Train for Making Safer Mobility
Train-Train NGO

Speaker:
Salem CHIDIAC
Railway

- **1895**: Railway-Line *Beyrouth-Damas* inaugurated.
- **1902**: Inauguration of railway-line *Rayak-Baalbak*, then in **1906** that of *Baalbak-Alep*.
- **1911**: Railway line *Homs-Tripoli* inaugurated, then removed in **1917**.
- **1941**: Installation of railway-line *Haïfa-Beyrouth*.
- **1942**: Completion of the line *Beyrouth-Tripoli*.
- **1975**: Railway Network stop.

Connected Europe to Africa
Connected the coast and the Bekaa
BRIEF TRANSPORTATION HISTORY

Tramway

- Electrical Tramway inside Beirut
- Operational between 1908 and 1963

- 3 Main lines distinguished by the color of the tramway
  - Manara to Nahr Beirut (Red)
  - Bourj Square to Horsh Beirut (Green)
  - Bourj Square to Furn El Chebbak (Yellow)

- In the 60s, Intensive usage of private cars, and taxi-service.
Post - War Period

- CDR Proposition for Metro, Bus and Train Network for Metropolitan Beirut.
- In 2002, agreements have been signed between Lebanon and Syria for the rehabilitation of Tripoli-Homs and Riyaq-Damas railways lines.
Mobility nowadays

- Political decision-makers decided to allocate the privilege to road infrastructures by granting them a large part of their budget without thinking the public transportation.

- Lebanon has enough roads, it is not the cause of traffic jams.

- The problem is that there are no alternatives to individual cars for now, Traffic is far too dense compared to the size of Beirut.

- Increase of annual car registration of 13% in average between 2007 and 2016.
CURRENT TRANSPORTATION SITUATION

Reasons for traffic jams

Population and Congestion Rate

- Beirut contains 1/3 of the total population.
- 60% of the population resides in the littoral, which represents 8% of the surface of Lebanon

Lack of collective public transport

- Already saturated, Road Network is unable to support traffic growth.
- Transport in Greater Beirut is:
  - 70% individual cars
  - 30% public transport (Bus, Minibus, Taxi-service)
- Stop-and-go system causing traffic and accidents, despite the installation of 400 bus stops in 1994 (Team International and RATP parisienne)
CURRENT TRANSPORTATION SITUATION

Reasons for traffic jams

Car Occupancy Rate

- 1 car for approximately 3 persons, so elevated compared to Turkey; 1 car for 7 persons, or China; 1 car for 12 persons.
- Low car occupancy rate, around 1.7 person per vehicle.

Parking and Road Infrastructures
Facilitates access to:

Public Institutions – Education – Jobs – Health Care – Markets – Activities

Transport is the engine to the city
Remove all the boundaries

Walkable distances between stops, stations...
Facilitates access to:

Public Institutions – Education – Jobs – Health Care – Markets – Activities

- Serail
- Justice
- Internal security
- Airport
- AUB
- LAU
- LU (Hadath)
- Schools
- Offices
- Banks
- Shops
- Hospitals
- Clinics
- Pharmacies
- Shops
- Markets
- Souks
- Golf Club
- Corniche
- Horsh Beirut
- Sport Center
- Cultural Center
Facilitates access for:

**Tourist**
- Social and Recreational
- Occasionally
- Comfortable Journey

**Travel Motive**
- Way of Traveling

**Citizen**
- Going From A to B
- Systematically and frequently
- Fast and Reliable Service
Learn / Respect Time:

The schedule, the arrival, the departure, organizing the whole society
Alternatives for individual cars

Less cars, less traffic, less traffic accidents, less pollution
Remove Trucks and Cargo from Roads

Port of Beirut receives an average of 400,000 containers per month. Adding 40,000 extra trucks on the roads of the city each month; A sum of 30 trains per day.
Reduce Traffic Accidents

Less cars, less traffic, less traffic accidents, less pollution
Reduce Traffic Accidents

Almost 450 recorded Deaths in 80 years of Lebanese Railways.
More than 600 deaths on the Roads of Lebanon Every Year
Reduce land use

Land take for Rail is about 3.5 times lower than for cars

Capacity of a 3.5 m wide lane in a city
Rail is the most emissions-efficient major mode of transport.
Rail is the most emissions-efficient major mode of transport

CO2 emissions from fuel combustion by sector, 2011
Rail’s energy efficiency is always improving

Primary energy consumption:
100 tonnes cargo, Rotterdam-Basel (700 km by land)
Rail the only major transport capable of shifting from fossil fuels to renewable energy, without the need for further major technological innovation.
Reduce Local Air Pollution

NO, and PM generated by passenger transport, Brussels – Berlin (780 km by land)
Reduce Local Air Pollution

NO, and PM generated by 100 tonnes cargo, Rotterdam - Basel (700 km by land)
Reduce Local Air Pollution

NO, and PM generated by 100 tonnes cargo, Rotterdam - Basel (700 km by land)
Average EU27 external costs (excluding congestion) passenger

External costs

- Car
  - Accidents: 2,1
  - Air pollution: 5,7
  - CC High: 0
  - Noise: 17,3
  - Up-and downstream: 5,5
  - Other cost categories: 32,3

- Bus/Coach
  - Accidents: 2
  - Air pollution: 2,8
  - CC High: 9,1
  - Noise: 6
  - Up-and downstream: 12,3

- Road Pass. Total
  - Accidents: 2,1
  - Air pollution: 5,4
  - CC High: 16,3
  - Noise: 5,7
  - Up-and downstream: 33,6

- Rail Passenger
  - Accidents: 1,5
  - Air pollution: 8,1
  - CC High: 8,1
  - Noise: 1,5
  - Up-and downstream: 2,6
  - Other cost categories: 0,9

- Air Pass
  - Accidents: 0,7
  - Air pollution: 7,1
  - CC High: 0
  - Noise: 0,9
  - Other cost categories: 46,9

CE Deit et al. 2011
Average EU27 external costs (excluding congestion) for freight transport.

External costs:

- HDV:
  - Accidents: 2.5 EUR
  - Air pollution: 1.8 EUR
  - CC High: 10.2 EUR

- Road, Total:
  - Accidents: 3.1 EUR
  - Air pollution: 14.9 EUR
  - CC High: 17.0 EUR

- Rail:
  - Accidents: 1.0 EUR
  - Air pollution: 4.0 EUR

- Inland waterways:
  - Accidents: 0.9 EUR
  - Air pollution: 3.6 EUR

Source: CE Delft et al. 2011