



## Completion Report

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### **PUBLIC**

Project Numbers: 42414-013 and 42414-045  
MFF Number: 0043  
Loan Number: 3617  
November 2022

## Georgia: Sustainable Urban Transport Investment Program (Tranche 5 and Multitranche Financing Facility)

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Asian Development Bank



## CURRENCY EQUIVALENTS

Currency unit – lari (GEL)

		<b>At Approval</b> 4 December 2017	<b>At Project Completion (Tranche 5)</b> 4 December 2020
GEL1.00	=	\$0.37	\$0.30
\$1.00	=	GEL2.70	GEL3.30
€1.00	=	\$1.19	\$1.21

		<b>At Approval</b> 19 July 2010	<b>At Facility Completion (MFF)</b> 26 January 2022
GEL1.00	=	\$0.54	\$0.33
\$1.00	=	GEL1.85	GEL3.10
€1.00	=	\$1.29	\$1.13

## ABBREVIATIONS

ADB	–	Asian Development Bank
DMF	–	design and monitoring framework
EIRR	–	economic internal rate of return
EMP	–	environmental management plan
EMR	–	environmental monitoring report
IEE	–	initial environmental examination
MDF	–	Municipal Development Fund of Georgia
MFF	–	multitranches finance facility
O&M	–	operation and maintenance
OCR	–	ordinary capital resources
PMT	–	project management team
TCH	–	Tbilisi City Hall
TTC	–	Tbilisi Transport Company LLC

## NOTES

- (i) The fiscal year (FY) of the Government of Georgia ends on 31 December. “FY” before a calendar year denotes the year in which the fiscal year ends, e.g., FY2022 ends on 31 December 2022.
- (ii) In this report, “\$” refers to United States dollars.

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## BASIC DATA

### I. Multitranche Financing Facility

#### A. Facility Identification

1.	Facility number and facility title	42414-013 Sustainable Urban Transport Investment Program— Facility Concept
2.	Mode of financial assistance	Multitranche financing facility (loan)
3.	Country	Georgia
4.	Borrower	Georgia
5.	Executing agency	Municipal Development Fund of Georgia
6.	Products	Project loans

Item <sup>a</sup>	Approval Number	Financing Amount (\$ million)	Financing Source	Product Modality and Nature of Activities
Loan	2655 <sup>a</sup>	85.00	ADB	Ordinary capital resources
Government		14.98		
		<b>99.98</b>		
Loan	2879 <sup>b</sup>	64.00	ADB	Ordinary capital resources
Loan	2880 <sup>b</sup>	16.00	ADB	Special funds resources
Government		28.00		
		<b>108.00</b>		
Loan	3063 <sup>c</sup>	73.00	ADB	Ordinary capital resources
Government		45.20		
		<b>118.20</b>		
Loan	3273 <sup>d</sup>	20.00	ADB	Ordinary capital resources
Government		4.00		
		<b>24.00</b>		
Loan	3617 <sup>e</sup>	14.27	ADB	Ordinary capital resources
Government		2.68		
		<b>16.95</b>		
<b>Project Total</b>		<b>367.14</b>		

ADB = Asian Development Bank.

<sup>a</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 1.](#)

<sup>b</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 2.](#)

<sup>c</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 3.](#)

<sup>d</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 4.](#)

<sup>e</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 5.](#)

#### B. Milestone Dates by Product

Item	Multitranche Financing Facility
Approval of concept clearance	
– Date started	25 January 2010
– Date completed	8 March 2010
Fact-finding mission	
– Date started	14 March 2010
– Date completed	23 March 2010
Framework financing agreement negotiations	
– Date started	7 June 2010
– Date completed	9 June 2010
Date of Board approval	19 July 2010
Date of framework financing agreement	21 June 2010

Item	Multitranche Financing Facility
Multitranche financing facility availability period	
– In framework financing agreement	30 December 2018
– Actual	18 July 2020
– Number of extensions	1

## C. Project Cost and Financing

### 1. Project cost (\$ million)

Cost <sup>a</sup>	Estimate at Approval	Actual
Loan 2655 <sup>b</sup>		
Foreign exchange cost	N/A	44.16
Local currency cost	N/A	57.87
<b>Total</b>	<b>99.98</b>	<b>102.03</b>
Loans 2879, <sup>c</sup> 2880 <sup>c</sup>		
Foreign exchange cost	N/A	25.24
Local currency cost	N/A	39.73
<b>Total</b>	<b>108.00</b>	<b>64.97</b>
Loan 3063 <sup>d</sup>		
Foreign exchange cost	1.25	2.90
Local currency cost	116.96	50.08
<b>Total</b>	<b>118.21</b>	<b>52.98</b>
Loan 3273 <sup>e</sup>		
Foreign exchange cost	8.51	7.25
Local currency cost	15.49	14.53
<b>Total</b>	<b>24.00</b>	<b>21.78</b>
Loan 3617 <sup>f</sup>		
Foreign exchange cost	11.11	11.07
Local currency cost	5.84	2.61
<b>Total</b>	<b>16.95</b>	<b>13.68</b>
<b>Total</b>	<b>367.14</b>	<b>255.44</b>

N/A = not applicable.

<sup>a</sup> Including government financing and cofinancing.

<sup>b</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 1.](#)

<sup>c</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 2.](#)

<sup>d</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 3.](#)

<sup>e</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 4.](#)

<sup>f</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 5.](#)

### 2. Cost breakdown by project component (\$ million)

#### Loan 2655<sup>a</sup>

Component <sup>b</sup>	Estimate at Approval	Actual
Component A: Urban transport infrastructure	79.09	95.80
Component B: Institutional capacity	4.69	0.34
Component C: Program management	6.76	4.11
<b>Total</b>	<b>90.54</b>	<b>100.25</b>

<sup>a</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 1.](#)

#### Loans 2879,<sup>b</sup> 2880<sup>b</sup>

Component	Estimate at Approval	Actual
Component A: Urban infrastructure improvement	87.98	51.34
Component B: Institutional strengthening	0.00	0.00
Component C: Project management and capacity improvement	6.71	4.78
<b>Total</b>	<b>94.69</b>	<b>56.12</b>

<sup>b</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 2.](#)



Loan 3063<sup>c</sup>

Component	Estimate at Approval	Actual
<b>Base Cost</b>		
Component A: Infrastructure improvement	98.44	50.09
Component B: Institutional strengthening	0.00	0.00
Component C: Project management and capacity improvement	1.10	0.52
<b>Total</b>	<b>99.54</b>	<b>50.61</b>

<sup>c</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 3.](#)

Loan 3273<sup>d</sup>

Component	Estimate at Approval	Actual
Component A: Urban infrastructure improvement	14.30	20.33
Component B: Institutional effectiveness	0.30	0.00
Component C: Project management support	6.12	0.99
<b>Total</b>	<b>20.72</b>	<b>21.32</b>

<sup>d</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 4.](#)

Loan 3617<sup>e</sup>

Component <sup>f</sup>	Estimate at Approval	Actual
Component A: Urban transport infrastructure	14.70	12.01
Component B: Institutional effectiveness	0.14	1.60
<b>Total</b>	<b>14.84</b>	<b>13.61</b>

<sup>e</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 5.](#)

<sup>f</sup> Including government financing

## 3. Financing plan and actual (\$ million)

Loan 2655<sup>a</sup>

Cost	Estimate at Approval	Actual
Implementation cost	0.00	0.00
Borrower financed	14.98	23.29
Asian Development Bank financed	83.21	76.96
Other external financing	0.00	0.00
<b>Total implementation cost</b>	<b>98.19</b>	<b>100.25</b>
Interest during construction costs	0.00	0.00
Borrower financed	0.00	0.00
Asian Development Bank financed	1.79	1.78
Other external financing	0.00	0.00
<b>Total interest during construction cost</b>	<b>1.79</b>	<b>1.78</b>

<sup>a</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 1.](#)

Loans 2879,<sup>b</sup> 2880<sup>b</sup>

Cost	Estimate at Approval	Actual
Implementation cost		
Borrower financed	28.00	15.58
Asian Development Bank financed	78.05	47.46
Other external financing	0.00	0.00
<b>Total implementation cost</b>	<b>106.05</b>	<b>63.04</b>
Interest during construction costs		
Borrower financed	0.00	0.00
Asian Development Bank financed	1.95	1.93
Other external financing	0.00	0.00
<b>Total interest during construction cost</b>	<b>1.95</b>	<b>1.93</b>

<sup>b</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 2.](#)

Loan 3063<sup>c</sup>

<b>Cost</b>	<b>Estimate at Approval</b>	<b>Actual</b>
Implementation cost		
Borrower financed	45.21	18.78
Asian Development Bank financed	70.63	31.83
Other external financing		
<b>Total implementation cost</b>	<b>115.84</b>	<b>50.61</b>
Interest during construction costs		
Borrower financed	0.00	0.00
Asian Development Bank financed	2.38	2.38
Other external financing	0.00	0.00
<b>Total interest during construction cost</b>	<b>2.38</b>	<b>2.38</b>

<sup>c</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 3.](#)

Loan 3273<sup>d</sup>

<b>Cost</b>	<b>Estimate at Approval</b>	<b>Actual</b>
Implementation cost		
Borrower financed	4.00	3.26
Asian Development Bank financed	19.54	18.06
Other external financing	0.00	0.00
<b>Total implementation cost</b>	<b>0.00</b>	<b>21.32</b>
Interest during construction costs		
Borrower financed	0.00	0.00
Asian Development Bank financed	0.46	0.46
Other external financing	0.00	0.00
<b>Total interest during construction cost</b>	<b>0.46</b>	<b>0.46</b>

<sup>d</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 4.](#)

Loan 3617<sup>e</sup>

<b>Cost</b>	<b>Estimate at Approval</b>	<b>Actual</b>
Implementation cost		
Borrower financed	2.68	2.45
Asian Development Bank financed	13.98	11.16
Other external financing	0.00	0.00
<b>Total implementation cost</b>	<b>16.66</b>	<b>13.61</b>
Interest during construction costs		
Borrower financed	0.00	0.00
Asian Development Bank financed	0.29	0.07
Other external financing	0.00	0.00
<b>Total interest during construction cost</b>	<b>0.29</b>	<b>0.07</b>

<sup>e</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 5.](#)

## 4. Disbursements

## a. Disbursement dates by product

	First Disbursement <sup>a</sup>	First Disbursement, Excluding Capitalization	Final Disbursement <sup>b</sup>
Loan 2655 <sup>c</sup>	26 January 2011	26 January 2011	21 January 2021
Loan 2879 <sup>d</sup>	19 October 2012	19 October 2012	20 January 2021
Loan 2880 <sup>d</sup>	19 October 2012	19 October 2012	20 January 2021
Loan 3063 <sup>e</sup>	15 August 2014	1 December 2014	21 January 2021
Loan 3273 <sup>f</sup>	16 February 2016	16 February 2016	28 January 2021
Loan 3617 <sup>g</sup>	15 May 2018	6 December 2018	19 January 2021

<sup>a</sup> Including disbursement to advance account and capitalization.

<sup>b</sup> Including refund.

<sup>c</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 1.](#)

<sup>d</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 2.](#)

<sup>e</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 3.](#)

<sup>f</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 4.](#)

<sup>g</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 5.](#)

## b. Loan disbursed amount by product (\$ million)

Loan 2655<sup>a</sup>

Category	Original Allocation (1)	Increased/ (Decreased) during Implementation (2)	Canceled during Implementation (3)	Last Revised Allocation (4=1+2-3)	Amount Disbursed (5)	Undisbursed Balance (6=4-5)
Works and goods	45.02	(3.22)	0.00	41.80	40.76	1.04
Consulting services and incremental administration	6.52	8.03	0.00	14.55	12.17	2.38
Interest	1.23	0.00	0.00	1.23	1.23	0.00
Unallocated	5.22	(4.81)	0.00	0.41	0.00	0.41
<b>Total</b>	<b>57.98</b>			<b>57.98</b>	<b>54.15</b>	<b>3.83</b>
<b>\$ equivalent</b>	<b>85.00</b>			<b>84.24</b>	<b>78.74</b>	<b>5.50</b>

<sup>a</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 1.](#)

Loan 2879<sup>b</sup>

Category	Original Allocation (1)	Increased/ (Decreased) during Implementation (2)	Canceled during Implementation (3)	Last Revised Allocation (4=1+2-3)	Amount Disbursed (5)	Undisbursed Balance (6=4-5)
Works and goods	50.00	6.24	21.67	34.57	33.76	0.83
Consulting services	4.55		1.76	2.76	1.60	1.18
Interest and commitment charges	1.62			1.62	1.62	0.00
Unallocated	7.83	(6.23)	1.50	0.00	0.00	0.00
<b>Total</b>	<b>64.00</b>			<b>38.95</b>	<b>36.93</b>	<b>2.01</b>

<sup>b</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 2.](#)

Loan 2880<sup>c</sup>

Category	Original Allocation (1)	Increased/ (Decreased) during Implementation (2)	Canceled during Implementation (3)	Last Revised Allocation (4=1+2-3)	Amount Disbursed (5)	Undisbursed Balance (6=4-5)
Works and goods	8.31	1.07	1.15	8.22	7.89	0.33
Consulting services	0.76			0.76	0.48	0.28
Interest and commitment charges	0.22			0.22	0.22	0.00
Unallocated	1.35	1.07	0.27	0.00	0.00	0.00
<b>Total</b>	<b>10.63</b>			<b>9.20</b>	<b>8.60</b>	<b>0.60</b>
<b>\$ equivalent</b>	<b>16.00</b>			<b>14.03</b>	<b>12.46</b>	<b>0.86</b>

<sup>c</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 2.](#)

Loan 3063<sup>d</sup>

Category	Original Allocation (1)	Increased/ (Decreased) during Implementation (2)	Canceled during Implementation (3)	Last Revised Allocation (4=1+2-3)	Amount Disbursed (5)	Undisbursed Balance (6=4-5)
Works	62.12	0.00	19.18	42.94	31.40	11.54
Consulting services	0.93	0.00	0.25	0.68	0.42	0.26
Interest and commitment charges	2.38	0.00	0.00	2.38	2.38	0.00
Unallocated	7.57	0.00	7.57	0.00	0.00	0.00
<b>Total</b>	<b>73.00</b>	<b>0.00</b>	<b>27.00</b>	<b>46.00</b>	<b>34.20</b>	<b>11.80</b>

<sup>d</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 3.](#)

Loan 3273<sup>e</sup>

Category	Original Allocation (1)	Increased/ (Decreased) during Implementation (2)	Canceled during Implementation (3)	Last Revised Allocation (4=1+2-3)	Amount Disbursed (5)	Undisbursed Balance (6=4-5)
Works and goods	12.01	6.53	0.00	18.54	17.23	1.30
Consulting services and incremental administration	5.19	(4.19)	0.00	1.00	0.83	0.17
Interest and commitment charges	0.46	0.00	0.00	0.46	0.46	0.00
Unallocated	2.33	(2.34)	0.00	0.00	0.00	0.00
<b>Total</b>	<b>20.00</b>	<b>0.00</b>	<b>0.00</b>	<b>20.00</b>	<b>18.53</b>	<b>1.47</b>

<sup>e</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 4.](#)

Loan 3617<sup>f</sup>

Category	Original Allocation (1)	Increased/ (Decreased) during Implementation (2)	Canceled during Implementation (3)	Last Revised Allocation (4=1+2-3)	Amount Disbursed (5)	Undisbursed Balance (6=4-5)
Works, goods, and consulting service	10.50			10.50	10.05	0.45
Interest and commitment charges	0.24			0.24	0.06	0.18
Unallocated	1.26			1.26	0.00	1.26
<b>Total</b>	<b>12.00</b>			<b>12.00</b>	<b>10.12</b>	<b>1.88</b>
<b>\$ equivalent</b>	<b>14.27</b>			<b>14.27</b>	<b>11.23</b>	<b>2.24</b>

<sup>f</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 5.](#)

## II. Tranche 5

### A. Project Identification

1.	Project number and project title	42414-045 Sustainable Urban Transport Investment Program— Tranche 5
2.	Mode of financial assistance	Multitranche financing facility— tranche (loan)
3.	Country	Georgia
4.	Borrower	Georgia
5.	Executing agency	Ministry of Regional Development and Infrastructure of Georgia
6.	Products	Loan

Item	Approval Number	Financing Amount (\$ million)	Financing Source	Product Modality and Nature of Activities
Loan	3617 <sup>a</sup>	14.27	ADB	Ordinary capital resources
Government		2.68		
<b>Project Total</b>		<b>16.95</b>		

ADB = Asian Development Bank.

<sup>a</sup> ADB. [Georgia: Sustainable Urban Transport Investment Program – Tranche 5.](#)

### B. Milestone Dates by Product

Item	Loan
Approval of concept clearance	
– Date started	7 September 2017
– Date completed	7 September 2017
Fact-finding mission	
– Date started	29 August 2017
– Date completed	6 September 2017
Loan negotiations	
– Date started	30 October 2017
– Date completed	9 November 2017
Date of Board approval	7 December 2017
Date of loan agreement	19 December 2017
Date of loan effectiveness	

Item	Loan
– In loan agreement	19 March 2018
– Actual	8 March 2018
– Number of extensions	
Project completion date	
– At approval	31 December 2019
– Actual	4 December 2020
Loan closing date	
– In loan agreement at approval	18 July 2020
– Latest revised	18 July 2020
– Number of extensions	
Financial closing date	29 June 2021

## C. Project Cost and Financing

### 1. Project cost (\$ million)

Cost	Estimate at Approval	Actual
Foreign exchange cost	11.11	11.07
Local currency cost	5.84	2.61
<b>Total</b>	<b>16.95</b>	<b>13.68</b>

### 2. Cost breakdown by project component (\$ million)

Component	Estimate at Approval	Actual
Component A: Urban transport infrastructure	14.70	12.01
Component B: Institutional effectiveness	0.14	1.60
<b>Total</b>	<b>14.84</b>	<b>13.61</b>

### 3. Financing plan and actual (\$ million)

Cost	Estimate at Approval	Actual
Implementation cost		
Borrower financed	2.68	2.45
Asian Development Bank financed	13.98	11.16
Other external financing	0.00	0.00
<b>Total implementation cost</b>	<b>16.66</b>	<b>13.61</b>
Interest during construction costs	0.00	0.00
Borrower financed	0.00	0.00
Asian Development Bank financed	0.29	0.07
Other external financing	0.00	0.00
<b>Total interest during construction cost</b>	<b>0.29</b>	<b>0.07</b>

### 4. Disbursements

#### a. Disbursement dates by product

	First Disbursement	First Disbursement, Excluding Capitalization	Final Disbursement
Loan	15 May 2018	6 December 2018	19 January 2021

## b. Loan disbursed amount (€ million)

Category	Original Allocation (1)	Increased/ (Decreased) during Implementation (2)	Canceled during Implementation (3)	Last Revised Allocation (4=1+2-3)	Amount Disbursed (5)	Undisbursed Balance (6=4-5)
Works, goods, and consulting service	10.50			10.50	10.05	0.45
Interest and commitment charges	0.24			0.24	0.06	0.18
Unallocated	1.26			1.26	0.00	1.26
<b>Total</b>	<b>12.00</b>			<b>12.00</b>	<b>10.12</b>	<b>1.88</b>
<b>\$ equivalent</b>	<b>14.27</b>			<b>14.27</b>	<b>11.23</b>	<b>2.24</b>

5.	Terms of loan	According to ADB's London interbank offered rate (LIBOR)-based lending facility
	– Interest rate	Euribor + 0.50% + 0.20% maturity premium
	– Maturity (number of years)	18.75
	– Grace period (number of years)	15

**D. Project Implementation**

## 1. Project Schedule

Item	Estimate at Approval	Actual
Date of contract with consultant(s)		
<b>Consultant company</b>		
Construction management and supervision of the Tbilisi Metro rehabilitation	Apr 2018–Mar 2020	Oct 2018–Oct 2022
Audit of annual project financial statements for FY2018–FY2019, and 6 months after project completion date	Jan 2019–Mar 2020	May 2019–Sep 2020
Audit of annual financial statements of Tbilisi Transport Company (as entity) for FY2017, FY2018, and FY2019	Jan 2019–Mar 2020	Jun 2019–Nov 2020
Assets valuation of Tbilisi Transport Company (movable and immovable fixed assets)	Oct 2019–Mar 2020	Oct 2019–May 2020
<b>Individual consultants</b>		
Waste management specialist (national)	Apr 2018–Mar 2020	Dec 2018–Dec 2019
<b>Civil works contract</b>		
Design, supply, and installation of cables and accessory equipment (lot 1)		
Date of award	Apr 2018	Dec 2018
Completion of work	Dec 2019	May 2020

FY = fiscal year.

## 2. Project Implementation Indicators

Project Indicator	Description
Project readiness	None
Concept approval to first disbursement (days)	455
Signing to first disbursement (days)	352
Loan closing to financial closing (days)	346

### 3. Project Performance Ratings

Year		Overall	Contract Awards	Disbursement	Financial Management	Technical/ Output	Safeguards
2018	Q1	On track	100.000%	100.000%	Yes	Yes	S
	Q2	On track	100.000%	100.000%	Yes	Yes	S
	Q3	Actual problem	0.000%	0.400%	Yes	Yes	S
	Q4	On track	100.000%	100.000%	Yes	Yes	S
2019	Q1	On track	99.968%	100.000%	Yes	Yes	S
	Q2	On track	100.000%	100.000%	Yes	Yes	S
	Q3	On track	98.904%	100.000%	Yes	Yes	S
	Q4	On track	99.743%	100.000%	Yes	Yes	S
2020	Q1	For attention	83.990%	100.000%	At risk	On track	On track
	Q2	For attention	84.370%	100.000%	For attention	On track	On track
	Q3	On track	84.340%	100.000%	On track	On track	On track
	Q4	For attention	87.047%	83.671%	For attention	On track	On track
2021	Q1	For attention	86.292%	82.921%	For attention	On track	On track
	Q2	On track	100.000%	100.000%	For attention	On track	On track

Q = quarter, S = satisfactory.

### 4. Asian Development Bank Missions

Name of Mission	Date	No. of Persons	No. of Person-Days	Specialization of Members <sup>a</sup>	Virtual Mission (Yes/No)
Fact finding 1	18–26 May 2017	8	64	a, b, c, d, e, f, g, h	No
Project specific consultation	19–27 Jul 2017	3	24	a, b, h	No
Fact finding 2	29 Aug–6 Sept 2017	6	48	a, b, c, f, h	No
Loan inception	22–26 Jan 2018	3	15	a, c, f	No
Loan review 1	23 May–1 Jun 2018	3	24	a, h, i	No
Special loan administration	19–21 Feb 2019	1	3	j	No
Loan review 2	11–21 Feb 2019	4	40	a, f, h, k	No
Midterm review	30 Nov–9 Dec 2019	4	42	b, h (2), l	No
Loan review 3	4–13 Mar 2020	2	10	b, h	No
Loan review 4	1–9 Jul 2020	3	11	b, h, i	Yes
Project completion review	11 Mar 2022	3	3	b, h, k	Yes

<sup>a</sup> a = urban development specialist (transport); b = senior urban development specialist; c = urban development specialist; d = senior social development specialist (safeguards); e = environment specialist; f = project officer; g = senior operations assistant; h = senior project officer; i = associate project analyst; j = unit head, portfolio management; k = project analyst; l = senior transport specialist.



## I. PROJECT DESIGN AND IMPLEMENTATION

### A. Rationale

1. At the time of project appraisal, Georgia had a population of 4.62 million, of which 53% lived in urban areas. Georgia is one of the most urbanized countries in the South Caucasus. Urban areas can be divided into (i) Tbilisi, the capital city, home of 30% of the population, and the adjacent city of Rustavi; (ii) the main secondary cities of Batumi, Gori, Kutaisi, and Poti; and (iii) cities with high tourism potential such as Anaklia, Borjomi, Mestia, and Gudauri settlement. Although they differ in size, each have common transport problems—rising traffic congestion, pollution, poor and inappropriate road infrastructure, and highly inefficient urban transport systems. Urban sprawl and low-density development, together with a sharp increase in car ownership have resulted in congestion, particularly in Tbilisi, where half of the total personal vehicles in Georgia are registered. Poor road infrastructure and traffic management have increased traffic accidents. Uneven local government capacity was a bottleneck constraining effective infrastructure management and regulation of transport operations and integrated urban management systems.

2. The central government has been working on an urban renewal strategy to promote cities as engines of national growth and centers of economic activity. The government aimed to improve urban and municipal infrastructure services, reduce road transport constraints, and foster competitiveness. A long-term investment program underpinning the urban strategy was estimated at about \$1.1 billion for 2010–2020. The objective for urban transport was to improve its reach, quality, and continuity while pursuing greater efficiency and tightening environmental standards. Nonmotorized transport use was to be fostered to reduce pollution, noise, and traffic accidents, and improve living conditions. A road map for sustainable transport contained sequenced investments and included municipal reforms and capacity building (policy, planning, and oversight). The government, the Municipal Development Fund of Georgia (MDF), and Tbilisi and other municipalities approached the Asian Development Bank (ADB) to help tackle the urban transport problem within the framework of the urban renewal strategy. The Sustainable Urban Transport Investment Program was approved in July 2010 by ADB as a multitranche financing facility (MFF) for a total of \$300 million.<sup>1</sup> The program targeted investments in urban transport and related urban transport services across the main cities in Georgia. The investments were to improve connectivity; reduce traffic congestion; and promote sustainable, safe, reliable, and efficient transport.

3. **Multitranchise financing facility overview.** The MFF (the facility) was approved in July 2010 and was originally planned to be implemented in three tranches but was extended to five (para. 14, footnote 11). This evaluation corresponds to both tranche 5 (the project) and the MFF. The MFF was to support investments for: (i) the extension, rehabilitation, and improvement of urban transport infrastructure in the municipalities of Anaklia, Batumi, Kutaisi, Rustavi, and Tbilisi; and (ii) increased institutional effectiveness, including the reorganization and reforms at Tbilisi municipality and urban transport service providers. A project management team was to be established to handle project preparation, technical design, contract bidding, supervision, progress monitoring and reporting.

4. The MFF funding modality for the program was appropriate given the existence of a policy framework, strategy, and road map for urban development investments. The investment program

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<sup>1</sup> ADB. 2010. [\*Report and Recommendation of the President to the Board of Directors on a Proposed Multitranchise Financing Facility Georgia: Sustainable Urban Transport Investment Program\*](#). Manila.

envisioned investments of \$1,105.44 million for the period 2012–2020. The government requested an MFF in an amount up to \$300 million to help finance part of the investment program. The MFF would provide flexibility in sequencing investments to respond to urban development needs and the finalization of technical designs.

5. The design of the project and the MFF’s interventions was based on the road map for urban development. The government had identified short-term infrastructure development projects based on existing mobility needs and transport demand generated by urban and economic developments in various urban areas. The government identified other urban infrastructure needs to improve the urban environment and promote tourism destinations.

6. **Project overview.** The project was approved in December 2017,<sup>2</sup> closed in July 2020, reached financial closing in June 2021, and was to support investments in the Tbilisi Metro System to rehabilitate and upgrade components critical to its safety, reliability, and efficiency. The main investments envisaged at appraisal were (i) replacement of power distribution cabling, including 191,000 meters of low-voltage lines (220–380 volts) and 137,000 meters of medium-voltage lines (6–10 kilovolts); and (ii) rehabilitation of the ventilation system, including the installation of 32 ventilation fans to replace missing and worn-out equipment. The investments also supported the development of the metro system’s waste management plan.

7. The investments in the project were to tackle safety, reliability, and efficiency concerns of the metro system. The Tbilisi Metro Upgrade Study was prepared under the Cities Development Initiative for Asia financing in August 2017.<sup>3</sup> The study produced a detailed inventory of the metro system’s assets and a phased investment plan. The project was designed to support the main priorities of the Tbilisi Metro upgrade investment plan. The cables to be installed in the metro system were to be flame retardant and not generate dense, obscuring smoke and toxic or corrosive gases. About 670,000 kilowatt-hours of energy per year were to be saved, while the probability of service disruption caused by power deficiencies was to be reduced. New ventilation fans were to improve air quality and the temperature in metro tunnels and clear smoke from tunnels in case of fire, saving 305,000 kilowatt-hours of energy per year. Works contracts required training Tbilisi Transport Company LLC (TTC) personnel for the operation and maintenance (O&M) of new installations.

8. The project was approved in 2017, before Strategy 2030, and was not tagged at appraisal to any operational priority.<sup>4</sup> The project was directly aligned with operational priority 4 (making cities more livable). Investments contributed directly to pillar 1 (coverage, quality, efficiency, and reliability of services in urban areas improved through the improvement of urban transport infrastructure).

## **B. Project and Facility Impact, Outcome, and Output**

9. **Project.** The expected project impact was urban environment, local economy, and living

<sup>2</sup> ADB. 2017. [Periodic Financing Request: Sustainable Urban Transport Investment Program—Tranche 5](#). Manila.

<sup>3</sup> Cities Development Initiative for Asia. 2017. [Pre-Feasibility Study for Tbilisi Metro Upgrade](#). Manila. Cities Development Initiative for Asia was established in 2007 by the ADB and the government of Germany, with the objective of: assisting secondary cities in Asia and the Pacific to prepare sustainable and bankable infrastructure projects; linking them with funding sources; and strengthening their capacities to develop and implement high priority investments. It receives funding support from Austria, France, Germany, Switzerland, and the European Union. It is implemented by the ADB and Agence Française de Développement.

<sup>4</sup> ADB. 2018. [Strategy 2030: Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific](#). Manila.

conditions within urban areas in Georgia improved. The expected outcome was efficient, reliable, and affordable urban transport services provided in Tbilisi urban area. The project had two outputs: (i) urban transport infrastructure extended, rehabilitated, and improved by MDF and Tbilisi City Municipality (TCM); and (ii) institutional and management capacity of TTC strengthened.

10. A minor change in scope was approved by ADB in October 2018 to remove the rehabilitation of the ventilation system for Tbilisi Metro from the project, which was to be financed under tranche 1.<sup>5</sup> The change was necessary as the prices of the bids for the two main envisaged investments (cable replacement and ventilator installation) were higher than anticipated and exceeded allocated project resources. The design and monitoring framework (DMF) was updated, and one output indicator removed.<sup>6</sup>

11. Performance targets for the three envisioned outputs were achieved. Urban transport infrastructure was rehabilitated and improved. A total of 390,000 meters of low-voltage cable (220–380 volts) were replaced, surpassing the original target of 191,000 meters. A total of 100,000 meters of medium voltage (6–10 kilovolts) cabling were replaced, partially achieving the initial target of 137,000 meters. The performance target of the second output related to capacity building of TTC was achieved. The Tbilisi Metro waste management plan was developed and operationalized in 2020.

12. At the outcome level, the DMF included two performance targets. The first was metro passenger trips increased by 19% in 2021 compared with 2016. The indicator was overachieved as early as 2019; the number of passengers transported by metro was 137.7 million or 30% more than the baseline. In 2020 and 2021, because of the coronavirus disease (COVID-19) pandemic, mobility was reduced, and the number of passengers decreased to 69.8 million in 2020 and to 78.4 million in 2021. The second outcome performance target was a 38% reduction of energy use by the metro system; actual reduction of energy use was 39.2%.

13. **Facility.** The expected MFF impact was improved urban environment, local economy, and better living conditions within urban areas. The expected outcome was efficient, reliable, and affordable urban transport services provided in relevant cities. The MFF had three outputs: (i) urban transport infrastructure extended, rehabilitated, and improved by MDF and relevant municipalities; (ii) institutional and management capacity of MDF and relevant municipalities strengthened; and (iii) establishment of skilled and experienced units to oversee the management and the implementation of the program in MDF and the relevant municipalities.

14. Three changes in scope were approved during implementation. The first two changes were a minor change and a major change in scope, both approved in July 2013.<sup>7</sup> The minor change involved updating the year of achievement of impact indicators from 2018 to 2021 and the update of two impact indicators.<sup>8</sup> The major change involved the removal of the civil works and consulting services for the Mtskheta bridge and Tbilisi Boulevard subprojects that were part

<sup>5</sup> ADB (Central and West Asia Department). 2018. L3617-GEO: Sustainable Urban Transport Investment Program (SUTIP), Tranche 5 – Request for Approval of Minor Change to an Individual Project Under an MFF and Reallocation of Loan Proceeds. Memorandum. 3 October (internal).

<sup>6</sup> The output related to installation of 32 energy-efficient ventilators.

<sup>7</sup> ADB (Central and West Asia Department). 2013. MFF 0043-GEO: Sustainable Urban Transport Investment Program (SUTIP), and Loans 2879/2880(SF)-GEO: SUTIP Project 2 – Amendments to the Framework Financing Agreement and Loan Agreements. Amendment. 18 July (internal).

<sup>8</sup> The indicator on private sector involvement was removed. The target for the indicator on increased employment was adjusted and its definition revised to be more accurate.

of tranche 2. The change resulted from the realignment of priorities of the new government. The DMF was updated. Several output indicators were removed.<sup>9</sup> The third change in scope was a minor change approved in May 2015.<sup>10</sup> It involved the following: (i) the extension of the MFF's availability period from December 2018 to July 2020; (ii) the allowance of processing more than three tranches under the MFF, removing the minimum amount requirement (originally \$50 million) for the remaining tranches;<sup>11</sup> and (iii) the updating of the year of achievement of impact indicators from 2021 to 2023 and the outcome target dates from 2018 to 2020.

15. At the impact level, the DMF included three performance targets. The first indicator envisaged a 10% increase in tourist nights by 2023 compared with the baseline of 129,000 in 2008. The indicator was achieved in 2019 when the number of tourist nights was 178,600, representing a 37% increase. The second indicator was to measure increased road safety in 2021, with a 2% target reduction of road accidents and casualties compared with the baseline 8,000 in 2009. The indicator was achieved; road accidents in 2019 totaled 5,839, greatly surpassing the original 2% reduction target. Finally, a total of 150 permanent jobs in civil engineering construction were created, surpassing the original target of 100 jobs.

16. At the outcome level, four out of five performance indicators were achieved, and one was partly achieved. The achievements were (i) a total of 5.7 million people in the program municipalities (1.13 million urban residents and 4.57 million tourists) benefiting by 2020; (ii) an increase by 2.6% in the urban population in Tbilisi with direct access to public transport because of the metro extension in 2018;<sup>12</sup> (iii) an increase by 15% in public transport ridership in Tbilisi in 2019 compared with 2009, surpassing the target of 2%; (iv) the use of public transport where 52.7% of travel was by public transport in the city of Tbilisi in 2016, slightly below the 54% target at appraisal, growth in per capita income and vehicle ownership has resulted in an increase in private transport choice over the years;<sup>13</sup> and (v) an increase by 3% in women using municipal transport in 2019.

17. The first output—urban transport infrastructure extended, rehabilitated, and improved by MDF and the program municipalities—was achieved, although with some changes in the original composition of infrastructure interventions and delays in the completion dates for some indicators:

- (i) A total of 2.6 kilometers (km) of tunnels were rehabilitated for the Tbilisi Metro Extension to University Station and officially opened in October 2017, surpassing the original 1.5 km target. The extension was completed later than the original target date of 2014 but before the 2018 date set in the revised DMF.
- (ii) The urban redevelopment of Gorgasali was removed from the DMF in 2013 as it was planned to be implemented with city hall funds.

<sup>9</sup> The outputs related to (i) the bridge constructed in Mtskheta and the design and due diligence for the Tbilisi Boulevard subproject, and (ii) the Gorgasali development and Kutaisi bicycle lanes.

<sup>10</sup> ADB (Central and West Asia Department). 2015. MFF 0043-GEO: Sustainable Urban Transport Investment Program – Request for Approval of Minor Change of Multitranchise Financing Facility. Memorandum. 11 May (internal).

<sup>11</sup> At the time of appraisal, it was anticipated that the intended outcome of the MFF would be delivered by subprojects structured based on three individual tranches. Tranches 2 and 3 were tentatively estimated at \$100 million and \$115 million, respectively. Actual cost was \$65 million and \$73 million due to cost optimized final designs. The Batumi subproject, proposed to be financed under tranche 4, did not meet the level of project readiness required to be included in tranche 3 at the time of processing of this tranche. On another hand, Batumi subproject was originally estimated at \$57 million. However, the updated technical design estimated its cost at \$20 million, which required to remove the minimum amount requirement for financing.

<sup>12</sup> The MFF target was 5% but it should have been updated based on tranche 1's revised target of 2%.

<sup>13</sup> In 2006, the number of registered vehicles throughout Georgia reached 500,000. By 2020, that number had almost tripled and exceeded 1.4 million. The latest transport household survey for the metropolitan area, conducted in 2016, showed that the market share of private cars had been significantly growing since 2011. Individuals driving cars or riding cars as passengers now represent 30% of the trips.

- (iii) A total of 25.6 km of the Zugdidi–Mestia Road were rehabilitated in 2013. The target of 20 km was overachieved 1 year earlier than expected.
- (iv) The indicator of about 27 km of bicycles lanes implemented in Kutaisi was removed from the DMF in 2012 as the subproject was canceled.
- (v) The indicator about all design and construction meeting specific needs of women and men riders (e.g., adults with children) is considered achieved. All design and construction meet the needs of women and men riders: (a) modern lighting systems, video cameras, warning and safety signs, direction indicator boards, benches, and separate toilets for men and women at University Metro Station; (b) sufficient lighting, roofing, and transparent protective walls to provide a secure space for women waiting for public transport at bus stops in Tbilisi; (c) designated seats for children and transport users with disabilities and special needs; (d) wheelchair-loading ramps in buses; (e) sufficient lighting, road safety signage, and protective measures such as roadside rails and even road surface on the road to Mestia and Rustavi; and (f) universally designed pathways to the beach, all-access benches, umbrellas, changing rooms, sufficient lighting, protective stone walls, signage at dangerous sites, and barricades on the coast of Batumi.
- (vi) A total of 13.8 km was completed on the Tbilisi–Rustavi urban link, below the 15 km target.
- (vii) A total of 5.3 km of urban road and coastal waterfront were improved, below the 10 km target.<sup>14</sup>
- (viii) A traffic management center started operating in Tbilisi.

18. The second output—institutional and management capacity of MDF and relevant municipalities strengthened—was achieved, although most of the outputs were not funded through an ADB loan. The main output achievements were as follows:

- (i) One sex-disaggregated transport household survey was carried out in Tbilisi (50% of respondents were women) in 2016.
- (ii) A multimodal traffic model was implemented by TTC, which integrated human resources that work in the areas of the metro, bus, and ropeway. A multimodal team was set up and a multimodal website developed.<sup>15</sup> An integrated ticketing system for Tbilisi public transport (bus, metro, ropeway) was implemented and is working effectively.<sup>16</sup>
- (iii) City twinning focusing on gender and public transport design was implemented and study tours were conducted in Paris and Lyon. However, gender-responsiveness was not given as much attention, resulting in gender-blind or gender-neutral documents and operations, including lack of sex-disaggregated data collection.
- (iv) One integrated ticketing system was implemented by 2017.
- (v) Parking management was outsourced.
- (vi) The urban transport master plan, the sustainable mobility urban plan (SUMP), and the gender-responsive urban transport road map were not achieved under the program. The SUMP was transferred to the Livable Cities Investment Project and is under implementation by another implementing agency: the Tbilisi Development Fund, under Tbilisi City Hall (TCH). The Tbilisi Sustainable Urban Transport Strategy was prepared by MDF and approved by TCH in February 2016.<sup>17</sup> The

<sup>14</sup> Under tranche 4, a total of 5km of urban road were improved in Batumi. Under tranche 1, only 0.3 km of urban road were upgraded in Anaklia due to the cancellation of investments under tranches 1 and 3.

<sup>15</sup> A new website contains a journey planner for bus and rail: TTC. [Journey Planner](#).

<sup>16</sup> TTC. [Metromoney Card](#).

<sup>17</sup> Municipal Development Fund of Georgia. 2015. [Tbilisi Sustainable Urban Transport Strategy](#). Tbilisi.

strategy noted gender equity as a key consideration in the shift toward a more sustainable urban development model. The strategy's recommendations and action plan stated: "Shifting to a more sustainable urban development model involves a set of actions covering the following main areas: Universal accessibility, social and gender equity."

19. The third output—skilled and experienced units established to oversee the management and implementation of the program in MDF and the relevant municipalities—was achieved. The main output indicator achievements were as follows:

- (i) Gender-sensitive public-awareness campaigns on road safety and mobility were organized: (a) two public-awareness campaigns at Rustavi municipality in 2015 and 2017 (119 participants: 78 women and 41 men), and one in Gardabani in 2018 (53 participants: 17 women and 36 men); and (b) one workshop for metro employees on gender mainstreaming held in 2016.
- (ii) MDF recruited female staff, increasing the percentage of women from 26% in 2010 to 29% at project completion (300 employees: 212 (71%) men and 88 (29%) women).
- (iii) Training was provided to MDF on concessions, leases, and management contracts, with 37% participation of female employees.

### C. Project Costs and Financing

20. **Project.** At appraisal, the project's estimated cost was \$16.95 million. A total of \$13.98 million was to be financed by ADB through a loan from ordinary capital resources (OCR). The government was to finance a total of \$2.68 million to cover taxes, duties, and provision for the recurrent cost of maintenance. At completion, the actual project cost was \$13.61 million. About 18% of the actual cost (\$2.45 million) was financed by the government and 82% by ADB. Actual ADB financing was \$11.16 million, representing 80% of the original amount estimated at appraisal. Although the cost of the supply and installation of cables for the metro was higher, the net project costs were lower given that the supply and installation of ventilation equipment were canceled (para. 10). A total of \$2.24 million in undisbursed funds was canceled on 29 June 2021. Appendix 3 details the appraisal and actual costs and Appendix 4 project costs by financier.

21. **Facility.** At appraisal, the cost of the MFF was estimated at \$351.63 million. A total of \$300 million was to be financed by ADB through loans from OCR and special fund resources. The government was to finance a total of \$51.63 million to cover taxes, duties, land acquisition and resettlement, and provision for recurrent cost of maintenance. At completion, the actual project cost was \$255.44 million. About 24.8% of the actual cost (\$63.36 million) was financed by the government and 75.2% by ADB. Actual ADB financing was \$192.08 million, representing 64% of the original amount estimated at appraisal. The main reason for the cost difference is the cancellation of several subprojects originally envisioned at appraisal in several tranches.<sup>18</sup>

### D. Disbursements

22. Loan proceeds were disbursed in accordance with ADB's *Loan Disbursement Handbook*, (2015, as amended from time to time). The loan account was closed on 29 June 2021. Disbursement at completion totaled \$11.23 million (equivalent) from ADB loan proceeds, 80% of

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<sup>18</sup> These were: (i) the Kutaisi urban renewal subproject and the Gorgasali urban redevelopment subproject under tranche 1; (ii) the Anaklia coastal improvement subproject under tranches 1 and 3; and (iii) the Mtkvari bridge connecting Tbilisi and Mtskheta under tranche 2.

the original amount. The first disbursement, excluding capitalization, was on 6 December 2018 and the last on 19 January 2021. Contract award and disbursement were below original projections, mainly because of the cancellation of ventilation equipment and project cost savings (para. 10), which resulted in loan cancellation. Appendix 5 shows projected and actual disbursement and Appendix 6 annual and cumulative contract awards. Although ADB had agreed to MDF's request for advance contracting and retroactive financing, MDF could not effectively utilize the facility and contracts for all packages were awarded only after the loan agreements were signed. Disbursement was facilitated through an advance fund and statement of expenditures procedures because the number of withdrawal applications and supporting documents submitted had been reduced. The funds were used for eligible expenditures and intended purposes, and claims were adequately substantiated. For the MFF, total disbursement amounted to \$192.05 million, or 74.83% of the \$256.69 million estimated at appraisal. The main reasons for the difference were the cancellation of several subprojects (footnote 18).

### **E. Project and Facility Schedule**

23. The MFF was approved on 18 November 2009, signed on 15 February 2010, and became effective on 5 May 2010, with an original availability period up to 31 December 2018. The project became effective on 8 March 2018 with an original closing date of 31 December 2019. The project had minor start-up and implementation delays because ventilator's works were transferred to tranche 1. The engagement of the firm to manage construction and supervise metro rehabilitation was delayed by 6 months. The contract for the design, supply, and installation of cables and accessory equipment was delayed by 8 months. The work was completed in May 2020, delayed by almost 1 year. COVID-19 resulted in unexpected delays in the implementation of the civil works contract. The project required an extension for 12 months; the revised project closing date was 18 July 2020.<sup>19</sup> The financial closing date was 29 June 2021. The actual availability period was extended to 18 July 2020 due to delays in the implementation of subprojects.

### **F. Implementation Arrangements**

24. The Ministry of Regional Development and Infrastructure was the executing agency for the project, while MDF was the executing agency for the program. The implementing agencies were MDF, TCM, and TTC. MDF had sufficient technical capacity and a track record of implementing development partner-financed projects. It established a program preparation and management team (PMT). Its main responsibilities were to (i) procure and manage loan proceeds, (ii) supervise and monitor the implementation of investments, (iii) provide counterpart assistance, and (iv) ensure oversight over environmental and social safeguard compliance.<sup>20</sup> A project steering committee was established—the MDF Supervisory Board—which was to provide oversight and overall guidance and to review performance. The board was chaired by the Prime Minister and included representatives from the Ministry of Finance, Ministry of Regional Development and Infrastructure, and the Ministry of Economy and Sustainable Development. Finally, municipal program implementation teams were responsible for the day-to-day implementation of subprojects within their perimeter. The PMT helped the teams review design, procurement, implementation, progress monitoring, and reporting. MDF, in coordination with municipalities, implemented project activities and monitored progress and achievement. TCH and TTC were involved in project implementation. Implementation arrangements envisioned at appraisal did not change. Overall, they were adequate to deliver the stated facility and project outputs and achieve the outcome.

<sup>19</sup> The extension (19 months) was approved on 17 September 2018.

<sup>20</sup> MDF's Technical Division of Investment and Loan Department comprised 12 full-time staff and 2 consultants.



## G. Procurement

25. **Consultants.** The overall performance of consultants at project completion was assessed as *satisfactory*. Consultants were selected according to *Guidelines on the Use of Consultants by ADB and its Borrowers* (2013, as amended from time to time), by quality- and cost-based selection (80:20) and with a simplified technical proposal. The project engaged a consulting firm through a turnkey contract combining engineering, procurement, and construction modalities, with the works procured under international competitive bidding procedures according to the *Procurement Guidelines* (2015, as amended from time to time). The firm was responsible for the design, construction, and supervision of the metro rehabilitation. A consultant was engaged to prepare the waste management plan. A firm was engaged to audit the project's annual financial statements.

26. **Contractors.** The overall performance of contractors at project completion was assessed as *satisfactory*. The project procured one civil works contract by international competitive bidding. The contract for replacement of power transmission cabling was awarded in December 2018 for \$10.35 million, a higher amount than projected initially (\$5.783 million).<sup>21</sup> The contract underwent five variations during implementation for different reasons. The largest variation was approved in November 2020 and involved the supply of additional cables to the metro line and the increase of cable diameters for the tunnel ventilation fans; the contract cost increased by \$0.7 million.<sup>22</sup> Another variation, approved in February 2020, increased the length of cables and number of pieces to be supplied, resulting in an additional cost of \$0.43 million. Actual completion of the contract was May 2020 and the total contract amount disbursed was \$11.726 million. MDF and the consultants inspected and subsequently commissioned all completed works. Tests showed that the work was reliable and met the required technical specifications. The summary of the contracts procured by the executing agency for tranches 1-4 is available from their respective project completion reports,<sup>23</sup> and for the project in Appendix 6 of this report.

## H. Gender Equality

27. The MFF is categorized as *effective gender mainstreaming*, while the project is classified as *no gender elements*. Tranche 1 was categorized as *effective gender mainstreaming*, while tranches 2, 3, and 4 were categorized as *some gender element*. Shorter travel times and better transport services were expected to improve lives, especially of women, the elderly, and children, as they would have better access to social services, schools, universities, and hospitals.

## I. Safeguards

28. **Environmental safeguards.** Four tranches (tranches 1, 2, 3, and 4) were classified as environmental *category B* and one tranche (tranche 5) was classified as *category C* as per ADB Safeguard Policy Statement (SPS) 2009. The environmental assessment and review framework (EARF) for the MFF was approved and disclosed on ADB website in April 2015.<sup>24</sup> Subsequently,

<sup>21</sup> This was the estimated value for civil works - lot 1 contract in the project administration manual from October 2017; cabling specifications were then changed for improved energy efficiency and higher sustainability affecting estimate.

<sup>22</sup> Total additional cost increased by GEL7.93 million.

<sup>23</sup> ADB. 2022. [Completion Report: Sustainable Urban Transport Investment Program – Tranche 1](#). Manila; ADB. 2022. [Completion Report: Sustainable Urban Transport Investment Program – Tranche 2](#). Manila; ADB. 2022. [Completion Report: Sustainable Urban Transport Investment Program – Tranche 3](#). Manila; and ADB. 2022. [Completion Report: Sustainable Urban Transport Investment Program – Tranche 4](#). Manila.

<sup>24</sup> ADB. 2015. [Environmental Assessment and Review Framework: Sustainable Urban Transport Investment Program](#). Manila.



Initial environmental examinations (IEEs) including environmental management plans (EMP) were prepared for each project in accordance with the EARF and posted on the ADB and project websites.

29. The project included only rehabilitation of the existing ventilation system and cable network. The metro footprint was unchanged, and no additional land was required. As the project was expected to have minimal or no adverse environmental impacts, it was classified as environmental *category C* per ADB SPS 2009. No environmental assessment was required for the Tbilisi Metro Rehabilitation subproject but, to mitigate any risks, an environmental code of practice (ECP) was prepared in line with best international standards. The ECP's objective was to mitigate less significant environmental impacts and all general construction-related impacts of project implementation. The ECP covered (i) waste management, (ii) fuel and hazardous-material management, (iii) waste resource management, (iv) air-quality management, (v) noise and vibration management, (vi) road transport and road traffic management, and (vii) community and workers' health and safety. The ECP was an integral part of the contract signed between MDF and the contractor.

30. To achieve output 2 of the project—strengthen the institutional and waste management capacity of TTC for O&M of the metro system—MDF hired an individual consultant to prepare a waste management plan for TTC for proper waste collection and disposal, including training of TTC personnel to implement it. TTC submitted the plan to the Ministry of Environmental Protection and Agriculture for approval.

31. MDF established its environmental and resettlement unit to ensure compliance and timely environmental monitoring of projects. The unit prepared environmental monitoring reports (EMRs) to track implementation of the EMPs and submitted EMRs to ADB semiannually. Only two EMRs were prepared and disclosed on the ADB website for the project since preparation of semiannual EMRs is not required for category C projects. The first EMR was submitted and disclosed in March 2019, covering July–December 2018. The second was submitted and disclosed in July 2019, covering January–June 2019. No unanticipated impacts were recorded for the project during construction. All environment-related project covenants were complied with.

32. All contractors under tranche 1 submitted site-specific environmental management plans (SEMP) as well as topic-specific EMPs as required by MDF, except for the contractors hired under the Rehabilitation and Reconstruction of Secondary Road Zugdidi–Jvari–Mestia–Lasdili Subproject which accomplished the environmental protection actions in line with the requirements of the EMP and its monitoring plan in the IEE cleared during project preparation. MDF satisfactorily implemented the recommended corrective actions required for pending non-compliances revealed during the construction phase. No unanticipated impacts were recorded for the project. Upon completion of the construction activities, an external expert conducted post-construction environmental audit reports stating that the SEMP implementation and overall safeguards compliance are satisfactory.

33. MDF satisfactorily implemented the recommended corrective actions required for pending non-compliances revealed during the construction phase. No unanticipated impacts were recorded for the project. The post-construction environmental audit report prepared in July 2016 states that the SEMP implementation and overall safeguards compliance are satisfactory.

34. Tranche 3 was classified environmental *category B* per ADB SPS 2009. An IEE report including an EMP was prepared for each subproject in accordance with EARF and posted on the ADB website in September 2013. Because of the project's complexity, many individual and group

complaints were received from the residents under Tbilisi–Rustavi Urban Road Link, Section 2. Some complainants approached ADB’s Accountability Mechanism. All relevant complaints reviewed by Office of Special Project Facilitator (OSPF) and the Compliance Review Panel (CRP) were closed and are described in Appendix 9. The IEE was revised accordingly and disclosed on ADB’s website in December 2015. The CRP’s final report submitted on 13 February 2017 found the project out of compliance with ADB operational policies and procedures in six aspects: (i) noise impacts, (ii) vibration impact, (iii) impacts on vulnerable groups, (iv) impacts on water and river ecology, (v) consultations, and (vi) environment categorization of the project. On 30 June 2017, ADB’s Board approved the Management’s Remedial Action Plan (RAP) to bring the project back to compliance. All studies defined under the RAP (noise impacts study, vibration impacts study, river ecological impact study, methodology for targeted consultations with vulnerable people and groups) were completed by ADB and MDF and submitted to CRP for review. CRP comments on the draft RAP were publicly disclosed, and the RAP-Final Solution was approved in April 2018.

35. The MDF prepared the EMRs to track implementation of the EMPs and submitted them to ADB on a semiannual basis. The first EMR was submitted and disclosed in the ADB website in August 2014. MDF submitted a total of 13 EMRs which were disclosed on the ADB website. The latest EMR was submitted and disclosed on the ADB website in September 2021. MDF satisfactorily implemented the recommended corrective actions required for pending non-compliances revealed during the construction phase.

36. Upon completion of the construction activities of tranche 3, post-construction environmental audit was conducted in February 2022 by the environmental specialist of MDF for Tbilisi–Rustavi Urban Road Link (Section 2) Subproject. The post-construction environmental audit report states that the SEMP and due diligence report implementation and overall safeguards compliance are satisfactory.

37. Tranche 4 was classified environmental *category B* per ADB SPS 2009 as the project did not have significant irreversible or permanent negative environmental impacts during or after construction. An IEE report including an EMP was prepared in accordance with EARF. IEE was updated along with project design change and was approved in May 2018 by the ADB. MDF submitted a total of 9 EMRs which were disclosed on ADB website. The number and frequency of EMRs submitted complied with the requirements stated in the IEEs. MDF satisfactorily implemented the recommended corrective actions required for pending non-compliances revealed during the construction phase. No unanticipated impacts were recorded for the project. Following the award of the contract and prior to the start of construction activities, the contractor prepared SEMP specific for the subproject as well as topic specific EMPs as required by the MDF. The SEMP was approved by MDF in June 2017. The post-construction environmental audit reports state that the SEMP implementation and overall safeguards compliance are satisfactory.

38. The MDF learned lessons in the preparation, implementation, and monitoring of IEEs which should be considered for future IEEs. In particular: (i) there was no robust baseline data for project impact assessment at appraisal. Data on noise, vibration, vulnerable affected people, and river ecology was not adequately collected. This resulted in the need to conduct additional assessments after the project was approved and delayed the implementation of the project; (ii) detailed project impact assessments must be prepared in coordination with stakeholders. This approach enables better identification of impacts that can, in turn, provide invaluable information for decision making on fundamental elements of project design and implementation, while enhancing the affected population’s ownership of the project and potentially providing insights into better impact mitigation measures; (iii) project had impacts on the physical environment which

had implications for affected persons. The initial social safeguards assessment failed to identify the project's impacts on vulnerable groups in the project areas. As result, the project required new focused consultations with visually impaired affected persons whose specific vulnerabilities and needs were not factored into project design. In addition, there was a need for more precise measurement of vibration impact on buildings occupied by affected persons; (iv) meaningful consultation is essential in ensuring that project-affected people's needs are heard and addressed in project design and implementation and reduces the likelihood of an escalation of grievances and, consequently, project costs. Meaningful consultation entails the use of appropriate consultation methodologies to reach marginalized affected persons; and (v) the phased approach used to address project-related grievances proved useful in this project.

39. **Social safeguards.** Tranches 1, 4, and 5 were classified as *category C* for involuntary resettlement impacts, and tranches 2 and 3 were classified as *category A*. All five tranches were *category C* for indigenous people. Details of resettlement impacts by tranche, are below.

40. Tranche 2 included section 1 (km 0–4) and section 3 (km 10.5–17.1) of the Tbilisi–Rustavi Urban Road Link. The tranche is classified as *category A* for land acquisition and involuntary resettlement. A land acquisition and resettlement framework was agreed in 2010 between MDF, on behalf of the Government of Georgia, and ADB upon the inception of the program. Two land acquisition and resettlement plans (LARPs) one per section were prepared, they included consultation and participation of affected people. LARPs have been disclosed on the MDF website. An addendum to the LARP covering section 3 was prepared in May 2015. MDF submitted and disclosed safeguard monitoring reports on time and met all requirements in accordance with applicable laws, regulations, and policies.

41. Tranche 3 is classified as *category A* for land acquisition and involuntary resettlement. The categorization form was submitted and endorsed in May 2013. Section 2 of the Tbilisi–Rustavi Urban Road Link was divided into two: (i) part A km 4 to km 5.3 and km 6.8 to km 10.755, the section without impacts on buildings (LARP was finalized in October 2014); and (ii) part B (km 5.3 to km 6.8, the section with building impacts, where impacts were reassessed following preliminary results from the structural study of buildings). A land acquisition and resettlement framework was agreed in 2010 between MDF and ADB upon the inception of the program. The preparation of the LARP included consultation and participation of affected people. The focus of the consultations ensured that affected people and other stakeholders would be well informed of the project and of the land acquisition and resettlement process and could participate in planning. The LARP and the information pamphlet have been fully disclosed on the MDF website.

42. A grievance redress procedure was specified in the LARPs to provide an effective and systematic mechanism to respond to queries, feedback, and complaints from affected people and stakeholders. The grievance redress committee was established following the requirements of the grievance redress mechanism to resolve land acquisition and resettlement issues that may arise during implementation of works under the Tbilisi–Rustavi Urban Road Link.

43. Due to the Tbilisi–Rustavi Urban Road Link complexity, many individual and group complaints were received, mostly regarding compensation. Since the complaints were submitted by many complainants representing even bigger number of citizens from the different residential buildings from various parts of Ponichala it is obvious that level of awareness, attitudes and expectations were quite different. In such a situation, it is very important not to overlook opinions and needs of the smaller groups of local residents (especially vulnerable) who were less active due to the different reasons. The abovementioned challenge was addressed by MDF through delivering additional consultations with the vulnerable population in Ponichala to communicate

individually with different household members and feel/understand all the challenges these people are facing in everyday life. The individual meetings demonstrated many aspects from the life of the vulnerable citizens and uncovered opportunities how even small changes/additions in infrastructure projects can have significant influence on the life of the vulnerable groups. Based on the experience obtained under the SUTIP overall quality of the meaningful consultations in view of the MDF projects was significantly increased. Even during the COVID-19 restrictions, MDF acted as an example in relation to the public consultations and communications with the APs introducing different methods and approaches.

44. Some complaints were resolved by the project's grievance redress mechanism with the help of the project's grievance redress committee. Some complainants went to court (mainly regarding compensation) and some complaints were found ineligible. Some complainants approached ADB's Accountability Mechanism. Complaints reviewed by OSPF and the CRP are described in Appendix 9, and all complaints were closed, or compensation deposited in escrow accounts. Both parts of road link section 2 were completed except for one property. MDF submitted and disclosed safeguard monitoring reports on time and met all requirements in accordance with the applicable laws, regulations, and policies.

45. The implementing agency obtained some lessons which should be taken into consideration in the process of preparation, implementation, and monitoring of future LARPs. In particular: (i) it would be more effective if monitoring of LARP implementation starts in the early stages of implementation (from the beginning), this will be helpful for the implementing agency to be able to identify weaknesses and determine problems earlier and more easily find effective solutions; (ii) increase involvement of the local community-based organizations and nongovernment organizations from the early stages of the project; and (iii) periodically provide clear, easily understandable information that explains the actions to be taken (timeframes, stages of process or procedures, etc.) to the complainants and other stakeholders.

## **J. Monitoring and Reporting**

46. The loan agreement contained 42 covenants and the project agreement contained another 14. Except for the covenant on indigenous peoples, which was not applicable, all covenants were complied with. Major covenants concerning implementation arrangements, environmental protection, financial management, and governance were generally complied with. TTC partially complied with submission of annual financial statements for FY2017, FY2018, FY2019, and FY2020 as they lacked an audit opinion on financial covenants.<sup>25</sup> No covenant was modified during implementation. The detailed status of compliance with loan and facility covenants is in Appendixes 10 and 11, respectively.

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<sup>25</sup> The impact of partial compliance can be seen in the financial management rating of the project. At the last validation period (second quarter 2021), the rating for financial management was *for attention*, but the overall project rating was still *on track*. The current rating for financial management is *at risk* primarily because the audit opinion on financial covenants was submitted but not accepted, bringing down the current overall rating to *for attention*, although the project is closed and no longer monitored for portfolio reporting purposes. In spite of multiple follow ups and discussions, the audit opinion on financial covenants was not submitted until the end of winding up period of the project in January 2021 due to contract-related issues with the auditor, TTC, capacity issues, and challenges related to COVID-19. MDF, as mediator, spent a lot of effort to work with ADB in addressing this issue. It was proposed in February 2022 that the original audit firm engaged under tranche 5 be retained to complete this requirement. TTC tried to submit a draft audit opinion with scope of limited assurance engagement in July 2022, but the report was not considered acceptable since the scope of the engagement shall be reasonable assurance. It was agreed with Portfolio, Results, Safeguards, and Gender Unit of ADB's Central and West Asia Department to disclose non-compliance within the project completion report.

47. The PMT established a project performance management system to support the data requirements of a fully integrated results-based management system. The system enabled the PMT to monitor deviations between the project plan and ongoing results and take corrective actions and decisions to achieve the targets. The PMT submitted annual monitoring reports to ADB. The government and ADB conducted several joint review missions, including a midterm review, during which they assessed the progress in physical implementation and financial performance, and prepared agreed action plans to resolve implementation issues. The review of the annual project financial statements for 2021 noted that reporting had some weaknesses as comparative figures were not presented in accordance with the cash-basis International Public Sector Accounting Standards and the fair presentation framework was not used.

## II. EVALUATION OF PERFORMANCE

### A. Relevance

48. The project and facility were relevant to the government and ADB sector strategies at appraisal and remained relevant at completion. The project was aligned with ADB's Interim Operational Strategy 2008–2009, which included urban service delivery, sustainable basic infrastructure, improved urban transport systems, and strengthened governance and institutions for better municipal management.<sup>26</sup> The project was aligned with ADB Strategy 2020 and the Sustainable Transport Operational Plan,<sup>27</sup> which focused on creating accessible, safe, affordable, and environment-friendly transport systems. At completion, the project was aligned with the country partnership strategy (CPS) 2019–2023,<sup>28</sup> particularly urban development and support for local economic development. The project was aligned with government strategies at appraisal and contributed to urban and regional development and improvement of transport infrastructure, consistent with the country's modernization plan of 2011–2015,<sup>29</sup> and the socioeconomic development strategy for 2020.<sup>30</sup> At completion, the project and facility were consistent with the government's medium-term development strategy, which promoted the development of urban areas and road networks and improvement of public service quality.<sup>31</sup>

49. The MFF funding modality for the program was appropriate given the existence of a policy framework, strategy, and road map for urban development investments. The MFF provided flexibility to sequence investments to respond to urban development needs and finalization of technical designs. The design of the project's interventions was based on the road map for urban transport development, considering existing mobility needs and transport demand generated by urban and economic developments in various urban areas.

50. The changes in project scope were timely and appropriate to maintain and improve project design relevance. The length and quality of the cabling system had to be increased to improve the system's safety and reliability (paras. 10, 11, and 26). Changes in scope in the facility were timely and appropriate to respond to changes in government priorities with respect to the Mtskheta Bridge and Marshal Gelovani junction subprojects.

<sup>26</sup> ADB. 2008. [Georgia: Interim Operational Strategy 2008–2009](#). Manila.

<sup>27</sup> ADB. 2008. [Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank 2008–2020](#). Manila; and ADB. 2010. [Sustainable Transport Initiative Operational Plan](#). Manila.

<sup>28</sup> ADB. 2019. [Country Partnership Strategy: Georgia, 2019–2023 – Developing Caucasus' Gateway to the World](#). Manila.

<sup>29</sup> Government of Georgia. 2011. [Strategic "10-Point Plan" of the Government of Georgia for Modernization and Employment, 2011–2015](#). Tbilisi.

<sup>30</sup> Government of Georgia. 2013. [Socioeconomic Development Strategy of Georgia "Georgia 2020."](#) Tbilisi.

<sup>31</sup> Government of Georgia. 2016. [Basic Data and Directions Document for 2017–2020](#). Tbilisi.

51. The outcomes and outputs of the project's DMF were logical, and the stated risks and assumptions relevant. The DMF for the facility had some weaknesses in the indicators used to measure the facility's achievements. Some were resolved through changes in project scope (paras. 10–12), which updated the DMF. Some weaknesses remained. Two outcome performance targets were not revised in line with the revisions made to the same outcome indicators that were part of tranches 1 and 5. Several output performance indicators were not related to the facility's investments.

52. The project and facility are assessed as *relevant*. Their intended outcome strategically aligned with the country's development priorities and ADB's country and sector strategies, and project design was adequate to deliver the intended outputs and outcomes. Changes in scope were timely and addressed changes in government priorities and the need to strengthen project design, maintaining the project's relevance.

## B. Effectiveness

53. **Project.** The project is assessed as *effective* in achieving the intended outcome and outputs (Appendix 1). Efficient, reliable, and affordable urban transport services were provided. The two outcome indicators were achieved. Metro passenger trips increased by more than 19% in 2019 compared with 2016.<sup>32</sup> Energy use by the metro system was reduced by 39.2%. Both indicators surpassed the original targets. The first output related to urban transport infrastructure was achieved. The two output indicators were achieved. The length of the replaced medium-voltage cables was shorter than envisioned at appraisal as replacement needs were overestimated. The length of low-voltage cables was greater than anticipated because of underestimation at appraisal. Overall, the actual replacement of cables reduced energy use as envisioned at appraisal. The second output related to the capacity of Tbilisi Transport Company was achieved. The output performance indicator was achieved as the waste management plan was developed.

54. **Facility.** The facility is assessed as *effective*. A total of four out of five outcome performance indicators are considered achieved and one was partly achieved (para. 16).<sup>33</sup> Of 25 performance indicators set for the outputs, the facility achieved 19, partially achieved 2, and did not achieve 4 (paras. 17–19). Overall, the facility adequately addressed environmental and social safeguard measures (Appendix 9) despite some weaknesses in tranche 3. The gender action plan is rated *successful*, as it achieved eight (89%) out of the nine targets.

## C. Efficiency

55. **Project.** The project is assessed as *efficient* in achieving outcomes and outputs. The economic analysis evaluated the benefits and costs associated with the rehabilitation of the metro cabling system. The economic internal rate of return (EIRR) at completion was estimated to be 17.8%, lower than the appraisal estimate (19%), because of lower-than-expected passenger ridership due to COVID-19. The project's EIRR was above the 12% opportunity cost of capital. A sensitivity analysis concluded that the project's economic efficiency estimate is confirmed after

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<sup>32</sup> The number of passengers transported by metro was 137.7 million, which is 30% more than the baseline. In 2020 and 2021, due to the COVID-19 pandemic, mobility was reduced and the number of passengers was decreased: 2020 – 69.8 million and 2021 – 78.4 million.

<sup>33</sup> Two of the outcome indicators are achieved based on the revised DMF targets for each tranche directly related to the facility's indicators.

adverse changes of 10% in O&M costs, value of time, or passenger demand. Appendix 12 details the EIRR reevaluation.

56. **Project** completion was delayed by 12 months, mainly because of external factors (COVID-19) but also internal ones (delays in mobilizing consultants and contract awards). Actual civil works costs for the subproject were 9% lower than appraisal estimates. The EIRR recalculation captures any cost changes caused by delay as well as delays in realizing project benefits. Hence, the project is *efficient*.

57. **Facility**. The EIRR at completion for tranches 1 through 5 were above 12% except for tranche 3, which was less than 12%. Additional information is in Appendix 13 and the project completion reports. Overall, the facility is assessed as *efficient*.

#### D. Sustainability

58. **Project**. The project is assessed as *likely sustainable*. The project improved TTC's capacity to manage urban transport services. New metro equipment, training, and extensive operation experience will contribute to the sustainable maintenance of the infrastructure. The infrastructure improved by the project is sound and resilient to normal environmental conditions. Financially, the service is subsidized, making it *likely sustainable*. TCH owns 100% of TTC and provides transfers to cover operating costs linking sustainability to available budget funds. The increase in metro passengers in the last years has improved the company's expense ratio from 2.1 in 2013 to 1.46 in 2019.<sup>34</sup> Although COVID-19 has impacted the use of public transport, TCH is expected to subsidize TTC as a parent company.<sup>35</sup> Projections on O&M funds for 2022–2026 suggest that enough funds will be available (Appendix 14).

59. The project outputs and outcome are environmentally and socially sustainable. The completed metro cabling replacement has resulted in energy-use savings and will allow smooth travel and infrastructure operation.

60. **Facility**. The investment program has improved the condition of urban assets and the associated services, benefiting the urban population. Government agencies allocated necessary O&M budgets and have enough technical capacity to implement proper maintenance. O&M budget projections 2022–2026 were estimated under each project's completion reports and suggest that enough funds will be available. The facility is assessed as *likely sustainable*.

#### E. Development Impact

61. **Project**. The project's development impact was assessed as *satisfactory* as the DMF's project impact indicators were achieved. The project has contributed to increasing access to economic opportunities in urban areas, particularly for women. It has produced long-term positive environmental impacts such as (i) reducing air emissions caused by the increase in the use of public transport, and (ii) reducing energy use.

62. The project contributed to long-term changes in several operational priorities of Strategy 2030, which are measured through the corporate results framework.<sup>36</sup> For operational priority 4,

<sup>34</sup> Expense ratio is equal to total operating expenses divided by total operating revenues.

<sup>35</sup> TCH Ordinance N20.660.819 (24 June 2020) indicates that TTC is established by TCH, which acts as the parent company of TTC.

<sup>36</sup> ADB. 2019. [ADB Corporate Results Framework, 2019–2024](#). Manila.

the project contributed to pillar 1 indicator of people benefiting from improved services in urban areas. A total of 5.7 million people comprising residents and tourists in municipalities of Tbilisi benefited from improved urban transport infrastructure services. The project contributed to pillar 2 of operational priority 4 as it helped strengthen TTC and TCH for improved urban planning (Appendix 15).

63. **Facility.** The facility's development impact is assessed as *satisfactory*. Achievements in DMF impact indicators indicate an improved urban environment and local economy. Batumi, Mestia, and Tbilisi have become more attractive because of improved transport infrastructure and connectivity with other areas. The number of tourist nights was 178,600 in 2019, surpassing the original 5% target increase. Improved road conditions and the promotion of public transport helped reduce the number of urban road accidents and casualties from 8,000 in 2009 to 5,839 in 2019. Other positive impacts are reduced travel time and greater savings in travel costs.

#### **F. Performance of the Borrower and the Executing Agency**

64. The borrower's and executing agencies' performance is assessed as *satisfactory*. MDF as executing agency had full ownership, gave the project high priority, and provided adequate resources throughout implementation. There were some initial delays in mobilizing consultants and civil works awards. Overall, MDF staff were responsive and participated in all review missions and progress review meetings. The review missions' recommendations were well taken. Staff members were open to discuss project issues and agreed to corrective actions. The borrower provided adequate counterpart funds and was flexible in reallocating costs and providing extensions in line with project needs. The borrower's performance in meeting loan covenants and safeguards was *satisfactory*. Similarly, the facility's performance is assessed as *satisfactory*.

#### **G. Performance of the Asian Development Bank**

65. ADB's performance is assessed as *satisfactory*. ADB coordinated closely with project stakeholders and provided support to respond to project implementation challenges. It responded on time to the borrower's needs and demonstrated flexibility to better utilize savings, reallocate funds, and adjust the scope of works, including by canceling subprojects. ADB provided continuous guidance to MDF through review missions, consultations, meetings, and trainings. ADB fielded seven review missions to monitor progress and resolve issues. ADB reviewed clearances for the bidding process and other reports in a timely manner and promptly approved contract variations as needed.

66. ADB responded to issues related to implementation delays in a timely manner and assisted the borrower and MDF with timely decisions. ADB provided technical, financial, procurement, and safeguard training through a capacity development resource center and onsite coaching for project staff. There were some limitations in the design and use of the DMF to monitor the facility's achievements. ADB's performance on the project and facility is rated *satisfactory*.

#### **H. Overall Assessment**

67. **Project.** The project is rated *successful* given its relevance, effectiveness, efficiency, and sustainability. The project was assessed as *relevant* from design to completion, as it was aligned with government and ADB strategies and policies. The project was *effective* in delivering targeted outputs and outcomes. It improved access to reliable and affordable urban transport infrastructure services. The project is rated *efficient*, as the recalculated EIRR is higher than ADB's recommended 12% discount rate. Overall outcomes are *likely sustainable* given the need for



subsidy from municipalities which may impact future O&M of government's urban transport infrastructure.

### Overall Ratings

Criteria	Rating
Relevance	Relevant
Effectiveness	Effective
Efficiency	Efficient
Sustainability	Likely sustainable
<b>Overall Assessment</b>	Successful
Development impact	Satisfactory
Borrower and executing agency	Satisfactory
Performance of ADB	Satisfactory

ADB = Asian Development Bank.  
Source: ADB.

68. **Facility.** Overall, the facility is rated *successful* given its relevance, effectiveness, efficiency, and sustainability. The facility was assessed as *relevant* from design to completion, as it was aligned with government and ADB strategies and policies. It was *effective* in delivering targeted outputs and outcomes, although with some minor shortcomings. It improved access to reliable and affordable urban transport infrastructure services. The facility is rated *efficient*, as the recalculated subproject EIRRs are generally higher than ADB's recommended 12% discount rate. Overall outcomes are *likely sustainable* given the need for subsidy from municipalities which may impact future O&M of government's urban transport infrastructure.

### Overall Ratings

Criteria	Rating					
	Tranche 1	Tranche 2	Tranche 3	Tranche 4	Final Tranche (project)	MFF
Relevance	Relevant	Relevant	Relevant	Relevant	Relevant	Relevant
Effectiveness	Less than effective	Effective	Less than effective	Effective	Effective	Effective
Efficiency	Efficient	Efficient	Less than efficient	Efficient	Efficient	Efficient
Sustainability	Likely sustainable	Likely sustainable	Likely sustainable	Likely sustainable	Likely sustainable	Likely sustainable
<b>Overall Assessment</b>	Successful	Successful	Less than successful	Successful	Successful	Successful
Development impact	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Borrower and executing agency	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Performance of ADB	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory

ADB = Asian Development Bank, MFF = multitranche financing facility.  
Source: ADB.

## III. ISSUES, LESSONS, AND RECOMMENDATIONS

### A. Issues and Lessons

69. **Government changes can disrupt institutional continuity.** The national election in 2012 resulted in a change in the ruling party and the subsequent appointment of new directors and staff in MDF. Additional time had to be devoted to building capacity and awareness of the project. Several components under the project were canceled because of changes in government priorities.

70. **The facility's flexibility allowed the use of savings from one tranche to fund investments from another tranche.** The installation and supply of ventilators within tranche 5 was canceled in the metro project as the increase in costs surpassed the initially allocated loan funds. Savings from tranche 1 from the cancellation of other subprojects were used to fund the investment in ventilators from the metro project.

71. **The design and monitoring framework had some weaknesses in measuring project achievements.** The initial DMF for the facility had to be revised. Some outcome targets were not updated even though there were changes in the associated investments under the different tranches. The DMF included output indicators for activities not directly financed under the MFF.

## **B. Recommendations**

72. **Government changes should not disrupt institutional continuity.** Formal mechanisms for knowledge sharing and institutional memory documentation should be developed in implementing and executing agencies to ensure smooth transition of responsibilities from employee to employee.

73. **The design and monitoring framework needs to be carefully designed to adequately measure project achievements.** It is essential to prepare meaningful monitoring frameworks measured by relevant indicators to assess a project's results objectively. This is particularly important to assess project effectiveness and development impact, as inadequate indicators curtail realistic assessments of project implementation and impact. Baseline data and targets need to be clearly explained and accurately established to allow for measurement and comparison at project closing to adequately assess project achievements. Targets need to be revised when the design changes.

74. **Future monitoring.** ADB should continue to monitor the financial health of TTC, the Roads Department, and the participating municipalities to ensure that adequate funds are available for O&M of the transport infrastructure. ADB should monitor the evolution of transport demand and tourism visits in the uncertain context of the pandemic and reassess the suitability of investments accordingly.

75. **Further action or follow-up.** No further action is required.

76. **Timing of the project performance evaluation report.** Preparation of the report is not deemed necessary for the project as the main aspects to be evaluated can be included in tranche 1's report.

## DESIGN AND MONITORING FRAMEWORK

<b>Impact the Project is Aligned with</b> Urban environment, local economy, and living conditions within urban areas in Georgia improved			
<b>Results Chain</b>	<b>Performance Indicators<sup>a</sup></b>	<b>Revised DMF Indicator<sup>b</sup></b>	<b>Project Achievements</b>
<p><b>Outcome</b> Efficient, reliable, safe, and affordable urban transport services provided in Tbilisi urban area</p>	<p><b>By 2021:</b> a. Metro passenger trips increased by 19% (2016 baseline: 105.5 million)</p> <p>b. Energy use reduced by 38% (2016 baseline: 2.56 million kilowatt hour per year)</p>		<p>a. <b>Achieved.</b> As early as 2019, the number of passengers transported by metro was 137.7 million, which is 30% more than the baseline. In 2020 and 2021, due to the COVID-19 pandemic, mobility was reduced and the number of passengers was decreased: 2020 – 69.8 million and 2021 – 78.4 million.</p> <p>b. <b>Achieved.</b> Energy use was reduced by 39.2%.</p>
<p><b>Outputs</b> Urban transport infrastructure extended, rehabilitated, and improved by MDF and Tbilisi City Municipality</p> <p>Institutional and management capacity of Tbilisi Transport Company strengthened.</p>	<p><b>By 2020:</b> 1a. 191,000 meters of low voltage (220–380 volt) cabling replaced (2017 baseline: 0)</p> <p>1b. 137,000 meters of medium voltage (6–10 kilovolt) cabling replaced (2017 baseline: 0)</p> <p>1c. 32 energy efficient ventilators installed (2017 baseline: 0)</p> <p><b>By 2020:</b> Tbilisi Metro Waste Management Plan formulated and operationalized (2017 baseline: not applicable)</p>	<p>Indicator 1c. was removed</p>	<p>1a. <b>Achieved.</b> Project was completed under Lot 1. Hand-Over act is signed. 390,000 meters of low voltage (220–380 volt) cabling was replaced.</p> <p>1b. <b>Achieved.</b> Project is completed under Lot 1. Hand-Over act is signed. 100,000 meters of medium voltage (6–10 kilovolt) cabling was replaced.</p> <p>2a. <b>Achieved.</b> Tbilisi Metro Waste Management Plan was developed, approved, and implemented.</p>

COVID-19 = coronavirus disease, MDF = Municipal Development Fund of Georgia.

<sup>a</sup> Extracted from Project Administration Manual of tranche 5.

<sup>b</sup> Adjusted based on the following: (i) Memorandum of the Request for major change in scope dated 30 April 2013, approved on 18 July 2013; and (ii) Memorandum of the Request for minor change dated 18 June 2019.

Source: Asian Development Bank and Municipal Development Fund.

## DESIGN AND MONITORING FRAMEWORK FACILITY

Results Chain	Performance Indicators	Revised DMF Indicator	Project Achievements
<p><b>Impact</b> Improved urban environment, local economy, and better living conditions within urban areas</p>	<p><b>By 2018:</b> Attractiveness and preservation of cultural heritage with 10% increase in tourist nights compared to baseline in 2008</p> <p>Reduce urban road accidents and casualties by 5% compared to baseline 2009</p> <p>Citizens will benefit from project construction through job increase (between 1,000 to 1,500 jobs)</p> <p>Private sector involved in specific tasks for streamlined implementation</p>	<p><b>By 2023:</b> Attractiveness and preservation of cultural heritage with 10% increase in tourist nights compared to baseline (129,000) in 2008</p> <p>Increased safety by reducing urban road accidents and casualties by 5% compared to baseline (8,000) 2009</p> <p>100 permanent jobs in civil engineering construction created (including operation and maintenance) compared to baseline (21,772) 2009</p>	<p><b>Achieved.</b> Number of tourist nights was 178,600 in 2019, which greatly surpassed the target.</p> <p><b>Achieved.</b> Total road accidents in 2019 were 5,839, which greatly surpassed the target.</p> <p><b>Achieved.</b> Tranche 1: 65, tranche 2: 30, tranche 3: 60. Total: 155.</p>
<p><b>Outcome</b> Efficient, reliable, and affordable urban transport services provided in relevant cities</p>	<p><b>By 2018:</b> Program will benefit at least 2 million people in urban areas compared to 2009</p> <p>Urban population in Tbilisi with direct access to public transport increase by 5% compared to 2008</p> <p>Public transport ridership increased by 5% compared to 2009 baseline</p> <p>Maintain public transport modal split in Tbilisi at least as the same level as 2009</p> <p>Women using municipal urban transport increased by 5% compared to 2008 (footnote 12)</p>	<p><b>By 2020:</b> Program will benefit at least 2.5 million people in urban areas compared to 2009</p> <p>Increase by 2% of urban population in Tbilisi with direct access to public transport compared to baseline (35%) in 2008</p> <p>Increase in public transport ridership by 5% compared to 2009 baseline (923,000)</p> <p>Maintain public transport modal split in Tbilisi at least as the same level as 2009 baseline (54%)</p> <p>Increase by 2% number of women using municipal urban transport compared to baseline (56%) in 2008</p>	<p><b>Achieved.</b> A total of 5.7 million people in the program municipalities (1.13 million urban residents and 4.57 million tourists).</p> <p><b>Achieved.</b> The new University Metro Station is in Saburtalo District (150,000 inhabitants) and has a catchment area of 30,000 inhabitants, representing 2.9% of Tbilisi urban population.</p> <p><b>Achieved.</b> Based on the data available from TTC, a total of 1,064,782 passengers per day, a 15% increase from the baseline.</p> <p><b>Partly achieved.</b> According to the 2016 Household Survey, 52.7% of travel occurred by public transport and 47.2% by private vehicles.</p> <p><b>Achieved.</b> Data from the Tbilisi Transport Company for 2019 noted a 3% increase in the number of trips that women made using the municipal urban transport. From the 2008 baseline of 95.08 million trips done by women (which is 56% of 169.76</p>

Results Chain	Performance Indicators	Revised DMF Indicator	Project Achievements
			million total number of public transport trips in Tbilisi for the said year), the number of trips of women in 2019 increased to 160.51 million, which is 59% of 272.21 million public transport trips done in Tbilisi in the said year.
<p><b>Outputs</b> Urban transport infrastructure extended, rehabilitated, and improved by MDF and relevant municipalities</p>	<p><b>By 2014:</b> A 1.5 km-long Tbilisi Metro Extension to University completed One urban redevelopment on Gorgasali implemented including one underpass 20 km of Mestia road upgraded 27 km bicycles lanes implemented in Kutaisi All design and construction address specific need of women and men riders</p> <p><b>By 2016:</b> One Bridge on Mtkvari completed in Tbilisi A 15 km urban link Tbilisi–Rustavi completed Footbridges constructed in relevant cities 10 km of urban road and coastal waterfront improvement</p>	<p><b>By 2014:</b> A 1.5 km-long Tbilisi Metro Extension to University completed Removed  20 km of Mestia road upgraded 27 km bicycles lanes implemented in Kutaisi  All design and construction address specific need of women and men riders (e.g., adults with children)</p> <p><b>By 2016:</b> A 15 km urban link Tbilisi–Rustavi completed Footbridges constructed in relevant cities 10 km of urban road and coastal waterfront improvement</p>	<p><b>Achieved.</b>  Removed.</p> <p><b>Achieved.</b>  <b>Not Achieved.</b>  <b>Achieved.</b> All design and construction address specific needs of women and men riders, namely, modern lighting system, video cameras, warning and safety signs, direction indicator boards, benches, and separate toilets for men and women at University Metro Station; sufficient lighting, roofing, transparent protective walls to provide a secure space for women waiting for public transport at bus stops in Tbilisi; designated seats for children and transport users with disabilities and special needs, wheelchair loading ramps in the buses, sufficient lighting road safety signage and protective measures such as roadside rails and uneven road surface) on the road in Mestia.</p> <p><b>Not achieved.</b> Investment was removed  <b>Partially achieved.</b> 14.1 km completed (10.6 km in Tranche 2 + 3.5 km in Tranche 3)  <b>Achieved.</b>  <b>Partially Achieved.</b> Under tranche 4 a total of 5 km of urban road was improved in Batumi. Under tranche 1, only 0.3 km out of 4 km of urban road were upgraded in Anaklia due to the cancellation of investments under tranche 1 and 3.</p>

Results Chain	Performance Indicators	Revised DMF Indicator	Project Achievements
<p>Institutional and management capacity of MDF and relevant municipalities strengthened</p>	<p>Traffic management center in operation in Tbilisi</p> <p><b>By 2018:</b></p> <p>10 km of urban road with urban renewal upgraded in urban areas</p> <p>Multimodal interchanges redesigned and upgraded</p> <p>Segregated bus and tram lines, and for riverside urban regeneration considered</p> <p><b>By 2014:</b></p> <p>Gender-responsive urban transport road map endorsed by Tbilisi</p> <p>One sex-disaggregated household survey carried out in Tbilisi (50% of respondents women)</p> <p>One multimodal traffic model implemented</p> <p>A multimodal team set up in Tbilisi with women representatives</p> <p>One multimodal transport website with gender responsive</p>	<p>Traffic management center in operation in Tbilisi</p> <p><b>By 2020:</b></p> <p>10 km of urban road with urban renewal upgraded in urban areas</p> <p>Multimodal interchanges redesigned and upgraded</p> <p>Segregated bus and tram lines, and for riverside urban regeneration considered</p> <p><b>By 2014:</b></p> <p>Gender-responsive urban transport road map endorsed by Tbilisi</p> <p>One sex-disaggregated household survey carried out in Tbilisi (50% of respondents women)</p> <p>One multimodal traffic model implemented</p> <p>A multimodal team set up in Tbilisi with women representatives</p> <p>One multimodal transport website with gender responsive</p>	<p><b>Achieved.</b></p> <p><b>Achieved.</b></p> <p><b>Not achieved.</b></p> <p><b>Not achieved.</b></p> <p><b>Achieved.</b> The Tbilisi Sustainable Urban Transport Strategy was prepared by the MDF and approved by the TCH in February 2016. The strategy noted gender equity as one of the key considerations in the shift towards a more sustainable urban development model. The section on Recommendations and Action Plan specifically indicated the following: “Shifting to a more sustainable urban development model involves a set of actions covering the following main areas: .... universal accessibility, social and gender equity.”</p> <p><b>Achieved in 2016.</b> A transportation household survey in the Tbilisi Metropolitan Area was conducted in 2016.</p> <p><b>Achieved in 2015.</b> Documented in the Tbilisi Sustainable Urban Transport Strategy.</p> <p><b>Achieved.</b> Transport and Urban Development Agency was established as a multimodal team to develop and lead Tbilisi urban and transport policy including research and analytical work. The agency is fully in charge of managing public transport processes within the administrative-territorial boundaries of Tbilisi. The agency staff consists of 80 men and 78 women (49%).</p> <p><b>Achieved.</b> TCH developed the multimodal transport website in 2011 (<a href="#">Tbilisi Transport Company</a>). A</p>

Results Chain	Performance Indicators	Revised DMF Indicator	Project Achievements
<p>Establishment of skilled and experienced units to oversee the management and the implementation of the Program in MDF and the relevant municipalities</p>	<p>design of public transportation</p> <p>A city twinning with focus on gender public transport design implemented</p> <p><b>By 2016:</b> Urban transport master plan developed and endorsed including PPP options One integrated ticketing system implemented</p> <p>Parking management outsourcing carried out</p> <p>Microbus organization set up rethought in the context of the urban transport masterplan</p> <p>Planning processes streamlined and monitoring tools established</p>	<p>design of public transportation</p> <p>A city twinning with focus on gender public transport design implemented</p> <p><b>By 2016:</b> Urban transport master plan developed and endorsed including PPP options</p> <p>One integrated ticketing system implemented</p> <p>Parking management outsourcing carried out</p> <p>Microbus organization set up rethought in the context of the urban transport masterplan</p> <p>Planning processes streamlined and monitoring tools established</p>	<p>notable gender-responsive design of the public transportation in the website is in the section on Preferential Tariffs.</p> <p><b>Achieved.</b> Study tours were undertaken to Paris and Lyon. Representatives of TCH, city Assembly, TTC, and MDF were introduced to the experience of addressing gender issues in urban transport. As a result, women were engaged in decision-making at MDF and TTC, contractors were required to apply and adhere to the gender-related provisions of the core labor standards.</p> <p><b>Not achieved.</b> This plan was being prepared by the MDF but was transferred to the Tbilisi Development Fund in 2020.</p> <p><b>Achieved.</b> Integrated contract for bus, metro, and ropeway payment was signed in 2017, although the systems were effectively working before then.</p> <p><b>Achieved.</b> A parking strategy was prepared, and the TCH implemented it.</p> <p><b>Achieved.</b> TCH implemented it.</p> <p><b>Partially achieved.</b> Sustainable Urban Mobility Plan is still under preparation.</p>
	<p><b>By 2018:</b> One Public Service Contracts considered Traffic calming zones or pedestrianization considered</p> <p><b>By 2011:</b> Feasibility studies and project due diligence timely prepared by MDF and participating municipalities</p> <p>Gender-sensitive public awareness campaigns organized</p>	<p><b>By 2020:</b> One Public Service Contracts considered Traffic calming zones or pedestrianization considered</p> <p><b>By 2014:</b> Feasibility studies and project due diligence timely prepared by MDF and participating municipalities</p> <p>Gender-sensitive public awareness campaigns organized</p>	<p>Not achieved.</p> <p>Not achieved.</p> <p><b>Achieved.</b> Feasibility studies and subproject due diligence was completed for the investments implemented under the different tranches. For some subprojects they were completed later than 2014 as the MFF extended until 2020.</p> <p><b>Achieved.</b> Gender-sensitive public awareness campaigns on road safety and mobility were organized with the</p>

Results Chain	Performance Indicators	Revised DMF Indicator	Project Achievements
	<p>Financial management, gender sensitization procurement, safeguards, and training provided</p> <p><b>By 2013:</b></p> <p>Professional staff hired by MDF with 15% recruitment of qualified women</p> <p>Training on concession, lease, and management contracts carried out</p> <p>Studies and due diligence for subsequent projects prepared</p>	<p>Financial management, gender sensitization procurement, safeguards, and training provided</p> <p><b>By 2013:</b></p> <p>Professional staff hired by MDF with 15% recruitment of qualified women</p> <p>Training on concession, lease, and management contracts carried out</p> <p><b>By 2017:</b></p> <p>Studies and due diligence for subsequent projects prepared</p>	<p>support of ADB gender specialist and Alliance for Road Safety CSO:</p> <p>(i) 2 public awareness campaigns at Rustavi municipality in 2015–2017: 119 participants (78 women and 41 men);</p> <p>(ii) 1 public awareness campaign in Gardabani municipality in 2018: 53 participants (17 women and 36 men); and</p> <p>(iii) 1 workshop for metro employees on gender mainstreaming in transport sector in 2016: 10 participants (10 women, 0 men).</p> <p><b>Achieved.</b> Participation of women was 50% of all trainees.</p> <p><b>Achieved.</b> Recruitment of new female staff increased the percentage of women from 26% in 2010 to 39% in 2014.</p> <p><b>Achieved.</b> Training held with the Contracts Management Department. 37% of trainees were women.</p> <p><b>Achieved</b> (see output 1 section).</p>

ADB = Asian Development Bank, CSO = civil society organization, DMF = design and monitoring framework, km = kilometer, MDF = Municipal Development Fund, PPP = public–private partnership, TCH = Tbilisi City Hall, TTC = Tbilisi Transport Company.

Source: Asian Development Bank and Municipal Development Fund.



**PROJECT COST AT APPROVAL AND ACTUAL**  
(\$ million)

Item	Estimate at Approval			Actual		
	Foreign Exchange	Local Currency	Total Cost	Foreign Exchange	Local Currency	Total Cost
<b>A. Investment Costs</b>						
1. Civil works	8.93	3.83	12.75	9.81	1.80	11.61
2. Environment and social mitigation	0.00	0.25	0.25	0.00	0.00	0.00
3. Consultants	0.78	1.05	1.83	1.19	0.81	2.00
<b>Subtotal (A)</b>	<b>9.70</b>	<b>5.13</b>	<b>14.84</b>	<b>11.00</b>	<b>2.61</b>	<b>13.61</b>
<b>B. Contingencies</b>	<b>1.12</b>	<b>0.70</b>	<b>1.82</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>C. Financing Charges During Implementation</b>	<b>0.29</b>	<b>0.00</b>	<b>0.29</b>	<b>0.07</b>	<b>0.00</b>	<b>0.07</b>
<b>Total (A+B+C)</b>	<b>11.11</b>	<b>5.84</b>	<b>16.95</b>	<b>11.07</b>	<b>2.61</b>	<b>13.68</b>

Source: Asian Development Bank estimates.

## PROJECT COST BY FINANCIER

Table A4.1: Project Cost at Approval by Financier

Item	ADB		Government		Total Cost	
	Amount (\$ million)	% of Total Cost	Amount (\$ million)	% of Total Cost	Amount (\$ million)	Taxes and Duties
<b>A. Investment Costs</b>						
1. Civil works	10.81	84.75	1.95	15.25	12.75	1.95
2. Environment and social mitigation	0.21	84.75	0.04	15.25	0.25	0.04
3. Consultants	1.46	79.65	0.37	20.35	1.83	0.37
<b>Subtotal (A)</b>	<b>12.47</b>	<b>84.12</b>	<b>2.35</b>	<b>15.88</b>	<b>14.84</b>	<b>2.35</b>
<b>B. Contingencies</b>	<b>1.50</b>	<b>82.19</b>	<b>0.32</b>	<b>17.81</b>	<b>1.82</b>	<b>1.21</b>
<b>C. Financial Charges During Implementation</b>	<b>0.29</b>	<b>100.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.29</b>	<b>2.41</b>
<b>Total Project Cost (A+B+C)</b>	<b>14.27</b>	<b>84.18</b>	<b>2.68</b>	<b>15.82</b>	<b>16.95</b>	<b>5.97</b>
<b>% Total Project Cost</b>						<b>100.00</b>

ADB = Asian Development Bank.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank estimates.

Table A4.2: Project Cost at Completion by Financier

Item	ADB		Government		Total Cost	
	Amount (\$ million)	% of Total Cost	Amount (\$ million)	% of Total Cost	Amount (\$ million)	Taxes and Duties
<b>A. Investment Costs</b>						
1. Civil works	9.81	84.50	1.80	15.50	11.61	1.80
2. Environment and social mitigation	0.00	0.00	0.00	0.00	0.00	0.00
3. Consultants	1.35	67.50	0.65	32.50	2.00	0.65
<b>Subtotal (A)</b>	<b>11.16</b>	<b>82.00</b>	<b>2.45</b>	<b>18.00</b>	<b>13.61</b>	<b>2.45</b>
<b>B. Contingencies</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.00</b>
<b>C. Financial Charges During Implementation</b>	<b>0.07</b>	<b>100.00</b>	<b>0.00</b>	<b>0.00</b>	<b>0.07</b>	<b>0.00</b>
<b>Total Project Cost (A+B+C)</b>	<b>11.23</b>	<b>82.10</b>	<b>2.45</b>	<b>17.90</b>	<b>13.68</b>	<b>2.45</b>
<b>% Total Project Cost</b>						

ADB = Asian Development Bank.

Note: Numbers may not sum precisely because of rounding.

Source: Asian Development Bank estimates.

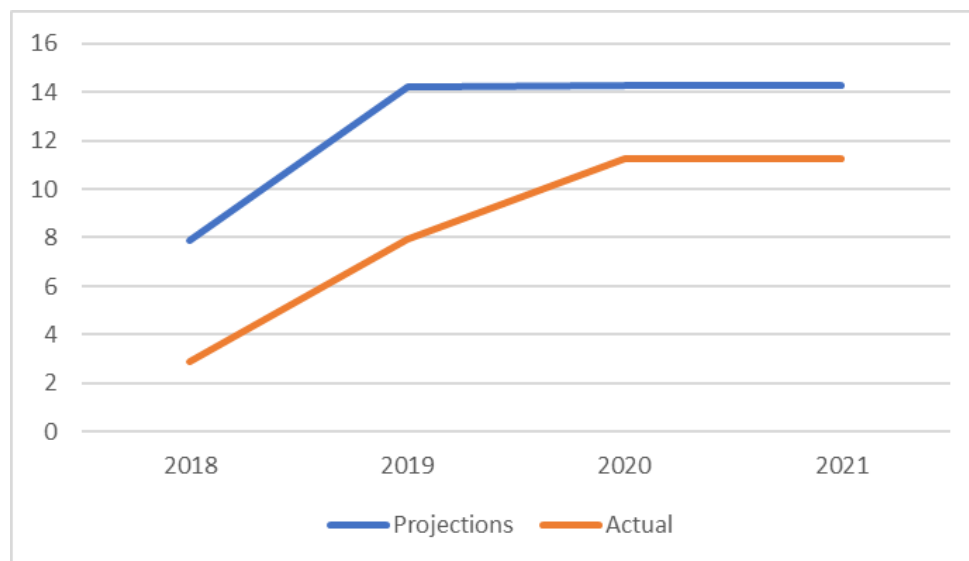
## DISBURSEMENT OF ADB LOAN PROCEEDS

**Table A5: Annual and Cumulative Disbursement of ADB Loan Proceeds**

Year	Annual Disbursement		Cumulative Disbursement	
	Amount (\$ million)	% of Total	Amount (\$ million)	% of Total
2018	2.88	25.64	2.88	25.64
2019	5.07	45.14	7.95	70.79
2020	3.27	29.11	11.22	99.91
2021	0.01	0.11	11.23	100.00
<b>Total</b>	<b>11.23</b>	<b>100.00</b>		

ADB = Asian Development Bank.  
Source: Asian Development Bank.

**Figure A5: Projected and Actual Cumulative Disbursement of ADB Loan Proceeds  
(\$ million)**



ADB = Asian Development Bank.

Note: Projections were taken from the Project Administration Manual approved in October 2017.

Source: Asian Development Bank estimates.

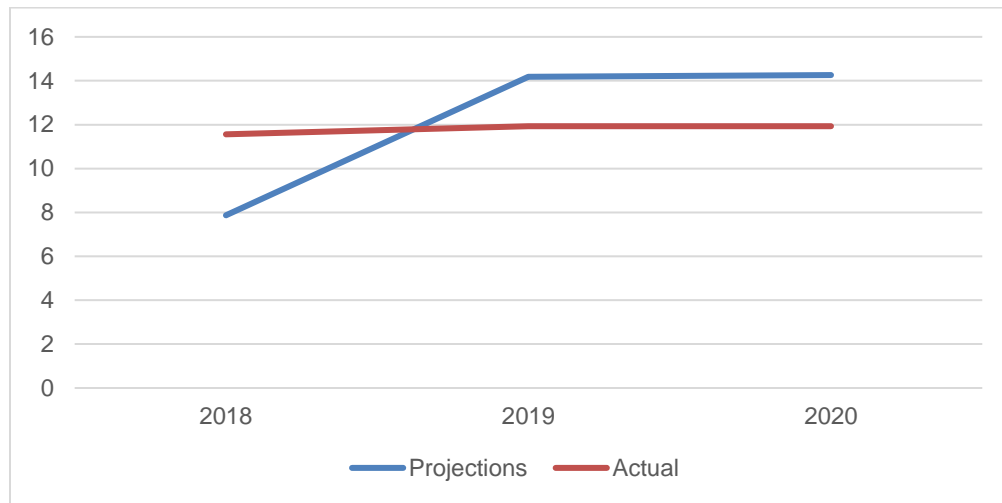
### CONTRACT AWARDS OF ADB LOAN PROCEEDS

**Table A6: Annual and Cumulative Contract Awards of ADB Loan Proceeds**

Year	Annual Contract Awards		Cumulative Contract Awards	
	Amount (\$ million)	% of Total	Amount (\$ million)	% of Total
2018	11.56	96.90	11.56	96.90
2019	0.37	3.10	11.93	100.00
2020	0.00	0.00	11.93	100.00
<b>Total</b>	<b>11.93</b>	<b>100.00</b>		

ADB = Asian Development Bank.  
 Source: Asian Development Bank.

**Figure A6: Projected and Actual Cumulative Contract Awards of ADB Loan Proceeds (\$ million)**



ADB = Asian Development Bank.

Note: Projections were taken from the Project Administration Manual approved in October 2017.

Source: ADB estimate.

## CHRONOLOGY OF MAIN EVENTS

Date	Event
Initial Loan Agreement 19 December 2017	Loan 3617 – €12,000,000
Memorandum 3 October 2018	Removal of the rehabilitation of ventilation system under tranche 5, which was to be financed under tranche 1.  Loan 3617 – €12,000,000
Letter 29 June 2021	Final cancellation of undisbursed amount of €1,881,671.16 (\$2,245,211.28 equivalent)

Source: Asian Development Bank.

**Table A7: Summary of Contract Details**

S. No.	Contract Amount (\$)	ADB Financing (\$)	Disbursed (\$)	Contract Package	Contract description	Contractor Name	Contract Award	Actual Completion
0001	1,164,333.51	986,772.65	1,157,402.06	SUTIP5/C/QCBS/01-2017	Construction management and supervision of the Tbilisi Metro rehabilitation	JV of ILF Beratende Ingenieure & ILF Geo	5 Oct 2018	31 Oct 2022
0002	10,358,873.87	8,779,145.60	11,726,104.86	P42414-SUTIP5-ICB-1.01-LOT 1	Design, supply, & installation of cables and accessory equipment (lot 1)	JV of Dogus Insaat Ve Ticaret & Elsitel	21 Dec 2018	5 May 2020
0003	28,084.00	23,801.19	33,612.39	SUTIP5/LC S/01-2018	Audit of annual project financial statements (APFS) for FY2018-FY2019, and 6 months after project completion date	Deloitte And Touche LLC	3 May 2019	3 Sept 2020
0004	40,900.00	34,662.75	42,504.20	SUTIP5-IC-01-2018	Waste management specialist (national)	Medea Chachkhiani	10 Dec 2018	26 Dec 2019
0005	192,340.00	163,008.15	202,598.31	SUTIP5/LC S/02-2018	Audit of annual financial statements of Tbilisi Transport Company (as entity) for FYs 2017, 2018, & 2019	Deloitte & Touche LLC	25 Jun 2019	10 Nov 2020
0006	150,269.46	127,353.37	159,566.63	SUTIP5/LC S/03-2018	Assets valuation of Tbilisi Transport Company (movable and immovable fixed assets)	KPMG Georgia LLC	22 Oct 2019	28 May 2020

## GENDER ACTION PLAN Implementation and Results

### A. Introduction

1. The project aimed to enhance connectivity, reduce traffic congestion, and promote sustainable, safe, reliable, and efficient transport. The investment program and multitranchise financing facility (MFF) aimed to improve the efficiency, reliability, and affordability of urban transport infrastructure and services. Its target outputs included the following: (i) extension, rehabilitation, and improvement of urban transport infrastructure in Anaklia, Batumi, Kutaisi, Poti, Rustavi, and Tbilisi (see design and monitoring framework (DMF) in Appendix 1); (ii) increased institutional effectiveness, including the reorganization and reforms at the Tbilisi municipality, other municipalities, and urban transport service providers; and (iii) establishment of a program management team with capability and funds to handle project preparation, technical design, contract bidding, evaluation and award, contract supervision, progress monitoring and reporting.

### B. Gender Design Features

2. The facility was categorized as *effective gender mainstreaming*. Of the five tranches, tranche 1 was categorized as *effective gender mainstreaming*, while tranches 2, 3, and 4 were categorized as *some gender elements*. Tranche 5 was categorized as *no gender elements*.

3. The project sought to ease women's time burden, facilitate women's travel and mobility by incorporating features in urban transport solutions that will address their specific needs. The facility also aimed to develop the capacity of the Municipal Development Fund of Georgia (MDF) to incorporate the gender perspective in various organizational mechanisms.

4. The facility DMF indicated as its outcome target the increase by 5% in the number of women using municipal urban transport compared to baseline in 2008.<sup>1</sup> The gender target under output 1 noted that all design and construction should address specific needs of women and men riders (e.g., adults with children). Output 2 has four gender targets and one activity. It is the output that has the most number of gender targets and activities related to strengthening the institutional management capacity, specifically: (i) gender-responsive urban transport road map endorsed by Tbilisi; (ii) one sex-disaggregated household survey carried out in Tbilisi (of whom, 50% of respondents are women); (iii) organization of a multimodal team in Tbilisi with women representatives; (iv) creation of one multimodal transport website with gender responsive design of public transportation; and (v) a city twinning with focus on gender public transport design implemented. Output 3, on project management, gender indicators, targets, include the following: (i) organization of gender-sensitive public awareness campaigns, (ii) conduct of gender sensitization among staff, and (iii) employment by MDF of professional staff including 15% of women recruitment of qualified women.

5. It should be noted that the transfer of the gender action plan (GAP) output target on "increase by 2% number of women using municipal urban transport compared to baseline (56%) in 2008" to the DMF outcome target in tranche 1 was drawn from the Memorandum on the Request for Minor Change to Individual Project under the MFF dated 5 March 2012. The memo did not indicate any reason for the movement of the GAP target to DMF outcome target. This change was also reflected in the Memorandum of the Request for Approval of Minor Change to an Individual Project under an MFF and Reallocation of Loan Proceeds dated 3 October 2018.

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<sup>1</sup> The MFF target was 5% but it should have been updated based on tranche 1's revised target of 2%.

As with the memo done in March 2012, this memo did not indicate any reason for the transfer of the GAP target to DMF outcome target (footnote 1).

6. The facility GAP included the DMF output level gender targets and indicators. In addition, the GAP indicated preparatory activities. Other activities of the GAP were directed at strengthening the gender-responsiveness of the monitoring and organizational mechanisms of MDF such as: (i) development of gender-sensitive monitoring tools to manage urban transport in the city, (ii) development of sex-disaggregated public transport passenger databases, and (iii) conduct of sex-disaggregated baseline survey and follow-up surveys, appointment of a gender focal point, and development and implementation of a training plan with women constituting at least 30% of the participants.

### **C. Achievements at Project Completion**

7. The project comprised of nine targets and three activities which are marked in the GAP achievements matrix.

8. At project completion, eight out of the nine targets were achieved—the percentage increase in women using municipal urban transport, consideration of women’s needs in the design and construction of transport infrastructure, implementation of a gender sensitive urban transport road map, a multimodal committee establishment with women representatives and a multimodal gender-sensitive website, a twinning and sex-disaggregated studies informing gender-responsive safe public transport. Four targets under the output on project management, namely, the organization of gender-sensitive public awareness campaigns and gender sensitization trainings for project staff, 15% women employed among the professional staff of MDF, identification and support of gender focal point in executing agency, training plan development and conduct were achieved. The activity on design of training modules was completed. One of the targets addressing institutional and management capacity of urban transport players, namely development of sex-disaggregated transport passenger databases, was not achieved. The activities on an affirmative action to provide opportunities for qualified women to sit in decision-making posts and continuous monitoring and development of gender mainstreaming strategies were not completed.

### **D. Lessons Learned and Recommendations**

9. The project endeavored to develop the capacity of the executing agency on gender mainstreaming through the conduct of gender sensitization programs, employment of female professional staff, and introduction of gender-related institutional mechanisms. However, continuous and sustained efforts on capacity development and provision of technical guidance on gender mainstreaming for the executing agency needs to be done to enable it to fully integrate the gender perspective in its policies, systems, and operations.

**Table A8: Gender Action Plan Achievements Matrix**Impact:<sup>a</sup> Improved urban environment, local economy, and better living conditions in urban areasOutcome:<sup>b</sup> Improved efficiency, reliability, and affordability of urban transport infrastructures and services in Georgia

Activity/Strategy	Indicator/Target <sup>c</sup>	Achievement at Project Completion
<b>I. Preparatory stage</b>		
Secure gender technical expertise		MDF recruited social and gender specialist in June 2015. She was responsible for the following tasks: implementation of the GAP conduct of social and gender analysis, provision of regular updates on gender-related statistics, collection of sex-disaggregated data from key stakeholders and beneficiaries, organization of awareness raising campaigns on gender issues, and networking with local experts and civil society organizations. MRDI gender focal point, ADB RM-based gender specialist joined efforts with MDF social and gender specialist to secure gender technical expertise and timely implementation of the GAP.
Gather and analyze sex-disaggregated baseline data	Social analysis report includes a gender analysis	Social analysis with a dedicated gender section was produced at the project preparatory stage. It included sex-disaggregated baseline data and analysis which informed the project design (SPRSS, DMF, GAP).
Facilitate women's access to participation in the project	Number of women's stakeholder groups consulted on the project concept and design	<p>Women and men stakeholders and beneficiaries were consulted on the project concept and design. During the consultations, women's groups raised issues of sufficient lighting at bus stops and universal accessibility of transport, safe and clean environment, and women's low employment in the sector. The number of women's stakeholder groups was not tracked and cannot be reported.</p> <p>PIU referred women's concerns to the key stakeholders (TTC, MDF, EBRD) which resulted in (i) women being trained and employed as bus drivers, (ii) employment of bus conductors, and (iii) installation of sufficient lighting system at bus stops and at the newly-constructed metro station in Tbilisi.</p>
Codify responsibility for GAP implementation in legal instrument	TOR of consultants, staff and contractors include accountability mechanisms for meeting the GAP indicators	<p>Social and gender specialist was the key person at MDF and at the PIU responsible for the GAP implementation. The TOR for the position included accountability mechanisms for achieving the GAP targets. Consultants, staff, and contractors reported on the implementation of the GAP activities to the social and gender specialist who coordinated and reported the GAP progress to ADB. The MFF review missions reflected on the GAP progress and advised on implementation progress.</p> <p>PIU has been oriented in the GAP implementation by ADB RM-based gender consultant. MDF social and gender specialist was provided with continuous support from ADB gender consultant in implementation and monitoring of the GAP activities, namely, advice on design and implementation of gender-sensitive awareness raising campaigns and informational materials, recommendations to improve gender-features of baseline, and follow up studies.</p>



Activity/Strategy	Indicator/Target <sup>c</sup>	Achievement at Project Completion
<b>II. Under Output A:<sup>d</sup> Urban transport infrastructure extended, rehabilitated, and improved</b>		
	<p><b>Target 1.</b> Increase by 2% number of women using municipal urban transport compared to baseline in 2008</p>	<p><b>Target achieved.</b> Data from the TTC for 2019 noted a 3% increase in the number of trips that women made using the municipal urban transport. From the 2008 baseline of 95.08 million trips done by women (which is 56% of 169.76 million total number of public transport trips in Tbilisi for the said year), the number of trips of women in 2019 increased to 160.51 million, which is 59% of 272.21 million public transport trips done in Tbilisi in the said year.<sup>e</sup></p>
<p>Infuse gender perspectives in infrastructure policy, planning, design, and construction</p>	<p><b>Target 2.</b> All planning, design, and construction address specific needs of women and men riders (e.g., adults traveling with children)</p>	<p><b>Target achieved.</b>  <b>University Metro Station.</b> To help ensure the safety of passengers, including women and other vulnerable groups who take the metro, the University Metro Station is equipped with a modern lighting system, video cameras, warning and safety signs, direction indicator boards, benches, and separate toilets for men and women.  <b>Bus stops in Tbilisi.</b> The bus stops that were built have sufficient lighting, roofing, benches, transparent protective walls to provide a secure space for women waiting for public transport.  <b>Buses in Tbilisi</b> are air-conditioned. The buses have <b>designated seats for pregnant women, women with children, and transport users with disabilities.</b> The buses also have wheelchair loading ramps.  <b>Road in Mestia.</b> The project installed e-billboards that reflect name of each stop. The road has sufficient lighting, road safety signage, and protective measures such as roadside rails and uneven road surface. Women participants of FGDs did not report risks of violence (including sexual harassment) encountered on this road (<a href="#">online focus group discussions</a>) with 2 groups of women in Mestia (1st group: 21 women 18–35 age group, 2nd group: 20 women 36–70 age group).  <b>Tbilisi–Rustavi Road.</b> Two-way highway separated by barriers is equipped with overpass bridges for pedestrians, bus-stops with sufficient lighting and shelters. The road section in Ponichala district (Tbilisi), where a number of persons with visual disabilities live, traffic lights with sound were installed and an underpass was constructed to meet their specific needs.  <b>Coastal Protection in Batumi</b> applied universal design features addressing the needs of people with disabilities, elderly, women, children, and other vulnerable groups (universally-designed pathways to the beach, all-accessible benches, umbrellas, changing rooms). Sufficient lighting is ensured as part of safety and security measures. Protective measures (protective stone walls, signage on dangerous sites, barricades) undertaken prevent possible harm of the sea waves to children, tourists, and the population of Batumi.</p>
<b>III. Under Output B:<sup>f</sup> Institutional and management capacity strengthened for all urban transport players</b>		
	<p><b>Activity 1.</b> Implementation of a gender-sensitive urban transport road map and improvement of the planning</p>	<p><b>Activity completed.</b> The Tbilisi Sustainable Urban Transport Strategy was prepared by the MDF and approved by the TCH in February 2016. The strategy noted gender equity as one of the key considerations in the shift towards a more sustainable urban development model. The section on Recommendations and Action Plan specifically indicated the following: “Shifting to a more sustainable urban development model involves a set of actions covering the following main areas: ....universal</p>

Activity/Strategy	Indicator/Target <sup>c</sup>	Achievement at Project Completion
	processes in relevant cities	accessibility, social and gender equity.” The sustainable urban mobility plan, which was also among the recommendations in the strategy, will provide the road map for the implementation of the strategy. The preparation of the sustainable urban mobility plan began in 2019.
<b>Activity 2.</b> Affirmative action to provide opportunities for qualified women to sit in decision-making posts in a traditionally male-dominated sector		<b>Activity not completed.</b> Affirmative actions were not undertaken to ensure opportunities for qualified women in decision making positions. All candidates were treated equally based on their qualifications.
<b>Activity 3.</b> Continuous monitoring and development of gender mainstreaming strategies for improvement of urban transport services	Updated and relevant gender-sensitive monitoring tools to manage urban transport in the city	<b>Activity not completed.</b> Gender-sensitive monitoring tools are planned to be designed aligned to sustainable urban mobility plan and the urban transport road map. Those documents are yet in the process of development.
	<b>Target 3.</b> One sex-disaggregated household survey carried out in Tbilisi (50% of respondents women)	<b>Target achieved.</b> Two household surveys were conducted in Tbilisi during project implementation: The first was the Transportation Household Survey done in 2011 with a sample size of 8,018 households. <sup>9</sup> The survey aimed to obtain the statistical data on the population’s mobility, determinants of trip behavior, and to gain general information for understanding the future needs and out coming from this understand the challenges for the further transportation development in Tbilisi Metropolitan Area. The average household size in the area in that year was 3.3 persons. All adult household members (i.e., 20 years old and above) constituted the majority of respondents. Women constituted 56.5% of the respondents (14,949 females, 11,509 males) based on the calculations done on the population segment aged 20 years old and above in the Tbilisi Metropolitan Area at that time.  The second was a transportation household survey in the Tbilisi Metropolitan Area done in 2016. The survey aimed to collect information on the mobility patterns. The data will be the basis for the transport modelling exercise aiming at evaluating transport measures in Tbilisi. <sup>h</sup> The average household size in the area in that year was 3.18 persons. All adult household members (i.e., 20 years old and above) constituted the majority of respondents. Women constituted 57% of the respondents based on the calculations done on the population segment aged 20 years old and

Activity/Strategy	Indicator/Target <sup>c</sup>	Achievement at Project Completion											
		above in the Tbilisi Metropolitan Area at that time. Above 20-year-old population (which constituted the majority of survey respondents) was 825,268: 468,356 (57%) females, 356,912 males.											
	<p><b>Target 4.</b> A multimodal committee with women representatives set up in Tbilisi with an action plan prepared</p>	<p><b>Target achieved.</b> TUDA was established as a multimodal team to coordinate activities and to participate in the implementation of the capital's transport policy, conduct relevant transport research and analytical activities, and manage public transport processes within the administrative-territorial boundaries of Tbilisi. TUDA staff consists of 80 men and 78 women (49%). TUDA's establishment was preceded by a series of gender trainings and workshops for TCH and TTC, which were supplemented by the twinning in Paris and Lyon (2014) followed by an international 3-day forum on mobility conducted in Tbilisi (IFIs, twinning city partners, MDF, TCH, City Assembly participated) where a separate session was devoted to gender. The mentioned awareness raising activities contributed to TUDA's establishment, with 49% women's representation.</p> <p>Tbilisi City has a Gender Equality Council, comprised of 16 City Council members (11 women and 5 men) chaired by deputy head of the City Council. The Gender Equality Council oversees implementation of Gender Equality Action Plan adopted by the City Council. Their activities are framed within promotion of gender equality at municipal level, empowerment of women with particular focus on women entrepreneurs, assistance to women and children subjected to domestic violence, and support in obtaining municipal services (e.g., enrollment at kindergarten for children), promotion of reproductive health, sports among girls, etc.</p>											
	<p><b>Target 5.</b> One multimodal transport website created and functional including website featuring gender responsive design of public transportation</p>	<p><b>Target achieved.</b> To deliver on its commitment to the project, MDF developed the multimodal transport website in 2011 (<a href="#">Tbilisi Transport Company</a>). A notable gender-responsive design of the public transportation in the website is in the section on <a href="#">Preferential Tariffs</a>. Women in general take public transportation more frequently than men, as evidenced by the last statistics prior to the COVID-19 pandemic (in 2019, 59% of overall trips were made by women). They benefit from subsidized transport costs, as they constitute the bigger number in the following groups based on data from relevant government offices in Georgia:</p> <table border="1" data-bbox="779 1084 1940 1399"> <thead> <tr> <th data-bbox="779 1084 1461 1247">Category of Beneficiaries</th> <th data-bbox="1461 1084 1766 1247">Sex-disaggregated data (<a href="#">Women and men in Georgia 2021</a>, GeoStat)</th> <th data-bbox="1766 1084 1940 1247">Tariff (Metro/Bus)</th> </tr> </thead> <tbody> <tr> <td data-bbox="779 1247 1461 1341">Employees of public secondary education institutions located within the administrative boundaries of the capital</td> <td data-bbox="1461 1247 1766 1341">87% women and 13% men</td> <td data-bbox="1766 1247 1940 1341">20 tetri</td> </tr> <tr> <td data-bbox="779 1341 1461 1399">Employees of vocational education institutions located within the administrative boundaries of the capital</td> <td data-bbox="1461 1341 1766 1399">63% women and 37% men</td> <td data-bbox="1766 1341 1940 1399">20 tetri</td> </tr> </tbody> </table>			Category of Beneficiaries	Sex-disaggregated data ( <a href="#">Women and men in Georgia 2021</a> , GeoStat)	Tariff (Metro/Bus)	Employees of public secondary education institutions located within the administrative boundaries of the capital	87% women and 13% men	20 tetri	Employees of vocational education institutions located within the administrative boundaries of the capital	63% women and 37% men	20 tetri
Category of Beneficiaries	Sex-disaggregated data ( <a href="#">Women and men in Georgia 2021</a> , GeoStat)	Tariff (Metro/Bus)											
Employees of public secondary education institutions located within the administrative boundaries of the capital	87% women and 13% men	20 tetri											
Employees of vocational education institutions located within the administrative boundaries of the capital	63% women and 37% men	20 tetri											

Activity/Strategy	Indicator/Target <sup>c</sup>	Achievement at Project Completion		
		Social Agents and Social Workers employed by the Social Service Agency in Tbilisi	9.1% women and 1.7% men in total number of employed population	20 tetri
		Pensioners defined by the Law of Georgia on "About State Pension" registered in the capital	71% women and 29% men	20 tetri
	<p><b>Target 6.</b> One twinning with relevant cities implemented with study tour for relevant municipalities (organization and financing) with focus on gender-responsive and safe public transport design</p>	<p><b>Target achieved.</b> A study tour for representatives from TCH, City Assembly, TTC, and MDF was organized and conducted in November 2014 in Lyon and Paris. Gender-related issues were discussed at two meetings: in Lyon with Systra South-East Agency and in Paris with STIF (Syndicat des Transport d'Île-de-France), which is the funding authority for public transport in the Paris region. At both meetings, company representatives provided information on their experience in addressing gender issues in urban transport.</p> <p>As a result of study visits, women were given opportunities to participate in decision-making processes (in the MDF and TTC). Contractors were also required to apply and adhere to the gender-related provisions of the core labor standards.</p> <p>In addition, the knowledge gained from the study tours, including on the gender dimension was put to good use, as gender issues were taken into account during the preparation of the TOR including tasks, elements, and deliverables for the conduct of the Tbilisi Household Survey.</p>		
	<p><b>Target 7.</b> Sex-disaggregated public transport passenger databases developed by month 24</p>	<p><b>Target not achieved.</b> TCH and TTC collect (i) general number of users of variety modes of transport (bus, metro, ropeway); and (ii) general number of users traveling free of charge or with special tariffs due to their social status (retirement, social vulnerability, studentship). Sex-disaggregated public transport passenger databases were not developed due to financial shortage. However, according to TTC representative, plans to introduce a new system of payment for public transport will generate sex-disaggregated data.</p>		
	<p><b>Target 8.</b> Sex-disaggregated baseline survey conducted by month 6, and follow-up surveys continued until month 66</p>	<p><b>Target achieved.</b> One baseline transportation household survey (endnote g) followed up by the second transportation household survey (endnote h) aimed at researching mobility patterns in Tbilisi. 14,949 female (56.5%) and 11,509 male respondents took part in the first survey (2011) based on the calculations done on the population segment aged 20 years old and above in the Tbilisi Metropolitan Area at that time. <u>468,356 (57%) female, 356,912 male respondents were engaged in the second survey (2016).</u></p> <p>Two surveys were carried out in Tbilisi on sexual harassment in metro.</p>		

Activity/Strategy	Indicator/Target <sup>c</sup>	Achievement at Project Completion
		<p>The baseline survey on sexual harassment in metro rail of Georgia (2014)<sup>j</sup> aimed to track frequency of harassment against women and girls, define a deeper understanding of why there is a need to address sexual harassment issues in planning and operations of public transport services that are designed within the context of building safer cities and ensuring inclusive growth. A follow up survey was carried out in 2018 with the aim to study the prevalence of the findings highlighted by the baseline survey.<sup>k</sup></p>
<b>IV. Under Output C:<sup>l</sup> Establishment of skilled and experienced units to oversee management and implementation of the Program in relevant municipalities</b>		
	Gender-sensitive public awareness and marketing campaigns organized by relevant municipalities	<p><b>Completed.</b>  <u>Gender-sensitive public awareness campaigns</u> on road safety and mobility were organized with the support of ADB gender specialist and Alliance for Road Safety CSO:</p> <ul style="list-style-type: none"> <li>(i) 2 public awareness campaigns at Rustavi municipality in 2015–2017: 119 participants (78 women and 41 men);</li> <li>(ii) 1 public awareness campaign in Gardabani municipality in 2018: 53 participants (17 women and 36 men); and</li> <li>(iii) 1 workshop for metro employees on gender mainstreaming in transport sector in 2016: 10 participants (10 women, 0 men).</li> </ul> <p>Two <u>educational materials or booklets</u> were prepared with the support of ADB gender specialist which were distributed during the public awareness campaigns in the local municipalities and at Tbilisi Metro stations:</p> <ul style="list-style-type: none"> <li>(i) booklet on safe mobility and safe driving behavior (around 9,000 booklets were distributed in the municipalities); and</li> <li>(ii) booklet on protection from violence (including sexual harassment) in mobility in metro with a motto “Say no to oppression of girls and women in metro.”</li> </ul>
Design training modules		<p><b>Completed.</b>            A module was designed for each training organized for executing agency and implementing agency staff.</p>

Activity/Strategy	Indicator/Target <sup>c</sup>	Achievement at Project Completion
Conduct gender sensitivity training	Financial management, procurement, safeguards, and gender sensitization training provided to PMUs	<p><b>Completed.</b></p> <p>The project provided PMU with the following trainings that aimed to enhance their gender sensitivity and develop their understanding of the GAP:</p> <p><u>Gender workshop</u> provided for PMU by ADB gender consultant in 2014 where 2 female and 2 male staff participated.</p> <p><u>Gender and Transport/Urban Governance Conference</u> by ADB in 2018 where 3 female staff and 1 male staff with PMU participated.</p> <p><u>2-day training on human rights, gender and equality issues</u> for representatives of MRDI and MDF. The training was organized by MRDI with ADB support in 2019 and was conducted by the Women's Information Center. The training was participated in by 53 participants, of whom 27 were women and 26 were men. Among the topics discussed were human rights and social inclusion, infrastructure and regional development; economic and gender aspects of infrastructure, full involvement of women and men, and addressing their different needs in program planning and implementation; gender mainstreaming, sexual harassment at workplace.</p>
Recruit qualified women	<p><b>Target 9.</b></p> <p>All the required professional staff hired with 15% recruitment of qualified women</p>	<p><b>Target achieved.</b></p> <p>From 2013 to 2021, a total of 300 employees were recruited by MDF of whom, 212 (71%) were men and 88 (29%) women. Among the positions held by the women were deputy executive director, heads of departments, project managers, advisor to the executive director, senior and junior specialists, head of unit.</p>
	Gender Focal point in executing agency identified and supported by ADB Gender and Development Consultant	<p><b>Completed.</b></p> <p>MRDI (executing agency) assigned the head of HR department as a gender focal point responsible for creating equal conditions for women and men at workplace, collect and provide sex-disaggregated statistics, assist municipalities with gender-responsive methodology for program development and management, and coordinate their work in this scope. The main duties of gender focal point are informed by the Country Human Rights Action Plan, which is currently being reformulated for upcoming years.</p> <p>It is planned to introduce a standalone position of gender focal point at HR Department.</p> <p>MRDI gender focal point has received continuous support from ADB gender consultant. According to her feedback, the advice, recommendations, and knowledge provided by the ADB gender consultant positively impacted her personal and professional growth as well as her work in mainstreaming gender in HR strategies and policies (source: interview with MRDI gender focal point).</p>

Activity/Strategy	Indicator/Target <sup>c</sup>	Achievement at Project Completion
	Training plan developed by month 12 and conducted between month 12 and 48, with at least 30% of women participants	<p><b>Plan not completed. Trainings continuing.</b></p> <p>MDF regularly assesses employees' capacity development needs and consults with heads of departments in initiating trainings for the staff. However, a training plan was not developed.</p> <p>MDF has been conducting trainings for the employees annually since 2013 with an average number of 38 participants (of which, women constituted 42%, on average). The variety topics of the training organized includes finances (financial modeling, ACCA, accounting, etc.), management (HR, project management, fundraising, strategic planning, etc.), safeguards, social and gender thematic (gender in urban governance, social program evaluation, etc.) as well as sector-specific topics (ArcGIS Desktop I and II).</p>

ADB = Asian Development Bank, COVID-19 = coronavirus disease, CSO = civil society organization, DMF = design and monitoring framework, EBRD = European Bank for Reconstruction and Development, FGD = focus group discussion, GAP = gender action plan, HR = human resource, MDF = Municipal Development Fund of Georgia, MFF = multitranchise financing facility, MRDI = Ministry of Regional Development and Infrastructure of Georgia, PIU = Project Implementation Unit, PMU = Project Management Unit, RM = resident mission, SPRSS = summary poverty reduction and social strategy, TCH = Tbilisi City Hall, TTC = Tbilisi Transport Company, TOR = terms of reference, TUDA = Transport and Urban Development Agency.

<sup>a</sup> DMF (Appendix 3) in Concept Note dated March 2010.

<sup>b</sup> DMF, *ibid*.

<sup>c</sup> All GAP targets and indicators of T1 are included in the revised DMF targets and indicators.

<sup>d</sup> DMF Output, Appendix 3 in Concept Note.

<sup>e</sup> 2008 baseline: According to the information provided by Tbilisi Transport Company (TTC), in 2008, total number of public transport trips in Tbilisi was 169.76 million, among which 56% was done by women - 95.08 million. The number of trips (169.76 million) was performed by 562,250 women, (as per National Statistics office of Georgia (geostat.ge) - population of Tbilisi 1,074.4 multiply to 0.5322 (women ratio in population of Georgia)). Accordingly, average annual number of trips performed by women was 169.11. In 2019, (excluding 2020 and 2021 COVID-19 years for more realistic picture, as the public transport was banned for many months): According to TTC, total number of public transport trips in Tbilisi was 272.21 million, increased by 60.33% compared to 2008. Number of women in Tbilisi in 2019: 592,020. Average number of trips by women was increased by 60.33% accordingly and became 271.14. We multiply average number of trips in 2019 to number of women in 2019. Therefore, we get the figure of 160.51 million trips were done by women which is 59% of the total amount, which leads to the increase of 3%.

<sup>f</sup> DMF Output, Appendix 3 in Concept Note, p13.

<sup>g</sup> Joly M., Leboeuf E., Pittault G. Feasibility Study of the LRT Project in Tbilisi, Georgia, 2011. Key Findings are as follows: (i) About 51% of people are using public transportation modes for getting to the place of destination. The highest share belongs to the "marshutkas" (minibuses), with more than a half (54.0%) used. (ii) Public transport was used for the following purposes: 15.6% travelling from home to work, 7.6% travelling from home to school, and only 2.0% travel from home to the university. (iii) The reasons for using public transport included: the respondent/s has/have no own private cars/vehicle (57.1%); using public transport is cheaper than driving private vehicle/s (43.6%); respondent/s feel/s secure in taking public transport (14.7%); and respondent/s feel/s feels less stressed when using public transport (11%). (iv) Some 10.5% of women respondents and 89.5% of men respondents cited ownership of a driving license.

<sup>h</sup> Gender-related findings were as follows: (i) On the average, Tbilisi inhabitants perform 0.59 trips per day using public transport, with women registering higher rate of use of public transport (0.68 trip per day) than men (0.52 trip per day). Women also walk more frequently (0.48 trip per day) than men (0.34 trip per day). Inversely, men have a greater use of car as driver (0.5 trip per day and per person) than women (0.12 trip only). (ii) The use of car as driver is strongly correlated with both sex and age. While the population below 20 years old only marginally use car as driver (around 0.02 trips per day and per person for men and less than 0.01 for women), the frequency of use reaches 0.75 trip per day and per person among the men between 21 and 50 years old. It then decreases to 0.5 trips per day and per person for men over 50 years old. For women, the rate is much lower: it stands at 0.25 trips per day and per person for women between 21 and 50 years old, and decreases to a low 0.02 trips per day and per person for women over 50 years old. (iii) The use of car as passenger is slightly higher for women than for men, which is a major difference with the use of car as driver. Persons below 20 years old and persons between 21 and 50 years old have a similar

frequency of use of car as passengers, around 0.18 trip per day and per persons. The frequency of use is significantly lower for people above 50 years old, standing at 0.08 trips per person and per day, and is higher in this category for women than for men. (iv) Women use public transport more frequently than men, especially those aged between 21 and 50. They use public transport once a day, on average. For men, the use of public transport progressively declines with the age category. The average frequency of use of public transport varies much less than in the case of car (as driver or passenger).

<sup>i</sup> The focus group discussion was held on 10 December 2021 and included 2 men and 3 women from the MDF staff.

<sup>j</sup> Rapid Assessment on Sexual Harassment in metro rail of Georgia, Tbilisi, 2014, Women's Information Center. Survey sampling: 200 women and girls using public transport. Key findings were as follows: out of 200 respondents, 45% have had experienced some form of sexual harassment at least once during the last 6 months. Most of the sexual harassment cases happened in the metro carriages in the evening, when the traffic was the heaviest and the number of passengers was high in all metro stations. None of respondents have ever applied to police for help in cases of sexual harassment. The following recommendations were suggested: (i) more security measures undertaken (cameras inside carriages, regular police patrol), (ii) public awareness raising on sexual harassment, and (iii) adoption of regulatory laws on sexual harassment with clear definition of the phenomenon.

<sup>k</sup> Rapid Assessment on Sexual Harassment at University Metro Station in Tbilisi, 2018, MDF. Survey sampling: 20 women and girls of 16–48-age group. Key findings were as follows: 100% of the respondents are satisfied with the newly constructed metro station and the metro staff. Average use of the station is 5 times a week. The proposed changes for the metro operations by the respondents stand for (i) shorter breaks between the metro arrivals, and (ii) assurance of safe travel inside the metro carriages. At least 6 of the 20 surveyed women and girls have experience verbal aggression which made them feel insulted and humiliated. Violence against another person was witnessed by two respondents.

<sup>l</sup> DMF Output, Appendix 3 in Concept Note: p13.



## SAFEGUARDS ASSESSMENTS

### A. Social Safeguards

1. **Social safeguards.** The land acquisition and resettlement framework for the multitranche financing facility (MFF) was disclosed and posted on the Asian Development Bank (ADB) website in April 2010.
2. **Tranche 1** was classified as *category C* for involuntary resettlement impacts. There were no indigenous peoples affected in the project area, thus tranche 1 was classified *category C* for indigenous peoples' impact.
3. **Tranche 2** was classified as *category A* for land acquisition and involuntary resettlement. Two land acquisition and resettlement plans (LARP) were prepared under tranche 2 for Tbilisi–Rustavi Urban Road Link (TRURL) project: LARP 1 for the section 1 (km 0–4) and LARP 2 for the section 3 (km 10.5–17.1). The LARP for section 1 was based on detailed design and prepared according to the ADB's Safeguard Policy Statement (SPS) 2009. Its objective was to plan and implement land acquisition and resettlement (LAR) for the km 0–4 road section between Tbilisi (Gulua Bridge) and Ponichala settlement. Impacts along this road section entailed the acquisition of 142,718 sqm. Of land from 60 plots. Building impacts affected 15 major structures and several ancillary structures. Eight businesses and 105 households were affected.

**Table A9.1: Summary Land Acquisition and Resettlement Impacts (LARP 1)**

Impacts type	Quantity		Dimensions	Affected Households (without double counting)
<b>A. Land Impacts by tenure status</b>	Plots No.		sq. m	(no.)
Private titled	36		24,648	30
Legalizable	2		464	2
Public Not Used	20		117,262	
Public illegally used (unlegalizable)	2		344	1
<b>Total A</b>	<b>60</b>		<b>142,718</b>	<b>32</b>
<b>B. Land Impacts (by use Category)</b>	Plots No.		sq. m	(no.)
Agricultural (non used)	8		2,950	5
Commercial	30		22162	28
Public (not used)	20		117,262	
Public illegally used (unlegalizable)	2		344	1
<b>Total B</b>	<b>60</b>		<b>142,718</b>	<b>32</b>
<b>C. Affected trees</b>	Units			no.
Saplings-plantlets (to be replanted)	1,870			1
Productive/fruit trees	48		Not applicable	6
<b>Total C</b>	<b>1,918</b>			<b>6</b>
<b>D. Affected Structures</b>	As below		sq. m	No
Buildings	Units	15	3132,91	15
Ancillary structures	Units	9	1649,22	9
Fences	sqm	510.85	510.85	8
Retaining walls	m <sup>3</sup>	4.3	17.2	1
Apartment Building basement with ancillary structures		1	2848.96 87.90	1
<b>Total D</b>				<b>21</b>
<b>F. Business impacts</b>	No.	8		11
<b>G. Jobs losses</b>	No.			
i. permanent	No.	52		
ii. temporary	No.	20		
<b>Total</b>	<b>No.</b>	<b>72</b>		<b>72</b>
<b>G. AH No</b>				No.

Impacts type	Quantity		Dimensions	Affected Households (without double counting)
Total AH No.				105
Severely affected AH				56
Vulnerable AH				6
Relocated AH				6
Total amount of APs (including families of employees)				358

AH = affected households, AP = affected persons, LARP = land acquisition and resettlement plan, m<sup>3</sup> = cubic meter, sq. m = square meter, no. = number.

4. The LARP for section 3 was based on detailed design prepared according to the ADB SPS 2009. Its objective was to plan and implement LAR for the km 10.5–17.1 road section between Ponichala settlement and Rustavi City. Impacts along this road section entailed the acquisition of 290,120 sqm of land from 180 plots. Building impacts affected 9 major and 11 ancillary buildings and several other structures. Six businesses and 144 households were affected.

**Table A9.2: Summary Land Acquisition and Resettlement Impacts (LARP 2)**

Impacts type	Quantity		Dimensions	Affected Households (without double counting)
<b>A. Land Impacts by tenure status</b>	Plots No.		sq. m	no.
Private titled	81		58,509	76
Legalizable	32		28,398	31
Public Not Used	66		202,257	
Public used according to leasing agreement (unlegalizable)	1		956	1
<b>Total A</b>	<b>180</b>		<b>290,120</b>	<b>108</b>
<b>B. Land Impacts (by use Category)</b>	Plots No.		sq. m	no.
Agricultural (non used)	75		53,932	73
Commercial	38		32,975	34
Public Not Used	66		202,257	
Public used according to leasing agreement (unlegalizable)	1		956	1
<b>Total B</b>	<b>180</b>		<b>290,120</b>	<b>108</b>
<b>C. Affected trees</b>	Units			no.
Productive/fruit trees	56		Not applicable	4
<b>Total C</b>	<b>56</b>		<b>Not applicable</b>	<b>4</b>
<b>D. Affected Structures</b>	As below		sq. m	no.
Major Buildings	Units	9	2,620	8
Ancillary Buildings	Units	11	358.4	4
Other structures	Units	35	N/A	5
<b>Total D</b>				<b>17</b>
<b>F. Business impacts</b>	No.	6		6
<b>G. Jobs losses</b>	No.			
i. permanent	No.	17		17
ii. temporary	No.	18		18
<b>Total G</b>	<b>No.</b>	<b>35</b>		<b>35</b>
<b>H. AH No</b>				no.
Total AH No.				144
Severely affected AH				17
Vulnerable AH				7
Relocated AH				0
Total amount of APs (including families of employees)				485

AH = affected household, AP = affected person, N/A = not applicable, no. = number, sq. m = square meter.

5. In the process of LARP 1 and LARP 2 implementation, agreements could not be reached with owners of 14 affected land plots owned by 12 affected households (3 land plots owned by 3 affected households under LARP 1 section 1 and 11 land plots owned by 9 affected households under LARP 2 section 3 of the road rehabilitation project).

6. All the amounts of compensation for each mentioned affected household have been deposited to escrow account established by the Treasury Service of the Ministry of Finance of Georgia. Regarding all the land plots, expropriation procedures are initiated by MDF. The escrow account has been established according to the agreement between MDF and the Treasury Service of the Ministry of Finance of Georgia, securing all amounts of compensation for the 12 affected households. The account will be maintained until all the cases regarding affected households will not be finalized and compensations paid.

7. During implementation of civil works in the section 1 (km 0–4) of the TRURL covered under LARP 1, additional impact on one land and property owner was revealed, which required acquisition of land plot, structures located on that land plot and permanent disruption of the business activities carried out on the affected land plot. These changes were reflected in the Addendum 1 to LARP 1. The necessity of the construction of secondary road for section 3 was initiated after reviewing the detailed design prepared for Modernization of Tbilisi–Rustavi Section of the Tbilisi–Red Bridge (Azerbaijani Border) Road Project (Section 3) and identifying the necessity of Secondary Road construction at the right side of the section 3. As a result, Addendum to TRURL – Secondary Road for Section 3 LARP was prepared May 2015. The compensations and allowances were fully paid based on the LARP’s addenda. There were no indigenous peoples affected in the project area, thus tranche 2 was classified as *category C* for indigenous peoples’ impact.

8. **Tranche 3** was classified as *category A* for land acquisition and involuntary resettlement due to the impacts under TRURL Section 2 which was subdivided into two parts: part A (PK 4+000 to PK 5+300 and PK 6+800 to PK 10+755: the road section without impacts on buildings, where LARP was finalized in October 2014) and part B (PK 5+300 to PK 6+800). Draft LARP for whole section 2 was prepared in April 2014. However, to facilitate LARP finalization and implementation later, it was decided to split that into two parts and proceed with finalizing the LARP for part A first and then finalize the LARP for part B. This LARP for section 2 part B was developed by the MDFG with support from consultants, based on the data from “implementation-ready” version of LARP for the whole section 2.

**Table A9.3: Summary Land Acquisition and Resettlement Impacts (LARP 2A)**

No.	Description	Number/Amount
1	Total number of land parcels to be acquired: - privately owned lands - state owned lands - state owned lands used by private (non-legalizable and included in the above 43 plots) - lands with unknown owner	192 43 13 2
2	Total area of land to be acquired permanently (in m <sup>2</sup> )	264,629
3	Total number of land fully affected land plots	119
4	Total number of land partially affected land plots	118
5	Total area of agricultural land to be acquired permanently (in m <sup>2</sup> )	82,126
6	Total area of non-agricultural land to be acquired permanently (in m <sup>2</sup> )	182,503
7	Total area of permanently affected privately-owned land (in m <sup>2</sup> )	183,443

No.	Description	Number/Amount
8	Total area of permanently affected state-owned land (in m <sup>2</sup> )	79,320
9	Total area of permanently affected leased land (in m <sup>2</sup> )	3,132
10	Total number of permanently affected households losing property	145
11	Total number of permanently affected legal entities	21
12	Total number of temporarily affected legal entities	2
13	Total number of employees losing job	198
14	Total number of vulnerable households	40
15	Total number of severely affected households	192
16	Total number of permanently affected structures	511
17	Total estimated number of Aps	905

**Table A9.4: Summary Land Acquisition and Resettlement Impacts (LARP 2B)**

No.	Description	Number/Amount
1	Total number of land parcels to be acquired: - privately owned lands - state owned lands	32 52
2	Total area of land to be acquired permanently (in m <sup>2</sup> )	35,367
3	Total number of land fully affected land plots	60
4	Total number of land partially affected land plots	24
5	Total area of agricultural land to be acquired permanently (in m <sup>2</sup> )	10,047
6	Total area of non-agricultural land to be acquired permanently (in m <sup>2</sup> )	25,320
7	Total area of permanently affected privately-owned land (in m <sup>2</sup> )	21,835
8	Total area of permanently affected state-owned land (in m <sup>2</sup> )	13,532
9	Total number of permanently affected households losing property	133
10	Total number of permanently affected legal entities	14
11	Total number of permanently affected businesses	12
12	Total number of temporarily affected businesses	1
13	Total number of employees losing job	56
14	Total number of vulnerable households	24
15	Total number of severely affected households	119
16	Total number of permanently affected structures	311
17	Total estimated number of APs	549

9. Due to the complexity of the project, many individual and group complaints were received regarding compensation for resettlement. Part of these complaints was successfully resolved by the project's grievance redress mechanism with help of the project grievance redress committee. Some of the complainants went to the court (mainly with regard to the compensation amount) and some were found ineligible. Part of the complainants decided to approach Accountability Mechanism of ADB.

10. The first complaint was received by the Compliance Review Panel (CRP) on 14 March 2016 from 81 residents of a 9-story building identified as 12 v/g. The second complaint was received by the CRP on 10 November 2016 from 72 residents of building 16 a/b. The third complaint was received by the CRP on 21 June 2018 from 30 residents of a 5-story building identified as 28a. All three complainant groups reside in buildings in the Ponichala area of the

Rustavi Highway in Tbilisi, Georgia where a 6.8 km stretch of new road was envisaged. Based on the procedures stated in the ADB Accountability Mechanism Policy (AMP), each of the complaints was assessed by the CRP as within the mandate of compliance review and, subsequently, all were deemed eligible for compliance review by the CRP.

11. However, considering the timing of complaint submission, the compliance review was conducted based on the first complaint. The CRP concluded that the second complaint was ineligible as the compliance review triggered by the first complaint had been completed. Furthermore, the issues raised by the second group of complainants were very similar to those of the first complaint and would in any event need to be addressed by management as part of the remedial actions associated with compliance review of the first complaint. The third complaint shared many common issues with the first and second complaints, except for raising concern regarding lack of assessment of site-specific vibration impact on building 28a. This complaint was received by the CRP during the early stages of implementation of Board-approved remedial actions (i.e., the Board-approved Remedial Action Plan including the Remedial Action Plan-Final Solution. As such, the CRP considered that while there was strong evidence of noncompliance (i.e., lack of assessment of vibration impact on building 28a) and this was linked to likely harm to the third group of complainants, the new evidence was not serious enough to merit a separate compliance review. Further, the remedial actions for the project were sufficient to address the issues raised in all three complaints as they were applicable to the project in its entirety.

12. On 11 October 2018, a fourth complaint concerning the project was received by the CRP from 18 residents of affected households at four numbered residential structures at Marneuli Street, Rustavi Highway, Tbilisi, Georgia. This complaint focused on issues regarding compensation for resettlement. The complaint was determined ineligible by the CRP as the complainants and ADB Management had expressed willingness to continue efforts to resolve the issues raised in the complaint. Thereafter, the parties worked towards resolving the compensation issue. This resulted in commitment to provide compensation for each household pursuant to a government decree issued on 2 July 2020. The compensation was deposited to the escrow accounts of the representatives of the affected households. By the date of this report, all but one affected household had withdrawn the compensation sums from the account. The remaining household's compensation had not been withdrawn from the account due to family dispute.

13. Following its initial fact finding, the CRP's compliance review report found noncompliance primarily with the environment requirements of ADB SPS 2009, as:

- (i) the project will create noise impacts on people living in a densely populated area above the ADB allowed maximum noise standards;
- (ii) people might be endangered from loose parts of buildings falling down during road construction;
- (iii) vibration impacts have to be reassessed for all project-affected buildings which have annexes which, in terms of size, are a significant part of the building, and where impacts have only been modelled on the core structure of the building. Vibration impact assessments need to consider the core structure and the annexes. Moreover, natural frequencies need to be measured for all project-affected buildings included under the vibration impact studies. Measured data then need to be entered into the vibration impact model (rather than assumed data) to assess the vibration impacts on buildings. If revised calculations of the model show that the project affected buildings will be damaged by the impacts of vibrations, adequate mitigation measures need to be taken. Mitigation measures need to be

- implemented prior to the commencement of road construction to secure the buildings and assure safety of residents;
- (iv) impacts on vulnerable and disadvantage groups have not been assessed and no mitigation measures have been designed;
  - (v) insufficiently targeted consultations have been conducted with vulnerable groups, especially vision-impaired people;
  - (vi) ecological impacts of the project on the Mtkvari River have not been assessed; and
  - (vii) the project has not been appropriately classified for environmental impacts.

14. The final status of the remedial actions for this project are described below.

**Table A9.5: Final Status of the Remedial Action Plan**

<b>Management's Action Plan</b>	<b>Status of Implementation and CRP's Remarks</b>
Noise impacts	<b>Status of compliance: Partial implementation</b> Loan closure and no construction of the new road in Ponichala rendered further action redundant.
Vibration impacts	<b>Status of compliance: Partial implementation</b> Loan closure and no construction of the new road in Ponichala rendered further action redundant.
Impacts on vulnerable groups	<b>Status of compliance: Partial implementation</b> Loan closure and no construction of the new road in Ponichala rendered further action redundant.
Impacts on river ecology	<b>Status of compliance: Partial implementation</b> Remedial action on this topic, as set out in the RAP and the RAP-FS, does not provide a basis for further action
Consultations	<b>Status of compliance: Full implementation</b>
Environmental categorization of the project	<b>Status of compliance: Full implementation</b>

CRP = Compliance Review Panel, FS = final solution, RAP = remedial action plan.

15. For section 2 part A, implementation completed except of one property. Contracts were signed with affected persons and are registered in public registry as it is required by Georgian legislation. Affected people were paid compensation to their bank accounts within a reasonable time. As of 30 June 2020, the agreements were concluded and 243 privately owned properties were acquired out of total 244. The only remaining property is GMP. At this stage, the case of GMP is not actual anymore, as it is located on section of Tbilisi–Rustavi road, which was removed by the Georgian Government and construction will not take place there.

16. For section 2 part B, the LAR impacts were reassessed based on the structural integrity study carried out in 2015, which was conducted by Nord Est Progetti Srl (Italy). According to the outcomes of the study of structural integrity (including review of data regarding two-story building and 9 multiapartment buildings, visual inspection, thermographic imaging of the buildings, subsoil investigation data, the input data for modeling the vibration impacts, etc.), it was recommended to dismantle two-story residential building with 41 apartments. In the meantime, regarding the structural integrity of the other 9 buildings, it was concluded that the construction works will not cause the risk of collapse or damage of these buildings.

17. The outcomes of the study on structural integrity of the buildings were reflected in the LARPs and the results of the study have confirmed the LAR impacts identified during the initial

assessment. Based on reassessed impacts, the LARP for section 2 part B was finalized, approved, and disclosed in October 2015. Following LARP approval, MDF commenced and completed its implementation. As of 30 June 2020, all 151 privately owned properties and all 41 apartments were acquired.

18. **Tranche 4** was classified as *category C* for involuntary resettlement impacts. There were no indigenous peoples affected in the project area, thus tranche 4 was classified as *category C* for indigenous peoples' impact.

19. **Tranche 5** was classified as *category C* for involuntary resettlement impacts. There were no indigenous peoples affected in the project area, thus tranche 5 was classified as *category C* for indigenous peoples' impact.

## **B. Environmental Safeguards**

20. Tranche 5 included only rehabilitation of the existing ventilation system and cable network. No change in the footprint of the metro occurred and no additional land was required. The subproject was expected to have minimal or no adverse environmental impacts, so was classified as *category C* per ADB SPS 2009 as the subproject. No environmental assessment was required for the Tbilisi Metro Rehabilitation subproject, however, to mitigate any risks, an environmental code of practice (ECP) was prepared in line with best international standards. The objective of the ECP was to address less significant environmental impacts and all general construction related impacts of the proposed project implementation. The ECP covered the following issues: (i) waste management; (ii) fuels and hazardous goods management; (iii) waste resource management; (iv) air quality management; (v) noise and vibration management; (vi) road transport and road traffic management; and (vii) community and worker's health and safety. The ECP was an integral part of the contract signed between MDF and the contractor.

21. According to output 2 of tranche 5, in order to strengthen institutional and waste management capacity of Tbilisi Transport Company LLC (TTC) for the operation and maintenance of the metro system, the MDF hired individual consultant for preparing waste management plan (WMP) for TTC for proper waste collection and disposal including training of TTC personnel for its implementation. TTC submitted the WMP to the Ministry of Environmental Protection and Agriculture (MoEPA) for approval.

22. MDF established its Environmental and Resettlement Unit (ERU) to ensure compliance and timely environmental monitoring of projects. The ERU prepared the environmental monitoring reports (EMR) to track implementation of the environmental management plans (EMP) and submitted to ADB on a semi-annual basis. Only two EMRs were prepared and disclosed for tranche 5 on ADB website since preparation of semi-annual EMRs are not required for category C projects. The first EMR was submitted and disclosed in March 2019 covering the reporting timeline from July to December 2018. The second EMR was submitted and disclosed in July 2019 covering the reporting timeline from January to June 2019. No unanticipated impacts were recorded for the project during the construction. All environment-related project covenants were complied with.

23. At appraisal of the facility, it was agreed to assess all subsequent tranches and their associated projects independently for environmental categorization. For tranche 1, subprojects were classified environmental category B per ADB SPS 2009 as subprojects did not have significant irreversible or permanent negative environmental impacts during or after construction and an initial environmental examination (IEE) report including an EMP was prepared for each

subproject in accordance with environmental assessment and review framework (EARF) by the government. The IEEs were disclosed on ADB and project websites. All contractors submitted site-specific environmental management plans (SEMP) as well as topic-specific EMPs as required by MDF except for the contractors hired under the Rehabilitation and Reconstruction of Secondary Road Zugdidi–Jvari–Mestia–Lasdili Subproject which accomplished the environmental protection actions in line with the requirements of the EMP and its monitoring plan included in the IEE cleared during project preparation. The SEMP of “Anaklia Coastal Improvement Subproject” was approved by MDF in June 2015 while the SEMP of “Tbilisi Metro Extension Subproject” was cleared by MDF in September 2015. MDF submitted a total of 10 EMRs which were disclosed on ADB website. The number and frequency of EMRs submitted complied with the requirements stated in the IEEs. MDF satisfactorily implemented the recommended corrective actions required for pending non-compliances revealed during the construction phase. No unanticipated impacts were recorded for the project. Upon completion of the construction activities, post-construction environmental audits were conducted by an external expert. The post-construction environmental audit reports state that the SEMP implementation and overall safeguards compliance are satisfactory.

24. For tranche 2, an IEE report including an EMP were prepared for each subproject in accordance with EARF approved for tranche 1 (16.04.2010). The IEEs were disclosed on ADB and project websites. Supplementary IEE for secondary roads of section 3 was also prepared and approved by ADB in 2015. According to the national law on Environmental Impact Permits (EIP), the EIA reports for section 1 and section 3 of Modernization of Tbilisi–Rustavi section of Tbilisi–Red Bridge Road (Azerbaijan border) have been prepared, submitted to Ministry of Environmental Protection and Natural Resources and positive conclusion of ecological examination was obtained. All required statutory clearances and permits were obtained during project implementation. MDF submitted a total of 7 EMRs which were disclosed on ADB website. The number and frequency of EMRs submitted complied with the requirements stated in the IEEs. MDF satisfactorily implemented the recommended corrective actions required for pending non-compliances revealed during the construction phase. No unanticipated impacts were recorded for the project. The post-construction environmental audit report prepared in July 2016 states that the SEMP implementation and overall safeguards compliance are satisfactory.

25. Tranche 3 was classified environmental *category B* per ADB SPS 2009. An initial environmental examination (IEE) report including an EMP was prepared for each subproject in accordance with EARF and posted on the ADB website in September 2013. At the beginning of 2016, complaints from different groups of residents regarding TRURL section 2 subproject were addressed to MDF and ADB. In addition to that, residents from 9-story, 2-story, and 5-story buildings sent complaints to the CRP and to the office of special project facilitator (OSPF). In June 2016, ADB Board of Directors approved the CRP’s recommendation and authorized the compliance review for tranche 3. In July 2016, OSPF prepared its review and assessment mission on the complaints received from residents of Ponichala district. The CRP’s final report submitted on 13 February 2017 found the project out of compliance with ADB operational policies and procedures in six aspects: (i) noise impacts on people living in a densely populated area above the ADB allowed maximum noise standards; (ii) vibration impacts have to be reassessed for all project-affected buildings which have annexes which, in terms of size, are a significant part of the building, and where impacts have only been modelled on the core structure of the building. Vibration impact assessments need to consider the core structure and the annexes; (iii) impacts on vulnerable and disadvantage groups have not been assessed and no mitigation measures have been designed; (iv) ecological impacts of the project on the Mtkvari River have not been assessed; (v) insufficiently targeted consultations have been conducted with vulnerable groups, especially vision impaired people; and (vi) environment categorization of the project. Project has



not been appropriately classified for environmental impacts.<sup>1</sup> During the first half of 2017, additional studies were conducted on noise, vibration impacts, and ecological sensitivity of the Mtkvari River. On 30 June 2017, ADB's Board approved the Management's Remedial Action Plan (RAP) to bring the project back to compliance. All studies defined under the RAP (noise impacts study, vibration impacts study, river ecological impact study, methodology for targeted consultations with vulnerable people and groups) were completed by ADB and MDF and submitted to CRP for review. CRP comments on the draft RAP were publicly disclosed, and the RAP-Final Solution was approved in April 2018. The IEE was revised accordingly and a revised IEE was posted on the ADB website in December 2015. The final environmental impact assessment (EIA) was approved by the Ministry of Environmental and Natural Resources Protection of Georgia and published on 6 February 2017.

26. The ERU prepared the EMRs to track implementation of the EMPs and submitted them to ADB on a semiannual basis. The first EMR was submitted and disclosed in the ADB website in August 2014. MDF submitted a total of 13 EMRs which were disclosed on the ADB website. The latest EMR was submitted and disclosed on the ADB website in September 2021. MDF satisfactorily implemented the recommended corrective actions required for pending non-compliances revealed during the construction phase.

27. Upon completion of the construction activities, post-construction environmental audit was conducted in February 2022 by the environmental specialist of MDF for Tbilisi–Rustavi Urban Road Link (Section 2) Subproject. The post-construction environmental audit report states that the SEMP and due diligence report implementation and overall safeguards compliance are satisfactory, namely: (i) all construction camps have been dismantled and the existing infrastructure units as well as construction waste were removed from the camp area; (ii) the temporary spoil material storage facility at PK 6+900–7+140 have been made safe, landscaped, covered with borrow material and reseeded; (iii) a river ecology and impact assessment study were completed at the design stage to investigate the ecological sensitivity of the river to the project, assess the magnitude of impacts, and propose likely mitigation measures. The report concluded that impacts from the project on the Mtkvari river ecosystem will be insignificant; (iv) works related to the foundation of the retaining wall, built in the riverbed have been carried out to ensure protection of the foundation of the retaining wall and unimpeded flow of the river; and (v) compensation plantings have been carried out in Tbilisi and Gardabani municipalities in lieu of cut off trees (1,5 tree in lieu of 1 cut off tree and 1:10 ones of the Red List). During the defects liability period, the contractor is carrying out maintenance works as well changing the dried trees with the new ones.

28. **Lessons learned under tranche 3.** (i) There was no robust baseline data for project impact assessment at appraisal. In this project, baseline data on noise, vibration, vulnerable affected people, and river ecology were not adequately collected. This resulted in the need to conduct additional assessments after the project was approved and delayed the implementation of the project. (ii) Detailed project impact assessments must be prepared in coordination with stakeholders. This approach enables better identification of impacts that can, in turn, provide invaluable information for decision making on fundamental elements of project design and implementation, while enhancing the affected population's ownership of the project and potentially providing insights into better impact mitigation measures. (iii) Project had impacts on the physical environment which had implications for affected persons. The initial social safeguards assessment failed to identify the project's impacts on vulnerable groups in the project areas.

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<sup>1</sup> These were: (i) noise impacts, (ii) vibration impact, (iii) impacts on vulnerable groups, (iv) impacts on water and river ecology, (v) consultations, and (vi) environment categorization of the project.

Visually impaired people living in the area were to be affected by the noise generated from the road layout. As result, the project required new focused consultations with visually-impaired affected persons whose specific vulnerabilities and needs were not factored into project design. In addition, there was a need for more precise measurement of vibration impact on buildings occupied by affected persons. (iv) Meaningful consultation is essential in ensuring that project-affected people's needs are heard and addressed in project design and implementation and reduces the likelihood of an escalation of grievances and, consequently, project costs. Meaningful consultation entails the use of appropriate consultation methodologies to reach marginalized affected persons. (v) The phased approach used to address project related grievances proved useful. In this project, MDF, in collaboration with ADB, determined that specific studies, including noise and vibration studies, had to be completed before proposing solutions to bring the project back to compliance. This ensured that the solutions proposed directly addressed the concerns of the complaints regarding the project impacts, providing a clear and technically detailed basis for subsequent monitoring. (vi) Design and monitoring framework (DMF) did not adequately measure project achievements. DMF for the project contained indicators that were not entirely attributable to the project. The assumptions and data source behind the quantitative baselines and targets for several indicators were not clearly documented. This made it difficult to measure project achievements at completion.

29. Tranche 4 was classified environmental *category B* per ADB SPS 2009 as the project did not have significant irreversible or permanent negative environmental impacts during or after construction. An IEE report including an EMP was prepared for the Construction of Batumi Coastal Protection Subproject in accordance with EARF. The IEE was disclosed on ADB and project websites. IEE was updated along with project design change and was approved in May 2018 by the ADB. MDF submitted a total of 9 EMRs which were disclosed on ADB website. The number and frequency of EMRs submitted complied with the requirements stated in the IEEs. MDF satisfactorily implemented the recommended corrective actions required for pending non-compliances revealed during the construction phase. No unanticipated impacts were recorded for the project. Following the award of the contract and prior to start of construction activities, the contractor prepared SEMP specific for the subproject as well as topic-specific EMPs as required by the MDF. The SEMP was approved by MDF in June 2017. The post-construction environmental audit reports state that the SEMP implementation and overall safeguards compliance are satisfactory.

## STATUS OF COMPLIANCE WITH LOAN COVENANTS

Covenant	Reference in Loan and Project Agreement	Status of Compliance
<b>Particular Covenants</b>		
In the carrying out of the Project and operation of the Project facilities, the borrower shall perform, or cause to be performed, all obligations set forth in Schedule 5 to this loan Agreement and the Project Management.	LA Section 4.01	Complied with. In the carrying out of the Project and operation of the Project facilities, the borrower and MDF performed all obligations set forth in Schedule 5 to this loan Agreement and the Project Management.
The Borrower shall enable ADB's representatives to inspect the Project, the Goods and Works, and any relevant records and documents.	LA Section 4.02	Complied. The Borrower and MDF enabled ADB's representatives to inspect the Project, the Goods and Works, and any relevant records and documents.
ADB shall disclose the annual audited financial statements for the Project and the opinion of the auditors on the financial statements within 14 days of the date of ADB's confirmation of their acceptability by posting them on ADB's website.	LA Section 4.03	Complied with. The annual audited financial statements for the Project and the opinion of the auditors on the financial statements were disclosed by ADB by posting them on ADB's website.
The Borrower shall take all actions which shall be necessary on its part to enable the Project Implementing Agencies to perform their obligations under the Project Agreement, and shall not take or permit any action which would interfere with the performance of such obligations.	LA Section 4.04	Complied with. The Borrower was taking all actions to enable the MDF as Project Implementing Agency to perform its obligations under the Project Agreement.
<b>Procurement of Goods, Works and Consulting Services</b>		
<u>General</u>		
The procurement of Works and Consulting Services shall be subject to and governed by the Procurement Guidelines, and the Consulting Guidelines, respectively.	LA Schedule 4, para. 1	Complied with. Procurement of Goods, Works and Consulting Services were carried out in accordance with Procurement Guidelines and the Consulting Guidelines, respectively.
Except as ADB may otherwise agree, Goods and Works shall be procured, and Consulting Services shall be selected and engaged only on the basis of the procurement methods and the selection methods set forth below. These methods are subject to, among other things, the detailed arrangements and threshold values set forth in the Procurement Plan. The Borrower may only modify the procurement methods and the selection methods or threshold values with prior agreement of ADB, and modifications must be set out in updates to the Procurement Plan.	LA Schedule 4, para. 2	Complied with. The methods of procurement or threshold values were defined by the Procurement Plan and modified by the updates to the Procurement Plan with the prior agreement of ADB.
All terms used in this Schedule and not otherwise defined in this Loan Agreement have the meanings provided in the Procurement Guidelines and/or the Consulting Guidelines, as applicable.	LA Schedule 4, para. 3	Complied with. All terms used and not otherwise defined in the Loan Agreement had the meanings provided in the Procurement Guidelines and/or the Consulting Guidelines, as applicable.
<u>Goods and Works</u>		
Goods and Works shall be procured on the basis of International Competitive Bidding.	LA Schedule 4, para. 4	Complied with. Works were procured on the basis International Competitive Bidding.
<u>Consulting Services</u>		

Covenant	Reference in Loan and Project Agreement	Status of Compliance
Except as set forth in the paragraph below, the Borrower shall apply Quality and Cost-Based Selection for Consulting Services.	LA Schedule 4, para. 5	Complied with. Quality and Cost-Based Selection was applied for Consulting Services.
The Borrower, through MDF, shall apply the following selection method for the specified Consulting Services, in accordance with, among other things, the procedures set forth in the Procurement Plan: Least-Cost Selection for audit services for the Project.	LA Schedule 4, para. 6	Complied with. Least Cost Selection was applied for audit services for the Project.
The Borrower, through MDF, shall recruit the individual consultants for safeguards monitoring for the Project in accordance with procedures acceptable to ADB for recruiting individual consultants.	LA Schedule 4, para. 7	Complied with. MDF recruited the individual consultants for safeguards monitoring for the Project in accordance with procedures acceptable to ADB for recruiting individual consultants.
<b>Industrial or Intellectual Property Rights</b>		
<p>(a) The Borrower shall ensure that all Goods and Works procured (including without limitation all computer hardware, software, and systems, whether separately procured or incorporated within other goods and services procured) do not violate or infringe any industrial property or intellectual property right or claim of any third party.</p> <p>(b) The Borrower shall ensure that all contracts for the procurement of Goods and Works contain appropriate representations, warranties and, if appropriate, indemnities from the contractor or supplier with respect to the matters referred to in subparagraph (a) of this paragraph.</p>	LA Schedule 4, para. 8	<p>Complied with.</p> <p>(a) Goods and works under the Project were procured following ADB's standard bidding documents and contract documents. Hence, they adhered to non-violation or infringement of any industrial property or intellectual property right or claim of any third party.</p> <p>(b) Goods and works under the Project were procured following ADB's standard bidding documents and contract documents. Therefore, all contracts for the procurement of Goods and Works included appropriate representations, warranties and, if appropriate, indemnities from the contractors or suppliers.</p>
The Borrower shall ensure that all ADB-financed contracts with consultants contain appropriate representations, warranties and, if appropriate, indemnities from the consultants to ensure that the Consulting Services provided do not violate or infringe any industrial property or intellectual property right or claim of any third party.	LA Schedule 4, para. 9	Complied with. ADB's standard document was used for recruitment of consulting firms and awarding contracts under the project complying with these provisions.
<b>ADB's Review of Procurement Decisions</b>		
Contracts procured under international competitive bidding procedures and contracts for Consulting Services shall be subject to prior review by ADB, unless otherwise agreed between the Borrower and ADB and set forth in the Procurement Plan.	LA Schedule 4, para. 10	Complied with. All contracts procured under International Competitive Bidding procedures and contracts for Consulting Services were subject to prior review by ADB.
In the case of a contract for Goods and Works, which is subject to ADB's prior review, the Borrower shall seek ADB's prior approval of any modification or waiver of the terms and conditions of the contract, including: (a) granting an extension of the stipulated time for completion of a contract for a period of 1 month or more, or which is likely to require an extension of the Loan Closing Date; and (b) increases in aggregate of the original price by more than 5% (for the avoidance of doubt, such increase shall take into account any previous change under such contract).	LA Schedule 4, para. 11	Complied with. MDF obtained ADB's approval for works contracts for (a) time extensions, and (b) modification or waiver of the conditions.

<b>Covenant</b>	<b>Reference in Loan and Project Agreement</b>	<b>Status of Compliance</b>
In the case of a contract for Goods and Works, which is subject to ADB's post review, ADB shall review the required contract modification or waiver and respond to the Borrower as soon as practicable, but not later than 1 month after the receipt of the required document.	LA Schedule 4, para. 12	Complied with. In case of post review contract for Works, MDF promptly submitted all procurement documentation to ADB;
The Borrower shall provide to ADB copies of all time extensions, modifications, or waivers to the contracts (including change orders) within 1 month following amendment of the contract.	LA Schedule 4, para. 13	Complied with. MDF provided to ADB copies of all time extensions, modifications, or waivers to the contracts.
<b>Execution of Project; Financial and Operational Matters</b>		
<u>Implementation Arrangements</u>		
The Borrower, the Project Executing Agency and the Project Implementing Agencies shall ensure that the Project is implemented in accordance with the detailed arrangements set forth in the PAM. Any subsequent change to the PAM shall become effective only after approval of such change by the Project Executing Agency and ADB (except that any subsequent change to the Procurement Plan shall become effective only after approval of such change by MDF and ADB). In the event of any discrepancy between the PAM and this Loan Agreement, the provisions of this Loan Agreement shall prevail.	LA Schedule 5, para. 1	Complied with. The project was implemented in accordance with arrangements set forth in the PAM.
<u>Safeguards</u>		
The Borrower, through MDF, shall ensure that the Project does not have any environmental, indigenous peoples or involuntary resettlement impacts, all within the meaning of the SPS. In the event that the Project does have any such impact, the Borrower, through MDF, shall take all steps required to ensure that the Project complies with the applicable laws and regulations of the Borrower and with the SPS. Without limiting the foregoing, the Borrower, through MDF, shall ensure that the construction and implementation of the Project and all Project facilities comply with all applicable laws and regulation of the Borrower relating to environment, health and safety, including, without limitation, the Waste Management Code of Georgia dated 26 December 2014 (as amended from time to time).	LA Schedule 5, para. 2	Complied with. The Project did not have any environmental, indigenous peoples or involuntary resettlement impacts, all within the meaning of the SPS. Waste Management Plan for TTC was prepared and approved.
<u>Labor Standards, Health and Safety</u>		
The Borrower, through MDF, shall ensure that the core labor standards and the Borrower's applicable laws and regulations are complied with during Project implementation. MDF shall include specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors, among other things (a) comply with the Borrower's applicable labor law and regulations and incorporate applicable workplace occupational safety norms; (b) do not use child labor; (c) to not discriminate workers in respect of employment and occupation; (d) do not use forced labor; (e) allow freedom of association and effectively recognize the right to collective bargaining; and (f) disseminate, or engage appropriate service providers to disseminate, information on the risks of sexually transmitted diseases, including HIV/AIDS, to the employees of contractors engaged under the Project and to members of the local communities surrounding the Project area, particularly women.	LA Schedule 5, para. 3	Complied with. MDF ensured the core labor standards and Georgian applicable laws and regulations. MDF has included specific provisions in the bidding documents and contracts financed by ADB under the Project requiring that the contractors comply with Georgian applicable labor law and regulations, do not use child labor, provide equal opportunity in relation to recruitment, compensation, working conditions and terms of employment for workers, including prohibiting any form of discrimination against women during hiring, providing equal pay for men and women for work of equal value; and to the extent possible, employing local people.

Covenant	Reference in Loan and Project Agreement	Status of Compliance
The Borrower shall cause MDF to strictly monitor compliance with the labor standards and provide ADB with regular reports.	LA Schedule 5, para. 4	Complied with. MDF ensured monitoring of the strict compliance with the labor standards.
<u>Gender and Development</u>		
The Borrower, through MDF, shall ensure that the principles of gender equality aimed at increasing Project benefits and impact on women in the Project area are followed during implementation of the Project. These include (a) equal pay to men and women for work of equal value; (b) enabling working conditions for women workers; (c) taking necessary actions to encourage women living in the Project area to participate in the design and implementation of the Project activities.	LA Schedule 5, para. 5	Complied with. The project did not have Special Gender Action Plan, but the principles of gender equality was ensured.
<u>Operations and Maintenance</u>		
The Borrower, within its authority, shall cause TCM and TTC to ensure that: (a) the Project facilities are maintained and operated in good condition in compliance with applicable laws, regulations and standards of the Borrower including conducting regular operations and maintenance of the Tbilisi Metro in accordance with applicable operations and maintenance manuals, maintenance schedules, and maintain an accurate and up-to-date asset register for the Tbilisi Metro; and (b) adequate budgetary appropriations or other counterpart funding is provided to cover any funding shortfalls for operations and maintenance of the Project facilities, and qualified and experienced staff are made available to enable the Project Implementing Agencies to successfully carry out these activities.	LA Schedule 5, para. 6	Complied with. MDF and TTC ensured that the Project facilities are maintained and operated in good condition in compliance with applicable laws, regulations and standards of the Borrower including conducting regular operations and maintenance of the Tbilisi Metro. Adequate budgetary appropriations or other counterpart funding was provided to cover any funding shortfalls for operations and maintenance of the Project facilities, and qualified and experienced staff were made available to enable the Project Implementing Agencies (MDF) to successfully carry out these activities.
<u>Operational/Sector Performance/Financial Covenants</u>		
The Borrower, through MDF, shall ensure that: (a) the Project is implemented in accordance with design specifications and construction norms; and (b) construction supervision, quality control and contract management are performed in accordance with international standards.	LA Schedule 5, para. 7	Complied with. MDF ensured that: (a) the Project is implemented in accordance with design specifications and construction norms; and (b) construction supervision, quality control and contract management are performed in accordance with international standards.
The Borrower, within its authority, shall cause TCM and TTC to ensure that ADB's consent is obtained at least 3 months prior to the implementation of any of the following: (a) any change in ownership of any asset, facility or structure financed under the Project; (b) any sale, transfer, or assignment of interest or control in any asset, facility or structure financed under the Project; (c) revision, amendment or restatement of MDF's Charter or the TTC Charter that may affect implementation or management of the Project; or (d) any lease or other contract or modification of the functions and authority of the Project Implementing Agencies over operation and maintenance of any such asset, facility or structure financed under the Project. The Borrower shall ensure that any such changes will be carried out in a legal and transparent manner.	LA Schedule 5, para. 8	Complied with. Any changes required for project implementation were made in legal and transparent manner and agreed with ADB.

Covenant	Reference in Loan and Project Agreement	Status of Compliance
<p>The Borrower, within its authority, shall cause TCM and TTC to ensure that TTC remains financially sustainable through necessary tariff adjustments, subsidies, or other means, including ensuring that for each fiscal year of TTC, its ratio of total cash operating expenses to total cash operating revenues is maintained at less than 1 (including after factoring in receipt of any subsidies realized in cash and excess or deficit cash revenue carried forward from previous years).</p>	<p>LA Schedule 5, para. 9</p>	<p>Partially complied with. TCH ensured that TTC remained financially sustainable through necessary tariff adjustments, subsidies or other means. However, for TTC's AEFS submissions for FY 2017, 2018, 2019, and 2020, there was no audit opinion on financial covenants provided. TTC tried to submit a draft audit opinion with scope of limited assurance engagement in July 2022, but the report was not considered acceptable since the scope of the engagement shall be reasonable assurance.</p>
<p><b>Governance and Anticorruption</b></p>		
<p>The Borrower, the Project Executing Agency and the Project Implementing Agency shall (a) comply with ADB's Anticorruption Policy (1998, as amended to date) and acknowledge that ADB reserves the right to investigate directly, or through its agents, any alleged corrupt, fraudulent, collusive or coercive practice relating to the Project; and (b) cooperation with any such investigation and extend all necessary assistance for satisfactory completion of such investigation.</p>	<p>LA Schedule 5, para. 10</p>	<p>Complied with. MDF ensured compliance with ADB's Anticorruption Policy.</p>
<p>The Borrower, through MDF, shall ensure that the anticorruption provisions acceptable to ADB are included in all bidding documents and contracts, including provisions specifying the right of ADB to audit and examine the records and accounts of the executing and implementing agencies and all contractors, suppliers, consultants, and other service providers as they relate to the Project.</p>	<p>LA Schedule 5, Para 11</p>	<p>Complied with. MDF ensured that the anticorruption provisions acceptable to ADB are included in all bidding documents and contracts.</p>
<p><b>Particular Covenants</b></p>		
<p>(a) The Project Implementing Agencies shall carry out the Project with due diligence and efficiency, and in conformity with sound applicable technical, financial, business, and development practices. (b) In the carrying out of the Project and operation of the Project facilities, the Project Implementing Agencies shall perform all obligations set forth in the Loan Agreements to the extent that they are applicable to them.</p>	<p>PA Section 2.01</p>	<p>Complied with. MDF carried out the Project with due diligence and efficiency, and in conformity with sound applicable technical, financial, business, and development practices. In the carrying out of the Project, MDF performed all obligations set forth in the Loan Agreements.</p>
<p>The Project Implementing Agencies shall make available, promptly as needed, the funds, facilities, services, land, and other resources as required, in addition to the proceeds of the Loan, for the carrying out of the Project.</p>	<p>PA Section 2.02</p>	<p>Complied with. All resources were available promptly based on requirement.</p>
<p>(a) In the carrying out of the Project, the Project Implementing Agencies shall employ competent and qualified consultants and contractors, acceptable to ADB, to an extent and upon terms and conditions satisfactory to ADB. (b) Except as ADB may otherwise agree, MDF shall procure all items of expenditures to be financed out of the proceeds of the Loans in accordance with the provisions of Schedule 4 to the Loan Agreement. ADB may refuse to finance a contract where any such item has not been procured under procedures substantially in accordance with those agreed between</p>	<p>PA Section 2.03</p>	<p>Complied with. (a) In the carrying out of the Project, MDF employed competent and qualified consultants and contractors, acceptable to ADB, to an extent and upon terms and conditions satisfactory to ADB. (b) MDF procured all items of expenditures to be financed out of the proceeds of the Loans in</p>

Covenant	Reference in Loan and Project Agreement	Status of Compliance
the Borrower and ADB or where the terms and conditions of the contract are not satisfactory to ADB.		accordance with the provisions of Schedule 4 to the Loan Agreement.
The Project Implementing Agencies shall carry out the Project in accordance with plans, design standards, specifications, work schedules and construction methods acceptable to ADB. The Project Implementing Agencies shall furnish, or cause to be furnished, to ADB, promptly after their preparation, such plans, design standards, specifications and work schedules, and any material modifications subsequently made therein, in such detail as ADB shall reasonably request.	PA Section 2.04	Complied with. MDF carried out the Project in accordance with plans, design standards, specifications, work schedules and construction methods acceptable to ADB. MDF furnished to ADB all plans, designs, specifications, and work schedules in such details as it was requested by ADB.
(a) MDF shall take out and maintain with responsible insurers, or make other arrangements satisfactory to ADB for, insurance of Project facilities to such extent and against such risks and in such amounts as shall be consistent with sound practice. (b) Without limiting the generality of the foregoing, MDF undertakes to insure, or cause to be insured, the Goods to be imported for the Project against hazards incident to the acquisition, transportation, and delivery thereof to the place of use or installation, and for such insurance any indemnity shall be payable in a currency freely usable to replace or repair such Goods.	PA Section 2.05	Complied with. MDF maintained insurance of Project facilities against risks and in amounts consistent with sound practice.
MDF shall maintain, or cause to be maintained, records and accounts adequate to identify the items of expenditure financed out of the proceeds of the Loans, to disclose the use thereof in the Project, to record the progress of the Project (including the cost thereof) and to reflect, in accordance with consistently maintained sound accounting principles, its operations and financial condition.	PA Section 2.06	Complied with. All records and accounts maintained by MDF provide sufficient details to disclose the use of the project funds (The accounting principles related to reliability and transparency of the records were applied during the project implementation.)
(a) ADB and the Project Implementing Agencies shall cooperate fully to ensure that the purposes of the Loans will be accomplished. (b) The Project Implementing Agencies shall promptly inform ADB of any condition which interferes with, or threatens to interfere with, the progress of the Project, the performance of their respective obligations under this Project Agreement, or the accomplishment of the purposes of the Loan. (c) ADB and the Project Implementing Agencies shall from time to time, at the request of either party, exchange views through their representatives with regard to any matters relating to the Project, the Project Implementing Agencies and the Loans.	PA Section 2.07	Complied with. MDF was closely cooperating with ADB in order to ensure the purposes of the Loan is accomplished. MDF was informing ADB of all issues which were interfering or threatening the progress of the Project. MDF and ADB exchanged views with regard to matters relating to the Project.
(a) MDF shall furnish to ADB all such reports and information as ADB shall reasonably request concerning (i) the Loan and the expenditure of the proceeds thereof; (ii) the items of expenditure financed out of such proceeds; (iii) the Project; (iv) the administration, operations, and financial condition of MDF; and (v) any other matters relating to the purposes of the Loans. (b) Without limiting the generality of the foregoing, MDF shall furnish to ADB periodic reports on the execution of the Project and on the operation and management of the Project facilities. Such reports shall be submitted in such form and in such detail and within such a period as ADB shall reasonably request, and shall indicate, among other things, progress made and problems encountered during the period under review, steps taken or proposed	PA Section 2.08	Complied with. MDF regularly submitted to ADB all requested information concerning to the Loan and the expenditures proceeds, as well as details related to the items of expenditures financed out of the Loan proceeds.



Covenant	Reference in Loan and Project Agreement	Status of Compliance
<p>to be taken to remedy these problems, and proposed program of activities and expected progress during the following period. (c) Promptly after physical completion of the Project, but in any event not later than 3 months thereafter or such later date as ADB may agree for this purpose, MDF shall prepare and furnish to ADB a report, in such form and in such detail as ADB shall reasonably request, on the execution and initial operation of the Project, including its cost, the performance by the Project Implementing Agencies of their obligations under this Project Agreement and the accomplishment of the purposes of the Loans.</p>		
<p>(a) MDF shall (i) maintain separate accounts and records for the Project; (ii) prepare annual financial statements for the Project in accordance with financial reporting standards acceptable to ADB; (iii) have such financial statements for the Project audited annually by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB, in accordance with auditing standards acceptable to ADB; (iv) as part of each such audit, have the auditors prepare a report, which includes the auditors' opinion(s) on the financial statements and the use of the Loan proceeds, and a management letter (which sets out the deficiencies in the internal control of the Project that were identified in the course of the audit, if any); and (v) furnish to ADB, no later than 6 months after the close of the fiscal year to which they relate, copies of such audited financial statements, audit report and management letter, all in the English language, and such other information concerning these documents and the audit thereof as ADB shall from time to time reasonably request.</p> <p>(b) ADB shall disclose the annual audited financial statements for the Project and the opinion of the auditors on the financial statements within 14 days of the date of ADB's confirmation of their acceptability by posting them on ADB's website.</p> <p>(c) In addition to annual audited financial statements referred to in subsection (a) hereinabove, MDF and TTC shall (i) provide their respective annual financial statements prepared in accordance with financing reporting standards acceptable to ADB (in the case of TTC, for each fiscal year from 2017 until the year of loan closing, to be submitted no later than 18 months after the close of the fiscal year for 2017, and no later than 9 months after the close of the fiscal years for the years thereafter); (ii) have their respective financial statements audited annually by independent auditors whose qualifications, experience and terms of reference are acceptable to ADB, in accordance with auditing standards acceptable to ADB; (iii) as part of each such audit, have the auditors prepared the auditors' opinion(s) on the financial statements and compliance with the financial covenants of the Loan Agreement; and (iv) furnish to ADB, no later than 1 month after approval by the relevant authority, copies of such audited financial statements and auditors' opinion(s), all in the English</p>	<p>PA Section 2.09</p>	<p>Partially complied with. MDF maintained the separate accounts and records for the project. The Annual Financial Statements for the project was prepared with accounting principles acceptance to ADB and this FS has been audited annually by auditors acceptable to ADB. The audit opinion on APFS as well as Management Letter has been submitted to ADB within the agreed timeline. The audit report on APFS as well as audit report on Entity FS (IFRS based) were submitted to ADB and were uploaded to the MDF web site. Any comments received from ADB as a result of the audit report review were applied on a constant basis.</p> <p>However, for TTC's AEFS submissions for FY 2017, 2018, 2019, and 2020, there was no audit opinion on financial covenants provided. The AEFS submissions for TTC were also delayed for FY 2017-2018 and 2020. TTC tried to submit a draft audit opinion with scope of limited assurance engagement in July 2022, but the report was not considered acceptable since the scope of the engagement shall be reasonable assurance.</p>

Covenant	Reference in Loan and Project Agreement	Status of Compliance
<p>language, and such other information concerning these documents and the audit thereof as ADB shall from time to time reasonably request.</p> <p>(d) MDF shall enable ADB, upon ADB's request, to discuss the financial statements for the Project and MDF and TTC and their respective financial affairs where they relate to the Project with the auditors appointed by MDF and TTC pursuant to subsections (a)(iii) and (c)(ii) hereinabove, and shall authorize and require any representative of such auditors to participate in any such discussions requested by ADB. This is provided that such discussions shall be conducted only in the presence of an authorized officer of MDF and TTC, unless MDF and TTC shall otherwise agree.</p>		
<p>The Project Implementing Agencies shall enable ADB's representatives to inspect the Project, the Goods and Works and any relevant records and documents.</p>	PA Section 2.10	Complied with. All records and documents are available for the inspection of the ADB representatives.
<p>(a) The Project Implementing Agencies shall, promptly as required, take all action within their respective powers to maintain its corporate existence, to carry on its operations, and to acquire, maintain and renew all rights, properties, powers, privileges, and franchises which are necessary in the carrying out of the Project or in the conduct of its operations. (b) The Project Implementing Agencies shall at all times conduct their respective operations in accordance with sound applicable technical, financial, business, development and operational practices, and under the supervision of competent and experienced management and personnel. (c) The Project Implementing Agencies shall at all times operate and maintain their respective plants, equipment, and other property, and from time to time, promptly as needed, make all necessary repairs and renewals thereof, all in accordance with sound applicable technical, financial, business, development, operational and maintenance practices.</p>	PA Section 2.11	Complied with. All operations conducted by MDF were proceeds with sound applicable technical, financial and operations practices, under the supervision of the competent and experienced management and personnel.
<p>Except as ADB may otherwise agree, neither TCM nor TTC shall sell, lease, or otherwise dispose of any of their respective assets which shall be required for the efficient carrying on of their operations as they relate to the Tbilisi Metro or the disposal of which may prejudice their ability to perform satisfactorily any of their obligations under this Project Agreement.</p>	PA Section 2.12	Complied with. No assets required for the efficient carrying operations under the project were sold or disposed.
<p>Except as ADB may otherwise agree, MDF shall apply the proceeds of the Loans to the financing of expenditures on the Project in accordance with the provisions of the Loan Agreements and this Project Agreement, and shall ensure that all items of expenditures financed out of such proceeds are used exclusively in the carrying out of the Project.</p>	PA Section 2.13	Complied with. The matter is verified by auditors and corresponding confirmations had been reflected in the audit report.
<p>The Project Implementing Agencies shall promptly notify ADB of any proposal to amend, suspend or repeal any provision of the MDF Charter or the TTC Charter, which, if implemented, could adversely affect the carrying out of the Project or the operation of the Project facilities.</p>	PA Section 2.14	Complied with. MDF notified ADB on changes and amendments of its Charter.

Source: Asian Development Bank.

## STATUS OF COMPLIANCE WITH FACILITY COVENANTS

Covenant	Reference in Loan and Project Agreement	Status of Compliance
<p><b>Urban transport subsector plan:</b> Cities of more than 100,000 inhabitants willing to get funding from the investment program will maintain sound transport subsector road maps in line with their long-term urban development.</p>	FFA Schedule 6 (i)	<p>Complied. Tbilisi City Hall as beneficiary of the program maintains sound transport road map in line with its long-term urban development.</p>
<p><b>Urban transport policy and sector management:</b> (i) ADB is kept informed of Georgia's policies and programs related to the road sector that will materially affect the economic viability of each project, subproject, or component financed under the Facility; (ii) Best efforts are used to sustain and strengthen urban transport sector including human managerial and technical capacity building.</p>	FFA Schedule 6 (ii)	<p>Complied. MDF has informed ADB about road sector related documents approved by the Tbilisi City Hall. Borrower, TCH and Implementation agency made every effort to sustain and strengthen urban transport sector including human managerial and technical capacity building.</p>
<p><b>Counterpart funding and resources:</b> (i) Financial, technical and human resources and the implementation arrangements necessary for the investment program will be provided on a timely basis; (ii) Adequate funds to sustainably maintain the infrastructure developed and items procured under the investment program throughout its service life will be allocated seeking cost recovery where applicable; and (iii) human and technical resources to implement the urban transport subsector plan will be made available.</p>	FFA Schedule 6 (iii)	<p>Complied. Counterpart funding and resources including: (i) Financial, technical and human resources and the implementation arrangements necessary for the investment program were provided on a timely basis; (ii) Adequate funds to sustainably maintain the infrastructure developed and items procured under the investment program are allocated; and (iii) human and technical resources to implement the urban transport subsector plan were provided.</p>
<p><b>Construction quality:</b> (i) Subprojects under the Investment Program are compliant with international standards and relevant agreements to which Georgia is a contracting party; (ii) Sound contract management and quality control procedures are performed in accordance with internationally acceptable standards; and (iii) Completed works comply with the design drawings, construction specifications and other documents stipulated in the bidding documents.</p>	FFA Schedule 6 (iv)	<p>Complied. MDF has ensured that: (i) Subprojects under the Investment Program are compliant with international standards and relevant agreements to which Georgia is a contracting party; (ii) Sound contract management and quality control procedures are performed in accordance with internationally acceptable standards; and (iii) Completed works comply with the design drawings, construction specifications and other documents stipulated in the bidding documents.</p>
<p><b>Land acquisition and resettlement:</b> (i) In the event that any land acquisition or resettlement becomes necessary, appropriate land acquisition and resettlement plans (LARPs) will be prepared in accordance with the national laws and regulations, the resettlement framework and ADB's Safeguard Policy Statement (2009) in consultation with the affected people; (ii) All LARPs are disclosed to the public and submitted to ADB for approval; (iii) All land and right-of-way required for the project implementation are made available in a timely manner, (iv) Land acquisition and resettlement are carried out promptly and efficiently following the LARPs agreed with ADB and monitored, evaluated, and reported to ADB as required in</p>	FFA Schedule 6 (v)	<p>Complied. Land acquisition and resettlement. MDF has ensured that: (i) In the event that any land acquisition or resettlement became necessary, appropriate land acquisition and resettlement plans (LARPs) were prepared in accordance with the national laws and regulations, the resettlement framework and ADB's Safeguard Policy Statement (2009) in consultation with the affected people;</p>

Covenant	Reference in Loan and Project Agreement	Status of Compliance
the LARPs; and (v) Any civil works will be commenced only after the required land has been acquired and affected households have been compensated at full replacement cost.		(ii) All LARPs were disclosed to the public and submitted to ADB for approval; (iii) All land and right-of-way required for the project implementation were made available in a timely manner, (iv) Land acquisition and resettlement were carried out promptly and efficiently following the LARPs agreed with ADB and monitored, evaluated, and reported to ADB as required in the LARPs; and (v) Any civil works were commenced only after the required land has been acquired and affected households have been compensated at full replacement cost.
<b>Environment:</b> (i) project under the investment program are designed, carried out, maintained, and monitored in compliance with (a) all applicable environmental laws and regulations of Georgia; (b) ADB's Safeguard Policy Statement (2009); (c) environmental assessments (IEEs/EIAs) prepared for each individual project; and (d) EMPs, including the mitigation measures and monitoring requirements arising from the implementation of the IEEs/EIAs; (ii) civil works contractors' specifications include requirements to comply with the environmental mitigation measures contained in the IEEs/EIAs and EMPs, and (iii) civil works contractors are supervised to ensure compliance with requirements of the IEEs/EIAs and EMPPs.	FFA Schedule 6 (vi)	Complied. MDF has ensured that: (i) subprojects under the investment program were designed, carried out, maintained, and monitored in compliance with (a) all applicable environmental laws and regulations of Georgia; (b) ADB's Safeguard Policy Statement (2009); (c) environmental assessments (IEEs/EIAs) prepared for each individual project; and (d) subprojects deemed non-compliant underwent a Remedial Action Plan in order to be brought back to compliance with ADB's safeguards. (ii) civil works contractors' specifications include requirements to comply with the environmental mitigation measures contained in the IEEs/EIAs and EMPs, and (iii) civil works contractors were supervised to ensure compliance with requirements of the IEEs/EIAs and EMPPs.
<b>Local consultation and gender:</b> (i) Gender Action Plan agreed under the MFF is implemented; (ii) all local consultations to address safety, social, and cultural issues in the summary poverty reduction and social strategy; (iii) men and women are given equal employment opportunities directly, or indirectly, arising from the Investment Program and without any differentiation of wages for equal work; and (iv) mechanisms for maximizing local employment benefits will be promoted.	FFA Schedule 6 (vii)	Complied. MDF has ensured that: (i) Gender Action Plan agreed under the MFF is implemented; (ii) all local consultations addressed safety, social, and cultural issues in the summary poverty reduction and social strategy; (iii) men and women were given equal employment opportunities directly, or indirectly, arising from the Investment Program and without any differentiation of wages for equal work; and (iv) mechanisms for maximizing local employment benefits were promoted.
<b>Health risks and prevention:</b> all civil works contracts will include a requirement to conduct and information and education campaign on sexually transmitted diseases and HIV/AIDS for construction workers as part of the health and safety program at campsites during the construction period.	FFA Schedule 6 (viii)	Complied. MDF has ensured that all civil works contracts included a requirement to conduct education campaign on sexually transmitted diseases and HIV/AIDS for construction workers as part of the health and safety program at campsites during the construction period.

Covenant	Reference in Loan and Project Agreement	Status of Compliance
<p><b>Anticorruption; transparency and good governance:</b> MDF will follow ADB's Anticorruption Policy (1998, as amended to date) and acknowledge that ADB, consistent with its commitment to good governance, accountability and transparency, reserves the right to undertake directly, or through its agents, investigation of any alleged corrupt, fraudulent, collusive or coercive practices related to the MFF and cooperate with such investigation and extend all necessary assistance including access to all MFF-relevant books and records, and engaging independent experts who may be needed for satisfactory completion of such investigations.</p> <p>All contracts financed by ADB under the investment program include provisions specifying the right of ADB to audit and examine the MFF-related records and accounts of the MDF and all contractors, suppliers, consultants, and other service providers as they relate to the MFF. Additional measures to improve governance, accountability, and transparency under the MFF, include (i) independent external auditing of contracts, project accounts, and financial statements; (ii) publication of decisions on all procurement-related matters by the MDF; and (iii) timely disclosure of information on selection of consultants and contractors through local newspapers.</p>	FFA Schedule 6 (ix)	<p>Complied.</p> <p>MDF followed ADB's Anticorruption Policy (1998, as amended to date) and acknowledged that ADB, consistent with its commitment to good governance, accountability, and transparency, reserves the right to undertake directly, or through its agents, investigation of any alleged corrupt, fraudulent, collusive or coercive practices related to the MFF.</p> <p>MDF acknowledges contracts financed by ADB under the investment program include provisions specifying the right of ADB to audit and examine the MFF-related records and accounts of the MDF and all contractors, suppliers, consultants, and other service providers as they relate to the MFF.</p>

## ECONOMIC EVALUATION TRANCHE 5

### A. Introduction

1. The Sustainable Urban Transport Investment Program was approved in July 2010 by ADB as a multitranche financing facility (MFF) for a total of \$300 million. The program targeted investments in urban transport and related urban transport services across the main cities in Georgia. These were to improve connectivity, reduce traffic congestion, and promote sustainable, safe, reliable, and efficient transport. The MFF was originally planned to be implemented in three tranches but was extended to five tranches. This evaluation corresponds to tranche 5.

2. The Sustainable Urban Transport Investment Program – Tranche 5 (the project) was approved in December 2017,<sup>1</sup> closed in July 2020, and reached financial closing in June 2021. The project was to support investments in the Tbilisi Metro system to rehabilitate and upgrade components critical to safety, reliability, and efficiency of the system. The main investments envisaged at appraisal were: (i) replacement of power distribution cabling, including 191,000 meters of low voltage lines (220–380 volt), and 137,000 meters of medium voltage lines (6–10 kilovolt); and (ii) rehabilitation of the ventilation system, including the installation of 32 ventilation fans to replace missing and worn-out equipment.

3. Despite the continued efforts of Tbilisi Transport Company (TTC) to keep maintenance activities on track, most components of the metro's systems are worn out due to decades of under-investment. Major concerns have been expressed regarding the current condition of key components such as cabling, escalators, ventilation system, and water drainage pumps of the metro system. In addition, the system exhibits poor accessibility, inconvenience to users due to inadequate multimodal transfer facilities at interchange stations to other transport modes, and very low energy efficiency when compared to similar modern metro systems in the world.

4. The project's expected outcome was efficient, reliable, and affordable urban transport infrastructure and services provided in relevant cities.

### B. Approach at Appraisal

#### 1. Economic Cost-Benefit Analysis

5. **Overall approach.** In accordance with the Guidelines for the Economic Analysis of Projects of the Asian Development Bank (ADB), the analysis compared the economic costs and benefits of the with-project and the without-project scenario, over 30 years of operations.

6. In without-project situation, the lack of investment will result in further degradation of the metro level of service. The commercial metro speed is assumed to progressively decrease to 26 kilometers per hour (km/h) after 30 years, while the metro frequency will progressively fall by 36% after 30 years (reaching an average metro frequency of 3.9 minutes in peak hour).

7. In with-project scenario, proposed interventions will improve the reliability and energy efficiency of the metro system, improve air quality, and reduce fire-related risks. These initial investments, which are under a wider investment plan, is necessary to maintain the current metro level of service in terms of frequency (every 2.5 minutes average in peak hour) and speed (33km/h

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<sup>1</sup> ADB. 2017. [Periodic Financing Request: Sustainable Urban Transport Investment Program – Tranche 5](#). Manila.

average commercial speed), will delay the degradation of the metro level service pending the implementation of overall rehabilitation of the metro system. The assumption under this scenario is that the average metro speed will be maintained for 5 more years. Metro frequency decrease and metro service interruption will occur at the same time in with- and without-project scenarios.

8. Both with- and without-project scenarios consider the ongoing metro extension of the Line 2 with a commissioning year in 2019. Additionally, the restructuring of the bus network routes on the metro extension area will remove 5% of the current bus supply.

9. **Economic benefits valued.** The benefits considered were savings in travel time, reduction of vehicle operating costs (VOC), and the reduction of operations and maintenance (O&M) costs. Future metro ridership and diversions from car travel were estimated for the metro rehabilitation subproject.

10. **Time savings.** Reductions in travel time were determined by determining the project effects on the metro trips. The project modernization will avoid time losses at two different levels compared to the without-project scenario: (i) in-vehicle time considering the metro speed decrease; and (ii) waiting time considering the metro frequency decrease. Savings in travel time were estimated by multiplying the value of time by time saved by each user. The average personal income for public transport users in Tbilisi in 2017 was derived from a household survey of the Tbilisi Metropolitan area conducted in 2016, and projected in 2017 prices. The average income for public transport users in Tbilisi in 2017 is GEL938/month for work/business trip and commuters, and GEL756/month for other non-work trips. These monthly values were converted in hour considering 20 working days per month and 8 working hours/day.

**Table A12.1: Assumptions for Estimating the Value of Time**

Category	Metro users distribution per motive	Income per Month (GEL)	Adjustment - Value of time	Value of Time (GEL/hour)
Business trip	0.03	938	1.33	7.70
Commuters	0.35	938	0.50	2.90
Other non-work trip	0.62	756	0.33	1.40
Weighted Average				<b>2.11</b>

11. **Vehicle operating cost savings.** Savings were estimated using the number of passengers diverted from cars. VOC savings were estimated based on: (i) vehicle maintenance; (ii) gasoline, diesel, and natural gas cost at the pump; and (iii) vehicle-km travelled (VKT) diverted from private car. The VOC is estimated at \$0.188/km for a 4-wheel car in 2017.

12. **Forecast ridership.** The forecast ridership was estimated based on a regression model, calibrated based on the average level of passenger ridership during 2012–2016. In without-project scenario, a degradation of level of service will occur starting 2020 as compared to 2025 in with-project scenario. Impact on traffic was measured by an elasticity model to the frequency and travel time decrease. The elasticity of the use of metro to frequency decrease and travel time decrease are respectively estimated at 0.4 and -0.6. According to these assumptions, the metro ridership growth is estimated for different time periods between 2016 and 2040 for the with and without project scenario.

13. **Economic costs.** Financial costs of the individual subprojects were converted to economic costs by splitting investment and O&M costs between traded goods and services, non-traded goods and services, labor and taxes and duties, and applying appropriate economic resource adjustment factors for Georgia. Investment costs were split 50% to traded goods and services, 25% to non-traded goods and services, 15% to labor, and 10% taxes and duties. The O&M costs for subprojects were split 30% for traded goods and services, 15% for non-traded goods and services, 45% for labor, and 10% for taxes and duties. Traded goods and services were multiplied by the shadow exchange rate factor of 1.1. The prices of non-traded goods and services are assumed to reflect the economic values and so no conversion was applied. The costs of labor were multiplied by the shadow wage rate factor of 0.9. As taxes and duties are transfer payments, these were excluded from the economic costs.

### C. Approach at Completion

14. **Changes from appraisal.** The following changes to the methodology used at appraisal have been made:

- (i) The numeraire for analysis is in constant 2021 United States dollar. The gross domestic product (GDP) deflator was used to convert from current to constant prices.
- (ii) The actual subproject costs and implementation schedules were used. Total capital economic costs amounted to \$10.96 million in economic prices (almost 7.5% lower than appraisal).
- (iii) The costs have been estimated over the useful life of the subprojects from commissioning and the benefits have been estimated on an aggregate basis over a 30-year period from commissioning.
- (iv) The same assumptions as at appraisal about the metro level of service under the with- and without-project scenarios have been used at completion (paras. 5–7).
- (v) The estimates of metro ridership have been adjusted for differences between actual demand growth and that forecast at the time of appraisal.<sup>2</sup> It has been assumed that passenger ridership will recover to similar levels as pre-coronavirus disease (COVID-19) times by 2030, for the remaining projection period, the appraisal assumption about passenger growth have been maintained.

**Table A12.2: Assumptions for Estimating the Value of Time**

		2019	2020	2030	2040
<b>Appraisal</b>	Without project	120.61	125.43	132.65	123.49
	With project	120.61	125.88	135.47	126.85
<b>Completion</b>	Without project	137.67	69.78	132.53	119.86
	With project	137.67	69.78	141.67	130.73

- (vi) The valuation of benefits related to time savings is the same as at appraisal (para. 9). The value has been adjusted to constant 2021 prices. The growth in the value of time has been projected based on actual real GDP growth data from 2019 to 2021 and 3% in subsequent years given the latest projections of International Monetary Fund for Georgia.<sup>3</sup>

<sup>2</sup> This includes the impact of the metro extension completed under tranche 1 and the restructuring of the bus service.

<sup>3</sup> This data was obtained from <https://www.geostat.ge/en/modules/categories/23/gross-domestic-product-gdp>



- (vii) The VOC for a 4-wheel car estimated at appraisal was adjusted to constant 2021 prices. It was also assumed that passengers will be diverted from minibuses.<sup>4</sup>
- (viii) Electricity consumption savings were obtained at completion, amounting to 0.9725 million kwh. The price per kwh in 2017 (GEL0.154/kwh) was converted to constant United States dollar prices.
- (ix) While it is acknowledged that metro rehabilitation has contributed to improving safety, the benefits associated have not been quantified.
- (x) The coefficients for conversion from financial to economic costs were updated according to the latest data. Shadow exchange rate factor (SERF) of 1.00 applied to imported inputs; shadow wage rate conversion factor (SWRF) of 0.86 for unskilled labor. Tax rate is 18%.

## D. Results

15. **Summary of results.** The resulting estimated economic internal rate of return (EIRR) and economic net present value (ENPV) at ADB's standard social discount rate of 12% (as applicable at the time of project appraisal) for each of the main subprojects and the aggregated project is shown below. For comparison, the EIRR and ENPV estimated at appraisal for the project is also shown. The calculation of the EIRR and ENPV is provided below.

16. The EIRR at completion is estimated at 17.8%, which is lower than at appraisal of 19.2% and above ADB's hurdle rate of 12%. Although assumptions for the exact derivation of economic benefits could not be compared between appraisal and completion, it is likely that the decrease in EIRR is mainly due lower-than-expected passenger ridership due to COVID-19. The ENPV is \$12.14 million. The conclusion is that the project was economically efficient.

17. **Sensitivity analysis.** The robustness of the results to uncertainties around future demand growth, value of time, O&M cost increase has been assessed through sensitivity analysis. The sensitivities applied are: (i) a reduction in future metro passenger growth by 10%; (ii) a reduction in the value of time of 10%; and (iii) a 10% increase in future O&M costs. The results are shown below. The project's estimated economic returns are robust to each scenario.

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<sup>4</sup> It was assumed that 20% of incremental passengers were diverted from cars and 10% of passengers were diverted from minibuses. The VOC for minibuses in constant 2021 prices was \$0.20/km.



**Table A12.4: Sensitivity Analysis**

	<b>ENPV</b> (\$ million)	<b>EIRR</b> (%)	<b>SI<sup>a</sup></b> (%)	<b>SV<sup>b</sup></b>
<b>Base Case</b>	<b>12.14</b>	<b>17.78%</b>		
-10% With-project metro passenger growth	5.49	13.56%	5.48	-18%
+10% O&M costs	11.91	17.63%	-0.19	514%
-10% value of time	11.50	17.45%	0.52	-191%

EIRR = economic internal rate of return, ENPV = economic net present value, O&M = operations and maintenance, SI = sensitivity indicator, SV = switching value.

<sup>a</sup> SI = sensitivity indicator (ratio of % change in ENPV to % change in a variable).

<sup>b</sup> SV = switching value (% change in a variable to reduce the ENPV to the economic discount rate).

## SUMMARY ECONOMIC EVALUATION OF THE FACILITY

1. The Sustainable Urban Transport Investment Program was approved in July 2010 by Asian Development Bank (ADB) as a multitranche financing facility (MFF) for a total of \$300 million. The program targeted investments in urban transport and related urban transport services across the main cities in Georgia. These were to improve connectivity; reduce traffic congestion; and promote sustainable, safe, reliable, and efficient transport. The MFF was originally planned to be implemented in three tranches but was extended to five tranches. A summary of the main investments, economic costs, and economic returns for all tranches is presented in this section.

**Table A13: Summary Results Economic Evaluation of the Facility at Completion**

Tranche Number	Main Investments	Economic Costs	ENPV	EIRR
Tranche 1	(i) Metro extension and ventilators (ii) Mestia Road	\$59.41 million	\$30.24 million	15.5%
Tranche 2	TRURL Section 3	\$59.77 million	\$24.66 million	16.10%
Tranche 3	TRURL Sections 1 and 3	\$46.72 million	\$(19.10) million	6.81%
Tranche 4	Batumi Coastal Protection Infrastructure	\$51.45 million	\$39.73 million	17.98%
Tranche 5	Metro Rehabilitation	\$10.96 million	\$12.14 million	17.78%

EIRR = economic internal rate of return, ENPV = economic net present value, TRURL = Tbilisi–Rustavi Urban Road Link.

2. **Tranche 1.** Main investments were the construction of a new metro station in Tbilisi and the upgrading of the Mestia urban area road network. The benefits considered were savings in travel time and reduction of vehicle operating costs (VOC). Future metro ridership and diversions from car travel were estimated for the metro extension subproject. With-project and without-project traffic on Mestia Road was forecasted for different vehicle types. The economic internal rate of return (EIRR) of the metro extension at completion was 18.4%. The EIRR of Mestia Road was 12.1%. The estimated EIRR for the aggregated subprojects is 15.5%. The economic net present value (ENPV) is \$30.24 million.

3. **Tranche 2.** Main investment was the upgrading of the Tbilisi–Rustavi Urban Road Link (TRURL)'s sections 1 and 3, comprising a total of 10.6 km four-lane urban link between the cities of Tbilisi and Rustavi. Two main types of benefits were considered for passengers of the road sections: (i) savings in VOC; and (ii) savings in travel time cost due to shorter itinerary and increase in vehicle average speeds. The EIRR at completion is estimated at 16.05%. The ENPV is \$24.66 million.

4. **Tranche 3.** Main investment was the upgrading of the TRURL's section 2, comprising a total of 3.4 km four-lane urban link between the cities of Tbilisi and Rustavi. Two main types of benefits were considered for passengers of the road sections: (i) savings in VOC; and (ii) savings in travel time cost due to shorter itinerary and increase in vehicle average speeds. The EIRR at completion was estimated at 6.81%. The ENPV was \$(19.10) million.

5. **Tranche 4.** The main investments were to defend and restore urban infrastructures against severe coastal erosion. Investments included: (i) artificial beach nourishment, (ii) a deep wall with superficial revetment in the northern part of the beach, (iii) a superficial revetment in the

southern part of the beach, and (iv) nourishment of the upper part of the beach to adapt to the boulevard outline. The main type of benefit considered was the averted decline in the number of visiting tourists and subsequent tourist receipts. It was considered that without the intervention, tourist visits will decline with ongoing beach erosion. This will result when beach erosion will be allowed to continue unabated, and will consequently render the Batumi beach progressively a less and less attractive tourist destination. The EIRR at completion was estimated at 17.98%. The ENPV was \$39.73 million.

6. **Tranche 5.** See Appendix 12 above.

## FINANCIAL ASSESSMENT

1. Tbilisi Transport Company LLC (TTC), the public transport operator in Tbilisi, is under the ownership of Tbilisi City Municipality (TCM). TTC's revenues reached the highest level in 2019, amounting to GEL152.87 million and are made up of passenger ticketing and fare compensation income (93%) and rental income, advertising, and other income (7%). Metro revenues (including fare compensation) represent 44% of the total revenues of the company. Additional subsidies are paid by TCM to TTC for annual bonuses and capital contribution, covering losses of the company.
2. In the absence of a cost recovery tariff, a conventional financial evaluation based on cash flow analysis leading to the computation of a financial internal rate of return is not considered appropriate. Instead, the financial statements for TTC are analyzed to assess the evolution of operating costs recovery. The analysis shows the level of government support that would be required for TTC's activities. The operating expense ratio ranged from 1.98 to 2.17 between 2013 and 2016, and further improved after the start of operations of the new metro station in 2017. The ratio was the lowest in years 2017 to 2018, reaching 1.58 and 1.46 respectively and was impacted by the coronavirus disease (COVID-19) crisis in 2020, amounting to 2.70. Relative gains in cost recovery are observed for the years of full operation before the impact of COVID-19.
3. Operation and maintenance budget for the period 2021–2026 was estimated based on the latest available forecast of general government expenditure trends from the Ministry of Finance. While it is expected that government expenditure will grow only 0.4% in 2022, growth for the remaining years is forecasted around 7%.

**Table A14.1: Financial Statements - Tbilisi Transport Company**  
(GEL million)

<b>Operating Revenues</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
Metro					55.97	61.91	67.85	34.25
Bus					63.65	65.40	66.80	37.45
Ropeway					3.40	4.56	4.79	0.52
Other operating income					4.75	8.22	13.43	13.67
<b>Total Operating Revenues</b>					<b>127.78</b>	<b>140.09</b>	<b>152.87</b>	<b>85.89</b>
<b>Operating Expenses</b>								
Salaries and other employee benefits					(90.71)	(99.56)	(118.98)	117.64
Impairment of property, plant, and equipment					(39.45)	(23.92)	(33.96)	(26.43)
Fuel expenses					(18.70)	(21.39)	(24.01)	(18.99)
Depreciation and amortization					(15.62)	(16.49)	(21.14)	(32.83)
Utility expenses					(10.00)	(12.18)	(13.46)	11.01
Materials and consumables					(8.16)	(8.91)	(9.93)	7.47
Tax and related expenses					(5.22)	(1.19)	(3.20)	(1.95)
Insurance expense					(2.45)	(1.29)	(1.32)	(1.23)
Other operating expenses					(11.97)	(20.13)	(19.19)	(14.28)
Interest expense					(0.17)	-	-	-
<b>Total expenses</b>					<b>(202.44)</b>	<b>(205.06)</b>	<b>(245.20)</b>	<b>(231.83)</b>
<b>Operating balance</b>	<b>(55.95)</b>	<b>(63.68)</b>	<b>(62.08)</b>	<b>(59.01)</b>	<b>(74.67)</b>	<b>(64.97)</b>	<b>(92.32)</b>	<b>(145.94)</b>
<b>Total expense ratio (Total expenses/Total revenues)</b>	<b>2.10</b>	<b>2.17</b>	<b>2.11</b>	<b>1.98</b>	<b>1.58</b>	<b>1.46</b>	<b>1.60</b>	<b>2.70</b>

**Table A14.2: Metro Operations and Maintenance Budget Projections, 2021–2026 - Tbilisi Transport Company**  
(GEL million)

	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>
Operation & maintenance (Metro)	62.96	63.24	67.59	72.39	77.46	81.61

### CONTRIBUTION TO STRATEGY 2030 OPERATIONAL PRIORITIES – TRANCHE 5

OP No.	Corporate Results Framework Indicators (Outputs and Outcomes)	Expected Value <sup>a</sup>	Achieved Value	Assessment
4.1	People benefiting from improved services in urban areas (number)	2 million	5.7 million	<b>Achieved.</b> Program benefited a total of 5.7 million people in the municipalities of Tbilisi. This included 1.13 million of urban residents and 4.57 million of tourist visitors.
4.1	Entities with improved urban planning and Financial sustainability (number)	2	2	<b>Achieved.</b> TTC and TCH were strengthened for improved urban planning under the project.

OP = operational priority, TCH = Tbilisi City Hall, TTC = Tbilisi Transport Company.

<sup>a</sup> The mapping to indicators was not conducted at appraisal, the expected value is derived from the design and monitoring framework information in the periodic financing request report for tranche 5.

Source: Asian Development Bank.