2nd International Urban Mobility Dialogue
Investments in Urban Mobility Infrastructure

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Investments in Urban Mobility Infrastructure
Who are the Investors?

Behind institutional investors are typically “people like you and me”, retired persons, life policy holders.

<table>
<thead>
<tr>
<th>Company</th>
<th>Infrastructure AUM (€m)</th>
<th>Total AUM (€m)</th>
<th>As at</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Macquarie Infrastructure &amp; Real Assets (MIRA)</td>
<td>107,691</td>
<td>119,852</td>
<td>31/12/18</td>
</tr>
<tr>
<td>2 Brookfield Asset Management</td>
<td>99,234</td>
<td>309,300</td>
<td>31/12/18</td>
</tr>
<tr>
<td>3 M&amp;G (URL=<a href="https://hub.ipe.com/mg-investments/415102.supplier">https://hub.ipe.com/mg-investments/415102.supplier</a>) Investments/Infracapital</td>
<td>51,000</td>
<td>295,421</td>
<td>31/12/18</td>
</tr>
<tr>
<td>4 Global Infrastructure Partners</td>
<td>50,285</td>
<td>50,285</td>
<td>31/12/18</td>
</tr>
<tr>
<td>5 IFM Investors</td>
<td>37,629</td>
<td>72,092</td>
<td>31/12/18</td>
</tr>
<tr>
<td>6 Allianz Global Investors</td>
<td>29,310</td>
<td>505,000</td>
<td>31/03/19</td>
</tr>
<tr>
<td>7 The Carlyle Group</td>
<td>24,066</td>
<td>197,879</td>
<td>31/03/19</td>
</tr>
<tr>
<td>8 BlackRock</td>
<td>20,539</td>
<td>5,331,072</td>
<td>31/12/18</td>
</tr>
<tr>
<td>9 EIG Global Energy Partners</td>
<td>19,955</td>
<td>19,955</td>
<td>31/03/19</td>
</tr>
<tr>
<td>10 AMP Capital</td>
<td>18,550</td>
<td>128,431</td>
<td>31/03/19</td>
</tr>
</tbody>
</table>

**Top 10 infrastructure investors**

<table>
<thead>
<tr>
<th>Investor</th>
<th>Infra ($bn)</th>
<th>Total assets ($bn)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Allianz</td>
<td>27.7</td>
<td>770</td>
</tr>
<tr>
<td>2 Canada Pension Plan Investment Board</td>
<td>24.9</td>
<td>293</td>
</tr>
<tr>
<td>3 National Pension Service</td>
<td>20.5</td>
<td>575</td>
</tr>
<tr>
<td>4 Caisse de dépôt et placement du Québec</td>
<td>16.6</td>
<td>227</td>
</tr>
<tr>
<td>5 OMERS</td>
<td>15.2</td>
<td>73.5</td>
</tr>
<tr>
<td>6 APG</td>
<td>13.9</td>
<td>557</td>
</tr>
<tr>
<td>7 Ontario Teachers’ Pension Plan</td>
<td>13.1</td>
<td>152</td>
</tr>
<tr>
<td>8 PGGM</td>
<td>12.7</td>
<td>241</td>
</tr>
<tr>
<td>9 PSP Investments</td>
<td>12.6</td>
<td>126</td>
</tr>
<tr>
<td>10 Legal &amp; General</td>
<td>11.8</td>
<td>625</td>
</tr>
</tbody>
</table>

Source: IPE Research
Mega population growth, mainly in emerging markets, will increase the number of megacities to 41 in 2030. Megacities need to be smart.

Intelligent urban mobility makes cities clean, liveable and smart.

Private investments need 2 different „investor mentalities“:

✓ Opportunistic exit return investor for construction/development: Takes high risk, has limited investment horizon (10-15 years max).

✓ Stable income investor for operation: Long term, current income returns. ESG compliance for pension funds fascilitates infrastructure investments.

Preliminary questions:

? Specific need for private investor, or are public subsidies, development loans for this specific project available?

? Government prepared for concessions to risk-adjusted return investments?
Investments in Urban Mobility Infrastructure
Megacities need to be smart
Investments in Urban Mobility Infrastructure: Used to be ...
Investments in Urban Mobility Infrastructure:
Future Rail: Needs to come …
Investments in Urban Mobility Infrastructure
PPP “Future Rail“ Construction and Operation

Negotiation Concession Government
“Risk Adjusted Returns“ Private Investment

Construction = Investment
Operation = Cash Flow Generation
Investments in Urban Mobility Infrastructure

Operation: Stabilizing Cash Flow & Exit

Construction = Investment

Operation = Cash Flow Generation

Time

Negative Cash Flow

Stabilizing

Stabilized Cash Flow

Positive Cash Flow
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2 Investor Mentalities: Development vs Asset Management

- **Opportunistic Investor**: Private Equity Fund
  - Limited Term
  - Project Development

- **Current Income Investor**: Pensionsfund
  - Long-term
  - Asset Management

**Construction**
- Negative Cash Flow

**Operation: Positive Cash Flow**
- Stabilizing

**Stabilized Cash Flow**
Investments in Urban Mobility Infrastructure

Exit Opportunistic Investor

1x Equity Investment 10-12 Years

Sale
Opportunistic PE Fund
Exit Return

Purchase
Pension Fund
Stable Income Return

Purchase Price
3-4x Equity Investment
Development Risk Compensation

Public Sale => IPO via InvIT

Options
Private Sale => Pension Fund
Expanding the Mumbai container terminal from 100,000 TEU to 1 million TEU.

Opportunist investment, 4.5-5.5x return on equity (ROE) after 10-12 years projected. Private individuals $10,000+ investment. Exit options: private sale, port IPO, increase debt.

23 bidders, project cancelled after 1 year. Loss of due diligence- and pre-marketing costs.
Investments in Urban Mobility Infrastructure: Risk Government Funding

„Rapid Metro Line“ Gurgaon-Delhi, India. Siemens Turnkey Project

Public Private Partnership. Government Funding 50% canceled. 100% funding by Private Equity Fund necessary (IL&FS).
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