TERMS OF REFERENCE

Public Private Infrastructure Advisory Facility (PPIAF)
Spanish Fund for Latin America and the Caribbean (SFLAC)

Developing Transit Oriented Development (TOD) via Public-Private Partnerships (PPP) in Lima, Peru:
Evaluation of potential and Pilot Project Development for Lima Metro’s Line 2 Project

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I. Background

The Lima-Callao Metropolitan Region (LMR) grew rapidly in the past decade and is now one of the most congested and polluted in Latin America. As the urbanization continues, the region – which concentrates around 10 million people and half of the country’s GDP- faces severe constraints in making its growth sustainable.

As a strategic response to rapid urbanization and growing motorization rates, the national and local governments have been investing in developing public mass transit systems. The launch of service on the Metropolitano Bus Rapid Transit (BRT) system in 2010 (supported by a World Bank investment loan) and of the first line (Metro Line 1) of a six-line urban rail mass transit network in 2011 were tremendous steps forward for the LMR. Metro Line 2 (supported by a World Bank investment loan), expected to carry 660,000 passengers per day, is currently being developed\(^1\). Feasibility studies are underway for Metro Lines 3 and 4 projects, which will add 67 km more to the rail mass transit network. Metro Lines 5 and 6 are at conceptual project stage.

In addition to improving urban mobility, mass transit systems have the potential to increase access to opportunities and trigger social inclusion and economic development if articulated with broader urban interventions. Transit-oriented development, or TOD, is a high-value complement to mass transit development. Compact, mixed-use, and high-density urban development with vibrant and high-quality public spaces around key mass transit stations have the dual benefits of (1) creating a ridership base that enhances the economic and financial viability of the mass transit investment, reducing the need for subsidies; and (2) maximizing the local accessibility benefits of a mass transit system by shaping the urban form and the location of activities and opportunities in the city.\(^2\)

The regional and local accessibility benefits of mass transit systems have the potential to spur new urban development, bringing the opportunity for redevelopment (e.g., urban renewal) in key strategic areas of the city or supporting a metropolitan urban development masterplan with new centralities under a coordinated land-use and transport planning model. Supported with a sound legal and regulatory framework and adequate incentives to foster private investment, built environment and real estate transformations around key metro stations or transit hubs have the potential to generate vibrant and livable communities where people can safely walk, live, work, shop and play. Additionally, high-quality urban design for TOD in high-accessible transit nodes has the potential to unlock land-based value capture (LVC) mechanisms to help finance transit facilities and other public infrastructure (e.g., public space, utilities upgrade, etc.) by capturing the capitalization of accessibility benefits on land values brought by transit infrastructure/TOD. This market capitalization of the land values and the real estate in general creates the opportunity to include the private sector in the TOD financing, construction and operation/maintenance through Public-Private Partnerships (PPP). TOD through PPP may include the joint development of, not only transit infrastructure, but also of other much needed public investments, such as utilities expansion, public housing, schools, hospitals or public space. This is

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especially relevant in Peru, which has the third highest housing deficit (both quantitative and qualitative) in Latin America.\textsuperscript{3} Bringing housing and transit together is one the most effective strategies to achieve sustainable urban mobility and urban development outcomes.

PPP for TOD fall into three basic categories: (a) donation of public land to private developers in return for private investment in public infrastructure; (b) sale or auction of public land or development rights to private developers and investment of sale proceeds to finance public infrastructure; and (c) sharing of gains in land values created by accessibility benefits of public infrastructure investment by the use of joint venture development projects involving public and private partners. This last category involves different mechanisms, including the imposition of taxes/surcharges/fees that capture part of the land-value gain accruing to private owners, or by voluntary gain-sharing agreements negotiated prior to public investment.\textsuperscript{4}

There are no previous experiences of PPP for TOD projects in Peru. Therefore, the National Government through PROINVERSION - the agency in charge of preparing and promoting private participation in urban transport and real estate projects – has expressed interested in exploring PPP-TOD opportunities for Metro Line 2 with the World Bank support. Metro Line 2 is a PPP project already under construction and the World Bank, through a technical assistance activity, is currently supporting a preliminary TOD concept assessment of the area of influence of the easternmost corridor segment of Line 2. This study will identify opportunities for TOD that could be considered into a complementary investment package aimed to enhance the multimodal integration, local accessibility and urban transformation of the site area. This pilot TOD concept proposal, and others that could be identified along Metro Line 2, are subject to PPP structuring schemes to be coordinated through PROINVERSION, with the participation and mandate of Ministry of Transport and Communications (MTC), Metropolitan Municipality of Lima (MML) and local authorities at the district municipal level. PROINVERSION’s role as a promoter of private investment and structuring agent for PPPs in all sectors of the economy, including housing and real estate, and the recent experience structuring the PPP Metro projects, create an opportunity to use this institutional vehicle to develop pre-feasibility analysis for PPP-TOD opportunities along the Metro network.

The objective of this study is to help identify prospective PPP-TOD operations, building on previous work, that have the potential to leverage private sector financing for transit and public infrastructure complementary works that may need Metro Line 2 to improve multimodal connectivity and integration, enhance local accessibility and support the urban regeneration of key strategic sites, in the context of national and local policies and priorities.

A. Metro Line 2

This activity complement a World Bank lending operation (Lima Metro Line 2 Project - P145610) to support the National Government’s contribution to the Lima Metro Line 2 project – a 35-km greenfield subway to be designed, built, operated and transferred through a 35-year PPP

concession contract. The Metro Line 2 project will serve a critical East-West corridor from Ate-Vitarte to Callao, including the maritime port and international airport.

Although the concessionaire is required to design and build stations according to international standards of quality and universal accessibility, the multimodal integration infrastructure facilities, the local accessibility improvements of stations’ surroundings, the supportive public space and the potential urban renewal investments are beyond the current scope of the Metro Line 2 concession. It is likely that stakeholders in local governments, civil society, local community and users will identify gaps in non-motorized transport (NMT) – pedestrian and bicycle-accessibility and general transit multimodal integration facilities in the final designs of the Metro Line 2 stations, as well as opportunities for improving public spaces and other social amenities or services around these Metro stations. In this context, additional investments may be needed around key Metro L2 stations to ensure appropriate multimodal integration facilities and consolidate new centralities based on the metropolitan urban masterplan and local development plans and priorities.

The Metro Line 2 project is being implemented in phases. For the initial segment (Phase 1A) construction work has initiated and will include about 4.9 km of tunnel, five stations, a rail yard and test tracks in the area of Santa Anita (eastern part of the LMR). Phase 1B would add approximately 11km of line and 11 stations from Santa Anita to the easternmost district of Ate-Vitarte and from Santa Anita to the center of Lima. The Concessionaire is carrying out the final designs for the project and the final designs of two stations of Phase 1A have been completed and approved by the government.

B. Available Documents and Information

The Government of Peru (GoP) has undertaken various studies related to the development of the urban transport network in LMR, these should serve as a foundation for the present study. The Consultant is expected to build upon this existing body of work:

- Estudio del potencial de transformación urbana vinculado a las mejoras de integración y accesibilidad local de la Línea 2 del Metro de Lima – corredor de estación terminal de Ate e intermedia de Santa Anita. (available in Box)
- Estudio de zonificación y usos de suelo de la Línea 2 del Metro de Lima. (available in Box)
- Estudio de Preinversión a nivel de Perfil de la Línea 2 del Metro de Lima y Callao.
- Relevant national and local legislation and regulations (municipal ordinances, etc.)
- Programmatic approach RAS reports for Ministry of Housing, prepared by World Bank’s Urban Global Practice
- Analysis of the Land Value Capture (LVC) instruments and review of institutional arrangements and actors that would be involved in a potential PPP-TOD-LVC pilot (under execution and coordinated with World Bank’s Global Practice or urban development)
• Georeferenced dataset with all relevant public investment projects registered in the SNIP in the surroundings of the Metro Line 2 alignment

• Lima TOD Project Preliminary Research – Final Report. World Bank, August, 2015. (available in Box)

• Metro Line 2 Concession Contract.

• Informe de desempeño de la concesión del sistema eléctrico de transporte masivo de Lima y Callao, Línea 1, 2013, OSITRAN.

Other recommended information sources:

• G. E. Peterson, 2009, Unlocking Land Values to Finance Urban Infrastructure, PPIAF-The World Bank

• Leland Consulting Group, Principles of Public-Private Partnerships for Real Estate & Economic Development


• Urban Land Institute, 2005, Ten Principles for successful PPP

• Cledan Madri-Perrott, 2010, Private Sector Participation in Light Rail – Light Metro Transit Initiatives, PPIAF-The World Bank

From the list of available studies and information sources, it is clear the GoP is already developing a urban rail mass transit network and there is a wide body of evidence of theory and best practices for TOD, PPP and LVC mechanisms. At this stage, the GoP is more concerned with effective implementation strategy, with a sound structuring framework that combines TOD-PPP-LVC into a pilot demonstration project with potential to be scaled up and replicated across the LMR, rather than with descriptive work.

C. Entities Involved

The Metro Line 2 project is part of a Metropolitan Transport Strategy to be developed by the GoP and to include complementary investments and institutional reforms for the LMR. With the implementation of Metro Line 2, the GoP is seeking a more coordinated approach to the currently fragmented institutional framework for urban mobility in the LMR. Specifically, in coordination with relevant agencies and stakeholders in the LMR, the Ministry of Transport and Communications (MTC) is studying the creation of a Metropolitan Transport Authority and innovative financing mechanisms. This effort is being coordinated with local governments and
supported by technical assistance activities of the World Bank and other partners. Likewise, the World Bank is providing technical assistance support for the Ministry of Housing, Construction and Sanitation (MVCS) and the MML government on the review of institutional arrangements and actors that could be involved in a potential TOD and urban regeneration projects.

As coordination among public and private entities and different level of governments is a key factor for successfully structuring and implementing a TOD-PPP project. In this context, and for the pre-feasibility phase that involves this study, an ad-hoc working group will be created as a counterpart of this consulting assignment. This working-group will be led by PROINVERSION and formed by:

- PROINVERSION, agency in charge of structuring metro and real estate PPP projects;
- Autoridad Autónoma del Sistema Eléctrico de Transporte Masivo de Lima y Callao (AATE) responsible for the management of the Metro network in LMR and technical advisor to the MTC, the Metro’s concessions grantor;
- The MTC, granting authority of the existing and future Metro concessions;
- MVCS, responsible for housing, urban development and urban mobility national policies and project manager for Metro-cable car projects connecting Metro Line 2.

Other relevant stakeholders, such as the Supervisory Body of Investment in Transport Infrastructure for Public Use (OSITRAN), the MML and Callao governments, and local district municipalities will be involved in reviewing and commenting on the proposals and final products of this work, through coordination with the working-group. The World Bank will assist the Consultant in facilitating contacts and meetings at these institutions.

II. Objective

The World Bank, using resources from Trust Funds, intends to hire a firm or consortium of firms (the Consultant) to carry out a technical assistance assignment in the next seven months. This assignment consists of a study to (1) review and adapt a general framework to use LVC mechanisms to finance TOD through PPP schemes, including multimodal transfer facilities for Metro stations and other investments to improve transit integration, enhance local accessibility and urban design quality, and support the urban regeneration of key strategic sites, in the context of national and local policies and priorities; and (2) evaluate the potential (pre-feasibility) to use LVC mechanisms in selected TOD pilot sites implemented through PPP, to help finance complimentary investments to the Metro projects already awarded and being tendered and inform future PPP structuring processes of the Lima Metro network.

By the execution of a study to evaluate the potential viability (pre-feasibility) of developing TOD pilot sites with LVC financing along the Metro Line 2/Line 4 branch through a PPP model. Now that the Metro Line 2 project has been awarded and is underway, the need for complementary investments in key strategic station areas are been identified (the World Bank is currently supporting a preliminary TOD concept assessment of the easternmost corridor segment of Metro Line 2). These investments have the potential to be developed through PPP schemes,
complementary to the Metro Line 2 concession. The study, at the pre-feasibility stage, can be coordinated by PROINVERSION, as the agency with the mandate of structuring Metro and real estate PPP projects. For the subsequent phases of project implementation, the GoP, with technical support from the World Bank, will decide on the most appropriate institutional arrangements and vehicles to execute or carry out the proposed TOD demonstration projects.

Focusing on the Metro Line 2 PPP contract, already awarded, will ensure that the TOD pilot demonstration projects will have a fertile ground for implementation and allow for improvements to be introduced to increase accessibility and ridership, support urban regeneration plans, and tap into additional sources of funding for this megaproject. Although the focus of the engagement is the Metro Line 2/Line 4 branch corridor, the Consultant is expected to also analyze at least two other transit hub areas that serve strategic projects for the GoP (i.e., industrial parks, Metro Line 3 and the 2019 Pan-American Games venues). The Consultant will define these potential sites with the Client prior to the commencement of activities.

Since real estate development is not part of the original Metro Line 2 PPP contract, the TOD pilot demonstration projects would have to be proposed in principle outside of the scope of the Metro Line 2 PPP contract. The proposed TOD pilot demonstration projects would consist of potential joint development PPP schemes under the initiative of the public sector and in partnership with private real estate developers. Even though the study focuses on TOD pilot demonstration projects, the study should also aim at establishing the basic framework to implement PPP-TOD projects more broadly in the Lima Metro network and other mass transit systems, such as the Metropolitano BRT. The study should also look at institutional arrangement options that will be developed and proposed in parallel to this study, with another Trust Fund administered by the World Bank. The pre-feasibility analysis to be conducted in this study could be conditional to the final implementation arrangements for the TOD pilot demonstration projects, which may involve options such as quasi-autonomous governmental entities, commercially-oriented public companies or Special Purpose Entities (SPE). Therefore, the study aims to identify a potential set of TOD-PPP projects involving the real estate sector to be structured by PROINVERSION in connection with the Metro Line 2, and in coordination with other national and local government entities. This study will inform future Metro financial structuring processes in Peru that could be replicated in other countries.

In addition to developing a concept for PPP-TOD pilot demonstration projects, the Consultant will provide to and receive input from another group of consultants that are also being engaged by the World Bank’s urban development team (the “Institutional Reform Consultants”). The Institutional Reform Consultants will be focused on complementary reforms to enable LVC mechanisms, as well as on the formulation of specific institutional framework arrangements and vehicles to develop TOD and urban regeneration projects in LMR.

The Consultant is not being engaged to propose long-term institutional changes in the planning and urban development frameworks or to develop specific LVC instruments, but rather to provide immediate and short-term actions to improve PPP-TOD delivery within the existing frameworks in the context of a set of potential demonstration projects. Nonetheless, although long-term structural reform is outside the scope of this work, the Consultant is encouraged to provide and receive input from the Institutional Reform Consultants and provide insights into the way that
institutional structures may evolve over the medium- and long-term. This approach will ensure more effective and timely delivery of TOD interventions in the future, based on international best practice, and include such discussion in recommendations to the Client.

III. Project Activities

The study will be divided into three Tasks: (A) Coordination, work plan and review of existing documentation; (B) Review and adaptation of a general framework to use LVC mechanisms to finance TOD through PPP for Metro site station areas; and (C) Evaluation of the potential to use LVC mechanisms in selected TOD pilot demonstration projects implemented through PPP.

A. Coordination, work plan and review of existing documentation

<table>
<thead>
<tr>
<th>Implementation Timeline: This component is to be developed over a period of four [4] weeks, with one [1] week allocated to Bank / Client review.</th>
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<tr>
<td>Deliverables:</td>
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<tr>
<td>- Client presentation: Team introduction and work plan at kick-off meeting/VC.</td>
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<tr>
<td>- Report: Methodology, work plan and inception report (draft and final incorporating comments).</td>
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<tr>
<td>Objectives:</td>
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<tr>
<td>- Institutionalization of working group, including government representatives and of an interface for collaboration between relevant stakeholders.</td>
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<tr>
<td>- Detailed methodology, work plan and inception report validated by Bank and Client.</td>
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1. Review of relevant existing material and meetings with stakeholders.

This task will include the review of all existing documentation (including studies, regulations and relevant literature). This information is critical for the Consultant to be able to prepare a detailed methodology, work plan and inception report. Prior to the kick-off meeting, the Consultant will also meet with relevant stakeholders, if needed, and collect any other information relevant for the execution of the study.

2. Kick-off meeting

The Consultant will launch the study at a kick-off meeting. This meeting will serve to bring together the Consultant with the Client and the Bank in order to gather additional feedback for the preparation of the work plan and methodology.

The Consultant, the Bank and the Client will establish an online document repository for the storage and management of all relevant information. The Consultant will gather and review the existing relevant information and studies already prepared, with the aim of avoiding duplications. The Client will also designate a focal point to oversee the development of the study and participate in periodic meetings to discuss deliverables. PROINVERSION is committed to make available the necessary technical material and conduct interagency coordination efforts required for the achievement of the objectives of the study.
3. **Methodology, work plan and inception report**

The Consultant will prepare a detailed methodology, work plan and inception report, building on its initial proposal and incorporating the feedback gathered at the preliminary one-on-one and kick-off meetings. This report should outline the proposed methodology, information sources, scope of activities, products, deliverables, responsible specialists and work schedule. The report should reflect the concept and priorities defined in the kick-off meeting and an initial assessment (inception) of the viability for implementing PPP-TOD pilot demonstration projects in LMR. In addition, the report should identify the available information that the Consultant will need to get from the Client and/or the Bank team in order to carry out the study and the critical milestones where decisions are needed from the Client to move forward with the study. The work plan should include meetings, in which the Consultant will interact with the Client and main stakeholders directly.

The report should also include a proposal on product review and quality control milestones and mechanisms for each of the deliverables contemplated. These milestones will include both formal review of drafts and periodic conference calls to update the Bank and Client on the progress made in each task.

**B. Review and adapt a general framework to implement LVC in PPP-TOD pilot demonstration projects**

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<tr>
<th>Implementation Timeline:</th>
<th>This component is to be developed over a period of six [6] weeks, with one week allocated to Bank / Client review.</th>
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<td><strong>Deliverables:</strong></td>
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<tr>
<td>- Client presentation.</td>
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<tr>
<td>- Report: General framework to implement LVC in PPP-TOD pilot demonstration projects.</td>
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<tr>
<td><strong>Objectives:</strong></td>
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<tr>
<td>- Review and adapt a general framework to use LVC mechanisms to finance TOD-PPP projects for Metro site station areas in the LMR.</td>
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The overall objective of this Task is to identify the institutional setup, legal and regulatory framework, financial framework and financing instruments that would apply to the development of PPP-TOD pilot demonstration projects around selected Metro Line 2 site station areas. This analysis will include a comparison of international best practice experience, and recommendations or lessons learned that had been generated for the case of Lima. This comparison analysis will clearly identify existing gaps and define the competencies of the different government entities at the national and local levels and in each sector relevant to the PPP-TOD pilot demonstration project cycle (e.g., housing, urban planning, urban regeneration, transport, public utilities, etc.) As a result, the Consultant will generate a roadmap for the implementation of potential PPP-TOD pilot demonstration projects to be identified in Task C.
In order to do this, the Consultant can rely on existing and ongoing analytical work led by the World Bank and aimed at enhancing a framework for urban renewal and TOD interventions in the LMR. The Consultant will first review and, if necessary, propose administrative (not legal) changes to this framework (hereafter called the “General Framework”) to guide the planning, structuring, design and implementation of PPP-TOD pilot demonstration projects in the context of the Lima Metro network. This framework will include the current planning, financing and institutional coordination instruments, and the ones under analysis by the MVCS with support of the World Bank that could be implemented in the short-term without major legal and regulatory reforms. Likewise, the analysis of instruments for the General Framework will include those at the metropolitan and district levels for local-scale site planning, including those necessary to apply eminent domain, land readjustment, changes in zoning and land-use and any other local planning instrument with their procedures, consultation and approval processes, management of development rights and construction licenses, identification of deficits in public amenities/services and compensation schemes for developers, among other TOD planning, design and implementation elements.

Realization of this General Framework analysis will require close coordination with the work of the Institutional Reform Consultants, supervised the World Bank team, and focused on complementary reforms to enable LVC mechanisms and the formulation of specific institutional framework arrangements to develop urban renewal and TOD interventions. The Consultant will provide to and receive input from this other group of consultants, who will have a scope in the context of a comprehensive legal, regulatory and institutional reform, in the medium- and long-term, focusing on structural changes in the planning and urban development frameworks or to develop specific LVC and land management instruments. For instance, appropriate LVC instruments need the property valuations that cadasters can produce and the legal provisions (and institutions) that can allow them to connect a variety of actors through different arrangements depending on the characteristics of the project to be implemented. The Consultant for this study will coordinate and validate its proposals in the context of this comprehensive reform scenario, independently of the Institutional Reform Consultant’s timeline of deliverables, but will rather provide immediate and short-term actions to improve PPP-TOD delivery within the existing framework, if necessary with minor changes and enhancements, and in the context of a set of potential demonstration pilot projects. Likewise, the Consultant will dedicate more time and resources under this study to generate proposals to adapt or generate new financial framework and financing instruments that would apply to the development of PPP-TOD pilot demonstration projects.

The report for this Task will review and adapt the General Framework and produce a more specific framework for the PPP-TOD demonstration pilot projects and produce a roadmap that will clearly outline the regulations, procedures, institutional competencies and approvals required for the structuring of such projects by PROINVERSION, and most importantly for the financial framework and financing instruments for PPP, using LVC, ad-hoc land management instruments and other project-finance applications for PPP-TOD projects. In terms of the institutional setup for the subsequent phases of project implementation, the pre-feasibility analysis to be conducted in this study could be conditional to the financial framework and financing instruments proposed and to the final implementation arrangements, which may
involve different options, such as reforming the mandate of existing implementing entities or creating new entities (e.g., quasi-autonomous governmental entities, commercially-oriented public companies, SPE, etc.), depending on the final negotiation arrangements among national and local governments. These implementation arrangements could be site-specific or differentiated by the characteristics of each demonstration pilot project site and the type of investments involved.

The resulting framework under the current scope should adopt flexible zoning regulations, avoiding prescriptive approaches. Zoning codes and site design parameters around Metro stations should be flexible enough to meet changing market demands and diverse local needs, within the framework of key design principles of TOD. This flexible zoning system is important to integrate LVC mechanisms in TOD as it can provide flexible and negotiable codes with minimum standards to target site station areas, allowing public entities and real estate developers to adjust site-design parameters. This flexibility in codes and parameters might be suitable for the short timeframe in the implementation of pilot demonstration projects, which will require a dynamic process of testing, changing, adapting and improving.

The report will take into account:

1. **International experiences and lessons learned in Lima**

   Review of international best practice experience, and recommendations or lessons learned from similar projects for the case of Lima. Evaluation of the mechanisms and strategies that have been used to plan, design and implement this type of PPP-TOD projects in other cities. Identification of the institutional setup, legal and regulatory framework, land-use/zoning instruments and incentives, financial framework and financing instruments for potential PPP models, including LVC instruments and other negotiation/incentive schemes and project finance risk management strategies that have resulted in successful joint development with participation of real estate developers. In particular, the Consultant should consider multiple approaches to PPP-TOD development that have worked elsewhere and may be applicable to pilot demonstration projects in the LMR, including project-specific approaches, and with a particular attention to the financial framework and financing instruments for potential PPP models.

2. **Land-use regulatory, legal and institutional framework**

   The Consultant will review these frameworks mainly from the programmatic approach RAS reports prepared by the World Bank for the MVCS. The purpose for this activity is not to reproduce or propose long-term legal, regulatory and institutional changes in the land-use planning and land management frameworks, or to develop specific and sophisticated LVC instruments, but rather to provide short-term recommendations for the adaptation and application of the most appropriate instruments in the General Framework. The focus should be on immediate and short-term actions to improve TOD delivery within the existing frameworks in the context of a set of potential PPP-TOD pilot demonstration projects in the Metro Line 2. However, though long-term structural reform is outside the scope of this work, the Consultant is encouraged to provide and receive input from other consultants working on this scope, supervised by the World Bank team and executed in parallel to this study, and provide insights into the way that institutional structures and agency implementation arrangements may evolve.
over the medium- and long-term, including the adoption of multi-purpose cadastral systems, legal and regulatory structuring of best practice land management and LVC instruments, and other instruments to institutionalized private participation in PPP-TOD operations.

3. **Financial framework**

To the extent possible, the Consultant will address public infrastructure financing mechanisms, construction financing and end-user financing inputs required for successful PPP-TOD to adapt a General Framework to financially structure TOD projects through PPP in the context of pilot demonstrations. Analysis should include the methodology to calculate the development rights and obligations/compensations for both parties, lease or sale terms, instruments and procedures for land owner to participate in projects, asset management structure (e.g. fiduciary arrangements), among others.

4. **Financing instruments**

Based on the above, specific recommendations will be made for regulatory changes, contract-based regulation, project finance provisions, and other legal and technical guidelines to introduce LVC or other PPP financing instruments for financing urban infrastructure associated with urban regeneration around mass transit stations through TOD demonstration projects.

C. **Recommended options and schematic demonstration project proposals**

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<th>Implementation Timeline:</th>
<th>This component is to be developed over a period of 16 weeks, with one week allocated for Bank / Client review.</th>
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<tr>
<td><strong>Deliverables:</strong></td>
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<tr>
<td>- Report with recommended options for PPP-TOD sites and schematic pilot demonstration project proposals.</td>
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<tr>
<td>- Report Executive Summary Presentation</td>
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<tr>
<td><strong>Objectives:</strong></td>
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<tr>
<td>- Evaluate the potential to use LVC mechanisms, in selected TOD pilot demonstration project sites to be implemented through PPP to help finance complimentary investments of Metro Line 2 and urban regeneration public interventions of these key strategic sites, in the context of national and local policies and priorities.</td>
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This deliverable consists of: (i) diagnosis of the Metro Line 2 corridor (including the easternmost area already under analysis by other study supported by the World Bank), as well as other potential mass transit corridors/zones to be defined in consultation with the Client and subject to the resources available for this activity; (ii) the identification of suitable and strategic sites for PPP-TOD pilot demonstration projects, in the context of national and local policies and priorities; and (ii) the production of a set of recommendations and planning, design and implementation

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5 Some of the potential additional transit corridors/zones may include the future Metro Line 3 and Pan-American Games venue sites.
strategies for pilot demonstration projects following the guidelines established in the General Framework.

The deliverable for Task C will consist of two main parts:

- Written and graphic documentation (drawings, sketch and 3D models, site planning design, maps and diagrams for urban design elements of public space, public amenities, multimodal transfer facilities for Metro stations and other interventions to improve transit integration, enhance local accessibility and support the urban regeneration of the strategic sites) necessary for the proper understanding of the alternative analysis and the local site planning and TOD investment proposals;

- Proposed pilot demonstration projects concept and business model developed as an input for a more detailed feasibility analysis that would be later carried out by the Client.

In the identification of potential TOD sites and definition of the pilot demonstration projects, the Consultant shall develop the following analyses for the projects identified:

1. **Project review**

   Review of the latest design of Metro Line 2 in terms of alignment, stations location, station design and their projected insertion with the urban fabric or built environment. The Consultant will also evaluate how these Metro station site areas are likely to generate more economic, social and cultural activity based on the projected ridership of the Metro system (boarding and alighting volumes at the station), and other factors associated to the potential urban regeneration of the site area, or consolidation/generation of a new centrality.

2. **Urban analysis of potential sites**

   Urban analysis of 500-meter buffer around Metro Line 2 stations and other potential mass transit corridors/zones to identify and prioritize a minimum of three [3] potential TOD sites for demonstration projects, in the context of national and local policies and priorities, and with the characteristics described below. The analysis will include general characterization, based on available information, of the area in terms of land-use, zoning regulations, urban design, demographic and socioeconomic characteristics, market and economic dynamics for real estate and economic activity in general, environmental features and assets including and green and open public spaces, cultural, historic and institutional assets, urban plans and associated public investment project pipeline\(^6\), and transit integration analysis (i.e., feeder transit supply and passenger demand, pedestrian and bicycle accounts around future stations), among others. The Consultant shall propose and develop a methodology to identify and prioritize TOD potential sites and conduct alternative analysis based on the recommendations and priorities of the Client.

The work will require local knowledge of the urban development dynamics of Lima and Callao metropolitan region, as well as the local dynamics at the district level. The planning dimensions of analysis will go from a regional scale perspective (e.g., PLAM2035 or the actual Metropolitan Plan -*Plan de Desarrollo Metropolitano Lima 2010*-) to a local one (e.g., district municipality’s

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\(^6\) The World Bank has conducted a review of all relevant public investment projects registered in the SNIP in the surroundings of the Metro Line 2 alignment. This information has been georeferenced and is available in a web interface with the associated dataset. It will be available for the Consultant’s work.
urban plans, real estate urban development proposals, neighborhood-scale public investment project pipeline). The analysis will also include, subject to availability, cadastral property data, determining the edificatory potential (i.e., floor-area ratios –FAR-), the potential of future urban centralities, the identification of local economic forces, social and cultural dynamics with the potential to identify transformation interventions towards sustainable urban design and planning standards, such as compact, diverse and connected built environments supporting mass transit integration and non-motorized transport with high-quality standards of urban design of public spaces (i.e., TOD).

3. **TOD typology identification for site areas**

Identification of the typology and characteristics of the potential TOD interventions for each of the selected site areas (at least 3) for implementing LVC mechanisms in the form of TOD with PPP schemes, including multimodal transfer facilities for Metro stations and other investments to improve transit integration, and the identification of public infrastructure to be upgraded or constructed following high-quality urban design standards, in particular for public space and amenities that support the urban regeneration of these key strategic sites. Selection and classification criteria should focus on:

- **Urban criteria**: potential benefits of the TOD pilot demonstration project to the surrounding area, such as the provision of public space in an underserved areas or the revitalization of urban assets, public amenities and services, and local economic development plans in line with national and local policies and priorities;
- **Commercial criteria**: this criteria should balance the site planning design proposal taking into account the highest potential demand for different types and services of real estate development with the different implementation barriers and costs, including legal, regulatory and project development cost, such as land acquisition cost;
- **Implementation criteria**: factors that affect (positively or negatively) the implementation of a PPP-TOD pilot demonstration project, such as land ownership, number of parcels, or protected areas or buildings.

4. **Market and socio-economic analysis**

Market pre-feasibility analysis of different real estate products within the potential TOD sites, including basic cash flow models for the real estate developer perspective and to forecast demonstration project pre-feasibility and profitability. Socio-economic and behavioral analysis of existing inhabitants and businesses (including quantitative and qualitative socio-economic assessment based on available data) will provide foundations for the market analysis and the forecasted growth and demand or preferences for critical urban services and public amenities.

5. **Schematic project proposal**

Schematic design of potential TOD pilot demonstration project interventions, including site planning design, proposed zoning and land-use, sketch and 3D models for public space and built environment components, approximate construction costs and sale or lease proceeds for real estate development based on market analysis.
The proposal for each site will be presented with a base map and associated layers, drawings, sketch and 3D models. The baseline studies and analyses conducted should be spatially represented in a base map with associated layers to inform the drafting of the site development strategy (e.g., as-is situation and opportunities/constraints). The base map should reflect accurately and include, but not be limited to: topography, existing conditions (e.g., lot boundaries, building footprints, amenities, infrastructure network, transport and transit network, demographic and economic profile, etc.) and future projections (e.g., population, real estate development, expected transit and traffic growth; local municipal district (re)development plans; national government-supported investments and initiatives; major private sector investments, etc.), where applicable.

6. Risk allocation

Risk matrix, incentive structure and potential risk mitigation mechanisms that would be required in order to implement identified TOD interventions, in the context of the financial framework and financing instruments proposed for PPP, using LVC, ad-hoc land management instruments and other project-finance applications for PPP-TOD pilot demonstration projects.

7. Pre-feasibility

Pre-feasibility analysis based on the site analysis, market analysis, socio-economic analysis, schematic designs, and the proposed general framework for implementing PPP schemes, using LVC, ad-hoc land management and land-based financing instruments, and other project-finance applications for PPP in the context of TOD pilot demonstration projects selected for Metro site station areas in the LMR. This analysis should include the proposed demonstration pilot projects structure with rights and obligation of parties, lease or sale terms, instruments for current land owners to participate, preliminary financial model (for project and different parties involved), and asset management structure (e.g., fiduciary arrangement).

8. Pilot demonstration project concept and business model

Development of a preliminary contractual and financial model for a PPP scheme should identify all the key elements for the financial framework and financing instruments, with the market analysis and the business models for the proposed transactions, including basic cash flow models for the real estate developer perspective and to forecast demonstration project pre-feasibility and profitability. The project concept for each site selected will include all pre-feasibility analysis, including the expected economic and social benefits of TOD interventions from the public sector perspective, and leave the proposals ready to advance to the feasibility analysis phase.

D. Final report and dissemination

<table>
<thead>
<tr>
<th>Implementation Timeline: This component is to be developed over a period of three [3] weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Deliverables:</strong></td>
</tr>
<tr>
<td>- Final Client presentation at dissemination workshop</td>
</tr>
</tbody>
</table>
Final report, including executive summary, implementation plan and highlights of the most relevant conclusions and recommendations emanating from the reports. Includes Client and World Bank team feedback.

Objectives:

- Disseminate study conclusions to potential pilot demonstration projects’ stakeholders, incorporate feedback and define next steps.

The study will conclude with a dissemination workshop, involving high-level government officials involved in urban transport and urban development in the LMR. The workshop will serve to gather feedback as well as to generate ownership from the government entities at different levels. The Consultant is expected to make available the senior members of its team for this workshop and to incorporate the comments arising from this event. For the purpose of the dissemination workshop, the Consultant will prepare a Client presentation summarizing the main conclusions and recommendations of the work.

The Consultant will gather all comments and observations made at the workshop and incorporate the relevant feedback into final deliverables for the Tasks B and C mentioned above. Following the workshop, the Consultant will deliver a final report incorporating the observations made during the workshop and the comments of the World Bank team and the Client.

This final report should include: an executive summary, including the most relevant findings and conclusions; a detailed description of the proposed business model under PPP schemes for each identified TOD pilot demonstration project, including all of the supporting urban, site conditions, market, legal, financial, financing and risk analyses. The final report should be made available in the English language, in addition to Spanish.

The final proposed recommendations should consider the following key aspects:

1. Ensuring immediate applicability and replicability

In the definition of the proposed pilot demonstration projects, the Consultant must recommend a workable concept that can be further developed by PROINVERSION and eventually launched by the agency defined in the final implementation arrangements for the projects, following detailed feasibility (technical, financial, legal analyses). This concept should minimize legal risks and have demonstration effects. The replicability of these pilots in other mass transit corridors in the LMR is highly valued.

2. Mitigating climate change

All deliverables in this consultancy will have in mind mitigate climate change regarding two essential aspects:

- Being directly linked to changes in travel behavior around mass transit nodes, maximizing regional and local accessibility benefits of mass transit systems, supporting urban transformations around key metro stations or transit hubs with the potential to generate vibrant and livable communities where people can safely walk, live, work, shop and play, mainly through walking and biking or using public transit for longer journeys, instead of private motorized vehicles. Compact, mixed-use, and high-density urban development
Consulting TOR – TOD Metro line 2 Study - Lima
March 2016

with vibrant and high-quality public spaces around key mass transit stations have the potential to reduce the need for vehicle ownership or motorized transportation. These behavioral changes contribute to reducing carbon emission from the urban transport sector;

- TOD interventions associated to Metro Line 2 would help promote a compact, dense, mixed-use development through urban regeneration and (re)development of key strategic brownfields sites. This would help prevent urban sprawl and its associated negative environmental impacts (e.g., conversion or agricultural and vacant land into urban land, increase in private vehicle ownership, increase in vehicle-miles traveled and associated carbon emissions).

3. **Mitigating negative impact of TOD on low-income residents**

Public transit increases property values near transit corridors and stations, raising housing costs and rental prices. This gentrification process forces low-income residents farther and farther out toward the urban periphery. Mitigation measures must be considered for the resultant shortage of affordable housing while promoting TOD investment. TOD can also contribute to the provision of public housing for low-income households in the LMR. The lack of public housing in the region has resulted in informal settlements in areas not suited for development in the outskirts of the city.

**IV. Project Team and Experience**

This assignment is a high-impact assignment that will require a multidisciplinary and highly qualified team that has the experience and credibility to be able to grasp complex issues quickly and propose relevant and practical solutions. It is expected that the team includes personnel fluent in Spanish and with experience working in Lima, Peru and other Latin American cities. Local permanent presence is highly valued. The key staff envisioned for this assignment includes the following members:

<table>
<thead>
<tr>
<th>Professional</th>
<th>Background</th>
<th>Minimum Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Director</td>
<td>Professional with postgraduate degree in urban planning, real estate development, architecture, economics, business management, project management, or project finance.</td>
<td>10 years of experience managing and/or structuring real estate development or infrastructure projects through PPP. Experience in the evaluation, design and/or implementation of TOD projects.</td>
</tr>
<tr>
<td>Urban Development Senior Specialist</td>
<td>Professional with postgraduate degree in urban, city and/or regional planning.</td>
<td>7 years of experience directing projects of local site planning involving urban regeneration and revision of zoning and land-use regulations.</td>
</tr>
<tr>
<td>Role</td>
<td>Qualification</td>
<td>Experience</td>
</tr>
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<td>-----------------------------</td>
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<td>---------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Project Finance Senior Specialist</td>
<td>Professional with post graduate degree in real estate development, economics, business management, or project finance.</td>
<td>7 years of experience in financial analysis for project/structured financings in the transport, housing and urban development sectors. Experience structuring real estate development and conducting market analysis and/or infrastructure projects through PPP. Experience in the design and implementation of LVC and other land-based financing instruments or strategies is highly valued.</td>
</tr>
<tr>
<td>Legal Specialist</td>
<td>Lawyer with postgraduate degree in Law and significant experience in the structuring of PPP projects.</td>
<td>7 years of experience structuring concessions or PPP projects in the transport, housing and urban development sectors. Knowledge of the Peruvian legal system and experience structuring projects in Peru. Experience in legislative analysis for sectors relevant to the pilot demonstration projects.</td>
</tr>
<tr>
<td>Real Estate Development Specialist</td>
<td>Professional with postgraduate degree in real estate development or architecture.</td>
<td>5 years of experience designing local site planning projects with mixed-use real estate development and conducting market analysis for the real estate developers to forecast feasibility and profitability. Preference will be given to professionals showing experience in similar contexts of TOD interventions.</td>
</tr>
<tr>
<td>Urban Transport Specialist</td>
<td>Professional with postgraduate degree in urban transport planning or engineering.</td>
<td>5 years of experience in the evaluation, planning or design of urban transport projects.</td>
</tr>
</tbody>
</table>

In addition to the key staff, each firm should propose an adequate team to carry out the assignment according to its proposed methodology and work plan. A GIS specialist and a junior team of urban planners, urbanists or architects is required to support the activities carried out by the required team.

V. Supervision and Coordination

The Consultant will report to the World Bank (hiring entity) and is expected to work closely with PROINVERSION (the Client) and AATE, the technical agency that manages the LMR Metro system on behalf of the concessions granting authority, the MTC. PROINVERSION - the agency in charge of elaborating the feasibility studies and structuring metro and real estate PPP projects— is the final Client of this assignment and therefore the Consultant must interact and coordinate very closely with this agency.
Both AATE and PROINVERSION are expected to provide the following to facilitate the Consultant’s work:

- All relevant documents related to the Metro Line 2 project;
- Facilitate access to the potential project site areas and support the work of the Consultant (e.g., through facilitating access to local authorities and other stakeholders). However, the Consultant shall arrange transport and logistics for their own team during fieldwork;
- Establishment of a working group (see section I.C above) comprised of the relevant agencies as well as the MML and Callao governments, and local district municipalities, private and civil society representatives;
- Specific and timely feedback on deliverables submitted. Notwithstanding the arrangements described above, the Client will be responsible for final review and acceptance of deliverables.

The findings, proposals and deliverables (reports and presentations) developed as part of this activity must be discussed and validated with the different stakeholders involved, in order to foster their applicability, implementation and replicability.

VI. deliverables

Although the documentation and Terms of Reference are in the English language, the deliverables (reports and presentations) developed as part of this activity will be produced in the Spanish language to facilitate review by the Client. Only the final report’s Executive Summary should be delivered in English, in addition to Spanish.

Each report will be presented in draft and final versions. Some of the reports shall be accompanied by executive Client presentations highlighting the key outputs, conclusions and recommendations of each task.

All materials, reports and presentations shall be made available in full electronic media.

Payment of Consultant fees will be done against final reports, which will only be deemed accepted once the World Bank’s comments have been effectively incorporated and approved by the World Bank’s team. The projected timing for the deliverable of reports and associated payments is presented in the timeline below.

VII. project budget

The Consultant will provide a budget as part of its proposal that should cover all the fees, travel and subsistence of the international and local staff of the Consultant team, all costs associated with the preparation of documents, reports and presentations, costs associated with office space, local transport and secretarial services.

The World Bank has secured a fixed budget on behalf of the Client from the Spanish Fund for Latin America (SFLAC) and the Public Private Infrastructure Advisory Facility (PPIAF) trust funds.
to execute this assignment. The World Bank has estimated level of effort for this assignment to be 20 person-months. The maximum budget for this assignment, including all the expenses mentioned above, is USD 270,000.

The Consultant can propose areas of the TOR that could be modified, taking into consideration the core areas of the present study.

VIII. Timeline

This study will be carried out over a period of approximately seven [7] months, scheduled between November 2016 and June 2017. The following is a projected timeline for the study:
# Technical Assistance Activity Timeline

| Component / Task                                    | Month | Payment | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| A. Coordination, Work Plan and Review of Existing Documentation |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Preparation and Review Time                        |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Client Presentation: Team and Work Plan Presentation at Kick-off Meeting |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Report: Detailed Work Plan and Methodology         |       | 15%     |   |   |   |   | Δ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| B. General Framework                               |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Preparation and Review Time                        |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Client Presentation: General Framework             |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| C. Pilot Project                                   |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Preparation and Review Time                        |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Presentation: LVC Framework and Pilot Project Presentation |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Report: Financing and Procurement Model Report      |       | 30%     |   |   |   |   | Δ | Δ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| E. Final Report and Dissemination                  |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Preparation and Review Time                        |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Presentation: Final Business Model for Identified Pilot Project(s) |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Report: Implementation Plan and TORs for Transaction Advisor |       | 30%     |   |   |   |   | Δ | Δ |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Draft versions of deliverables for Bank / Client Review |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Final Deliverable                                   |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Consultant Work Time                                |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Bank/Client Review Time                             |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
| Client Presentation                                |       |         |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |

100%