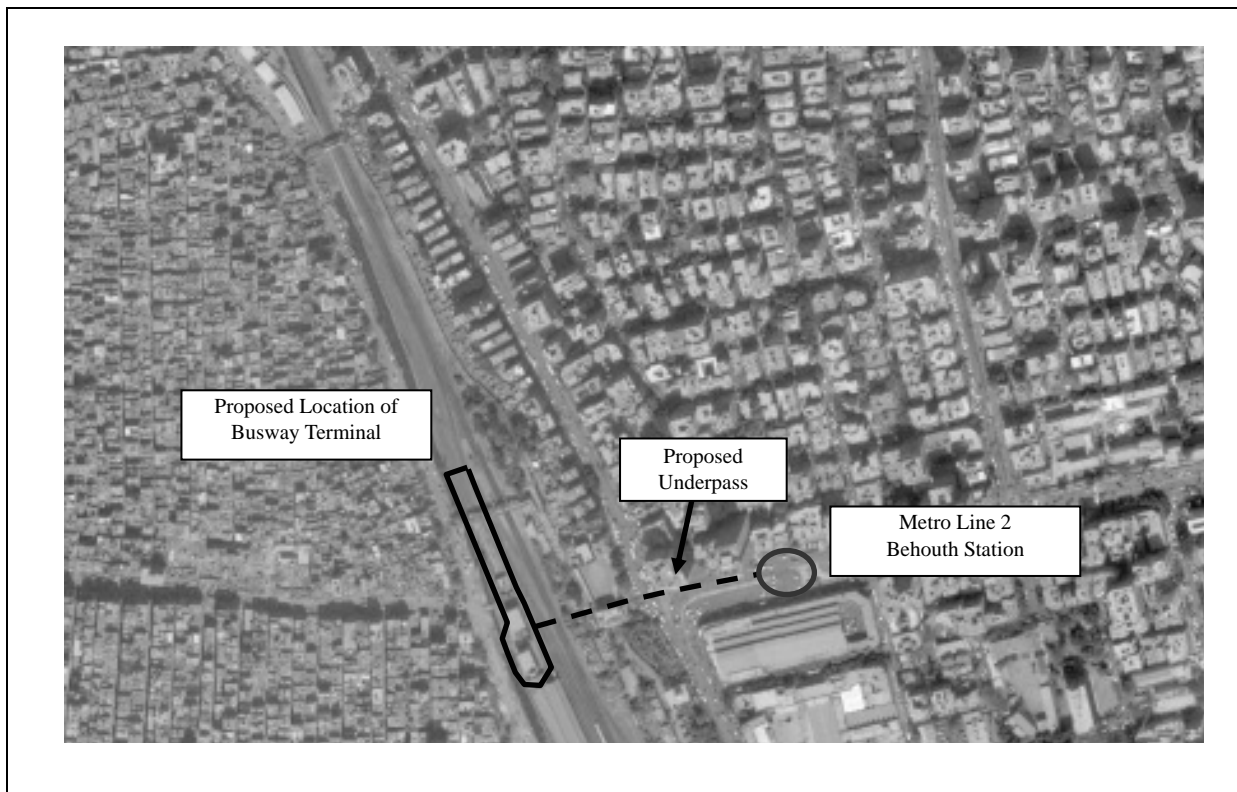


3.3 Related Transport Development Studies and Projects

3.3.1 Busway along 26th of July Corridor by GOPP

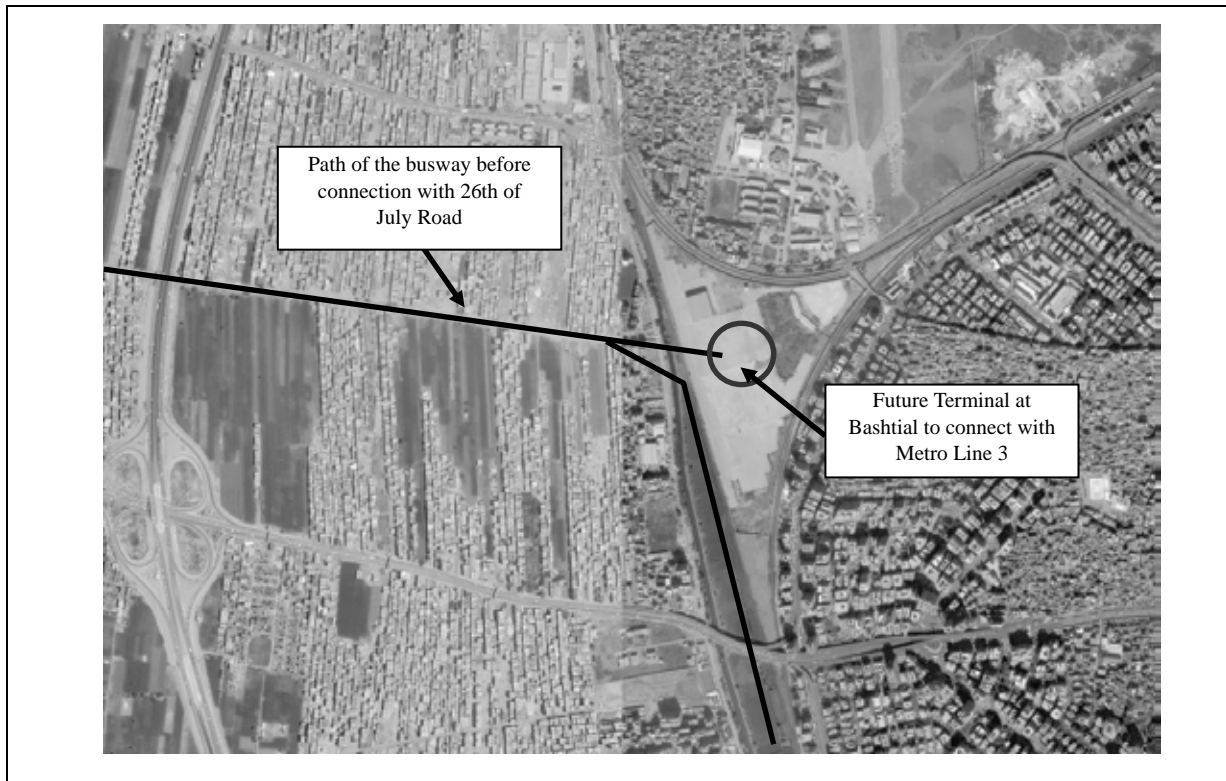
GOPP is now considering implementing a busway along the 26th of July Corridor. Busway services can not be started from Cairo University, as proposed by the CREATS Study, because there is not enough land area. In the CREATS Study, Cairo University was recommended as a site for a busway terminal so as to integrate bus services with the Metro Line 2. In this respect, an alternative is to start the busway at Behouth where there is a Metro Line 2 station. There is an area near the Behouth Metro Station and western part of the ENR line which can be utilized as a bus terminal, as can be seen in Figure 3.3.1. An underpass can be constructed between the existing Metro Station and the proposed bus terminal, to allow the metro and bus passengers to transfer without needing to using the surface roads.



Source: Provided by JICA Study Team based on the consultation of GOPP Representative

Figure 3.3.1 Bus Terminal at Behouth Subway Station

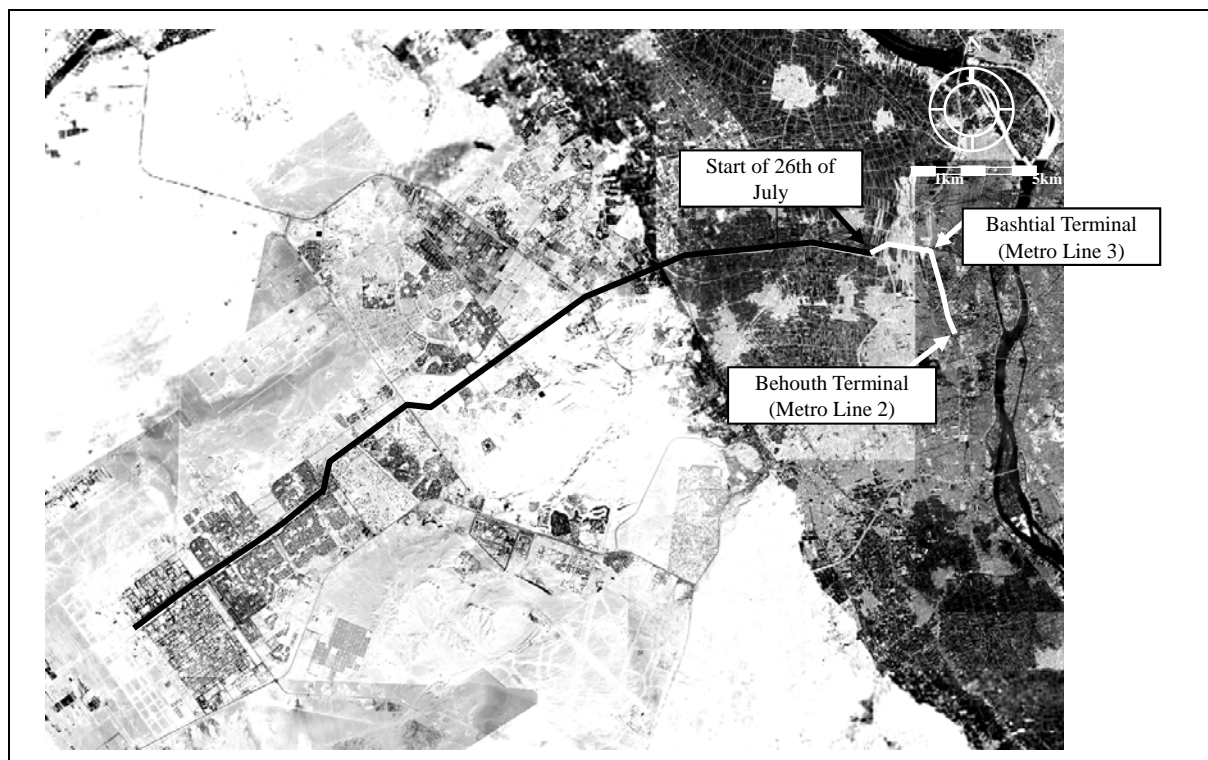
The busway will be constructed as a grade-separated structure up to Gamat El Dwal Al Arabia, where the first bus stop will be located. At Bashtial Triangle, a second bus terminal will be constructed as shown in Figure 3.3.2. At this terminal, connection with Metro Line 3 will be available in future when the line is extended to this location.



Source: Provided by JICA Study Team based on the consultation of GOPP Representative

Figure 3.3.2 Bus Terminal at Bashtial

Figure 3.3.2 also shows the busway alignment up to the intersection with the Ring Road. The Ring Road will be crossed by either a fly-over bridge or a tunnel. After crossing the Ring Road, the busway will be located along the 26th of July Road utilizing the existing median width as an exclusive busway. Within the boundary of 6th of October NUC, the busway will be located on the left and right outer traffic lanes of the road carriageway. The overall busway alignment is presented in Figure 3.3.3.



Source: Provided by JICA Study Team based on the consultation of GOPP Representative

Figure 3.3.3 Overall Busway Alignment

Based on the plan mentioned above, GOPP have estimated the cost of the busway project, as shown in Table 3.3.1.

Table 3.3.1 Estimated Cost in 2007 of the New Busway along 26th of July Corridor

Item	Length (m)	Width (m)	Cost of m ² (LE)	Cost (million LE)
Prepare the median area for heavy rapid transport mode.	12,000	9	250	19.5
Pavement marking with reflecting road stud between busway and ordinary road	24,000		607/longitudinal meter	14.5
Elevated bridge to connect 26th of July Corridor with Imbaba Station.	2,500	15	5,500	136
Construct at grade isolated busway between El Zomar Canal and the railway track with a new grassy barrier.	1,500	15	300	7
(Alternative I): Elevated bridge to connect Behouth Station with Imbaba Station.	1,500	15	5,500	82
(Alternative II): Cover El Zomar Canal and construct a new at-grade busway inside, adjacent to the railway track and isolated from one side only by a new grassy barrier.	1,500	15	14,000/ longitudinal meter	25
35 articulated buses, capacity 200 passenger each, and construction of a workshop.			Buses 40 and workshop 10 million, respectively	50
Total for Alternative I				309
Total for Alternative II				252

Note: The cost of the elevated bridge per square meter in year 2008 becomes LE6,000 in place of 5,500.

Source: GOPP

3.3.2 Other Transport Projects

There are 16 other related transport projects, as shown in Table 3.3.2. The projects that are directly related to the western corridor development are briefly described in Table 3.3.2.

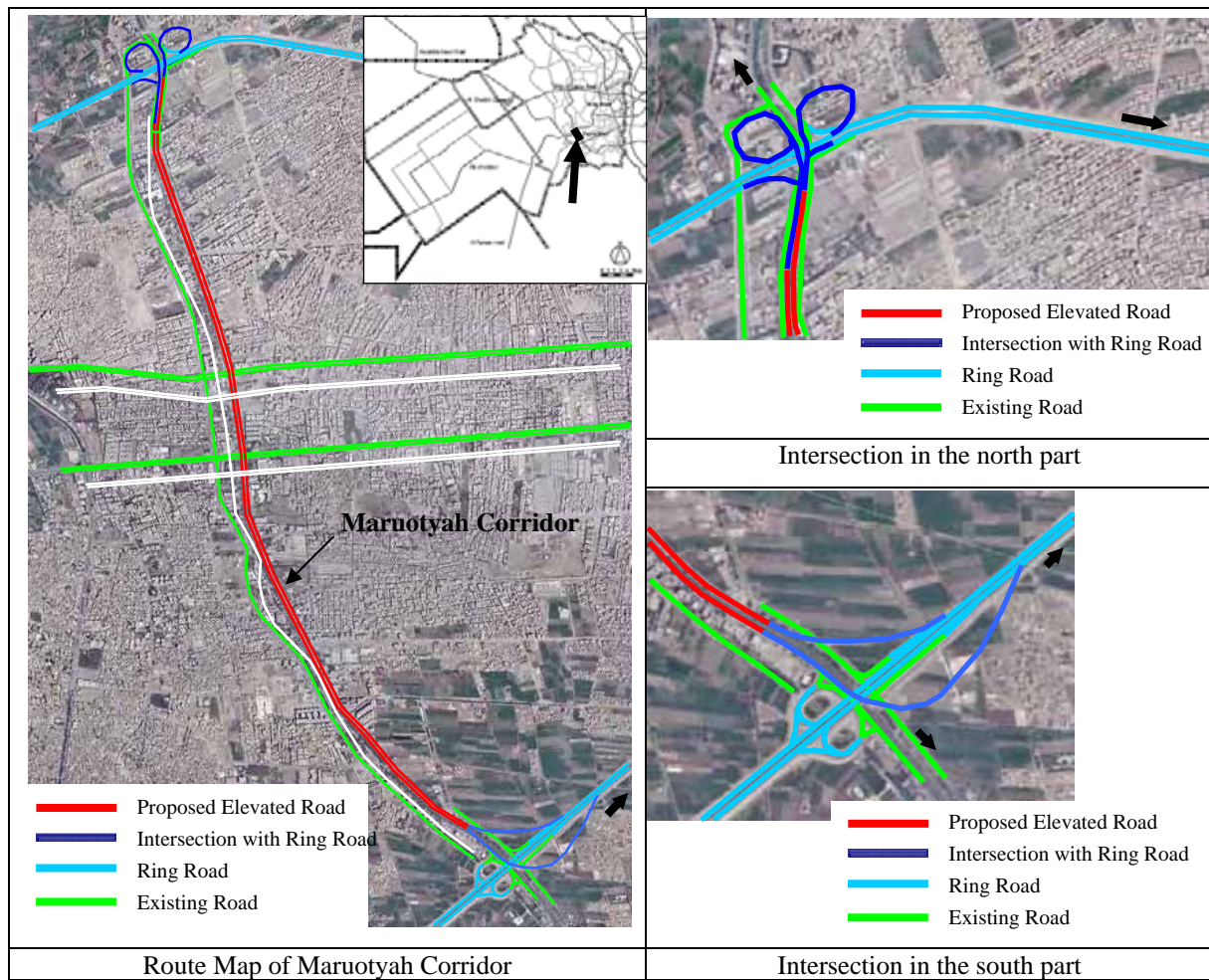
Table 3.3.2 Overall Summary of Related Road Projects in the Greater Cairo Region as of 2007

No	Project	Status	In Charge
<i>East of Greater Cairo</i>			
1	Intersection of Cairo-Ismailia Desert Road with the Ring Road.	Approved	GOPP
2	Connection of the Entrances of Bader and Al Shoruk Cities with Cairo-Suez and Cairo-Ismailia Desert Roads.	Approved	GOPP
<i>North of Greater Cairo</i>			
3	Construction of New Arterial Expressway (Moassat Al Zakah) to connect the East Arc of the Ring Road from Cairo-Ismailia Desert Road up to Cornish Al Nile at Shubra Al Khyma.	Under Study	GOPP
4	Development of North Imbaba including Airport Area.	Under Study	GOPP
<i>West of Greater Cairo</i>			
5	Completion of the Ring Road.	On-going	MOHUUD
6	Construction of Saft Al Labn Corridor.	On-going	MOHUUD
7	Construction of Al Farag Road New Corridor.	Under Study	GOPP
8	Improvement of Al-Ramayah Square.	Approved	GOPP
9	Connection of Cairo-Alexandria Desert Road with RR at km 21.	Approved	GOPP
<i>Inside Greater Cairo</i>			
10	Connection of 15 th of May and 6 th of October Bridges.	Under Study	GOPP
11	Improvement of Ramses Square.	Under Study	GOPP
12	Improvement of Giza Square and Murad Street.	On-going	GOPP, MOHUUD
13	Development of 15 th of May Bridge.	Under Study	GOPP
14	Construction of Intersection of Autostrade with Remises Extension.	On-going	Cairo Governorate
<i>Ring Roads</i>			
15	Upgrading of the Ring Road.	Under Study	GARBLT
16	Construction of Regional the Ring Road.	Under Study and On-going	MOT

Source: GOPP

- (1) Project No. 5: Completion of the Ring Road (Connecting the North Arc to the South Arc)

The North and South Arc connection will be provided along Maruotyah Corridor using a road having 3 lanes/direction and a length of 5 km. The cost will be about LE500 million, excluding the utilities, relocations and land acquisition, as shown in Figure 3.3.4.

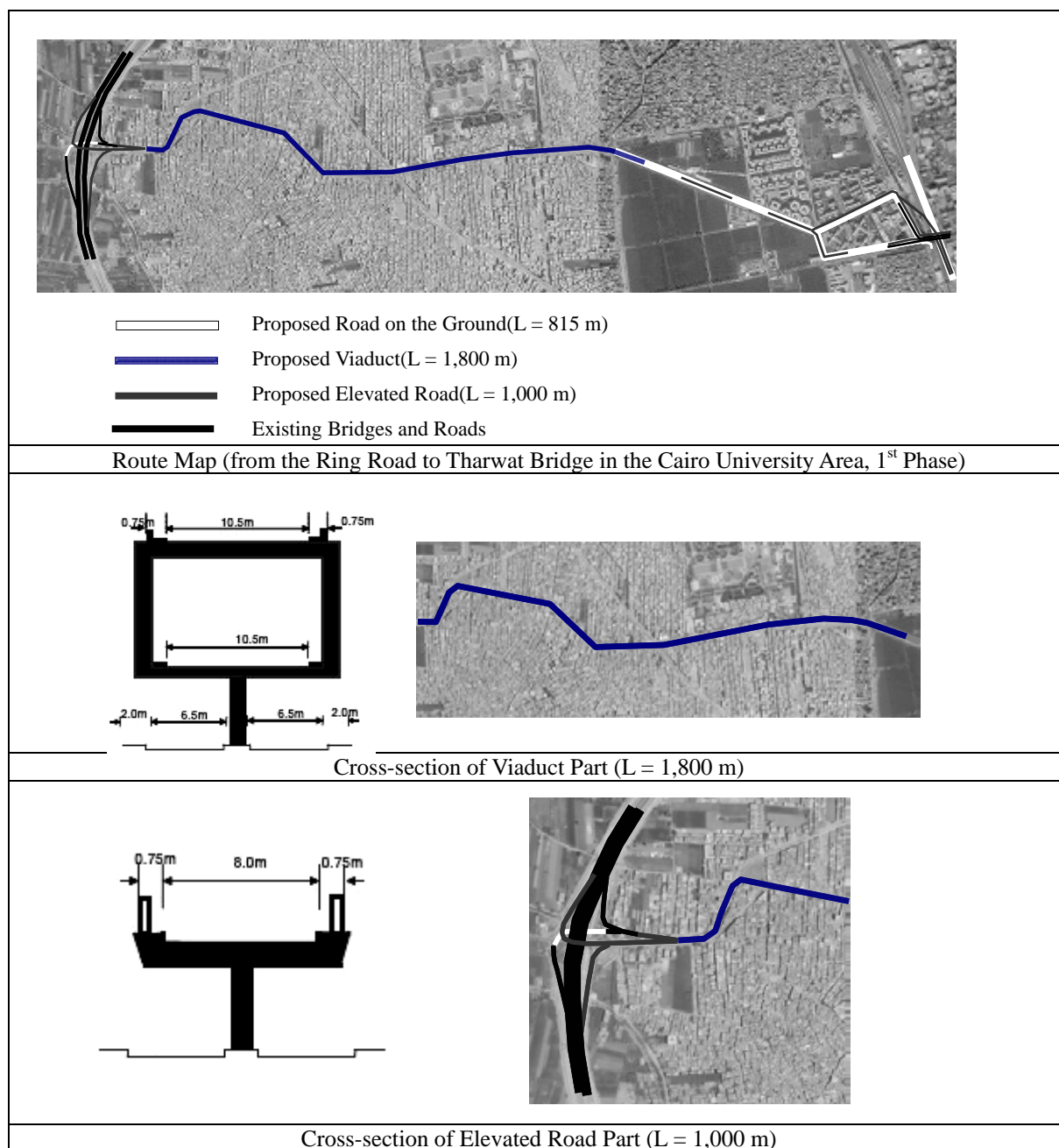


Source: GOPP

Figure 3.3.4 Connection of North Arc and South Arc of the Ring Road

(2) Project No. 6: Construction of Saft Al Labn Corridor

The first phase for upgrading the Saft Al Labn Corridor from the Ring Road to Tharwat Bridge in the Cairo University Area is under way. This includes construction of an elevated fly-over having a length of 815 m, a two-level viaduct having a length of 1,500 m and a one-way direction bridge having a length of 1000 m.



Source: GOPP

Figure 3.3.5 Upgrading of Saft Al Labn Corridor

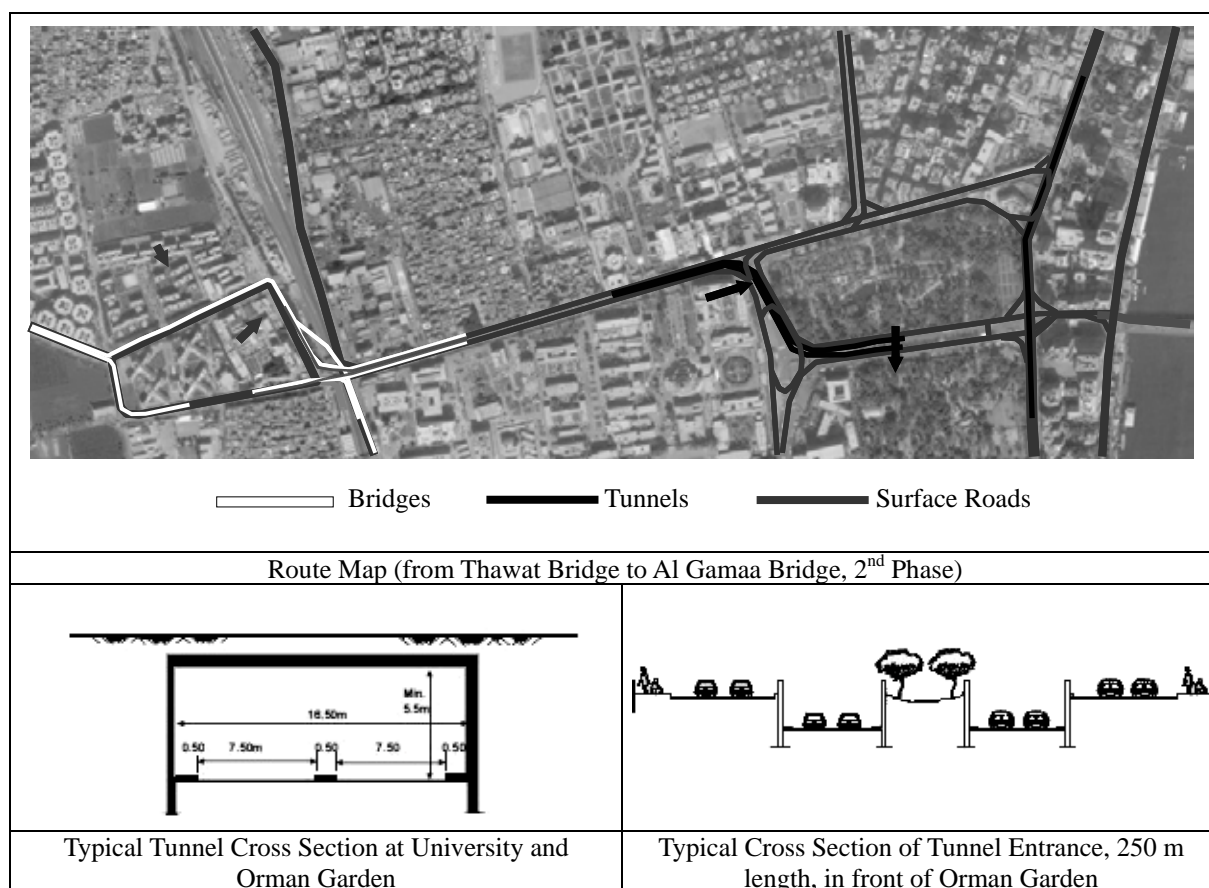
Widening of Tharawt Bridge next to the Cairo University is under way, with the addition of one extra lane for each direction. As a result, the entrance and exit of Tharwat Bridge will be widened to 3 lanes in front of Kasm-Bulak. Connection of the Saft Al Labn Corridor with Sudan Street through the entrance and exit is also on-going, as shown in Figure 3.3.6.



Source: GOPP

Figure 3.3.6 Upgrading of Tharwat Bridge

Following upgrading of the Saft Al Labn Corridor (First Phase), which is on-going, the second Phase 2 upgrading of this corridor will continue from Tharwat Bridge to El Gamah Bridge, as shown in Figure 3.3.7. This work is currently being planned.

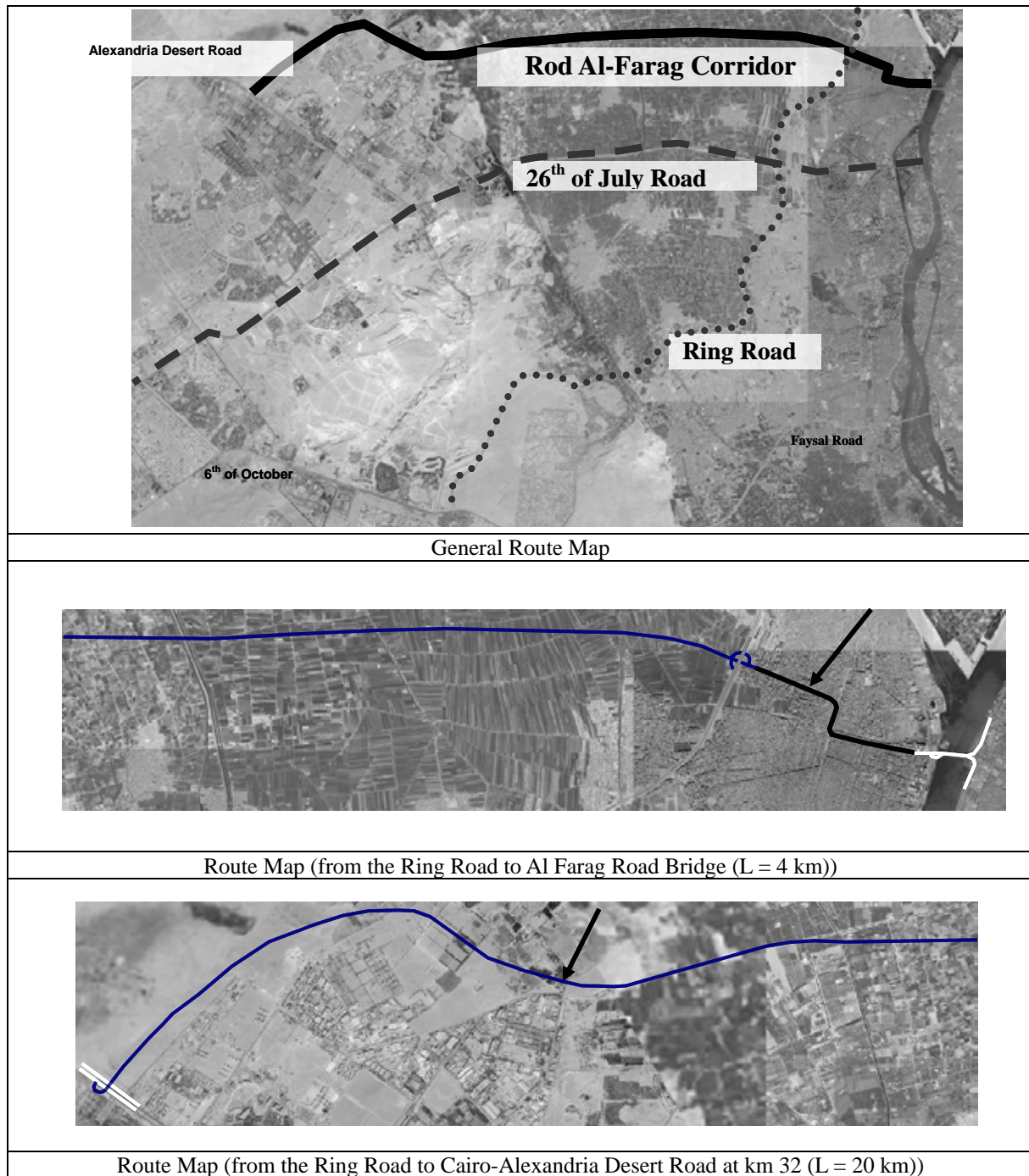


Source: GOPP

Figure 3.3.7 Upgrading of Saft Al Labn Corridor from Tharwat Bridge to El Gamah Bridge

(3) Project No. 7: Construction of Al Farag Road New Corridor

Four (4) km elevated bridge from Al Farag Road Bridge to the Ring Road and twenty (20) km elevated road (viaduct) from the Ring Road to Cairo-Alexandria Desert Road at km 32 is under study (Figure 3.3.8).



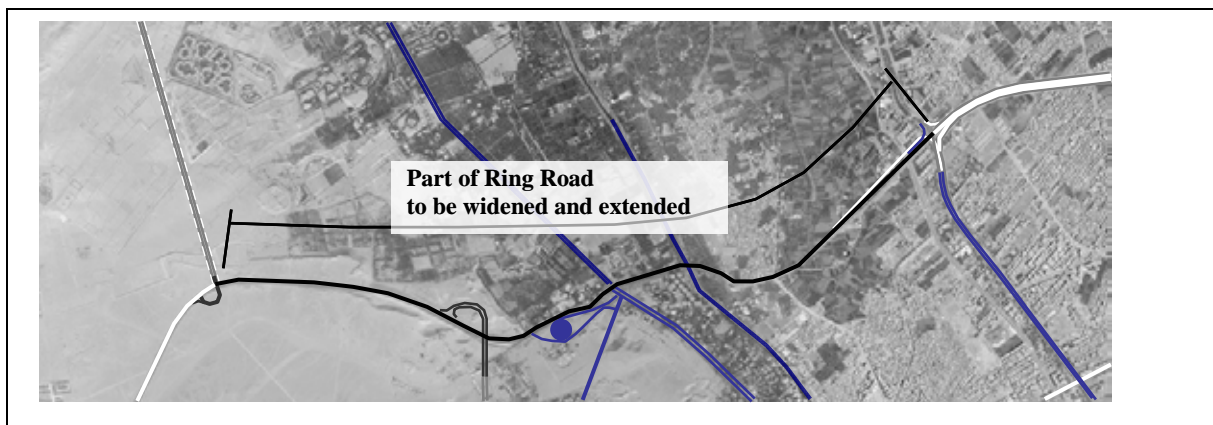
Source: GOPP

Figure 3.3.8 New Corridor of Al Farag Road

(4) Project No. 8: Improvement of Al-Ramayah Square

The following projects were studied and have been approved. The project section has a length of about 5 km, the ROW is about 20 Feddan, and the cost is about LE380 million, excluding utilities, relocation and land acquisition as shown in Figure 3.3.9.

- Widening of existing Ring Road to become 4-lanes per each direction.
- Removing the exit from the Ring Road to Cairo-Alexandria Desert Road.
- Widening the extension of the Ring Road up to the proposed new road along the High Voltage Power Line

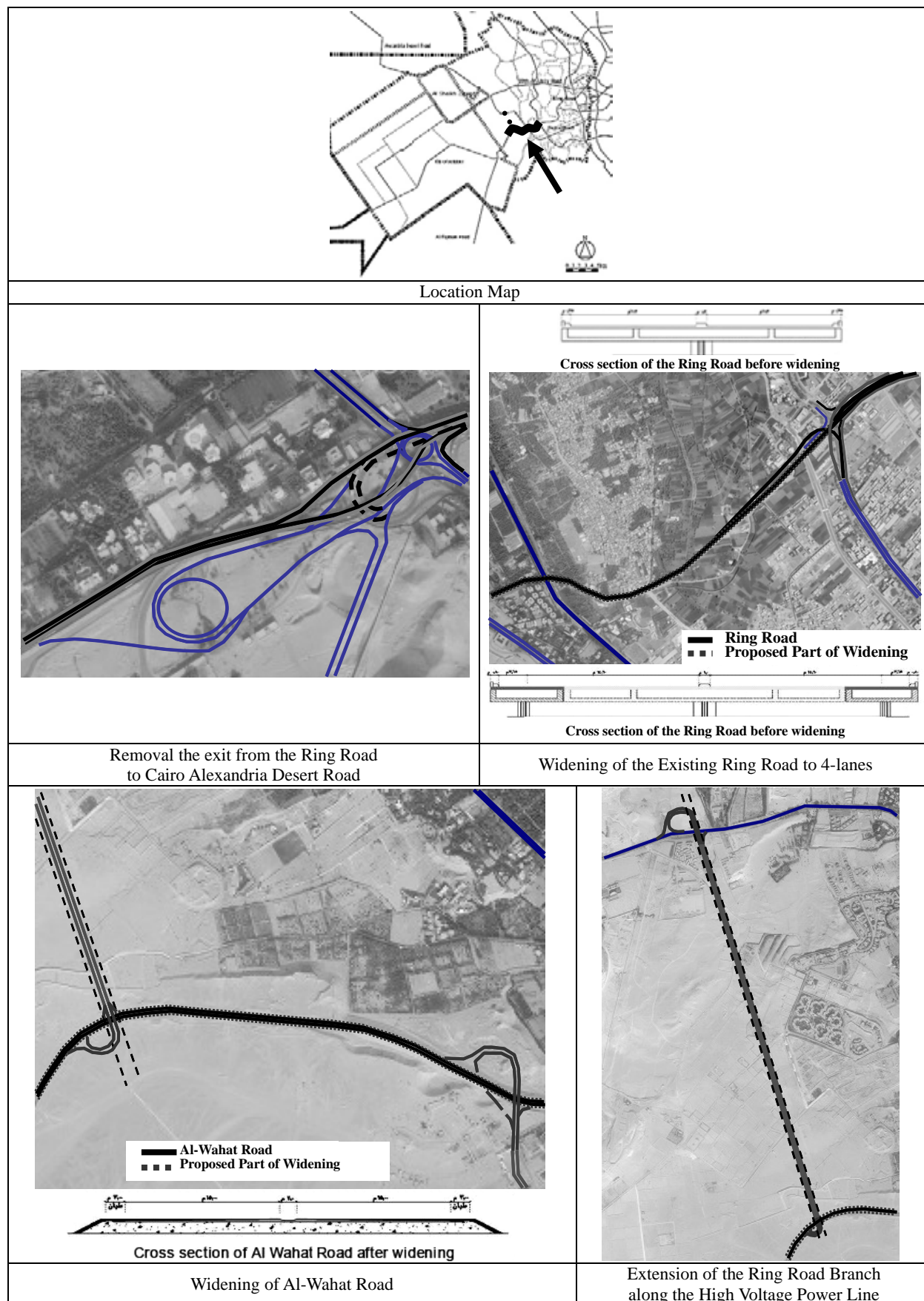


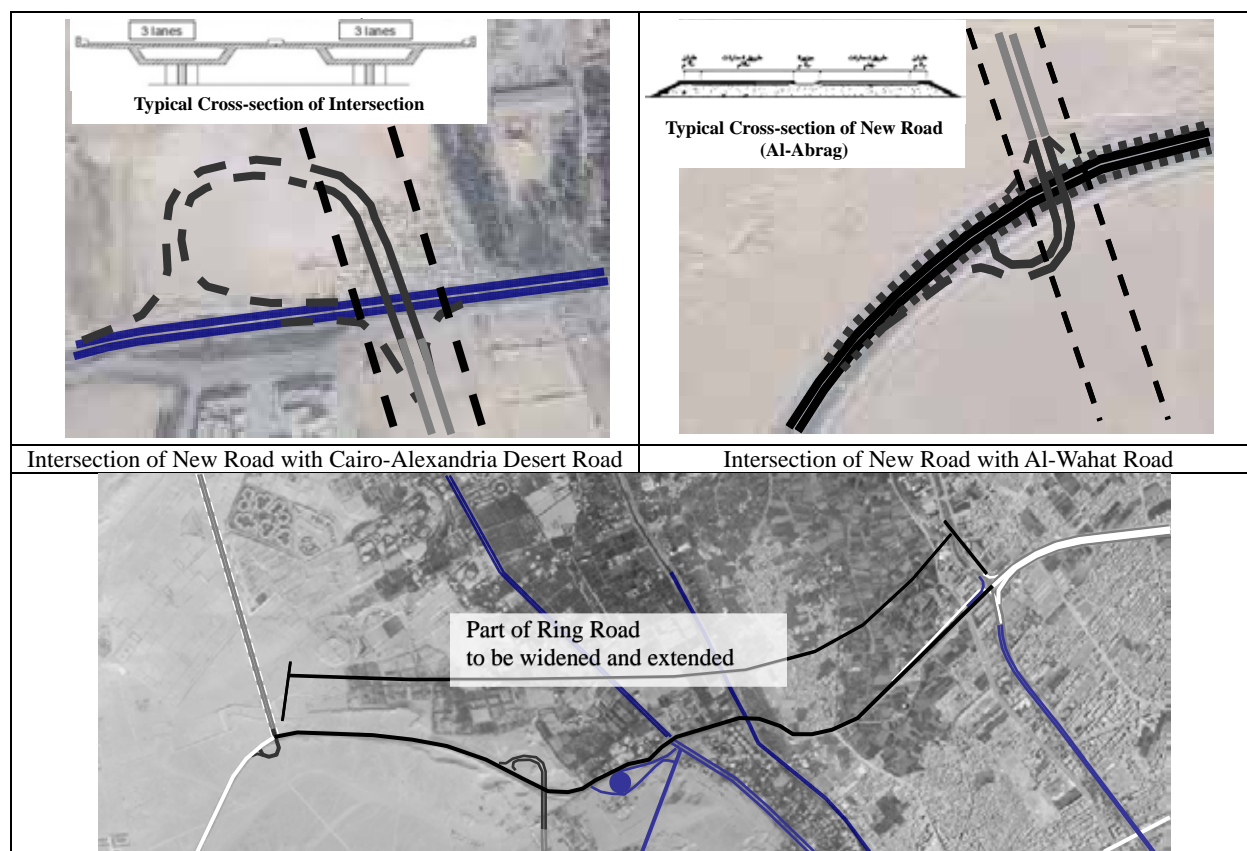
Source: GOPP

Figure 3.3.9 Improvement of Al-Ramayah Square

(5) Project No. 9: Connection of Cairo-Alexandria Desert Road with the Ring Road at km 21

Connection of Cairo-Alexandria Desert Road with the Ring Road at km 21 was studied and has been approved. It includes a) removing the exit from the Ring Road to the Cairo-Alexandria Desert Road, b) widening of existing the Ring Road to 4-lanes per each direction, c) extension of the Ring Road branch up to the proposed new road along the High Voltage Power Line, d) construction of the intersection of the proposed new road with Cairo-Alexandria Desert Road, and e) construction of the intersection of the proposed new road with Al Wahat Road.



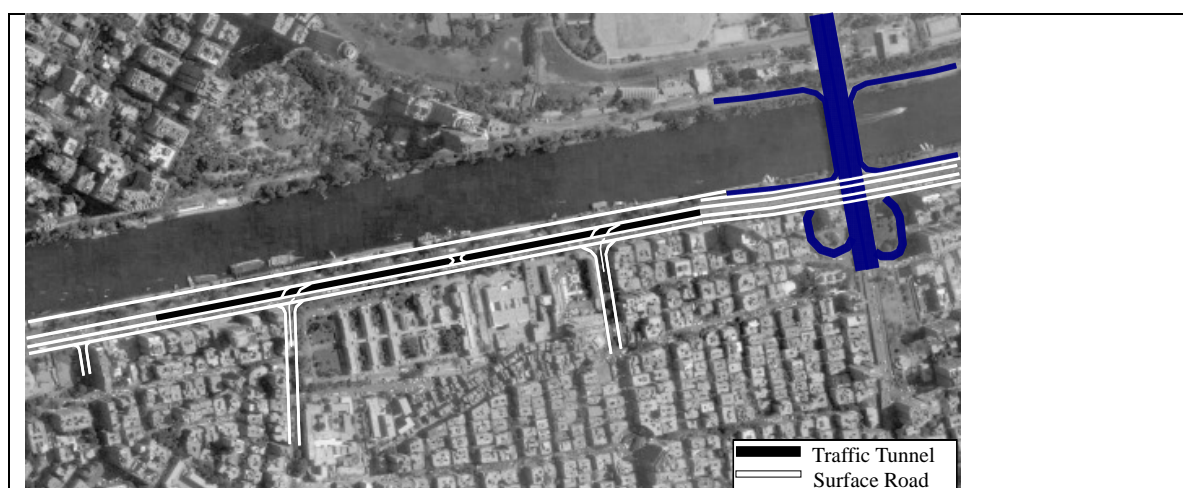


Source: GOPP

Figure 3.3.10 Connection of Cairo-Alexandria Desert Road with the Ring Road at km 21

(6) Project No. 10: Connection of 15th of May and 6th of October Bridge

This project, which is now under study, is for constructing a tunnel in Cornish Al Nile for the direction from 15th of May to 6th of October. The tunnel will have a 10.5 m width and a height of 5.25 m. The cost is estimated at LE75 million.

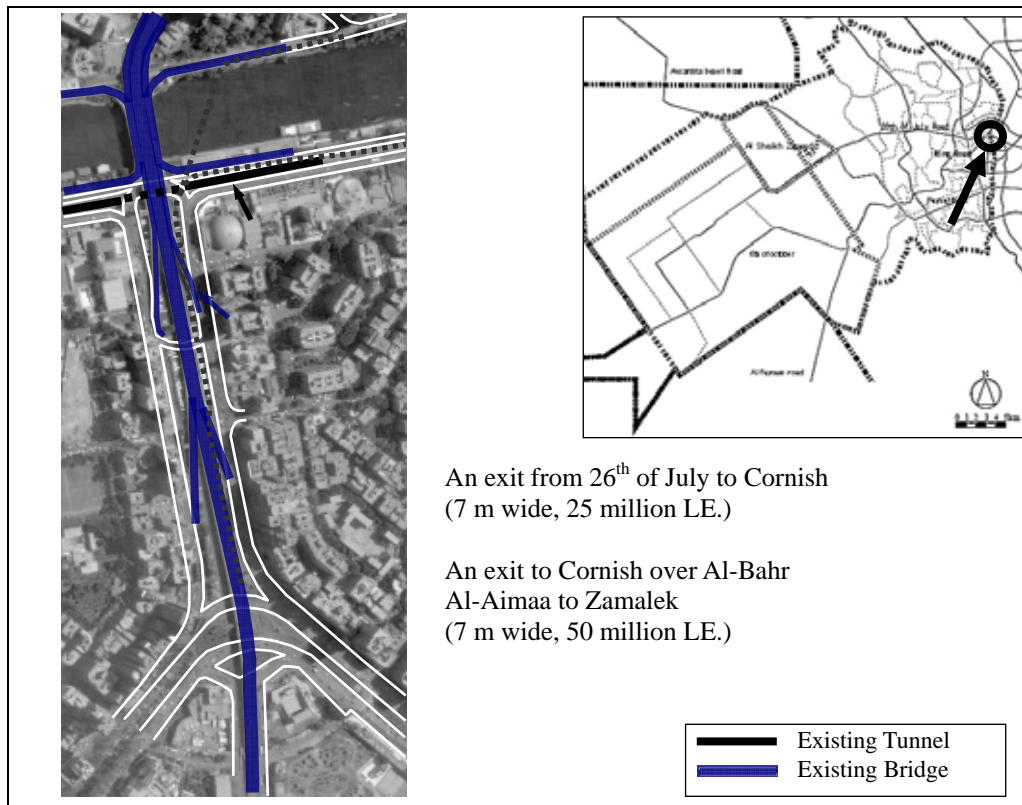


Source: GOPP

Figure 3.3.11 Connection Tunnel of 15th of May Bridge and 6th of October Bridge

(7) Project No. 13: Improvement of 15th of May Bridge

This project is currently under study, and two alternatives are being considered. Alternative 1 is a) widening of exiting bridge by one lane per direction from Sphinx to Cornish and b) widening the bridge over Al Bahr Al Aimag by 2 lanes per direction. Alternative 2 is a) construction of a down grade from 26th of July to Cornish of 7 m width and b) construction of a down grade to Cornish over Al Bahr Al Aimag and to Zamalek of 7 m width. It will cost LE50 million.



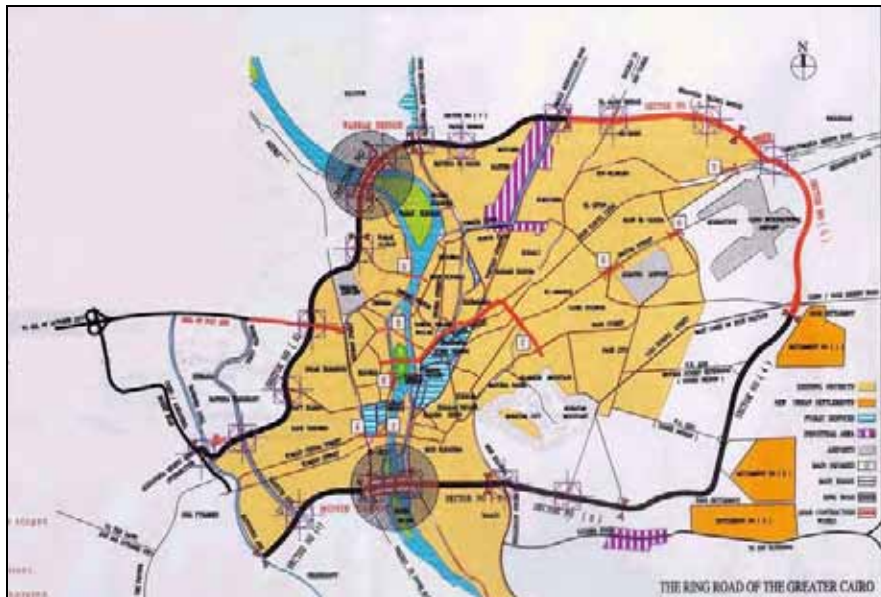
Source: GOPP

Figure 3.3.12 Improvement of 15th of May Bridge (Alternative 2)

(8) Project No. 15: Upgrading of the Ring Road

The main objective of upgrading of the Greater Cairo Ring Road is to form an integrated transport corridor. Investigations are being undertaken to determine the present operational conditions of the Ring Road and assess the technical and economic feasibility of the options to upgrade it to freeway standards. In addition, the feasibility of introducing a new Rapid Transit System is being assessed. This system would include park-and-ride facilities, pedestrian access, local area bus facilities and integration elements.

Development of the Ring Road as an integrated transport corridor is part of the long term plan of the Ministry of Transportation. Basically, two multi-modal solutions are envisaged: a Rapid Rail Transit System (RRTS) and Rapid Bus Transit System (RBTS).

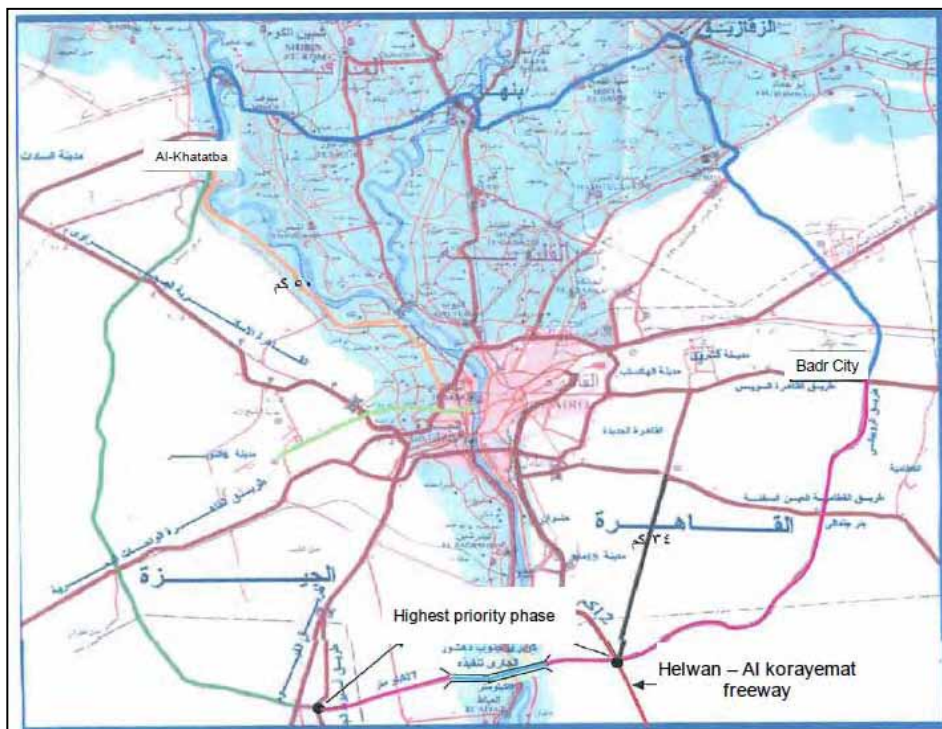


Source: GOPP

Figure 3.3.13 Ring Road Development

(9) Project No. 16: Construction of a Regional Ring Road

A Regional Ring Road Project is under study, but is partly on going. As presented in Figure 3.3.14, the Regional Ring Road has a radius of about 100 km around GCR. Based on a review of previous studies, GOPP has given priority to the southern part of this Regional Ring Road to integrate suburban economic agglomerations into a wider metropolitan region, and to provide functional linkages between GCR and the other regional centers.



Source: GOPP

Figure 3.3.14 Regional Ring Road