



# Report and Recommendation of the President to the Board of Directors

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Project Number: 42417  
March 2011

## Proposed Multitranche Financing Facility Armenia: Sustainable Urban Development Investment Program

## CURRENCY EQUIVALENTS

(as of 18 February 2011)

Currency Unit	–	dram (AMD)
AMD1.00	=	\$0.002597
\$1.00	=	AMD385.00

## ABBREVIATIONS

ADB	–	Asian Development Bank
ADF	–	Asian Development Fund
CSO	–	civil society organization
EBRD	–	European Bank for Reconstruction and Development
EIRR	–	economic internal rate of return
IA	–	Implementing agency
ICB	–	international competitive bidding
MFF	–	multitranchise financing facility
NCB	–	national competitive bidding
OCR	–	ordinary capital resources
QCBS	–	quality- and cost-based selection
YDPIU	–	Yerevan Development Project Implementation Unit

## NOTE

In this report, "\$" refers to US dollars.

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## PROJECT AT A GLANCE

<b>1. Project Name:</b> MFF Sustainable Urban Development Investment Program		<b>2. Project Number:</b> 42417-01-3													
<b>3. Country:</b> Armenia		<b>4. Department/Division:</b> Central and West Asia Department/Urban Development and Water Division													
<b>5. Sector Classification:</b>															
		<b>Sectors</b>	<b>Primary</b>												
		Transport, and information and communication technology	√												
		<b>Subsectors</b>													
		Urban transport													
<b>6. Thematic Classification:</b>															
		<b>Themes</b>	<b>Primary</b>												
		Economic growth	√												
		Environmental sustainability													
		Private sector development													
		<b>Subthemes</b>													
		Promoting economic efficiency and enabling business environment													
		Urban environmental improvement													
		Public-private partnerships													
<b>6a. Climate Change Impact</b>		<b>6b. Gender Mainstreaming</b>													
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Adaptation</td> <td style="width: 50%;">Low</td> </tr> <tr> <td>Mitigation</td> <td>High</td> </tr> </table>		Adaptation	Low	Mitigation	High	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 80%;">Effective gender mainstreaming (EGM)</td> <td style="width: 20%;"></td> </tr> <tr> <td>Gender equity theme (GEN)</td> <td></td> </tr> <tr> <td>No gender elements (NGE)</td> <td></td> </tr> <tr> <td>Some gender benefits (SGB)</td> <td style="text-align: center;">√</td> </tr> </table>		Effective gender mainstreaming (EGM)		Gender equity theme (GEN)		No gender elements (NGE)		Some gender benefits (SGB)	√
Adaptation	Low														
Mitigation	High														
Effective gender mainstreaming (EGM)															
Gender equity theme (GEN)															
No gender elements (NGE)															
Some gender benefits (SGB)	√														
<b>7. Targeting Classification:</b>		<b>8. Location Impact:</b>													
<b>General Intervention</b>	<b>Targeted Intervention</b>														
	<b>Geographic dimensions of inclusive growth</b>	<b>Millennium development goals</b>	<b>Income poverty at household level</b>												
√															
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">National</td> <td style="width: 50%;">Medium</td> </tr> <tr> <td>Urban</td> <td>High</td> </tr> </table>		National	Medium	Urban	High								
National	Medium														
Urban	High														
<b>9. Project Risk Categorization:</b> Complex, in view of wide coverage of urban subsectors across 12 cities/towns.															
<b>10. Safeguards Categorization:</b> Indicative categorization for the MFF is as follows:															
		<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">Environment</td> <td style="width: 40%;">B</td> </tr> <tr> <td>Involuntary resettlement</td> <td>A</td> </tr> <tr> <td>Indigenous peoples</td> <td>C</td> </tr> </table>		Environment	B	Involuntary resettlement	A	Indigenous peoples	C						
Environment	B														
Involuntary resettlement	A														
Indigenous peoples	C														
<b>11. ADB Financing:</b>															
<b>Sovereign/Nonsovereign</b>	<b>Modality</b>	<b>Source</b>	<b>Amount (\$ Million)</b>												
Sovereign	MFF-Facility (Loan)	Asian Development Fund	180.0												
Sovereign	MFF-Facility (Loan)	Ordinary capital resources	220.0												
Total			400.0												
<b>12. Cofinancing:</b>															
While there is no cofinancing available for the first tranche, subsequent tranches will attract co-financing. The long term sector investment program includes possible co-financing support of \$445 million.															
<b>13. Counterpart Financing:</b>															
The long term sector investment program includes counterpart financing from government and private sector. Discussions with private sector have been initiated with financing to be finalized prior to each tranche.															
<b>Source</b>		<b>Amount (\$ Million)</b>													
Government		115.0													
Total		115.0													
<b>14. Aid Effectiveness:</b>															
Parallel project implementation unit		No													
Program-based approach		Yes													

## I. THE PROPOSAL

1. I submit for your approval the following report and recommendation for a multitranche financing facility (MFF) to Armenia to help finance a share of the Sustainable Urban Development Investment Program.<sup>1</sup> The proposed investments are physical and nonphysical in nature and target improved urban connectivity and mobility, transport efficiency, reliability and safety and institutional effectiveness.<sup>2</sup>

## II. THE INVESTMENT PROGRAM

### A. Rationale

2. Armenia has a relatively small population (3.24 million), but is the most urbanized country in the Caucasus. Urban areas, with 2.1 million people or 64% of the total population, already account for most of the country's economic activity and employment. Armenian urban areas fall into four categories<sup>3</sup> (i) Yerevan, the capital city with 1.12 million people; (ii) mid-sized secondary cities such as Gyumri, Kapan, and Vanadzor; (iii) small and medium size cities with important industrial and agro-processing complexes such as Armavir, Artashat, Ashtarak and Ararat; and (iv) cities with high tourism potential such as Dilijan, Jermuk, Sevan, and Tsakhkadzor. These 12 cities account for almost 90% of the nation's gross domestic product, with Yerevan alone accounting for 60%.

3. **Shifting urban landscape.** Unbalanced economic growth among regions, posing serious development challenges to planners and policy makers. Some cities are growing fast, others are not. Some house only one industry at best; others struggle to attract one. Even Yerevan has seen change. A gradual collapse of its heavy industry, in the early 1990s, then located in its southern ring, created a rapid shift in the location of commercial and residential centers, and corresponding changes in the demand for metro, tramway, trolleybus and bus network services. These changes have increased motorization, but also led to poor air quality, noise, traffic congestion, loss of green areas, and degraded historical buildings. Many secondary cities have also grown since the 1990s and now share most of Yerevan's problems.<sup>4</sup>

4. **Traffic and road safety concerns.** Growth has brought widespread vehicle ownership, which has grown by 40% since 2004.<sup>5</sup> The number of accidents in Yerevan has risen in parallel, from 260 fatalities in 2004 to more than 400 in 2008, with the number of injured more than doubling from 1,500 in 2004 to 3,125 in 2008. This has put road safety on the agenda. Despite improvements in major arteries in the capital, the traffic signal system is outdated and inadequate. Environmental protection is now another priority. Located in Ararat Valley, Yerevan has little natural ventilation, and congestion results in concentration of hazardous substances. Urban transport generated 90% of air pollution in 2009, with carbon dioxide emissions expected to increase by 160% by 2020. The limited number of bridges in Yerevan over the Hrazdan River creates bottlenecks and massive congestion during peak hours. In addition, a city bypass remains uncompleted, disallowing any diversion of passing traffic. Illegal and double parking and poorly enforced traffic laws further constrain mobility. In 2009, traffic exceeded design

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<sup>1</sup> See the design and monitoring framework in Appendix 1.

<sup>2</sup> The Asian Development Bank (ADB) provided project preparatory technical assistance. ADB. 2009. *Technical Assistance to Armenia for Preparing the Yerevan Sustainable Urban Transport Project*. Manila (TA 7340-ARM).

<sup>3</sup> ADB. *Armenia: Strategic Urban Assessment*. Manila. (TA 6423-REG).

<sup>4</sup> See Sector Assessment and Roadmap Summary: Urban Transport (accessible from the list of linked documents in Appendix 2).

<sup>5</sup> With 130,000 vehicles registered in 2009, Yerevan accounts for 40% of vehicles nationally.

capacity on more than 20% of the road network, and a further 35% was about to reach its limit. Most of these problems are replicated in other cities.

5. **Inadequate public transport services.** The Yerevan public transport system comprises minibuses, buses, trolleybuses, and metro routes.<sup>6</sup> Its public transport infrastructure is aged, and vehicle fleet old and poorly maintained, travelling an average speed of 16 kilometers per hour. The metro network has a single 12.1 km line with 10 stations and a fleet of 70 old carriages. Metro ridership accounts for only 8.2% of total public transport ridership, which stood at 207 million passenger trips in 2009. Today, 85% of the passengers are carried by unsubsidized private minibuses, despite their expensive fares.<sup>7</sup> While minibuses spared Yerevan a severe transport crisis in the 1990s, they now contribute to a chaotic situation that has seen big and medium-sized buses pushed out. Service quality is poor due to overloading and congestion. This shift has severely compromised the financial sustainability of other public transport services and caused investment backlogs for trolleybus and metro, as fares are too low to cover operating and renewal costs. In other Armenian cities, the urban transport issues are similar albeit less dire. They have deteriorating urban road networks with inefficient or nonexistent systems of traffic management and poor public transport that relies far too heavily on minibuses. The transport network needs restructuring, as routes often duplicate others. Service quality is poor and the level of comfort minimal. In tourist centers, urban transport infrastructure is unable to cope with the inflows at peak periods. These limitations are accompanied by rising gaps in the quality of municipal planning, finance and monitoring.

6. **Sector strategy, roadmap, and institutional reform.** The national government and Yerevan municipality have invested more than \$185 million during 2005-2010 in upgrading urban infrastructure. But these investments are only patching up immediate problems. More investments are needed to make the system viable. Secondary cities are in a similar situation. A strategic framework for urban renewal has been agreed to correct this, and to adopt a systematic approach. This is backed by a roadmap, policy framework and investment plan split into shorter (immediate), medium (2011-2016) and long term (2017-2025) interventions, covering both physical and non physical requirements. The overall investment runs into \$960 million for the period 2011 to 2025 -an average capital and recurrent expenditure outlay of around \$70 million a year.

**Table 1: Long term Sector Investment Program  
(\$ million)**

Item	Short Term	Medium Term	Long Term	Total	Share of Total (%)
1. Urban infrastructure improvement	55.5	322.6	465.7	843.7	87.9
2. Institutional effectiveness	1.1	11.2	15.1	27.4	2.9
3. Project Management support	3.4	36.2	49.2	88.9	9.2
<b>Total</b>	<b>60.0</b>	<b>370.0</b>	<b>530.0</b>	<b>960.0</b>	<b>100.0</b>

Note: Amounts in mid-2010 prices. For clarity, figures have been rounded.

Source: Asian Development Bank estimates.

7. **Rationale for using the Multitranche Financing Facility.** The government has requested Asian Development Bank's (ADB) assistance via an MFF. The strategic approach for urban renewal is fully consistent with ADB's interim operational strategy for Armenia<sup>8</sup> and in line

<sup>6</sup> The system includes 2,800 minibuses operated by 65 companies on 118 microbus routes, 390 buses running on 28 bus routes, and 50 trolleybuses running on 9 trolleybus routes.

<sup>7</sup> Twice as high as the municipal-owned operators.

<sup>8</sup> ADB. 2006. *Economic Report and Interim Operational Strategy: Armenia (2006–2009)*. Manila. A country partnership strategy is under preparation.

with ADB's own sustainable transport initiative and Strategy 2020.<sup>9</sup> The existence of a strategy, roadmap, policy framework, investment program, and a financing plan justifies the use of the MFF in this case. The majority of the investments are similar in size and fairly repetitive over time. This means that the tranches do not involve very small investments at the start followed by large and complex ones later. The size of these investments is nonetheless larger than the one normally identified with a sector loan modality. The sequence and location of these investments is also highly predictable. This means the MFF can be used within the stipulated period, thus limiting the timing of the so-called "moral financing obligation". A large stand-alone loan would result in high commitment fees to the client. The MFF is also more flexible with regard to individual tranche financing plans. Some tranches are expected to be co-financed with donors and the private sector. The policy reform framework is already in place. This cuts out the development program loan approach. Finally, the MFF blends more easily physical investments with institutional change. It can also accommodate policy revisions. The modality is thus cost effective and provides a better basis for a longer term partnership in the sector.

**8. Coordination with development partner and civil society organizations.** ADB has consulted key partners working in Armenia. It also consulted civil society organizations and the private sector. This coordination will continue during the implementation phase, including under each tranche of the MFF. Further, ADB chairs a partner coordinating committee covering urban transport and other urban services. This will be invoked from time to time as needed. There is a basic understanding among the partners and key civil society organizations on the investment priorities, institutional change and policy reforms required to ensure efficiency and effectiveness. ADB has been involved in urban water supply in the country since 2007,<sup>10</sup> but this will be the first time it will do so in the urban transport area. Other donors are already active, namely the World Bank and the European Bank for Reconstruction and Development (EBRD). The World Bank is currently discussing with authorities a \$30 million loan for parking and traffic management. EBRD is working with the Yerevan municipality and the metro company. The city also signed in early 2010 a €15 million loan cofinanced by the European Union and the European Investment Bank. EBRD and ADB are jointly financing the renovation of Yerevan Zvartnots International Airport, a transaction led by the Private Sector Operations Department.<sup>11</sup>

## **B. Impact and Outcome**

9. The impact of the MFF will be an improved urban environment, a stronger economy, spearheaded by investments in cities and job creation, and enhanced private sector participation in urban areas. The outcome will be improved urban transport infrastructure in 12 Armenian cities, leading to more efficient, reliable, safer and affordable services (Appendix 1).

## **C. Outputs**

10. The MFF will support physical investments; greater institutional effectiveness; and project management as outlined in Table 2 below.

<sup>9</sup> ADB, 2009. *Changing Course: A New Paradigm for Sustainable Urban Transport*. Manila; ADB. 2010. *Sustainable Transport Operational Plan*. Manila.

<sup>10</sup> ADB. 2007. *Report and Recommendation of the President to the Board of Directors on the Water Supply and Sanitation Sector Project for Armenia*. Manila.

<sup>11</sup> ADB. 2010. Private Sector-7308: ARM: Zvartnots Airport Expansion Project (Phase 2)

**Table 2: Principal Cumulative Outputs of the Proposed MFF**

Tranche and Cities	Urban Infrastructure	Institutional Effectiveness	Project Management Support
Tranche 1: Yerevan	<ul style="list-style-type: none"> <li>• 11.4 kilometers of a new bypass constructed in Yerevan</li> <li>• 10 kilometers of new roads in all cities</li> <li>• 10 kilometers of roads upgraded in all cities</li> <li>• 8 kilometers of segregated structures constructed for priority bus services</li> <li>• 6 intermodal transport facilities constructed</li> <li>• At least 4 pedestrian areas constructed</li> <li>• 10 kilometers of metro infrastructure extended/upgraded or new LRT created in Yerevan</li> <li>• 3 metro stations upgraded</li> <li>• A fleet of electric and/or compressed natural gas minibus introduced in Yerevan</li> </ul>	<ul style="list-style-type: none"> <li>• Independent transport authority established in Yerevan and in at least 2 other cities</li> <li>• Strategic transport master plans prepared by 5 cities</li> <li>• Integrated ticketing system between different transport modes implemented in Yerevan</li> <li>• New urban transport public-private partnership framework adopted for Yerevan, as a model for other cities</li> </ul>	<ul style="list-style-type: none"> <li>• One overall project Manager contracted (Procurement, safeguards, PPP, supervision, expertise)</li> <li>• Three Engineering, and Construction supervision contracts finalized</li> <li>• At least 50% of the executing and implementing agencies' staff trained in procurement, safeguards and project management</li> </ul>
Tranche 2: Yerevan, Gyumri, and Jermuk			
Tranche 3: Yerevan, Vanadzor, and Dilijan			
Tranche 4 and 5: Yerevan, Kapan, Tsakhkadzor, Ararat, Artashat, Ashtarak, Armavir, and Sevan			

Source: Asian Development Bank.

#### D. Investment and Financing Plans

11. The government has requested an MFF of up to \$400 million from ADB's Special Funds resources (ADF) and ordinary capital resources (OCR) to help finance a portion of the investment program. Table 3 presents the investment plan and Table 4 the financing plan.

**Table 3: Investment Plan**  
(\$ million)

Item	Long Term Sector Investment Program	Medium Term Investment Program	Tranche 1 <sup>a</sup>
<b>A. Base Cost<sup>b</sup></b>			
Component 1: Urban infrastructure improvement	756.5	402.0	50.0
Component 2: Institutional effectiveness	27.4	16.0	1.1
Component 3: Project management support	88.9	42.0	3.4
<b>Subtotal (A)</b>	<b>872.8</b>	<b>460.0</b>	<b>54.6</b>
<b>B. Contingencies<sup>c</sup></b>	<b>87.2</b>	<b>37.5</b>	<b>4.5</b>
<b>C. Financing Charges During Implementation<sup>d</sup></b>		<b>17.5</b>	<b>1.0</b>
<b>Total (A+B+C)</b>	<b>960.0</b>	<b>515.0</b>	<b>60.0</b>

<sup>a</sup> Includes taxes and duties of \$9.84 million.

<sup>b</sup> In mid-2010 prices. Figures have been rounded for clarity.

<sup>c</sup> Physical contingencies are computed at approximately 10%

<sup>d</sup> Includes interest and commitment and bank charges.

Source: Asian Development Bank estimates.

12. Up to five tranches are envisaged under the MFF, each amounting to between \$50 million and \$100 million. Project readiness, demonstrated through completion of design works, advanced bidding and contract awards, will be a pre-requisite for the approval of each tranche. Each tranche will also require all safeguard plans to have been executed upfront and fully, in line with ADB policies and procedures. Funding for much of this work will be set aside under the first tranche, supplemented as needed in each of the preceding tranches. Tranche approvals



will also be linked to the implementation performance of previous ones. The MFF will be cancelled if not converted into tranches within the specified period.<sup>12</sup>

**Table 4: Financing Plan**

<b>Source</b>	<b>Long term Sector Investment Program (\$ million)</b>	<b>Medium Term Investment Program (\$ million)</b>	<b>Tranche 1 (\$ million)</b>	<b>Share of Tranche 1 (%)</b>
Asian Development Bank	400.0	400.0	48.6	81.7
Other financiers <sup>a</sup>	445.0	...	...	...
Government	115.0	115.0	11.4	18.3
<b>Total</b>	<b>960.0</b>	<b>515.0</b>	<b>60.0</b>	<b>100.0</b>

... = not available. Figures have been rounded for clarity.

<sup>a</sup> Under discussion. This will include support from development partners and private sector.

Source: Asian Development Bank estimates.

13. The present indicative ADB financing for the MFF comprises \$180 million in the form of ADF resources and \$220 million in OCR. The government has requested flexibility in the use of ADF resources for subsequent tranches. It is understood that the provision of any such additional ADF financing will be accompanied by a corresponding reduction of the available OCR financing (and vice-versa), so that in any event the total financing provided by ADB will not exceed the MFF amount of \$400 million equivalent. Any additional ADF allocation will be subject to (i) the general availability of ADF resources from time to time, (ii) Armenia's access to such resources pursuant to ADB's then-applicable Graduation Policy<sup>13</sup> and the requirements of ADF donors, and (iii) the availability of such resources to Armenia pursuant to ADB's then-applicable policy on performance-based allocation of ADF resources.<sup>14</sup> OCR loans will have a term of up to 25 years, including a grace period of up to 5 years, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility and such other terms and conditions set forth in the loan and project agreements for each tranche. The facility administration manual shows the financial arrangements and indicative flow of funds.<sup>15</sup>

14. Tranche 1, supported with a loan of about \$50 million equivalent, focuses mainly on the construction of the ring road in Yerevan. This 4.5 km road will divert traffic from the city center and stimulate economic development in the outer areas of the city. It will be funded from ADB's Special Funds resources, with a 32-year term, including a grace period of 8 years, an interest rate of 1.0% per annum during the grace period and 1.5% per annum thereafter, and such other terms and conditions set forth in the loan and project agreements. The government will finance about \$12 million, mainly by paying for land acquisition, taxes and duties. The tranche will set aside funds to prepare investment projects for secondary cities including Gyumri, Jermuk, Vanadzor, and Kapan. ADB will finance resettlement expenses on a case by case basis, including under tranche 1, but not land acquisition. This action will enhance project readiness. The government requested ADB's support in this area due to budgetary constraints, but more importantly to accelerate the start of construction and project implementation as a whole. All the necessary administrative arrangements for land acquisition and resettlement are captured in the

<sup>12</sup> Management is currently revising conditions for the use of the MFF. Issues being tackled include a revised annual report (to better capture performance and utilization), advance information on tranches (prior to their approval) and improved arrangements for linked documents, including safeguards. This MFF will apply the new conditions once approved.

<sup>13</sup> Currently: ADB. 2008. *Review of the 1998 Graduation Policy of the Asian Development Bank*. Manila.

<sup>14</sup> Currently: ADB. 2004. *Review of the Asian Development Bank's Policy on the Performance-Based Allocation of Asian Development Fund Resources*. Manila. ADB. 2008. *Refining the Performance-Based Allocation of Asian Development Fund Resources*. Manila.

<sup>15</sup> Facility Administration Manual (accessible from the list of linked documents in Appendix 2).

land acquisition and resettlement plans for the project, as well as in the broad safeguards framework for the MFF as a whole. ADB will closely monitor the process to ensure full compliance with safeguards requirements.

15. **Co-financing and Private Sector Development.** ADB and the government will pay special attention to raising cofinancing from third parties, as well as funded risk participation by the private sector. The MFF will also focus on expanding private sector participation in the management of transport and other urban assets. This plan will require continuous improvements on legal and regulatory fronts as well as tariff setting and contracting modalities, provisions for which are included in the roadmap.

## E. Implementation Arrangements

16. **Investment program management.** The Ministry of Economy will be the executing agency, considering the program's countrywide coverage.<sup>16</sup> Yerevan municipality will be the implementing agency for tranche 1. The Municipality will (i) manage, supervise, monitor day-to-day implementation, and organize procurement; (ii) provide any counterpart assistance required; and (iii) provide oversight on the implementation of environmental and social safeguards. The entire program will be monitored by a government supervisory board. This is to ensure full support from relevant ministries, municipalities and other agencies. The concerned city municipalities will implement subsequent tranches. Implementation arrangements are summarized in Table 5 and detailed in the facility administration manual.

**Table 5: Implementation Arrangements**

Aspects	Arrangements		
<b>Implementation period</b>	<b>April 2011–March 2020 (with completion estimated by 31 December 2020)</b>		
<b>Management</b>			
(i) Oversight body	Supervisory Board chaired by Prime Minister		
(ii) Executing agency	Ministry of Economy		
(iii) Implementing agencies	Yerevan Municipality, and other implementing agencies to be designated by the Supervisory board for subsequent tranches		
(iv) Implementation unit	Existing Yerevan Development PIU for tranche 1 with Project Management consultant		
<b>Procurement<sup>a</sup></b>	International competitive bidding for civil works	4 contracts	\$350 million
	International competitive bidding for goods	1 contract	\$30 million
<b>Consulting services<sup>b</sup></b>	Overall project management (Procurement safeguards, overall supervision and expertise)	1 contract; quality- and cost-based selection (QCBS)	\$14 million
	Engineering and construction supervision consultants (firm)	3 contracts (QCBS)	\$23 million
	Audit and advisory services	50 person-months (individual and firm)	\$2 million
<b>Retroactive financing and/or advance contracting</b>	Retroactive financing is available for up to about \$10 million (20% of tranche 1 loan) on advance contracts for eligible expenditures (civil works, goods, and consulting services).		
<b>Disbursement</b>	Loan proceeds will be disbursed in accordance with the <i>Loan Disbursement Handbook</i> (2010, as amended from time to time) and detailed arrangements agreed upon between the government and ADB.		

<sup>a</sup> Tentative amounts and packages referring to the proposed procurement plan. To be updated for each periodic financing request.

<sup>b</sup> Tentative budget for multiple individual consultant contracts over 10 years to support MFF implementation.

Source: Asian Development Bank estimates.

<sup>16</sup> As the Ministry of Finance will manage the financing flows, no financial management assessment of the Ministry Economy has been undertaken.

17. **Financial management.** A financial management assessment and procurement capacity assessment confirmed that Yerevan municipality can deal with the implementation of tranche 1, given its past experience in administering donor projects. Other cities do not yet have such capacity. The MFF will finance training on ADB procedures for them including on safeguards, procurement, contract management, loan disbursement and monitoring. These tasks are already planned in 2011. The Armenia Resident Mission will be closely involved in implementing the entire MFF under the joint venture arrangement practiced in the department responsible for the region - Central and West Asia Department. While the Resident Mission will continuously review MFF implementation, at least three formal loan review missions will be fielded every year with the participation of headquarters staff. Annual independent audits will be undertaken. Donors and civil society organizations will be briefed and consulted with regularly. Co-financing will be sought for each tranche.

18. **Contracting Arrangements:** Contracting arrangements will be continuously reviewed, refined and revised to achieve maximum efficiency and cost effectiveness. Key features include: (i) **Management:** A firm will be recruited as a program manager to support, guide and manage the implementation of the whole MFF with the implementing agency and existing PIU. It will support all aspects of MFF management, procurement, safeguards compliance, and oversight on the supervision consultants; (ii) **Engineering and Supervision:** 3 engineering and supervision contracts will be issued matching the different type of outputs (road, public transport and urban regeneration); (iii) **Civil Works:** 4 contracts are planned, including one for Yerevan bypass; one contract for the construction of urban roads and missing links in the secondary cities, one contract for public transport including metro and other public modes, and one for urban regeneration in Yerevan and secondary cities; (iv) **Audit:** A firm will be recruited to undertake independent financial and operational audit; (v) **Goods:** one contract will be issued for equipments for the metro extension in Yerevan. Continuous consultations with the private sector and market surveys will be undertaken prior to each tranche. Subject to market feedback, some of the civil works contracts will be designed on a turnkey basis comprising design as well as execution. A detailed procurement plan has been prepared for the first tranche, and tender documents are ready.

19. As the current metro system in Yerevan uses technology and equipment from the former Soviet Union, the government has requested a waiver to allow the procurement of some metro equipment from nonmember countries to ensure continuity and passenger safety.<sup>17</sup>

### III. DUE DILIGENCE

#### A. Technical

20. A comprehensive sector strategy and roadmap for urban transport renewal have been prepared. This will be updated during the MFF implementation. Technical due diligence, including preliminary designs, has been completed for the two subprojects included in tranche 1. Future tranches will be approved only after preliminary or full designs are available.

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<sup>17</sup> The existing metro network was built following the Soviet metro system and Soviet standards. Technical due diligence has shown that some critical components of the signaling and energy system will need to be procured from nonmember countries to ensure continuity with existing metro equipment and guarantee proper passenger safety in the tunnel and on trains. The metro company has traditionally imported such items from nonmember countries. The value of nonmember procurement is estimated at less than 15% of the total MFF and will happen in tranche 2 and in subsequent tranches. It will be detailed in the facility administration manual before each periodic financing request. ADB member countries may propose alternative technology, but switching technologies would be too costly. All other components will be procured from ADB member countries.

## B. Economic and Financial

21. The major economic benefits accruing from projects will be savings in travel time and vehicle operating cost per kilometer, and fewer traffic accidents.<sup>18</sup> The analysis showed that the two subprojects are economically viable, with internal rates of return (EIRRs) of 14.4%–20.3% and estimated economic net present values of \$4.8 million–\$17.2 million at a 12% discount rate. A sensitivity analysis confirmed this viability. A risk analysis indicated that the mean and median EIRRs, though lower than the base case EIRRs, were above 12%. In tranche 1, no revenue-generating projects will be implemented, so no financial analysis has been undertaken. Economic and financial analysis will be conducted for all future projects under the MFF.

## C. Governance

22. A financial management assessment was conducted for Yerevan municipality, a process that will be replicated for all other cities during MFF implementation. The Yerevan municipality has adequate capacity to manage the investment program and project implementation. The procurement assessment has demonstrated adequate capacity and systems to procure goods and services through international and national competitive bidding according to ADB Procurement Guidelines. ADB's Anticorruption Policy was explained to and discussed with the government and Yerevan municipality. Specific policy requirements and supplementary measures on governance are described in the Facility Administration Manual.

## D. Poverty and Social

23. The investments will have a direct and indirect poverty impact on people across the country. Tranche 1 investment on the Yerevan ring road will benefit 1.14 million people (34% of Armenia's population and 54% of its urban population). The investment will improve living conditions, the urban environment and mobility. Potential beneficiaries are local residents, road and public transport users (including students), and businesses, who will benefit from greater mobility and connectivity. Tranche 1 will generate an estimated 400 jobs. Employment targets for local unskilled workers, women, and vulnerable groups are included in the summary poverty reduction and social strategy.<sup>19</sup> The MFF as a whole will directly benefit over 2.1 million urban residents (64% of the Armenian population). By 2025, the poor will benefit through (i) better access to the city and other activity centers, (ii) affordable transport alternatives for travelling in the city, (iii) better living conditions and pollution reduction, (iv) employment opportunities in the construction and maintenance of road projects (more than 1,000 jobs), and (v) improved job prospects in all cities. Tariff and subsidy reform and an integrated ticketing system allowing social and concessionary fares for the microbus system will guarantee wide mobility for the poor. Road construction will sustain socioeconomic development and promote tourism in Yerevan, Jermuk, Dilijan, Tsakhkadzor and Sevan.

24. **Health.** Health hazards from automotive pollution and traffic accidents will be reduced. CO<sub>2</sub> emissions will be reduced. Reduced congestion, noise, and exhaust fumes, and expanded green and pedestrian areas will improve public health and the quality of life. Shorter travel time and better transport services will improve lives—especially for women, the elderly, and children—as improved road and public transport will ease access to social services such as universities, hospitals, and clinics. Awareness training on HIV/AIDS and sexually transmitted infections will be required in civil works bidding documents and monitored during implementation.

<sup>18</sup> Economic Analysis (accessible from the list of linked documents in Appendix 2); ADB. 1997. *Guidelines for the Economic Analysis of Projects*. Manila.

<sup>19</sup> Summary Poverty Reduction and Social Strategy (accessible from the list of linked documents in Appendix 2).

25. **Gender impact.** The MFF will have some gender benefits. It will improve women’s access to transport services and enhance their rights and benefits. The gender action plan has measures for boosting gender awareness; information sharing on HIV/AIDS risk; equal pay; and hygiene promotion. It stipulates training for all implementing agencies through gender focal points, and balanced representation in decision making in sector agencies.<sup>20</sup>

## E. Safeguards

26. **Environment.** An environmental assessment and review framework for the entire MFF was approved on 24 September 2010. Tranche 1 project is classified as category B, and two initial environmental examinations have been prepared.<sup>21</sup> Tranche 1 subprojects will not have significant irreversible negative environmental impacts during or after construction.<sup>22</sup> Yerevan municipality will require the contractor to implement the environmental management plan outlined in the initial environmental examination and in the framework. The plan will be part of the construction contract. With respect to the entire MFF, projects in cities with high tourism potential with national parks or historical heritage sites are tentatively categorized as “A”, while other projects in Yerevan and other cities are categorized as “B”. ADB policies and procedures will be followed in each case.

27. **Land acquisition and resettlement.** To satisfy the requirements of national laws and the ADB Safeguard Policy Statement (2009), a land acquisition and resettlement framework for the entire MFF was approved and disclosed on 24 September 2010. The tranche 1 project is classified as resettlement category A. Both subprojects under tranche 1 involve land acquisition for which two land acquisition and resettlement plans were approved on 24 September 2010.<sup>23</sup> The impact of subproject 2 is significant as more than 200 individuals will be relocated; while that of subproject 1 is marginal. With respect to the subsequent tranches of the MFF, the projects involving Yerevan are tentatively classified as category A, while those in other secondary cities are classified as category B.

28. **Indigenous peoples.** The investment program areas do not include communities that may be defined as indigenous peoples under the ADB Safeguard Policy Statement (2009). The MFF and all tranche subprojects are classified as category C.

## F. Risks and Mitigating Measures

29. The implementation risks are summarized in Table 6.

**Table 6: Summary of Risks and Mitigating Measures**

<b>Risks</b>	<b>Mitigating Measures</b>
Implementing agency has limited experience with external financing. Insufficient procurement resources and cumbersome procurement process could delay implementation.	Project management consultants will be hired to streamline processes and improve project implementation. Individual consultants will also support the implementing agencies. ADB procurement and disbursement trainings are planned
The private sector may find the business environment complex and unstable; and other development partners’ commitments may limit the availability of contractors.	Market surveys will be undertaken to refine the procurement strategy. As ADB chairs the transport donor coordination committee, it will consult with other partners to smoothen contractor demands
Fiscal constraints may delay or reduce counterpart	Counterpart funds transferred to IA at the beginning of the

<sup>20</sup> Gender Action Plan (accessible from the list of linked documents in Appendix 2).

<sup>21</sup> Initial Environmental Examination (accessible from the list of linked documents in Appendix 2). In compliance with national laws and the ADB *Safeguard Policy Statement* (2009).

<sup>22</sup> Environmental Assessment and Review Framework (accessible from the list of linked documents in Appendix 2).

<sup>23</sup> Resettlement Plans (accessible from the list of linked documents in Appendix 2).

<b>Risks</b>	<b>Mitigating Measures</b>
funding	year. Part of the resettlement costs will be financed by ADB
Subprojects may increase maintenance cost and operation subsidies; financial sustainability of infrastructure investments may be in jeopardy if subsidies are insufficient.	MFF will assist in introducing output based subsidies and develop new sources of revenue. Public-private partnerships will provide extra revenues
Lack of coordination between national and municipal levels.	Creation of a supervisory board chaired by the Prime Minister to ensure full dialogue and commitment
Political changes may shift focus from urban transport and interfere in subproject selection and development	Policy dialogue and long-term engagement through MFF modality will ensure strong commitment from authorities and compliance with technical subproject selection criteria

Sources: Asian Development Bank project preparatory technical assistance consultant.

#### **IV. ASSURANCES**

30. The government has assured ADB that implementation of the MFF shall conform to all applicable ADB policies including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, and disbursement as described in detail in the Facility Administration Manual and loan documents. The government has given ADB certain undertakings for the MFF, which are set forth in the framework financing agreement. Specific covenants agreed by the government with respect to individual tranches under the MFF are set forth in the loan agreement and project agreement for the respective tranches.

#### **V. RECOMMENDATIONS**

31. I am satisfied that the proposed multitranche financing facility would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the provision of loans under the multitranche financing facility in an aggregate principal amount not exceeding \$400,000,000 equivalent to Armenia for the Sustainable Urban Development Investment Program comprising

- (i) loans from ADB's Special Funds resources, with interest to be determined in accordance with ADB's then applicable policies relating to Special Funds resources, subject to conditions set forth in para. 13 of this report;
- (ii) loans from ADB's ordinary capital resources, with interest to be determined in accordance with ADB's London interbank offered rate-based lending facility;

and such other terms and conditions as are substantially in accordance with those set forth in the framework financing agreement presented to the Board.

32. I also recommend that the Board approve the proposal set forth in para. 19 of this report that the metro equipment procured from nonmember countries of ADB be eligible for financing under the investment program. If the requisite affirmative vote of directors representing not less than two-thirds of the total voting power of ADB's membership, pursuant to article 14(ix) of the Articles of Agreement of ADB, is not obtained for this recommendation and the Board approves only the recommendation in para. 31, then only metro equipment procured from member countries of ADB will be eligible for financing under the investment program.

Haruhiko Kuroda  
President

29 March 2011

## DESIGN AND MONITORING FRAMEWORK FOR THE INVESTMENT PROGRAM

Design Summary	Performance Targets and Indicators	Data Sources and Reporting Mechanisms	Assumptions and Risks
<p><b>Impact</b> Improved urban environment, local economic conditions and greater private sector within urban areas</p>	<p><b>By 2022,</b> Air pollution due to urban transport declines by 5% compared to 90% baseline in 2009. Contribution of secondary cities to gross domestic product increases to at least 35% (baseline 2009: 30%) Private investment in urban transport sector in Armenia increases at least by 10% compared to 2009 Accidents decline by at least 10% (baseline 2008: 407 fatalities and 3,125 injured) Government operational subsidy for public transport declines by at least 10% compared to 64% in 2009</p>	<p>Report of multiple Indicators from municipal departments, companies and nongovernment organizations Statistical surveys (Ministry of Natural Protection, Ministry of Transport and Telecommunications, Yerevan municipality, Yerevantrans or other agencies)</p>	<p><b>Assumptions</b> The government pursues optimal growth strategies Appropriate environmental framework in place Political and economic stability. <b>Risk</b> Economy's vulnerability to exogenous shocks.</p>
<p><b>Outcome</b> Efficient, reliable and affordable urban infrastructure and services provided in Armenian cities</p>	<p><b>By 2020,</b> Travel time from South to North Yerevan declines by 40% compared to 45 minutes in 2009 National public transport modal split is maintained at 21% (2008) Share of women using urban transport services increases by at least 5% from 8.3 million in 2008 because of better security At least 1,000 new jobs are created due to construction</p>	<p>Nongovernment organization, international and national transport associations repost and database Metro and trolleybus companies, Yerevan Trans Municipality transport statistics or other agencies as appropriate Statistical Yearbook of Armenia</p>	<p><b>Assumptions</b> Political will for efficient Program implementation Prompt decision-making and counterpart funds release <b>Risks</b> Political debate shifting urban transport focus Slowdown of business environment undermined private sector appetite</p>
<p><b>Outputs</b> Urban infrastructure extended, rehabilitated and improved in urban areas</p>	<p><b>By 2016:</b> Completion of urban infrastructure: -5.3 km of road links constructed by Yerevan municipality; -at least 1 multiple levels intersection upgraded by Yerevan municipality; -at least 2 footbridges implemented by Yerevan municipality; -at least 1 km of urban street including sidewalks improved by Yerevan municipality. Urban road link detailed design for tranche 2 endorsed by Yerevan municipality Road and bus improvement design endorsed by Yerevan municipality and applicable body for secondary city <b>By 2018:</b> Completion of urban infrastructure: -at least 1 new underground Metro entrance opened by Yerevan municipality -6.1 km of road link constructed by Yerevan municipality; -5 km of segregated structure for priority trolleybus and bus constructed by Yerevan municipality;</p>	<p>Project progress reports Yerevan urban transport master plan published Participating city website and communication materials Municipal transport statistics Yerevantrans, Metro Company, Yerevan bus company annual reports Yerevan municipality reports Surveys conducted by the Yerevan municipality</p>	<p><b>Assumptions</b> Yerevan municipality and other implementing agencies have capacity to undertake safeguards policy Capacity development carried out in Yerevan municipality and other cities <b>Risks</b> Rising energy costs increase operational expenses; tariff increases not supported by consumers Ministry of Economy, Yerevan municipality</p>

Design Summary	Performance Targets and Indicators	Data Sources and Reporting Mechanisms	Assumptions and Risks
	<p>-at least 3 km of segregated structure for priority bus transit constructed by one secondary city;</p> <p>-at least 5 intermodal facilities for intercity bus services by Yerevan municipality and/or other cities;</p> <p>-at least 10 km of urban roads with sidewalks improved or created in secondary cities;</p> <p>-at least 1 pedestrian area constructed by Yerevan municipality</p> <p>A mass transit extension design endorsed by Yerevan municipality</p> <p>Urban and interregional transport network reorganization plans endorsed by two secondary cities</p> <p>One private company contracted for public transport operation or multimodal facilities management by Yerevan municipality</p> <p><b>By 2020:</b> Completion of urban infrastructure: -at least 10 km of urban roads paved or upgraded -at least 3 pedestrian areas constructed by secondary cities -at least 10 km of metro infrastructure upgraded by Yerevan municipality and Metro company -at least 1 multimodal interchange upgraded by Yerevan municipality</p> <p>A fleet of electric and/or CNG minibus introduced by Yerevan municipality</p> <p>Yerevan municipality contracted and/or constructed one mass transit solution—light rail or metro extension</p> <p>Two metro stations upgraded with special areas/facilities for women and the disabled</p>		<p>and other cities experiencing obstacles for institutional change and implementation of reforms.</p>
<p>Appropriate institutional capacity strengthened in Yerevan and secondary cities</p>	<p>Institutional capacity strengthening: -a transport committee set up by Yerevan municipality by end 2011 -a multimodal transport website operational by Yerevan municipality by mid- 2016</p> <p><b>By 2016:</b> Transport reforms initiated: -microbus reorganization and tendering reform implemented by Yerevan municipality -integrated ticketing system implemented by Yerevan municipality -transport planning and monitoring processes established by Yerevan municipality and by secondary cities -Yerevan public transport network restructured -Public service contracts prepared by Yerevan municipality -Urban transport plan endorsed in 2 cities</p> <p><b>By 2018:</b> Institutional strengthening in Yerevan municipality: -new urban transport financing and PPP</p>	<p>Ministry Of Economy and cities website and municipal organization chart</p> <p>implementing agencies</p> <p>project progress reports</p>	<p><b>Assumptions</b></p> <p>Yerevan municipality, Ministry of Economy and other cities receptive to reform agenda and to strategic planning</p> <p>Institutional reforms implemented</p> <p>Continued political will to manage program implementation</p> <p><b>Risk</b></p> <p>Interdepartmental coordination and support is not forthcoming</p> <p>Divergence between</p>



Design Summary	Performance Targets and Indicators	Data Sources and Reporting Mechanisms	Assumptions and Risks								
	framework prepared -at least 2 public service contracts awarded by Yerevan municipality -transport authority set up by Yerevan municipality  Institutional strengthening in secondary cities: -strategic urban infrastructure plan prepared by 4 secondary cities -bus and minibus network reformed by 2 cities -transport authority model adopted by 2 cities -public service contract introduced by 2 cities		central government and municipal authorities on policy reform								
Establishment of skilled and experienced program Implementation Units in Yerevan and other cities covered under the MFF	<b>By 2016:</b> At least 15 staff with 30% women trained on technical aspects, financial management, procurement and safeguards  Design and due diligence documents for the planned civil works duly prepared by Yerevan municipality, implementing agencies and Ministry of Economy  <b>By 2018:</b> Safeguards staff hired in Yerevan municipality and other implementing agencies  At least 15 staff with 30% women trained on PPP in transport operation and management	Yerevan municipality and Ministry of Economy annual report and communication  implementing agencies project progress reports	<b>Assumptions</b> Urban authorities are giving priority to the urban transport project and provide means to carry out the missions  <b>Risks</b> Political issues shift urban transport priority								
<b>Activities with Milestones</b> <b>1. Construction, improvement and rehabilitation of urban transport infrastructure</b> Detailed design completed by month 12 (implementing agencies, Ministry of Economy) Timely LARPs implementation before contract awards (implementing agencies, Ministry of Economy) Goods procured and delivered by December 2018 (implementing agencies manufacturer, contractor). Urban infrastructure constructed by December 2019 (implementing agencies, contractors) Equipment for performance monitoring and improvement procured by July 2012 (implementing agencies) Urban and interregional transport facilities constructed by Jan 2019 (implementing agencies) <b>2. Institutional Capacity Development Plan</b> Multimodal committee set-up at the municipal level by Month 12 (implementing agencies, operators) Transport Authority created by month 84 (implementing agencies, Government) New regulatory, tariff and subsidy system implemented by month 24 (Government, implementing agencies) Bus and microbus tendering reform and restructuring implemented (implementing agencies, operators) Sex-disaggregated passenger databases developed and follow-on surveys between month 12 and 96 (Yerevan municipality, implementing agencies, operators) <b>3. Program Management Facility</b> Consultants and safeguards specialist recruited by month 8 (implementing agencies) Training plan developed and carried out between month 12 and 48 (implementing agencies) with at least 30% of women participants (Yerevan municipality, Yerevan Trans, Operators) Office rehabilitation & equipment procured and delivered by month 36 (implementing agencies ) <b>Tranche II: to be approved by end of 2013</b> <b>Tranche III: to be approved by end of 2014</b> <b>Tranche IV: to be approved by end of 2015</b> <b>Tranche V: to be approved by end of 2016</b>			<b>Inputs</b>  <b>ADB: \$400 million</b> <table border="1" data-bbox="1203 1045 1455 1150"> <thead> <tr> <th>Item</th> <th>Amount (\$ million)</th> </tr> </thead> <tbody> <tr> <td>T1</td> <td>48.64 (ADF)</td> </tr> </tbody> </table> <b>Government: \$115 million</b> <table border="1" data-bbox="1203 1213 1455 1318"> <thead> <tr> <th>Item</th> <th>Amount (\$ million)</th> </tr> </thead> <tbody> <tr> <td>T1</td> <td>11.41</td> </tr> </tbody> </table>	Item	Amount (\$ million)	T1	48.64 (ADF)	Item	Amount (\$ million)	T1	11.41
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T1	11.41										

Source: Asian Development Bank.

### **LIST OF LINKED DOCUMENTS**

<http://www.adb.org/Documents/RRPs/?id=42417-01-3>

1. Framework Financing Agreement and Periodic Financing Request for Project 1
2. Sector Assessment (Summary): Urban Transport
3. Facility Administration Manual
4. Contribution to the ADB Results Framework
5. Development Coordination
6. Economic and Financial Analysis
7. Country Economic Indicators
8. Summary Poverty Reduction and Social Strategy
9. Gender Action Plan
10. Initial Environmental Examinations
11. Environmental Assessment and Review Framework
12. Resettlement Plans
13. Resettlement Framework
14. Risk Assessment and Risk Management Plan

### **Supplementary Documents**

15. Financial Management Assessment
16. Procurement Capacity Assessment Report and Recommendations