



GENERALITAT VALENCIANA

CONSELLERIA D'INFRASTRUCTURES I TRANSPORT



FGV

Ferrocarrils de la Generalitat Valenciana



TRAM
METROPOLITÀ D'ALACANT

WELCOME!!

DIRECCIÓ D'ALACANT

OFICINA TÈCNICA





A bit of history



1914



2012

Where we come from

One hundred years ago, the Alicante to Denia railway was born, run by E.S.A

(Ferrocarriles
Estrategicos y
Secundarios de
Alicante)



Where we come from



In the 1960's E.S.A. ran into financial difficulties and was taken over by F.E.V.E the Government-owned company running nationalised narrow gauge railways.

The Alicante-Denia operated jointly with the Carcagente-Denia railway, sharing their facilities in Denia

Where we come from



Steam gave way to the diesel multiple units



Where we come from

The line was known by the local people as “EL TRENET”
(Valenciano meaning “LITTLE TRAIN”)

In 1987, the Alicante-Denia line was taken over by the Generalitat Valenciana (Valencia’s Regional Government). That same year Ferrocarrils de la Generalitat Valenciana (FGV) was created to run and maintain the railway.

Since then, many things have changed



From “el trenet” to the TRAM



Carrabiners halt, in the 90's

Carrabiners halt, nowadays



From “el trenet” to the TRAM



The station buildings were refurbished and modernised



Alicante La Marina station



From “el trenet” to the TRAM



New FGV trains for the XXI Century



TRAM's improvements

Muchavista beach in the 1990's



TRAM's improvements

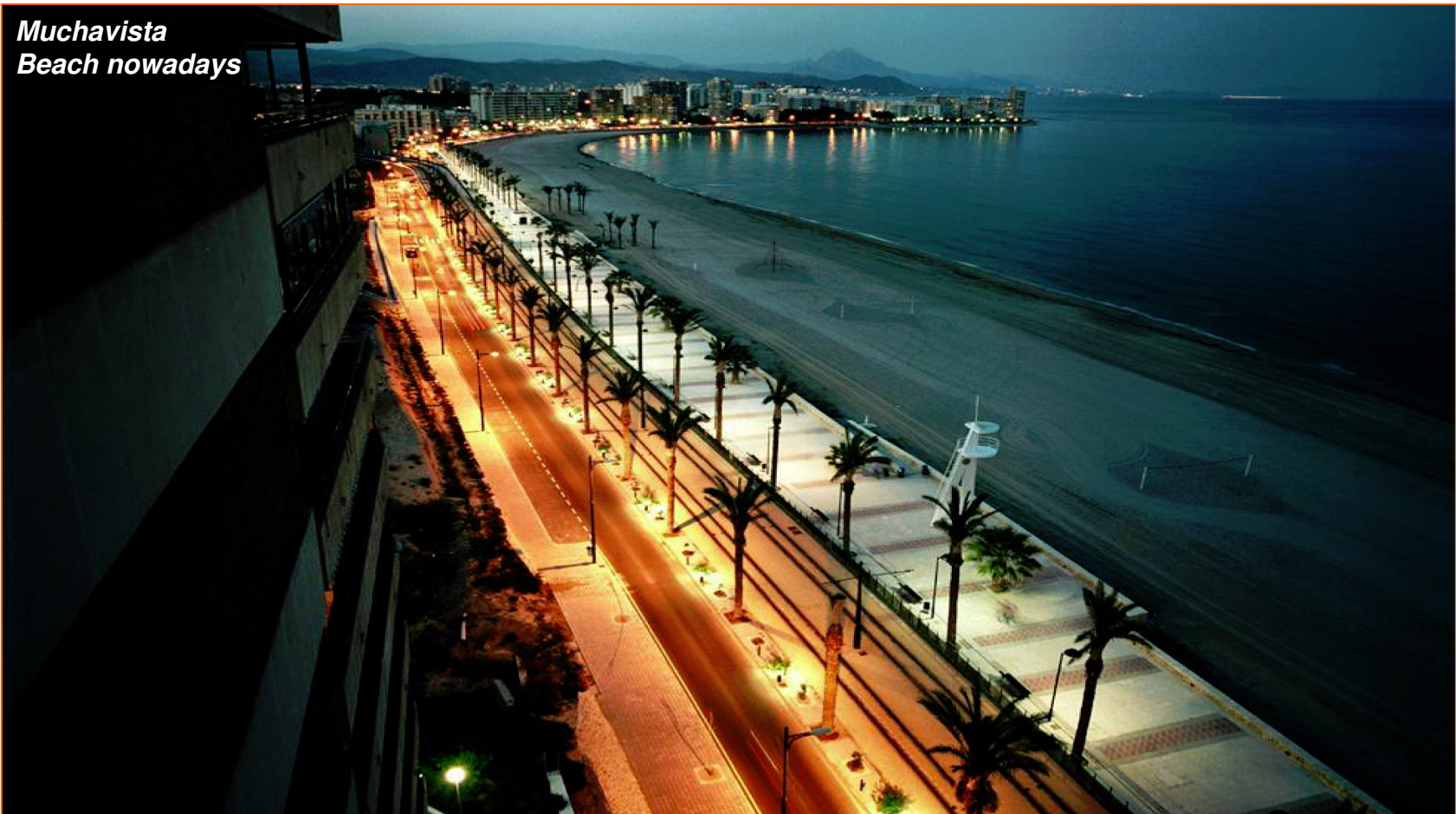
- A single, narrow-gauge heavy railway line became an electrified double-track light railway platform





TRAM's improvements

*Muchavista
Beach nowadays*





TRAM's improvements

- New sheds and maintenance facilities were built for the new vehicles.





TRAM's improvements

- Level crossings were eliminated, either by reorganising the surrounding area or by building overbridges



TRAM's improvements

- TRAM reached the center of Alicante by means of underground tunnels and stations



TRAM's improvements



A new line was built in Cabo Huertas and Playa de San Juan, a fast growing area



TRAM's improvements

La Sofra Viaduct





TRAM's improvements



Av. Costa Blanca



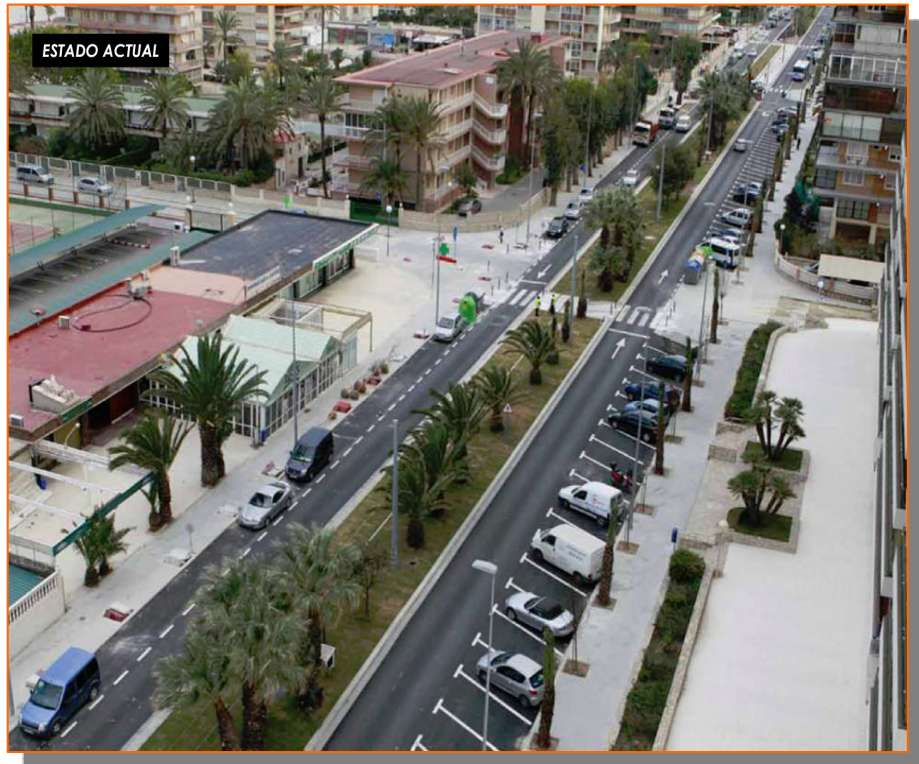
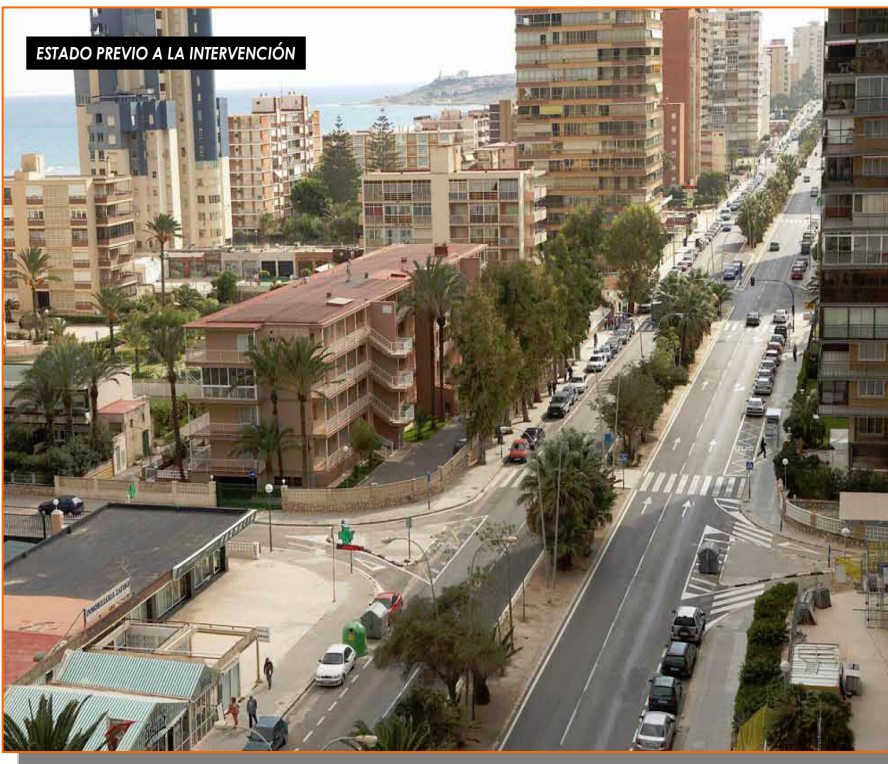
TRAM's improvements



Av. Costa Blanca



TRAM's improvements



Av. Costa Blanca – C/ Escòcia

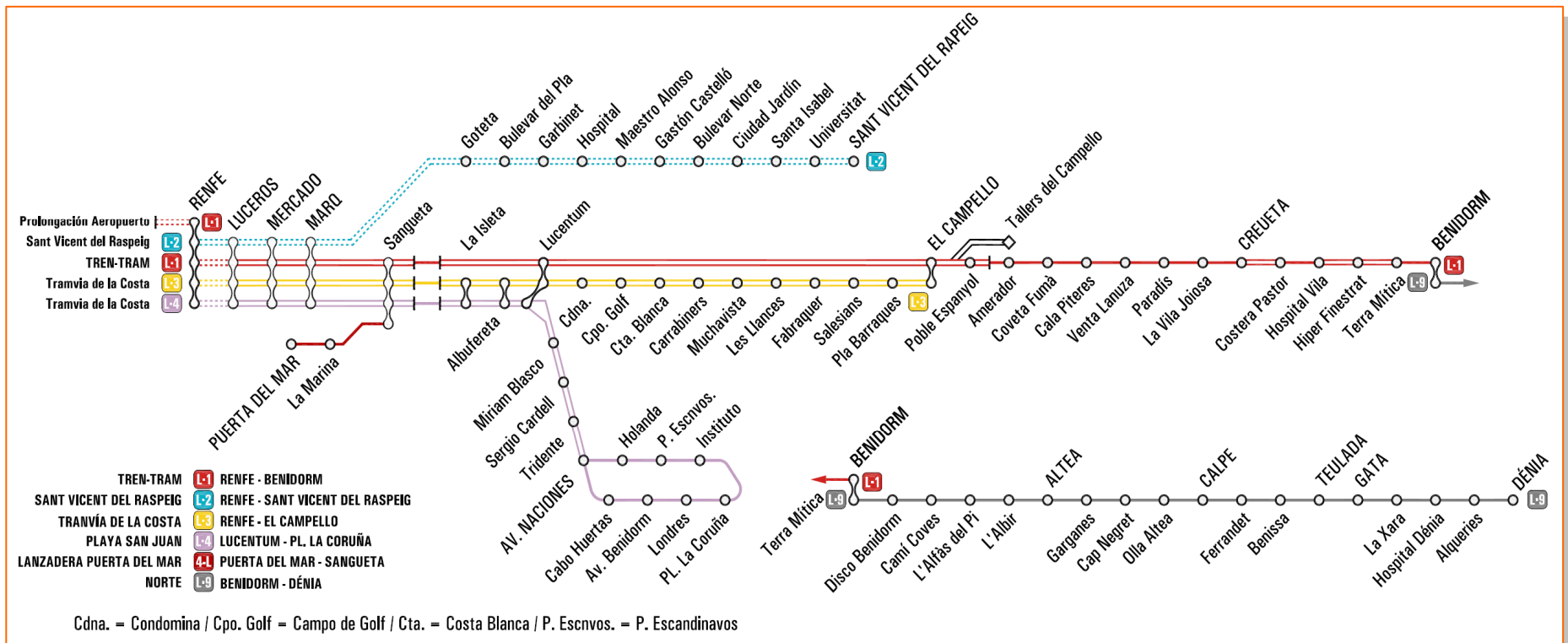


TRAM's improvements



TRAM in La Sangueta area, site of a future Exhibition and Congress Center

TRAM network

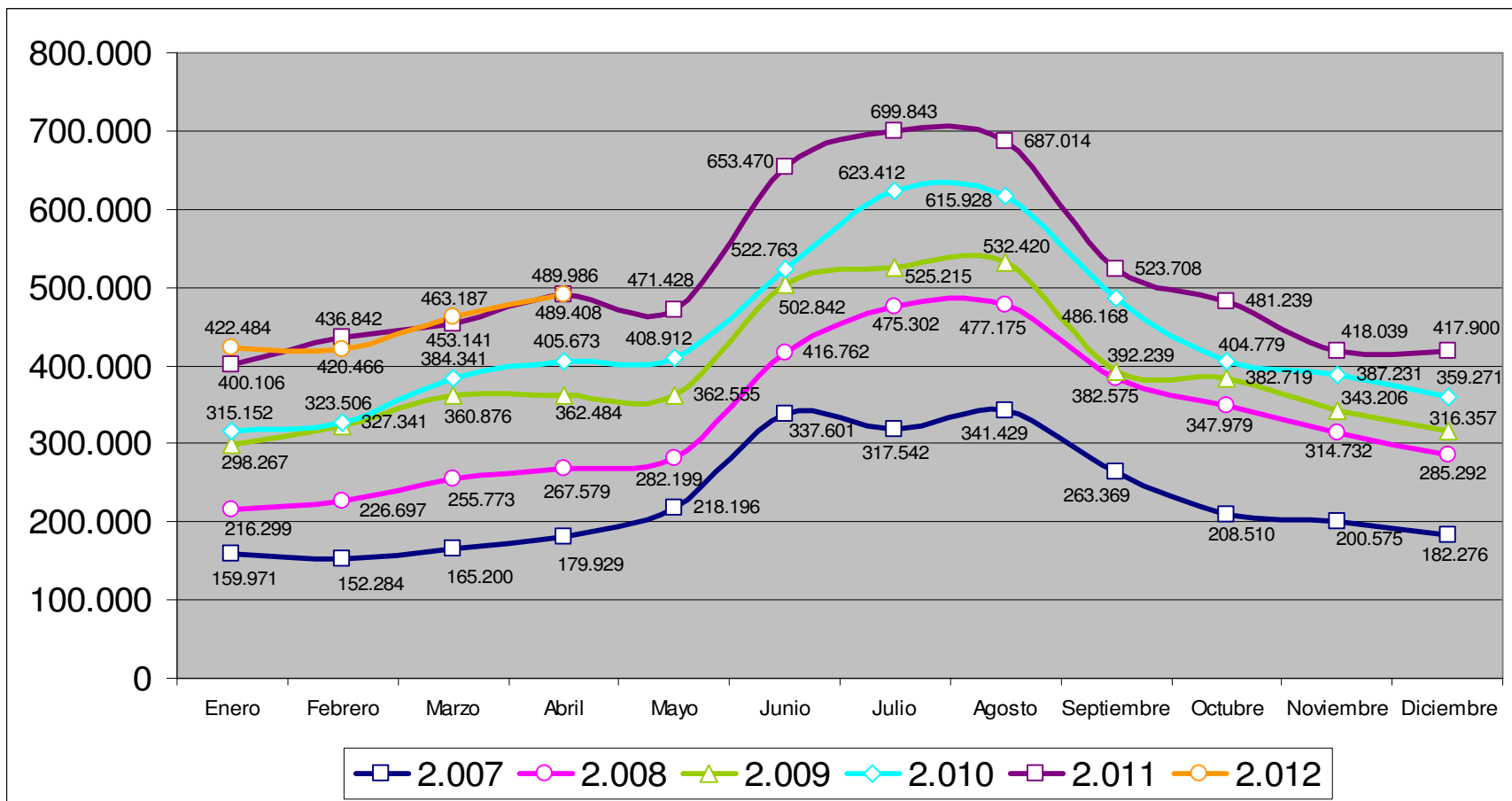


LÍNEA	TRAMO	LONGITUD TOTAL	VÍA DOBLE	VÍA ÚNICA	TRAMO COMPARTIDO CON				
					LÍNEA 1	LÍNEA 3	LÍNEA 4	LANZ. 4L	LÍNEA 9
Línea 1	Luceros - Benidorm	43,410	16,401	27,009	-	14,259	6,171	-	-
Línea 3	Luceros - El Campello	14,259	12,800	1,459	14,259	-	6,171	-	-
Línea 4	Luceros - Pl. La Coruña	9,954	6,414	3,540	6,171	6,171	-	-	-
Lanzadera 4L	Puerta del Mar - Sangueta	1,359	-	1,359	-	-	-	-	-
Línea 9	Benidorm - Dénia	50,831	-	50,831	-	-	-	-	-

**PRESENT TRAM LINES AND
 FUTURE L2 TO ST VICENT DEL
 RASPEIG**

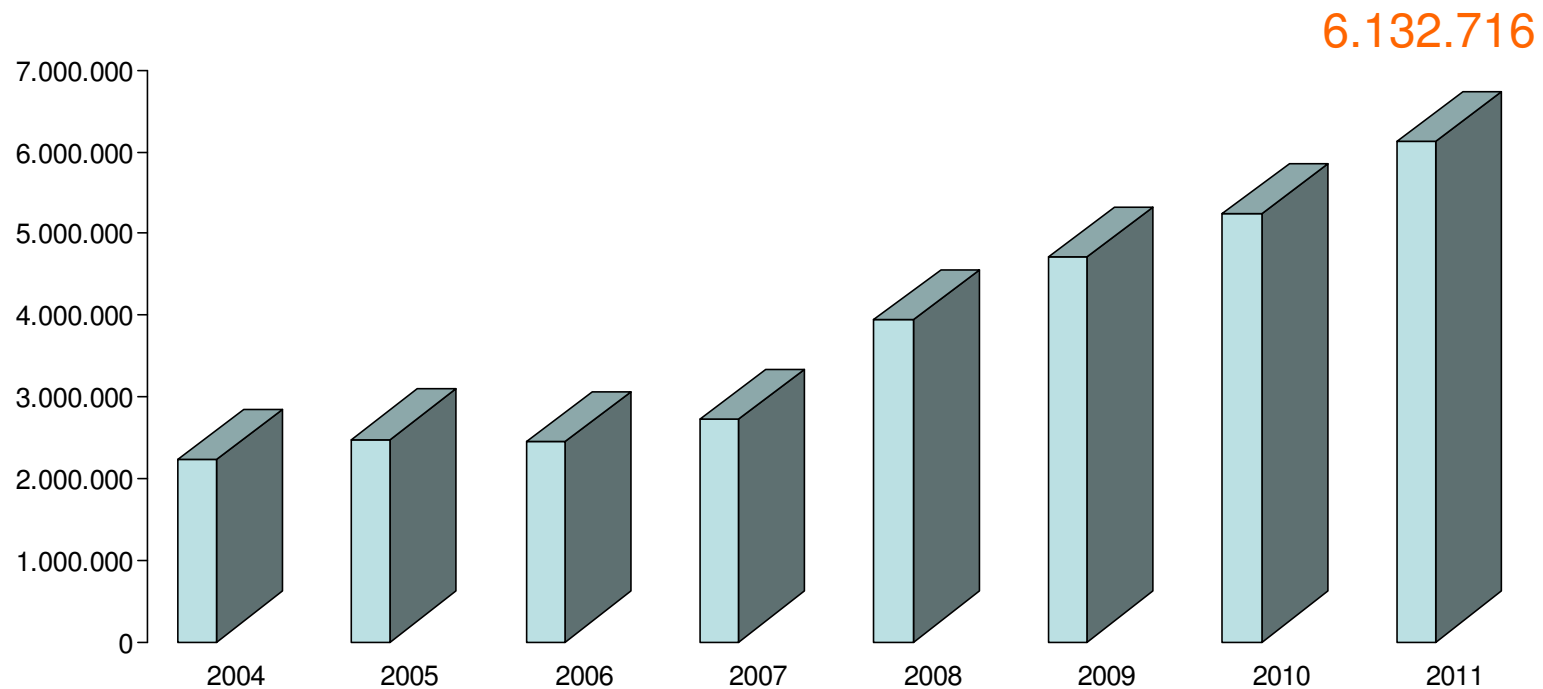
TRAM's passengers

PASSENGER GROWTH IN THE LAST 5 YEARS (MONTH BY MONTH)



TRAM's passengers

PASSENGER GROWTH BEFORE & AFTER TRAM'S IMPLEMENTATION (YEARLY)





Main ops & admin facilities

- TRAM's main facilities are located in La Marina station in Alicante which continues to be the Alicante-Denia line headquarters





Ops Control





Ops Control



SHEDS & MAINTENANCE FACILITIES



El Campello Depot



EL CAMPELLO DEPOT

FGV's electric units are maintained in El Campello Depot
The roof has been used to install energy-creating Photovoltaic plates



MAIN SHED

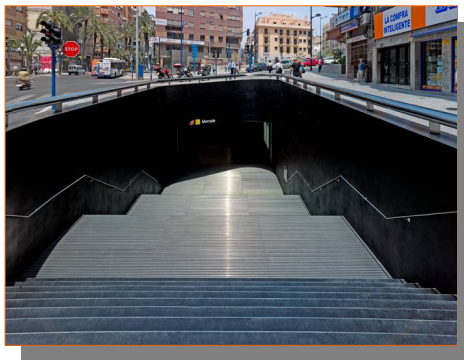




MAINTENANCE FACILITIES



UNDERGROUND STATIONS: MERCADO



Stairs to the station



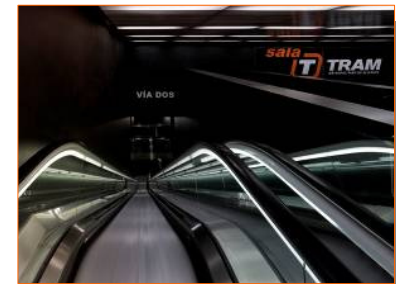
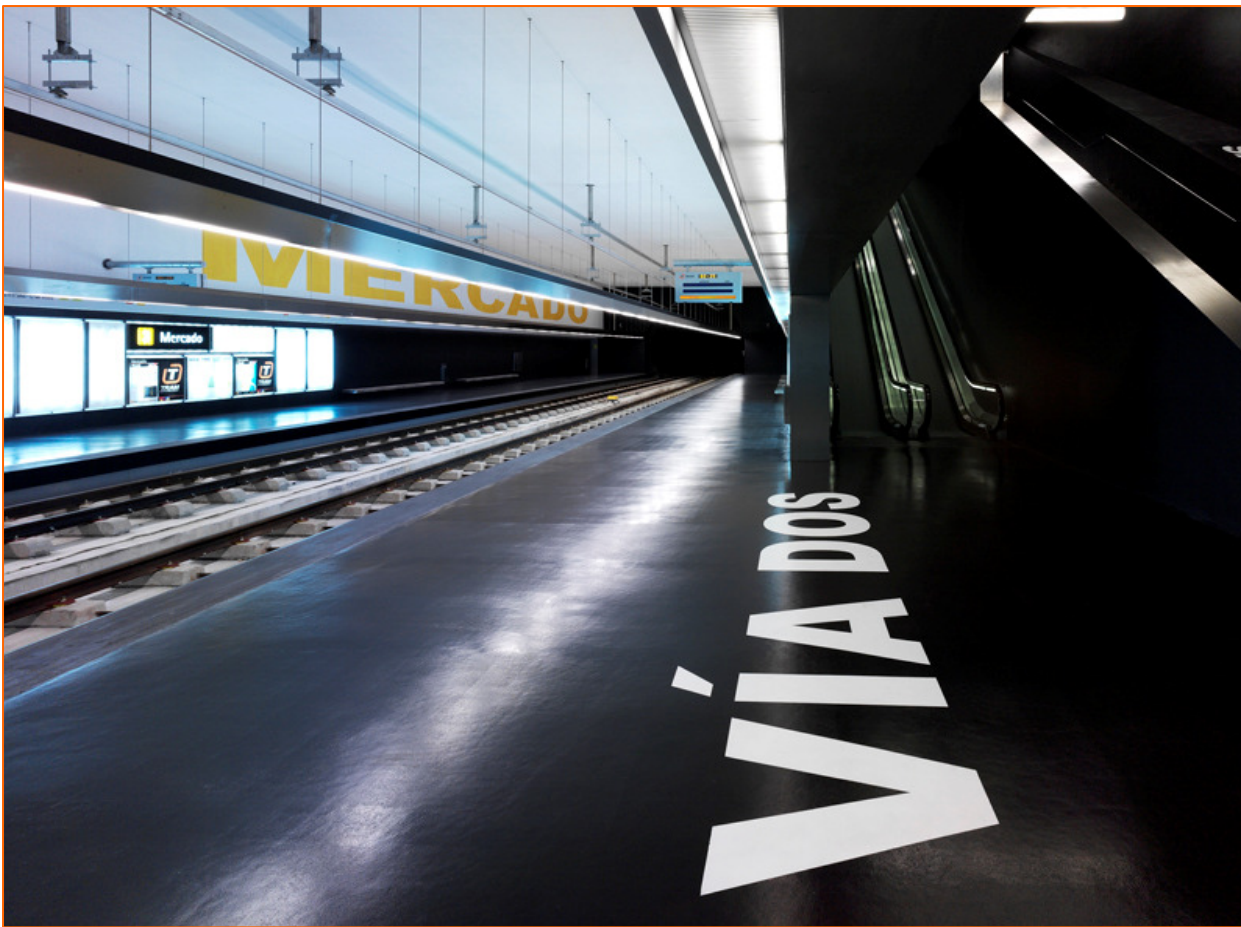
MERCADO



Main hall



MERCADO



Platforms



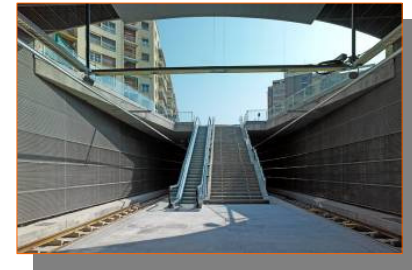
MERCADO



Platforms



UNDERGROUND STATIONS: MARQ



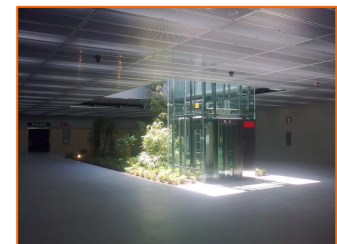
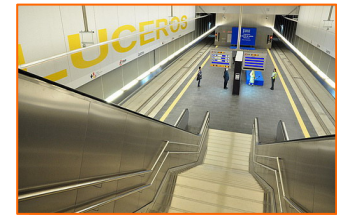


MARQ





UNDERGROUND STATIONS: LUCEROS



LUCEROS





Ap. Sergio Cardell (L4)





Ap. Sergio Cardell (L4)





Apeadero Holanda (L4)





Apeadero Holanda (L4)



SERIES 4200 TRAM

Tram units



DESCRIPCIÓN	
Longitud total	32,510
Altura total (caja / total)	3,500
Nº de coches	5
Anchura	2400
Tipo de unión	Articulada
Tensión de alimentación	750 V cc.
Peso	39,084
Tipo de bogies (M / R)	De ejes convencionales
Nº de bogies	3
S. primera	Caucho-acero
S. secundaria	Muelles helicoidales
Potencia	420 KW
Pendiente máxima	6%
Radio mínimo	22m (18 cocheras)
Capacidad (6 p/m ²)	264 (210 / 54)
Nº puertas (CC-RB-RL-TOTAL)	12
Velocidad máxima	70 km/h
Aceleración (máx. / 0-10 / Med. / Res)	1,1 m/s ²
E. centralizado de control y diagnóstico	VTCU (Tren / vehic.) MVB (vehic.)
Sistema Información Integrado	IBU - ELA
Escalones retráctiles	SÍ
Equipo aire acondicionado (viajeros / cabina)	SÍ
Videovigilancia y Retrovisión con cámaras	SÍ
Preparación expedición / cancelación autom.	SÍ

SRS 4100 TRAIN-TRAM

Tram units



DESCRIPCIÓN	
Longitud total	37m
Altura total	3,48m
Composición del tren	3 coches articulados
Anchura	2,55m
Altura de acceso sobre rail	360mm
Porcentaje acceso bajo (coches externos)	60%
Piso altura choche intermedio	900mm
Altura piso	375/900mm
Puertas eléctricas dobles de acceso	4
Diámetro de rueda (nueva/gastada)	720/660mm
Ancho de vía	1m
Peso del coche cargado (8pas/m ²)	69t
Peso del coche (vacío)	55,5t
Carga máxima por eje (10pas/m ²)	10t
Carga de compresión	600kN
Mínimo radio de curva horizontal	30m
Mínimo radio de curva vertical	1200
Velocidad máxima	100km/h
Aceleración	1,2m/s ²
Deceleración emergencia	2,6/s ²
Pendiente máxima	60‰
Asientos viajeros / asientos plegables	92/6
Plazas (total / sentados)	300/98
Ubicación para cochecitos y sillas de ruedas	2

BUILDING LUCEROS STATION

Without any doubt, TRAM's main challenge was to reach the very heart of Alicante: Luceros Square.

Building the underground station was a massive engineering masterpiece. To be able to work on open air, the fountain located in the middle of the Square since 1930, had to be removed piece by piece.

Whilst the station was being built, the fountain's pieces were being refurbished and restored to their former glory

Building Luceros



New line 2



2 **SANT VICENT
DEL RASPEIG**



Bulevar del Pla

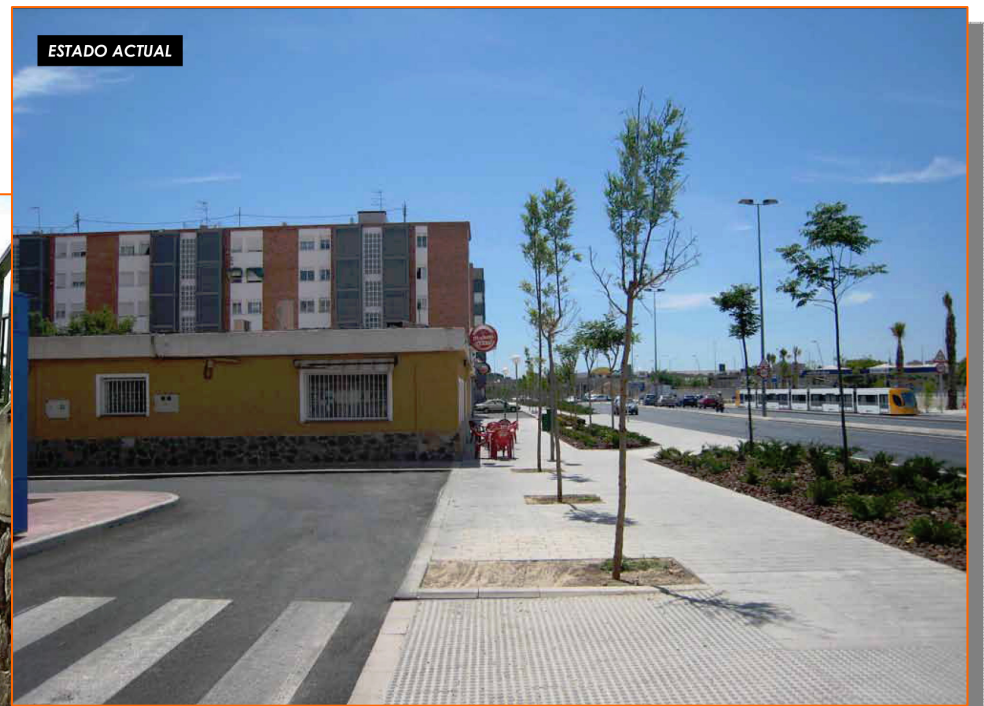


*Bulevar
del Pla*



Santa Isabel

*Before and after:
Colònia Santa Isabel
in Sant Vicent del Raspeig*



Building a new TRAM line brings improvements to the area, making a better environment for the area's population



TRAM – the future's here



TRAM – Improving metropolitan transport



... EVEN WHEN IT SNOWS!!



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¡Gracias!
Thank you!

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OFICINA TÈCNICA