بسم الله الرحمن الرحيم

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North Lebanon Roads network and public transport

Presented by: Maryam Abdel-karim

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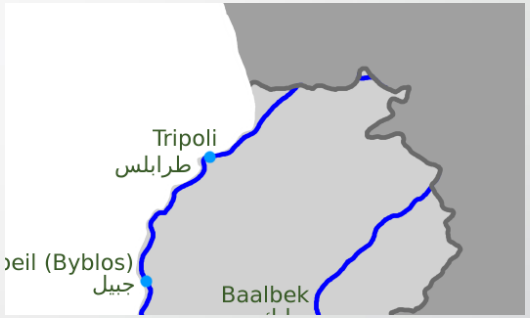
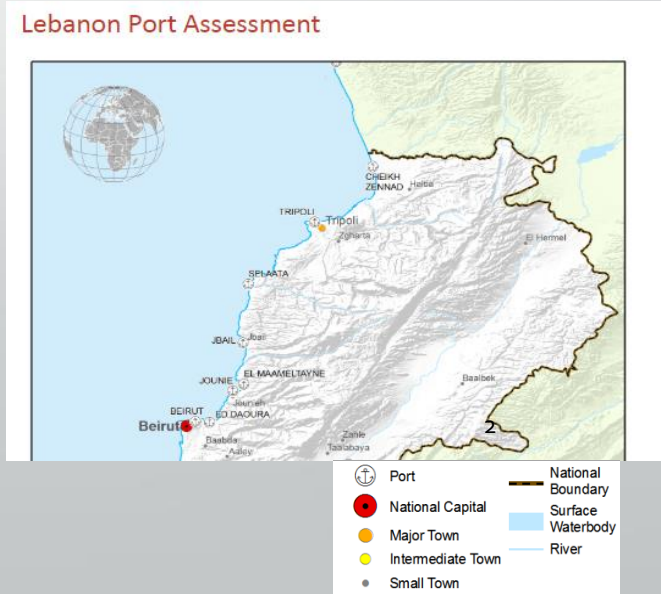
Transportation

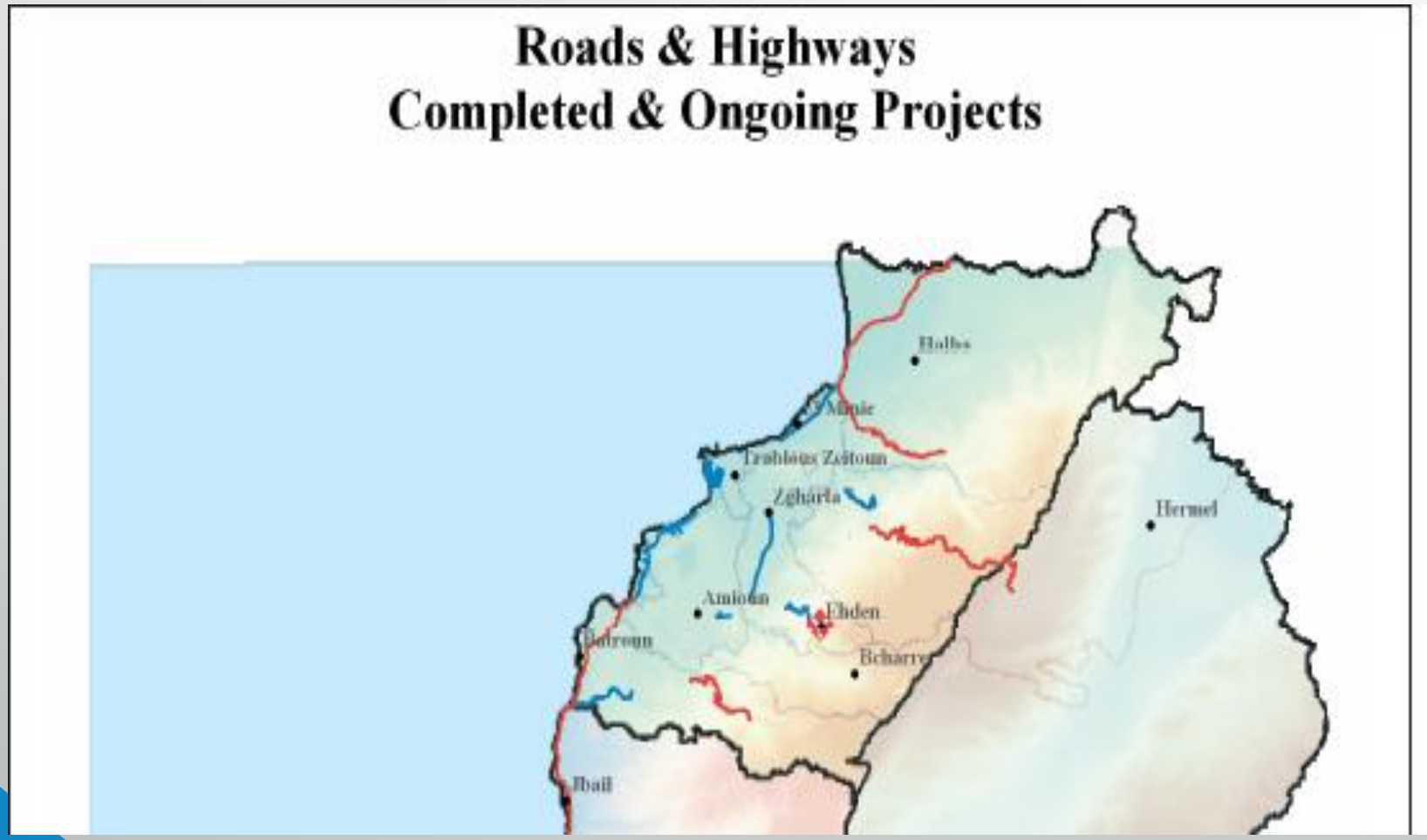
- **Buses:** Buses are popular and inexpensive and can be stopped anywhere along the way simply by hailing.
- **Port :** The Port of Tripoli is the second port in Lebanon after the Port of Beirut. Most shipments carry general goods and dry discharge such as iron, wood, and sugar, various kinds of beans, iron scrap, vehicles, and construction material.
- **Ferries:** The Port of Tripoli (Lebanon) is also a port of entry and ferries usually come from Taşucu, Turkey
- **Taxis and services:**
  - **Service-taxis**
  - **Traditional Taxis**
  - **Online services**
  - **On-call taxis**
  - **Carpooling**
- **Airport :**Rene Mouawad Air Base formerly and still sometimes known as Kleyate Airport used to be a military-civil joint airport in northern Lebanon, near the town of Kleyate and 6 kilometers (3.7 mi) from the Lebanese–Syrian border. To date, however, nothing has come of these plans, and restoration of the airport has not yet begun.
- **Cable Car:** No cable car (telepherique) in north Lebanon.

Rail transport: The Lebanese rail system is not currently in use, with services having ceased due to the country's political difficulties.



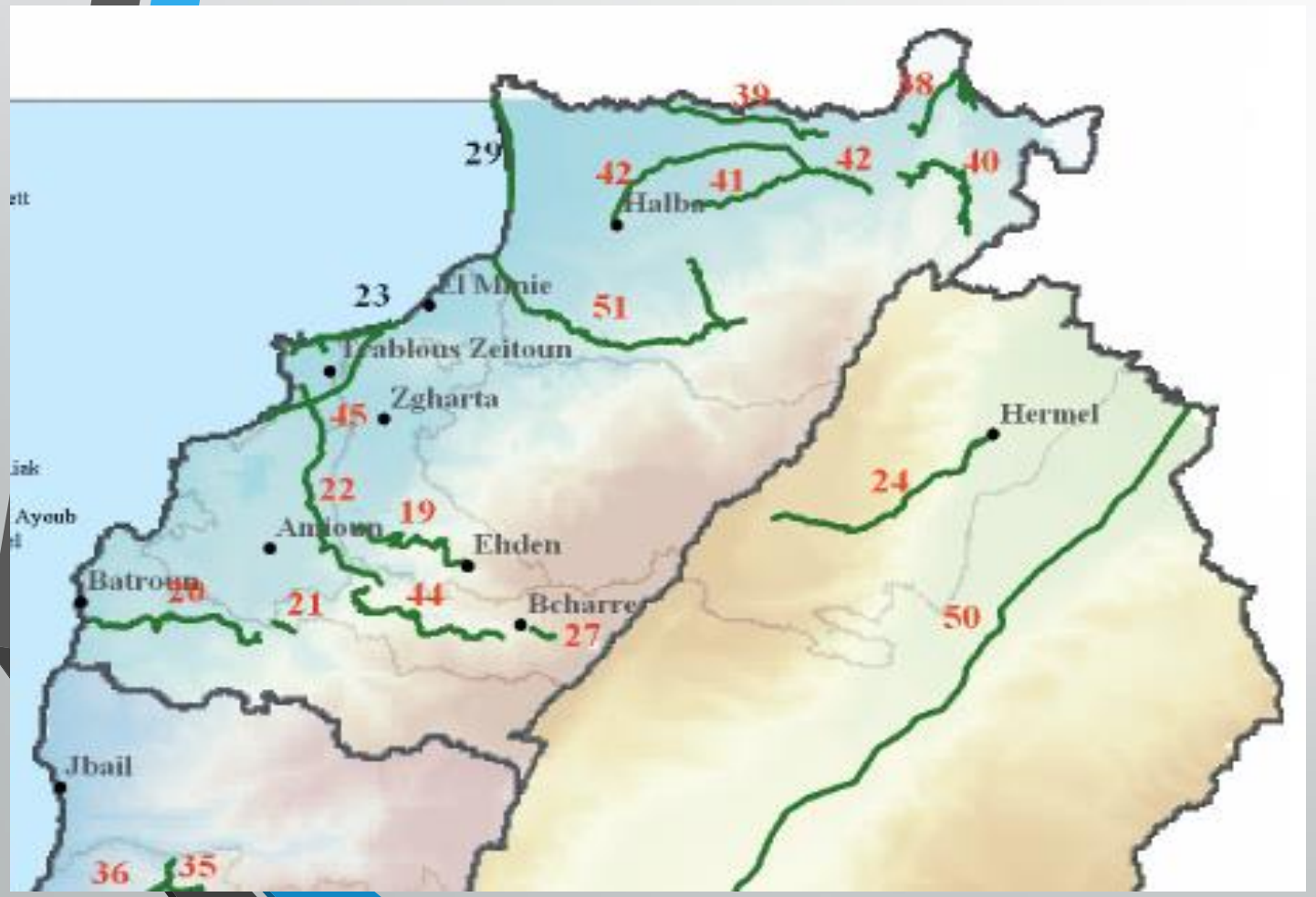


Roads and highways, completed and ongoing projects



http://www.cdr.gov.lb/eng/progress_reports/pr072005/Eroads.pdf

Roads and highways under preparation projects



Legend

Interchange/Exchange

Roads & Highways

19 Aito-Ihden
20 El Batroun-Dael
21 Deir Bila-kaferhalda
22 Bahsas-kousba
22 Kousba-Tourza
23 El Mina-El Biddawi
27 El Arz
29 Homos-El Arida
38 Tarik chadra-El Moukayleb
39 El Aboudiyeh-Anjar
40 Andakit - Akroum
41 Kafar harra - El Bira
42 Halba - El Bira - El kobayett
44 Hadass el jibeh - Hasroun
44 Hasroun - Bferkata
44 Beit Mounzer
45 El Kachmoun - Deir Imar
51 Jaweyil - Rahbeh - Berkayel

Relevant government agency

- The relevant government agency, the Ministry of Public Works and Transport in Lebanon is organized into four directorates:
  - Directorate General of Land and Maritime Transport, responsible for setting, implementing and monitoring all policies related to land and maritime transport
  - Directorate General of Roads and Buildings, which is responsible for the construction, rehabilitation, and maintenance of public roads and government buildings
  - Directorate General of Civil Aviation, responsible for setting and implementing air transport policies within the country in compliance with international policies, and for controlling the air traffic within the Lebanese territory
  - Directorate General of Urban Planning, responsible for setting and putting into practice land use policies
- Additionally, the Council of Development and Reconstruction (CDR), and the Ministry of Public Works' Rehabilitation and Reconstruction are responsible for road construction and maintenance in Lebanon.

Distance Matrix

Distances from Capital City to Major Towns (km)								
	Beirut	Tripoli	Sidon	Batroun	Tyre	Aley	Chtaura	Halba (akkar)
Beirut		88	46	56	91	14	40	114
Tripoli			130	33	175	92	86	30
Sidon				100	45	43	66	55
Batroun					147	63	65	63
Tyre						54	106	204
Aley							28	116
Chtaura								104
Halba (akkar)								

Travel Time from Capital City to Major Towns (km)								
	Beirut	Tripoli	Saida	Batroun	Tyre	Aley	Chtaura	Halba (akkar)
Beirut		1.2 hrs	45 min	1 hr	1.5 hrs	15 min	45 min	2 hrs
Tripoli			2 hrs	30 min	2.5 hrs	1.5 hrs	1.5 hrs	30 min
Saida				2 hrs	45 min	45 min	1 hr	1 hr
Batroun					2 hrs	1 hr	1 hr	1 hr
Tyre						1 hr	2 hrs	2.5 hrs
Aley							30 min	2 hrs
Chtaura								1.5 hrs
Halba (akkar)								

Tripoli Projects

For full details about Tripoli projects please have a look on the pdf below:

https://openjicareport.jica.go.jp/pdf/11688538_02.pdf

- **TRIPOLI BOULEVARD UNDERPASS PROJECT**

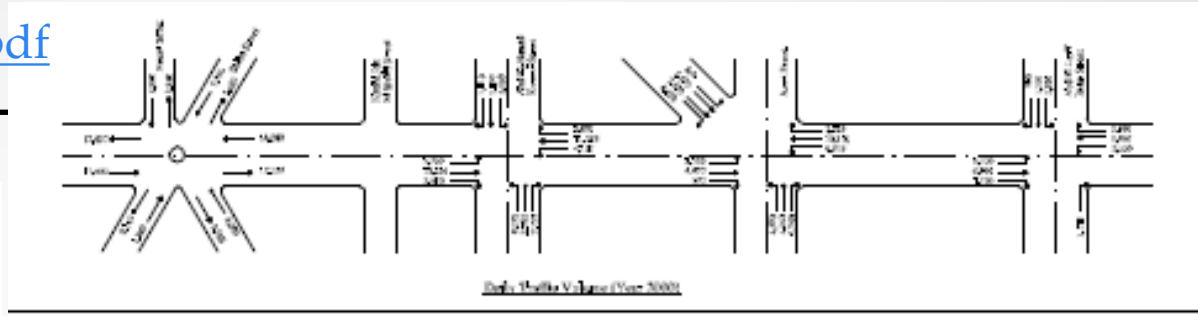


Figure 2.1-1 Present Condition of Tripoli Boulvard at Tripoli Central Area

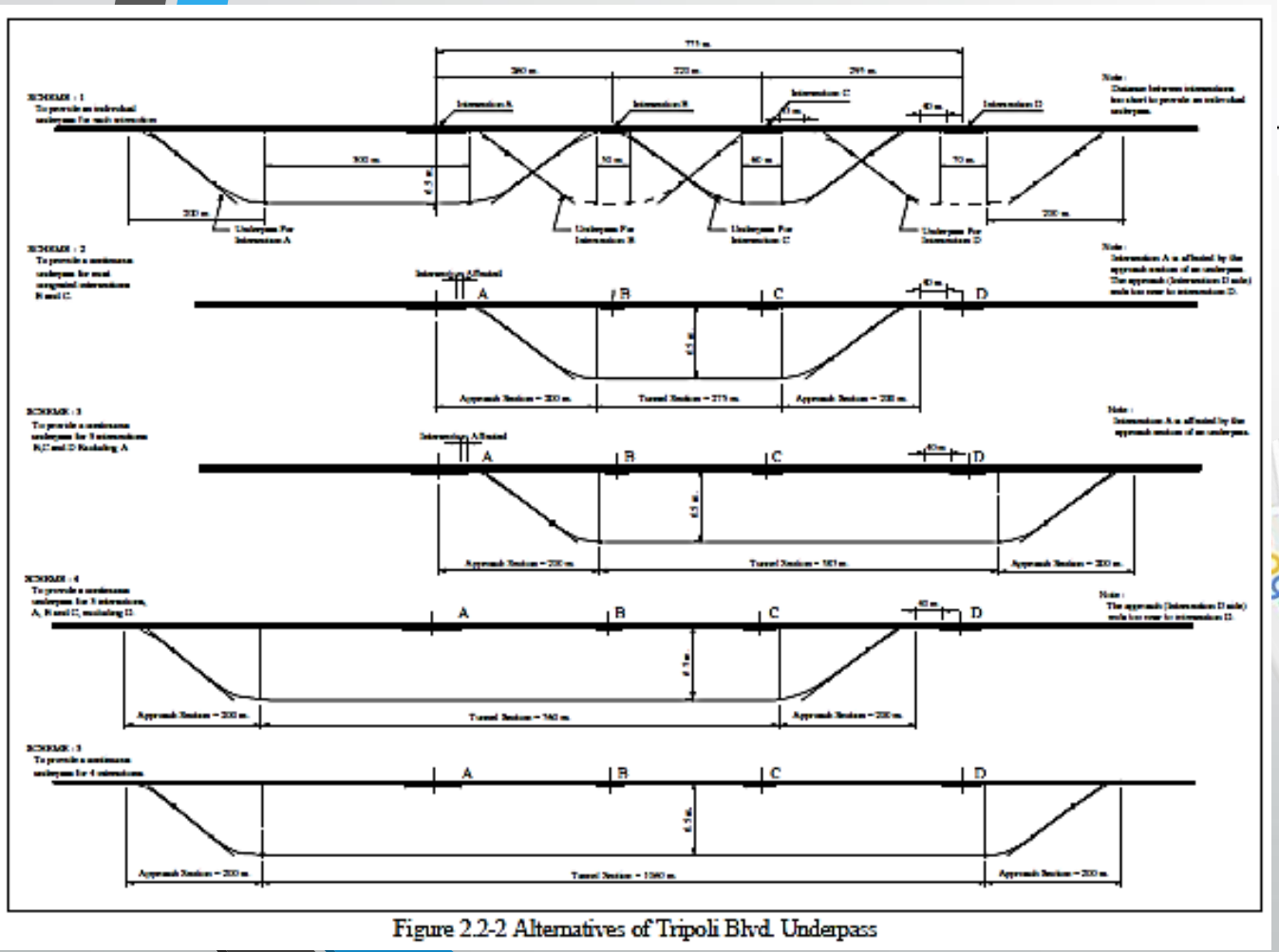
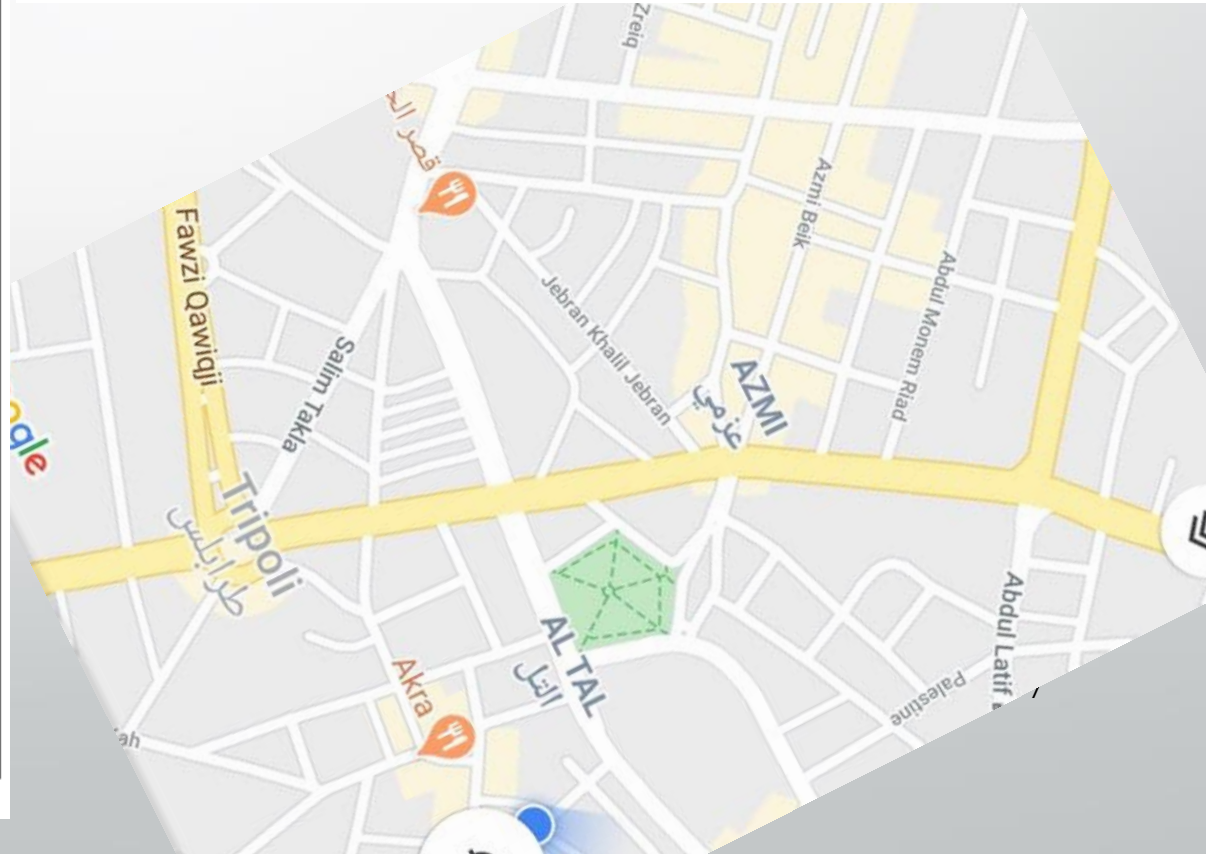


Figure 2.2-2 Alternatives of Tripoli Blvd. Underpass



CENTRAL TRIPOLI TRANSPORT MANAGEMENT PROJECT

PRESENT CONDITIONS AND PROBLEMS

- Road Network and Road Space Utilization
  - Roads are mostly narrow and road network is like a maze, particularly downtown and old city areas.
  - Road space is not fully used for traffic purpose due to heavy on-street parking.
  - There is no room for road widening or construction of new road due to high density roadside development.
- Inter-City Buses
  - There is no off-street inter-city bus terminal, but existing roads are used as the inter-city bus terminal (or on-street inter-city bus terminal).
  - Inter-city buses wait for passengers on a road until enough passengers boarded on it, thus traffic is severely disturbed.
  - On-street inter-city bus terminals are concentrated along the busiest roads.
- Taxis
  - There is no off-street taxi terminal stand. Taxis are parking on streets to get 4 or 5 passengers.
  - Over-supply of taxi service is obvious. Many taxis cannot get passengers, but park on a street all day long.
  - Taxis are concentrated at Public Garden and J. Abd El-Nasser Square areas.
- On-Street Parking
  - Many vehicles park along streets, narrowing a road space for travel way.
- One-way Traffic Operation
  - One-way traffic operation is being extensively adopted in the most of areas, this system is successful, but there are some areas where this system needs to be improved.
  - Environmental Condition: Due to concentration of traffic, its slow moving conditions, and many old-age vehicles, air quality is seriously deteriorated.
- Factors affecting Tourism Development

  Historical and cultural heritages are concentrated in the old city area. Proper parking areas, improvement of sidewalks and pedestrian roads and beatification of area are needed to attract more tourists.

CENTRAL TRIPOLI TRANSPORT MANAGEMENT PROJECT

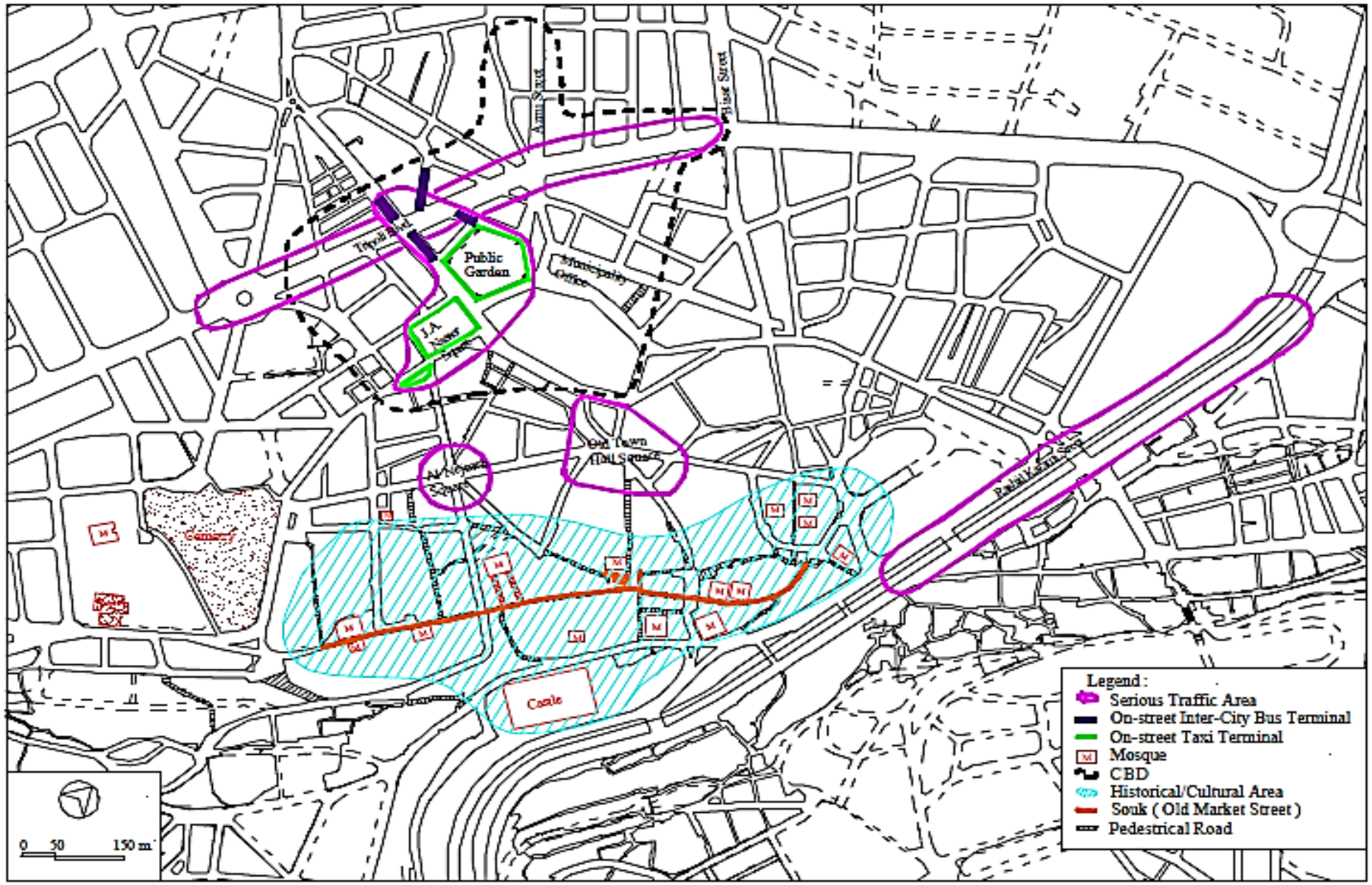


Figure 3.1-1 Present Condition of Central Tripoli Area

PROPOSED BUS/TAXI SERVICE SYSTEM AND TERMINALS

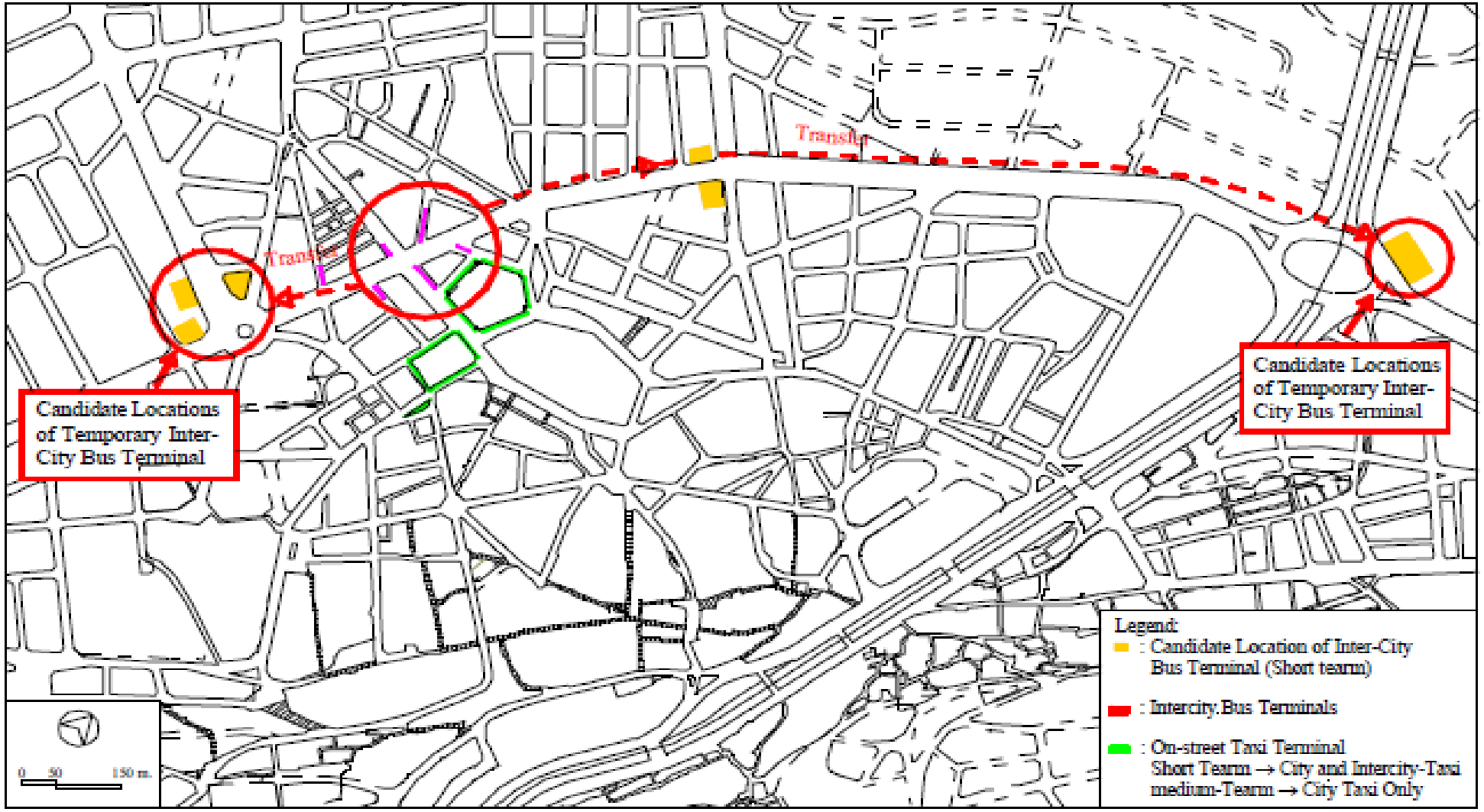


Figure 3.3-1 Candidate Location of Intercity Bus Terminals

ONE-WAY TRAFFIC SYSTEM

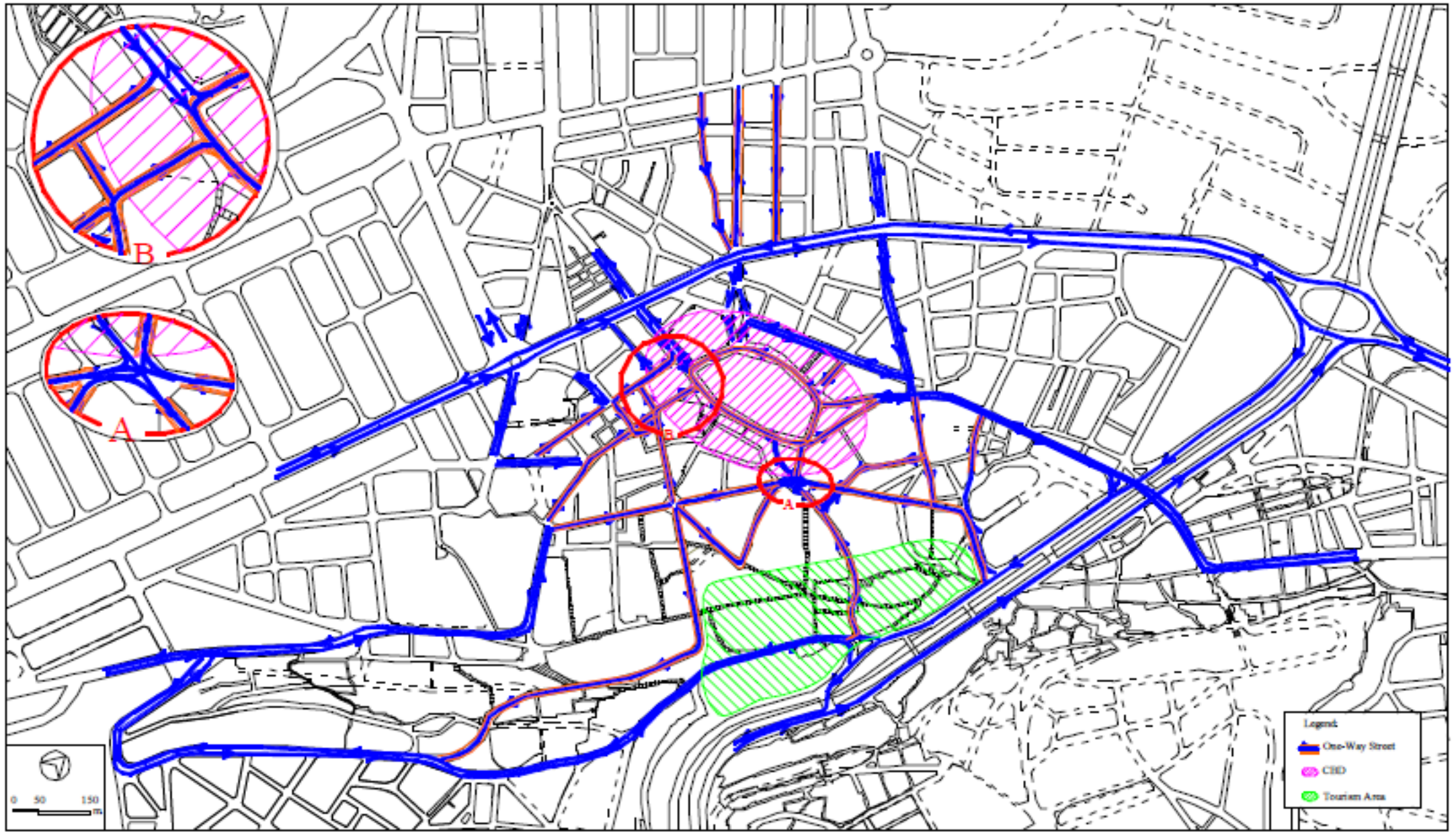


Figure 3.4-1 Present One-Way System

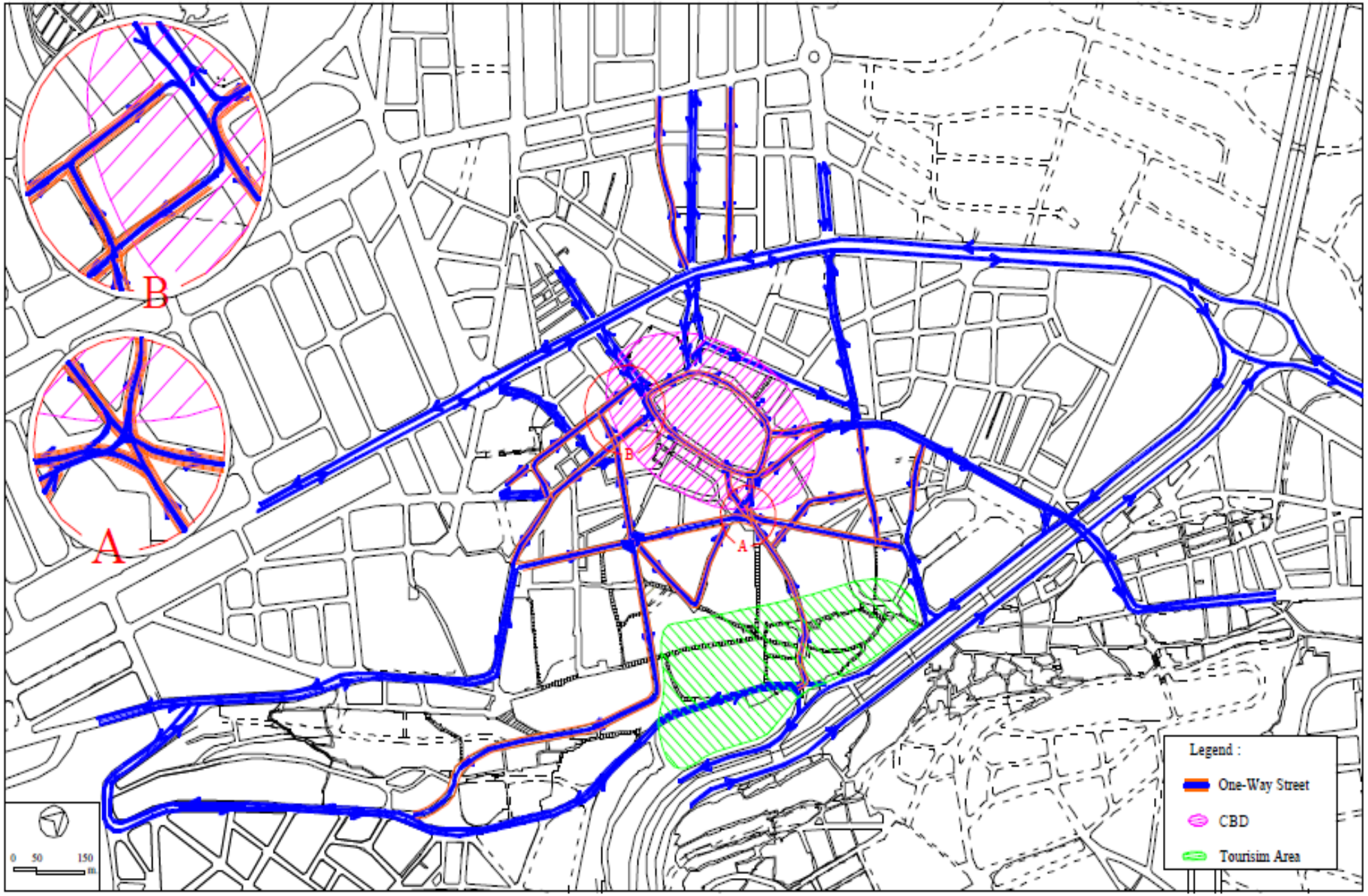


Figure 3.4-4 Proposed One-Way System

ON-STREET AND OFF-STREET PARKING

Locations of off-Street parking Areas

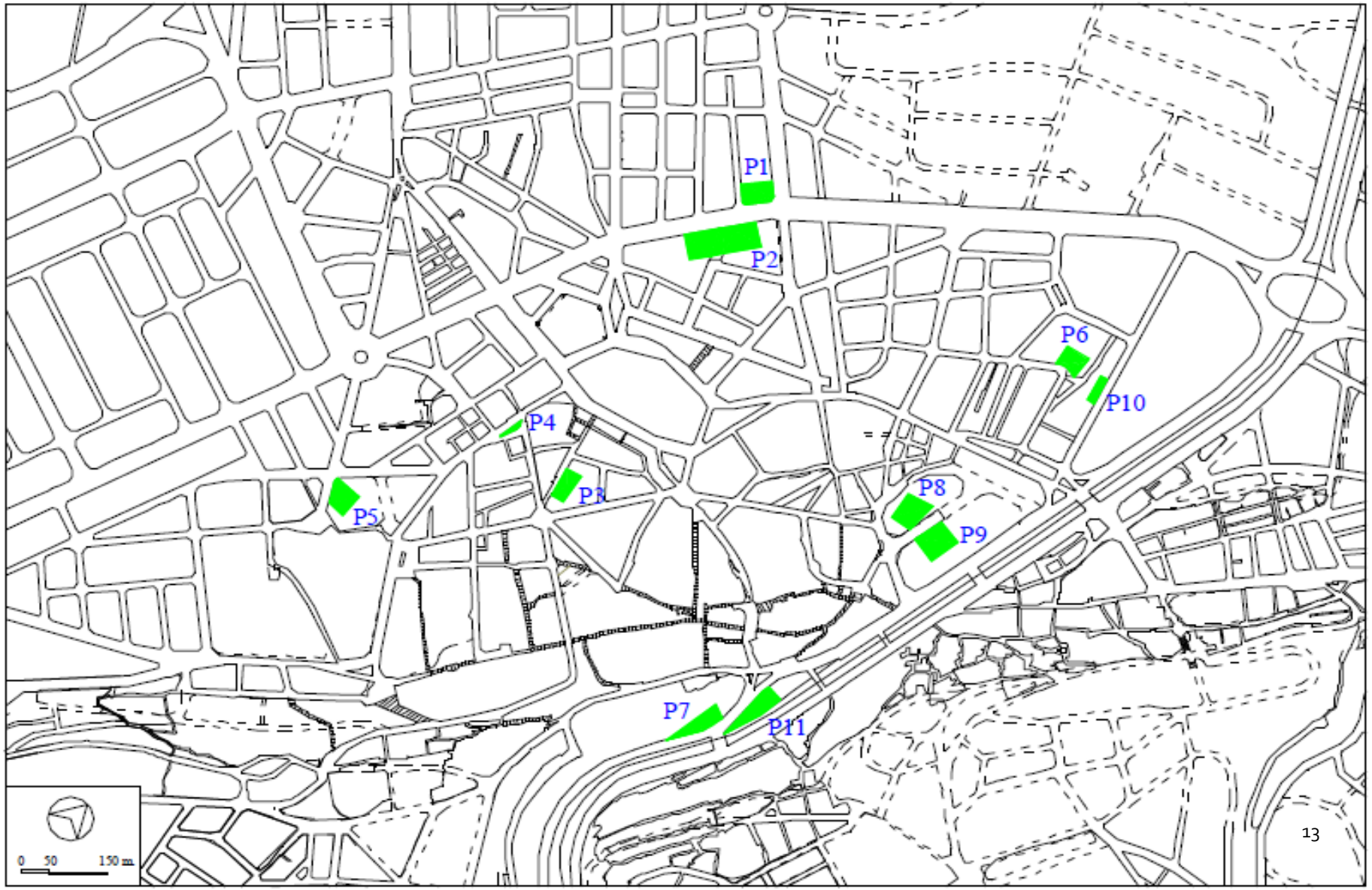


Figure 3.5-1 Locations of Off-Street Parking Areas

Location of on-Street parking survey

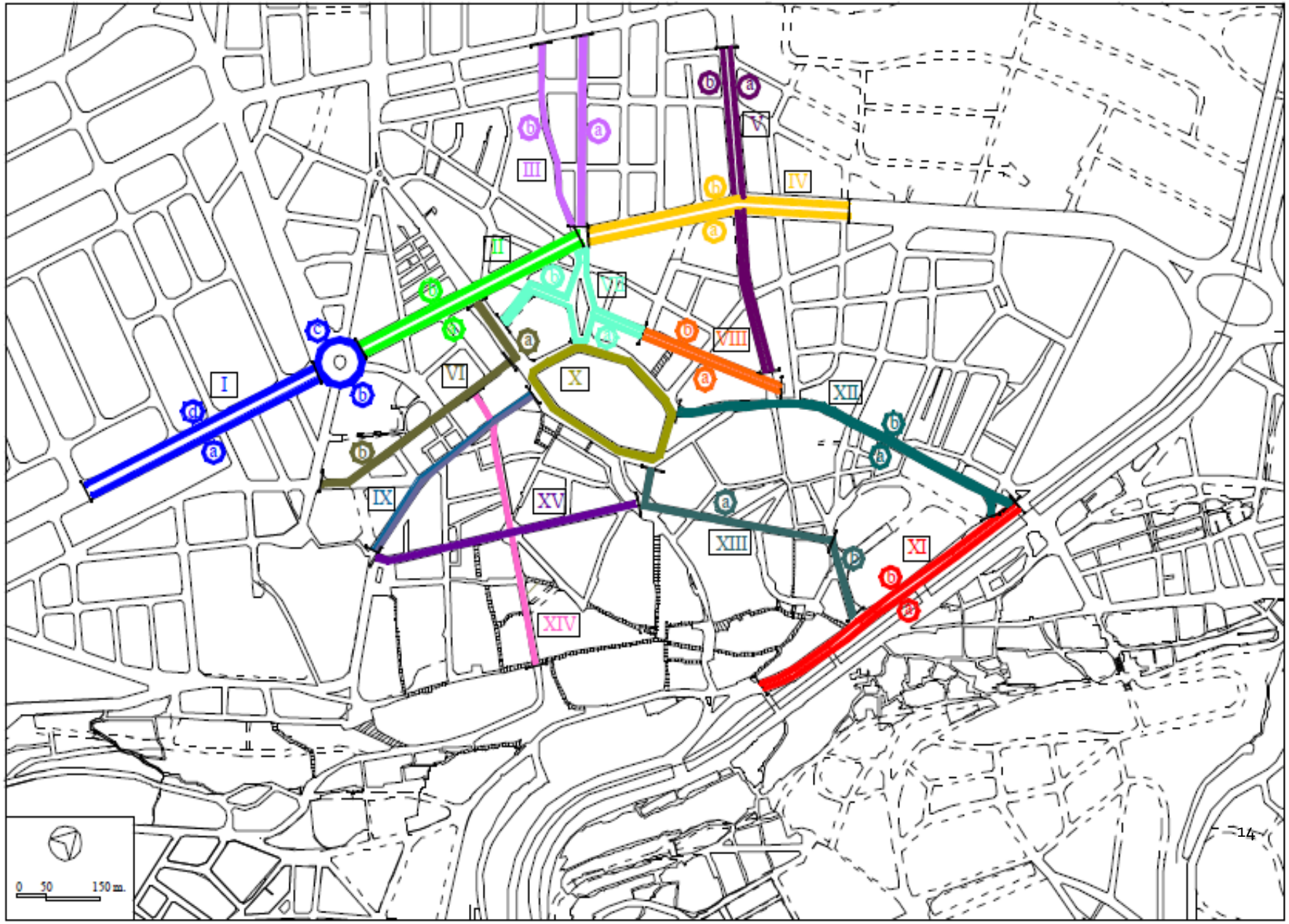


Figure 3.5-2 Locations of On-Street Parking Survey

Present on-street parking conditions

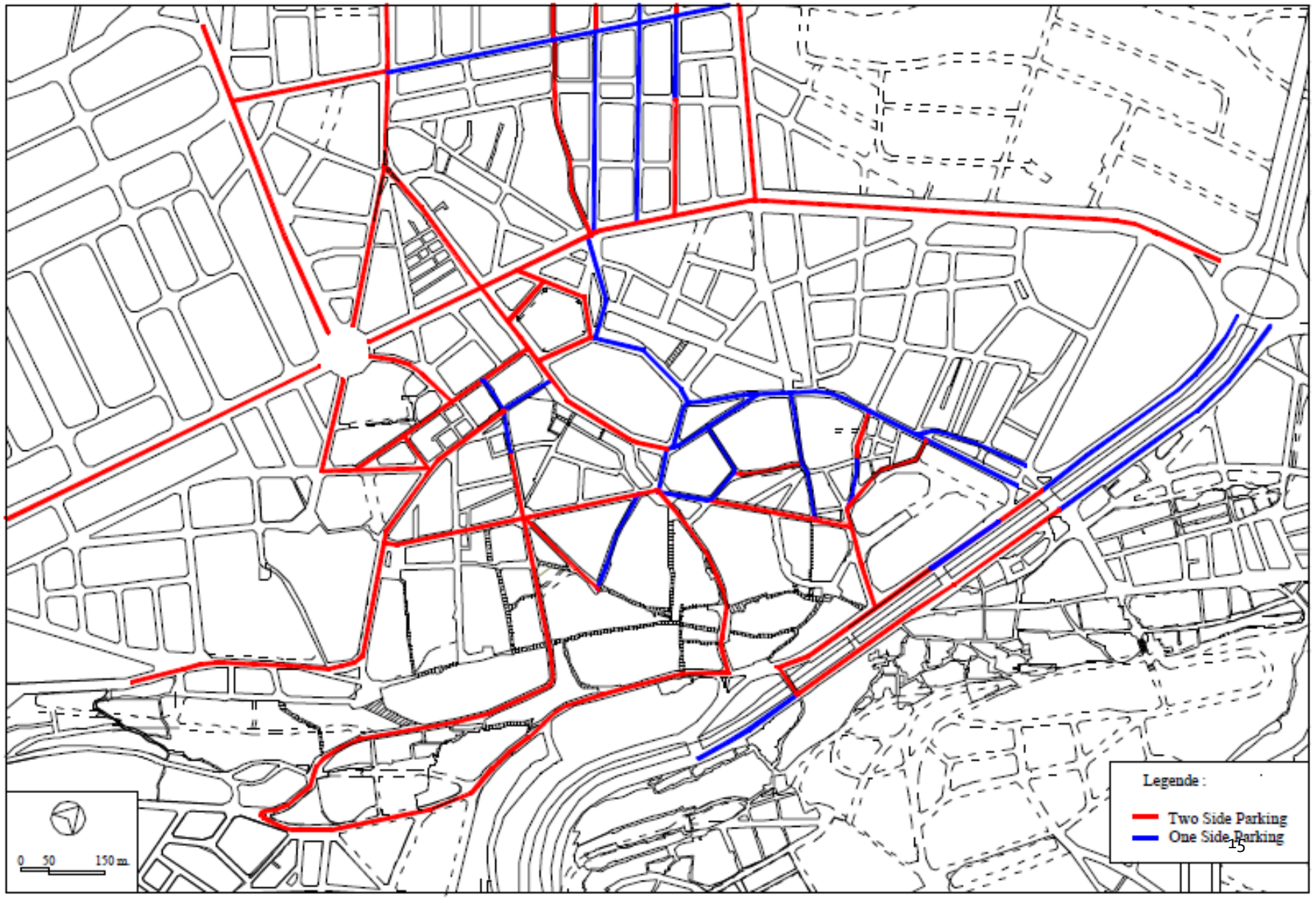


Figure 3.5-3 Present On-Street Parking Conditions

Location characterized by Double and Sidewalk parking

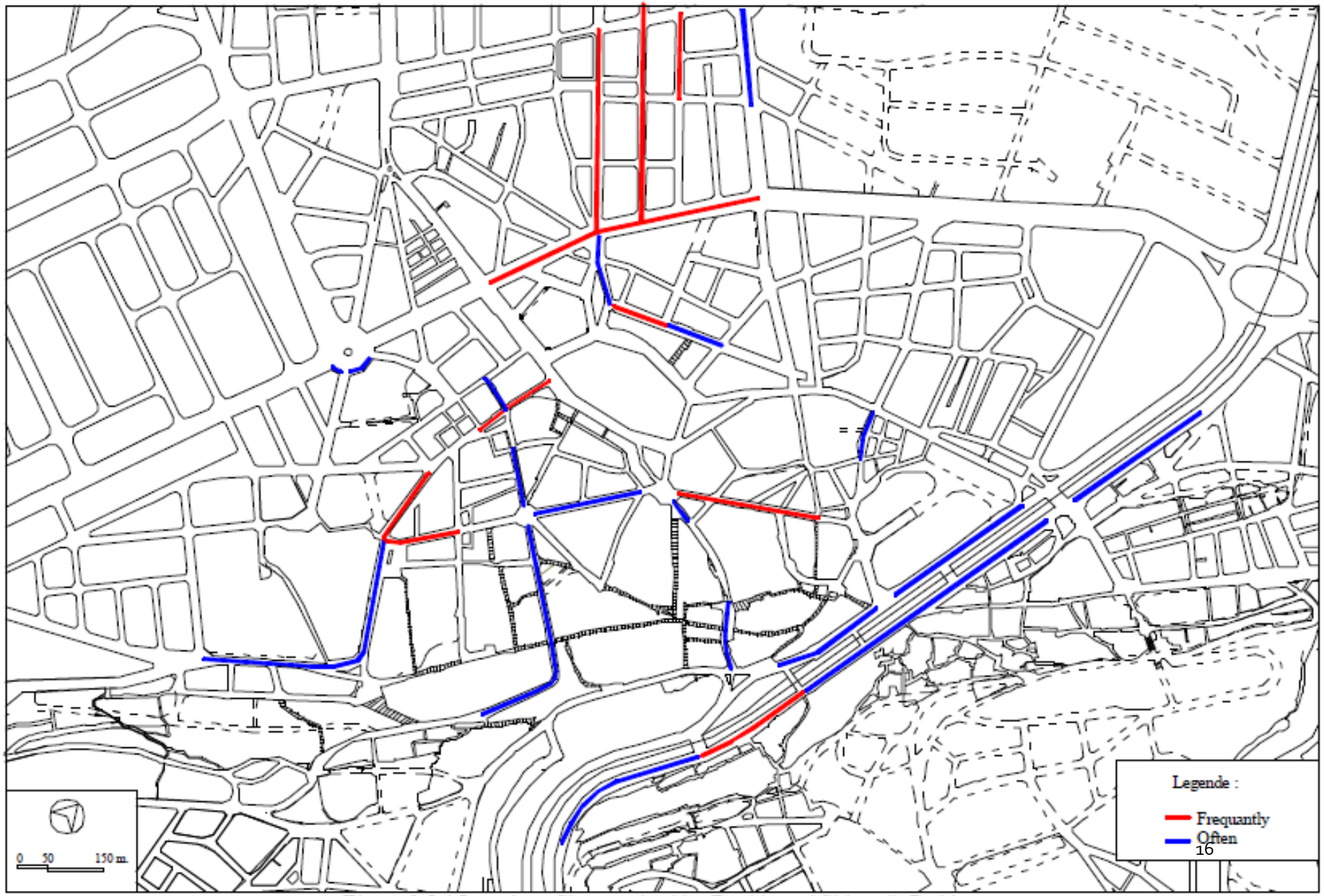


Figure 3.5-4 Locations Characterized by Double and Sidewalk Parking

On-Street parking short term plan

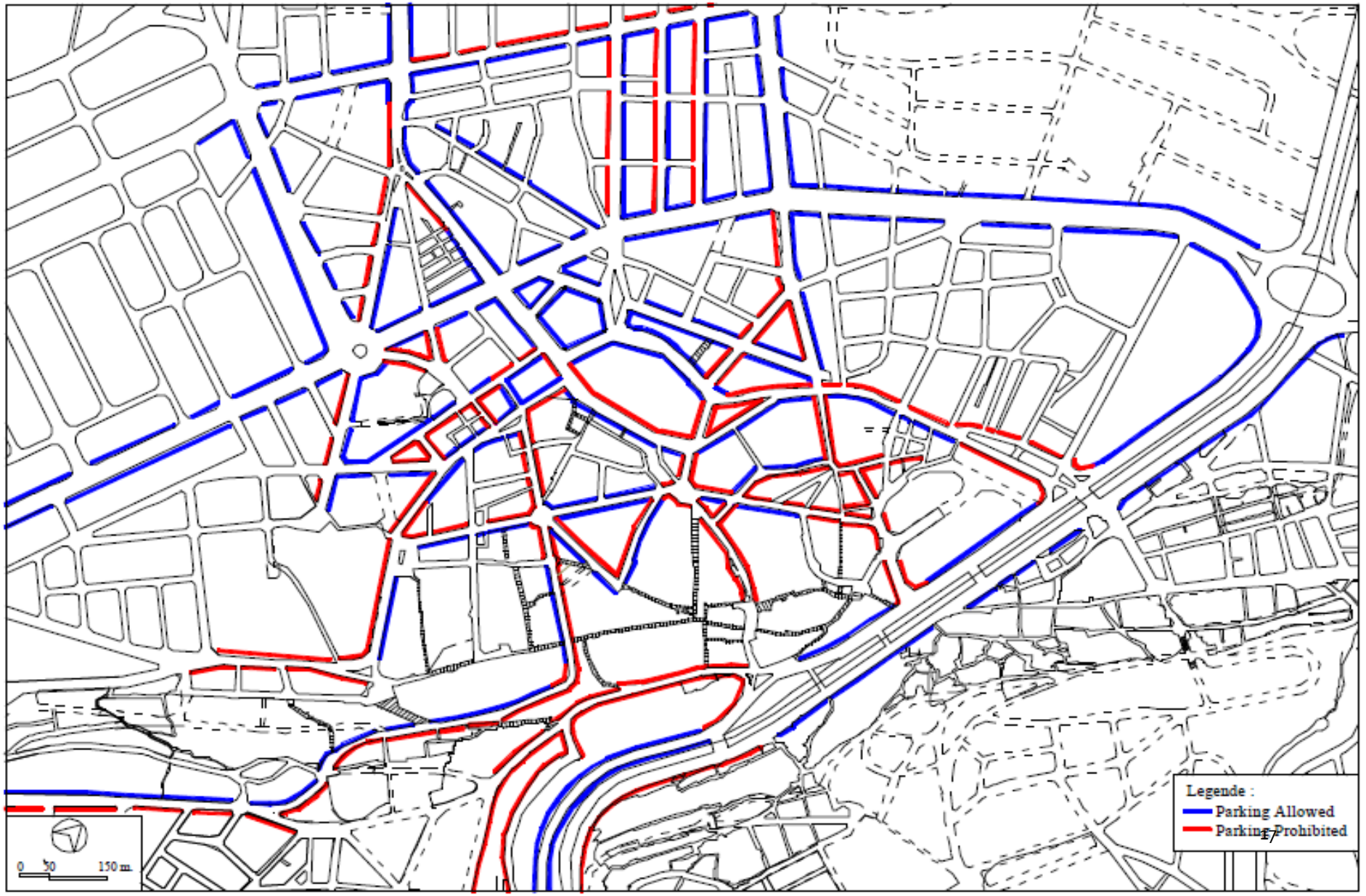


Figure 3.5-6 On-Street Parking Short Term Plan

Time limit zone

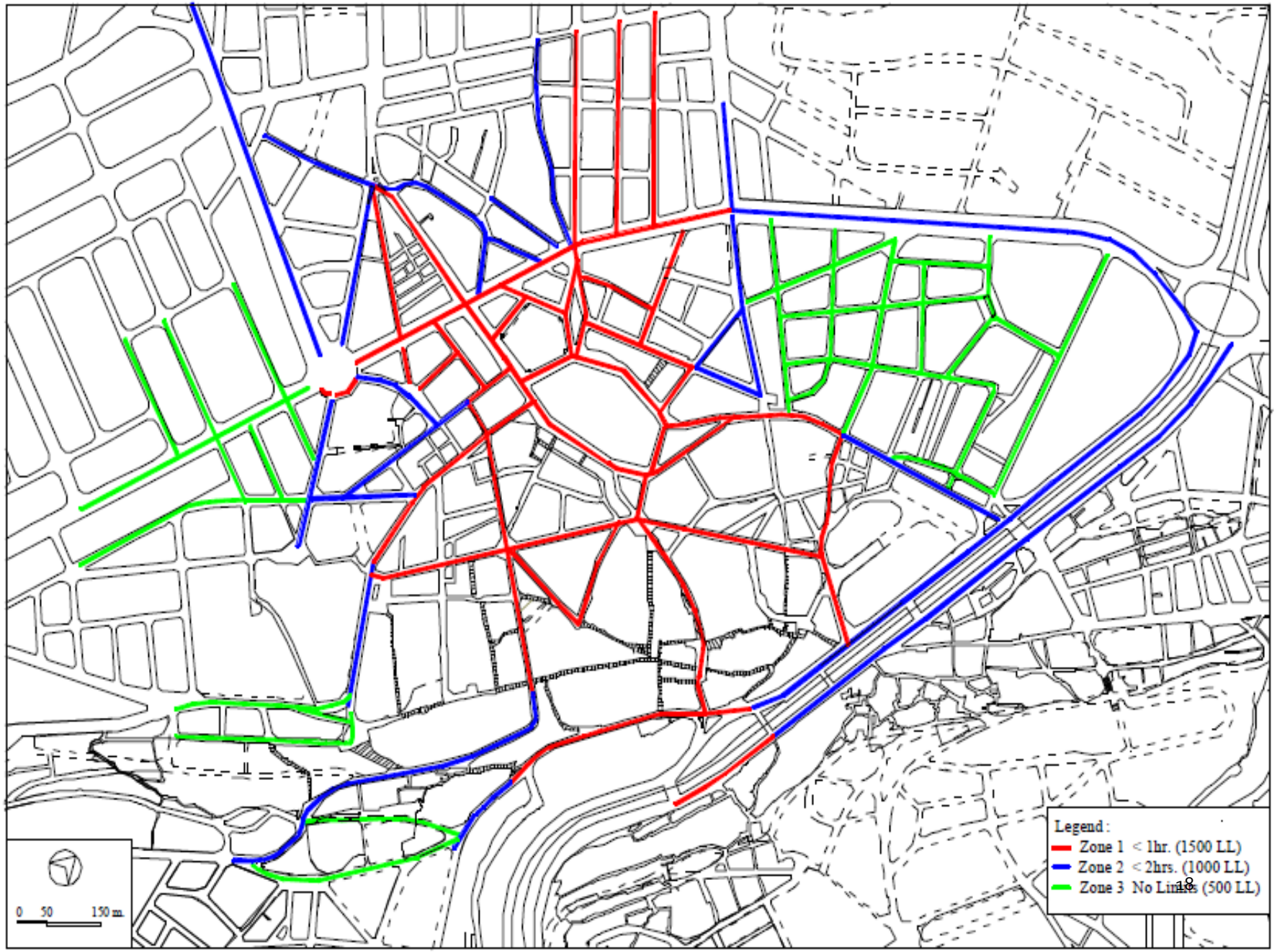


Figure 3.5-7 Time Limit Zones

INTERSECTION IMPROVEMENT AND TRAFFIC SIGNALS

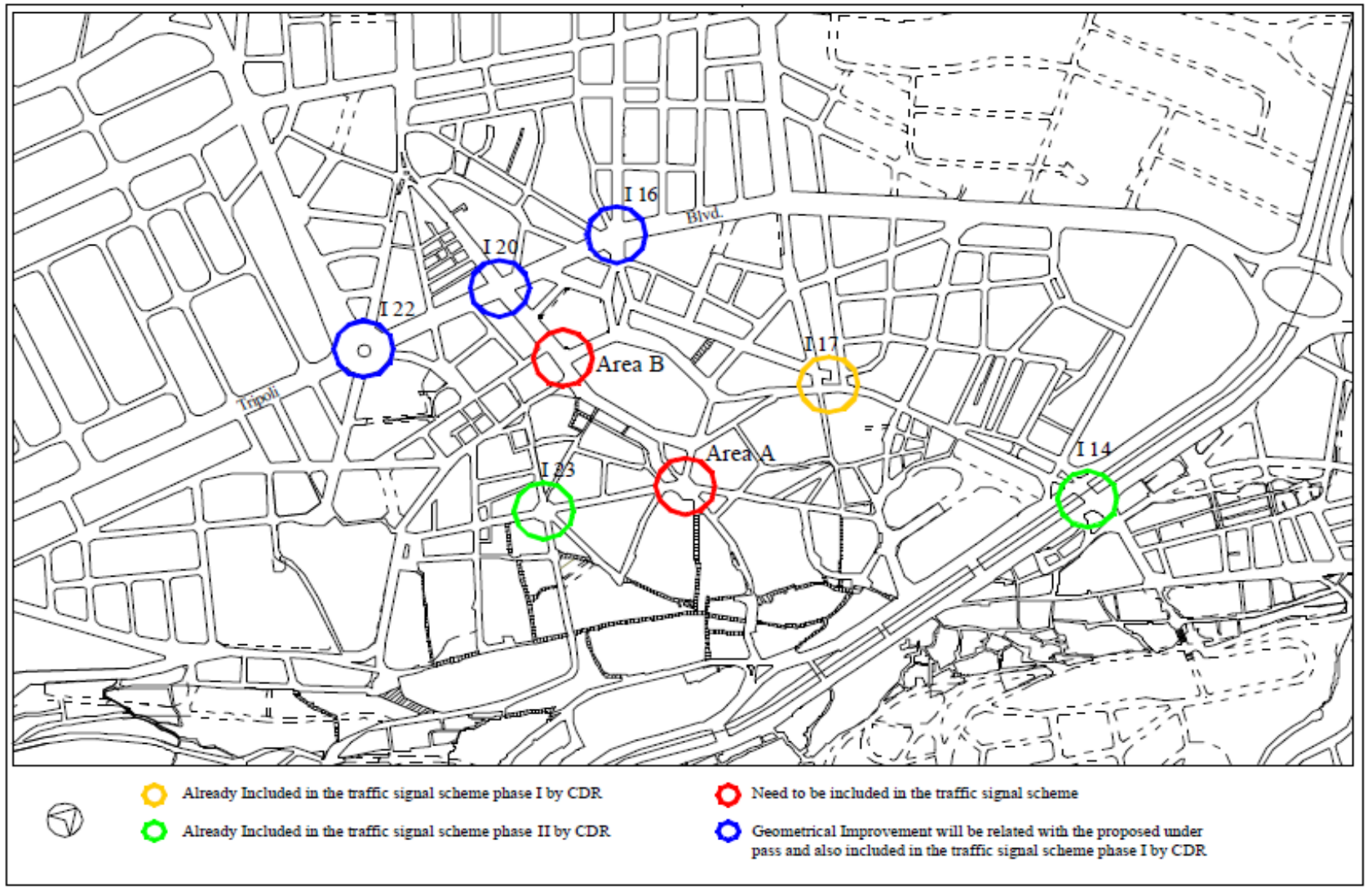


Figure 3.6-1 Main Location of Geometric Improvement

Locations map of street inventory survey

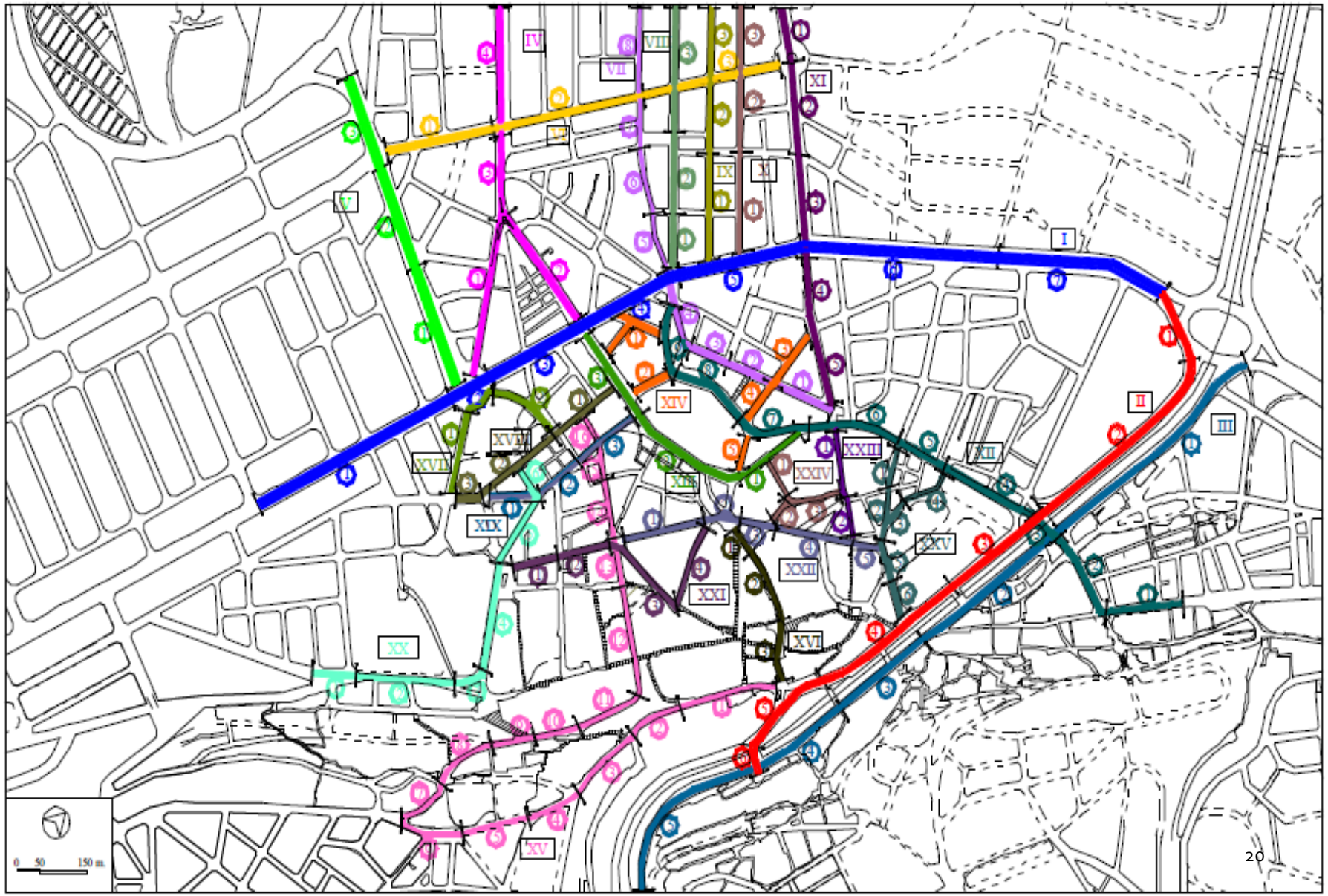


Figure 3.6-2 Location Map of Street Inventory Survey

Maximum hourly traffic volumes

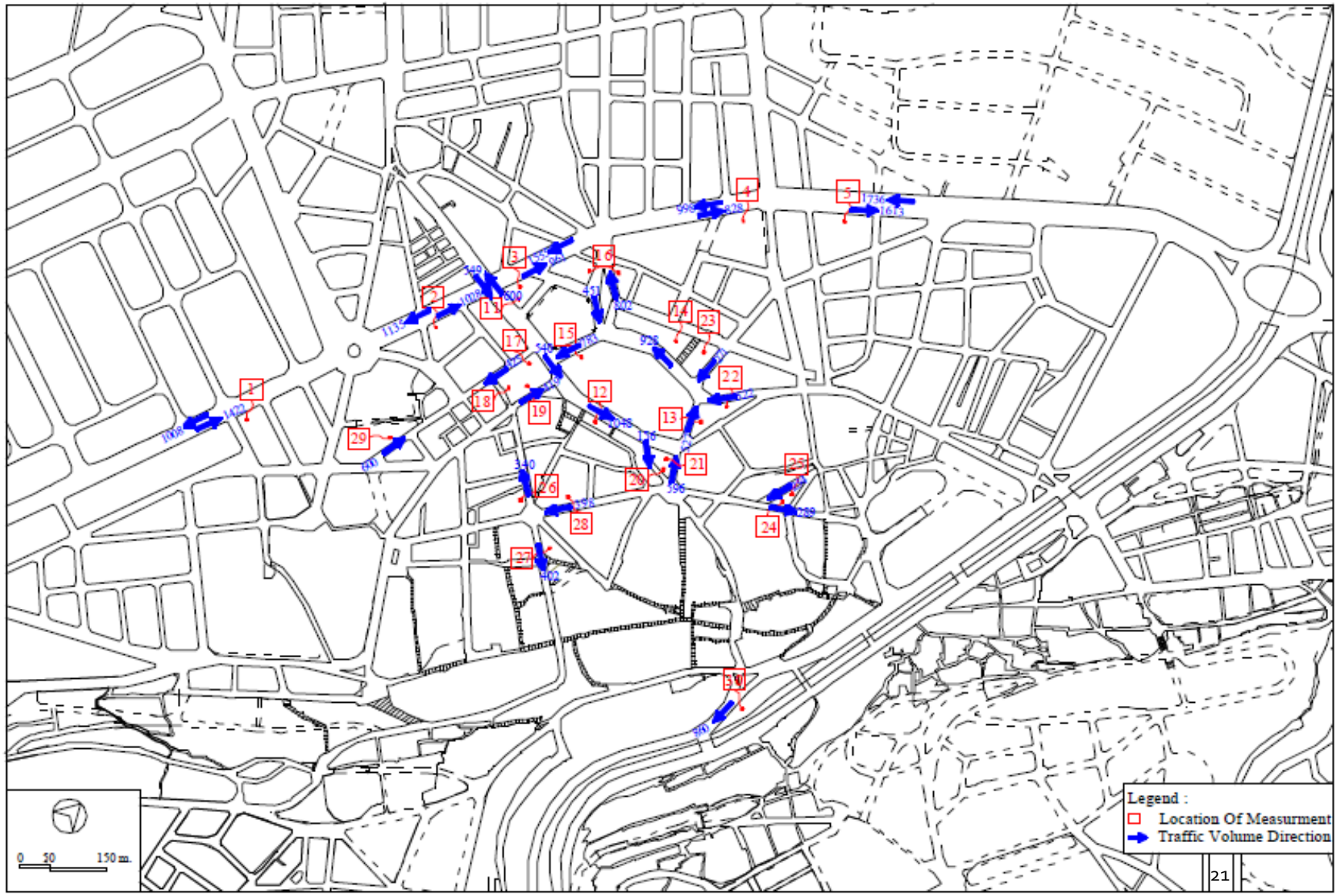
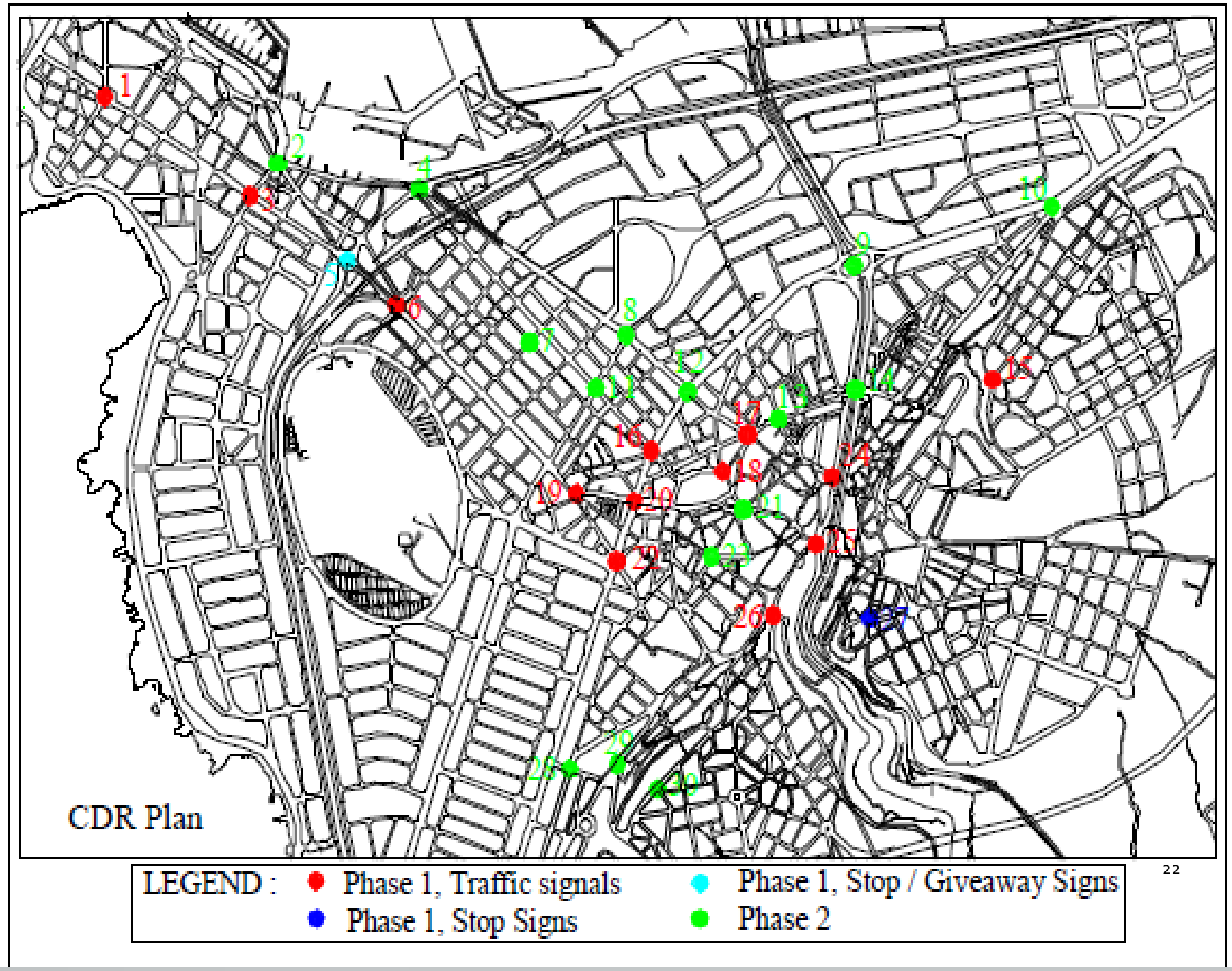


Figure 3.6-3 Maximum Hourly Traffic Volumes

Review of On-going Traffic Signal plan



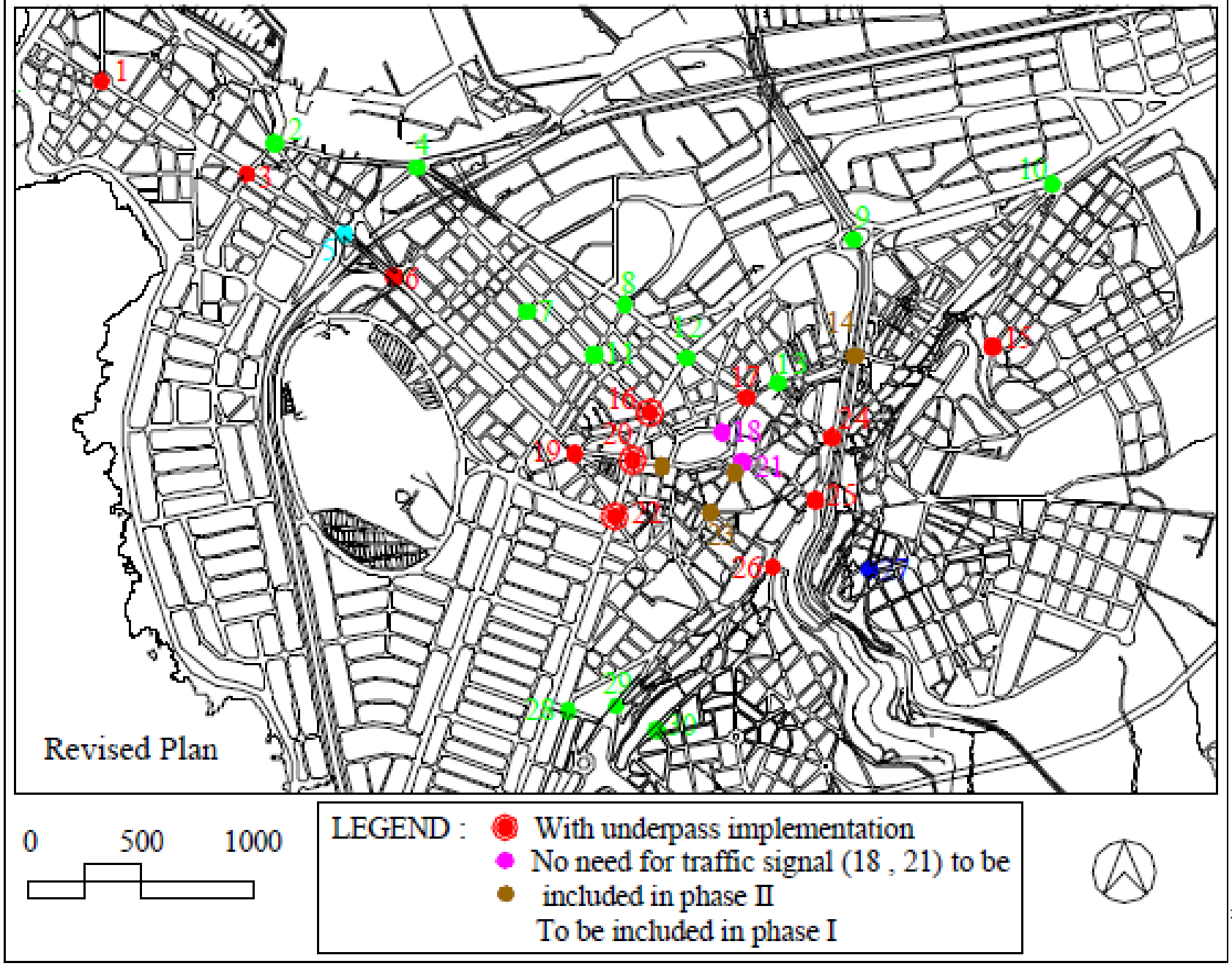


Figure 3.6-5 Review of On-Going Traffic Signal Plan

Geometrical improvement and signal phasing for intersection No 14

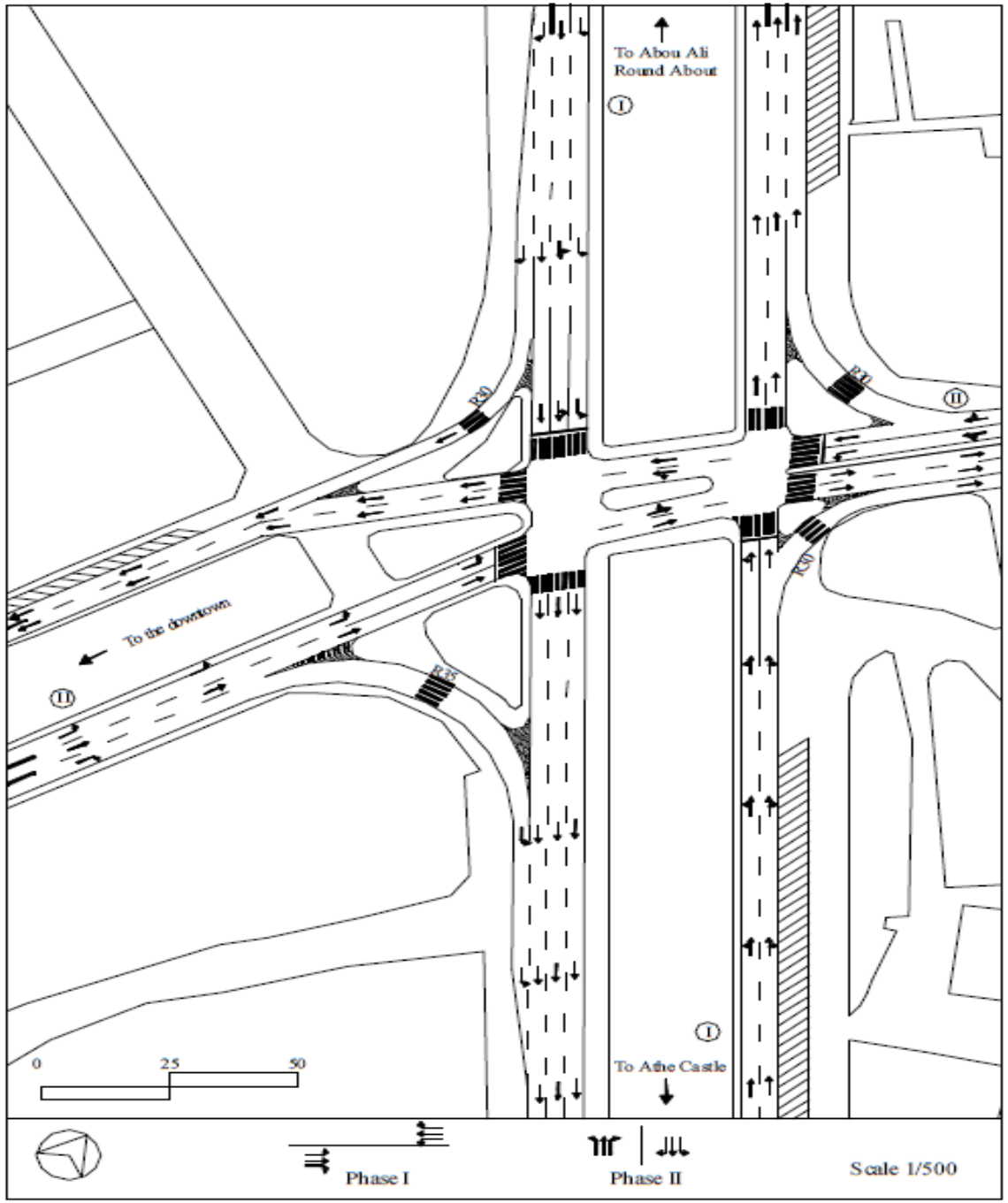


Figure 3.6-6 Geometrical Improvement and Signal Phasing for Intersection No.14

Geometrical improvement and signal phasing for intersection No 17

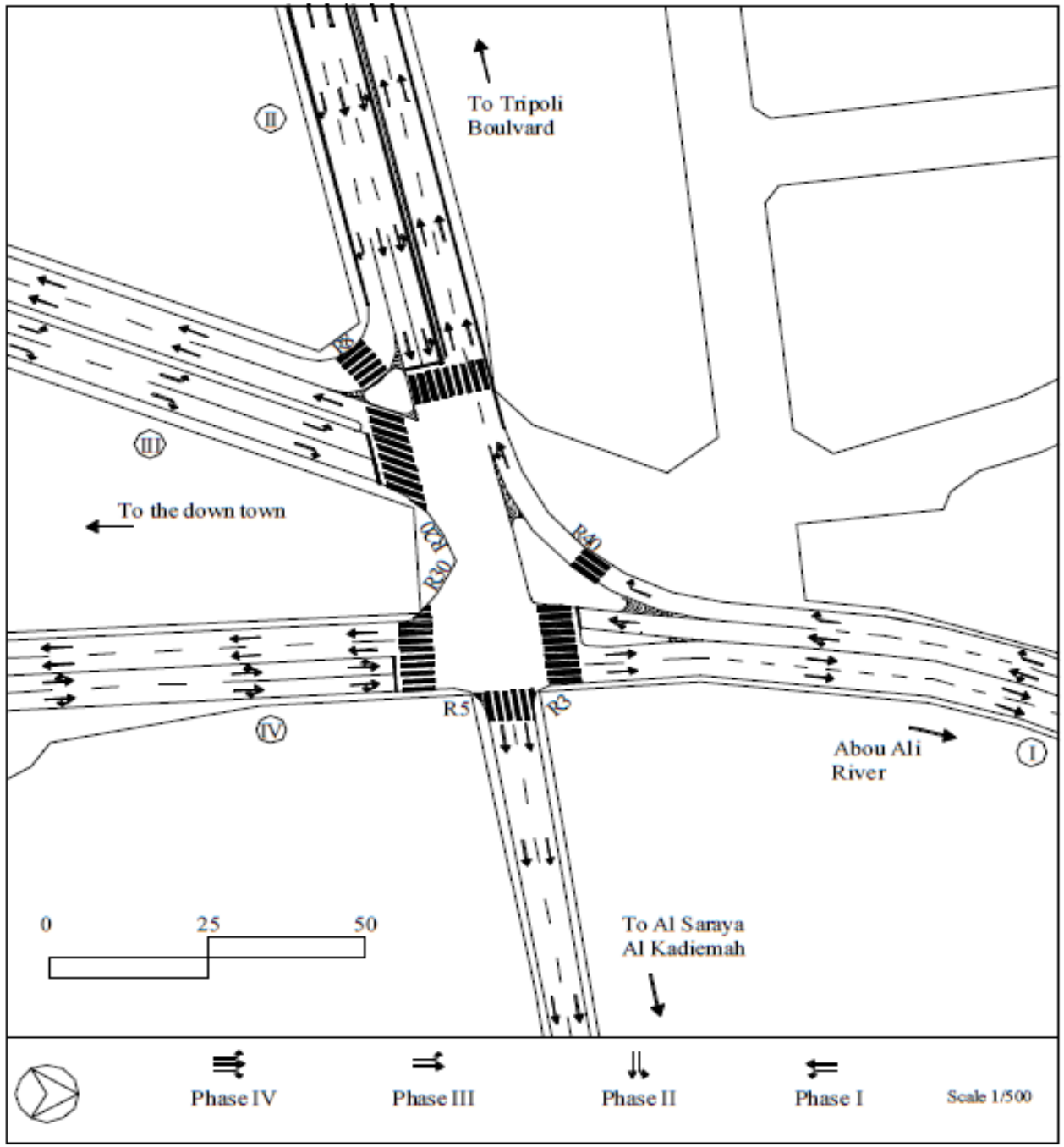


Figure 3.6-7 Geometrical Improvement and Signal Phasing for Intersection No.17

Geometrical improvement and signal phasing for intersection Al Saraya Al kadima

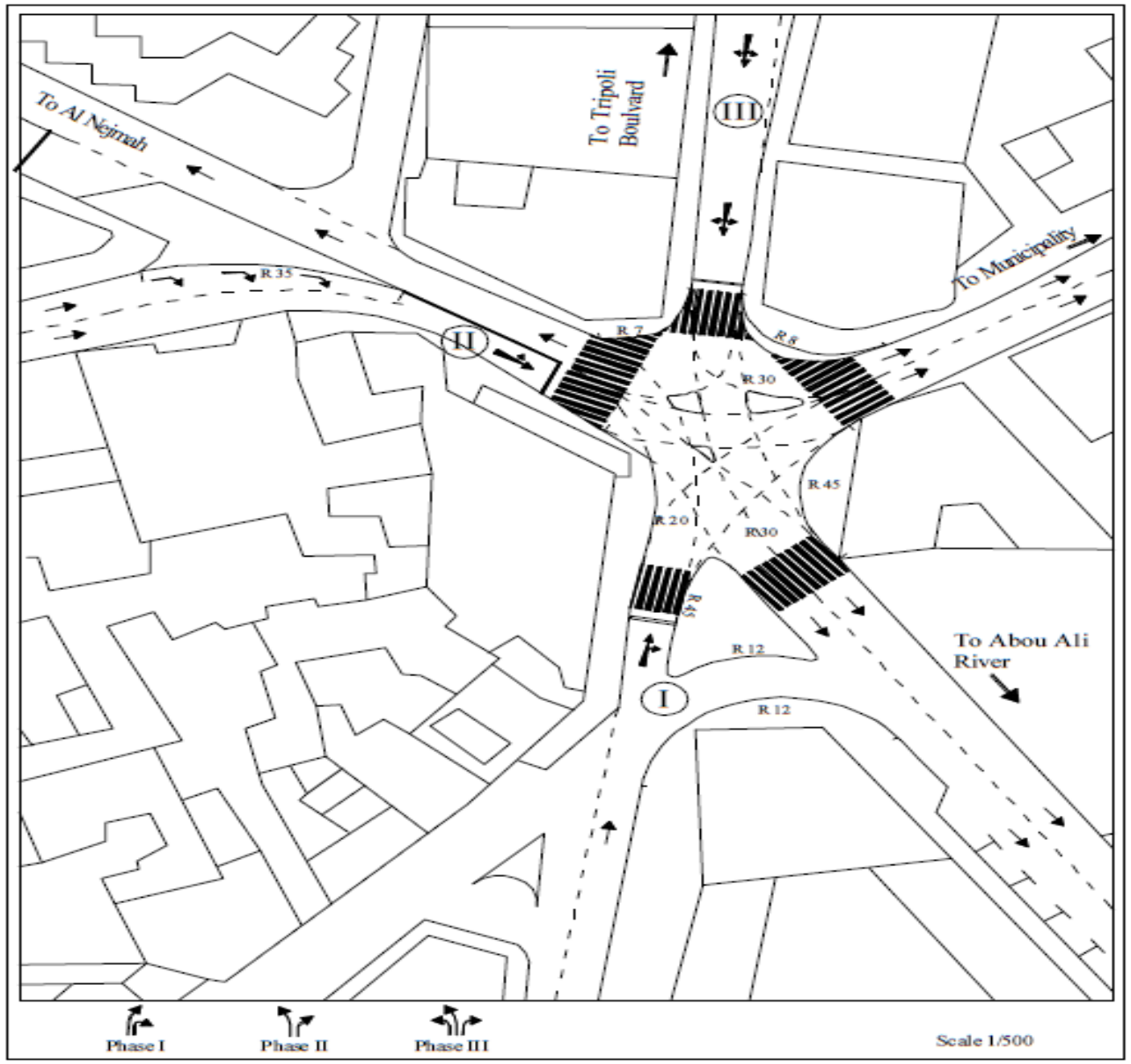


Figure 3.6-8 Geometrical Improvement and Signal Phasing for Intersection (Al Saraya Al Kadima)

Geometrical improvement and signal phasing for intersection No 23 (Al-Nejmeh square)

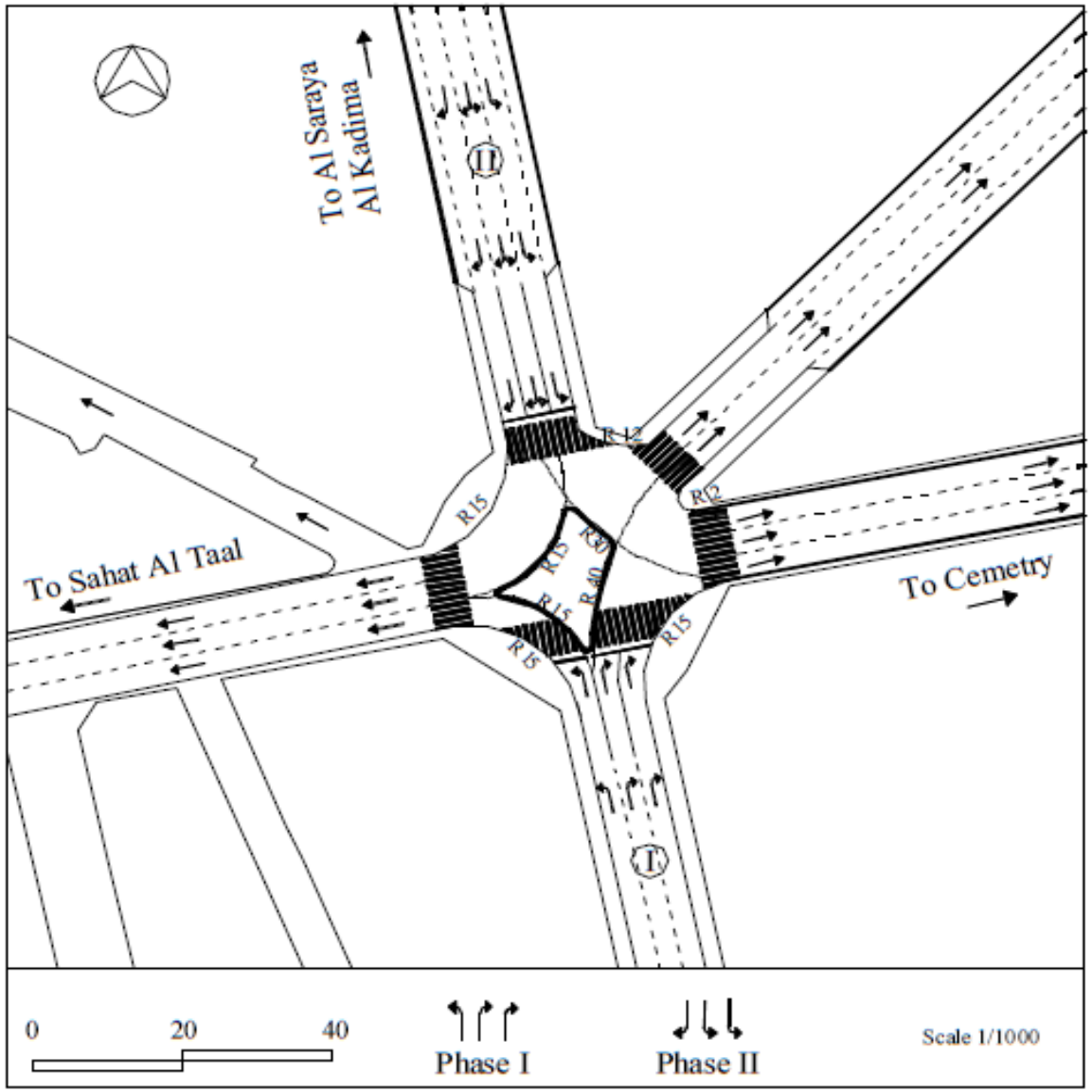


Figure 3.6-9 Geometrical Improvement and Signal Phasing for Intersection No.23 (Al-Nejmeh Square)

Geometrical improvement and signal phasing at Sahat al Tal (alternative 1)

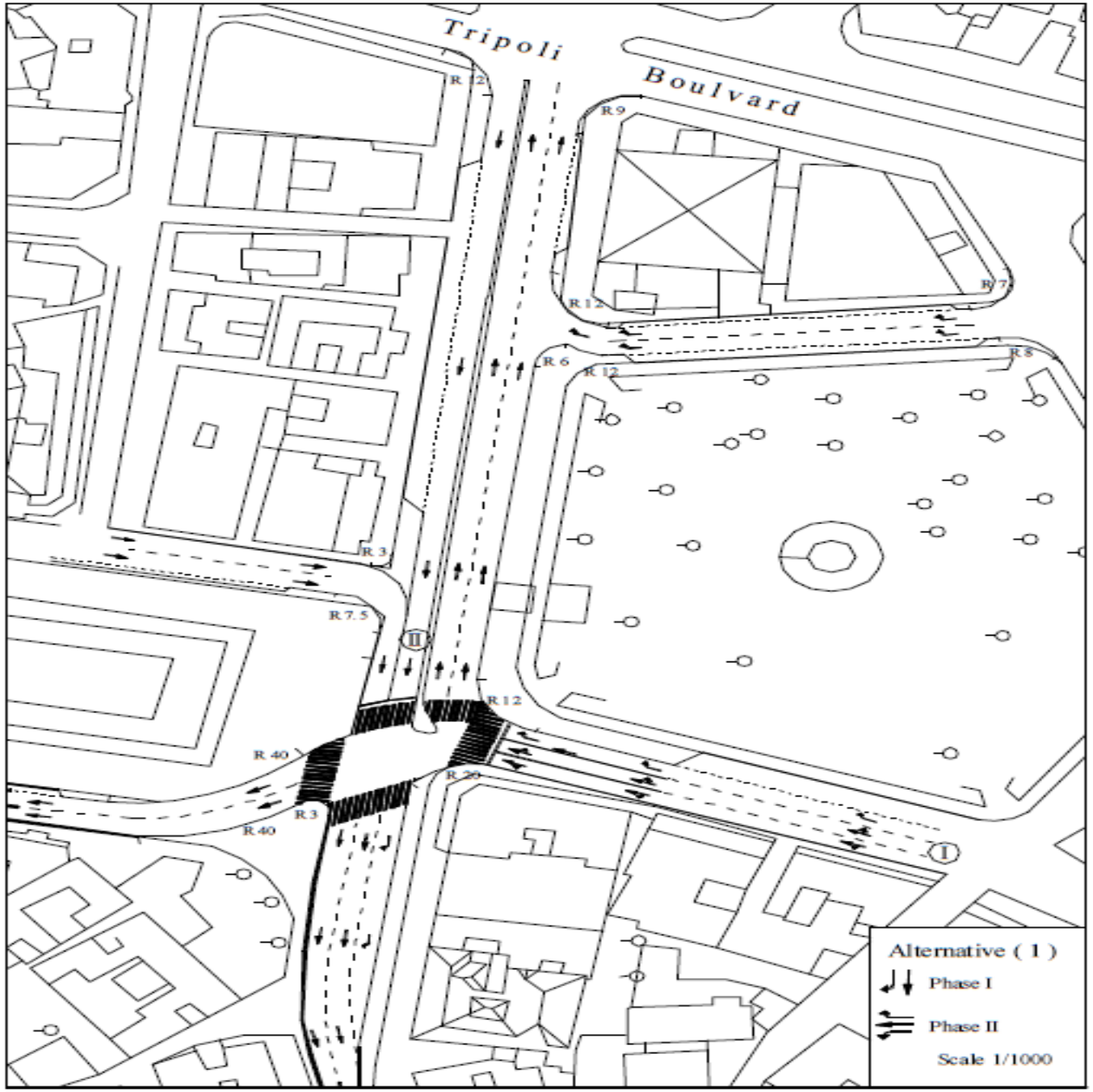


Figure 3.6-10 Geometrical Improvement and Signal Phasing at Sahat Al-Taal

Geometrical improvement and signal phasing at Sahat al Tal (alternative 2)

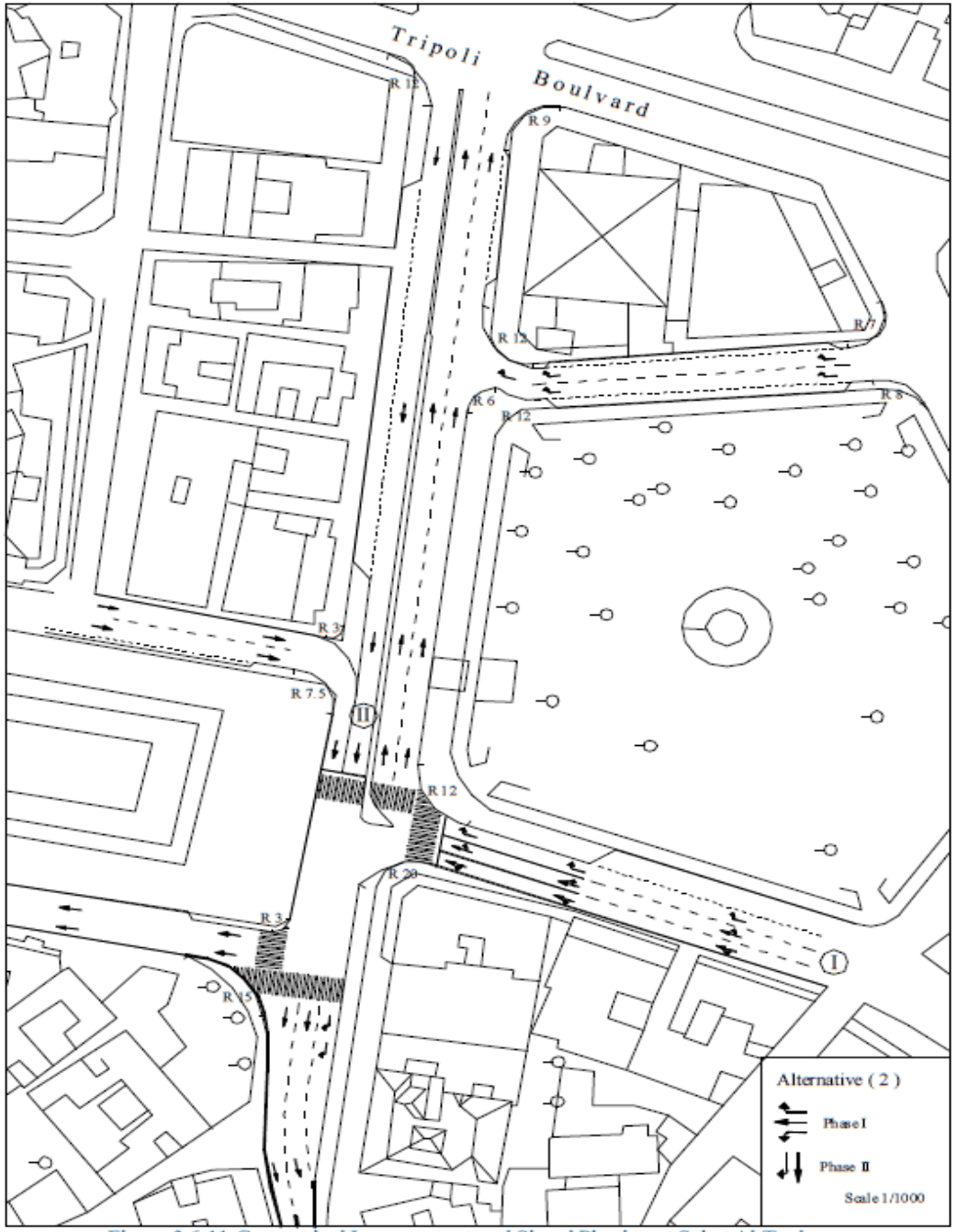


Figure 3.6-11 Geometrical Improvement and Signal Phasing at Sahat Al-Taal

TRAFFIC SAFETY FACILITIES

Table 3.7-1 Assessment of Predestrian Volume and Sidewalk Capacity

Location	Pedestrain max. volume p/min.	Sidewalk width (m)	Capacity p/min.	V/C
1a	22	2	40	0.55
1b	26	2.6	64	0.40
2a	26	3.9	116	0.22
2b	29	4.7	148	0.2
3a	13	2	40	0.33
3b	18	1.5	20	0.9
4a	20	2	40	0.5
4b	22	2	40	0.55
5a	26	2	40	0.65
5b	21	1.8	32	0.97

Table 3.7-2 Sidewalk Conditions

Condition	Area (m^2)	Ratio
Good	8,000	10 %
Fair	32,000	40 %
Bad	40,000	50 %

Table 3.7-3 Pavement Conditions

Condition	Area m^2	Ratio %
Good	30,000	7.5
Fair	360,000	90.0
Bad	10,000	2.5

Present sidewalk condition

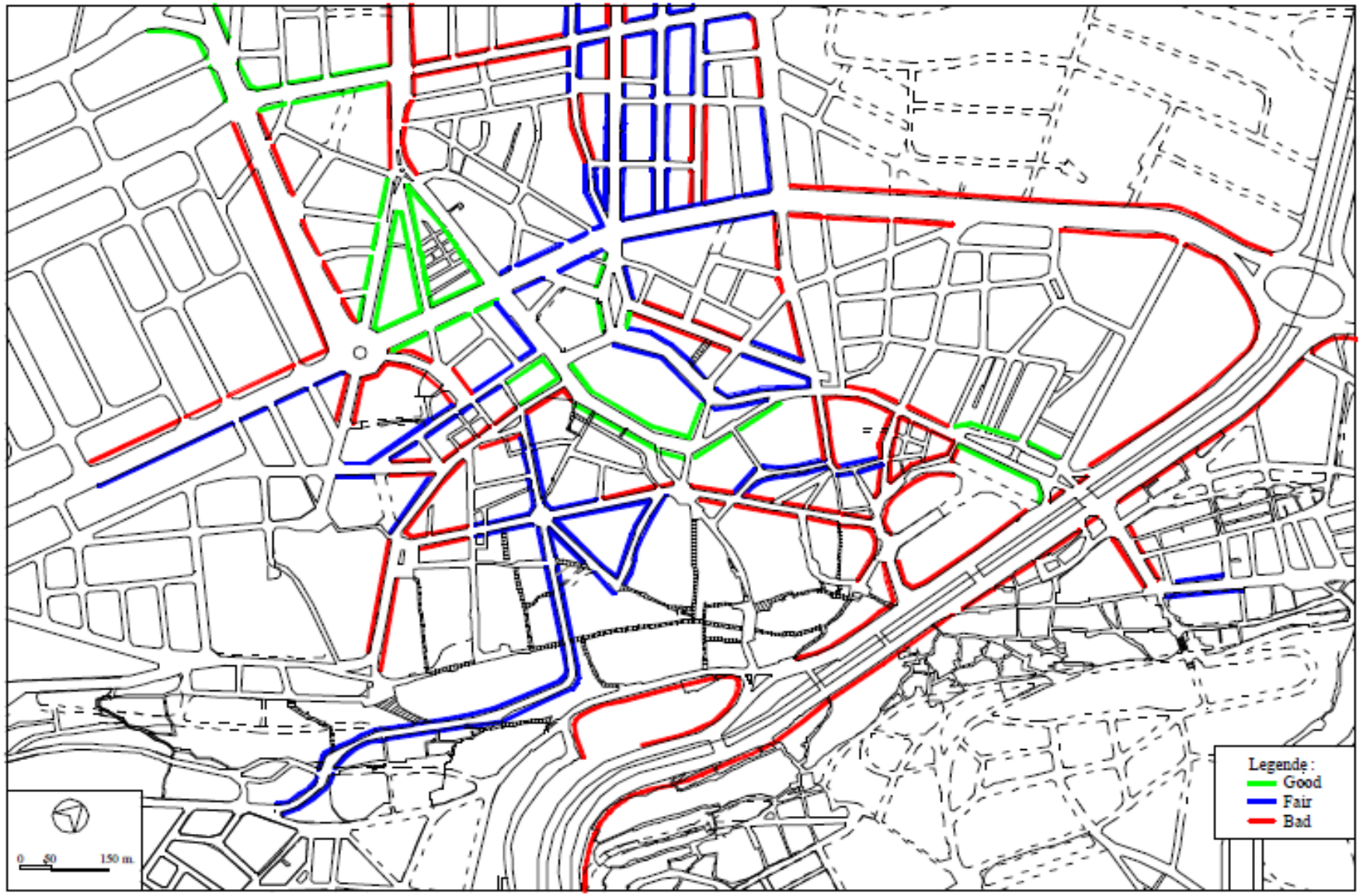


Figure 3.7-2 Present Sidewalk Conditions

Present pavement condition

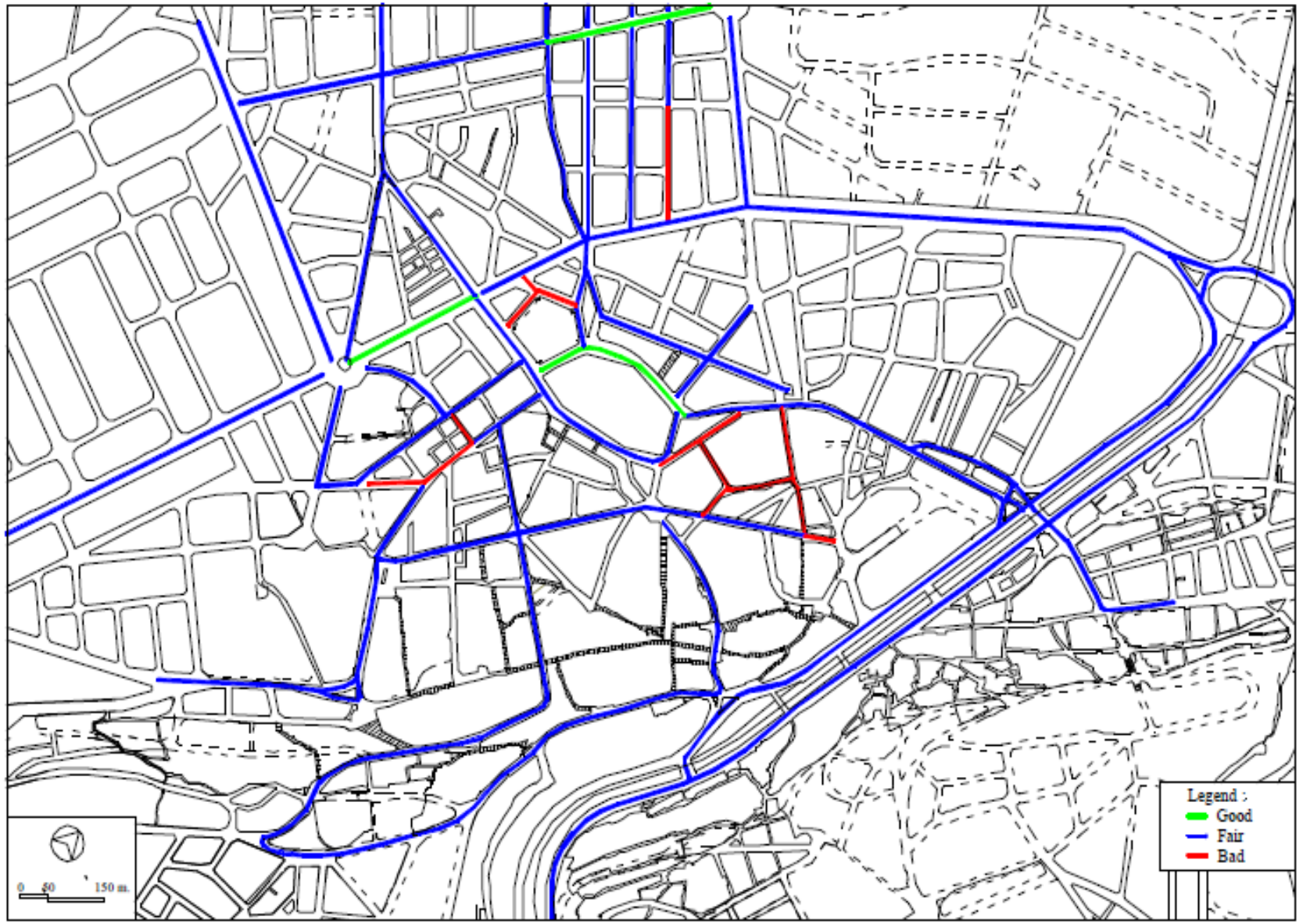


Figure 3.7-3 Present Pavement Conditions

Pavement Marking:

There is no marking in all of the downtown area. In the field of the pavement marking the following marking types have been considered:

- Lane marking.
- Cross-walk marking.
- On-street parking.
- Off-street parking.
- Channelization.

Table 3.8-1 Traffic Signs Requirements

Sign Type	Required Number
Warning	240
Regulatory	120
Informatory	240

Table 3.8-2 Road Marking Requirements

Type of Marking	Area (m^2)
Lane	4000
Cross-walk	3000
Edge	4000
On-street	4800

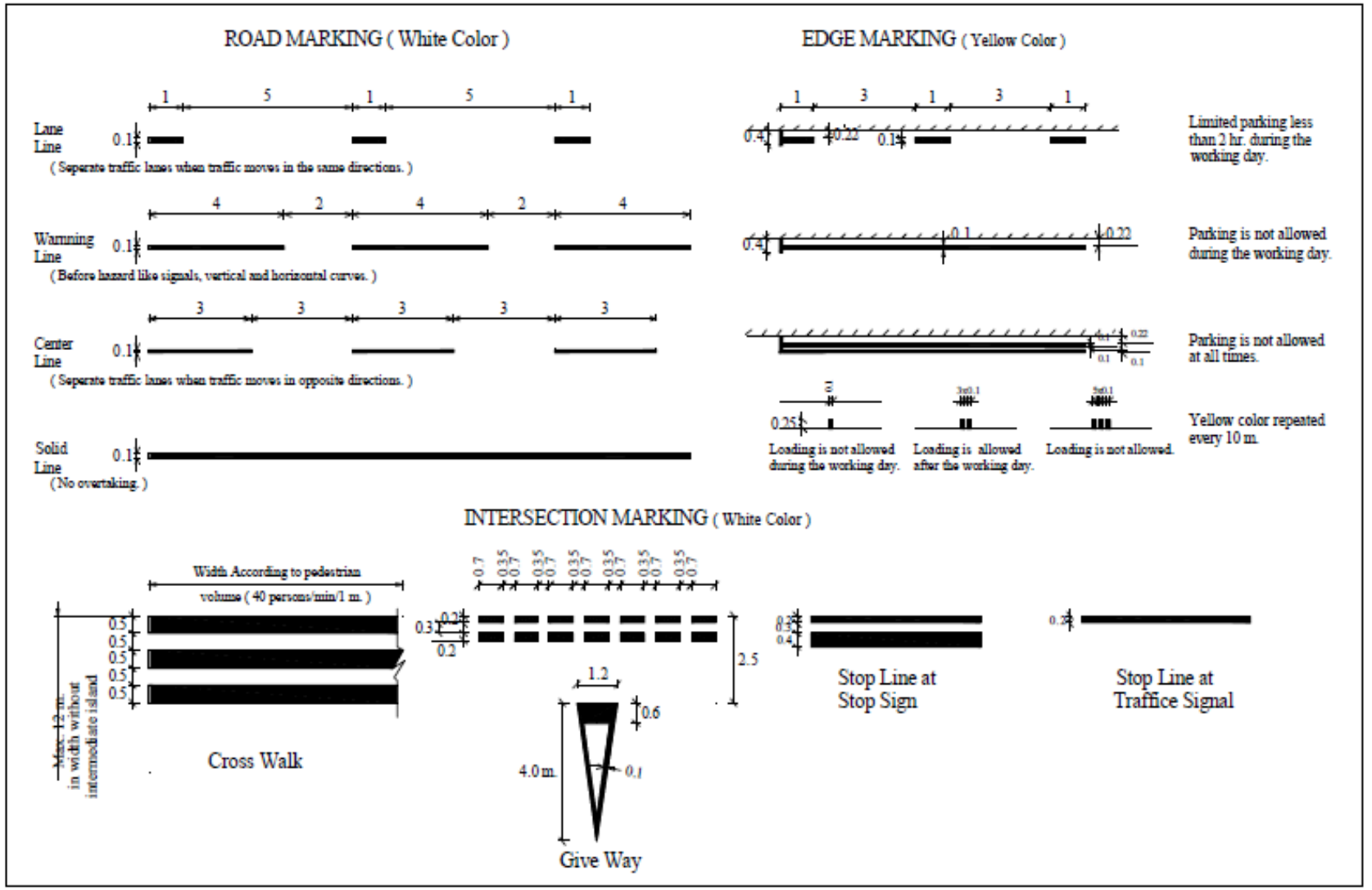


Figure 3.8-1 Typical Example of Pavement Marking

جزاكم الله خيرا