

L3063-GEO: SUSTAINABLE URBAN TRANSPORT INVESTMENT PROGRAM (SUTIP)
TRANCHE 3
REMEDIAL ACTION PLAN
PROPOSED FINAL SOLUTION

1. This document outlines the final remedial action plan (“Action Plan”), which is submitted, through the Compliance Review Panel (CRP), to the Board Compliance Review Committee (BCRC) of the Board of Directors for review. Asian Development Bank (ADB) and Municipal Development Fund of Georgia (MDF), the executing agency for the loan, will take into account the BCRC’s and CRP’s views from this review prior to the definitive inclusion of such actions in the remedial plan for implementation. The executing agency has agreed to the final remedial action plan on 12 December 2017.

2. The specific action items are determined following completion of all technical studies. Both ADB and MDF reviewed and assessed the results and alternative options revealed from the studies. The identified specific remedial actions are the most effective and efficient to bring the project back into compliance. The identified solutions and actions are detailed below.

A. Introduction

3. The CRP on 13 February 2017 submitted its final report (CRP Report) for the above project (Project). The CRP found ADB out of compliance with its 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. The report finds air quality impact compliant.

4. In accordance with paragraph 191 of the Accountability Mechanism Policy (2012) (AM Policy), the Remedial Action Plan was submitted to the Board of Directors on 7 June 2017 and a corrigendum to the action plan on 29 June 2017. The Board of Directors approved the proposed remedial action plan on 30 June 2017. As per paragraph 5 of the action plan, it requested the ADB to submit the final action plan, through CRP, to BCRC for review.

5. ADB acknowledges the continuous cooperation of MDF in addressing the various issues which have arisen from ADB’s noncompliance with its policies. This demonstrates Ministry of Regional Development and Infrastructure of Georgia (MRDI) and MDF’s strong commitment to ensure compliance with ADB’s policies. Management is positive that, with the support of MRDI and MDF, the final remedial action plan will be implemented effectively and within the required timeline.

B. Actions Taken and Update

6. ADB and MDF initiated activities that feed into the Action Plan to bring the project back into compliance. The summary of the actions initiated, and current status is provided in Appendix 1. All studies are completed and submitted to CRP for review, and comments are publicly disclosed. The findings of the studies, surveys and research, and impact on the buildings are presented in Appendix 2 and summarized as follows:

7. **Noise Impacts:** The noise impact of the project was studied as required by the World Health Organization (WHO) noise standards reflected in the World Bank’s Environmental, Health, and Safety Guidelines (EHS Guidelines). As part of this study, a comprehensive baseline of the ambient noise was established, followed by modelling for noise levels in the

construction and operation stages of the project at various times in the future, and under various scenarios involving different mitigation methods. For operation, the report suggested four options through which compliance with the WHO standards reflected in the EHS Guidelines can be achieved: (i) maximum of eight meter high noise wall (wall 1: 988m X 6 m and wall 2: 640m X 8m) and removal of five buildings (apartments 8, V, 12VG, 16A/B and hotel); (ii) maximum of nine meter high noise wall (wall 1: 1,120m X 6m, wall 2: 240m X 8m, and wall 3: 268m X 9m) and removal of four buildings (apartments 8, V, 12VG and 16A/B); (iii) maximum of five meter noise wall (wall 1: 1,628m X 5m), improved road surface, and removal of four buildings (apartments 8, V, 12VG and 16A/B); and (iv) five meter noise wall (wall 1: 880m X 5m, and wall 2: 188m X 8m) with noise tunnel (length: 560m, width: 29.5m, and height: 5m). The report suggests during construction to provide temporary sound barriers in the areas of work.

8. **Action proposed:** The proposed option is the five-meter noise wall with a noise tunnel as the most efficient and effective solution meeting the WHO noise standard and for bringing the project back into compliance. The proposed solution will only modify the already designed noise barrier in the existing contract (654.8 meters in length and height varied from 5 meters to 3 meters depending on the location) to one tunnel and noise walls. The tunnel will be 560m long, covering both carriageways and two noise walls, one 5-m high, 880 m long wall and the second 8-m high and 188 m long wall. The total area of the walls will be about 46% less than that of noise wall only option. As proposed originally, the speed in this section is limited to 80km/hour. The additional cost will be the modification of bill number 11 of current contract, with no involuntary resettlement, and no additional time to complete the works.

9. **Vibration Impacts:** MDF completed the vibration impacts study in two stages. Through the first study, measurement of the natural frequencies of the core and voluntary additions of the buildings in the Ponichala area was made. In the second study, vibration modelling was then completed based on the measured natural frequencies and vibration impacts that may result from construction of different noise mitigation measures. The report concludes that based on the analysis, vibration impacts are lower than the thresholds assigned by the UNI 9916 (Italian Criteria for the measurement of vibrations and the assessment of their effects on buildings) or International Standard Organization (ISO) 4866 for residential buildings and their annexes. The report recommends to: (i) instruct the contractor to strictly follow, with legal liability, the construction method and equipment list, and respect the boundaries of the construction provided in the contract; (ii) reinforce the annexes based on the engineering design of reinforcement works required in the original study and included as part of the contract; and (iii) conduct technical monitoring of all buildings with community participation.

10. **Actions proposed:** ADB and MDF will continuously monitor the vibration impacts using electronic laser accelerometers during the construction phase with an action program that specifies procedure in case of exceedances of vibrations. The program will be implemented with participation of key stakeholders including the residents. As suggested in the original study and updated technical study, the safety measures to strengthen the annexes (voluntary additions) will be undertaken in all the buildings. The existing provisions and quantities in the contract will be modified to include all nine buildings to address this requirement. Safety instructions will be issued to all residents prior to reinforcement and strengthening the annexes.

11. **Targeted consultations:** MDF and ADB completed the consultations with vulnerable residents in Ponichala, in an effort to explore and identify possible mitigation measures. This effort has been led and coordinated by a Communication Specialist (Georgian National) engaged by MDF, under the close supervision of ADB. The consultations methodology

proposed consisted of: (i) individual household interviews; (ii) targeted focus group discussions; and (iii) open public consultations at locations close to the affected people. People were consulted on the anticipated impacts in relation to the construction and operation phases of the Project as well as on the challenges of their current day to day lives, and on potential mitigation measures that emerged through the additional studies. The consultations were delayed from initially anticipated time line due to delays in approval of the methodology and non-availability of residents due to the summer holidays.

12. Individual household interviews: A total of 95 visually impaired people in 75 households were identified, and an additional 71 households were identified belonging to other categories of vulnerability, namely (a) poor people, having under 65,000 points based on Government of Georgia social security scoring system (36 households); (b) internally displaced persons (IDPs) and refugees (8 households); (c) disabled and sick (9 households); (d) female led households (13 households); and (e) other mixed category (5 households). The visually impaired and other vulnerable households were identified through: (a) door to door survey of all units in 9 buildings; (b) the list of visually impaired people provided by the Union of Blind; (c) list of vulnerable people provided by the chairpersons of 9 buildings. The location and numbers by each building of these identified households are provided in Appendix 3. Only 19 number of visually impaired are facing the river or the proposed road. The balance people are either facing the old road or sideways.

13. Individual household interviews commenced in May 2017 and finished in September 2017. Although the target was to interview all visually impaired people, only 87% was covered by the interviews. Some visually impaired persons declined to participate in the process due to their ill health, absence from home, and other reasons. While the target for the poor households was 25%, the interviews covered 67%. Eighty-eight percent (88%) of IDPs were interviewed. Other groups of vulnerable households were covered 100% by interviews. Semi-structured interviews were used, with a set of questions used for guidance and to solicit points of view, while additional questions were asked based on specific responses provided.

14. Focus group discussions: Focus group discussions (FGD) with different categories of vulnerable people were organized in the Ponichala district during September 2017. In order to ensure easy access and comfortable atmosphere for the representatives of the vulnerable population, FGDs took place in the building of the Cultural Center of Union of Blind in the middle of the district. In total, 5 FGDs were organized with the following vulnerable categories: poor people (under 65,000 points), visually impaired (two FGDs), IDPs/refugees/disabled, and female led households. All FGDs were moderated by the communication specialist. ADB representatives acquainted the meeting participants with the preliminary outcomes of the individual household surveys, additional technical studies for noise and vibration, and study of the river ecology. Mitigation options recommended through these additional studies were discussed.

15. During the FGDs with visually impaired people participants were asked regarding the problems and challenges faced daily. Issues like poor condition of internal roads and sidewalks in the district, drainage system not in a proper condition, heavy traffic (outdated, overfilled busses) and the need for a functioning underpass and adding of several traffic lights with sound signal in this area were raised by participants. Regarding the proposed project, participants expressed varied opinions. Some people proposed that they be resettled, while others did not. Those who were against resettlement said that they were used to live in a friendly environment, acquainted with neighbors who provide assistance to each other when needed. These people felt that it would be difficult for them to live somewhere else. Participants discussed their

concerns regarding the possible noise and vibrations from the new road and expressed fears that buildings may collapse. Expert representatives explained that electronic laser accelerometers will be installed in the named buildings in order to detect any unsafe fluctuations in vibration levels.

16. Overall, some residents from 9 buildings are willing to be relocated, mainly because of perceived noise and vibration concerns. However, peoples' position on resettlement varies significantly. Individual household interviews with 65 visually impaired residents from 9 buildings show a considerable number (46%) of visually impaired households expressing reluctance to be resettled, as they perceive the process to be onerous and stressful. Only 15% wanted unconditional resettlement, while 19% said that only cancelling the project entirely would be an acceptable outcome. Nine percent (9%) of respondents withheld their opinion.

17. **Actions proposed:** People's demands of the project vary. Some group of vulnerable people request the proposed new road to be cancelled, while others expect the project to provide for improvements to people's quality of life, especially for the visually impaired and vulnerable. Specific requests include improved road safety in Ponichala including speed cameras, more traffic lights with sound signals, more functional underpasses, paved sidewalks and access roads, improved drainage, bus stops and public transports geared for the visually impaired and disabled, recreational area and parks in Ponichala, and noise barriers on the new road.

18. **Open public consultations:** MDF and ADB conducted a series of open public meetings with residents of all 9 buildings between 17 and 20 November 2017. Two public meetings were held with the people from 9 buildings and one meeting held with representatives of civil society organizations (CSOs). All technical studies were disclosed in advance. Full technical reports in English and summary reports in Georgian language were posted on MDF website on 10 November and 13 November 2017, respectively. The printed technical reports in both languages were shared with people ahead of the public meetings. The residents from all 9 buildings were invited to the public meetings in advance; those who were unavailable to join the meeting on 17 November 2017 were offered the opportunity to attend on 20 November 2017.

19. A total of 67 people participated in the three open public meetings - 39 attending on 17 November 2017 and 28 on the two meetings on 20 November 2017, respectively. CSOs that attended the public meeting include: Union of Blind, Friends of Earth/Green Movement, REC-Caucasus, and Green Alternative. Transportation was provided by MDF to take residents to the venue of the public meetings and bring them back to Ponichala.

20. During the public meetings, ADB and MDF presented key findings of all technical studies, including results of targeted consultations with the vulnerable people, and explained the proposed solutions to bring the project into full compliance with ADB policy (See Appendix 6 for all technical documents disclosed). The presentation was followed by extended discussions, where specific mitigation measures, monitoring requirements, and assurances were reviewed. The main concerns and questions raised by residents during both public meetings included: (i) exact distance of the proposed road and noise barriers/tunnel to the buildings; (ii) safety of the buildings and voluntary additions during the construction (e.g. use of heavy machinery, construction methods, extent of the road intrusion into the river); (iii) design of noise barriers and tunnel (e.g. height of barriers/tunnel, amount of light that buildings receive); (iv) improvements envisaged under the project for the visually impaired and the other groups of vulnerable people in Ponichala; (v) cost of the noise barriers and tunnel versus relocation of 9 buildings; (vi)

compensation for inconveniencing residents, such as new windows, air conditioners, other forms of entitlements; (vii) special considerations in the project design for the visually impaired and other vulnerable people; and (viii) reinforcement of voluntary additions and balconies. Questions and answers are included in the minutes of the meetings. The possibility of conducting a series of follow-up meetings to address specific concerns was offered to participants.

21. **River Ecological Impacts:** A river ecology screening and impact assessment study was completed to investigate the ecological sensitivity of the river to the Project, assess the magnitude of impacts, and propose likely mitigation measures. The study was undertaken by qualified national and international experts. The report concludes that impacts from the Project on the Mtkvari river ecosystem will be very minor. However, the study does conclude that the Mtkvari River while degraded, is still considered to be a natural habitat. Therefore, to meet the requirements of ADB SPS 2009, the site specific environmental management plan (EMP) will be prepared with additional mitigation measures based on the findings and recommendations of the ecology report. Furthermore, to mitigate the minor residual impact on the natural habitat, habitat restoration will be undertaken along the river banks to create additional riparian areas with connection to adjacent parklands.

22. **Action proposed:** Once construction has started, ADB and MDF will closely monitor the project to ensure that mitigation as outlined in the EMP and the river ecology report is implemented. Monitoring will also focus on collection of data to confirm compliance with Project Standards and local legislation as laid out in the EMP. In addition, ADB and MDF will work closely with design engineers to identify areas suitable for riparian habitat creation which can be suitably integrated into the overall parkland area already designed for the project.

23. **Project Categorization:** Based on the above, the environmental impacts of the Project are confirmed as being within the footprint of the project, foreseeable, mitigable, and reversible. Therefore, the environmental categorization of the project is not affected.

C. Conclusion

24. Both ADB and MDF reviewed and assessed the results and alternative options revealed from the studies and conducted meaningful consultations to discuss these with the affected communities. The consensus was that the identified specific remedial actions are the most effective and efficient to bring the project back into compliance. The identified solutions will increase the project costs by about \$18.5 million. These costs will be financed through contract savings from the civil works and unallocated contingencies. The proposed solutions will not increase the construction time.

D. Implementation Timelines

25. The proposed Action Plan is to be implemented over a period of 3 years, to be completed by June 2020 (see Appendix 3 for details). During this period, ADB and MDF will provide CRP with the final reports of the further studies, as stated in the Remedial Action Plan.

E. Next Steps

26. Implementation of the actions will start upon completion of review of the final solutions by the BCRC of the Board of Directors.

APPENDIX 1

STATUS OF PROPOSED ACTION PLAN

Note: All scheduled dates (unless otherwise stated) are for the completion of the relevant action by the end of the specified month.

1	Action to address ADB's noncompliance in relation to CRP's findings on noise impacts ¹	Scheduled date	Status
1.1	Noise Impacts Study: Establish noise baseline in Ponichala and a model under different scenarios to meet WHO standards reflected in the WB EHS Guidelines.	April 2017 (completed)	Completed
1.2	Draft Noise Impact Study report reviewed by ADB and MDF and shared with CRP for review.	May 2017	Completed
1.3	Selection of a noise mitigation approach which will bring the Project into compliance with ABD's policies and requirements.	June 2017	Completed
1.4	Start implementation of mitigation option following the integrated approach.	August 2017	January 2018
2	Action to address ADB's noncompliance in relation to CRP's findings on vibration impacts ²	Scheduled date	Status
2.1	Vibration Impacts Study: Measure the natural frequencies of the core and annexes of the buildings in the Ponichala. Model the impacts of the vibrations from the project and recommend appropriate mitigation measures.	April 2017 (completed measurement of Natural Frequency)	Completed
2.2	Draft report with measured natural frequency reviewed by ADB and MDF and shared with CRP for review.	April 2017 (completed)	Completed
2.3	Second draft of the vibration report submitted to CRP for comments, including vibration impact assessments on the core and annexes, if annexes are significant, of the buildings under different noise mitigation scenarios.	June 2017	Completed
2.4	Selection of a vibration mitigation approach which will bring the Project into compliance with ABD's policies.	June 2017	Completed
2.5	Start implementation of mitigation option following the integrated approach.	August 2017	January 2018
2.6	Operation of an effective monitoring system of vibration impacts during construction phase and inclusion of following in the contractual agreement with contractor: (i) Plan of location of vibration monitoring system (for structural assessment vibration of foundation, for impact on people in the flats); (ii) Online analysis of vibration monitoring data (for	Construction phase	Construction phase

¹ This corresponds with Findings A of the CRP's Report (pages 8 – 13).

² This corresponds with Findings B of the CRP's Report (pages 13 – 20).

	structural assessment: DIN 4150-3; for impact on people: DIN 4150-2); (iii) Definition of threshold values (early warning stage, exceedance) for an automatically generated message to a defined group of persons; (iv) Action plan in case of exceedance; and (v) Documentation and report of vibration monitoring.		
2.7	Removal of loose parts from buildings subject to result of vibration impact study prior to beginning of construction work.	Prior to beginning of construction	January 2017 onwards
2.8	Adequate securing of all annexes prior to construction work.	Prior to beginning of construction	Prior to beginning of construction
3	Action to address ADB's noncompliance in relation to CRP's findings on impacts on vulnerable groups³	Scheduled date	Status
3.1	Recruitment of a national communication consultant.	May 2017 (completed)	Completed
3.2	Prepare the methodology for targeted consultations with vulnerable people and groups.	May 2017	Completed
3.3	Conduct targeted consultations with vulnerable groups and people to assess impacts during (i) construction phase, and (ii) operations phase.	Jun 2017	Completed
3.4	Findings of the draft report to be reviewed by ADB and MDF and shared with CRP for review.	July 2017	December 2017
3.5	The report findings and proposed measures will be translated in to local language and disseminated and discussed with affected people.	July to August - 2017	Completed and posted on ADB and MDF websites Hard copies given to the residents (see Appendix 6)
3.6	Implement identified mitigation measures following the integrated approach for protection of vulnerable people during (i) construction phase and (ii) operation phase.	Construction and operational phases	Construction and operational phases
4	Action to address ADB's noncompliance in relation to CRP's findings on impacts on water and river ecology⁴	Scheduled date	Status
4.1	River Ecological Impact: Establish baseline survey, conduct ecological screening and impact assessment study to investigate impacts of project construction and operation on the river, with particular attention paid to impacts on protected fish species, if detected.	April 2017	Completed

³ This corresponds with Findings D of the CRP's Report (pages 21 – 23).

⁴ This corresponds with Findings E of the CRP's Report (pages 23 – 25).

4.2	Draft report reviewed by ADB and MDF and shared with CRP for review.	June 2017	Completed
4.3	Translate summary of draft report into local language, disseminate and conduct consultations with local stakeholders.		Completed and posted on ADB and MDF websites Hard copies given to the residents (see Appendix 6)
4.4	Implement mitigation measures, if required.	Construction and operational phases	Construction and operational phases
4.5	Revise the design of the storm water drainage to protect the river water in case of traffic accidents. Contingency plans will be prepared as part of the site specific environmental management plan. The volume of storm water retention basin with oil separator, has to in the magnitude to store the content of one full tank volume of a truck.	August 2017	Completed
5	Action to address ADB's noncompliance in relation to CRP's findings on consultations⁵	Scheduled date	Status
5.1	Communications specialist, directed by the project team, prepares a methodology for conducting additional meaningful and targeted consultations with different stakeholders (this action is done in parallel to item 3.2 above).	May 2017 onwards	Completed
5.2	Conduct consultations in accordance with actions specified in action items 1.3, 2.3, 3.3 and 4.3.	June 2017 (continuous thereafter)	Completed
5.3	Records on consultation conducted for action items 1.3, 2.3, 3.3 and 4.3 to be reviewed by ADB and MDF and shared with CRP for comments.	July 2017	Summary is provided above in the main report
5.4	Findings of further consultations to be shared with CRP.	As part of updates	To do and not yet due
6	Action to address ADB's noncompliance in relation to CRP's findings on environmental categorization of the Project⁶	Scheduled date	Status
	To be determined after the completion of all studies.		No action required

⁵ This corresponds with Findings F of the CRP's Report (pages 26 – 28).

⁶ This corresponds with Findings F of the CRP's Report (pages 28 – 30).

**APPENDIX 2
MITIGATION OPTIONS ANALYSIS**

	Building 8	Building 3	Building 12vg	Building 16ab	Building 10	Building 12 b	Building 12 a	Building 14	Building 28	Rose H
NOISE										
i. Mitigation option 1: Maximum 8 meters noise wall	Above limits and to be relocated	Above limits and to be relocated	Above limits and to be relocated	Above limits and to be relocated	Within limits	Within limits	Within limits	Within limits	Within limits	Above limits and to be relocated
ii. Mitigation option 2: Maximum 9 meters noise wall	Above limits and to be relocated	Above limits and to be relocated	Above limits and to be relocated	Above limits and to be relocated	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits
iii. Mitigation option 3: 5 meters noise wall+ improved road surface	Above limits and to be relocated	Above limits and to be relocated	Above limits and to be relocated	Above limits and to be relocated	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits
iv. Mitigation option 4: 5 meters noise wall with noise tunnel	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits
VIBRATION										
i. Core of building	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits
ii. Voluntary additions	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits
iii. Reinforcement and strengthening of annexes	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits	Within limits
RIVER ECOLOGY										
Impact on the river	No major impact identified	No major impact identified	No major impact identified	No major impact identified	No major impact identified	No major impact identified	No major impact identified	No major impact identified	No major impact identified	No major impact identified

APPENDIX 3 SCHEDULE OF ACTIVITIES

Action	CRP findings	March				April				May				June				July				August				September				October				November				December				January				February			
		W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4	W1	W2	W3	W4								
1 Recruitment of Consultant for noise modeling	Finding A	█	█																																														
2 Initiate measurement of ambient noise levels and new ambient noise modelling.	Finding A																																																
3 Recruitment of consultant for vibration modeling	Finding B	█																																															
4 Initiate measurement of measured natural frequency and to update the vibration modeling.	Finding B																																																
5 Initial draft report with measured natural frequency reviewed by ADB and MDF and comments provided to update the vibration modeling. ADB submitted the initial draft to the CRP.	Finding B																																																
6 Recruitment of consult for ecological screening	Finding E																																																
7 Recruitment of national communication expert	Finding D																																																
8 Preparation of communication strategy for meaning full and targeted consultation	Finding D & F																																																
9 Undertake special review mission to Georgia for preparation of action plan																																																	
10 Signing MOU with Borrower																																																	
11 Submission of draft action plan to CRP																																																	
12 Submission of final Action Plan for Board submission																																																	
13 Updated impact assessments on the buildings to be reviewed by ADB and MDF and shared with CRP.	Finding B																																																
14 The consultants to conduct an ecological baseline screening of the Mtkvari River.	Finding E																																																
15 Conduct targeted and meaningful consultations with the identified people and groups under action items 1.3, 2.3, 3.3 and 4.3 above	Finding D & F																																																
16 Submission of targeted and meaningful consultation report	Finding D & F																																																
17 ADB and MRDI select the best option for further action.	Findings A-F																																																
19 Implementation of final option.																																																	
20 Operation of an effective monitoring system of vibration impacts action item 2.6																																																	
21 Removal of loose parts from buildings action item 2.7																																																	
22 Adequate securing of all annexes prior to construction work																																																	
Source: Asian Development Bank Project Team																																																	
Information flow																																																	
Milestone date																																																	

**APPENDIX 4
SUMMARY OF COST ESTIMATES FOR ACTION PLAN**

**Action Estimated Cost
(in US Dollars equivalent)**

Action	Estimated Cost (in US Dollars equivalent)
Noise impacts study	\$50,000
Implementation of noise mitigation plan	\$15 million
Ambient vibration survey and dynamic identification and vibration model update	\$170,000
Implementation of vibration mitigation plan	\$1 million (Bill 12 of the civil works contract already includes reinforcement and strengthening of voluntary additions)
Vibration monitoring	Already include in the civil works contract
Engagement of communication expert to conduct targeted and meaningful consultations	\$35,000
River ecology screening and impact assessment	\$20,000
Environmental categorization of the Project	No additional cost
Engagement by ADB or MDF of technical support as required	\$300,000
Additional improvements to the Ponichala area	\$2 million

ADB = Asian Development Bank; MDF = Municipal Development Fund of Georgia

**APPENDIX 5
VULNERABLE HOUSEHOLDS LIVING IN UNITS FACING RIVERSIDE/EXISTING ROAD**

TABLE 1. SUMMARY FOR ALL VULNERABLE HOUSEHOLDS IDENTIFIED

SUMMARY FOR ALL VULNERABLE HOUSEHOLDS INCLUDING VISUALLY IMPAIRED	
Existing Road View	44
River View	42
Both	56
Side Window	13
Total Number of Households	146

Rustavi Highway Building #8	
Existing Road View	11
River View	8
Both	0
Side Window	0
Number of Households	19

Rustavi Highway Building # "V"	
Existing Road View	8
River View	4
Both	10
Side Window	5
Number of Households	22

Rustavi Highway Building # "12-VG"	
Existing Road View	2
River View	7
Both	10
Side Window	3
Number of Households	20

Rustavi Highway Building # "16-AB"	
Existing Road View	1
River View	9
Both	16
Side Window	0
Number of Households	26

Rustavi Highway Building # "28-A"	
Existing Road View	3
River View	0
Both	4
Side Window	0
Number of Households	7

Rustavi Highway Building # "10"	
Existing Road View	5
River View	3
Both	3
Side Window	1
Number of Households	12

Rustavi Highway Building # "12"	
Existing Road View	8
River View	6
Both	0
Side Window	2
Number of Households	16

Rustavi Highway Building # "12-A"	
Existing Road View	4
River View	0
Both	9
Side Window	0
Number of Households	13

Rustavi Highway Building # "14"	
Existing Road View	2
River View	5
Both	4
Side Window	2
Number of Households	11

Note: households belonging to two or more categories are counted as one in total.

TABLE 2. SUMMARY FOR VISUALLY IMPAIRED HOUSEHOLDS

Visually Impaired Households					
Name, Surname	Existing Road View	River View	Both	Side Window	Total Number of Households
<i>Rustavi Highway Building #8</i>					
Tamar Antauri	1				
Ekaterine Molodchinina	1				
Ekaterie Papovi	1				
Maria Jegadze	1				
Rezo Goshadze; Megi Goshadze		1			
Eter Vepkhvadze		1			
TOTAL	4	2	0	0	6
<i>Rustavi Highway Building # "V"</i>					
Nana Gikashvili	1				
Giorgi Motsonelidze		1			
Teli Musaevi	1				
Nanuli Tamazashvili	1				
Kilman Barsegian			1		
Zhuili Gorgoshidze			1		
Naziko Somkhishvili	1			1	
Osana Ustiani	1			1	
Nino Kachlishvili			1		
Tsisana Chichinadze	1			1	
Inga Malkhaziani			1		
Giorgi Vardiashvili			1		
TOTAL	6	1	5	3	12
<i>Rustavi Highway Building # 12-vg</i>					
Leila Khositaishvili		1			
Darejan Nikolishvili			1		
Maria Golubeva		1			
Otar Dekanoidze			1		
Akaki Pirskhalava			1		
Tina Areshidze			1		
Manana Pantsulaia		1			
Mariam Kapanadze					
TOTAL	0	3	4	0	7
<i>Rustavi Highway Building # 16-ab</i>					
Imerlishvili Otari			1		
Imerlishvili Sirani					
Zhora Omanadze		1			
Evgenia Siziumova			1		
Guram Urushadze		1			
Varlam Garibashvili			1		
Lili Cheishvili		1			
Ramaz Beroshvili			1		

Name, Surname	Existing Road View	River View	Both	Side Window	Total Number of Households
Marine Vepkhvadze			1		
Gaioz Dekanoidze					
Nikoloz Kochiashvili		1			
Shalva Kaplanishvili			1		
Nino Vacheishvili		1			
Vladimer Svanadze			1		
Mikheil Karajaevi		1			
Mokona Pirtskhalava			1		
Pavle Kiriakovi					
Mariam Kiriakovi					
Nino Bekauri			1		
Naira Kurashidze					
TOTAL	0	6	9	0	15
<i>Rustavi Highway Building # 28a</i>					
Pridon Lobzhanidze			1		
Lamara Chekurishvili			1		
TOTAL	0	0	2	0	2
<i>Rustavi Highway Building # 10</i>					
Imeda Balkhamishvili			1		
Inga Chagalidze					
Khanakhmed Budagovi	1				
Iago Kiladze	1				
Alim Mirzaev				1	
TOTAL	2	0	1	1	4
<i>Rustavi Highway Building # 12</i>					
Irine Ardoteli					
Kakhaber Shavshishvili		1			
Kesaria Shavshishvili					
Neli Buachidze		1			
Makvala Kachiauri	1				
Nargiz Darbaidze	1				
Vepkhvadze Nato	1				
Larisa Luchkova	1				
Meri Turkadze	1				
Lela Vepkhvadze	1				
TOTAL	6	2	0	0	8
<i>Rustavi Highway Building # 12a</i>					
Mzia Dzamukashvili	1				
Giorgi Kirakosiani			1		
Lasha Shavshishvili					
Tristan Gurchiani	1				
Lauri Gurchiani					
Nino Gvaramadze			1		

Name, Surname	Existing Road View	River View	Both	Side Window	Total Number of Households
Lili Darchiashvili	1				
Dali Pashalishvili			1		
Zaur Papuashvili			1		
Konstantine Gobozovi			1		
Besik Kiriakovi			1		
Nini Kiriakovi					
Anano Kiriakovi					
Guguli Abashidze					
Zelimkhan Kitesashvili	1				
TOTAL	4	0	6	0	10
<i>Rustavi Highway Building # 14</i>					
Nikoloz Kldiashvili	1				
Giuli Pondoevi	1				
Nazibrola Ushikishvili		1			
Akaki Kobuladze			1		
Sopio Shakarashvili		1		1	
Igor Jikia			1		
Tsira Vepkhvadze					
Zhdanik Israelian			1		
Mirian Ognadze		1			
Kedelidze Ketevan					
Zura Ognadze					
Givi Ardoteli			1		
Izolda Papiashvili					
Nana Karajaevi		1			
Alesaksandre Shakarashvili					
Korinteli Temur		1		1	
TOTAL	2	5	4	2	11

Summary	24	19	31	6	75
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Note: households belonging to two or more categories are counted as one in total.

TABLE 3. SUMMARY FOR DISABLED PERSONS

Disabled Persons					
Name, Surname	Existing Road View	River View	Both	Side Window	Total Number of Households
<i>Rustavi highway Building # "V"</i>					
Meri Chadashvili	1				
TOTAL	1	0	0	0	1
<i>Rustavi highway Building # "12-VG"</i>					
Nino Shukakidze Mikheil Shukakidze (Also Less Than 65000)			1		
Daughter of Anaiada Panasian			1		
TOTAL	0	0	2	0	2
<i>Rustavi highway Building # "16-AB"</i>					
Giorgi Vartanovi Ttia Bliadze	1				
Svetlana Stefanova		1			
Zurab Kelberashvili			1		
TOTAL	1	1	1	0	3
<i>Rustavi highway Building # "10"</i>					
Gocha Galustarashvili		1			
Naila Asatiani-Basiladze			1		
TOTAL	0	1	1	0	2
<i>Rustavi highway Building # "12-A"</i>					
Lamara Bediashvili (Also Less Than 65000)			1		
TOTAL	0	0	1	0	1
Summary	2	2	5	0	9

Note: households belonging to two or more categories are counted as one in total.

TABLE 4. SUMMARY FOR ECONOMICALLY VULNERABLE HOUSEHOLDS

Households with less than 65000 points					
Name, Surname	Existing Road View	River View	Both	Side Window	Total Number of Households
<i>Rustavi highway Building # 8</i>					
Pipo Abuladze		1			
Nazik Martirosiani		1			
Omari Kedelashvili	1				
Maia Archvadze	1				
Lili Jegadze		1			
Meri Papiashvili		1			
Nino Archvadze	1				
TOTAL	3	4	0	0	7
<i>Rustavi highway Building # "V"</i>					
Liana Akhvlediani	1				
Mamuka Peradze			1		
Elmira Chedilashvili		1		1	
Irma Kevkhishvili		1			
Giorgi Apkhazava			1		
Dali Vepkhvadze			1		
Nino Datoshvili			1		
TOTAL	1	2	4	1	7
<i>Rustavi highway Building # "12-VG"</i>					
Medea Sidamonidze			1		
Asmat Naniashvili			1		
Izolda Mdzeleri			1		
Jana Panasiani	1				
TOTAL	1	0	3	0	4
<i>Rustavi highway Building # "16-AB"</i>					
Liana Zviadadze		1			
Pridon Macharashvili Ana Macharashvili Mate Macharashvili		1			
Eduard Basilovi Aleksandra Basilova			1		
Zaza Martiashvili			1		
Gulnazi Sltaniani			1		
TOTAL	0	2	3	0	5

Name, Surname	Existing Road View	River View	Both	Side Window	Total Number of Households
<i>Rustavi highway Building # "28-A"</i>					
Nata Nadiradze	1				
Lidia Onishchenko	1				
TOTAL	2	0	0	0	2
<i>Rustavi highway Building # "10"</i>					
Luiza Nuraliani Grigol nuriliani		1			
Ekaterine nuriliani Vano vanievi	1				
Siso Mgoiani		1			
Irina Giorgadze Ana-Maria Mushkudiani Murmani Mushkudiani Giorgi Mushkudiani	1				
TOTAL	2	2	0	0	4
<i>Rustavi highway Building # "12"</i>					
Nunu Munjishvili		1			
Ekaterine Naochashvili		1			
Manana Balamtsarashvili Nino Balamtsarashvili Genadi Balamtsarashvili	1				
Manana Bliadze				1	
Kalinka Alagardovi		1			
Mariam Mujirishvili Tengiz Matiashvili	1				
TOTAL	2	3	0	1	6
<i>Rustavi highway Building # "12-A"</i>					
Luba Pomenko			1		
TOTAL	0	0	1	0	1

Summary	11	13	11	2	36
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Note: households belonging to two or more categories are counted as one in total.

TABLE 5. SUMMARY FOR SINGLE MOTHERS

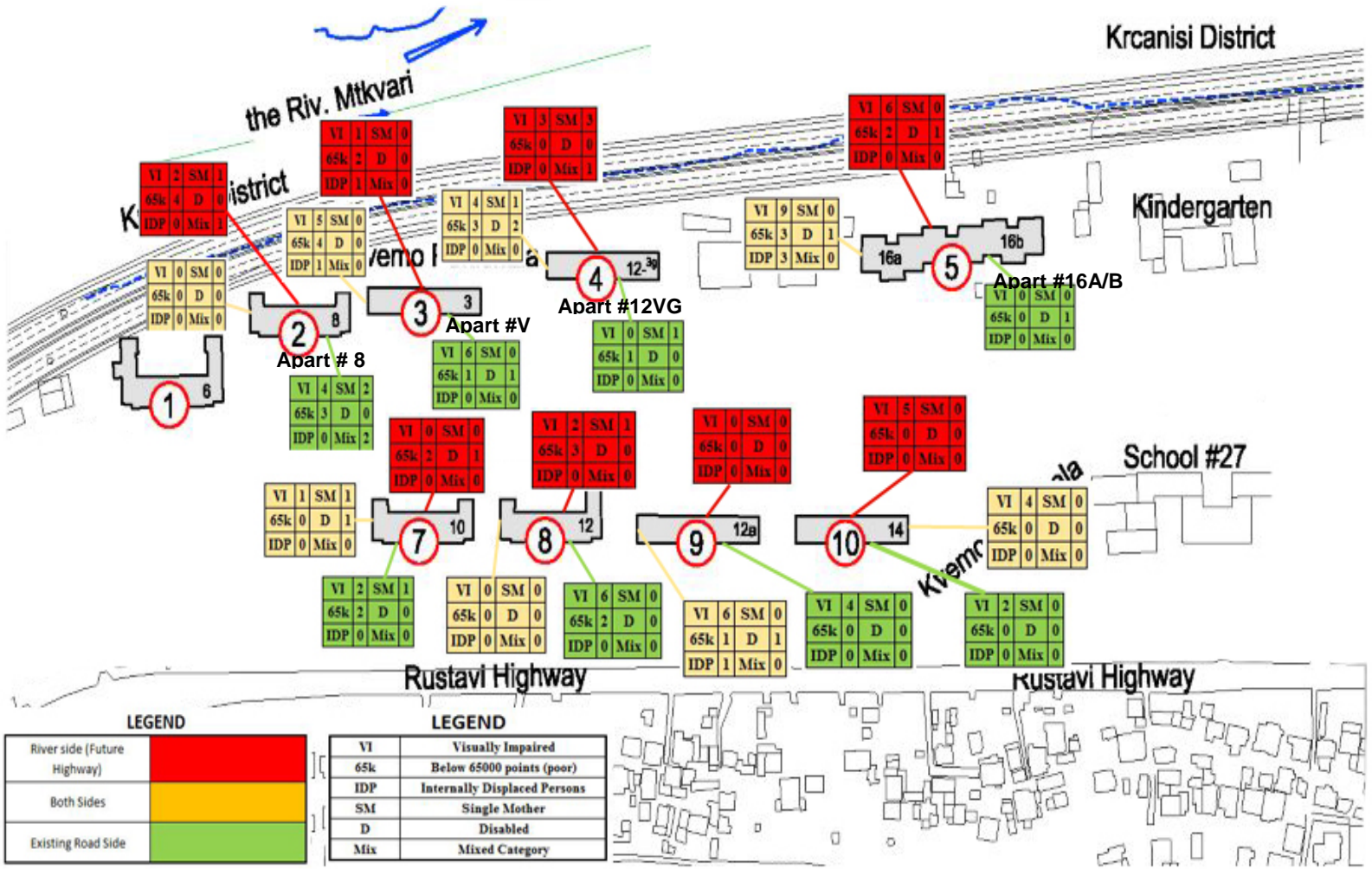
Single Mothers					
Name, Surname	Existing Road View	River View	Both	Side Window	Total Number of Households
<i>Rustavi highway Building # 8</i>					
Iveta Badalovi (Also Less Than 65000)		1			
Tsiuri Jegadze	1				
Diana Kbilashvili	1				
TOTAL	2	1	0	0	3
<i>Rustavi highway Building # "12-VG"</i>					
Kristine Karapetiani (Also Less Than 65000)		1		1	
Iamzira Ialashvili		1			
Lela Ilievi	1				
Alla Devyatkina				1	
Tatiana Sinerova		1			
Kristina Kalashovi			1		
TOTAL	1	3	1	2	6
<i>Rustavi highway Building # "28-A"</i>					
Eteri Inauri			1		
TOTAL	0	0	1	0	1
<i>Rustavi highway Building # "10"</i>					
Anzhela Vashalomidze	1				
Nino Gogishvili			1		
TOTAL	1	0	1	0	2
<i>Rustavi highway Building # "12"</i>					
Elnara Mirzaevi		1			
TOTAL	0	1	0	0	1
Summary	4	5	3	2	13

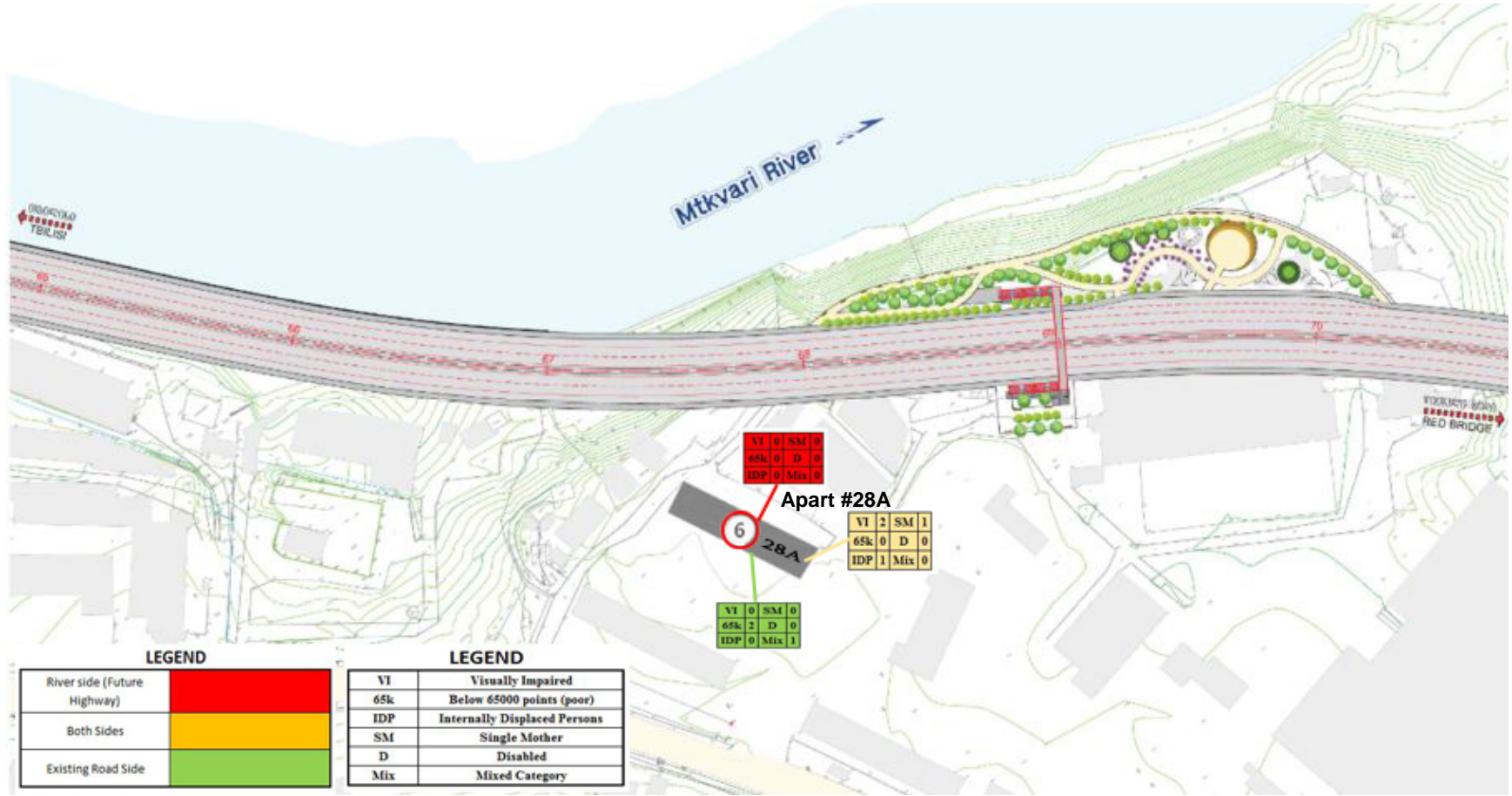
Note: households belonging to two or more categories are counted as one in total.

TABLE 6. SUMMARY FOR REFUGEES and IDPs

Refugees and Internally Displaced Persons (IDPs)					
Name, Surname	Existing Road View	River View	Both	Side Window	Total Number of Households
<i>Rustavi highway Building # "V"</i>					
Gvantsa Gelashvili Lizi Gelashvili		1		1	
Mariam Kalandadze Malkhaz Kalandadze			1		
TOTAL	0	1	1	1	2
<i>Rustavi highway Building # "16-AB"</i>					
Mzia Gabelia			1		
irodi sabanadze			1		
Eter Jeladze			1		
TOTAL	0	0	3	0	3
<i>Rustavi highway Building # "28-A"</i>					
Nata chabukiani			1		
TOTAL	0	0	1	0	1
<i>Rustavi highway Building # "12"</i>					
Gulizar Chopliani				1	
TOTAL	0	0	0	1	1
<i>Rustavi highway Building # "12-A"</i>					
Oneri Gabelia Giorgi Gabelia Irina Gabelia Dali Khapava			1		
TOTAL	0	0	1	0	1
Summary	0	1	6	2	8

Note: households belonging to two or more categories are counted as one in total.





APPENDIX 6
LIST OF DISCLOSED DCUMENTS

1. Sustainable Urban Transport Investment Program Tranche 3: Draft Report on Noise Modeling of Tbilisi-Rustavi Highway (Section 2)
<https://www.adb.org/projects/documents/geo-42414-043-sddr>
2. Sustainable Urban Transport Investment Program Tranche 3: Draft Report on Ambient Vibration Survey and Dynamic Identification of Residential Buildings in Phonichala, Tbilisi
<https://www.adb.org/projects/documents/geo-42414-043-sddr-0>
3. Sustainable Urban Transport Investment Program Tranche 3: Additional Studies on Modeling of Road and Noise Barrier Construction-Related Vibration Impact on Residential Buildings in Phonichala, Tbilisi
<https://www.adb.org/projects/documents/geo-42414-043-sddr-1>
4. Sustainable Urban Transport Investment Program Tranche 3: Draft Report on Ecological Sensitivity of Mtkvari River and Impact of Section 2 on River Biodiversity
<https://www.adb.org/projects/documents/geo-42414-043-sddr-2>
5. Sustainable Urban Transport Investment Program Tranche 3: Updated Tbilisi Rustavi Highway Noise Assessment
<https://www.adb.org/projects/documents/geo-42414-043-sddr-3>
6. Sustainable Urban Transport Investment Program Tranche 3: Proposed Targeted Consultations Methodology
<https://www.adb.org/projects/documents/geo-42414-043-sddr-4>