

The Lebanese American Renaissance Partnership In collaboration with The American Lebanese Chamber of Commerce

Infrastructure:
Roads and Rails, Who Benefits?

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Early Roads

Roads were the early forms of infrastructure connecting communities and allowing for the transport of people and goods. At that time, humans & animals were the primary mode of transportation.



Early form of Urban Streets & Squares

The first international convention of city planners came to New York in 1898 and they were quick to place the urban horse on the top of their agenda.



Beirut Yesterday



80s

Re-connecting the country

Northern entrance

To foster economic growth.

Before



After

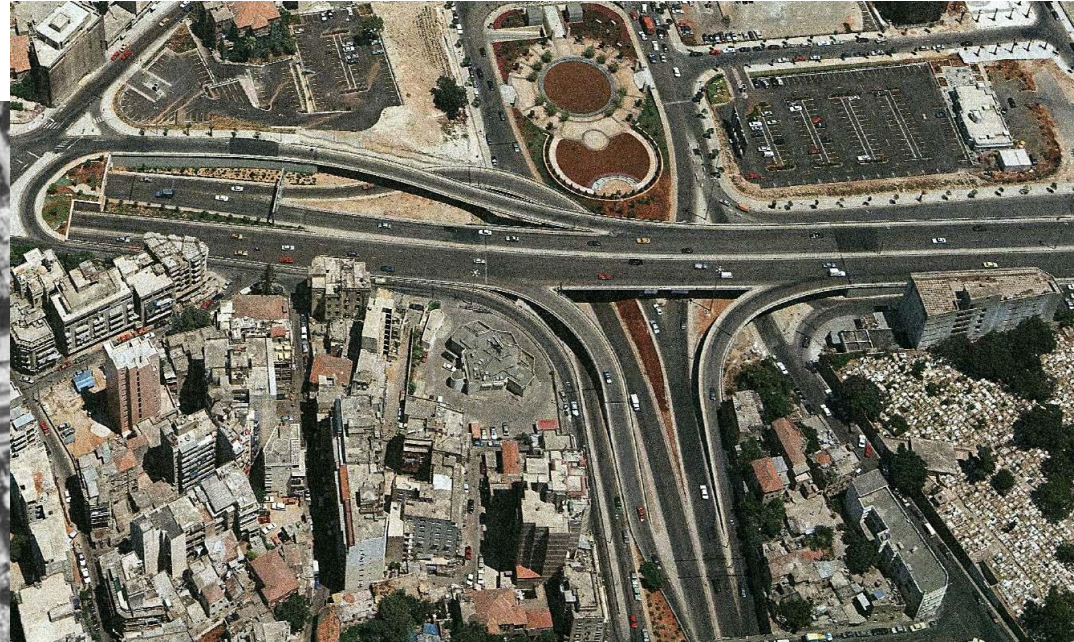


Re-Building Beirut Central District

To promote social interaction.

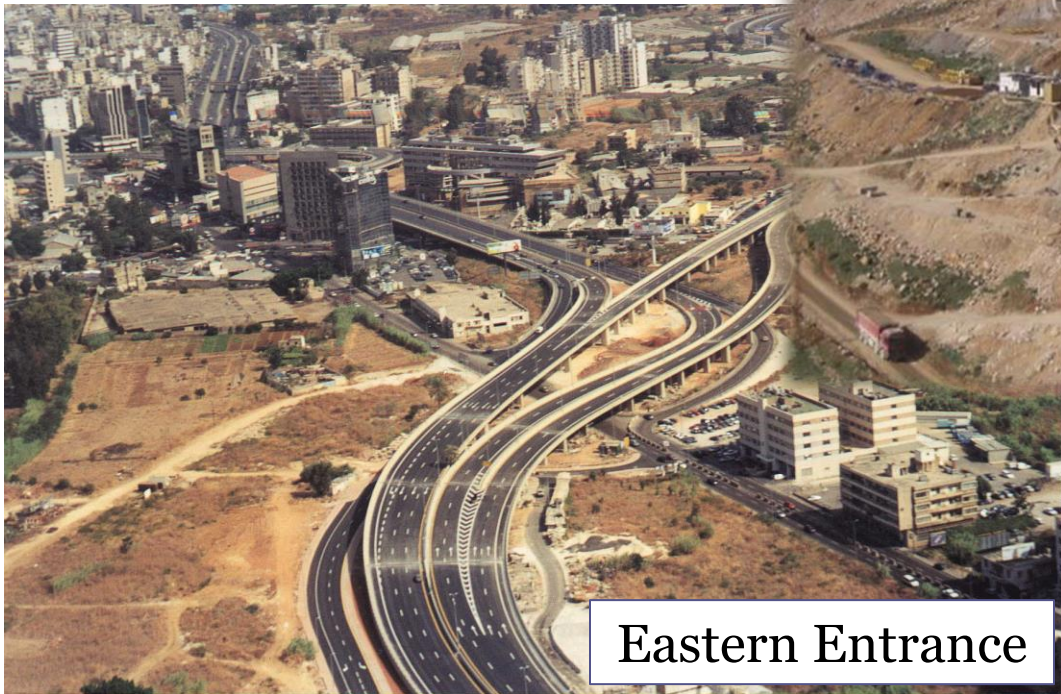
After

Before

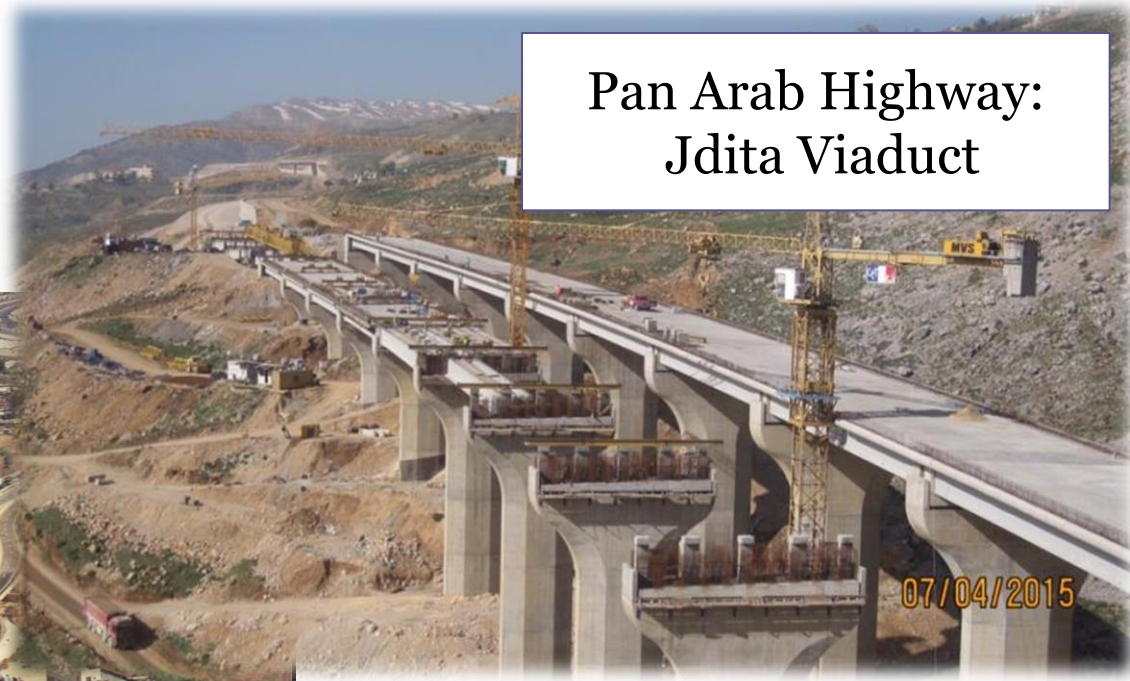


Still connecting the country

To move people out of isolation and therefore poverty



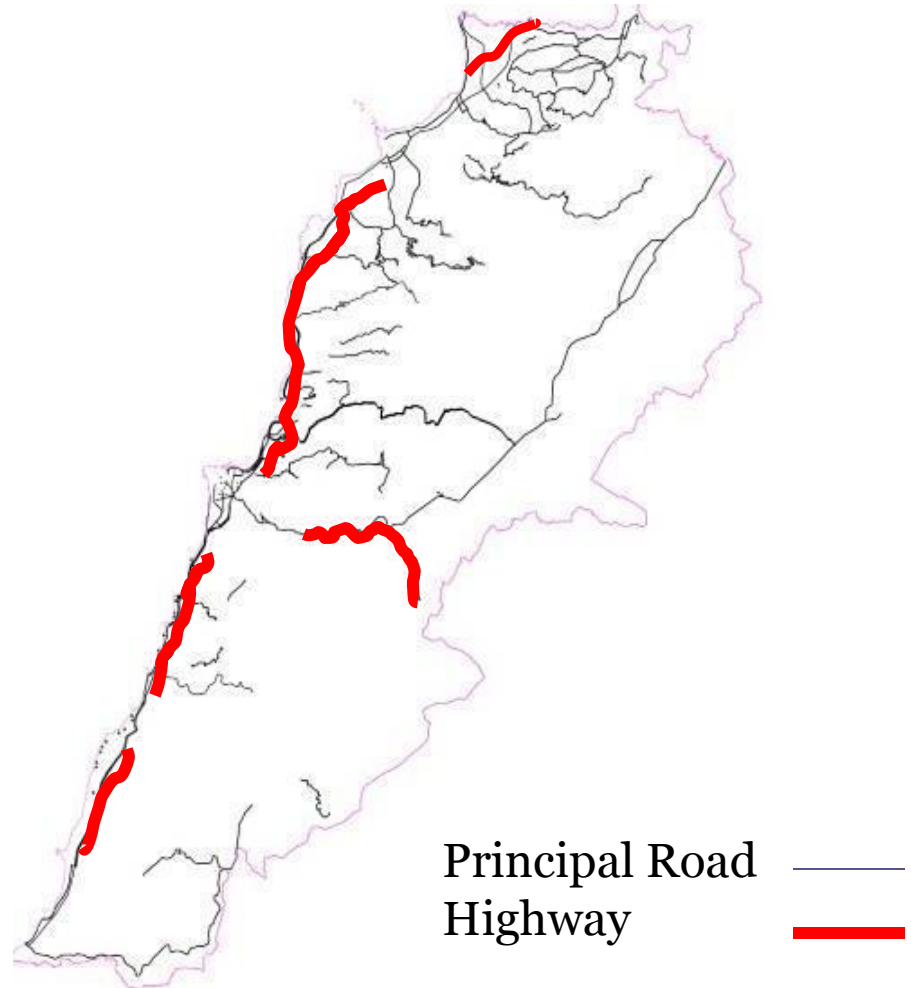
Eastern Entrance



Pan Arab Highway:
Jdita Viaduct

Transport Sector Development

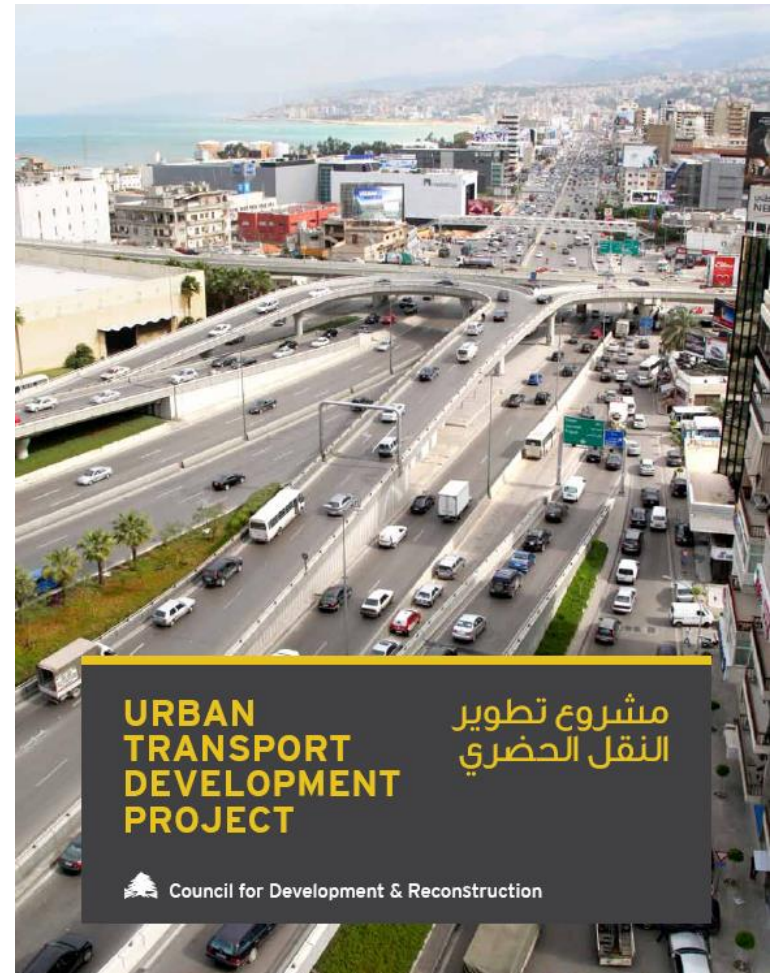
- **2.3 billion \$:**
Investment in the land transport sector since 1993 till 2014.
- **250 Million \$:**
Investment in urban transport development



Urban Transport Development Project (UTDP)

Safety & Mobility were the objectives of the UTDP in Greater Beirut Area. The components of UTDP were:

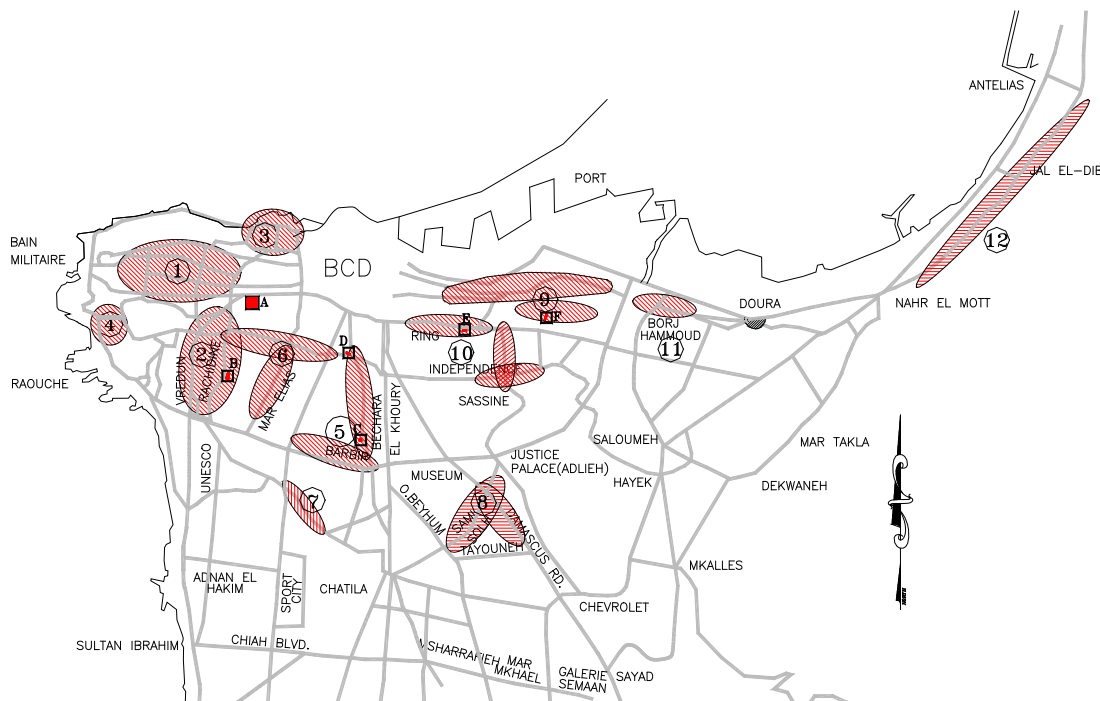
- On-Street Parking management
- Traffic management
- Urban corridors improvements
- Training & awareness



Urban Transport Development Project

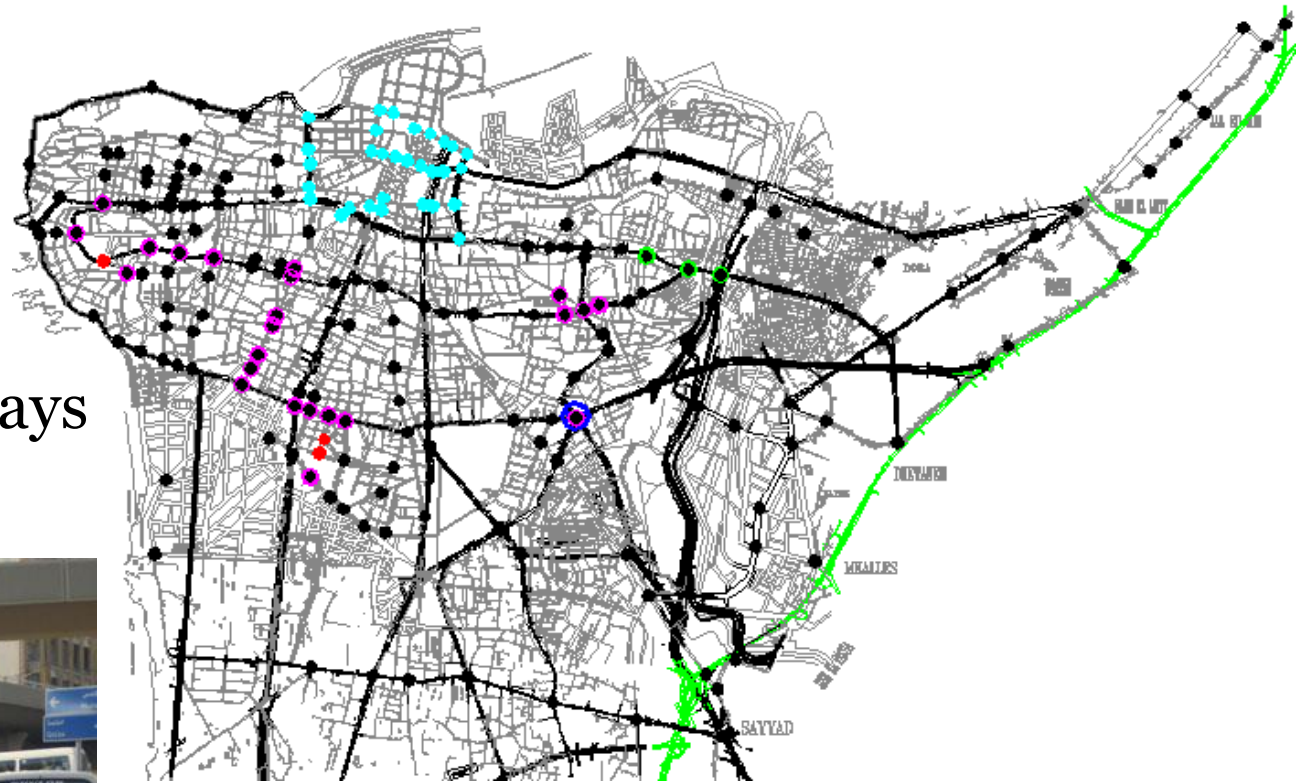
On- Street parking Management

937 Pay & Display parking meters to manage 7,500 On-street parking spaces



Urban Transport Development Project Traffic Management

- 199 traffic lights
- 75 CCTV
- Traffic signs
- Road markings
- Pedestrian walkways



Urban Transport Development Project Traffic & On- Street parking Management

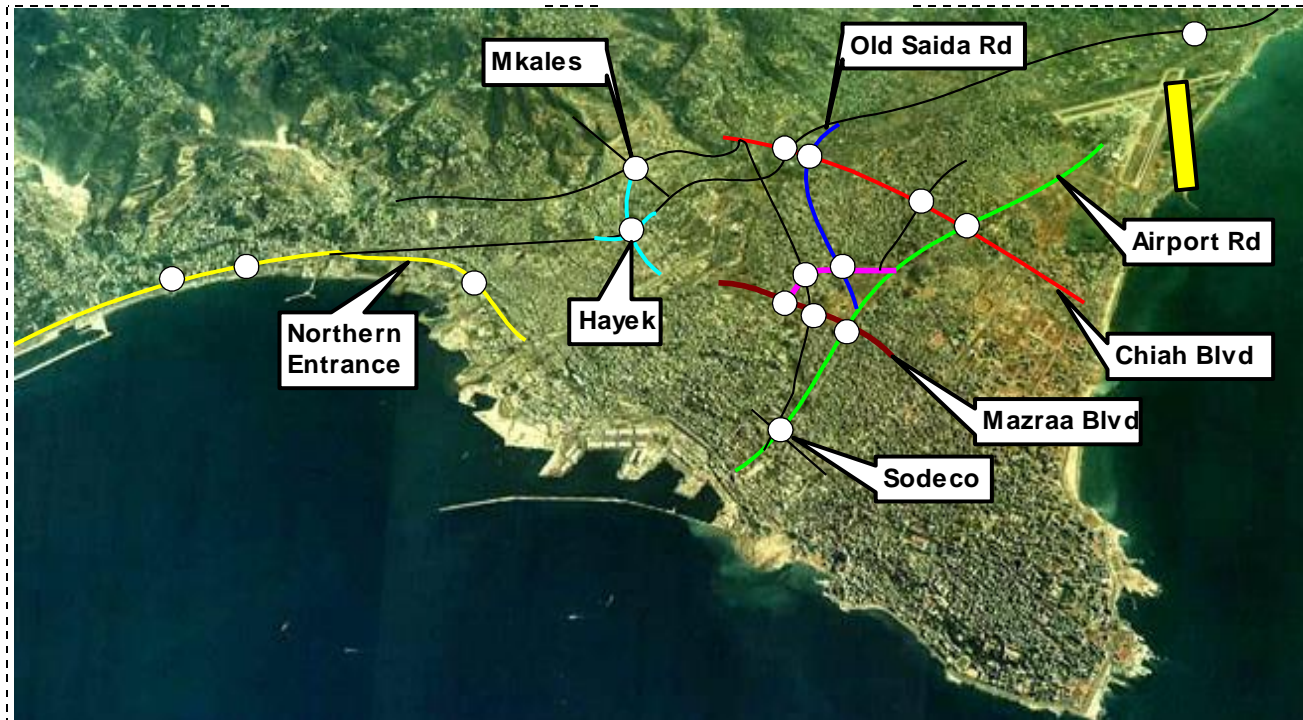
Traffic Management Center

Communication to Traffic lights & CCTV: 45 km network of fiber-optics and DSL technology over twisted pair

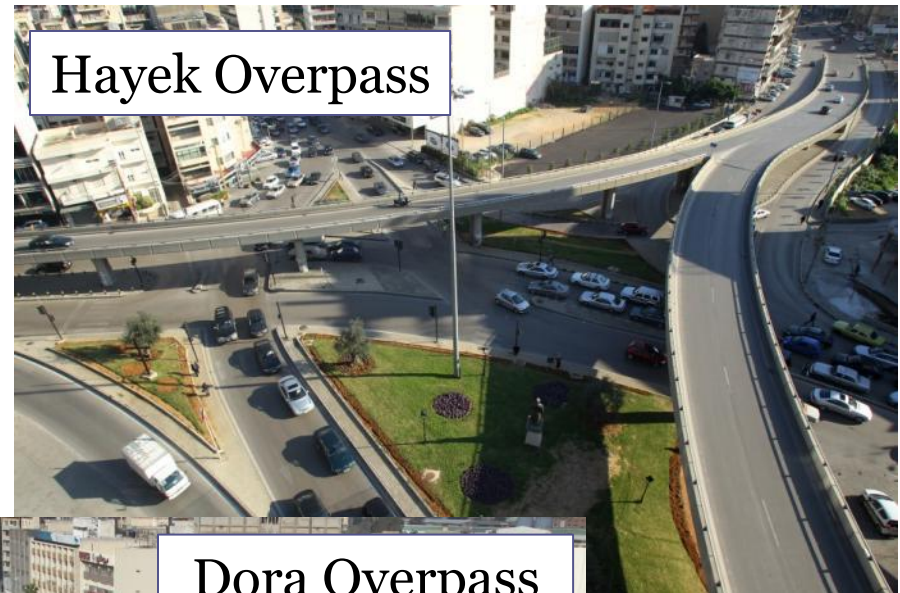
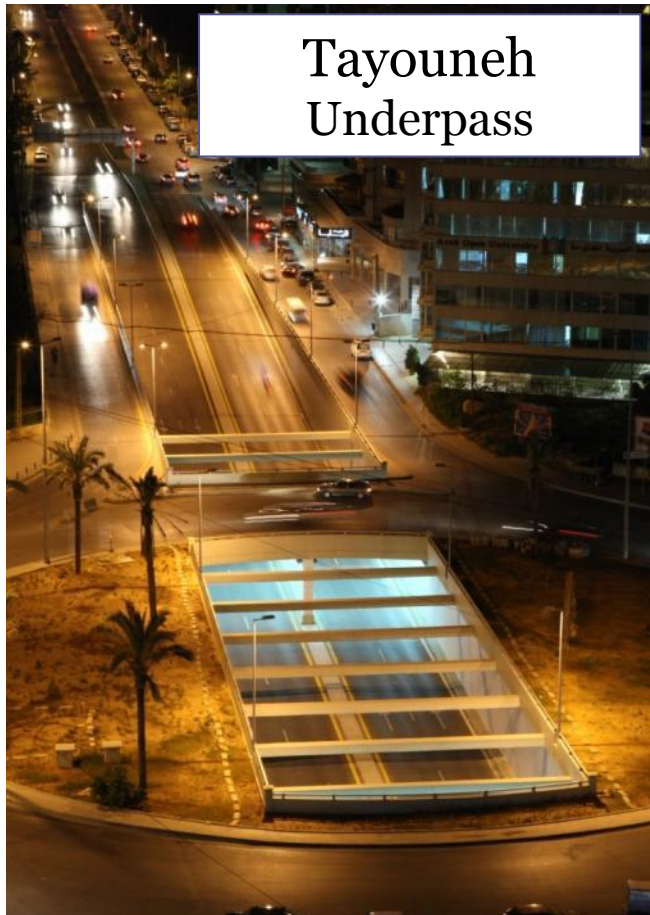


Urban Transport Development Project Grade Separations

To improve urban corridors, which includes the construction of overpasses & underpasses at **19 intersections**



Urban Transport Development Project Grade Separations



Roads

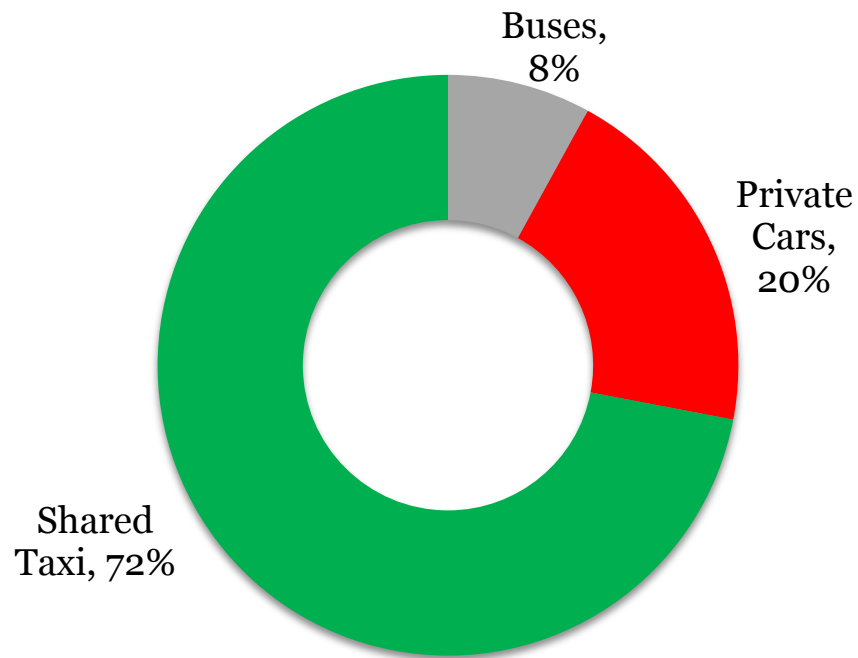
Who Benefits?



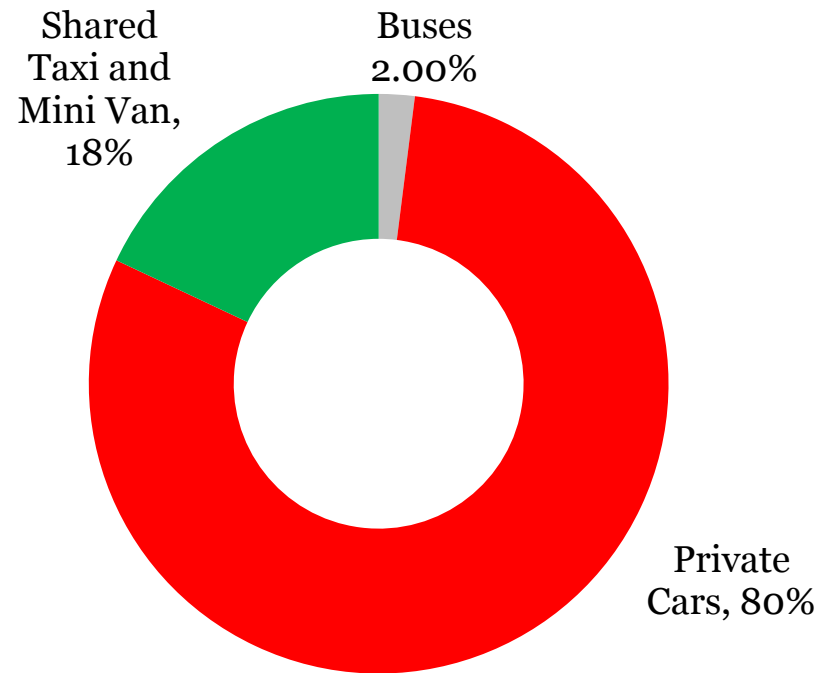
The outcome



Key Figures



Greater Beirut Area 1970



Greater Beirut Area 2009

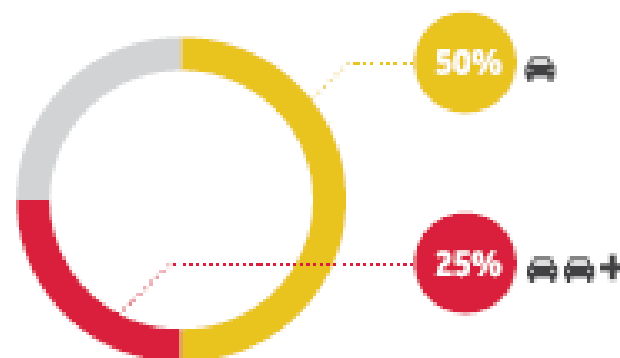
Key Figures

1974 **60,000**

2009 **1,200,000**

2012 **434 🚗/1,000 🧑**
Ranked 17th worldwide

عدد السيارات
Number of Vehicles

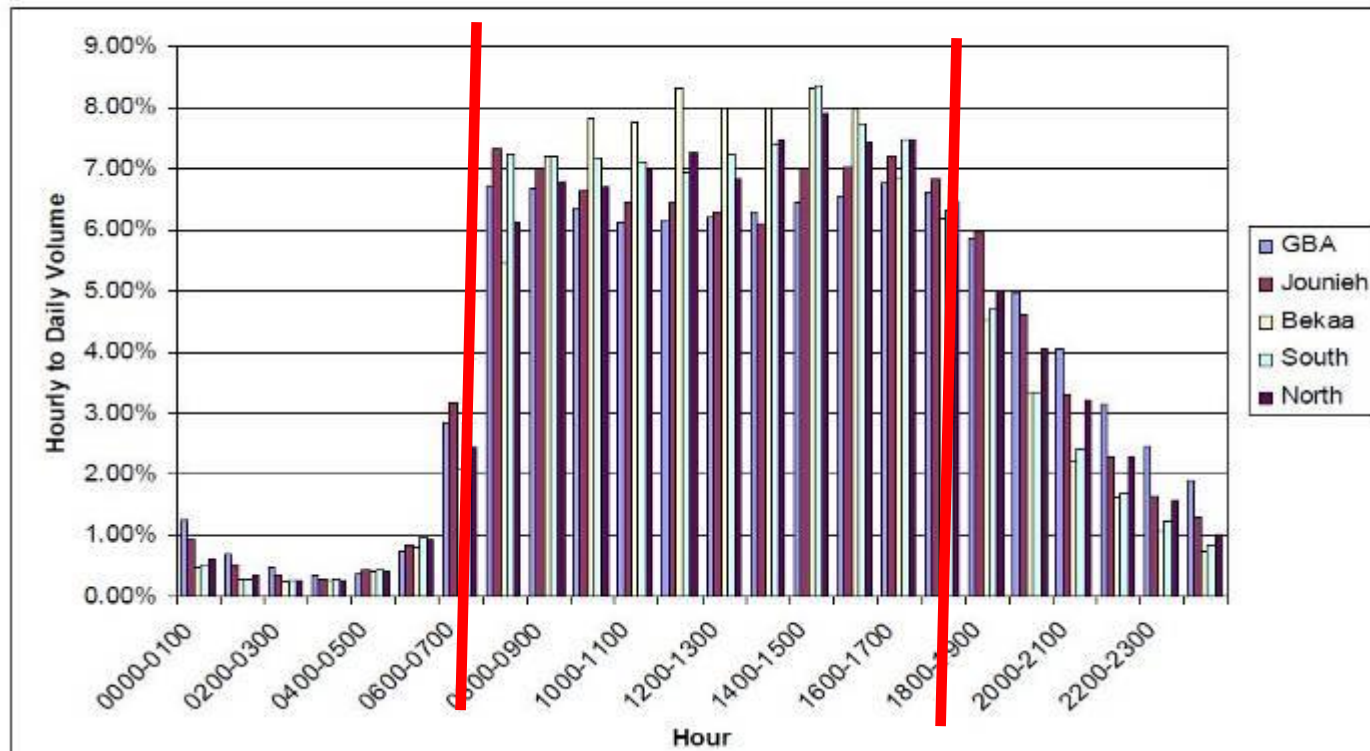


عدد السيارات تمتلكها الأسرة الواحدة
Number of Cars Owned per Household

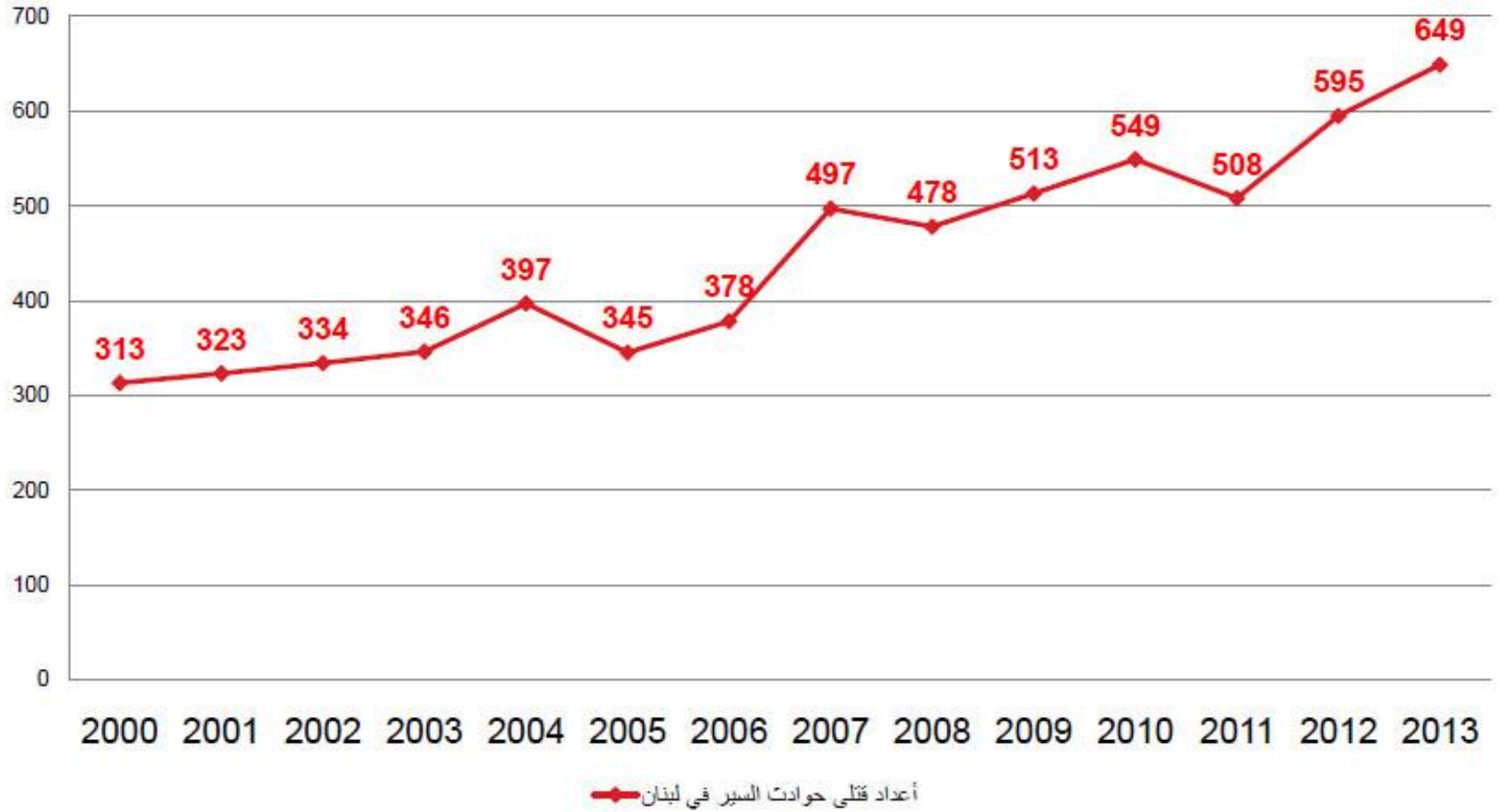
Peak Hour or Peak Day

Very high level of congestion is recorded on major corridors thought-out most hours of the day

Figure 1. 2008 Hourly Peaking Factors by Region



Trends in Road Traffic Deaths in Lebanon



Traffic Management

Increased demand in transportation needs has been met with weak provisions of traffic enforcement and ...



Public Transport Operation



... supply, coverage, quality & operation of Public Transport (PT)

Transportation demand remains high & private car dependency keeps increasing

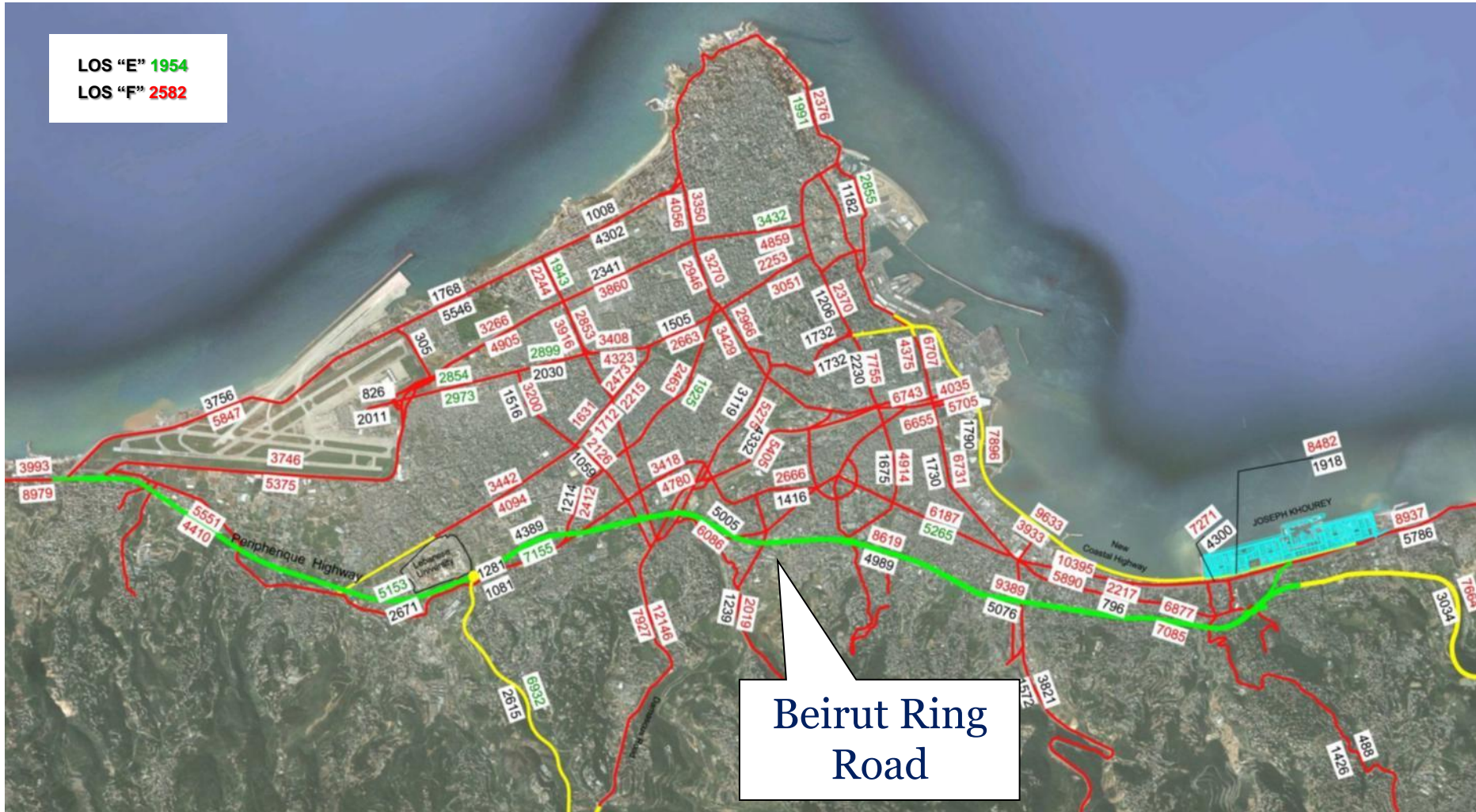
Low occupancy of 1.9 in 2009 vs 8.5 in 1970

Prevalence of quantity over quality in licensed PT vehicles concentrated in one region

Low passenger occupancy 1.2 /shared taxi & 13/ bus

Down The road GBA Main Arterials in 2035

LOS "E" 1954
LOS "F" 2582



Greater Beirut Area

Sustainable urban mobility...

Or not?

Then

What to DO?

Building cities for people not for cars

Here are the top ten reasons why:

- Diversity
- Community
- Equity
- Health
- Economy
- Sustainability
- Safety
- Beauty
- Dignity
- Connection



New York City

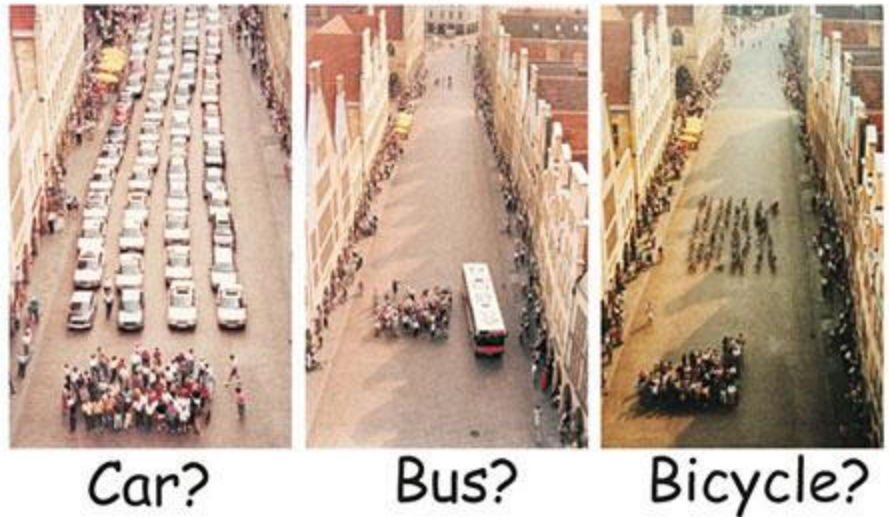
Implementation of Bus Rapid Transit (BRT)

Reopening of closed rail systems.

Better access for cyclists, pedestrians and intermodal transfers

A congestion pricing zone for Manhattan south of 86th Street.

Amount of space required to transport the same number of passengers by car, bus or bicycle.



Lets Start by

Diversity in transport modes

Public Transport (Rail & BRT) and Roads

Railroads

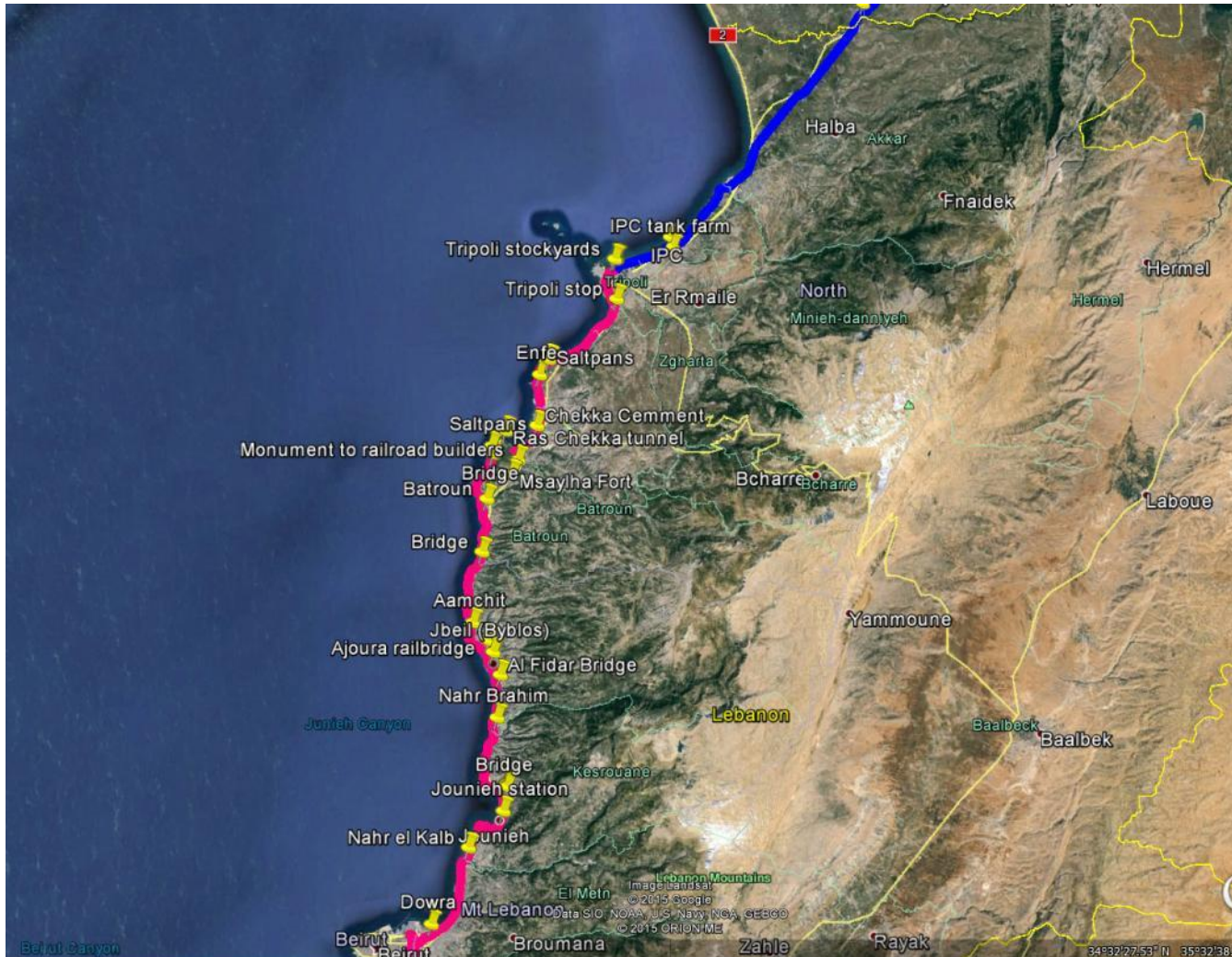
Advantages

- Dependable
- Better Organized
- High Speed over Long Distances
- Suitable for Bulky and Heavy Goods
- Cheaper Transport
- Safety
- Larger Capacity

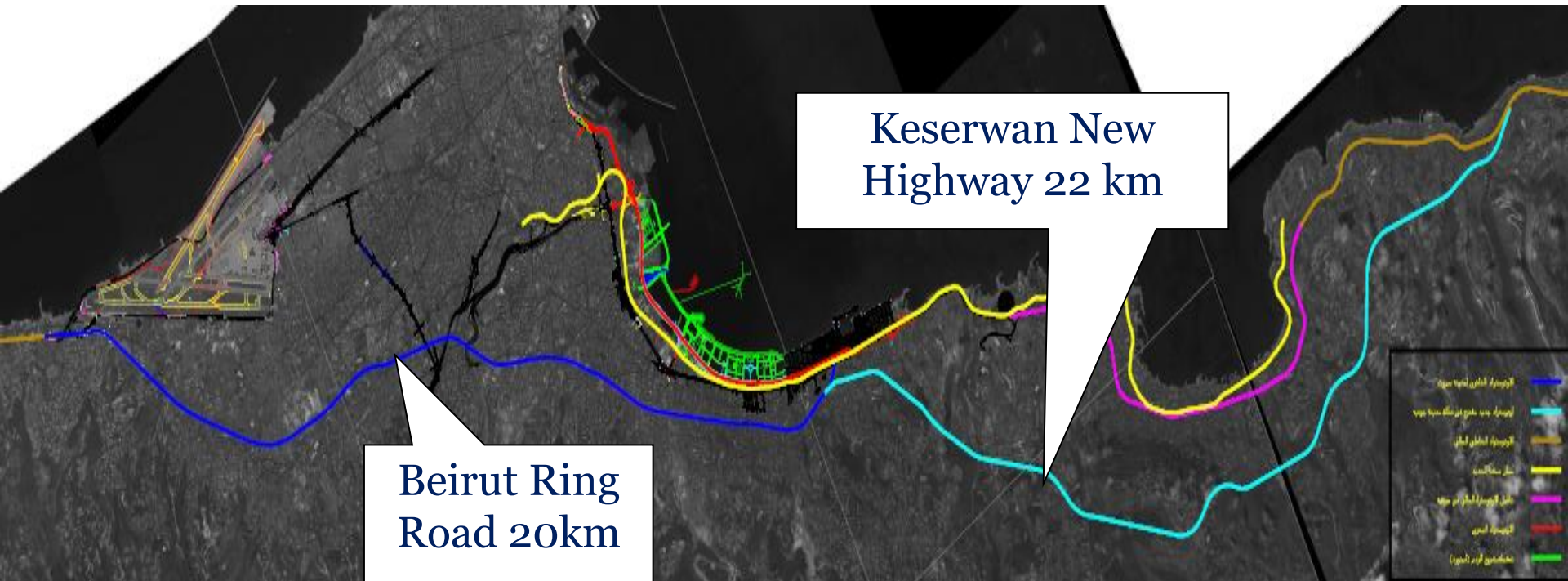
Disadvantages

- Huge Capital Outlay
- Lack of Flexibility
- Lack of Door to Door Service
- Monopoly
- Unsuitable for Short Distance and Small Loads
- Booking Formalities
- No Rural Service

Railroad: Beirut - Syrian Borders

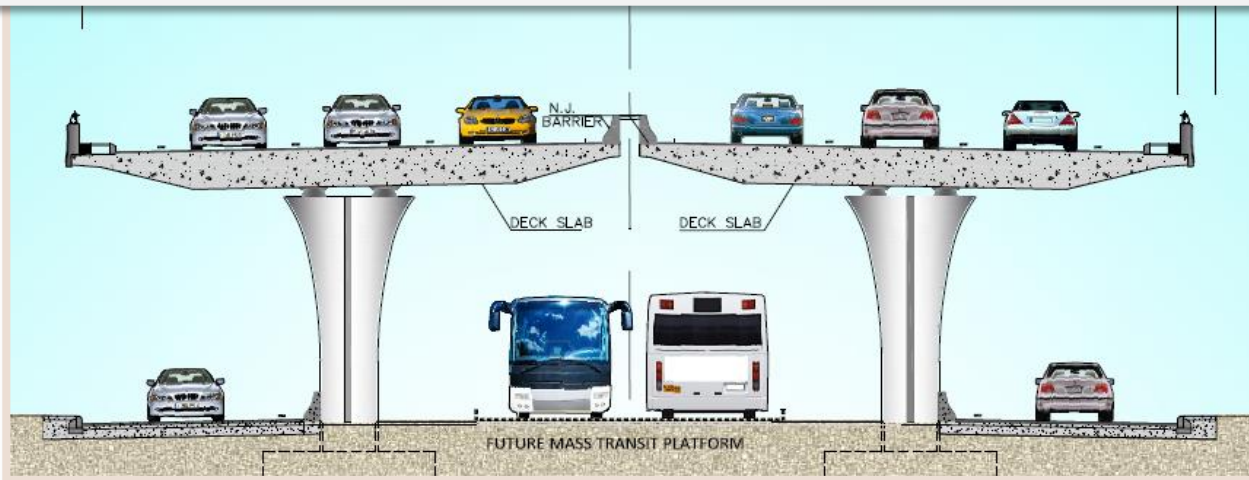


GBA and Northern Suburbs



- Planning new highway in Keserwan
- Re-designing Beirut Ring Road to include BRT

Beirut Ring road / BRT Line (Concept Design)



BRT Path: Beirut - Tabarja

Length of BRT 25 KM
Total number of stations 24



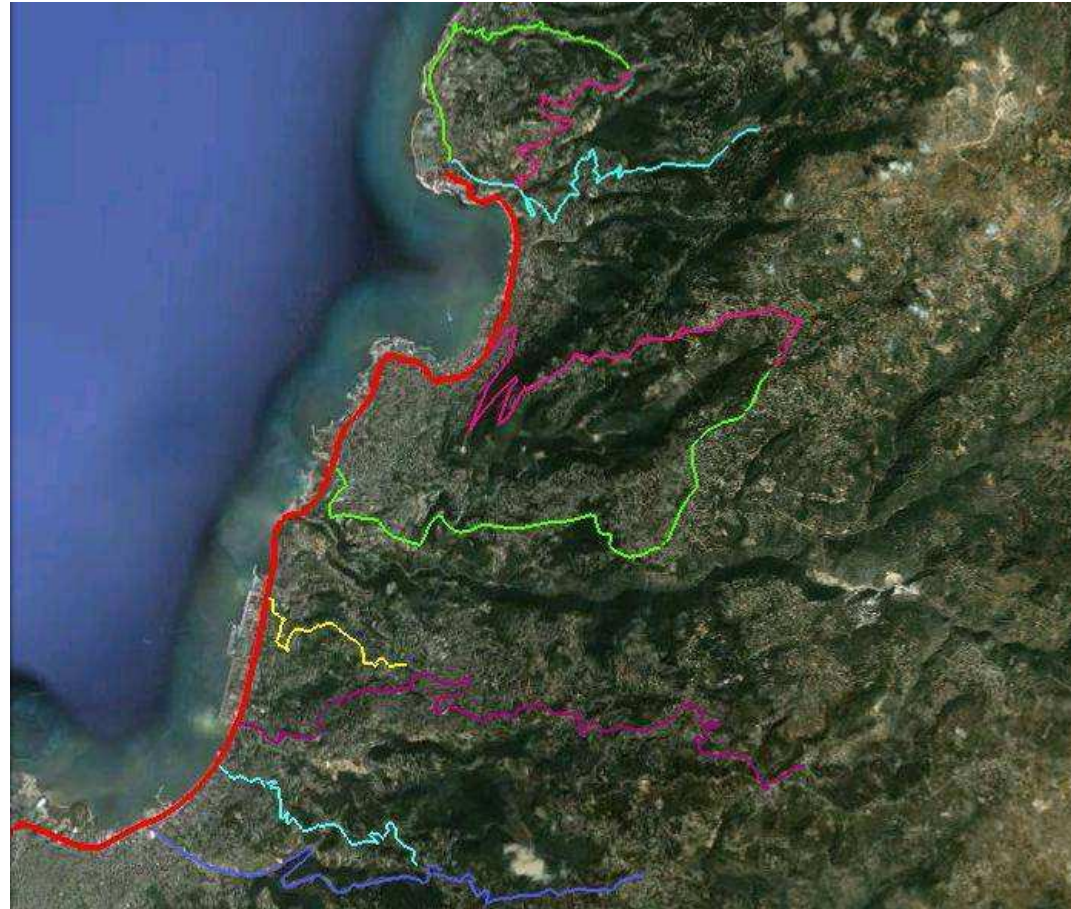
Feeders Lines and Park & Ride sites

Feeder bus lines increase the willingness to take the BRT by 12%.

(9 proposed lines)

Park & Ride sites increases the willingness to take the BRT by 14%.

(9 proposed sites)



Roads and Rails: who benefits ...

Going Forwards towards
Safe & Sustainable mobility

Safe and Sustainable Mobility

- Enhance road safety by building and maintaining forgiving roads
- Reclaim cities back to people by providing sustainable mobility: Rail, BRT, cycling, walking