

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Evolution of Cairo Transport & Land Use and of their Effects on Energy & Environment; Problems, Solutions and Potentials

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Challenge for Big Cities of the Global South?

Urban Population Increases

- Lack of Space & Economic Constraints
- Activity Concentration & Random Expansion
- Increased Travel, Traffic & Mode Captivity
- Decrease Speed & Increased Delay
- Increase Energy Consumption
- Environment Quality Degradation
- Dissatisfaction
- Change of LU

Urban Population Increases

The Challenge is Big ... But Avoidance of Adverse Effects is Really Possible



1. Brief on Greater Cairo

Transport Modes

➤ Private Transport:

Car / Taxi / Bus / Motorcycle /

➤ Public Transport:

Formal:

Bus / Minibus / Metro / Tram / Suburb. Rail / N Ferry

Informal:

Shared Taxi



Transport Supply & Demand (GC 2001)

| | Vehs. | Lines | Length (km) | Speed (km/hr) | Trips (million) |
|--------------|-------|-------|----------------|------------------|--------------------|
| C | 1.2 m | ----- | ----- | ----- | 3 |
| B | 3350 | 520 | 10000 | 19 | 3 |
| M | 22 | 2 | 80 | 33 | 2 |
| ST | 27000 | 325 | ----- | ----- | 3.6 |
| T | ----- | ----- | ----- | ----- | 1.2 |
| Pt. B | ----- | ----- | ----- | ----- | 1.2 |
| O | ----- | ----- | ----- | ----- | 0.4 |



Travel Demand (GC 2001) Pop. 11 m

- 22.4 Million Trips / day
- 36 % NMT (8 m trips / day mostly walk)
- 64 % **Motorized (14.4 m trips / day)**
- **Cars (Cairo 0.65 m / GC app. 1.2 m)**

Expected (GC 2022) Pop. 22 m

- **Motorized (25 m trips / day)**
- **Cars 2.5 m**

2. Comments on Transport Supply and Demand Evolution

2.1 Bus & Minibus

- Operator increases supply (buses & lines) while demand is decreasing

- Do not make full use of existing supply
- Loss of revenue
- Supply increase for access
- Increased cost of operation



2.2 Shared Taxes

- Supply & Demand Increase sharply

- **Admit ST** is there to stay and expand
- Need for **liberal policies**:
 - **Deregulation / commercialization /**
eventual **privatization** of bus operation
that is steadily looses market
- Be aware of the **adverse effects** of increased **ST: Need for enforcement**:
 - Driver behavior, fare violation, routes,
energy efficiency,



2.3 Metro

- Lines & Demand Increase

- Evolution of Past Financing

➤ L1 100 % France

L2 100 % Local MOT & TC

L3 National banks, international loans,
fare box (20%). [MT not MT&C]

2.4 Cars

- Growth vary with Economic Policy

60s Low (closed) / 70s Sharp (open)

80s Med (moderate) / 90 & 00s High (GAT)

3. Main Land Use Elements Contributing to Increased Transport & Environment Problems and Increased Energy Consumption

- Activity concentration
 - Unbalanced distribution of H & W
 - Concentrated workshop sites in the inner areas
- } (1960s)
- Difficulty of control of Housing Regulations
 - Random housing expansion
- } (1970s)
- Adaptive reuse of activity units
 - Higher densities of use of major activity centres
- } (1980s)

4. Main LU Policies related to Transport, Environ. And Energy

Long Term Policies

- | | | |
|--------------------------------|-----------------|-------------|
| ■ Activity Decentralization | (Mid70s – Now) | Success |
| ■ New planned cities around GC | (Late70s – Now) | + ve Varied |
| ■ Control of Random Expansion | (980s to 90s) | Varied |

Medium Term Policies

- | | | |
|--------------------------------|-------------------|--------------|
| ■ Activity Units out of Cairo | (Late 80s to 90s) | Success |
| ■ Workshops to outer locations | (1990s) | + ve. Varied |

Short Term Policies

- | | | |
|-----------------------------------|---------------|-----------|
| ■ Control of Building Regulations | (Continuous) | Challenge |
| ■ Control of Adaptive Reuse | (Since 1990s) | Success |



5. Main Transport Elements Related to Environment & Energy Consumption

- Congested road network (Started progression since 1960s)
- Increased Fleet age (*Continuous progression*)
- Difficulty of regular car tuning (*Persisting*)
- Through traffic passing the CBD (*Progression till mid 90s*)
- Mode captivity (*Continuous / slight improvement since 90s*)
- Lack of bus priorities & integration (*Continuous*)
- Increase of microbus informal transit vehicles (*Continuous*)
- Lack of professional traffic managt. & eng. design (*Continuous*)
- Difficulties to promote cycling (*Continuous*)



6. Main Transport Projects with good effect on Energy Saving & Environment Quality

- **Ring Road** (1995 – improves. in progress since 2006)
- **New Road Traffic Corridors** (1990s / 2007 - 2010)
- **New bridges, overpasses and tunnels** (Since 1970s till now)
- **Metro** (L1 1987, L2 1994, L3 standard 2006)
- **CNG Taxis** (Since 1990s; progressing fast)
- **Air Con Buses** (Since late 1990s; progressing fast)
- **New Car Assembly Plants** (Since 1990s and progressing)
- **Parking Garages** (Since 1990s; progressing fast)
- **Reducing Taxi Age** (Since 2007)
- **Moving Bus Depots** (Since 2007)



7. Areas for Imp. & Needed Effort; Transport

- Metro Line 3 [Phases 1 & 2 - 2010 / 4 & 5 - 2015]
- Vehicle Technology
 - Promote vehicle tuning [EEAA Stations / Veh. Licensing Reg]
 - Continue on reducing fleet age [EEAA Taxi Project]
 - Continuing success of CNG policies [impressive progress]
 - Promote cycling [DRTPC Project for GEF / UNDP & MOE]
- Transport Demand Management
 - Traffic management & Ped. zones
 - Bus priorities & Mode Integration
 - Integration & Parking Policies } [DRTPC Project for GEF / UNDP & MOE]
- New Elevated Corridors [2007 - 2010 MOH]
- Transport Management & Planning by Transport Engineers [Unfortunately Not Yet !!]



8. Areas for Improvement & Needed Effort; **Land Use**

- **Continue decentralization past and current efforts for;**
 - Improving new cities services
 - Encouraging more decentralization of activity centres
 - Moving workshops to outer locations

- **Continue control efforts for**
 - More control of adaptive reuse of existing activity units
 - Stricter control of unplanned urban expansion
 - Stricter control of building regulations

- ***Directing MOH fund for Transport Projects to MOT***



9. Overall Requirements; Transport & Land Use Related

➤ 9.1 Financing

- Untraditional mechanisms**
- Private sector participation**
- Introduce appropriate private financing regulations**
- International TA & Aid unsustainable**

➤ 9.2 Planning & Projects

- Energy Savings & Environment Quality as major objective
- More weight to energy and environment impacts in policies/ projects
- Linking land use planning and transport planning
- **Transport Projects** according to agreed **priorities** regardless of the financing authority



➤ **9.3 Institutional**

- **Local authorities development**
- **Institutionalize the job of transport and traffic engineers**
- **Semi Public Parking Authority**
- **Implement modernization plan of the bus operator**
- **Radical improvement of the concession contracts of private bus operators**



➤ 9.4 Foreign Technical Assistance !!

- To be made sustainable (sustained innovative local future financing)
- To utilize mainly local learned expertise (not just foreign consultants)
- To take into consideration **local needs and conditions**
- To **understand** more the **local realities**
- To **utilize experience** from **cities of similar conditions, size and needs**



In Summery,

Problems exist

YES

Some out of hand & some can be controlled

Success Exists

Also YES

Some need to consolidate & some need to develop

BUT WE NEED

More awareness and understanding

Not alone from City Authorities

But also & not less important from:

International Lending Agencies

Thank You

