

# The Etoile Tunnel. *paris 8 et 17*

Place Charles-de-Gaulle

*The Etoile Tunnel is a large covered space measuring 380 meters long excluding the access ramps and uncovered exit. Including these areas, it is 500 meters long, 8 meters wide and 2.75 meters high for nearly 3,000 cubic meters of covered surface area under the prestigious Place Charles-de-Gaulle. This underground tunnel connects the Avenue des Champs-Élysées with the Avenue de la Grande-Armée, an excellent location near the numerous thoroughfares that give onto Etoile. The tunnel is also near the Arc de Triomphe and has illuminated panels that are adjacent to the underground pedestrian passageway to the Arc de Triomphe's underground level.*

*Upgrades required to bring the tunnel into compliance with roadway tunnel ventilation regulations (Mont-Blanc tunnel legal precedent) proved to be impossible both technically and architecturally. As a result, the tunnel has been closed to vehicular traffic since April 2014.*



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## Description of the current structure

### Longitudinal profile

This section of the tunnel has its highest point located in the middle of the structure and its lowest two points at either end. The maximum gradients vary between 2% and 4% at the entrance and exit.

### Cross-section profile

The two-lane road through the tunnel was used for one-way traffic.

The tunnel has:

- a sidewalk on the right of approximately 0.75 meters,
- two traffic lanes of approximately 3.20 meters each,
- no traffic shoulder on the left side,
- a sidewalk on the left, approximately 0.75 meters wide.

On the right side, sidelong ventilation and technical equipment have been installed.

The left side of the tunnel has illuminated panels (City of Paris).

The street surface is a classic, non-draining layer of asphalt.

An asbestos diagnostic has revealed the presence of asbestos in the joints of the vertical siding, which will need to be removed according to standard procedure.

### Height

The height of authorized vehicles is 2.40 meters.

There is a 2.75-meter clearance.

## Existing structure(s)

Underground structure in concrete with two entrances on the Avenue des Champs-Élysées and the Avenue de la Grande-Armée.



**Programming/possible future uses:** the project leader will need to adapt their project according to the site's constraints and assets. The City of Paris will build at least a 3.5-meter wide bicycle path; this means that pedestrian and two-way bicycle traffic must be maintained between the start of the Avenue des Champs-Élysées and the Avenue de la Grande-Armée. Maintaining this public passageway as part of the tunnel's reconversion could result in widening the tunnel.

The City of Paris is looking for potential sites to install bicycle docking and repair stations. Applicants may want to integrate this type of service into the conversion project for this site while keeping in mind considerations for people with reduced mobility.

This former tunnel is part of an underground network (currently a pedestrian tunnel providing access to the Arc de Triomphe's underground level as well as the metro) whose entrances – including those for people with reduced mobility – could be optimized by rethinking the various flow configurations while highlighting the site's heritage.

**Type of property transfer proposed:** public domain occupation agreement.

**Owner:** City of Paris.

**Cadastral reference:** roadway public domain, not registered.

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## Urban context

The tunnel is located under one of the city's most famous monuments. Some of the establishments located near the tunnel are open to the public, such as the Arc de Triomphe. The tunnel runs alongside the underground pedestrian passageway connecting the Avenue des Champs-Élysées, the Avenue de la Grande-Armée and the Arc-de-Triomphe.

Several RATP structures are located nearby:

- Paris metro line 1
- Paris metro line 2
- Paris metro line 6
- RER line A, which is too deep underground to directly connect it with the tunnel.



## Specific development and operational constraints

- Pedestrian and bicycle traffic in the tunnel, as well as occasional service access (sanitation, deliveries, security, emergency vehicles, etc.) must be maintained by the project leader.
- The project leader is advised that the tunnel's ceiling is very low, a major constraint.
- The Etoile tunnel is equipped with semi-transversal ventilation, which is managed by the Transportation Department. A ventilation and pumping station is located at its center, under the traffic lanes. The applicant's proposal must not displace the existing facilities.
- The tunnel is equipped with illuminated roadway panels. Because the existing tunnel lighting is very weak, it would be insufficient for any other use than road traffic. The applicant should therefore plan to install a lighting system that is suitable for their project.
- The project leader must take the premises as they are. The underground location does not mean that the infrastructure is perfectly watertight. The project leader will also need to make sure they do not damage the public domain during their installation and the site's operations.
- The project leader will need to ensure access to the civil engineering structure.
- Security/safety issues owing to its proximity to an extremely touristic site must be taken into account in the project and will have to be specifically studied in conjunction with City Hall and the Police Prefecture.

## Site viability

The project leader will be responsible for all hook-ups to public utilities (water, energy, sanitation). They will be responsible for all hook-up fees necessary for its operation, for both preliminary planning and actual interventions. They will need to have their own connections independent from all public installations: it is essential that the project leader handle their own public utility hook-ups. They will thus be responsible for all fees related to their own consumption and usage. Public utility connection devices must be integrated into the urban surroundings and authorized by the City of Paris.

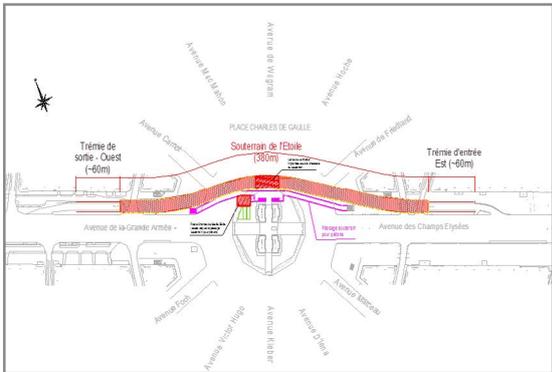
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Tunnel's structural stability and fire compliance installations proposed by the project

The project leader must make sure that their installations can ensure public evacuations under satisfactory conditions regarding the tunnel's position. They must also comply with fire safety rules for covered parking lots and public buildings for the proposed commercial facilities. The project leader remains responsible for user safety on these premises and must comply with all relevant legislation in effect. The project leader should be aware of the technical and regulatory importance of creating emergency exits that comply with public building codes.

From a technical standpoint, all studies related to an impact on the tunnel's civil engineering structure will need to be approved by the Seine and Road Structure Division at the Transportation Department for City of Paris. They must be carried out by a civil engineering consulting firm.



### Regulatory ordinances

- General urban zone, roadways

### Protective/public easements

- Conservation area perimeter
- Historic Monument protection perimeter

### Flood Risk Prevention Plan (PPRI)

- None.

