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Avenida de América Interchange

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BACKGROUND

Brief history of Avenida de América

A mediados del siglo XIX el casco histórico de Madrid se encuentra asfixiado por una cerca fiscal que controla el acceso de mercancías y personas pero que también encorseta y ahoga cualquier crecimiento urbano. Se plantea como solución la expansión planificada bajo la fórmula urbanística del "ensanche". Dicha expansión sería definida por una cuadrícula de calles delimitada a su vez por una avenida de "Ronda" una circunvalación que en la zona de Avenida de América se correspondería al actual eje Francisco Silvela-Joaquín Costa. Más allá de esta Ronda y hasta el límite municipal se abría el llamado extrarradio, una zona definida como un vacío urbano, una formación espontánea sin previsión o plan alguno.

El barrio de Avenida de América participó en su génesis a partes iguales de las características del ensanche y del extrarradio y a su vez sirvió de nexo entre dos barrios muy populares y representativos del extrarradio: Prosperidad al norte y Guindalera al sur. Sin embargo el verdadero motor del crecimiento de la zona tendría lugar en el eje de López de Hoyos, que en realidad cumplía la función de vía de comunicación entre Madrid y los cercanos municipios de Hortaleza y Canillas. La llegada a finales del siglo XIX del tranvía supuso el empuje definitivo para el primer asentamiento de la zona con la densidad y servicios propios de una pequeña ciudad: Prosperidad.

Ya en los años cuarenta del siglo XX, en plena posguerra, las autoridades municipales ponen en marcha planes urbanísticos para mejorar las condiciones de vida de los poblados del extrarradio de todo Madrid. Una de las líneas de actuación consistió en dotar a la capital de nuevos accesos viarios desdoblando las antiguas carreteras radiales que hasta entonces atravesaban zonas muy populosas. Mediante la creación estas nuevas "autopistas" se buscaba crear una imagen de ciudad moderna que poco a poco debería parecerse a otras capitales europeas. Este sería el caso de la llamada "Autopista a Barajas" finalizada en 1953.

A mediados de la década de los años sesenta el cruce de la Avenida de América con Francisco Silvela va tomando peso como enclave urbano con una personalidad propia y un cierto aire cosmopolita. Edificios residenciales como Torres Blancas, o de oficinas como el de Iberia o Cepsa se instalan en la zona que se convierte en un núcleo generador de viajes. La apertura de la estación de metro de Avenida de América tiene lugar en 1973 y en cierta medida fue la repuesta a la demanda de una zona cada vez mas pujante. A esto se une la excelente ubicación de la zona en el contexto urbano con el cinturón de ronda, la autovía A2 y la autopista M-30 que también suponen una interesante opción para la ubicación de diversas cabeceras de autobuses interurbanos.

A comienzo de los noventa el peso específico de Avenida de América es tomado en consideración por el Consorcio Regional de Transportes a la hora de plantear la idea de un futuro intercambiador de transportes. En 1997 Consorcio y Ayuntamiento de Madrid firman un convenio de colaboración para la planificación, construcción y explotación de un intercambiador multimodal en la estación de Avenida de América. La inauguración del

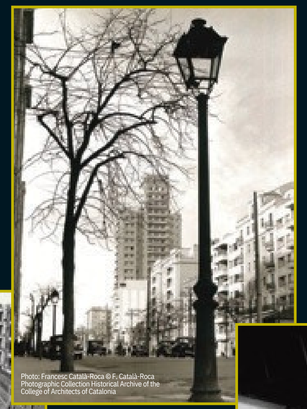
intercambiador

se llevó cabo en 2000. En poco más de diez años el uso intensivo de las instalaciones del intercambiador ha motivado una importante obra de modernización y ampliación de las instalaciones que han sido llevadas a cabo sin tener que cerrar sus instalaciones. Confort, seguridad y mejora en la accesibilidad se han incorporado al nuevo intercambiador de Avenida de América.

1948 · Double-decker bus from EMT line 12 descends down María de Molina

1948 · Intersection of Avenida de América and Francisco Silvela

1955 · Francisco Silvela



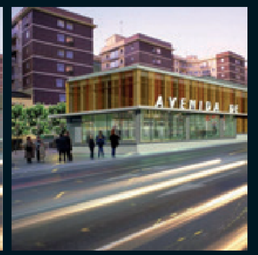
1955 · Avenida de América from the Arturo Soria bridge
Spain-America Film and Cinematographic Studies (CEA)

1946 · Former garage on Alenza Street

1910 Madrid Map Hachette Atlas

1973 New Avenida de América Metro Station (line 4) and works on line 6

2000 Access Pavilion to the first Avenida de América Interchange



2014 Access to the new Avenida de América Interchange

Avenida de América Interchange

Since the beginning of the 90s, the
construction of Transportation Interchanges with the purpose of promoting the use of public transportation by facilitating changes
manners. This transportation proposal aims to replace the inter-surface interurban exchangers for other underground ones, equipped with access tunnels for exclusive use by buses.
In April 1997, the Madrid Regional Transport Consortium and the Madrid City Council signs a Collaboration Agreement for the "Preparation of a Preliminary Project that allows the Construction and Exploitation of a Bus Interchange and a Parking for Residents on Avenida de América."
In September of this same year, a Collaboration Agreement was signed.
ration between the Department of Public Works, Urban Planning and Transport
of the Community of Madrid, the Regional Transport Consortium of Madrid and the Madrid City Council for the publication of a Public Tender with the objective of awarding a Concession
Project administration, construction of the work and management of the public service of the transport interchange and parking of residents and rotation of Avenida de América.

The first Avenida de América Interchange was inaugurated in January 2000

Interchange Plan

The quality and safety parameters that have been defined within differ from those that existed in the Interchange object of the present project. It was necessary therefore to draft a Remodeling and Expansion Project.
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The quality and safety parameters that have been defined within differ from those that existed in the Interchange object of the present project.
Adaptation to provide Avenida de América Interchange with the same parameters as the rest of the interchanges.
In the current interchange, the expansion areas, the new exit ramp, the expansion of the existing access tunnel, and the rest of the actions aimed at improving safety, functionality, and comfort have been carried out.

Key data

Investment 53 million euros Built area 47,000 m2
(expansion of 6,350 m2)
Rotation parking 253 spaces on level -3 Resident parking
392 spaces on level -4 Tunnels 400 m + 160 m new
Demand of travelers/day 168,000 travelers/day

Long Distance Buses 17 platforms (level -1) Interurban Buses 13 lines.
19 platforms (level -2) EMT Urban Lines 11 lines in the area Night
Urban Lines 2 lines in the area Boarding Area 36 platforms
Metro lines 4 lines (L4, L6, L7 and L9) (level -3)

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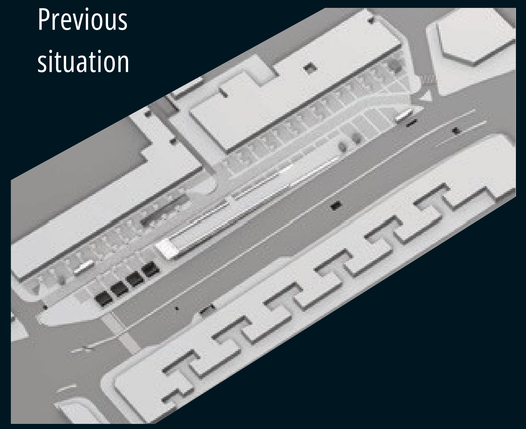
SURFACE LEVEL

Pedestrian accesses and stay areas

Previous situation



ACCESIBILIDAD

With the renovation of the Avenida de América Interchange, the building and surroundings have been provided with excellent accessibility, with the aim of adapting to the diverse needs of customers of the Public Transport System of the Community of Madrid. Being able to move autonomously and facilitate orientation and access to information for everyone are the premises that have guided the agreed execution of the renovation.

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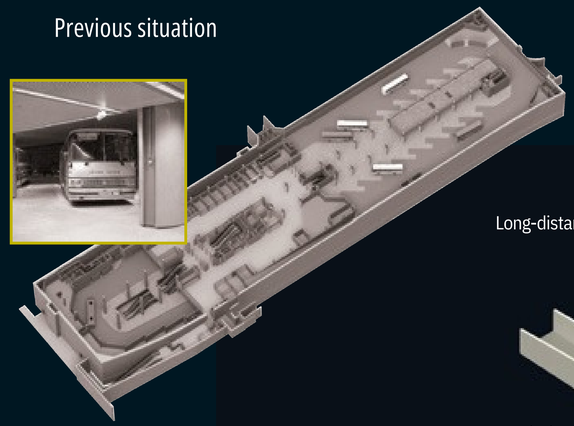
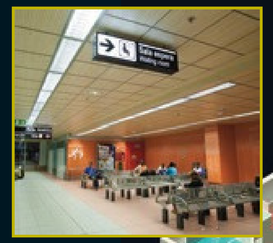
LEVEL -1

Long-distance buses. Commercial area

Previous situation





New emergency exits

Long-distance travelers waiting area

New partitions: separation of the waiting area for travelers and platforms

New bus ramp

Locker and luggage storage reform

Expansion for new facilities

Waiting and boarding area equipped (air conditioning, pollution control, lighting, Wi-Fi ...)

SECURITY

Maintaining the very high safety standards of the Public Transport System has implied a very high level of self-demand to carry out the remodeling of the interchange:
Ensure evacuation in less than 10 minutes, even in times of emergency.
greater influx of travelers.
Design the infrastructure for rapid action in the event of any unforeseen event and guarantee
ensure that possible risks are confined to limited areas in the exchanger,
without affecting it in its entirety, they are the bastion of security of the renovated station.

14 Emergency exits
24 Evacuation routes Fire
34 control panel
44 Firefighting group
54 Push buttons and Intercoms
64 Sprinklers and detection cables
74 CCTV cameras Water curtains
84

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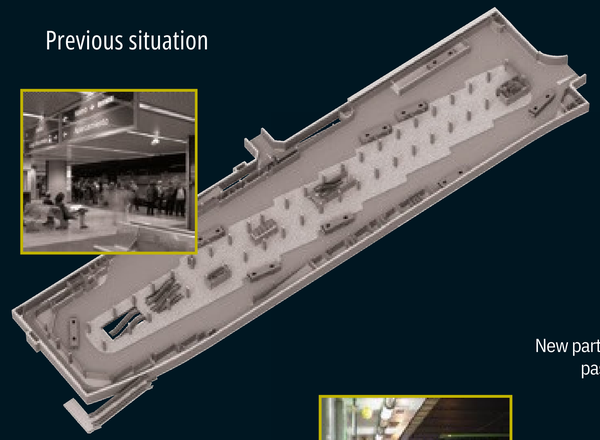
LEVEL -2

Urban and intercity buses

Previous situation



New emergency exits

Increased space in the passenger waiting area

New partitions for the passenger area

Control point

New facilities

Fire counting structure with natural light utilization

Waiting and boarding area equipped (air conditioning, pollution control, lighting, Wi-Fi ...)

FUNCTIONALITY / COMFORT

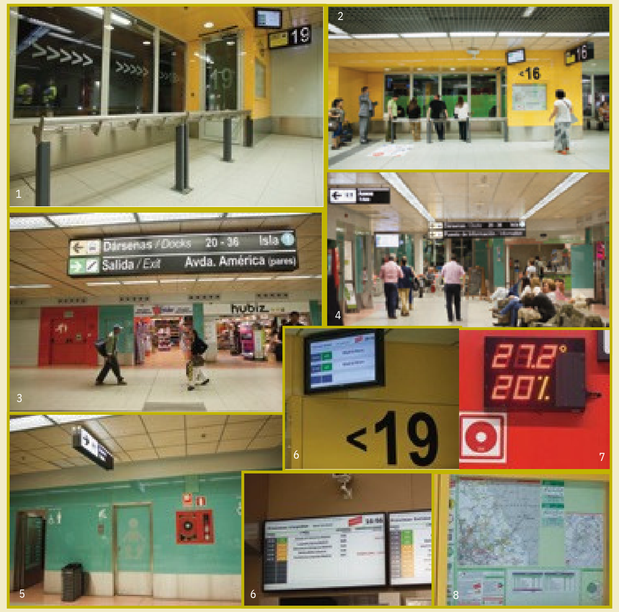
The main objective of the reform and expansion project has been to orient the infrastructure to the needs of the customer, making the interchange a functional, pleasant, and welcoming place.

Temperature and pollutant control systems, nearby information, easy to find, understand and updated

in real time, information points with personalized service, commercial activity adapted to traveler

demands, and other complementary services aim to enhance the travel experience of over

One hundred thousand travelers pass through this interchange daily.



14 Ischial supports
24 Partitions
34 Commercial
44 premises Banks
54 Toilets Dynamic information
64 Temperature and humidity indicators
74 Static information
84

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LEVELS LOWER

Access to Metro. Commercial area. Rotational and resident parking

LEVEL - 3
(Rotating Parking)

LEVEL - 4
(Resident Parking)

NEW TECHNOLOGIES

To ensure the functional viability of the interchanges, a support is required to provide the user with a comfortable environment, through clear, intuitive, and efficient information.

In order to achieve this goal, all systems and elements of the interchange are integrated

and centrally managed from the Interchange Control Post, located on level -2.

14 Integrated Management System Control Center
24 Opacimeters (environmental dirt detectors)
34 CO+NOx gas detection devices
44
54 Natural Gas Detection Systems WIFI Network
64 Closed Circuit TV (CCTV)
74

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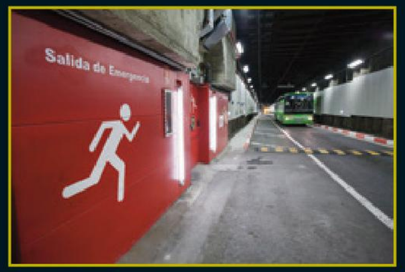
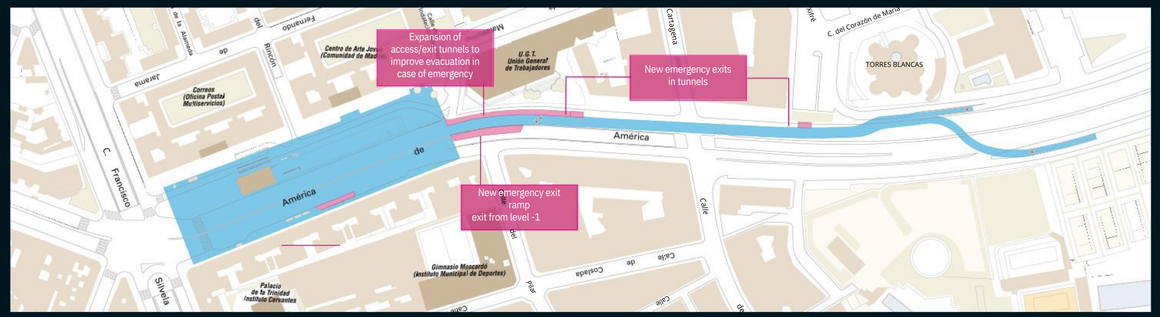
VEHICULAR ACCESS

Ramps and tunnels

Double-height tunnel section





- The tunnels have been widened to allow buses to be evacuated in case of emergency, and two new Emergency Stairs have been installed.
- A new bus exit has been implemented at level -1 that can be used during peak times and, above all, in emergency situations.

FACILITIES

One of the fundamental reasons for the works on the old interchange has been the renovation and modernization of the mechanical systems and installations that have allowed the Interchange to achieve the highest levels of safety, functionality and comfort. The facilities have been adapted, also including the necessary security systems to allow access to the bus interchange that is more favorable for the environment.

Among the most notable facilities we can mention:

1 pacimeters (environmental dirt detectors)
2 Bombs
3 Gas detectors (CO, CO2, NOx)
4 Ducts 12
5 Fans
6 Air conditioners
7 Electrical panels 22
8 ATTEX luminaires
9 UPS and Capacitors
10 Generating set

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THE WORK

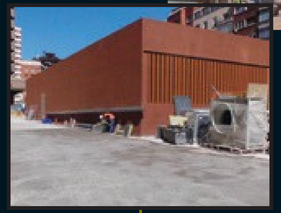
CONCESIONARIA | DIRECCIÓN FACULTATIVA | CONSTRUCTORA | ASISTENCIA TÉCNICA | COORDINACIÓN DE SEGURIDAD Y SALUD

AFFECTED SERVICES

DEMOLITION OF PAVILION

CENTRAL PAVILION

NORTH DOCKS VENTILATION



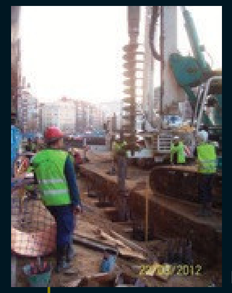
THIS PAVILION

PARTITIONS LEVEL -1

PARTITIONS LEVEL -2

SQUARE

SOUTH DOCKS VENTILATION



PIERS

UNDERPASS

FACILITIES

SKYLIGHTS

EMERGENCY STAIRS

TUNNEL FACILITIES

METRO ACCESS

FEBRUARY 2012 | MARCH-MAY | AUGUST-NOVEMBER | DECEMBER | JANUARY 2013 | JUNE | SEPTEMBER | OCTOBER | NOVEMBER | DECEMBER | JANUARY 2014 | APRIL | MAY | JUNE | SEPTEMBER | OCTOBER

MAIN DATA

	equivalent to:
30,000 cubic meters of excavation	
858 piles with a total of 10.6 kilometers of pile excavation	10 Olympic swimming pools
8.687 cubic meters of concrete	3 Olympic swimming pools
1,000,000 kg of steel	Weight: 5 Boeing-747
200 tons of steel	Weight: 1 Boeing-747 A2:
100 kilometers of cable	Madrid-Jadraque A2:
188 kilometers of electrical cable 16,000 meters of ducts	Madrid-Medinaceli
127 electrical panels	

BUDGET

TUNNEL INTERCHANGE AFFECTED	€29.028.165,88
SERVICES SURFACE ACTIONS	€3.889.142,22
SAFETY AND HEALTH QUALITY	€800.673,49
CONTROL ENVIRONMENTAL	€2.445.911,02
MANAGEMENT METRO ACCESS	€739.581,79
MODIFICATION	€413.002,72
	€443.132,46
Nineteen percent G.G. + B.I	€55.053,67
TOTAL MATERIAL EXECUTION	€ 7.184.786,02
TOTAL CONTRACT EXECUTION	€37.814.663,25
OTHER INITIAL COSTS: Project, Technical Management, Supervision and Inspection of Works, Fees and Insurance	€ 44.999.449,27
	€ 8.082.871,73
TOTAL MATERIAL INVESTMENT:	fifty-three million eighty-two thousand three hundred twenty-one euros
REPLANNING ACT DATE	February 17, 2012
CONCESSION DEADLINE	until the year 2038