Sustaining Urban Accessibility

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Prepared for:
## Emerging Footprint of Kampala

<table>
<thead>
<tr>
<th>Metric</th>
<th>Pre- 1990</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (m)</td>
<td>0.72</td>
<td>3.02</td>
</tr>
<tr>
<td>Area (‘000 ha)</td>
<td>16.5</td>
<td>51</td>
</tr>
<tr>
<td>Built area density (p/ha)</td>
<td>82</td>
<td>100</td>
</tr>
<tr>
<td>% Built area in roads</td>
<td>13</td>
<td>12</td>
</tr>
<tr>
<td>% Roads &gt; 16m width</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>% Area within walking of wide arterial</td>
<td>58</td>
<td>37</td>
</tr>
<tr>
<td>% Residential area laid out before development</td>
<td>51</td>
<td>33</td>
</tr>
</tbody>
</table>

Discussion Topics

- Why a city should focus on sustaining accessibility?
- How accessibility is influenced by various urban agents/actors?
- What should be the role of public agents?
Accessibility improvement & its benefits

Productivity
Scale + Specialization
Living Quality
Jobs
Revenue

Identification of Economic Growth Benefits from Transport Investment
Sustaining accessibility: Transport sector response

- Enhance existing road capacity
- Improve multi-modal use to carry more persons instead of vehicles
- Manage externalities (pollution, safety, noise, energy use)
- Ensure affordability of available public transport options
- Enhance connectivity and coverage (new modal links, services)
Building blocks for enhancing road network capacity

- Maintain Capacity of Existing Roads: Pavement maintenance, traffic mgmt. & operations, pedestrian & bicycle infra., on-street parking, access mgmt.
- Introduce Standards & Regulations: Road hierarchies, safety, vehicle inspections, driver training, emission control, axle load control
- Build Institutional Capacity: Traffic management, traffic law enforcement
- Reallocate Road Capacity: Bus priority lanes, PPP for BRTs with feeder services, HOV corridors
- Manage Demand: Parking std. & mgmt., bus use incentives, auto use linked taxes & pricing
- Expand Road Capacity: strategic links, exchanges
- Improve Public Transport: Demand responsive route & schedule planning, terminal plans, private service providers, new regulations & vehicle stds., integrated fare & collection
- Organize para-transit sector: taxis, moto-taxis, parking, IMT
- Infra for Freight and Bus: Terminals, regulations, PPPs
- Institution Bld.: Transit Agency, transport planning capacity

Building on success of actions while maintaining their consistency over time & flexibility to change

Congestion Pricing, BRT, Urban Rail…

Cost

High

Low

Institutional Capacity

TIME

ROAD CAPACITY
Regimes of competitive public transport services

LESS REGULATION

- **Gross Cost Contracting**
  Govt. pays for services & collects revenues

- **Management Contracting**
  Govt. pays for managing its PT operations & services

- **Net Cost Contracting**
  Operator collects revenues

- **Franchises**
  Zone or route services under quality, price & quantity stds. with or without subsidy

- **Concessions**
  Exclusive service right with no payment but sometimes with max & min. fare & service conditions

**Quantity Licensing**
Designated service areas; Formation of operators association

**Quality Licensing**

**Open Market**

For market competition by Bus operators

In market competition by Para-transit

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For market competition by Bus operators
Sustaining Accessibility: Urban Development Response

An illustration of the process

Transforming an island of hills: New York
Making of a City - NY

- Port city of 32.3K in 1790 grew to 96.4 K by 1810
- Erie Canal opened in 1825 & pop. reached 813.7K by 1870
- European migrants
- Rail road expansion
1811 Commissioner’s Plan

- Plan designated *sevenfold increase* in land area
- A *rectilinear plan of blocks* (200 by 610-920 ft.) covering 23rd to 155th street with 50 ft. wide streets & 60 ft. wide 12 avenues,
- *Three floor houses* on avenues & *two* on streets
- A *subversive idea* for land owners
- Demolished 39% of *pre-grid buildings* with paid compensation
- Took *60 years* to implement but *population grew twenty folds* by 1900 causing overcrowding
Financing Grid

- Until 1820 city collected **rent, fees and lease payments**
- Street opening costs recovered from **frontage fee**
- **Auctions** held in Real Estate Exchange
- With **property tax revenue** increase State authorized ½ cost from taxes & almost full later – 1807: $25m; 1887: $1.25 b (taxes 80% of budget)
Further Alternations & Erosions of Grid

- Broadway (17 miles, 150' wide & 22' sidewalks) diagonal created interesting intersections & squares
- Above 155th: Central Park Commission (A.H. Green) adopted hybrid rectilinear plan with open spaces
- Regional approach to connect suburbs (1898 five boroughs)
- Technological advancement of twentieth century: skyscrapers, superblocks, cars, subways, underground utilities (late 19th)
- Concerns for open space, density, shadows and congestion
Time for Zoning & Further Grid Erosion

- First Zoning Law 1916: height limit, plot coverage, set backs
- Superblocks for monumental buildings, low cost housing (R. Moses)
- 1961 Zoning: floor bonuses to owners for public spaces
Transforming a Plan into Reality

Source: New York Times
Building the Largest Subway to Support the Grid

- Grid supported real estate development & efficient circulation but failed to adequately serve N-S capacity

- Two private subway lines IRT (1904) & BMT (1908) opened

- 1932 City opened new IND line

- 1953 NYCTA, public Corp. merged all lines due to financial hardships of companies & need to populate outskirts

- One of the largest subways of the world (230 route miles, 6.2 K cars, 25 lines) now serves over 4.5 m daily riders, 74% of Manhattan commuters & 57% of all five Boroughs working residents

Source: Archer K, The Works, Anatomy of a City
12 Years of Bloomberg in Reshaping NY

- 40K new buildings; 170K **housing** units by 2010
- 120 **rezoned projects** with public backed financing
- **Half of city rezoned**
- 600 miles of **bike lanes & bike share**
- 800 acres of **open space** - water front development, parks, greening, fortification against **sea level rise**
- New building **codes** in response to Sandy
- **Reduced carbon emissions**

Transformed Inland of Hills
Examples of Strategic Public Actions: Roads

Source: Presentation by Bimal Patel at UMI 2016, Ahmedabad
Given basic layout & services poor adopt self-building incremental approach to housing:

Site & Services in over 50 countries

Source: The case for Incremental Housing, Cities Alliance 2011
Sustaining accessibility: building blocs of planning

- Define Smart Path at the Planning Stage
  - Multi-agent bottom-up collaboration framework
  - Metropolitan perspective while estimating land expansion needs
  - Simple code based regulations instead of LU and density allocations (pollution, safety, property rights, sun & air, relation between blds..)

- Build a Foundation of Connected Spaces (2D)
  - Arterial grid (say 1Km blocks), public transport or other forms of dirt/paved roads and non-motorized options within land expansion area as structuring element of private actions
  - Land for public amenities (parks, schools, ..)

- Manage private agent’s action using codes & generate local Finance (3D)
  - Land value capture regime, independent registration & valuation
  - Incentives & transparent management of real estate market

- Adapt to Changes (4D)
  - Technologies, public preferences, taste & practices
  - Efficient resource use, climate change, synergies & co-location of infra., IT

- Empower Cities
  - Collaborative platform for multi-agent engagement & multi-level coordination
  - Leadership and skills
Broad Lessons

- Future depends on today’s vision

- Economic growth is essential to sustain city’s vitality & fiscal health

- Vision to reality requires multi-generational support

- Institutions & process must evolve in response to changes

- Quality of city leadership matters the most
Developing World Cities

Roads an early structuring element

Too late in providing adequate road hierarchy

Thanks

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