



Annual  
Report  
**2018**

CONSORCIO  
**TRANSPORTES**  
\*\*\*\*\*  
MADRID

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# Foreword

The public transport system is the cornerstone on which the mobility of a region like ours is based: modern, agile and competitive, with ambitious goals for its economic, social and environmental development. A society with a growth in GDP of 3-4% a year in recent years, which has a public transport network covering 11,000 km (equivalent to the distance between Madrid and Tokyo), and with two out of every three trips being made on foot or by public transport is an advanced society that aims to continue improving in order to increase the wellbeing of its citizens and visitors.

With this in mind, and as the sole authority for scheduled public passenger transport throughout the Autonomous Region of Madrid, the Consorcio Regional de Transportes de Madrid continued with its functions of planning and coordinating the public transport system during 2018, developing its strategy to maximise operational efficiency and existing resources, adapting the supply of transport to new mobility needs, working alongside all public and private institutions and companies in the field.

The result of this work are the 1,548 million trips made using public transport during 2018, which is 3% up on the previous year, confirming the upward trend in the use of public transport over recent years and bringing us closer to the record high of 2007 (1,627 million trips). Of these, 42% of all trips correspond to Metro de Madrid, 27% to EMT, 16% to suburban road concessions, 13% to Renfe-Cercanías, and around 2% to light rail and TFM.

The use of public transport in the Autonomous Region of Madrid is also enhanced by its concept of integration, both physical and fare-related. Intermodal points become fundamental in a system in which one third of all trips involve at least one transfer, and the existence of the Travel Pass, used in 3 out of every 4 trips, makes the use of the different networks easier. The affordable fares, frozen since 2013, the €20 flat-rate fare for the Young Pass, and the social fares also help make the system accessible to and within reach of everyone.

2018 is the year in which the Multi card has strengthened its implementation, with the traditional magnetic 10-trip and single tickets became obsolete on 1 January. All non-personal tickets (with the exception of single bus tickets) can be charged to the Multi card, thus completing the technological project to implement the contactless card. The future looks towards the virtualisation of these cards, and will be a real challenge because 8 million Multi cards had been distributed and 4 million personal cards remained active at the end of 2018.

In the every-day running of the entity, we have continued with the tasks of planning and managing the public transport system, including: completion of the fieldwork for the Household Mobility Survey, with more than 85,000 people interviewed in order to gain in-depth knowledge of the mobility patterns of the population; the coordination of special public transport systems for mass events such as the celebration of the MADDO (Pride Day) and the MAD COOL festival, including the extension of underground operating hours; renewal of bus fleets, with 50% of the fleet now running on alternative fuels (natural gas, hybrid, or electricity) and 100% accessible; the presentation of the APARCA T park-and-ride plan to encourage modal exchange between private vehicles and public transport; and the welcoming of 36 delegations from around the world interested in learning about the success of public transport in Madrid.

All this data is included in this report, which reflects the professional, excellent and cutting-edge work of professionals who have a consistent understanding of the political commitment to make Madrid a competitive region, open to the world and to the future.

Luis Miguel Martínez Palencia  
Managing Director of CRTM



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# Your Transport System



# The CRTM

The Consorcio Regional de Transportes de Madrid (CRTM) is the Public Transport Authority of the Autonomous Region of Madrid. It was created by Law 5/1985 of 16 May by the Assembly of Madrid, as the Independent Body of the Autonomous Region of Madrid, and it brings together the powers of this body and those of all local councils in the region with regard to scheduled public passenger transport, taking on the comprehensive management of the public transport system in this region.

Its main functions and goals can be summarised as:

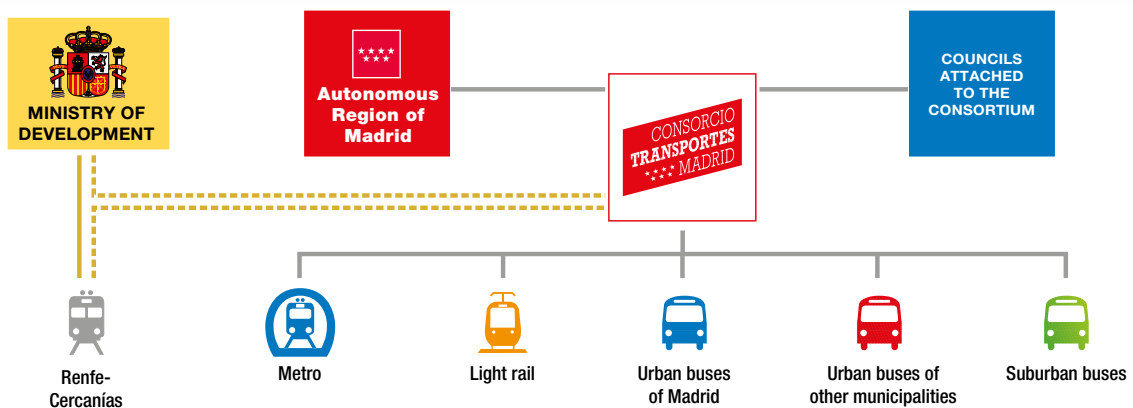
- Planning of public transport infrastructure.
- Planning of services and coordination of operating programs for all forms of public transport.
- Definition of a comprehensive fare system for the transport as a whole.
- Establishing of a stable funding framework.
- Controlling and monitoring of the financial management of operators.
- Creating of an overall image of the system, unifying external relationships with users.

## 1.1 The institution

The CRTM is a group of public authorities that transfer their powers to a joint authority thereof. As a result, the transport operators do not form a direct part of the Consortium, but are answerable to it due to the adherence of the authority owning the service they provide.

The company Renfe Viajeros, owned by the Ministry of Development, is not the responsibility of the Consortium. However, the National Public Administration, which contributes to the funding of the system, is represented on the body's Board of Directors.

### INSTITUTIONAL ORGANISATIONAL CHART FOR CONSORCIO REGIONAL DE TRANSPORTES DE MADRID





The Consortium is led by a Board of Directors that performs its duties either directly or through an Executive Committee. The composition of these bodies at 31 December 2018 was as follows:

### a. The Board of Directors

|                                    |                            |                                       |
|------------------------------------|----------------------------|---------------------------------------|
| Autonomous Region of Madrid        | Chair                      | Rosalía Gonzalo López                 |
|                                    | Board Members              | Antonio López Porto                   |
|                                    |                            | Pablo Rodríguez Sardinero             |
|                                    |                            | Gregorio Moreno López                 |
|                                    |                            | Consolación Pérez Esteban             |
|                                    |                            | Ángel Herraiz Lersundi                |
|                                    | Miguel Ángel García Martín |                                       |
| Madrid City Council                | Vice President             | Inés Sabanés Nadal                    |
|                                    | Board Members              | Jorge García Castaño                  |
|                                    |                            | José Manuel Calvo del Olmo            |
| Member councils                    | Board Members              | José Luis Fernández-Quejo del Pozo    |
|                                    |                            | Luis Haro Berlanas                    |
|                                    |                            | Francisco José Recover Lorente        |
| National Public Administration     | Board Members              | Joaquin del Moral Salcedo             |
|                                    |                            | Luis Martínez-Sicluna Sepúlveda       |
| CC.OO./U.G.T                       | Board Members              | David Jabato Garcia-Valenciano        |
|                                    |                            | Antonio Oviedo García                 |
| Business associations              | Board Members              | Rafael Barbadillo Lopez               |
|                                    |                            | Francisco Javier Carbajo de la Fuente |
| Consumer Association               | Board Member               | Gustavo Samayoa Estrada               |
| Non-board member Secretary         |                            | Jose María Ortega Anton               |
| Non-board member Managing Director |                            | Alfonso Sánchez Vicente               |
| Renfe-Cercanías                    |                            | Magdalena Bodelón Alonso              |

### b. The Executive Committee

|                                    |                            |
|------------------------------------|----------------------------|
| Chair                              | Rosalía Gonzalo Lopez      |
| Board Members                      | Antonio López Porto        |
|                                    | Miguel Ángel García Martín |
|                                    | Inés Sabanés Nadal         |
|                                    | Jorge García Castaño       |
|                                    | José Manuel Calvo del Olmo |
| Secretary                          | José María Ortega Antón    |
| Non-board member Managing Director | Alfonso Sánchez Vicente    |

### c. The operational framework

The operational framework of the public transport system of the Autonomous Region of Madrid is summarised in the following diagram:

#### Road passenger transport



##### Empresa Municipal de Transportes de Madrid (EMT)

A state-owned company of Madrid City Council providing urban service in the city of Madrid.



##### Urban transport in other municipalities

6 urban transport concessions serve 6 municipalities and one municipal company in the district of Fuenlabrada. In addition, 29 municipalities have urban services operating under suburban concessions.



##### Suburban transport

27 operators run 30 suburban concessions serving all municipalities in the region.

#### Rail passenger transport



##### Metro de Madrid

A state-owned company of the Autonomous Region of Madrid, operating in 10 municipalities.



##### Renfe Viajeros

A state-owned company answerable to the National Public Administration that operates the Renfe-Cercanías network in Madrid.



##### Underground railway concessions

2 public works concessions for the extension of line 8 (Barajas - Airport T4) and line 9 (Puerta de Arganda - Arganda del Rey) operated by Metro Barajas S.C. and TFM, respectively.



##### Light rail concessions

3 public works and operating concessions for light rail lines ML1 (Metros Ligeros de Madrid – Madrid Light Rail), ML2 and ML3 (Metro Ligeros Oeste – Western Light Rail) and ML4 (Tranvía de Parla – Parla Tramway).

#### Transport interchanges

5 public works, operating and maintenance concessions for the transport interchanges in Madrid:

- Avenida de América • Plaza de Castilla • Plaza Elíptica • Moncloa • Príncipe Pío •



## 1.2 Funding the system

### a. System requirements and its funding

The financial requirements of the transport system consist of remuneration by the CRTM to operators for the services provided, and are funded by public contributions from the different levels of government and user contributions.

The difference between the financial requirements incurred and the revenue collected from the sale of tickets is covered by public contributions from the different authorities, constituting the so-called system pricing subsidy.

The remunerations of Metro de Madrid and the Empresa Municipal de Transportes de Madrid (EMT) are governed by annual agreements, based on the approval of a break-even fare per passenger in the case of Metro, and on a production agreement in EMT, both including the agreement of certain service quality targets.

The financial relations with the different private road transport operators are set forth in the administrative contracts for the management of public services, as provided in Land Transport Law 16/1987 of 30 July,

subsequently validated under Road Transport and Mobility Law 5/2009 of 20 October by the Assembly of Madrid.

The CRTM remunerates light rail concession holders and those of the section of line 8, Barajas-Airport T4, in line with the actual level of passenger demand, using the technical fare offered, whereas the deficit between the break-even fare and the revenues from Parla Tramway is paid equally between the CRTM and Parla Town Council, similarly to that established with the Empresa Municipal de Transportes in Fuenlabrada.

Transportes Ferroviarios de Madrid (TFM), the concession holder of the section of the underground line 9 between Puerta de Arganda and Arganda del Rey, is paid by the passengers using the Transport Season Ticket according to the price established in the contract, receiving an additional contribution per passenger transported until a certain amount of demand is met.

The interchanges are funded through the application of the price set forth in the concession contracts, which is updated in the manner laid out therein.

The CRTM has an agreement with Renfe Viajeros that regulates the use of Travel Pass and the payments arising from it.

Contributions by users are based on the revenue collected from the sale of the different transport tickets.

The Autonomous Region of Madrid, the National Public Administration (AGE), and Madrid City Council are the main partners in funding the system. The city councils of the Autonomous Community with an urban transport service, as well as the Autonomous Region of Castilla-La Mancha under the passenger transport financing agreement signed between the Autonomous Region of Madrid and this Autonomous Community also contribute, although substantially less.

The National Public Administration contributes with a nominative subsidy, which is applied to the funding requirements of the system in the following distribution:





- ▶ 34% is used to cover the operating deficit of the EMT of Madrid, in line with the Agreement regulating the conditions of adhesion of Madrid City Council to the CRTM for the period 2017-2020.
- ▶ The remaining 66% funds the fare subsidy for Metro de Madrid and for the services operating in zones B and C.

The contribution of the rest of public authorities, once the State contribution has been deducted as indicated, is distributed as follows:

- ▶ Madrid City Council covers 50% of the operating deficit of the EMT; 50% of the fare subsidy corresponding to the road concessions and Renfe services in zone A; 35% of hub requirements; and 35% of the operating expenses and commercial expenses of the CRTM.
- ▶ The Autonomous Region of Madrid pays the entire fare subsidy corresponding to Metro de Madrid. It also covers the part not funded by Madrid City Council for the rest of the services and expenses in which it participates, i.e. the remaining 50% of the fare subsidy for road concessions and Renfe services in zone A; 65% of hub requirements; and 65% of the operating expenses and commercial expenses of the CRTM.

It also pays the entire fare subsidy produced in zones B and C, corresponding to the road concessions and Renfe services, and that of the railway concessions.

Lastly, it also pays 50% of the operational deficit of municipal services of the member councils.

- ▶ Councils with an urban passenger transport service pay 50% of their operating deficit.
- ▶ The Junta de Comunidades de Castilla-La Mancha contributes to the funding of the fare subsidy corresponding to exterior Travel Passes (zones E1 and E2) in accordance with the criteria established in the partnership agreement between the two authorities.



## b. 2018 Budget and financial result

The commercial nature of the CRTM requires the management of two types of budget:

- ▶ An estimated budget covering commercial activity, made up on the income side by revenue from the collection of fares, and on the expenses side by the reimbursement of this revenue to the transport operators, along with the expenses involved in the distribution and sale of the different tickets.
- ▶ An administrative budget consisting of income relating to fares and other public revenue, as well as contributions from partners corresponding to the fare subsidy. As regards expenses, this budget includes the necessary credit for the funding of the personnel working for the body, running expenses for goods and

services and their investments, as well as the fare subsidy paid to operators.

In 2018, the total amount of revenue settled from both budgets amounted to 2,291.4 million euros and, in terms of expenses, the amount at 31 December represented a total of 2,289.7 million euros. The total revenues of the system from fares, including those received from operator tickets, which do not form part of the CRTM budget, amounted to 987.7 million euros in 2018.

The difference between revenue –entitlements– and expenditure –obligations– places the budgetary result for the year at a surplus of 1.67 million euros, according to the figures below.

### CRTM BUDGET SETTLEMENT 2018 Limited and estimated budget/euros

| REVENUE   | Entitlements 2018       | EXPENSES  | Obligations 2018        |
|---|-------------------------|---|-------------------------|
| Chapter III. Fees and other income              | 2,487,849.47            | Chapter I. Personal expenses                        | 6,631,663.09            |
| Chapter IV. Current transfers                   | 1,357,970,282.15        | Chapter II. Running expenses for goods and services | 5,957,933.38            |
| Chapter VI. Disposal of real estate investments | 4,958.68                | Chapter IV. Current transfers                       | 1,327,592,755.23        |
| Chapter VII. Capital transfers                  | 6,581,699.00            | Chapter VI. Real estate investments                 | 500,700.70              |
| Chapter VIII. Financial assets                  | 6,858.51                | Chapter VII. Capital transfers                      | 1,798,094.36            |
|   |                         | Chapter VIII. Financial assets                      | 4,300.00                |
| <b>TOTAL LIMITED REVENUE</b>                    | <b>1,367,051,647.81</b> | <b>TOTAL LIMITED EXPENSES</b>                       | <b>1,342,485,446.76</b> |
| Collection revenue                              | 924,357,132.30          | Raw materials in service operations                 | 4,665,771.32            |
|   |                         | Other external work                                 | 33,263,373.09           |
| <b>TOTAL ESTIMATED REVENUE</b>                  | <b>924,357,132.30</b>   | Collection repayment                                | 909,323,901.37          |
|   |                         | <b>TOTAL ESTIMATED EXPENSES</b>                     | <b>947,253,045.78</b>   |
| <b>TOTAL REVENUE</b>                            | <b>2,291,408,780.11</b> | <b>TOTAL EXPENSES</b>                               | <b>2,289,738,492.54</b> |

|   | D.Rec-O.Rec. 2018     |
|---|-----------------------|
| <b>I. LIMITED BUDGET OUTTURN</b>          | <b>24,566,201.05</b>  |
| <b>II. ESTIMATED BUDGET OUTTURN</b>       | <b>-22,895,913.48</b> |
| <b>FINANCIAL YEAR INCOME(LOSS) (I+II)</b> | <b>1,670,287.57</b>   |

This budget outturn considers revenue and expenses irrespective of the actual year in which they are accrued. Their accrual leads to the financial result of the year, which for 2018 is equal to the budgetary outturn.



**€0.66\***  
average revenue per trip

**€1.58\***  
average needs per trip

**€0.92\***  
average subsidy per trip

*\* These values are obtained without including trips involving tickets from Renfe-Cercanías (single ticket, 10 trips and others), as these do not affect the CRTM budget.*



**FINANCIAL RESULT** euros















|                                |                         |   |                         |
|--------------------------------|-------------------------|---|-------------------------|
| <b>I. REVENUES</b>             | <b>2,369,787,685.31</b> | <b>II. EXPENSES</b>                     | <b>2,368,117,397.74</b> |
| Contributions to CRTM          | 1,364,653,928.59        | Internal CRTM and commercial operations | 50,933,741.58           |
| Fare revenue applied           | 987,702,806.57          | Fare payment to transport operators     | 2,234,927,700.82        |
| Own CRTM and commercial income | 17,430,950.15           | Administrative concessions              | 80,367,860.98           |
|                                |                         | Other capital expenditure               | 1,888,094.36            |
|                                |                         | <b>III. DIFFERENCE (I-II)</b>           | <b>1,670,287.57</b>     |

The financial flows of origin and application of funds for financial year 2018 are seen in the following schema,

which sets out all revenue and expenses, and the economic result of said period.

**FUNDING SCHEME FOR CONTRIBUTIONS FROM THE CRTM TO THE REQUIREMENTS OF THE TRANSPORT SYSTEM. FINANCIAL YEAR 2018**

Financial result/euros

| <b>SOURCE OF FUNDS 2018</b>  | <b>APPLICATION OF FUNDS/ACTUAL NEEDS 2018</b>  |
|--|--|
|  NATIONAL PUBLIC ADMINISTRATION<br>126,894,000.00               |  METRO DE MADRID, S.A.<br>902,406,458.05                            |
|  AUTONOMOUS REGION OF MADRID<br>1,060,135,040.48                |  EMPRESA MUNICIPAL DE TRANSPORTES DE MADRID, S.A.<br>502,572,263.42 |
|  MADRID CITY COUNCIL<br>158,981,974.25                          |  RENFE VIAJEROS<br>191,641,505.60                                   |
|  LOCAL CORPORATIONS AND AUTONOMOUS COMMUNITIES<br>18,642,913.86 |  RAILWAY CONCESSIONS<br>123,070,323.98                              |
|  FARE REVENUE APPLIED<br>987,702,806.57                         |  ROAD CONCESSIONS (CITY AND SUBURBAN BUSES)<br>515,237,149.77       |
|  CRTM REVENUE<br>17,430,950.15                                  |  OTHER NEEDS (ADMIN. CONCESSION, ETC.)<br>82,255,955.34             |
|  CRTM REVENUE<br>17,430,950.15                                  |  CRTM OPERATING EXPENSES<br>50,933,741.58                           |
| <b>TOTAL SOURCE OF FUNDS</b><br><b>2,369,787,685.31</b>  | <b>TOTAL APPLICATION OF FUNDS (NEEDS)</b><br><b>2,368,117,397.74</b>   |
| <b>FINANCIAL RESULTS FOR FINANCIAL YEAR 2018 • 1,670,287.57</b>  |  |



**c. Balance sheet at 31 December 2018**

|   |                        |
|---|------------------------|
| <b>ASSETS</b>                               | <b>€459,094,197.37</b> |
| <b>A. NON-CURRENT ASSETS</b>                | <b>€17,201,629.63</b>  |
| I. Intangible fixed assets                  | €15,938,809.37         |
| Industrial and intellectual property        | €811.50                |
| Computer applications                       | €570,958.78            |
| Investments in assets under lease           | €85,699.14             |
| Other intangible fixed assets               | €15,281,339.95         |
| II. Tangible fixed assets                   | €1,262,583.75          |
| Structures                                  | €82,958.25             |
| Other tangible fixed assets                 | €1,179,625.50          |
| V. Long-term financial investments          | €236.51                |
| Other financial investments                 | €236.51                |
| <b>B. CURRENT ASSETS</b>                    | <b>€441,892,567.74</b> |
| III. Debtors and other receivables          | €286,795,035.64        |
| Debtors through management operations       | €-219,770,342.78       |
| Other accounts receivable                   | €39,323,126.09         |
| Public authorities                          | €467,242,252.33        |
| V. Short-term financial investments         | €8,041.18              |
| Debt securities and credits                 | €8,041.18              |
| VII. Cash and other cash equivalents        | €155,089,490.92        |
| Cash and banks                              | €155,089,490.92        |
| <b>NET WORTH AND LIABILITIES</b>            | <b>€459,094,197.37</b> |
| <b>A. NET WORTH</b>                         | <b>€334,330,008.95</b> |
| II. Generated equity                        | €334,330,008.95        |
| Income (losses) from prior years            | €208,177,121.90        |
| Financial year income (loss)                | €126,152,887.05        |
| <b>B. NON-CURRENT LIABILITIES</b>           | <b>€19,310,588.98</b>  |
| I. Long term provisions                     | €19,146,165.73         |
| II. Long-term payables                      | €164,423.25            |
| Other payables                              | €164,423.25            |
| <b>C. CURRENT LIABILITIES</b>               | <b>€105,453,599.44</b> |
| II. Short-term payables                     | €9,737.50              |
| Other payables                              | €9,737.50              |
| IV. Creditors and other payables            | €97,620,627.26         |
| Creditors from current budgetary operations | €4,579,194.25          |
| Other accounts payable                      | €84,146,350.53         |
| Public authorities                          | €8,895,082.48          |
| V. Accruals                                 | €7,823,234.68          |



**d. Profit and loss account for financial year 2018**

| LIMITED AND ESTIMATED BUDGET  | 2018                      | 2017                      |
|---|---------------------------|---------------------------|
| <b>A) TOTAL ORDINARY MANAGEMENT REVENUE</b>   | <b>€2,321,613,477.84</b>  | <b>€2,557,895,104.15</b>  |
| 1. Tax revenues and social contributions  | €565.25                   | €455.05                   |
| Rates   | €565.25                   | €455.05                   |
| 2. Transfers and subsidies received   | €1,387,411,302.64         | €1,674,225,858.59         |
| For the financial year  | €1,387,411,302.64         | €1,674,225,858.59         |
| Subsidies received to fund expenses for the financial year                                      | €-101,947.44              | €86,976.12                |
| Transfers   | €1,387,513,250.08         | €1,674,138,882.47         |
| 3. Net sales and provision of services  | €924,357,131.37           | €881,509,289.91           |
| Net sales   | €924,357,131.37           | €881,509,289.91           |
| 6. Other ordinary management revenue  | €9,844,478.58             | €2,159,500.60             |
| <b>B) TOTAL ORDINARY MANAGEMENT EXPENSES</b>  | <b>€-2,312,159,791.11</b> | <b>€-2,233,782,644.32</b> |
| 8. Personnel expenses   | €-6,631,985.45            | €-6,584,315.58            |
| Wages, salaries and similar   | €-5,078,453.65            | €-4,882,904.68            |
| Employee welfare expenses   | €-1,553,531.80            | €-1,701,410.90            |
| 9. Transfers and subsidies granted  | €-1,329,725,963.64        | €-1,281,520,380.97        |
| 10. Supplies  | €-944,090,794.83          | €-929,743,898.74          |
| Consumption of goods and other supplies   | €-944,090,794.83          | €-929,743,898.74          |
| 11. Other ordinary management expenses  | €-28,215,209.82           | €-12,266,039.74           |
| External supplies and services  | €-27,639,808.53           | €-12,115,521.60           |
| Taxes   | €-575,401.29              | €-150,518.14              |
| 12. Amortisation/Depreciation of fixed assets   | €-3,495,837.37            | €-3,668,009.29            |
| <b>I RESULT (saving or dissaving) OF ORDINARY MANAGEMENT (A+B)</b>                              | <b>€9,453,686.73</b>      | <b>€324,112,459.83</b>    |
| 13. Impairment and income(losses) on disposal of non-financial fixed assets and assets for sale | €221.70                   | €-4,586.35                |
| Disposals and sales   | €221.70                   | €-4,586.35                |
| 14. Other non-ordinary items  | €818.45                   | €1,013.95                 |
| Revenue   | €918.45                   | €3,576.57                 |
| Expenses  | €-100.00                  | €-2,562.62                |
| <b>II RESULT OF NON-FINANCIAL OPERATIONS (I+13+14)</b>  | <b>€9,454,726.88</b>      | <b>€324,108,887.43</b>    |
| 15. Financial revenue   | €264,501.23               | €423,671.27               |
| From other marketable securities and long-term loans  | €264,501.23               | €423,671.27               |
| Other   | €264,501.23               | €423,671.27               |
| 20. Value impairment, disposals and sales of financial assets and liabilities                   | €116,433,658.94           | €120,464,551.34           |
| Other   | €116,433,658.94           | €-120,464,551.34          |
| <b>III RESULT OF FINANCIAL OPERATIONS (15+20)</b>   | <b>€116,433,658.94</b>    | <b>€-120,040,880.07</b>   |
| <b>IV NET RESULTS (saving or dissaving) FOR THE FINANCIAL YEAR (II+III)</b>                     | <b>€126,152,887.05</b>    | <b>€204,068,007.36</b>    |

**11,000 km  
of networks**

## 2







# The supply

The public transport system of the Autonomous Region of Madrid comprises underground, light rail and Renfe-Cercanías intercity railway networks, and the city and suburban bus networks. This system includes operators, infrastructure and modes of transport, on which the CRTM performs its duties of planning and managing the transport services.

In 2018, the production of services for the public transport system as a whole stood at 354.8 million vehicles-km of rail, and 269.6 million vehicles-km of road, on an 11,000-km network serving all the municipalities in the region.

The following table summarises the main figures of the supply in 2018 by type of transport operator, in order to provide an analysis of the system as a whole.

## 2018 TRANSPORT SUPPLY

|                               | <br><b>Metro de Madrid</b> | <br><b>Madrid city bus (EMT)</b> |  <br><b>Road transport concessions</b> | <br><b>Light rail and other railway concessions*</b> | <br><b>Renfe-Cercanías*</b> |
|-------------------------------|---|---|---|---|--|
| No. of lines                  | 12+Branch   | 212   | 450   | 5   | 9  |
| Length-network (km)           | 269.5   | 1,597.1   | 8,555.0   | 54.8  | 391.0  |
| Length-lines (km)             | 269.5   | 3,834.5   | 20,987.0  | 54.8  | 713.8  |
| No. of stations/stops-network | 236   | 4,719   | 8,349   | 62  | 95   |
| No. of stations/ stops-lines  | 286   | 10,999  | 21,367  | 63  | 178  |
| No. of vehicles (cars/ buses) | 2,320   | 2,049   | 1,886   | 241   | 1,143  |
| Vehicles-km (millions)        | 183.0   | 92.3  | 177.3   | 16.3  | 155.5  |

\* Light-rail vehicles and other railway concessions are recorded as cars, in total 44 trains.

\* New system for recording Renfe-Cercanías production by rearranging network lines.



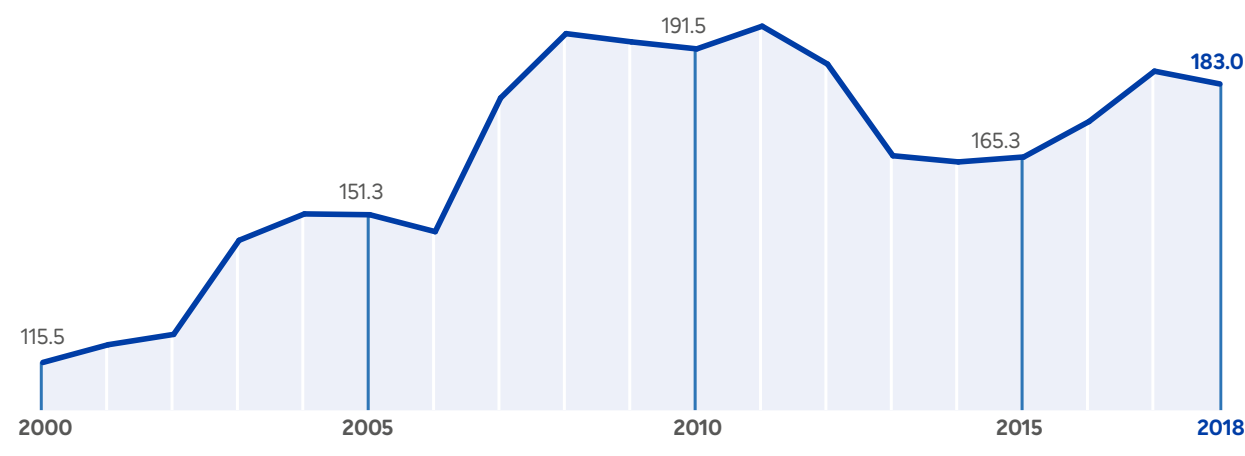


## 2.1 Metro de Madrid

The Metro de Madrid network comprises a total of **12 lines plus the Branch** between the Ópera and Príncipe Pío stations, covering a length of **269.5 km** and a total of **236 network stations**, of which **39 are multiple-line** (with connections between 2 or more lines), and 197 are single-line stations. If counted in terms of lines, the network has a total of 286 stations-line.

**Production in 2018 reached 183.0 million vehicles-km**, 1.7% less than in 2017 primarily due to the fact that in 2018 there were closures due to work being carried out on lines 1, 2, 7b (Metro Este), 9 and 12 (Metro Sur).

### ANNUAL EVOLUTION OF PRODUCTION (million vehicles-km)



On a working day, the morning rush hour supply consists of **311 trains in service**, with the average interval being **4.2 minutes** (3.7 if weighted by no. of trains) and the **average speed being 27.5 km/h** (26.4 if weighted).

The vehicle fleet in service during 2018 is made up of **2,320 cars**, and their average age is 18 years.



## SUPPLY PER LINE AT MORNING RUSH HOUR ON A WORKING DAY

| Line                  | Trains | Cars by train | Commercial speed (km/h) | Travel time (min) (round trip) | Interval (min) |
|-----------------------|--------|---------------|-------------------------|--------------------------------|----------------|
| <b>1</b>              | 36     | 6             | 23.0                    | 114.0                          | 3.3            |
| <b>2</b>              | 19     | 4             | 23.2                    | 69.1                           | 3.7            |
| <b>3</b>              | 27     | 6             | 23.0                    | 70.9                           | 2.6            |
| <b>4</b>              | 26     | 4             | 21.8                    | 78.9                           | 3.0            |
| <b>5</b>              | 32     | 6             | 21.9                    | 123.0                          | 3.7            |
| Direction 1 <b>6</b>  | 20     | 6             | 24.0                    | 58.8                           | 3.1            |
| Direction 2 <b>6</b>  | 14     | 6             | 24.7                    | 57.0                           | 4.2            |
| <b>7</b>              | 20     | 6             | 26.9                    | 85.1                           | 4.4            |
| Metro East <b>7</b>   | 6      | 3             | 34.9                    | 30.0                           | 5.0            |
| <b>8</b>              | 12     | 4             | 40.9                    | 45.9                           | 3.8            |
| <b>9</b>              | 23     | 6             | 25.6                    | 96.3                           | 4.3            |
| <b>10</b>             | 34     | 6             | 28.6                    | 98.9                           | 2.9            |
| Metro North <b>10</b> | 13     | 3             | 37.4                    | 49.0                           | 3.8            |
| <b>11</b>             | 5      | 4             | 29.2                    | 28.2                           | 5.7            |
| Direction 1 <b>12</b> | 11     | 3             | 35.8                    | 68.0                           | 6.2            |
| Direction 2 <b>12</b> | 11     | 3             | 35.8                    | 68.0                           | 6.2            |
| Branch <b>R</b>       | 2      | 4             | 11.6                    | 10.0                           | 5.0            |



## 2.2 EMT



The Madrid urban bus network, operated by Empresa Municipal de Transportes de Madrid (EMT), is made up of a total of 212 lines, of which 185 are day lines and 27 are night lines, to which the 24-hour Airport Express line must be added.

In terms of city buses, the following significant actions were taken on the network in 2018:

- ⇒ **Start of the Special Service Barajas – Ramón y Cajal Hospital** to improve access by the neighbourhoods in the district of Barajas to their hospital of reference.
- ⇒ **Start of the Special Service Alsacia – El Cañaveral** to serve the new urban development of El Cañaveral (Vicálvaro).
- ⇒ **Extension of lines 23, 82 and 123 to Villaverde Cruce, Pitis and Butarque**, respectively, to improve transport coverage in the urban areas of El Espinillo, Arroyofresno and Butarque.
- ⇒ **Extension of line 210 to Diego de León** to improve the connection between the neighbourhood of La Elipa and La Princesa Hospital, and **modification of the route of line 56 at this point**.
- ⇒ Start of the **new N28 Moncloa – Aravaca night line**.
- ⇒ **The Special Service Alsacia – Ramón y Cajal Hospital** becomes a conventional day line (line 165 Alsacia – Ramón y Cajal Hospital), maintaining the same route and offering.
- ⇒ Recovery of the service on **Sundays and public holidays on lines 22, 83, 108, 117, 129, 149, 156, 247 and E1**.
- ⇒ **Modification of the route of line 54** to cover the urban area of Cocherón de la Villa (Villa de Vallecas).
- ⇒ **Simplification of the E2 Express line route** in Alsace to improve travel times.
- ⇒ **Modification of the route of lines 10, 24, 111 and 310** due to the pedestrianisation of Calle Peña Gorbea and change in direction of Calle Arroyo del Olivar (Puente de Vallecas), **limitation of the route of line 50** at Plaza Mayor due to the pedestrianisation of Calle Carretas, and **transfer of the header of lines 134, 178 and N23** in Montecarmelo.

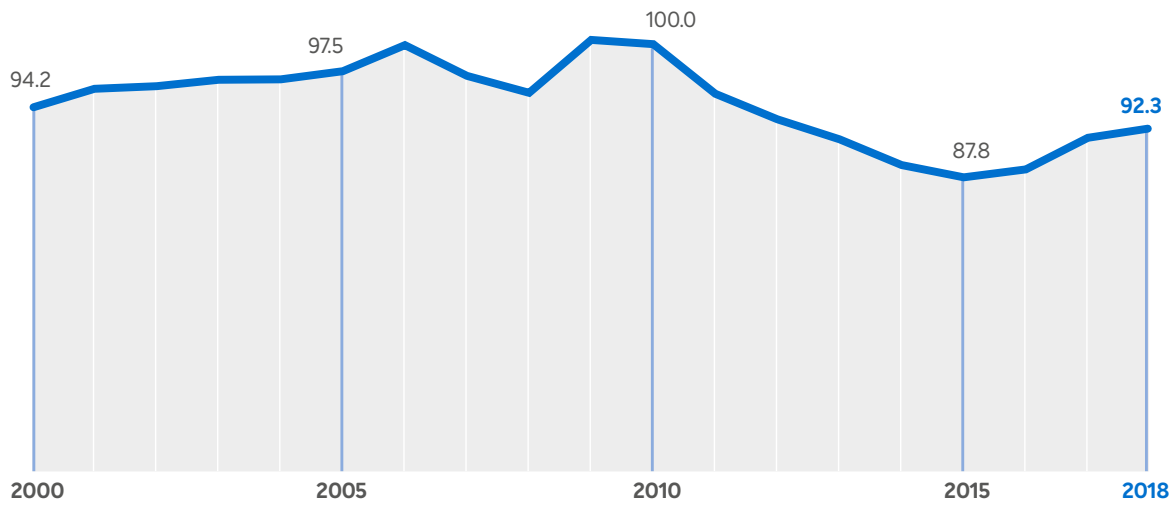
**The total number of kilometres covered in 2018 is 92.27 million**, 1% above the previous year's production. vehicles-hours (7.06 million) also saw a similar relative increase and trips made (10.6 million) remained as in the previous year.

The characteristics of the scheduled offering vary due to the heterogeneity of the lines making up the daytime network, although the main group consists of lines with an average daily interval of between 8 and 12 minutes. At rush hour, 35% of the lines run at passing frequencies of less than 8 minutes, 3.4% more than in 2017, due to the reinforced service supply on 21 lines to adapt network supply to the evolution of demand.

In addition, the supply was reinforced at different time slots and days of service on 27 other lines of the network in order to adjust operations to the evolution of traffic intensities in the city and to maintain the regularity of the lines.



## ANNUAL EVOLUTION OF PRODUCTION (million vehicles-km)



The average commercial speed in 2018 is 13.1 km/h, 1.5% lower than the previous year due to the adaptation of service scorecards to city traffic conditions.

In 2018, the EMT vehicle fleet consists of 2,049 active vehicles, with an average age of 7.1 years, of which 1,328 run on natural gas, 3 run on diesel gas, 48 are hybrids, 38 are electric, and the remainder run on biodiesel. During the year, 382 new units (365 natural gas and 17 electric buses) were added to the fleet and 358 vehicles were written off. All buses have low floor and ramp for People with Reduced Mobility (PRM).

### % EMT LINES BY INTERVAL AT RUSH HOUR

< 6 min · **18%**  

6 to 8 min · **17%**  

8 to 12 min · **48%**         

12 to 15 min · **8%** 

> 15 min · **9%** 



## 2.3 Road transport concessions

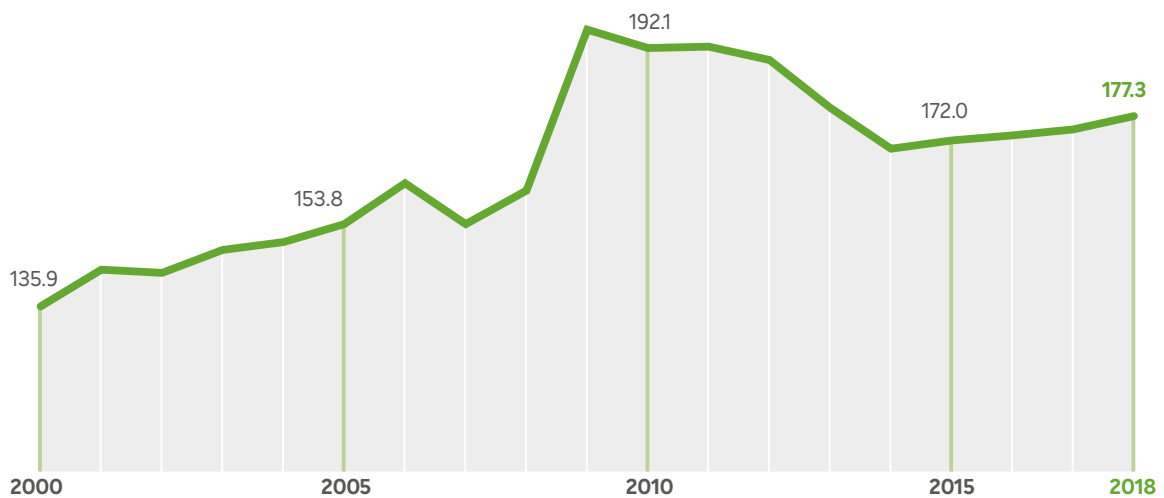


The bus network of the road transport concessions of the Autonomous Region of Madrid comprises 450 lines at 31 December 2018, with 298 day suburban lines, 121 urban lines and 31 night suburban lines. The following lines were put into operation in 2018:

- ▶ **L3** in Collado Villalba, “FFCC – El Gorrional – Hospital”
- ▶ **L5A** in Torrejón de Ardoz, “Circular Parque Europa”
- ▶ **L5B** in Torrejón de Ardoz, “Circular Parque Europa”
- ▶ **L5** in Tres Cantos, “Nuevo Tres Cantos – Avenida de Viñuelas”
- ▶ **524** “Madrid (Príncipe Pío) – Móstoles Sur”

The system of lines is operated by 31 different companies under 36 administrative concessions and an agreement with a City Council. The urban service in the municipalities of Crowns B and C is provided through the municipality’s own urban lines or through the interurban bus network. In some municipalities, the urban service is provided through a combination of both networks.

### ANNUAL EVOLUTION OF PRODUCTION (million vehicles-km)



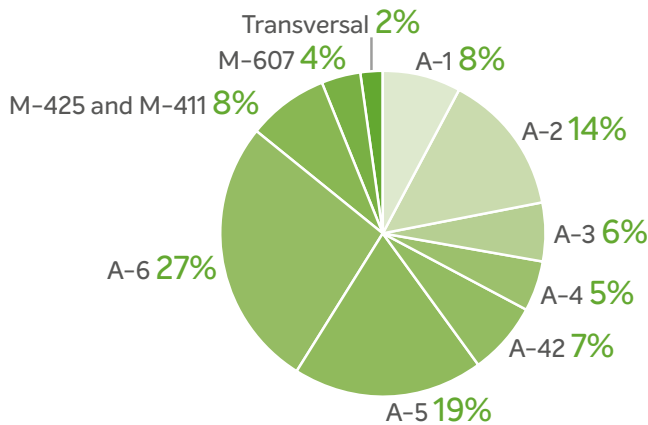
As a result, the actual supply of urban transport is much higher than that derived from the urban networks themselves. The specific network of urban lines in crowns B and C reaches a total of 35 municipalities, although in only 6 of them there is an administrative concession for an independent urban service. In addition, in the municipality of Fuenlabrada, the urban service is provided directly by the council, through a municipal company. The supply of services scheduled for the whole network amounts to 27,945 dispatches on a working day in winter.

The supply of the different lines of the network is, of course, heterogeneous and responds to the different needs in municipalities with different populations and characteristics, as shown in the graph below that indicates the percentage of lines distributed according to the rush hour interval on a working day, in minutes.

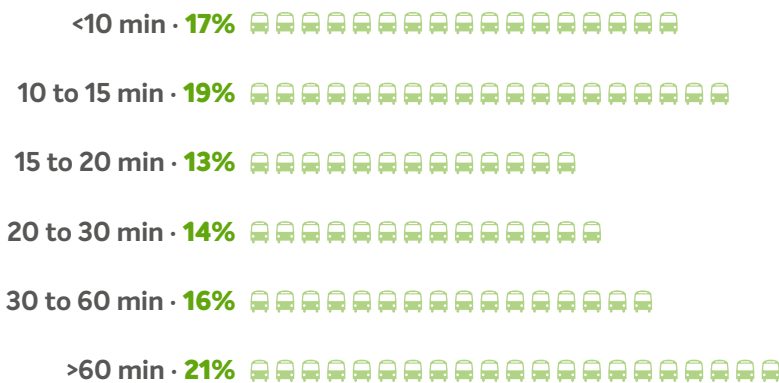
The vehicle fleet of road transport concessions comprises 1,886 buses. 214 buses were renovated in 2018, with the average age standing at 4.5 years. As a result of this fleet renewal and improvement, 222 natural gas vehicles and 297 hybrid vehicles are available. Likewise, 100% of the bus fleet is adapted for use by Persons with Reduced Mobility (PRM).

The supply produced during 2018 in the different corridors is shown below, these being broken down according to the motorways and main access roads to the capital. It also includes a group of transversal lines that serve connections between some of these main corridors.

### SUPPLY (DISPATCHES) ACCORDING TO CORRIDORS



### % ROAD CONCESSION LINES BY RUSH HOUR INTERVAL





## 2.4 Renfe-Cercanías



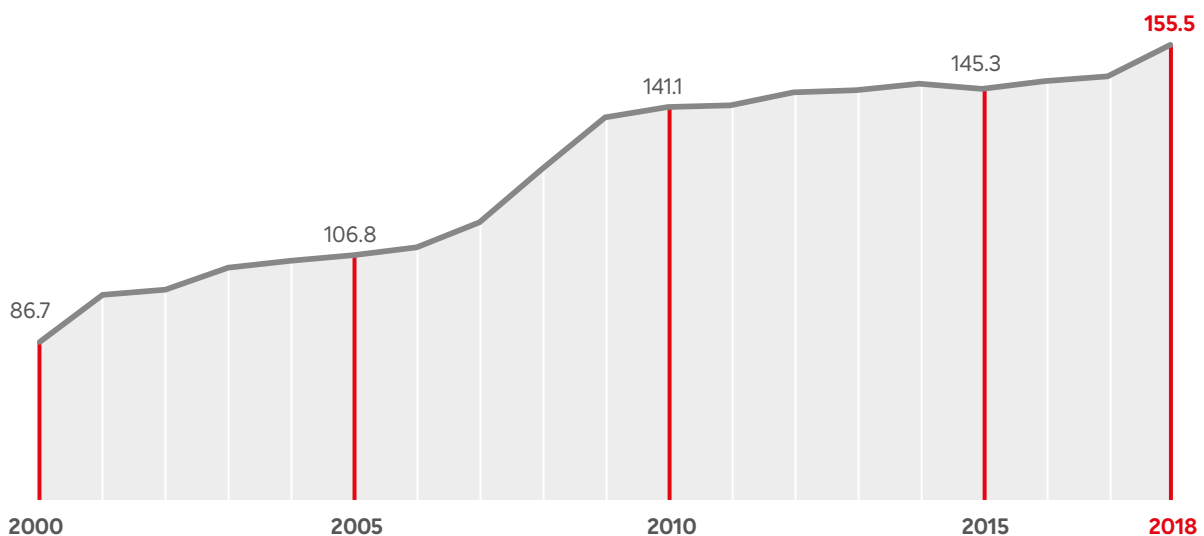
Renfe-Cercanías Madrid is a railway service operated by Renfe Viajeros on ADIF infrastructure, connecting the city of Madrid with its metropolitan area and with the main population centres of the region, along with the city of Guadalajara.

The Renfe-Cercanías network in Madrid operates a total of 9 lines, with 2 branches, and 95 network stations over 391 km, including the Azuqueca, Cotos and Guadalajara stations outside the regional scope of the Autonomous Region of Madrid, and the Zarzalejo, Robledo de Chavela and Santa María de la Alameda stations as an extension of the network from El Escorial.

Of all the stations, 43 serve at least 2 Renfe-Cercanías lines. Taking into account the total number of connections to other railway modes (underground and light rail), the figure increases to 54.

This year, the commercial lines of the network were reorganised, the most notable changes being the limiting of the C2 line to Chamartín, the splitting of the C-3 line, operating to Chamartín (C-3) and to El Escorial (C-3a), and the removal of the C-7 line loop with a new terminal at Príncipe Pío.

### ANNUAL EVOLUTION OF PRODUCTION (million vehicles-km)



## SUPPLY PER LINE ON A WORKING DAY

| Line           | Number of stations-line | Number of operations | Number of operations during rush-hour periods* | Cars by train | Peak commercial speed (Km/h) |
|----------------|-------------------------|----------------------|--|---------------|------------------------------|
| <b>C1</b>      | 11                      | 74                   | 32   | 5             | 38.2                         |
| <b>C2</b>      | 19                      | 238                  | 118  | 5/10          | 53.9                         |
| <b>C3-C3a</b>  | 24                      | 113                  | 56   | 10            | 58.9                         |
| <b>C4a-C4b</b> | 18                      | 285                  | 140  | 6             | 51.7                         |
| <b>C5</b>      | 23                      | 302                  | 162  | 6/10          | 46.4                         |
| <b>C7</b>      | 24                      | 101                  | 58   | 6             | 50.2                         |
| <b>C8</b>      | 32                      | 46                   | 23   | 2/4           | 55.4                         |
| <b>C9</b>      | 3                       | 8                    | 4  | 6/10          | 26.6                         |
| <b>C10</b>     | 21                      | 165                  | 84   | 6/10          | 39.2                         |
| <b>Total</b>   | <b>178**</b>            | <b>1,332</b>         | <b>677</b>                                     |               | <b>49.2</b>                  |

\* Rush-hour periods: 6:00-9:00/13:30-15:30/18:30-20:30.

\*\* The total includes the stations of Zarzalejo, Robledo de Chavela and Santa María de la Alameda (extension from El Escorial).





The supply of scheduled transport for the Renfe-Cercanías services in Madrid stood at 1,332 operations in 2018 and more than 1.7 million passengers a day, resulting in a volume of 488,241 run over the year and an annual production of 155.5 million vehicles-km.



## 2.5 Light rail and other railway concessions

### a. Light rail

The light rail network consists of 4 lines, the names of which are indicated below:

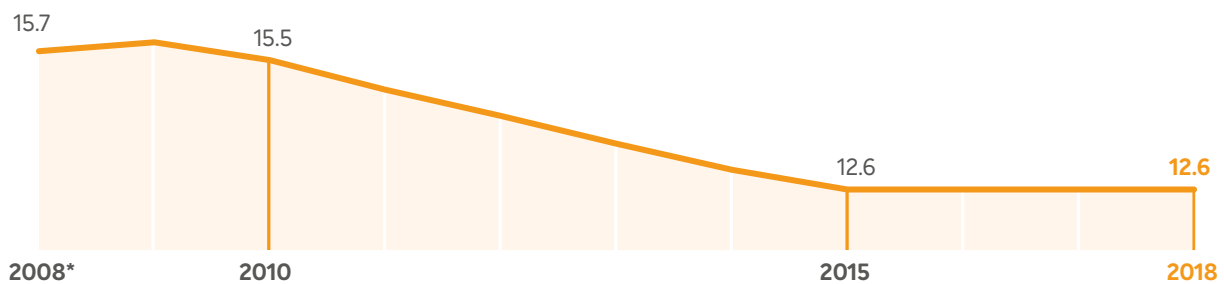
-  **1** Pinar de Chamartín – Las Tablas
-  **2** Colonia Jardín – Aravaca Station
-  **3** Colonia Jardín – Puerta de Boadilla
-  **4** Parla Tramway (circular line)



The provision of light rail services corresponds to three concession companies: Metros Ligeros de Madrid S.A., which operates line ML1; Metro LigerO Oeste S.A., which operates lines ML2 and ML3; and Tranvía de Parla S.A., line ML4.

Overall, 2018 production remains at 12.6 million vehicles-km.






### ANNUAL EVOLUTION OF PRODUCTION (million vehicles-km)



\* The light rail network started operating in 2007.

On a working day, the morning rush hour supply consists of 35 trains in service, with the average interval being 6.8 minutes and the average speed 21.5 km/h.

### SUPPLY PER LINE AT MORNING RUSH HOUR ON A WORKING DAY

| Line   | Trains | Cars by train | Commercial speed (km/h) | Travel time (min) (round trip) | Interval (min) |
|--|--------|---------------|-------------------------|--------------------------------|----------------|
|  <b>1</b>             | 7      | 5             | 19.1                    | 34.0                           | 5.0            |
|  <b>2</b>             | 9      | 5             | 23.5                    | 44.0                           | 6.0            |
|  <b>3</b>             | 12     | 5             | 25.4                    | 64.0                           | 6.0            |
| Direction 1  <b>4</b> | 3      | 5             | 20.1                    | 24.8                           | 10.0           |
| Direction 2  <b>4</b> | 4      | 5             | 19.6                    | 24.8                           | 7.0            |





**b. Other railway concessions**



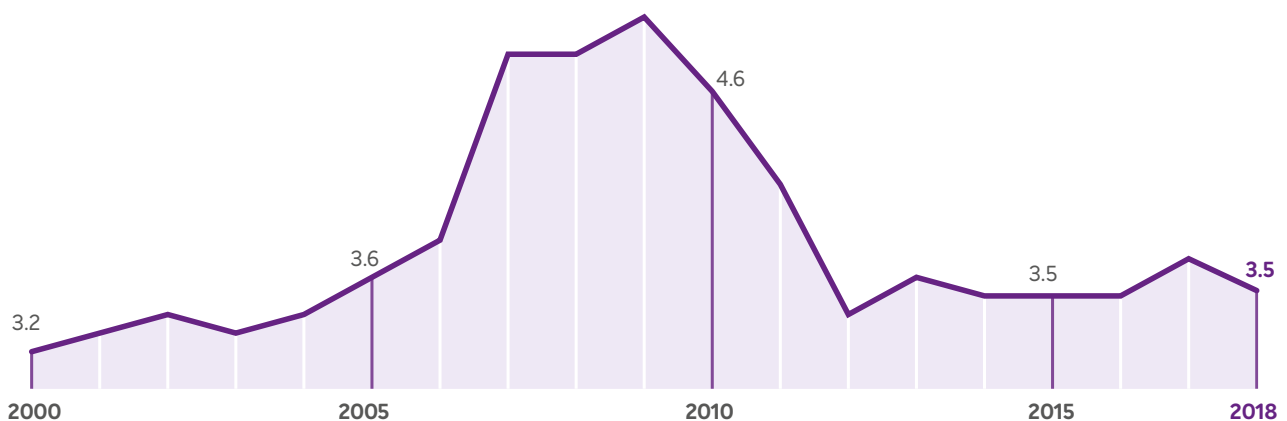
This is the section of line 9 between the Puerta de Arganda and Arganda del Rey stations. It covers a length of 19.0 km and 6 stations–line, the Puerta de Arganda station being the link with the rest of line 9.

The services are provided by the concession company Transportes Ferroviarios de Madrid, S.A.

Adding this section to the Metro de Madrid section would give a network of 288.5 km, and a total of 241 stations–network and 292 stations–line.

2018 production amounts to **3.5 million vehicles–km**.

**ANNUAL EVOLUTION OF PRODUCTION (million vehicles–km)**



**SUPPLY AT MORNING RUSH HOUR ON A WORKING DAY**

| Line       | Trains | Cars by train         | Commercial speed (km/h) | Travel time (min) (round trip) | Interval (min) |
|------------|--------|-----------------------|-------------------------|--------------------------------|----------------|
| <b>9 b</b> | 7      | 3 double and 4 triple | 53.7                    | 42.6                           | 6.1            |

**Over 8,000,000  
MULTI cards  
in circulation**



## 3

# The fare system

The fare system for public transport in the Autonomous Region of Madrid is defined as a zonal system, in which the price of travel is determined depending on the zones involved, and in which there are three types of ticket aimed at the same types of general categories of passengers.

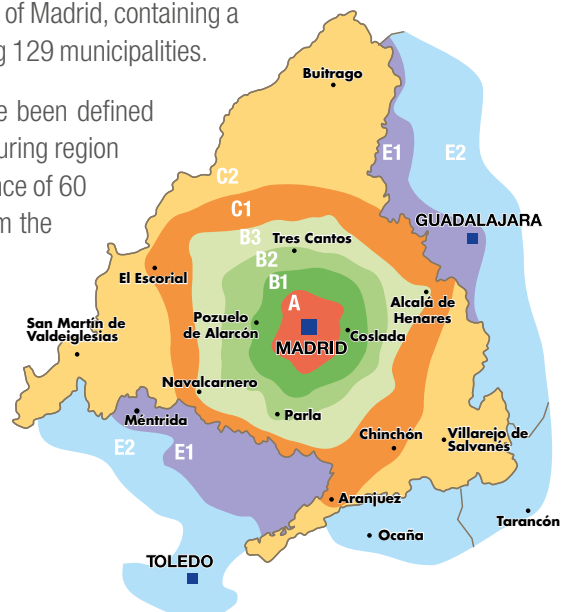
According to the Consortium Creation Act, the tickets used in more than one operator belong to the CRTM, which is responsible for their issue and sale. All modes and operators are included within this framework, ultimately forming a system with a high degree of integration.

All tickets, with the exception of single tickets of bus operators, are charged on the Public Transport Card, which is a contactless card with a microprocessor chip.

## 3.1 Zoning

The Autonomous Region of Madrid is divided into six fare zones:

- ▶ A central area (A), almost coinciding with the municipality of Madrid.
- ▶ Three metropolitan zones (B1, B2 and B3), with 8, 14 and 27 municipalities, respectively.
- ▶ Two zones (C1 and C2) to complete the administrative boundary of the Autonomous Region of Madrid, containing a population spread over the remaining 129 municipalities.
- ▶ In addition, two external zones have been defined (E1 and E2), included in the neighbouring region of Castilla-La Mancha, up to a distance of 60 and 85 kilometres, respectively, from the capital city.





## 3.2 Ticket types

There are three main types of ticket:

- ▶ A **single ticket**, valid for each operator, aimed to the occasional user who purchases it at the time of use. In the case of Metro de Madrid and the underground and light rail concessions connected to it, there is a combined single ticket valid for all these services.
- ▶ A **ten-trip ticket** aimed at repeat users who purchase it in advance. In zone A, there are two types of tickets of this kind: a multimodal ticket (**Metrobús**), valid for use on the underground, EMT and ML1 indifferently, in addition to the concessions of the companies Prisei and Alacuber inside the municipal district of Madrid; and another, a ticket of ten trips with transfers, exclusively valid on the EMT and enabling passengers to change lines within one hour of the first validation. In zones B and C there is a ticket for ten trips (unified bus passes) for all urban and suburban road transport operators. Likewise, similarly to the combined single ticket for the connected underground and light rail services, there is a combined ten-trip ticket.
- ▶ A **personal, multi-modal, unlimited-use ticket** for the period and area of validity, called **Travel Pass**, for regular users purchasing in advance. It remains valid for 30 days as of the first it is used. The passes are priced differently depending on the age of the user, and there are three categories: youngster (up to 26); adult (between 26 and 64); and senior citizen (aged 65 and over).

Functional exceptions to this general pricing framework are the sections outside the underground network that, together with the Metro Ligero Oeste lines, make up a single fare area for non-personal tickets. Furthermore, the use of stations serving the airport terminals involves the payment of an additional ticket. Users of any form of Travel Pass and tourist tickets are exempt from this payment. Finally, the EMT Express Airport line has a specific ticket.

The so-called tourist tickets are also personal and unlimited-use tickets aimed at the floating population. They are split in two zonal forms: A and T (all zones, including external zones), each for six time slots: 1, 2, 3, 4, 5 and 7 calendar days starting from the first use.



### 3.3 Social fares

There are four types of group that benefit from a reduction in the general price established:

- ▶ **Large families** (20% and 50% discount in general and special categories, respectively).
- ▶ **People with disabilities equal to or greater than 65%** (20% discount). If the above two conditions are met, the corresponding discounts are added.
- ▶ **The over-65s or people with disabilities residing in the municipality of Madrid** whose personal income is less than a certain amount related to the IPREM (Public Multiple-Effect Income Indicator, 7,519.59 euros per year in 2018), with a specific pass, the Blue Card, which is valid on the Metro de Madrid (zone A), ML1 and EMT services in Madrid.
- ▶ **Payment for the unemployed** enrolled in the Employment Activation Program (EAP).
- ▶ Lastly, the **Children's Public Transport Card** allows for free use of all transport services in the Autonomous Region of Madrid for children aged 4, 5 and 6.

### 3.4 The distribution network

There are two main groups of distributors:

- ▶ **Transport operators**
- ▶ **Networks outside the operators**

Transport operators generally sell tickets for use exclusively on their network.

Multi-modal and multi-operator tickets, owned by the CRTM, are sold on the underground network (more than **1,200 automatic machines**), in transport interchanges (10-trip tickets for suburban road operators), and on two external networks: the network provided by Logista, basically made up of the tobacconists and other authorised establishments, which distribute all the tickets in a network of over **one thousand points of sale**; and the Bankia ATMs in the Autonomous Region of Madrid (with around **1,500 points available**), which top up the 30-day passes and 10-trip tickets.



Tourist tickets are distributed at the CRTM management offices located at the Airport, throughout the aforementioned external sales network, and in the automatic machines installed at the Renfe-Cercanías stations. The CRTM also sells these tickets directly to the groups and collectives requesting them, congresses, etc.

### 3.5 The fares

The prices in force since 1 February 2013, when the last price review took place and that only affected the prices of the passes, were maintained in 2018.

The Ministry of Development is responsible for approving the fares corresponding to tickets of Renfe-Cercanías.

#### TRAVEL PASS (30-day)

|   | A      | B1     | B2     | B3     | C1     | C2     | E1      | E2      |
|---|--------|--------|--------|--------|--------|--------|---------|---------|
| <b>Adult (aged 26-64)</b>               | €54.60 | €63.70 | €72.00 | €82.00 | €89.50 | €99.30 | €110.60 | €131.80 |
| <b>Young (aged 7-25)</b>                | €20.00 |        |        |        |        |        |         |         |
| <b>Senior (aged 65 and above)</b>       | €12.30 |        |        |        |        |        |         |         |
| <b>Blue Card</b>                        | €6.20  |        |        |        |        |        |         |         |
| <b>EAP (Employment Activation Plan)</b> | €10.00 |        |        |        |        |        |         |         |

#### INTERZONAL (except with area A)

|                           | 2 zones | 3 zones | 4 zones | 5 zones | 6 zones | 7 zones |
|---------------------------|---------|---------|---------|---------|---------|---------|
| <b>Adult (aged 26-64)</b> | €47.90  | €54.60  | €63.70  | €72.00  | €82.00  | €89.50  |

Yearly passes are valid for the calendar year, the price of which is 10 times the corresponding 30-day pass, with the exception of the pass for the unemployed. Children under 4 can travel without a ticket.

#### SINGLE AND 10-TRIP UNDERGROUND AND LIGHT RAIL TICKET

| Zone           | Metro Zone A+ML1 | Metro Norte | Metro Metro Este | Metro Sur | TFM y MLO | Combined metro and light rail |
|----------------|------------------|-------------|------------------|-----------|-----------|-------------------------------|
|                | A                | B1          | B1               | B1-B2     | B1-B2-B3  | A-B1-B2-B3                    |
| <b>Single</b>  | €1.50-€2.00      | €1.50       | €1.50            | €1.50     | €2.00     | €3.00                         |
| <b>10-trip</b> | €12.20           | €11.20      | €11.20           | €11.20    | €12.20    | €18.30                        |

Airport supplement €3.00

#### SINGLE AND 10-TRIP TICKETS ON URBAN AND SUBURBAN BUSES

|                | EMT           | A     | 1 zone | 2 zones | 3 zones | 4 zones | 5 zones | 6 zones |
|----------------|---------------|-------|--------|---------|---------|---------|---------|---------|
| <b>Single</b>  | €1.50         | €1.50 | €1.30  | €2.0    | €2.60   | €3.60   | €4.20   | €5.10   |
| <b>10-trip</b> | €12.20-€18.30 |       | €8.50  | €12.20  | €16.10  | €23.00  | €29.70  | €37.40  |

Airport Express line €5.00

#### TOURIST TICKET

|                           | 1 day  | 2 days | 3 days | 4 days | 5 days | 7 days |
|---------------------------|--------|--------|--------|--------|--------|--------|
| <b>Zone A</b>             | €8.40  | €14.20 | €18.40 | €22.60 | €26.80 | €35.40 |
| <b>Zone T (all zones)</b> | €17.00 | €28.40 | €35.40 | €43.00 | €50.80 | €70.80 |

50% discount for children under 11



Tarjetas Transporte Público · Public Transport Cards

PARA UTILIZAR LOS SERVICIOS DE TRANSPORTE ES NECESARIO DISPONER DE UNA TARJETA TRANSPORTE PÚBLICO  
TO USE THE TRANSPORT SERVICES YOU NEED A PUBLIC TRANSPORT CARD

| Tarjeta   | Usuarios<br>Users | Adquisición · Acquisition |                           |  |          | Títulos de transporte · Transport Tickets |                                 |                                     |
|---|-------------------|---------------------------|---------------------------|--|----------|---|---------------------------------|-------------------------------------|
|   |                   | ESTACIONES<br>STATIONS    | ESTANCOS<br>TOBACCO SHOPS | OFICINAS GESTIÓN<br>MANAGEMENT OFFICES | INTERNET | SENCILLO / 10 VIAJES<br>SINGLE / 10-TRIPS | ABONO TRANSPORTE<br>TRAVEL PASS | BILLETE TURÍSTICO<br>TOURIST TICKET |
| <b>MULTI</b> 2,50€<br>Hasta 3 títulos no personales.<br>Up to 3 different types of non-personal tickets.                      |                   | ✓                         | ✓                         | ✗                                      | ✗        | ✓   | ✗                               | ✓                                   |
| <b>PERSONAL</b> 4,00€<br>1 título personal y hasta 2 no personales.<br>1 travel pass and a maximum of 2 non-personal tickets. |                   | ✗                         | ✗                         | ✓                                      | ✓        | ✓   | ✓                               | ✗                                   |

**INFANTIL** Gratuita  
Para niños de 4, 5 y 6 años de edad (los menores de 4 años pueden viajar sin título de transporte). Tarjeta personal que permite utilizar gratuitamente todos los servicios de transporte público de la Comunidad de Madrid. Se obtiene a través de internet, estancos u oficinas de gestión (con cita previa).

**CHILDREN** Free of charge  
For children aged 4, 5 and 6 years old (children under 4 can travel without a transport ticket). Personal transport card valid for the entire transport network of the Madrid Region. It is available through the Internet, at tobacco shops or by previous appointment at the Public Transport Card management offices.

**TARJETA AZUL**  
Tarjeta personal para empadronados en Madrid que cumplan determinados requisitos (www.crtm.es). La carga tiene un precio de 6,20€ y permite viajes ilimitados durante 30 días a partir de la primera utilización en los servicios de la zona A (excepto Renfe-Cercanías y línea de autobuses Expres Aeropuerto).

**BLUE CARD**  
A personal card addressed to people with certain individual conditions (www.crtm.es) and registered as citizens of the municipality of Madrid. The loading fare is €6.20, with limitless use for 30 calendar days from its first validation, and is valid in zone A transport services, except Renfe-Cercanías and Airport Express bus line.

Todo viajero, antes de iniciar su viaje, habrá de estar provisto de un título de transporte válido acorde con el trayecto que ha de realizar y que deberá haber sometido a la oportuna validación y cancelación para dicho trayecto.  
(Artículo 24 del Reglamento de Viajeros del Ferrocarril Metropolitano de Madrid)

All passengers, before starting the trip, must hold a valid transport ticket in accordance to the journey to be made, and it is subjected to its timely validation for that trip.  
(Article 24 of the Madrid Metropolitan Railway Passenger Regulation)

Tarifas · Fares

SENCILLO\* Y 10 VIAJES · SINGLE\* AND 10-TRIPS

\* Un viaje en el día de la adquisición \* One trip on the acquisition date

**Metro zona A + ML1**

SENCILLO SINGLE 1,50 - 2,00€ 10 VIAJES 10-TRIPS (METROBÚS) 12,20€

SENCILLO: 1,50 € en trayectos hasta 5 estaciones; 0,10€ adicionales por estación hasta un máximo de 2,00€.  
10 VIAJES (METROBÚS): válido para Metro zona A, autobuses EMT (excepto en su línea Expres Aeropuerto) y línea ML1 de metro ligero.  
Single: €1.50 up to 5 stations; €0.10 added per station up to a maximum of €2.00.  
10-TRIPS (METROBÚS): valid for Metro zone A, EMT urban buses (except Airport Express bus line), and ML1 light rail line.

**Metro Ligero Oeste** B1 B2

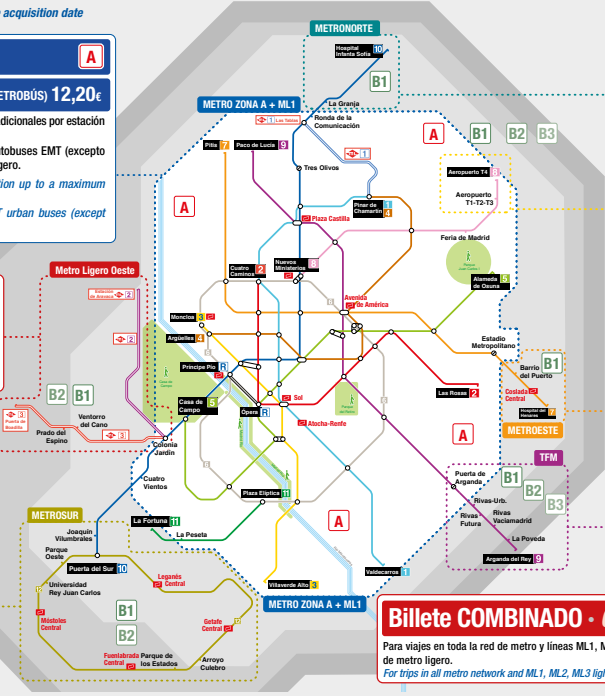
SENCILLO SINGLE 2,00€ 10 VIAJES 10-TRIPS 12,20€

ML2 (Colonia Jardín - Estación de Aravaca)  
ML3 (Colonia Jardín - Puerta de Boadilla)

**MetroSur** B1 B2

SENCILLO SINGLE 1,50€ 10 VIAJES 10-TRIPS 11,20€

L10 (Joaquín Vilumbrales - Puerta del Sur)  
L12



**MetroNorte** B1

SENCILLO SINGLE 1,50€ 10 VIAJES 10-TRIPS 11,20€

L10 (Hospital Infanta Sofía - La Granja)

**Suplemento AEROPUERTO** AIRPORT additional payment +3,00€

Para entrar o salir a las estaciones de Metro del aeropuerto hay que abonar un suplemento, excepto los viajeros con Abono Transporte o billete turístico.  
Entering or leaving airport Metro stations requires an additional payment, except passengers holding a Travel Pass or a tourist ticket.

**MetroEste** B1

SENCILLO SINGLE 1,50€ 10 VIAJES 10-TRIPS 11,20€

L7 (Hospital del Henares - Barrio del Puerto)

**TFM** B1 B2 B3

SENCILLO SINGLE 2,00€ 10 VIAJES 10-TRIPS 12,20€

L9 (Puerta de Arganda - Arganda del Rey)

**Billete COMBINADO · COMBINED Ticket** A B1 B2 B3

Para viajes en toda la red de metro y líneas ML1, ML2 y ML3 de metro ligero.  
For trips in all metro network and ML1, ML2, ML3 light rail lines.

SENCILLO SINGLE 3,00€ 10 VIAJES 10-TRIPS 18,30€

ABONO TRANSPORTE · TRAVEL PASS

Título de transporte personal de utilización ilimitada durante 30 días desde su primera validación, en todos los servicios de transporte público de la zona tarifaria correspondiente, excepto la línea de autobuses Expres Aeropuerto. También existe un abono de validez anual.

A personal travel pass with 30 days validity from its first validation that allows for unlimited use on any public transport mode, in accordance to the loaded fare zone, except Airport Express bus line. There is also a one-year validity travel pass.

| ZONA                         | A       | B1     | B2     | B3     | C1     | C2     | E1      | E2      | INTERZONALES ENTRE LAS ZONAS B1 y E2 |         |         |         |         |         |  |
|------------------------------|---------|--------|--------|--------|--------|--------|---------|---------|--------------------------------------|---------|---------|---------|---------|---------|--|
| Edad                         | 20,00 € |        |        |        |        |        |         |         | 2 zonas                              | 3 zonas | 4 zonas | 5 zonas | 6 zonas | 7 zonas |  |
| 7-25 años JOVEN YOUNG        | 20,00 € |        |        |        |        |        |         |         |                                      |         |         |         |         |         |  |
| 26-64 años NORMAL STANDARD   | 54,60€  | 63,70€ | 72,00€ | 82,00€ | 89,50€ | 99,30€ | 110,60€ | 131,80€ | 47,90€                               | 54,60€  | 63,70€  | 72,00€  | 82,00€  | 89,50€  |  |
| Desde 65 años 3ª EDAD SENIOR | 12,30 € |        |        |        |        |        |         |         |                                      |         |         |         |         |         |  |

BILLETE TURÍSTICO · TOURIST TICKET

Título personal con validez para 1, 2, 3, 4, 5, 6, 7 días naturales y consecutivos.  
- Zona A: todos los servicios de esta zona.  
- Zona T: todos los servicios de la Comunidad de Madrid, incluidas zonas E1 y E2, excepto servicios Renfe a Toledo.  
No es válido en la línea de autobuses Expres Aeropuerto.

Días naturales y consecutivos - Calendar consecutive days

| ZONA        | 1 día day | 2 días days | 3 días days | 4 días days | 5 días days | 7 días days |
|-------------|-----------|-------------|-------------|-------------|-------------|-------------|
| ZONA zona A | 8,40€     | 14,20€      | 18,40€      | 22,60€      | 26,80€      | 35,40€      |
| ZONA zona T | 17,00€    | 28,40€      | 35,40€      | 43,00€      | 50,80€      | 70,80€      |

Descuento del 50% para niños menores de 11 años 50% Discount for children under 11

Todos los títulos de transporte se pueden cargar en las máquinas de las estaciones de metro y metro ligero, estancos, cajeros automáticos de Bankia y otros puntos autorizados. El Abono Transporte y el billete turístico se pueden cargar también en las máquinas de las estaciones de Renfe-Cercanías.

All types of transport tickets can be loaded at the ticket machines of metro and light rail stations, tobacco shops, Bankia ATMs, and any other licensed points of sale. The Travel Pass and the tourist ticket can also be loaded at the ticket machines of Renfe-Cercanías stations.

Existen descuentos para familias numerosas (50% especial, 20% general) y para personas con discapacidad ≥65% (20%)  
There are discounts for large families (special category 50%, general category 20%), and for disabled people ≥65% (20% discount)

Información tarifaria Fares information

Descárgate nuestra App Download our App

Club de Amigos del Transporte Público

Información de Transporte Público Public Transport Information

Lunes a viernes de 8:00 a 22:00 h - Sábados y festivos de 10:00 a 22:00 h  
Monday to Friday: 8:00 to 22:00 h - Saturday and holidays: 10:00 to 22:00 h

012 www.crtm.es

Información de Metro de Madrid Metro de Madrid Information

7:00 - 23:00 h

902 444 403 www.metromadrid.es

unimos Personas

CONSORCIO TRANSPORTES MADRID

Tu sistema de transportes

www.crtm.es

## 3.6 Technology

The contactless wallet technology is a strategic project strategic for the integrated public transport system of the Autonomous Region of Madrid. Through its progressive implementation, this technology has been a major step forward in achieving fare and technology unification in all transport systems and operators, favouring new safety and comfort features, and flexibility for contactless card users.

In addition, this technology significantly increases CRTM management capacity for better service planning,

efficiency improvements and cost reduction, and for obtaining new data that is now already used as the basis for analytical work with big data technologies.

The elements forming part of this new technological development especially include the ticket itself (Public Transport Card) and the test development centre for progressive implementation and verification of successive modifications to the specifications.

### a. The Public Transport Card

Different tickets can be contained in two types of Public Transport Card: personal and non-personal. The former may contain a personal ticket and two additional non-per-

sonal tickets. Non-personal cards, the brand name of which is MULTI, contain only non-personal tickets.

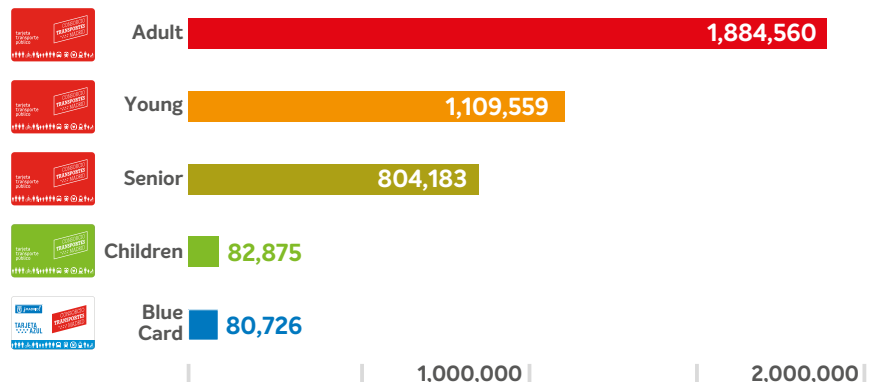
### Personal Public Transport Card

The number of active personal cards at 31 December 2018 amounted to 3,961,903, 10% up on 2017, mainly due to the increase in the adult and youngster profile cards. Blue Cards dropped by 10%, mostly because the first cards issued expired that year and users had to renew them in the sales network. Not all users affected by this carried out the planned procedure and were consequently removed from the system.

A total of 464,734 new cards were issued in 2018, 1.3% down on the previous year. The following table indicates their distribution by sales channel for each user profile, except in the case of the Blue Card, which is only ordered at the Citizen Assistance offices at Madrid City Council. Management offices are the channel most used by users, with 70% of the cards purchased, while the Internet is used by 22% and tobacconists by the remaining 8%.

## ACTIVE PERSONAL CARDS BY PROFILE

**Almost  
4 million  
personal  
cards active**





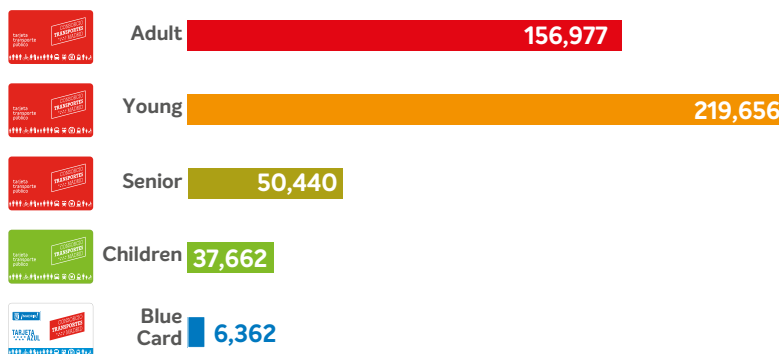
These averages differ, however, depending on the profile in question, with the Internet channel reaching the largest share for children’s cards (33%), followed by youngsters (25%), the adult profile (21%) and finally senior citizens (10%). The latter mostly prefer to use the tobacconist network (20%).

The average monthly number of cards requested is 39,258, with the highest number of requests being made in September with more than 59,900 new cards, as is customary mainly due to the accumulation of new requests at the start of the new academic year.

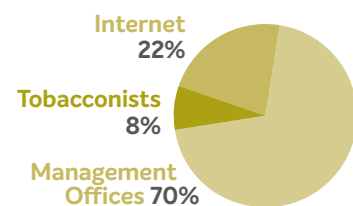
### CARDS ISSUED BY PROFILE/CHANNEL

|              | Tobacconists  | Internet       | Management Office | Total          |
|--------------|---------------|----------------|-------------------|----------------|
| Adult        | 7,186         | 32,233         | 117,557           | 156,976        |
| Young        | 13,566        | 53,987         | 152,103           | 219,656        |
| Senior       | 9,981         | 5,236          | 35,223            | 50,440         |
| Children     | 5,510         | 12,572         | 19,580            | 37,662         |
| <b>Total</b> | <b>36,243</b> | <b>104,027</b> | <b>324,464</b>    | <b>464,734</b> |

### PERSONAL CARDS ISSUED BY PROFILE



### ISSUED BY CHANNEL





## Multi Card

The **MULTI Card** is intended to contain the non-personal tickets of users who do not have a personal card. The single tickets of bus operators remain in paper format and are paid for on board buses at the start of the trip.

The card can be purchased from the vending machines on the underground and light rail networks and at the

points of sale of the Logista network, and lasts for ten years, just like the personal cards. Their price is €2.50.

The following table summarises the MULTI Cards distributed up to 31 December 2018, differentiating between those provided during their promotion and those sold through the two existing sales channels. In total, the number of cards in circulation amounts to 8.3 million, of which 4.9 million correspond to sales produced in 2018.

### MULTI CARDS IN CIRCULATION (at 31<sup>ST</sup> December 2018)

|                                      |                           |           | Total            |
|--------------------------------------|---------------------------|-----------|------------------|
| <b>Free of charge</b>                | Social Services           | 38,000    | <b>1,231,425</b> |
|                                      | Provided during promotion | 1,193,425 |                  |
| <b>Sales</b>                         | Logista                   | 480,951   | <b>7,039,959</b> |
|                                      | Metro                     | 6,559,008 |                  |
| <b>TOTAL Multi Cards distributed</b> |                           |           | <b>8,271,384</b> |

In terms of purchases of tickets using the MULTI card, the tickets charged during 2018 exceed 38.9 million, distributed among the Bankia network with 0.3%, Logista with 10.4%, and Metro with 89.3%. As of this year, all

non-personal tickets, with the exception of single bus tickets, are charged onto the public transport card, hence the significant increase in comparison with 2017.

## b. The Development and Compliance Centre (DCC)


The Development and Compliance Centre (DCC) was launched in 2006 and its basic aim is to be a **technological reference centre** guaranteeing the compatibility of all elements, equipment and systems, both hardware and software, which constitute or may constitute part of the **Smart Ticketing System of the Autonomous Region of Madrid**.

During 2018, numerous tests were performed in the areas of card manufacture and supply, validation, charging and inspection. More specifically, physical (friction, roughness, shine and stacking) and logical (data writing, codes, etc.) tests of MULTI-type cards were performed to guarantee the correct automatic issue of this type of card from metro sales machines. The integration of invoice generation in the charging application in the different sales networks

(Metro, Logista, Renfe-Cercanías and Bankia), the introduction of the 4-day tourist ticket, the issue of cards with pre-charged tickets, and the function of extending the useful life of personal cards and annual passes (to optimise processes and avoid mass card replacements) were been tested. Validation tests were been carried out on all transport operators in relation to the new SAM type in which new codes and functions are introduced in order to be able to properly and securely integrate mobile phone use for travel. The correct integration of bicycle use into the Region's public transport using the transport card was also tested. Work also continued in the field of Host Card Emulation on mobile phones using the NFC communications protocol to provide passengers with alternative means of charging their tickets.







**1,548 million  
trips in 2018**



## 4

# The Passengers

The total number of trips made in the public transport system of the Autonomous Region of Madrid in 2018 amounted to 1,548.4 million, representing an increase of 3% compared with the previous year, 45.4 million in absolute terms.

This figure represents an average of 235.4 trips per inhabitant per year, 1.9% more than the previous year, which still places the Autonomous Region of Madrid as a benchmark in the use of public transport throughout the country.

The figures presented as trips refer to the commercial stages made by users, and transfers are therefore counted as trips except those on Metro de Madrid and Renfe-Cercanías, where they are not penalised in terms of fare. Exceptionally, although this same treatment occurs in interchanges between the Metro de Madrid and the Metros Ligeros de Madrid (line ML1), because they are different modes and operators they are counted as trips.

## 4.1 Evolution of demand by operator

All operators, with the exception of the EMT, have experienced increases in passengers compared to the previous year, although the railway operators have the best results. Light rail leads the way with an increase of 7.8%, followed by Renfe-Cercanías and then by Metro de Madrid and the other operators. EMT lost 1.8%, a decrease mainly affected by the weight of special services on overall demand, which had a different relevance in the two years compared.

The operators who grew the most have improved their position in modal distribution as a result, with Metro de Madrid leading the way with 42.4% of all trips made. However, EMT fell to 27.1% of all trips made in 2018.

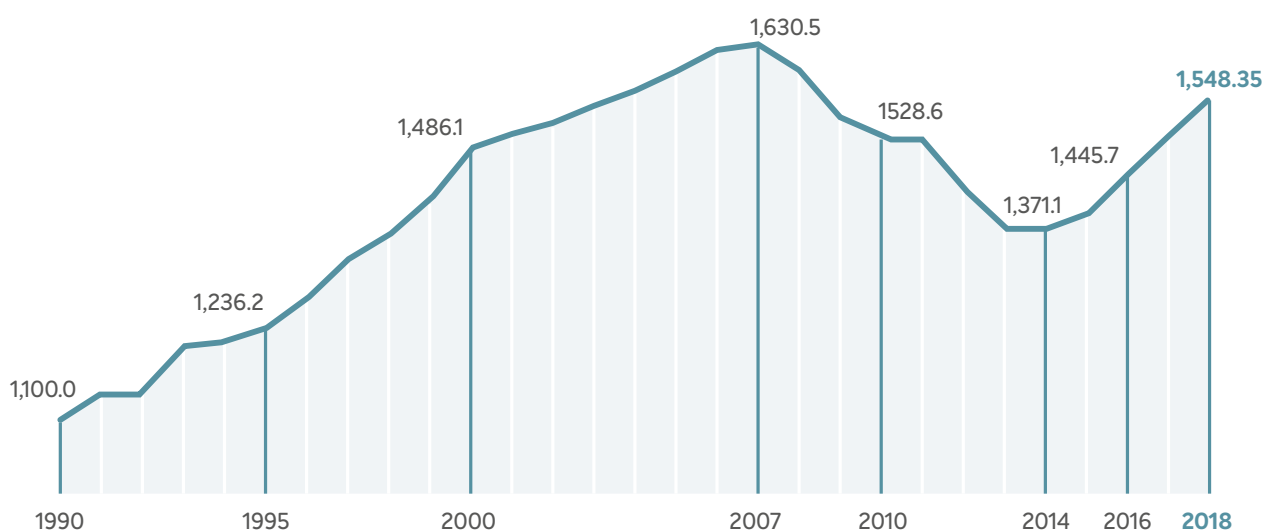
## EVOLUTION OF DEMAND BY OPERATOR (million)

| YEAR        | Metro de Madrid | EMT          | Road concessions | Renfe-Cercanías | Light rail <sup>(1)</sup> | Other railway concessions <sup>(2)</sup> | TOTAL          |
|-------------|-----------------|--------------|------------------|-----------------|---------------------------|--|----------------|
| <b>1990</b> | 416.3           | 433.3        | 154.1            | 96.3            | -                         | -  | 1,100.0        |
| % VAR 90/89 | 5.5%            | -4.7%        | 10.5%            |                 | -                         | -  | 2.8%           |
| <b>1995</b> | 397.2           | 521.5        | 191.6            | 126.0           | -                         | -  | 1,236.2        |
| % VAR 95/90 | -4.6%           | 20.3%        | 24.4%            | 30.8%           | -                         | -  | 12.4%          |
| <b>2000</b> | 518.9           | 531.2        | 270.1            | 161.2           | -                         | 4.7                                      | 1,486.1        |
| % VAR 00/95 | 30.7%           | 1.9%         | 40.9%            | 28.0%           | -                         | -  | 20.2%          |
| <b>2005</b> | 643.6           | 470.2        | 275.6            | 199.0           | -                         | 6.7                                      | 1,595.1        |
| % VAR 05/00 | 24.0%           | -11.5%       | 2.0%             | 23.5%           | -                         | 42.9%                                    | 7.3%           |
| <b>2010</b> | 627.1           | 423.4        | 235.8            | 181.6           | 17.3                      | 6.4                                      | 1,491.6        |
| % VAR 10/05 | -2.6%           | -10.0%       | -14.4%           | -8.8%           | -                         | -4.8%                                    | -6.5%          |
| <b>2015</b> | 569.7           | 405.9        | 207.3            | 182.2           | 14.7                      | 5.9                                      | 1,385.8        |
| % VAR 15/10 | -9.2%           | -4.1%        | -12.1%           | 0.3%            | -15.0%                    | -7.8%                                    | -71%           |
| <b>2016</b> | 584.8           | 430.1        | 224.1            | 184.6           | 15.8                      | 6.2                                      | 1,445.7        |
| % VAR 16/15 | 2.7%            | 6.0%         | 8.1%             | 1.3%            | 7.5%                      | 5.3%                                     | 4.3%           |
| <b>2017</b> | 626.4           | 427.9        | 232.7            | 192.5           | 16.9                      | 6.5                                      | 1,503.0        |
| % VAR 17/16 | 7.1%            | -0.5%        | 3.8%             | 4.3%            | 6.8%                      | 4.7%                                     | 4.0%           |
| <b>2018</b> | <b>657.2</b>    | <b>420.2</b> | <b>242.8</b>     | <b>203.4</b>    | <b>18.2</b>               | <b>6.6</b>                               | <b>1,548.4</b> |
| % VAR 18/16 | <b>4.9%</b>     | <b>-1.8%</b> | <b>4.3%</b>      | <b>5.6%</b>     | <b>7.8%</b>               | <b>1.5%</b>                              | <b>3.0%</b>    |

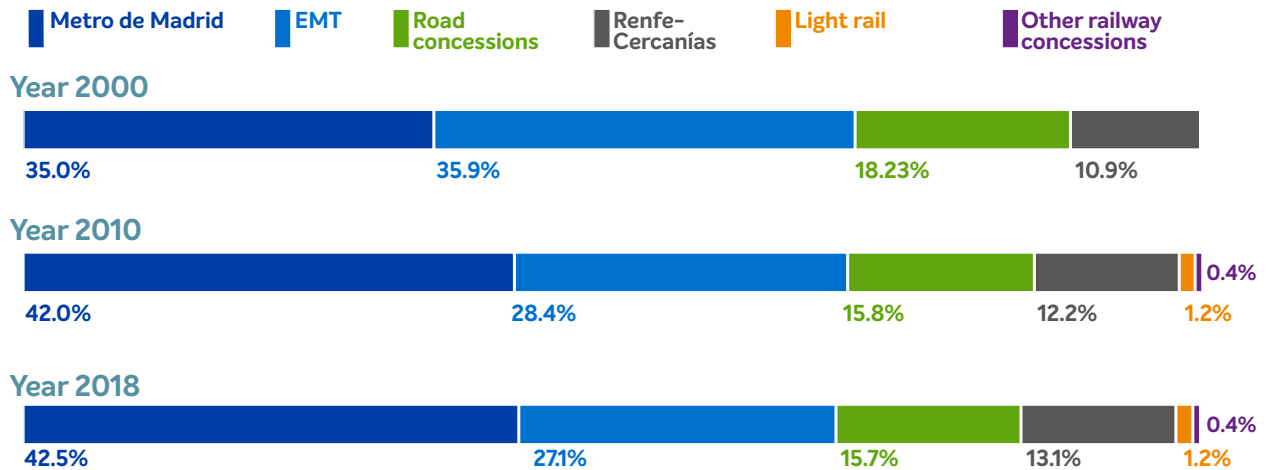
In 2000, the procedure for calculating trips (cancellations instead of survey) was modified.

(1) Includes MLM, MLO and Parla Tramway operators. (2) Includes TFM.

## EVOLUTION OF TOTAL DEMAND (millions of trips)



## EVOLUTION OF TOTAL DEMAND BY OPERATOR



## 4.2 Evolution of demand by ticket

With regard to the distribution of demand by ticket type, bearing in mind that no changes have been made to fares, the variations compared with the previous year highlight the effect of the introduction of the MULTI card as a medium for non-personal tickets. The single ticket fell 11% and the ten-trip ticket rose 5.6%. In net terms, the transfer from one ticket to the other is more obvious: 11.7 million single ticket trips are lost and a virtually identical figure of 10-trip tickets is gained: 11.5 million. The Travel

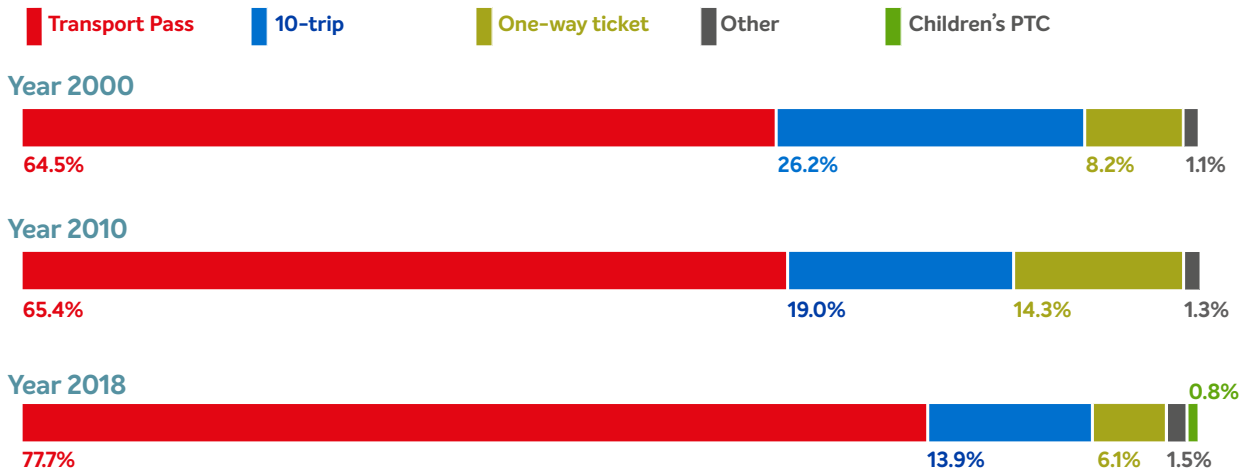
Pass, with 1,203 million trips, represents 77.7% of total demand, one percent up on the previous year. By adding the almost twelve million trips made using the Children's Public Transport Card to these, they all exceed 78% of total trips made. The trips made using other tickets dropped mainly due to the effect of the decline in EMT special services in 2018, with 7 million trips lost due to this circumstance.

## ANNUAL DISTRIBUTION OF TRIP BY TICKET TYPE 2018

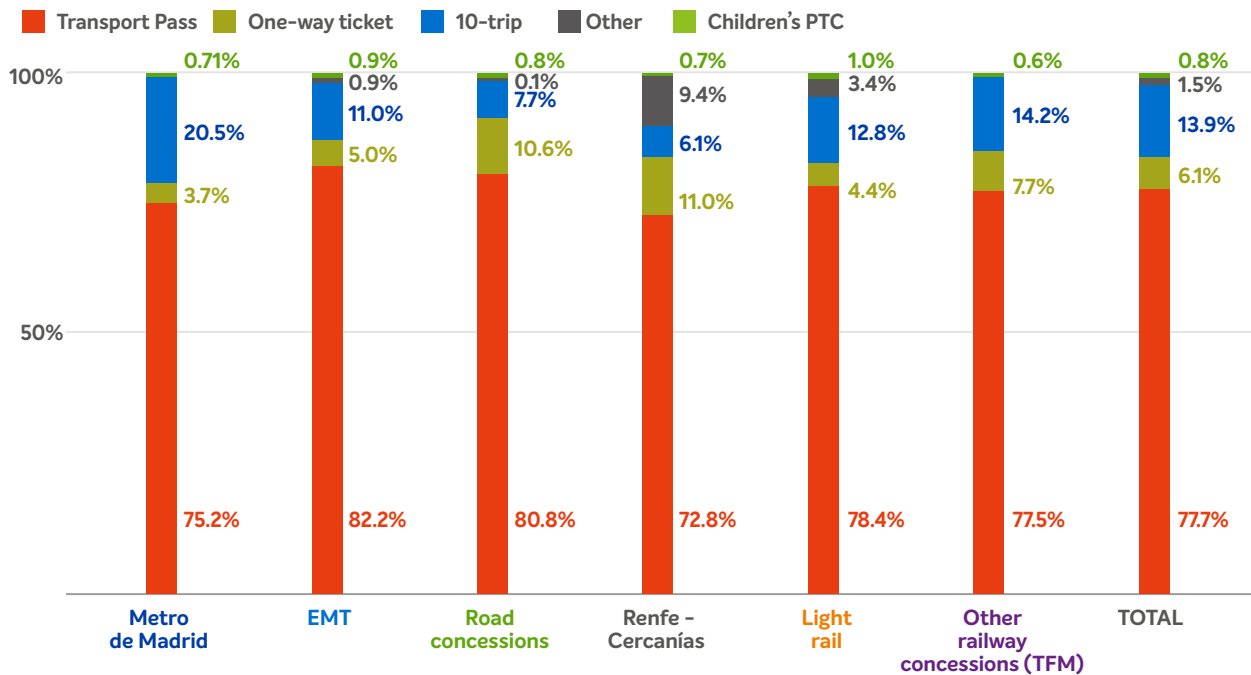
| Operator    |         | Metro de Madrid | EMT         | Road concessions | Renfe-Cercanías | Light rail | Other railway concessions (TFM) | Total         |
|-------------|---------|-----------------|-------------|------------------|-----------------|------------|---------------------------------|---------------|
| Single      | Trips   | 24,212,271      | 20,969,876  | 25,815,401       | 22,415,850      | 803,916    | 504,365                         | 94,721,679    |
|             | % Total | 25.6%           | 22.1%       | 27.0%            | 23.7%           | 0.9%       | 0.5%                            | 100%          |
| 10-trip     | Trips   | 134,414,711     | 46,016,770  | 18,770,557       | 12,340,090      | 2,327,250  | 934,126                         | 214,803,504   |
|             | % Total | 62.6%           | 21.4%       | 8.7%             | 5.8%            | 1.1%       | 0.4%                            | 100%          |
| Travel Pass | Trips   | 493,900,400     | 345,721,563 | 196,196,169      | 148,082,097     | 14,278,148 | 5,087,811                       | 1,203,266,188 |
|             | % Total | 41.0%           | 28.7%       | 16.3%            | 12.3%           | 12%        | 0.5%                            | 100%          |
| Children's  | Trips   | 4,658,889       | 3,677,236   | 1,974,696        | 1,358,816       | 189,913    | 42,062                          | 11,901,612    |
|             | % Total | 39.1%           | 30.9%       | 16.6%            | 11.4%           | 1.6%       | 0.4%                            | 100%          |
| Other       | Trips   | 25,582          | 3,811,596   | 37,446           | 19,164,347      | 622,488    | 0                               | 23,661,459    |
|             | % Total | 0.1%            | 16.1%       | 0.2%             | 81.0%           | 2.6%       | 0%                              | 100%          |
| Total       | Trips   | 657,211,853     | 420,197,041 | 242,794,269      | 203,361,200     | 18,221,715 | 6,568,364                       | 1,548,354,442 |
|             | % Total | 42.5%           | 27.1%       | 15.7%            | 13.1%           | 1.2%       | 0.4%                            | 100%          |



### EVOLUTION OF THE DISTRIBUTION OF DEMAND BY TICKET TYPE



### DISTRIBUTION OF TRIP BY TICKET AND OPERATOR (2018)



The Travel Pass is the most widely-used ticket in all operators, 77.7% of all trips made, and is particularly significant in the case of buses, with participation rates in excess of 80%. The number of monthly trips each pass holder makes on average is 57, 3% lower than the previous year's average. The average value of monthly trips made by our pass holders has decreased gradually as a result of the evolution in the weight of the different user profiles in sales as a whole, as seen below.

The single ticket, despite its low penetration – less than that recorded in 2017 – is used on 6.1% of all trips, has increased its share of suburban services, both rail and road. In Metro de Madrid, the percentage of use of ten-trip tickets stands out, accounting for 20.5% of demand, whereas the proportion stands at 13.9% across the network.

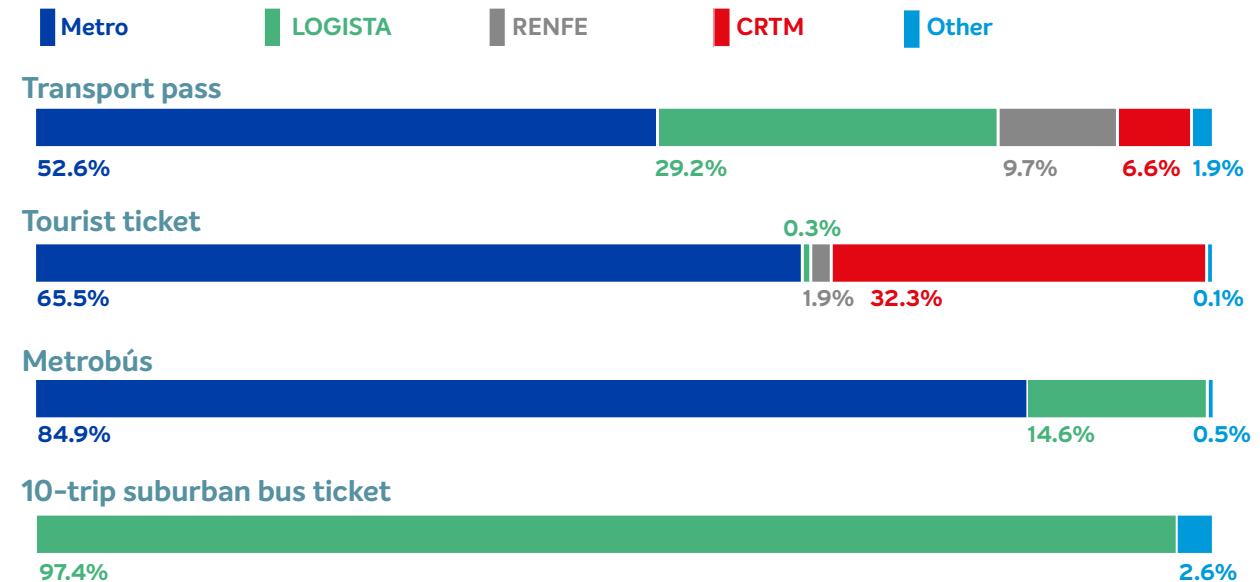
### 4.3 Sales of tickets

The sales of the different types of Travel Pass are analysed below. Information regarding the sale of the remaining tickets issued by the CRTM (combined single and ten-trip of the underground and light rail network and ten-trip Metrobús tickets and bus passes from suburban operators) does not offer significant added value to the distribution of the trips indicated in the previous chapter.

However, the following graph shows the distribution by commercial network of the sale of all tickets sold by the CRTM. **Metro de Madrid is the main distributor** with just over half of the passes and 85.5% of Metrobús, the ten-trip ticket for zone A. The Logista points of sale network then plays a very important role as external support for the transport network, **with 29.2% of pass sales, 14.6% of Metrobús and a majority 97.4% of 10-trip suburban bus ticket**. The Bankia ATM network plays a minor role (1.1%) in the sale of tickets, and is therefore included in the “Other” category. The CRTM has this year been assigned a separate heading, although its main role is the distribution of yearly tickets, for the sale of Congress tickets and the sale of tourist tickets to end users through its management offices, especially from our offices at airport facilities.



#### DISTRIBUTION OF THE SALE OF TICKETS BY DISTRIBUTOR



A total of 20,404,516 travel passes were sold in 2018 across all user zones and profiles. This figure, representing a 5% increase on the previous year, includes 30-day

ticket charges on contactless cards and annual passes paid in monthly instalments. It does not include tourist tickets, which are analysed separately.

### SALES OF THE TRAVEL PASS BY USER PROFILE

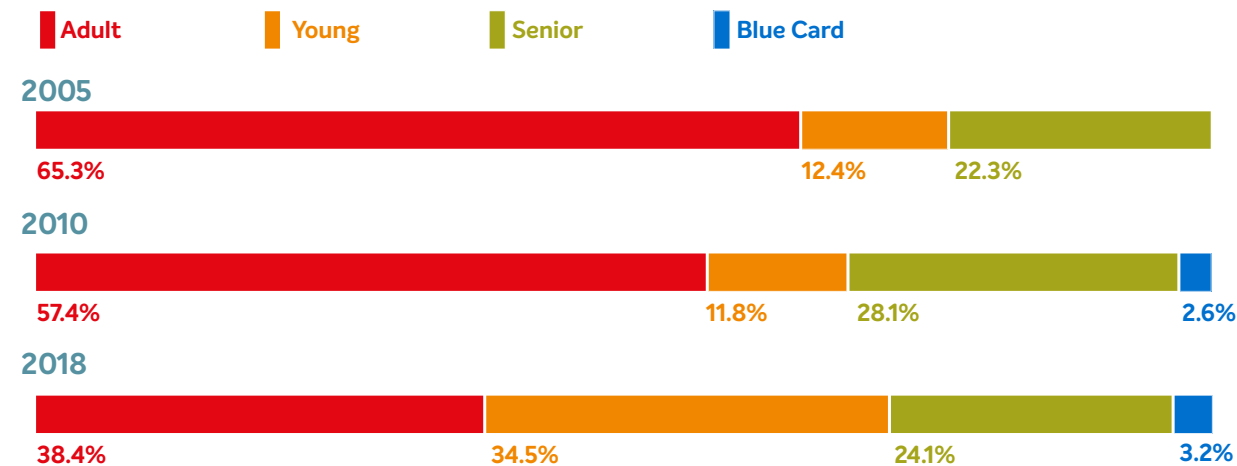
| Year                | Adult            | Young            | Senior           | Blue Card      | EAP          | TOTAL             |
|---------------------|------------------|------------------|------------------|----------------|--------------|-------------------|
| 1990                | 3,404,593        | 1,260,108        | 599,477          | -              | -            | 5,264,178         |
| 1995                | 5,254,389        | 2,248,617        | 1,634,361        | -              | -            | -                 |
| 2000                | 7,732,219        | 2,079,622        | 2,647,205        | -              | -            | 12,459,046        |
| 2005                | 9,075,624        | 1,723,581        | 3,091,332        | -              | -            | -                 |
| 2010                | 8,386,456        | 1,724,270        | 4,102,935        | 377,426        | -            | 11,591,087        |
| 2015                | 7,545,684        | 3,133,459        | 4,560,714        | -              | 565,863      | 503               |
| 2016                | 7,243,501        | 5,794,760        | 4,662,945        | 594,615        | 4,669        | 18,300,490        |
| 2017                | 7,534,012        | 6,489,690        | 4,785,347        | 622,085        | 6,106        | 19,437,240        |
| <b>2018</b>         | <b>7,838,161</b> | <b>7,001,096</b> | <b>4,909,269</b> | <b>646,393</b> | <b>9,597</b> | <b>20,404,516</b> |
| <b>% VAR. 18/17</b> | <b>4.0%</b>      | <b>7.9%</b>      | <b>2.6%</b>      | <b>3.9%</b>    | <b>571%</b>  | <b>5.0%</b>       |

The Young Pass increased by almost 8% in comparison to the previous year, continuing the sharp upward trend seen since the introduction of the flat-rate fare in 2015. This growing trend is even more evident when we consider the evolution of its share of sales, which in 2015 held a 20% stake and currently stands at 34.5%. The remaining passes grew somewhat less than average, particularly the Senior Citizen Pass, although

we can say that demand was consolidated after three consecutive years of growth.

The evolution of the pass holder profile over the years is noteworthy in this regard, and in addition to what has already been mentioned, although the Senior Citizen Pass dropped 10 points in its distribution compared to 2010, its sales volume is higher and this year it almost reached its historic peak.

### SALES OF THE TRAVEL PASS BY USER PROFILE





## Over 20 million Travel Passes sold

The evolution of sales by zones supplements the analysis with a regional viewpoint and, although the first conclusion to be noted is that, due to the importance of flat-rate fares,

these already represent 58.4% of total sales, the zonal approach is limited exclusively to adult passes, which sways the comparison.

### EVOLUTION OF THE SALE OF THE TRAVEL PASS BY ZONE

| Year              | Zone A <sup>(1)</sup> | Zones B          | Zones C        | Interzonal <sup>(2)</sup> | Zones E <sup>(3)</sup> | Senior           | Young            | EAP          | TOTAL             |
|-------------------|-----------------------|------------------|----------------|---------------------------|------------------------|------------------|------------------|--------------|-------------------|
| 1990              | 2,742,169             | 1,828,803        | 93,729         | -                         | -                      | 599,477          | -                | -            | 5,264,178         |
| 1995              | 3,678,086             | 3,589,307        | 235,613        | -                         | -                      | 1,634,361        | -                | -            | 9,137,367         |
| 2000              | 4,150,359             | 5,273,279        | 388,203        | -                         | -                      | 2,647,205        | -                | -            | 12,459,046        |
| 2005              | 4,527,608             | 5,691,174        | 496,577        | -                         | 83,846                 | 3,091,332        | -                | -            | 13,890,537        |
| 2010              | 4,918,640             | 4,696,330        | 438,939        | 354,046                   | 80,197                 | 4,102,935        | -                | -            | 14,591,087        |
| 2015              | 5,088,904             | 3,921,637        | 370,518        | 375,532                   | 83,712                 | 4,560,714        | 1,404,703        | 503          | 15,806,223        |
| 2016              | 4,215,656             | 3,060,871        | 264,507        | 238,352                   | 59,366                 | 4,662,945        | 5,794,124        | 4,669        | 18,300,490        |
| 2017              | 4,410,108             | 3,157,683        | 268,676        | 256,510                   | 63,683                 | 4,785,347        | 6,489,690        | 6,106        | 19,437,240        |
| <b>2018</b>       | <b>4,604,066</b>      | <b>3,269,086</b> | <b>279,270</b> | <b>263,051</b>            | <b>69,081</b>          | <b>4,909,269</b> | <b>7,001,096</b> | <b>9,597</b> | <b>20,404,516</b> |
| <b>%VAR 18/17</b> | <b>4.4%</b>           | <b>3.5%</b>      | <b>3.9%</b>    | <b>2.6%</b>               | <b>8.5%</b>            | <b>2.6%</b>      | <b>7.9%</b>      | <b>57.2%</b> | <b>5.0%</b>       |

(1) Includes Blue Card as of 2007.

(2) Passes B1-B2, B2-B3, B3-C1 and C1-C2.

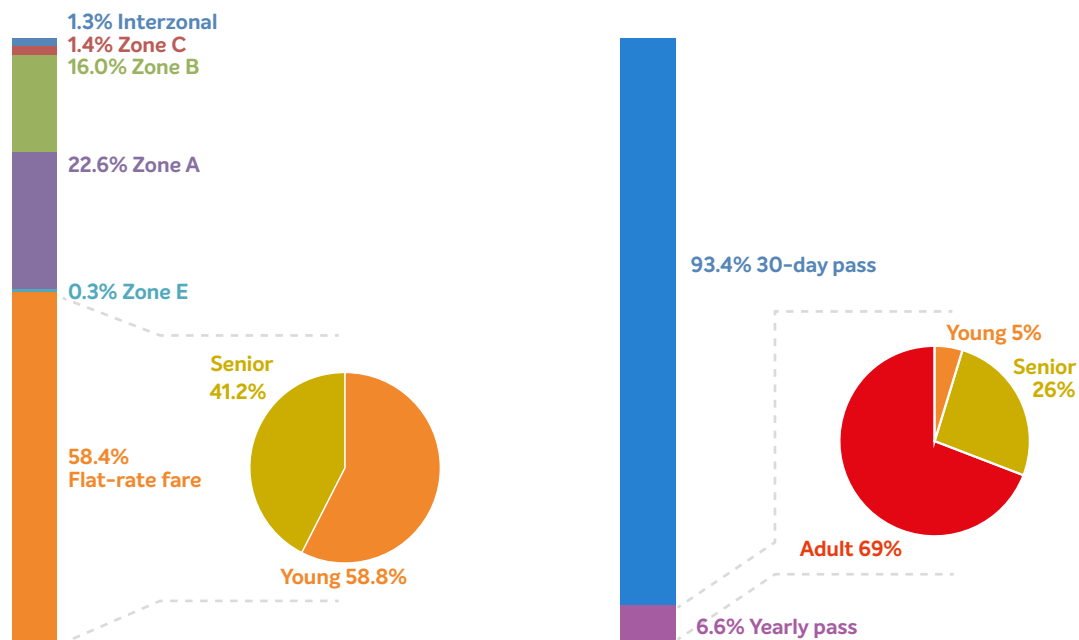
(3) Zone outside the Autonomous Region of Madrid, the scope of which includes part of Castilla-La Mancha.

The evolution of the distribution of tickets by zone shows that there has been a greater movement of users from metropolitan areas towards the youngster flat-rate fare, as the loss in weight across zones B, C and E has been relatively greater than in zone A. In the past year, zone A represented 22.6% of the total, compared to 18.7% of the other zones.

93.4% of all passes sold are 30-day passes, compared to 6.6% of yearly passes. The latter are mainly adult pass holders, 69%, while yearly Senior Citizen Pass holders account for 26.1%, and only 4.9% of yearly pass holders are youngsters. However, it can be seen that the number of Annual Pass holders has increased overall, especially among Senior Citizens and, to a lesser extent, among youngsters.



## SALES OF THE TRAVEL PASS BY PROFILE AND ZONE



The average number of pass holders using the 30-day ticket each month is 1.7 million, with a variation range of  $\pm 0.65$  million tickets. **The month of highest sales reached 1,925,124 passes, coinciding with the month of October** and 13.2% above the average monthly sales.

Relating peak monthly sales to the total population of the Autonomous Region of Madrid aged between 7 and 84 gives a penetration of 32.4%, almost one percent higher than the previous year. Throughout the year, 43.9% of all residents in the region used the Travel Pass at least once.

In terms of social tickets, a total of 1,975,009 passes from the different categories were sold in 2018, 6.8% more than in the previous year. The sale of large family discount tickets continues to show an upward progression, 8.9% up on 2017 and one percent higher in the sale of social tickets. The remaining titles are distributed between 32.7% corresponding to Blue Card beneficiaries and the remaining 6.3% to people with disabilities, both showing much lower increases than the average.

## SALES OF SOCIAL TICKETS

|                   | Large Family     |              | Disability     |             | Blue Card      |              | Total            |               |
|-------------------|------------------|--------------|----------------|-------------|----------------|--------------|------------------|---------------|
|                   | Sales            | % of Total   | Sales          | % of Total  | Sales          | % of Total   | Sales            | % of Total    |
| 2010              | 358,286          | 45.5%        | 51,848         | 6.6%        | 377,426        | 47.9%        | 787,560          | 100.0%        |
| 2015              | 709,433          | 51.1%        | 112,468        | 8.1%        | 565,863        | 40.8%        | 1,387,764        | 100.0%        |
| 2016              | 975,660          | 57.8%        | 118,507        | 7.0%        | 594,615        | 35.2%        | 1,688,782        | 100.0%        |
| 2017              | 1,104,982        | 59.7%        | 122,720        | 6.6%        | 622,085        | 33.6%        | 1,849,787        | 100.0%        |
| <b>2018</b>       | <b>1,203,418</b> | <b>60.9%</b> | <b>125,198</b> | <b>6.3%</b> | <b>646,393</b> | <b>32.7%</b> | <b>1,975,009</b> | <b>100.0%</b> |
| <b>%VAR 18/17</b> | <b>8.9%</b>      |              | <b>2.0%</b>    |             | <b>3.9%</b>    |              | <b>6.8%</b>      |               |

Large Family

60.9%

Blue Card

32.7%

Disability

6.3%

With regard to the sale of the different tourist tickets (Adult, Children's and Congress), in 2018 we see a figure of 567,486 units, an increase of 22.2% compared with the previous year and a significant rise, as was already

the case in 2017. The strongest growth was in the sale of Adult tickets for the general public, whereas those for Congresses fell by 20,302 units, representing a drop of 47.3%.

### SALES OF TOURIST TICKETS BY PROFILE AND ZONE

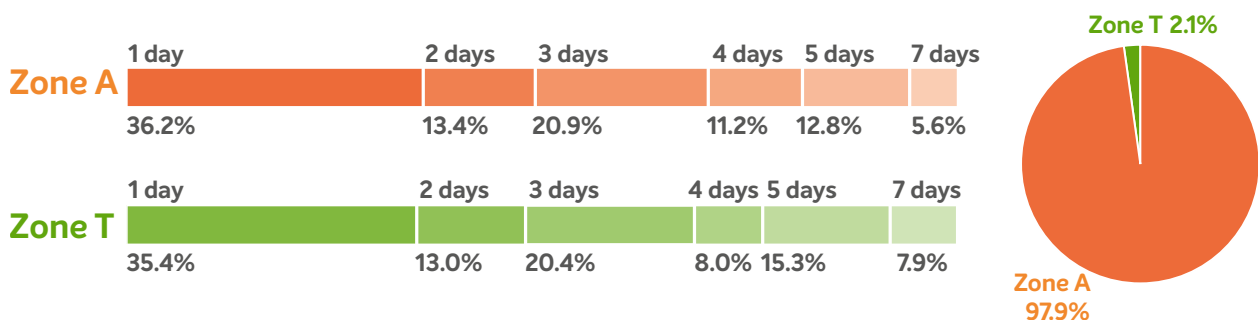
| Days                | Adult          | Children      | Congress      | Total          |
|---------------------|----------------|---------------|---------------|----------------|
| 1 day, Zone A       | 188,608        | 9,738         | 2,600         | 200,946        |
| 2 days, Zone A      | 71,843         | 2,347         | 0             | 74,190         |
| 3 days, Zone A      | 110,498        | 3,281         | 2,035         | 115,814        |
| 4 days, Zone A      | 58,765         | 1,698         | 1,640         | 62,103         |
| 5 days, Zone A      | 56,797         | 2,030         | 12,337        | 71,164         |
| 7 days, Zone A      | 26,239         | 1,030         | 4,000         | 31,269         |
| <b>Total zone A</b> | <b>512,750</b> | <b>20,124</b> | <b>22,612</b> | <b>555,486</b> |
| 1 day, zone T       | 4,120          | 130           | 0             | 4,250          |
| 2 days, zone T      | 1,510          | 48            | 0             | 1,558          |
| 3 days, zone T      | 2,378          | 68            | 0             | 2,446          |
| 4 days, zone T      | 923            | 38            | 0             | 961            |
| 5 days, zone T      | 1,784          | 51            | 0             | 1,835          |
| 7 days, zone T      | 932            | 18            | 0             | 950            |
| <b>Total zone T</b> | <b>11,647</b>  | <b>353</b>    | <b>0</b>      | <b>12,000</b>  |
| <b>Total 2018</b>   | <b>524,397</b> | <b>20,477</b> | <b>22,612</b> | <b>567,486</b> |
| <b>Total 2017</b>   | <b>393,730</b> | <b>27,865</b> | <b>42,914</b> | <b>464,509</b> |
| <b>%VAR 18/17</b>   | <b>33.2%</b>   | <b>-26.5%</b> | <b>-47.3%</b> | <b>22.2%</b>   |



Zone A accounts for most of the sale of tourist tickets, 97.9% of the total, as in previous years. The best-selling tickets are the day tickets, 36.2%, followed by the three-day tickets, 20.4%. The sale of 4-day tickets started in

2018, with an annual demand of 63,064 units. Congress attendees require 5-day tickets to a greater extent, always in zone A.

### SALE OF TOURIST TICKETS BY ZONE AND VALIDITY PERIOD





**More than  
50% of buses use  
alternative fuels**

CONSCO  
TRANSP  
\*\*\*\*\* MA

ENTRA  
**Oficina de Ge**

tarjeta  
transporte  
público

**Sanciones**

**Registro y Co**

## 5

# Strategic lines

The CRTM activity has a strategic side to it, the main objective of which is to achieve an integrated, efficient and high-quality public transport system that is environment friendly and universally accessible. The various significant actions taken within the network, the development and application of new technologies, the different technical studies it promotes, and the numerous projects in which it actively participates are a true reflection of the strategic lines of this body.

## 5.1 Intermodality

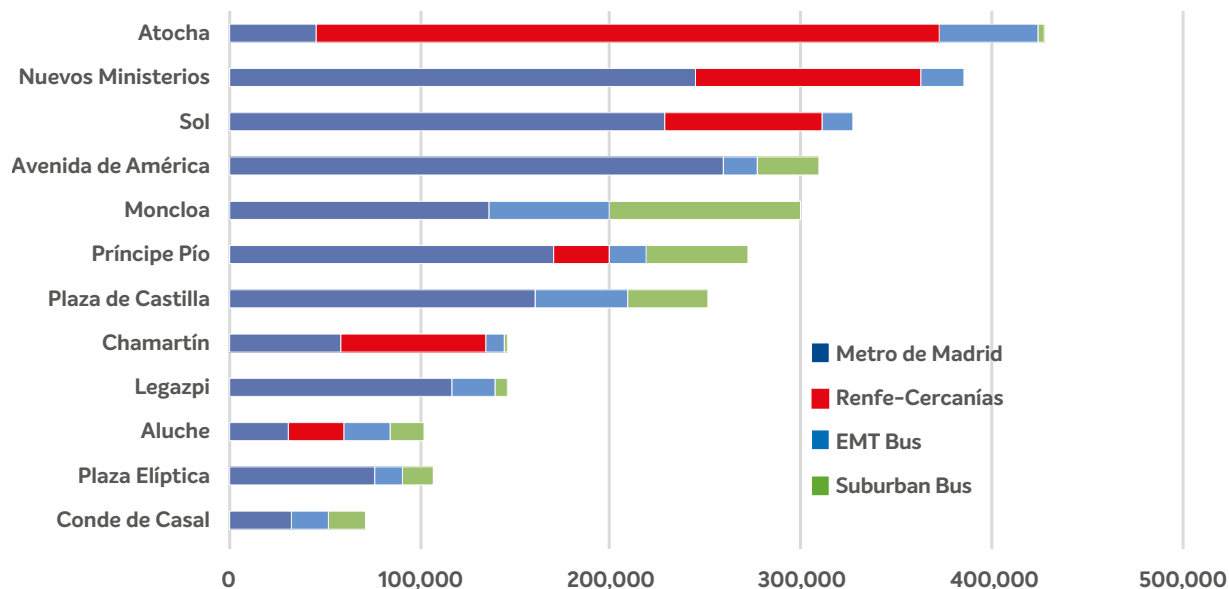
### a. Interchanges

The interconnection of the different modes present in the public transport system is evident in the infrastructure used for modal integration. These facilities allow for the different transport networks to be structured, facilitating intermodal mobility and connections with high-capacity modes, whether underground or rail, in an efficient manner and with added features for passengers.

Based on the characteristics of their infrastructure, the main intermodal points are classified into three groups: interchanges, intermodal areas and points of interchange. Hubs play a key role in accessing and dispersing metropolitan travel, whereas intermodal areas and other exchange points deal with urban travel. **All in all, almost 16,000 suburban travel operations and more than 17,000 urban operations leave these locations each day.**

There are up to twelve major metropolitan intermodal points located in the city of Madrid. These large nodes are used every day by more than 1.8 million passengers. 57% of them involves some kind of transfer or connection between modes of transport, while the remaining 43% are passengers entering or moving on by foot. **Practically 1 out of every 2 trips by public transport throughout the region passes through one of these twelve nodes.**

## NUMBER OF STAGES AT THE MAIN INTERMODAL POINTS



## MODE OF ACCESS TO THE MAIN INTERMODAL POINTS



## SUPPLY AT THE MAIN INTERMODAL POINTS

|                    | Metro and light rail lines | Renfe-Cercanías lines | Suburban bus lines | Urban bus lines |
|--------------------|----------------------------|-----------------------|--------------------|-----------------|
| Atocha             | 1                          | 8                     | 3                  | 26              |
| Nuevos Ministerios | 3                          | 7                     | -                  | 11              |
| Sol                | 3                          | 2                     | -                  | 2               |
| Avenida de América | 4                          | -                     | 12                 | 11              |
| Moncloa            | 2                          | -                     | 48                 | 18              |
| Príncipe Pío       | 3                          | 3                     | 22                 | 11              |
| Plaza de Castilla  | 3                          | -                     | 33                 | 22              |
| Chamartín          | 2                          | 7                     | 3                  | 2               |
| Legazpi            | 2                          | -                     | 9                  | 20              |
| Aluche             | 1                          | 1                     | 17                 | 9               |
| Plaza Elíptica     | 2                          | -                     | 11                 | 9               |
| Conde de Casal     | 1                          | -                     | 15                 | 8               |

Includes daytime bus lines with header at the intermodal point or in the surroundings and passing lines.



## b. Promoting the use of bicycles

In recent years, the use of bicycles in everyday mobility has undergone a qualitative leap in the Autonomous Region of Madrid. **For several years now, the CRTM has maintained several lines of work to promote this vehicle as an additional mode to the region's transport system.** In this regard, work continued during 2018 on projects started in previous years.

### Use of the TTP in public bicycle systems

The lines of work **were upheld in 2018 to ensure the integration of the CRTM Public Transport Card and Multi cards and the application of benefits or discounts for their users in the public bicycle systems of the Autonomous Region of Madrid, using compatible, contactless technology.** This service is possible in the Getafe G-Bici bicycle system and in the electric bicycle system of Madrid City Council, BiciMad. During 2018 there was a significant boom in users of BiciMad, more than half of whom did so using one of the CRTM cards as a key.

### Bicycle Parking Network (REB Plan)

By January 2018, the REB (Bicycle Parking Network) Plan had **200 bicycle parking spaces scattered over 26 different points of the underground, light rail, Renfe-Cercanías, interchange and suburban bus shelter network.** REB parking spaces are located at points with good accessibility for cyclists and favourable for modal exchange between bicycles and public transport. As for their location, they are preferably be installed in covered, monitored spaces. The REB point is equipped with a U-shaped anchor support and an information panel containing user regulations and practical tips. During 2018, new parking spaces were installed at 9 underground and light rail stations. The bike parking area at intermodal Fuente de La Mora station must be underlined, or those at Arganzuela-Planetario or Rivas Futura stations, as these are street-level facilities with large spaces. The total number of spaces installed in 2018 was 64.

### Cycle Route Network (RIB Plan)

This consists of producing a **descriptive inventory to identify any actions to improve cycle routes that allow travel to or from public transport stations safely, quickly and accessibly.** In 2018, the feasibility of cycle routes from Torrejón de Ardoz station to the Parachute Regiment base, the extension of the cycle lane from San Martín de la Vega to Ciempozuelos, and the connection between the town centre of Meco and its Renfe-Cercanías station were studied. Also worth noting is the study to ensure a safe connection for cyclists and pedestrians between the towns of Serranillos del Valle and Griñón along two walkways.



## 5.2 The CITRAM

In 2018, the **Autonomous Region of Madrid Public Transport Innovation and Management Centre**, CITRAM, continued to strengthen and elaborate a management model based on user mobility and a high degree of coordination with transport operators and other entities.

Throughout the year, CITRAM has followed up on the events that had a special impact on the public transport networks, in which it played a fundamental role in coordinating and informing both users and operators.

These included the special operations to follow up on the cuts of underground lines 7b, 9 and 12 during the summer of 2018, the different activities that took place in Madrid when the “Mad Cool” festival was held between 12 and 14 July, as well as the special follow up on the major sporting events that took place in 2018 in the Autonomous Region of Madrid, such as the Madrid Marathon held on 24 April, or the celebrations of the finals of the King’s Cup, the Champions League, and the Copa Libertadores.

Meanwhile, CITRAM continued to embark on major technological developments during 2018, placing it at the forefront of multimodal transport management. These include:

- **System upgrade and reintegration of Madrid City Council cameras** into the CITRAM intermodal CCTV application.
- **Improvements to CITRAM operational applications** to optimise the everyday operations of room operators. These include developments related to the improvement of the SGIP (passenger information service), the location of vehicles in the SGRAF (graphic supervisor), or the updating of the pollutant tool in order to adapt it to the new scenario activation rules approved by Madrid City Council.
- **Development of a platform for open demand data services**, a consolidated real-time database with supply and occupancy data for all transport modes in the Autonomous Region of Madrid, and design of a mobility portal where relevant mobility information was integrated as an activity of the European CIVITAS-ECCENTRIC project in which CITRAM actively participates in the cluster of partners responsible for developing measures to promote mobility as a service for all citizens.

All this places **CITRAM as a ground-breaking centre for the way in which it manages mobility**, as shown by the numerous visits received from national and international bodies interested in learning about how the centre works.





## 5.3 New technologies

The Consorcio Regional de Transportes continues to conduct projects aimed at implementing new transport technologies. During 2018, most of the activities focused on the CRTM BackOffice. This situation is explained by the exponential increase in the volume of transactions made by the different CRTM transport cards, leading to the need to optimise and strengthen several processes:

- **The overall transaction processing architecture of the CRTM has been modified.** The CRTM handles approximately 150 million transactions a day.
- **The necessary mechanisms have been implemented and the operating tools modified, from payment per kilometre to payment by passengers to the suburban bus transport operators.** In addition, a tool to query the status of processed transactions has been made available to suburban operators.
- **The BIT system (CRTM sales networks and BackOffice) has been developed to be integrated into the SII (Immediate Supply of VAT Information),** which is sent online to the Tax Agency's online office. This system will enter into force in the CRTM as of January 2019.
- **The system is in place for all points of sale to provide simplified invoices** instead of receipts to users. In addition, these invoices include barcodes to facilitate automatic reading by other systems. This measure will come into production on 1 January 2019.
- Work has begun on the **implementation of a new DPC (Data Processing Centre)** at the Madrid Digital facilities.

However, the Consorcio Regional de Transportes continues to implement projects aimed at implementing new transport technologies, such as:

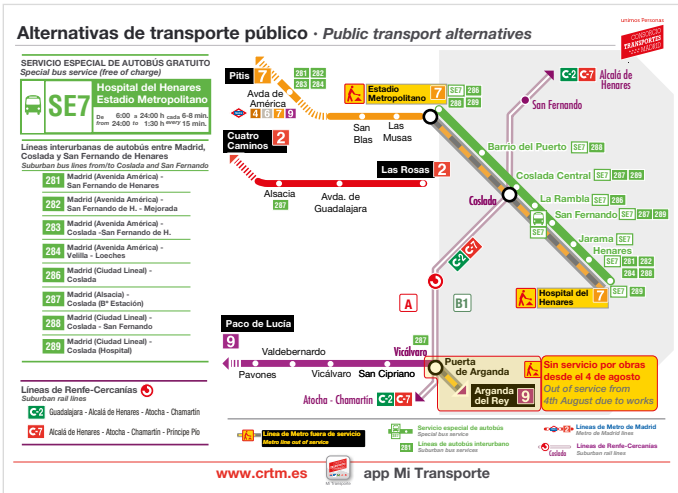
- **Type 4 SAM has been implemented and tested.** This new security system will be implemented in 2019 and, in addition to providing new security mechanisms, will allow for physical cards and virtual cards on mobile phones to coexist.
- **An Open Data portal (3-star category)** is being developed specifically for developers.



- **Procedures and protocols have been established for the evaluation, improvement and maintenance of the quality of planned supply, real-time supply and demand data.** Key tasks to be able to implement data exploitation and visualisation techniques using Big Data and Business Intelligence technology.
- **Chatbot Pilot:** Different platforms of interaction with PT users have been analysed using Artificial Intelligence.
- **We have also made improvements to the different web portals of the CRTM to minimise processing incidents** (Public Transport Card requests, transport information search, etc.) and improve the user experience.







works corresponding to the new Sevilla-Canalejas urban planning regulations, for a period of approximately one year. In both cases, trains did not stop at the stations.

During the works, special bus services were established at no extra cost to underground users to mitigate the effects of these interruptions. The special services operated at hours and frequencies that depended on the period, time slot and type of day, similar to those normally operating on the respective underground lines.

In turn, supplementary measures included the scheduling of several reinforcements for the remaining public trans-

**información**

**SUSPENSIÓN TEMPORAL DE SERVICIO EN LÍNEAS DE METRO POR MEJORA DE LAS INSTALACIONES Verano 2018**

| Línea afectada                   | Tramo sin servicio   | junio | julio | agosto | septiembre | octubre |
|----------------------------------|--|-------|-------|--------|------------|---------|
| 1 Pinar de Chamartín Valdecarros | Gran Vía<br>Sin servicio desde el 13 de agosto<br>Duración aproximada: 1 semana                                      |       |       |        |            |         |
| 2 Las Rosas Cuatro Caminos       | Retiro - Sol<br>Sin servicio desde el 28 de julio<br>Duración aproximada: 5 semanas                                  |       |       |        |            |         |
| 7 Hospital del Henares Pitis     | Hospital del Henares - Estadio Metropolitano<br>Sin servicio desde el 16 de junio<br>Duración aproximada: 13 semanas |       |       |        |            |         |
| 9 Paco de Lucía Arganda del Rey  | Rivas Vaciamadrid - Arganda del Rey<br>Sin servicio desde el 30 de junio<br>Duración aproximada: 5 semanas           |       |       |        |            |         |
| 9 Paco de Lucía Arganda del Rey  | Rivas Vaciamadrid - Arganda del Rey  |       |       |        |            |         |
| 9 Paco de Lucía Arganda del Rey  | San Cipriano - Arganda del Rey<br>Sin servicio desde el 4 de agosto<br>Duración aproximada: 4 semanas                |       |       |        |            |         |
| 9 Paco de Lucía Arganda del Rey  | San Cipriano - Arganda del Rey   |       |       |        |            |         |
| 9 Paco de Lucía Arganda del Rey  | Estrella - San Cipriano<br>Sin servicio desde el 11 de agosto<br>Duración aproximada: 2 semanas                      |       |       |        |            |         |
| 9 Paco de Lucía Arganda del Rey  | Estrella - San Cipriano  |       |       |        |            |         |
| 9 Paco de Lucía Arganda del Rey  | Avenida de América - Estrella<br>Sin servicio desde el 11 de agosto<br>Duración aproximada: 1 semana                 |       |       |        |            |         |
| 12 MetroSur                      | Juan de la Cierva - Móstoles Central<br>Sin servicio desde el 28 de julio<br>Duración aproximada: 11 semanas         |       |       |        |            |         |
| 12 MetroSur                      | Juan de la Cierva - Puerta del Sur<br>Sin servicio desde el 28 de julio<br>Duración aproximada: 11 semanas           |       |       |        |            |         |
| 12 MetroSur                      | Puerta del Sur - Móstoles Central  |       |       |        |            |         |

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012 - [www.crtm.es](http://www.crtm.es)  
[www.metromadrid.es](http://www.metromadrid.es)

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port modes (underground, urban bus, Renfe-Cercanías, and suburban bus), increasing transport capacity and reducing waiting times.

Overall, the special services assisted around 5.5 million users throughout its operating period.



## c. Special transport plans in events

### Madrid Pride (MADO)



The events corresponding to the 2018 edition of Madrid Pride (MADO'18) took place in the city of Madrid from 28 June to 8 July 2018, in a context that seeks to take advantage of the international impact of last year's edition, coinciding with the 2017 Word Pride Madrid, but with a programme of large-scale activities and events similar to those of previous editions.

To guarantee access to the MADO'18 activities and the mobility of regular users, the CRTM designed a Transport Plan that included the reinforcement of supply in the underground, EMT, Renfe-Cercanías, and night-time suburban networks, and an additional 1 hour of operations in the underground network service (within the municipality of Madrid) on the night of 7 to 8 July, with a 15-minute frequency.

### MAD COOL Festival

On 12, 13 and 14 July 2018, the 2018 MAD COOL Festival was held in Madrid, a music festival (rock, indie, electronic) that has been held in Madrid since 2016 and that had previously been held at the Caja Mágica venue.

This year, following the need to increase capacity, the venue was changed to the "Mad Cool Space", spread over 100,000 m<sup>2</sup> and located in the Valdebebas area, next to Real Madrid's Sporting Complex, which meant that 80,000 people could attend every day.

In order to guarantee the mobility of those attending the event, the Consorcio Regional de Transportes de Madrid designed a mobility plan, the main challenge of which was to extend the supply of transport during the night-time period to facilitate the departure of the audience once the concerts had ended.

Over these 3 days, the underground line 8 was authorised to open during the night-time period of 1.30 a.m. to 6.00 a.m. to implement a shuttle service of 6 trains stopping exclusively at Feria de Madrid and Nuevos Ministerios stations every 5 minutes. This is the second time the line has been open at night, following the UEFA Champions League Final in Madrid in 2010.

In addition, a Special EMT Service was started up between Valdebebas and Plaza de Castilla, between 0.00 a.m. and 6.00 a.m., with no intermediate stops and a provision of 30 articulated buses running every 2-3 minutes.



## Christmas special transport plan

Moreover, as has become common in recent years, during the Christmas period the CRTM established special public transport plans to guarantee access to the Central District, with reinforcements of the underground, EMT and Renfe-Cercanías lines running in the centre of Madrid.

As a new feature, the special plan coincided with the completion of the roadway redevelopment and pavement widening work in Gran Vía, and with the implementation of the new Low Emissions Zone of the Central District (Madrid Central) promoted by Madrid City Council.

This measure is aimed at reducing traffic intensity through the city centre and establishing a mobility model in the area based on access by low-emission vehicles, residents, public transport, and authorised vehicles.

Finally, the response of the public transport system was satisfactory, dealing with both the increases in demand caused by greater mobility due to leisure and shopping, and those caused by restrictions on private traffic in the area.

## d. Modification of the protocol for episodes of NO<sub>2</sub> pollution in the city of Madrid

On 10 December 2018, the **new Protocol for Episodes of Nitrogen Dioxide Pollution in the City of Madrid** came into force, with the aim of ensuring earlier reductions in pollution levels during exceptional situations that are harmful to health, and strengthening measures to improve air quality in the capital city.

This regulation is based on the experience acquired during the episodes in which the previous 2016 Protocol and the Framework Protocol for High Pollution of the Autonomous Region of Madrid were applied.

With regard to the previous Protocol, the main new features introduced to improve the fight against pollution are the limitation of vehicle traffic in line with the environmental vignettes of the DGT (including motorbikes and mopeds), the anticipation and reinforcement of certain scenarios, the creation of a new one (scenario 4), the geographic extension to the entire city of certain measures, and a new criterion for activation of the notice and warning levels when the corresponding thresholds are exceeded at any three stations of the surveillance network, in addition to two stations in the same area.

The measures included in the Protocol aim to reduce the use of private vehicles by recommending the use of public transport and zero-emission vehicles.

This also includes the promotion and strengthening of the supply of public transport by the Consorcio Regional de Transportes de Madrid so that it can adapt to the network's requirements during these unique mobility scenarios. To this end, based on the experience gained during previous episodes, **the CRTM has established a special programme of rush-hour reinforcements, depending on the type of scenario in force, consisting of increases of up to 3% in the number of trains in the underground network and reinforcements of supply in 50 EMT lines and 40 suburban lines entering Madrid.**



In addition to the established reinforcements, and adding the excessing capacity during this period, **Madrid's public transport system would be able to absorb demand by 150,000 passengers per hour during the morning rush-hour period, as of the activation of scenario 2.** These public transport reinforcement measures were implemented only once this year, due to scenario 2 activation on Wednesday 12 December.



The new protocol covers the following levels and scenarios:

| LEVELS   |  |   |   |  |
|--|--|---|---|--|
| NOTICE   | WARNING  |   | ALERT   |  |
| 2 stations in the same zone exceed 180 micrograms/m <sup>3</sup> of NO <sub>2</sub> for two consecutive hours at the same time | 2 stations in the same zone exceed 200 micrograms/m <sup>3</sup> of NO <sub>2</sub> for two consecutive hours at the same time |   | 3 stations in the same zone exceed 400 micrograms/m <sup>3</sup> for three consecutive hours at the same time                       |  |
| or   | or   |   | or  |  |
| 3 stations of the network exceed 180 micrograms/m <sup>3</sup> of NO <sub>2</sub> for three consecutive hours at the same time | 3 stations of the network exceed 200 micrograms/m <sup>3</sup> of NO <sub>2</sub> for three consecutive hours at the same time |   | 2 stations in zone 4 (El Pardo and Casa de Campo) exceed 400 micrograms/m <sup>3</sup> for three consecutive hours at the same time |  |
| SCENARIOS  |  |   |   |  |
| 1  | 2  | 3   | 4   | 5  |
| 1 day exceeding the notice level   | 2 consecutive days exceeding the notice level or 1 day exceeding the warning level   | 3 consecutive days exceeding the notice level or 2 days exceeding the warning level | 4 consecutive days exceeding the warning level  | Alert level  |
| Speed limit of 70 km/h on the M-30 and the accesses to Madrid on the M-40  | No parking in SER (Regulated parking service) places and timetables. Only ZERO and ECO vehicles can park                       | Ban of vehicles without the DGT environmental vignette is spread across the city    | On the M-30 and on the inside of its route, the traffic limit is extended to vehicles with the B vignette                           | Only ZERO vehicles may park in the SER   |
| Recommendation to use public transport   | Ban of vehicles without a DGT environmental vignette in the city centre and on the M-30.                                       | Taxis that are not in service should not be used, except for ZERO and ECO vehicles. | Ban on the movement of unoccupied taxis, except for ZERO or ECO vehicles.   | City-wide ban on vehicles without environmental vignettes and those with B & C |
|  | + SCENARIO 1 measures  | + SCENARIO 2 measures   | + SCENARIO 3 measures   | + SCENARIO 4 measures  |

### e. Opening of the Mirasierra-Paco de Lucía Renfe-Cercanías station



The new Mirasierra-Paco de Lucía Renfe-Cercanías station opens on 5 February 2018 as part of the Paco de Lucía station, which is the header of the underground line 9.

The opening directly benefits more than 50,000 residents in the Mirasierra, Montecarmelo and Arroyo Fresno neighbourhoods, and the 300,000-plus users of the Renfe-Cercanías C3, C7 and C8 lines, whose trains pass through this new public transport hub.





## 5.5 Universal accessibility

During 2018, the CRTM continued its activity to promote high-quality, accessible transport for the mobility for all citizens, in particular the **work to promote universal accessibility and the removal of barriers**.

Efforts made in recent years with the different fleet renewal programmes for urban buses and the Modernisation Plan for suburban buses have helped make 100% of the vehicles in service universally accessible.

In 2018, actions to comply with Royal Decree 1544/2007 and Decree 13/2007 on accessibility for people with disabilities were consolidated with regard to bus stops in the Autonomous Region of Madrid. The actions are aimed at providing the stops with adapted seats and supports, different types of paving for guidance, adapted bays or platforms for easier vehicle access by people in wheelchairs, pushchairs, etc. In this regard, **accessibility improvements have been made to 23 stops in the EMT network** and collaboration has begun with the Directorate General for Local Government to renovate the urban and suburban bus stops in the municipalities of the Autonomous Region of Madrid.

With regard to railway modes, within the actions envisaged in the Metro de Madrid Accessibility and Inclusion Plan 2016-2020, 2 lifts have been installed at Príncipe Pío station, **increasing the total number of lifts available in the underground network to 515, and providing**

**universal accessibility to 63% of the stations in this network. This percentage increases to 100% for light rail stations.**

Meanwhile, in accordance with the lines of work undertaken over the past few years, in 2018 the CRTM was actively present in various forums regarding accessibility: the cycles of sessions on engineering and accessibility at the Ministry of Development, the CEAPAT cognitive disability working groups, and the various Technical Accessibility Committees of the Council for the Promotion of Accessibility and Removal of Barriers of the Autonomous Region of Madrid. Particular mention should also be given of the contribution made to the Madrid Disability Care Strategy 2018-2022 by the Department of Social Policy and Family Affairs.

This intense participatory work was completed with its involvement in the European projects City4Age, In Life and Oasis, all with a common denominator: exploring technological solutions that facilitate access to public services by different user groups.

Lastly, among other work and activities for 2018, mention should be made of those connected with the Sign Language Interpreting and Translation Service located at the CRTM user assistance desk, and the training on Transport Accessibility during the "Course on Universal Accessibility and Design for All" of the Autonomous Region of Madrid.

### ACCESSIBILITY OF PUBLIC TRANSPORT MODES

Accessible Metro de Madrid stations



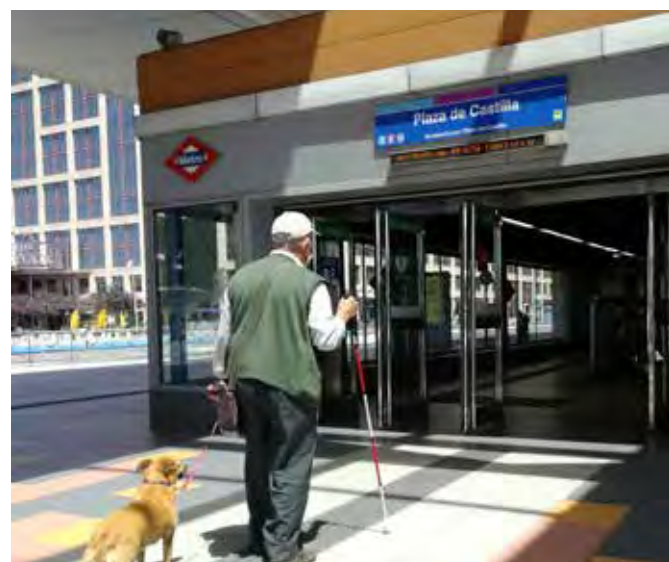
Number of Metro de Madrid lifts



Accessible light rail stations



Accessible urban and suburban buses



## 5.6 The environment

The CRTM continues to uphold the strong commitment to the environment, and is one of the main players responsible for implementing the measures envisaged regarding public transport in Madrid in the “Strategy for Air Quality and Climate Change of the Autonomous Region of Madrid 2013-2020. Plan Azul +”, highlighting its work as a member of the Air Quality Section of the Environment Council of the Autonomous Region of Madrid and of the Task Force responsible for the implementation of the Protocol of measures to be adopted during episodes of high nitrogen dioxide pollution in the city of Madrid.

One of the main measures taken in 2018 in the field of environmental sustainability, and in application of the Modernisation Plan<sup>(1)</sup> for suburban buses in the Autonomous Region of Madrid, was the **incorporation of 214 last-generation vehicles** in terms of atmospheric emissions to replace older models with less evolved technologies and, therefore, more pollutant.

With the **renewal** complete, **more than 56% of the fleet** providing regular public transport services for **suburban** passengers in the Autonomous Region of Madrid fulfils with the most demanding levels established in the Euro VI standard, almost all of which fulfil the levels corresponding to the Euro V or EEV standards.

The Madrid fleet is therefore confirmed to be the most modern in Spain in its category, with an average age of less than 5 years, placing it once again as a benchmark in the field of environmental sustainability.

As for the **EMT vehicle fleet** in Madrid, 382 new vehicles were added in 2018 **to replace 358 of the older ones**, thus reducing the average age of the fleet to 7.1 years. In addition, 5 hybrid buses transformed into induction-charged “zero-emission” electric buses were launched on line 76. Although full charging takes place during the night time in the operations centres, an additional system has been installed to allow for charging at headers in less than 8 minutes.

As part of the fight against climate change, and based on data provided by the operators integrated into the agency, the CRTM has calculated the greenhouse gas emissions released into the atmosphere during 2018 as a result of its activity in the regional public transport system.

Through this, the CRTM contributes to a better understanding of the impact of Madrid’s public transport on global warming, and to boosting the implementation of measures to reduce greenhouse gas emissions in the region, in line with the Air Quality and Climate Change Strategy (Blue Plan +) of the Autonomous Region of Madrid.



<sup>1</sup> Modernisation Plan for Permanent Scheduled General Public Passenger Road Transport.



The Carbon Footprint obtained amounted to 545,759 tonnes of  $\text{CO}_2\text{eq}$ , of which 70% corresponds to emissions from road modes (urban and suburban buses) and 29.2% to those from rail modes (Metro de Madrid, trams and light rail).

It is estimated that with the operations of the public transport system of the Autonomous Region of Madrid as a whole (including Renfe-Cercanías de Madrid), the

emission of more than 1 million tons of  $\text{CO}_2\text{eq}$  into the atmosphere was avoided in 2018, which would have been additionally generated if the trips made by public transport had been made by private vehicle.

This highlights the importance of public transport in the fight against climate change, making it the most sustainable option for mobility in motorised modes.

## CHARACTERISATION OF TRANSPORT FLEETS

### By emissions regulation (EU Directives)

|                             | Euro VI | Euro V/EEV | Euro IV | Euro III | 0 emissions | TOTAL |
|-----------------------------|---------|------------|---------|----------|-------------|-------|
| Urban buses of Madrid (EMT) | 305     | 1,215      | 374     | 108      | 38          | 2,049 |
| CRTM road concessions       | 1,012   | 852        | 19      | 3        | 0           | 1,886 |

### By type of fuel

|                             | Diesel | Natural gas | Natural Gas/<br>diesel | Hybrid | Electric | TOTAL |
|-----------------------------|--------|-------------|------------------------|--------|----------|-------|
| Urban buses of Madrid (EMT) | 632    | 1,328       | 3                      | 48     | 38       | 2,049 |
| CRTM road concessions       | 1,367  | 222         | 0                      | 297    | 0        | 1,886 |



## 5.7 Service quality

The Consorcio Regional de Transportes understands that service quality should focus on users. Quality and Customer Service therefore share an increasingly interwoven space. This ensures that user expectations and satisfaction form a part of it and are compared with the criteria and indicators adopted when measuring service quality and adopting improvement initiatives. In recent years, the control and supervision procedures have been refined for the different operating, supply and service contracts and the service provided by the different transport operators. This involves the development and measurement of quality indicators in accordance with objectives in line with the demands of users and established contractually with these operators.

The service is monitored and controlled using in-house resources, through the entity's inspection team, as well as by contracting technical support implementing specific measurements and studies. **The work performed directly by inspection staff exceeded 9,300 hours of effective inspection work in 2018.** This work involves actions to check legal obligations and to control assessment indicators. To achieve greater development and depth in the evaluation of various indicators, specific work is outsourced.

Perception studies of different modes of transport and analysis of complaints and suggestions received are used to incorporate and compare the user perspective. The perception studies of each mode of transport provide an overview of customer expectations and their level of satisfaction. Meanwhile, an analysis of the complaints and suggestions received serves to focus and weigh up specific issues, by subject-matter, mode of transport, operator, or even line, identifying aspects for strategic or short-term involvement, as applicable, and incorporating swift improvements.

In addition, the extensive network of in-person offices, as well as telephone and online information services, are an additional element of great interest in relation to service quality control and the early detection of anomalies, especially in terms of issues relating to tickets and cards. It should be noted that **over 1.2 million people were assisted in person during 2018 and nearly 690,000 were assisted by phone or on line.**





## 5.8 Studies

The studies and projects carried out by the CRTM respond to the functions and objectives of the different areas of activity of this entity in the development of its competences.

### a. Studies assessing the quality of transport services

In 2018, more than 20,000 surveys were conducted on users of the public transport network of the Autonomous Region of Madrid in order to determine their satisfaction with the service.

The study of user expectations indicates that the service is given an average score for all services analysed in the network of **7.7 points out of 10**.

Likewise, the **degree of user satisfaction** with regard to the services provided stands at **7.6 out of 10**.

In most transport modes, certain aspects exceed this average score: accessibility, safety, comfort and customer service. However, the most demanding user expectations always focus on the supply of service, and it is here that the adaptation of the network to their wishes is more complex.

In addition, an assessment study was carried out on the **assistance given in the Management Offices** using the mystery shopper technique. **484 visits were made over the year, with an average annual score of 9.4 points**.



### b. Verification study of the established indicators in the suburban transport Quality Plan

The monitoring and control of the Quality Plan is based on different sources of information, mostly through systematic records of the service operations and inspections by the entity, while other elements assessed require the contracting of specific studies. More

specifically, work was carried out in 2018 to check the telephone response services of concession holders of this network and the operating of the dynamic information points for passengers.

**c. Household day Mobility Survey  
2018 in the Autonomous Region of Madrid (edM2018)**



Household Mobility Survey (EDM) are a valuable tool for understanding population mobility patterns. This is the fourth survey performed by the Consorcio Regional de Transportes de Madrid since it was created in 1985. **Over 85,000 interviews were conducted with people over the age of three and residing in the Autonomous Region of Madrid.**

The fieldwork was carried out from 14 February to 10 June 2018. It is the first time that a mixed methodology has been addressed, with face-to-face interviews with members of the same household (13,009 households) and telephone interviews with individuals (50,412 people), providing a high survey rate while optimising resources.

The campaign provided socio-demographic information on the family unit and the individuals interviewed, as well as their mobility patterns on a working day. Following the consequent process of data debugging, elevating and exploitation, full, final results are expected in October 2019.

**d. 9b underground line passenger capacity**

Capacities were recorded in January and October 2018 at the stations on the 9b TFM line before Puerta de Arganda: Arganda del Rey, La Poveda, Rivas Vaciamadrid, Rivas

Futura and Rivas Urbanizaciones. The measurements were taken during the morning rush-hour period between 6.30 a.m. and 9.30 a.m..



**e. Passenger occupancy control work at rush hour on working days in the Madrid EMT network (2018)**

This work, which is conducted every year, aims to establish the demand carried by the different EMT lines at rush hour in order to compare the supply currently in service on these lines and determine the level of service of the

EMT lines during the periods analysed. The information is analysed in order to reschedule the supply of service from the different lines of the EMT network in order to adapt it to current user demand.

## 5.9 European projects

The CRTM is heavily involved in numerous European projects aimed at research and technological development in the field of transport and mobility, fostering cooperation and exchanged experiences with its European counterparts.



### IN LIFE (2015–2018)

The project provides technological solutions for people with cognitive difficulties to perform their every-day tasks, such as mobility on public transport.



### City4Age (2015–2018)

The project provides the elderly and/or those with motor, cognitive and any other difficulties that hinder their social relationships with services based on ICT tools adapted for easy use in the city.

[www.city4ageproject.eu](http://www.city4ageproject.eu)



### EBSF-2 (2015–2018)

The European Bus System of the Future-2 project anticipates the solutions for buses of the future by highlighting innovations for reducing fuel use and improving energy efficiency, as well as seeking greater convenience for users.

[www.uitp.org/ebsf2-%E2%80%93-european-bus-system-future-2](http://www.uitp.org/ebsf2-%E2%80%93-european-bus-system-future-2)



### OASIS (2016–2018)

The project focuses on the opening and re-use of data in the field of public services, including that offered by the local authorities and that of the public transport sector, thus encouraging the creation of applications to improve user information.



### CIVITAS ECCENTRIC (2016–2020)

The aim is to prove and test the potential, feasibility and reproduceability of integrated and inclusive urban planning approaches, innovative policies and emerging technologies, improving sustainable mobility on the outskirts of cities and supporting clean, quiet and CO2-free urban freight logistics, thereby improving the quality of life of citizens.

[www.civitas.eu/eccentric](http://www.civitas.eu/eccentric)





**Over 7 million**  
**hits for the**  
**“Mi transporte” app**



## 6

# Citizen relations

The CRTM places great importance on information regarding the activities carried out by the agency, not only to raise awareness of the new services available to public transport users but also to inform them of its management and lines of action. Good examples are the CRTM institutional website, Public Transport Card real-time and balance enquiry apps, the Open Data portal or the “Pide Tu Bus” service.

In addition, the CRTM is firmly committed to serving public transport users and, to this end, has defined a user service policy to provide citizens with access to the Public Transport Card and the services and information relating to it, as well as to assist with their complaints and claims.

Corporate Social Responsibility and the initiatives covered by it (Public Transport Friends Club, Ventex20 website, agreements with NGOs, etc.) mean that the customer's travel experience significantly improves their perception of Madrid's transport system.

## 6.1 User information

### a. The [www.crtm.es](http://www.crtm.es) website

The CRTM website ([www.crtm.es](http://www.crtm.es)) is the largest source of information on the public transport system of the Autonomous Region of Madrid thanks to the constant work in updating its contents (service modifications, new developments in transport network design, plans and publications, etc.). Proof of this are the visits the website receives, **over 28.3 million in 2018**.



This year, information was introduced on the Cycle Route Network (RIB Plan), creating a specific section in the information on 'Madrid by bike'. This plan, the primary objective of which is to connect cycle lanes and paths with the transport network, is further proof of the commitment to intermodality and sustainable mobility.

A specific section was also created for information on the 2018 Household Mobility Survey, providing useful information for users taking part in the survey.

In addition, great efforts have been made to provide information on the institution's most outstanding actions and news for the media. To this end, during 2018, the institutional website published 143 press releases (66 in 'Press room' and 77 in 'News') with their respective photographic support.

### b. The "Mi transport" app

"Mi Transporte" is the official CRTM mobile app that provides real-time information on the entire public transport system of the Autonomous Region of Madrid. The app lets you know which stop or station is nearest to the user's position, and when the next service will

arrive, among other utilities. During 2018, it had more than 137,000 downloads and **more than 7 million hits**, consolidating the number of queries made to the app compared to the previous year and, therefore, building user loyalty.



The creation of the app involves the integration of data from the 40 operators offering public transport services in the region, and provides real-time knowledge of all underground, urban and suburban bus, Renfe-Cercanías trains and light rail timetables.

Thanks to this app, users are provided with integrated information on the times of all transport modes, and can search for the nearest stops and be guided to them using augmented reality, or find out whether there is any disturbance in the public transport system that might affect their trip thanks to the Alerts module. In addition to information on public transport, “Mi Transporte” includes another type of useful information for users: the location of the public bicycle system bases in Madrid (BiciMad), top-up points for the Public Transport Card, park-and-ride at public transport stations, and green cycle routes, among others.

The app provides users with real-time information on more than 700 lines in all modes of transport, the precise location and timetables of more than 5,000 vehicles serving the Madrid public transport system each day, with access to the next steps at more than 13,000 stops in all modes of transport (EMT, underground, light rail, Renfe-Cercanías and suburban buses), and all this information can be filtered to make it simple, attractive and intuitive for regular users and tourists. With these in mind, the app is available in both Spanish and English and offers information for tourists, such as the location of museums and tourism offices, among other.

### c. The balance enquiry app

In 2014, the CRTM launched the first version of the “Public Transport Card” smartphone app, which provides information on the Public Transport Card balance. In addition, thanks to an interactive map, users can also locate the Management Offices and top-up points nearest to them. It should be specified that the balance enquiry allows for two modalities: an estimate, by entering the Public Transport Card number the app connects to a CRTM web service and returns all the information up to that specific time; and an actual reading mode, for which the phone becomes a Public Transport Card reader over NFC protocol and in communication with the LAT-SECU architecture of the CRTM, which is the element that allows for contactless access to and interpreting of the card contents.

This app is very handy for users, which is proven by the **100,000-plus people** who installed it in 2018.





## d. The Open Data portal



In order to distribute information on the public transport system of the Autonomous Region of Madrid, the Consorcio Regional de Transportes de Madrid is embarking on an innovative and highly complex project involving the integration and standardisation of transport data of all operators forming this public transport system.

With this clear goal in mind, an open data strategy was established within which licences for the use of data were prepared and where reusable datasets regulated by these licences were established.

This is a pioneering initiative within the Autonomous Region of Madrid, which today sees its results reflected in the CRTM Open Data platform (<https://datos.crtm.es>), and the reuse of this information by companies, non-profit organisations, universities and the general public. This data generated by the CRTM is being used as a raw material, providing value-added services and innovative products to citizens. Since its launch in 2018, the portal has received **over 43 million requests**.

Also in the last quarter of 2018, within the framework of the European CiVITAS ECCENTRIC project, the Multimodal Mobility Portal was published (<https://datos-movilidad.crtm.es>) where users can explore and download mobility data, discover and create applications, and engage others to solve important issues related to people's mobility and transportation.

Furthermore, the CRTM has achieved the integration and standardisation of information in all public transport modes operating in the Autonomous Region of Madrid. Datasets which, due to their heterogeneity, have led to the generation of a data model capable of characterising the actual situation of the transport system, the "Madrid standard", clearly and simply representing mobility in all transport modes present in the region of Madrid.





### e. “Pide Tu Bus”

“Pide Tu Bus” is the first “Stop on Demand” bus smartphone service in the Autonomous Region of Madrid. Installed at a bus stop in the municipality of Valdemorillo, “Pide Tu Bus” users inform buses that they are waiting at the stop so that it can pick them up. To do so, they can scan a QR code or send an SMS, which will alert vehicle drivers of the need to stop at that point, while the system informs users of the waiting time for the service to arrive.

As a result, the 22 daytime services for line 641 (Valdemorillo - Moncloa) using this stop and the further 29 operations of line 642 (Colmenar de Arroyo - Madrid) significantly increased the supply of transport for users in this area.

During 2018, its fourth year of operations, nearly 7,900 service requests were received, which is **40% higher than the previous year**. 60% of requests arrived via SMS, and 40% by scanning the QR code at the stop.

**PideTuBus**

En esta parada, la línea **642** sólo opera bajo demanda. Si quieres que el próximo autobús se desvíe y pase por esta parada:

Escanea el código  y **PideTuBus**

o envía un SMS:  
Para conocer los próximos servicios, envía:  
19347 al **674 324 883**

Si quieres que la línea 642 se desvíe y pase por esta parada envía:  
19347-642 al **674 324 883**

unimos Personas  
**CONSORCIO TRANSPORTES MADRID**  
Tu sistema de transportes

www.crtm.es  
667

### f. Passenger Information Points (PIV)

Real-time information panels are another of the CRTM's major technological initiatives.

The so-called Passenger Information Points (PIV) are panels placed at bus stops that provide real-time information on the arrival of the next bus at the stop, as well as any incidents or other information of interest to passengers.

This year, this type of panel was installed at 9 bus shelters located in the different municipalities of Madrid, reaching a total of 434 real-time information points (corresponding to 527 screens) installed by the end of 2018. In the case of the EMT network, the number of panels available is 518 devices, 57 more than the previous year, of which 155 have operational WiFi. Furthermore, installation of the new technological architecture throughout the fleet began 2016, has finalized including the renewal of information systems for users on board buses.

### g. Transport maps

The CRTM develops the Transport Information Publication Programme (PPIT) in compliance with one of its basic functions, “user information” (Art. 2.2.j of the CRTM Creation Act). In 2018, in line with this programme, the following transport information publications have been published:





### Series 3

#### Madrid Transport Map

During 2018, this map was kept up to date, published at a scale of 1:20,000 in PDF format for the CRTM website. This publication covers the entire EMT, underground and Renfe-Cercanías network in the city of Madrid.

### Series 4

#### Transport map for the Autonomous Region of Madrid

During 2018, this publication was kept up to date in PDF format for the CRTM website, on the front side at a scale of 1:50,000 and on its reverse at a scale of 1:200,000, including the updated data on suburban transport operators.

### Series 5

#### Transport maps for districts of Madrid

The collection of district transport maps was conceptually redesigned during 2018 to create a unique 1:10,000-scale map of the city of Madrid. This map comes from a geodatabase, with a high level of detail and easy to update.

This continuous mapping is sectioned into sheets rather than municipal districts, as had been the case until then. The work started in February and the first pilot sheet for the historic centre of Madrid was published on the CRTM website over Christmas.

### Series 6

#### Transport Maps for municipalities in the Autonomous Region of Madrid

The updating of numerous series 6 (municipalities) maps was maintained during 2018 for inclusion as a PDF file on the CRTM website. This update of maps is in line the programme established by the CRTM and responds to changes and improvements in municipal transport networks.

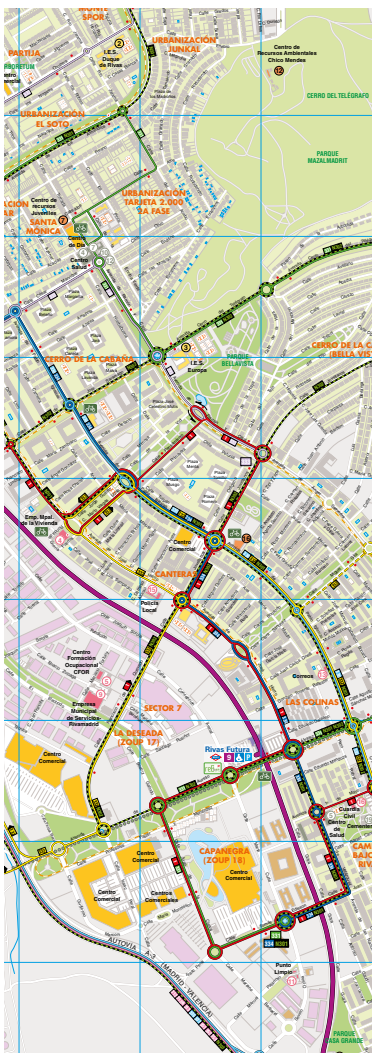
These updated maps for 2018 include more than 26 titles. In addition, once updated many of these maps are installed at the shelters in their respective municipalities.

### Series i

#### Information brochures and publications

These are brochures in various formats published to support different events in which the CRTM collaborates or to provide information on the latest developments in the transport network:

- ▶ 2018 Madrid Marathon Map in public transport.
- ▶ 2017 Consorcio Regional de Transportes de Madrid annual report.
- ▶ Map of the circuit and accessibility options for the Women's Race 2018 (website).
- ▶ Website leaflet for access to the Madrid Tennis Open at Caja Mágica.
- ▶ Map of the circuit and accessibility options for the 2018 Christmas Race (website).
- ▶ Map of the circuit and accessibility options for the Madrid Half Marathon 2018 (website).
- ▶ Information materials on the cuts on underground lines 7, 9 and 12 over summer 2018, including three information brochures produced in collaboration with Metro de Madrid.



### Alternativas de transporte público · Public transport alternatives

**SERVICIOS ESPECIALES DE AUTOBÚS GRATUITO**  
Special bus services (free of charge)

|  |  |
|--|--|
| <b>SE9</b><br>Arganda del Rey - Rivas Vaciamadrid<br>Del 26 de junio al 3 de agosto / From 26th June to 3rd August | Frecuencia / Frequency<br>Lunes a viernes / Monday to Friday<br>Sábados y festivos / Saturday & Holidays |
| <b>SE9</b><br>Arganda del Rey - San Cipriano<br>Del 26 de junio al 3 de agosto / From 26th June to 3rd August      | Frecuencia / Frequency<br>Lunes a viernes / Monday to Friday<br>Sábados y festivos / Saturday & Holidays |
| <b>SE9</b><br>Puerta de Arganda - Sáinz de Baranda<br>Del 11 al 25 de agosto / From 11th to 25th August            | Frecuencia / Frequency<br>Lunes a viernes / Monday to Friday<br>Sábados y festivos / Saturday & Holidays |

**PERIODOS SIN SERVICIO DE CADA TRAMO**  
PERIODS WITHOUT SERVICE OF EACH SECTION

- Fase 1 (SE)**  
Del 30 de junio al 3 de agosto / 30th June to 3rd August  
Arganda del Rey - Rivas Vaciamadrid
- Fase 2 (SE)**  
Del 4 al 10 de agosto / 4th to 10th August  
Arganda del Rey - San Cipriano
- Fase 3 (SE)**  
Del 11 al 18 de agosto / 11th to 18th August  
Arganda del Rey - Avenida de América
- Fase 4 (SE)**  
Del 20 al 25 de agosto / 20th to 25th August  
Arganda del Rey - Estrella
- Fase 5 (SE)**  
Del 27 de agosto al 1 de septiembre / 27th August to 1st September  
Arganda del Rey - San Cipriano

**Líneas interurbanas de autobús entre Madrid, Rivas Vaciamadrid y Arganda del Rey**  
Suburban bus lines from/to Madrid, Rivas Vaciamadrid and Arganda del Rey

- 312** Madrid (Conde Casal) - Arganda del Rey (El Mirador)
- 312a** Madrid (Conde Casal) - Arganda del Rey (El Mirador por La Poveda)
- 313** Madrid (Conde Casal) - Valdelecha
- 331** Madrid (Conde Casal) - Rivas (Santa Mónica) - Rivas Futura
- 332** Madrid (Conde Casal) - Rivas (Pueblo)
- 333** Madrid (Conde Casal) - Rivas Urb (Covibar II)
- 334** Madrid (Conde Casal) - Rivas Urbanizaciones - Rivas pueblo

**Líneas de Renfe-Cercanías**  
Suburban rail lines

- C2** Guadalajara - Alcalá de Henares - Alcala - Chamartín
- C7** Alcalá de Henares - Alcala - Chamartín - Príncipe Po

**Línea de Metro fuera de servicio**  
Metro line out of service

- SE9** Arganda del Rey - Rivas Vaciamadrid  
Del 26 de junio al 3 de agosto

**Servicios especiales de autobús**  
Special bus services

[www.crtm.es](http://www.crtm.es)

### Esquema integrado de Metro de Madrid, TFM, Renfe-Cercanías y Metros Ligeros de la Comunidad de Madrid (zona Metro)

Metro, Light Rail and Suburban Rail of Madrid Region (Metro zone)

**LEGENDA**

- Metro de Madrid** (Metros Ligeros)
- Renfe Cercanías**
- TFM**
- Autobús**
- Autobús urbano**
- Autobús interurbano**
- Autobús especial**
- Autobús gratuito**
- Autobús turístico**
- Autobús escolar**
- Autobús de emergencia**
- Autobús de servicio social**
- Autobús de servicio especial**
- Autobús de servicio social especial**
- Autobús de servicio especial especial**
- Autobús de servicio social especial especial**

## Other maps and graphic materials on transport activities

Over the course of 2018, 25 maps were produced to inform of modifications to EMT line routes, 7 maps for modifications to suburban lines and numerous support materials for information panels and press releases. Work also continued with Metro de Madrid on updating the network maps installed on platforms and vestibules in each of its areas: central area, Metrosur and Metronorte.

Another important line of work was the collaboration with other public and private bodies for the publishing of maps related to these bodies or the activities linked to them.

In this regard, the CRTM collaborated with the IMSERSO and Metro de Madrid to improve signage at the access to the CEADAC, which is the National Reference Centre for Brain Damage Care. Over the year, this collaboration was extended to other IMSERSO care centres in Madrid.

Another important collaboration by the CRTM focused on producing a map and other transport information materials to give out to those attending the Taizé Community Youth Meeting held at Christmas 2018, with over 15,000 participants.





## 6.2 Customer service

### a. The Public Transport Card Management Offices

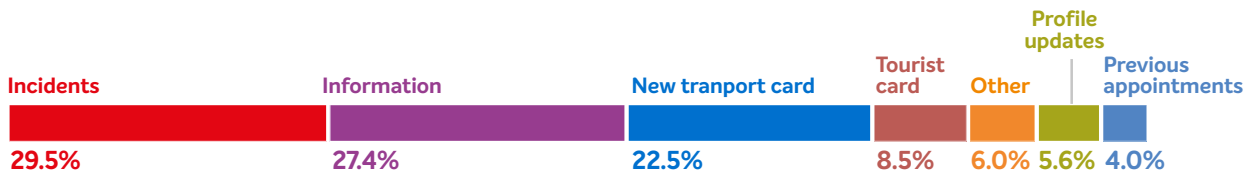


The face-to-face service channel comprises a network of 30 Management Offices strategically located in the Autonomous Region of Madrid. In 2018, these offices received a total of 1,200,583 visits from users providing assistance in different services.

In 2018, a new office was opened in Collado Villalba and the offices at T2 Airport and Méndez Álvaro that had been closed the year before were reopened to make them accessible in better locations.

Of all the operations performed at the Management Offices, 31% corresponded to the incorporation into the system of new users (new Public Transport Cards and tourist cards), and 69% to the management of after-sales services.

#### TYPE OF OPERATIONS PERFORMED IN MANAGEMENT OFFICES (2018)



The Management Offices serving the most users during 2018 were: Sol with 147,289, followed by T4 Airport with

142,583 users, Moncloa with 100,193 users and Atocha Renfe with 99,462 users.

### b. The [tarjetatransportepublico.crtm.es](http://tarjetatransportepublico.crtm.es) website

438,953 users were assisted on the website, of which 67% requested a prior appointment and 21% requested a Public Transport Card using this channel. The remaining

12% corresponded to information and incident solving services via the e-mail [tarjetatransportepublico@crtm.es](mailto:tarjetatransportepublico@crtm.es).

### c. The telephone customer service

Over 2018, a total of 104,549 calls related to the public transport system of the Autonomous Region of Madrid were received on the 012 hotline, with an average waiting time of 41 seconds and an average assistance time of 4 minutes. This service works in coordination with the CRTM to meet the information needs of transport users in the Autonomous Region of Madrid.

The channel provides information to users and receives and records complaints. However, the most popular service is the request for a prior appointment for the Management Offices. This service was the reason for 128,296 calls.

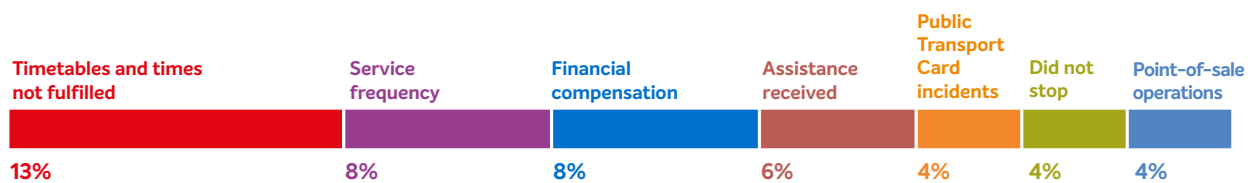
### 6.3 Complaints

In 2018, the Autonomous Region of Madrid transport system registered 62,365 complaints, an increase of 17.7% over the previous year (53,009). The ratio of complaints per million passengers stood at 40.3. These figures include the complaints received through the different channels available to the user: CRTM website and offices, complaints books and offices of the different public transport operators, 012 hotline, the general

suggestions and complaints system of the Autonomous Region of Madrid (SUQUE), and other bodies through their respective registers.

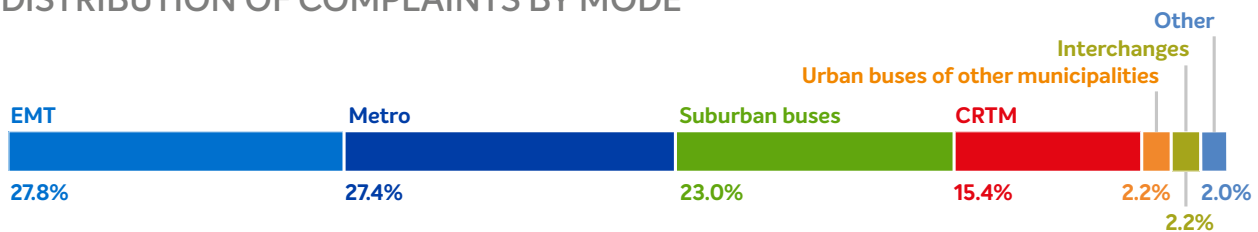
Seven reasons represent approximately half the complaints received, while the other half is spread across an extensive list of almost 70 reasons.

#### REASONS FOR COMPLAINTS



The remaining 53% corresponds to different reasons for complaints.

#### DISTRIBUTION OF COMPLAINTS BY MODE



### 6.4 The Friends Club

During 2018, the Public Transport Friends Club continued its activities, providing users with numerous activities and events of various kinds: cultural, musical, sports and leisure.

In short, the activities provided included concerts by the Film Symphony Orchestra and Fundación Excelentia, and various Royal Theatre proposals, such as Opera Week. The sports category included the Classic Heart Match, the Women's Race, and the Diabetes Foundation Race.

Lastly, collaboration with Parques Reunidos continued throughout 2018, offering discounts and tickets for Friends Club members throughout the season.

All activities were communicated on the [www.clubdeamigos.crtm.es](http://www.clubdeamigos.crtm.es) website, which during 2018 received over 157,000 visits, where users were able to make the most of each of the benefits offered.



## 6.5 The “ventex20” campaign

This year, the implementation and consolidation of the Young Pass scheme has reinforced this communications channel with young users in Madrid, a measure with a positive and high degree of social impact on families.

The different promotions offered to young users in Madrid on the microsite [ventex20.com](http://ventex20.com) reinforce their satisfaction with the public transport system.

The promotions provided included different theatre shows and performances (such as “Las Noches de El Club de la Comedia”, “Toc Toc” or “El Brujo”), sporting events (basketball matches of Real Madrid or El Estudiantes or football matches of Rayo Vallecano), and cultural events

(Auschwitz exhibition, Japan Weekend or visits to the Prado Museum, Reina Sofía or Thyssen). It is important to note that there was a special activity to celebrate the third anniversary of the Young Pass, with a prize draw for a trip to the Azores islands.

All these promotions are broadcast over the [www.ventex20.com](http://www.ventex20.com) website and social networks of Metro de Madrid, reaching **17,000 people registered for the 190+ promotions** carried out over the year. The microsite has received more than 168,000 visits in the same period.

## 6.6 Communication campaigns

During 2018, a series of specific communication campaigns were conducted to inform users of activities carried out by the CRTM and to promote public transport and sustainable mobility.

These included:

- ▶ Information campaign on the **end of the magnetic ticket**, since the use of these media in the transport network was not permitted after 1 January 2018 and all tickets and passes must be charged to the Public Transport Cards (personal and Multi).

- ▶ Information campaign on the **Household Mobility Survey** to inform the population of the fieldwork to be carried out and to encourage their participation.
- ▶ A campaign on **park-and-ride services** to raise awareness of the existing infrastructures promoting intermodality in travel.
- ▶ Collaboration on the **global #PT4ME** (*public transport for me*) campaign launched by the International Association of Public Transport (UITP) to promote gender equity in the use of public transport in cities.



#PT4ME



POR UN TRANSPORTE PÚBLICO INCLUSIVO:  
¡ILUMINÉMOSLO!

TRANSPORTE PÚBLICO  
PARA MÍ, PARA TI, PARA TOD@S.



Únete a la campaña #PT4ME y contribuye a asegurar  
un transporte público seguro para todos.





**Encuesta de Movilidad 2018**

**¿Cómo te mueves?**

CONSORCIO TRANSPORTES MADRID  
Tu sistema de transportes

Comunidad de Madrid

The image features a survey titled 'Encuesta de Movilidad 2018' with the question '¿Cómo te mueves?'. It shows five transport modes: Metro (checked), Bus, Bicycle, Car, and Walking. Below each mode is a photo of a person: a young woman for Metro, a young man for Bus, an elderly woman for Bicycle, a man for Car, and a man for Walking. Logos for the transport consortium and the Madrid community are also present.

## 6.7 Corporate Social Responsibility

The commitment of the Madrid transport system to its citizens is linked directly to the nature of the Consorcio Regional de Transportes. A purely social institution in which all stakeholders are aligned with the Sustainable Development Goals (SDGs) and contribute directly to meeting them. More sustainable cities and communities, boosting innovation, improving mobility and the environment.

From this perspective, the transport system of the Autonomous Region of Madrid has made a major effort through each of the operators involved: modernisation of stations and accesses making them more accessible and sustainable, and modernisation and reorganisation of less pollutant fleets of urban and suburban buses.

Along these lines, the development of the transport system involves social, economic and environmental development. In short, the development of the Person, making this the centre of activity.

In addition, as the backbone of the transport system, the CRTM collaborates with many NGOs and public and private institutions that consider the Consorcio de Transportes a socially responsible partner to broadcast its corporate

values. Over this year, we must highlight our collaboration with Aldeas Infantiles, Fundación Real Madrid, Fundación Española del Corazón, Fundación Excelentia, Fundación Diabetes, Carrera de la Mujer, Comunidad de Taizé, with Metro de Madrid for the Árbol de los Deseos activity, the Libros a la Calle initiative, etc.

Moreover, in its ongoing concern for the Person, the CRTM started development of the home survey that ran throughout 2018 to improve the public transport service. In addition, as part of the 2018 European Mobility Week, the Consorcio Regional de Transportes has collaborated in the III Yincana Universitaria for Sustainable Mobility organised by the public universities of Madrid and the UNED. The aim of this activity, in line with the objectives of the CRTM, is to raise awareness of the consequences of daily mobility on the environment and its urban surroundings, promoting public transport and cycling and fostering healthy habits.

In short, the CRTM has a strategic approach that is in line with the Global 2030 Agenda for Sustainable Development and a transparent and sustainable commitment to the public.

**36** visits  
by national and  
international  
delegations





# Institutional relations

The experience of the CRTM and the integrated model of the transport system of the Autonomous Region of Madrid have made this body a valuable member of the most important associations in the sector.

These include the International Association of Public Transport, which brings together the main operators, industry representatives and public transport authorities worldwide; the Association of European Metropolitan Transport Authorities, a forum for the exchange of information and experiences among the main European public transport authorities; and the Metropolitan Mobility Observatory, which has the main sector authorities of the principal Spanish cities. In addition, the quality of the services provided over the course of its more than 30-year history has given this body great appeal for numerous delegations of mobility and public transport experts interested in learning about the model developed by the CRTM and its management system.

## 7.1 International presence

The CRTM is present in the most prominent industry associations:



**UITP (International Association of Public Transport)**

UITP is an association that promotes the exchange of knowledge and experiences among different public transport agents on a European and global level, as the leading association in the sector.

The CRTM participates in various committees and commissions of this association, such as that of the Transport Authorities, as well as being a member of the Executive Board. This active presence of the CRTM has made our body relevant at both European and global level.

Over this year, the CRTM has signed a Partnership Protocol with UITP to collaborate and facilitate the fulfilment of its goals and competences, the promotion and distribution of its actions, training activities in the field of public transport and sustainable mobility, and the promotion of innovation and excellence practices.



# EMTA

European Metropolitan Transport Authorities

## EMTA (European Metropolitan Transport Authorities)

The CRTM is the Treasurer of EMTA, and since its creation in 1998 it has actively participated in the meetings, forums and working groups promoted by the association, as well as being the member responsible for the preparation of the Public Transport Barometer of the European Metropolitan Areas, which includes data on

the public transport systems of the 26 partners that form the association.

Two General Assembly meetings were held in 2018. The first in June in Paris (France) and the second in November in Amsterdam (Netherlands).



## Metropolitan Mobility Observatory (MMO)

The Metropolitan Mobility Observatory (MMO) is an analysis and reflection initiative formed by the Public Transport Authorities (PTA)

of the main Spanish metropolitan areas, the Ministry of Agriculture, Food and Environment, the Ministry of Development, the Ministry of Industry (through the Institute for Diversification and Energy Savings) and the Ministry of Internal Affairs (through the DGT), in order to reflect on the contribution of public transport to improving quality of life and sustainable development in cities.

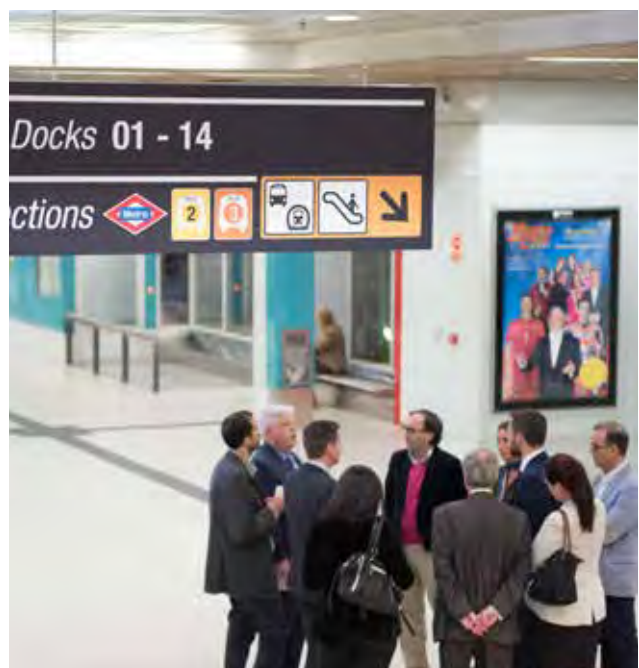
The MMO publishes an annual report analysing the mobility of the participating metropolitan areas, which is presented at technical meetings where aspects related to sustainable mobility are also discussed.

Since the launch of this initiative, the CRTM has been a constant presence at its annual meetings. In 2018, the regional body took part in the 15th MMO Technical Meeting entitled "Sustainable Mobility and Air Quality Plans: A Joint Challenge", held in Pamplona on 22 June.

## International visits and advice

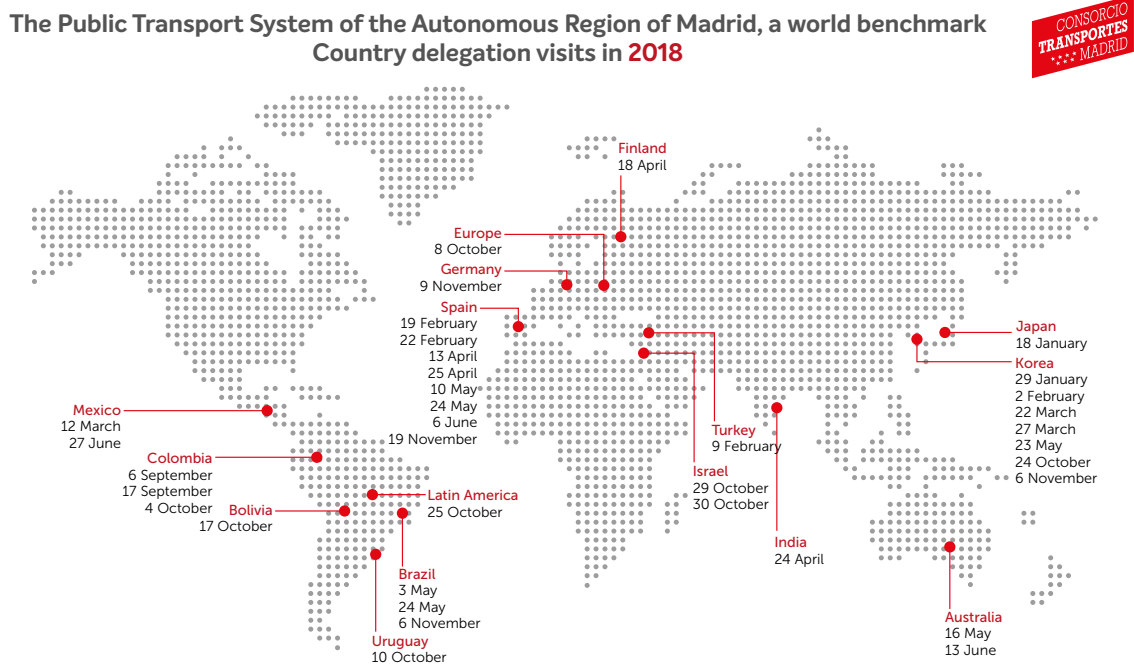
The experience of the CRTM and the integrated public transport management system of the Autonomous Region of Madrid attract many delegations that are interested in finding out about the planning and construction method-

ology of the regional infrastructures and the integrated management system for public transport in Madrid. More specifically, in 2018 the CRTM, CITRAM and the interchanges received **36 visits from all over the world**.



The countries that have shown an interest in the public transport system of Madrid have very different geographical origins. Over the year, the CRTM has received delegations of experts and researchers from the

following regions and countries: Germany, Latin America, Australia, Bolivia, Brazil, Colombia, Finland, Spain, Korea, Europe, India, Israel, Japan, Mexico, Turkey and Uruguay.



The CRTM is a member of the international organisations UITP and EMTA.

## 7.2 Acknowledgements of the Consorcio Regional de Transportes de Madrid

The Association of Traffic Engineers and Mobility Technicians was awarding the “Women and Traffic Management” awards for women who, from government, university and private companies, work hard to improve traffic and mobility in Spain. Four female CRTM workers received this award: Elena Tarruella (2015, Head of the Suburban Area), Berta Nieto (2016, Senior Technician of the Suburban Area), Carmen Sanz (2017, Head of the Commercial Area) and Maite Antón (2018, Expert from the Studies and Projects Area). These awards acknowledge the high level of commitment and professionalism of the body's employees in managing mobility, in order to offer a quality public transport service in the Autonomous Region of Madrid.











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TRANSPORTES  
\*\*\*\*\*  
MADRID**

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