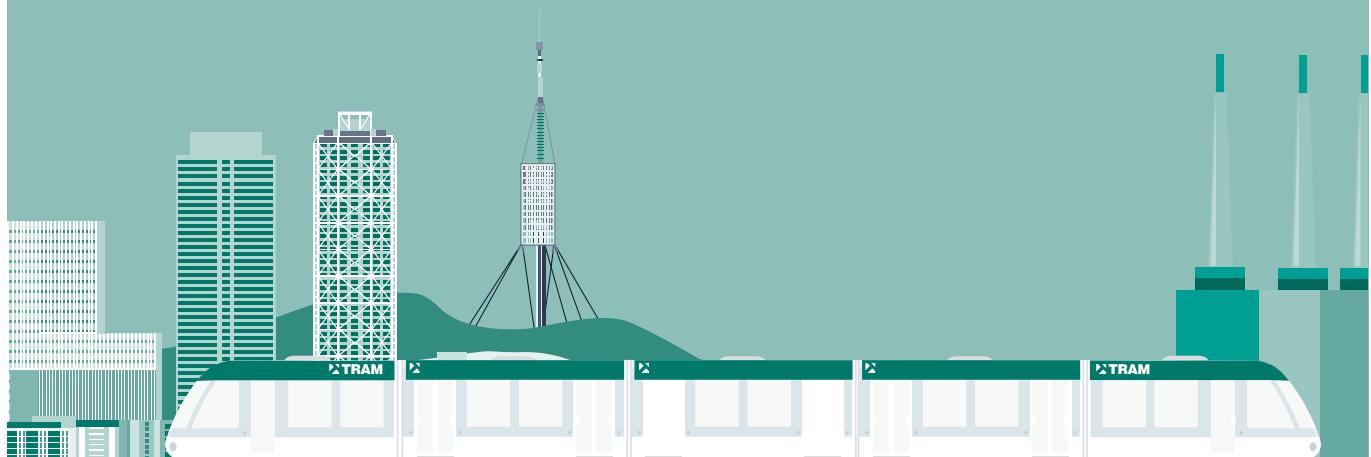


# Barcelona Metropolitan Region Tramway



*2018 Corporate Social  
Responsibility Report*



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## 1. THE WAY TO CREATE VALUE

We present the second edition of the TRAM Corporate Social Responsibility Report, with which we aim to maintain our commitment to share our daily work with everyone.

We do not settle for the good results achieved in 2018 - more than 29 million trips, very high levels of satisfaction among tram users- but continue to strive to offer an excellent service and to be increasingly more responsible and efficient with society and the environment. Thus, we intend to strengthen our commitment to our passengers, to society in general and to our team.

At TRAM, it is clear to us that being socially responsible is not just secondary to the company's main activity, but is an intrinsic value in our corporate identity, which is why CSR is included in corporate strategy and daily management. Although it may seem utopian, we would like to believe that we are contributing to improving our society, and for this reason we invest more and more in human capital, the environment and relations with social stakeholders.

We are committed to strategic CSR management because we are convinced that the only way to create value (strengthening reputation and the production chain, motivating and retaining staff, market knowledge, contributing to the solution of social problems and minimising environmental impact) is by making it a central part of the company's decision-making process. That is why we want to maintain a close, accessible and transparent relationship with all groups that allows us to listen to their demands and opinions.

This report, which we invite you to read, includes our commitments and summarises the actions we have taken during 2018 to improve our society to the best of our ability. The path we began 15 years ago is a long one and there is a lot of work still to be done, but we will not give up because our commitment is firm. We have everything in our favour: enthusiasm, values and a great team.

***Felip Puig,  
President of TRAM***



## 2. ABOUT THIS REPORT

We present a summarised version of our second Corporate Social Responsibility Report, in which we offer transparent, reliable and detailed information on the main CSR activities carried out by the company in 2018.

This report has been developed taking into account the G4 version of the Global Reporting Initiative standard (GRI Guide).

*This report contains information on management orientation, actions and results of TRAM's main activity: public passenger transport by tram in the Barcelona Metropolitan Region.*

If you need information on any of the information included in this report, you have a direct communication channel through the following email address

[premsatram@tram.cat](mailto:premsatram@tram.cat)

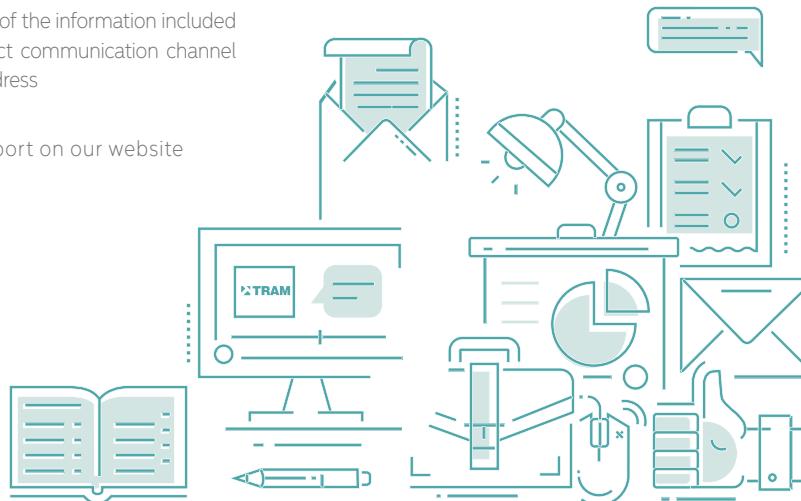
You can also see the full report on our website  
[www.tram.cat](http://www.tram.cat)

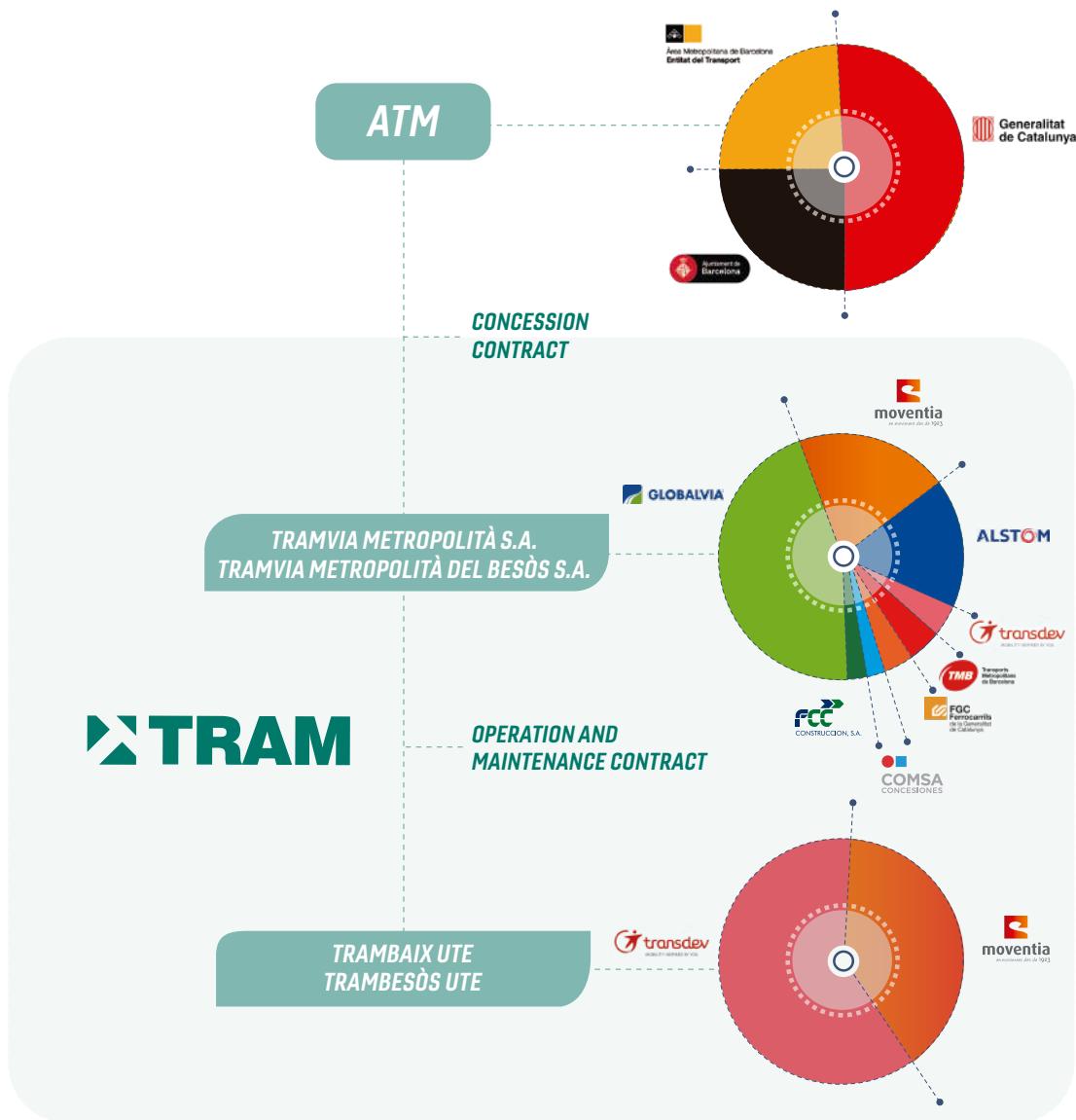
## 3. PROFILE OF THE TRAM ORGANISATION

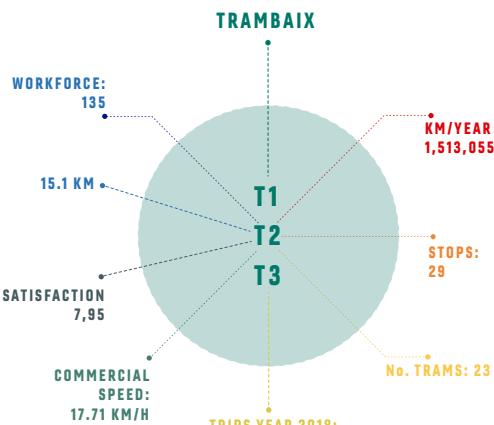
Due to its capacity and quality of service, TRAM is one of the primary sustainable mobility operators in the Barcelona Metropolitan Area.

We manage both networks with the intention of offering the best possible service in the more than 100,000 trips made in a working day, and the more than 29 million in a year.

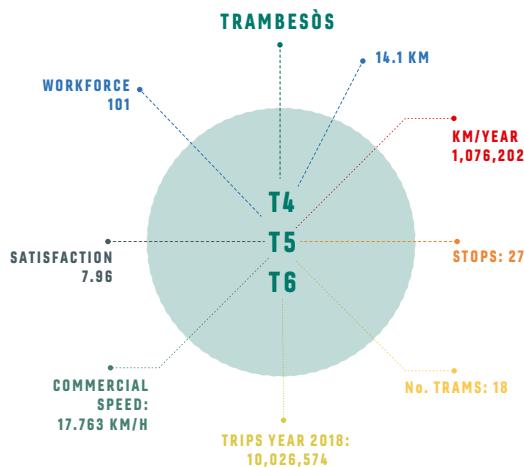
TRAM's shareholders are leading organisations in the management of concessions, the operation and maintenance of public transport networks and high-capacity tracks, the manufacture of rolling stock and systems in the railway sector, and civil works, and our client is the Metropolitan Transport Authority.







Workforce: 236 people,  
6,841.5 hours of training



### 3.1 OUR ROLE

At TRAM we cover nine municipalities in the Barcelona Metropolitan Region.

In addition, we are the public transport system most highly rated by users according to the annual ATM survey (EMEL, Working Day Mobility Survey). And according to the company's satisfaction survey, the citizens' Perceived Quality Index (PQI) exceeds 7.9 out of 10 in the two networks the group operates.

**100,884**  
trips on weekdays  
(except July and August)

**7.95 ICP**  
(Perceived Quality Index)

PQI: Perceived Quality Index

TRAMBAIX	YEAR	PQI
	2012	7.61
	2013	7.72
	2014	7.80
	2015	7.72
	2016	7.85
	2017	7.98
	2018	7.95

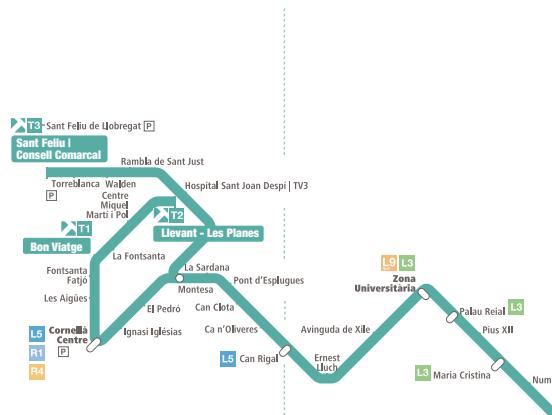
PQI: Perceived Quality Index

TRAMBESÒS	YEAR	PQI
	2012	7.59
	2013	7.72
	2014	7.60
	2015	7.68
	2016	7.68
	2017	7.98
	2018	7.96

## 3.2. BUSINESS AREA

Our business is transporting people by tram.

**Trambaxí:** Network formed by lines T1, T2 and T3, all opened in 2004, starting in Francesc Macià and linking the Baix Llobregat with the Les Corts district of Barcelona.

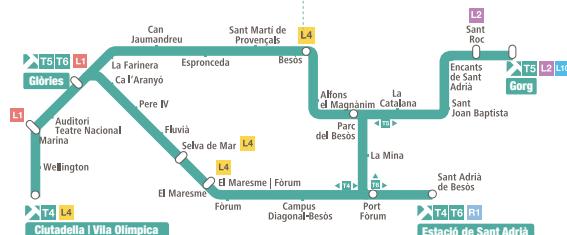


**Characteristics:** 15.1 km, 3 lines (T1, T2 and T3), 29 stops, 23 vehicles. Operating hours: 5 a.m. to midnight, Monday to Thursday; 5 a.m. to 2 a.m., Friday and Saturday; 5 a.m. to midnight, Sunday and holidays.

We have 22,000 m<sup>2</sup> of workshops in Sant Joan Despí with the capacity to service our fleet even in the most complex operations.

**Trambesòs:** Network formed by lines T4, T5 and T6. In operation since 2004 and extended first in 2006 and then in 2008, it links Sant Adrià de Besòs and Badalona with Barcelona.

**Characteristics:** 14.1 km, 3 lines (T4, T5 and T6), 27 stops, 18 vehicles. Operating hours: 5 a.m. to midnight, Monday to Thursday; 5 a.m. to 2 a.m., Friday and Saturday; 5 a.m. to midnight, Sunday and holidays.



### 3.3. OUR SERVICE

#### TRAMBAIX NETWORK

**12,317,137**

travel on working days (Monday to Thursday)  
3,587,225 Friday · 1,722,120 Saturday · 1,433,205 holidays

**19,059,687**

total travel

#### TRAMBESÒS NETWORK

**6,162,711**

travel on working days (Monday to Thursday)  
1,870,219 Friday · 1,097,024 Saturday · 896,620 holidays

**10,026,574**

total travel

#### Annual changes in travel

##### GROWTH 2017-2018

TRAMBAIX 4.6%

TRAMBESÒS 3%

**TOTAL 4.03%**

TRAMBAIX 16,000,347  
TRAMBESÒS 7,661,827  
**TOTAL 23,662,174**

TRAMBAIX 16,001,000

TRAMBESÒS 7,721,095  
**TOTAL 23,782,095**

2013

2014

2015

2016

2017

2018

TRAMBAIX 17,005,594  
TRAMBESÒS 8,411,144  
**TOTAL 25,416,738**

TRAMBAIX 16,343,197  
TRAMBESÒS 8,150,521  
**TOTAL 24,493,718**

TRAMBAIX 18,223,885  
TRAMBESÒS 9,735,210  
**TOTAL 27,959,095**

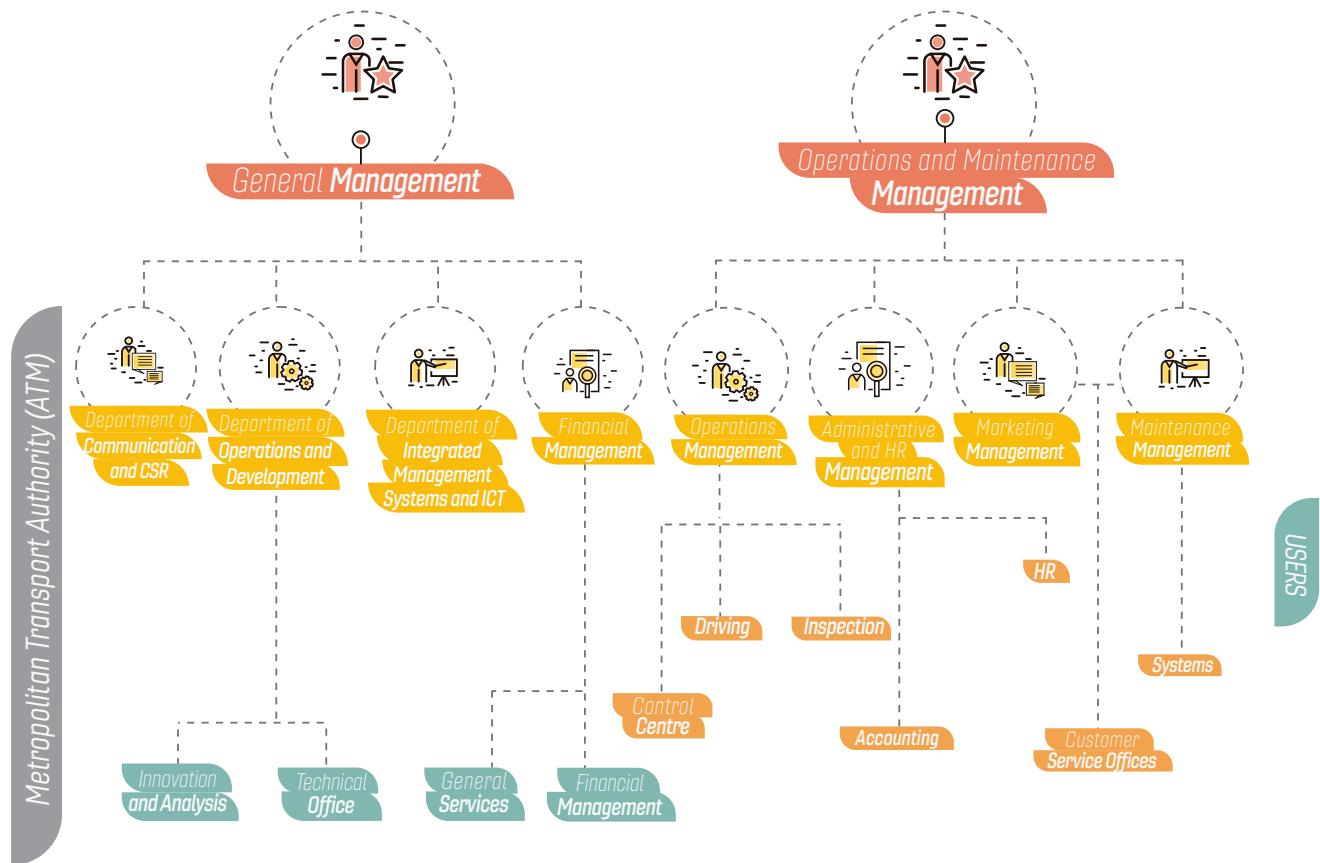
TRAMBAIX 19,059,687

TRAMBESÒS 10,026,574

**TOTAL 29,086,261**

**TOTAL ACUMULADO 334,768,810**

## 4. ORGANISATION



## 5. ETHICS AND INTEGRITY

### MISSION, VISION AND VALUES

**MISSION:** to transport people by tram in a way in which they can enjoy an efficient mobility service that respects society and the environment.

**VISION:** to be recognised as a leading company in the world of mobility; an example of efficiency, innovation, commitment and respect for the environment. An operator that makes travel a satisfying experience.

#### VALUES:

*Quality*

*Safety*

*Customer orientation*

*Respect for the environment*

*Innovation and efficiency*

*Transparency*

*Responsibility*

*Interest in people*

*Fairness*

### ETHICAL FRAMEWORK

At TRAM we have a Code of Ethics and Conduct, approved by the Board of Directors in 2016, which lays down the rules governing the behaviour of people in the organisation. The TRAM Code of Ethics is binding on all staff, regardless of position and function.

At TRAM we also have a Code of Conduct approved in 2016, which lays down rules of conduct applicable to relations with the company's different stakeholders.



## 6. THE CSR MODEL AT TRAM

*TRAM's Corporate Social Responsibility consists of three commitments:*

**INTERNAL COMMITMENT**

**COMMITMENT TO USERS AND CLIENTS**

**COMMITMENT TO SOCIETY**

***All these commitments embody the principles and values described in the company's Code of Ethics.***

### **IDENTIFICATION AND DIALOGUE WITH STAKEHOLDERS**

At TRAM we have a firm commitment to dialogue with our stakeholders, to whom we provide relevant corporate information at all times to cover their information needs in a smooth and transparent manner.



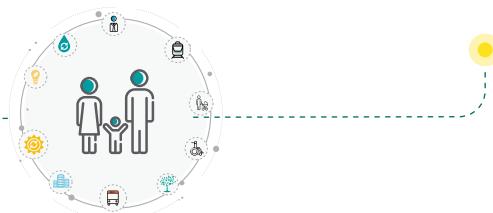
#### **6.1. INTERNAL COMMITMENT**

##### **OUR COMMITMENT TO WORKERS**

At TRAM we are aware of the value of our human capital, we are committed to guaranteeing safe and healthy working conditions, ensuring equal conditions, encouraging professional and personal development, facilitating family reconciliation and promoting healthy lifestyles among workers.

##### **Decision**

- *Maintaining a safe and healthy working environment and conditions*
- *Developing skills and resources to ensure high-quality work performance*
- *Making it easier to reconcile work and family life*
- *Promoting equal opportunities*
- *Ensuring occupational safety and decent wages*
- *Developing fluent communication*



## 6.2. COMMITMENT TO USERS AND CLIENTS

### OUR COMMITMENT TO SHAREHOLDERS

TRAM's commitment to our shareholders is based on creating business through ethical and transparent management, and on sharing our CSR compliance.

#### Decision

- *Promoting ethical management behaviour*
- *Providing transparent information Express*
- *Commitment to CSR*

### OUR COMMITMENT TO SUPPLIER COMPANIES AND PARTNERS

At TRAM we believe that the excellence of our service is the result, among other things, of good practices in the selection and management of suppliers and partners, with whom we seek a link and commitment to our company similar to those of a strategic partner. For this reason, we promote mutually satisfactory relations within the framework of our CSR model and compliance with the principles and values included in our Code of Ethics.

#### Decision

- *Ensuring the ethical practices of suppliers and partners*
- *Ensuring that CSR aspects are taken into account in the selection of suppliers and partners*
- *Building mutually beneficial relationships*

In accordance with our commitment to public service and people's access to mobility, at TRAM we have the obligation of being accountable to all users and clients of our service.

We are committed to offering the best possible service to all people who make use of the group's services, and that is why we constantly strive to transport people in safety and comfort.

In addition, we have a policy of transparency and we set up different channels to maintain smooth communication that enables us to deal with queries and complaints quickly and efficiently.

#### Decision

- *Guaranteeing the safety and quality of the service*
- *Knowing the degree of satisfaction and loyalty of users and clients*
- *Encouraging smooth communication*
- *Transmitting our environmental and social sensitivity*

## 6.3. COMMITMENT TO SOCIETY

TRAM directs its commitment to society and the environment towards the creation of shared values with the community, and promotes actions and investments in line with our business objectives that create value for the company and have a positive impact on society and on the territory and its inhabitants.

### SOCIAL ACTIONS

TRAM aims to play an important role in people's lives, not only as a company providing a quality public service, but also as agents of community development, using part of the wealth generated in collaborations and sponsorship of social and cultural programmes, or in the implementation of projects that reflect our social commitment, helping people with mobility difficulties or promoting sustainable mobility and civility through our educational programme.

### Decision

- *Carrying out social activities*
- *Launching marketing actions with a cause*
- *Launching fundraising campaigns for social or environmental causes in the local or global community, linked to the sale of our services.*



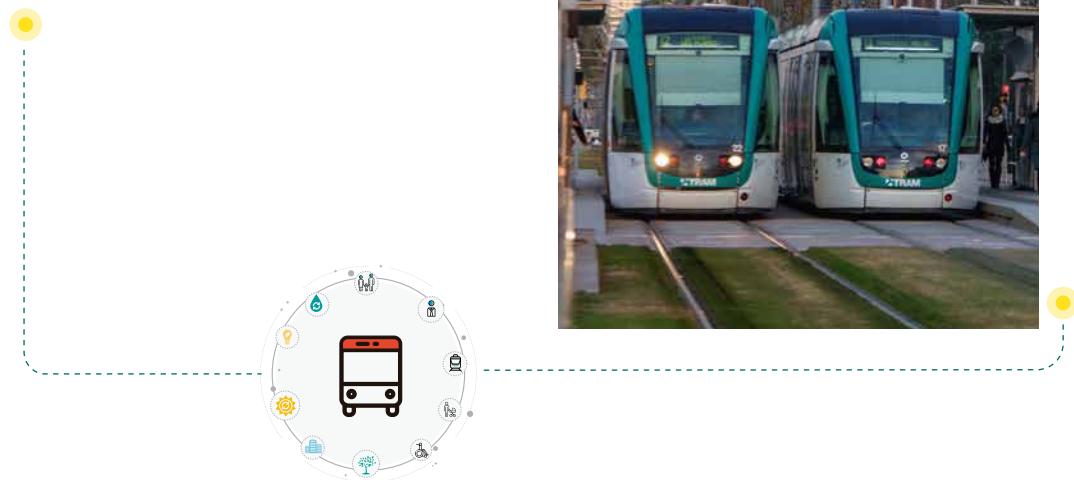
## OUR COMMITMENT TO COMPETITION

Our status as a company providing a public transport service, by tram, in the Metropolitan Area makes it impossible to identify competition in the strict sense, but there are other companies that provide complementary services, such as the bus or the underground, in the same area or that provide the same service in other locations.

TRAM maintains a relationship with these organisations by participating in sector associations, such as Railgrup, UITP, ALAMYS, etc., always based on ethics and transparency.

### Decision

- *Guaranteeing an ethical and lawful relationship with competitors*
- *Promoting CSR in associations of which TRAM is a member*



## 7. 2018 SOCIAL RESPONSIBILITY ACTION

### 7.1 INTERNAL COMMITMENT. 2018 INDICATORS.

#### WE PROMOTE EQUAL OPPORTUNITIES

##### *Equality plan. At TRAM we believe in equality.*

At both Trambaix and Trambesòs there is an equality plan to ensure equal treatment and opportunities for men and women and to eradicate any possible gender discrimination.

The 2018 Corporate Social Responsibility Plan has been implemented in response to TRAM's three global CSR commitments and the specific objectives that are reviewed annually.

*This plan is implemented through various actions and activities that help reinforce equal opportunities.*

#### WE ARE COMMITTED TO EQUAL PAY

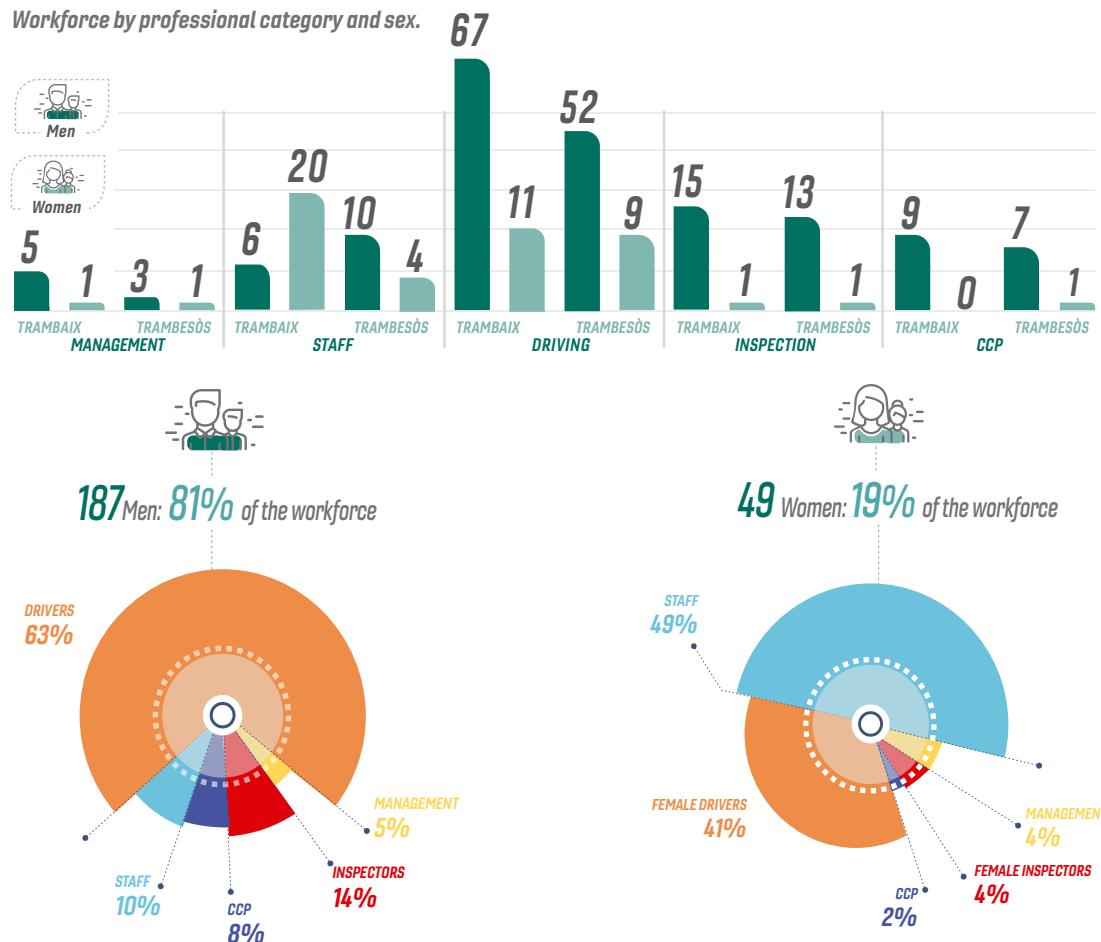
*The base salary of men and women according to professional category is the same in all cases. This salary is determined by the salary tables in the applicable agreement.*

We have a protocol of equality and prohibition of discriminatory treatment on the basis of birth, race, sex, religion, opinion or any other personal or social condition or circumstance, which applies to both the management and the TRAM team and third parties.



## THE WORKFORCE

Workforce by professional category and sex.



## WE ENSURE OCCUPATIONAL SAFETY AND OFFER DECENT WAGES

At TRAM we prioritise stable and quality employment over subcontracting or temporary contracts.

### TRAM STAFF PROTOCOL OF RIGHTS AND DUTIES

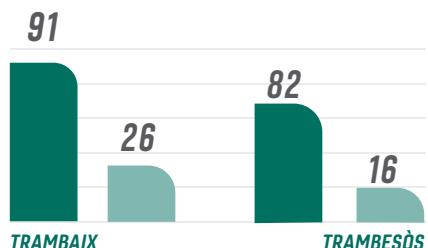
The objective of the protocol is to recognise the rights and establish the duties of TRAM staff within the framework of the company's Crime Prevention and Detection Model (MPDD).

### TYPES OF CONTRACTS

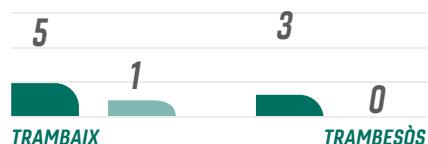
#### OPEN-ENDED CONTRACTS WITH REDUCED WORKING



#### OPEN-ENDED CONTRACTS



#### FIXED-TERM CONTRACTS



#### PART-TIME CONTRACTS



## WE MAINTAIN A SAFE AND HEALTHY A SAFE AND HEALTHY WORKING ENVIRONMENT AND CONDITIONS

### OCCUPATIONAL HEALTH AND SAFETY COMMITTEE

At TRAM there is a single occupational health and safety committee for Tramblaix and Trambesòs operating at the highest level.

Currently, the committee is composed of the following members:

*Managing director, director of operations, director of administration and HR, head of CCP, head of safety and environment, deputy director of operations, four drivers and one inspector.*

### TRAMBAIX

*Number of full-time workers* •

**123**

*Number of worked hours* •

**188,015**

### TRAMBESÒS

*Number of full-time workers* •

**101**

*Number of worked hours* •

**162,450**

### TRAMBAIX 2018

<i>Number of accidents with sick leave of own staff</i>	6	<i>Number of accidents with sick leave of own staff</i>	5
<i>Number of accidents without sick leave</i>	1	<i>Number of accidents without sick leave</i>	6
<i>Number of days lost due to accident</i>	84	<i>Number of days lost due to accident</i>	44
<i>Number of fatal accidents</i>	0	<i>Number of fatal accidents</i>	0
<i>Frequency rate</i>	31.91	<i>Frequency rate</i>	30.78
<i>Severity rate</i>	0.45	<i>Severity rate</i>	0.27
<i>Incidence rate</i>	50.42	<i>Incidence rate</i>	50.51
<i>Absenteeism rate</i>	4.43	<i>Absenteeism rate</i>	3.23

### TRAMBESÒS 2018

## HEALTH & SAFETY MANAGEMENT SYSTEM: OHSAS 18001

TRAM is certified by OHSAS 18001, an **occupational health and safety management system** that helps improve the conditions and factors that can affect the well-being of anyone in the company's physical environment. The technical specification OHSAS 18001 sets out the requirements to be met by the occupational health and safety management system so that companies can optimise the performance of the system and effectively control the risks associated with their activities, always focused on the protection of people.

## OCCUPATIONAL RISK PREVENTION

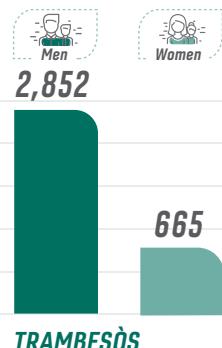
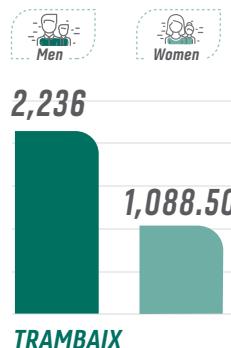
*Occupational risk prevention is one of the top priorities in the management of TRAM.*

*In 2018 the following has been provided:*

*1,948 hours of training in occupational risk prevention at Tramblaix*

*1,578 hours of training in occupational risk prevention at Trambesòs*

### Hours of training by sex at TRAM



## WE DEVELOP SKILLS AND RESOURCES TO ENSURE HIGH-QUALITY WORK PERFORMANCE

### Training

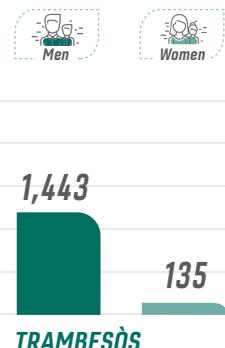
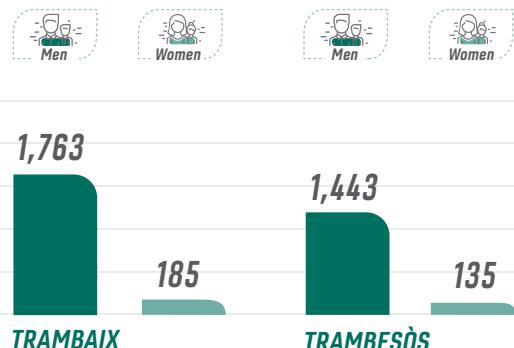
At TRAM we are firmly committed to training and promote an **annual training plan in accordance with ISO 9001:2015**.

In 2018, between TRAMBAIX and TRAMBESÒS, 6,841.5 hours of training were given, and 99% of the staff of the two companies received training during the year.

### Workers hold annual compliance meetings

*51.53% of the training hours were in the field of safety*

### Hours of safety training by sex at TRAM



## Initial training

This training is given by internal company staff and lasts approximately one and a half months, during which theoretical and practical classes are combined. During the period 2007-2018, a total of 10 training programmes were carried out for new driving staff.

## Continuous training

The continuous training courses that have been given can be divided into three groups:

- *General management and leadership courses*
- *Technical specialisation courses*
- *Tram driving refresher courses: Each year, an eight-hour refresher course is held, divided into three sessions, in which knowledge is updated, aspects related to the improvement of operation are renewed and real experiences are shared, enabling new solutions to be worked on.*

## We make it easier to reconcile work and family life

In 2018, the following took maternity or paternity leave:

WOMEN

5

MEN

1

100% of staff returned to work after leave

## Percentage of workers with reduced working hours

TRAMBAIX

TOTAL STAFF

135

people

7.40%

10 people benefit from reduced working hours



TRAMBESÒS

TOTAL STAFF

101

people

13.86%

14 people benefit from reduced working hours



## We encourage smooth internal communication

With our internal communication we promote the feeling of belonging because...

we share values · we feel their support · we are proud of our company · we know what they expect from us · we establish affective bonds · we feel useful and valued

## Our communication channels:

- *Internal Communication Committee*
- *Internal meetings with Company Management*
- *Corporate intranet, digital signage and monthly internal newsletter (inTRAM)*
- *TRAMcomunica*
- *Internal Communication Survey*
- *Christmas Activities*

## 7.2 COMMITMENT TO USERS AND CLIENTS. 2018 INDICATORS

### WE GUARANTEE THE SAFETY AND QUALITY OF THE SERVICE

#### WE HAVE A CERTIFIED MANAGEMENT SYSTEM

**ISO 9001:2015 Standard**, Quality Management Systems.

**UNE 13816:2003**, specific standard on quality of service to users from two points of view: on the one hand, from the Administration and operators, and on the other, from current and potential customers.

### SAFETY

Safety is one of TRAM's main commitments; for this reason, we have created a working group to oversee compliance.

It is made up of members from different areas (Development, Operation, Maintenance, Marketing and Communication) and we have promoted numerous improvements and campaigns such as «You matter to us».

We have also implemented an action plan to reduce accidents, in force since 2006. Within the framework of this action plan, we have developed a method for evaluating accidents, which identifies the places with the greatest potential risk of accidents in order to implement corrective measures to try to reduce them.

### ACCIDENT RATE (ACCIDENTS/TKM)



### WE KNOW THE DEGREE OF SATISFACTION AND LOYALTY WE ENCOURAGE SMOOTH INTERNAL COMMUNICATION

#### CUSTOMER SERVICE

In addition to traditional channels such as the free telephone, customer service offices and intercoms at all our stops, users can contact TRAM through a mobile application, social media such as Twitter and Facebook and, since 2016, Whatsapp.

In 2018, users have used Trambaix's customer service on a total of 9,424 occasions. As for Trambesòs, the customer service has dealt with 9,426 queries.

The average response time to TRAM queries does not exceed 24 hours in either case. While at Trambaix the response time is 0.7 days, Trambesòs does not exceed 0.3 days.

### 7.3 COMMITMENT TO SOCIETY. 2018 INDICATORS

#### SOCIAL ACTIONS IN 2018

In 2018, more than 40 social actions were carried out aimed at the development of communities based on the following specific objectives:

- Supporting the social and labour reintegration of homeless people.
- Promoting attitudes of resilience through actions that demonstrate that physical or psychological limitations can be overcome.
- Improving access to culture for the most disadvantaged population in the TRAM catchment area.
- Improving the living conditions of the elderly with few economic resources.



**€145,626.18 in social projects in 2018**

## ENTITIES WITH WHICH TRAM HAS COLLABORATED IN 2018



## ETHICAL AND TRANSPARENT MANAGEMENT

Our crime prevention and detection model includes a set of protocols designed to avoid reputational and financial damage to TRAM. The Crime Prevention and Detection Committee oversees the group's performance in this area and corrects any deviations it may detect.

- **PROTOCOL ON THE PREVENTION OF CORRUPTION IN BUSINESS**
- **PROTOCOL ON THE PREVENTION OF CORRUPTION IN THE CONTEXT OF RELATIONS WITH THE PUBLIC SECTOR**
- **PROTOCOL ON THIRD-PARTY RELATIONS**
- **PROTOCOL ON THE PREVENTION OF CRIMINAL OFFENCES AGAINST THE TREASURY AND SOCIAL SECURITY AND SUBSIDY FRAUD**
- **PROTOCOL ON THE PREVENTION OF FRAUDULENT AND UNFAIR BEHAVIOUR**
- **MANUAL ON CRIME PREVENTION AND DETECTION IN THE CONTEXT OF THE PENAL CODE REFORM**

## REPORTING CHANNEL

Since 2017, TRAM has had an online complaints channel for reporting any conduct or activity involving any type of irregularity within the company. The channel, like the whole process, is completely confidential, managed by an external company, and universal; in other words, it is open to any citizen, user, collaborating entity or person and supplier company.

<https://canaldedenuncias.tram.cat/>

*Since its launch in October 2017, the channel has received no complaints.*



## **WE ARE COMMITTED TO THE ENVIRONMENT**

### ***Protocol on risk management***

The purpose of this protocol is to establish the guidelines that TRAM should follow in order to ensure that, in the performance of activities with a potential environmental impact, the reference regulatory framework for environmental protection is respected and environmental offences that could lead to criminal liability for the company are avoided.

At TRAM, management is responsible for establishing, implementing and maintaining an appropriate environmental policy. This policy is documented, communicated to all members of the company and, at the same time, is available for reference purposes.

The Trambaix and Trambesòs operating companies have a management system certified according to **ISO 14001:2015**.

## **WE TRANSMIT OUR ENVIRONMENTAL AND SOCIAL SENSITIVITY**

We report on the environmental and social benefits of our service

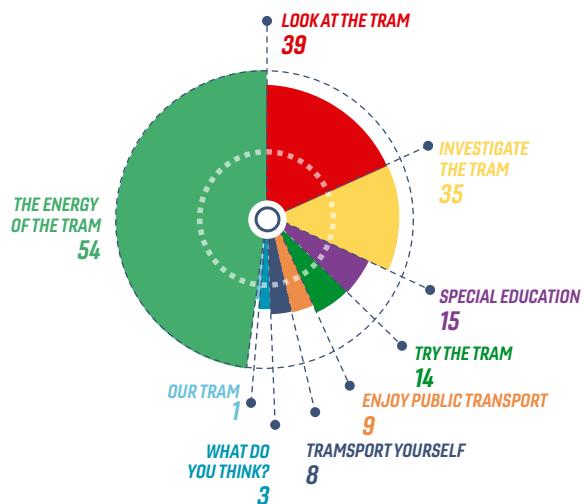
### ***TRAM, a means of education***

***The TRAMeduca service conducts various programmes to work on mobility, citizenship and the environment.***

They are aimed at students from primary school to high school and also at the elderly, with the aim of encouraging responsible attitudes and building a more civic and environmentally friendly society.

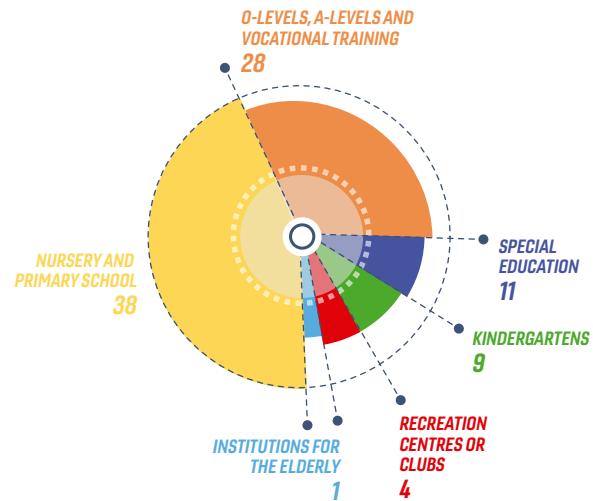
Thanks to this educational project, the participants learn how the TRAM works and discuss civic and environmental attitudes related to the use of public transport.





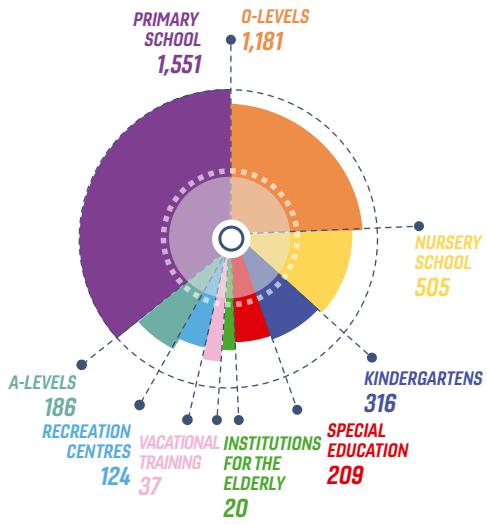
ACTIVITY	No. of Activities
LOOK AT THE TRAM	39
INVESTIGATE THE TRAM	35
SPECIAL EDUCATION	15
TRY THE TRAM	14
ENJOY PUBLIC TRANSPORT	9
TRANSPORT YOURSELF	8
WHAT DO YOU THINK?	3
OUR TRAM	1
THE ENERGY OF THE TRAM	54

178 activities carried out in 2018



CENTRES	No. of Centres
KINDERGARTENS	9
NURSERY AND PRIMARY SCHOOL	38
O-LEVELS, A-LEVELS AND VOCATIONAL TRAINING	28
SPECIAL EDUCATION	11
RECREATION CENTRES OR CLUBS	4
INSTITUTIONS FOR THE ELDERLY	1

91 centres have visited us in 2018



## PARTICIPANTS

PRIMARY SCHOOL	1,551
0-LEVELS	1,181
NURSERY SCHOOL	505
KINDERGARTENS	316
SPECIAL EDUCATION	209
INSTITUTIONS FOR THE ELDERLY	20
VOCATIONAL TRAINING	37
RECREATION CENTRES	124
A-LEVELS	186

4,129 participants in 2018



## WE MINIMISE THE CONSUMPTION OF NATURAL RESOURCES

**TRAM has reduced year-on-year water consumption: 22 from 1,500L/m to 1400L/m**



### TOTAL WATER UPTAKE BY SOURCE IN 2018

The indicated water consumption is that used in the Trambaix and Trambesòs depot facilities, in addition to the consumption of irrigation water in all grass areas. Consumption is measured by meters at the supply company's connections.

### 100% OF THE ENERGY THAT MOVES TRAM COMES FROM RENEWABLE SOURCES

*We use renewable energies, such as solar energy, through our own installations.*

TRAM and Endesa have renewed their supply agreement to guarantee that energy will be 100% green in 2018. Trams, installations, electric vehicles and facilities that depend on TRAM will receive energy exclusively from renewable sources.

The renewable origin of the electricity is guaranteed by means of an official certification that ensures that the energy consumption comes from hydraulic sources, photovoltaic plants, geothermal energy and high-efficiency cogeneration.

In addition, we have a fleet of modern vehicles that incorporates efficient, emission-free technology that enables electricity to be generated when braking; this energy is reused by other trams, thus reducing consumption.

In total, the energy TRAM needs during a year is about 12.93 GWh (gigawatts/hour), 4.96 kWh/km, which is equivalent to the annual consumption of about 4,200 Catalan homes.

### TOTAL WATER UPTAKE BY SOURCE IN 2018

**Municipal water**

**137,053 m<sup>3</sup>**

**Rainwater**  
(municipal supply)

**37,105 m<sup>3</sup>**

### TOTAL WATER UPTAKE BY SOURCE IN 2017

**Municipal water**

**161,436 m<sup>3</sup>**

**Rainwater**  
(municipal supply)

**42,791 m<sup>3</sup>**



## PHOTOVOLTAIC PLANT

At TRAM we have a photovoltaic plant in the Trambaix depot.

### ***The photovoltaic plant, in figures***

*Total DC power 104.4 kWp*

*Number of photovoltaic panels 696*

*Total area of the installation 892 m<sup>2</sup>*

*Orientation of the panels 0° south*

*Inclination of panels 30° from the horizontal*

*Inverter power 100 kW*

*Connection to three-phase distribution network 400V*

## MINIMISING THE IMPACTS OF OUR ACTIVITY

### ***Electricity consumption and emissions savings***

The tram, like any other railway system, is more efficient in terms of energy consumption because, thanks to the low wheel-rail adhesion, less energy is required to move it.

In 2013, an energy efficiency plan was set up with the aim of reducing electricity consumption.

The measures adopted in the plan include the following:

- *Monitoring the energy consumption of the trams*
- *Ecodriving*
- *Monitoring the condition of trams in the depot*
- *Installation of more efficient lighting equipment*
- *Installation of lighting control equipment.*
- *Dissemination of environmental policy*

The implementation of these measures has meant a reduction in electricity consumption from 2012 to 2018. These data have been obtained from direct measurement in the company's connections.



## TRACTION ENERGY CONSUMPTION

	<i>kWh</i>	<i>kWh/km</i>
<i>Trambaix</i>	<b>6,412,809</b>	<b>4.25</b>
<i>Trambesòs</i>	<b>4,556,103</b>	<b>4.16</b>

## REDUCTION OF TOTAL ENERGY CONSUMPTION



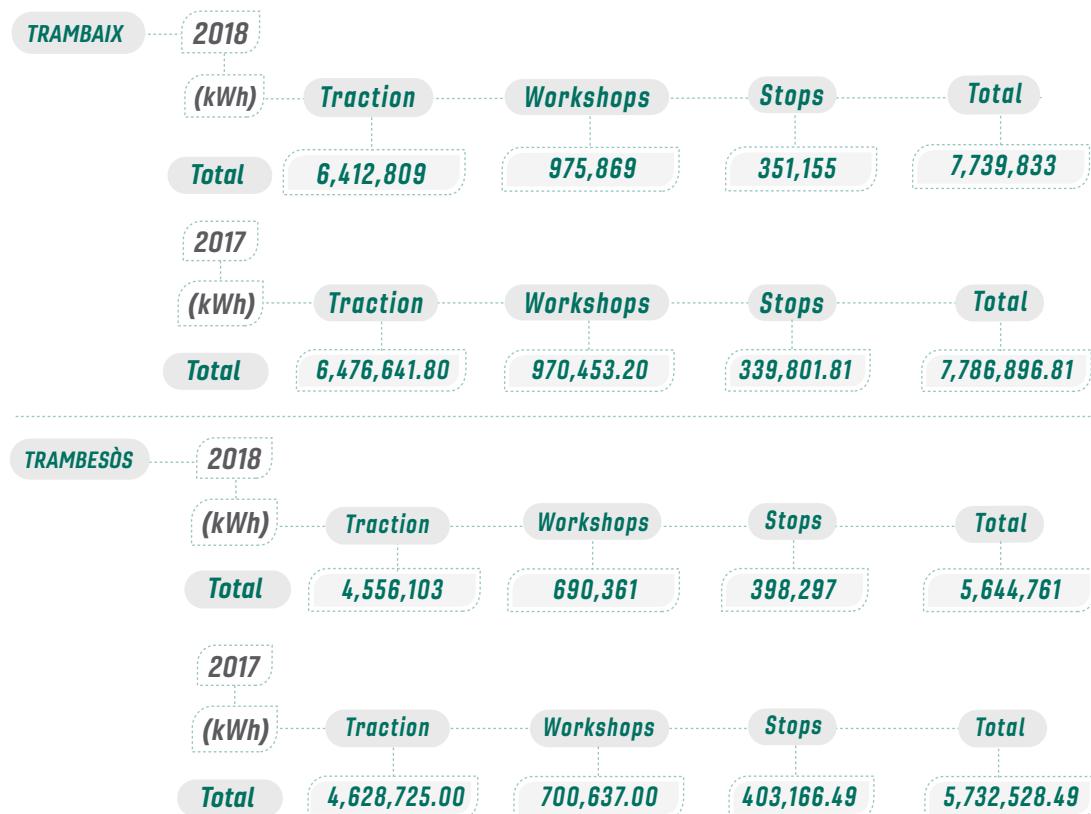
	<b>kWh</b>
<b>2012</b>	<b>13,996,101</b>
<b>2018</b>	<b>13,019,617*</b>

\*Figure weighted according to the kilometres counted in 2012

## ELECTRICITY CONSUMPTION (kWh)

<b>Total 2018</b>	<b>Traction</b>	<b>Workshops</b>	<b>Stops</b>	<b>Total</b>
<b>TRAM</b>	<b>10,968,912</b>	<b>1,666,230</b>	<b>749,452</b>	<b>13,384,594</b>

<b>Total 2017</b>	<b>Traction</b>	<b>Workshops</b>	<b>Stops</b>	<b>Total</b>
<b>TRAM</b>	<b>11,105,366.80</b>	<b>1,671,090.20</b>	<b>742,968.30</b>	<b>13,519,425.30</b>



### POLLUTANT EMISSIONS SAVED IN THE PERIOD 2007-2018



## Waste management, TRAMBAIX

TRAMBAIX		2017	2018	TRAMBAIX		2017	2018
Hazardous wastes		VALUE	VALUE	Non-hazardous waste		VALUE	VALUE
Total production of hazardous waste		16,820 kg	10,210 kg	Total production of non-hazardous waste		60,090 kg	33,220 kg
Volume of hazardous wastes recovered		4,630 kg	3,620 kg	Volume of non-hazardous waste recovered		16,150 kg	6,980 kg
Percentage of hazardous waste recovered		27.53%	35.46%	Percentage of non-hazardous waste recovered		26.876%	21.01%

TRAMBAIX		2017	2018	TRAMBAIX		2017	2018
Non-hazardous materials (paper)		VALUE	VALUE	TOTAL WASTE		VALUE	VALUE
Total paper consumption		1,980 kg	1,310 kg	Total waste produced		76,910 kg	67,440 kg
Total recycled paper consumption		1,980 kg	1,310 kg	Total of waste recovered		20,780 kg	15,970 kg
Percentage of recycled paper		100%	100%	Percentage of waste recovered		27.019%	23.68%
				Total waste/100 km		5.12 kg	5.08 kg

## Waste management, TRAMBESÒS

TRAMBESÒS		2017	2018	TRAMBESÒS		2017	2018
Hazardous wastes		VALUE	VALUE	Non-hazardous waste		VALUE	VALUE
Total production of hazardous waste		13,310 kg	11,690 kg	Total production of non-hazardous waste		33,220 kg	38,030 kg
Volume of hazardous wastes recovered		2,190 kg	1,730 kg	Volume of non-hazardous waste recovered		6,980 kg	5,330 kg
Percentage of hazardous waste recovered		16.45%	14.8%	Percentage of non-hazardous waste recovered		21.011%	14.01%

TRAMBESÒS		2017	2018	TRAMBESÒS		2017	2018
Non-hazardous materials (paper)		VALUE	VALUE	TOTAL WASTE		VALUE	VALUE
Total paper consumption		2,680 kg	1,280 kg	Total waste produced		46,530 kg	49,720 kg
Total recycled paper consumption		2,680 kg	1,280 kg	Total of waste recovered		9,170 kg	7,060 kg
Percentage of recycled paper		100%	100%	Percentage of waste recovered		19.708%	14.2%
				Total waste/100 km		4.33 kg	4.32 kg



*The full 2018 Social Responsibility Report is available at [www.tram.cat](http://www.tram.cat)*