVM indicator is defined by the AE according to the criteria outlined in Measure 2,** also providing specific incentive systems aimed at promoting the immediate reporting and timely resolution of any malfunctions.

12. The **Data collection system compliance (RIL)** indicator measures the effective functioning of on-board systems that enable the collection of passenger data, as compared to the provisions under the OS in terms of vehicles equipped with passenger counting systems (e.g. surveillance systems, door beacons, etc.). It is calculated annually as a percentage of services for which passenger data are collected compared to the total number of services which, according to the PSC, are expected to be operated with vehicles equipped with passenger counting systems:

$$RIL = \frac{No.\,of\ services\ with\ counted\ passengers}{No.\,of\ services\ to\ be\ carried\ out\ \ with\ vehicles\ equipped\ with\ passenger\ counting\ systems}$$

where:

No. of services with counted passengers = number of services for which the number of passengers carried based on passenger counters is available;

total services equipped with passenger counting systems = number of services that under the PSC shall be carried out with vehicles equipped with on-board passenger counting systems.

13. For the calculation of the indicator, the AE identifies the lines (and the corresponding number of services) on which it is deemed appropriate to prioritize the use of vehicles equipped with passenger counting systems. Preference is given to lines with the highest levels of occupancy during peak hours. Additionally, whenever possible, the AE ensures that the management of vehicles allows for coverage of the widest number of lines with passenger counting systems. The number of services operated with vehicles equipped with passenger counting systems may change over the contract period, due to the potential gradual implementation of these systems, which could result from specific investment programmes by either the CC or the AE.

14. **The minimum level of the RIL indicator is defined by the AE** in accordance with the criteria outlined in Measure 2, provided it is **not less than 80 %.** The AE also establishes specific incentive systems aimed at promoting the immediate reporting and timely resolution of any malfunctions.

Chapter III - Regularity, punctuality and reliability of service

The Measures in this Chapter identify MQR aimed at monitoring the operational performance of LPT services in terms of compliance with schedules and service planning through indicators that take into account the operational management modes (scheduled or frequency-based), technological equipment for fleet monitoring and any on-demand services included in the PSC.

Measure 11. Indicators and minimum levels of regularity

1. For frequency-based services**,** the **Regularity** indicator is identified and calculated annually as the average of monthly regularity values $Regularity_i$ defined for each month *i* as the percentage of the headways, understood as time intervals between two consecutive services, verified at the monitoring locations:

$$Regularity_i = \frac{Regular\_int_i}{Controlled\_int_i} \cdot 100$$

where:

$Regular\ int_i$ = number of interval events, in month *i*, which at the time of verification have a *real interval* value (expressed in seconds) between two consecutive services, encompassed within an interval equal to the *Int* interval (expressed in seconds) provided in the OS, corrected by a tolerance *t* such that:

$$Int \cdot (1 - t) \leq Real\_interval \leq Int \cdot (1 + t)$$

t = tolerance equal to $\begin{cases} 0.2 \ \ in\ case\ of\ road\ services \\ 0.1\ in\ case\ of\ underground\ services \end{cases}$

$Controlled\_int_i$ = number of interval events, in month *i*, subject to *verification*. For each line the AE identifies all the services to be verified and the monitoring locations through the following criteria:

(a) regarding **the services to be verified**:

i. all services for which punctual and automatic monitoring is guaranteed through on-board equipment (e.g. AVM) or ground infrastructure (e.g. in case of underground) that allows to appreciate the time interval between different services, regardless of the type of transport used;

ii. the remaining services are verified through random sampling. In this case, the set of services to be checked is identified by the AE in such a way as to include, for the different lines concerned, services that fall under the categories described under point 2 below;

(b) regarding **the monitoring locations**, regardless of the type of service identified under point (a) above, while considering the opportunity to measure each event at every stop/station along the lines where monitoring systems so allow, at least all events occurring at the end point of the service and at additional relevant intermediate stops defined by the AE are subject to monitoring. For the criteria to identify relevant stops, reference is made also to the hierarchy specified under Measure 3 (3).

2. The *Regularity* indicator shall be measured and verified with reference to:

(a) *services related to relevant transport demand*: services operated in the so-called peak commuting hours – on weekdays from Mondays to Fridays – and any high-frequency services on an average weekday;

(b) *services related to non-relevant transport demand*: all services excluding those pertaining to relevant demand services, for the whole day – every day of the week.

3. The AE may also consider the opportunity to enhance the previous indicators for homogeneous groups of lines, considering the adopted hierarchy.

4. For the calculation of the indicator, the AE specifies in a specific annex to the PSC the list and coding of the causes of service disruption affecting regularity, identifying the responsibilities of the various parties

involved (including CC, SM/IM as applicable) and, where appropriate and applicable, the validation procedures for these causes.

5. Excluded from all the intervals covered by the indicator are the intervals:
   a) involving cancelled or partially cancelled services, for any reason or liability, as aspects related to service cancellations are assessed under the reliability indicator;
   b) presenting, for reasons that are not attributable to the CC and adequately justified by it as per (4), an actual interval not included in the range of reference.

6. **The minimum annual level of the Regularity indicator,** for each of the cases referred to under (2), **is defined by the AE** in accordance with the criteria outlined in Measure 2.

Measure 12. Indicators and minimum levels of punctuality

1. For **scheduled transport services,** the **Punctuality** indicator is identified and calculated annually as the average of monthly punctuality values, $Punctuality_i$, defined for each month *i* as the percentage of services that did not depart early from the departure terminal and arrived at the monitoring location within a defined time threshold *s* based on the territorial division of the service (urban, suburban, extra-urban):

$$Punctuality_i = \frac{On\ time\ services_i}{Operated\ services_i} \cdot 100$$

where:

monitoring locations = stops or stations where the arrival times of services are checked, defined as follows:

i. **for services in urban areas**: the terminal of the service is taken as a reference;
ii. **for services related to other territorial divisions**: in addition to the terminal, the AE defines in the PSC any additional relevant intermediate stops, where the arrival times of services are verified, considering the classification and importance of the stops/stations, in accordance with the hierarchy criteria outlined in Measure 3 (**Errore. L'origine riferimento non è stata trovata.**3);

$$time\ threshold\ s = \begin{cases} 5\ minutes, for\ urban\ services \\ 10\ minutes, for\ services\ of\ other\ territorial\ divisions \end{cases};$$

Operated services = number of services actually supplied in month *i*, excluding cancelled or partially cancelled services; the set of services referred to in the indicator include:

iii. all services for which punctual and automatic monitoring is guaranteed through on-board equipment (e.g. AVM) or ground infrastructure (e.g. in the case of underground) that allows to appreciate the arrival times, at the monitoring locations, for different services;
iv. a sample, to be defined by the AE, of services operated with rolling stock with no automatic fleet monitoring equipment. In this case, the sample shall enable monitoring of services as described under (2) below.

Punctual services = in month *i*, all the services, except those cancelled or partially cancelled, that did not depart early from the terminal and arrived at each monitoring location within threshold *s*, as well as services that did not depart early from the terminal and arrived at the monitoring location beyond threshold *s* due to reasons that are not attributable to the CC.

2. The *Punctuality* indicator shall be measured and verified with reference to:
   (a) *services related to relevant transport demand*: services operated in the so-called peak commuting hours – on weekdays from Mondays to Fridays – and any high-frequency services on an average weekday;
   (b) *services related to non-relevant transport demand*: all services excluding those related to relevant demand services, for the whole day – every day of the week.

3. The AE may also consider the opportunity to enhance the previous indicators for homogeneous groups of lines, considering the adopted hierarchy.
4. For the calculation of the indicator, the AE specifies in a specific annex to the PSC the list and coding of the causes of service disruption affecting punctuality, identifying the responsibilities of the various parties involved (including CC, SM/IM as applicable) and, where appropriate and applicable, the validation procedures for these causes.
5. To ensure transparency and proper management of the aforementioned cases, the drafting and updating of the OS provides for each line evidence of:
   a) the classification according to any hierarchy adopted by the AE;
   b) the relevant monitoring locations.
6. **The minimum annual level of the Punctuality indicator**, for each of the cases referred to in (2), **is defined by the AE** according to the criteria outlined in Measure 2.
7. For **flexible on-demand services**, the *Punctuality*$_{flex}$ indicator is calculated annually as a percentage of the arrivals, to the destinations requested by users or provided by the service, within the time or time window provided to the user upon booking:

$$Punctuality_{flex} = \frac{On-time\ arrivals_{flex}}{Operated\ arrivals_{flex}} \cdot 100$$

where:

On-time arrivals$_{flex}$ = annual number of all arrivals to the locations requested by users, or provided by the service, within the time window provided to the user upon service booking. If the system provides a specific arrival time instead of a time window, services arriving at their destination within a 5-minute threshold are considered on time;

Operated arrivals$_{flex}$ = total number of individual stops made by all flexible services operated throughout the year.

8. **The minimum annual level of the Puntuality$_{flex}$ indicator** is identified by the AE according to the criteria outlined in Measure 2.

Measure 13. Indicators and minimum levels of reliability

1. The minimum requirement of service reliability is ensured by the compliance of the service supplied with the OS, measured through the **Reliability** indicator, and by the drafting of an **Action plan for substitute services** in case of total or partial cancellation of the services.
2. For both frequency-based and scheduled transport services, the reliability indicator is calculated annually as the average of the monthly reliability values *Reliability*$_i$ defined for each month *i* as the ratio of the number of services operated to the total services scheduled under the OS:

$$Reliability_i = \frac{Operated\ services_i}{Services\ under\ OS_i} \cdot 100$$

where:

Services under OS = total number of services scheduled under the OS for month *I*, excluding cancelled or partially cancelled services for reasons not attributable to the CC and not adequately substituted;

Operated services$_i$ = for month *i*, total number of services arrived at destination including services that were totally or partially cancelled for whatever reason, but adequately replaced as per the *Action Plan for substitute services* (see below).

The AE specifies in a specific annex to the PSC the list and coding of the causes of service disruption affecting the service cancellation, identifying the responsibilities of the parties involved (including CC, SM/IM as applicable) and, where appropriate and applicable, the validation procedures for these causes.

3. The *Reliability* indicator shall be measured and verified with reference to:

   (a) *services related to relevant transport demand*: services operated in the so-called peak commuting hours – on weekdays from Mondays to Fridays – and any high-frequency services on an average weekday;
   (b) *services related to non-relevant transport demand*: all services excluding those related to relevant demand services, for the whole day – every day of the week.

4. **The minimum annual level of the Reliability indicator,** for each of the cases referred to in (3), **is defined by the AE** according to the criteria outlined in Measure 2.

5. A specific **Action plan for substitute services** provides for the actions to be implemented and the services to be provided to users for the continuation of their journey with adequate substitute services in case of total or partial cancellation of services. The Plan must also include measures to be implemented in case of infrastructure unavailability (e.g., cancellation of temporary inaccessible stops, etc.).

6. The Plan is attached to the PSC and must be kept updated to align with the development of the service over time and any technological innovations introduced by the PSC.

7. In case of service award through tendering procedure, the AE includes a draft Plan in the tender notice, in line with these regulatory measures. This draft may be subject to improvement proposals, in the context of the bids submitted by participants in the tender procedure, to be assessed during the procedure itself.

8. The **minimum level** for an "*adequate substitute service*" **is set forth in the Action plan for substitute services**, particularly concerning at least the following criteria:

   (a) timely, comprehensive and updated information to be provided to users in both static form, in the absence of disruptions, and dynamic form, in due time in the event of each disruption, on board and at the stations (in the case of underground or bus terminals where LPT services are provided) and surface stops, until the service regularity is fully restored in accordance with the defined user information indicators before and during the journey as referred to in Measures 18 and 19. This should also include information to be provided in the event of cancellation of stops/stations;

   (b) maximum start-up time that for extra-urban services must be in any case less than 60 minutes;

   (c) the AE, considering the service operation modes (frequency-based or scheduled), defines in the Plan the criteria to identify services as "adequately substituted" as referred to in the indicators of this act;

   (d) mode of provision of substitute services (train, bus, taxi), which shall be carried out: with a number of vehicles proportional to the number of passengers of the cancelled service; in both (commercial and physical) accessibility and comfort conditions not less than those provided by the cancelled service, ensuring accessibility that also PRM reach their destination; with adequate assistance services for PRM to access, board and alight from the substitute service; covering all stops scheduled for the cancelled service; by organizing differentiated substitute services for long-distance cancellations with direct substitute services for longer routes, to minimise travel time compared to the cancelled service; with on-board equipment that ensures as much as possible the same level of information as the cancelled service in terms of service and quality performance reporting (e.g. using also for substitute services vehicles equipped with AVM and passenger counting systems).

9. The AE defines in the PSC the penalties associated with the implementation of the Plan for substitute services and with compliance with the activities specified therein.

Chapter II - Commercial accessibility

The Measures under this Chapter identify the MQR to ensure users have access to a sufficient range of channels through which the CC makes tickets available. Similarly, considering the increasingly adopted technological innovations by companies and their widespread use among users, the operation of electronic ticketing systems, automatic ticketing machines, and validating machines is ensured through the measurement of their performance using specific indicators. In case of malfunction, these indicators assess a prompt and proper restoration within specified and definite timeframes.

Measure 14. Indicators and minimum levels of commercial accessibility

1. The MQR for commercial accessibility are ensured and monitored through the following indicators:
   (a) **adequate provision of sales channels across the network (ACV);**
   (b) **availability/operation of OTS – online ticketing systems (BTEL);**
   (c) **operation of TVM – ticket vending machines (BAUT);**
   (d) **operation of validating machines (VAL);**
   and through the drafting of a **Sales action plan.**

2. The **Adequate provision of sales channels across the entire network (ACV)** is a binary indicator, with a value of 1 (equal to 100%) if the provisioning criteria are met and 0 otherwise; the corresponding MQR is satisfied for different modes of transport as specified below.

3. **For underground services**, the adequacy of sales channels is considered satisfied in case of availability of at least **three sales channels**, consisting of one electronic channel, as referred to in (a) below, and two ground channels as referred to in (b), (c), (d) and (e) below:
   (a) implementation of at least one electronic sales channel, including: website, mobile site, CC dedicated app, third-party app (platform);
   (b) self-service ticket machines, fully operating at the station;
   (c) ticket offices of the CC at the station, open seven days a week and during underground operating hours;
   (d) affiliated sales points (number or density to be defined by the AE);
   (e) access gates (turnstiles) enabled for electronic payment systems via bank cards or payment apps.

4. **For urban road services** (tramway, trolleybus and bus) in the urban and/or suburban context, the adequacy of sales channels shall be deemed to be satisfied when at least **three sales channels** are available, consisting of an electronic channel, as referred to in point (a) below, and two on-site channels as referred to in points (b) (c), (d), (e) and (f) below:
   (a) implementation of at least one electronic sales channel, including: website, mobile site, dedicated APP of CC, APP of third party (platform);
   (b) fully operating self-service ticket offices, at the strategic network stops identified by the AE and/or on board;
   (c) ticket offices of the CC located at the bus station or other strategic points of the network, open five days a week and with operating hours aligned with the operating schedule;
   (d) affiliated points of sale (number or density to be defined by the AE);
   (e) on-board validating machines enabled for electronic payment systems via bank cards or payment apps;
   (f) sale of tickets on board (with or without surcharge as determined by the AE/CA), also enabled for electronic payment systems via bank cards or payment app.

5. **For extra-urban road services,** the adequacy of sales channels shall be deemed to be satisfied when at least **three sales channels** are available consisting of an electronic channel as referred to in point (a) below and two on-site channels as referred to in points (b), (c), (d), (e) and (f) below:

(a) implementation of at least one electronic sales channel, including: website, mobile site, dedicated APP of CC, APP of third party (platform);

(b) fully operating self-service ticket offices, at the bus station and/or strategic network stops identified by the AE;

(c) ticket offices of the CC, located at the bus station or other strategic points of the network, open five days a week and with operating hours compatible with operational schedules, adequately spread throughout the territory served (number or density to be defined by the AE, also according to the following point d);

(d) affiliated points of sale (number or density to be defined by the AE);

(e) on-board validating machines enabled for payment systems via bank cards or payment apps;

(f) sale of tickets on board (with or without surcharge as determined by the AE/CA), also enabled for electronic payment systems via bank cards or payment apps.

6. **The minimum level of the ACV indicator is 100%.** For the different transport modes, **the minimum number** of available channels referred to under (b), (c) and (d) is defined by the AE, which may provide for progressive achievement over time as specified in the Sales action plan, taking into account the territorial conditions of demand and supply. The conditions of demand include bus stations/stops characterised by low traffic levels, as inferred from origin-destination surveys conducted by the AE.

7. The MQR for commercial accessibility is ensured through the availability/operation of online ticketing systems (OTS) and is satisfied in case of no concurrent interruptions of OTS exceeding 12 consecutive hours (or 8 hours where only one OTS is provided). The MQR is measured through the **BTEL** indicator, expressed as a percentage, calculated for each year as the arithmetic mean of monthly $BTEL_m$ values defined for each month *m* as follows:

$$BTEL_m = \frac{No.\,of\,downtime\ events\ of\ OTS\ below\ threshold_m}{No.\,of\ downtime\ events_m} \cdot 100$$

where:

No. of days with OTS downtime events below threshold$_m$ = number of events in which the simultaneous operation of OTS has been interrupted for less than 12 consecutive hours, or less than 8 hours if only one OTS is available, except the time needed to carry out maintenance of OTS. In this context, at least one of the electronic ticketing services must be always available.

No. of downtime$_m$ *events* = number of OTS simultaneous downtime events.

8. **The minimum level of BTEL indicator is 100%.**

9. The MQR for commercial accessibility is also ensured through the operation of self-service automatic ticket machines (TVM) and is satisfied when all the TVM failures are resolved in less than a number of hours (n_{ss}) defined by the AE. The MQR is measured through the **BAUT** indicator, expressed as a percentage, calculated for each year as an arithmetic mean of the monthly $BAUT_m$ values defined for each month *m* as follows:

$$BAUT_m = \frac{(No.\,of\ TVM\ failures\ resolved\ no\ later\ than\ n_{ss})_m}{total\ No.\ of\ TVM_m} \cdot 100$$

where:

the calculation relates to all types of automatic ticketing machines (both on-board and on ground);

n_{ss} = maximum number of hours for the entire contract duration, defined by the AE considering the minimum value of the annual arithmetic means of the repair times of self-service TVM recorded in the last three years of the previous PSC. If no data is available, it is determined in the context of the consultation referred to in Measure 2 (4).

10. The numerator of the indicator includes failures in month *m*, even if resolved in month *m+1*, provided that the failure is resolved within a number of hours from its detection not exceeding n_{ss}, as defined in the PSC.

11. The time taken to restore the TVM operation starts from the alert registration in the central system for self-diagnostic systems, or from the report by the CC personnel or AE inspection staff, for non-interconnected facilities. Vandalism-related failures are excluded from the failures relevant for calculation of the indicator, while, for the calculation of failure resolution time, public holidays are not considered.

12. For the calculation of the indicator, automatic ticketing machines are considered to fall under the responsibility of the CC even if malfunctioning, due to causes attributable to the CC, affects the ticket availability of other LPT carriers/services.

13. **The minimum level of the BAUT indicator is 100 %.**

14. The MQR for commercial accessibility is also ensured through the operation of validating machines and is satisfied when all failures of validating machines are resolved in a number of hours not exceeding (n_{val}) as defined by the AE. The MQR is measured through the **VAL** indicator, expressed as a percentage, calculated for each year as an arithmetic mean of the monthly values VAL_m defined for each month *m* as follows:

$$VAL_m = \frac{(No.\,of\ failures\ of\ ticket\ control\ machines\ resolved\ no\ later\ than\ n_{val})_m}{total\ No.\,of\ failures_m\ of\ ticket\ control\ machines} \cdot 100$$

where:

the calculation relates to all types of validating machines both on board and on ground at the stop/station including those at the access gate;

n_{val} = maximum hours of reference for the entire contractual duration, defined by the AE considering the minimum value among the annual arithmetic means of repair times of validating machines in the last three years of the previous PSC. If no data are available, this value is determined in the consultation referred to in Measure 2 (4).

15. **The minimum level of the VAL indicator is 100%.**

16. An *ad hoc* **Sale action plan** is prepared and annexed to the PSC, including a description of the actions implemented for the purposes of the targets set under the PSC. The plan contains a description of the quantitative resources in terms of commercial channels, including the location of the ticket offices of the CC, and their evolution over time in line with contractual commitments. For underground services, the plan includes for each station the expected facilities in terms of ground commercial channels, highlighting, in the case of self-service ticket machines, the accepted payment methods.

17. The plan is drawn up by the CC and shall be adopted, following consultation with the AE, within the first year of the contractual term and be kept updated in line with the service development over time, including any technological innovations introduced by the PSC, considering the results of the SPS on this subject.

18. The AE defines in the PSC the penalties associated with the adoption of the Sale action plan and the compliance with the activities indicated therein.

19. If the service is awarded through a tendering procedure, the AE includes in the tender notice a draft plan identifying its minimum content, which may be subject to any improvement proposals, as part of the bids submitted by participants in the award procedure, to be assessed withing the procedure itself.

Chapter III – Combating fare evasion

The Measures under this Chapter identify the MQRs that ensure effective action by the CC to combat fare evasion, which includes the Ticket inspection plan. These MQRs take into account the economic impact that fare evasion can have on the EFP and, more broadly, on the financial resources to be reinvested also in improving other qualitative aspects. They also consider the perception of service value by users, including occasional users who, following a negative travel experience, may decide to no longer use public transport for such reasons.

Measure 15. Indicators and minimum levels for combating fare evasion

1. The MQR for commercial accessibility is ensured through ticket inspection activities, which must be implemented by the CC and monitored with **the Inspection execution Indicator (H_CTR),** and through the adoption of a **Ticket inspection plan**.
2. The **H_CTR** indicator, expressed as a percentage, is calculated for each year as an arithmetic mean of the monthly values H_CTR_m defined as follows: for each month *m*, the number of man-hours of control activities performed (excluding man-hours not performed due to reasons beyond the control of the CC's normal management diligence, such as diseases, accidents and other unforeseen events) compared to the total hours of activity scheduled in the month:

$$H\_CTR_m = \left(\frac{No.of\ performed\ man-hours_m}{No.of\ scheduled\ man-hours_m}\right) \cdot 100$$

3. The indicator is subject to annual verification on the basis of a final report provided by the CC to the AE, as regulated in the *ad hoc* inspection plan.
4. **The annual minimum level of the H_CTR indicator is 100%**.
5. The **Ticket inspection plan** is adopted by the CC upon conclusion of the PSC, of which it is an integral part**.** In case of non-competitive tendering procedure, the CC defines the Plan on the basis of the indications from the AE, whereas in the case of a competitive tendering procedure the AE identifies the main elements of the Plan in the tender documentation, so that tender participants can submit their detailed bid.
6. The Ticket inspection plan must include at least:
   (a) definition of inspection procedures and quantification of the allocated resources expressed as man-hours/month;
   (b) any programmes for implementation and introduction of video surveillance equipment onboard and at stops/stations in line with the investments scheduled under the PSC;
   (c) monitoring programme whose activities are defined on the basis of the following criteria:
      i. random sampling inspections throughout the (territorial and temporal) perimeter of the services referred to in the PSC;
      ii. annual distribution of timing and places of random inspections to ensure effectiveness of the intervention and prevent its predictability by potential evaders;
      iii. by considering the importance of lines, peak and off-peak hours, and different periods of the year;
   (d) specific indicators to monitor the degree of fare evasion and assess the effectiveness of enforcement actions over time;
   (e) the data reporting methods by the CC to the AE. The inspection hours are monitored by the CC which keeps a dedicated register listing, for each work shift, at least: days, man-hours, lines on which the inspection activities were conducted and number of recorded infringements;

(f) updating methods.

7. The AE defines in the PSC the penalties related to the adoption of the Ticket inspection plan and the compliance with the activities specified therein.

Chapter IV– Accessibility of vehicles and infrastructure to the public (with reference to PRM)

The Measures under this Chapter identify the MQR regarding the accessibility of LPT services through an approach that considers both the initial state of the movable and immovable property concerned, the investments planned in the PSC and the need for the CC, SM/IM, and relevant public authorities to intervene, each within their competencies and responsibilities, to ensure the effective accessibility of services, particularly for PRM. This integrated approach is guaranteed through the adoption of the Accessibility Operational Plan, which includes, *inter alia*, qualitative indicators to measure the level of available rolling stock and infrastructure in terms of accessibility, and specific performance indicators related to accessible services, which fall under the responsibility of the aforementioned entities.

Measure 16. Indicators and minimum levels of accessibility of vehicles and infrastructure to the public

1. The MQR for accessibility of vehicles and infrastructure to the public are guaranteed through the obligation to:
   (a) provide an Accessibility Operational Plan;
   (b) schedule an accessible transport service for users, with particular reference to PRM;
   (c) provide adequate assistance services to PRM at stations, for metropolitan transport services;
   (d) provide adequate assistance services to PRM at selected stops, for road transport services; selected stops are identified by the AE based on node prioritization criteria as per Measure 3 and any identified needs from the consultation outlined in Measure 2 (4).
2. The AE defines the minimum content of the **Accessibility Operational Plan**, to be attached to the draft PSC included in the tender documentation. In defining the minimum content of the Plan, as part of the consultation referred to in Measure 2 (4), the AE involves relevant infrastructure management entities, consumer associations, and representatives of PRM. In the case of service award through tendering procedure, the Plan may be subject to improvement proposals as part of the bids submitted by tender participants, which may be assessed for the purpose of awarding the service. Following the award, within one year from the conclusion of the PSC, the CC may refine the content of the Plan concerning actions contingent upon actual tenure of the PSC.
3. The Accessibility Operational Plan describes the aspects related to the accessibility of the awarded transport service and outlines joint actions as defined and agreed upon by the involved parties based on the respective competencies. This includes training activities on disability issues planned for staff throughout the duration of the PSC, aimed at improving service accessibility and coordinating efforts to remove architectural barriers. The detailed list of stations and stops covered by the services under the PSC is provided in the Plan, along with descriptions of their characteristics and facilities, including at least:
   (a) wheelchair accessibility in the absence of architectural barriers;
   (b) existing devices ensuring accessibility for visually impaired users;
   (c) existing devices to ensure accessibility to hearing impaired users;
   (d) type of infrastructure for the provision of on-site information (e.g. displays, notice boards);
   (e) entity responsible for infrastructure management (CC, SM, Municipality, etc.);
   (f) assistance services for PRM.
4. During the contract period, the accessibility level of vehicle fleet, infrastructure, and overall service is monitored through at least the following indicative and not exhaustive indicators, to be specified in the Accessibility Operational Plan:
   (a) % of vehicles equipped with low-floor platform or vehicle tilting system;
   (b) % of vehicles equipped with a (manual or automatic) ramp for easy wheelchair access;

(c) % of vehicles equipped with wheelchair transport station;
(d) % of vehicles with aids for visually impaired persons;
(e) % of accessible lines: lines operated with only wheelchair-accessible rolling stock and all stops/stations accessible to wheelchair users;
(f) % of stops/stations with no architectural barriers and accessible to wheelchair users;
(g) % of stops/stations equipped with aids for visually impaired persons;
(h) % of stops/stations equipped with aids for hearing-impaired persons;
(i) % of stops equipped with shelter or similar weather protection covering;
(j) % of stops equipped with seats.

5. The Operational Accessibility Plan outlines both the operational actions planned for providing accessibility information to PRM, through visual and vocal supports, both on ground and on board, as specified by the indicators on information in Measures 18 and 19, and the actions for enhancing the reception and assistance system for PRM adopted when one or more of the following conditions are met:

   (a) services temporarily inaccessible to PRM (e.g. due to vehicles with malfunctioning assistive devices);
   (b) not operating facility devices (escalators, elevators, etc.);
   (c) replacement services as identified in the Action Plan for Substitute Services under Measure 13.

   In the Operational Accessibility Plan, the CC also describes the training activities planned throughout the duration of the PSC, in compliance with Article 16 of Regulation (EU) No. 181/2011.

6. Considering the contractual obligations related to investments and quality improvement concerning the accessibility of vehicles and infrastructure to the public under the responsibility of the CC, the Accessibility Operational Plan specifies the minimum levels of the indicators outlined in (4) and the corresponding penalties defined by the AE. Annually, the AE verifies the existence and conformity of the Plan, including its alignment with indicators attributable to the CC's responsibility, and imposes appropriate penalties for delays in drafting the Plan according to the scheduled deadlines.

7. The MQR related to (1) (b) is ensured by scheduling an adequate number of services operated with accessible and usable rolling stock approved for PRM. The MQR is measured through the **Availability and usability of services for PRM indicator (SPMR)**, calculated annually as the arithmetic mean of the monthly values $SPMR_{L,m}$. For each line *L* and each month *m*, this indicator is defined as the percentage ratio between the number of services effectively usable by PRM and the total number of services scheduled as accessible for PRM:

$$SPMR_{L,m} = \left(\frac{No.\,of\ accessible\ and\ usable\ monthly\ services_{L,m}}{No.\,of\ scheduled\ accessible\ monthly\ services_{L,m}}\right) \cdot 100$$

   where for each line *L*:
   (a) the number of "*accessible and usable monthly services"* is given by the number of monthly services operated with approved rolling stock accessible for PRM, in particular wheelchair users. For the indicator, a service is considered accessible if the vehicle has and makes available 100% of the reserved seats and wheelchair spaces, including functional equipment (buttons, anchoring systems, etc.), and if 100% of the aids (ramps, vehicle lowering systems, etc.) are operational and usable;
   (b) the number of "*scheduled accessible monthly journeys"* represents all services designated as accessible according to the OS.

8. **The minimum annual level of the SPMR indicator** to be ensured for each line **is 100%**. The assessment of the achieved level is under the responsibility of the AE and may be conducted through sample checks of the services designated as accessible by the OS, based on specific monitoring criteria contractually defined (sampling strategy and sample size).

9. In the case of metropolitan transport services, the MQR related to (1) (c) is ensured by the provision of adequate and working facilities that make stations accessible to PRM. The MQR is measured through the **PRM accessible stations (APMR)** indicator, to be included in the Accessibility Operational Plan. This indicator is calculated annually for each line *L* based on the percentage of stations with working facilities out of the total stations served by the service line under the PSC:

$$APMR_L = \left(\frac{No.\,of\ stations\ accessible\ for\ PRM_L}{No.\,of\ total\ stations_L}\right) \cdot 100$$

where for each line *L*:

(a) the percentage calculation is carried out by considering all stations planned for line *L*;

(b) "PRM accessible station" means a station where:

i. all platforms are accessible through working facilities, such as lifts and escalators;

ii. stairs are intact or deteriorated so as not to prevent their use;

iii. loges tactile paths are intact;

iv. any sound systems are working;

v. in case of shutdown, failure and/or deterioration of the elements referred to in (i), (ii) and (iii), detected during inspections carried out by the AE at least monthly and/or following alerts, their operation is restored within the maximum timeframe specified in the contract concluded between the AE and the facility owner (the CC or, where the liability falls on a party other than the CC, the SM). In the contract, the maximum restoration time is specified separately by type of major maintenance activity and a penalty system is provided for cases where the specified time limit is exceeded. In the case of outsourced maintenance activities, similar provisions are introduced by the facility owner in the maintenance contracts concluded with the contracting entities. The AE promptly verifies the restoration through a specific site inspection.

10. Regarding the APMR indicator, the Data Access Plan referred to in Measure 4 (9) outlines the methods whereby information on any restoration measures is made available to users. In particular, as part of the contractual information obligations with the facility owner, the AE stipulates that:

(a) the facility owner, upon becoming aware of the facility's breakdown, promptly informs the AE and the CC thereof, indicating the estimated date of restoration;

(b) the facility owner, upon restoration of the facility, simultaneously informs the AE and the CC of the service resumption.

The CC promptly communicates the information outlined in (a) and (b) to users through its channels, as specified in Measures 18 and 19.

11. Where the station facilities, or a part thereof, do not fall under the responsibility of the same CC providing the LPT service:

(a) the APMR indicator, to be included in the PSC, is based on the part of vertical transport systems (elevators, escalators, moving walkways) and cases of infrastructural failures (e.g. damaged stairs, unusable tactile paths, etc.) attributable to the CC's responsibility. The AE includes appropriate penalties in the PSC in case the **minimum level** is not achieved;

(b) for vertical transport systems and cases of infrastructural failures falling under the responsibility of an entity other than the CC of the LPT service, which acts as the IM, the CA holding the contract with the IM, introduces this indicator into the relevant contract. It also includes appropriate penalties in case the **minimum level** is not achieved. The IM provides annually evidence of the minimum levels, actual levels achieved and penalties received under its Quality Customer Charter, which is made public and available on their website as well.

12. **The annual minimum level of the APRM indicator, including in the cases referred to under 11 (a) and (b), is determined by the AE** according to the criteria set out in Measure 2.

13. In the case of road transport services other than underground, the MQR related to point 1 (d) is ensured by the absence of defects in the equipment provided for accessibility that would prevent PRM from accessing the stops. The MQR is measured through the **PRM Accessible Stop** indicator **(FPMR)**, which should be included in the Accessibility Operational Plan. It is calculated annually for each line *L* as the percentage of stops accessible to PRM out of the total stops served by the line covered by the PSC:

$$FPMR_L = \left(\frac{No.of\ accessible\ stops\ for\ PRM_L}{No.of\ total\ stops_L}\right) \cdot 100$$

where for each line *L*:
(a) the percentage calculation is carried out taking into account all the stops planned for line *L*;
(b) "accessible stop for PRM" refers to a stop where the equipment provided for accessibility do not have defects that would prevent PRM from accessing the stop. In case of defects identified during inspections conducted by the AE at least monthly and/or following reports, restoration is carried out within the timeframes contractually provided for each macro-type of maintenance activity. The AE promptly verifies the restoration through a specific on-site inspection.

14. If the responsibility for the stops falls under more than one competent authority, the FPMR indicator is calculated separately for the stops under the jurisdiction of each authority. **The AE determines the minimum level of the FPMR indicator** according to the criteria outlined in Measure 2 and establishes the corresponding penalty system, which should be provided for:

(a) in the PSC, with reference to the stops under the CC’s jurisdiction;
(b) in the act governing the contractual relationship with each competent authority, otherwise.

The AE calculates the FPMR indicator also for the stops under the jurisdiction of a public authority without a special contractual relationship between the AE and the competent public authority, publishing the relevant results. In this case, the minimum level will be determined through the consultation procedure referred to in Measure 2 (4).

15. The assessment of the achieved level falls under the AE's purview and may be conducted based on monthly sample checks of the stops declared accessible, according to specific monitoring criteria contractually defined (sampling strategy and sample size), ensuring at least one annual verification for each stop.

16. In relation to the FPMR indicator, the Data Access Plan referred to in Measure 4 (9) describes the methods through which information on any restoration measures is made available to users. In particular, if more than one competent authority (e.g. if the stops are under the jurisdiction of multiple municipalities), the AE acts as the information collector. As part of the information obligations contractually provided with the relevant authorities in charge of the stops, the AE stipulates that:

(a) upon becoming aware of changes in the accessibility status of the stops, including due to damage, the competent authorities promptly inform the AE, indicating the expected time of restoration;
(b) once the stop operation is restored, the competent authorities inform the AE;
(c) the AE, upon receipt, forwards the information referred to in (a) and (b) to the CCs of the services related to the concerned stops for dissemination through their communication channels, in accordance with the provisions of Measures 18 and 19.

Chapter VII - Environmental sustainability

The Measure under this Chapter defines the MQRs aimed at identifying and monitoring the environmental sustainability of a LPT road service. In line with the measures outlined in Chapter I, this aspect fits into a quality chain context which must also include the strategic coordination of competent local/territorial authorities, implemented based on available resources of existing plans/tools. This includes the "Sustainable Urban Mobility Plan" (SUMP), the "National Action Plan on Green Public Procurement" (NAPGPP) and the related specific minimum environmental criteria identified under Article 57 of Legislative Decree No. 36/2023, considering the technical and economic conditions of the market and the infrastructure network (particularly with reference to recharging/refuelling of alternative fuel buses). Within this framework, regulation focused on the sustainability of the circulating fleet has been developed, along with its impact in terms of GHG emissions and energy intensity.

Measure 17. Indicators and minimum levels of environmental sustainability

1. To identify and monitor the minimum environmental sustainability of LPT road services, particularly focusing on air quality improvement and energy efficiency enhancement, concerning the characteristics of the circulating fleet, the AE adopts the following indicators:
   (a) fleet sustainability;
   (b) energy efficiency;
   (c) emission intensity.

2. The **Fleet Sustainability Indicator** (**SP)** is calculated annually as the percentage ratio of "low environmental impact" vehicles (*Mra*) used in LPT services to the total number of vehicles authorised in the fleet (*Mtot*):

$$SP = \left(\frac{Mra}{Mtot}\right) \cdot 100$$

   where:
   Mra = total number of vehicles belonging to the following emission classes or traction systems:
   - diesel "Euro 6" or newer;
   - LPG;
   - natural gas (CNG, LNG, biomethane);
   - diesel-electric hybrid (e.g., Full-Hybrid, PHEB, E-REV)
   - full battery electric (BEV);
   - powered by other alternative fuels (e.g., hydrogen);

   Mtot = total number of vehicles in the fleet, including reserves.

3. **The minimum levels of the SP indicator**, to be achieved in the contract period, and their respective evaluation periods **are defined by the AE** based on:
   (a) investment plans for fleet renewal, considering the characteristics of the fleet made available to the CC, public resources available for new acquisitions in the period, and any additional resources and related interventions to be borne by the CC;
   (b) territorial division concerned (urban, extra-urban), considering the actual use of the different technological solutions/traction systems in the relevant contexts.

4. If flexible services are planned in the PSC, the AE may define specific minimum levels of the SP indicator, using the same calculation methods as described under (2).

5. The **Emission Intensity** indicator **(IE)** is defined annually as the ratio of the total annual greenhouse gas emissions (GHG) from the performance of the LPT service concerned, to the total service output:

$$IE = \frac{GHG}{P_{tot}}$$

where:

GHG = total greenhouse gas emissions, expressed in equivalent tonnes of carbon dioxide (Teq CO_2), given by the sum of emissions from fuel and electricity components, from direct and indirect sources, for the performance of the LPT service concerned, resulting from the distances covered by each authorised and in-service vehicle in the reference year;

P_{tot} = total service output, as provided in the OS, expressed in seat-km/year.

6. **The minimum levels of the IE indicator**, to be achieved in the contract period, and their respective evaluation periods, are defined by the AE based on the investment plans for fleet renewal and/or upgrading of immovable property held by the CC (depots, offices or other buildings). This considers the characteristics of the fleet made available to the CC, the public resources available for the period, and any additional resources and related interventions to be borne by the CC.

7. The AE may define specific minimum levels of the IE indicator based on the territorial division concerned (urban/suburban, extra-urban/regional) and/or if flexible services are planned in the PSC, using the same calculation methods as described under (5).

8. The **Energy Efficiency (EE)** indicator is defined annually as the ratio of total energy consumption (*ECt*) from the operation of the relevant LPT service to total service supply:

$$EE = \frac{ECt}{P_{tot}}$$

where:

ECt = annual energy consumption, expressed in Joule, given by the sum of fuel and electricity components, from direct and indirect sources, for the performance of the LPT service concerned, resulting from the distances covered by each authorised and in-service vehicle in the reference year;

P_{tot} = total service output, as provided in the OS, expressed in seat-km/year.

9. **The minimum levels of the EE indicator**, to be achieved in the contract period, and their respective evaluation periods **are defined** by the AE based on the planned investment plans for fleet renewal and/or upgrading of the immovable property held by the CC (depots, offices or other buildings). This considers the characteristics of the fleet made available to the CC, the public resources available for the period, and any additional resources and related interventions to be borne by the CC.

10. The AE may define specific minimum levels of the EE indicator based on the territorial division concerned and/or if flexible services are planned in the PSC, using the same calculation methods as described under (8).

Chapter VIII- User information

The Measures under this Chapter define the minimum requirements to provide users of LPT road services with information on service operation, broken down into static and dynamic, and tailored for different stages of the journey. This information is intended to enable users to better utilise services, aligning more closely with their travel needs, even under disrupted traffic conditions. This information also enables a more informed exercise of user rights (e.g., procedures for filing complaints) and facilitates participation in monitoring and oversight of service performance.

Measure 18. Indicators and minimum levels of information to users (pre-journey)

1. The minimum information requirements for users and citizens in the pre-journey phase are ensured through the publication and dissemination of information, differentiated by communication channel supplied by the CC/AE and type (static and dynamic), as listed in Table 1. They are measured with the binary **INFO_AN** indicator, which is given a value of 1 if 100% of the information listed in the table is available and 0 if not. Information is considered to be available where it is also compliant; if the information is non-compliant, it is considered as not available.
2. **The value of the minimum level of the INFO_AN indicator is one**.
3. The information specified in this Measure is disseminated, published or communicated in a plain language for users (including PRM), occasional users, and the public, without technical terms.
4. Visual information at stations/stops are provided and positioned to ensure maximum readability through appropriate font size and use of colour. Announcements at stations/stops are clear and delivered at an appropriate volume level.
5. The languages used in the communication channels listed in Table 1 are Italian and English. If the CC provides all or part of the information listed in Table 1 only in Italian, it shall develop an **English Language Plan** within the first year of the contractual period, to be shared with the AE. In the plan the AE defines the objectives aimed at achieving greater coverage of the information in English, up to a pre-determined level of coverage to be reached by the end of the PSC. The AE specifies appropriate penalties in the PSC for non-compliance with the deadlines for adoption of the aforementioned Plan.

TABLE 1. Pre-journey information broken down by communication channel (where available) (1/2)

	Order No.	Type of information	Ticket office of CC	Station	Stop			Self-service ticketing machine	Contact centre	Website	Mobile APP	Authorised sales outlets
					Underground	Urban[3]	Extra-urban[3]					
STATIC	1	General conditions of carriage	X		X			X	X	X	X	
	2	Methods for ticket purchase, including on board	X	X	X	X	X		X	X	X	
	3	Contact channels and procedures for user complaints, including the information specified in Measure 3 of ART Decision No. 28/2021	X	X	X	X	X	X	X	X	X	
	4	Contact channels for user information requests	X	X	X	X	X	X		X	X	
	5	Current fare system: levels, structure, quantity discounts (travel passes), integration with other tickets (legislative or regulatory references, calculation criteria and formulas, examples for km lengths); cost of any additional services	X						X	X	X	
	6	Methods for consultation of Quality Customer Charter	X	X	X				X	X	X	
	7	Methods for ticket validation (including in case of out-of-order validating machines) and penalties applicable to travellers without a valid ticket	X	X	X	X	X	X	X	X	X	
	8	Departure and arrival timetables, frequency, service schedule (for underground stops and authorised sales outlets: frequency and time of service)	X	X	X	X	X	X	X	X	X	X
	9	Availability of on-board services	X					X	X	X	X	
	10	Map of transport network and individual lines with indication of: major interconnections with other transport modes/services, accessibility for wheelchair users	X	X	X	X	X			X	X	
	11	List of stations/stops accessible to PRM, in particular wheelchair users	X		X				X	X	X	
	12	Procedures for lost luggage and lost item recovery	X						X	X	X	
	13	Access conditions for bicycle, scooters and pets (if not included in the GTC)	X		X			X	X	X	X	
	14	On-board availability of dedicated PRM seats	X					X	X	X	X	
	15	Procedures for requesting PRM assistance services on board and at stations/stops	X	X	X	X	X		X	X	X	
	16	Timetable and conditions for fastest alternative travel option	X						X	X	X	

TABLE 1. Pre-journey information broken down by communication channel (where available) (2/2)

	Order No.	Type of information	Ticket office of CC	Station	Stop			Self-service ticketing machine	Contact centre	Website	Mobile APP	Authorised sales outlets
					Underground	Urban[3]	Extra-urban[3]					
STATIC	17	Timetables and conditions for lowest rates	X					X	X	X	X	X
	18	List of guaranteed minimum services (or time slots) in case of strike. (For underground: strike events are also communicated through frequent audio messages starting at least one day before the event)	X		X				X	X	X	
	19	Information concerning passenger access to any substitute transport	X	X	X				X	X	X	
DYNAMIC	20	Timetable of arrivals and departures at stations or stops, as updated at any change		X[1]	X[1]	X[1]	X[1]		X	X	X	
	21	Information on unavailable station facilities (e.g. lifts) (for contact centres and online channels only if made available by the SM)		X	X				X	X	X	
	22	Mandatory requirements/equipment for access to the service (if not included in the GTC)	X		X			X	X	X	X	
	23	Timely notification of delays, cancellations, and service disruptions compared to time schedule, and provision of substitute services, updated at any change		X[1]	X[1]	X[1]	X[1]		X	X	X	
	24	Scheduled or non-scheduled activities that could interrupt or delay the transport service		X[1]	X[1]	X[1]	X[1]		X	X	X	
	25	Vehicle crowding								X	X	

1 = for the purpose of measuring information compliance, the list of stops/stations where real-time information is provided, is determined in the PSC, taking into account the planned investment programme (by both the AE and the CC).

2 = for the purpose of measuring information compliance, the PSC defines the services in respect of which real-time information is provided and the corresponding channels where the information is available.

3 = for this channel the information may also be provided via the QR-Code.

Measure 19. Indicators and minimum levels of user information (during the journey)

1. The minimum requirements of the information to be provided to users and citizens during the journey are ensured through the publication and dissemination of information broken down into static and dynamic, as listed in Tables 2 and 3 below. They are measured through the binary **INFO_DU** indicator, which is given a value of 1 if 100% of the information listed in Tables 2 and 3, respectively, is available and 0 if not. The information is considered to be available where it is also compliant; if the information is non-compliant, it is considered as not available.
2. **The minimum level of the INFO_DU indicator is one**.
3. The information specified in this Measure is disseminated, published or communicated in a plain language for users (including PRM), occasional users, and the public, without technical terms.
4. Visual information on board is provided and positioned to ensure maximum readability through appropriate font size and use of colour. Announcements on board are delivered clearly and appropriately in terms of sound level and pronunciation. The languages used on board for the information listed in Tables 2 and 3 are Italian and English. If the CC provides all or part of the information listed in Table 2 and 3 only in Italian, the AE defines, withing the framework of the **English language plan** referred to under Measure 18 (5), the objectives aimed at achieving greater coverage of the information listed in Table 2 and 3 in English, up to a pre-determined level of coverage to be reached by the end of the PSC.

TABLE 2 – Information during the journey - Static information on board

	Order No.	Type of information
STATIC	26	Identifier of line and destination to be displayed outside the vehicle
	27	Channels and contact methods for user complaints to the undertaking, including the information referred to under Measure 3 of ART Decision No. 28/2021
	28	Procedures for submission of complaints to the Transport Regulation Authority
	29	Available on-board services
	30	Available PRM dedicated seats on board
	31	Information on passenger safety and conduct in case of danger or emergency

TABLE 2 – Information during the journey - Dynamic information on board, via appropriate sound systems and/or visual displays (where available).

<table>
<tr><th></th><th>Order No.</th><th>Type of information</th><th>Notes</th></tr>
<tr><td rowspan="11">DYNAMIC</td><td>32</td><td>Next stop</td><td></td></tr>
<tr><td>33</td><td>For underground services: door opening side (if it changes during the journey)</td><td></td></tr>
<tr><td>34</td><td>Main connections, including those operated by other carriers (where available)</td><td></td></tr>
<tr><td colspan="3">In case of breakdowns of automatic sound systems and/or visual displays on board, in addition to the above dynamic information, undertakings shall provide the following information, including through announcements via appropriate sound systems, where available, concerning:</td></tr>
<tr><td>Order No.</td><td>Type of information</td><td>Notes</td></tr>
<tr><td>35</td><td>Service disruptions (e.g. cancellations, interruptions)</td><td rowspan="2">This information shall be:
- promptly provided and with continuous updates on the evolution of the situation, including by indicating the time needed to restore normal travel conditions, if possible.
- accompanied by the reasons that caused the cancellation or disruption of the service (if known);
- where sound systems and/or visual displays on board are not available or not working, the information shall be provided by the driver or other operator who will personally make the announcement. In any case, special attention shall be paid to the needs of people with hearing impairment.</td></tr>
<tr><td>36</td><td>Service cancellation and indication of alternative transport</td></tr>
<tr><td>37</td><td>Communication to passengers on board regarding their right to claim refunds or compensation (where applicable), and guidance on the related procedures, or to verify this right through other communication channels (e.g., website, ticket office, other).</td><td></td></tr>
</table>

Chapter IX – Transparency

The Measure under this Chapter aims to ensure minimum transparency in the provision of services, promote service development, and enable the citizens' oversight of the services, benefiting taxpayers who finance them through public funds. It lays down specific contractual obligations regarding the publication on the CC's website of the Quality Customer Charter, which must include detailed information, also derived from regulatory measures and of interest to users. This also allows the Authority to collect specific data from companies and publish them in a dedicated section of its website, enabling citizens and users to access this information.

Measure 20. Indicators and minimum levels of transparency

1. To ensure minimum transparency in the provision of services and promote service development and widespread citizen oversight, the AE identifies in the PSC obligations for the CC regarding the adoption and publication of the Quality Customer Charter according to the following criteria:
   (a) the Quality Customer Charter must be published on the CC's website in a user-friendly section, also accessible to PRM;
   (b) where not already mandated by sector regulations, the Quality Customer Charter must also include:
      i. all final levels of the indicators defined under these measures and included in the PSC; actual number of passengers carried and pax · vehicle-km;
      ii. rolling stock distribution by age and/or environmental class;
      iii. percentage share of the total cost of the service covered by traffic revenues and remaining percentage share borne by public finance;
      iv. summary results of SPS surveys, as referred to in Measure 6, carried out by the CC;
      v. references to any acts, including programmatic, describing objectives, policies and instruments adopted (or to be adopted) for improving environmental sustainability, as well as any reporting documents attesting the environmental results achieved in corporate activities and organisation drawn up according to criteria and models of Corporate Social Responsibility such as, e.g., those developed by the Global Reporting Initiative (GRI).
   (c) the publication of the current Quality Customer Charter, as referred to under (a), does not replace the Charter published in the previous year but adds to it. This ensures a comprehensive representation of the state and evolution of service quality, particularly regarding actual performance data, which should be complete and may include ensuing updates.
   (d) the AE defines in the PSC the schedules for drafting the Quality Customer Charter and the corresponding penalties in case of delays.

2. Regarding the data mentioned in the above point, the Authority will disclose any methods for their acquisition from the CCs, according to its procedures, ensuring their accessibility on a dedicated section of its website, in accordance with Article 31 of Legislative Decree No. 201/2022. This includes specific reference to data on the actual quality levels achieved by the CCs as referred to in Article 3 (c) of the a.m. article.

Chapter X- Cleanliness and comfort of rolling stock and infrastructure

The Measures under this Chapter identify the MQR to ensure an adequate level of cleanliness and comfort for users of LPT services, both on vehicles and at stops/stations. The measures also identify indicators to monitor the presence and proper functioning of any technological equipment that may enhance the travel experience, starting with air conditioning systems, and any other technological equipment that the AE deems necessary to be provided onboard or in ground infrastructure, in line with the investments required in the PSC.

Measure 21. Indicators and minimum levels of cleanliness

1. The MQR related to the cleanliness of rolling stock and publicly accessible support infrastructure is ensured and monitored through the following indicators:
   (a) **Execution of scheduled cleaning cycles (PUL);**
   (b) **Conformity of executed cleaning cycles (PUL_CONF).**
2. The **PUL** indicator, to be verified on an annual basis for the various modes of transport and infrastructure regulated in the PSC, is defined for each category of asset "*b*" (vehicles/infrastructure) as the ratio of the number of cleaning operations performed to the number of predefined and specifically identified operations in the PSC, aimed at maintaining an adequate level of cleanliness and decor of the movable and immovable assets instrumental to the service. For each category of asset "*b*" the indicator is defined as follows:

$$PUL_b = \left(\frac{No.\,of\ performed\ operations_b}{No.\,of\ scheduled\ operations_b}\right) \cdot 100$$

   where:

   b = identifies the different categories of movable and immovable assets such as: buses (at the AE's discretion, also broken down into sub-categories); trolleybuses; trams; underground vehicles; stops; stations; etc.;

   No. of scheduled operations: the PSC specifies, for each type of operation, the minimum frequencies of the activities;

   No. of executed cleaning operations: the CC develops a specific reporting system for the executed activities, to be periodically transmitted to the AE, highlighting the scheduled but not performed activities due to reasons not attributable to the CC, as defined by the AE in the PSC. Operations falling under this category, if verified and confirmed by the AE, are factored out the indicator.

3. The total number and minimum frequencies of scheduled operations are defined considering the criteria outlined in Measure 2, the results achieved in previous years, and the characteristics of rolling stock or infrastructure that are necessary for the delivery of the service.
4. **The minimum level of PUL indicators** for vehicles and infrastructure **is 100%.**
5. The **PUL_CONF** indicator, to be calculated and verified at least on an annual basis based on inspections conducted by the AE in accordance with Measure 4 (2), for various types of vehicles and modes of transport included in the PSC, and for infrastructure, is defined for each category of asset "*b*" as the ratio of the number of cleaning operations assessed by the AE as compliant with the PSC standards, to the total number of observed operations:

$$PUL\_CONF_b = \left(\frac{No.\,of\ compliant\ cleaning\ operations_b}{No.\,of\ observed\ operations_b}\right) \cdot 100$$

where:

b = identifies the different categories of movable and immovable assets such as: buses (at the AE's discretion, also broken down into subcategories); trolleybuses; trams; underground vehicles; stops; stations; etc.

The AE establishes and regulates in the PSC a minimum number of sample checks for each type of asset "*b*" at least on a quarterly basis.

6. **The minimum level of PUL_CONF indicators** for each type of asset **is contractually defined by the AE** based on the criteria set out in Measure 2, and background factors related to both rolling stock and infrastructure that are necessary for the provision of the service.

7. In cases where the responsibilities for ground infrastructure cleaning such as stops or stations, or parts thereof, are not (solely) attributable to the same CC that provides the LPT service under the CdS:
   (a) the PUL and PUL_CONF indicators, to be included in the PSC of the CC, are assessed based on the part of the infrastructure that falls under the CC's responsibility. The AE specifies in the PSC the minimum levels and penalties in case the target is not achieved;
   (b) for infrastructure under the jurisdiction of an entity other than the CC of the LPT service, which is identified as IM/SM, the CA holding the contract with the IM/SM introduces the PUL and PUL_CONF indicators in the contract, that are applied to the infrastructure under their respective jurisdiction. Adequate penalties are also established in case the minimum levels defined by the AE are not met. This includes addressing cases of non-transmission or delayed transmission of final data and methods for direct on-site verification of the factors that make up the indicators. Every year, the IM/SM, in the context of the Quality Customer Charter, that must be made public and available on its website, reports evidence of the minimum levels, final levels achieved, and imposed penalties.

Measure 22. Indicators and minimum levels of comfort

1. The MQR related to the comfort of rolling stock and publicly accessible support infrastructure is ensured and monitored through the following indicators:
   (a) **Availability of air conditioning systems (CLIMA);**
   (b) **Operation of air conditioning systems (CLIMA_FUNZ);**
   (c) **Availability of technological systems (TECNO);**
   (d) **Operation of technological systems (TECNO_FUNZ).**

2. The **CLIMA** indicator, to be verified at least on an annual basis for the various modes of transport and publicly accessible infrastructure, is defined, for each category of asset *"b"* (vehicles/infrastructure), as the ratio of the number of assets equipped with air conditioning systems to the total number of assets in the same category as follows:

$$CLIMA_b = \left(\frac{No.\,of\ assets\ "b"\ equipped\ with\ AC\ systems}{total\ No.\,of\ assets\ "b"}\right) \cdot 100$$

where:

b = identifies the different categories of movable and immovable assets such as: buses (at the AE's discretion, also broken down into subcategories); trolleybuses; trams; underground vehicles; stops; stations; etc.

3. **The minimum level of CLIMA indicators** for vehicles and infrastructure **is defined by the AE** considering the criteria under Measure 2, background factors and forecasts related to both rolling stock and

infrastructure that are necessary for the provision of the service, and the provisions of the relevant EU and national legislation in force.

4. The **CLIMA_FUNZ** indicator, to be verified at least on an annual basis for the various modes of transport and infrastructure, is defined, for each category of asset *"b"* (vehicles/infrastructure), as the ratio of the number of assets equipped with working facilities to the total number of assets in the same category equipped with facilities, as follows:

$$CLIMA\_FUNZ_b = \left(\frac{No.\,of\ assets\ "b"\ equipped\ with\ working\ facility}{No.\,of\ assets\ "b"\ observed}\right) \cdot 100$$

where:

b = identifies the different categories of movable and immovable assets such as: buses (at the AE's discretion, also broken down into subcategories); trolleybuses; trams; underground vehicles; stops; stations; etc.

For the calculation of the numerator of the CLIMA_FUNZ indicator, the AE specifies in the PSC the number of non-working air conditioning systems on each asset "b" that classify the asset as having non-working systems. This threshold is determined by considering the average number of existing systems in the assets and the potential impact caused by non-working systems.

As regards the number of assets "b" to be observed, the AE specifies and regulates in the PSC a minimum number of sample checks for each type of asset "b" at least on a quarterly basis.

5. **The minimum level of CLIMA_FUNZ indicators** for vehicles and infrastructure **is 100%**.

6. The **TECNO** indicator, to be verified at least on an annual basis for the various modes of transport and publicly accessible infrastructure, is defined, for each category of asset *"b"* (vehicles/infrastructure), and for each technological system *"i"*, as the ratio of the number of assets equipped with technological sysems *"i"* to the total number of assets in the same category as follows:

$$TECNO_{b,i} = \left(\frac{No.\,assets\ "b"\ equipped\ with\ "i"\ system}{total\ No.\,assets\ "b"}\right) \cdot 100$$

where:

b = identifies the different categories of movable and immovable assets such as: buses (at the discretion of the AE, also broken down into subcategories); trolleybuses; trams; underground vehicles; stops; stations; etc;

i = identifies the individual system or technological equipment whose performance is to be measured, such as, but not limited to: stop request button, intercom, WiFi, charging outlets, etc.

7. **The minimum level of TECNO indicators** for vehicles and infrastructure **is defined by the AE** based on the criteria set out in Measure 2, also taking into account the background factors and forecasts related to both rolling stock and infrastructure that are necessary for the provision of the service, and the provisions of the relevant EU and national legislation in force.

8. The **TECNO_FUNZ** indicator, to be verified at least on an annual basis for the various modes of transport and infrastructure, shall be defined, for each category of asset *"b"* (vehicles/infrastructure), as the ratio of the number of assets equipped with operating facilities to the total number of assets in the same category equipped with facilities, as follows:

$$TECNO\_FUNZ_{b,i} = \left(\frac{No.\,assets\ "b"\ equipped\ with\ operating\ facility\ "i"}{No.\,observed\ assets\ "b"equipped\ with\ "i"\ facility}\right) \cdot 100$$

where:

b = identifies the different categories of movable and immovable assets such as: buses (at the discretion of the AE, also broken down into subcategories); trolleybuses; trams; underground vehicles; stops; stations; etc;

i = identifies the individual system or technological equipment whose performance is to be measured, such as, but not limited to: stop request button, intercom, WiFi, charging outlets, etc.

For the calculation of the numerator of the TECNO_FUNZ indicator, the AE specifies in the PSC the number of non-operating facilities *"i"* on a single asset "b" that classify the asset as having non-operating facilities systems. This threshold is determined by considering the average number of existing facilities in the assets and the potential impact caused by their malfunction.

As regards the number of assets *"b"* equipped with facility *"i"* to be observed, the AE specifies and regulates in the PSC, a minimum number of sample checks for each type of asset "b" at least on a quarterly basis.

9. The minimum level of **TECNO_FUNZ indicators** for vehicles and infrastructure **is defined by the AE** based on the criteria outlined in Measure 2, also considering users' expectations as resulting from SPS, background factors and forecasts related to both rolling stock and infrastructure that are necessary for the provision of the service, and the provisions of the relevant EU and national legislation in force.

10. If for ground infrastructure such as stops or stations, or parts thereof, the responsibilities for equipment such as air conditioning systems or other technological systems are not (solely) attributable to the same CC that provides the LPT service under the PSC:
    (a) the CLIMA, CLIMA_FUNZ, TECNO, TECNO_FUNZ indicators, to be included in the PSC of the CC, are assessed based on the part of the infrastructure that falls under the CC's responsibility. The AE specifies in the PSC the minimum levels and penalties in case the target is not achieved;
    (b) for infrastructure under the jurisdiction of an entity other than the CC of the LPT service, which is identified as IM/SM, the CA holding the contract with the IM/SM introduces the CLIMA, CLIMA_FUNZ, TECNO, TECNO_FUNZ indicators in the contract, that are applied to the infrastructure under their respective jurisdiction. Adequate penalties are also established in case the minimum levels defined by the AE are not met. This includes addressing cases of non-transmission or delayed transmission of final data and methods for direct on-site verification of the factors that make up the indicators. Every year, the IM/SM, in the context of the Quality Customer Charter, that must be made public and available on its website, reports evidence of the minimum levels, final levels achieved, and imposed penalties.

Chapter XI – Travel and traveller safety (personal and property-related)

The Measures under this Chapter outline the MQR concerning traveller safety and aim at identifying actions to increase safety levels both onboard and at stations/stops. This will be pursued through an integrated approach that involves coordinating the various competent entities and actions to be regulated within the framework of the Safety and assistance operational plan.

Measure 23 - Indicators and minimum levels of journey and passenger safety

1. The MQR related to travel and traveller safety is ensured through the mandatory adoption of a **Safety and assistance operational plan** according to the following criteria:
   (a) the CC adopts the Plan within the first year of conclusion of the PSC;
   (b) the content of the Plan will be consistent with the time horizon of the PSC, the allocated economic resources, and the assignments derived from the risk matrix. It will be defined by involving the AE, any IM and SM, law enforcement agencies, maintenance personnel, onboard staff, and consumer associations;
   (c) the minimum content of the Plan must include joint actions both in terms of safety and security, aimed at:
      i. organising user awareness campaigns to promote correct behaviour;
      ii. increasing and/or providing specific training for station personnel (where applicable) and travelling staff (typically drivers) for the purpose of passenger assistance;
      iii. gradually increasing technological equipment, rolling stock and infrastructure to enhance safety levels (e.g. installing surveillance cameras, having specific channels for emergency calls/interventions, providing visual signals for the hearing impaired, and audio signals for the visually impaired);
      iv. defining the cases of conduct relevant for the purposes of (d) (i) below;
   (d) the Plan must also include specific monitoring objectives, that are clear, quantifiable and comparable, at least regarding:
      i. number of accidents caused by incorrect behaviour of users, onboard and ground staff, resulting in damages to transported goods or persons;
      ii. progressive provision and operation of audible devices for door opening and closing of rolling stock to be measured with specific indicators;
      iii. variation in the number of criminal events (acts of vandalism, thefts, pickpocketing, robberies, disturbances and harassment) at stations/stops and on board, to be measured with specific indicators;
      iv. progressive deployment of semi-automatic and automatic external defibrillators (AEDs), as required by Law No. 116 of 4 August 2021;
   (e) for each identified objective, the AE defines in the plan specific indicators and minimum levels, as well as penalties associated with not achieving the minimum levels attributable to the responsibilities of the CC;
   (f) progressive increase in the level of safety and perceived trust by users at different stages of their journey, during different time slots, to be measured through CSS.
   (g) the Plan is updated annually, considering any improvements introduced that may impact, for example, the fleet equipment and infrastructure, reporting the outcomes of the monitoring mentioned under (d) and adjusting the actions outlined under (c) to maximize their effectiveness.

In the case of service award through tendering procedure, the AE includes the Plan in the tender documents, which includes the minimum content outlined above. The Plan may be subject to improvement proposals, as part of the bids submitted by participants in the award procedure. These proposals will be evaluated during the procedure itself. Following the contract award, within the terms specified in (a) above, the CC may finalise its content based on actions contingent upon the actual ownership of the PSC.

2. **The minimum level** referred to in the MQRS under (1) **is met by adopting the Plan within the first year of the contract period, as well as by complying with the minimum levels referred to in (e) above.**
3. The AE determines appropriate penalties in the PSC related to verification of compliance with the adoption of the Plan within the above-mentioned timelines and verification of the implemented actions, and compliance with the minimum levels of the indicators referred to in (e) therein.

Appendix – List of indicators and plans subject to requirements, included in the regulatory measures

Measure 4

Improvement plan
Data Access Plan

Measure 8

IT: Integrated transport

Measure 9

ITV: Ticket fare integration

Measure 10

POT: Service potential compliance
AFF: Service crowding
AVM: Monitoring system compliance
RIL: Data collection system compliance

Measure 11

Regularity

Measure 12

Punctuality
Punctuality flex

Measure 13

Reliability
Action plan for substitute services

Measure 14

ACV: Adequate provision of sales channels across the network
BTEL: Availability/operation of OTS – online electronic ticketing systems
BAUT: Operation of TVM – ticket vending machines
VAL: Operation of validating machines
Sales action plan

Measure 15

H_CTR: Inspection execution
Ticket inspection plan

Measure 16

Accessibility Operational plan
SPMR: Availability and usability of services for PRM
APMR: Stations accessible to PRM
FPMR: Stops accessible to PRM

Measure 17

SP: Fleet sustainability
EI: Emission intensity

EE: Energy efficiency

Measure 18

INFO_AN: Pre-journey information to users
English Language Plan

Measure 19

INFO_DU: Information to users during the journey

Measure 21

PUL: Execution of scheduled cleaning cycles
PUL_CONF: Conformity of executed cleaning cycles

Measure 22

CLIMA: Availability of air conditioning systems
CLIMA_FUNZ: Operation of air conditioning systems
TECNO: Availability of technological systems
TECNO_FUNZ: Operation of technological systems

Measure 23

P_SIC: Safety and assistance operational plan