

Annexures to the Report

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Annexure A: Major Bridge Project details

Details of the KPWD/ KRDCL identified projects for pre-feasibility study

Table 1: Bridges in North Zone on State Highways

S. No.	Name of Road	Category of Road	Type of road	Location of Bridge (at Km.)	Length of the Bridge (in mtrs)	Width of the Bridge (in mtrs)	PCU
1	Reconstn. of bridge at Ch. 474.00 across Krishna river near Thinthani on Srirangaptna-Bidar Road	SH	Double lane (7.50 mtr.)	474.00	611.00	7.31	14764
2	Constn.of bridge across across Devapur Nala at Ch. 188.00 on Srirangaptna-Bidar road	SH	Double lane (7.50 mtr.)	188.00	148.00	7.31	14764
3	Kagawad Kaladgi Road	SH-53	Double lane (7.50 mtr.)	22.40	270.00	7.50	14619
4	Constn. of Bridge Zahirabad-Nanded road across Manjra river near Sangam at Ch. 73.50	SH	Double lane (7.50 mtr.)	73.50	120.00	7.50	14274
5	Constn. of Bridge across Amarja river Near Shakhapur at Ch. 4.83 on Wadhari-Ribbanpalli road	SH	Double lane (7.50 mtr.)	4.83	112.00	7.50	11650
6	Reconstn. of Bridge across Kagina river at Malkhed on Sarasambha-Wagdhari-Ribbanpalli road	SH	Double lane (7.50 mtr.)	Near Malkhed	210.00	6.50	11558
7	Constn. of Bridge at Km. 253.90 on Bagalkot-Biligiriranganbetta SH-57 in Hirekerur Taluka, Haveri Dist.	SH-57	Single lane (3.75 mtr.)	253.90	120.00	6.20	10097
8	Constn. of Bridge across Mullamari river Near Kinnesadka at Ch. 650.00 on Srirangaptna-Bidar road	SH	Intermediate lane (5.50 mtr.)	650.00	96.00	5.50	9200

S. No.	Name of Road	Category of Road	Type of road	Location of Bridge (at Km.)	Length of the Bridge (in mtrs)	Width of the Bridge (in mtrs)	PCU
9	Construction of Bridge on Shindanoor - Hemmadaga road (SH-31) in Km.No.289.90 across Haltri Nalla in Khanapur taluka.	SH-31	Intermediate lane (5.50 mtr.)	289.90	4.50	6310	
10	Construction of Bridge on Jamboti Rabkavi road (SH-54) in Km.No.44.66 in Belgaum Taluka.	SH-54	Intermediate lane (5.50 mtr.)	44.66	65.00	7.60	5440
11	Re-constn. of Bridge at Khanapur-Talaguppa SH-93 in Yellapur Taluka of Uttarkannada Dist. across Bedthi Nala at Ch. 116.58	SH-93	Single lane (3.75 mtr.)	116.58	70.00	7.50	4146
12	Re-constn. of Bridge at Near Tadahal village in Navalgund Taluka of Dharwad Dist. on Arabhavi-Challakere SH-45	SH-45	Intermediate lane (5.50 mtr.)	Near Tadahal village at Km. 96.20	84.00	8.00	1432

Table 2: Bridges in North Zone on Major District Roads

S. No.	Name of Road	Category of Road	Type of road	Location of Bridge (at Km.)	Length of the Bridge (in mtrs)	Width of the Bridge (in mtrs)	PCU
1	Constn. of bridge at Dadgi across river at Ch. 6.80 on Humanabad-Bhalki road	MDR	Intermediate lane (5.50 mtr.)	6.80	100.00	7.32	14507
2	Re-constn. of Bridge at Inchur across Manjra river on Bhalki-Nilanga road	MDR	Intermediate lane (5.50 mtr.)	6.00	100.00	7.30	10675
3	Construction of bridge on Saudnatti - Hebbal Cross road via., Yallammagudda Hanchinal (MDR) in Km.No. 5.60 in Saudnatti taluka.	MDR	Single lane	5.60	20.00	5.50	6928
4	Construction of birdge on Ramdurg - Dodamangadi road (MDR) in Km.No.0.20 across Malaprabha river in Ramdurg taluka	MDR	Intermediate lane (5.50 mtr.)	0.20	125.00	7.50	4100
5	Constn. of bridge across Manjra river at Ch. 6.5 on Saigaon road	MDR	Double lane (7.50 mtr.)	6.50	-	7.50	1581

Table 3: Major Bridges under KRDC

S. No.	Name of the Bridge
1	Subramanya – Udupi Road (SH-37) across Kumaradhara River, Sulya Taluk
2	T-Narshipura-Sosle Road (SH-79) across Cauvery River, Mysore
3	Chandur Tek – Sainitek Village across Krishna River, Belgaum
4	Kadabagilu – Bukkasagara (SH-9) across Thungabhadra River, Koppal
5	On MDR near Vaidhyathapura across Shimsah River, Mandya
7	Bangalore – Mysore Road (SH-17) across Lokapavani & Paschima Vahini Rivers, Mandya
8	On MDR near Byragondalu across Garudachala River, Tumkur
9	Kundapura – Anagalli Road (MDR) – Kodi Bridge, Udupi
10	Sulya Uppinagadi -Kadaba – Subramanya – Bisleghat Road (SH-113), Dakshin Kannada
11	Sindhuanur – Hemmadaga cross halla, Naragunda Taluk
12	Various bridges in Naragunda Taluk
13	Near Hejjige Village across Kapila River, Mysore

Details of the Major Bridges projects considered for pre-feasibility study:**Table 4: Projects considered for analysis**

Sl. No.	Region	Category of Road	DISTRICT	Major Bridge details	Location of Bridge (at Km)	Length of Bridge (in Km)	PCU	Estimated Construction Cost (Rs Crore)	TOTAL PROJECT COST (Rs Crore)
1	North Zone-SH	SH	Yadagiri	Reconstrn. of bridge at Ch. 474.00 across Krishna river near Thinthani on Srirangaptna-Bidar Road	474.00	0.61	14,764.00	17.87	20.55
2	North Zone-SH	SH	Yadagiri	Constn.of bridge across across Devapur Nala at Ch. 188.00 on Srirangaptna-Bidar road	188.00	0.15	14,764.00	4.33	4.98
3	North Zone-SH	SH-53	Chikkodi	Kagawad Kaladgi Road	22.40	0.27	14,619.00	8.10	9.32
4	North Zone-SH	SH	Bidar	Constn. of Bridge Zahirabad-Nanded road across Manjra river near Sangam at Ch. 73.50	73.50	0.12	14,274.00	3.60	4.14
5	North Zone-SH	SH	Gulbarga	Constn. of Bridge across Amarja river Near Shakhapur at Ch. 4.83 on Wadhari-Ribbanpalli road	4.83	0.11	11,650.00	3.36	3.86
6	North Zone-SH	SH	Gulbarga	Reconstrn. of Bridge across Kagina river at Malkhed on Sarasambha-Wagdhari-Ribbanpalli road	Near Malkhed	0.21	11,558.00	5.46	6.28
7	North Zone-SH	SH-57	Haveri	Constn. of Bridge at Km. 253.90 on Bagalkot-Biligiriranganbetta SH-57 in Hirekerur Taluka, Haveri Dist.	253.90	0.12	10,097.00	2.98	3.42
8	North Zone-SH	SH	Gulbarga	Constn. of Bridge across Mullamari river Near Kinnesadka at Ch. 650.00 on Srirangaptna-Bidar road	650.00	0.10	9,200.00	2.11	2.43
9	North Zone-SH	SH-31	Belgaum	Construction of Bridge on Shindanoor - Hemmadaga road (SH-31) in Km.No.289.90 across Haltri Nalla in Khanapur taluka.	289.90	0.09	6,310.00	1.62	1.86

Sl. No.	Region	Category of Road	DISTRICT	Major Bridge details	Location of Bridge (at Km)	Length of Bridge (in Km)	PCU	Estimated Construction Cost (Rs Crore)	TOTAL PROJECT COST (Rs Crore)
10	North Zone-SH	SH-54	Belgaum	Construction of Bridge on Jamboti Rabkavi road (SH-54) in Km.No.44.66 in Belgaum Taluka.	44.66	0.07	5,440.00	1.98	2.27
11	North Zone-SH	SH-93	Uttar Kannada	Re-constn. of Bridge at Khanapur-Talaguppa SH-93 in Yellapur Taluka of Uttarkannada Dist. across Bedthi Nala at Ch. 116.58	116.58	0.07	4,146.00	2.10	2.42
12	North Zone-SH	SH-45	Dharwad	Re-constn. of Bridge at Near Tadahal village in Navalgund Taluka of Dharwad Dist. on Arabhavi-Challakere SH-45	Near Tadahal village at Km. 96.20	0.08	1,432.00	2.69	3.09
13	North Zone-MDR	MDR	Bidar	Constn. of bridge at Dadgi across river at Ch. 6.80 on Humanabad-Bhalki road	6.80	0.10	14,507.00	2.93	3.37
14	North Zone-MDR	MDR	Bidar	Re-constn. of Bridge at Inchur across Manjra river on Bhalki-Nilanga road	6.00	0.10	10,675.00	2.92	3.36
15	North Zone-MDR	MDR	Belgaum	Construction of bridge on Saudnatti - Hebbal Cross road via., Yallammagudda Hanchinal (MDR) in Km.No. 5.60 in Saudnatti taluka.	5.60	0.02	6,928.00	0.44	0.51
16	North Zone-MDR	MDR	Belgaum	Construction of birdge on Ramdurg - Dodamangadi road (MDR) in Km.No.0.20 across Malaprabha river in Ramdurg taluka	0.20	0.13	4,100.00	3.75	4.31
17	North Zone-MDR	MDR	Bidar	Constn. of bridge across Manjra river at Ch. 6.5 on Saigaon road	6.50	0.07	1,581.00	2.10	2.42
18	KRDCL	SH	Dakshin Kannada	Subramanya – Udupi Road (SH-37) across Kumaradhara River, Sulya Taluk	1.80	0.12	6,383.00	6.00	6.90
19	KRDCL	SH	Mysore	T-Narshipura-Sosle Road (SH-79) across Cauvery River,	2.30	0.43	6,715.00	23.25	26.74

Sl. No.	Region	Category of Road	DISTRICT	Major Bridge details	Location of Bridge (at Km)	Length of Bridge (in Km)	PCU	Estimated Construction Cost (Rs Crore)	TOTAL PROJECT COST (Rs Crore)
Mysore									
20	KRDCL		Belgaum	Chandur Tek – Sainitek Village across Krishna River, Belgaum	-	0.25	3,101.00	13.26	15.25
21	KRDCL	SH	Koppal	Kadebagilu – Bukkasagara (SH-9) across Thungabhadra River, Koppal	1.40	0.49	1,357.00	31.00	35.65
22	KRDCL	MDR	Mandya	On MDR near Vaidhyanathapura across Shimsah River, Mandya	-	0.25	3,318.00	17.55	20.18
23	KRDCL	SH	Mandya	Bangalore – Mysore Road (SH-17) across Lokapavani & Paschima Vahini Rivers, Mandya	122.72	0.10	45,592.00	7.47	8.59
24	KRDCL	MDR	Tumkur	On MDR near Byragondalu across Garudachala River, Tumkur	7.50	0.04	2,245.00	4.50	5.18
25	KRDCL	SH	Dakshin Kannada	Sulya Uppinagadi -Kadaba – Subramanya – Bisleghat Road (SH-113), Dakshin Kannada	24.20	0.14	2,178.00	9.36	10.76
26	KRDCL	SH	Gadag	Sindhuanur – Hemmadaga cross halla, Naragunda Taluk	144.80	0.05	1,159.00	8.00	9.20
27	KRDCL	SH	Gadag	Various bridges in Naragunda Taluk	-	0.12	1,406.00	7.10	8.17

Annexure B: Project wise details of screening exercise under different scenarios.

Table 5: Details of the projects under Scenario -1

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST (Rs. Crore)	VGF REQUIREMENT (Rs. Crore)	VGF AS A % OF TPC	Equity IRR
1	Reconstn. of bridge at Ch. 474.00 across Krishna river near Thinthani on Srirangaptna-Bidar Road	0.61	20.55	12.94	63%	15%
2	Constn.of bridge across across Devapur Nala at Ch. 188.00 on Srirangaptna-Bidar road	0.15	4.98	-	0%	20%
3	Kagawad Kaladgi Road	0.27	9.32	2.91	31%	15%
4	Constn. of Bridge Zahirabad-Nanded road across Manjra river near Sangam at Ch. 73.50	0.12	4.14	-	0%	23%
5	Constn. of Bridge across Amarja river Near Shakhapur at Ch. 4.83 on Wadhari-Ribbanpalli road	0.11	3.86	-	0%	16%
6	Reconstn. of Bridge across Kagina river at Malkhed on Sarasambha-Wagdhari-Ribbanpalli road	0.21	6.28	2.08	33%	15%
7	Constn. of Bridge at Km. 253.90 on Bagalkot-Biligiriranganbetta SH-57 in Hirekerur Taluka, Haveri Dist.	0.12	3.42	0.44	13%	15%
8	Constn. of Bridge across Mullamari river Near Kinnesadka at Ch. 650.00 on Srirangaptna-Bidar road	0.10	2.43	0.12	5%	15%
9	Construction of Bridge on Shindanoor - Hemmadaga road (SH-31) in Km.No.289.90 across Haltri Nalla in Khanapur taluka.	0.09	1.86	1.42	76%	15%
10	Construction of Bridge on Jamboti Rabkavi road (SH-54) in Km.No.44.66 in Belgaum Taluka.	0.07	2.27	2.33	103%	15%
11	Re-constn. of Bridge at Khanapur-Talaguppa SH-93 in Yellapur Taluka of Uttarkannada Dist. across Bedthi Nala at Ch. 116.58	0.07	2.42	3.32	137%	15%
12	Re-constn. of Bridge at Near Tadahal village in Navalgund Taluka of Dharwad Dist. on Arabhavi-	0.08	3.09	5.79	187%	15%

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST (Rs. Crore)	VGF REQUIREMENT (Rs. Crore)	VGF AS A % OF TPC	Equity IRR
	Challakere SH-45					
13	Constn. of bridge at Dadgi across river at Ch. 6.80 on Humanabad-Bhalki road	0.10	3.37	-	0%	29%
14	Re-constn. of Bridge at Inchur across Manjra river on Bhalki-Nilanga road	0.10	3.36	0.05	1%	15%
15	Construction of bridge on Saudnatti - Hebbal Cross road via., Yallammagudda Hanchinal (MDR) in Km.No. 5.60 in Saudnatti taluka.	0.02	0.51	-	0%	20%
16	Construction of birdge on Ramdurg - Dodamangadi road (MDR) in Km.No.0.20 across Malaprabha river in Ramdurg taluka	0.13	4.31	5.09	118%	15%
17	Constn. of bridge across Manjra river at Ch. 6.5 on Saigaon road	0.07	2.42	5.08	210%	15%
18	Subramanya – Udupi Road (SH-37) across Kumaradhara River, Sulya Taluk	0.12	6.90	5.90	86%	15%
19	T-Narshipura-Sosle Road (SH-79) across Cauvery River, Mysore	0.43	26.74	23.69	89%	15%
20	Chandur Tek – Sainitek Village across Krishna River, Belgaum	0.25	15.25	15.71	103%	15%
21	Kadabagilu – Bukkasagara (SH-9) across Thungabhadra River, Koppal	0.49	35.65	35.46	99%	15%
22	On MDR near Vaidhyathapura across Shimsah River, Mandya	0.25	20.18	20.04	99%	15%
23	Bangalore – Mysore Road (SH-17) across Lokapavani & Paschima Vahini Rivers, Mandya	0.10	8.59	-	0%	56%
24	On MDR near Byragondalu across Garudachala River, Tumkur	0.04	5.18	7.11	137%	15%
25	Sulya Uppinagadi -Kadaba – Subramanya – Bisleghat Road (SH-113), Dakshin Kannada	0.14	10.76	12.25	114%	15%
26	Sindhuanur – Hemmadaga cross halla, Naragunda Taluk	0.05	9.20	11.50	125%	15%

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST (Rs. Crore)	VGf REQUIREMENT (Rs. Crore)	VGf AS A % OF TPC	Equity IRR
27	Various bridges in Naragunda Taluk	0.12	8.17	10.42	128%	15%

Table 6: Details of the projects under Scenario -2

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGf REQUIREMENT	VGf AS A % OF TPC	Equity IRR
1	Reconstn. of bridge at Ch. 474.00 across Krishna river near Thinthani on Srirangaptna-Bidar Road	0.61	20.55	-	0%	30%
2	Constn.of bridge across across Devapur Nala at Ch. 188.00 on Srirangaptna-Bidar road	0.15	4.98	-	0%	110%
3	Kagawad Kaladgi Road	0.27	9.32	-	0%	64%
4	Constn. of Bridge Zahirabad-Nanded road across Manjra river near Sangam at Ch. 73.50	0.12	4.14	-	0%	124%
5	Constn. of Bridge across Amarja river Near Shakhapur at Ch. 4.83 on Wadhari-Ribbanpalli road	0.11	3.86	-	0%	108%
6	Reconstn. of Bridge across Kagina river at Malkhed on Sarasambha-Wagdhari-Ribbanpalli road	0.21	6.28	-	0%	71%
7	Constn. of Bridge at Km. 253.90 on Bagalkot-Biligiriranganbetta SH-57 in Hirekerur Taluka, Haveri Dist.	0.12	3.42	-	0%	104%
8	Constn. of Bridge across Mullamari river Near Kinnesadka at Ch. 650.00 on Srirangaptna-Bidar road	0.10	2.43	-	0%	125%
9	Construction of Bridge on Shindanoor - Hemmadaga road (SH-31) in Km.No.289.90 across Haltri Nalla in Khanapur taluka.	0.09	1.86	-	0%	104%
10	Construction of Bridge on Jamboti Rabkavi road (SH-54) in Km.No.44.66 in Belgaum Taluka.	0.07	2.27	-	0%	74%
11	Re-constn. of Bridge at Khanapur-Talaguppa SH-93 in Yellapur Taluka of Uttarkannada Dist. across Bedthi Nala at Ch. 116.58	0.07	2.42	-	0%	48%
12	Re-constn. of Bridge at Near Tadahal village in Navalgund Taluka of Dharwad Dist. on Arabhavi-Challakere SH-45	0.08	3.09	2.76	89%	15%
13	Constn. of bridge at Dadgi across river at Ch. 6.80 on Humanabad-Bhalki road	0.10	3.37	-	0%	147%
14	Re-constn. of Bridge at Inchur across Manjra river on Bhalki-Nilanga road	0.10	3.36	-	0%	111%

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGf REQUIREMENT	VGf AS A % OF TPC	Equity IRR
15	Construction of bridge on Saudnatti - Hebbal Cross road via., Yallammagudda Hanchinal (MDR) in Km.No. 5.60 in Saudnatti taluka.	0.02	0.51	-	0%	292%
16	Construction of birdge on Ramdurg - Dodamangadi road (MDR) in Km.No.0.20 across Malaprabha river in Ramdurg taluka	0.13	4.31	-	0%	28%
17	Constn. of bridge across Manjra river at Ch. 6.5 on Saigaon road	0.07	2.42	1.75	72%	14%
18	Subramanya – Udupi Road (SH-37) across Kumaradhara River, Sulya Taluk	0.12	6.90	-	0%	33%
19	T-Narshipura-Sosle Road (SH-79) across Cauvery River, Mysore	0.43	26.74	10.28	38%	15%
20	Chandur Tek – Sainitek Village across Krishna River, Belgaum	0.25	15.25	9.29	61%	15%
21	Kadebagilu – Bukkasagara (SH-9) across Thungabhadra River, Koppal	0.49	35.65	32.53	91%	15%
22	On MDR near Vaidhyanathapura across Shimsah River, Mandya	0.25	20.18	13.15	65%	15%
23	Bangalore – Mysore Road (SH-17) across Lokapavani & Paschima Vahini Rivers, Mandya	0.10	8.59	-	0%	184%
24	On MDR near Byragondalu across Garudachala River, Tumkur	0.04	5.18	2.48	48%	15%
25	Sulya Uppinagadi -Kadaba – Subramanya – Bisleghat Road (SH-113), Dakshin Kannada	0.14	10.76	7.69	71%	15%
26	Sindhuanur – Hemmadaga cross halla, Naragunda Taluk	0.05	9.20	9.01	98%	15%
27	Various bridges in Naragunda Taluk	0.12	8.17	7.40	91%	15%

Table 7: Details of the projects under Scenario -3

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGf REQUIREMENT	VGf AS A % OF TPC	Equity IRR
1	Reconstn. of bridge at Ch. 474.00 across Krishna river near Thinthani on Srirangaptna-Bidar Road	0.61	20.55	-	0%	49%
2	Constn.of bridge across across Devapur Nala at Ch. 188.00 on Srirangaptna-Bidar road	0.15	4.98	-	0%	20%
3	Kagawad Kaladgi Road	0.27	9.32	2.91	31%	15%
4	Constn. of Bridge Zahirabad-Nanded road across Manjra river near Sangam at Ch. 73.50	0.12	4.14	-	0%	23%
5	Constn. of Bridge across Amarja river Near Shakhapur at Ch. 4.83 on Wadhari-Ribbanpalli road	0.11	3.86	-	0%	16%
6	Reconstn. of Bridge across Kagina river at Malkhed on Sarasambha-Wagdhari-Ribbanpalli road	0.21	6.28	2.08	33%	15%
7	Constn. of Bridge at Km. 253.90 on Bagalkot-Biligiranganbetta SH-57 in Hirekerur Taluka, Haveri Dist.	0.12	3.42	0.44	13%	15%
8	Constn. of Bridge across Mullamari river Near Kinnesadka at Ch. 650.00 on Srirangaptna-Bidar road	0.10	2.43	0.12	5%	15%
9	Construction of Bridge on Shindanoor - Hemmadaga road (SH-31) in Km.No.289.90 across Haltri Nalla in Khanapur taluka.	0.09	1.86	1.42	76%	15%
10	Construction of Bridge on Jamboti Rabkavi road (SH-54) in Km.No.44.66 in Belgaum Taluka.	0.07	2.27	2.33	103%	15%
11	Re-constn. of Bridge at Khanapur-Talaguppa SH-93 in Yellapur Taluka of Uttarkannada Dist. across Bedthi Nala at Ch. 116.58	0.07	2.42	3.32	137%	15%
12	Re-constn. of Bridge at Near Tadahal village in Navalgund Taluka of Dharwad Dist. on Arabhavi-Challakere SH-45	0.08	3.09	5.79	187%	15%
13	Constn. of bridge at Dadgi across river at Ch. 6.80 on Humanabad-Bhalki road	0.10	3.37	-	0%	29%
14	Re-constn. of Bridge at Inchur across Manjra river on Bhalki-Nilanga road	0.10	3.36	0.05	1%	15%

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGf REQUIREMENT	VGf AS A % OF TPC	Equity IRR
15	Construction of bridge on Saudnatti - Hebbal Cross road via., Yallammagudda Hanchinal (MDR) in Km.No. 5.60 in Saudnatti taluka.	0.02	0.51	-	0%	20%
16	Construction of birdge on Ramdurg - Dodamangadi road (MDR) in Km.No.0.20 across Malaprabha river in Ramdurg taluka	0.13	4.31	5.09	118%	15%
17	Constn. of bridge across Manjra river at Ch. 6.5 on Saigaon road	0.07	2.42	5.08	210%	15%
18	Subramanya – Udupi Road (SH-37) across Kumaradhara River, Sulya Taluk	0.12	6.90	5.90	86%	15%
19	T-Narshipura-Sosle Road (SH-79) across Cauvery River, Mysore	0.43	26.74	10.28	38%	15%
20	Chandur Tek – Sainitek Village across Krishna River, Belgaum	0.25	15.25	9.29	61%	15%
21	Kadebagilu – Bukkasagara (SH-9) across Thungabhadra River, Koppal	0.49	35.65	32.53	91%	15%
22	On MDR near Vaidhyanathapura across Shimsah River, Mandya	0.25	20.18	13.15	65%	15%
23	Bangalore – Mysore Road (SH-17) across Lokapavani & Paschima Vahini Rivers, Mandya	0.10	8.59	-	0%	56%
24	On MDR near Byragondalu across Garudachala River, Tumkur	0.04	5.18	7.11	137%	15%
25	Sulya Uppinagadi -Kadaba – Subramanya – Bisleghat Road (SH-113), Dakshin Kannada	0.14	10.76	7.69	71%	15%
26	Sindhuanur – Hemmadaga cross halla, Naragunda Taluk	0.05	9.20	11.50	125%	15%
27	Various bridges in Naragunda Taluk	0.12	8.17	10.42	128%	15%

Table 8: Details of the projects under Scenario -4

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGf REQUIREMENT	VGf AS A % OF TPC	Equity IRR
1	Reconstn. of bridge at Ch. 474.00 across Krishna river near Thinthani on Srirangaptna-Bidar Road	0.61	20.55	-	0%	49%
2	Constn.of bridge across across Devapur Nala at Ch. 188.00 on Srirangaptna-Bidar road	0.15	4.98	-	0%	20%
3	Kagawad Kaladgi Road	0.27	9.32	-	0%	75%
4	Constn. of Bridge Zahirabad-Nanded road across Manjra river near Sangam at Ch. 73.50	0.12	4.14	-	0%	23%
5	Constn. of Bridge across Amarja river Near Shakhapur at Ch. 4.83 on Wadhari-Ribbanpalli road	0.11	3.86	-	0%	16%
6	Reconstn. of Bridge across Kagina river at Malkhed on Sarasambha-Wagdhari-Ribbanpalli road	0.21	6.28	-	0%	71%
7	Constn. of Bridge at Km. 253.90 on Bagalkot-Biligiranganbetta SH-57 in Hirekerur Taluka, Haveri Dist.	0.12	3.42	0.44	13%	15%
8	Constn. of Bridge across Mullamari river Near Kinnesadka at Ch. 650.00 on Srirangaptna-Bidar road	0.10	2.43	0.12	5%	15%
9	Construction of Bridge on Shindanoor - Hemmadaga road (SH-31) in Km.No.289.90 across Haltri Nalla in Khanapur taluka.	0.09	1.86	1.42	76%	15%
10	Construction of Bridge on Jamboti Rabkavi road (SH-54) in Km.No.44.66 in Belgaum Taluka.	0.07	2.27	2.33	103%	15%
11	Re-constn. of Bridge at Khanapur-Talaguppa SH-93 in Yellapur Taluka of Uttarkannada Dist. across Bedthi Nala at Ch. 116.58	0.07	2.42	3.32	137%	15%
12	Re-constn. of Bridge at Near Tadahal village in Navalgund Taluka of Dharwad Dist. on Arabhavi-Challakere SH-45	0.08	3.09	5.79	187%	15%
13	Constn. of bridge at Dadgi across river at Ch. 6.80 on Humanabad-Bhalki road	0.10	3.37	-	0%	29%
14	Re-constn. of Bridge at Inchur across Manjra river on Bhalki-Nilanga road	0.10	3.36	0.05	1%	15%

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGf REQUIREMENT	VGf AS A % OF TPC	Equity IRR
15	Construction of bridge on Saudnatti - Hebbal Cross road via., Yallammagudda Hanchinal (MDR) in Km.No. 5.60 in Saudnatti taluka.	0.02	0.51	-	0%	20%
16	Construction of birdge on Ramdurg - Dodamangadi road (MDR) in Km.No.0.20 across Malaprabha river in Ramdurg taluka	0.13	4.31	5.09	118%	15%
17	Constn. of bridge across Manjra river at Ch. 6.5 on Saigaon road	0.07	2.42	5.08	210%	15%
18	Subramanya – Udupi Road (SH-37) across Kumaradhara River, Sulya Taluk	0.12	6.90	-	0%	33%
19	T-Narshipura-Sosle Road (SH-79) across Cauvery River, Mysore	0.43	26.74	-	0%	17%
20	Chandur Tek – Sainitek Village across Krishna River, Belgaum	0.25	15.25	6.40	42%	15%
21	Kadebagilu – Bukkasagara (SH-9) across Thungabhadra River, Koppal	0.49	35.65	28.26	79%	15%
22	On MDR near Vaidhyanathapura across Shimsah River, Mandya	0.25	20.18	8.23	41%	15%
23	Bangalore – Mysore Road (SH-17) across Lokapavani & Paschima Vahini Rivers, Mandya	0.10	8.59	-	0%	207%
24	On MDR near Byragondalu across Garudachala River, Tumkur	0.04	5.18	2.48	48%	15%
25	Sulya Uppinagadi -Kadaba – Subramanya – Bisleghat Road (SH-113), Dakshin Kannada	0.14	10.76	6.61	61%	
26	Sindhuanur – Hemmadaga cross halla, Naragunda Taluk	0.05	9.20	8.40	91%	15%
27	Various bridges in Naragunda Taluk	0.12	8.17	6.69	82%	15%

Table 9: Details of the projects under Scenario -5

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGf REQUIREMENT	VGf AS A % OF TPC	Equity IRR
1	Reconstn. of bridge at Ch. 474.00 across Krishna river near Thinthani on Srirangaptna-Bidar Road	0.61	20.55	-	0%	42%
2	Constn.of bridge across across Devapur Nala at Ch. 188.00 on Srirangaptna-Bidar road	0.15	4.98	-	0%	20%
3	Kagawad Kaladgi Road	0.27	9.32	2.91	31%	15%
4	Constn. of Bridge Zahirabad-Nanded road across Manjra river near Sangam at Ch. 73.50	0.12	4.14	-	0%	23%
5	Constn. of Bridge across Amarja river Near Shakhapur at Ch. 4.83 on Wadhari-Ribbanpalli road	0.11	3.86	-	0%	16%
6	Reconstn. of Bridge across Kagina river at Malkhed on Sarasambha-Wagdhari-Ribbanpalli road	0.21	6.28	2.08	33%	15%
7	Constn. of Bridge at Km. 253.90 on Bagalkot-Biligiranganbetta SH-57 in Hirekerur Taluka, Haveri Dist.	0.12	3.42	0.44	13%	15%
8	Constn. of Bridge across Mullamari river Near Kinnesadka at Ch. 650.00 on Srirangaptna-Bidar road	0.10	2.43	0.12	5%	15%
9	Construction of Bridge on Shindanoor - Hemmadaga road (SH-31) in Km.No.289.90 across Haltri Nalla in Khanapur taluka.	0.09	1.86	1.42	76%	15%
10	Construction of Bridge on Jamboti Rabkavi road (SH-54) in Km.No.44.66 in Belgaum Taluka.	0.07	2.27	2.33	103%	15%
11	Re-constn. of Bridge at Khanapur-Talaguppa SH-93 in Yellapur Taluka of Uttarkannada Dist. across Bedthi Nala at Ch. 116.58	0.07	2.42	3.32	137%	15%
12	Re-constn. of Bridge at Near Tadahal village in Navalgund Taluka of Dharwad Dist. on Arabhavi-Challakere SH-45	0.08	3.09	5.79	187%	15%
13	Constn. of bridge at Dadgi across river at Ch. 6.80 on Humanabad-Bhalki road	0.10	3.37	-	0%	29%
14	Re-constn. of Bridge at Inchur across Manjra river on Bhalki-Nilanga road	0.10	3.36	0.05	1%	15%

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGf REQUIREMENT	VGf AS A % OF TPC	Equity IRR
15	Construction of bridge on Saudnatti - Hebbal Cross road via., Yallammagudda Hanchinal (MDR) in Km.No. 5.60 in Saudnatti taluka.	0.02	0.51	-	0%	20%
16	Construction of birdge on Ramdurg - Dodamangadi road (MDR) in Km.No.0.20 across Malaprabha river in Ramdurg taluka	0.13	4.31	5.09	118%	15%
17	Constn. of bridge across Manjra river at Ch. 6.5 on Saigaon road	0.07	2.42	5.08	210%	15%
18	Subramanya – Udupi Road (SH-37) across Kumaradhara River, Sulya Taluk	0.12	6.90	5.90	86%	15%
19	T-Narshipura-Sosle Road (SH-79) across Cauvery River, Mysore	0.43	26.74	0.89	3%	15%
20	Chandur Tek – Sainitek Village across Krishna River, Belgaum	0.25	15.25	7.79	51%	15%
21	Kadebagilu – Bukkasagara (SH-9) across Thungabhadra River, Koppal	0.49	35.65	28.97	81%	15%
22	On MDR near Vaidhyanathapura across Shimsah River, Mandya	0.25	20.18	10.01	50%	15%
23	Bangalore – Mysore Road (SH-17) across Lokapavani & Paschima Vahini Rivers, Mandya	0.10	8.59	-	0%	56%
24	On MDR near Byragondalu across Garudachala River, Tumkur	0.04	5.18	7.11	137%	15%
25	Sulya Uppinagadi -Kadaba – Subramanya – Bisleghat Road (SH-113), Dakshin Kannada	0.14	10.76	7.69	71%	15%
26	Sindhuanur – Hemmadaga cross halla, Naragunda Taluk	0.05	9.20	11.50	125%	15%
27	Various bridges in Naragunda Taluk	0.12	8.17	10.42	128%	15%

Annexure C: Package wise details of screening exercise under different scenarios

Table 10: Details of Packages under Scenario – 6

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGF REQUIREMENT	VGF AS A % OF TPC	Equity IRR
1	Belgaum	0.55	24.20	23.12	96%	15%
2	Bidar	0.39	13.28	0.26	2%	15%
3	Chikkodi	0.27	9.32	2.91	31%	15%
4	Dakshin Kannada	0.26	17.66	17.68	100%	15%
5	Dharwad	0.08	3.09	5.79	187%	15%
6	Gadag	0.17	17.37	21.50	124%	15%
7	Gulbarga	0.42	12.57	1.52	12%	15%
8	Haveri	0.12	3.42	0.44	13%	15%
9	Koppal	0.49	35.65	35.46	99%	15%
10	Mandya	0.35	28.77	2.40	8%	15%
11	Mysore	0.43	26.74	23.69	89%	15%
12	Tumkur	0.04	5.18	7.11	137%	15%
13	Uttar Kannada	0.07	2.42	3.32	137%	15%
14	Yadagiri	0.76	25.52	11.39	45%	15%

Table 11: Details of Packages under Scenario – 7

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGF REQUIREMENT	VGF AS A % OF TPC	Equity IRR
1	Belgaum	0.55	24.20	-	0%	36%
2	Bidar	0.39	13.28	-	0%	109%
3	Chikkodi	0.27	9.32	-	0%	64%
4	Dakshin Kannada	0.26	17.66	0.97	6%	15%
5	Dharwad	0.08	3.09	2.76	89%	15%
6	Gadag	0.17	17.37	15.98	92%	15%
7	Gulbarga	0.42	12.57	-	0%	95%
8	Haveri	0.12	3.42	-	0%	104%
9	Koppal	0.49	35.65	32.53	91%	15%
10	Mandya	0.35	28.77	-	0%	72%
11	Mysore	0.43	26.74	10.28	38%	15%
12	Tumkur	0.04	5.18	2.48	48%	15%
13	Uttar Kannada	0.07	2.42	-	0%	48%
14	Yadagiri	0.76	25.52	-	0%	48%

Table 12: Details of Packages under Scenario – 8

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGF REQUIREMENT	VGF AS A % OF TPC	Equity IRR
1	Belgaum	0.55	24.20	16.84	70%	15%
2	Bidar	0.39	13.28	0.26	2%	15%
3	Chikkodi	0.27	9.32	2.91	31%	15%
4	Dakshin Kannada	0.26	17.66	13.16	75%	15%
5	Dharwad	0.08	3.09	5.79	187%	15%
6	Gadag	0.17	17.37	21.50	124%	15%
7	Gulbarga	0.42	12.57	1.52	12%	15%
8	Haveri	0.12	3.42	0.44	13%	15%
9	Koppal	0.49	35.65	32.53	91%	15%
10	Mandya	0.35	28.77	-	0%	18%
11	Mysore	0.43	26.74	10.28	38%	15%
12	Tumkur	0.04	5.18	7.11	137%	15%
13	Uttar Kannada	0.07	2.42	3.32	137%	15%
14	Yadagiri	0.76	25.52	-	0%	44%

Table 13: Details of Packages under Scenario – 9

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGF REQUIREMENT	VGF AS A % OF TPC	Equity IRR
1	Belgaum	0.55	24.20	13.85	57%	15%
2	Bidar	0.39	13.28	0.26	2%	15%
3	Chikkodi	0.27	9.32	-	0%	75%
4	Dakshin Kannada	0.26	17.66	-	0%	15%
5	Dharwad	0.08	3.09	5.79	187%	15%
6	Gadag	0.17	17.37	14.67	84%	15%
7	Gulbarga	0.42	12.57	-	0%	46%
8	Haveri	0.12	3.42	0.44	13%	15%
9	Koppal	0.49	35.65	28.26	79%	15%
10	Mandya	0.35	28.77	-	0%	86%
11	Mysore	0.43	26.74	-	0%	17%
12	Tumkur	0.04	5.18	2.48	48%	15%
13	Uttar Kannada	0.07	2.42	3.32	137%	15%
14	Yadagiri	0.76	25.52	-	0%	44%

Table 14: Details of Packages under Scenario – 10

S.NO	PACKAGE	LENGTH	TOTAL PROJECT COST	VGF REQUIREMENT	VGF AS A % OF TPC	Equity IRR
1	Belgaum	0.55	24.20	15.30	63%	15%
2	Bidar	0.39	13.28	0.26	2%	15%
3	Chikkodi	0.27	9.32	2.91	31%	15%
4	Dakshin Kannada	0.26	17.66	13.16	75%	15%
5	Dharwad	0.08	3.09	5.79	187%	15%
6	Gadag	0.17	17.37	21.50	124%	15%
7	Gulbarga	0.42	12.57	1.52	12%	15%
8	Haveri	0.12	3.42	0.44	13%	15%
9	Koppal	0.49	35.65	28.97	81%	15%
10	Mandya	0.35	28.77	-	0%	20%
11	Mysore	0.43	26.74	0.89	3%	15%
12	Tumkur	0.04	5.18	7.11	137%	15%
13	Uttar Kannada	0.07	2.42	3.32	137%	15%
14	Yadagiri	0.76	25.52	-	0%	38%

Annexure D: TOR for Transaction Advisor and Technical Consultant

Scope of Services- Technical Consultant

The scope of services shall comprise the following, but not limited to:

1. Market surveys and demand assessment

The Consultant shall make an assessment of the market demand for various aspects of the Project facility for a period of 10 (ten) years, 20 (twenty) years and 30 (thirty) years respectively based on analysis of existing market trends and socio-economic influencing factors. The Consultant shall submit a Report on the market demand analysis. The end result of this stage will be identification of the facilities to be proposed for the project.

2. Need for the project

Based on the assessment of the market demand, the Consultant shall conduct a detailed SWOT analysis and provide a broad assessment on the need for the project.

3. Engineering surveys and investigations

- i. Identify the suitable location of the proposed project facility
- ii. Estimate the Land requirement for the Project facility
- iii. Topographic survey, Geotechnical investigations as required to be carried out for project facility design and arriving at the project cost

4. Environment & Social impact assessment

- i. The Consultant shall undertake environment impact assessment of the Project as per provisions of the Applicable Laws on environment protection and identify a package of measures to reduce/eliminate the adverse impact identified during the assessment. An environmental impact assessment report and environmental management plan shall be prepared based on such assessment. The management plan shall include project specific mitigation and monitoring measures for identified impacts as well as management and monitoring plans to address them.
- ii. The Consultant shall also assist the Authority in addressing the comments and suggestions received during the EIA process with a view to getting environmental clearance from the competent authority.
- iii. The Consultant shall also identify the resettlement & rehabilitation requirements of the project site along with package to be offered for the same to the beneficiaries

5. Preliminary designs of project facility and services

The Consultant shall arrive at the preliminary designs of various components of the Project keeping in view the requirements of the Authority and the scope of services described in this TOR. The site layout and preliminary engineering designs shall be supplemented with explanatory drawings, technical specifications, charts, and notes as necessary.

6. Preparation of Preliminary Cost Estimates

The Consultant shall work out indicative BOQ of various components and prepare cost estimates of the Project with a break up of cost for each component separately.

7. Establishing the Financial Viability of the Project

Detailed financial analysis is required to be undertaken by the Consultant. However, the Consultant shall provide the estimated construction costs, operation and maintenance costs, demand forecast, revenues etc. as part of its financial analysis and appraisal of the Project. The Consultant shall, also provide an assessment of the financial viability of the Project with a view to estimating the likely IRR over an appropriate concession period.

8. Establish and detail a viable PPP mode of implementation.

The Consultant shall identify the service capabilities of the private sector for contribution towards this project and thereafter establish an appropriate PPP mode for implementing the project.

The scope of work indicated above is indicative and not exhaustive. There may be need for flexibility during the assignment as more information about the project emerges and what is feasible and most effective. This can be discussed and mutually agreed during the course of the assignment.

Scope of Services -Transaction Advisor

1. Physical Packaging

- i. Identifying issues that could have commercial and financial implications.
- ii. Assist the Authority Preparation of the project implementation schedule.
- iii. Examine the overall viability of the current way of packaging and suggest mechanisms to strengthen the same.

2. Strategic Packaging

- i. Assist the Authority in conducting risk assessment by: (a) identifying the allocation of risks; (b) proposing changes in the risk allocation that will make the project more attractive to the private sector without significantly increasing the liabilities on the Authority.
- ii. Assist and suggest framework for the bidding package in consideration of a variety of specific factors including: (a) the requirements for a fixed time schedule performance parameters (b) the terms for early termination.
- iii. Define the project concept, establish project parameters and identify issues in developing the project. The obligations of project and those of Authority would be crystallized.

3. Investment Packaging

- i. Assist the Authority in developing financial model for the Project to improve the financial / commercial viability of the project;
- ii. Assist the Authority in estimating the financial impact of various provisions in the project agreement.
- iii. Assist the Authority in optimizing the project structure under various implementation options; and estimate the values of basic bidding criteria, for evaluation of the reasonableness of the financial proposals.
- iv. Assist and guide the Authority in developing the business plan under the selected project structure and a cash flow model to maximise the return to the Authority.

4. Process Packaging

- i. Finalisation of bidding documents.
- ii. Finalise the bidding process, the qualification parameters and the criteria for evaluation of proposals in consultation with Authority.

- iii. Assist the Authority in finalization of the RFP and in consultation with Authority.
- iv. Assistance in addressing bidders' queries
- v. Assistance in evaluation of RFP proposals

5. Delivery System Packaging

- i. Suggest appropriate Dispute Resolution Mechanism within the Agreements.
- ii. Assist the Authority in ensuring obtaining all undertakings, submissions and warranties from the selected bidders.

The scope of work indicated above is indicative and not exhaustive. There may be need for flexibility during the assignment as more information about the project emerges and what is feasible and most effective. This can be discussed and mutually agreed during the course of the assignment