Government of Iraq Presidency of the Council of Ministers Prime Minister's Office



حکومة جمهورية العراق رئاســــــة مجلـــــس الــــــوزراء مکتـــب رئيــس الـــوزراء



RFI

Request for Information

Najaf-Karbala Metro

Phase 1 Mass Rapid Transit System

20 February 2024

1. Project Description

The Najaf-Karbala metro project is considered one of the major projects and is one of the means of rapid and mass transportation for large numbers of travelers.

Given the religious and historical importance of the cities of Najaf and Karbala and the increase in million religious visits continuing throughout the months of the year and weekly visits to these two cities, the need has emerged to provide advanced means of mass transportation to serve visitors and to provide a safe, collective and fast means represented by the metro train project to serve this type of transportation that is compatible with the needs and circumstances of the country and is considered one of the ways Transport compatible with a sustainable environment, as the metro is considered one of the elements of a clean transport system using electric energy.

The Najaf-Karbala metro project includes four (4) main stations along the line, starting from "Najaf Airport" as the first station (Terminal 1), then passing through the "Safi Al-Safa" area as a second station, and from there to Karbala Airport as a third station, reaching the "Baghdad Bus station" in Karbala city as a fourth station (Terminal 2) on the railway line. High and approximately 90 km away with a highly efficient and fast metro system with speed 240 km per hour (High Output Metro System).

The numbers mentioned in this report are subject to change and negotiation after obtaining the owner's approval of the designer's proposals and decisions and the results of feasibility studies.





2. Metro capacity for ridership

The absorptive capacity depends on the results of the feasibility study that the investor will conduct. Note that the number of visitors during the million visits reaches 25 million visitors in the cities of Najaf and Karbala during the million visits.

Each metro train consists of several fully air-conditioned cars, with a total capacity based on the recommendations of the feasibility study, and includes special compartments for women and children, and seats for people with special needs, pregnant women, and the elderly.

3. Design Scope of work

The scope of work for the project consultant will include all design, as shown in the table below, specifying specifications, coordination in the integration of various systems, project implementation management, and interface management for the various companies in the project, including assistance in testing and operating the project and each metro system (Najaf-Karbala), assistance in procurement upon request from the owner, and services.

4. Main Components of the project project 4.1 Stations

The stations are facilities for receiving passengers and those departing from the metro and include several elevators, movable and fixed escalators, ticket sales areas, many shops, cafeterias, bathrooms, administrative and service rooms for air conditioning, electricity, communications and control, platforms for receiving buses and cars, and designated parking lots for them and passengers.

The metro station consists of two platforms, one for departures and one for arrivals, completely isolated and separated from each other also consists of Platform screen doors (PSDs) for Safety and climate considerations. Some have terminals at the end of the line, some in the middle.



4.2 Trains

The type of trains used with the railway network will be express high speed type, with an estimated speed of (**240 km per hour**). These features and specifications can be provided through a metro system that runs on electric power and without a driver, as it operates automatically, is air-conditioned, and has all means of communication and frequencies necessary for telephones and all means of safety.



4.3 Calculating numbers of trains & Carriage

The number of trains and passenger cars is determined by the number of working hours, the number of passenger seats in one car, and the speed of the train, all of which depend on the results and recommendations of the feasibility study that will be presented by the investor, taking into account the presence of reserve trains, as shown below in a preliminary manner, as the final detailed preparations will be taken after preparing Design studies and computer simulations by the investor, as well as depending on the selection of the required speeds for the trains.

4.4 The Depots and workshops .

It includes a group of specialized buildings that serve metro trains. Najaf Karbala depot number depend on the results of feasibility study. Depots include several types of complex and specialized service buildings for maintaining, washing and cleaning trains, changing wheels, maintaining railway corridors, changing tracks, storing equipment and everything related to changing directions and turns of metro trains with the control building.



4.5 Viaduct rail "Train tracks"

The metro railway will likely be elevated above the ground in order to avoid conflicts, provide greater safety, and avoid any conflicts with streets and infrastructure services in the future. The railway may be designed on the ground in some areas to reduce cost.

The Najaf-Karbala Metro is an advanced, automated train that operates without a driver, and is 90 kilometers long. The metro passes through four stations, all above ground, with two tracks back and forth.



4.6 Parking for cars & buses

Metro stations are connected to a wide network of other means of transportation, such as buses and taxis.

There are 2 main parking with capacity 10,000 car park.



4.7 Metro power plants

These are stations that generate electricity needed to operate trains and all metro buildings, and usually have a capacity of 250 Mega watt



4.8 Operation control and command centers "OCC"

These buildings include all the equipment and devices for controlling trains, programming the movement, speed, and timing of trains, security control, and everything related to monitoring devices, sensors, cameras, and driving trains.



Crisis Room

Talis Converter

4.9 Communications Systems "frequencies and towersGSM"

Communications form the backbone of this type of advanced transportation, and several GSM communications towers are installed Along the track of the railway and the trains, special frequencies and spectrum packages are reserved for this from the Ministry of Communications, and several advanced devices are used connected to the railways to give complete information about the speed of the train and precisely determine its location, .as shown in the figures and pictures below.



5. Future expansion

Due to the great need to connect Baghdad, the capital with a high population majority, the Baghdad Metro will be connected in the future to train lines coming from the suburbs of Baghdad and other cities, and branches will be .added to some lines within specific areas in Baghdad.

6. Flexibility of use between transporting passengers and freight

Due to the ability of large trains to transport large loads, it is possible for it to be used to ship goods when there is an economic need for it. This use has feasibility and fruitful economic profits.

7. Economic revenues

Due to the speed of the metro, the shortened time, the available comfort, and the means of safety, it is expected that usage will increase very significantly. Therefore, selling tickets at an acceptable price to hundreds of .thousands of travelers daily will achieve very large profits.

7.1 Air transportation profits And airports

It is expected that the number of passengers coming to Najaf and Karbala airports will increase in million visits, visits on Thursdays and Fridays, or general visits, according to statistics. The numbers have increased in recent years. This metro will achieve easy, fast and comfortable transportation that will be very acceptable to visitors from outside Iraq and will increase the economic income of Najaf and Karbala airports and the annexes. Economic supplement.

7.2 Reducing state subsidies for car Petrol

One of the advantages of this transportation is that it will reduce the use of cars, reduce congestion, accidents and pollution, and will give another economic return to the state because it will reduce the use of private and public cars and thus reduce fuel consumption, which in turn has enormous economic benefits by reducing the burden on the state's .support for vehicle fuel





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Thank you