Transportation Finance in Developing Cities: A View of the Mexican Mega-City

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Urban Road and Public Transit: Who Must Pay?
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Outline

- Transportation Finance: The Ideal v/s the Real
- Mexico: Institutional and Planning Context
- The Setting: the Mexico City Metropolitan Area
- The MCMA Transport Finance System: How well is it working?
- The MCMA Transport Finance System: How can it be moved towards the ideal?
Transportation Finance: Ideal World

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<td>Resource costs &amp; environmental costs of carbon dioxide emissions</td>
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<td>Highly differentiated tolls</td>
<td>Road maintenance and congestion costs</td>
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<td>Emission fees</td>
<td>Local environmental problems</td>
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Transportation Finance: Real World

- Few accurate, direct user charges exist
- A variety of indirect mechanisms (fuel taxes, vehicle license fees, etc.)
- Fuel taxes often used for general revenues and income redistribution
- Multiple infrastructure supplying “agents” — maintenance v/s construction; local v/s regional v/s national

- Formally, budgeting processes unclear, users rarely recognize fees as “prices”, governments scramble for revenues from any available sources.
Mexico: Institutional & Planning Context

- Federal System: Three Levels of Government
  - Federal - Estados Unidos de México
  - 31 States + Federal District (Distrito Federal or DF)
  - Municipalities (municipios, delegaciones in DF)
- Historically, strong central government control
  - nearly 70 years of PRI
  - Including over transportation decision-making & relevant public finances
- More recently, increasing decentralization and political competition
  - a break in single party dominance
  - some degree of financial and administrative decentralization
- The “Fiscal Federalism”

Transport Relevant Finances: Federal

Revenues: Fuel Taxes
- Excise Tax (IEPS): ranges 130% (diesel) to 180% (gasoline) of refinery price
  - Automatic adjustment to minimize sales price variation
- VAT: 15% (except in border areas)
- Overall: taxes comprise 50-65% of pump price
- Gasoline and Diesel IEPS account for US$ 10 billion (2004), about 9% of Federal revenues

Expenditures
- Federal Secretary of Communications & Transport (2004)
  - US$ 2.064 billion; US $1.4 billion for infrastructure
Relevant Finances: Federal Inter-city Road System

- 1950s-1960s: public toll roads
- 1970s (oil boom): tax-financing
- 1980s (financial crises): toll road rebirth
  - Explicit government-private sector partnerships
- Early 1990s: full blown private concession program
  - 50 concessions, 5,000 kms within 4 years
  - Currency crisis, program design problems produce government bailout
- Today: moderated, approximately 11% of national road investments (in 2002)

Relevant Revenues: Sub-National

State-Level
- Vehicle Ownership or Use Tax (*impuesto sobre tenencia o uso de vehículos*): US$ 1.2 billion (2004)
- In theory, these should be local
- Actually collected by Federal Government
  - “Ownership” of these taxes unclear: returned based on origination
  - Different states treat them differently (in name) in budget

Municipal
- Property tax (ad valorem), real estate purchase tax, valorization tax, special improvement levies
- Nation-wide, property tax accounts for Municipal 74% own-source revenue (13% of total)
The Setting: the Mexico City Metropolitan Area (MCMA)

MCMA: The Megapolis

- Population
  - From 3 million in 1950 to >18 million in 2000

- Urban Area
  - From 118 km$^2$ in 1940 to 1,500 km$^2$ in 1995

- Jurisdictions in the MCMA
  - Distrito Federal (DF): 16 delegaciones
  - State of Mexico (EM): 38 urbanized municipios

- The “Megalopolis” and the Región Centro
  - “Crown of cities” – Puebla, Tlaxcala, Cuernavaca, Cuautla, Pachuca, Toluca (75-150 kms from city center)
  - States of Hidalgo, Morelos, Puebla, Querétaro, Tlaxcala
Population Dynamic

The “Megalopolis”
Transport’s “Institutional Stew” in the MCMA

<table>
<thead>
<tr>
<th>Entity</th>
<th>Area of Intervention</th>
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<td>SCT</td>
<td>Transportation</td>
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<td>Banobras</td>
<td>Public Works Financing</td>
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<td>SEMARNAT</td>
<td>Environment</td>
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<td>SEDESOL</td>
<td>Land Use and Infrastructure</td>
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<td>SETRAVI</td>
<td>Transportation Regulation and Planning</td>
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<td>SEDUVI</td>
<td>Land Use/Housing</td>
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<td>SMA</td>
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<td>SE</td>
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<td>SEDEMET</td>
<td>Metropolitan Development</td>
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<td>SEDUOP</td>
<td>Land Use and Public Works</td>
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<td>COMETRAVI</td>
<td>Transportation</td>
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<td>COMETAH</td>
<td>Land Use</td>
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<td>CAM</td>
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**Relevant State Finances: MCMA**

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<tr>
<th>State</th>
<th>Road User Payments</th>
<th>Expenditure Range - US$ mns (% of state expenditures)</th>
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<tbody>
<tr>
<td></td>
<td>ISAN &amp; Tenencia</td>
<td>IEPS</td>
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<tr>
<td>DF</td>
<td>520</td>
<td>510</td>
</tr>
<tr>
<td>EM</td>
<td>260</td>
<td>280</td>
</tr>
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</table>

- DF expenditures include estimated net costs of Metro (US$310 million), light rail/trolley (US$51 million), bus (US$26 million)
How well is the System Functioning?

Still strongly centralized finance system

- IEPS fuel excise much more than a road user fee
  - Not explicitly returned to States as such
  - Clearly serving some (probably defensible) implicit redistribution goals (US$10 billion annually) via participaciones/aportaciones
  - Buoyant (due to ongoing motorization), perhaps somewhat hidden to consumer: recipe for government “addiction”

- Macroeconomic stabilization goals
  - Relatively strict rules regarding sub-national debt

How well is the System Functioning?

Allocation and Efficiency

- In the MCMA, allocation of responsibilities marginally (at best) reflects the principles of externalities so common to infrastructure networks

- Virtually no “carrots” nor “sticks” to encourage cooperation and coordination
  - Among DF and EM: Metro, Segundos Pisos
  - Within the DF, earmarked transportation expenditures to Delegaciones
  - In EM, little cooperation among Municipalities, nor even between Municipalities and EM
How well is the System Functioning?

Allocation and Efficiency (continued)

- Some room for satisfying Tiebout-type sorting
  - Municipalities have extremely limited revenue-raising possibilities: property tax, principle source, suffers from outdated assessments, non-compliance, unclear tenure
  - Local politics-driven “ribbon-cutting” competition on the rise: DF Mayor’s (with Presidential aspirations) Segundos Pisos being followed by Mayors in EM

- Externalities are likely high
  - Ignored in explicit prices/fees

How well is the System Functioning?

Accountability

- Lack of transparency
  - Federalist system “blame game”: neglecting maintenance with possibility to pass the blame up and eventual wait for capital replacement

- Dispersed and isolated planning capacity/technocracy
  - Project evaluation requirements unclear (non-existent?)
  - Who truly holds data collection, modeling and planning responsibilities?
How well is the System Functioning?

**Equity**
- Clear Intra-Metropolitan Gulf
  - DF transportation-related expenditures *per capita* 3-6 times greater than EM
- Is transportation being used for income redistribution?
  - IEPS – almost definitely
  - Vehicle ownership fees – slightly progressive
  - Metro – likely

How to Move Towards the “Ideal”?

“Easy” Steps (in theory)
- IEPS fuel excise tax
  - Despite imperfections, should (at least partly) be recognized as explicit road user fee and disbursed appropriately (e.g., Bogotá)
- Tenencia
  - Restructure to better reflect costs implied in vehicle ownership
- Municipalities
  - property tax update, more aggressive use of betterment levies
How to Move Towards the “Ideal”?

More challenging steps

- Developing metropolitan cooperation
  - Including capacity-building and technical development in relevant authority(ies)
  - With some degree of direct link to finance sources: matching grant-type approach of the federal government (US style), via, e.g., participaciones or aportaciones
- Urban infrastructure concessions
  - Caution likely warranted due to Federal-level experience
  - Several precedents in the region (Buenos Aires, Santiago)
  - Potentially innovative use for busway infrastructure (e.g., São Paulo)
  - First step towards road pricing…
- Reduce the use of transport for direct provision of social service
  - Increase cost recovery in Metro
  - Create targeted subsidies for low income users

The most difficult steps

- Metropolitan Authority
  - With financial autonomy (revenue-raising and expenditure responsibilities)
  - Dedicated revenues from efficient pricing: road pricing

How to chart the path of metropolitanization within a broader context of decentralization?
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