TUNISIA PPP 2018

9

Metro of Sfax

Location:
Sfax

Company:
SMLS

Mission:
New LRT network

Cost:
TND 2 800 million

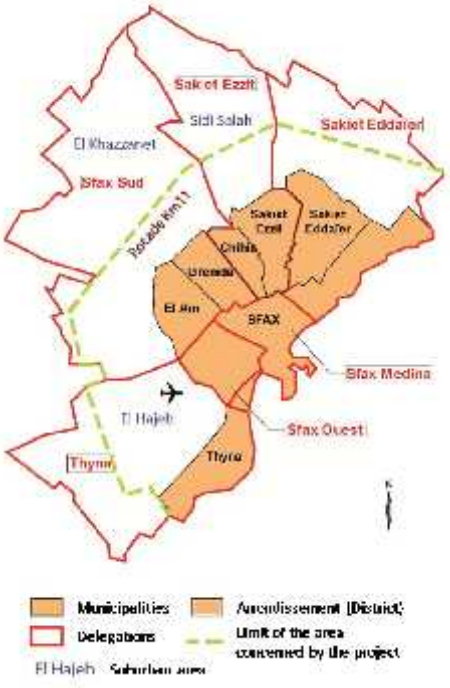
General project presentation

The "Metro of Sfax" project consists in a new public transport network for Sfax metropolitan area, including 2 tram lines and 3 BRT lines for a total of 70km, and other transport facilities. The whole project, costing up to TND 2 800 million, would be implemented in stages from 2022 to 2030.

The agglomeration of Sfax, a port city located about 270 km from Tunis, is the second urban pole of the country. The seven municipalities constituting the agglomeration are home to more than 500,000 inhabitants, representing 1/12th of the country population.

Limited to the East by the Mediterranean Sea, the growth of the agglomeration follows a semicircle plan centered on the Medina (old town) of Sfax, spreading nearly 13 km from the coast, along 14 radial roads.

This residential growth coupled with the concentration of economic activities and major equipment in the city centre generates daily, large flows of traffic from the suburbs to the center. Almost two thirds of motorized trips are made by private car or taxi. The urban transport network in the agglomeration of Sfax, accounting for 21% of motorized trips, no longer meets the needs of the population and is now requiring greater efficiency.



In this context, many studies have been carried out to improve the management of urban mobility (PDRT, SORETRAS study, bus lanes for Taparura project, etc.). To reverse the trend and optimize public transport use, the Ministry of Transport and local stakeholders intend to reorganize the transport network based on an Exclusive Right-of-Way (ERW) system.

In 2014, a feasibility study carried out by Egis/I2E, funded by European Investment Bank for the Ministry of Transport, selected the most appropriate project as being a 5-line network, including 2 tram lines and 3 BRT (Bus Rapid Transit) lines. This network, together with a multimodal hub and 12 Park and Ride facilities will be entirely realised in 2029/2030.

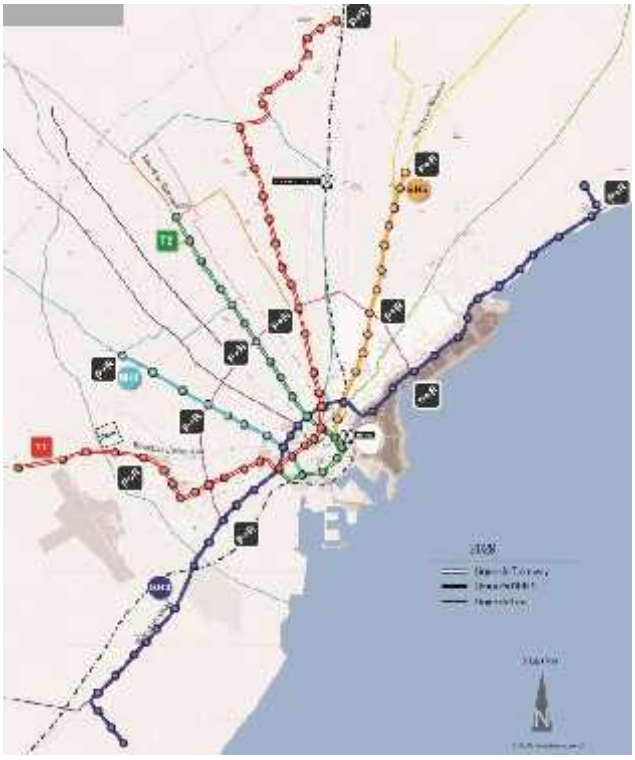


Figure 2 : proposed network for Sfax LRT project

This project is currently studied by the consortium Systra/STUDI International for further details.

Project justification

The area covered by the future network is characterized by the following socio-economic features:

- Population
  - More than 500,000 inhabitants within Km 11 Ring Road (more than 50% in Sfax municipality)
  - A very high density of population within the Km 4 Ring Road (30% of the population) and in three satellite areas located south, along the road to Thyna, west, along the roads to the airport and to Mharza, and north, between the roads to Sidi Mansour and to Saltania
  - 55% of households do not have a car
- Jobs
  - A concentration of public services and more than 200,000 jobs (40% within Majida Boulila belt road - core city center)
  - Strong economic activity in the south-west zone and along the north-east coastline (university, industrial areas)
- Education
  - More than 100,000 pupils and 40,000 students in the area,
  - Three major universities located west (road to the airport), north-east (Sidi-Mansour) ad north (El Ons);
- Public services and facilities
  - Renovated airport in the west
  - Regional cultural, health and sport centers concentrated in the city center.

In addition, several projects in progress are likely to have an impact on the traffic flows in the medium term:

- Major economic and housing projects along the northern coast (Taparura), south (requalification of coastal areas) and near the Km 11 Ring Road (El Ons and Mansourah)
- New areas that may eventually host more than 120,700 inhabitants and 32,000 jobs, representing 22% of the population and 17% of the jobs in the area covered by the future network
- A potential transfer of the population and economic activities from the city center to the suburbs in the medium and long term.

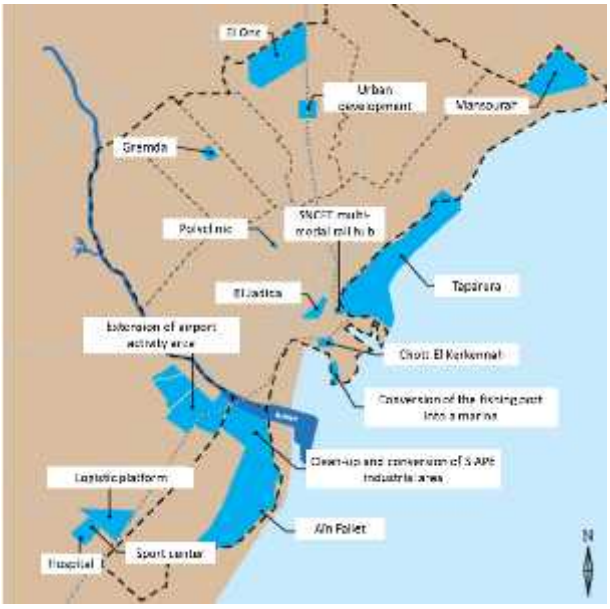


Figure 3 : development projects (SDGS 2007)

Furthermore, in May 2012, the Greater Sfax Household Trip Survey had the following outcomes:

- 2.3 trips per person/per day, a slight increase from 1984 (+0.8% per year)
- An important decline of public transport use
- 1.2 million of daily trips, among which 64% of motorized trips
- Home-Office and Home-School trips representing each 1/3 of total trips
- Users generally dissatisfied by the current urban bus service, and nearly 50% of customers not satisfied with the quality of service of taxis
- An overall dissatisfaction with traffic conditions in the agglomeration
- A majority in favour of a restriction of car traffic and a priority given for buses
- A willingness to pay more for a better public transit service

This diagnosis led to propose the development of a rapid, efficient and comfortable public transport network for Greater Sfax. An attractive service will encourage modal transfer from private car, allow a better mobility of people not having a car. The network will be in line with the agglomeration development, optimizing public space and limiting urban sprawl.

Legal and institutional framework

The main public stakeholder is the Light Rail Company of Sfax created by the governmental decree n° 2015-957 dated 23 July 2015 as well as the Ministry of Transportation and the *Instance Génarale des PPP* (PPP Unit created by the PPP Law of 2015).

The legal framework for PPPs in Tunisia is inspired by the French legal framework and makes the same distinction between the concession and the partnership contracts. As early as 2007, two specific laws were prepared, the first on the concession (Concession Law of 2008) and the second on partnership contracts, initially planned for 2010, but that the post-revolution political transition of 2011 delayed until 2015 (PPP Law of 2015). Unlike many other countries, the terms "concession" and "public-private partnership" refer to distinctly used laws in Tunisia:

- The term "concession" refers to a type of activity for which users pay directly to the private partner the price of the service rendered, as is the case for toll roads or airports. These concessions are covered by the 2008 Concession Law; and
- The term "public-private partnership" refers to a type of activity that, unlike concessions, does not generate revenue, and for which a public structure pays the private partner the price of the service rendered, instead of users. This type of public-private partnership is covered by the 2015 Public-Private Partnership (PPP) Law.

In fact, the terms "concession" and "public-private partnership" are confused and used interchangeably. For example, it is common for activities classified in the law as concessions to be designated as PPP activities.

The basic instrument of the legal framework governing concessions in Tunisia is Law No. 2008-23 of 1 April 2008. The purpose of this law was to provide a clear and comprehensive legal framework specifying the basic principles governing concession contracts. This law was

prepared following the Enfidha airport concession, to benefit from this experience and to crystallize in a law the rules for selecting and awarding a concession contract. This law did not cover non-profitable PPPs, i.e. partnership contracts for which the repayment of investment is made by the State but deferred and backed by the availability of infrastructure.

The PPP law, adopted on November 13, 2015, aims to complete the range of contractual tools available for the execution of public investment and to authorize the deferred payment that is otherwise prohibited in public procurement. It offers the possibility of applying PPP financing to social infrastructure that does not necessarily generate revenue (for example, schools and hospitals).

Functional scope of the project

Tram line 1

The El Ons - Airport line emerged as the line to be developed in priority. To El Ons district, it will serve residential areas and an economic zone. In the middle section, the tram will run through Rue des Martyrs in the city center, to link the railway station that may be relocated north to develop a multimodal transport hub. In the south-west, the line will serve the airport and, El Habib and El Bahri districts as well as the university area.

The depot for the two tram lines will be located on the airport road.

Figure 4 : example of Tram line T1 in Rue des Martys (EGIS/I2E)

Tram line 2

Gremda road corridor being one of the major line of the network, a tram line is proposed rather than a BRT line. The line will also serve the European district through avenue Bourguiba, linking the future rail multimodal hub. The tram line T2 will end to the west, connecting tram line T1 and BRT line 3.

BRT line 3

This BRT line is a corridor to Taparura and Sidi Mansour and also appears as a priority line. The implementation of an attractive and reliable transport line is a key factor to the development of the future area of Taparura. This new district will be home to several housing programs, public services, shopping, touristic and leisure centers. The BRT line 3 will allow serving this 5km-long area and connecting it to Sfax city center.

On the other side of the city, the line will run through Gabès road to serve the municipality of Thyna and the whole corridor.

The line will connect tram lines T1 and line T2 at the T2 terminus, and will run through Majida Boulila Avenue in the city center.

The depot for all BRT lines will be located on the BRT line 3, on Gabès road.

BRT line 4

The line will run through Menzel Chaker road, with a connection to lines T1, T2 and BRT line 3. One of the terminus will be located at the coach station.

BRT line 5

The line will run through Mahdia road, with a connection to lines T2 and BRT line 3. One of the terminus will be located in the city center, at the multimodal hub (future SCNFT rail station).

Park and Ride facilities

Twelve Park and Ride facilities are proposed for the five tram and BRT lines, among which four are optional.

Table 1: Sfax LRT network characteristics

ERW network	Tram line 1	Tram line 2	BRT line 3	BRT line 4	BRT line 5	Total
Length in km	22.8	10.7	22.9	6.0	7.5	69.9
Number of stations	38	18	35	10	14	115
Average distance between stations in m	615	630	670	670	580	610
Peak hour frequency in minutes	5	5	5	7	4	
Commercial speed in km/h	19.4	19.3	20.8	21.5	20.8	20.2
Number of 33m -LRT vehicles required for operation	38	19				57
Number of BRT vehicles required for operation			35	9	17	61

Completed technical studies (on going or yet to be carried out)

Following EGIS/I2E feasibility study, Systra/STUDI International is currently realising the Preliminary Design (PD) and Detailed Design (DD) studies as well as the elaboration of Call for Tender (CoF) documents for the first section of tram line T1. This mission also includes a feasibility study and PD study of road link between Taparura and city center, and a PD and DD studies for multimodal hub at railway station.

Prospective implementation schedule

Due to important investment costs and their impacts on the project socio-economic profitability, as well as the important works that will disturb the urban life and, in particular, will disturb road traffic by hindering car and bus traffic flows, the network is unlikely to be implemented in a single phase. In order to take into account these constraints, the project will be realised in four phases.

- The first phase, scheduled for 2022 (2016 estimate) includes a first section of the tram line T1, with a terminus at Chihiya (13.5 km long) and five main bus lines prefiguring the network in 2030 and improving public transportation throughout Sfax agglomeration;
- The second phase, scheduled for 2024, will concern the realisation of the tram line T2, in the city center and Gremda Road, servicing at least the dense area north of Km4 Ring Road;
- The third phase, scheduled for 2026, will deal with the extension of the tram line T1 to the north, depending on the development of El Ons area;
- The fourth phase, scheduled for 2030, will include the extension of the tram line T2 and the completion of the three BRT lines, in an order depending on the evolution of the agglomeration.

Tentative cost estimates : CAPEX, OPEX and prospective revenues

CAPEX

The investment cost of the entire new metro project is estimated at 2,800 million Tunisian Dinars (2016 value).

The first phase of the project, including the realisation of the first section of tram line T1 and five bus corridors, is estimated to cost 690 million Tunisian Dinars (2016 value).

OPEX

OPEX calculations for the first section of tram line T1 are issued from EGIS/I2E feasibility study, and based on the following operating assumptions:

- Daily service from 5AM to midnight
- 1,352,000 vehicle.km/85,000 hours per year
- 223 staff, including 57 drivers and 49 controllers

Including energy costs, insurance, spare parts and other operating costs, OPEX are estimated at approximately 10 million Tunisian Dinars (2013 value).

Traffic and revenues

According to the EGIS/I2E study, implementing the first phase of the project will lead to a 21% increase in the public transport passenger traffic.

Based on a 0.5 TND ticket price, revenues from passenger traffic on the whole network (existing and new lines) is estimated at 19 million TND (value 2016), covering approximately 2/3 of the entire network OPEX.

Conclusion and recommendations

Sfax LRT project will offer a rapid, efficient and comfortable public transport network for Greater Sfax population. An attractive service will encourage modal transfer from private car, allow a better mobility of people not having a car. The network will be in line with the agglomeration development (Taparura, etc.), optimizing public space and limiting urban sprawl.