



Financing Mechanisms for Sustainable Mobility



World Business Council for Sustainable Development
Sustainable Mobility Project 2.0 (SMP2.0)



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I Executive Summary

This summary report on financing mechanisms for sustainable mobility has been developed by the Sustainable Mobility Project 2.0 (SMP2.0). It is designed to complement the SMP2.0 Solutions Toolbox by providing thought leadership on financing mechanisms that cities may leverage to implement their sustainable mobility plans. The report summarizes potential financing mechanisms that may be implemented to fund city-driven solutions and provides valuable information, such as the key characteristics of mechanisms, the general eligibility requirements of mechanisms, and the level of complexity to implement. This report also provides several summary case studies as well as detailed case studies.



This report discusses key highlights and trends in how financing mechanisms may be used by cities to secure financial support for their solution. Such trends include:

- In addition to traditional financing mechanisms, cities can consider emerging and innovative mechanisms that provide additional opportunities to secure funding. In doing so, cities also need to assess the potential challenges in implementing these mechanisms.
- Cities are increasingly looking to different parties as potential sources of funds. Development assistance institutions and the private sector are playing an increasing role in delivering financial support to solutions, and the potential to generate revenue from direct and indirect users of the solution is also gaining more interest.



In addition, the report contains case studies illustrating how cities can combine mechanisms to develop a financing package for a solution, which cities may benefit from. In doing so, cities will need to consider a wide range of mechanisms and assess the potential to combine mechanisms to fit a solution's specific needs. Consideration of the city's capacity to implement the mechanism, to engage with multiple stakeholders and to manage the financial obligations is also important.

While the report discusses potential new and exciting financing mechanisms, cities also need to consider that many mechanisms are not a 'one-size-fits-all' and consideration needs to be given to:

- What role do the national government, subnational government, development assistance and private sector currently have in financing solutions in the city or region?
- Who is driving the solution and is that entity or stakeholder capable in securing appropriate support for identified financing mechanisms?
- What fundamental capability or infrastructure is needed to implement a financing mechanism (e.g. strong capital markets, legislative support)?
- How will different stakeholders react to the use of certain financing mechanisms and how can such concerns be addressed?

After reading this report, cities should have an increased understanding of the broad financing options for their sustainable solutions, and should be able to leverage the Sustainable Mobility Project 2.0 (SMP 2.0) Solutions Toolbox for more in-depth information.

II Introduction



About Us

The WBCSD is a CEO-led organization of forward-thinking companies that galvanizes the global business community to create a sustainable future for business, society and the environment. Together with its members, the council applies its respected thought leadership and advocacy to generate constructive solutions and to take shared action.

This summary report is a product of WBCSD's Sustainable Mobility Project 2.0, a three-year program bringing together a uniquely global and cross-sectorial group of mobility related companies and other stakeholders. The project aims to accelerate progress towards delivering universal access to safe and low-impact mobility for both goods and people.

The Sustainable Mobility Project 2.0 is developing processes and tools that can be used by cities to support their sustainable mobility plans. Among the tools is the Solutions Toolbox collecting worldwide solutions and best practices to support the design of mobility action plans.

Background

This summary report is designed to complement the Sustainable Mobility Project 2.0 (SMP2.0) Solutions Toolbox by providing thought leadership and references on financing mechanisms that cities may leverage to implement their sustainable mobility plans. The report summarizes potential financing mechanisms that may be implemented to fund city-driven solutions, with the aim of providing valuable information and ideas to cities as they consider how to deliver mobility solutions.

To develop this summary report, the Sustainable Mobility Project 2.0 team performed the following key tasks:

- Identified a wide list of potential financing mechanisms
- Identified critical attributes and categorizations
- Documented key mechanism information
- Identified case studies and solution examples
- Identified key themes in financing city-driven sustainable mobility solutions
- Developed this report and other materials to incorporate into the Sustainable Mobility Project 2.0 (SMP2.0) Solutions Toolbox



Report Structure

This report categorizes financing mechanisms by the source of the funds. The source of funds categories discussed in this report is defined below:

- **Project Generated Cash Flows:** funds sourced as a direct result of project operations
- **City Operations:** funds provided by local municipality or transit authority
- **National and Subnational Governments:** funds provided by greater governmental bodies
- **Development Assistance Institutions:** funds provided by multinational bodies
- **Private Sector Institutions and Investors:** funds sourced directly from the private sector

In addition to discussing the financing mechanisms by source of funds, the report also addresses the key characteristics of mechanisms, the general eligibility requirements of mechanisms, and the level of complexity to implement.

This report also provides several summary case study as well as detailed case studies. These case studies have been selected to provide examples of how solutions have been delivered by leveraging innovative financing mechanisms and/or combining multiple mechanisms to deliver a solution's financing package.

Also included in this report is a compilation of the financing mechanisms identified that can also be found in the Sustainable Mobility Project 2.0 (SMP2.0) Solutions Toolbox.



Report Contents and Key Definitions

This report identifies a number of additional mechanism attributes and fields of information. A brief definition of these is provided below:

The **Mechanism Stage** refers to how widely cities have used these mechanisms to finance mobility solutions. Three stages are referenced in this report:

- **Traditional:** the mechanism has been widely used to fund transport solutions across several geographic regions
- **Emerging:** the mechanism has been used to fund transport solutions, but may not be widely implemented across regions or may be available as a result of recently created programs or policies
- **Innovative:** the mechanism may have limited precedent in funding transport solutions, may have been enabled by recent technological advancements, or may have been recently developed

The Mechanism Category is a subset of the source of funds and a number of mechanism categories are identified in this report, including:

- **Grants:** financial support provided directly to a solution
- **Debt:** loans and bonds
- **Donation:** private sector donation
- **Equity:** typically a private sector investment that carries greater risk and returns than debt
- **Farebox:** user fees generated by the solution
- **Flexible Support:** opportunity to implement, or combine, Grants, Debt, and Equity to fit project needs
- **Incentives for Private Investment:** financial or non-financial support provided by the public sector to incentivize private investment
- **Taxes and Fees:** funds derived from the community, stakeholders and/or businesses in a jurisdiction or a specified area
- **Value Add:** funds raised from value added services or sales
- **Value Capture:** funds raised from stakeholders or businesses that benefit from additional value (net of any costs) created by the solution

Another key attribute identified for each mechanism is the Type of Funds, which distinguishes between mechanisms that provide:

- **Funding:** funds provided to the solution that do not require a direct financial commitment or repayment on behalf of the solution
- **Finance:** financial support provided to the solution that requires a financial commitment on behalf of the solution (e.g. project bonds or project loans) to repay the initial amount of financial support and potentially a financing cost (e.g. interest, equity return)
- **Varied:** the mechanism can provide both funding (e.g. grants) and finance (e.g. loans) to solutions. These types of mechanisms are most common among Development Assistance Institutions that provide flexible financing mechanisms.

Other key attributes identified for each mechanism include:

- **Availability:** whether the mechanism is available on an ongoing basis or are provided at one time
- **Eligibility Requirements:** any required criteria to implement a mechanism
- **Capital Markets Expertise Required:** the degree that a city requires knowledge of capital market instruments and operations to implement a mechanism
- **Legislative Support Required:** whether legislative support is required to implement a mechanism
- **Stakeholder Support Required:** the degree that a city requires support from stakeholders to implement a mechanism
- **Applicable Project Size:** whether there are limitations on the amount of funds that can be raised
- **Applicable Use of Funds:** whether there are limitations on the types of solutions that can be supported by a mechanism
- **Example Solutions:** example of solutions that have used a mechanism as part of its financing package
- **Benefits:** discussion on some potential benefits for implementing a mechanism
- **Risks:** discussion on some potential risk to consider when implementing a mechanism
- **References:** where possible, contacts and links to organizations and information

How to Use This Report

The information provided in this summary report can be used as reference to support cities and stakeholders as they navigate the Sustainable Mobility Project 2.0 (SMP2.0) Solutions Toolbox. In addition to the solutions laid out in the Sustainable Mobility Project 2.0 (SMP 2.0) Solutions Toolbox, the Toolbox contains a list of financing mechanisms. The Mechanism List provides information and key attributes for each mechanism included. Cities will be able to independently search for financing mechanisms by key attributes as well as to browse the list of mechanisms.

In addition, the Sustainable Mobility Project (SMP 2.0) Solutions Toolbox includes information on the mechanisms available to cities, and also indicates the potential categories of mechanisms that may be suitable for solutions that are delivered by cities. In the Toolbox, cities will be able to generate a list of solutions from an initial search and the information provided on the solution will indicate the potential mechanism categories. This information is designed to help cities identify potential financing mechanisms for a given solution. Further information on the financing mechanisms can be found in the Sustainable Mobility Project (SMP2.0) Solutions Toolbox by using the Financing Mechanisms Search function.

For example, if a search of the Toolbox results in a light rail development solution, the following mechanism categories will be shown for the city's consideration:

- City Operations: Taxes and Fees, Debt, Grants, Value Capture
- National and Subnational Government: Grants, Debt
- Development Assistance Institutions: Grants, Debt
- Private Sector Institutions and Investors: Debt, PPP

Given differences in city resources, regional approaches and other differences, the Sustainable Mobility Project (SMP 2.0) Solutions Toolbox does not attempt to definitively suggest specific mechanisms for specific mobility solutions. Rather, it can help cities identify potential financing mechanisms for their mobility solutions by providing useful information and helping cities to consider the attributes, benefits, and risks of their respective solutions and environments.





III Key Takeaways and Considerations

The key themes, questions and considerations discussed in this section are provided as a guide for cities to leverage while reading through the report and navigating through the Sustainable Mobility Project 2.0 (SMP2.0) Solutions Toolbox in an effort to identify potential financing mechanisms for their mobility solutions.

Key Takeaways

The information provided in this summary report and the list of financing mechanisms incorporated in the Sustainable Mobility Project 2.0 (SMP2.0) Solutions Toolbox highlight a number of key themes in how cities are leveraging various financing approaches to develop financing packages for sustainable mobility solutions. These key themes include:

- In addition to traditional financing mechanisms, cities should be aware of emerging and innovative mechanisms that provide additional opportunities to secure funding. However, cities should also be aware that emerging and innovative mechanisms may also be challenging to implement
- Cities are identifying ways to capture more of the value added by developing solutions, as well as ways to expand the use of mechanisms that raise funds from existing solutions
- Cities are increasingly looking to different parties as potential sources of funds. Development assistance institutions and the private sector are playing an increasing role in delivering financial support to solutions
- The development of several emerging and innovative mechanisms reflects new approaches to implementing traditional mechanisms. For example, cities may levy taxes and fees in an innovative way to drive new behaviors or may access innovative debt mechanisms from the development assistance institutions and private sector
- National and subnational governments, development assistance institutions, private sector institutions and

investors are providing an increasing number of grants as they prioritize sustainability as a strategic goal

- While a city may look to implement an emerging or innovative mechanism, its ability to do so can often be linked to the capacity of the national and/or subnational governments to approve the required legislation and to act as champion to support the adoption of the mechanism across the country or region. Without this approval and support, it could be difficult for cities to proceed.
- The financial obligations associated with leveraging debt mechanisms need to be considered in light of a city's current financial position and obligations. Increasing the debt repayments that a city is obligated to make without increasing revenues to cover the repayments may impact the financial health of the city.
- Mechanisms can be combined in number of ways; unfortunately, there is no one-size fits all solution. Combinations of mechanisms, and the amount of support provided by each, are likely dictated by project needs. Cities should consider the level of expertise needed and potential precedents
- Cities that can establish the financial viability of a solution by demonstrating sound business and economic fundamentals and are financially sustainable on a standalone basis, are more likely to have access to a number of mechanisms.



Considerations for Cities in Identifying Potential Mechanisms

This summary report highlights a number of general questions that cities may consider when looking to identify potential financing mechanisms for a solution's financing package, including:

- Who is driving the solution and what enablers (such as legislation, mature capital markets etc.) are needed to implement it? Understanding potential obstacles to implementing a mechanism is critical in assessing its viability as a financing option
- Is the solution on a scale similar to other solutions that leverage this mechanism? Investigating whether the size of the solution may fit the eligibility criteria or minimum investment for investors is important to identify mechanisms that can be used
- Does the solution have the capacity to provide significant benefit to numerous direct/indirect users? This may help identify mechanisms that link the value of the solution to users
- What role do the national government, subnational government, development assistance and private sector currently have in the city or region? If these entities have little presence or involvement with the city, then it may increase the complexity to attract these entities and engage their support for a solution
- Is the city located in a mature or developing economy? Cities in mature economies may not receive support from any or a very small number of development assistance institutions. However, cities in developing economies may not have access to mature capital markets or they may experience higher prices in securing finance due to the risk associated with being in a developing economy.
- Does the city have access to and experience with debt and equity capital markets? In considering the potential use of debt and equity mechanisms, it is important to consider the ease in which cities can access investors via the capital markets and also manage these financial instruments in the long term
- Does the city have the support of critical stakeholders to implement the solution? It may be easier to access mechanisms offered by other entities or that impact the community when the solution has support from these stakeholders
- Can the solution be delivered with public sector funds, private sector funds, or a combination of both? Cities need to evaluate the extent to which the private sector mechanisms can be leveraged to finance a solution. This often requires a detailed analysis of the availability of funds in public budgets as well as the skills and competencies needed to deliver the solution.
- Does the solution require funding for project development, operating expenses or both? Understanding the timing of the funding needed for a solution is critical in aligning this payment profile with potential mechanisms to make this funding available when needed



Assessing the potential to combine mechanisms

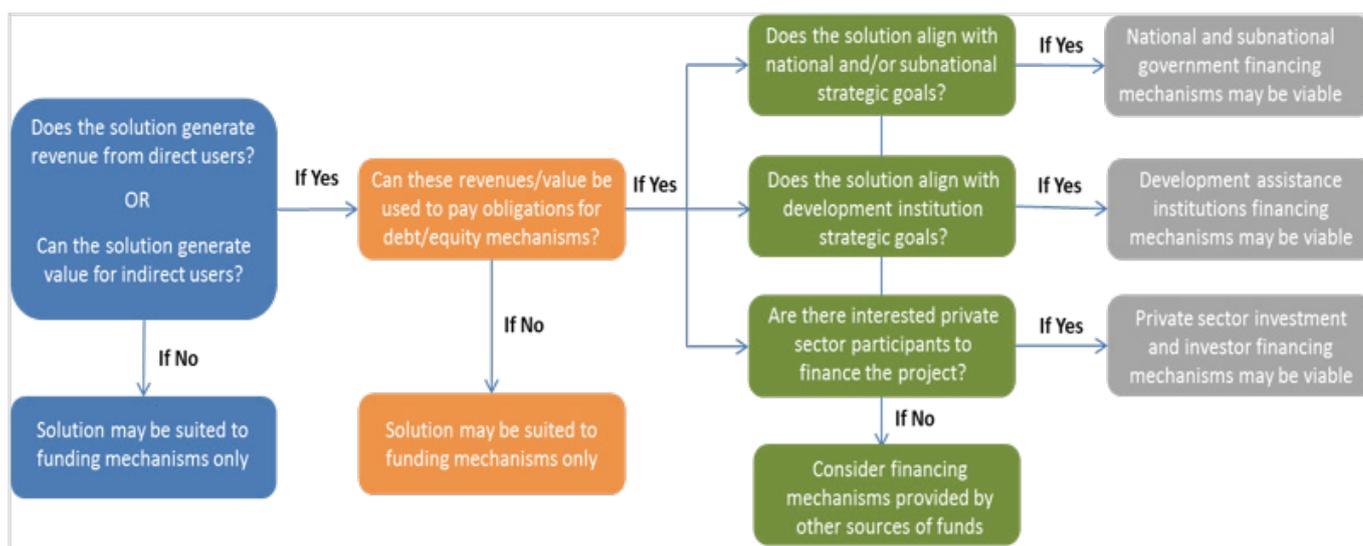
Cities are often required to combine multiple financing mechanisms in a solution's financing package. The number and type of mechanisms suitable for a solution's financing package can reflect the type of solution being implemented, the financing requirements (project development, operating costs, technical assistance etc.), the amount of funds needed, and the number of interested parties and stakeholders that can provide funding.

Case studies provided in the report highlight several key elements in combining mechanisms to support solutions. These include:

- Investigating a wide range of potential mechanisms and selecting a combination of mechanisms that best fit the solution and also raise funds in an equitable manner
- Matching the solution's need for funding with the availability of funding. For example, a mechanism such as a grant may be valuable in addressing an initial capital cost, while other mechanisms such as taxes or farebox revenues may raise smaller amounts of funds over a longer period of time to support operations and maintenance costs
- Considering the requirements of the city to manage the mechanisms in the long term. For example, there may be reporting requirements with national government mechanisms, development assistance institution mechanisms, and for certain debt instruments
- Assessing the potential for stakeholders or interested parties to provide mechanisms. In particular assessing the potential to attract private sector participation and development assistance institutions, while considering specialist skills and expertise that the city may need to deliver the project
- The potential for a solution to generate revenue or value that can be used as a funding mechanism. This is discussed in further detail below

Assessing the potential for funding or financing mechanisms

In identifying potential mechanisms for a solution, cities often need to assess whether a solution may be suitable for funding and/or financing mechanisms. Some key considerations in this assessment are summarized in the following decision diagram:



IV Sources of Funds for Financing Mechanisms

Project Generated Cash Flows

Project Generated Cash Flows are funds raised directly from users of the solution (e.g. ticket sales for a BRT system) or from stakeholders or businesses that benefit from the development of the solution (sale of development rights along a new transit corridor).

Project Generated Cash Flow mechanisms are often implemented alongside additional financing mechanisms as part of a solution's financing package. For example, a project's revenues may be an attractive source of funds to cover operating expenses and may be used in conjunction with city funds that are used to address project development costs.

Project Generated Cash Flows are often used as a source of co-financing as well as a means to fund a financial obligation to financiers. For example, a transit operator may access a line of credit, or may issue a project bond based on the anticipated project revenues, and offer lenders first lien on these project revenues.

Although Project Generated Cash Flow mechanisms can be considered traditional financing mechanisms as almost all cities have existing mechanisms in place, cities are implementing more innovative ways to collect project related funds. Examples include technology enabled dynamic pricing systems for tolls and parking, as well as expanding value added services.

There are some mechanisms that may not require capital market expertise or legislative support, and with support from direct and indirect users, may prove to be an important source of incremental funds.



Types of Mechanisms

Farebox financing mechanisms are used by solutions to raise funds from direct users of a solution. Farebox mechanisms, such as system fares (the sale of tickets to users), can be seen as traditional mechanisms that have been widely adopted to finance projects. However, emerging farebox mechanisms have become more prevalent in recent years. Examples include dynamic pricing for tolls and parking. Dynamic pricing allows solutions, such as a toll road, to dynamically alter the price of fares to optimize traffic flows and usage by increasing prices when there is high demand and decreasing prices when demand reduces.

Value capture mechanisms allow cities to raise funds from stakeholders that benefit from the development of a solution. An example of a value capture mechanism is the sale of development rights. A municipality may allow stakeholders to purchase the right to develop real estate alongside a new solution, or to purchase the rights to develop real estate beyond existing zoning regulations. Such mechanisms can be considered emerging and a potential source funds for project development as they can be raised prior to operations.

Value Added mechanisms can be implemented to raise funds from existing solutions. A traditional example of a Value Add mechanism is concessions and commercial leases, generating revenue by leasing or renting space to retailers or other businesses.

Pun Pun Bicycle Share, Bangkok

In 2013, Bangkok's Metropolitan Administration launched the Pun Pun Bicycle Share with 12 stations in Central Bangkok. Users pay an annual membership to use the system and the first 15 minutes are free. After this time, the rental cost reduces the longer the bike is used. The program provides rental bicycles at reasonable rates to encourage the use of bicycles, rather than cars, for short distance trips.

Key Mechanism Characteristics

Project generated cash flow mechanisms have traditionally raised funds from direct users (e.g. user tolls), but also source funds from individuals or businesses that indirectly benefit from the project. Although such mechanisms have been widely adopted, emerging and innovative mechanisms have become

CEPACS, Sao Paulo

The City of Sao Paulo sells development rights, development-based instruments titled Certificates of Additional Construction Potential (CEPACs) that allow construction beyond existing zoning rights. The proceeds from the sale of CEPACs are contributed to a general fund that makes investments in city infrastructure.

more prevalent.

The amount of funds raised and the timing of the funds from these mechanisms can vary. Mechanisms, such as Advertising, can raise a small amount of funds over time and may support a solution's operating expenses. Other project generated cash flow mechanisms may generate substantial revenues for a solution once the project is operational, such as system fares. Such funds may also be used to secure upfront financing for the solution. They may also be suited to fund operating expenses, as the ongoing revenue from such mechanisms can be aligned with ongoing solution costs (i.e. using tolls collected through system fares to pay for ongoing facility maintenance). If project generated cash flows are needed for project development costs, cities may consider emerging value capture mechanisms that generate revenue prior to project operations, such as the sale of development rights or air rights.

In addition to generating steady and ongoing revenue, project generated cash flow mechanisms can also allow solutions an opportunity to adjust fee prices to account for inflation. For example, a BRT system may raise fares to account for inflation in operating and maintenance costs.

Mechanism Eligibility Requirements

Project generated cash flow mechanisms generally do not have eligibility requirements. Certain mechanisms may require approval by the local municipality or may have to be eligible under local laws, such as development rights and air rights. Consideration can also be given to a city's ability to implement a fee or toll for a solution, as approvals from other governments or the community may be required.

Mechanism Complexity

Project generated cash flow mechanisms can vary in complexity to implement and this is based on a number of factors.

Certain financing mechanisms may require supporting infrastructure or systems. For example, system fares are a widely adopted mechanism by which a solution charges users a fare for use of the system. Although the mechanism is widely adopted, the solution requires infrastructure such as toll booths or electronic tolling systems to implement the mechanism.

In addition to infrastructure, mechanisms may also require advanced, and potentially costly, technology to implement. For example, implementing dynamic pricing may require an advanced system to collect and analyze usage, determine appropriate pricing, and distribute pricing information. Adoption of these types of systems may increase the cost and complexity to implement this mechanism.

Project generated cash flow mechanisms can also require considerable support from the city and local authorities in order to implement. For example, value add mechanisms, such as concessions or commercial leases may require considerable effort to identify suitable businesses to lease commercial space, draft leases and also manage tenants on an ongoing basis.

Cities should also consider the level of support needed from community stakeholders when implementing mechanisms that raise fees from direct users. In addition, consideration needs to be given to the level of private sector or local business support needed to implement mechanisms that raise fees from indirect users.

Legislative support may cause complexity when considering project generated cash flow mechanisms as well. For example, certain value capture mechanisms, such as the sale of development rights, can involve changes in building code and/or local regulations.

SMRT, Singapore

Singapore MRT Corp. leases 36,800 sq. meters of properties to businesses that provide retail, food & beverage, and other services to the system's passengers. By actively managing and refurbishing properties, and by fostering a customer and business friendly environment, SMRT was able to maintain a +98% occupancy rate in 2014. In 2014 SMRT collected SGD97.6M in revenue and SGD73.4M in operating profit from leasing activities.

Key Issues to Consider in Implementing Project Generated Cash Flow Mechanisms

- **Stakeholder Support:** mechanisms may require considerable stakeholder support, particularly from the community and potentially from the private sector
- **Pricing:** setting direct user fees in a manner that encourages use of the solution, but that also generates adequate funds
- **Amount and Timing of Funds:** a mechanism may not raise sufficient funding alone to implement a solution, or may not start generating funds until a solution has been implemented
- **Legislative Support:** certain mechanisms will require support from local legislators to implement
- **Type of Solution:** mechanisms may be align to solutions with direct and indirect users
- **Direct vs. Indirect Users:** in the absence of direct users, identifying applicable mechanisms that raise funds from indirect users
- **Value Add Mechanisms:** identifying mechanisms that may allow cities to raise incremental sources of funds
- **Fluctuation in Users:** sustainability of certain mechanisms, especially those that generate funds from direct users, may be affected by usage changes
- **Balancing the use of project generated cash flow mechanisms:** ensuring the funds raised from users (direct and indirect) reflects the value of using or engaging with the solution, reducing the potential for one segment of user to have the burden of generating the required cash flows

Aligning Project Generated Cash Flow Mechanisms to Solutions

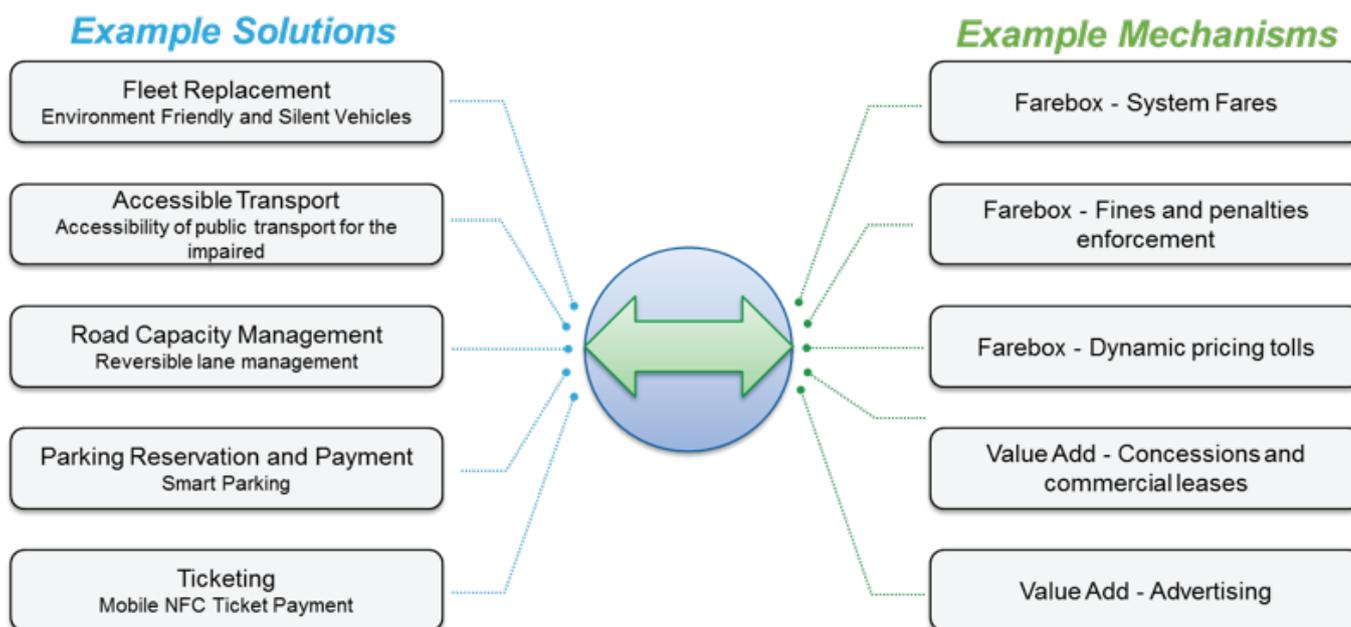
In considering the suitability of project generated cash flow mechanisms for a solution, it is important to consider the potential benefits and disadvantages of these mechanisms and how they may impact a solution's delivery.

There are multiple benefits of leveraging project generated cash flow mechanisms. The mechanisms can be suited to a wide range of solutions, can provide a steady source of cash flow throughout the life of the project, and may not be overly complex to implement.

However, there are disadvantages, or risks, to consider as well. For example, some mechanisms may require considerable support from the city or local authority to maintain. A mechanism may also not raise considerable amounts of funds that can be used in project development, and it may generate cash flows that fluctuate with demand or usage of the solution once operational.

In addition, the key attributes of a solution are an important consideration when evaluating the potential use of project generated cash flow mechanisms. While the list below is not exhaustive, the information contained in this report suggests that solutions with the following characteristics may align with project generated cash flow mechanisms:

- Solutions that provide considerable benefit to direct users; e.g. Bus Rapid Transit systems
- Solutions that provide considerable benefits or opportunities to indirect users; e.g. Bicycle Lanes, Walking Paths
- Solutions that are highly visible to users and/or the public; e.g. Bikeshare systems
- Solutions that are improvements to existing transport facilities; e.g. Accessible Buses





City Operations

While all cities have existing, traditional mechanisms that generate funds for city budgets, the city operations mechanisms discussed in this report are a means by which cities can raise funds to support the implementation of sustainable mobility solutions.

City operations mechanisms vary by stage of adoption and range from traditional mechanisms to more emerging and innovative mechanisms. Many cities levy property taxes on local residents and businesses and/or collect sales taxes to fund city budgets. Cities are increasingly looking for ways to raise additional funds by leveraging emerging or innovative mechanisms. Examples include levying impact fees on new developments, assessing additional taxes on specified districts, and creating incentives for private investment.

City operations mechanisms can often be combined with other financing mechanisms, or can be used to support solutions independently if the funds generated by city operations can match a solution's needs. Often cities look to combine city operations mechanisms with other mechanisms due to tight city budgets or limited fundraising ability. Similar to project generated cash flow mechanisms, city operations mechanisms can be leveraged to access other financing mechanisms such as loans or bonds, if an amount of capital is required upfront. The proceeds from the city operations mechanisms can then be ring-fenced to contribute to repaying the loan/bond over a period of time.

Types of Mechanisms

There are a number of mechanisms that cities may consider as a source of funds. Key categories of mechanisms include:

- Taxes and Fees
- Value Capture
- Debt
- Grants
- Incentives for Private Investment

Taxes and fees can include traditional mechanisms, such as property taxes and sales taxes, but also include more emerging and innovative mechanisms. For example, cities may levy additional taxes on specified users with higher usage of public transport assets or on users that contribute to congestion or other negative factors. Examples include traffic impact fees, charging fees on new real estate developments to compensate for an increase in usage of public transport, and emission zone fees, which charge fees to drivers of high emissions vehicles in specified city areas.

Value capture mechanisms allow cities to raise funds from stakeholders that benefit from the development of a solution. For example, a city may implement a special assessment to raise funds from residents and businesses in a certain area where the city is developing walking paths. Such a mechanism may be seen as more equitable when compared to using general city funds, as residents and businesses in the area will directly benefit from the solution.

Cities can also implement debt mechanisms to provide financial support to solutions. Debt mechanisms, such as city specific loans or bonds, are considered traditional mechanisms and may be a considerable source of funds.

Cities can create mechanisms that provide grant funding to solutions. Select cities have created permanent funds and reserve funds that provide grant funding to projects or causes that align with the fund's designated criteria.

Finally, incentives for private investment are mechanisms through which cities seek to attract private sector funds and expertise. Cities can offer financial incentives, such as tax exemptions, or other forms of support, such as facilitating planning or legislative processes.

Key Mechanism Characteristics

City operations mechanisms raise funds within, or on behalf of, a city and deploy funds within the city. Mechanisms are generally implemented and overseen by city authorities, but in certain cases may need national or subnational legislative support to implement.

Many cities have traditional mechanisms currently in place, but may consider emerging mechanisms in an effort to address budget shortfalls or to fund specific solutions. For example, a city may generate considerable revenue from local sales taxes, but may face a shortage of funds needed to develop improved access to public transport. In this example, a city may implement a special assessment, a fee on residents and businesses that would benefit from the solution, to raise the necessary funds.

The amount of funds provided by city operations mechanisms can vary depending on the type of mechanism and also on current city financial operations and jurisdiction. For example, local property taxes may raise the majority of funds for a city, whereas parking fees may be a major contributor for another city's budget. Similarly, a city may or may not have authority to implement a special assessment district or to ring-fence revenues for specific solutions. In addition, the amount of funds raised by these mechanisms can vary by population size, amount of business activity, etc.

Depending on the amount of funds raised, city operations mechanisms can be used to fund project development as well as operating costs for a solution. Cities can also consider that city operations mechanisms, such as taxes and fees, can generate ongoing revenue, while other mechanisms may generate one-time revenue, such as development impact fees.

City operations mechanisms likely depend on considerable support from the community, the individual stakeholders and/or businesses that would pay additional taxes and fees. Mechanisms may also require support from national or subnational entities to secure authority to implement new, or additional, mechanisms.

Area C Congestion Charge, Milan

Under the Area C program, drivers of non-electric or non-hybrid vehicles pay EUR5 congestion charge for entrance to Central Milan between 7:30am and 7:30pm. Program was forecasted to significantly decrease traffic and emissions as well as to raise +EUR30M a year for reinvestment into sustainable transport.

Mechanism Eligibility Requirements

When considering mechanisms to support a solution, cities can consider a solution's eligibility to leverage existing financing mechanisms as well as the city's ability to implement additional mechanisms.

Eligibility to leverage existing mechanisms will vary by mechanism and by city. Solutions may need approval from municipal authorities, or city leaders to access existing funds.

Cities may also have to consider eligibility requirements when deciding to implement additional financing mechanisms. For example, mechanisms may need voter approval or support from national and subnational government stakeholders.

DIVVY Bikeshare, Chicago

The DIVVY bikeshare system launched in 2013 and had initial startup costs of \$31.25M. The program received a \$25M federal grant that was combined with \$6.25M from Chicago TIF (Tax Incremental Financing). The Chicago Department of Transportation also entered into a operations concession agreement with the private sector and into a sponsorship agreement with a private sector healthcare organization.

Mechanism Complexity

Complexity to implement city operations mechanisms varies by mechanism, but generally reflects the need to secure considerable community support and to have the authority to implement a mechanism.

To implement taxes and fees, cities may need to secure support from a wide range of stakeholders. Cities may need to encourage community stakeholders, individual stakeholders and businesses, in addition to a range of municipal, subnational, and national stakeholders to support implementation.

Similar to taxes and fees, value capture mechanisms likely require considerable stakeholder support as well as legislative support to implement. Value capture mechanisms, such as traffic impact fees, often specify stakeholders as liable for additional fees. Cities may encounter considerable challenges from those identified to pay the additional fees.

Debt mechanisms require cities to have access to capital markets or credible lenders, and may require a certain level of expertise for cities to consider the risks and support needed to assume liabilities against city revenues.

In addition to securing community support, and potentially securing legislative authority, implementing incentives for private investment also requires support from the private sector. Without private sector support, such mechanisms may not prove worthwhile. Similar considerations are appropriate for grant mechanisms, such as permanent funds and reserve funds; as such mechanisms may require private sector engagement as well.

Key Issues to Consider

- **Stakeholder Support:** securing necessary support, particularly from local community and businesses
- **Existing Mechanisms:** determining if existing mechanisms can be leveraged to provide financial support to solutions
- **Value Capture:** raising funds from stakeholders and businesses that benefit from solutions rather than leveraging general funds
- **Impact on Local Business:** potential decrease in a city's attractiveness to businesses if the mechanisms add a financial burden to businesses
- **Public Perception:** determining if the public views the use of taxpayer funds as worthwhile and beneficial
- **Tax Basis:** determining the appropriate taxable basis as well as tax rates
- **Incentives for Private Investment:** identifying and engaging with the private sector and increasing the attractiveness of a city to private sector participants
- **Use Limitation:** considering the current tax burden of stakeholders and businesses in the city

Aligning City Operations Mechanisms to Potential Solutions

In considering the suitability of city operations mechanisms for a solution, it is important to consider the potential benefits and disadvantages of these mechanisms and how this may impact a solution's delivery.

There are multiple benefits of city operations mechanisms. Cities can select a wide array of mechanisms and can select mechanisms that fit their needs and the special circumstances of their city. Several mechanisms also provide cities a means to raise funds in an equitable manner. City operations mechanisms also allow cities an opportunity to raise funds, or ring-fence funds, to secure priority solutions that may not have otherwise been developed.

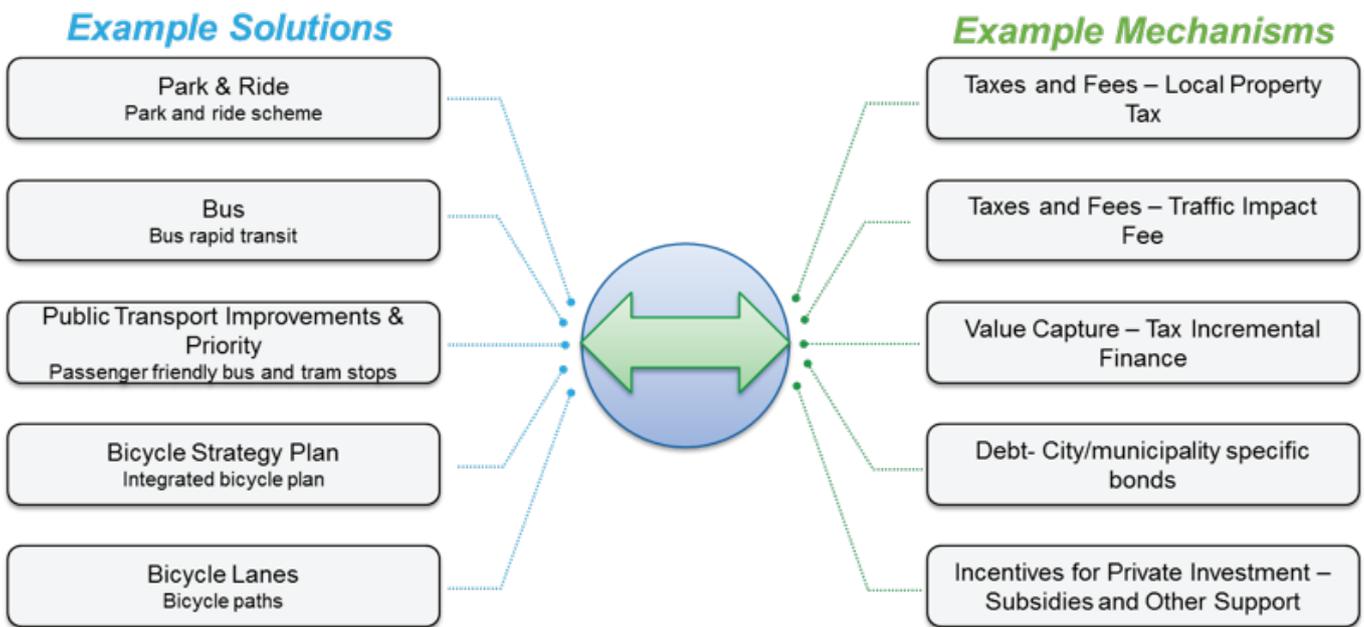
City operations mechanisms may also provide several disadvantages. Mechanisms can be limited in size and can fluctuate with local consumer activity (e.g.: reduced fuel consumption can reduce the revenues from a city tax on fuel). Mechanisms can be complex to implement and require considerable support from stakeholders and also potentially legislative support. City operations mechanisms can also increase the tax burden on local stakeholders and businesses, and decrease a city's attractiveness to businesses.

In addition, the key attributes of a solution can be considered when evaluating the potential use of city operations mechanisms. While the list below is not exhaustive, the information contained in this report suggests that solutions with the following characteristics may align with city operations mechanisms:

- Leverage existing city infrastructure; e.g. Park and ride schemes
- Provide considerable benefits for specified areas; e.g. Bicycle lanes
- Improve usability of public infrastructure; e.g. Passenger friendly bus and tram stops
- Require city knowledge and engagement; e.g. Integrated bicycle plan

Silver Line Metro, Washington D.C.

The Silver Line extends metro services from Washington D.C. to Washington Dulles International Airport. The Metropolitan Washington Airport Authority has combined a \$1.9B federal credit assistance loan with \$5.6B in funding primarily from toll fees generated by the Dulles Airport Toll Road.



National and Subnational Governments

National and subnational government mechanisms describe the financial support provided by governmental bodies outside of the city, to a solution being implemented by the city.

Certain traditional national and subnational government mechanisms, such as sales taxes, are comparable to city operations mechanisms in that they raise general funds to support selected programs and projects.

However, as national and subnational governments become more involved in financing solutions, additional financing mechanisms are emerging. Governmental bodies are increasingly looking to establish programs or enact policies to pursue strategic aims. Such emerging mechanisms include job creation policies, congestion mitigation and air quality improvement.

National and subnational governments can also employ innovative mechanisms to enable and galvanize private investment and to support cities that pursue projects that may be beyond the city's geographic boundary. Such national and subnational mechanisms are often combined with additional mechanisms that provide necessary co-financing, incentivize private investment, or reduce the city's financial obligations.

Cities may benefit from considering available resources from national and subnational governments and how they may be combined with city operations mechanisms, or secured to support solutions independently.



Chinese Development Bank

CDB is a state infrastructure bank under the direct jurisdiction of the state council. CDB provides loans to strategic infrastructure sectors across China, including transport. As of 2013, CDB had RMB1,238B in outstanding loans to Road and Highway projects and RMB1,324B in outstanding loans to Public Infrastructure (e.g. public service, urban transport).

Types of Mechanisms

There are a number of mechanisms by which national and subnational governments can provide support to solutions. Traditional national and subnational government mechanisms include grants and donations; taxes and fees, such as sales tax and hydrocarbon taxes; and debt mechanisms, such as infrastructure specific loan programs.

National and subnational governments can also implement an array of emerging mechanisms. Government entities may enact policies or programs, such as job creation programs and state infrastructure banks, which can provide grants and debt to solutions to support strategic government goals. Government entities can also access capital markets to implement emerging mechanisms such as infrastructure bonds or green bonds. Emerging mechanisms also include certain taxes and fees that can be implemented by national and subnational governments, such as taxes on fuel and vehicle registration fees. National and subnational governments can also implement a number of mechanisms to incentivize private investment, such as credit enhancements, direct pay bonds, and tax incentives. For example, several countries provide tax incentives for purchasing energy efficient vehicles, including electric vehicles.

National and subnational government mechanisms also include innovative mechanisms. Examples of innovative mechanisms include asset disposal/recycling, the privatization of state assets to fund new projects, and performance based bonds, which are bonds issued that are only payable when certain performance criteria are met.

Key Mechanism Characteristics

National and subnational governments can provide support to solutions in a variety of ways. Governmental entities can provide grants or donations, incentives to the private sector to support a solution, and loan funds

to and issue debt on behalf of a solution. A potential difference between national and subnational government mechanisms are the entities responsible for implementing mechanisms and deploying funds. For example, a state infrastructure bank investment committee may determine how to invest funds while funds raised by national or subnational fuel taxes may be overseen by a transport authority. Cities may have to identify, and build relationships with, different government stakeholders in an effort to gain support for their solution.

National and Subnational Government mechanisms can often be used by government entities to pursue strategic goals. For example, a government entity may establish a Job Creation Policy that supports investment in solutions that provide considerable employment. Congestion Mitigation and Air Quality Improvement, charging fees on vehicles with high emissions, is another example of a mechanism that can support strategic goals.

With greater fundraising abilities as compared to city operations mechanisms, national and subnational government mechanisms can be sources of considerable financial support. Such support may be used to fund both project development costs as well as operating costs, although there may be a preference to fund development costs to limit the national or subnational government's commitment. Mechanisms may also be used to fund city programs that encompass multiple solutions. Although national and subnational government mechanisms can provide considerable funds, it may be difficult for smaller solutions to gain attention and secure funding from national and subnational government mechanisms. In addition, national and subnational government mechanisms may be suited for solutions that affect multiple cities or that are implemented across a geographic region, as it is likely that support and approval from the subnational and potentially national government would be required for the solution to be delivered.

Asset Recycling Initiative, Australia

The Asset Recycling Initiative is a AUD5B scheme to encourage the privatization of public assets and reinvestment in transport projects. The government of New South Wales recently leased 49% of the state's electricity network. In doing so, NSW secured AUD2B in funding, AUD60M of which is earmarked for the Capital Metro Light Rail project.

Mechanism Eligibility Requirements

National and Subnational Government financing mechanisms are likely to have specific eligibility requirements. However, requirements generally vary by mechanism and by the entity or authority overseeing the deployment of funds.

It is important for cities to also consider eligibility requirements that are inherent to the mechanisms. Examples include mechanisms that support strategic government goals, such as job creation policies, or that provide specific incentives, such as subsidies for electric vehicle manufacturers.

Mechanism Complexity

National and subnational government mechanisms are often complex to implement and this may pose several challenges for cities when trying to deliver a solution leveraging national and subnational government mechanisms.

Certain cities may be located in countries or provinces with limited existing national and subnational government mechanisms. Also, cities may have limited ability to influence decisions of national and subnational governments on whether or not to make a mechanism available for cities to use.

It is unlikely for a city to require legislation to receive funds from national and subnational government mechanisms. However, an agreement or memorandum of understanding may be developed to outline the support and responsibilities of each party. In addition, governmental entities likely require support from lawmakers to implement and continue to make mechanisms available to cities. This process may result in time delays as well as additional complexity and uncertainty in a city's ability to leverage a national and subnational mechanism in the long term.

Funds generated by national and subnational government mechanisms can be limited, and are likely available to a number of eligible solutions in a country or province. As such, cities may face considerable competition for support.

Support from influential national and subnational stakeholders may also be critical to securing funding. It is also important for cities to also consider support needed from the community as well as local stakeholders.

Finally, securing funds from debt mechanisms may require government entities to have access and experience in debt capital markets. A city may also need a certain level of experience with capital market instruments to consider the risks and support needed to assume the liabilities and financial obligations of utilizing a debt mechanism.

IFCI Infrastructure Bonds, India

Industrial Finance Corporation of India (IFCI) is an Indian government owned development bank. IFCI offers a wide range of financial products, including long-term, tax-free debt securities intended to raise money to fund infrastructure projects. IFCI bonds can be raised to contribute to a general infrastructure fund. Infrastructure investment is increasingly a priority in India. Recently, India announced Rs. 70,000 crore to infrastructure in its 2015 budget.

Key Issues to Consider

- **Stakeholder Support:** identifying appropriate stakeholders at the national and subnational level, as well as at the city and local level, to support the solution
- **Existing Policies, Programs:** determine how to best utilize existing national and subnational government policies and programs that cities participated in
- **Project Type:** determining if the solution can gain sufficient attention from national and subnational government entities
- **Combining Mechanisms:** identifying complimentary mechanisms that could provide co-financing or strengthen a city's case for national and subnational support
- **Capital Markets Expertise:** determining if the city has the capital markets expertise required to implement certain national and subnational government mechanisms that leverage the capital markets
- **Potential Changes in Policies, Program:** changes outside the control of the city are likely to impact the eligibility requirements and availability of national and subnational funds
- **Financial Commitments:** determining whether the city would be able to manage financial obligations resulting from certain national and subnational government mechanisms
- **Difficulty Securing Support:** determining available resources and level of effort needed to secure support

Aligning National and Subnational Government Mechanisms to Potential Solutions

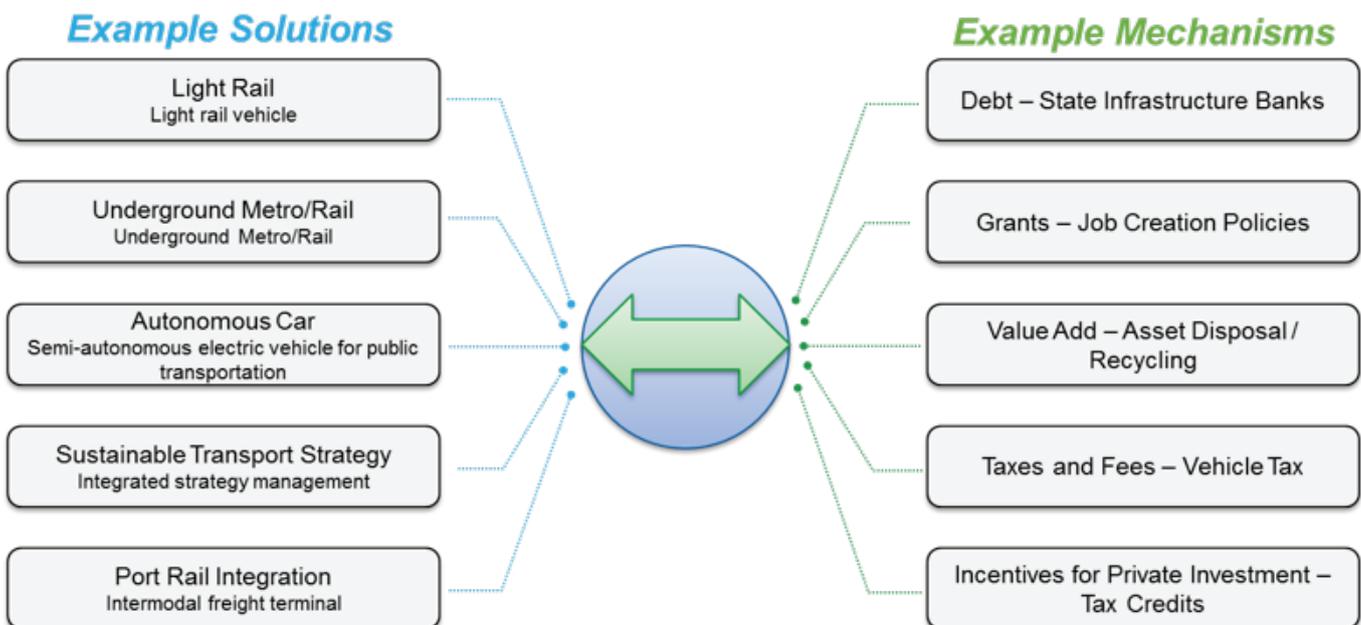
In considering the suitability of national and subnational government mechanisms for a solution, it is important to consider the potential benefits and disadvantages of these mechanisms and how this may impact a solution’s delivery

There are multiple benefits of national and subnational government mechanisms. These mechanisms can generate considerable amounts of funds and may be applicable to solutions with large funding needs, or can be used to fund programs that encompass multiple geographies, strategies or solutions. National and subnational government entities can provide different types of funding than cities and the list of mechanisms include a number of emerging and innovative mechanisms that may be able to meet different funding needs.

Cities can also consider the potential disadvantages of national and subnational government mechanisms. Mechanisms may focus on large and high profile solutions. Cities may have limited influence on whether the mechanisms are available to them to use and there may be limited resources currently available. Securing support to leverage national and subnational government mechanisms can be challenging as decision-makers and eligibility requirements are likely to vary by mechanism.

In addition, it is important to consider the key attributes of a solution in evaluating the potential use of National and Subnational Government mechanisms. While the list below is not exhaustive, the information contained in this report suggests that solutions with the following characteristics may align with national and subnational government mechanisms:

- Large funding needs, often with significant capital costs; e.g. Light rail vehicle
- Address key strategic goals, such as employment; e.g. Underground Metro/Rail
- High profile solutions; e.g. Semi-autonomous electric vehicle for public transportation
- Citywide programs or strategies; e.g. Integrated strategy management
- Affect multiple municipalities; e.g. Intermodal freight terminal





Development Assistance Institutions

Development assistance institutions are generally bilateral or multilateral organizations and they can provide a wide range of support to mobility solutions.

Development assistance institution mechanisms are generally established to achieve specified goals of the parent institution, such as fostering economic development, reducing the effects of climate change, facilitating international trade, and developing critical infrastructure.

Given the stated development goals, certain mechanisms focus on supporting solutions in specified regions or in countries at specified stages of development.

Although certain development assistance institutions have been established for some time, many mechanisms are the result of new and changing programs or policies and can be considered emerging mechanisms. For example, the World Bank is an established institution, however the World Bank Carbon Funds and Facilities was first capitalized in 2000.

In addition to grant funding, development assistance institutions provide debt financing to cities. This type of mechanism places a financial obligation on the city to repay the amount borrowed plus a financing fee such as interest, which is usually quite low compared to commercial rates. It is important for cities to consider the extent of the obligations assumed, the sources of revenue the city can leverage to repay the debt, as well as the consequences if they do not meet the terms of the debt financing arrangement, such as the covenants and repayment profile.

Cities may benefit from staying informed of the mechanisms and policy developments of key development assistance institutions that operate in their region, as this may provide additional mechanism options.

Types of Mechanisms

Development assistance institution mechanisms are established and presided over by different types of entities and quite often the objectives of each institution and mechanism varies greatly.

Certain development assistance institutions are representative of global institutions, such as the World Bank, and aim to fund solutions that satisfy development and economic goals.

Mechanisms can also be established by regional entities, such as the African Development Bank and the Association of Southeast Asian Nations, and focus on development goals in specified regions.

National governments, such as the United States (USAID) and Germany (KfW), have established mechanisms to provide development support to specific causes.

Countries such as Japan (JBIC) and the Netherlands (FMO), have also established institutions that provide financial support to solutions in order to facilitate the export of goods from their home country.

Bus Rapid Transit, Abuja

The project delivers a critical need to allay congestion and increase quality of life in one of Africa's most crowded cities. AfDB utilized the African Development fund and Clean Technology Fund to provide \$100M in financial support for the project.

Key Mechanism Characteristics

Development assistance institution mechanisms can provide funding in the form of grants, such as the Global Environmental Facility Small Grants Programme, which provides grant funding to community based organizations or non-government organizations (NGOs) that are pursuing conservation goals. Development assistance institutions can also provide capital in the form of loans. For example, Japan's Bank for International Cooperation (JBIC) can provide debt funding to solutions that rely on Japanese goods or technologies. In addition, certain development assistance institutions have access to and can deliver a flexible range of financial instruments to fit a solution's needs.

Mechanisms generally have specified investment or support criteria. Criteria can include a desired impact, such as reducing greenhouse gas (GHG) emissions, fostering economic development, or improving regional relations. For example, the Nordic Climate Facility provides financial support to technology solutions that minimize the effects of climate change. Other criteria can include a specific regional focus or a focus on specified stages of development. Examples include the African Development Bank's Africa Development Fund that restricts support to solutions in Africa, as well as the World Bank's International Bank for Recovery and Development that focuses its support on solutions in developing or emerging economies.

Development assistance institutions tend to provide one-time funding, primarily through grants and debt mechanisms. Mechanisms can often be used for project development costs and operating expenses, and in some cases can also be used for capacity building. For example, the United Nations Development Program's MDG Carbon Finance may provide funding for capacity building efforts to raise awareness of climate change. Certain mechanisms may also provide technical assistance to solutions. For example, the Public Private Infrastructure Advisory Facility (PPIAF) provides funding and technical assistance to solutions hoping to engage the private sector in forming a public private partnership (PPP).

The amount of financial support provided by development assistance institution mechanisms can range from small grants to major funding for complex mega projects. Cities can also consider how the funding needs of a solution may align to an appropriate mechanism. Certain mechanisms may also require co-financing from the national, subnational or city government, or have a stated aim to provide co-financing in order to engage other participants. For example, the ASEAN Infrastructure Fund can support sovereign-guaranteed projects by contributing to the public component of a PPP.

Mechanism Eligibility Requirements

Development assistance institutions have a number of specified eligibility requirements. Common eligibility requirements include:

- Specific regions or countries
- Countries in certain stages of development (e.g. developing or emerging economies)
- Solutions that address stated goals of the institution (e.g. minimizing effects of climate change)
- Type of entity driving the solution (e.g. NGOs, private sector participants)
- Participation in regional entities (e.g. ASEAN)
- Approval and acknowledgement of host governments
- Specific levels of co-financing secure by the applicant

Mechanism Complexity

Development assistance institution mechanisms are wide-ranging in complexity.

Many of these mechanisms are emerging and can be at varying stages of maturity. For example, the European Fund for Strategic Investments (the resulting mechanisms of the Juncker Plan) is expected to begin operations in mid-2015 so it unclear how complex this type of mechanism may be for cities to implement.

Mechanism complexity is also dependent on the type of funding, with debt mechanisms proving to be more complex due to the fact that suitable debt instruments need to be developed and the transaction process need to be efficiently managed. Mechanisms that require co-financing or that promote PPPs are likely to entail high levels of complexity and may be suited to larger solutions or solutions where the city has a high level of expertise.

Another potential source of complexity for development assistance institutions is the potential need to secure support from host governments or to encourage a country's participation in regional programs. For example, EBRD's Sustainable Energy Initiative only provides support to solutions in participating countries.

Finally, cities may face challenges in securing funding from certain mechanisms due to the number of eligibility requirements and lengthy application processes. Mechanisms are also likely to have limited resources and competition may be high between solutions to secure

Hydrogen Fuel Cell Buses, Sao Paulo

The project was designed to stimulate the development and utilization of fuel cell buses .

The project intended to provide feedback to manufacturers and was meant to pave the way for commercial use of the technology. GEF (Global Environmental Facility) provided appr. \$12M in grant funding.

support.

Non-Motorized Transport, Rio de Janeiro

The objective of the project was to foster a modal shift towards Non-Motorized Transport (NMT). In order to encourage the shift, Rio de Janeiro aspired to improve its NMT infrastructure. IDB's InfraFund provided \$600,000 in technical assistance to support the city in the detailed programming and design activities to bolster the NMT State Program.

Key Issues to Consider

- **Region:** consideration of regional eligibility requirements
- **Institutional Goals:** alignment with stated goals of the development assistance institution
- **Government Support:** determine if host government support is needed and how to secure such support before pursuing Development Assistance Institutions mechanisms
- **Complexity of Application:** identify the available resources and appropriate stakeholders to support the application process for a mechanism
- **Form of Support:** determining if the grant funding, debt or other forms of financial support would be best suited to the solution
- **Institutional Resources:** identifying city institutions with the appropriate resources to manage and report on the Development Assistance Institutions mechanism
- **Use of Funds:** mechanisms may limit funding to specific phases of project development
- **Co-Financing:** identifying sources of co-financing if needed
- **Technical Assistance:** ability of certain mechanisms to also provide technical assistance in structuring project finances and in delivering the solution
- **Capacity Building:** potential for financing mechanisms to support capacity building efforts

Potential Solutions

In considering the suitability development assistance institution mechanisms for a solution, it is important to consider the potential benefits and disadvantages of these mechanisms and how this may impact a solution’s delivery

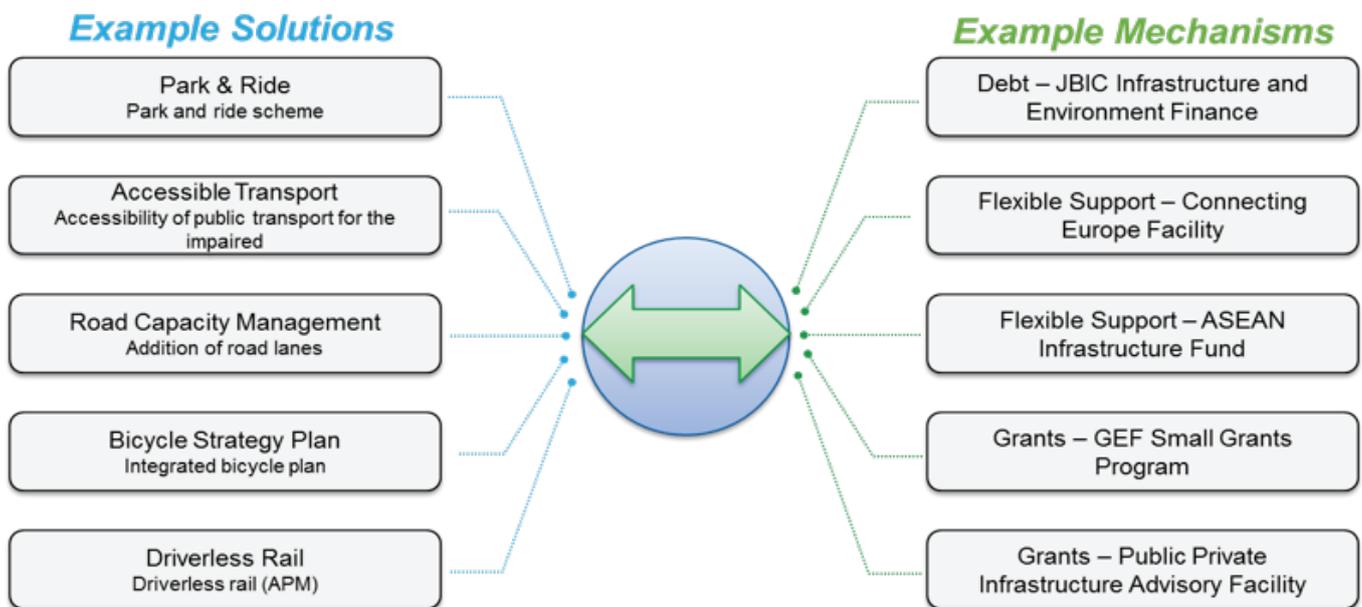
There are multiple benefits of development assistance institution mechanisms. Mechanisms can provide different types of funding to fit the needs of a solution; certain mechanisms are quite flexible in the support they can provide. Mechanisms can provide funding to solutions in emerging or developing countries that may not have the financial capacity to support the project. Development Assistance Institutions can provide technical assistance and support for capacity building efforts.

Development assistance institution mechanisms may also provide several disadvantages. Mechanisms may have multiple eligibility requirements and extensive application processes. Mechanisms may entail debt capital that places considerable financial obligations on the city. In addition, cities may also cede certain levels of control or oversight of the project to development

assistance institutions.

In addition, it is important to consider the key attributes of a solution when evaluating development assistance institution mechanisms. While the list below is not exhaustive, the information contained in this report suggests that solutions with the following characteristics may align with development assistance institution mechanisms:

- Large capital funding requirement; e.g. Driverless rail (APM)
- Located in emerging or developing economies
- Aligns with strategic goals, such as minimizing effects of climate change; e.g. Integrated bicycle plan
- Aligns with strategic goals, such as fostering economic development; e.g. Road capacity management





Private Sector Institutions and Investors

Various private sector participants can provide financial support to develop city mobility solutions. Private sector participants can include institutions such as corporations, financial institutions, corporate foundations, industry groups, and educational institutions. Private sector investors can include investment funds, such as private equity, private infrastructure, and venture capital funds, among others.

Private sector participants can provide financial support to solutions for various reasons. Primarily, private sector participants support solutions in the anticipation of financial returns. For example, a financial institution may loan funds to a solution in return for interest payments.

Private sector participants may provide funds or support to solutions that directly benefit their business or interests. For example, a motor vehicle company may partner with the public sector or invest in a solution that provides infrastructure for their vehicles, such as electric vehicle charging stations. Private sector participants may also contribute grant funding or other forms of limited-commitment funding to solutions that align with social or societal aims.

Private sector institution and investor mechanisms have become more popular and are generally considered emerging and innovative mechanisms. They can provide effective way for a city to secure critical funds and expertise to deliver a solution.

Types of Mechanisms

There are different types of emerging and innovative private sector institution and investor mechanisms that cities may consider.

Cities can access private sector debt through a number of private sector institution and investor mechanisms. Examples of debt mechanisms include project bonds, which are bonds issued against project generated revenues, and social impact bonds, which are bonds issued to the private sector that carry guarantees of payment against performance against social metrics.

Private sector institution and investor mechanisms also include donation and grant mechanisms. Private sector participants can elect to contribute limited-commitment funds to solutions that contribute to social aims. Examples include industry group grants, corporate foundation grants, university research grants, and donations of various kinds.

Select private sector participants may invest in the equity of commercially viable solutions. Examples include private equity and venture capital mechanisms.

PPPs are another type of private sector institution and investor mechanisms that are becoming increasingly popular. PPPs are a partnership between a public sector participant and a private sector participant to jointly develop a solution. There are a number of PPPs that cities may consider. Examples include direct investments from related enterprises, co-branding, sponsorship, services contracts, purchase agreements, and availability payments.

Although PPPs may provide opportunities to secure financial support for projects, cities need to consider the motivations of private sector participants when entering into such an arrangement. The private sector's motivation when entering into a PPP is to repay any debt or equity it invests in the project and to earn a return on its investment. As such, it is important for cities to consider the potential financial commitments that may result from entering into a PPP. Financial commitments under a PPP may include direct payments to the private sector participants or guarantees that the project generates a minimum level of revenue.

Key Mechanism Characteristics

As many private sector institution and investor mechanisms are implemented by private sector participants seeking financial returns, many mechanisms focus on supporting commercially viable solutions. Certain mechanisms seek a direct return from solutions, and as such are likely drawn to solutions that generate cash flows. For example, a financial institution may provide debt financing to a solution that pledges revenues generated by system fares against the obligation. Other mechanisms may seek to support solutions that provide indirect benefits. For example, a corporation may seek to enter a co-branding PPP with a public sector entity developing a highly visible solution that would provide considerable exposure to the corporation.

Taipei Smart Card Corporation

The project delivers a critical need to allay congestion and increase quality of life in one of Africa's most crowded cities. AfDB utilized the African Development fund and Clean Technology Fund to provide \$100M in financial support for the project.

Many private sector institution and investor mechanisms provide one-time funding and may be applied to project development costs. Certain mechanisms can provide support suited for operating expenses and other uses of funds. For example, a public sector entity can enter into a service contract PPP and contract a private sector entity to fund and manage facility operations in exchange for project generated revenues.

Cities may require expertise from the private sector and seek a partnership with a related enterprise to deliver a solution. This approach enables the city to leverage private sector institution and investor mechanisms to meet the specific solution needs.

Mechanisms can also be combined with other mechanisms discussed in the report. For example, many PPPs are combined with project generated cash flow mechanisms. Grant funding from various private sector participants may be considered as sources of co-financing for national and subnational government or development assistance institutions. Debt funding secured from the private sector can also compliment various city operations mechanisms if city resources are limited.

Mechanism Eligibility Requirements

The majority of private sector institution and investor mechanisms do not have specific eligibility requirements. Certain mechanisms that provide grant funding to solutions may be an exception. Mechanisms, such as corporate foundation grants, may specify criteria for solutions.

Certain mechanisms, particularly PPPs, may require city, subnational or national legislation to allow private sector participation in delivering a solution or for the partnership between private and public sector entities.

Chargepoint, United States

ChargePoint is an electric vehicle charging network in the US. It has raised over \$110m from investors, including venture capitalists Rho Ventures, Kleiner Perkins Caufield & Byers (KPCB), Braemar Energy Ventures, Siemens Venture Capital GmbH, Voyager Capital and BMW. ChargePoint's stations are independently owned.

Mechanism Complexity

Although private sector institution and investor mechanisms are emerging and innovative, complexity can vary by the type of mechanism. Certain mechanisms, that provide donations or grants, can be less complex to implement than mechanisms that involve private finance such as debt capital, investments in equity, or partnerships with the private sector.

When considering mechanisms that provide limited-commitment funding, such as donations or grants, cities should be aware that identifying appropriate private sector participants, and securing support, may prove challenging.

Certain private sector institution and investor mechanisms may require varying levels of capital markets expertise. Securing debt financing from financial institutions requires expertise and an ability to access potential lenders. Certain mechanisms, such as private equity and venture capital, involve more complex investment structures and require access to highly specialized investors. PPPs can also require capital markets expertise in structuring the partnership, and possible debt components.

Private sector institution and investor mechanisms can also require legislative support to implement. For example, cities may require legislative changes to allow partnerships with private entities.

Stakeholder support can also pose additional complexity to implement private sector institution and investor mechanisms. In addition to securing private sector support, cities may have to secure considerable support from the community. In regards to certain mechanisms, stakeholders may view profit-seeking private sector participants, particularly financiers, through a rather skeptical lens.

Key Issues to Consider

- **Ownership / Control:** potential to cede levels of ownership or control of a solution to the private sector
- **Partner Availability:** cities may face a limited ability to identify appropriate private sector partners
- **Partner Credibility:** consider the resources and reputation of private sector participants
- **Market Competition:** cities may be able to receive attractive terms if the market for investments is competitive
- **Contract Duration:** length of commitment, particularly for solutions with large capital costs
- **Contract Enforceability:** a city's ability to enforce performance of the private sector participant in case of a dispute
- **Contract Negotiations:** taking an informed and strategic approach to negotiations before entering into a contract
- **Combining with Other Sources:** consider potential complimentary mechanisms
- **Flexibility:** ability to select different mechanisms or structure mechanisms in a way to fit a solution
- **Local vs International:** balancing the involvement of local private sector participants with international participants

Bus Rapid Transit, Indore

This project in Indore was delivered with a combination of a number of financing mechanisms. The solution received upfront funding from national and subnational mechanisms, Jawaharlal Nehru National Urban Renewal Mission and Madhya Pradesh state funding respectively. The city also entered an PPP with a private sector participant to manage the operations of the BRT System.

Potential Solutions

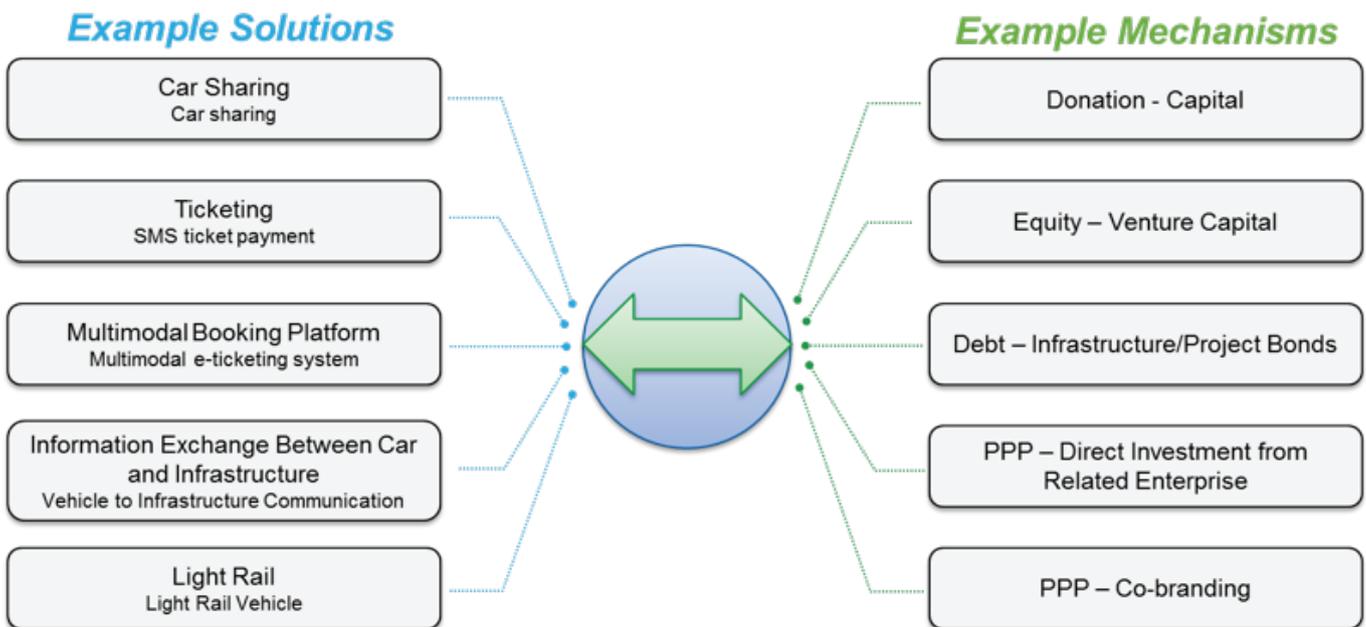
In considering the suitability of private sector institution and investor mechanisms for a solution, it is important to consider the potential benefits and disadvantages of these mechanisms and how this may impact a solution's delivery.

There are multiple benefits of these mechanisms. Private sector participants may be able to provide funds and support solutions that could not have been delivered with only public budgets. Mechanisms can allow cities to access considerable technical or operating expertise of private sector participants. Private sector institutions and investors may also provide flexible support to fit a solution's needs.

There may also be several disadvantages to leveraging private sector institution and investor mechanisms. Credible private sector partners may be difficult to identify. Certain private sector participants may also be subject negative public perception. Some mechanisms may require legislative support to implement. Certain private sector institution and investor mechanisms may also require high levels of capital markets expertise.

In addition, the key attributes of a solution are important to consider when evaluating private sector institution and investor mechanisms. While the list below is not exhaustive, the information contained in this report suggests that solutions with the following characteristics may align with these mechanisms:

- Technical expertise; e.g. SMS ticket payments, Multi-modal e-ticketing systems
- Commercially viable; e.g. Toll roads, HOV lanes
- Operational expertise; e.g. Services contracts, Car sharing
- Early stage investment; e.g. Vehicle to infrastructure communication
- Large funding needs; e.g. Light rail vehicle



V Case Studies

Hyderabad Metro PPP

Overview

Hyderabad is a growing city with an estimated population of ~8.7 million (2014). It is a hub for Information Technology, Technology Services, Biotech and Pharmaceutical sectors, and boasts considerable tourist flows. Given Hyderabad's rapid growth, the city's transportation system is heavily stressed and congested. The city identified the need to develop a robust, dependable, comfortable, affordable and sustainable transportation system. To address this need, the Government of Andhra Pradesh (GoAP) has planned a Mass Rapid Transit system (MRTS). The Metro Rail System will have three main hubs, addressing high traffic areas throughout the city.

Financing Mechanism(s)

- The Government of India provided a one-time grant of 10% of total project cost
- The remainder of the project was delivered on a Design Build Finance Operate Transfer (DBFOT) by a private sector consortium, L&T Metro Rail Hyderabad Ltd. The private sector consortium is a Special Purpose Vehicle established by Indian infrastructure and manufacturing firm, L&T
- The SPV will recoup its investment via project revenues as well as through government provided funds
- Half of the revenues will be raised via passenger fares, the other half will be raised from property development and rentals. The project intends to develop 57 acres for commercial development in addition to the development of the system's stations. The project will be able to lease the developed properties, in dense and commercially attractive areas of the city, for 30 years.

Project Outcomes

As of February 27, 2015 the project was underway, with 68% of the piers constructed between the three corridors. The project is expected to be completed in the summer of 2017.

Key Takeaways

The project offers a number of examples for other solutions. By pursuing a PPP model and significant private sector funding, the city reduced the upfront and ongoing funding burdens on the public sector. The PPP model also transferred significant risk from the public sector to the private sector, as the private sector assumed delivery risk for the project. In addition, by providing development rights the city was able to secure additional private support needed without having to assume additional obligations or to pass costs along to the system's users.

The city assumed considerable traffic user risk as it agreed to increase the concession period if traffic was lower than forecasted, and to decrease the concession period if traffic was greater than forecasted. Although this structure allowed the city the upside opportunity of shortening the concession period, the city has specific obligations if traffic levels fail to meet expectations.



Mozambikes, Maputo

Overview

Mozambikes, Limitada was founded in 2010 and is located in Maputo, Mozambique. Mozambikes makes bicycles and accessories more affordable to Mozambicans in need of more efficient transportation. Mozambikes makes bicycles more affordable by branding them with images and materials that promote companies' brands, projects and social messages.

Mozambikes recognized that limited access to transportation in rural communities can contribute to sustained poverty. The proliferation of bicycles proposed by the company will enable Mozambicans to transport more products, travel further distances in a shorter amount of time, and reach schools, clinics and clean water.

Financing Mechanism(s)

- Mozambikes was able to apply for, and secure, funding from a development assistance institution. Development Innovation Ventures, a part of USAID, provided a grant of \$100,000 to Mozambikes. Development Innovation Ventures is a competitive program that provides funding to innovative solutions that address the world's development needs.
- Mozambikes also raises funds from donations sourced on their website. The company has received considerable media attention and has been able to generate considerable support from individuals and businesses.
- The company is also a for-profit enterprise and generates revenue and profits that are used to expand their presence throughout Mozambique.

Project Outcomes

Mozambikes used the grant funding to build a network of technicians across the country to increase after-market services, keep bicycles on the road, and provide employment.

Mozambikes expects to be positioned to produce 25,000 bicycles per year within 5 years. The program will also involve a safety campaign and a partnership with the capital city, Maputo, to develop the countries first bicycle lane.

Key Takeaways

Mozambikes provides an example of how a solution can secure funds from a development assistance institution in a strategic manner. As the enterprise objectives and funding requirements align with the Development Innovation Ventures, Mozambikes was able to secure critical funding. By securing such funding, Mozambikes reduced its financial obligations, while still being able to fulfill the aims of the solution..



TransMilenio BRT, Bogota

Overview

TransMilenio is a Bus Rapid Transit system in Bogota, Colombia. The project has an average weekly ridership of 1.5 million. As of 2012, the system had 22 lines plying routes that covered approximately 110 kilometers. The system involved specified bus stations and the provision of right of way to the lines to expedite service.

Financing Mechanism(s)

- The project was structured as a PPP under which the public sector provided the infrastructure, planning and design, management of public transport services, oversight, and control.
- The public sector engaged the private sector to provide feeder and trunk bus services as well as fare collection services.
- The public sector component of the project was funded by the National Government (41% of total), a Local Fuel Surcharge (29.5% of total), Local General Fund (7%) and the World Bank (1.5%).
- The public sector awarded concessions on eight criteria, such as lowest price per kilometer, previous operating experience in Bogota, environmental performance, bus fleet manufacturer, and bid team composition.
- The private sector owns, maintains and operates the buses in addition to collecting fares.
- Fare revenue generated by the project is placed in a trust fund that is overseen by the public sector. Concessionaires receive distributions from the trust based on an agreed upon disbursement methodology, which reflects concessionaire performance (availability, ridership, and quality of service).

Project Outcomes

The TransMilenio BRT system was delivered successfully and provides affordable, timely, and clean mass transit to the city of Bogota. The service has also proven self-sustaining and does not require government subsidy for operations.

Key Takeaways

This project successfully combined local, national and development assistance funding to develop the main infrastructure. It also combines private sector investment for the buses and delivery of services

The project effectively transferred considerable risks to the private sector, including ridership risk, vehicle supply and availability, service level and quality, fleet financing, fleet operations and maintenance. The public sector retained risks pertaining to infrastructure availability, infrastructure financing, and infrastructure operations and maintenance.

Another key takeaway is the project's ability to self-sustain its operations without subsidies for the city.



EcoCab, Global

Scenario

EcoCab is a private sector entity that provides a free shuttle service to communities. EcoCab sought to develop a solution where brands or corporations would fund the shuttle service in return for advertising on the vehicles and significant customer interaction.

EcoCab developed innovative and green vehicles to deliver the service. The vehicles, similar to pedi-cabs, are pedal-powered and fuel-free. The vehicles are designed as to accommodate considerable, and highly visible, adverts.

The vehicles are driven by specially trained individuals that provide further interaction between the riders and the brand funding the program.

Financing Mechanism(s)

- EcoCab enters into partnerships with various entities to deliver their programs. Programs may be funded by corporate brands (e.g. direct funding from a corporate marketing department), agencies (e.g. advertising agencies managing marketing efforts), or venues and events (e.g. the World Cup)
- Partners provide funding for the vehicles, for the adverts, and for the drivers, in exchange for brand exposure and customer interactions. The amount of financial support varies by type and length of program
- While participating cities do not provide financing to EcoCab programs, cities provide other means of support. The success of EcoCab depends upon the city's support in securing necessary approvals to operate on roadways.

Project Outcomes

EcoCab has successfully delivered free shuttle service programs in a number of cities around the world. Programs are currently operating, or have previously operated, in 53 countries and 120 cities around the world.

EcoCab has also partnered with various well-known brand partners, such as Pepsi, Visa, Lipton, Intercontinental Hotels, Grolsch, and Kraft.

Key Takeaways

EcoCab provides an interesting example of how cities can encourage private sector driven solutions. Cities have been able to secure an attractive, eco-friendly program for its residents, businesses, and venues by providing non-financial incentives. A city's support in securing necessary permits and other approvals addresses a critical issue for such a program and can deliver tangible results.

The program also provides an example of how solutions can engage the private sector for funding. By offering brands an enticing opportunity to engage potential customers, through highly visible advertisements and direct interaction between drivers and riders, EcoCabs is able to source sufficient funds to sustain its operations.



Urban Improvement Districts, Hamburg

Overview

Urban improvement districts, or business improvement districts, is the self-organization of private stakeholders, in a defined area and for a defined duration, to provide local services in addition to public sector services.

Hamburg is one of the largest cities in Germany with approximately 4 million residents in the metro area. It consists of a number of neighborhoods that had varying needs for public sector services. The city enacted legislation that enabled the creation of urban improvement districts in 2007. Established districts are supported by the Ministry of Urban Development in Hamburg and the Chamber of Commerce.

The aim of urban improvement districts in Hamburg is to provide services in addition to those already provided by the public sector.

Financing Mechanism(s)

- Hamburg's urban improvement districts implement a self-assessment, self-taxing mechanism. The self-assessment is compulsory and is assessed against real property
- The creation of urban improvement districts are subject to a vote amongst property owners, with set criteria for minimum positive votes, and maximum negative votes
- The districts are mandated for detailed, specific areas and for a specific duration (e.g. 5 years)
- The funds raised are managed by a third party specified by the district

Project Outcomes

Hamburg established multiple urban improvement districts, as of 2009 there were 6 such districts established with additional districts under consideration. Established districts have raised funds ranging from EUR 330,000 to upwards of EUR 6,000,000. Duration of the funds range from 3 to 5 years.

The urban improvement districts have funded services such as marketing, street cleaning, security, and capital improvements.

Key Takeaways

Business Improvement Districts, such as the Urban Improvement Districts in Hamburg, provide an example that can be replicated in different cities as well as in different capacities. For example, the creation and success of the Urban Improvement Districts in Hamburg has inspired residential areas to consider leveraging the model to create residential improvement districts. Such residential improvement districts would follow a very similar model and would finance similar services.

Enabling legislation is critical to the foundation of such districts. Cities may consider the intricacies of current codes, the treatment of property owners that do not support the establishment of improvement districts, and the interaction of privately funded services and publicly funded services.



VI Description of the financing mechanisms

Index	Source of Funds	Mechanism Category	Mechanism	Type of Funds	Mechanism Stage	Description	Availability	Eligibility Requirements?	Eligible Regions	Eligibility Requirements (List)	Capital Markets Expertise Required	Legislative Support Required
1	City Operations	Taxes and Fees	Rideshare	Funding	Innovative	Municipalities may be able to levy fees or surcharges on increasingly popular ridesharing platform. Funds raised from fees or surcharges can be used to fund maintenance or expansion of existing transportation facilities, or development of alternative transport facilities	Ongoing	No	NA	NA	None	Yes
2	City Operations	Taxes and Fees	Local income tax	Funding	Traditional	Local municipalities can collect both personal and corporate income tax. Types of local income taxes can include wage taxes, payroll taxes, local services taxes, and occupational privilege taxes. Taxes can be withheld from employees benefits or paid directly by the employer. As local income taxes are applied to wages earned in the municipality, funds are sourced from both residents and non-residents	Ongoing	Yes	NA	Eligibility requirements vary by municipality	None	Yes
3	City Operations	Taxes and Fees	Local property tax	Funding	Traditional	Taxes levied on the value of personal and corporate property. Taxes can be levied based on appraisal values or purchase price of properties. Local property taxes can make up significant percentages of a municipality's income (e.g. +70% average in the United States in 2012)	Ongoing	Yes	NA	Eligibility requirements vary by municipality	None	Yes
4	City Operations	Taxes and Fees	Local sales tax	Funding	Traditional	Taxes levied on the value of goods sold in a municipality.	Ongoing	Yes	NA	Eligibility requirements vary by municipality	None	Yes
5	City Operations	Taxes and Fees	Business district tax / fees	Funding	Emerging	Business district taxes are levied by municipalities directly on businesses in a specific district for district improvement efforts. Districts and target businesses can be defined by sector in addition to being defined by geographic district (i.e. Tourism Improvement Districts)	Ongoing	Yes	No	Requirements vary by municipality	None	Yes
6	City Operations	Taxes and Fees	Parking fees	Funding	Traditional	Parking fees collected by a municipality, that are not raised in relation to a parking created by a solution, can be available as a source of funding	Ongoing	Yes	NA	Eligibility requirements vary by municipality	None	Yes
7	City Operations	Taxes and Fees	Toll fees	Funding	Traditional	Municipalities can use tolls or fees generated from existing projects to fund additional solutions	Ongoing	Yes	NA	Eligibility requirements vary by municipality	None	Yes

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
Local Government	Varied	Project Development, Operating Expenses	Mechanism may be suited for proposed solutions in municipalities with the willingness and ability to implement fees on ridesharing services	Airport surcharges on limos and rideshare services	<ul style="list-style-type: none"> Allows municipalities to equitably raise funds from services extensively using existing transport infrastructure 	<ul style="list-style-type: none"> Mechanism is currently unproven as a source of funding for infrastructure or other city works 	No specific contact identified	http://www.fhwa.dot.gov/policy/dps/vpqr/see3.htm		
Community, Local Government, National and Subnational Government	Varied	Project Development, Operating Expenses	Mechanism aligns to a wide range of city-based solutions	Local income tax can be used to fund numerous solutions, depending on the municipality's willingness/appetite for the solution	<ul style="list-style-type: none"> Funds sourced from individuals and corporations in close proximity to the facilities Provides means to retrieve funds from non-resident users 	<ul style="list-style-type: none"> Implementing local income taxes may incur negative public perception May reduce a municipality's competitiveness in attracting businesses 	No specific contact identified	<ul style="list-style-type: none"> http://taxfoundation.org/article/local-income-taxes-city-and-county-level-income-and-wage-taxes-continue-wane 		
Community, Local Government, National and Subnational Government	Varied	Project Development, Operating Expenses	Mechanism aligns to a wide range of city-based solutions	Local property tax can be used to fund numerous solutions, depending on the municipality's willingness/appetite for the solution	<ul style="list-style-type: none"> Allows a municipality to draw funds from individuals and organizations in close proximity to the facilities being developed If property taxes are assessed on appraisal value, funds raised can increase to reflect inflation/appreciation in housing values If property taxes are currently assessed, it may be difficult for a developer to secure funds 	<ul style="list-style-type: none"> If taxes are levied based on appraisal value, funds raised from property taxes can decline alongside a decline in housing values Local property taxes could discourage residential and commercial development 	No specific contact identified	<ul style="list-style-type: none"> http://www.taxpolicycenter.org/taxfacts/displayafact.cfm?Docid=518 		
Community, Local Government, National and Subnational Government	Varied	Project Development, Operating Expenses	Mechanism aligns to a wide range of city-based solutions	Local sales tax can be used to fund numerous solutions, depending on the municipality's willingness/appetite for the solution	<ul style="list-style-type: none"> Local sales tax provides a consistent source of funding and can reflect increases in inflation 	<ul style="list-style-type: none"> Sales tax can fluctuate alongside revenue generated by businesses in a municipality 	No specific contact identified			
Community, Local Government	Varied	All	Mechanism is likely suited for a solution that directly benefits businesses in a defined district, and in a municipality with necessary legislative support	Tourism Improvement District in San Francisco is authorized to levy taxes on hotels in a defined district	<ul style="list-style-type: none"> Establishes a financing mechanism that raises funds directly from the beneficiaries of a development Mechanism can allow businesses to pass costs to customers who may have increased demand elasticity due to improvements 	<ul style="list-style-type: none"> May incur negative public perception as businesses pass additional costs directly to end users Legal right to levy tax may need legislative support 	No specific contact identified	<ul style="list-style-type: none"> http://streasurer.org/notice-hotels-regarding-tourism-improvement-district 		
Community, Local Government	Micro - Small	Project Development, Operating Expenses	Mechanism aligns to a wide range of city-based solutions	Parking fees can be a source of funds for numerous types of solutions	<ul style="list-style-type: none"> Parking fees can provide a consistent source of funding to solutions that may not be able to collect direct user fees 	<ul style="list-style-type: none"> Parking fees may be inconsistent as they fluctuate by season and by changes in traffic patterns Parking fees may decrease traffic in a municipality's business district(s) 	No specific contact identified			
Community, Local Government	Varied	Project Development, Operating Expenses	Mechanism is likely suited to solutions that are related to projects already generating revenue	A large component of the funding package for the Silver Line Metro in Washington D.C. came from tolls raised by the Dulles Toll Road.	<ul style="list-style-type: none"> Mechanism offers a significant, stable source of funding for proposed solutions 	<ul style="list-style-type: none"> Identifying a source of toll revenue, and securing approval, may be challenging 	No specific contact identified	<ul style="list-style-type: none"> http://www.washingtonpost.com/local/trafficandcommuting/silver-line-to-get-nearly-2-billion-in-federal-loans/2014/05/01/c0dca8ee-d09c-11e3-9e25-188aba1fa93b_story.html 		

Index	Source of Funds	Mechanism Category	Mechanism	Type of Funds	Mechanism Stage	Description	Availability	Eligibility Requirements?	Eligible Regions	Eligibility Requirements (List)	Capital Markets Expertise Required	Legislative Support Required
8	City Operations	Taxes and Fees	Congestion Taxes and Fees	Funding	Emerging	Raising funds from direct users of congested infrastructure or facilities. Municipalities can apply funds raised from charging congestion taxes and fees to develop alternative transportation facilities or other sustainability measures	Ongoing	Yes	No	Requirements vary by municipality	None	Yes
9	City Operations	Taxes and Fees	User fees from local services	Funding	Emerging	Utility fees, parking fees, or fees for other local services can be routed to pay for transport assets in a municipality	Ongoing	Yes	No	Requirements vary by municipality	None	Yes
10	City Operations	Taxes and Fees	Environmental Impact Fee	Funding	Emerging	Municipalities can use Environmental Impact Fees to charge individuals and businesses a fee when developing real estate. Environmental Impact Fees may also apply to businesses that hope to extract petrochemicals. Amount of fee can be driven by various factors, such as the extent of a development's environmental impact or by market prices for energy	Ongoing	Yes	No	Requirements vary by municipality	None	Yes
11	City Operations	Value Capture	Traffic impact fee	Funding	Emerging	Similar to a development impact fee, a traffic impact fee is assessed on new development to compensate a municipality for increased impact of increased traffic congestion. Traffic impact fees can be assessed on various types of real estate. Traffic impact fees are typically levied as a one time fee prior to development.	One Time	Yes	No	Municipalities may need legislative support to enact mechanism. Requirements to qualify for funding vary by municipality	None	Yes
12	City Operations	Value Capture	Land value taxes	Funding	Emerging	Land Value Tax (LVT) is a payment assessed on the value of land only. Parcels of land are valued independently of any building or improvement and are owners are charged a fee based on a percentage of the land value. Proponents of LVT argue that they are a rare example of taxes that encourage development or activity rather than discourage activity as in through labor, sales, or traditional property taxes	Ongoing	Yes	No	Municipalities may need to enact legislation to support implementation of LVT. Requirements to qualify for funding vary by municipality	None	Yes
13	City Operations	Value Capture	Tax incremental finance	Funding	Emerging	Tax incremental financing involves raising funds by taxing increases on assessed property values. As properties values increase, the incremental amount raised by assessing property taxes is used on efforts designated by the municipality. TIF funds can be allocated for specific uses, such as redevelopment of downtown areas	Ongoing	Yes	No	Municipalities may need legislative support to implement Tax Incremental Financing, and TIF designated zones. In municipalities with existing TIF systems, solutions must meet requirements applicable to those systems	None	Yes
14	City Operations	Value Capture	Special assessments	Funding	Emerging	Cities can levy special/specific taxes on specific districts, to finance public developments. Municipalities often allow landowners to vote on/approve the levy of special assessments. Special assessments can be levied as one time fees, as fees over the period of time needed to develop the project, or in perpetuity.	Varied	Yes	No	Eligibility requirements will vary by municipality	None	Yes

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
Community, Local Government	Varied	All	Mechanism is suited for municipalities with the legislative authority and resources to implement a system of charging fees/taxes. Mechanism is also likely suited for municipalities with high density/ congestion areas and sufficient alternatives available to users	City of London charges all drivers in the Central Business District of London a £11.50 fee, City of Chicago proposed an additional levy of \$2 on parking in central business district	<ul style="list-style-type: none"> Encourages a move from car usage to more sustainable, economical, and environmentally friendly means of public transport Raises funds to develop attractive alternatives to car use 	<ul style="list-style-type: none"> May encourage businesses or other revenue-generating activity out of defined fee area May require significant resources and user-sophistication to enact the tax/fees 	No specific contact identified	<ul style="list-style-type: none"> http://www.washingtonpost.com/wp-dn/content/article/2005/06/04/AR2005060401386.html 	<ul style="list-style-type: none"> http://www.smr.com.sg/Portals/0/PDFs/Annual%20Reports/FA_SMR%20AR14_040614.pdf 	
Community, Local Government	Varied	All	Mechanism is likely suited for solutions in a municipality with revenue-generating assets or facilities	Municipalities may apply bus fares to improve bus stop and improve rider experience	<ul style="list-style-type: none"> Provides municipalities with a means of funding solutions that may not generate revenue 	<ul style="list-style-type: none"> Identifying revenue-generating assets able to produce surplus funds, and securing necessary approval could prove difficult 	No specific contact identified			
Community, Local Government	Varied	All	Mechanism is likely suited for sustainable solutions that are proposed for development in municipalities with the ability to implement, or have already implemented, Environmental Impact Fees	Pennsylvania charges fees on each well drilled in the Marcellus Shale. The fee is based on a combination of inflation and natural gas prices	<ul style="list-style-type: none"> Allows municipalities an opportunity to offset the environmental impact of local development by raising funds and deploying said funds to sustainable efforts 	<ul style="list-style-type: none"> Determining fee based on environmental impact may prove difficult 	No specific contact identified	<ul style="list-style-type: none"> http://stateimpact.nrc.org/pennsylvania/tag/impact-fee/page/3 		
Community, Local Government	Varied	All	Mechanism is likely suited to fund solutions in municipalities with relevant funds available from existing traffic impact fees. Mechanism may also be suited for solutions sponsored by municipalities that experience high levels of traffic congestion and may consider enacting traffic impact fees	City of San Francisco charges traffic impact fees to certain types of non-residential developments. City of Baton Rouge enforces a traffic impact fees on new developments, including residential developments	<ul style="list-style-type: none"> Allows a municipality to raise funds directly related to the increase in use and congestion of transportation infrastructure 	<ul style="list-style-type: none"> Reduces attractiveness of municipalities or designated areas to developers of various types of real estate 	No specific contact identified	<ul style="list-style-type: none"> http://www.cityofsanfrancisco.org/depts/administrative/finance/fee/traffic_impact_fee.asp 		
Community, Local Government, National and Subnational Government	Varied	All	Mechanism is suited to forward-thinking municipalities with the legislative support and authority to implement LVT	There are limited examples of LVT	<ul style="list-style-type: none"> Provides an additional or alternative means of raising funds Provides a wide range of social benefits in encouraging development, reducing urban sprawl, reduces punitive taxes 	<ul style="list-style-type: none"> There are few examples of partial or full implementation of Land Value Taxes Municipalities, and citizens, may be quite hesitant to pursue such a drastic overhaul/reform of current tax codes 	No specific contact identified	<ul style="list-style-type: none"> http://www.economist.com/blogs/economist-explains-0/economist-explains-0 		
Community, Local Government, National and Subnational Government	Varied	All	Mechanism is likely suited for solutions eligible for funding in municipalities with existing TIF systems	The City of Chicago allocates funding for blighted areas through TIF designation,	<ul style="list-style-type: none"> Earmarks funds for high need areas and for high need infrastructure 	<ul style="list-style-type: none"> Incremental funds raised are not available to other critical budget areas Established "basis" for TIF may not be sufficient to fund liabilities for designated needs 	No specific contact identified	<ul style="list-style-type: none"> http://www.cityofchicago.org/city/en/depts/dcd/supp_info/tax_increment_financing/program.html 		
Community, Local Government	Varied	All	Mechanism is likely suited for municipalities that have secured landowner/public support for the proposed development	Municipalities may propose special assessments to fund an individual project, such as road improvement, to residents. Residents would pay a one time fee, or recurring fees over a period, to fund the specific project	<ul style="list-style-type: none"> Secures consensus of voters to fund projects Does not divert funds from other areas of municipal budgets 	<ul style="list-style-type: none"> May engender negative public perception from the public if passing of special assessment is not done in a democratic manner 	No specific contact identified	<ul style="list-style-type: none"> http://urbanlandlulj.org/infrastructure-transit/using-special-assessments-to-fund-transit-investments/ 	<ul style="list-style-type: none"> http://ctiscope.org/story/2014/how-sac-paulo-uses-value-capture-raise-billions-infrastructure-4 	

Index	Source of Funds	Mechanism Category	Mechanism	Type of Funds	Mechanism Stage	Description	Availability	Eligibility Requirements?	Eligible Regions	Eligibility Requirements (List)	Capital Markets Expertise Required	Legislative Support Required
15	City Operations	Value Capture	Transportation utility fees	Funding	Emerging	Mechanism treats transportation as a Utility and charges properties or users in accordance with their use of the network. Utility fees are charged based on usage, rather than taxes on property values or income. The mechanism connects the costs of maintaining, and expanding, the network with the users that benefit most. A common basis of calculating potential usage of the transportation network is to establish an estimated usage for varying properties types and sizes (e.g. single family home, multi-family home, commercial establishment). Transportation Utility Fees can be seen as a replacement for existing financing mechanisms, or as a supplement similar to a Traffic Impact Fee	Ongoing	Yes	No	Municipalities may need legislative support to enact mechanism. Requirements to qualify for funding vary by municipality	None	Yes
16	City Operations	Value Capture	Development impact fees	Funding	Emerging	Municipalities can collect payments from local individuals and businesses to expand or develop public facilities to accommodate the development. Development impact fees are typically levied as a one time fee prior to development.	One Time	Yes	No	Municipalities may need legislative support to enact mechanism. Requirements to qualify for funding vary by municipality	None	Yes
17	City Operations	Debt	City/ municipality specific loans	Finance	Traditional	Municipalities can take out loans to develop solutions. Types of loans, and potential amount of the loans can vary between cities	One Time	Yes	NA	Eligibility requirements vary by municipality	Yes - Common Transaction	None
18	City Operations	Debt	City/ municipality specific bonds	Finance	Traditional	Cities may have capacity to issue bonds to fund various types of projects. With approval from National and Subnational bodies, cities may be able to issue tax-exempt debt to provide incentives to lenders and to reduce interest rates. Certain municipalities are also able to issue taxable debt	Ongoing	No	NA	NA	Yes - Common Transaction	None
19	City Operations	Donation	In-Kind contribution (Land)	Funding	Traditional	Contribution of public lands to support the development of a solution.	One Time	No	NA	NA	None	None

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
Community, Local Government	Varied	All	Mechanism is likely suited for municipalities seeking to raise additional funds that can be directly tied to transportation network usage	Fort Collins, a city in Colorado, enacted an early example of TUF and levied fees on each parcel of land in the city according to the amount of street frontage. Other examples include charging a fee by number of housing units or by parking spaces	<ul style="list-style-type: none"> Allows municipalities to collect funds for transportation infrastructure in an equitable manner Limits burden on taxpayers with less utility of transportation network (e.g. single family home owners) 	<ul style="list-style-type: none"> Calculation of usage basis may not be straightforward and simple to implement System may discourage development of commercial, office, or other high use real estate 	No specific contact identified	<ul style="list-style-type: none"> http://www.mdt.mt.gov/research/toolkit/m1/ftools/td-tuf.shtml 	<ul style="list-style-type: none"> https://www.auroragov.org/cs/groups/public/documents/digitalmedia/005442.pdf 	
Community, Local Government	Varied	All	Mechanism is likely suited to fund solutions in municipalities with relevant funds available from existing development impact fees, or for solutions sponsored by municipalities that may consider enacting development impact fees	San Francisco Development Impact Fee is assessed on developments in certain areas of the city. Funds are designated for specific uses depending on area development fees are raised from	<ul style="list-style-type: none"> Allows a municipality to raise funds directly related to the increase in use and congestion of facilities 	<ul style="list-style-type: none"> Reduces attractiveness of municipalities or designated areas to developers 	No specific contact identified	<ul style="list-style-type: none"> http://sfidbi.org/development-impact-fee-collection-process-procedure 	<ul style="list-style-type: none"> http://www.governing.com/columns/urban-notebook/gov-air-rights.html 	<ul style="list-style-type: none"> http://blogs.wsj.com/japanrealtime/2012/11/07/tokyo-station-takes-money-from-tin-air-to-fund-redevelopment/
Local Government, Private Sector	Varied	Project Development, Operating Expenses	Mechanism likely aligns to solutions sponsored by municipalities with the capacity and willingness to assume debt	Financial institutions can provide direct lending to municipalities or acquire and restructure municipal debt	<ul style="list-style-type: none"> Securing a loan from the city may align the city's interests with those of the solution 	<ul style="list-style-type: none"> Eligibility for lending, and process required to secure a loan can vary and may be adverse to solutions in certain municipalities 	No specific contact identified	<ul style="list-style-type: none"> https://business.phila.gov/Pages/LoanPrograms.aspx?stage=Plan&type=Construction&section=Financial%20Plan&BSPContentListitem=Loan%20Programs 	<ul style="list-style-type: none"> http://www.transportation-finance.org/pdf/funding_financing_funding_other_funding_sources/acrp_31_chicago.pdf 	<ul style="list-style-type: none"> http://www.bart.gov/about/business/advertising
Local Government, Private Sector	Large	Project Development, Operating Expenses	To secure funding as part of a larger debt issuance, criteria may vary from city to city. Size of the project would likely be a criteria for a city to issue bonds solely for one project. Other criteria, to encourage city participation, could include job opportunities	Municipal debt can be used to fund a variety of solutions	<ul style="list-style-type: none"> If tax exempt, municipal debt can be issued with a much lower cost of capital Depending on market conditions, municipalities may be able to issue rates at attractive rates of return Issuing municipal debt for a solution can align a city's interest with those of the solution 	<ul style="list-style-type: none"> Ability to issue debt, and interest rates, are dependent on a city's credit worthiness Market conditions may prevent a municipality from issuing debt, or issuing debt at an attractive rate 	No specific contact identified	<ul style="list-style-type: none"> http://comptroller.nyc.gov/office-of-the-comptroller/public-finance/ 		
Community	Small - Medium	Project Development	Mechanism is likely suited to solutions that may require real estate from a municipality	An example of In Kind Contributions would be the donation of public land for bikeshare docking stations. Use of public right of way for bikeshare facilities or transit corridors (US, Australia)	<ul style="list-style-type: none"> Secure required real estate at no cost, as opposed to buying or leasing potentially expensive property Aligns city's interests with the interests of the development 	<ul style="list-style-type: none"> Ability to secure real estate assets can vary between cities and may prove difficult in various municipalities Real estate offered may not be perfectly suited for the solution 	No specific contact identified		<ul style="list-style-type: none"> http://www1.nyc.gov/nyc-resources/service/2010-new-york-city-personal-income-tax 	

Index	Source of Funds	Mechanism Category	Mechanism	Type of Funds	Mechanism Stage	Description	Availability	Eligibility Requirements?	Eligible Regions	Eligibility Requirements (List)	Capital Markets Expertise Required	Legislative Support Required
20	City Operations	Grants	Permanent funds	Funding	Emerging	Permanent funds are trusts or endowments that have been raised to fund various types of city investments. Permanent funds can have specific designations, can be limited to various fields of investments, or can have open ended investment criteria. Trusts and endowments are generally managed by investment professionals to encourage fund appreciation.	One Time	Yes	No	Eligibility requirements can be specific to a municipality's permanent fund	None	Yes
21	City Operations	Grants	Reserve funds	Funding	Emerging	Funds established by cities to fund future liabilities or programs. Reserve funds can be funded in various ways, and can have specific designations or can be open ended	One Time	Yes	No	Eligibility requirements will vary by municipality	None	Yes
22	City Operations	Value Capture	Negotiated Exaction	Funding	Emerging	Negotiated exactions are a mechanism by which a public entity can charge fees to individuals or businesses that will benefit from the development of an infrastructure asset. Negotiated exactions are similar to development impact fees, but are consistently applied within a specific area and do not use a formulaic method of calculating fees	One Time	No	NA	NA	None	Yes
23	City Operations	Taxes and Fees	Dynamic Pricing, Parking	Funding	Innovative	Municipalities with city-wide parking facilities can implement dynamic pricing parking systems to optimize fundraising and to smooth demand for parking	Ongoing	No	NA	NA	None	None
24	City Operations	Taxes and Fees	Emission Zone Fee	Funding	Innovative	Cities can charge users with high-emissions vehicles a fee for driving in designated Low Emission Zones.	Ongoing	No	NA	NA	None	Yes
25	City Operations	Incentives for Private Investment	Tax exemptions	Funding	Emerging	Cities can offer tax exemptions to private sector participants to encourage project and business development. Exemptions reduce an entity's taxable revenue, and thus reduces the tax liability due to a governmental agency	Varied	Yes	No	Eligibility requirements will vary by project and municipality	None	Yes
26	City Operations	Incentives for Private Investment	Subsidies and Other Support	Funding	Emerging	Funding or other forms of support provided by a city to a private sector participant to encourage private sector development	Varied	Yes	No	Eligibility requirements will vary by project and by municipality	None	Yes
27	Development Assistance Institutions	Flexible Support	WB Global Infrastructure Facility (GIF)	Varied	Emerging	Designed to address financing gaps and to establish a pipeline of global infrastructure. The facility has signed agreements with multiple national governments and private sector participants. The facility will provide end to end support to bring projects to market, with a specific emphasis on private sector support.	Ongoing	Yes	No	GIF outlines 4 criteria: significant development impact, alignment with a host government's priorities, significant complexity requiring multiple partners, catalytic impact in engaging the private sector	Yes - Complex Transaction	NA

Index	Source of Funds	Mechanism Category	Mechanism	Type of Funds	Mechanism Stage	Description	Availability	Eligibility Requirements?	Eligible Regions	Eligibility Requirements (List)	Capital Markets Expertise Required	Legislative Support Required
28	Development Assistance Institutions	Flexible Support	KfW Carbon Programme II	Varied	Emerging	Carbon finance programme sponsored by EIB and KfW, focus on emissions reducing and sustainable projects. EUR100M fund. Project provides between EUR1M - 20M	Ongoing	Yes	No	Projects are expected address one of the following causes: Mitigation, Energy , Energy Efficiency , Fuel Switching , Fugitive Methane , Low-Carbon , Renewable Energy , Transport , Waste Management	Yes - Complex Transaction	NA
29	Development Assistance Institutions	Flexible Support	WB Carbon Funds and Facilities	Varied	Emerging	Uses funds raised by OECD participants to purchase carbon credits from developing countries and countries in transition. Next generation programs (post - Kyoto Protocol) have raised \$1B and \$0.5B allotted to technical assistance. Programs include: <ul style="list-style-type: none"> • Carbon Partnership Facility • Forest Carbon Partnership Facility • Partnership for Market Readiness • Carbon Initiative for Development • BioCarbon Fund Tranche 3: Initiative for Sustainable Forest Landscapes • Pilot Auction Facility 	Varied	Yes	Developing, Emerging Countries	Eligibility requirements vary by program. A common eligibility theme amongst the programs is a requirement for projects to relate to climate change, reduction in emissions, and fuel switching	Yes - Complex Transaction	NA
30	Development Assistance Institutions	Grants	(GEF) Global Environmental Facility Small Grants Programme	Funding	Emerging	Provides technical and financial support for projects that support conservation.	Ongoing	Yes	Asia, South America, Central America, Asia, Africa, Eastern Europe	Limited to NGOs, Community Based Organizations, or Grassroots organizations in Small Grants Programme supported countries. Project type varies by country for the programme	None	NA
31	Development Assistance Institutions	Flexible Support	EBRD SEI (Sustainable Energy Initiative)	Finance	Emerging	SEI uses the full range of EBRD's financing instruments to finance sustainable energy projects. SEI supports Municipal and Infrastructure Energy Efficiency efforts with financial and technical assistance.	Ongoing	Yes	Albania Bosnia and Herzegovina Bulgaria Cyprus FYR Macedonia Kosovo Montenegro Romania Serbia Croatia Czech Republic Estonia Hungary Latvia Lithuania Poland Slovak Republic Slovenia Armenia Azerbaijan Belarus Georgia Moldova Ukraine Kazakhstan Kyrgyz Republic Mongolia Tajikistan Turkmenistan Uzbekistan Egypt Jordan Morocco Tunisia Russia Turkey	EBRD supports select countries in which the organization is active. Eligibility requirements vary by instrument selected to finance the project. EBRD provides loans and equity investments, with different eligibility criteria	Yes - Common Transaction	NA

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
None	Small - Medium	All	Mechanism is suited to projects that promote energy efficiency, fuel switching technologies, or renewable energy	Mechanism has been used for various renewable energy and energy efficiency projects, example projects include: Hunan Taoyuan Huiwenxi Hydropower Project, China Chiller Energy Efficiency Programme, India Biogas Support program-PoA, Nepal Chiller Energy Efficiency Programme, Philippines Solar Water Heating PoA, South Africa BOS Building Rehabilitation, Poland BOS Boiler Modernization, Poland	<ul style="list-style-type: none"> Provides an opportunity for green solutions in developing countries to access carbon funding 	<ul style="list-style-type: none"> Mechanism is likely suited to a limited number of solutions 	James Ranaivoson European Investment Bank j.ranaivoson@eib.org (+352) 4379 87315	<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/211 	<ul style="list-style-type: none"> http://www.sf-planning.org/files/legislative_changes/new_code_summaries/120523_TIDE_Transportation_Impact_Development_Fee_Update.pdf 	<ul style="list-style-type: none"> https://brgov.com/dept/dpw/inspections/
National and Subnational Government	Medium - Large	All	Mechanism is suited to projects in developing countries or in countries in transition, that address the threats posed by climate change	Example projects from the Carbon Partnership Facility include: Morocco: Municipal Solid Waste Management Program Vietnam: Renewable Energy Development Program Thailand: Clean Energy Program Tanzania: Renewable Energy Program Egypt: Vehicle Scrapping and Recycling Program	<ul style="list-style-type: none"> Provides technical assistance Provides an opportunity for green solutions in developing countries to access carbon funding 	<ul style="list-style-type: none"> Mechanism is likely suited to a limited number of solutions 	No specific contact identified	<ul style="list-style-type: none"> http://www.worldbank.org/en/topic/climatechange/brief/world-bank-carbon-funds-facilities 	<ul style="list-style-type: none"> http://www.landvalueetax.org/what-is-lvt/ 	
Community	Micro - Small	All	Mechanism is likely suited to small organizations planning to pursue a project directly related to halting effects of climate change. Examples of transport projects are limited, as are examples of projects in OECD countries	GEF SGP focuses on projects addressing one of the following topics: <ul style="list-style-type: none"> Biodiversity Climate Change Mitigation Community Based Adaptation Land Degradation Sustainable Forest Management International Waters Chemicals Multifocal Areas (Various) CapDev (Development) 	<ul style="list-style-type: none"> Provides technical assistance Provides an opportunity solutions to access grant funding 	<ul style="list-style-type: none"> Mechanism may only be available to a limited number of solutions 	CENTRAL PROGRAMME MANAGEMENT TEAM (CPMT) 304 East 45th Street, 15th Floor New York, NY, 10017 Phone: + 1 646 781 4385 Fax: + 1 646 781 4075 Email: sgp.info@undp.org	<ul style="list-style-type: none"> https://sgp.undp.org/index.php 		
None	Varied	Project Development	Mechanism is likely suited for projects that require larger loan or equity assistance. EDRB is capable of providing financial and technical advisory services as well	Examples mentioned include investments in urban infrastructure, solid waste management, and water/wastewater efforts.	<ul style="list-style-type: none"> Provides technical assistance Allows solutions an opportunity to access considerable financial and technical resources 	<ul style="list-style-type: none"> May require significant commitment from solutions/governing bodies to secure funding 	No specific contact identified	<ul style="list-style-type: none"> http://www.ebrd.com/home 		

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32	Development Assistance Institutions	Grants	ADB Africa Climate Change Fund	Funding	Emerging	ADB's Climate Change Fund offers \$250K+ in co-financing in the form of a grant as well as technical assistance. The ACCF specifically aims to help African countries attain larger amounts of climate finance	Ongoing	Yes	Africa	ACCF funds can be applied to African projects promoting low carbon development.	None	NA
33	Development Assistance Institutions	Flexible Support	IADB	Varied	Emerging	Inter-American development bank is a major source of financing in Latin America. IADB's Transport division promotes economic development and quality of life through transportation and infrastructure that are efficient, affordable, sustainable and safe. Sustainable transport is named as a strategic area for the bank	Ongoing	Yes	Central America, South America	Contact organization for detailed requirements	Yes - Common Transaction	NA
34	Development Assistance Institutions	Flexible Support	KfW Development and Climate Finance	Funding	Emerging	Provides support to projects promoting sustainable economic development, energy and water supply, infrastructure, urban development, solid waste management, transport and mobility, healthcare. The program provides grants, loans, ODA, and structured finance. Amount of financial participation varies.	Ongoing	Yes	Africa, Asia, South America, Central America, Eastern Europe	The program requires a partnership between the German government and host country government. Partner countries propose projects and follow an application process	Yes - Common Transaction	NA
35	Development Assistance Institutions	Flexible Support	AfDB Africa Development Fund	Funding	Emerging	AfD provides loans and grants for transportation projects in Africa. The Bank's strategy focuses on the National and Regional level. On the National level, the Bank hopes to reduce infrastructure shortages and stimulate economic growth. At the Regional level, the Bank supports projects contributing to the exchange of goods between countries	Ongoing	Yes	Africa	Contact organization for detailed requirements	Yes - Common Transaction	NA
36	Development Assistance Institutions	Debt	JBIC Infrastructure and Environment Finance Group	Finance	Emerging	JBIC supports international sustainable development efforts through its global promotion of Japan's advanced environmental technologies under the Infrastructure Export Systems Strategy. A stated aim includes urban transportation projects that mitigate traffic congestion and air pollution. JBIC provides various financing mechanisms (i.e. Export Loans, Import Loans, Equity Participation) to companies and projects in order to support the export Japanese technologies	Ongoing	Yes	No	Contact organization for detailed requirements	Yes - Common Transaction	NA
37	Development Assistance Institutions	Grants	Global Environment Facility	Funding	Emerging	GEF provides grants to various types of projects ranging from several thousand dollars to several million dollars. GEF considers grants to Full Sized Projects (FSPs) of greater than \$2M, Medium Sized Projects (MSPs) of up to \$2M, Enabling Activities and Programming Activities.	Ongoing	Yes	No	Eligibility requirements are as follows: <ul style="list-style-type: none"> • It is undertaken in an eligible country. It is consistent with national priorities and programs. • It addresses one or more of the GEF Focal Areas, improving the global environment or advance the prospect of reducing risks to it. Relevant focal areas include climate change adaptation and climate change mitigation • It is consistent with the GEF operational strategy. • It seeks GEF financing only for the agreed-on incremental costs on measures to achieve global environmental benefits • It involves the public in project design and implementation. • It is endorsed by the government(s) of the country/ies in which it will be implemented. 	None	NA

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
National and Subnational Government	Varied	All	Mechanism is likely suited for NGOs or governmental agencies planning developments in Africa. Funds can be used for a wide range of activities, including for external consulting services and feasibility studies	Example sectors mentioned include: Power, Transport, Forestry, and Agriculture.	<ul style="list-style-type: none"> Provides technical assistance Provides a wide range of technical, communications, and financing assistance to projects in Africa 	<ul style="list-style-type: none"> May require significant commitment from solutions/governing bodies to secure funding 	africaclimatechange fund@afdb.org	<ul style="list-style-type: none"> http://www.afdb.org/en/news-and-events/article/africa-climate-change-fund-launches-first-call-for-proposals-13353/ 	<ul style="list-style-type: none"> http://nexus.umn.edu/Papers/TransportationUtilityFees.pdf 	
National and Subnational Government	Varied	All	Mechanism is likely suited for Latin American developers that would benefit from additional financial resources and technical knowledge	IaDB has made over 1,000 investments in across transport sectors.	<ul style="list-style-type: none"> Provides technical assistance Provides a wide range of technical, communications, and financing assistance to projects in Latin America 	<ul style="list-style-type: none"> May require significant commitment from solutions/governing bodies to secure funding 	No specific contact identified	<ul style="list-style-type: none"> http://www.iadb.org/en/topics/transportation/1236.htm 	<ul style="list-style-type: none"> https://www.planning.org/policy/guides/adopted/impactfees.htm 	
National and Subnational Government	Varied	Project Development	Mechanism is likely suited to a wide range of solutions proposed in countries in partnership with the German government.	Examples listed include: Cogeneration in China, Green Savings Account in Vietnam, Wind Parks in Morocco, Credit Lines in Ukraine, Protecting the Forest in Peru, Water Management in Jordan, Cyclone Protection in India, Concentrated Solar Power in India	<ul style="list-style-type: none"> Provides substantially more favorable than market conditions and solutions can be tailored to project type and region 	<ul style="list-style-type: none"> Mechanism may be difficult to secure 	No specific contact identified	<ul style="list-style-type: none"> http://www.climatefinanceceptions.org/cfo/node/200 		
National and Subnational Government	Varied	All	Mechanism is likely suited to solutions proposed for development in Africa that create lasting infrastructure and can stimulate economic development	Relevant examples noted include: <ul style="list-style-type: none"> Bus Rapid Transit system in Abuja, Nigeria Toll Highway in Dakar, Senegal Nacala Road Corridor in Mozambique to increase national and regional mobility between (Mozambique, Malawi, Zambia) 	<ul style="list-style-type: none"> AfD provides flexible, and varied finance mechanisms for critical transport infrastructure projects in Africa 	<ul style="list-style-type: none"> May require significant commitment from solutions/governing bodies to secure funding 	African Development Bank Group AfDB Temporary Relocation Agency (Tunis) 15 Avenue du Ghana P.O.Box 323-1002 Tunis-Belvédère, Tunisia Tel: (+216) 71 10 39 00/(+216) 71 35 19 33 Skype: afdb_acc	<ul style="list-style-type: none"> http://www.afdb.org/en/topics-and-sectors/sectors/transport/selected-projects/ 		
National and Subnational Government, Private Sector	Large	Project Development	Mechanism is likely suited to large solutions that are actively seeking Japanese technologies or technical assistance from Japanese companies.	Example projects, among others, include highway and rail developments in Brazil, the development of an industrial corridor between Delhi and Mumbai, and port expansion in Durban, South Africa	<ul style="list-style-type: none"> Provides technical assistance Provides an opportunity to deliver significant financial support if a solution requires or would benefit from services/equipment from a Japanese supplier 	<ul style="list-style-type: none"> Mechanism may be difficult to secure 	No specific contact identified	<ul style="list-style-type: none"> https://www.jbic.go.jp/en/about/surrounding/infra 		
None	Varied	All	Mechanism is likely suited to solutions proposed for development in developing countries or countries in transition.	Relevant examples include: Hydrogen Fuel Cell Buses for Urban Transport in Brazil, Teheran Transport Emissions Reduction in Iran, Metro Manila Bikeways Project in the Philippines, among others	<ul style="list-style-type: none"> GEF provides grants of varying sizes to sustainable transport projects, and boasts numerous examples of their support 	<ul style="list-style-type: none"> Funding may be difficult to secure and available to a limited amount of solutions 	GEF Evaluation Office 1818 H Street, NW, Mail Stop P5-500 Washington, DC 20433 USA Tel: +1 (202) 473-4054 Fax: +1 (202) 522-1691 E-mail: gefevaluation@thegef.org	<ul style="list-style-type: none"> https://www.thegef.org/gef/climate_change 		

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38	Development Assistance Institutions	Flexible Support	CIF Clean Technology Fund	Varied	Emerging	Provides developing and middle income countries with positive incentives to deploy greenhouse gas reducing solutions. CTF focuses on large projects in a small amount of countries. CTF supports Sustainable Transport initiatives such as bus rapid transit, public transportation, high-efficiency vehicles, and modal shifts. CTF provides concessional financing through multilateral development banks	Ongoing	Yes	Chile Colombia Egypt India Indonesia Kazakhstan Mexico Morocco Nigeria Philippines South Africa Thailand Turkey Ukraine Vietnam Middle East and North Africa Region	Projects are expected to be large scale, country-led, in an eligible country, and in renewable energy, energy efficiency, and transport.	None	NA
39	Development Assistance Institutions	Grants	IDB: Sustainable Energy and Climate Change Initiative	Funding	Emerging	\$40M allotted to providing grants and technical assistance to projects in select countries.	Ongoing	Yes	Argentina, Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Suriname, Trinidad and Tobago, Uruguay, Venezuela	Eligibility Requirements: Projects related to Climate Change Adaptation, Climate Change Mitigation, Energy Efficiency, Renewable Energy. Assistance requires a letter of non-objection from host government. 20% counterpart financing is required.	None	NA
40	Development Assistance Institutions	Grants	German International Climate Initiative	Funding	Emerging	EUR120M allocated annually to climate and biodiversity projects in developing countries and countries in transition. Funds projects in the following areas: Mitigating Greenhouse Gas Emissions, Adapting to the Impacts of Climate Change, Conserving Natural Carbon Sinks, Conserving Biological Diversity.	Ongoing	Yes	No	Program issues an annual call for proposals. If a proposal is selected, project will be required to submit written application for funding. Key themes for funding include: • Projects that mobilize additional funding, private sector funding in particular • Projects that are replicable and transferrable • Projects that are measurable, reportable, and verifiable • Projects that can share experience and information	None	NA
41	Development Assistance Institutions	Grants	Green Climate Fund	Funding	Emerging	The purpose of the Fund is to make a significant and ambitious contribution to the global efforts towards attaining the goals set by the international community to combat climate change. The Fund proposes to provide support to developing countries in reducing greenhouse gas emissions and to adapt to the effects of climate change	Ongoing	Yes	Developing, Emerging Countries	Funding is available for all developing countries. The Fund will support developing countries in pursuing project-based and programmatic approaches in accordance with climate change strategies and plans, such as low-emission development strategies or plans, nationally appropriate mitigation actions (NAMAs), national adaptation plans of action (NAPAs), national adaptation plans (NAPs) and other related activities.	None	NA

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
National and Subnational Government	Large	All	Mechanism is suited to solution development efforts led by a national entity and encompass national development and sustainability goals	Example projects: Mexico Urban Transport Transformation Program, Sustainable Urban Transport MRT Line in Ho Chi Minh City	<ul style="list-style-type: none"> CTF's aim is to drive down technology costs, increase private sector involvement, and catalyze change that can be replicated. Mechanism can provide substantial resources to projects or programs that meet eligibility requirements 	<ul style="list-style-type: none"> Funding may be difficult to secure and available to a limited amount of solutions 	<p>AfDB: Alex Rugamba, a.rugamba@afdb.org; Kurt Lonsway, k.lonsway@afdb.org</p> <p>ADB: Jiwan Acharya, Climate Change Specialist (Energy), jacharya@adb.org; Preeti Bhandari, Principal Climate Change Specialist, pbhandari@adb.org</p> <p>EBRD: Andreas Biermann, Senior Policy Manager, biermana@ebrd.com; Marta Simonetti Whitford, Principal Manager, Donor Co-Financing, VP Policy, simonetm@ebrd.com</p> <p>IDB: Claudio Alatorre, Sr. Climate Change Specialist, calatorre@iadb.org; Gloria Visconti, Sr. Climate Change Specialist, gloriav@iadb.org</p> <p>IFC: Kruskaia Sierra-Escalante, Global Lead Counsel for Climate and Blended Finance, KSierraescalante@ifc.org; Joyita Mukherjee, Senior Operations Officer, jmukherjee1@ifc.org; Laura Gaensly, Operations Officer, lgaensly@ifc.org</p> <p>WB: Gevorg Sargsyan, Program Coordinator, gsargsyan@worldbank.org; Federico Quero, Operations Officer, fquero@worldbank.org</p>	<ul style="list-style-type: none"> http://climateinvestmentfunds.org/cif/node/2 	<ul style="list-style-type: none"> http://www.tbf.org/impact/supporting-our-work/the-permanent-fund-for-boston 	
National and Subnational Government	Small - Medium	All	Mechanism is likely suited for feasibility assessments, document analysis and preparation, climate modelling, and other forms of support.	Examples include funding for market studies, research,	<ul style="list-style-type: none"> Provides technical assistance Provides solutions an opportunity to access grants and technical assistance with limited, or no, financial commitment 	<ul style="list-style-type: none"> Funding may be difficult to secure and available to a limited amount of solutions 	No specific contact identified			
None	Varied	All	Mechanisms is likely suited for solutions that intend to be replicated and are directly related to limiting greenhouse gas emissions	Program notes Low Emissions Development Strategies (LEDs) and Nationally Appropriate Mitigation Actions (NAMAs). Specific relevant example includes: Transfer of Climate-friendly Transport Technologies and Measures - project to enable decision makers in developing country governments to develop climate change mitigation measures in the transport sector	<ul style="list-style-type: none"> Provides technical assistance Provides solutions an opportunity to access grants with limited, or no, financial commitment 	<ul style="list-style-type: none"> Funding may be difficult to secure and available to a limited amount of solutions 	<p>International Climate Initiative Programme Office Potsdamer Platz 10 10785 Berlin Germany</p> <p>Email: programmmbuero@programmmbuero-klima.de Telephone: +49 (0)30 338 424 - 218 Fax: +49 (0)30 338 424 - 302</p>	<ul style="list-style-type: none"> http://www.international-climate-initiative.com/en/about-the-iki/iki-funding-instrument/ 	<ul style="list-style-type: none"> http://www.recovery.gov/arra/Pages/default.aspx 	<ul style="list-style-type: none"> http://www.nrsi.org/research/environment-and-natural-resources/american-jobs-act-of-2011-proposal.aspx
National and Subnational Government	Varied	All	Mechanisms is likely suited for solutions that lend to combatting climate change and are proposed for development in developing countries	Green Climate Fund was recently raised and has not published project experience	<ul style="list-style-type: none"> Provides an opportunity for solutions to receive a direct contribution from a well-funded mechanism 	<ul style="list-style-type: none"> Funding may be difficult to secure and available to a limited amount of solutions 	No specific contact identified	<ul style="list-style-type: none"> http://gcfund.net/fileadmin/00_customer/documents/pdf/GCF_governing_instrument-120521-block-LY.pdf 	<ul style="list-style-type: none"> http://www.reuters.com/article/2014/12/03/us-china-environment-idUSKCN0JH04S20141203 	

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42	Development Assistance Institutions	Grants	ADB Clean Energy Financing Partnership Facility	Funding	Emerging	The fund provides support for cost effective technologies that limit greenhouse gas emissions. Overall target funding for the program is \$250M; 30% allocated to providing technical assistance, and 70% allocated to grant components of investments. The program is intended to support the following sectors: <ul style="list-style-type: none"> • biomass, biofuel, biogas • rural electrification and energy access • distributed energy production • waste-to-energy projects • demand-side management projects • energy-efficient district heating, transport, street lighting, buildings and end-use facilities • carbon capture and storage • integrated gasification combined cycle or IGCC, supercritical and ultra-supercritical steam technologies • clean energy power generation, transmission, and distribution • manufacturing facilities of clean energy system components, high efficiency appliances and industrial equipment • energy service companies development 	Ongoing	Yes	Developing, Emerging Countries	Solutions must be hosted in developing countries and align to one of the following project sectors: <ul style="list-style-type: none"> • biomass, biofuel, biogas • rural electrification and energy access • distributed energy production • waste-to-energy projects • demand-side management projects • energy-efficient district heating, transport, street lighting, buildings and end-use facilities • carbon capture and storage • integrated gasification combined cycle or IGCC, supercritical and ultra-supercritical steam technologies • clean energy power generation, transmission, and distribution • manufacturing facilities of clean energy system components, high efficiency appliances and industrial equipment • energy service companies development 	None	NA
43	Development Assistance Institutions	Flexible Support	ASEAN Infrastructure Fund	Finance	Emerging	\$485m initial equity. Lending based on ADB's country partnership strategy, and regional pipelines. Lending initially will occur only on sovereign and sovereign-guaranteed projects and public portion of PPP projects. Later the Fund could also make loans to private sponsors after formal determination by the AIF managers.	Ongoing	Yes	Asia	ADB's choice is based on sound economic and financial rates of return and a positive impact on poverty reduction. The AIF board has approved the following criteria for the selection of projects: <ul style="list-style-type: none"> Projects must promote regional cooperation to the extent possible Projects that promote private sector participation, and especially PPP Projects with credit rating diversification (ADB recommence a maximum limit of 30% exposure per country, 40% limit for each sector and a single project limit of USD 75 million per project). Additionally the project has to be ready from a technical, economic, financial and social dimension. 	Yes - Common Transaction	NA
44	Development Assistance Institutions	PPP	Climate Technology Initiative (CTI) - Private Financing Advisory Network (PFAN)	Funding	Emerging	\$150M initial investment, also provide risk management and technical assistance. PFAN screens business plans and provides advice and guidance, provides technical assistance, and matches projects with private investors. Main means of delivering financing is through public private partnership. PFAN typically selects projects requiring a total investment between \$1-50M.	Ongoing	Yes	No	All businesses must demonstrate that they will reduce greenhouse gas emissions, and deliver social and environmental benefits. Businesses submit an application, and selected projects are matched with an advisor who guides the business through the process of matching with investors. PFAN is technology-neutral	Yes - Common Transaction	NA
45	Development Assistance Institutions	Flexible Support	German Investment Corporation (DEG) Financing	Finance	Emerging	DEG aims to establish and expand private enterprises in developing and emerging countries as a basis for sustainable growth. DEG provides various types of financing and supports intercompany cooperation particularly with German and European firms. DEG provides equity capital, mezzanine finance, long term loans, and guarantees. DEG provides up to EUR25M, larger volumes through co-financing	Ongoing	Yes	Developing, Emerging Countries	Application process and eligibility requirements vary by financing product	Yes - Complex Transaction	NA
46	Development Assistance Institutions	Grants	(EEP) Energy and Environmental Partnership	Funding	Emerging	EUR200K maximum grant provided to support wider access to modern energy services and to promote renewable energy and energy efficiency. EEP provides grants for developing, piloting and scaling up business models as well as for seed money for the preparatory phases of investments. Grants are intended to supplement the applicant's own funding or to complement additional sources of funds.	Ongoing	Yes	Defined regions of operating: the Andean region, Central America, Southern and Eastern Africa, the Mekong region, and in Indonesia.	Type of projects vary by region. Regional applications are considered for eligibility before being approved for consideration by the Steering Committee. From a general sense, projects will focus on clean and renewable energy, energy efficient technology development and use, and waste-to-energy development. Project types can include capacity building, pilot and demonstration projects, feasibility studies, strategic studies	None	NA
47	Development Assistance Institutions	Flexible Support	FMO Entrepreneurial Bank	Finance	Emerging	The FMO (Dutch Development Bank) invests in opportunities to support sustainable private sector growth in developing and emerging economies. FMO offers the following types of financial support: equity, loans and guarantees, capital markets transactions, mezzanine lending, long and short term project financing. FMO can contribute up to 25% of total project cost and frequently forms partnerships to support projects. FMO partners with multi-national corporations, but provides specific support to Dutch SMEs	Ongoing	Yes	Developing, Emerging Countries	Eligibility requirements: <ul style="list-style-type: none"> • Privately owned companies with financially strong owners • Relevant, successful 3-year track record • Proven market position and good prospects • Willingness and ability to integrate sustainability (further) into the business • Located in a developing country 	Yes - Complex Transaction	NA

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
None	Small - Medium	All	Mechanism may be suitable for solutions that complement or include renewable energy solutions	Technical assistance for carbon dioxide capture and storage, promoting access to renewable energy in the Pacific, capacity building for implementation of efficiency power plant	<ul style="list-style-type: none"> Provides technical assistance Mechanism emphasizes investments in technology solutions and provides both technical assistance and grant funding 	<ul style="list-style-type: none"> Funding may be difficult to secure and available to a limited amount of solutions 	Mr. Aiming Zhou Energy Specialist Asian Development Bank azhou@adb.org	<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/3327 		
National and Subnational Government	Medium - Large	Project Development	Mechanism is suited for large infrastructure solutions proposed for development in an ASEAN country, particularly solutions proposed to be delivered via a Public Private Partnership	Examples include: railway modernization in Thailand, road sector institutional development in the Philippines, regional roads development in Indonesia, commuter system in Indonesia, expressway project in Vietnam	<ul style="list-style-type: none"> Mechanism provides considerable financial support and technical expertise. AIF can also stimulate and incentivize private sector involvement in a large project 	<ul style="list-style-type: none"> Debt is required to be sponsored by host country government Mechanism may require solution to assume considerable financial commitments 	Mr. Arjun Goswami Asian Development Bank Director, Regional Cooperation and Operations Coordination Division (SERC) - Southeast Asia Department agoswami@adb.org + 63 2 632 6452	<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/6476 	<ul style="list-style-type: none"> http://www.ibank.ca.gov/programs_overview.htm 	
Private Sector	Small - Medium	Project Development	Mechanism is suited for small-medium sized projects with various technologies, and is considering private sector participation	Examples noted include: methane to power production in China, solar power installation in India, biofuels production in Mozambique	<ul style="list-style-type: none"> Provides technical assistance Mechanism provides a means for solutions to effectively engage the private sector 	<ul style="list-style-type: none"> Mechanism emphasizes PPPs to deliver projects Mechanism matches projects with private investors, PFAN may have trouble identifying investors 	Mr. Taiki Kuroda CTI PFAN Secretariat kuroda@icett.or.jp	<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/286 	<ul style="list-style-type: none"> https://www.gov.uk/government/publications/uk-guarantees-scheme-qualified-projects/uk-guarantees-scheme-table-of-qualified-projects http://www.fhwa.dot.gov/bpd/tiaa/projects_project_profiles/ 	
Private Sector	Small - Medium	Project Development	Mechanism is suited for small-medium, revenue generating projects across a variety of sectors.	Geothermal power station in Kenya	<ul style="list-style-type: none"> Provides technical assistance Mechanism provides flexible financing options, risk management support 	<ul style="list-style-type: none"> Developers may cede some control or influence to the lender in exchange for the loan 	DEG - Deutsche Investitions- und Entwicklungsgesellschaft mbH Kammgasse 22 Cologne 50676 info@deginvest.de +49 221 4986-0	<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/40 		
Private Sector	Micro - Small	Project Development	Mechanism is suited for small projects or studies in focus regions that focuses on study, piloting, or development of energy efficient technology	Waste treatment, biogas conversion to energy, improving access to rural solar electrification, providing improved stoves in rural communities	<ul style="list-style-type: none"> Provides an opportunity for smaller solutions/studies to receive grant funding 	<ul style="list-style-type: none"> Grants require additional funding from the solution Mechanism may emphasize solutions promoting renewable energy sources 	EOP Andean region: aea.regional@iica.int EOP Central America: info.aea@sica.int EOP Southern and Eastern Africa: Lr. Yaw Afrane-Okese: eep@dbsa.org EOP Mekong region: Mr. Niels Thomsen: eepmekong@eepmekong.org EOP Indonesia: Nasrullah (Eriell) Salim: admin@eepindonesia.org	<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/3471 		
Private Sector	Varied	Project Development	Mechanism is suited for established developers hoping to deliver large infrastructure solutions with the support of financing partners, and potentially involve export by Dutch SMEs		<ul style="list-style-type: none"> Provides an opportunity to leverage FMO's capital markets expertise, financial advisory capabilities, and network of market participants 	<ul style="list-style-type: none"> Mechanism requires additional funding sources Mechanism may require significant financial commitment from the solution 	FMO Anna van Saksenlaan 71 The Hague The Netherlands 2593 HW info@fmo.nl +31 (0)70 314 96 96	<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/6483 		

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48	Development Assistance Institutions	Grants	IDB Infrastructure Fund	Funding	Emerging	\$20M allotted to providing support to infrastructure projects in Latin America and the Caribbean. Other key goals are to help mobilize private financing for sustainable infrastructure projects in Latin America and the Caribbean and to help develop and structure PPPs in the region. Will provide up to \$1.5M, offers a fast approval mechanism for projects under \$500K	Ongoing	Yes	Central America, South America	IDB requires projects to be developing in Latin America or the Caribbean. Additional eligibility requirements state that projects are to: (i) be consistent with the objectives of the country's infrastructure development plan and policies; (ii) have high development impact in the sector; (iii) be institutionally and environmentally sustainable; (iv) be in support of IDB's own strategy in support to the sector, and (v) be in coordination with other IDB or other external donor funds and initiatives.	None	NA
49	Development Assistance Institutions	Grants	Indonesia Climate Change Trust Fund	Funding	Emerging	ICCTF is part of the government of Indonesia's commitment to enhance climate resilience, improve development coordination, and prepare responses to climate threats. It is currently in an "Innovation" stage and focuses on providing grant funding. Focus project types include: Energy and Energy Efficiency, Sustainable Forestry and Peat Land Management, and Climate Resilience.	Ongoing	Yes	Indonesia	ICCTF will only finance municipal governments in Indonesia partnering with GOI ministries. Applications will be evaluated along the following criteria: <ul style="list-style-type: none"> • In line with National priority on climate adaptation/RAN/RAD GRK • In line with ICCTF Investment strategy (section 2) • Within the ICCTF budget range (section 3) • Respond to urgent and immediate climate change risks/ climate change mitigation; • Programmatic and impact oriented (not one off individual projects); • Innovative concept and approach (move away from business as usual) • Capture learning replication and scaling up. • Institutional readiness • Institutional Financial system and capacity • Clarity of proposal 	None	NA
50	Development Assistance Institutions	Grants	Nordic Climate Facility	Funding	Emerging	NCF (EUR4M) promotes technology in areas that are susceptible to climate change. NCF intends to foster flow of technology and innovation from Nordic countries to low income countries. The focus of the program are low-cost climate solutions with a positive effect on local businesses. Grant funding can cover up to 90% of proposed cost and typically amounts to EUR250K - 500K. Proposals indicating higher levels of co-financing are viewed more favorably	Ongoing	Yes	Africa: Benin, Burkina Faso, Cape Verde, Ethiopia, Ghana, Kenya, Malawi, Mozambique, Rwanda, Senegal, Tanzania, Uganda, Zambia, Zimbabwe Asia: Bangladesh, Cambodia, Kyrgyz Republic, Laos, Maldives, Mongolia, Nepal, Pakistan, Sri Lanka, Viet Nam Latin America: Bolivia, Honduras, Nicaragua.	Financing requirements: <ul style="list-style-type: none"> • At least 20% co-financing is required of the total Project budget • At least 10% of the total funding must be a cash contribution • At least 10% of the total funding must originate from the Eligible Country(ies) • Up to 10% of the total funding can be in-kind contributions. General theme for eligible requirements is green growth with co-benefit to the private sector.	None	NA
51	Development Assistance Institutions	Grants	Partnership for Market Readiness	Funding	Emerging	PMR, supported by the World Bank, provides funds and technical assistance to promote market-based mechanisms to reduce GHG emissions in developing and emerging countries. Grants range from \$3M to 8M and are provided to solutions in countries that are participants in the PMR	Ongoing	Yes	Developing, Emerging Countries	Applications are country-led and countries must become a participating member in PMR before submitting an application. PMR does not finance specific projects but comprehensive proposals to for the implementation of market tools to reduce GHG emissions - proposals could be economy-wide or sub-sector specific.	None	NA

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
National and Subnational Government, Private Sector	Small - Medium	Project Development	Mechanism is likely suited for technical support or studies for proposed solutions in Latin America and the Caribbean	<ul style="list-style-type: none"> Structuring of Metropolitan Express BRT Corridor of Rio de Janeiro: InfraFund financed studies on the structuring of the project and preparation of tender documents. Support to Non-Motorized Transport State Program in Rio de Janeiro: financed the provision of technical support to the government of Rio de Janeiro for an effort to improve Non-Motorized Transport infrastructure 	<ul style="list-style-type: none"> Provides an opportunity to secure financing for technical assistance and other forms of support in identifying, developing, and preparing infrastructure projects 	<ul style="list-style-type: none"> Mechanism is likely suited to PPP solutions 	Inter-American Development Bank infracfund@iadb.org	<ul style="list-style-type: none"> http://www.iadb.org/en/topics/transportation/what-is-infracfund,1639.html 		
Community, Local Government, National and Subnational Government	Small - Medium	All	Mechanism is likely suited for small solutions proposed for development in Indonesia by municipal governments	Examples include a project for energy conservation and CO2 reduction in the industrial sector, research into peat land management to enhance carbon sequestration	<ul style="list-style-type: none"> Allows Indonesian solutions an opportunity to secure little, or no, commitment funding 	<ul style="list-style-type: none"> Funding may be difficult to secure and available to a limited amount of solutions 	Contact Wisma Bakrie II, 20th Floor Jl. H.R. Rasuna Said Kav. B-2 Jakarta 12920 - Indonesia Phone : +62 (21) 5794 5760 Fax : +62 (21) 5794 5759 secretariat@icctf.or.id	<ul style="list-style-type: none"> http://www.icctf.or.id/how-to/how-to-submit-proposal/ 	<ul style="list-style-type: none"> http://www.kpmg.com/global/en/issuesandinsights/articlespublications/taxnewsflash/pages/2014-1/mexico-hydrocarbon-tax-provisions-in-energy-reform-law.aspx 	<ul style="list-style-type: none"> http://www.monday.com/2014/01/08/Coal-Electricity-Highlights-Of-Nigeria-Hydrocarbon-Tax-And-Allowances-Under-The-Petroleum-Industry-Bill
National and Subnational Government	Micro - Small	All	Mechanism is likely suited for small, innovative solutions proposed for development in focus low income countries	Example projects generally concern renewable energy solutions, waste-to-energy solutions, and capacity building	<ul style="list-style-type: none"> Provides an opportunity for solutions to secure funding and technical expertise 	<ul style="list-style-type: none"> Developers may cede some control or influence to the lender in exchange for the loan 	Nordic Climate Facility Nordic Development Fund P.O. Box 185, FI-00171 Helsinki, Finland ncf@ndf.fi	<ul style="list-style-type: none"> http://www.ndf.fi/project/awarded-ncf-projects 		
National and Subnational Government	Small - Medium	All	Mechanism is likely suited for nations seeking financial support to implement comprehensive sustainability programs	Example participating nations include: Brazil, Chile, China, Colombia, Costa Rica, India, Indonesia, Jordan, Mexico, Morocco, South Africa, Turkey, Thailand, Ukraine, and Vietnam.	<ul style="list-style-type: none"> Provides technical assistance Provides market based solutions an opportunity to secure limited, or no, commitment funding 	<ul style="list-style-type: none"> Funding may be difficult to secure and available to a limited amount of solutions 	PMR Secretariat pmrsecretariat@worldbank.org	<ul style="list-style-type: none"> http://www.thepm.org/ 		

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52	Development Assistance Institutions	Grants	Public Private Infrastructure Advisory Facility	Funding	Emerging	PPIAF provides grant financing and technical assistance to act as catalysts to increase private sector participation in emerging markets. Grant funding ranges from \$50K-500K and is provided to solutions only in developing countries.	Ongoing	Yes	Developing, Emerging Countries	Grant funding may be provided to solutions in developing countries, with host government approval, for the following: <ul style="list-style-type: none"> • Infrastructure development strategies to take full advantage of the potential for private sector involvement; • Outreach and communication programs to engage stakeholders and ensure transparency and accountability in reforms; • Design and implementation of policy, regulatory, and institutional reforms • Design and implementation of pioneering projects and transactions • Government capacity building to design and execute private infrastructure arrangements and regulate private service providers; • Identification, dissemination, and promotion of emerging best practices Creditworthiness improvement of sub-national entities.	None	NA
53	Development Assistance Institutions	Grants	UNDP/MDG Carbon Facility	Funding	Emerging	UNDP launched the MDG Carbon Facility to broaden access to carbon finance and to promote emissions reduction projects. The Facility offers prospective projects a comprehensive package of project development services. UNDP will work with projects to provide technical assistance, due diligence and carbon finance services to implement projects that produce carbon credits. Level of support provided is project-specific	Ongoing	Yes	Developing, Emerging Countries	The Facility targets projects that are proposed for development in countries that are under-represented in carbon finance, or projects that will contribute significantly to a country's Millennium Development Goals	None	NA
54	Development Assistance Institutions	Grants	ADB Sustainable Energy Fund for Africa	Funding	Emerging	SEFA's (\$60M) focus is on supporting small to medium sized renewable energy and energy efficiency projects in Africa that are led by the private sector. Grant funding will be available for projects from feasibility to financial closure for projects with total capital investments of \$30M-200M.	Ongoing	Yes	Africa	Eligibility requirements are not expressly stated on AfDB site. SEFA does note that requests are commonly originated and championed by AfDB staff. Mechanism is also limited to private sector developers	None	NA
55	Development Assistance Institutions	Flexible Support	FMO - IDF	Finance	Emerging	IDF (EUR230M) is focused on providing long term financing to large scale infrastructure projects through various types of financial support.	Ongoing	Yes	Developing, Emerging Countries	IDF funds are available to projects that positively impact socio-economic development, and are in the following sectors: power, agribusiness, water, transport and environment. Eligibility requirements: <ul style="list-style-type: none"> • IDF can invest in targeted countries only. • IDF investments are private sector investments. Under certain circumstances we may consider PPP's • Projects are typically in line with the country's Poverty Reduction Strategy Papers (PRSP's); • Sponsors must be committed and have a strong and proven financial performance; • The developer of the project must have a track record in the industry; • Management must have demonstrated experience in the sector; • Opportunities should be accompanied by an investment and business plan supported by good market analyses. IDF investments are based upon commercial terms and conditions; • IDF transactions should be economically viable; • Sustainability is an essential criterion for all IDF investments: this includes financial as well as social and environmental sustainability. The project must comply with local law and international guidelines, among others the World Bank Group's EHS Guidelines and IFC Performance Standards. • A good corporate governance structure will help support the objectives of the project. • IDF financing must be additional to other financiers and/or catalyze other investors by taking on a risk position that facilitates other potential financiers. 	Yes - Common Transaction	NA
56	Development Assistance Institutions	Flexible Support	European Fund for Strategic Investments (EFSI)	Finance	Emerging	The European Commission Investment Plan (Juncker Plan) has outlined an effort to raise capital to fund the European Fund for Strategic Investments. The initiative will also aim to remove certain financial and regulatory barriers between EU members to enable investment (although the extent of cross-border projects originally proposed has been limited). EFSI will be funded primarily by a Guarantee from the European Commission, the European Investment Bank, and by national European institutions (e.g. KfW, ICO) . The EFSI will leverage the public capital contributed, and engage the private sector to deliver projects within the EU. The EFSI expects to leverage private capital to the tune of 15x the public capital contributed. The EFSI will provide technical support, facilitate innovative investments, and encourage PPPs.	One Time	Yes	EU Members	Three key criteria outlined state that projects should be: <ul style="list-style-type: none"> • EU value added (projects in support of EU objectives) • Economic viability and value – prioritizing projects with high socio-economic returns • Projects that can start at latest within the next three years, i.e. a reasonable expectation for capital expenditure in the 2015-17 period. Additional guidelines on typical projects are outlined. Please see references	Yes - Complex Transaction	Yes

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
Private Sector	Micro - Small	Project Development	Mechanism is likely suited to small solutions, studies, or research proposed for development in developing countries	Examples include: <ul style="list-style-type: none"> • Prefeasibility to study renewable infrastructure investments in South Africa through PPP funding • Helping the government of Cote D'Ivoire establish a strategy for development of transport infrastructure 	<ul style="list-style-type: none"> • Provides technical assistance • Offers solutions an opportunity to secure considerable technical advice and support in identifying private partners 	<ul style="list-style-type: none"> • Funding may be difficult to secure and available to a limited amount of solutions 	ajones3@worldbank.org	<ul style="list-style-type: none"> • http://www.ppliat.org 		
National and Subnational	Varied	All	Mechanism is likely suited for a variety of solutions that leverage carbon finance as a source of funding	Agriculture Biogas Project in Honduras	<ul style="list-style-type: none"> • Provides technical assistance • Provides solutions without considerable carbon finance expertise an opportunity to receive customized support in tapping carbon markets 	<ul style="list-style-type: none"> • Funding may be difficult to secure and available to a limited amount of solutions 	United Nations Development Programme 304 East 45th Street New York NY 10017 mdgcarbonfacility@undp.org	<ul style="list-style-type: none"> • http://www.climatefinanceoptions.org/cfo/nodes/50 		
Private Sector	Medium - Large	Project Development	Mechanism is likely suited to private sector solutions in Africa requiring funds before financial closure of a project	Examples include a Solar PV project in Cameroon, Solar-Hybrid Mini-Grids in Tanzania, a Clean Cooking Business in Nigeria, and the Manufacture of Smart Meters in Ethiopia	<ul style="list-style-type: none"> • Allows private market solutions in Africa an opportunity to secure funding 	<ul style="list-style-type: none"> • Funding may be difficult to secure and available to a limited amount of solutions 	Technical Contact (Secretariat): João Duarte Cunha - SEFA Coordinator, Energy, Environment and Climate Change Dept - j.cunha@afdb.org Resource Mobilization Focal Point: Serign Cham - Principal Resource Mobilization Officer - s.cham@afdb.org	<ul style="list-style-type: none"> • http://www.afdb.org/en/topics-and-sectors/initiatives-partnerships/sustainable-energy-fund-for-africa/ 		
Private Sector	Varied	Project Development	Mechanism is likely suited for developers with a strong organizational structure, and for larger infrastructure solutions proposed for development in IDF focus countries	FMO has supported renewable energy projects in Nicaragua and India. It has also supported a social enterprise in Africa that provides solar powered energy solutions to families and individuals living off the grid	<ul style="list-style-type: none"> • Allows solutions in developing countries an opportunity to secure long term funding and various types of support 	<ul style="list-style-type: none"> • Mechanism is limited to larger solutions • Solutions may assume substantial financial commitments 	FMO Anna van Saksenlaan 71 The Hague The Netherlands 2593 HW info@fmo.nl +31 (0)70 314 96 96	<ul style="list-style-type: none"> • http://www.climatefinanceoptions.org/cfo/nodes/3483 		
National and Subnational Government, Private Sector	Large	Project Development, Capacity Building	Mechanism is likely suited for large, commercially viable, European projects that are open to innovate financing mechanisms and/ or PPPs	Fund is expected to commence activity in mid-2015	<ul style="list-style-type: none"> • Provides technical assistance • Allows solutions an opportunity to access considerable financial support • Provides solutions a means to access and implement innovative financing mechanisms 	<ul style="list-style-type: none"> • May require complex commitments from the solutions • May entail considerable public scrutiny in earlier years of EFSI activity 	Contact local European Commission office	<ul style="list-style-type: none"> • http://ec.europa.eu/priorities/jobs-growth-investment/plan/docs/efsi_qa_en.pdf 		

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57	Development Assistance Institutions	Flexible Support	Connecting Europe Facility - Transport	Finance	Emerging	The Connecting Europe Facility invests in Transport, Energy and Digital Infrastructure projects in EU countries. The Facility seeks to secure strategic initiatives for the EU, foster growth, and deliver key infrastructure. The Facility invests seed capital in projects and engage member countries and the private sector to help support projects. CEF hopes to facilitate innovative financing mechanisms, such as guarantees and project bonds, to leverage the EU funding injection	One Time	Yes	EU Members	Funding objectives include: #1: Removing bottlenecks and bridging missing links, enhancing rail interoperability, and, in particular, improving cross-border sections #2: Ensuring sustainable and efficient transport systems in the long run, with a view to preparing for expected future transport flows, as well as enabling all modes of transport to be decarbonized through transition to innovative low-carbon and energy-efficient transport technologies, while optimizing safety #3: Optimizing the integration and interconnection of transport modes and enhancing the interoperability of transport services, while ensuring the accessibility of transport infrastructures	Yes - Complex Transaction	Yes
58	Development Assistance Institutions	Flexible Support	World Bank IBRD and IDA	Finance	Emerging	The World Bank supports the International Bank for Recovery and Development, as well as the International Development Agency to invest in and support a number of causes in developing countries. Transport is a stated investment sector for IBRD and IDA and envisions transport in the developing world to be safer, cleaner, and more affordable. The World Bank provided \$7.7B to IBRD/IDA in 2014	One Time	Yes	Developing, Emerging Countries	Please see references for guidance on eligibility requirements	Yes - Common Transaction	Yes
59	National and Sub-National Governments	Value Add	Asset disposal / recycling	Funding	Innovative	Encouraging cities, governmental agencies, transport agencies to dispose/privatize assets and use proceeds to fund infrastructure solutions. Aging assets on a governmental agency's balance sheet may prove attractive to the private sector, allowing an opportunity to raise funds for new solutions. National bodies may provide incentives for subnational governments and cities to recycle assets by contributing funding on top of the purchase price	One Time	No	NA	NA	Yes - Common Transaction	Yes
60	National and Sub-National Governments	Grants	Job creation policies	Funding	Emerging	National and subnational programs enacted for the dual purpose of creating employment opportunities and building critical infrastructure works. Governing bodies can designate funds from various sources to such programs, and can outline eligibility criteria for program grants and funding.	One Time	Yes	No	Eligibility requirements will vary by job creating policy	None	Yes

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
National and Subnational Government, Private Sector	Large	Project Development, Capacity Building	Mechanism is likely suited for large, commercially viable, European projects	Improving quality and sustainability of vessels and ports between Immingham and Gothenburg (support from Sweden, Denmark, UK)	<ul style="list-style-type: none"> Provides technical assistance Allows solutions an opportunity to access considerable financial support Provides solutions a means to access and implement innovative financing mechanisms Provides a medium to engage EU member state funding as well as private sector capital 	<ul style="list-style-type: none"> May require complex commitments from the solutions Will require considerable support from numerous stakeholders to implement 	inea@ec.europa.eu	<ul style="list-style-type: none"> http://inea.ec.europa.eu/en/ceif/ceif.htm 		
National and Subnational Government, Private Sector	Large	Project Development, Capacity Building	Mechanism is suited for large infrastructure solutions in developing or emerging economies	Improving road infrastructure in Senegal, improving road infrastructure in Macedonia, increased urban transportation infrastructure in Mumbai, road safety projects in Vietnam and Argentina	<ul style="list-style-type: none"> Provides technical assistance Allows solutions an opportunity to access the ability of the World Bank to facilitate financing 	<ul style="list-style-type: none"> May require complex commitments from the solutions Will require considerable support from numerous stakeholders to implement 	No specific contact identified	<ul style="list-style-type: none"> http://www.worldbank.org/en/topic/transport/overview#1 		
National and Subnational Government, Private Sector	Large	Project Development	Mechanism is likely suited for large solutions that are supported or funded by governmental bodies. Mechanism is likely suited for solutions in areas where governmental bodies own attractive assets	Australian Asset Recycling Initiative: the Australian Federal government incentives states and territories to privatize assets by offering an additional 15% of the proposed purchase price on top of the deal. Sale of Macquarie Energy to AEG in New South Wales	<ul style="list-style-type: none"> Provides an opportunity to raise considerable funds to create new infrastructure 	<ul style="list-style-type: none"> Mechanism may be difficult to implement and may require substantial transactional/capital markets know-how Governance over, or public access to, disposed assets may prove to be a challenge 	No specific contact identified	<ul style="list-style-type: none"> http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/pubs/rp/BudgetReview/201415/InfrastructureGrowth 		
Local Government, National and Subnational Bodies	Varied	All	Criteria for national subnational bodies to implement would include a consensus need for job creation and infrastructure investment with necessary financial means to fund the program. Criteria to implement for a specific solution would include the need for significant labor contribution and eligibility for funding under existing job creation policies.	USA: Tiger, Arra India: Make in India	<ul style="list-style-type: none"> Allows governing bodies to divert funds to critical infrastructure needs Provides an opportunity to spur economic development and contribute to reducing unemployment Provides substantial funding opportunities for critical infrastructure solutions 	<ul style="list-style-type: none"> Policy creation and application for funds may be subject to "red tape" Diverts funding from national and subnational budgets, impacting other areas of potential need 	No specific contact identified	<ul style="list-style-type: none"> http://www.dot.gov/tiger 		

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61	National and Sub-National Governments	Flexible Support	Congestion mitigation and air quality improvement programs	Varied	Emerging	National and subnational funds or programs established with the express aim of reducing emissions, improving air quality, and support for other environmental benefits. Funds/ programs may provide varying types of financial support to eligible projects or to programs managed by different municipalities	Varied	Yes	No	Eligibility requirements will vary by program	None	Yes
62	National and Sub-National Governments	Grants	Performance based funding	Funding	Innovative	Grant funding provided by governmental bodies or development assistance institutions. Disbursements/ grants are provided based on a solution's success against key performance indicators. Grants may be structured as installments, requiring solutions to report on progress in order to receive next phase of funding. Grants may be structured as one time contributions that use historical performance history as a basis for decisions	Varied	Yes	NA	Eligibility requirements will vary by program	None	Yes
63	National and Sub-National Governments	Debt	State infrastructure banks	Finance	Emerging	Financial institutions founded by national and subnational governing bodies for the purpose of facilitating funding for infrastructure projects. State Infrastructure Banks can be capitalized by public funds and can provide various financial instruments in support of projects in focus areas. SIBs may issue loans, low-interest loans, revenue bonds, non-revenue bonds, and other financial instruments to/on behalf of a project	Varied	Yes	No	Eligibility requirements can vary by SIB and/or by Program managed by various SIBs	Yes - Common Transaction	Yes
64	National and Sub-National Governments	Debt	Infrastructure specific loan programs	Finance	Traditional	Various national and subnational bodies have enacted programs to provide support for infrastructure. These programs can provide federal and state credit assistance to projects meeting criteria outlined by the programs.	One Time	Yes	NA	Eligibility requirements vary by governmental body	Yes - Common Transaction	Yes
65	National and Sub-National Governments	Debt	Green bonds	Finance	Emerging	Fixed income products issued by governmental bodies and/or development assistance institutions to raise funds earmarked to address climate change and/or sustainability challenges. Green bond issuers raise debt funding and are able to use those funds for loans to specific solutions	One Time	Yes	No	Eligibility requirements will vary by program	Yes - Complex Transaction	None
66	National and Sub-National Governments	Debt	Infrastructure bonds	Finance	Emerging	Bonds issued by a national or subnational government to fund infrastructure works, or on behalf of specific infrastructure projects. Infrastructure bonds can be issued as revenue bonds, supported by project-generated revenue, or general obligation bonds, supported by the taxing authority of the governing body.	One Time	No	NA	NA	Yes - Common Transaction	Yes
67	National and Sub-National Governments	Taxes and Fees	Fuel Tax	Funding	Emerging	National and subnational bodies impose consumption tax on motor vehicle fuel (e.g. diesel, gasoline). Funds raised from fuel taxes can be designated to specific projects, programs, or organizations with the express purpose of maintaining or expanding surface transportation infrastructure	Ongoing	Yes	No	Eligibility requirements vary by governing body	None	Yes

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
National and Subnational Government	Varied	All	Mechanism is likely suited for national and subnational governing bodies with a pressing environmental need, available funds, and consensus on the need to fund environmental programs. Mechanism is likely suited for eligible solutions that require a flexible funding source where such a program currently exists	USA: CMAQ (Congestion Mitigation and Air Quality Improvement Act) funding for the Chicago Metropolitan Agency for Planning's efforts to reduce greenhouse gas emissions from city vehicle fleets and to develop sustainable transport solutions. China: Announcement of \$8B environmental protection fund with investments from the National Development and Reform Commission and the Ministry of Finance.	<ul style="list-style-type: none"> Allows governing bodies to divert funds to critical infrastructure needs Provides substantial funding opportunities for critical sustainability solutions 	<ul style="list-style-type: none"> Policy creation and application for funds may be subject to "red tape" Diverts funding from national and subnational budgets, impacting other areas of potential need 	No specific contact identified	<ul style="list-style-type: none"> http://www.fhwa.dot.gov/environment/air_quality/cmaq/research/case_studies/chicago/index.cfm 	<ul style="list-style-type: none"> http://cpt.wbcarbonfinance.org/content/carbon-partnership-facility-first-tranche-pipeline 	
National and Subnational Government	Varied	Project Development, Operating Expenses	Mechanism is likely suited for solutions that can report on tangible benefits for the funds deployment	Performance based funding provided for schools, or school programs, that depend on designated performance criteria and timelines. Examples in transport are rare	<ul style="list-style-type: none"> Mechanism encourages governance over funding decisions and over recipient performance Performance reporting facilitates data collection and development of KPI's 	<ul style="list-style-type: none"> Solutions assume additional risk if performance criteria are not met 	No specific contact identified			
National and Subnational Government	Varied	Project Development	Mechanism may be suitable for sub-national bodies with the capacity to establish a bank to fund solutions that require flexible financial support, that generate revenue or having funding sources available to meet loan or debt obligations	China Development Bank, California Infrastructure and Economic Development Bank	<ul style="list-style-type: none"> Allows governing bodies an opportunity to provide flexible financial instruments to projects while maintaining investment discretion 	<ul style="list-style-type: none"> Solutions may default on financial instrument obligations 	No specific contact identified	<ul style="list-style-type: none"> http://www.cdb.com.cn/english/Column.asp?ColumnId=89 		
Local Government, National and Subnational Government	Large	Project Development, Operating Expenses	Mechanism is likely suited to large solutions that qualify for national funding programs	Example programs include TIFIA in the United States that provides critical credit and credit enhancement to major transportation projects, as well as UK Guarantees which will provide credit to major projects in the United Kingdom.	<ul style="list-style-type: none"> Allows governing bodies to provide considerable financial support to strategic projects 	<ul style="list-style-type: none"> May require significant commitment from solutions 	No specific contact identified	<ul style="list-style-type: none"> http://www.fhwa.dot.gov/ipd/tifia/ http://www.fhwa.dot.gov/ipd/tifia/ 		
National and Subnational Government, Private Sector	Varied	Project Development	Mechanism is suited for solutions that are eligible under existing programs	World Bank Green Bonds are issued in varying currencies and raise funds that are re-loaned for sustainable solutions	<ul style="list-style-type: none"> Mechanism encourages governance over funding decisions and over recipient performance Performance reporting facilitates data collection and development of KPI's 	<ul style="list-style-type: none"> Loans provided to solutions may default, leaving the governmental body or development assistance institution to fund the shortfall Issuance of Green Bonds may require incur capital markets fees 	No specific contact identified	<ul style="list-style-type: none"> http://treasury.worldbank.org/cmnd/html/WorldBankGreenBonds.html 		
National and Subnational Government, Private Sector	Large	Project Development	Mechanism is likely suited for governing bodies with the ability to access markets with high demand for government issued debt and investors seeking tax advantages	Indirect infrastructure bonds are commonly issued in India	<ul style="list-style-type: none"> Allows governing bodies an opportunity to raise funds for a number of projects Allows governments to access debt financing for non-revenue generating projects 	<ul style="list-style-type: none"> Issuing debt not expressly tied to projects may raise interest rates required of the issuer Instrument likely requires considerable commitment from an issuer's balance sheet if funds are going to non-revenue generating projects 	No specific contact identified	<ul style="list-style-type: none"> http://www.tlinfra.com/our-offerings/infra-bonds.aspx 		
National and Subnational Government	Large	All	Mechanism is suitable when fuel demand is considered sufficient to generate sufficient funds. Mechanism is likely suited for solutions that address existing or alternative surface transport	Fuel taxes are widely used. Examples of national programs that are funded by national fuel taxes include The Highway Trust Fund (USA). Examples of subnational programs that are funded by national and subnational fuel taxes include the North Carolina Department of Transportation (USA)	<ul style="list-style-type: none"> Provides a funding mechanism that raises funds from direct users of facilities Incentivizes users towards more sustainable transport alternatives, or more fuel efficient vehicles 	<ul style="list-style-type: none"> May engender negative public perception by placing a levy on a good with relatively inelastic demand 	No specific contact identified	<ul style="list-style-type: none"> http://www.fhwa.dot.gov/reports/fiahiw/fiahi05.htm http://www.ncdot.gov/about/finance/ 	<ul style="list-style-type: none"> http://www.aifdb.org/en/topics-and-sectors/sectors/transport/bank-group-vision/ 	

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68	National and Sub-National Governments	Taxes and Fees	Sales tax	Funding	Traditional	Taxes levied on the value of goods sold by a national or subnational body	Ongoing	Yes	NA	Eligibility requirements vary by governmental body	None	Yes
69	National and Sub-National Governments	Taxes and Fees	Hydrocarbon tax	Funding	Traditional	Various national and subnational bodies enact taxes over the exploration and extraction of hydrocarbons	One Time	Yes	NA	Eligibility requirements vary by governmental body	None	Yes
70	National and Sub-National Governments	Taxes and Fees	Vehicle tax	Funding	Emerging	Governing bodies can levy taxes on vehicles based on various factors, including age of the vehicle and size of the engine. Funds raised by such levies can be allocated to fund transportation needs or sustainable transportation alternatives	Ongoing	Yes	No	Eligibility requirements vary by governing body	None	Yes
71	National and Sub-National Governments	Taxes and Fees	Vehicle registration fees	Funding	Emerging	Governing bodies can levy additional taxes of fees on the registration of a vehicle at time of purchase.	Ongoing	Yes	No	Eligibility requirements vary by governing body	None	Yes
72	National and Sub-National Governments	Donation	In-Kind contribution (land)	Funding	Emerging	Governing bodies can contribute land for use in development of a specific project, or can contribute land to be sold by the developer in order to finance a project.	One Time	Yes	No	Eligibility requirements vary by governing body	None	None
73	National and Sub-National Governments	Incentives for Private Investment	Credit enhancements	Finance	Emerging	National and subnational financial institutions can create credit enhancements to incentivize the private sector to lend to a project or to purchase infrastructure or project bonds. Governing bodies or financial institutions can provide subordinated debt or guarantees. By purchasing a lower tranche of debt, the governing body provides additional security to private investors who will experience less default/credit risk.	One Time	No	NA	NA	Yes - Complex Transaction	Yes
74	National and Sub-National Governments	Incentives for Private Investment	Direct pay (to bondholders)	Finance	Emerging	Direct pay bonds offer tax credits, or other subsidies, to bondholders to effectively lower the rate of borrowing on bond issuers.	One Time	No	NA	NA	Yes - Complex Transaction	Yes

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
Local Government, National and Subnational Government	Varied	Project Development, Operating Expenses	Mechanism aligns to a wide range of solutions that receive national or subnational support	National and subnational sales tax can be used to fund numerous solutions, depending on the municipality's willingness/appetite for the solution	• Sales tax provides a consistent source of funding and can reflect increases in inflation	• Sales tax can fluctuate alongside revenue generated by businesses	No specific contact identified			
Local Government, National and Subnational Government	Varied	Project Development, Operating Expenses	Mechanism aligns to hydrocarbon related solutions	Hydrocarbon taxes in Poland, Denmark, Mexico, Nigeria	• Provides an opportunity to directly offset activities facilitating fossil fuel use with investment in sustainable alternatives	• Amount of tax collected may fluctuate depending on demand for fossil fuels, and with potential changes in legislation allowing the tax	No specific contact identified	• http://www.skm.dk/media/866696/consolidated-act-on-the-taxation-of-income-in-connection-with-hydrocarbon-recovery-in-denmark-the-hydrocarbon-tax-act.pdf		
National and Subnational Government	Varied	All	Mechanism is likely suited for transport and alternative transport solutions in areas where vehicle taxes are considered capable of supporting transportation funding programs	The United Kingdom levies a tax on drivers based on a vehicle's age and size of engine	• Provides a funding mechanism that raises funds from direct users of facilities (drivers) • If structured appropriately, mechanism can encourage increased purchases of fuel efficient vehicles	• May engender negative public perception depending on way in which the levy is applied • May discourage purchase of vehicles, limiting commerce and other sales-generated revenue	No specific contact identified	• https://www.gov.uk/vehicle-tax-rate-tables		
National and Subnational Government	Varied	All	Mechanism is likely suited for transport and alternative transport solutions in areas where vehicle taxes are considered capable of supporting transportation funding programs	Vehicle registration fees are levied and collected by each state in India. Mumbai collects fees based on the type of fuel a vehicle uses as well as the purchase price of the vehicle	• Provides a funding mechanism that raises funds from direct users of facilities (drivers) • If structured appropriately, mechanism can encourage increased purchases of fuel efficient vehicles	• May engender negative public perception depending on way in which the levy is applied • May discourage purchase of vehicles, limiting commerce and other sales-generated revenue	No specific contact identified	• http://timesofindia.indiatimes.com/city/mumbai/Registration-tax-hike-to-make-vehicles-dearer/articleshow/1242371.cms		
National and Subnational Government, Private Sector	Varied	All	Mechanism is likely suited for solutions proposed for development that require real estate or funding and are located in an area with real estate owned by National and Subnational governmental bodies	National and subnational governments may contribute land needed to develop a parking structure for a park and ride scheme	• Provides solutions an opportunity to access real estate or funds needed • Allows governmental bodies to contribute to development with available property rather than cash	• Identify available government property, and securing approval, may prove difficult	No specific contact identified			
National and Subnational Government, Private Sector	Large	Project Development	Mechanism is likely suited for governmental agencies with the capacity to issue guarantees/purchase project debt and that deem capital market investors to have an appropriate level of demand for enhanced credit	Europe 2020 Bond Initiative was issued in 2011 and under the Initiative the European Investment Bank agreed to provide a subordinated loan of up to 20% of project debt	• Allows governmental agencies to tap into the potential of the private sector/capital markets • Shares risk between government and private sector and lowers interest rates on the issuance accordingly	• Governmental agencies carries a significant risk of losing capital in the case of default	No specific contact identified	• http://www.nortonrosefulbright.com/knowledge/publications/76663/credit-enhancement-the-key-to-unlocking-the-project-bonds-market	• https://www.kickstarter.com/	
National and Subnational Government, Private Sector	Medium - Large	Project Development	Criteria is likely suited for governmental bodies looking to encourage private investment in infrastructure, and leverage government contributions.	Build America Bonds in the United States	• Offers governmental agencies a means to provide further incentives to bondholders • Leverages government contributions (or forgone tax revenue) to raise larger sums of capital	• Governmental agencies can forgo substantial sums of tax revenues • Depending on the structure of the direct pay bond, and the consistency of a government's ability to raise debt, governments may have to restructure bonds or withdraw tax credits	No specific contact identified	• http://www.investopedia.com/terms/b/build-america-bonds-babs.asp		

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75	National and Sub-National Governments	Incentives for Private Investment	Tax credits	Funding	Emerging	Governmental agencies can offer tax credits to private sector participants to encourage project and business development. Credits reduce tax liability directly (rather than reducing taxable income in the case of a tax exemption)	Varied	Yes	No	Eligibility requirements will vary by project and municipality	None	Yes
76	National and Sub-National Governments	Incentives for Private Investment	Tax exemptions	Funding	Emerging	Governmental agencies can offer tax exemptions to private sector participants to encourage project and business development. Exemptions reduce an entity's taxable revenue, and thus reduces the tax liability due to a governmental agency	Varied	Yes	No	Eligibility requirements will vary by project and municipality	None	Yes
77	National and Sub-National Governments	Incentives for Private Investment	Tax rebates	Funding	Emerging	National and Subnational governments can offer tax rebates to individuals, businesses, and solutions that promote sustainability goals. Rebates are funds paid directly to the recipient, rather than offsetting taxes owed to the governmental body	One Time	Yes	No	Eligibility requirements will vary by project and municipality	None	Yes
78	National and Sub-National Governments	Incentives for Private Investment	Subsidies	Funding	Emerging	Funding contributed by a governmental agency to encourage private sector development	Varied	Yes	No	Eligibility requirements will vary by project and by relevant governing body	None	Yes
79	Private Sector Institutions and Investors	Donation	Cash	Funding	Innovative	Philanthropic donations from individuals or businesses directly to a proposed solution	One Time	No	NA	NA	None	None
80	Private Sector Institutions and Investors	Donation	Capital	Funding	Emerging	Solutions may be able to receive funding from private sector donors	One Time	No	NA	NA	None	None
81	Private Sector Institutions and Investors	Donation	Equipment	Funding	Emerging	Solutions may be able to receive equipment from private sector donors	One Time	No	NA	NA	None	None
82	Private Sector Institutions and Investors	Donation	Land	Funding	Emerging	Private sector donors can contribute land to the development of a solution	One Time	No	NA	NA	None	None
83	Private Sector Institutions and Investors	Donation	Crowd sourcing	Funding	Innovative	Developers may be able to access funding from private individuals via crowd sourcing platforms. Developers present ideas or proposed solutions and provide general access to individuals who wish to contribute to the solution	One Time	No	NA	NA	None	None

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
National and Subnational Government, Private Sector	Varied	Project Development	Mechanism is likely suited for private sector projects that may generate revenue and incur a tax liability	National and subnational governments can provide tax credits to drivers to incentivize the use of electric vehicles	• Offers governmental agencies a means to provide further incentives to the private sector to encourage development	• Governmental agencies can forgo substantial sums of tax revenues	No specific contact identified	• http://www.washingtonpost.com/cars/federal-tax-credits-for-plate-hybrids-electric-cars-what-you-need-to-know/2014/08/20/0ae02718-2886-11e4-8b10-07db129976abb_story.html		
National and Subnational Government, Private Sector	Varied	Project Development	Mechanism is likely suited for private sector projects that may generate revenue and incur a tax liability	National and subnational governments may offer tax exemptions to businesses for supplying or encouraging employee car share or implementing a company bus program	• Offers governmental agencies a means to provide further incentives to the private sector to encourage development	• Governmental agencies can forgo substantial sums of tax revenues	No specific contact identified			
National and Subnational Government	Micro - Small	Project Development	Mechanism is likely suited for private sector projects or goods sold in the private sector that may align with a governmental body's goals or existing rebate initiatives	Illinois Alternate Fuels Rebate Program, similar program in PA and CA	• Allows governmental bodies to provide additional incentive to the private sector by providing direct payments	• Securing approval to receive rebates, or to encourage the implementation of the mechanism, could prove difficult	No specific contact identified	• http://www.ncsl.org/research/energy/state-electric-vehicle-incentives-state-chart.aspx		
National and Subnational Government, Private Sector	Varied	Project Development	Mechanism is likely suited to governmental agencies, with assets available to provide as subsidies, that hope to leverage private sector capital to deliver projects or programs	China provides subsidies to consumers purchasing electric vehicles	• Allows governmental agencies to provide direct support for projects to encourage private sector support	• Provision of subsidies may divert funds from other uses • Selection of projects for subsidies may become political and engender negative public perception	No specific contact identified	• http://cleantechnica.com/2014/12/24/china-puts-billions-electric-cars-ev-charging-stations/	• http://www.ecpcapital.com/	
Community	Varied	Project Development, Capacity Building	Mechanism is likely suited for various solutions	Clinton Global Initiative providing grant funding to "Fuel Free in '33" to reduce reliance on car ownership	• Provides solutions with direct funds from individuals or businesses	• Mechanism may be rare	No specific contact identified	• https://www.clintonfoundation.org/clinton-global-initiative/commitments/fossil-free-33-campaign	• http://www.griequity.com/resources/BusinessGuides/Investor/SAMPE2fund.pdf	
Private Sector	Varied	All	Mechanism is likely suited for various solutions	Volkswagen commitment of funds to develop EV charging capabilities	• Provides solutions an opportunity to secure funding in exchange for limited, or no, commitment	• Mechanism may be difficult to secure	No specific contact identified	• http://www.hybridcars.com/volkswagen-pledges-10-million-to-ev-charging-infrastructure/		
Private Sector	Varied	Project Development, Operating Expenses	Donation of materials from the private sector may benefit solutions that are closely related to, or would directly benefit personal and/or corporate activity	Private sector donation of EV charging equipment	• Provides solutions an opportunity to secure funding in exchange for limited, or no, commitment	• Mechanism may be difficult to secure	No specific contact identified	• http://www.clippercreek.com/blog/clippercreek-donates-ev-charging-stations/	• http://www.forbes.com/sites/orhantley/2014/09/15/social-impact-bonds-are-going-mainstream/	
Private Sector	Varied	Project Development	Mechanism is likely suited to physical solutions that require real estate	A private sector participant may donate the land needed to develop a drive and ride facility	• Provides solutions an opportunity to secure funding in exchange for limited, or no, commitment	• Mechanism may be difficult to secure	No specific contact identified			
Community	Micro - Small	Project Development, Operating Expenses	Crowd sourcing may align with customer facing sustainable transport solutions	Numerous sustainable technologies have received initial funding via crowd sourcing platforms. For example, an eBike recently raised over \$3M in a less than two weeks on Indiegogo (see link in references)	• Provides developers an attractive opportunity to tap private sector funds with a compelling product or solution	• Amount of funds, and success of fundraising efforts, may vary greatly	No specific contact identified	• https://www.indiegogo.com/	• http://www.fminvestors.com/us/debt-investments/infrastructure-debt/infrastructure-debt	• http://plenarygroup.com/news-and-media/news-articles-and-press-releases/2014/plenary-group-bond-issue-to- fund-public-private-partnerships.html

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84	Private Sector Institutions and Investors	Donation	Rebates	Funding	Innovative	Rebates offered by the private sector to solutions that contribute to goals or business of the client sector participant	One Time	No	NA	NA	None	None
85	Private Sector Institutions and Investors	Grants	Industry group grants	Funding	Innovative	Industry groups, associations comprised of or supported by businesses and professionals in a certain industry, can provide grant funding to specific solutions	One Time	Yes	NA	Eligibility requirements will vary by program	None	None
86	Private Sector Institutions and Investors	Grants	Corporate foundation grants	Funding	Emerging	Corporations start foundations through which they can provide financial support to various causes.	One Time	No	NA	NA	None	None
87	Private Sector Institutions and Investors	Grants	University research program grants	Funding	Emerging	Numerous universities provide grants for research funding. University grant programs may have designated focus areas for funding, including sustainability	One Time	Yes	No	Eligibility requirements will vary by university grant programs	None	None
88	Private Sector Institutions and Investors	Equity	Green private equity funds (Green Funds)	Finance	Innovative	Green private equity funds provide capital to sustainable businesses in exchange for equity. Green PE funds can be focused by sector (such as Clean Tech, Renewables), size of investment, size of target company, and by geography. Green funds may provide one time funding, or may offer multiple rounds of funding. Certain green funds may offer long-term management support in accordance with the amount of equity acquired	Varied	No	No	Green funds will have specific investment criteria. Investment criteria will vary by fund	Yes - Complex Transaction	None
89	Private Sector Institutions and Investors	Equity	Venture capital	Finance	Innovative	Venture capitalists can provide investment funding to individuals or businesses that are developing early stage solutions. Venture capitalists can contribute seed capital, or later stage funding, in exchange for equity in a solution.	Varied	No	NA	NA	Yes - Complex Transaction	None
90	Private Sector Institutions and Investors	Flexible Support	Institutional Investors	Finance	Innovative	Institutional investors may provide various types of financial support, including equity purchases or private debt placements, to solutions. Institutional investors include pension funds, insurance funds, university endowments, sovereign wealth funds, among others.	Varied	No	NA	NA	Yes - Complex Transaction	None

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
Private Sector	Varied	Operating Expenses	Mechanism is likely suited for solutions that are highly visible. Mechanism may also be suited for solutions that may contribute to a potential sponsors goals or business. Solution must be sourcing goods or services from the private sector in order to receive rebates	A manufacturer may provide rebates on equipment to solutions developing EV charging corridors	<ul style="list-style-type: none"> Mechanism provides a means for private sector participants to contribute to a solution 	<ul style="list-style-type: none"> Private sector participants that may offer rebates may be difficult to identify Size of rebates may not warrant difficulty of identifying potential contributors 	No specific contact identified			
Private Sector	Varied	Project Development, Operating Expenses	Mechanism is likely suited for solutions that address a challenge or a need commonly shared by an industry	The Society of Indian Automobile Manufacturers may provide grant funding for Indian road infrastructure	<ul style="list-style-type: none"> Mechanism provides solutions an opportunity to receive funding, and potentially technical advice or assistance 	<ul style="list-style-type: none"> Contributors may be difficult to identify 	No specific contact identified		<ul style="list-style-type: none"> https://www.portlandgeneral.com/our_company/corporate_info/regulatory_documents/pdfs/schedules/Sched_344.pdf 	<ul style="list-style-type: none"> http://www.hydroquebec.com/transportation-electrification/infrastructure.html
Private Sector	Micro - Small	All	Solutions that directly benefit corporations, or potentially offset the impact of a corporation, may be able to source donations from relevant corporate foundations	Corporations like General Motors provide grants and funding through their foundation to designated causes such as Environment and Energy	<ul style="list-style-type: none"> Provides solutions with potentially substantial sources of capital if a relevant corporate foundation can be identified 	<ul style="list-style-type: none"> Complexity of application process may vary 	No specific contact identified	<ul style="list-style-type: none"> http://www.gm.com/company/about/GM/gm_foundation/environment_energy.html 		
Private Sector	Micro - Small	All	Mechanism is likely suited for smaller, exploratory, innovative solutions. Solutions that are being developed in the proximity of, or with a close relationship to, a research university may find research grants an attractive source of funding	The University of Michigan manages grant programs with various focuses. One such program, the Graham Environmental Sustainability Institute, funds multidisciplinary research into environmental sustainability	<ul style="list-style-type: none"> Provides eligible solutions with an attractive, low cost, source of financing Solutions may also be able to access university facilities or subject matter experts 	<ul style="list-style-type: none"> Complexity of application process may vary 	No specific contact identified	<ul style="list-style-type: none"> http://energy.umich.edu/funding-partnerships 		
Private Sector	Varied	Project Development, Operating Expenses	Mechanism is likely suited for individuals or businesses that are developing innovative solutions that are or may become commercially viable	Environmental Capital Partners (New York) provides long term capital and management support to middle-market companies in the environmental industry.	<ul style="list-style-type: none"> Provides solutions with substantial capital and allows access to expertise, management experience, and network of the investors 	<ul style="list-style-type: none"> Solutions may be encouraged to place an emphasis on financial results and may relinquish some control to the private equity investor 	No specific contact identified	<ul style="list-style-type: none"> http://www.thegreenmarketoracle.com/2012/08/top-12-green-private-equity-firms.html 		
Private Sector	Varied	Project Development, Operating Expenses	Mechanism is likely suited for individuals or businesses that are developing innovative solutions that may become commercially viable	SAM Group (Zurich) makes investments in moderate-risk sustainable technology companies. Siemens Venture Capital invests in early stage companies that may impact their core business lines, one such investment is Chargepoint	<ul style="list-style-type: none"> Provides capital, expertise, and networks to early stage businesses 	<ul style="list-style-type: none"> Businesses may have to cede some control or influence to investors 	No specific contact identified	<ul style="list-style-type: none"> http://finance.siemens.com/financialservices/venturecapital/portfolio/infrastructure-cities/pages/index.aspx 		
Private Sector	Large	Project Development, Operating Expenses	Mechanism is likely suited to large, longer term solutions with large capital expenditure and that generate revenue	Institutional investor, such as an insurance company, may provide debt funding to a solution that meets the investor's return and duration expectations	<ul style="list-style-type: none"> Institutional investors provide solutions an opportunity to access considerable amounts of funding. Investments may be tailored to the needs of solutions and of investors 	<ul style="list-style-type: none"> Investments may place financial pressure on solutions 	No specific contact identified	<ul style="list-style-type: none"> https://www.metlife.com/investments/private-capital/infrastructure.html#overview 		

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91	Private Sector Institutions and Investors	Debt	Social impact bonds	Finance	Innovative	Social impact bonds are financial instruments sold to the private sector that are backed by guarantees from governmental agencies. Performance standards are set for solutions receiving the funds. Upon meeting performance expectations, the bonds are paid for by the governmental agency.	One Time	No	NA	NA	Yes - Complex Transaction	None
92	Private Sector Institutions and Investors	Debt	Convertible bonds	Finance	Innovative	Convertible bonds are debt instruments that provide the bondholder the right to convert their bonds into equity shares. Convertible bonds are generally issued with an interest rate discount as the option to convert debt to equity provides an incentive to bondholders. Bonds are specified convertible at specific equity share prices. Bondholders may elect to convert debt to equity if the business or solution is high performing	One Time	No	NA	NA	Yes - Complex Transaction	None
93	Private Sector Institutions and Investors	Debt	Infrastructure debt, project bonds	Finance	Emerging	Infrastructure developments, public private partnerships, and other entities are able to issue debt to qualified investors. Debt can be structured in various ways and can be sold to different types of investors, such as banks and institutional investors.	One Time	No	NA	NA	Yes - Common Transaction	None
94	Private Sector Institutions and Investors	Debt	Low finance loans	Finance	Emerging	Loan offered by a financial institution to individuals and businesses to encourage sustainable behavior. Loans generally offer reduced interest rates to borrowers	One Time	Yes	No	Eligibility requirements vary by lending institution	Yes - Common Transaction	None
95	Private Sector Institutions and Investors	PPP	Direct investment from related enterprise	Finance	Emerging	Partnership between a municipality and a private sector enterprise to deliver sustainable solutions. Private sector enterprises looking to invest in additional infrastructure or to expand commercial operations can co-invest in a solution with a municipality. The investments is mutually beneficial between the private enterprise and the public entity	One Time	No	NA	NA	None	Yes
96	Private Sector Institutions and Investors	PPP	Co-branding	Finance	Innovative	Co-branding allows a private sector participant to partner with a governmental body, or transit authority, to lend its brand to a solution. Co-branding allows the private sector participant an opportunity to gain exposure for its brand and allows the public sector participant an opportunity to raise funds. Co-branding may also increase solution credibility and popularity	Varied	No	NA	NA	None	None
97	Private Sector Institutions and Investors	PPP	Commercial services	Finance	Innovative	The consortium provides basic traffic management services free of charge as well as additional commercial services for a fee.	Ongoing	No	NA	NA	None	None
98	Private Sector Institutions and Investors	PPP	Sponsorship	Finance	Emerging	Private enterprises can offer sponsorship for a public project. Private companies can provide varying sorts of support, such as funds, equipment, or services for a public project.	Varied	No	NA	NA	None	None

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
Local Government, National and Subnational Government, Private Sector	Varied	Project Development, Operating Expenses	Mechanism is likely suited for solutions that can report on tangible benefits of the funds deployment	Social Impact Bonds have been used to combat social challenges and to support at risk individuals (i.e. funding Kindergarten programs, prison rehabilitation programs, reducing the amount of children in foster care)	<ul style="list-style-type: none"> Provides governmental agencies to reduce spending on key issues as performance metrics for social impact bonds often include a reduction in need for government spending Encourages private sector participation and attention on key issues Encourages successful performance of solutions 	<ul style="list-style-type: none"> Mechanism is likely unproven as a funding source for sustainable transport 	No specific contact identified	<ul style="list-style-type: none"> http://www.goldmansachs.com/our-thinking/trends-in-our-business/social-impact-bonds.html?cid=PS_01_47_00_00_01 		
Private Sector	Varied	Project Development, Operating Expenses	Mechanism is likely suited for solutions that are being deployed by businesses that have experience in capital markets transactions	A toll road developer and operator may issue convertible notes for the development, operation, and maintenance for highways and urban roads in India	<ul style="list-style-type: none"> Encourages bondholders to invest, and provides further alignment of bondholder objectives with business objectives Provides solutions/ businesses an opportunity to issue debt at lower interest rates 	<ul style="list-style-type: none"> Mechanism requires financial sophistication and is likely limited to solutions being deployed by larger businesses with transparent capital structures 	No specific contact identified			
Private Sector	Large	Project Development	Mechanism is likely suited for large infrastructure projects or public private partnerships requiring large capital expenditure.	Plenary Group (Australia) bond issue to fund different projects, including the Gold Coast Light Rail	<ul style="list-style-type: none"> Provides substantial funding and diversifies investment risk between multiple creditors Provides access to debt as financial institutions maintain greater control over balance sheets 	<ul style="list-style-type: none"> Provides substantial funding and diversifies investment risk between multiple creditors Provides access to debt as financial institutions maintain greater control over balance sheets 	No specific contact identified	<ul style="list-style-type: none"> http://www.infrastructureaustralia.gov.au/publications/files/Review_of_Infrastructure_Debt_Capital_Market_Financing_2014_03_28.pdf 		
Private Sector	Micro - Small	Project Development	Mechanism is likely suited to solutions that do not require large capital expenditure.	Green loans offered by banks and credit unions for electric or hybrid vehicles (Georgia's Own Credit Union)	<ul style="list-style-type: none"> Provides solutions lower rates on borrowed funds 	<ul style="list-style-type: none"> May not be a significant source of financing 	No specific contact identified	<ul style="list-style-type: none"> https://www.georgiasown.org/green_loans.html 		
City Government, National and Subnational Government, Private Sector	Varied	Project Development, Operating Expenses	Mechanism is suited for solutions that need support and/or assets from a public entity	PPP between City of Hermosa Beach and NRG eVgo to deliver EV charging stations in the city	<ul style="list-style-type: none"> Provides a mechanism for solutions to engage public entities for support and/or assets Provides an opportunity for public entities to attract private investments/sustainable solutions that benefit residents 	<ul style="list-style-type: none"> May lead to reputational risk for a municipality or solution through association with a private enterprise May encounter red tape in structuring a PPP 	No specific contact identified	<ul style="list-style-type: none"> http://www.nrgvgo.com/hermosa-beach-launch-press-release/ 		
Private Sector	Micro - Small	Project Development, Operating Expenses	Mechanism may be suited for solutions that use a product produced by a private sector participant, or that are provide services related to the product or services of the private sector participant	Citibank co-branded the bikeshare system in New York City	<ul style="list-style-type: none"> Provides a private sector participant exposure and provides a value add means of funding to the public sector May increase the credibility and popularity of the solution 	<ul style="list-style-type: none"> Both parties may face reputation risk of their partner 	No specific contact identified	<ul style="list-style-type: none"> https://www.citibkenyc.com/ 		
Local Government, Private Sector	Micro - Small	Operating Expenses	Mechanism is suited for service-based solutions	Commercial services may include pre-booking car rentals, on route information to avoid congestion etc. This model was employed in Berlin by Siemens and DaimlerChrysler but was not successful as the commercial revenues were not sufficient to cover operating costs.	<ul style="list-style-type: none"> Provides an opportunity to raise additional funding on top of existing operations 	<ul style="list-style-type: none"> Commercial services can vary in profitability 	No specific contact identified	<ul style="list-style-type: none"> http://www.niches-transport.org/fileadmin/NICHESpus/case_studies/Traffic_Management_Centre_Berlin.pdf 	<ul style="list-style-type: none"> https://www.climateinvestmentfunds.org/clinet/project/mexico-urban-transport-transformation-program 	<ul style="list-style-type: none"> https://www.climateinvestmentfunds.org/clinet/project/vietnam-sustainable-urban-transport-no-cti-mimh-city-nnt-line-2-project
City Government, National and Subnational Government, Private Sector	Varied	Project Development, Operating Expenses	Mechanism is likely suited for highly visible solutions that offer the opportunity for exposure	AT&T station in Philadelphia, 'Atlantic Avenue Pacific Street - Barclays Center Station' in Brooklyn, NY	<ul style="list-style-type: none"> Provides the private sector an opportunity to gain exposure Provides the solution an opportunity to raise incremental funds 	<ul style="list-style-type: none"> May pose a reputational risk as the solution becomes associated with the private sector brand 	No specific contact identified	<ul style="list-style-type: none"> http://www.septa.org/stations/transit-subway/att.html 		

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99	Private Sector Institutions and Investors	PPP	Project finance	Finance	Emerging	Long term financing for an infrastructure project supported by project-generating cash flows rather than the balance sheets of project sponsors. Project finance encourages the adequate allocation of risk among various investors, and reduces risk for a public or private entity that would have otherwise sponsored the project in its entirety. Project sponsors create a Special Purpose Vehicle, an entity funded by project cash flows, that becomes accountable for funding the project's liabilities. Project finance mechanisms are widely used across various sectors and are often combined with other mechanisms	One Time	No	NA	NA	Yes - Common Transaction	Yes
100	Private Sector Institutions and Investors	PPP	Data partnerships	Funding	Innovative	Solutions can enter partnerships to trade usage data, such as traffic pattern data, parking data, and information on maintenance/delays. Partnerships can be structured in such a way that a private sector participant contributes one time, or ongoing, funding to solution development	Varied	No	NA	NA	None	Yes
101	Private Sector Institutions and Investors	PPP	Services contracts	Funding	Innovative	Concessionaires can enter into services contracts with private sector participants. Contracts may involve the exchange of information, or goods delivery	Ongoing	No	NA	NA	None	None
102	Private Sector Institutions and Investors	PPP	Joint development	Funding	Emerging	Collaboration between the public and private sectors to develop real estate adjacent to transport infrastructure. Public entities or transportation authorities sell or lease real estate assets to developers to encourage investment, improve the usability of transport infrastructure, and to raise capital.	Varied	No	NA	NA	None	Yes
103	Private Sector Institutions and Investors	PPP	Purchase Agreements (Offtake Agreements)	Funding	Emerging	Agreement between a producer of a resource and a consumer of a resource. A public entity can commit to purchasing a certain amount of goods or services resulting from a private sector development. Public commitment to purchase goods or services can incentivize private investors by reducing risk exposure for the private participant. A purchase or offtake agreement could be used to develop solutions that would be mutually beneficial between the parties	Ongoing	No	NA	NA	None	Yes
104	Private Sector Institutions and Investors	PPP	Community contributions or ownership	Funding	Emerging	Public private partnership between the state and a local community. Local communities can provide land rights, financial support, labor, in kind contributions, or other forms of contribution to help deliver the project in conjunction with a state body	Ongoing	Yes	No	Eligibility requirements will vary by location of the proposed development	None	Yes
105	Private Sector Institutions and Investors	PPP	Availability Payments	Finance	Emerging	Means of compensating a private sector operator or developer for managing or developing infrastructure for public use. Public sector entities guarantee payments to the private sector for the availability of the developed asset. Availability payments shift revenue risk from the private sector participant to the public sector, incentivizing private participation. Availability payments are often used in conjunction with public private partnerships	Ongoing	No	NA	NA	None	NA

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
City Government, National and Subnational Government, Private Sector	Large	Project Development	Mechanism is likely suited for large infrastructure projects or solutions that require substantial funding.	A light rail solution can secure debt funding through project finance instruments by pledging user revenue towards the debt obligations	<ul style="list-style-type: none"> Provides a mechanism for solutions to raise considerable funds Distributes financing risk across a number of entities 	<ul style="list-style-type: none"> Projects may become burdened with finance payments if project generated cash flows do not meet forecasts 	No specific contact identified	<ul style="list-style-type: none"> https://www.hsbonet.com/gbm/attachments/products-services/financing/project-finance.pdf 		
Community, Local Government, National and Subnational Government, Private Sector	Micro - Small	Operating Expenses	Mechanism is likely suited for information systems or other solutions that gather data. Mechanism may also be suited for solutions that could benefit from private sector expertise and data	Data sharing partnership between Waze and the traffic management system of Rio de Janeiro	<ul style="list-style-type: none"> Can improve usability and effectiveness of a solutions Can potentially be an auxiliary source of funding to a solution 	<ul style="list-style-type: none"> Mechanism may engender privacy concerns Identifying and structuring a partnership may prove difficult 	No specific contact identified	<ul style="list-style-type: none"> http://www.forbes.com/sites/parmyvelson/2014/07/07/why-google-waze-helps-local-governments-track-its-users/ 		
Private Sector	Micro - Small	Operating Expenses	Mechanism is likely suited to physical PPPs in urban locations or services-based PPPs	Amazon entering a contract to develop lockers for package deliveries	<ul style="list-style-type: none"> Provides an opportunity to raise additional funding on top of existing operations 	<ul style="list-style-type: none"> Mechanism may not be a source of significant funds 	No specific contact identified	<ul style="list-style-type: none"> http://www.amazon.com/gp/feature.html?obid=1000841451 	<ul style="list-style-type: none"> http://www.adb.org/sites/default/files/institutional-document/42689/files/ce/pf-annual-report-2013.pdf 	
City Government, Private Sector	Varied	Project Development, Operating Expenses	Mechanism is likely suitable for transportation infrastructure solutions with real estate assets that have development potential	Los Angeles Metro joint development of real estate adjacent to stations	<ul style="list-style-type: none"> Provides a source of funds to the public entity or transit authority Increases attractiveness and usability of infrastructure assets Encourages public use of sustainable transport options 	<ul style="list-style-type: none"> Partnership may pose a reputational risk to the public entity Identifying and securing partnership may prove challenging 	No specific contact identified	<ul style="list-style-type: none"> http://media.metro.net/projects_studies/joint_development/images/joint_dev_project_fact_sheet.pdf 	<ul style="list-style-type: none"> http://www.adb.org/site/alf/main 	
City Government, National and Subnational Government, Private Sector	Varied	Project Development, Operating Expenses	Mechanism is suited for public entities that wish to encourage private sector participation.	Florida I4 toll road collects tolls from users, but is responsible for making designated availability payments to the project developers and operators	<ul style="list-style-type: none"> Provides a mechanism that encourages private sector participation 	<ul style="list-style-type: none"> Transfers burden of project's success to the public entity If public entity is assuming risk, but also receiving tolls, the public entity could experience budget shortfalls if the project does not perform to forecast 	No specific contact identified	<ul style="list-style-type: none"> http://tollroadsnews.com/news/florida-taps-i4-mobility-partners-for-major-p3-project 		
Community, City Government, National and Subnational Government	Micro - Small	Project Development	Mechanism is likely suited to smaller solutions that are proposed to be implemented in communities willing to contribute to the development	Vietnam rural roads PPP	<ul style="list-style-type: none"> Allows communities and governmental bodies to pool resources to deliver projects Gains buy-in of the community for the development 	<ul style="list-style-type: none"> Gaining community consensus, setting community contributions, and managing community contributions may prove difficult 	No specific contact identified	<ul style="list-style-type: none"> http://www.adbi.org/files/2009_10_23_cpp_day3_sess3.2a_hvnh_ppp_road_system_vietnam.pdf 	<ul style="list-style-type: none"> https://www.deginvest.de/en/or/fehler-deginvest.html# 	
Local Government, National and Subnational Bodies, Private Sector	Large	Project Development	Mechanism is suited for public entities that wish to encourage private sector participation.	Florida I4 toll road collects tolls from users, but is responsible for making designated availability payments to the project developers and operators	<ul style="list-style-type: none"> Provides private sector participants considerable incentive by transferring operating risk to the private entity Allows public sector entities a mechanism to encourage private sector capital and expertise 	<ul style="list-style-type: none"> Availability payments may limit revenue upside for solutions, and may increase financial burden on public sector partner 	No specific contact identified	<ul style="list-style-type: none"> http://tollroadsnews.com/news/florida-taps-i4-mobility-partners-for-major-p3-project 	<ul style="list-style-type: none"> http://eepglobal.org/#!/ 	

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106	Private Sector Institutions and Investors	Donation	Business Improvement Districts	Funding	Innovative	Business improvement districts are areas of a city where proprietors have elected to jointly contributed assets to improve facilities in the area. Establishment of business improvement districts requires considerable legislative support and may encounter hurdles if certain businesses in a district elect not to participate. Business improvement districts have been implemented in certain European cities	Ongoing	No	NA	NA	None	Yes
107	Project Generated Cash Flows	Farebox	System fares	Funding	Traditional	Direct user fees charged for use of the development / facilities	Ongoing	No	NA	NA	None	None
108	Project Generated Cash Flows	Farebox	Peak / off peak fares	Funding	Emerging	Varying fare prices, such as for peak and off-peak hours, to optimize revenue collection and to manage demand and congestion for facilities.	Ongoing	No	NA	NA	None	None
109	Project Generated Cash Flows	Farebox	Fines and penalties enforcement	Funding	Traditional	Penalties enforced on users that do not comply with system rules. Examples include parking citations, citations for shirking system fares, etc.	Ongoing	No	NA	NA	None	None
110	Project Generated Cash Flows	Farebox	Dynamic Pricing, Tolls	Funding	Emerging	Tolls are continuously adjusted as facility usage changes. Tolls increase when facilities are experiencing high levels of usage, and decrease when facilities are experiencing low levels of usage. Dynamic pricing helps to normalize usage during peak hours and to encourage usage during off-peak hours. Dynamic pricing is more complicated to implement than peak/off-peak pricing, but offers users additional flexibility	Ongoing	No	NA	NA	None	None

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
Community, Local Government, National and Subnational Government, Private Sector	Micro - Small	Project Development, Operating Expenses	Mechanism is likely suited to small solutions that could improve the attractiveness of a certain business area	Three business improvement districts have been established in Hamburg. The budgets of the business improvement districts vary and fund activities from marketing and maintenance to improved street cleaning	<ul style="list-style-type: none"> Enables businesses to supply funding for solutions they would directly benefit from 	<ul style="list-style-type: none"> Requires considerable legislative support from local government and potentially from national and subnational government Business improvement districts can face legal risks if certain businesses do not elect to contribute and challenge the legitimacy of legislation enabling the districts (as in Hamburg) 	No specific contact identified	<ul style="list-style-type: none"> http://www.northseeregion.eu/files/repository/20121818252_Urban-Improvement-Districts-in-Germany-Article11.pdf 	<ul style="list-style-type: none"> http://www.fmo.nl/home 	
Community, Local Government	Varied	Project Development, Operating Expenses	Mechanism is suited to projects that have direct users with a capacity and willingness to pay for use of facilities	Can be implemented with numerous solutions provide value to direct users	<ul style="list-style-type: none"> Allows direct public contribution to the development Provides steady stream of income that can incentivize private sector investors Fares can be adjusted to better reflect demand for facilities 	<ul style="list-style-type: none"> Demand for facilities can vary, leaving fare income subject to potential fluctuations Disproportionate impact of tolls on lower-income individuals Fares are often used as an incentive to lenders, opening the system to default potential as demand fluctuates Increases in fares can be perceived negatively by the public 	No specific contact identified	<ul style="list-style-type: none"> http://www.transportation-finance.org/funding-financing/funding/state_funding_tolls.aspx 	<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/53 	
Community, Local Government	Varied	Project Development, Operating Expenses	Mechanism is likely suited for fare-charging solutions that experience demand fluctuations	Peak, off-peak fares have been used for parking facilities, carpool/express lanes, bridges, and rail facilities	<ul style="list-style-type: none"> Provides an opportunity to optimize revenue collection, reduce facility usage/congestion during peak hours, and to encourage facility usage in off-peak hours 	<ul style="list-style-type: none"> Pricing mistakes can lead to drastic decreases in facility usage or increased usage/congestion Mechanism can appear inequitable for commuters or low income users Adjacent facilities may experience increased usage due to high prices 	No specific contact identified	<ul style="list-style-type: none"> http://timesofindia.indiatimes.com/city/mumbai/Mumbai-Metro-introduces-off-peak-hour-rates/articleshow/63676604.cms 	<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/222 	
Community, Local Government	Micro - Small	Operating Expenses	Mechanism aligns to solutions that charge direct or indirect user fees	Can be implemented alongside System Fares or other solutions with Project Generated Cash Flow mechanisms. Can also be implemented if solution does not generate cash flows but sets clear user requirements (e.g. carpool or HOV lanes)	<ul style="list-style-type: none"> Provides auxiliary funding source for the development Encourages appropriate use of facilities Relative ease of implementation 	<ul style="list-style-type: none"> Can lead to negative public perception May discourage use of facilities by direct users Issuance of citations and collection of funds may require additional project resources or capabilities 	No specific contact identified		<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/198 	
Community, Local Government, National and Subnational Government, Private Sector	Varied	Project Development, Operating Expenses	Mechanism is likely suited to facilities that experience high levels of congestion, that have users willing to use transponders/other equipment, and that demonstrate an appropriate level of demand elasticity.	I-680 in Alameda, CA implemented dynamic pricing for toll collection	<ul style="list-style-type: none"> Provides an opportunity to optimize revenue collection, reduce facility usage/congestion during peak hours, and to encourage facility usage in off-peak hours 	<ul style="list-style-type: none"> Mechanism can be highly complex to implement, likely requiring additional equipment/transponders for users, and technical systems to set pricing Pricing mistakes can lead to drastic decreases in facility usage or increased usage/congestion Inability to predict pricing may lead to user satisfaction Mechanism can appear inequitable for commuters or low income users Increased pricing can lead to congestion for adjacent facilities 	No specific contact identified	<ul style="list-style-type: none"> http://ops.fhwa.dot.gov/publications/fhwahop08039/cp_prim1_08.htm http://www.virginia.gov/info/resources/congestion_pricing/faq_congestion_pricing.pdf http://www.68expresslane.org/Dynamic_Pricing.asp 	<ul style="list-style-type: none"> http://www.climatefinanceoptions.org/cfo/node/3308 	

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111	Project Generated Cash Flows	Farebox	Dynamic Pricing, Parking	Funding	Innovative	Solutions with parking facilities can implement dynamic pricing parking systems to optimize fundraising and to smooth demand for parking	Ongoing	No	NA	NA	None	None
112	Project Generated Cash Flows	Farebox	Mileage/ Distance - based tolls	Funding	Emerging	Solutions, such as light rail or toll roads, can implement mileage or distance based tolling mechanisms. Such mechanisms would enable solutions to charge users according to their use of the facilities. Solutions would likely require physical toll booths, or other equipment, at both the entrances and exits of a facility	Ongoing	No	NA	NA	None	None
113	Project Generated Cash Flows	Value Add	Concessions and commercial leases	Funding	Traditional	Licensing assets or operating rights to commercial partners. Examples could include licensing the rights to operate commercial enterprises, such as rest stops and retail locations. Other examples include licensing operating rights to the entire facility, or an aspect of the facility, to private sector transport operators.	Ongoing	No	NA	NA	None	None
114	Project Generated Cash Flows	Value Add	Charter services	Funding	Traditional	Project operators can provide private charter services to the public.	Ongoing	No	NA	NA	None	Yes
115	Project Generated Cash Flows	Value Add	Related services (helmet rentals, vending)	Funding	Traditional	Project operators can raise funds by providing additional services to users	Ongoing	No	NA	NA	None	None
116	Project Generated Cash Flows	Value Add	Utility services	Funding	Emerging	Providing development rights to Utilities services during development/ implementation of a solution. Utilities are provided an opportunity to develop cable, water, gas, electric, etc. facilities using solution facilities or property	One time	No	NA	NA	None	Yes
117	Project Generated Cash Flows	Value Add	Fee sharing	Funding	Innovative	Solutions can raise additional funds by allowing users to share fees for their services	Ongoing	No	NA	NA	None	Yes
118	Project Generated Cash Flows	Value Add	Data sales	Funding	Innovative	Solutions can sell usage data, such as traffic pattern data, parking data, and information on maintenance/delays	Ongoing	No	NA	NA	None	Yes

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
Community, Local Government	Micro - Small	Operating Expenses	Mechanism is suited to solutions with considerable existing parking facilities and that deem demand for parking appropriate to implement dynamic pricing	Dynamic pricing for parking at light rail stations	<ul style="list-style-type: none"> Allows projects to optimize parking revenue generation, smooth parking demand, and access parking data 	<ul style="list-style-type: none"> Installing a dynamic pricing system for parking could may prove unprofitable if use case or pricing are misguided 	No specific contact identified	<ul style="list-style-type: none"> http://www.xerox.com/downloads/services/brochure/on-street-parking-pricing.pdf 	http://www.vchraffaffranconipensog/cfo/node/234	
Community, Local Government, National and Subnational Government	Varied	Project Development, Operating Expenses	Mechanism is likely suited for physical transport infrastructure with users with varying usage patterns (i.e. short trips vs. long distances)	Florida, Pennsylvania Turnpikes	<ul style="list-style-type: none"> Allows solutions an opportunity to charge users equitably based on their usage of the facility Can encourage users with low distance use cases to use facilities that would have bypassed facilities under a standard toll 	<ul style="list-style-type: none"> Mechanism infrastructure may be expensive to implement and maintain May discourage users with high distance use cases to avoid facilities 	No specific contact identified	<ul style="list-style-type: none"> http://ppcc.uiowa.edu/transportation/study/national-evaluation-mileage-based-road-user-charge 		
Community, Local Government, National and Subnational Government, Private Sector	Varied	Project Development, Operating Expenses	Mechanism is likely suited to solutions that create an opportunity for an entity to be willing to pay licensing fees or to provide upfront funding for a development.	Concession revenue can be sourced for numerous solutions. Traditional examples include Rail facilities, Highway or Road infrastructure, and solutions that require an operator, such as Bikeshare	<ul style="list-style-type: none"> Amount of funds generated by concessions can be significant and can be used to address various funding needs, such as operating expenses Concessions can be used as a source of local matching for grants provided by various bodies Concessions can allow a developer to leverage private sector expertise in operations or in providing the public a sought after service (e.g. restaurants at rest stops) 	<ul style="list-style-type: none"> Managing concessionaires, RFP processes, and license collection may require additional developer resources Poor performance by concessionaires can jeopardize solution success and public perception of the solution Inability of concessionaires to meet their licensing engagements could endanger supplemental financing sources 	No specific contact identified	<ul style="list-style-type: none"> http://www.transportation-finance.org/funding/financing/other_funding_sources/concessions.aspx http://www.transportation-finance.org/pdf/funding_financing/other_funding_sources/crp_31_nyc_mta.pdf 		
Community, Local Government	Micro - Small	Operating Expenses	Mechanism is likely suited to solutions with physical facilities that could be marketed to the public as charter services	Trams, or trolleys, can rent charter rides to private parties	<ul style="list-style-type: none"> Provides a means of raising auxiliary funds 	<ul style="list-style-type: none"> Mechanism likely suits a limited number of solutions Project operator may face significant liability risk 	No specific contact identified			
Community	Micro - Small	Operating Expenses	Mechanism is suited to physical solutions that require supporting assets or services	Project operators can rent equipment related to their solution, such as helmets for a bikeshare solution, or may host vending machines or other food/drink offerings	<ul style="list-style-type: none"> Provides a means of raising auxiliary funds 	<ul style="list-style-type: none"> Solutions may not profit from offering additional services if demand is lower or if costs are higher than expected 	No specific contact identified			
Local Government, National and Subnational Bodies	Varied	Project Development, Operating Expenses	Mechanism is likely suited to solutions that require physical development (i.e. rail, roads) along routes that may be of interest to local utilities	Solutions developing road infrastructure may be able to secure funds from an electric utility in exchange for the right to develop underground transmission or distribution infrastructure	<ul style="list-style-type: none"> Allows a value add opportunity for solution developers to raise/secure additional funding that may not have been available Opportunities to develop subterranean infrastructure may be highly attractive to local utilities 	<ul style="list-style-type: none"> May pose a delivery risk if solution developer and Utility operations are not well synched May incur negative perception association depending on perception of the partnering Utility May not contribute funds appropriate for increased level of implementation risk/complexity 	No specific contact identified		<ul style="list-style-type: none"> http://www.xerox.com/downloads/services/brochure/on-street-parking-pricing.pdf 	
Community, Local Government, National and Subnational Government	Varied	Project Development, Operating Expenses	Mechanism is likely suited for solutions that provide services that can be shared by direct users (i.e. rideshare, carpool lanes)	Uber provides users with an opportunity to share services with other users	<ul style="list-style-type: none"> Provides users an opportunity to lower fares by sharing services Allows solution to optimize revenue streams and decrease infrastructure usage 	<ul style="list-style-type: none"> Securing support from community and local government could prove challenging 	No specific contact identified	<ul style="list-style-type: none"> https://support.uber.com/hc/en-us/articles/201836666-What-are-these-additional-charges-tolls-surcharges-fees- 		
Community, Local Government, National and Subnational Government, Private Sector	Micro - Small	Project Development, Operating Expenses	Mechanism is likely suited to solutions that can collect and package user data that may be attractive to government or the private sector	Data sharing partnership between Waze and the traffic management system of Rio de Janeiro	<ul style="list-style-type: none"> Can improve user experience of certain types of solutions Can potentially be an auxiliary source of funding to a solution 	<ul style="list-style-type: none"> Mechanism may engender privacy concerns Identifying and structuring a partnership may prove difficult 	No specific contact identified	<ul style="list-style-type: none"> http://www.forbes.com/sites/pamyolsan/2014/07/07/why-google-waze-helps-local-governments-track-its-users/ 	<ul style="list-style-type: none"> http://ec.europa.eu/priorities/jobs-growth-investment/plan/docs/factsheet03-what-in_en.pdf 	

Index	Source of Funds	Mechanism Category	Mechanism	Type of Funds	Mechanism Stage	Description	Availability	Eligibility Requirements?	Eligible Regions	Eligibility Requirements (List)	Capital Markets Expertise Required	Legislative Support Required
119	Project Generated Cash Flows	Value Capture	Development rights	Funding	Emerging	Sale or transfer of development rights from the public sector to the private sector. Solutions have an opportunity to capture the increased value of development rights that result from public actions, such as developing a transport facility.	One time	Yes	No	Requirements vary by municipality	None	Yes
120	Project Generated Cash Flows	Value Capture	Parking (underground or at level)	Funding	Emerging	Parking fares for underground and at level facility parking, and for adjacent on and off street parking, can be used to fund additional development. Facilities can use peak / off peak pricing to optimize funds and to smooth demand/peaks for parking.	Ongoing	No	NA	NA	None	None
121	Project Generated Cash Flows	Value Capture	Air rights	Funding	Emerging	Sale of development rights above public developments can provide funding to a solution. If zoning allows, the right to build vertically could provide substantial financial support. In addition, municipalities can deregulate/ re-zone areas to allow for additional vertical development above a public structure.	One time	Yes	No	Requirements vary by municipality	None	None
122	Project Generated Cash Flows	Value Add	Advertising	Funding	Traditional	Selling spaces and services for advertising to various parties. Examples advertisements include ads placed in the interior or on the exterior of a light rail car, billboards along highways, or various ads placed in informational or promotional material	Ongoing	No	NA	NA	None	None
123	Project Generated Cash Flows	Value Add	Delivery Fees	Funding	Innovative	Transport solutions can raise auxiliary funds by delivering packages/goods.	Ongoing	No	NA	NA	None	None

Stakeholder Support Required	Applicable Project Size	Applicable Use of Funds	Criteria for Aligning to Modes	Example Modes / Solutions	Benefits	Risks	Organizations and Contacts	Reference 1	Reference 2	Reference 3
Community, Local Government, National and Subnational Government, Private Sector	Varied	Project Development, Operating Expenses	Mechanism is suited to municipalities or public entities that are developing a solution that would increase value of adjacent real estate	CEPACS in Brazil and use of CEPACS for development in Sao Paulo	<ul style="list-style-type: none"> Allows an attractive value add opportunity for municipalities as the municipal investment may significantly increase adjacent real estate values Attractive development adjacent to public facilities provides a mutual benefit between the municipality, developers and users 	<ul style="list-style-type: none"> Pricing of development rights can be difficult for municipalities and may lead to lost opportunity to raise funds by under or over pricing Secondary trading/sale of development rights may pose additional difficulties Ownership of real estate/right to sell real estate can be murky prior to sale of development rights 	No specific contact identified	<ul style="list-style-type: none"> http://sandroni.com.br/?page_id=310 	<ul style="list-style-type: none"> http://nea.ec.europa.eu/en/ten-t/ten-t_projects/ten-t_projects_by_country/multi_country/2019-eu-21016-p.htm 	
Community, Local Government	Micro - Small	All	Mechanism is likely suited to widely used facilities that can experience high demand for parking (e.g. light rail stations)	Examples of parking fare management are present at many facilities around the world. The city of Aurora, Colorado commissioned a study on how to optimize parking fares across a proposed light rail development system	<ul style="list-style-type: none"> Provides an additional funding source for incremental developments, such as parking structures Allows facilities to smooth demand for parking and to encourage decreased congestion 	<ul style="list-style-type: none"> May discourage the public's use of facilities May require additional equipment or resources to implement parking fare management system 	No specific contact identified	<ul style="list-style-type: none"> http://www.epa.gov/smartgrowth/pdf/2013-0122-TOD-infrastructure-financing-report.pdf 		
Community, Local Government, Private Sector	Varied	Project Development, Operating Expenses	Mechanism is likely suited to municipalities with flexible vertical zoning requirements, or the necessary legislative support needed. Mechanism is also suited for physical facility development	Selling the rights to develop on top of Tokyo Station	<ul style="list-style-type: none"> Leverages a funding source that would otherwise remain untapped, providing funding for incremental development Attractive development adjacent to public facilities provides a mutual benefit between the municipality, developers and users 	<ul style="list-style-type: none"> Pricing of air rights can be difficult for municipalities and may lead to lost opportunity to raise funds by under or over pricing Secondary trading/sale of air rights may pose additional difficulties Sale of air rights could incur public and environmental opposition 	No specific contact identified	<ul style="list-style-type: none"> https://www.planning.org/pas/at60-report186.htm 		
Community, Local Government, Private Sector	Micro - Small	Operating Expenses	Advertising could be implemented for any solution with physical assets attractive to marketers, or that produces various publications or related materials	Advertising has been implemented as a source of funds for numerous solutions.	<ul style="list-style-type: none"> Source of funds with relatively low complexity to implement Flexible funding source that can be leveraged for numerous types of solutions Provides an opportunity to engage users of the facility as well as the private sector 	<ul style="list-style-type: none"> Managing advertising services, quality and fee collection could require additional resources for the facility Public perception may be adversely affected by over-advertising, low quality advertisements, or potentially controversial advertisers 	No specific contact identified	<ul style="list-style-type: none"> http://www.transportation-finance.org/funding_financing_funding/other_funding_sources/advertising.aspx 		
Community, Local Government	Micro - Small	Operating Expenses	Mechanism may be suited for a flexible transport solution that is centrally managed, such as a ridesharing system. Mechanism is likely suited for high density, sophisticated markets with high demand for deliveries (e.g. London, San Francisco)	UberRush, courier and delivery service in NYC	<ul style="list-style-type: none"> Provides a value add opportunity for transport solutions May deliver an attractive delivery mechanism for commuters 	<ul style="list-style-type: none"> Mechanism is likely complex to implement and is relatively unproven Mechanism is likely suited to limited markets 	No specific contact identified	<ul style="list-style-type: none"> http://blog.uber.com/RUSH 		

Appendix A: Definitions

Mechanism Stage	Definition
Traditional	Mechanism has been widely used to fund transport solutions in much of the world
Emerging	Mechanism has been used to fund transport solutions, but may not be widely implemented across regions or may be available as a result of recently created programs or policies
Innovative	Mechanism may have limited precedent in funding transport solutions, may have been enabled by recent technological advancements, or may have been recently developed
Availability	Definition
One Time	Funding source is a one-time contribution
Limited Period	Funding source is available only for a certain amount of time
Ongoing	Funds are raised throughout the life of the project
Varied	Timing of funds varies
Eligibility Requirements?	Definition
Yes	There are requirements for a solution to be considered for funding
No	There are no requirements for a solution to be considered for funding
Capital Markets Expertise Required	Definition
Yes - Common Transaction	Transaction requires a capital markets transaction
Yes - Complex Transaction	Transaction requires capital markets and specific financial expertise or niche investors
None	No capital markets needed to implement mechanism
Legislative Support Required	Definition
Yes	Local, subnational, or national legislation required to implement mechanism
None	No legislation required to implement mechanism
NA	Information not available
Stakeholder Support Required	Definition
Community	Support, approval, or financial support required from local individuals and businesses
Local Government	Support, approval, or financial support required from the local government
National and Subnational Government	Support, approval, or financial support required from national and/or subnational government
Private Sector	Support, approval, or financial support required from the private sector

Project Size Applicable	Definition
Micro - Small	Under \$1M
Small - Medium	Between \$1M and \$5M
Medium - Large	Between \$5 and \$50M
Large	Greater than \$50M
Varied	Funding applicable to projects of various sizes
Applicable Use of Funds	Definition
Project Development	Funds may be applied to upfront costs as well as capital expenditures
Operating Expenses	Funds may be applied to funding operating expenses
Capacity Building and Policy Support	Funds may be applied to capacity building and policy support efforts
All	Funds may be applied across the solution's lifecycle

Appendix B: References

Case Study References	
Hyderabad Metro PPP	http://hmr.gov.in/ http://articles.economictimes.indiatimes.com/2011-03-06/news/28660167_1_l-t-infrastructure-finance-l-t-equity-financial-closure http://www.lntidpl.com/hyderabad-metro.aspx
Mozambikes	http://www.mozambikes.com/ http://www.usaid.gov/div/portfolio/mozambikes
TransMilenio BRT	http://www.fta.dot.gov/documents/Bogota_Report_Final_Report_May_2006.pdf http://www.transmilenio.gov.co/en http://www.worldbrt.net/en/cities/bogota.aspx
EcoCabs	http://www.ecocab.com/
Hamburg Urban Improvement Districts	http://www.hk24.de/servicemarken/branchen/handelsplatz_hamburg/bid http://www.urban-improvement-districts.de/?q=english http://www.northsearegion.eu/files/repository/20121218180252_Urban-Improvement-Districts-in-Germany-Article[1].pdf

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About the WBCSD

The World Business Council for Sustainable Development (WBCSD), a CEO-led organization of some 200 forward-thinking global companies, is committed to galvanizing the global business community to create a sustainable future for business, society and the environment. Together with its members, the council applies its respected thought leadership and effective advocacy to generate constructive solutions and take shared action.

Leveraging its strong relationships with stakeholders as the leading advocate for business, the council helps drive debate and policy change in favor of sustainable development solutions.

The WBCSD provides a forum for its member companies - who represent all business sectors, all continents and a combined revenue of more than \$8.5 trillion, 19 million employees - to share best practices on sustainable development issues and to develop innovative tools that change the status quo. The council also benefits from a network of 70 national and regional business councils and partner organizations, a majority of which are based in developing countries.

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