

## **Chapter 23 Financial and Institutional Planning**

### **23.1 Financial Resources and Implementation Schemes**

#### **23.1.1 Financing Infrastructure Investment**

Options for financing infrastructure investments have been significantly broadened in both developed and emerging economies over the last decades. Development of Extra-budgetary financing mechanisms, including public-private partnerships (PPPs), have pushed back traditional financing from annual budget allocations. In many instances, these financing mechanisms have been motivated by tight government budgets and a desire to circumvent restrictions and controls that apply to traditional financing. This section looks at the financial resources available to Istanbul Metropolitan Municipality (IMM) for the implementation of the Integrated Urban Transportation Master Plan, focusing on the extra-budgetary financing mechanisms. Specifically, it discusses the issues and problems of the public-private partnerships (PPPs) and identifies the problems in the legal and institutional framework for PPPs, in general, and PPP applications to transportation infrastructure investments, in particular.

#### **23.1.2 Public-Private Partnerships (PPPs) as a New Source of Financing to infrastructure investments**

PPPs are one of the most valuable ways and means to increase infrastructure investments when undertaken to increase efficiency and capitalize on private sector expertise. Private sector involvement in PPPs adds a new sources of financing to infrastructure investments that is absent in other mechanisms. However, to be valuable, PPPs should be undertaken with the goal of increasing efficiency by attracting private capital to infrastructure investments and should not be pursued to more investment spending off budget. Furthermore, government needs to assess carefully risks associated with PPPs and ensure that the private sector, with the risk borne by government, adequately reflected in the fiscal accounts. The lack of an internationally-accepted accounting and reporting standards for PPPs remains obstacle to develop efficient PPPs in Istanbul Metropolitan Municipality (IMM). Until such standards are developed, it is essential that PPP operations be fully and transparently disclosed, and incorporated into medium-term policy analysis.

### **23.2 PPP Defined**

A public-private partnership (PPP) is defined as:

“...a contractual agreement formed between public and private sector partners, which allows more private sector participation than is traditional. The agreement usually involves a government agency contracting with a private company to renovate, construct, operate, maintain and/or manage a facility or system. While the public sector usually retains ownership in the facility or system, the private party will be given additional decision rights in determining how the project or task will be completed.” (Report to Congress on Public-Private Partnerships: United States Department of Transportation, Federal Highway Administration, Washington, D.C. December 2004)

PPP projects involve a wide range of responsibilities and risks for the public and private sector partners. The nature and extent of private sector involvement in PPP projects can range from management-support contract to outright asset sales, with the private sector

taking increasing responsibilities for various functions comprising the infrastructure assets life-cycle: Manage-Design-Build-Operate-Maintain-finance-Own. What distinguishes PPPs from traditional work contract approaches to infrastructure development such as Design-Bid-Build (DBB) project delivery and pay-as-you-go public sector financing is the greater responsibility and risk taken by private sector partners in return for an adequate return on their investments in the project or coverage of their costs.

### **23.2.1 Contract Types of PPP Financing /Delivery Methods**

Theoretically, it may be possible to have limitless variants of PPP because of varying permutations of legal and financial structures; it is possible to classify these based on the nature and extent of risk transfer from the public sector to private sector. This classification divides PPP into:

- Build-Operate-Transfer/Build-Transfer-Operate (BOT/BTO)
- Build-Own (BO)
- Build-Own-Operate (BOO)
- Concession
- Design-Build (DB)
- Design-Build-Operate-Maintain (BDOM)
- Design-Build-Finance-Operate (DBFO)
- Management Contract with Incentive Payments (Performance-based Contract)
- Asset Sale
- Joint Development Agreement (JDA)

### **23.2.2 Definitions of Delivery Methods**

PPP is a dynamic model and can best be defined in a generic manner. First, there is no unique model and, second, the choice is limitless in terms of financial and legal forms. Each project has its own requirements; hence, there is a corresponding need to uniquely structure a PPP format for it. Many terms are often used interchangeably, e.g. Turnkey and BOT projects. Some are used loosely to define fundamentally different situations. The followings are descriptions of procurement methods that involve private financing as well as those which do not:

- Build-Operate-Transfer/Build-Transfer-Operate (BOT/BTO)-this is a project delivery method typically involving the design, construction, finance, and operation of a facility whereby the contract team acquires ownership of the facility until the end of the construction period or the contract term, at which time ownership of the facility is returned to the original public sector sponsor.
- Build-Own-Operate (BOO)-this is a project delivery method similar to BOT whereby the contract team both owns and operates the facility.
- Concession-this is a contract arrangement which grants the contract team full responsibility to finance, build, operate, ad/or maintain the facility as a franchisee for a specified period of time, whereby the private sector team takes most of the project and financial risks and potential rewards for the term of the Concession contract. In some

case, Concessions have been granted for the operation and maintenance of facilities built by others, as a comprehensive form of Management Contract as defined below.

- Design-Build (DB)-the contract team is responsible for both design and construction phases of a project as part of a single contract. This is in contrast to the project delivery approach used for highway projects world wide. Design-Bid-Build (DBB), in which the design firm and the construction contractor are separately responsible for the design and construction phases of a project. Design-Build contracts typically do not involve the use of private financing. However, they are still considered PPP projects because of the added responsibility and risk assumed by the private sector design-build team.
- Design-Build-Operate-Maintain (DBOM)-the contract team is responsible for design, construction, operation, and maintenance of the facility for a specific period of time, whereby payment beyond project completion is predicated on meeting certain prescribed performance standards relating to physical condition, capacity, congestion, and/or ride quality in case of highway projects. This is an extension of design-build (DB) that provides an inherent incentive for the design-builder to provide a better quality plan and project by creating a lifecycle responsibility and accountability for the performance of the facility by the design-builder.
- Design-Build-Finance-Operate (DBFO)-this is an extension of the DBOM project delivery methods in which the contract team is also responsible for financing the project and takes the risks of project financing during the contract term. This contract approach is similar to BOT/BTO and becomes a Concession when the private sector team acts as a franchisee with most of the project and financial risks and potential rewards.
- Management Contract (Performance-Based Contract)-this is a contract arrangement under which the contract team manages the provision of specified functions at certain performance standards over a set period of time, often with the provision of subsequent time extensions to the contract. Like design-build, these contracts typically do not involve the use of private financing but do represent additional responsibilities and risks for the private sector asset management team.
- Asset Sale-when the facility is sold to a private sector team which holds full responsibility and liability for the project and its risks and returns. There are very few true Asset Sales involving highway and railway related facilities and so this contracting approach is included in the Concession category defined above.
- Joint Development Agreement (JDA)-this is a contract agreement whereby both the public sector sponsor and the private sector contract team enter into a joint agreement to share responsibilities for developing, financing, operating, and preserving the facility. This contract approach is used where there is strong interest by the sponsoring agency to retain a substantial portion of control over the project and interest in the proceeds of the project. For the purposes of this report, JDA contracts are included in Concession category.

### **23.2.3 Reasons for Choosing PPP**

The main reasons for adopting PPP can be the generation of additional funding to meet the supply demand gap for funding of new infrastructure.

Developing countries spend around US\$200 billion per year on transportation infrastructure development of which more than 90% is government-sponsored. Current estimates point to financing needs of about 5.5% of GDP for all developing countries for both new development and maintenance expenditures. The financing needs in low income countries can potentially as high as 7% of GDP. Public-Private Partnership (PPP) structures enable leveraging of additional sources of funding of infrastructure.

PPP has emerged as one of the responses to this burgeoning requirement and its advantages have been accepted. .

### **23.2.4 Advantages of PPP Projects**

1) Financial Advantages:

- Easing of budgetary constraints
- Optimal allocation and transfer of risks to the private sector
- Realistic evaluation and control of costs implementation

2) Economic and Social Advantages:

- Streamlined construction schedule and
- Modernization of economy and improvement of services
- Access to international financial markets, combined with the development of local financial market

3) Political Advantages:

- A new role for the public authorities; regulatory not financier/owner
- Equitable distribution of risks not abdication of them.
- Project stability

### **23.2.5 Disadvantages of PPP**

Adaptation of PPP does, however, attract criticism. At the face value, it does appear to be a costlier option for financing of public utility or service as compared to a public sector provider. The reasons put forth are:

- Cost of private financing is higher, compared with sovereign borrowings hence the overall project cost increases.
- Private partner unlike the Public Sector provider is expected to earn a profit on its capital outlay.
- Transaction costs of entering a PPP are high both for private as well as public partner because of its nature and complexities involved in PPP.

In reality, however, PPP projects combining construction, operational and maintenance provisions, provides private sector with strong incentives to minimize the whole life cycle cost of the project. This concept is practically very difficult to adopt in traditional public sector financing as the funding is done on yearly budgeting basis and often without clear lien on maintenance demands. This can be understood better by following the example of

a traditional approach of procuring a road project and comparing it with the same road project implemented by granting a concession on it.

#### 1) Difference between a Concession and Work Contract

- Objectives: Traditional Approach (Work Contract) has a single objective-construction whereas in the Concession the objective has a multiple purpose - Responsibilities for construction program and provision of services.
- Duration: In the Work Contract duration of contract has a sort typically 1 year whereas in the Concession carries a long-term contract (mean 30 years)
- Funding: In the Work Contract there is no interim funding, co-funding nor funding by contractor whereas in the case of Concession funding is responsibility of Concession Company
- Investment: In the Work Contract there is no investment by contractor required whereas in Concession investment is made by Concession Company.

Traditional approach whereby fixed rates are agreed to on the basis of detailed specifications; however, the assumptions on which the contractors give fixed rates often lead to numerous claims. Claims can be made for unforeseen ground conditions, necessary variations to the works for carriageways and structures or measurement variations. This often results in time overrun and additional unbudgeted costs for the public agency. Such increases are substantial. In Britain, a National Audit Office report stated an average increase of 28%, between tender and out-turn price, based on a sample of 42 road construction contracts each worth over 0.5 million (although a proportion of the cost increase quoted resulted from the required changes).

### 23.3 Additional Funding for Master Plan Implementation

#### 23.3.1 Alternative Financial Resources Envelope

In order to make the IMM investment plan financially sustainable IMM has no choice to raise funds from financial market, domestic and international. As it has been illustrated in the preceding sections PPPs are powerful tools to raise additional funds required by the implementation of the Integrated Urban Transportation Master Plan. In addition to the increased allocation of tax revenues BOT and other off-budget financing mechanisms can fill the gap between demand-supply in the IMM infrastructure investment program and generate enough funds. The financial resources envelope contains the followings:

- Allocation of Tax Revenues
- Extra-budgetary Financing Mechanisms, BOT, SPV
- Privatization and Foreign Direct Investment (FDI)
- Channeling multilateral and bilateral financial assistance
- Market Borrowings

#### 23.3.2 Allocation of Tax Revenues

IMM received approximately 75% of its revenue from the Central Government in 2006. There is a draft laws that enable local authorities to enjoy more local tax income generated by real estate market and other local resources, which provide the necessary funds for

implementing a local strategy and development. In addition, there is a draft law on the revenue of local authorities which stipulates:

- Allocation of tax revenues between central and local administration to be redesigned
- Amount of transfers from general budgets to local administrations to be increased
- Rates and amounts of local taxes and fees to be increased
- Transfer from local administrations revenues to various central government units to be eliminated

### **23.3.3 Extra-budgetary Financing Mechanisms: PPPs, SPV**

#### 1) PPPs

Detailed description of PPPs has been included in the preceding articles of this report.

#### 2) Special Purpose Vehicle (SPV)

SPV is an institutional arrangement for project implementation. The projects which will have enough returns to payoff the loan shall be taken-up either through private sector participation or through funding arranged from the development partners, where IMM assumes the responsibility of repayment. In this scenario a relevant IMM economic enterprise is to be treated as a Special Purpose Vehicle (SPV) for each individual projects as the implementing arm of IMM.

Specifically, IMM to develop a project indicating the investment package and presenting to the Mayor and City Council the possible return based on commercial feasibility. The SPV will be borrowing funds and repaying these from toll revenues/tariffs in the future. This model will also be tried in other projects.

In this scenario, the project which will have enough returns to pay off the loan shall be taken-up either through private sector participation under BOT scheme or through funding arranged from the development partners under Joint Development Agreement (JDA) where IMM shares responsibilities for developing, financing, operating and maintaining the project.

#### 3) Channeling Multilateral and Bilateral financial Assistance

Foreign borrowings for projects in investment programs are regulated by the Law on Public finance and Debt Management No. 4749. Under the Law permission from the Treasury is required for all foreign borrowings regardless they require sovereign guarantees.

Domestic borrowings of up to 10% of the revaluated value of the preceding annual budget revenues can be realized with the decision of City Council. Domestic borrowing which exceed this amount must be approved by the Ministry of Interior

IMM can use investment credit and cash credit from the Ilker Bank (The Bank of Province). Domestic and foreign debt for infrastructure projects of IMM and its related institutions and companies of which more than 50% of capital belong to IMM must satisfy the following: (i) Excessive amount of financing requirements and (ii) Approved by the Council of Minister

IMM so far has not applied Treasury Guarantees for its foreign borrowings. Some bilateral financial institutions are providing loans to IMM based on the "sub-sovereign guarantee"-guarantees of local Government. This new guarantee mechanism was introduced when IETT received US 121 million loans for LRT construction (Bagcilar –

Otogar section) from Japanese commercial bank with the IMM guarantee. NEXI (Japan Export Insurance Agency) provided insurance for 10 years to the loan based on IMM guarantee.

Another case of foreign borrowings is that IDO A.S. received US\$34 million loan from another Japanese commercial bank for the purchase of 4 “Double Ended” Ferries with IMM guarantee.

#### 4) Market Borrowings

There are several ways to raise fund from market including. :

- Raise money from market through securitization by leveraging allocation of General Tax revenues.
- Securitization leveraging revenue stream of IMM Economic Enterprises, e.g. IDO A.S. and Ulasim A.S.
- Asset Securitization-sales of equity in IMM Economic Enterprises.
- Bond issues

### 23.4 International Practice in Financing Highways: Case Study

#### 23.4.1 India

India has been investing a large sum in national highway construction and maintenance. In addition to the general budgetary sources and multilateral financial assistance it utilizes extra-budgetary financing mechanisms to the fullest extent. The following is the financing structure of India’s highway development program:

- Increased allocation from Government’s General Budgetary sources
- Dedicated fund under the Central Road Fund (CRF) by levy of Cess on fuel
- Lending by international institutions, e.g. World Bank, ADB, JBIC. etc.
- PPP, e.g. BOT, Annuity, SPV
- Market borrowing

#### 23.4.2 China

China has utilized extra-budgetary financing mechanisms in its highway development program. The structure of financing is shown below:

- Public sources, either directly from Government’s general budgetary sources or through government borrowings or guarantees
- Road user charge system-Road Maintenance Fee, the Vehicle Purchase Fee and Highway Transport Management Fee
- Domestic bank loans arranged by local government and by central government bond proceeds which were on-lent to local government
- PPP (during 1990-2000) there were more than 80 PPP road projects which mobilized US\$9 billion)
- Asset Securitization (Sales of equity in existing toll highway companies) raised another US\$9billion from private sources.

## **23.5 Privatization of IMM Transportation Facilities**

### **23.5.1 Privatization Methods**

Companies within the privatization portfolio are privatized through the use of one or more of the methods defined in the Law as follows:

- **Sale:** Transfer of ownership of companies in full or in part, or transfer of shares of these companies through domestic or international public offerings, block sales to real and/or legal entities, block sales including deferred public offering, sales to employees, sales on the stock exchanges, i.e. ISE, by standard or special orders, sales to investment funds and/or securities investment partnerships by taking into consideration the prevailing conditions of the companies.
- **Lease:** Grant of the right of use of all or some of the assets of the companies for a defined period of time.
- **Grant of Operational Rights:** Grant of the right of operation of organizations as a whole or of their goods and services production units in their assets for consideration for designated period of time, with retention of ownership right.
- **Establishment of Property Rights other than Ownership:** Restriction of the goods and services production units and assets of organizations with certain property rights, whereby the owner consents to dispositions of the assignee on the rights of facility thereon or the owner renounces from the use of these ownership rights, in the format and under the conditions specified in the Turkish Civil Code, with retention of ownership by the owner institution.
- **Profit Sharing and Legal Dispositions depending on the nature of the Business:** Other methods defined in general provisions of law and/or special laws which are not included in the aforementioned privatization methods and which take into account the particular characteristics and structures of the relevant organizations.

### **23.5.2 Privatization Procedure**

Procedure for privatization takes the following steps:

- Inclusion of the company to the Privatization
- Inclusion of the company to the privatization program (PHC)
- Preparation/Revalidation of the company (PHC determines the organizations to be assigned)
- Inclusion of the company to the privatization program (PHC)
- Collection and analysis of data on the companies (PA)
- Transfer of the company, preparatory and approval of the min contract (If necessary PA)
- Selection of the advisors (Financial, legal, etc.) (PA)
- Advisory work (3-12 months)
- Determination of the privatization strategy and implementation (4-9 months)
- Sale, lease, transfer of operations rights or others
- Tender procedures, approval, closing of deals (1-4 months) (PA)



- Following up the privatization companies (PA)

### 23.5.3 Privatization Program in Transportation sector

The privatization program is a new movement in the transportation sector due to public oriented service with government subsidies in comparison with other market oriented sectors excluding some profitable fields such as motorways, suspension bridges over the Bosphorus and ports in which the authority has the scope or program to privatize.

### 23.5.4 Current Privatization Program in Transportation Sector

#### 1) Maritime Transportation

- Iskenderun (\$80 Million)-TCDD
- Mersin (\$75 Million)-TCDD
- Galata Port -TDI
- Izmir and Samsun
- Bandirma and Derince ports

#### 2) Air Transportation

- Sabiha Gokcen Airport -UDI (Limak-GMR-Malaysa Airport Partnership Price: US\$3.5 billion, VAT and a 250 million Euro investment for 20 years lease).
- Antalya Airport –UDI ( Ictus-Frankfurt Airport J.V.Price: US\$3.2 billion)
- Ataturk International Airport (BOT)-DHMI
- Ankara Airport (BOT)-DHMI

#### 3) Road Transportation

- Bosphorus Bridge-PA
- Fatith Sultan Mehmet Bridge-PA
- Edirne-Istanbul-Ankara Motorway-PA
- Pozanti-Tarsus-Mersin Motorway-PA
- Tarsus-Adana-Gaziantep Motorway-PA
- Toprakkale-Iskenderun Motorway-PA
- Izmir-Cesme Motorway-PA
- Izmir-Aydin Motorway-PA
- Gaziantep-Sanliurfa Motorway-PA
- Izmir-Ankara Belt Motorway-PA

## 23.6 Privatization of IMM Business Group

### 23.6.1 Legal Framework for Privatization of IMM Economic Group

- IETT Law No. 3645 of 1939
- Capital Market Law No. 2499 dated 1981

### **23.6.2 IETT (Istanbul Electric, Tram and Tunnel Authority)**

IETT was established in 1939 by a special Law No.364. IETT is a public corporation to which IMM has continuously supported financially by transferring subsidy. Cash-based accounting system is applied to IETT account showing revenue and expenditure which do not give detailed breakdown.

This system may be changed in future according to economic and administrative reform program, especially once accrual-based accounting system will be introduced into IMM public financial account. Subsidy from IMM for IETT occupied 9.5 % share in the total revenue (final account) in 2005.

### **23.6.3 IMM Economic Enterprises**

IMM owns 21 economic enterprises including Ulasim A.S. (Istanbul Transportation Company), IDO A.S. (Istanbul Fast Ferry Corporation), Isbak A.S. (Istanbul Transportation maintenance Company) and Ispark A.S. (Istanbul Parking Operation and Trade Company), etc.

These economic enterprises were regulated by the Capital Market Law No. 2499 dated 1981

The financial statement of Ulasim A.S. has been changed recently from cash-based to accrual-based accounting after improving financial structure without IBB subsidy. It has been reported that Ulasim A.S made a net profit of US\$40 million in 2007.

Financial conditions of IDO A.S. have also improved and it is reported that the net profit in 2007 was US\$30 million.

### **23.6.4 Privatization of IMM Transportation Business Group**

Privatization of IETT, a public corporation, and economic enterprises of IMM such as IDO A.S. and Ulasim A.S have been under the consideration for privatization for some times. Privatization of IETT can be subject to Law No. 3645 of 1939 while the privatization of economic enterprises is subject to Capital Market Law No. 2499 of 1981 and Decree by Law No.311 dated 1988 administered by the Capital Market Board (SPK). IETT can be privatized via the transfer of shares through domestic and international public offerings or block sales to real and legal entities or IPO (Initial Public Offering) at ISE (Istanbul Stock Exchange). Privatization of IMM Economic Enterprises can be executed by the transfer of rights of operation and maintenance (TOR) or asset sale methods.

## **23.7 Suggestions for the Ongoing Problems**

### **23.7.1 Enactment of a New PPP Law**

Absence of a cohesive government policy and strategy, this includes rules and regulations on terminations, compensations, dispute resolution and legal enforcement. Lack of institutions, facilitating PPP transactions and management at central and local levels are constraints.

Furthermore, if there were a clear government policy and commitment the unreasonable delays in processing of the tender and procurement of PPP projects can be avoided in some extent.

The case supports the need for a comprehensive PPP law. Existing legislations are fragmental and piece meal. A frame law to cover all the PPP models is required. SPO has drafted a PPP law and it is expected that the Parliament will pass the legislation in August 2008.

### **23.7.2 Institutional Arrangements for PPP Management**

Attracting private sector in public infrastructure investments and optimizing its financial, socio-economic and political advantages is an important, simultaneously, complex task which is the responsibility of government. Such task dictates creation of a dedicated organization in government with skills necessary for management of all the phases in development and implementation of PPP projects. The authority to grant and govern the concession can be decentralized horizontally or vertically and the level of decentralization is a political decision on the part of a government. Vertical Decentralization: Authority to grant concession is transferred to local governments. Horizontal Decentralization: Authority to grant concession is transferred to respective sector departments/ministries, e.g. Transport, Energy, Water, etc. and agencies

It is possible to have an institutional framework which is vertically centralized but horizontally decentralized. For example, in the case of New Zealand the central government has the key responsibility for concessions but sectoral departments have the lead (horizontal decentralization). In the case of Brazil some functions related to concession are vertically decentralized, while at the center a single unit keeps tab on all concessions.

Ireland's National Development Finance Agency (NDFA) has been regarded as a good example of institutional and administrative arrangements that combine the vertical centralization and horizontal decentralization.

### **23.7.3 A Case Study of Ireland's NDFA/ Center of Expertise**

In 2003, the Irish Government established the National Development Finance Agency (NDFA) under the aegis of the National Treasury Management Agency (NTMA) to assist in providing cost effective finance for priority infrastructure projects as an alternative to upfront Exchequer funding or unsuitable private sector funding, NDFA was established a statutory basis and staffed by experts with experience of corporate finance, risk management and delivery of major projects.

The primary role of the NDFA is to advise State authorities on the optimum means of financing public investment projects in order to achieve value for money. State authorities, who are the decision-making bodies in regard to projects undertaken or to be undertaken, are obliged to seek the advice of the NDFA in relation to all capital projects or grouped projects, valued in excess of 20 million Euro. For projects valued under that amount the advice of the Agency may be sought but is not obligatory. In addition to its advisory role, the NDFA is empowered to advance moneys to enter into financial arrangements in respects of projects approved by any State authorities (to date the NDFA has not exercised the option of raising finance by itself)

In July 2005, the role of the NDFA was expanded to facilitate the establishment of a new Centre of Expertise which is responsible for the procurement of all new PPP projects in the

central government area (with exception of roads and rail where existing arrangements with the NRA and NPA will continue)

Further, The NDFA chairs two key groups which are crucial to the effective management of the PPP process:

- 1) Inter-Departmental Group on PPPs representing all public service sectors, whose role is to bring together key decision makers to ensure that there is coherence and consistency across the public service in developing partnership arrangement with the private sector, and
- 2) A public/private Informal Advisory Group on PPPs which includes representatives of employers' organization (IBEC), the Trade Union Congress (ICTU), the construction and engineering sectors (CIF).

The benefits of the NDFA are:

- Maximizing value for money by helping State authorities avail of the best financing package for capital projects to be funded by non-Exchequer sources, by applying commercial standards in terms of evaluating financial risks and costs for each project.
- Underpinning the PPP approach to the delivery of infrastructure.
- Spreading the cash flow cost of major infrastructure projects over their lifetime
- Centralizing commercial (including financial and legal) expertise, thereby reducing dependence on external consultant with consequent cost savings.

#### **23.7.4 Requirements of Institutional and Administrative Frameworks for PPP Project Development and Implementation**

In Turkey, often the decision of attracting private sector finance into the infrastructure investments is taken to augment the dwindling budgetary resources and is more of political reaction than a well-crafted policy decision. The required institutional and administrative frameworks are lacking or they lack the capacity if there are required frameworks. The interface between the government and the private sector investors is one of the important keys to succeed of PPP arrangements. The IMM government has to perform numerous tasks when planning, designing and implementing and regulating/monitoring concessions. The success of concession depends on not only the details of contractual agreement but also the implementation of the project to be carried out under the PPP financing.

#### **23.7.5 Establishment of a Turkish Central PPP Unit**

It is proposed that a Turkish Central PPP Unit (will be established as a statutory basis and under the aegis of the State Planning Organization (SPO). The new central PPP unit will be staffed by experts with experience of contract-related management, corporate finance, risk assessment and project management. The function and duties of the Central PPP Unit can be similar to those of Ireland's NDFA. /Center of Expertise.

- Development of legislative framework, technical and policy guidance to support the PPP process and to disseminate best practice in PPPs,
- Assist sectoral ministries and agencies and municipalities in project development, project management, contract management,

- Assist them in procurement procedures, negotiation leading up to award by providing special expertise, e.g. legal and financial,
- Marketing projects internationally through information memorandum,
- Providing general advice to foreign investors doing business in Turkey,
- Intra-governmental coordination on policies and strategies of infrastructure development through PPPs
- Providing training to central and local government officials on the design and implementation of PPP projects
- Developing changes in implementing rules and regulations of PPP and BOT laws
- In addition, like the Irish NDFA, the Turkish Central PPP Unit shall be empowered to advance money to executing agencies designated to conduct detailed feasibility studies, bid document preparations, bid evaluations, negotiations and awards of PPP contracts in respect of projects approved by YPK.

#### **23.7.6 Capacity Building of Implementation Agencies**

Since the 1990s the role of the public sector in financing infrastructure projects has changed radically, both in developed and emerging economies. While the infusion of private capital and management was seen as a new way to ease rising fiscal constraints for infrastructure investment, the idea that private management of public projects generate efficiency gains has become increasingly popular.

As a consequence, the role of the public sector has started to shift from financier/owner manager of projects to regulator and guarantor. And its involvement in the productive economy has shrunk. Simultaneously, private sector initiatives have started to invade areas that were previously considered in the exclusive domain of the public sector.

Because governments have limited contract-related knowledge and experience, the private parties have been frequently able to convince them to assume some of the commercial risks. Also given that governments have often not been able to engage suitable legal, technical and financial experts to assist during negotiations, they have become at a disadvantage in arguing with foreign proponents concerning international practices such as take-or-pay contracts, or with international lenders concerning guarantees to protect their loans. Bureaucrats who have gone through a long, often contentious bidding process, have been willing to accept some commercial risks during negotiations to avoid rebidding. At the same time private partners frustrated with drawn-out negotiation and the continuing renegotiation of clauses have accepted risks that have been borne by the government.

#### **23.7.7 Requirements of Institutional and Administrative Framework for PPP projects at Local Government**

Project implementation is the responsibilities of the private sector contractors in the PPP financed projects. The government role is monitoring the implementation and ensuring the compliance with the concession agreements or contracts, including cost estimates, time schedule, etc. Cost and quality control are the private sector contractor's prime concern as it has resumed the risks of cost overrun in construction, operation and maintenance in

case of BOT projects. Intra-departmental coordination within IMM and regional office of central government are required in the planning and implementation stages. However, during the construction phase there is no need to involve the construction or operation divisions of IMM. Reason being the “mechanistic” or bureaucratic organizational structure is not suited to deal with private sector participation.

### **23.8 Establishment of Private Sector Participation Directorate**

It is usual for government to work out an ad hoc arrangement whereby certain set of civil servants, previously engaged in the same sector are simply asked to take over and manage the process associated with private sector participation (PSP) including PPPs. The civil servants managing the process are generally lacking practical experience and knowledge of project financing scheme. There is a lack of experience in identifying, evaluating and marketing commercially viable projects, a lack of understanding of complexities of PPP, inadequate knowledge of risk allocations, limited liability to assess the value and impact of concessions being sought and offered or requested by the private sector; ad limited capacity to negotiate PPPs for infrastructure development projects.

Additionally, a PSP program in transport infrastructure requires multi-sectoral coordination within the government itself. And governments across the globe are not very well known for such intra-governmental coordination. In the field of regulation, there is a lack of experience in performing regulatory functions. Also project managers in the public sector are underpinned in comparison with their private-sector counterparts, and public agencies have difficulty in attracting and keeping the best and highest. The situation is further aggravated by insufficient resources being made available to public bodies responsible for performing the assigned tasks.

Analytical skills in structural finance, preparation and evaluation of feasibility studies and legal drafting are required in institutions facilitating PPP transactions. Highly qualified staff with such analytical skills and risk assessment is needed in-house capacity of project preparation, procurement, and contract management/Implementation.

Existing staff authorized for handling private sector participation related issues will be placed under an independent division in the Department of Transportation headed by a Director (Private Sector Participation-PSP) who reports to the Deputy Secretary General (Transportation) shall be supported by 3 Deputy directors: DD(Project Preparation & Evaluation-PP&E), DD(Project Implementation-PI) and DD(Business Development-BD). PSP Directorates will be staffed by project management, corporate finance and risk assessment experts.

#### **23.8.1 PSP Directorate:**

The functions and duties of the PSP Directorate shall include, but not limited:

- Advise the Mayor through the Deputy Secretary General (Transportation) on the best financing package for Infrastructure investment projects by the adaptation of commercial standards in terms of evaluating risks and costs for each project.
- Strengthen the capacity of development and implementation of PSP/PPP projects by grouping risk assessment and structured financing expertise in one organization. This will reduce dependency on external consultants with consequent costs.

- In consultation with the Mayor, relevant departments and IMM economic group, e.g. IETT, Ulasim A.S., etc .identify the PSP/PPP projects and prioritizes them. Process of the project identification will continue through preparation of request for proposal (RFP) and the inviting of bidders to submit design, contraction and finance proposals. RFP provides a detailed definition of the project and evaluation criteria for the bids.

### **23.8.2 Director (Private Sector Participation-PSP)**

The functions and duties of the Director (PSP) shall include, but not limited:

- Advise the Mayor through the Deputy Secretary General (Transportation) on the institutional development and capacity building in PPP management,
- Develop guidelines for PPP projects,
- Develop alternative financing mechanisms,
- Overview analysis of local and international financial markets

### **23.8.3 Deputy Director (Project Preparation & Evaluation-PP&E)**

The functions and duties of Deputy Director (PP&E) shall include, but not limited:

- Identification of potential PPP projects,
- Defining project along with their scope,
- Conduct financial analysis and project appraisal,
- Prioritization of projects,
- Pre-qualification of bidders,
- RFP preparation, technical and financial evolution of bids and preparation of draft concession agreement/contracts and negotiation thereon,
- Development of contractual /financing packages & performance indicators,
- Economic/financial/commercial feasibilities & appraisals,
- Technical feasibility and cost estimate,
- Financial structuring of projects,
- Development of contract packages & project agreement,
- Transfer of ownership,
- Sensitivity analysis,
- Devising funding strategies,
- Tariff design,
- Development of time-bound implementation action plan and
- Consultation with stakeholders

### **23.8.4 Deputy Director (Project Implementation-PI)**

The functions and duties of Deputy Director (PI) shall include, but not limited:

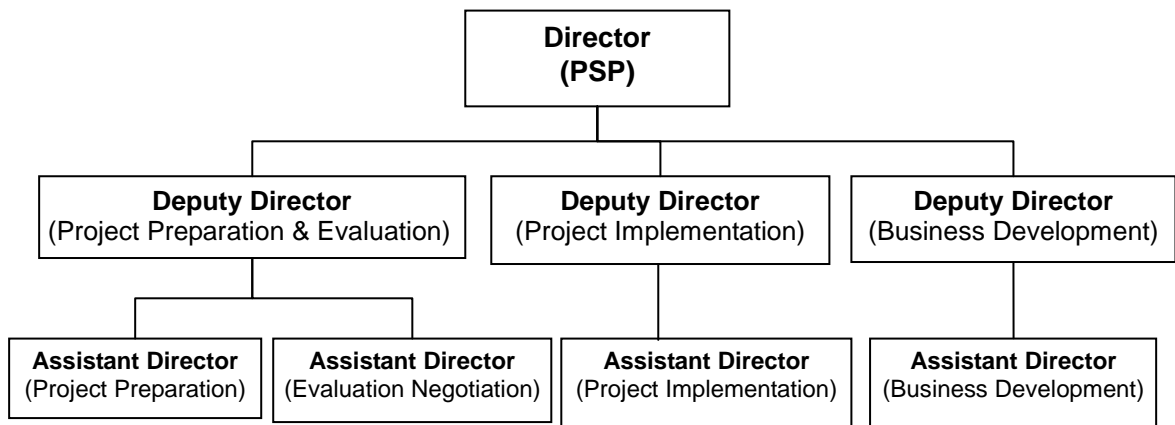
- Overview implementation of projects in the light of provisions of contract and approved schedule
- Monitor the progress of project implementation including land acquisition.

- Technical and financial performance of the Private Sector Contractors
- Performance monitoring for construction, testing, installation, commissioning, operations, maintenance and transfer of the projects

**23.8.5 Duties of Deputy Director (Business Development-BD)**

The functions and duties of Deputy Director (BD) shall include, but not limited:

- Optimize private sector investment revenue generation through promotion of PPP projects and other alternative means of private sector participation, e.g. Privatization (transfer of O&M rights), SPV, etc.
- Maximize commercialization of Right of Way (ROW)
- Formulate business plans, strategies applying commercial standards, risk assessment of PPP projects and enhance opportunities of private sector participation in Transportation infrastructure rehabilitation and development projects.
- Prepare the best financing package for PPP projects by applying commercial standards in terms of evaluating risks and costs for each project.
- Overview and analyze local and international markets



Source: Study Team

**Figure 23.8.1 Proposed Organizational Structure for PSP Directorate**

Advisors:

- Legal
- Financial
- Risk Assessment



## Chapter 24 Implementation Plan

### 24.1 Investment Plan

#### 24.1.1 Investment Framework

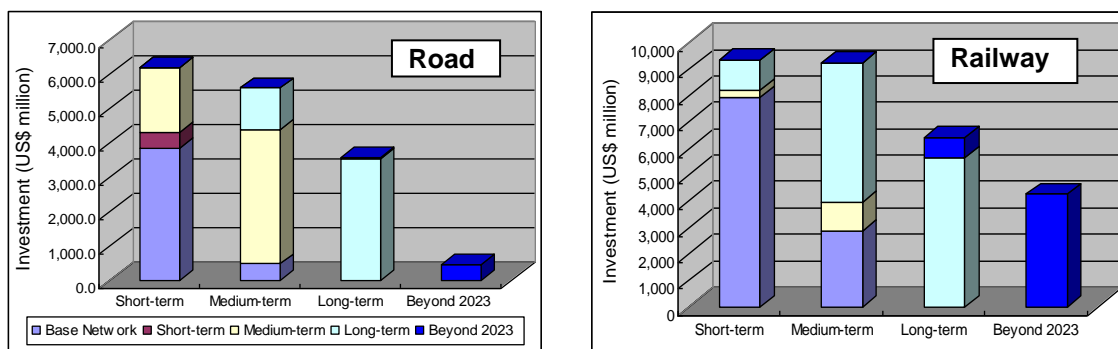
The proposed investment for road and railway subsector is presented in the Appendix. The total investment required for the master plan including other subsectors is shown in Table 24.1.1. The total investment accounts for USD68.6billion. This is comparable to the estimated amount of possible investment at USD68billion.

**Table 24.1.1 Transportation Sector Investment Plan in 2009-2023**  
 (US\$ Billion)

Sub-Sector	Short	Medium	Long	Total
Road & Bridge	6.2	5.6	3.6	15.4
Railway	10.2	9.3	6.5	26.0
Maintenance & Improvement	4.3	5.5	7.1	17.0
Other Subsectors	2.6	3.3	4.3	10.2
<b>Total</b>	<b>23.4</b>	<b>23.8</b>	<b>21.5</b>	<b>68.6</b>

Source: Study Team

Figure 24.1.1 shows the required investment in roads and railways by period of completion. The amount of investment decreases from the short term to the long term, but in reality it will either stay on the same level or increase because new projects are likely to be added on the occasion of the master plan review at every five-year or ten-year interval.



Source: *ibid.*

**Figure 24.1.1 Investment in Master Plan Projects by Period of Completion**

#### 24.1.2 Fund Sources

The financial condition of Istanbul is sound at present. Development expenditure is in principle covered by general revenue, and debt repayment and interest payment do not affect the city's budget.

However, the required investment at USD68.6billion, which accounts for 2.7% of future GRDP, surpasses the past investment of 1.8% by 0.9%. Namely, 1/3 of the investment needs new fund sources. There are four (4) possible new sources, viz:

- Congestion charging (refer to Chapter 10)
- Track Development Acceleration Fund (TDAF, refer to Chapter 12)
- West Istanbul Urban Development Public Corporation (refer to Chapter 12)
- Private sector participation (with b and c above)

The former three (3) are supposed to be earmarked for transport development.



**(2) Road Project in Master Plan Network**

Project		Length (km)	Cost mill.US\$	Short-Term					Medium-Term					Long-Term					Beyond 2023 2024
Code	Name			2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
RD001	Tophane - Iplikci Tunnel	1.67	62.8																
RD002	Widening of Hatboyu street (Coastal road Linkage) in Ümraniye	8.07	195.2																
RD003	Bakırköy between D-100 Land Route (İncirli Junction) - Coastal Road (Ataköy Junction) underpass - flyover project	9.45	118.3																
RD004	Widening project between Kırac and Esenyurt construction road	2.83	9.4																
RD005	Between Hadımköy bridge- Yassıören road, road, junction project	9.23	28.6																
RD006	Beykoz, Miharabat Street-TEM Highway Linkage project	1.44	12.3																
RD007	Ümraniye, between Küçüksu junction- İsfalt association ( Küçüksu street) road rehabilitation project	12.85	50.6																
RD008	Beylerbeyi - Harem Tunnel	4.15	210.0																
RD009	Beylerbeyi - Hekimbasi Tnnel	3.09	175.8																
RD010	Kadıkoy - Moda Tunnel	1.03	48.4																
RD011	Tophane - Haskoy Tunnel	1.19	24.9																
RD012	Road Construction For W. Trade Center by Private Sector	9.24	40.3																
RD013	Küçükçekmece D-100 Highway Çobançeşme Junction - Olympics Road Linkage Road and Junction Project	26.54	291.8																
RD014	Yakuplu Kumcular Servis Road Project	7.29	24.5																
RD015	Derbent Haciosman Tunnel Project	2.87	61.9														→ 2027		
RD016	Armutlualtı - Poligon Mah. Tunnel Project	2.68	68.1																
RD017	Armutlualtı - Ayazağa Tunnel Project	2.55	73.5																
RD018	Kuyumcu Kent - Otogar - Eyüp Tunnel Project	13.83	332.8														→ 2030		
RD019	Road rehabilitation project between Bağcılar, Malazgirt underpass-Mehmet Akif avenue (8.St-1/3St-1/13 St-2/13 St)	3.10	8.8																
RD020	Tuzla Formula-1 Road Network 6 numbered road project	5.70	25.0																
RD021	Link Road between Malazgirt Rd and Mahmat Akif Bulbari	0.90	4.3																
RD022	Road project in Bakırköy,(D-100 Highway Sefaköy junction - airport A-14 Apron linkage road)	0.52	9.7																
RD023	Sultanbeyli Necip Fazil street - Kartal TEM linkage road project	0.33	4.1																
RD024	Between Ümraniye Mandıra st - Bağ st road project	0.60	4.5																
RD025	New linkage road project between Ümraniye Karadeniz street - Mandıra street (continuous section of Hatboyu street)	0.21	4.5																
RD026	Kartal Şehit Ahmet Yalçın St - Arkoz St - Çavuşoğlu St, Adnan Kahveci Viaduct Linkage road junction project	2.02	12.7																
RD027	Ümraniye, between Şile Road Yenidoğan junction - Paşaköy junction road, junction implementation project	4.24	19.3																
RD028	Re-organizing The existing road in Ümraniye Çekmeköy Çavuşbaşı street according to the construction plan as 20m	2.49	7.5																
RD029	Kartal between Tekel street - D-100 road, junction implementation project	2.48	25.0																
RD030	Üsküdar between Zübeyde Hanım Street - Hekimbaşı Çiftlik street construction roads implementation projects	1.34	13.8																
RD031	Beykoz , between Kavacık junction - Çekmeköy junction (Çavuşbaşı road) road, junction implementation project	11.10	31.6																
RD032	West Büyükçekmece Road Network Package	40.46	495.6																
RD033	East Silivri Road network Package	66.30	842.0																
RD034	Silivri Center Road network Package	74.57	827.2																
RD035	West Silivri (Port Area and University Area) Road Network Package	91.85	844.6																
RD037	Tuzla Center Road Network Package	58.51	477.7																
RD038	New Motorway west section Package	102.43	965.4																
RD039	New Motorway Kucucekmece section Package	40.49	547.7																
RD040	New Motorway Kagithane section Package	17.30	520.5																
RD041	New Bosphorus Crossing	7.77	843.0																
RD042	New Motorway Kadikoy Branch Package	10.97	332.5																
RD043	New Motorway Uskudar-Umraniye Package	20.75	360.0																
RD044	New Motorway Umraniye-Tuzla Package	55.98	683.5																
RD045	Widening of TEM Highway (Umraniye-Tuzla) Package	69.48	490.4																
RD046	Widening of Connection road (TEM-D100) in Kartal	15.23	112.0														→ 2026		
RD047	Kucucekmece Road Network Package	17.50	135.8																
RD048	Bahcesehir Road Network Package in Avcilar	10.68	202.7																
RD049	New Truck Route for Ambarli Port - Logistic Center(tunnel for about half length)	11.89	358.9																
RD050	E-W Missing Linkage in Gungoren (tunnel)	1.10	57.4																
RD051	N-S Missing Link inBahcelievler (tunnel)	2.40	121.4																
RD052	Connection Tunnel between Bosna Bulvari and Hatboyu St (tunnel)	1.13	52.4																
RD053	Re-Construction of Ankara Road between Pendik and Baglantı Road (incl. 2km new road)	15.43	63.0																
RD054	Connection Road between New Motorway and Uskudar Tunnel (50% tunnel)	4.06	123.9																
RD055	Widening of Kennedy Street between Road Tunnel and Mustafa Kemal St. in Eminonu	1.93	38.2																
		893.25	11495.6																

▬ : Detail Design and Land Acquisition  
 ■ : Construction Period

### (3) Railway Project in Base Network

Code	Project Name	Length (km)	Cost (US\$ mill.)	Short-Term					Middle-Term					Long-Term					
				2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	
C-1	Taksim - Yenikapi Metro (Extension of E-1)	5.2	468																
C-2	Edirnekapi - Sultanciftligi Tramway ( Extension to Topkapi and Habipler)	3.0	62																
C-3	Kadikoy - Kartal Metro	21.7	1,547																
C-4	4. Levent - Ayazoga - Darussafaka (Extension of E-1)	8.0	480																
C-5	Otogar - Bafcilar (Kilazli) Light Metro	5.6	358																
C-6	Bagcilar - Ikitelli - Olimpiyat Koyu Metro	15.9	1,069																
C-7	Marmaray Project	76.5	3,000																
C-8	Aksaray - Yenikapi (Extension of E-2)	0.7	42																
T-1	Uskdar - Cekmekoy Light Metro	19.0	1,314																
T-2	Bakirkoy - Beylikduzu Light Metro	25.0	1,464																
D-1	Bakirkoy - Bahcelievler Bagacilar Metro (Extension of C-6)	9.0	710																
D-2	Kabatas - Besiktas - Sisli - Giyimkent - Bagcilar Metro	25.0	1,912																
D-3	Yenikapi - Bakirkoy Metro (Extension of E-1)	7.0	481																
D-4	Halic - Cevresi Tramway	9.6	243																
D-5	Yesilkoy - Ataturk Airport - Ikitelli Metro	14.3	1,130																
D-6	Sishane - Kulakasis - Cemal kamaci Guzergahi Monorail	5.8	289																
Total		251.3	14,569	10960					3609										

■ : Detail Design and Land Acquisition  
 ■ : Construction Period

### (4) Railway Project in Master Plan Network

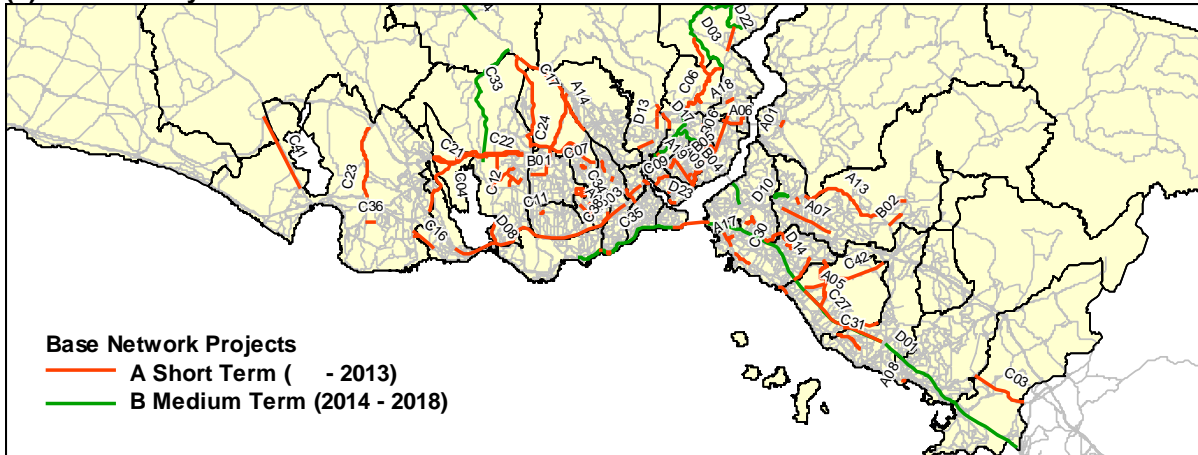
Code	Project Name	Length (km)	Cost (US\$ mill.)	Short-Term					Middle-Term					Long-Term					Beyond 2023	
				2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	
RL001	Bagcilar - Halkali Light Metro (Extension of C-5 line)	7.5	494																	
RL002	Tekstikent - Istoc - Olimpiyat Koyu - Bahcesehir (Ispartakule) Metro (Extension of D-2 line)	12.0	1,197																	
RL003	Umraniye - Bostanci Metro	14.0	1,225																	
RL004	Kartal - Pendik (S. Gokcen Airport) - Tuzla Metro (Extension of C-3)	18.1	1,261																	
RL005	Seyrantepe - Alibeykoy - Gop - Kazlicesme Metro	19.5	1,187																	
RL006	Kartal D-100 - Kartal IDO Monorail	3.0	94																	
RL007	S. Gokcen Airport - Formula 1 Monorail	7.7	242																	
RL008	Darssafaka - Cayirbasi Metro (Extension of C-4 line)	2.7	193																	
RL009	4. Levent - Gultepe Mah. - Sanayi Mah. - Celiktepe Mah. Monorail	8.6	248																	2030
RL010	Besiktas - Sariyer Metro	14.1	787																	2030
RL011	Ispartakule - Ambarli - Yakuplu Metro	10.5	1,197																	2030
RL012-1	Ispartakule - Kirac - Buyukekmece - Silivri Suburban Railway (Phase 1)	15.8	651																	2030
RL012-2	Ispartakule - Kirac - Buyukekmece - Silivri Suburban Railway (Phase 2)	10.0	668																	2030
RL013	Uskdar - Beykoz Metro	15.0	881																	2030
RL014	Ikitelli Olimpiyat Koyu - Altinsehir Metro (Extension of C-6 line)	13.0	932																	2030
RL015	Ataturk Airport Access Rail (Extension of Marmaray railway)	2.5	160																	2028
RL017	Seyrantepe - Bosphorus Crossing - Bahcelievler.M metro	9.8	816																	
RL018	Sogutlucesme - Bahcelievler N. Metro	8.6	776																	
RL019	Kadikoy - Ibrahimaga - Esensehir - Sabiha Gokcen Airport Metro	36.8	2,365																	
RL022	Halkali - Hadimkoy Suburban Railway (Extension of Marmaray Project)	20.4	536																	
RL020	Bakirkoy - Beylukzudu Extension	1.0	66																	
RL021-1	Silivri - Gumusyaka Extension (Phase 1)	18.9	990																	
RL021-2	Silivri - Gumusyaka Extension (Phase 2)	30.0	1,210																	2029
Total		299.5	18,176	1,408					6,275					6,324					4,169	

■ : Detail Design and Land Acquisition  
 ■ : Construction Period

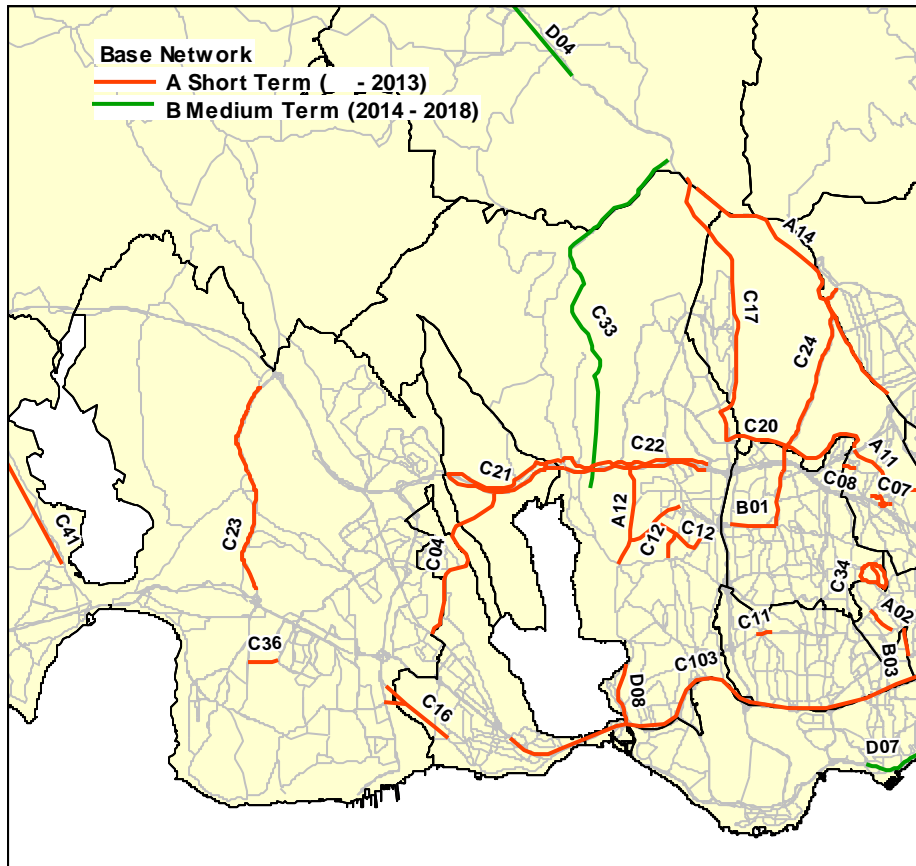
Source: Study Team

Note: Inclusive of railway projects which complete after 2023.

**(1) Entire Study Area**



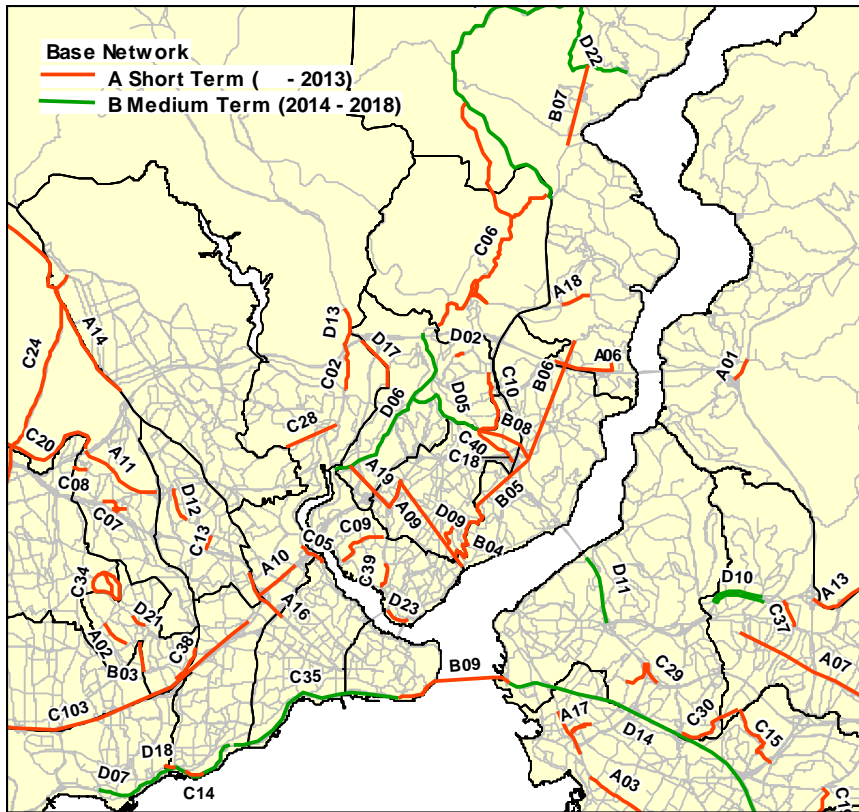
**(2) Central Area of European Side**



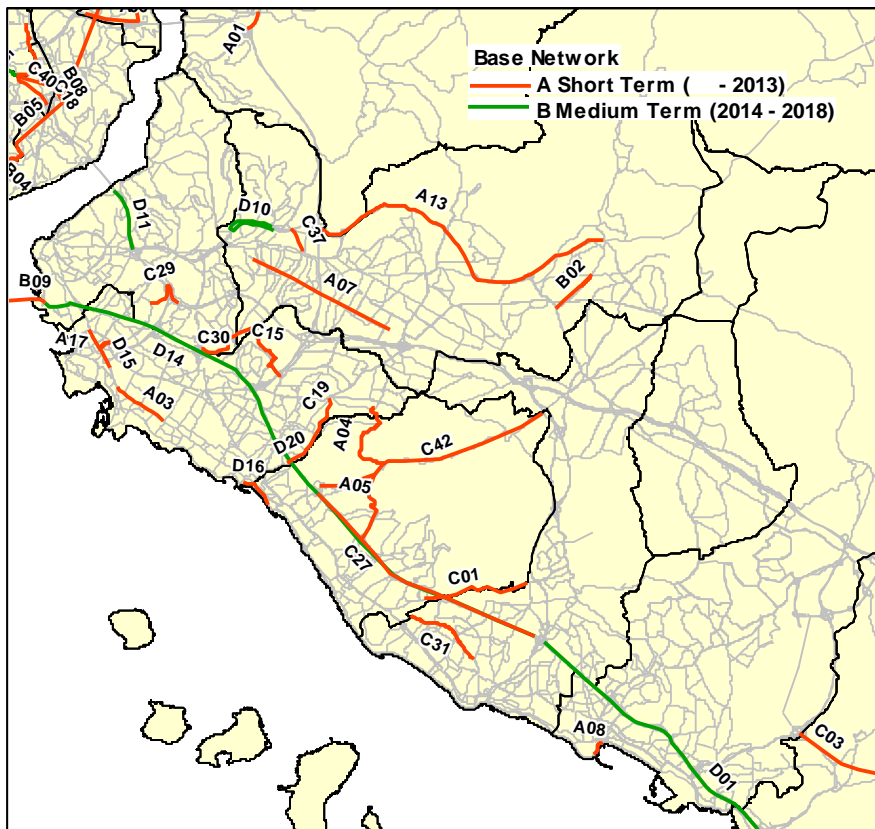
Source: Elaborated by Study Team based on IMM/KGM Information

**Figure 24.1.2 Road Projects of Base Network**

**(3) Central Part of Study Area**



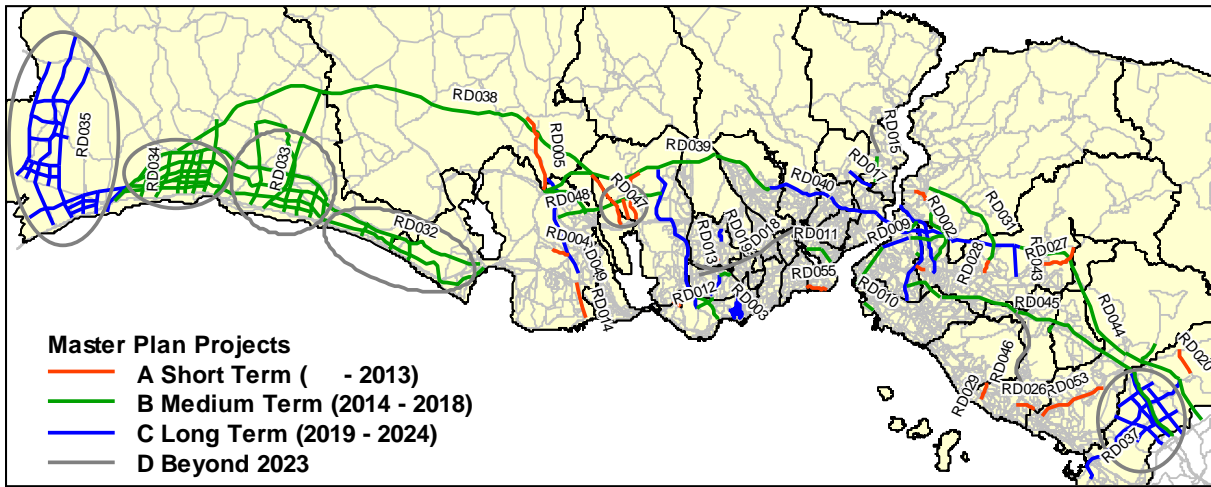
**(4) Asian Side**



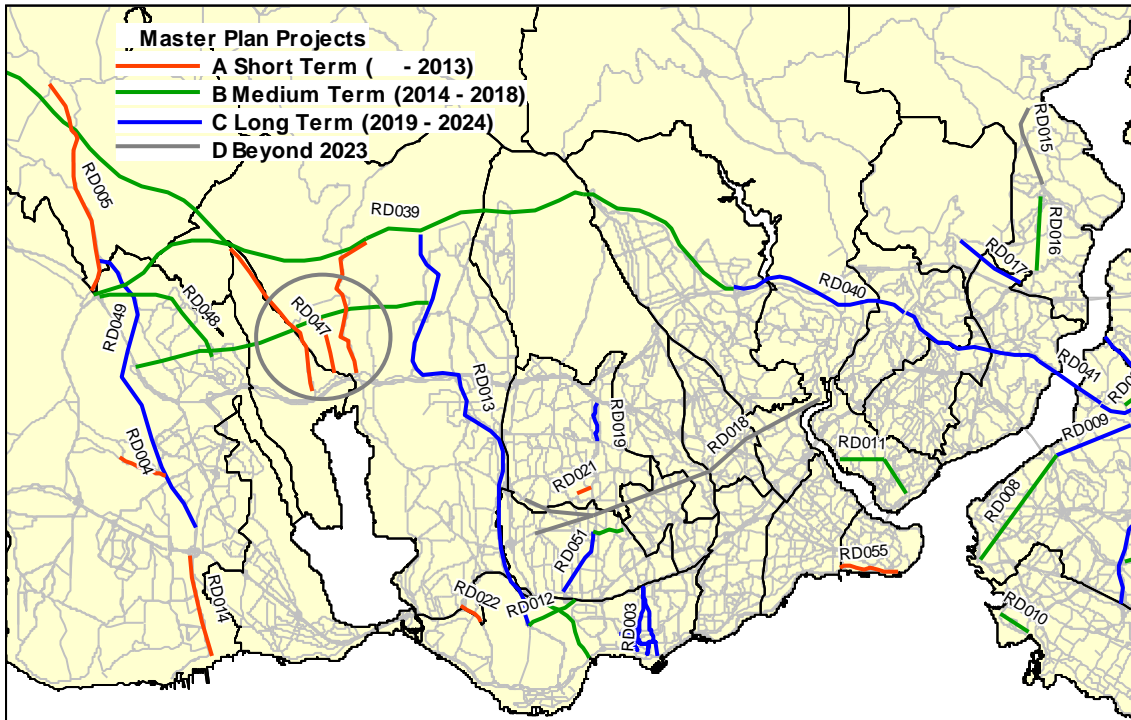
Source: Elaborated by Study Team based on IMM/KGM Information

**Figure 24.1.2 Road Projects of Base Network (Cont'd)**

**(1) Entire Study Area**



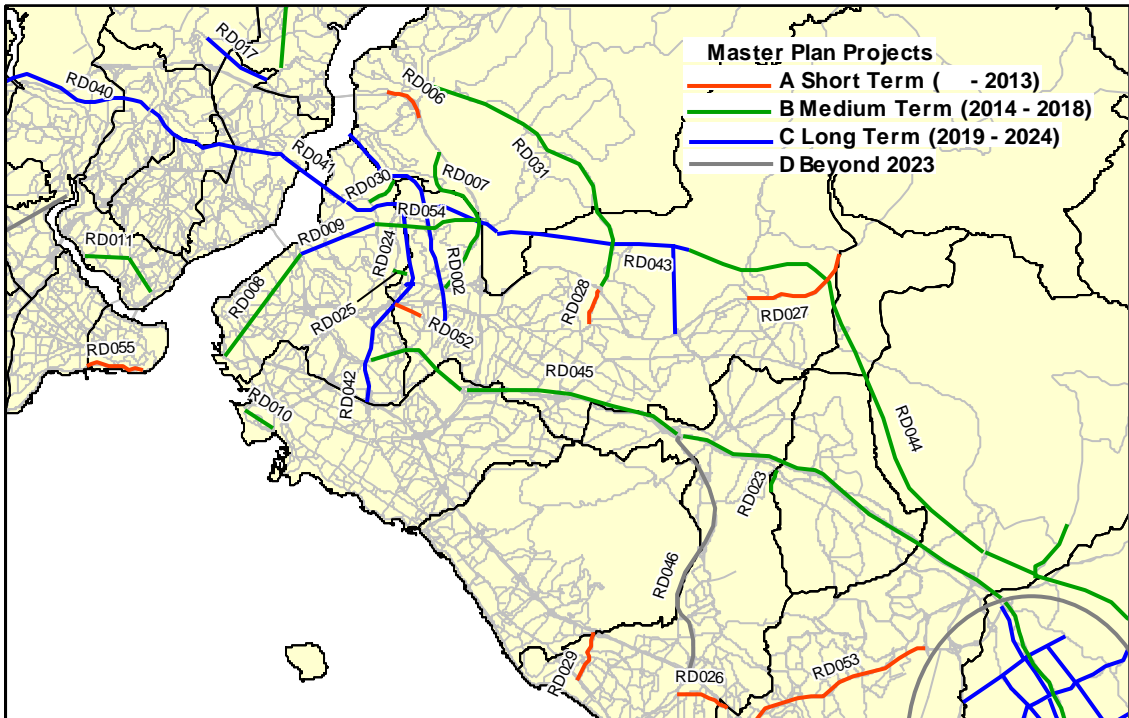
**(2) Eastern Part of European Side**



Source: Elaborated by Study Team based on IMM/KGM Information

**Figure 24.1.3 Road Projects of Master Plan Network**

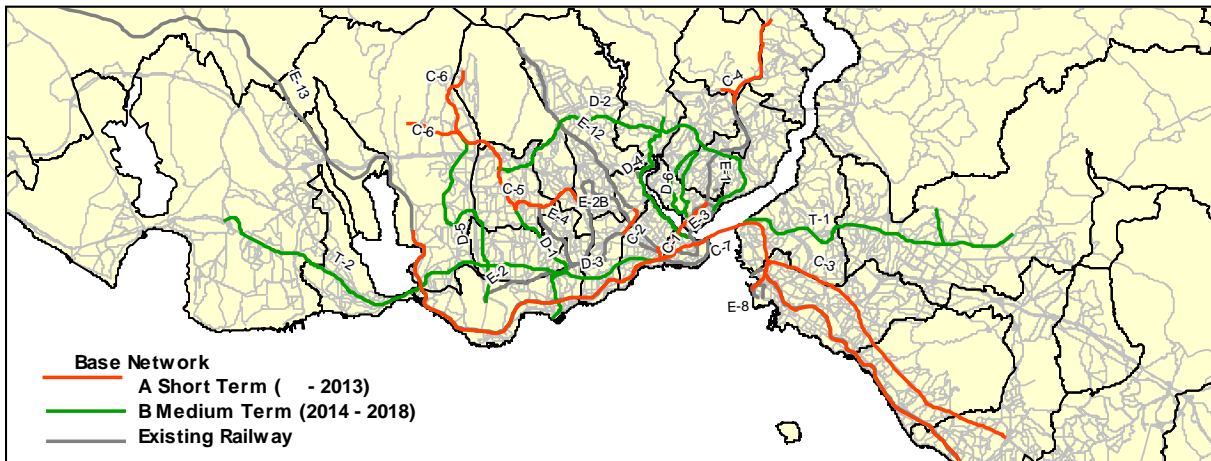
**(3) Asian Side**



Source: Elaborated by Study Team based on IMM/KGM Information

**Figure 24.1.3 Road Projects of Master Plan Network (Cont'd)**

**(1) Entire Study Area**

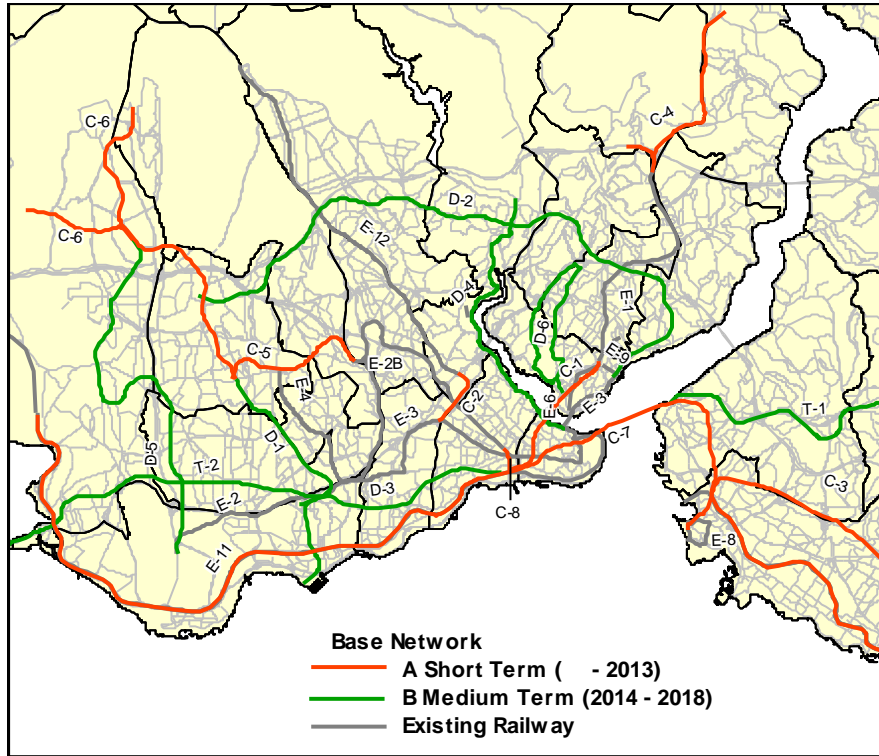


Source: Elaborated by Study Team based on Information of Transportation Planning Dept., IMM

**Figure 24.1.4 Railway Projects of Base Network**



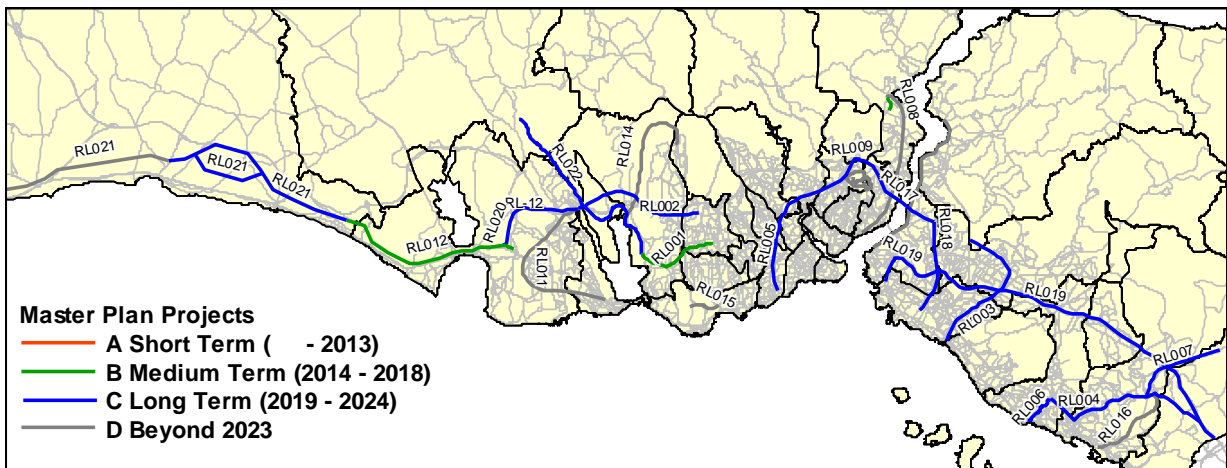
**(2) Central Part of Study Area**



Source: Elaborated by Study Team based on Information of Transportation Planning Dept., IMM

**Figure 24.1.4 Railway Projects of Base Network (Cont'd)**

**Entire Study Area**



Source: Elaborated by Study Team based on Information of Transportation Planning Dept., IMM

**Figure 24.1.5 Railway Projects of Master Plan Network  
(Same as Figure 15.3.3)**

## **24.2 Track Development Acceleration Fund (TDAF)**

### **24.2.1 Railway Profitability**

The profitability (financial feasibility) of railway is not high at an assumed fare rate of YTL0.2/km with some exceptions. The FIRR (financial internal rate of return) ranges 3-12%.

Excluding three (3) lines of poor profitability, the overall FIRR for the remaining lines is 10.3%. To raise this to a 15% level, which may be acceptable for the private sector, the cost must be curtailed by 37%. If this portion is subsidized by the government, a PPP (Public-Private Partnership) scheme may become feasible with an FIRR of 15% for the private sector.

### **24.2.2 Possibility of PFI**

The PFI (Private Financing Initiative), particularly the BOT scheme with 100% private funding, is difficult for the railway projects, because capital recovery period is long despite the large investment amount, railway fare tends to be controlled low and, above all, the risk is high. There is almost no example successfully implemented.

The Master Plan envisages that a large part of the investment in Istanbul urban railway projects will come from the private sector with public-private partnership (PPP) mode. However, implementation of railway projects under BOT/PPP model has been difficult due to, among others, perceived investment risk and /or large capital requirement.

In order to succeed in PPP in urban railway projects central and local government must take initiatives in the PPP and create a conducive environment so as to utilize the efficiencies, innovativeness, flexibility and speed of the private sector to provide better infrastructure and services at an optimal cost.

As stated in Chapter 17 of this report, major reasons for the failure in tapping private sector capital to transportation sector have been:

- Poorly developed domestic capital market.
- Lack of access to long-term debt, domestic and international.
- Absence of cohesive government policies.
- Absence of a credible legal and regulatory framework.
- Absence of a credible institutional and administrative framework.
- Absence of a clear government commitment to conclude the PPP deals in a reasonable time.
- Inherent risks in investment in public works and railways, particularly, urban railways.
- Lack of experience in PPP projects in public sector.

Some of these problems are beyond the control of IMM administration. For instance, to remedy the problems of the existing legal and regulatory framework central government, i.e. State Planning Organization (SPO), must take initiative. There is no credible institutional and administrative framework. Central public body responsible for setting PPP

policies and coordination and implementation of PPP projects are assigned to different public bodies which lack experience and knowledge of PPP's. At the local level there are no institution, facilitating PPP transactions, management and coordination.

Under these circumstances, IMM can only resort to tax revenue and market borrowings for the financing transport infrastructure projects.

#### 1) The Policy Objectives

According to the Istanbul Transport Master Plan around US\$30 billion is likely to be invested in the urban railway development over the next 30 years. A large part of this investment is expected to come from the private sector with Public Private Partnership (PPP) mode as one of the preferred routes. IMM has no mandate for changing existing legislative and institutional framework for PPP nor has the power to improve PPP administration at the central government. It is, therefore, important for IMM to take initiative to create its own financial and institutional mechanisms within the existing regulatory and institutional framework and set policy objectives.

The key objective of the policy is to

- (1) Secure a long-term investment from public and private sector.
- (2) Leverage local and central government funds, external assistance as well as private funds, support private investment and to create a conducive environment to utilize the efficiencies, innovativeness, flexibility and speed of the private sector to provide better infrastructure and service at an optimal cost.
- (3) Setting up a transparent, consistent, efficient administrative mechanism to create level playing field for all participants and protect interest of all stakeholders
- (4) To prepare a list of projects to be offered for PPP and take them forward with assistance of the highly qualified PPP Management Team through a transparent selection process.
- (5) Putting in place an effective and efficient institutional mechanism for speedy clearance of the projects.
- (6) To provide the required viability gap funding (VGF) where the essential projects are intrinsically unviable.
- (7) To create "Transit Development Acceleration Fund (TDA)", a public corporation to implement the policy objective and channel a long term investment of public and private agencies into urban railway projects.

#### 2) Institutional Arrangements

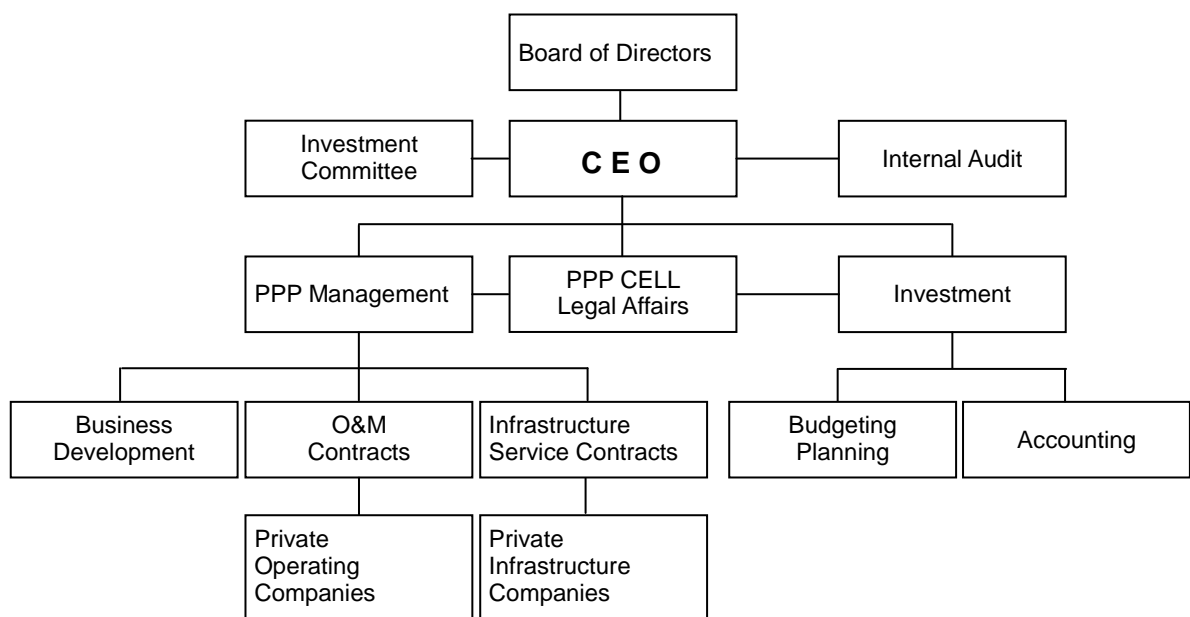
TDA shall have a board of directors, chaired by the Mayor of IMM, consisting representatives of key stakeholders, e.g. Office of the Governor of Istanbul, City Council, Central Administration, IMM, TOBB, ITO, ISO, Private infrastructure and operation companies, Institutional Investors, NGO, etc. The duties and responsibilities of TDA Board include:

- To interact with the Treasury in multilateral/bilateral funding for furthering the objectives of the policy,
- To prioritize, approve, authorize expenditure for PPP projects,

- To sanction PPP projects and approval of Concession Agreements for projects and
- To approve projects for Viability Gap Funding (VGF).

The management of TDA shall be responsibility of the CEO who shall be non-political appointee. The CEO shall be supported by two expert groups: Investment and PPP Management. The former shall be headed by CFO and the latter by COO. The primary role of CFO is to advise CEO and the Board of Directors on the optimum means of financing public investment projects in order to achieve value of money. It is also the responsibility of this group to provide the required viability gap funding (VGF) where the essential projects are intrinsically unviable.

PPP management shall be responsible for the PPP operations ranging from preparation of detailed feasibility studies, bid document preparation, bid evaluation and award of PPP contracts to their management. PPP Cell shall be established as an independent division and staffed with a group of highly qualified professionals in the fields of corporate finance, contract-related management, project finance, risk management and project management.



Source: Study Team

**Figure 24.2.1 Organizational Structure of TDA**

1) Goals and Objectives of a New Initiative

The primary objective of the new initiative is to secure long-term investment through the development and implementation of a 30 year public-private partnership (PPP) founded by a law. The creation of TDA will ensure the achievement of the measurable goals shared and agreed upon by public which are:

- Better urban mobility (seamless travel)

- Easing the traffic congestions
- Influence land use practice in better way
- Make the city more efficient
- Make the city environmentally sustainable

## 2) Responsibilities of TDA

TDA would have overall responsibility to deliver services to the traveling customer and for overall safety of the Istanbul Urban Transit systems. It would engage private sector operator for running the Systems including train and station operations, collecting fares and public safety.

TDA will develop, through PPP companies, tracks with trains, stations and related infrastructure to the standards and performance levels required in order to give the public with a reliable service over the network in a safe, efficient and economic manner.

## 3) Responsibilities of PPP Companies

Under the Concession Agreement/Lease Agreement with TDA, Private infrastructure companies shall finance, construct and procure trains, tracks, tunnels, signals and stations and lease these facilities to TDA and carry out the maintenance and engineering work of infrastructure under the PPP Service Contract.

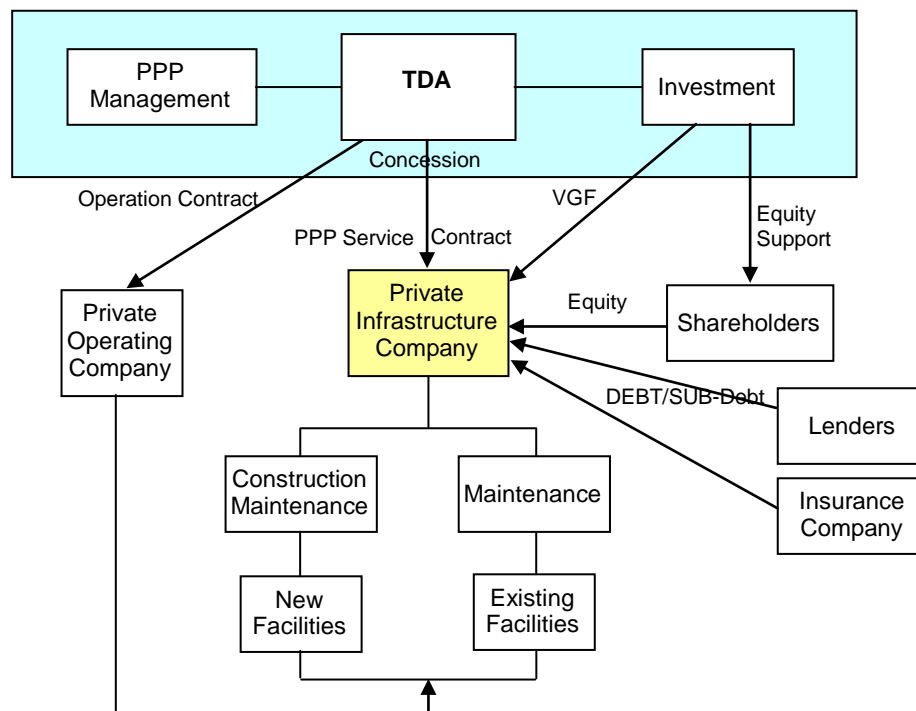
TDA, based on the terms and conditions of the Lease Agreement and Service Contract, pays the PPP companies a fixed fees and service level fees which is increased or diminished to reflect the company's actual performance.

Establishment of a strong organization is proposed. This organization, controls all the railway PPP projects with its fund TDAF. TDA should be established under IMM. TDA plans, invites tender and grants permission with a selected private entity. For non-profitable lines, it provides VGF (Viability Gap Funding) from TDAF. The concessionaire secures fund, constructs and leases facilities to TDA for the concession period. In one word, the BLT scheme is applied.

The railway operation is done by an operation company with a contract with TDA. Fare revenue goes to TDA, and the operation company receives contracted amount from TDA.

Thus, all the risks can be concentrated to TDA. These risks are finally undertaken by IMM and/or the central government, and the concessionaire is guaranteed for the payment of lease and the operation company, the operation cost.

The administration of TDA needs high-level expertise. At the initial stage, world-class experts should be invited from overseas countries. For TDAF, government funds and low-interest development funds including ODA loans should be provided. Its scale would be USD1.0 billion.



Source: *ibid.*

**Figure 24.2.2 Organizational Scheme of TDA**

1) Legal Framework for the Establishment of TDA

A special legislation for formation of TDA with appropriate regulatory mechanism may be required. The Law with a defined period of 30 years shall be passed by the Parliament.

Prior to sending bill to the Parliament a series of inter-governmental agreements among the Ministry of Finance, Ministry of Transportation, Privatization Administration and IMM, intra-departmental agreement among the IMM's departments and economic enterprises, including I.E.T.T and Ulasim A.S., on the financial and institutional arrangements would be required.

All loans, bond issues leveraging the assets of the existing urban railway of Istanbul, except Marmaray, would have to be restructured.

2) International Practices

Transport for London (TfL): In March 1998 the Government announced its plans to secure long-term investment through the development and implementation of a 30 year Public-Private Partnership, the PPP.

Sustainable African Public-Private Partnerships for Infrastructure Development (SAPPID) was established in August 2002 with the purpose of creating a facilitating body for the investment of funding by donor and development agencies into infrastructure projects in Africa. The fund will enable financing for energy project otherwise there is no investor.

## 3) Transport for London (TfL)

## (1) Goals and Objectives

To secure long-term investment through the development and implementation of a 30-year Public-Private Partnership, the PPP.

## (2) Partners

Metronet Rail BCV, Metronet Rail SSL and Tube Lines entered into a PPP service contract with London Underground for the provision of infrastructure services.

- Metronet Rail has to provide London Underground with trains, stations and related infrastructure to the standards and performance levels required in order to give the public with a reliable service over the network in a safe, efficient and economic manner.
- For this London Underground pays the Metronet Rail companies, through the infrastructure service charge (ISC), a four-weekly regular payment which is increased or diminished to reflect the company's actual performance. The payment is subject to annual indexation.
- The Metronet Rail companies, Metronet Rail BCV and Metronet Rail SSL, can improve their revenues if their performance for capability, ambience and availability exceeds the benchmarks included in the service contract. Revenue is reduced if performance falls below the benchmark measures.
- As an additional incentive for the company to perform, the deductions suffered for poor performance are generally at twice the rate of the increase in revenue for improved performance.

## 1) Sustainable African Public-Private Partnerships for Infrastructure Development (SAPPID)

## (1) Goals and Objectives

- To attract private investment, by minimizing the risks to investors, through diversification (country and Project), credit-enhancement mechanisms funded by donor agencies, government endorsement.

## (2) Partners

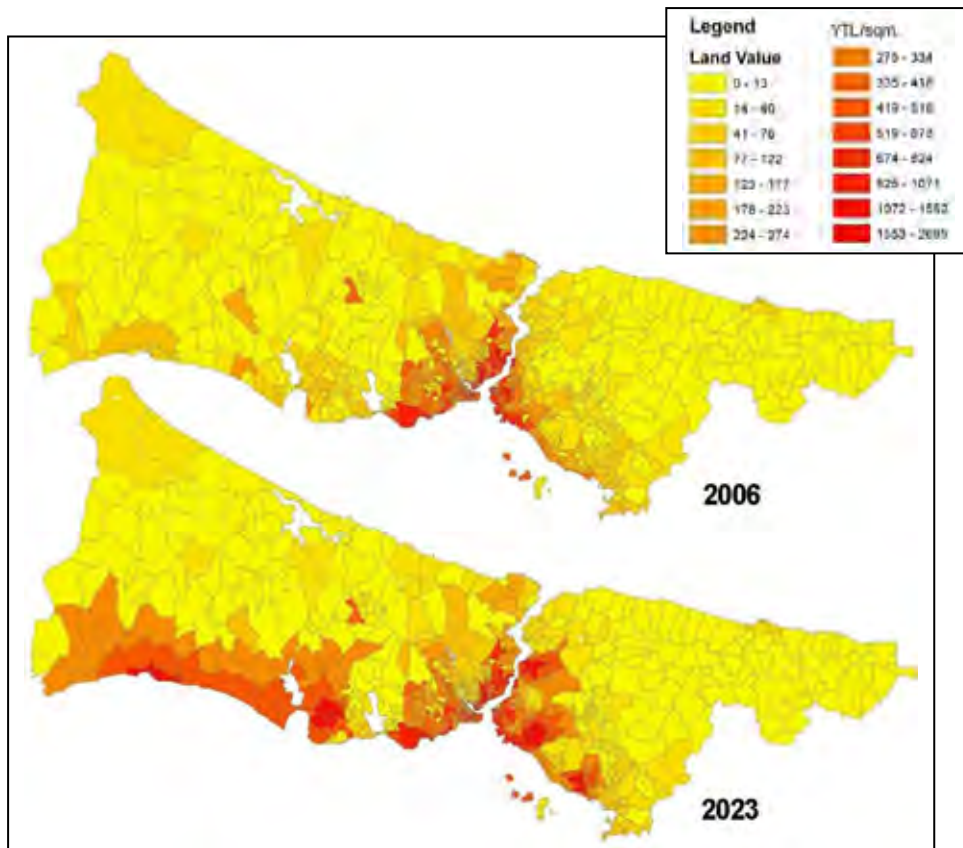
- Governments (South Africa, France, USA)
- Southern Africa Infrastructure Fund (SAIF) (Australia)
- Development Bank of Southern Africa (DBSA) (South Africa)
- African Development Bank (ADB)
- South African Export Development Fund (SAEDF) (South Africa)
- Industrial Development Corporation (South Africa)
- Emerging Africa Infrastructure Fund (EAIF) (United Kingdom of Great Britain and Northern Ireland)
- AIG Africa Infrastructure Fund (United States of America)
- Southern African Enterprise Development Fund SAEDF (United States of America)

### 24.3 West Istanbul Urban Development Corporation

The land use master plan of Istanbul intends to realize scattered urban cores eliminating over-concentration of urban activities. This is ideal, and, if materialized, this plan will largely contribute to alleviate the current traffic congestion in the CBD area. One of the key factors of this plan is if it is possible to slowdown the population influx to built-up areas by promoting urban development in the west Istanbul such as Silivri.

Efficient high-speed railway or expressway is essential to deviate the population pressure to the outer directions. On the other hand, however, a vast investment in the suburbs needs a guarantee for the land use plan to be realized. This is a chicken-and-egg problem.

Suburban housing development may be possible by constructing roads and railways under the initiatives of the private sector. However, the creation of urban cores requires government intervention. The JICA Study Team proposes to establish a public organization that promotes urban development (hereafter West Istanbul Urban Development Corporation:WIDEC). Profit-oriented mind and know-how of the private sector should be incorporated into this organization together with its financial capability. The legal basis of this organization could be a law in force only for 30 years.



Source: *ibid.*

**Figure 24.3.1 Urbanization and Land Value**

WIDEC promotes urban development in cooperation with government agencies and the private sector, such as urban core, transport infrastructure, housing, power, water, school, park and other facilities.



The fund used for these projects is produced from its own projects. Figure 24.3.1 compares the land prices of Istanbul between 2006 and 2023. The land prices in the west Istanbul will jump at least to 25 times in 2023 after the planned urbanization. The total amount will increase from the present YTL14billion (taxation basis) to YTL350billion. The city's revenue from the real property tax (0.6%/year) will be important, but this should be spent for public services that will soar as well.

Table 24.3.1 compares the total land value in the Study Area as a whole, which shows the land value will be 2.3 times and accordingly the real estate tax revenue as well.

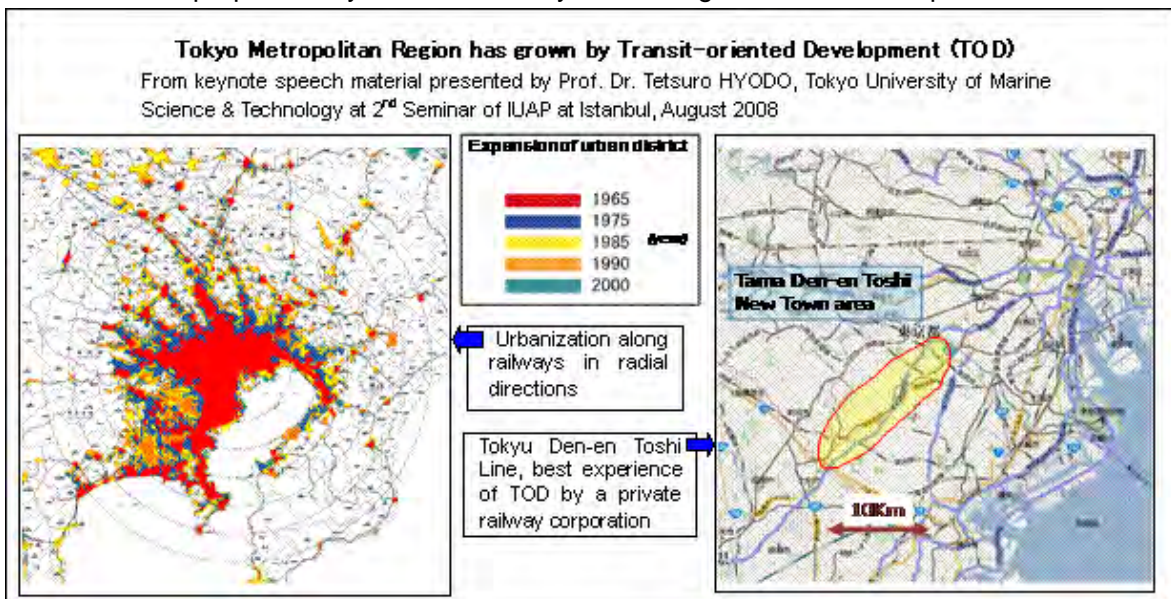
**Table 24.3.1 Estimated Land Value and Real Estate Tax in 2006 and 2023**

	Total Land Value (Mill.YTL)	Real Estate Tax (uncultivated (for building) land)	Total Tax (Mill.YTL)	2023/2006
2006 Land Value	218,113	0.60%	1,308.68	
2023 Land Value	496,463	0.60%	2,978.78	2.28

Source: Study Team estimated based on land value issued by Ministry of Finance  
 Note: Metropolitan Municipality charges double rate of normal charge, and it is constant price base.

Development fund should basically be produced by the “capital gain” of urban development projects. The organization of WIDEC should be so designed that it can do both the profit-generating projects and public services projects. The profit-generating functions such as land transaction, housing and business/commercial development, and the public service functions such as development of transport infrastructure, parks and other public facilities should be balanced according to the pre-determined criteria. As a whole, WIDEC will be a non-profit organization.

The new idea that transfers a part of development benefit to the provision of infrastructure is in fact old. Concept is easy but realization is difficult, because the government responsible for infrastructure development is often prohibited from profit-seeking activities. This is why WIDEC is proposed as a third sector that is a mixture of the public and private sector. This proposal may be effective only at this stage of urban development of Istanbul.



Source: Study Team

## **24.4 Urgent Actions Program**

### **24.4.1 Countermeasures for Traffic Jam Prone Areas**

In Chapter 15 “Traffic and Transport Demand Management Plan”, the 30 worst areas of traffic jam were identified, and traffic management measures have been proposed for 12 areas selected out of the 30. These measures do not require large cost nor long time for implementation.

It is thus recommended to start implementation in the earliest time possible after due perusal by responsible agencies, such as survey, design and construction, including post-monitoring. The proposed measures can all be applied to the places with similar characteristics if surveys are carefully done both for pre- and post-implementation conditions.

### **24.4.2 Authorization as Official Master Plan**

This master plan study was conducted jointly by the JICA Study Team and IMM Study Team where key personnel of IMM and professors of some universities were involved. When opinions differed from each other, the JICA Study Team paid the maximum regard to the consensus within the Turkish side.

Nevertheless, this report is basically a JICA report, stating decisively some aspects that could not be pointed out clearly from the political standpoint of IMM. This report also deals mainly with major issues and tends to neglect minor aspects which should have been covered if this is an all-round official plan. The JICA Study Team undertakes the final responsibility of this report.

One of the most important actions that IMM should urgently take is to formulate the official transport master plan of IMM taking advantage of this report and the accumulated information among the counterpart staff. This must be done quickly before information becomes scattered and obsolete, and while this report is “alive”. The IMM plan thus formulated becomes official by the approval of the City Council.

## **24.5 Surveys and Researches**

The JICA Study Team identified the necessity to conduct various surveys and to improve organizations and institutions during the course of the study, among others:

### **24.5.1 Freight Movement Survey and Logistics Plan**

The master plan described here was prepared based on a person-trip survey by household interviews, and therefore focuses on passenger transport without in-depth analysis on freight transport. Meanwhile IMM/IMA launched a study on “Trip and Cargo Generation by Land Use”. Using the result of this study, projects regarding goods flow and logistics should be planned, and incorporated in the transport master plan.

### **24.5.2 Preparation and Update of Transport Network Inventory**

The transport network prepared and used in this study would be the latest in Turkey so far. This, however, should be maintained by continuous updating for the frequent needs of transport planning. Otherwise, it will soon become obsolete and unusable. This is, in other words, to have always the latest inventory of all transport modes in Istanbul. Responsible

agency for this task should be assigned together with funding, and all the information on projects and damage/loss should be accumulated there.

#### Work Items

1. Establishment of Network Database and its maintenance system—Better Coordination among relevant Agencies
2. Maintenance of System for Network Simulation which enables before and after comparison of a projects

### **24.5.3 Surveys and Plans for Traffic Safety**

As mentioned earlier in Section 10.1 traffic accident statistics is not available in Istanbul in the form that could be used in transport planning. To create and maintain such a database is one of the urgent issues. This is also related to the organization responsible for collection and maintenance of the database. It is recommended to conduct a traffic safety master plan study when the database becomes available.

#### Work Items

1. .Establishment of Traffic Accident Data Development System
2. Identification of Accident Prone Spot and Counter-measures
3. .Program for Traffic Education to improve driving manner and safety
4. .Review and revise of traffic regulation

### **24.5.4 Policy Study on Land Use Guidance**

The land use plan of IMM on which this master plan is based is ideal and ambitious. It is advisable to establish a function in IMM to monitor the change of land use year by year and to assess the possible gap between the plan and the actual trend. It is recommended to organize a group that plans policy measures to orientate the direction of land use change towards the plan.

#### Work Items

1. Clarification of Responsibility for Land Use Monitoring and Establishment of Updating Land Use Data
2. Analysis on Gaps between Actual and planned Land Use
3. Monitoring Population Trend and Employment Distribution
4. Research on Policy Measures to realize Land Use Plan

### **24.5.5 Research on BOT/PPP**

Private sector funding is indispensable for the implementation of the master plan. IMM however lacks the expertise of BOT/PPP, and the central government also tends to take these matters easily. It is essential to foster and train the experts who understand the mechanism of BOT/PPP as well as its difficulty and world examples. As a first step, setting up of a workshop is advisable.

### Work Items

1. Creation of Research Unit of PPP scheme
2. Research of International PPP Experience and Applicability to Istanbul
3. Building Implementation Scheme for Railway Development in Istanbul
4. Preparatory Works for TDAF Establishment

## **24.6 New Organizations and Institutions**

### **24.6.1 Establishment of TDAF**

In order to secure enough public funding to promote PPP, establishment of “Transit Development Acceleration Fund (TDAF)” was proposed. This would be of a nationwide mechanism with a fund scale of more than USD2billion. While careful preparation is required, it is recommended as initial actions to form a core group inside IMM, and to hold seminars/workshops with outside experts as well as to prepare the implementation plan.

### **24.6.2 Establishment of WIDEC**

The urban development in the Western Istanbul will be drastic and remarkable. The present suburban area with a population of only 300 thousand will be a metropolis populated by more than 3 million people. Land price is estimated to jump by more than 25 times. If a part of this benefit goes to infrastructure, the development of road, railway, etc, will be quite easy.

However, the government is prohibited to seek for a commercial profit. Therefore it is proposed to establish the “West Istanbul Urban Development Corporation (WIDEC)” under the initiatives of IMM. This WIDEC acts as a developer both for housing and infrastructure. Private sector may be invited on a competition basis to absorb the know-how accumulated in the private sector. The key requirement for this organization is that it is allowed to obtain profit from housing and to spend it on infrastructure. In other words, WIDEC is basically a non-profit public organization with an internal cross-subsidy system. The recommendation of the JICA Study Team is to start a study to look into the possibility to establish such organization legally, politically, institutionally and socially.