Policy options, Economic instruments and Financing Sustainable Urban Transport

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Low carbon mobility solutions

Avoid-Shift-Improve approach

- **Avoid**
  - Avoid or reduce travel or the need to travel

- **Shift**
  - Shift to more energy efficient modes

- **Improve**
  - Improve efficiency through vehicle technology

*Source: Bongardt et. al. 2019*
Low carbon mobility solutions

Avoid: Compact cities and mixed use

**POTENTIAL IMPACT**

Potential to reduce energy consumption by 10–30%

**POTENTIAL CO-BENEFIT**

Reduced travel times
Public Health
Safety and more equitable access

**Road User Charging**

*London’s congestion charging*
- 25% CO2 reduction
- Travel time reduction
- Social costs reduction: EUR 144 million/year
- Funds are re-invested in e.g. public transport
Low carbon mobility solutions

Shift to more energy efficient modes

**POTENTIAL IMPACT**

Potential for energy efficiency varies greatly, 10 – 30%

**POTENTIAL CO-BENEFIT**

Reduced urban congestion
More equitable access

**Bus Rapid Transit**

Trans Milenio Bogotá, Columbia

- Reduction of CO$_2$ emissions by 500,000 tons (in 3 years)
- Rationalized bus system, 32% commuting time reduction
- Access for disabled and poor
- 90% lower accidents in BRT systems
- Air quality improvements

Image: Claudio Olivares Medina/ flickr/ CC-BY-NC-ND 2.0
Low carbon mobility solutions

Improve: Fuel switch and intensity

POTENTIAL IMPACT

Increased efficiency 40-60% by 2030 feasible at low or negative costs
Changing the structure of the energy consumption

POTENTIAL CO-BENEFIT

Diversification of fuels used
Contributes to climate, air quality and/or energy security objectives

Fuel switch options for public vehicles
- Public Transport fuels switch e.g. hybrid/electric bus
- Medium to high potential for CO₂ savings
- Emission reductions (greenhouse gas and air pollutants)
- CO₂ emission reduction potential depends on the electricity mix
- SO₂, NOₓ emissions will be reduced significantly if switched to hybrid/electric
Low carbon mobility: Benefits

Direct Benefits
- Saving USD 50-100 trillion
- Reduced vehicle purchase
- Fuel costs

Indirect Benefits
- Synergies with key policy objectives
- Air Quality
- Safety
- Travel time
- Health improvements
Low Carbon mobility solutions: Implementation

Challenges

- Regulatory issues
- Institutional coordination
- Land ownership
- Lack of finance
- Stakeholder engagement
- Communication/public opposition
- Politics
- Technology availability
- Technical knowledge gaps

E.g. Chanelling investments on National level:

- Define clear investment related targets and indicators in the national (urban) mobility policy strategy
- Avoid/reduce counter-productive measures such as subventions for private car use or fuel subsidies
- Engage with Ministry of Finance and other relevant government agencies!
Low Carbon mobility solutions: Implementation

Avoid-Shift-Improve: Policy Instruments

Avoid
Avoid or reduce travel or the need to travel

Shift
Shift to more energy efficient modes

Improve
Improve efficiency through vehicle technology

Planning Instruments
Land-use planning
Planning / providing for public transport and non-motorized modes

Regulatory Instruments
Norms and standards (emissions, safety), organisation (speed limits, parking, road space allocation, production processes)

Economic Instruments
Fuel taxes, road pricing, subsidies, purchase taxes, fees and levies, emissions trading

Information Instruments
Public awareness campaigns, mobility management, marketing schemes, co-operative agreements, eco-driving schemes

Investment Instruments
Fuel improvement, cleaner technologies, end-of-pipe control devices, cleaner production

Source: Bongardt et. al. 2019
# Low Carbon mobility solutions: Implementation

## Example:

<table>
<thead>
<tr>
<th>Country</th>
<th>Energy sources</th>
<th>National policy &amp; supporting SUM</th>
<th>Local policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nepal</td>
<td>-RE 80%, majority from Hydropower - No fossil fuel reserve</td>
<td>-NDC: 20% of EV share and 50% decrease fuel dependency by 2050 -Reduced EV customs tariffs on import -80% EV bank loan</td>
<td>Lalitpur municipality has plan for EV promotion (Kathmandu)</td>
</tr>
<tr>
<td>Vietnam</td>
<td>-RE less than 10%, Hydropower 37.6% of RE</td>
<td>-Plan to increase public transport share from below 10% to 30% by 2020 -No clear policy to encourage electric vehicles</td>
<td>Ban on fossil fuelled motorbikes by 2030 (Hanoi)</td>
</tr>
<tr>
<td>Philippines</td>
<td>RE 26%</td>
<td>-Alternative Fuels and Energy Technologies Roadmap 2017-2040 - Tricycle modernization program by Department of Transportation (DOTr)</td>
<td>Pasig E-Trike Program (2019)</td>
</tr>
</tbody>
</table>
Low Carbon mobility solutions: Implementation

- Stakeholder dialogue
- Coalition building
- Identification of potential synergies
- Consideration of wider benefits
- Support for complementary measures
- Linkages between policy and infrastructure

Technical Cooperation

Financial Cooperation
**Risk of isolated measure**

**Rebound Effect**
12-32% for road transport due to isolated policy measures implementation

**Uncertainty** of a policy’s cost-effectiveness and its effect on energy efficiency

E.g. Fuel efficiency standards for vehicles ➔ improve overall fleet ➔ but induce additional travel as fuel cost saved (rebound effect) ➔ added fuel tax ➔ drive efficiently

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**Integrated policy measures**

**Modal shifts**  
Non-motorized transport and public transit services  
**National measures**  
Fuel pricing, vehicle fuel efficiency regulation, taxation  
**Transport and land use planning**

**Benefits**  
More compact, mixed and better connected communities  
Less need to travel  
Reduced rebound effect  
Effectiveness!
Overall aim for Sustainable Mobility

- To create an equitable, affordable, safe, environmentally-friendly and an integrated transport system
- It is essential to get the priority right
- Proper priority leads to putting money where the need is
True costs of transport

Direct costs
- Time for travel
- Operating costs
- Fares

Indirect Costs
- Infrastructure
- Health
- Environment
- Air Pollution
- Congestion
- Urban Space

Who pays them?

paid usually by users

Source: Kodukula 2018
True costs of transport

Example:

8-year TCO calculation, daily distance travelled of 250km, excluding driver costs, in 2018, in Europe (€/km)

Figure: Total cost of ownership (TCO) comparison of e-buses and diesel buses (source: Transport & Environment 2018)
Financing gap

Gap between local needs and the available financial resources

• Car-orientated investment
• Poor provisions for pedestrians and cyclists
• Lack of resources for high quality public transport system

Sustainable Urban Transport

Source: Breithaupt n.d.
Financing Gap

Transforming the urban mobility system requires financing

For infrastructure and procurement
• Requires high amounts over a short- to medium time period

For operation and maintenance
• Requires a continuous flow of relatively smaller amounts
Challenge related to innovative financing

• Lack of awareness of alternative finance options

• Lack of legal and technical expertise and capacities

• Tight municipal budgets and political resistance against the implementation of revenue streams

• Ensuring the bankability of projects, i.e. the willingness of lenders to finance a project.
  • Public funding programmes or guarantees can complement external financing and make a project bankable
Financing Gap

Options to close the Financing Gap

- Redirect existing funding and financing streams
- Exploit new sources of financing
- Tap national / international support programmes
- Reduce the direct costs for public budgets and engage private sector

Major Actors
- National and regional government
- City authority
- Citizens
- Private sectors /Industry/ SME
- Donors and International organisations
Funding vs. Financing

Funding
- Financial resources or income which will support the project, **usually grants**
- **Usually from public budgets.** Funding is free of charge and providers do not expect to be repaid.

Financing
- Raising money for a project from revenue streams or **external sources such as private investors or banks** Involves borrowing capital (as a loan).
- Providers of financing **expect the repayment**, including an interest component or a concession agreement for a defined period of time.
Overview: Funding and Financing Sources

Project / measure (e.g. PT service; new tramline)

Increase public budget

- Internat. & bi-lateral funding
- National funding
- Local revenues
- external finance

Reduce (direct) costs of projects & services for public budget

- private sector involvement

- Project related income
- Pricing measures for car use
- Development charges and value capture
- Municipal & Green bonds

Source: Werland / Rudolph 2019
Funding & Financing: International Sources

Loan, Guarantees, Grants, Technical assistance, Co-financing including trust funds etc.

**Mutilateral**
- E.g. Green Climate Fund (GCF), Asian Development Bank (ABD), Global Environment Facility (GEF), NAMA Facility

**Bilateral**
- E.g. German International Climate Initiative (IKI), Japanese Hatoyama Initiative, KOICA

**Climate-focused int. funds and institutions**
- E.g. Clean Development Mechanism (CDM)

International climate funding facilities cannot replace solid sector financing.

Nevertheless **funds & mechanisms** can facilitate **and support a switch towards sustainable transport**.
Funding & Financing: International Sources

Climate Financing and Sustainable Transport

Source: Gota and SLoCAT (2017)
Funding & Financing: National Sources

National Government Urban Transport Funding

- General taxation
- Transport Taxes – Fuel Duty
- National Government Revenue Sources
- Transport Taxes – Road User Fund
- Transport Taxes – Vehicle Registration

Photos by Antonio Resendiz on Unsplash, Photo by Fabrizio Verrecchia on Unsplash, Photo by Joyce Romero on Unsplash
Funding & Financing: National Sources

Fuel taxes and Surcharges

- Levied by governments, additional fuel surcharges by provinces of cities
- Characteristics
  - Simple, cost-efficient and reliable way of charging
  - User-pay-principle
  - Political acceptability sometimes problematic, political pressure sometimes keep fuel price low

On global level 80-90% of all revenues derived from the transport sector are being raised from the fuel tax

E.g. Fuel Surcharge in Colombia

- Colombian cities have a 20% surcharge on gasoline sales is levied
- Half of Bogota’s surcharge revenues are for Bogota’s TransMilenio System
- Private vehicle owners finance one third of mass transport system

Source: Breithaupt n.d.
Where is the money going?

Funding & Financing: National Sources

Fuel Taxation

Country Category 1:
High Subsidies (up to 28 Cents)
The retail price of Gasoline is below the price of crude oil on the world market.

Country Category 2:
Subsidies (29-64 US-Cents)
The retail price of Diesel is at least as high as the price for crude oil on the world market and below the price of the United States.

Note: The fuel prices of the United States are average cost-covering retail prices incl. industry margin, VAT/sales tax and incl. approx. 10 US-Cents for the 2 road funds (federal and state). This fuel price may be considered as the international minimum benchmark for a non-subsidized road transport policy; though not yet covering external costs for health and environmental damages.

Country Category 3:
Taxation (65-102 US-Cents)
Retail price of Diesel is at least as high as the price in the United States and below the price level of Luxembourg.

Note: At these levels, countries are effectively using taxes to generate revenues and to encourage energy efficiency in the transport sector.

Country Category 4:
High Taxation (103 and more US-Cents)
The retail price of Diesel is at least as high as the price level in Luxembourg.

Note: All these levels, countries are effectively using taxes to generate revenues and to encourage energy efficiency in the transport sector.

Red Benchmark:
Price of crude oil on world market = 29 US-Cents/Litre (US$ 46.7/Barrel)

Green Benchmark:
Retail price of Diesel in the United States = 65 US-Cents/Litre

Grey Benchmark:
Retail price of Diesel in Luxembourg = 103 US-Cents/Litre

Source: International Fuel Prices, 2016

DATA PREVIEW DIESEL:

Note: At these levels, countries are effectively using taxes to generate revenues and to encourage energy efficiency in the transport sector.

Where is the money going?

01.05.19
E.g.: The German National Electric Bus Funding Programme

• The German Federal Ministry of the Environment has created a 70 Million Euro fund to support the procurement of electric buses.

• The programme covers
  – up to 80% of the additional investment costs compared to conventional diesel fuelled buses
  – costs for charging infrastructure and other measures, e.g. training courses.

5 German cities:
3000 E-Buses by 2030
Vehicle Quotas: Shanghai Experience

- Limit number of new vehicles registered per month (approximately 7 – 8k)
- Conduct an auction to sell registration plates
- Highest paid for a plate was in 2013 about 14,500 USD
- Currently the cost of a number plate is between 20 – 30k RMB or 4,000 USD

1.92B USD in 2011 – 2012 from license plates and income used for public transport and subsidising travel for elderly

For more information: https://www.chinadaily.com.cn/china/2013-07/26/content_16839233.htm

Dutch Vehicle taxation

<table>
<thead>
<tr>
<th>The CO2 emission is higher than</th>
<th>but not more than</th>
<th>Calculate the tax for a petrol car as follows:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1. deduct the value from column I from the CO2 emission of the car</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. multiply that sum by the amount in column IV</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. add to that sum the amount from column III</td>
</tr>
<tr>
<td>I grams/km</td>
<td>II</td>
<td>III</td>
</tr>
<tr>
<td>0 grams/km</td>
<td>76</td>
<td>€ 353</td>
</tr>
<tr>
<td>76 grams/km</td>
<td>102</td>
<td>€ 505</td>
</tr>
<tr>
<td>102 grams/km</td>
<td>150</td>
<td>€ 2,221</td>
</tr>
<tr>
<td>150 grams/km</td>
<td>168</td>
<td>€ 9,181</td>
</tr>
<tr>
<td>168 grams/km</td>
<td>-</td>
<td>€ 13,465</td>
</tr>
</tbody>
</table>

Example: Diesel surcharge for car with CO₂ emission of 200 grams/km = \( (200 - 65) \times € 86.69 = € 11,703 \).  


Source: Kodukula 2018
Funding & Financing: National Sources

National government support for Local measures

• Direct allocation from government
  —Challenge – lack of transparency

• Ring fenced funding for specific programmes
  —Permits national government to influence direction of local policy intervention

• Competitive funding on specific policy based measures
  —Incentivises local government to develop schemes aligned to national government policy
Funding & Financing: National Sources

Discussion:

Which international, bi-lateral and national funding sources are you aware of?

Which do you use?

If not – why?
Funding & Financing: Local Sources

Local or city level options

- Project level income
- Parking pricing
- Congestion charging or Road Pricing
- Emission Free Zones
- Advertising and PPPs
- Land Value Capture
Funding & Financing: Local Sources

Project related income (e.g. from bus ticket)

- Keep public transport **fares** on a **moderate level** to ensure affordability and to attract passengers
- National / regional level **co-funding** for public transport
- Only available after service starts operation
  - Can cover a share of operating costs but not upfront investments for construction and procurement
Funding & Financing: Local Sources

Pricing private car use

- Congestion charges
- Parking fees

- Rationale: polluter / user pays principle
- Internalising external costs of motorised vehicle use
- Revenues can be ring-fenced for improving PT
- Can be used as transport demand management tool
Parking pricing

**Current state**
- On and off-street parking as widespread phenomenon
- Subsidising and undercharging of parking

**Consideration**
- Off-street parking should be cheaper than on-street parking
- Parking fee should be higher than a single bus/PT fare

Source: Breithaupt n.d.
Funding & Financing: Local Sources

Parking price vs Public transport

Funding & Financing: Local Sources

Illegal parking fine

Picture: Parking on brand new footpath along Ojijo Road in Parklands, Nairobi (Source: Chris Kost via Tweet 29th April 2019)
The Congestion Charge is an £11.50 daily charge for driving a vehicle within the charging zone between 07:00 and 18:30, Monday to Friday.
Road Pricing (General)

- If revenue for **maintenance** is the objective, heavy vehicles (i.e., trucks) should be charged more.

- If alleviating **congestion** is the objective, the price during peak hours should be higher.

- If reducing **emissions** is the objective, more polluting vehicles should be charged more.

- **Price differentiation** is possible by location, time of day and vehicle type.

Source: Kodukula 2018
# Funding & Financing: Local Sources

## Income from Congestion Charge

<table>
<thead>
<tr>
<th>Component</th>
<th>Group and Corporation 2017 £m</th>
<th>Group and Corporation 2016 £m</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>249.6</td>
<td>258.4</td>
</tr>
<tr>
<td>Toll facilities and traffic management</td>
<td>(74.8)</td>
<td>(84.4)</td>
</tr>
<tr>
<td>Administration, support services and depreciation</td>
<td>(10.9)</td>
<td>(5.7)</td>
</tr>
<tr>
<td><strong>Net income from Congestion Charging</strong></td>
<td><strong>163.9</strong></td>
<td><strong>168.3</strong></td>
</tr>
</tbody>
</table>

The net revenues from the Congestion Charge are spent on improving transport in line with the Mayor’s Transport Strategy.
Funding & Financing: Local Sources

Emission Free Zones – E.g. Milan’s EcoPass

- Emissions-based charges for the entry into Milan’s Limited Traffic Zone (ZTL)
- Cameras record vehicle licence plate numbers, and debit the card holder’s account
- Operating Hours: Monday – Friday 7.30 a.m. to 7.30 p.m.
- Tollage up to EUR 10 per day - based on the Euro emissions class of the vehicle, the fuel type, the particulate filters, and the type of transport (personal or goods)
- There is an additional offer of a multiple access card (50 days of access, not consecutive, with a reduced price) and a subscription card for residents of the ZTL

EcoPass impacts

- Traffic: 19.2%
- Travel Speed: 11.3%
- CO₂ Reduction: 12%
- Public Transport: 9.7%

Source: Kodukula 2018
How to make pricing measures successful?

- **Inform the public** about the objective of the charging system and its intended impacts.
- Make clear that **revenues will be reinvested into public transport** and other alternatives.
- Conduct a **trial** period to allow road users to accustom to the new system and its potential benefits, to **test alternative travel options**.
- Stress the **role of the system** as component of a broader mobility strategy.
- Consider **concerns about equity and fairness**, e.g. exemptions for vehicles used by disabled people.
Funding & Financing: Local Sources

Land Value Capture

- Financing mechanism where land owners benefit from new public infrastructure

- Businesses value located near the new infrastructure can be increased

- Reduces the capital costs of public transport

- Promotes high density land use

- Transit Oriented Development (TOD)
Funding & Financing: Local Sources

E.g. Hongkong Rail Plus Property (R+P) model

- Metropolitan Transit Railway Corporation (MTRC) of Hong Kong
  - buys development rights from the Hong Kong Government (the majority shareholder of the MTRC) at a “before rail” price, and
  - sells these rights to developers at an “after rail” price—which is significantly higher.
  - The differential between the “before rail” and “after rail” prices covers the cost of railway investments.

- MTRC takes advantage of market-driven property appreciation to finance railway services.

Source: Kodukula 2018
Funding & Financing: Local Sources

Advertising

E.g.: Advertising on bus stops in London

- Contractual agreement between ‘Transport for London (TfL) and the outdoor specialists ‘Clear Channel’ (CC)
- CC owns the right to sell media space on half of TfL’s bus shelter portfolios
- CC in return runs the routine maintenance on design of street furniture
- All generated incomes are used for the London public transport network

Source: Breithaupt n.d.
Funding & Financing: Local Sources

Advertising

E.g.: Vélib in Paris

- **Bike-share system** funded by an **advertising partnership** with firm JCDecaux, covering all the costs for the Vélib system
- Initial 10 year outdoor **advertising contract**, allowing control advertising rights on 1628 bus shelters, newsstands, public toilets, and other street furnitures
- JCDecaux **paid** Paris city **all the revenue from cycle rentals and annual subscriptions**, plus an **estimated €3.5 million per year** from its advertising takings

Replicated in Spain, Turkey, Australia
Funding & Financing: Debt financing

Tax Increment Financing (TIF)

• Expected financial returns for financing a project, such as infrastructure development.

• City borrows money to finance projects from a creditor

• Debt repayments are covered from ring-fencing expected future additional tax revenues (e.g. real estate taxes) that would not occur if the project was not implemented
Funding & Financing: External finance

Debt financing: Green Municipal Bonds

- City governments issue (green) municipal bonds to finance transport infrastructure or services

- Repayments can be extended over a long time period.

- Interests will be paid from direct project related revenues (e.g. fares) and cost savings
E.g.: The RATP green bonds programme


- RATP aimed at receiving € 500 million with a 10-years issue

- Used for renewal of rolling stock, upgrading of a metro line, and the purchase of electric locomotives. With € 1.6 billion of orders, the fond was three times oversubscribed.

Private Sector Engagement

Kinds of private sector engagement

- Broad spectrum of possible PPP models, from service contracts to full privatisation.
- 2 commonly used PPP models are:
  - **Build-Operate-Transfer (BOT):** private sector enterprise builds and operates the infrastructure for a defined period of time (e.g. 20 years). After that time the asset is reverted to the public sector.
  
  - **Build-Own-Operate (BOO):** a private enterprise develops and operates the project for a defined period of time. The public sector buys the asset at a predefined price or market price.
Two perspectives on private sector engagement

... increases the effectiveness of public services

... privatises short-term profits on the expense of service quality and working conditions

→ Achieving an ‘optimal’ degree of public sector engagement is a political decision
Overview: Funding & Financing Options

International Bilateral
- Funding & Support Programmes
- Payments for the provision of local and regional public transport services

National
- Funding & Support Programmes
- General municipal budget
- Earmarked revenue from road charges, parking fees, value capture
- (Green) municipal bonds
- Loans
- Project related income: Public transport fares, advertisements, etc
- PPP: Build-Operate-Transfer and Build-Own-Operate
- Integrate Private Service Provider

Local
- Voluntary Capture

Private Sector
- Construction and procurement
- Operation and maintenance

Source: Werland / Rudolph 2019
Supporting Low Carbon Plans for Urban Basic Services in the context of the New Urban Agenda

www.urban-pathways.com
• **Objective**: Support low carbon plans for urban basic services and contribute to the implementation of the New Urban Agenda, Paris Agreement and the Sustainable Development Goals

• **Activities**: Capacity building, assessment at country/city level, city to city partnership, exchange good practices and standards, local implementation concepts (develop bankable projects)

• **Sectors**: Energy, Mobility and Resources

4 pilot + 16 replication cities in Africa, Asia and Latin America

www.urban-pathways.com
• Inform decision makers and stakeholders about the mitigation and sustainable development potential of sustainable urban infrastructure.

In the area of urban mobility the Urban Pathways project benefits from direct linkages to UEMI and FUTURE RADAR project.
• Capacity building and Change maker programme by bringing together all the stakeholders (policy makers, city officials, investors and implementation actors)

• City-to-city partnership

<table>
<thead>
<tr>
<th>Event</th>
<th>Date/Location</th>
</tr>
</thead>
</table>
| EcoDistricts Webinar series (Spanish) | 15 August 2018
| | 4 September 2018
| Urban Pathways Training | Nairobi, Kenya
| | 6 - 7 September 2018
| Low-carbon urban mobility Webinar series | 13 September 2018
| | 6 November 2018
| Transport & Climate Change Week | Berlin
| | 24 - 28 September 2018
| World Habitat Day Solid Waste Management | 1 October 2018
| Open Streets Workshop | Cape Town
| | 22 October 2018
| Sustainable Mobility Training | Belo Horizonte
| | 5 - 6 November 2018
| Planning the Cycling City Webinar Series | 6 November 2018
| COP 24 Training Events | Katowice, Poland
| | 3 - 14 December 2018
| Active Mobility Planning | Ibagué, Colombia
| | 10 December 2018
| Transit-Oriented Development Training | Cuenca, Ecuador
| | 10 January 2019
| Cities Exchange Forum | Quito, Ecuador
| | 28 - 31 January 2019

www.urban-pathways.com
• Cities’ policy environment study, Project scoping in the partner cities and provide funding solutions
Hai Phong, Vietnam:
Pedestrian street along Tam bac River

Kochi, India:
E-Tuk-Tuk

Kathmandu, Nepal:
Upgrading E tuk-tuk ‘Safa tempo’

Focal point: Hai Phong City
Focal point: Kochi municipality, KMRL and Kerala State Electricity Board
Focal Point: Sajha Yatayat
Budget: 100,000 Euros

• Create synergies with other related projects
• Steps to Action activities in pilot and replication cities
Belo Horizonte, Brazil:
Zone 30 and bike lanes

Quito, Ecuador:
EcoDistricts

Concept: BH and the city of Bremen
Focal Point: BH-Trans
Budget: 120,000 Euros

Focal point: Metropolitan Institute of Urban Planning (IMPU)
Budget: 200,000 Euros

www.urban-pathways.com
Kenya: Solid Waste Management

Cape Town, South Africa: Open Streets

Focal point: Nairobi County

Focal point: Open Streets (NGO)
In partnership with Transformative Urban Mobility Initiative (TUMI)

www.urban-pathways.com
Thank you!

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