APPENDIX 1.2

Minutes of Discussion (M/D) with RHD at 26th January

PREPARATORY SURVEY ON WESTERN BANGLADESH BRIDGES IMPROVEMENT PROJECT (WBBIP)

MINUTES OF MEETINGS No.1

Meeting : **Bridge Selection Committee with JICA Survey Team**

Date/Time : January 26 (Sunday) 2014/ 10:30～13:00

Place : Roads and Highways Department (RHD), Sarak Bhaban, Tejgaon, Dhaka.

Sub: Selection of Candidate Bridges (Top-100) for WBBIP

Attendants:

RHD

Mr. Parimal Bikash Sutradhar	: ACE, BMW
Mr. Md. Dalil Uddin	: Project Director (ACE), EBBIP
Mr. Md Imdad Hossain	: ACE, Barisal zone
Mr. Quazi Mohammd Ali	: ACE, Khulna zone
Mr. Md. Arifur Rahman	: ACE, Rangpur zone
Mr. Md. Abul Kashem Bhuyan	: ACE, Gopalganj zone
Mr. Md. Abdus Salam	: ACE, Rajshahi zone
Mr. Md. Ashraful Alam	: SE, Bridge design circle
Mr. Khairul Islam	: SE, Road Circle, Faridpur
Dr. Md. Waliur Rahman	: Project Manager, EBBIP
Mr. Md. Shahadat Hossain	: EE, BDD-1
Ms. Rehana Haque	: EE, BDD-3

JICA Survey Team

Dr. Masaaki Tatsumi	: Team Leader
Mr. Takoma Oguni	: Deputy Team Leader
Dr. Ghosh Prosenjit Kumar	: Procurement/Cost Estimate
Mr. Hiroki Sakai	: Assistant of Bridge Designer/Coordinator

Following matters were discussed in the presentation

(1) *Introduction*

Mr. Parimal Bikash Sutradhar, ACE, RHD exchanged his greetings to JICA Survey Team, presided over the meeting and invited Dr. Tatsumi to present the bridge selection results.

(2) *Presentation on Selection of Project Bridges*

On behalf of JICA Survey Team, Dr. Tatsumi presented on 'Selection of Project Bridges' by a Power Point [Attachment]. The main points of the presentation are

briefly explained below

a) Proposed Top-100 Bridge candidates and their selection strategy

A bridge selection approach based on multi-criteria method was explained. This method includes six items such as bridge recommendation by RHD, bridge on the important route, impact on business activity, necessity of community activity, bridge damage level and lack of traffic lane. Using these multi-criteria, Top-200 Bridges were selected. Then, a detailed bridge condition survey was conducted last year in order to assess their current damage status and accordingly the list of the bridges was updated on the basis of survey results obtained. Top-100 Bridges was further ranked in accordance with their score calculated by multi-criteria and proposed as candidate for selection.

(3) *Discussion on Presentation*

After presentation, the Chairman of the meeting, Mr. Parimal Bikash Sutradhar, ACE, RHD requested the meeting participants to ask the Survey Team if they have any queries on bridge selection. Accordingly, following points were discussed in the meeting.

a) Clarification of multi-criteria method

Top-100 Bridges are selected on the basis of multi-criteria method. RHD requested to clarify each criterion and reason of their selection. Accordingly, a brief explanation is requested to Survey Team.

b) Dropping some bridges due to their inclusion in other projects and planning program

Table 1: List of bridges to be dropped from Top-200

Rank in 200 list	Bridge ID	Zone	Division	Description
37	N8_200c	Barisal	Patuakhali	Under construction by PMP
66	Z8806_46a	Barisal	Patuakhali	Included in PMP
181	N804_030b	Gopalganj	Faridpur	Alternative bridge road has already been constructed
120	N8_096a	Gopalganj	Madaripur	Included in PMP (2013-2014)
97	R860_21a	Gopalganj	Shariatpur	Overlapped by China fund
200	N7_11b(L)	Gopalganj	Rajbari	Right side bridge has already been constructed
126	Z8404_002a	Gopalganj	Faridpur	Included in PMP (2013-2014)
62	N8_91a	Gopalganj	Madaripur	Seem to be good
56	N8_098a	Gopalganj	Madaripur	Included in PMP (2013-2014)
104	R860_17a	Gopalganj	Shariatpur	Overlapped by China fund
57	R860_17d	Gopalganj	Shariatpur	Overlapped by China fund
19	N708_1a	Khulna	Jessore	Under construction by ADP
87	R760_024a	Khulna	Khulna	Present condition is good
50	Z5452_27b	Rajshahi	Naogaon	Under ADP
58	Z6809_7a	Rajshahi	Rajshahi	Included in PMP

Five ACE's opinioned that some of bridges listed in Top-200 Bridges are now under

construction / planning for construction funded by Bangladesh Government and Chinese Government. These bridges are listed in Table 1 and should be dropped from Top-200 Bridges list.

c) Request to include some bridges

To replace the bridges which are suggested to drop from Top-200, five ACE's recommended to include some other bridges (Table 2), which are listed under Top-200 list as well as out of Top-200. Those out of Top-200 are needed to assess their importance on the basis of their damage status and other criteria proposed in multi-criteria method. For their assessment, Survey Team requested five ACE's to provide pictures by 29th January, 2014. These data will help to assess their current damage status.

Table 2: List of bridges requested for inclusion

Rank in 200 list	Bridge ID	Zone	Division	Rank	Bridge ID	Zone	Division
150	N8_127b	Barisal	Barisal	-	Z8021_6b	Gopalganj	Gopalganj
149	N8_152c	Barisal	Barisal	-	Z8021_10b	Gopalganj	Gopalganj
176	Z8033_005a	Barisal	Barisal	165	R750_22c	Khulna	Narail
177	Z8033_019d	Barisal	Barisal	-	Z6802_5a	Rajshahi	Nawabganj
-	Z8810_13a	Barisal	Barisal	-	Z6802_21a	Rajshahi	Nawabganj
-	R860_31a	Gopalganj	Shariatpur	-	Z5048_21b	Rajshahi	Pabna
-	Z8601_Sa	Gopalganj	Shariatpur	52	Z5025_55a	Rangpur	Dinajpur
-	Z8404_010a	Gopalganj	Faridpur	59	Z5025_60a	Rangpur	Dinajpur
-	Z8065_12a	Gopalganj	Shariatpur	101	Z5024_5c	Rangpur	Rangpur-1
-	Z8012_Sa	Gopalganj	Shariatpur	102	Z5025_46a	Rangpur	Dinajpur
-	Z8012_15d	Gopalganj	Shariatpur	114	R585_80a	Rangpur	Fulbari

d) Request not to include those bridges having good condition in substructure and girder

Table 3: List of bridges requested to reconfirm their damage status

Rank in 100 list	Zone	Division	Bridge ID	Rank	Zone	Division	Bridge ID
17	Rajshahi	Natore	N6_97a	10	Rangpur	Gaibanda	N5_265a
35		Serajganj	N5_172a	48		Rangpur	N5_344c
74		Pabna	N6_Sa	70		Joypurhat	R545_115c
42	Khulna	Jessore	N7_141b	75		Gaibanda	N5_260b
78	Barisal	Barisal	N8_129a	86		Joypurhat	R550_28b
				90		Panchagarh	N5_488a
				99		Dinajpur	N5_392a

Prior to inclusion in the candidate list, RHD requested to confirm some bridges (Table 3) whether they are not severely damaged. Specifically, those bridges having good condition in substructure and girder but deteriorated due to damage of the deck and their components only are not necessary to include in the candidate list.

(4) *End of the meeting*

After presentation and discussion, the Chairman ends the meeting with thanking all participants and Survey Team.

Confirmed by:

Parimal Bikash Sutradhar	Md. Dalil Uddin	Dr. Masaaki Tatsumi
Additional Chief Engineer	Project Director, EBBIP	Team leader, JICA Survey Team
Bridge Management Wing, RHD	Setu Bhaban, Banani	Oriental Consultants Co., Ltd.
Sarak Bhaban, Tejgaon	Dhaka, Bangladesh	Japan
Dhaka, Bangladesh		

Date: January 26, 2014

Preparatory Survey on Western Bangladesh Bridges Improvement Project (WBBIP)

Bridge Selection Committee

Subject: Project Bridges Selection

Place: Roads and Highways Department

Sarak Bhaban, Tejgaon, Dhaka, Bangladesh

List of Attendants

Name	Affiliation	Contact no
Md. Imdad Hossain	ACE, Barisal	01730782782
QUAZI MOHAMMAD ALI	ACE. KHULNA.	0171-882619. And. 01730-782754.
MD. ARIFUR RAHMAN	ACE, Rangpur Zone	01730-782725
Md. Abul Kashem Bhuiyan	ACE, Gopalganj Zone	01730-782801
Md. SLaladal Hossain	EE, BDD-1	01730782553/ 01915482935
MD. ASHRAFUL ALAM	SE, Bridge Design RHD	01730782552 01711-609137 (Personal)
Khairul Islam Khan	SE, Road circle, Faridpur	01730782812
MD. Abdus Salam	ACE, Rhd, Rajshahi	01730782703
Rehana Haque	EE, BDD-3	01552308166 01730782556

Date: January 26, 2014

Preparatory Survey on Western Bangladesh Bridges Improvement Project (WBBIP)

Bridge Selection Committee

Subject: Project Bridges Selection

Place: Roads and Highways Department

Sarak Bhaban, Tejgaon, Dhaka, Bangladesh

List of Attendants

Name	Affiliation	Contact no
Parimal Bikash Sutradhar	Additional Chief Engineer, RHD Bridge Management Wing	01552632659
Md. Dalil Uddin	Project Director- EBBIP	01715-128293
Md. Waliur Rahman	Project Manager EBBIP	01714-173346
Ghosh Prosenjit Kumar	Oriental Consultants Co. Ltd	01934722149
Hiroki SAKAI	corrdinator; OC	
Takuma Ogoni	Oriental Consultants	
Masaaki TATSUMI	Oriental Consultants	

APPENDIX 1.3

List of 105 Bridges with Score and Photos

Barisal Zone

Rank	Bridge Data					Score Calculation												Observed Damages	Remarks on Damage Section
	Bridge ID	Division	Bridge Type	Total length (m)	Damage level	Recommendation point	Evaluate traffic volume on the route	Corridor to India	Impact by SEZ	Impact by EPZ	Foreign business	Population Score	RGDP Score	Damege level	Bailey type	Lack of Traffic Lane	Total Score		
1	N8_178a	Barisal	Bailey with Steel Deck	39.7	D	120	200	0	20	20	0	40	40	200	80	160	880		• Damage in bridge approach •Damage in steel deck • River channel obstruction • Scouring at abutment
12	N8_182a	Barisal	Bailey with Steel Deck	33.6	C	120	200	0	20	20	0	40	40	100	80	160	780		• Major damage in deck •Damage in bridge approach
42	R890_45a	Bhola	Bailey with Steel Deck	62.3	C	120	100	0	0	0	0	20	20	100	80	160	600		• Missing bolt in steel deck • Piers are mostly damaged
56	N8_152c	Barisal	PC Girder Bridge	57	A	120	200	0	20	20	0	40	40	0	0	80	520		• No damage but narrow
57	N8_127b	Barisal	RCC Girder Bridge	34	B	120	200	0	20	20	0	40	40	0	0	80	520		• Erosion in abutment • Damaged railing
58	Z8052_009d	Patuakhali	Bailey with Steel Deck	22.8	D	120	0	0	0	0	0	20	20	200	80	80	520		• Major crack in abutment • Steel deck is mostly damaged • Scouring at abutment
64	N8_123a	Barisal	RCC Girder Bridge	30.8	D	0	200	0	20	20	0	40	40	200	0	0	520		• Damage and spalling in deck • Damaged railing •Crack in abutment, wing wall separation
65	Z8701_3d	Pirojpur	Bailey with Steel Deck	22	D	120	0	0	0	0	0	20	20	200	80	80	520		• Steel deck is mostly damaged •Damage in wing wall and abutment is unsupported due to soil erosion
69	N8_129a	Barisal	RCC Girder Bridge	27.4	C	0	200	0	20	20	0	40	40	100	0	80	500		• Concrete spalling in deck •Scouring at wing wall, separated from abutment • Damaged railing

70	R890_16a	Bhola	Bailey with Steel Deck	37.7	A	120	100	0	0	0	0	20	20	0	80	160	500		•Some missing bolts in steel deck
71	R890_21a	Bhola	Bailey with Steel Deck	24.55	B	120	100	0	0	0	0	20	20	0	80	160	500		• Abutment is unsupprted due to soil erosion
72	R890_28a	Bhola	Bailey with Steel Deck	30.85	B	120	100	0	0	0	0	20	20	0	80	160	500		• Missing bolt •Damage in steel deck
78	Z8708_1c	Jhalokati	Bailey with Steel Deck	26	D	120	0	0	0	0	0	0	0	200	80	80	480		• Major damage in steel deck •Major damage in abutment
81	Z8708_12b	Jhalokati	Bailey with Steel Deck	51	D	120	0	0	0	0	0	0	0	200	80	80	480		• Major damage in concrete deck •Damaged railing entirely • Concrete spalling in girder due to aging
82	Z8033_017a	Barisal	RCC Girder Bridge	42.4	D	120	0	0	0	0	0	40	40	200	0	80	480		• Severe damage in deck • Damaged railing • Concrete spalling and rebar exposure in girder
92	Z8810_13a	Barisal	Bailey with Steel Deck	50	C	120	0	0	0	0	0	40	40	100	80	80	460		• Damage in abutment
94	Z8033_008a	Barisal	Bailey with Steel Deck	105	C	120	0	0	0	0	0	40	40	100	80	80	460		• Damaged section in steel deck •Steel pier Corroded
95	Z8033_019a	Barisal	Bailey with Steel Deck	31	C	120	0	0	0	0	0	40	40	100	80	80	460		• Steel deck is mostly damaged •Missing bolt
96	Z8034_011a	Barisal	Bailey with Steel Deck	34	C	120	0	0	0	0	0	40	40	100	80	80	460		• Deformed section in steel deck

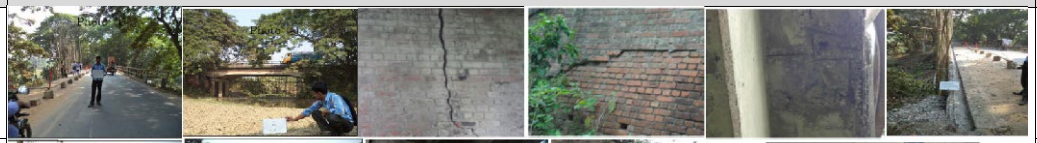
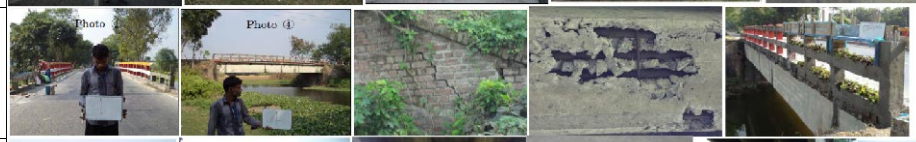
97	Z8044_004a	Barisal	Bailey with Steel Deck	31	C	120	0	0	0	0	0	40	40	100	80	80	460						• Partly damage in steel deck • Minor damage in girder •Old masonry abutment

Khulna Zone

Rank	Bridge Data					Score Calculation												Observed Damages	Remarks on Damage Section
	Bridge ID	Division	Bridge Type	Total length (m)	Damage level	Recomm -endation point	Evaluate traffic volume on the route	Corridor to India	Impact by SEZ	Impact by EPZ	Foreign business	Population Score	RGDP Score	Damege level	Bailey type	Lack of Traffic Lane	Total Score		
21	N704_43a	Kushtia	RCC Girder Bridge	31.5	D	120	200	0	0	20	40	20	20	200	0	80	700		• Major damage in deck • Major damage in girder •Damaged railing
22	N7_248c	Bagerhat	RCC Box girder bridge	25.7	D	120	200	80	20	20	0	20	20	200	0	0	680		• Major damage in deck •Settling of bridge approah •Rebar exposure in abutment
25	N7_246a	Bagerhat	RCC Girder Bridge	56	D	120	200	80	20	20	0	20	20	200	0	0	680		• Major crack in girder • Major crack in pier •Damaged railing
39	N7_141b	Jessore	RCC Girder Bridge	30.9	D	0	200	80	20	20	0	40	40	200	0	0	600		' Abutment is unsupported lue to soil erosion ' Concrete spalling in deck ind wearing pavement surface ' Damaged railing
40	R720_44a	Narail	RCC Girder Bridge	33	D	120	100	0	0	0	0	0	20	200	0	160	600		• Major damages in deck (path hole) •Crack in abutment •Damaged railing •Settling of approach road
41	N703_Sd	Jhenaidah	RCC Girder Bridge	134.5	D	0	200	0	0	0	0	20	20	200	0	160	600		• Major crack in deck • Concrete spalling in girder •Crack in abutment •Damaged railing • Exposed pier base
43	N704_14a	Jhenaidah	RCC Girder Bridge	97.9	D	0	200	0	0	20	40	20	20	200	0	80	580		• Crack in abutment •Major crack in deck •Rebar exposure in grder •Damaged railing
44	N704_33b	Kushtia	RCC Girder Bridge	26	D	0	200	0	0	20	40	20	20	200	0	80	580		• Wing wall separation •Crack in abutment • Crack and rebar exposure in deck • Damaged railing
63	R760_049c	Satkhira	RCC Girder Bridge	36.1	C	120	100	80	0	0	0	20	20	100	0	80	520		• Concrete spalling and rebar exposure in deck • Concrete spalling in girder • Wing wall partly damaged

67	N704_27b	Kushtia	RCC Girder Bridge	33.5	C	120	200	0	0	20	40	20	20	100	0	0	520		• Concrete spalling in deck and girder • Rebar exposue in deck • Damaged railing
68	R750_22c	Narail	RCC Girder Bridge,	31.2	C	120	100	0	0	0	0	0	20	100	0	160	500		•Wing wall is separated •Concrete spalling and rebar exposure in deck •Old masonry pier and abutment
98	R760_003a	Khulna	RCC Girder Bridge,	57.6	D	0	100	80	0	0	0	40	40	200	0	0	460		•Crack in deck •Concrete spalling and rebar exposure in girder
I	N706_14b	Jessore	RCC Girder Bridge,	118.67	C	0	200	80	0	0	0	40	40	100	0	0	460		・Addditional bridge on Asian highway ・Broken at articulation.
III	N704_12c	Jhenaidah	RCC Girder Bridge,	24.2	C	0	200	0	0	20	40	20	20	100	0	0	400		・Addditional bridge on Asian highway ・Crack at deck ・Missing section railling
V	R750_25a	Narail	RCC Girder Bridge,	91.5	C	0	100	0	0	0	0	0	20	200	0	0	320		・Addditional bridge on Asian highway ・Spailling at pier and deck
VI	Z7503_5a	Narail	RCC Girder Bridge,	26.1	C	0	0	0	0	0	0	0	20	100	0	0	120		・Addditional bridge on Asian highway ・Crack at abutment

Gopalganj Zone

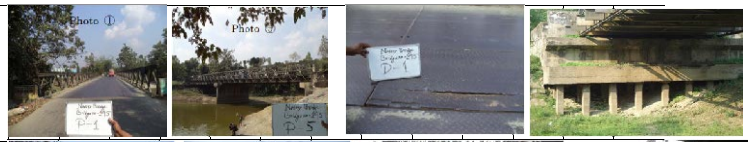
Rank	Bridge Data					Score Calculation												Observed Damages	Remarks on Damage Section
	Bridge ID	Division	Bridge Type	Total length (m)	Damage level	Recomm -endation point	Evaluate traffic volume on the route	Corridor to India	Impact by SEZ	Impact by EPZ	Foreign business	Population Score	RGDP Score	Damege level	Bailey type	Lack of Traffic Lane	Total Score		
13	N7_025a	Faridpur	RCC Girder Bridge	27.4	D	120	200	80	20	20	0	20	20	200	0	80	760		•Major crack in abutment •Deck is severely damaged, rebar exposure • Rebar exposure in girder • Damaged railing is repairing
14	N7_039a	Faridpur	RCC Girder Bridge	51.65	D	120	200	80	20	20	0	20	20	200	0	80	760		• Wing wall and abutment are severely damaged •Wing wall is unsupported due to soil erosion • Concrere spalling and rebar exposure in deck
15	N7_049a	Faridpur	RCC Girder Bridge	24.7	D	120	200	80	20	20	0	20	20	200	0	80	760		• Major crack in wing wall • Conrete spalling and rebar exposure in deck •Damaged railing is replacing
23	N7_054a	Faridpur	RCC Girder Bridge	82.6	D	120	200	80	20	20	0	20	20	200	0	0	680		•Concrete deck is severely damaged (path hole, spalling, rebar exposure) • Concrete spalling in girder • Pier base is exposed • Damaged railing
26	N8_095a	Madaripur	RCC Girder Bridge	37	D	120	200	0	20	20	0	20	0	200	0	80	660		• Major crack in abutment • Concrete spalling and rebar exposure in pier,its base exposure • Damaged railing • Tilting at wing wall
29	N7_036c	Faridpur	RCC Girder Bridge	27.5	C	120	200	80	20	20	0	20	20	100	0	80	660		• Micro crack in deck • Major crack in wing wall • Damaged railing
30	N7_048a	Faridpur	RCC Girder Bridge	24.9	C	120	200	80	20	20	0	20	20	100	0	80	660		• Major crack in wing wall • Damaged railing
32	N7_047a	Faridpur	RCC Girder Bridge	50	D	0	200	80	20	20	0	20	20	200	0	80	640		• Scouring at abutment •Major crack in wing wall • Pier base is exposed • Damaged railing
77	R860_31a	Shariatpur	Bailey with Steel Deck	28.89	A	120	100	0	0	0	0	20	0	0	80	160	480		• Narrow bailey bridge

83	R860_34a	Shariatpur	Bailey with Steel Deck	33.5	A	120	100	0	0	0	0	20	0	0	80	160	480		• Missing bolt
84	R860_44c	Shariatpur	Bailey with Steel Deck	111.2	B	120	100	0	0	0	0	20	0	0	80	160	480		• Major damage in steel deck •Missing bolt
85	R860_53d	Shariatpur	Bailey with Steel Deck	93	A	120	100	0	0	0	0	20	0	0	80	160	480		• Missing bolt and damage in steel deck
86	N8_69a	Madaripur	RCC Girder Bridge	110	C	120	200	0	20	20	0	20	0	100	0	0	480		• Wing wall separation •Crushing in pier • Wearing pavement surface • Damaged railing
99	R860_35a	Shariatpur	Bailey with Steel Deck,	31	C	0	100	0	0	0	0	20	0	100	80	160	460		• Severe damage in masonry abutment • Damage in pier
IV	N805_24a	Bhatiapara	PC Girder Bridge,	105.05	C	0	200	0	0	20	40	20	20	100	0	0	400		·Additional bridge on Asoan highway

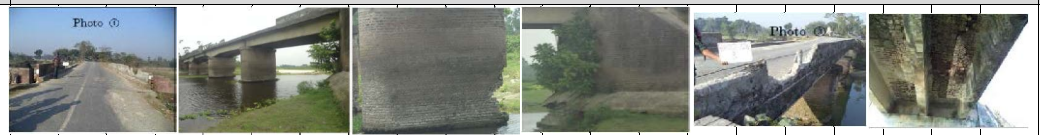
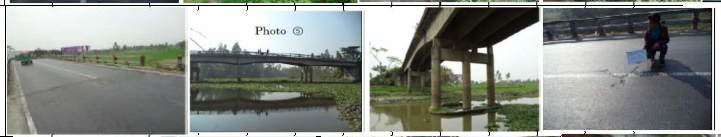
Rajshahi Zone

Rank	Bridge Data					Score Calculation												Observed Damages	Remarks on Damage Section
	Bridge ID	Division	Bridge Type	Total length (m)	Damage level	Recommen-dation point	Evaluate traffic volume on the route	Corridor to India	Impact by SEZ	Impact by EPZ	Foreign business	Population Score	RGDP Score	Damege level	Bailey type	Lack of Traffic Lane	Total Score		
3	N5_119a	Pabna	RCC Girder Bridge	43.3	D	120	200	80	0	20	40	40	40	200	0	80	820		• Rebar exposure in girder • Spalling and rebar exposure in deck • Wing wall is separated
4	N5_127a	Pabna	RCC Girder Bridge	43.2	D	120	200	80	0	20	40	40	40	200	0	80	820		• Rebar exposure in pier • Wing wall is separated • Major crack in deck
5	N5_176a	Serajganj	RCC Girder Bridge	72.8	D	120	200	80	0	20	40	40	40	200	0	80	820		• Concrere spalling and crack in deck • Crack in girder • Abutment is partly unsupported • Pier base is exposed
7	N5_120a	Pabna	RCC Girder Bridge	41.4	D	120	200	80	0	20	40	40	40	200	0	80	820		• Concrere spalling, major crack and rebar exposure in deck • Concrere spalling in girder • Wing wall is separated
8	N5_128a	Serajganj	RCC Girder Bridge	43.7	D	120	200	80	0	20	40	40	40	200	0	80	820		• Rebar exposure in pier • Wing wall is severely damaged • Major crack in deck • Crack in masonry railing
9	N5_158a	Serajganj	RCC Girder Bridge	70	D	120	200	80	0	20	40	40	40	200	0	80	820		• Wearing surface is severely damaged • Concrere spalling and rebar exposure in deck • Damaged cross beam • Major crack in abutment
16	N5_134a	Serajganj	RCC Girder Bridge	44.8	D	120	200	80	0	20	40	40	40	200	0	0	740		• Crack and rebar exposure in deck • Concrere spalling and rebar exposure in girder • Damaged railing • Pier base is exposed
17	N6_97a	Natore	RCC Girder Bridge	30	D	120	200	80	0	20	0	20	20	200	0	80	740		• Concrere spalling and rebar exposure in deck • Damaged approach road • Damaged railing • Wearing surface is entirely damaged
18	R681_10a	Rajshahi	Bailey with Steel Deck	39.3	D	120	100	0	0	0	0	40	40	200	80	160	740		• Abutment is severely damaged and unsupported • Major crack in deck • Corroded railing

19	N5_140a	Serajganj	RCC Girder Bridge	53	D	120	200	80	0	20	40	40	40	200	0	0	740		• Concrere spalling and rebar exposure in girder • Crack in deck • Abutment is unsupported due hole formation at base
20	N5_118a	Pabna	RCC Girder Bridge	82	C	120	200	80	0	20	40	40	40	100	0	80	720		• Major crack in abutment • Damaged ralling • Bearing seat inactive
27	N505_2a	Pabna	Truss with Steel Deck	135.2	C	120	200	0	0	0	0	40	40	100	0	160	660		• Severely damaged deck • Missing bolt • Pier base is threatening due to ponding
28	R548_28b	Naogaon	Truss with Steel Deck	140.1	D	120	100	0	0	0	0	40	40	200	0	160	660		• Deck is severely damaged • Missing bolt • Pier base is exposed
33	N5_156a	Serajganj	RCC Girder Bridge	43	C	120	200	80	0	20	40	40	40	100	0	0	640		• Concrere spalling and rebar exposure in deck and girder • Channel obstruction
34	N5_172a	Serajganj	RCC Girder Bridge	43.3	C	120	200	80	0	20	40	40	40	100	0	0	640		• Concrere spalling and rebar exposure in deck
35	N5_179a	Serajganj	RCC Girder Bridge	54.1	C	120	200	80	0	20	40	40	40	100	0	0	640		• Concrere spalling and rebar exposure in deck • Concrete spalling in girder
37	N5_126a	Pabna	RCC Girder Bridge	59.1	B	120	200	80	0	20	40	40	40	0	0	80	620		• Damaged railing
54	N5xx_Sa	Serajganj	Steel Beam & RCC Slab,	39.1	C	0	200	0	0	0	0	40	40	100	0	160	540		• Old pier and abutment • Crack in pier head • Wing wall is separeted, • Damaged railing
73	R548_40a	Natore	Bailey with Steel Deck	33	B	120	100	0	0	0	0	20	20	0	80	160	500		• Crack in wing wall

74	R451_1a	Serajganj	Bailey with Steel Deck	50	C	120	100	0	20	0	0	40	40	100	80	0	500		• Crack in steel deck • Abutment base is unsupported
75	R451_7a	Serajganj	Bailey with Steel Deck	50.2	C	120	100	0	20	0	0	40	40	100	80	0	500		• Scouring at abutment • Pier base is exposed
87	Z6010_12b	Rajshahi	RCC Girder Bridge	21.7	D	120	0	0	0	0	0	40	40	200	0	80	480		• Bridge deck is fully damaged • Wing wall is separated • Major damage in pier
100	Z5041_2a	Serajganj	Bailey with Steel Deck	60	C	120	0	0	0	0	0	40	40	100	80	80	460		• Concrete spalling and crack in pier head • Abutment and pier base is exposed

Rangpur Zone

Rank	Bridge Data					Score Calculation												Observed Damages	Remarks on Damage Section
	Bridge ID	Division	Bridge Type	Total length (m)	Damage level	Recommendation point	Evaluate traffic volume on the route	Corridor to India	Impact by SEZ	Impact by EPZ	Foreign business	Population Score	RGDP Score	Damege level	Bailey type	Lack of Traffic Lane	Total Score		
2	N509_19a	Lalmonirhat	RCC Girder Bridge, Bailey with Steel Deck	56.2	D	120	200	80	0	0	0	20	0	200	80	160	860		• Damages in masonry pier • Scouring at abutment • Settlement in approach road • Damaged railing •Rebar exposure in deck
6	N5_235a	Bogra	RCC Girder Bridge	77.3	D	120	200	80	0	20	40	40	40	200	0	80	820		• Concrete spalling in pier • Cracks and spalling in girder • Damaged railing •Concrete spalling in deck
10	N5_265a	Gaibanda	RCC Girder Bridge	42.2	D	120	200	80	0	20	40	40	20	200	0	80	800		• Crack and scouring at pier •Damage in deck •Settling of approah road •Scouring at abutment and pier
11	N5_350b	Rangpur	RCC Girder Bridge	135.4	D	120	200	80	0	20	0	40	40	200	0	80	780		• Major Crack in deck • Vegetation growth at wing wall •Damage and scouring at abutment
24	N5_356a	Rangpur	RCC Girder Bridge	20.7	C	120	200	80	0	20	0	40	40	100	0	80	680		• Major crack in abutment
31	N5_378a	Dinajpur	RCC Girder Bridge	53.9	D	0	200	80	0	20	0	40	40	200	0	80	660		• Major damages in abutment • Major damage in deck • Damaged railing
36	N5_188a	Bogra	RCC Girder Bridge	52	B	120	200	80	0	20	40	40	40	0	0	80	620		• Scouring at pier base •Damage in wearing surface
38	N518_4a	Nilphamari	RCC Girder Bridge	49.5	D	0	200	0	0	0	0	20	20	200	0	160	600		• Brick mansory •Damage in deck •Damaged in girder
45	N5_344c	Rangpur	RCC Girder Bridge	26.2	B	120	200	80	0	20	0	40	40	0	0	80	580		• Minor damages in deck •Crack in wearing surface

46	N5_382a	Dinajpur	RCC Girder Bridge	55	D	0	200	80	0	20	0	40	40	200	0	0	580		• Major crack in wing wall and girder •Damaged railing Crack in wearing surface
47	N5_360a	Rangpur	RCC Girder Bridge	49.2	C	0	200	80	0	20	0	40	40	100	0	80	560		• Concrete spalling in deck and girder • Crack in railing
48	Z5025_55a	Dinajpur	Bailey with Steel Deck	153.9	D	120	0	0	0	0	0	40	40	200	80	80	560		• Scouring at pier base •Missing bolt in steel deck • Crack in wing wall
49	Z5025_64a	Dinajpur	Bailey with Steel Deck	73.6	D	120	0	0	0	0	0	40	40	200	80	80	560		• Major damage in steel deck • Pier base is exposed and damaged
50	Z5401_45a	Bogra	Bailey with Steel Deck	61.8	D	120	0	0	0	0	0	40	40	200	80	80	560		• Major damage in steel deck •Abutment is unsupported due to soil erosion
51	Z5072_14a	Bogra	Bailey with Steel Deck	57.8	D	120	0	0	0	0	0	40	40	200	80	80	560		• Major damage in steel deck • Damage in bridge approach
52	Z5025_60a	Dinajpur	Truss with Steel Deck, Bailey with Steel Deck	87	D	120	0	0	0	0	0	40	40	200	80	80	560		• Major damage in steel deck • Settling of bridge approach • Missing bolt at truss member
53	Z5472_6a	Bogra	Bailey with Steel Deck	60.9	D	120	0	0	0	0	0	40	40	200	80	80	560		• Major damage in steel deck • No wing wall
55	Z5552_10a	Gaibanda	Bailey with Steel Deck	52.5	D	120	0	0	0	0	0	40	20	200	80	80	540		• Major damage in steel deck • Scouring at abutment and pier
59	Z5015_22a	Nilphamari	Bailey with Steel Deck	189	D	120	0	0	0	0	0	20	20	200	80	80	520		• Major damage in steel deck • Scouring at pier base • Damage in wing wall

60	Z5701_1a	Nilphamari	Bailey with Steel Deck	24.39	D	120	0	0	0	0	0	20	20	200	80	80	520		• Major damage in steel deck • Damage in wing wall and abutment
61	Z5701_9a	Nilphamari	Bailey with Steel Deck	37.37	D	120	0	0	0	0	0	20	20	200	80	80	520		• Major damage in steel deck • Crack and rebar exposure in abutment
62	R545_115c	Joypurhat	RCC Girder Bridge	78.8	D	120	100	0	0	0	0	0	20	200	0	80	520		• Major damage deck • Scouring and damage in abutment • Scouring at pier
66	N5_260b	Gaibanda	RCC Girder Bridge	158.6	B	120	200	80	0	20	40	40	20	0	0	0	520		• Damaged railing • Crack in wearing surface
76	R550_28b	Joypurhat	RCC Girder Bridge	65.4	C	120	100	80	0	0	0	0	20	100	0	80	500		• Damaged expansion joint • Wing wall separation • Scouring at pier base
79	N5_458a	Panchagarh	Steel Beam & RCC Slab	28.5	C	0	200	80	0	20	0	0	0	100	0	80	480		• Damage in deck • Damaged railing • Scouring at pier base
80	N5_488a	Panchagarh	RCC Girder Bridge	49.3	C	0	200	80	0	20	0	0	0	100	0	80	480		• Damaged deck • Damaged railing • Crack in slope protection works
88	Z5008_1a	Dinajpur	Steel Beam & RCC Slab	42.2	D	120	0	0	0	0	0	40	40	200	0	80	480		• Damaged deck due to aging • Masonry railing • Damage in girder • Wing wall separation, crack in abutment
89	Z5024_5c	Rangpur	RCC Girder Bridge	22.3	D	120	0	0	0	0	0	40	40	200	0	80	480		• Damaged deck due to aging • Old masonry pier
90	Z5025_46a	Dinajpur	RCC Girder Bridge	46	D	120	0	0	0	0	0	40	40	200	0	80	480		• Concrete spalling in slab • Rebar exprosure in girder and deck • Separated wing wall • Pier base is exposed

91	Z5040_4a	Bogra	RCC Girder Bridge	27	D	120	0	0	0	0	0	40	40	200	0	80	480		•Concrete spalling in slab •Damaged railing •Crack in pier • Pier base exposed
93	R585_80a	Dinajpur	Bailey with Steel Deck	25	B	120	100	80	0	0	0	40	40	0	80	0	460		•Missing bolt in steel deck
II	N5_435a	Thakurgaon	RCC Girder Bridge,	38	C	0	200	80	0	20	0	20	20	100	0	0	440		•Additional bridge on Asian Highway ·Dameged expansion joint ·Spalling at deck