No.	1) Sector	2) Pr	3) Project Type		
BRT-1A	Bus Rapid Transit		een Line and Blue Line and Implementation		
4) Implem	enting Agency	5) Implementing Period	6) Preliminary Project Cost	7) Term	
Y	YCDC	April 2014 to August 2016	Approximately US\$153.0M	Immediate /short term	
	und/Current Iss				
- A BRT syste	em addresses man		nsport market share ms and creates a more sustainable busines e displaced by new routes) will require supp		
 To establish To impleme To install ar To establish Acquire bus Implement 	Phase 1A Blue Li a BRT Agency an nt a synchronised i n integrated fare co BRT operating co	d BRT Control Centre intersection control along the two b llection and smart-card E-ticketing mpanies to provide bus services to culated CNG buses and build 1 m	system the system under performance-based contr	act.	
To improve corridor.	public transport	along two intersecting BRT line	s to create an initial public transport ne	twork and an East-West	
	Request from M	-	12) Relation with Other Projects		
		lanagement Unit (PMU) to h BRT Agency as network			
 a) Concept months fron b) Upon App Preparation c) Tendering d) Construct August 2011 e) Service I montths fron 	n April to June 20 proval: Detailed : 6 months from 2 g: 3 months from tion, Procuremen 5 to July 2016	tudy to Basic Design Stage: 3 014 Design, Tender Document August 2014 to January 2015. Feb 2015 to April 2015 nt, Installation 12 months from Commissioning Project 12 August 2016.	14) Rough Breakdown of Preliminar Infrastructure @ US\$ 1.864 Mill. per ki stations and ITS/ traffic systems. Bus Fleet Cost at US\$ 480,000 per bu Main bus depot and one sub-depot wi Total US\$ 7.0M Control Centre Total US\$ 0.3M	m including busway, Total US\$93.0M s Total US\$52.8M	
15) Beneficiaries The city benefits from an efficient mass transit network with the removal of old buses along these corridors. Passengers benefit from a high quality service and bus operators benefit from a more sustainable business model The transport system in Yangon will be more energy and emissions efficient and provides a good alternative to private car use.			 16) Impact to Environment (Natural/Social) It is expected the BRT will be built within the existing ROW, however at some BRT station locations roads will need to be widened. Close coordination with the existing operators needed to transition them into new business model and develop feeder route opportunities. 		
	ect Area		18) Location Map/Site Photo		
Two corrido 1A as show implementa BRT routes.	tion of 3	Have 1 A controls of the set to be the set t	Phase 1A routes		

			PROJECT SI	JMMARY SHEET		
No.	1) Sector	or 2) Project Title 3) P				
BRT-1B	Bus Rapid Transit			ge Line and Red Line d Implementation		
4) Imple	menting Ag	jency	5) Implementing Period	6) Preliminary Project Cost	7) Term	
	YCDC		February 2015 to March 2017	Approximately US\$139.0 M	Short term	
	ound/Curre					
- Developing	g a BRT syst	em addre		port market share ice problems and cretaes a more sustainable displaced by new routes) will require involveme		
9) Project						
- To implem - To rational - Acquire bu	ent a synchro lise bus route	onised in s and es) bi-artic	tersection control along the two bus	1 Km of BRT busway and BRTstations and on way corridors. In provide bus services to the system under per provide bus services to the system under per per provide bus services to the system under per per per per per per per per per per per		
10) Expec	ted Project	Effect				
	the previous			e network , connecting the Airport and the	e Northern Intercity bus	
Establishm	nent of the F	Project I	anmar side Management Unit to manage ency as network manager.	12) Relation with Other Projects		
a) Corridor February 2 b) Upon A Preparatio c) Tenderin 2016 d) Constru April 2011 e) PMU/ B service de period.	2015 to Apri pproval: De n: 5 months ng: 3 month ction, Procu 6 to Februa us agency v velopment o	and De I 2015 tailed D 5 from Ju s from J urement ary 2017 vill man during d	sign Study : 3 months from esign, Tender Document une 2015 to October 2015. November 2015 to January , Installation 10 months from	14) Rough Breakdown of Preliminary Infrastructure A15 US\$ 1.864 Mill. per k stations and ITS/ traffic systems. Tota Bus Fleet Cost at US\$ 480,000 per bus Bus depot with CNG filling station	m including busway, I US\$58.0M	
the remova benefit from from a mo The transp	enefits from al of old bus m a high qu re sustainat oort system	es alon ality ser ble busii in Yang	ient mass transit network with g these corridors. Passengers vice and bus operators benefit ness model. on will be more energy and les a good alternative to private	16) Impact to Environment (Natural/S It is expected the BRT will be built within however at some BRT station locations widened. Close coordination with the existing ope transition them into new business mode route opportunities.	the existing ROW, roads will need to be rators needed to	
17) Projec	t Area	18) Lo	cation Map/Site Photo			
Two corrid Phase 1B with implei of 3 BRT r	ors for as shown mentation	Phase	18 Contors	Phase 1B roules		

		PROJECT SUMMAR	RY SHE	ET		
No. 1) Sector		2) Project			3) Project Type	
BRT-2A Bus Rapid		Phase 2A BRT Purple Li				
Transit		Construction and Ir	npieme		-	
4) Implementing A	gency	5) Implementing Period		6) Preliminary Project Cost	7) Term	
YCDC		November 2015 to February 2	018	Approximately US\$111.25M	Short term	
- Developing a BRT systen	network is addresses	critical to retaining public transport ma many of the existing bus service prob vith affected operators (those displace	lems an	d cretaes a more sustainable busir		
 To implement a synchron To rationalise bus routes 	ised interse and establis NG bi-articu 7,8,9.	ne and Brown Line totalling 30.0 Km ction control along the two busway con h BRT operating companies to provid lated CNG buses (25m) and 21 CNC	ridors. e bus se	ervices to the system under perform		
		ase 1 to the Eastern Arterial roads	and p	rovide an east west connection		
11) Needs/Request fro	m Myanm	ar side		12) Relation with Other Proje	ects	
13) Implementing Sch				14) Rough Breakdown of Pre	liminer Decisión	
 a) Corridor Feasibility and Design Study : 3 months from Nov. 2015 to Jan. 2016 b) Upon Approval: Detailed Design, Tender Document Preparation: 5 months from March 2016 to July 2016. c) Tendering: 3 months from August 2016 to October 2016 d) Construction, Procurement, Installation 10 months from February 2017 to January 2018. e) PMU/ Bus agency will manage operator consultation and service development during detailed design and construction period. Commencement of Service: February 2018. 			5	Infrastructure @ US\$ 1.864 Mill. per km including busway, stations and ITS/ traffic systems. Total US\$56.0M Bus Fleet Cost at US\$ 480,000 per bus (CNG bi- articulated) and US\$250,000 for CNG 12m citybus. Total US\$51.25 M One bus depot includes CNG fuelling station Total US\$4.0M.		
15) Beneficiaries				16) Impact to Environment (N	Natural/Social)	
The city benefits from a old buses along these c service and bus operato model. The transport sy	orridors. P ors benefit stem in Ya	nass transit network with the rema assengers benefit from a high qua from a more sustainable business ngon will be more energy and good alternative to private car use	ality	It is expected the BRT will be the existing ROW, however at some locations roads will need to be Close coordination with the existence of the transition them into model and develop feeder routed to the transition them into model and develop feeder routed to the transition them into model and develop feeder routed to the transition transition the transition tran	ne BRT station widened. sting operators new business	
17) Project Area		18) 00	ation N	Map/Site Photo		
Two corridors for Phase 2A as shown with implementation of 3 BRT routes.	Prate	-		IB maps		

		PROJECT S			
No.	1) Sector	2) Pro	oject Title	3) Project Type	
BRT-2B	Bus Rapid		BRT Grey Line		
	Transit	Construction a	nd Implementation		
4) Implem	enting Agen	cy 5) Implementing Period	6) Preliminary Project Cost	7) Term	
١	YCDC	August 2016 to November 2018		Short term	
			1	I	
	und/Current		he qualility, accessibility and connectivity of th	e public transport petwork	
	-90 completes			pasilo transport notwork .	
0) Project (Outling				
9) Project (ey Line totalling 16.9 Km of BRT busway	and BRTstations and one bus depot		
		sed intersection control along the two bus	•		
			p provide bus services to the system under pe	erformance-based contract.	
		G bi-articulated (25m) buses and 26 C	NG Citybus(12m)		
- Implement I	BRT Routes 10)A & 10B			
	ed Project E				
To expand t	the BRT netw	ork over the Bago Bridge to Thanlyin	Township.		
11) Needs/	Request from	n Myanmar side	12) Relation with Other Projects		
	enting Sche		14) Rough Breakdown of Preliminary	-	
		d Design Study : 3 months from	Infrastructure @ US\$ 1,864 Mill. per km		
•	6 to October		stations and ITS/ traffic systems.	Total US\$31.5M	
		ed Design, Tender Document	Bus Fleet Cost at US\$ 480,000 per bus		
		om December 2016 to April 2017. rom February 2017 to April 2017	US\$250,000 per bus (CNG 12m Citybu Bus depot including CNG fuelling statio		
		ment, Installation 7 months from			
	2017 to Octo				
		I manage operator consultation and			
		ing detailed design and construction			
period.					
Commence	ement of Ser	vice: November2018.			
15) Benefic	ciaries		16) Impact to Environment (Natural/S	Social)	
The city ber	nefits from ar	efficient mass transit network with	It is expected the BRT will be built withi	n the existing ROW,	
		along these corridors. Passengers	however at some BRT station locations	roads will need to be	
		, i	widened.		
		business model. The transport	Close coordination with the existing operators needed to transition them into new business model and develop feeder		
		e more energy and emissions good alternative to private car use.			
	a provides a (good alternative to private car use.	route opportunities.		
	ject Area		18) Location Map/Site Photo		
One corrido	or (Grey				
Line) with implementa	tion of 2	2			
BRT routes.		Phase 2B corridor	2 contractions		
Biti ioules.		121			
			SAL		
		Existing BRT	All ?	151	
		Phase 2B Grey Line	- Phase 28 Grey Line		
		Circular nat	9251		
				BAY	
				the second	
		L			
		Source: YUTRA Project Team	Existing BRT	-The	
		Source: YUTRA Project Team	Existing BRT BRT TOA BRT TOB	et a	
		Source: YUTRA Project Team	Existing BRT BRT 10A BRT 10B Circular nal	P~	
		Source: YUTRA Project Team	BRT TOA		
		Source: YUTRA Project Team	BRT TOA		
		Source: YUTRA Project Team	BRT TOA		

		PROJECT	SUMMARY SHEET		
No.	1) Sector	2)	Project Title	3) Project Type	
BT-01	Bus Transport	Improvement of Existing Public	Bus Transport Services in Yangon Region		
3) Implem	enting Agen	cy 4) Implementing Period	5) Preliminary Project Cost	6) Term	
Transport Plann	n Ministry of Transpo ing Department, Ma- entral, YCDC		App. US\$ 108 mil.	Urgent	
8) Backgro	und/Current	ssues	· ·		
transport syst - The level of - Inadequate	em is also wide bus services in bus stop facilitie	ly considered to be deficient. terms of journey and waiting time, c es such as sheltered waiting areas, s	n accounts for more than 80%, the level of serv on-board crowding, reliability, etc. are not satisfa seating, etc. uses, which get hopelessly stuck on congested	actory.	
9) Project C					
 Modernization Developmer 	g of bus networ on of bus servic nt of bus termina of uran bus tra	es als and interchanges			
	ed Project Eff				
		y of bus operation f public bus transport services			
	traffic conges				
	-		40) Deletion with Other Desired		
11) Needs/H None	Request from	Myanmar side	12) Relation with Other Projects Development of BRT system in Yangon	Region	
None			Development of bitt system in rangon	Region	
13) Implem	enting Sched	lule	14) Rough Breakdown of Preliminary	Project Cost	
Restructuring	of bus network		a) Introduction of functional network system including bus zone &		
 Detailed des Implemental Commencer Modernizatior Feasibility si Detailed des Implemental Commencer Development Feasibility si Detailed des Constructior Commencer Prioritization of Feasibility si Detailed des Implemental Commencer Prioritization of Feasibility si Detailed des Implemental Commencer Prioritization of Feasibility si Detailed des Implemental Commencer 	tion: 1 Year ment of operation of bus service tudy: 6 Months sign, Tender Pre- tion: 1 Year ment of service: of bus terminal tudy: 6 Months sign, Tender Pre- tor urban bus tra- tudy: 6 Months sign, Tender Pre- tion: 1 Year ment of operation	s eparation, Tendering: 1.5 Years 2017 s and interchanges eparation, Tendering: 2.0 Years 2019 nsport eparation, Tendering: 1.5 Years	reorganization of bus operators: US\$ 3 i b) Bus fleets renewal, introduction of sm passenger information, operation manag mil. (approximately) c) Construction of bus terminals for each (approximately) d) Construction of facility for transfer pas point of major bus routes: US\$ 20 mil. (a e) Introduction of bus lane and bus prior mil. (approximately) f) Total project cost: US\$ 108 mil.	hart card, provision of gement by GPS: US\$ 50 In urban area: US\$ 20 mil ssengers at connection approximately)	
15) Benefic		·	16) Impact to Environment (Natural/Social)		
All Yangon citizen (especially bus users)			No impact to both natural and social environment due to no land acquisition and civil works		
17) Project		18) Location Map/Site Photo			
of bus service Yangon Regio b) Developme interchanges: (need further c) Developme terminals: 4 p further survey	modernization es for whole on 10 points survey) ent of bus points (need y) on of urban bus anes (need	<current condition=""></current>			

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further survey)

		PRC	DJECT SUMMARY SHEET			
No.	1) Sector		2) Project Title	3) Project Type		
	Railway	-	of Rail Transport Improvement and Station			
RL-01	(TOD)	Area Urban Developme	ent in Yangon (Enhancing Transit Oriented			
A) Inc. 1	. ,		Development)	7) T =		
4) implem	enting Ager	ncy 5) Implementing Pe	eriod 6) Preliminary Construction Cost	7) Term		
МС	ORT/MR	15 months	App. USD 1 mil.	Urgent		
8) Backgro	und/Curren	t Issues				
foreign devel and control tl	opers are inter he developmer	rested in redeveloping the area at plan in order to maximize the	as Yangon Central Station area, Malwagone Depot/W as and submitted their proposals. It is the good tende e public development benefit and divert the benefit to d/or new urban transport system development.	ncy, but MR has to handle		
9) Project (Outline					
			plan in the available MR. railway land.			
private firms.	The RfP may	require developer to relocate	dings for Replace/Redevelopment of railway land white the existing function in current yards to be developed for install new transit system by using their benefit obt	such as stabling yard, depot		
10) Expect	ed Project E	ffect				
			MR. and organizations responsible for urban de	velopment along railway		
	ularly in statio					
			nt plan including inter-modal transfer facilities ar	nd urban development		
		ance usages of railway sys	stem, development and to prepare PPP (Public Private	- Dorthorobin) quido linoo		
	on area deve		development and to prepare FFF (Fublic Frivat	e Parthership) guide intes		
	un alea ueve	aopinent.				
11) Needs/	Request fro	m Myanmar side	12) Relation with Other Projects			
		assist tender preparation r		6]. [RL-19]. [RL-22]		
	central static					
	enting Sche		14) Rough Breakdown of Preliminary	Construction Cost		
	ocedure: 4mc		USD 1mil. For TA	USD 1mil. For TA		
	employment					
I ecnnical A	ssistance: 8	months				
15) Benefic	ciaries		16) Impact to Environment (Natural/S	ocial)		
MORT/MR,	potential dev	velopers.	No impact due to TA.	No impact due to TA.		
17) Project	Aroa	18) Location Map/Site Pr	acto.			
	Section of	< Image >		< Legend >		
Myanmar	Railway in Yangon	C Intage >	Find the second	entral RS.		

	r	-	PROJECT	SUMMARY SHEET			
No.	1) Sector		2) P	roject Title	3) Project Type		
RL-02	Railway	ТА	A for Commuter Service Lev	vel Enhancement in Greater Yangon			
4) Implem	enting Agen	псу	5) Implementing Period	6) Preliminary Construction Cost	7) Term		
MC	DRT/MR		36 months	App. USD 2 mil.	Urgent		
Almost curr Railway Imp improvemen commencer temporary c	provement Pl nt project, Ya ment of the o countermeas	oble hase angoi pera ures	ms regarding Yangon Circula 1: Western Half Loop" hence n Circular Railway can play a tion until short-term target ye	ar Railway (western half) will be solved by the Yen Loan amount is huge. After the role as main axle of commuter. Howeve ar at the soonest. Until then, it is necess hift from road to railway, contribute traffic	e completion of the r, we should wait for the sary to conduct any		
9) Project (Dutline						
 Establishir 	ng "Commute	er Se	ective train operation plan and ervice Improvement Dept." an e existing passenger wagon i				
10) Expected	ed Project E	ffect	t				
Yangon-Ma establish ar • To make N • To enhanc	ndalay Main n effective tra MR staffs rec ce modal shif	Line ain op ogniz ft fror	/Pyay Line, and it causes the peration plan and diagram for zing the importance of the co m road to railway by providing	mmuter service and train them. g better passenger wagon for commuter.	ailroad. After the TA, to		
			yanmar side	12) Relation with Other Projects It contribure to all railway projects.			
GIVI OF IVIR E	express his in	itere	SI.				
	enting Sche			14) Rough Breakdown of Preliminary Construction Cost			
	ocedure: 12 n employment: hs			USD 2mil. For TA			
15) Benefic	iaries			16) Impact to Environment (Natural/Social)			
MR staffs, a	all MR users.			No impact due toTA.			
17) Project	Area	18)	Location Map/Site Photo				
Myanmar	Section of Railway in Yangon	< 11	mage >	Commuter>	ired Wagon>		
					2013-07-09		
			<capacity bui<="" td=""><td></td><td>2018. 07-09 Source: YUTRA Project Team</td></capacity>		2018. 07-09 Source: YUTRA Project Team		

No.	1) Sector	2) Project Title		3) Project Type
RL-03	Railway	Railway Central Control Center System Installation (The study is ongoing by JICA)		
4) Implem	enting Agen	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term
МС	ORT/MR	decided in the study.	decided in the ongoing study.	Urgent

8) Background/Current Issues

The study is ongoing by JICA. The purpose of the study is to decide the scope of grant aid for railway safety facilities. The current railway has some problems/issues. For example, Yangon Circular Railway has installed automatic color light signal, however, the system is quite old and has many problems such as frequent malfunction with no changing signal color due to fail-safe system worked by shirt-circuited track circuit by water-soaked track in every rainy season. Therefore, all trains are in dangerous train operation depending driver's eye-checking without reliable signal and train detection system during signal malfunction. In addition, the current railway has many level crossings which are manually operated (opened and closed) by railway staff, and it brings chronic traffic congestions at all level crossing points.

9) Project Outline

In order to eliminate the problems, appropriate safety facilities such as OCC, electronic interlocking device, etc., will be installed as urgent countermeasure by JICA grant aid.

10) Expected Project Effect

To improve reliability of train operaiton and safety condiiton in Yangon Central station and suburban section of Yangon-Mandalay line.

11) Needs/Request from Myanmar side	12) Relation with Other Projects
Requested to Japanese side, and now ongoing project.	[RL-05], [RL-07], [RL-13], [RL-14]
13) Implementing Schedule	14) Rough Breakdown of Preliminary Construction Cost
The period is planed in the ongoing study. The below is reference estimation. Study: 6months General procedure: 3months Consultant employment: 3months Design & Tender Preparation: 6months Tender Procedure: 6months Construction & Procurement: 12months	Procurement and installation of sagety devices and facilities: the cost will be decided in the ongoing study.
15) Beneficiaries	16) Impact to Environment (Natural/Social)
MORT/MR, all Yangon-Mandalay suburban line users	No impact due to only equipment installation inside MR yard and

MORT/MR, all fangon-h	nandalay suburban line users	building.
17) Project Area	18) Location Map/Site Photo	
Yangon central staiton, Yangon-Mandalay line suburban section.	<image/>	

Source: YUTRA Project Team

		PROJECT	SUMMARY SHEET			
No.	1) Sector	2) P	roject Title	3) Project Type		
RL-04	Railway	-	TA for Railway Safety and Service Improvement (Ongoing by JICA)			
4) Implem	enting Agen	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term		
МС	ORT/MR	24 months	-	Urgent		
	und/Current					
are for Yang		Railway and the suburban lines.	ger is reached to approximately 200,000 On the other hand, the current condition			
ii) technical	sh plan for im	ding/technical transfer for track r	ncement of safety and service, and naintenance skill by using Yangon-Mand	lalay suburban line.		
To reduce r	ailway accide	ent.				
11) Needs/	Request from	n Myanmar side	12) Relation with Other Projects			
Ongoing pro	oject.		[RL-13], and all the other railway improvement projects.			
	enting Sche		14) Rough Breakdown of Preliminary	Construction Cost		
Technical A	ssitance: 24r	nonths	-			
15) Benefic	ciaries		16) Impact to Environment (Natural/Social)			
MR staffs, a	all MR users.		No impact due to equipment procurement and technical transfer training inside MR yard.			
17) Project	Area	18) Location Map/Site Photo				
Suburban	section of andalay Line	 Current Condition (between Yan 	hgon and Bago) >			
				Source: YUTRA Project Team		

			PROJECT	SUMMARY SHEET		
No.	1) Sector		2) F	Project Title	3) Project Type	
RL-05	Railway			y Improvement (Non-electrified) Vestern Half Loop		
4) Implementing Agency 5) Implementing Perio			5) Implementing Period	6) Preliminary Construction Cost	7) Term	
МС	MORT/MR 84 months			App. USD 485 mil.	Short	
angon Circu ailway line d	ue to passing	irround high va	s the city center by 47km leng alue areas such as business dia	th line. The line, especially the western half, h strict, high density residential area, etc. Howe	ver, the railway is inferior to	
accessibility a citizens, espe The western	at present due ecially high and half of Yangor	to the d middl n Circul	deteriorated infrastructures, th le class people, do not use rail ar Railway (Yangon Central St	cts such as punctuality, quick-deliverability, sat le lack of feeder connection, etc. It causes the way service so much. ation – Insein Station – Danyingone Station wi ain transport axis linking the north with the sou	tendency that Yangon th 21km length) which	
9) Project (Outline					
Civil Structu Track Impro- Signaling & Station and card) DEMU Proce Improve exi Installation	re Improveme ovement (Repla Telecom Syst Station Facilit curement sting Kyeemyi of automatic le	ace Ra em Mo y Impro ndaing evel cro	ill from existing 37kg/m rail to 5 idernization ovement (High height platform, depot and Insein workshop for	nent/Cut Improvement, Bridge Improvement, C 50kg/m rail, Install New PC sleeper for 50kg/m ticket selling system improvement, introduction r new DEMU	rail, Spread new ballast)	
• To facilitat • To reduce • To improve	road traffic v	shift fr /olume ort con	e and traffic congestions. dition between the north Ya	rt, especially the north - south direction tr angon and CBD area drastically, especial 12) Relation with Other Projects		
			ir request to Japanese	[RL-06], [RL-07], [RL-08], [RL-09], [RL	10], [RL-11], [RL-12]	
13) Implem	enting Sche	dule		14) Rough Breakdown of Preliminary	Construction Cost	
F/S: 10months General procedure: 6months Consultant employment: 8months Design & Tender Preparation: 18months Tender Procedure: 12months Construction & Procurement: 30months				 Track, Civil, Signal&Telecom, Station Improvement: USD15mil. x 21km=USD315mil. DEMU procurement: USD120mil. (=USD2mil./car x 6cars x 10trains) -Upgrading depot/workshop: USD50mil. 		
15) Benefic	iaries			16) Impact to Environment (Natural/S	ocial)	
All Yangon citizens, especially citizens living along the line.			citizens living along the	No land acquistion and resettlement due to all work inside MR yard. Some noise and vibration during construction.		
17) Project	Area	18) L	ocation Map/Site Photo			
- Kyee M Station - In	ntral Station lyin Daing sein Station one Staiton	Current		Danyipgone #150	w Depge Workshep	

Source: YUTRA Project Team

Kyeemyinda

No. 1) Sector 2) Project Title 3) Project Type RL-06 Railway TOD Enhancement Project along Yangon Circular Railway Wostom Hait 1 4) Implementing Agency 5) Implementing Period 6) Preliminary Construction Cost 7) Term MORT/MR 48 months App. USD 6 mil. Short 8) Background/Current Issues The project extended as supplemental project of Yangon Circular Railway improvement Plase1: Western Haif Loop, in order to enhance the improvement effect of the railway and increase the number of passengers 8) Project Totiline The project scope is to provide staton plaza with bus stop at main stations along the line such as Kyeennyindaing R.S., insein R.S., and Danyingone R.S. Yangon Central station is excluded from the target station will be included in the project scope, alinhough there aria an another project memode site. Since Sinc			PROJECT	SUMMARY SHEET	
Relation Plant 4) Implementing Agency 5) Implementing Period 6) Preliminary Construction Cost 7) Term MORT/MR 48 months App. USD 6 mil. Short Background/Current Issues The project of conducted as supplemental project of Yangon Circular Ralway Improvement Phaset: Western Half Loop, in order to enhance the improvement effect of the ralway and increase the number of passengers 9) Project Outline The project scope is to provide station jaza with bus stop at main stations along the line such as Kyeemyindaing R.S., Inselin R.S., and Darvingon R.S., Yangon Central Station is excluded from the target station because there is an another project and respectively. Byeenyindaing Station Yand Redevelopment Project and Plancibil Insen Workshop Area an another project and respectively. Byeenyindaing Station Yand Redevelopment Project and Plancibil Insen Workshop Area as short term contermeasure. 10) Expected Project Effect To improve fease acress condition form/to station. To improve fease the passenger number and enhance convenience of Yangon Circular Raliway. 12) Relation with Other Projects 11) Needs/Request from Myanmar side Its proposed from study team. MR's GM understand the RL-09, [RL-10]. 13) Implementing Schedulo Study: Gmonths Construction & Procurement: 12months 16) Impact to Environment (Natural/Social) Yangon Circular Raliway western half users 16) Impact to Environment (Natural/Social) Yangon C	No.	1) Sector	2) P	roject Title	3) Project Type
MORT/MR 48 months App. USD 6 mil. Short 6) Background/Current Issues The project is conducted as supplemental project of Yangon Circular Railway Improvement Phase 1: Western Haif Loop, in order to enhance the improvement effect of the railway and increase the number of passengers 9) Project Outline The project is conducted as supplemental project is conducted as indicated and indicated as indicated and indicated as indicated and indicate and indicated and indicated and indicated and indicated and indicated and indicated and indindicated and indicated and indindindindicated and indicated ano	RL-06	Railway	TOD Enhancement Project alo		
	4) Impleme	enting Agen	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term
The project is conducted as supplemental project of Yangon Circular Raiway Improvement Phase1: Western Half Loop, in order to enhance the improvement effect of the raiway and increase the number of passengers 9) Project Outline The project scope is to provide station plaza with bus stop at main stations along the line such as Kyeemyindaing R.S Insein R.S., and Darlyingone R.S. Yangon Central station is excluded from the target station because there is an another project access. A comparison of the rainway benchused in the project scope, although there are an another project and as "[RL-9] Kyee Myn Dang Station Yand Redevelopment Project" (Seewinghuide) stations and these isation with project scope, although there are an another project and minimum function should be installe as indicide-term project and minimum function should be installed as indicide-term project and minimum function should be installed as indicide-term project and minimum function should be installed as indicide-term project and minimum function should be installed as indicide-term project and minimum function should be installed as indicide-term project access condition from/to station. To increase the passenger number and enhance convenience of Yangon Circular Railway. 11) Needs/Request from Myannar side 11 is proposed from study team. MR's GM understand the IRL-09], IRL-10]. 13) Implementing Schedule 14) Rough Breakdown of Preliminary Construction Cost USD6mil.= 1ha x USD2mil. x 3stations 15) Beneficiaries 16) Impact to Environment (Natural/Social) 17) Project Area 18) Location Map/Site Photo 18) Magning allow western half users 19) Little land acquisition and resettelent due to work inside road and MR yard. 20) Some traffic restriction to be required during costruction. 17) Project Area 18) Location Map/Site Photo 19) Magning allow western half users 19) Little land acquisition and resettelent due to work inside road and MR yard. 20) Some traffic restriction to be required furgices 19) A project Area 19) Location Map/Site Pho	MO	RT/MR	48 months	App. USD 6 mil.	Short
enhance the improvement effect of the railway and increase the number of passengers 9) Project Outline The project scope is to provide station plaza with bus stop at main stations along the line such as Kyeernyindaing R.S., Insein R.S., and Darvingone R.S. Yangon Central station is excluded from the target station because there is an another project ange, although there are another project samed as TIR.4 Yikee Win Diang Station Yard Redevelopment Project" an TIR.4.1 (1) Insein Workstop Acte Redevelopment Project Tespectively, because the projects are conducted as middle-term project and minimum function should be installe as short-term contemmeasure. 10) Expected Project Effect 10 improve feeder access condition from/to station. 10 increase the passenger number and enhance convenience of Yangon Circular Railway. 11) Needs/Request from Myanmar side 12) Relation with Other Projects 11) Needs/Request from Myanmar side 12) Relation with RIL-05], 13) Implementing Schedule 14) Rough Breakdown of Preliminary Construction Cost USD6mil.=1ha x USD2mil. x 3stations 15) Beneficiaries 16) Expected receiver informations 17) Project Area Main stations along Yangon Circular Railway western half users 11) Needs/Request non the fusion 12) And the information of the target station of the restriction to be required during costruction. 13) Implementing Schedule 14) Rough Breakdown of Preliminary Construction Cost 14) Rough Circular Railway western half users 15) Beneficiaries 16) Lecation Map/Site Photo 17) Project Area Main stations along Yangon Circular Railway western half users 16) Lecation Map/Site Photo 17) Project Area Main stations along Yangon Circular Railway western half users 16) Lecation Map/Site Photo 17) Project Area Main stations along Yangon Circular Railway western half users 18) Denyingone) 19) Denyingone) 19) Another Prozedure 19) Another Prozedure 19) Another Prozedure 19) Another Main Stations 19) Another Prozedure 10) Another Prozedure 11) Another Manufation 12) Another Prozedure 13) Implementing 14) Another					
The project scope is to provide station plaza with bus stop at main stations along the line such as Kyeemyinding RS, Insein RS, and Darwingone RS. Yangon Central Station is excluded from the larget station because there is an another project named as "IRL-17 largon Central Station Redevelopment Project". Kyeemyindaing station and insein station will be included in the project anemed as "IRL-17 largon Redevelopment Project" respectively, because the projects are conducted as middle-term project and minimum function should be installe as short-term countermeasure. 10) Expected Project Effect To improve feeder access condition for ann's station. To increase the passenger number and enhance convenience of Yangon Circular Railway. 11) Needs/Request from Myanmar side It is proposed from study team. MR's GM understand the Ru-09i, [RL-09], [RL-09]. [RL-09], [RL-00]. 12) Relation with Other Projects 13) Implementing Schedule 14) Rough Breakdown of Preliminary Construction Cost USDFmill = Tha x USD2mill. x 3stations 15) Beneficiaries 16) Impact to Environment (Natural/Social) Little land acquistion and resettlend due to work inside road and MR yard. Some traffic restriction to be required during costruction. 17) Project Area 18) Location Map/Site Photo 19) Location Map/Site Photo 19) Location Map/Site Photo 10) Complexent half (Insein, Kyeemyindaing, Danyingone)					lalf Loop, in order to
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13) Implementing Schedule 14) Rough Breakdown of Preliminary Construction Cost Study: 6months USD6mil.=1ha x USD2mil. x 3stations General procedure: 8months USD6mil.=1ha x USD2mil. x 3stations Design & Tender Preparation: 8months Interview Tender Procedure: 10months Interview Construction & Procurement: 12months Interview 15) Beneficiaries 16) Impact to Environment (Natural/Social) Yangon Circular Railway western half users Little land acquistion and resettelent due to work inside road and MR yard. Some traffic restriction to be required during costruction. 17) Project Area 18) Location Map/Site Photo Main staitons along Yangon Circular Railway western half (Insein, Kyeemyindaing, Danyingone) 18) Location Map/Site Photo Main staitons along (Insein, Kyeemyindaing, Danyingone) 19) Location Map/Site Photo		u nom sludy			
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Main staitons along Yangon Circular Railway western half (Insein, Kyeemyindaing, Danyingone)	,		vwestern half users	Little land acquistion and resettelent due MR yard.	e to work inside road and
Main staitons along Yangon Circular Railway western half (Insein, Kyeemyindaing, Danyingone)	17) Droigot	A.r.o.o.	19) Logation Man/Site Dhate		
	Main staito Yangon Railway we (Inse Kyeemyi	ons along Circular estern half ein, ndaing,	DanyipgeneartS. Insein R.S.C. Kyeemyindaing R.S.C. Constantion Central Constant Central C	Top Kya	Legend Bus top Bus top Cur Pairing Pedestran Pair Pedestran Pair Pedestran Pair Pedestran Pair Pedestran Pair Pedestran Pair Pair Pair Staton Pedestran Pair Pair Staton Pedestran Pair Pair Staton

			SUMMARY SHEET	
No.	1) Sector	· · · · · · · · · · · · · · · · · · ·	Project Title	3) Project Type
RL-07	Railway	Yangon Central Sta	tion Redevelopment Project	
4) Implem	enting Agenc	y 5) Implementing Period	6) Preliminary Construction Cost	7) Term
МС	RT/MR	66 months	App. USD 704 mil.	Short
	und/Current			
and is situate Study area. express their Yangon Centi 29ha, remaini	d at the heart of Therefore, sever interests near for ral station yard s ing 13ha is fully	Yangon city and commercially strated private developers already expre- uture.	ercial and business use among MR's lands, be- tegic location, although MR has some lands alo essed their interests in redevelopment and the o 16ha. (note: although actual Yangon Central st s for MR staffs, stops, etc.)	ng the railway line in the the the potential developers may
9) Project (Id be prepared by selected develor	per from the commercial viewpoint, although lay	rout of husiness offices
business cent transport hub < Public Tran Line1, BRT st < Private Veh parking for Pa < Others >: F It is recomme side (MR) pro decided royal 10) Expecto The number	ter but also tran , the following p sport Transfer > ations (2 routes icle Connection ark & Ride or co Pedestrian path, nded to conduc vides their land ty to MR	sit hub because the station accept e ublic functions and the integration s : MR lines (Yangon Circular Railwa are planned), Feeder bus terminal, >: Road connection including acce mmercial / business building users Green space t the project by PPP scheme in orde and private side (developer) develo	ay, Yangon Suburban Lines, Middle and Long D	order to fulfill the function as istance Trains), UMRT , and taxi stand, etc., Car is a one of options that public n fund, and developer pay
	transport hub		40) Dalation with Other Drainate	
		Myanmar side apanese side to support the	12) Relation with Other Projects The redevelopment area currently has of shed, etc. Necessary to relocate the fur yard by [RL-08]. The relocation to be con- development benefit. In addition, Result of SUDP, [RL-01], [R	nctions to any substituted onducted by the
13) Implem	enting Scheo	lule	14) Rough Breakdown of Preliminary	Construction Cost
Tender Proc Design: 15n			 a) Developed area: 16ha b) Unit cost for public infrastructure dev. c) Unit building cost =10,000m2 x 70% : (50%) x floor area ratio (800%) x floor c (US\$1500/m2)=USD42mil./ha d) Construction cost: 16ha x (USD2mil./USD42mil./ha)=USD704mil. 	x building coverage ratio onstruction unit cost
15) Benefic	iarios		16) Impact to Environment (Natural/S	ocial)
		Central station users.	In case of the redevelopment inside wal acquisiiton and resettlement is required Some traffic jam, noise and vibration du	led area, no land
17) Project	Area 1	8) Location Map/Site Photo		
	gon Central n yard	Draft conceptual im	age	

No.	1) Sector	2)	Project Title	3) Project Type	
		New Integrated Depot an	nd Workshop Construction Project	-,;;	
RL-08	Railway		of Current Depots and Workshops to burban Area) :Phase1		
4) Implem	enting Agen			7) Term	
MC	ORT/MR	42 months	App. USD 64 mil.	Short	
	und/Current		- -		
any substitute reasons, it is	ed yard. beca planned to est	use these depot/workshop areas are ablish a new integrated depot and v	cts, these existing functions as depot and/or wor e also redeveloped to commercial and business workshop at the ourshirt of Yangon city. a one of them and is expected as the first redeve	area. From the above	
) Project (Outline				
There is a hu	ge land which		e of Ywa Tar Gyi station along Yangon-Mandala	y line. Therefore, it is	
The whole inte each yards, a station yard.	and this project 16ha of Yang	lepot and workshop will be establish t will be the first phase for relocation	ned by phasing development due to the difference of the existing function (depot and maintenance eloped, the required substiture land area is assur Yangon central staiton yards.	e shed) in Yangon Central	
10) Expect	ed Project E	ffect			
Yard redeve	elopment pro	jects can be implemented.			
Depot and v	workshop eq	uipments and buildings are rene	ewed.		
11) Needs/	Request fro	n Myanmar side	12) Relation with Other Projects		
MR has the		ve the function of Yangon centra			
	enting Sche		14) Rough Breakdown of Preliminary	Construction Cost	
	nder Prepara cedure: 6moi	tion: 6months	a) Relocation area: 16ha b) Unit cost for depot/workshop development:USD4mil./ha		
Design: 12r		1015	c) Total=16ha x USD4mil./ha=USD64mil.		
		nent: 18months	,		
15) Benefic	iaries		16) Impact to Environment (Natural/So	ocial)	
MORT/MR			Some resettlement to be required althout	-	
			MR. Some traffic jam, noise and vibration du Working place of labour is moved.	ring construciton.	
	_				
and Ywa Ta	ntral station ar Gyi station ard	18) Location Map/Site Photo Figure Central Station Depositivation and the state Figure Central Station Depositivation and the state Figure Central Station Depositivation and the state Source: YUTRA Project Team	Insein Workshop. Redevelopment Kyeemyindaing R.S. Depot	New Integrated Depot/Workshop Wwa Tar Gyi R.S. Cated & Internsive Af careat digate/workshaps for for exclosed the flow integrated Dapacy Workshaps for for advanced internet digate/workshaps for for the flow integrated Dapacy Workshaps for for the flow integrated Dapacy Barbard B	

		PROJI	ECT SUMMARY SHEET			
No.	1) Sector		2) Project Title	3) Project Type		
RL-09	Railway	Kyee Myin Daing St	ation Yard Redevelopment Project			
4) Implem	4) Implementing Agency 5) Implementing Period		od 6) Preliminary Construction Cos	t 7) Term		
MC	DRT/MR	66 months	App. USD 220 mil.	Middle		
	und/Curren					
edge of CBD	and has smal	I depot with approximately 5ha su	along the western half of Yangon Circular Railv rrounded by wall. This area has potential to b possibility any private investors express their i	e the middle-scale transit hub		
9) Project (
commercial fi and business function as tr < Public Tran MR lines (Y < Private Ver Road conne < Others > Pedestrian p It is recomme public side (N	acilities, reside center but als ansport hub, ti asport Transfer angon Circula nicle Connectio ection including path ended to cond	ential apartments, etc. are expect so transit hub because the statior he following public functions and r > r Railway), Feeder bus terminal, on > g access rotary road to station en uct the project by PPP scheme in	veloper from the commercial viewpoint, althoug ed. However, the redevelopment area will play accept entering many transit mode and pedes the integration should be considered. Faxi stand trance, bus terminal, and taxi stand, etc., Smal order to maximize use of private investor's fur per) develop the area including public facilities	roles as not only commercial trians. In order to fulfill the I car parking d. It is a one of options that		
	ed Project E					
	r of railway u transport hu		nercial area will be increased due to high	ability to attract users and		
11) Needs/	Request fro	m Myanmar side	12) Relation with Other Projects			
No request	from Myanm o express the	ar side yet, but there are high ir interest due to obtaining	The redevelopment area currently has shed, etc. Necessary to relocate the yard by [RL-11]. The relocation to be development benefit.	The redevelopment area currently has depot and maintenance shed, etc. Necessary to relocate the functions to any substituted yard by [RL-11]. The relocation to be conducted by using the development benefit. In addition, Result of SUDP, [RL-01], [RL-05], [RL-06], [RL-12].		
13) Implem	enting Sche	edule	14) Rough Breakdown of Prelimina	ary Construction Cost		
	-	tion: 5months	a) Developed area: 5ha	-		
Design: 15r		nths nent: 42months	 b) Unit cost for public infrastructure of c) Unit building cost =10,000m2 x 70 (50%) x floor area ratio (800%) x floor (US\$1500/m2)=USD42mil./ha d) Construction cost: 5ha x (USD2mil USD42mil./ha)=USD220mil. 	% x building coverage ratio r construction unit cost		
15) Popofic	iorioo		16) Impact to Environment (Nature	l/Social)		
	and Yangon	Circular Railway users, aing Station users.	16) Impact to Environment (Natura In case of the redevelopment inside acquisiiton and resettlement is requi Some traffic jam, noise and vibration	walled area, no land red.		
17) Project	Area	18) Location Map/Site Pho				
Kyee My	in Daing n yard	Current Kyee Myin Daing	The start start	Malwagone R.5.		

		PROJEC	T SUMMARY SHEET	
No.	1) Sector	2)	Project Title	3) Project Type
RL-10	Railway	Insein Workshop A	Area Redevelopment Project	
4) Implem	enting Agen	icy 5) Implementing Period	6) Preliminary Construction Cost	7) Term
MC	ORT/MR	66 months	App. USD 1,144 mil.	Middle
8) Backgro	und/Current	Issues	•	
Mindama ai transfer sta workshops is quite higł	rea which is a tion from Yar in MR, name n due to the a	appointed as the sub-center in S ngon Circular Railway to feeder t d as Insein Workshop, is located	ne western half of Yangon Circular Railwa UDP. Therefore, there is a possibility that ransits to Mindama sub-center, etc. In ad d beside the station. The development po e huge yard with approximately 26ha. The o redevelop the yard.	t this station will be dition, the one of the main tential of Insein workshop
9) Project (Outline			
mode incluc In SUDP, Ir developmen 10) Expect The numbe	ding Yangon hisein worksho ht for the are ed Project E	Circular Railway, UMRT Line2, E op is selected as the target for T a. ffect sers including business/commer	ut also transit hub because the station act BRT, feeder buses, taxis, private vehicles, OD case study. In the study, it is propose	and pedestrians. ed to apply phasing
11) Needs/	Request fro	m Myanmar side	12) Relation with Other Projects	
No request	from Myanm c express the	ar side yet, but there are high ir interest due to obtaining	The redevelopment area currently has of shed, etc. Necessary to relocate the fun yard by [RL-11]. The relocation to be co development benefit. In addition, Result of SUDP, [RL-01], [R	nctions to any substituted onducted by using the
13) Implem	enting Sche	dule	14) Rough Breakdown of Preliminary	
F/S and Ter Tender Pro Design: 15r	nder Prepara cedure: 4moi months	tion: 5months	 a) Developed area: 26ha b) Unit cost for public infrastructure development: USD2mil./ha c) Unit building cost =10,000m2 x 70% x building coverage ratio (50%) x floor area ratio (800%) x floor construction unit cost (US\$1500/m2)=USD42mil./ha d) Construction cost: 26ha x (USD2mil./ha + USD42mil./ha)=USD1,144mil. 	
15) Benefic	ciaries		16) Impact to Environment (Natural/S	ocial)
, MORT/MR,		Circular Railway users, users.	In case of the redevelopment inside wal acquisiiton and resettlement is required Some traffic jam, noise and vibration du	lled area, no land
17) Project	Area	18) Location Map/Site Photo	-	

17) Project Area	18) Location Map/Site Photo
Insein station yard	The conceptual image drafted in SUDP Units withing area for development. Initia with development. Initia with development. Initiation for an area for development. Initiation for a
	Figure 2 WTRA Project Team

No.	1) Sector	2) P	3) Project Type		
		. .	Workshop Construction Project		
RL-11	Railway		f Current Depots and Workshops to		
		Yangon Subu	rban Area) :Phase3		
4) Implem	4) Implementing Agency 5) Implementing Period 6) Preliminary Construction Cost			7) Term	
МС	ORT/MR	42 months	App. USD 104 mil.	Middle	
8) Backgro	R) Background/Current Issues				

8) Background/Current Issues

According to a series of the railway yard redevelopments projects, these existing functions as depot and/or workshop should be relocated to any substituted yard. because these depot/workshop areas are also redeveloped to commercial and business area. From the above reasons, it is planned to establish a new integrated depot and workshop at the ourshirt of Yangon city.

[RL-09] Kyeemyindaing yard redevelopment and [RL-10] Insein Workshop yard redevelopment are some of them.

9) Project Outline

There is a huge land which is owned by MR at the northern side of Ywa Tar Gyi station along Yangon-Mandalay line. Therefore, it is proposed to use the yard for the project.

The whole integrated new depot and workshop will be established by phasing development due to the difference of timing to redevelop each yards, and this project will be the third phase for relocation of the existing function (depot and workshop) in Kyeemyindaing yard and Insein yard. 26ha of Kyeemyindaing yard and Insein workshop yard to be redeveloped, the required substiture land area is assumed as 26ha.

The relocation cost to be born from the development benefit of each yards.

10) Expected Project Effect

Yard redevelopment projects can be implemented.

Depot and workshop equipments and buildings are renewed.

12) Relation with Other Projects	
[RL-09], [RL-10]	
14) Rough Breakdown of Preliminary Construction Cost	
a) Relocation area: 26ha	
b) Unit cost for depot/workshop development:USD4mil./ha	
c) Total=26ha x USD4mil./ha=USD104mil.	
16) Impact to Environment (Natural/Social)	
Some resettlement to be required although the land is owned by	
MR.	
Some traffic jam, noise and vibration during construciton.	
Working place of labour is moved.	

17) Project Area	18) Location Map/Site Photo
Kyeenyingdaing station yard, Insein workshop and Ywa Tar Gyi station yard	For the second secon

			T SUMMARY SHEET	
No.	1) Sector	2)	Project Title	3) Project Type
RL-12	Railway		Project for Yangon Circular Railway /estern Half	
4) Implem	enting Agen	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term
MC	ORT/MR	126 months	App. USD 1,260 mil.	Long
Enough effe Loop" as sh the middle a will not be a operation co etc. Especi	ort-term proj and long term allowed due to ost in case of ially, along th	ained from "[RL-5] Yangon Circl ect hence the speed, frequency, n view point, electrification and g o the limitation of level crossing f high frequent operation, iii) elev	ular Railway Improvement (Non-electrified comfortability and safety are improved dr rade separation will be essential because closing time in case of at-grade, ii) electrif vated railway ensure safety from traffic act ar Railway is high population density area	astically. However, from i) high frequent operation ied railway can save the cident at level crossing,
21km length reviewed by 10) Expecto • To assure • To reduce	n half of Yang n, is to be ele t the possibili ed Project E the modal sh traffic conge	ctrified and elevated as long-ter ty of stable power supply, budge ffect	t, especially the north - south direction tra	schedule should be
		m Myanmar side	12) Relation with Other Projects	
	o improve the	e line although no memtion	[RL-05], [RL-09], [RL-10]	
F/S: 12mon General pro Consultant Design & Te Tender Pro	ocedure: 6mo employment: ender Prepar cedure: 12mo	nths 6months ation: 18months	 14) Rough Breakdown of Preliminary Unit cost to be electrified and elevated and procurement per km: USD60mil USD60mil. X 21km = USD1,260mil. 	
15) Benefic	iarios		16) Impact to Environment (Natural/S	ocial)
All Yangon citizens, especially citizens living along the line.			Some land acquistion and resettlement depot/workshop construction and elevat almost work inside MR yard. Some noise and vibration during constru	due to new ted construction although
17) Project	Area	18) Location Map/Site Photo		
		< Location Map >	Improved image >	Accelled i way

Kyeemyindain

Source: YUTRA Project Team

No.	1) Sector	2) F	Project Title	3) Project Type		
RL-13	Railway	Yangon-Mandalay Line Impr	Yangon-Mandalay Line Improvement: Phase1 (Partial operation)			
4) Implem	enting Agend	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term		
MC	RT/MR	66 months	App. USD 144 mil.*	Short		
	und/Current					
project secti ailway impr	ion will be 267	7.2km between Yangon Central project section is including Yan	alay Line Improvement Project funded by Station and Toungoo Station. Although f gon suburban line in Yangon-Mandalay L	the project is for intercit		
ignaling & DMU and E roject is co On the othe ommuter o	scope is com telecom syste DEMU) with m onduced as a r hand, it is no peration or no	m modernization including auto aintenance facilities, and rehabi national transport condiiton imp ot clear whether the number of E	nt, bridge improvement, track Improvement matic level crossing installation, procuren ilitation of two freight terminals (Satsan ar rovement project. DEMU procured by the national transport ocure additional rolling stock (DEMU). Th	nent of rolling stocks nd Botataung). The project is enough for		
To facilitate To reduce	road traffic vo	hift from road to railway transpo blume and traffic congestions.	rt, especially CBD - Dagon Myothit directi thit and CBD area drastically, especially o			
11) Needs/F	Request from	n Myanmar side	12) Relation with Other Projects			
requested to		nprovement project has been de. Additional DEMU sted yet.	[RL-04], [RL-05], [RL-07], [RL-14], [RL-1	6], [RL-17]		
13) Implem	enting Scheo	tule	14) Rough Breakdown of Preliminary	Construction Cost		
F/S: 6month General pro Consultant e Design & Te Tender Proc	ns cedure: 6mor employment: ender Prepara cedure: 12mo	nths 6months tion: 12months	DEMU procurement: USD144mil. (=USI 12trains)			
15) Benefic	iaries		16) Impact to Environment (Natural/S	ocial)		
-		burban section users.	No land acquistion and resettlement due yard. Some noise and vibration during constru Regarding addiitonal DEMU procurement	e to all work inside MR uction.		
17) Project Yangon-Ma suburba		18) Location Map/Site Photo	Ledauogan R.S. Viwa Tar Gyi R.S.	S. 0		

Yangon Central R

Kyeemyindaing

Source: YUTRA Project Team

F		PROJE	CT SUMMARY SHEET		
No.	1) Sector		2) Project Title	3) Project Type	
RL-14	Railway	Malwagone Depot/Wor (including Track Improvem Ma			
4) Implem	enting Ager			7) Term	
МС	RT/MR	78 months	App. USD 2,684 mil.	Short	
8) Backgro	und/Curren	t Issues			
along Yango approximate This area ha	on-Mandalay ely 61ha alth as quite large	line, is located at the eastern ough it includes many apartme potential to be developed as	side of section between Puzundaung station edge of CBD and has the largest area surro ents/housings for MR staffs, stops, etc. the large transport hub and commercial/bus any private investors express their interest to	ounded by wall with iness center due to the	
9) Project (Dutline				
business off play roles as mode and p should be co < Public Tra MR lines (Y terminal, Ta < Private Ve Road conne Ride or com < Others > Pedestrian p 10) Expecte The number	fices, comme s not only co edestrians. onsidered. insport Trans angon Circu xi stand chicle Conne ection includ imercial / bu bath, Green	ercial facilities, residential apa immercial and business center In order to fulfill the function a sfer > ilar Railway, Yangon Suburban ing access rotary road to stati siness building users space iffect sers including business/comm	ted developer from the commercial viewpoint rtments, etc. are expected. However, the re- r but also transit hub because the station acc s transport hub, the following public function n Lines, Middle and Long Distance Trains), E on entrance, bus terminal, and taxi stand, et	development area will cept entering many transit s and the integration BRT station, Feeder bus c., Car parking for Park &	
having high	transport hu	b function.			
		m Myanmar side	12) Relation with Other Projects		
	express the	ar side yet, but there are high air interest due to obtaining	The redevelopment area currently has on Necessary to relocate the functions to a [RL-15]. The relocation to be conducted benefit. In addition, Result of SUDP, [RL-01], [R	ny substituted yard by d by the development	
13) Implem	enting Sche	edule	14) Rough Breakdown of Preliminary	Construction Cost	
F/S and Ter Tender Proc Design: 15n	nder Prepara cedure: 4mo nonths	tion: 5months	 a) Developed area: 61ha b) Unit cost for public infrastructure developed area: 61ha b) Unit cost for public infrastructure developed area ratio (800%) x 70% x (50%) x floor area ratio (800%) x floor cost (50%) x floor area ratio (800%) x floor cost (US\$1500/m2)=USD42mil./ha d) Construction cost: 61ha x (USD2mil./USD42mil./ha)=USD2,684mil. 	elopment: USD2mil./ha k building coverage ratio onstruction unit cost	
15) Benefic	iaries		16) Impact to Environment (Natural/S	ocial)	
		Circular Railway users, ing Station users.	In case of the redevelopment inside wal acquisiiton and resettlement is required Some traffic jam, noise and vibration du		
17) Project		18) Location Map/Site Phot	0		
	Malwagone depot/workshop area				

RL-15 F 4) Implementi MORT. 8) Background According to a s should be reloc business area. Yangon city.	ing Agency //MR d/Current Iss	New Integrated Depot and ntegration and Relocation o	roject Title I Workshop Construction Project of Current Depots and Workshops to urban Area) :Phase2	3) Project Type	
4) Implementi MORT, 8) Background According to a s should be reloc business area. Yangon city.	ing Agency //MR d/Current Iss	ntegration and Relocation o Yangon Subu	of Current Depots and Workshops to		
MORT, 8) Background According to a s should be reloc business area. Yangon city.	/MR d/Current Iss	5) Implementing Period			
8) Background According to a s should be reloc business area. Yangon city.	d/Current Iss		6) Preliminary Construction Cost	7) Term	
According to a s should be reloc business area. Yangon city.		42 months	App. USD 244 mil.	Short	
should be reloc business area. Yangon city.					
[RL-14] Malwag	ated to any s From the at	substituted yard. because the	projects, these existing functions as depo se depot/workshop areas are also redevo establish a new integrated depot and wor nt Project is the one of them.	eloped to commercial and	
9) Project Outl	line				
Therefore, it is p The whole integ redevelop each yard. 61ha of M The relocation of 10) Expected F Yard redevelop	proposed to grated new d n yards, and t Aalwagone ya cost to be bo Project Effect oment project	use the yard for the project. epot and workshop will be esta- this project will be the 2nd pha ard to be redeveloped, the req rn from the development bene		the difference of timing to gone depot and workshop	
11) Needs/Req			12) Relation with Other Projects		
No information	about their ir	nterest to Japanese side yet.	[RL-14]		
13) Implement			14) Rough Breakdown of Preliminary Construction Cost		
F/S and Tender Tender Procedu Design: 12mon Construction &	ure: 6months iths	3	a) Relocation area: 61ha b) Unit cost for depot/workshop development:USD4mil./ha c) Total=61ha x USD4mil./ha=USD244mil.		
15) Beneficiari	ies		16) Impact to Environment (Natural/S	ocial)	
MORT/MR			Some resettlement to be required although the land is owned by MR. Some traffic jam, noise and vibration during construciton. Working place of labour is moved.		
17) Project Are	ea 18)	Location Map/Site Photo			
Malwagone c workshop, and Gyi station	Ywa Tar 🛒	Malwagone R.S.	Insein Workthop: Redevelopment Redevelopment Kyeemyindaing R.S. Depet	New Integrated Depot/Workshop Wva Tar Gyi R.S. Wva Tar Gyi R.S. Accurrent depend verschedungs to be released to the flow integrand Depot/Meridians have left the flow integrand Depot/Meridians have left accurrent depend verschedunger to be released to the flow integrand Depot/Meridians have left the flow of the commend construction releaved generations	
		Source: YUTRA Project Team			

		PROJECT	SUMMARY SHEET	
No.	1) Sector	2) P	roject Title	3) Project Type
RL-16	Railway	Toe Kyaung Galay S	tation Development Project	
4) Implem	enting Agen	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term
МС	RT/MR	42 months	App. USD 220 mil.	Short
8) Backgro	und/Current	Issues	•	
vacant lots of after the mo transport ca Mandalay lin and iii) futur	currently due odernization of pacity and hi ne is a one of e land use.	to far from CBD and having few f the existing railways .because r gh travel speed, high comfortabil	g railway, which do not belong to MR. Th bus services. However, the situation will many trains for commuter are operated w ity. Especially, Toe Kyaung Galay static ion of i) distance from CBD, ii) current va	be changed drastically vith high frequency, large on along Yangon-
located at the The redevel business off play roles as mode and p should be co It is recomm 10) Expecte The number	Galay station opment plan fices, comme s not only con edestrians. I onsidered. hended to con ed Project Eff	ide of Dagon Myothit sub-center, should be prepared by selected rcial facilities, residential apartme mmercial and business center bu n order to fulfill the function as tra- nduct the project by PPP scheme ffect sers including business/commercial	a far from CBD, is transfer station to Thila and has plenty vacant land at the northe developer from the commercial viewpoin ents, etc. are expected. However, the re it also transit hub because the station acc ansport hub, the following public function in order to maximize use of private investion ial area will be increased due to high abi	ern side. t, although layout of development area will cept entering many transit is and the integration stor's fund.
	transport hul	n Myanmar side	12) Relation with Other Projects	
No request	from Myanma express the	ar side yet, but there are high ir interest due to obtaining	[RL-13], [RL-17], [RL-24]	
13) Implementing Schedule F/S and Tender Preparation: 5months Tender Procedure: 4months Design: 12months Construction & Procurement: 21months			 14) Rough Breakdown of Preliminary a) Developed area: 5ha (assumed) b) Unit cost for public infrastructure developed area: 5ha (assumed) b) Unit building cost =10,000m2 x 70% x (50%) x floor area ratio (800%) x floor c (US\$1500/m2)=USD42mil./ha d) Construction cost: 5ha x (USD2mil./ha USD42mil./ha)=USD220mil. 	elopment: USD2mil./ha x building coverage ratio onstruction unit cost
15) Benefic	iaries		16) Impact to Environment (Natural/S	ocial)
MORT/MR,	and Yangon- wa line users	Mandalay line suburban section , especially Toe Kyaung Galay	Land acquisiiton and resettlement is rec Some traffic jam, noise and vibration du	quired.
17) Project	Area	18) Location Map/Site Photo	•	
Northern s Kyaung Ga (Dagon M	ide of Toe alay staiton yothit sub- iter)	Insein R.S.		e Kyaung Galay R.S. lalwagone R.S.

		PROJECT	SUMMARY SHEET		
No.	1) Sector	2) P	roject Title	3) Project Type	
RL-17	Railway	Yangon-Mandalay Su	burban Line Electirification		
4) Implem	enting Agency	5) Implementing Period	6) Preliminary Construction Cost	7) Term	
МС)RT/MR	84 months	App. USD 425 mil.	Long	
	und/Current Is:			Ŭ	
			nprovement: Phase1", the suburban sect . Note that the line will be on at-grade ba		
9) Project (
Station and	Dabein Station)		I Station to the border of the study area (rm project. Actual project implementation allocation, etc.		
 To assure To reduce 	traffic congestion	from road to railway transport, ons due to grade separation.	especially CBD - Dagon Myothit directio	n transport.	
To improve	e the transport o	capacity and travel speed of the	e line.		
	Request from M		12) Relation with Other Projects		
MR intend to about electr		ne although no memtion	[RL-13]		
13) Implem	enting Schedu	le	14) Rough Breakdown of Preliminary Construction Cost		
F/S: 12mon			- Unit cost to be electrified including all construction and		
Consultant of Design & Tender Proc	cedure: 6month employment: 6n ender Preparatic cedure: 12month n & Procuremer	nonths on: 18months ns	procurement per km: USD15mil -USD15mil. X 28.3km = USD425mil.		
15) Benefic	iaries		16) Impact to Environment (Natural/S	ocial)	
-		ally citizens living along the	No land acquistion and resettlement due MR wall. Some noise and vibration during constru	e to almost work inside	
17) Project	Area 18) Location Map/Site Photo	ļ		
		t Improved Image > Electrified/At-grade Electrified/At-grade vith R Cource: YUTRA Project Team	Danyipgane RS 0 Insein RS 0 Kyeemyindaing RS 0 Charge of the back	X	

MC 8) Backgro	1) Sector Railway enting Agene	Yangon Circular Railwa Phase2: I	Project Title ay Improvement (Non-electrified) Eastern Half Loop	3) Project Type	
4) Implem MC 8) Backgro	enting Ageno	Phase2: I	Eastern Half Loop		
MC 8) Backgro		cy 5) Implementing Period			
8) Backgro		.,	6) Preliminary Construction Cost	7) Term	
	MORT/MR 84 months		App. USD 568 mil.	Middle	
After the co	und/Current				
remaining s	ection, which n Station – Da	is the eastern half of Yangon C	Improvement (Non-electrified) Phase1: We ircular Railway (Yangon Central Station – I ngth) should be improved as Phase2 proje	Valwagone Station –	
The project Loop" as fo	t scope is the llows.		lar Railway Improvement (Non-electrified) l mbankment/Cut Improvement, Bridge Impr		
Improveme	nt)				
 Track Imp new ballast 	•	place Rail from existing 37kg/m	rail to 50kg/m rail, Install New PC sleeper	for 50kg/m rail, Spread	
 Signaling Station an system with DEMU Pro 	& Telecom Sy d Station Fac IC card) ocurement		olatform, ticket selling system improvement	, introduction of AFC	
		and maintenance shed for New	DEMU.		
		level crossing d no electrified are applied.			
	ed Project Ef				
		olume and traffic congestions.	ort, especially the north - south direction tra	insport.	
			angon and CBD area drastically, especially	y commuting condition.	
		n Myanmar side	12) Relation with Other Projects		
minister.	imster expres	s their request to Japanese	[RL-05], [RL-19], [RL-20]		
13) Implem	enting Scheo	dule	14) Rough Breakdown of Preliminary (Construction Cost	
F/S: 10mon	ths		- Track, Civil, Signal&Telecom, Station Ir		
•	ocedure: 6mor		x 26.5km=USD398mil.		
	employment: ender Prepara	ation: 18months	-DEMU procurement: USD120mil. (=USD2mil./car x 6cars x 10trains)		
Tender Pro	cedure: 12mo	nths	-Upgrading depot/workshop: USD50mil.		
Constructio	n & Procurem	ent: 30months			
15) Benefic			16) Impact to Environment (Natural/So		
	citizens, espe	cially citizens living along the	No land acquistion and resettlement due	to all work inside MR	
line.			yard. Some noise and vibration during constru	ction.	
17) Project	Area	18) Location Map/Site Photo			
Yangon Ce - Yegu Mingalardo		Iteration Map/Site Photo	DanyipgaherR5.0 Constrained Aurgalance	Depart/Workshop m.R.S. Ywa Tar Gyl R.S. Toe Kyaung Galay R.S.	

No.	1) Sector		T SUMMARY SHEET Project Title	3) Project Type
RL-19	Railway	Railway Land Redevelop	nent Project along Yangon Circular ay Eastern-half	<i>c, i i cjoci i jpc</i>
4) Implem	enting Ager	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term
МС	DRT/MR	84 months	App. USD 1,100 mil.	Middle
B) Backgro	und/Current	Issues		
high frequer However, it suitable for	ncy. high trav is not enoug station plaza	vel speed, high comfortability an h for the people due to poor acc development project in order to	provement (Non-electrified) Phase2: Easter d high safety transit mode to the people liv tess to railway stations. The line has a plet enhance the ability to attract users. resse their interests in the development wh	ing along the line. hty vacant lots which ar
9) Project (Dutline			
play roles a mode and p should be c < Public Tra < Private Ve stand, etc., < Others >: It is recomm 10) Expecte The number having high	s not only co bedestrians. onsidered. ansport Trans ehicle Conne Car parking Pedestrian hended to co ed Project E r of railway u transport hu	mmercial and business center b In order to fulfill the function as t sfer >: MR lines, UMRT Line1 an ction >: Road connection incluc for Park & Ride or commercial / path, Green space nduct the project by PPP schem ffect sers including business/comment b function.	nents, etc. are expected. However, the rec but also transit hub because the station acc transport hub, the following public functions and Line2, BRT stations, Feeder bus termin ling access rotary road to station entrance, business building users are in order to maximize use of private invest rcial area will be increased due to high abil 12) Relation with Other Projects	ept entering many trans s and the integration al, Taxi stand bus terminal, and taxi tor's fund.
		m Myanmar side ar side yet, but there are high	[RL-18], [RL-20]	
	o express the	ir interest due to obtaining	[RL-10], [RL-20]	
13) Implem	enting Sche	dule	14) Rough Breakdown of Preliminary	Construction Cost
Consultant of Design & Tender Proc	ocedure: 6mc employment: ender Prepar cedure: 12m	8months ation: 18months	 a) Developed area: assumed as 5 place b) Unit cost for public infrastructure developed area infrastructure d	elopment: USD2mil./ha building coverage ratio onstruction unit cost
15) Beneficiaries			16) Impact to Environment (Natural/Social)	
-		Circular Railway users.	Land acquisiiton and resettlement is req Some traffic jam, noise and vibration du	uired.
17) Project	Area	18) Location Map/Site Photo	1	
Lands alor Circular	ng Yangon Railway rn Half	Danvingone RS O	New Deper Workshop C. Mingalardon R.S. P.Y.wa Tar Gyi R.S.	

Eastern Half	
	and the second sec
	Insein R.S.O
	Toe Kyaung Galay RS.
	Kyeemyindaiing RS
	to ranson entrates
	Source: YUTRA Project Team
1	

			SUMMARY SHEET		
No.	1) Sector	2) P	roject Title	3) Project Type	
RL-20	Railway	Electrification of Yango	n Circular Railway Eastern Half		
4) Implem	4) Implementing Agency 5) Implementing Period		6) Preliminary Construction Cost	7) Term	
МС	RT/MR	96 months	App. USD 398 mil.	Long	
8) Backgro	und/Current	Issues	•		
section of Y		ar Railway should be electrified a	Project for Yangon Circular Railway West at-grade basis in order to deal with the ind		
9) Project C)utline				
The project Mingalardor	section, whic Station – D	anyingone Station with 26.5km le	Circular Railway (Yangon Central Station ength), is to be electrified as long-term pr ibility of stable power supply, budget allo	oject. Actual project	
 To assure To reduce 	traffic conge		especially the north - south direction tra e line.	nsport.	
11) Needs/F	Request from	n Myanmar side	12) Relation with Other Projects		
	o improve the	line although no memtion	[RL-18], [RL-19]		
13) Implem	enting Sche	dule	14) Rough Breakdown of Preliminary Construction Cost		
F/S: 12mon	ths		- Unit cost to be electrified including all construction and		
General pro	cedure: 6mo	nths	procurement per km: USD15mil		
Design & Te Tender Proc	edure: 12mc	ation: 18months	-USD15mil. X 26.5km = USD398mil.		
15) Benefic	iaries		16) Impact to Environment (Natural/S	ocial)	
,		ecially citizens living along the	No land acquistion and resettlement due to almost work inside MR wall. Some noise and vibration during construction.		
17) Project	Area	18) Location Map/Site Photo	Danvipgone R.S.O Insein R.S.O Kyeemyindaing Riso	Toe Kyaung Galay RS.	

1) Sector Railway	•	Project Title	3) Project Type
Railway			, , ,
Tranway		e Improvement and Double-tracking one R.S and Hmawbi R.S)	
enting Agency	5) Implementing Period	6) Preliminary Construction Cost	7) Term
ORT/MR	84 months	App. USD 500 mil.	Middle
the actual loca	ation, and therefore the line she		
e line has 20.1k Hlawga Station ked in order to i cope is as follow ture Improveme	n to the border of the study are ncrease train operation capaci vs.	ea near Hmawbi station) is single track. T ty in addition to improvement of the exist	he section should be ing track.
) & Telecom Syst d Station Facilit IC card) ocurement t and workshop	em Modernization y Improvement (High height pl for new DEMU		
ed Project Effe	ct		
road traffic volue the transport	ume and traffic congestions.	n ourshirt of Yangon and CBD area drasti	
		12) Relation with Other Projects	
		[RL-05], [RL-22], [RL-23]	
enting Schedu	le	14) Rough Breakdown of Preliminary	Construction Cost
ths icedure: 6month employment: 8r ender Preparati cedure: 12mont	ns nonths on: 18months hs	 a) Track, Civil, Signal&Telecom, Station Double Track Section: USD15mil. x 10.5 b) Track, Civil, Signal&Telecom, Station Single Track Section: USD8mil. x 9.6km c) Track Doubling for Current Single Tra 9.6km=USD96mil. d) DEMU procurement: USD120mil. (=L 10trains) e) Upgrading depot/workshop: USD50m 	Improvement for Current 5km=USD157.5mil. Improvement for Current a=USD76.5mil. ack Section: USD10mil. x ISD2mil./car x 6cars x
iaries		16) Impact to Environment (Natural/S	ocial)
	ally citizens living along the	Some land acquistion and resettlement double tracking. Some noise and vibration during constru	may be required for
Area 19) Location Man/Site Photo	l	
ay suburban ingone-the the Study r Hmawbi ion)	Journet Constant Connect Constant Constant Connect Constant Connect Constant Connect Constant	iner	Dapan R. d dadgan R. d Drives Tar On R.S Rang Galay AS
	und/Current Is ay suburban line ay suburban line in the actual locational speed important speed important in the actual speed important speed in order to incope is as follow ture Improvement (Replay in the speed in order to incope is as follow ture Improvement (Replay in the speed in order transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of automatic left and workshop in on the transport of the transport of the transport of the transpo	und/Current Issues ay suburban line can be recognized as "the exemption of the actual location, and therefore the line shonal speed improvement. Dutline e line has 20.1km from Danyingone station to the border of the study are keed in order to increase train operation capacitope is as follows. ture Improvement (Drainage Improvement, Ernt) rovement (Replace Rail from existing 37kg/m) & Telecom System Modernization d Station Facility Improvement (High height plic C ard) pourement t and workshop for new DEMU n of automatic level crossing ad Project Effect se the modal shift from road to railway transporroad traffic volume and traffic congestions. e the transport condition between the northerr condition. Request from Myanmar side from Myanmar side yet, but actual need is expansion of the city. enting Schedule ths tecdure: 6months employment: 8months ender Preparation: 18months ender Preparation: 18months	und/Current Issues ay suburban line can be recognized as "the extension line of the western half of Yangon the actual location, and therefore the line should be improved in order to fulfill transpond speed improvement. Duttine e line has 20.1km from Danyingone station to the border of the Study area near Hmawb istation) is single track. To even the criterase train operation capacity in addition to improvement of the exist cope is as follows. ture Improvement (Drainage Improvement, Embankment/Cut Improvement, Bridge Improvement (Replace Rail from existing 37kg/m rail to 50kg/m rail, Install New PC sleepe 1. C card) a Telecom System Modernization d Station Facility Improvement (High height platform, ticket selling system improvement 1 cand workshop for new DEMU or d automatic level crossing ad Project Effect te the transport condition between the northern ourshirt of Yangon and CBD area drastic condition. Request from Myanmar side (st.), tild clual need is expansion of the city. enting Schedule 12) Relation with Other Projects from Myanmar side yet, but actual need is expansion of the city. a) Track, Civil, Signal&Telecom, Station Double Track Section: USD15mil. x 10. b) Track Civil, Signal&Telecom, Station Double Track Section: USD15mil. x 9.6km Single Track Section: USD15mil. x 9.6km Single Track Section: USD15mil. x 9.6km Single Track Section: USD120mil. (=L 10) trains) e) Upgrading depot/workshop: USD50m Single Track Section: USD120mil. x 9.6km Single Track Section: USD120mil. x 9.6km Single Track Section: USD120mil. x 9.6km Single tracksing. Some noise and vibration during construs

No.	1) Sector	2) P	2) Project Title		
RL-22	Railway	Hlawga Sta			
4) Implem	4) Implementing Agency 5) Implementing Period 6) Preliminary Construction Cost			7) Term	
MORT/MR		42 months	App. USD 220 mil.	Middle	

8) Background/Current Issues

There are many potential lands for TOD along the existing railway, which do not belong to MR. These lands have many vacant lots currently due to far from CBD and having few bus services. However, the situation will be changed drastically after the modernization of the existing railways .because many trains for commuter are operated with high frequency, large transport capacity and high travel speed, high comfortability. Especially,Hlawga station along Yangon-Pyay line is a one of the target stations in consideration of i) distance from CBD, ii) current vacant lots around station, and iii) future land use.

9) Project Outline

Hlawga station is located near new town core and new industrial zone planned in SUDP and has plenty vacant land, although the distance from/to CBD is approximately 30km.

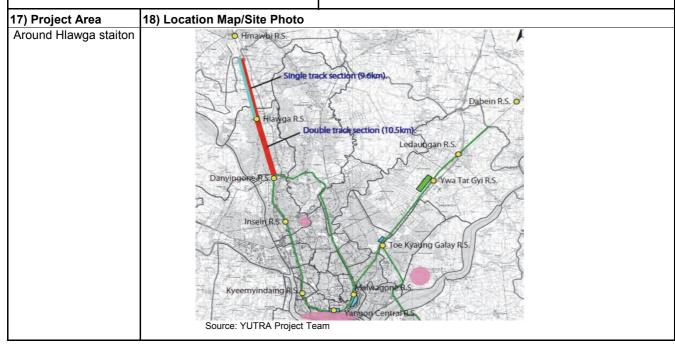
The redevelopment plan should be prepared by selected developer from the commercial viewpoint, although layout of business offices, commercial facilities, residential apartments, etc. are expected. However, the redevelopment area will play roles as not only commercial and business center but also transit hub because the station accept entering many transit mode and pedestrians. In order to fulfill the function as transport hub, the following public functions and the integration should be considered.

It is recommended to conduct the project by PPP scheme in order to maximize use of private investor's fund.

10) Expected Project Effect

The number of railway users including business/commercial area will be increased due to high ability to attract users and having high transport hub function.

11) Needs/Request from Myanmar side	12) Relation with Other Projects
No request from Myanmar side yet, but there are high possibility to express their interest due to obtaining development benefit.	[RL-21], [RL-23]
13) Implementing Schedule	14) Rough Breakdown of Preliminary Construction Cost
F/S and Tender Preparation: 5months Tender Procedure: 4months Design: 12months Construction & Procurement: 21months	 a) Developed area: 5ha (assumed) b) Unit cost for public infrastructure development: USD2mil./ha c) Unit building cost =10,000m2 x 70% x building coverage ratio (50%) x floor area ratio (800%) x floor construction unit cost (US\$1500/m2)=USD42mil./ha d) Construction cost: 5ha x (USD2mil./ha + USD42mil./ha)=USD220mil.
15) Beneficiaries	16) Impact to Environment (Natural/Social)
MORT/MR, and Yangon-Pyay line suburban section users, especially Hlawga Station users.	Land acquisiiton and resettlement is required. Some traffic jam, noise and vibration during construction.



		PROJECT	SUMMARY SHEET	
No.	1) Sector	2) F	Project Title	3) Project Type
RL-23	Railway	Yangon-Pyay Sub	urban Line Electirification	
4) Implem	enting Ager	ncy 5) Implementing Period	6) Preliminary Construction Cost	7) Term
MORT/MR 84 months			App. USD 302 mil.	Long
	und/Current			
should be e			Line Improvement and Double-Tracking" demand for commuter. Note that the line	
Hmawbi Sta	section, which ation), is to be		tation to the border of the study area (be Actual project implementation schedule etc.	
10) Expecte	ed Project E	ffect		
 To assure To reduce To improve 	the modal sl road traffic v	hift from road to railway transport volume and traffic congestions m ort capacity and travel speed betw	t, especially the north - south direction tra ore. ween the northern ourshirt of Yangon and	
11) Needs/I	Request fro	m Myanmar side	12) Relation with Other Projects	
No request	-	ar side yet, but actual need is	[RL-21], [RL-22]	
13) Implem	enting Sche		14) Rough Breakdown of Preliminary	/ Construction Cost
F/S: 12mon			- Unit cost to be electrified including all	
	ocedure: 6mc		procurement per km: USD15mil	
	employment:		-USD15mil. X 20.1km = USD302mil.	
		ration: 18months		
	cedure: 12m	onths nent: 30months		
Construction		nent. Somontins		
15) Popofic			16) Impact to Environment (Natural/	
15) Benefic		acially aitizona living along the	16) Impact to Environment (Natural/S No land acquistion and resettlement du	
line.	cilizens, esp	ecially citizens living along the	MR wall.	le to almost work inside
iiiie.			Some noise and vibration during const	ruction.
17) Project	Aroa	18) Location Map/Site Photo	.	
	m from			
	e Station to	< Improved Image >	O Hmawbi R.S.	THE STATE
	of the study			515-6-
	een Hlawga		A A A A A A A A A A A A A A A A A A A	124
Station an	nd Hmawbi			· · / } ~~~
	n Yangon-			A Carter and Carter
Pyay	y line			· · · · · · · · · · · · · · · · · · ·
			Hlawga R.	20.100
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				12
		Electrified/At-grade	Danyipgone R.S.O	N Je
		and a first state of the	SX E	Ka -
		Electrified/At-grade with RO		a la la
		and shares and	Insein R.S.O	TEX
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			T- Marca -	11144
			Kyeemyindaing RS	MarWagoz
		Source: YUTRA Project Team		Yangon Cen

Source: YUTRA Project Team

		PROJECT	SUMMARY SHEET	
No.	1) Sector	2) P	Project Title	3) Project Type
RL-24	Railway		ovement and Double-tracking (for ter and Freight)	
4) Implem	enting Agen	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term
МС	ORT/MR	84 months	App. USD 766 mil.	Middle
8) Backgro	und/Current	Issues		
Thilawa are	a as a main l	port, huge SEZ, and a one of sub	nmuter and freight transport due to the fur- center in Yangon. However, the current lack of maintenance, old-fashioned safe	access railway line to
Regarding t approximate pass due to	and double-t he double-tra ely 2km. The the small co	acking, it will be a one of main iss re is a problem in the existing Th	6.2km from Toe Kyaung Galay station to ues that how to across Bago river due to anlyin bridge across Bago river that any Therefore, all freight container train sho enger train.	the long length with container train cannot
	ed Project E			
freight trans To reduce 	port betweer road traffic v	n Thilawa and Mandalay, etc. Folume and traffic congestions.	rt, both passenger transport between Yar I Thilawa drastically, especially commutir	-
		n Myanmar side	12) Relation with Other Projects	
	se it is the on	ar side yet, but actual need is e of keys to succeed in Thilawa	[RL-13], [RL-25], [RL-26], the other Thila	awa related projects.
13) Implem	enting Sche	dule	14) Rough Breakdown of Preliminary	Construction Cost
Consultant of Design & Te Tender Proc	cedure: 6mo employment: ender Prepar cedure: 12mo	6months ation: 18months	 a) Track, Civil, Signal&Telecom, Station Single Track Section: USD8mil. x 26.2k b) Track Doubling for Current Single Tr 26.2km=USD262mil. c) New bridge across Bago river: assum d) DEMU procurement: USD144mil. (=L 12trains) e) New depot/workshop: USD50mil. 	m=USD210mil. ack Section: USD10mil. x ned as USD100mil.
15) Benefic	iaries		16) Impact to Environment (Natural/S	ocial)
,	citizens, espe	ecially citizens living along the	Some land acquistion and resettlement double tracking. Some noise and vibration during constru	may be required for
17) Project	Area	18) Location Map/Site Photo	•	
Thilawa a with 26.2kr Kyaung Gal	ccess line n from Toe ay station to station.	[Convent Condition]	Revenant IL purchet Danvipgene R.S.O Insen R.S.O Kyeemyindaing Right Kyeemyindaing Right	Toe Kyaung Galay RS. Toe Kyaung Galay RS. Merwagone RS. anson Centration (26.2km).

		PROJECT	SUMMARY SHEET						
No.	1) Sector	2) Project Title 3) Project							
RL-25	Railway	Thilawa New Container Rai	ilway Station Development Project						
4) Impleme	enting Ager	ncy 5) Implementing Period	6) Preliminary Construction Cost	7) Term					
MO	RT/MR	84 months	App. USD 40 mil.	Middle					
8) Backgrou									
Container vo potential der Access Line	olume treate mand to use Improveme	d in Thilawa will be increased due Thilawa access line as freight lin nt and Double-tracking (for Comr	e to the development of port and SEZ, etc e. Thilawa access line will be improved nuter and Freight), therefore, a new freig ompany to railway and induce modal shif	by [RL-24]: Thilawa ht container station in					
9) Project C	Outline								
		tainer terminal with railway staito	n at appropriate area along Thilawa line.						
such as Mar	e the modal ndalay, etc.		oad to railway transport between Thilawa	and remote inland cities					
11) Needs/F	Request fro	m Myanmar side	12) Relation with Other Projects						
No request f	rom Myanm e it is the or	ar side yet, but actual need is le of keys to succeed in Thilawa	[RL-24]						
13) Impleme	enting Sche	edule	14) Rough Breakdown of Preliminary Construction Cost						
Tender Proc	cedure: 6mc employment ender Prepar edure: 12m	e 6months ration: 18months	a) Station area: assumed as 40ha b) Unit cost per ha : assumed as USD1mil./ha c) Total=10ha x USD1mil./40ha=USD40mil.						
45) Bonofia			16) Impact to Environment (Natural/S						
15) Benefic MR/MORT, I		panies.	16) Impact to Environment (Natural/Social) Some land acquistion and resettlement may be required. Some noise and vibration during construction.						
17) Project	Area	18) Location Map/Site Photo	1						
Near Thila along Thil	wa station	< Improved Image >	Darvirgene #550 Insem #550 Kyeemyindaing #5	Construction of the second sec					

		PROJECT	SUMMARY SHEET				
No. 1)	No. 1) Sector 2) Project Title						
RL-26 R	Railway	Thilawa Acces					
4) Implementi	ing Agency	5) Implementing Period	6) Preliminary Construction Cost	7) Term			
MORT	MORT/MR 84 months App. USD 393 mil.						
8) Background	d/Current Is	sues					
			rovement and Double-tracking", the secti Note that the line will be on at-grade bas				
9) Project Outli							
			ation to Thilawa Station, is to be electrifie ed by the possibility of stable power supp				
10) Expected P	Project Effe	ect					
			especially commuter from/to Thilawa.				
		ume and traffic congestions mo	ore. /een Yangon and Thilawa, especially co	mmuting condition			
		capacity and traver speed betw	een rangon and milawa, especially co				
11) Needs/Req	west from	Mvanmar side	12) Relation with Other Projects				
		side yet, but actual need is	[RL-17], [RL-24]				
high due to exp	ansion of th	ne city.					
13) Implementi	ina Schedu	ıle	14) Rough Breakdown of Preliminary	Construction Cost			
F/S: 12months	U		- Unit cost to be electrified including all				
General proced			procurement per km: USD15mil				
Consultant emp			-USD15mil. X 26.2km = USD393mil.				
Design & Tende Tender Procedu							
Construction &							
15) Beneficiari			16) Impact to Environment (Natural/S	-			
•	ens, especi	ally citizens living along the	No land acquistion and resettlement due to almost work inside MR wall.				
line.			Some noise and vibration during constru	uction.			
17) Project Are	22 19	3) Location Map/Site Photo					
Thilawa acces		<pre>> Improved Image ></pre>					
with 26.2km fro	om Toe	improved image >		N			
Kyaung Galay s			DanyipgoneRSO	Ywa Tar Gyi R.S.			
Thilawa sta	ition.		TATE R	T TT T			
			The News	1-2-7			
			Insein R.S.O	1 - TC-			
		· · ·	The they want has	Toe Kyaung Galay R.S.			
		Electrified/At-grade	Kveenvindaing ad	SOP			
			Kyeemyindaing RIS6				
			hor Vangon C	entral R.S.			
	5			(26.2km).			
		Electrified/At-grade with ROB		1 - Car			
		A STATISTICS OF THE STATISTICS OF THE	A JAKTAL	ENT-S			
				H			
				Thilawa R.S C			
			1 - 16 - PATE				
		Source: YUTRA Project Team					
		-					

	PROJECT SUMMARY SHEET							
No.	1) Sector		3) Project Type					
RL-27	Railway			onstruction Project South Line)				
4) Imple	ementing Ag	ency	5) Implementing Period	6) Preliminary Construction Cost	7) Term			
YUTA (to b	e establishe	d newly)	126 months	App. USD 2,253 mil.	Middle			
8) Background/Current Issues Judging from the future population increase with increasing the number of trip, it is essential to install Urban Mass Rapid Transit (UMRT) with high speed, high frequency, and high transport capacity, in addition to the existing railway moderniz								
9) Project C								
CBD with Ya Sule Pagoda In order to s section due intersection Yangon Inter	angon Interna a Rd., Kaba save construc to no room f of Strand Ro ernational Air	ational Air Aye Rd., ` ction cost, or elevate I. and Sul port are p	Port with 21.8km length v Yangon Airport Rd., and N underground section is n ed viaduct construction. T e Pagoda Rd. to the east laned as underground se	which have many traffic volume for commina ia Yangon Central Station and MIndama NH No.3. Ininimized. However, 10.5km length beca iwo sections that i) 7.5km from the starting side of Inya lake, and ii) 3.0km along the ction. The other sections are planed as in the current plenty vacant lot.	n sub-center area, along comes underground ng point which is the e southeast side of			
- Improve pa - Another al	ternative rout	nsport cap te for nort	pacity and travel speed of h-south direciton is provd , especially Mindama sub					
11) Noode/E	Poquest from	n Myanm	ar sido	12) Relation with Other Projects				
	Request from			[RL-07], [RL-28], [RL-29]				
	asing trip of			[[][]]]				
13) Implem	enting Sche	dule		14) Rough Breakdown of Preliminary	Construction Cost			
F/S: 12mon General pro Consultant e Design & Te Tender Proc		nths 6months ation: 18r onths	nonths	 a) Unit cost for Underground Section (including all construction and procurement): USD150mil./km b) Unit cost for Elevated Section (including all construction and procurement): USD60mil./km c) 10.5km x USD150mil./km + 11.3km x USD60mil./km = USD2,253mil. 				
45) Donofia	larlaa							
15) Benefic All Yangon (ecially pu	blic transport users.	 16) Impact to Environment (Natural/Social) Large impact to both natural and social environment is expected due to heavy traffic jam, noise and vibration during constructon, and large scale land acquisition and resettlement. 				
Yangon In Airport wir Iength via Central S MIndama area, ald Pagoda Rd Rd., Yang	Area e north of ternational th 21.8km a Yangon tation and sub-center ong Sule ., Kaba Aye gon Airport NH No.3.	< Improv	tion Map/Site Photo yed Image > ground station platform Control of the station platform Control					

			PROJECT	SUMMARY SHEET				
No.	1) Sector		2) Pr	oject Title	3) Project Type			
RL-28	Railway	Extension Project h Line Extension)						
4) Impl	ementing A	gency	5) Implementing Period	6) Preliminary Construction Cost	7) Term			
YUTA (to	be establishe	ed newly)	102 months	App. USD 693 mil.	Long			
,	und/Current				g			
	IRT) with high			the number of trip, it is essential to insta ransport capacity, in addition to the exis				
In order to s due to acro	is to extend save construe ss Hlaing rive	ction cost, er and no r		Dala with 6km length. ninimized. However, 3.7km length beco t construction around the river side of Da				
	ed Project E		n be provided from/to Da					
• •			especially Dala is accer					
11) Needs/	Request from	m Myanma	ar side	12) Relation with Other Projects				
	from Myanm easing trip of	2	, but actual need is high	h [RL-27]				
13) Implementing Schedule F/S: 12monthsGeneral procedure: 6monthsConsultant employment: 6monthsDesign & Tender Preparation: 18monthsTender Procedure: 12monthsConstruction & Procurement: 48months				 14) Rough Breakdown of Preliminary Construction Cost a) Unit cost for Underground Section (including all construction and procurement): USD150mil./km b) Unit cost for Elevated Section (including all construction and procurement): USD60mil./km c) 3.7km x USD150mil./km + 2.3km x USD60mil./km = USD693mil. 				
15) Benefic	ciaries			16) Impact to Environment (Natural/Social)				
		ecially peo	ople living Dala.	Large impact to both natural and social due to heavy traffic jam, noise and vibra and large scale land acquisition and res	environment is expected tion during constructon,			
17) Project	Aroa	18) 0021	ion Map/Site Photo					
CBD - Dala	a 6.0 21.8km Igth.	< Improv	ed Image >	Kyeemyindaing RS Vangor Central RS UMRT 1 Extension OSDRM) Association	Underground 3,7km Elevated 2.3km			

PROJECT SUMMARY SHEET								
No. 1) Sector 2) Project Title 3) Project Type								
	Deiluses		UMRT Line2 C	onstruction Project				
RL-29	Railway			West Line)				
4) Imple	ementing Ag	jency	5) Implementing Period	6) Preliminary Construction Cost	7) Term			
YUTA (to b	e establishe	d newly)	126 months	App. USD 2,730 mil.	Long			
8) Backgro								
				the number of trip, it is essential to insta ransport capacity, in addition to the exist				
SUDP, nam In order to s section due beside Hlain Yarzaa Dirit planed as u the current 10) Expect - All sub-cel - Improve p	2 is installed led Hlaing Th save construc- to no room f ng Tharya. S Rd. to the e nderground. plenty vacan ed Project E nters are cor assenger tra	narya, Mir ction cost for elevate ub-center nd point b The dep t lot. iffect nected by nsport ca	adama, and Dagon Myothi , underground section is n ed viaduct construction. T to the west bank side of <i>A</i> beside Toe Kyaung Galay ot and workshop is planne y railway	gth. The route is planned to connect sub t. ninimized. However, 13.0km length beco wo sections that i) 6.2km from the startin Aung Zay Ya bridge, and ii) 6.8km from r station are planed as elevated section. ed to locate at the beside Hlaing Tharya East-West axis of the city.	omes underground ng point which is located near the west end of The other sections are			
	aopinent aloi							
	Request fro			12) Relation with Other Projects				
	asing trip of	•	et, but actual need is high	[RL-27]				
13) Implem	enting Sche	dule		14) Rough Breakdown of Preliminary	Construction Cost			
F/S: 12mon	-			a) Unit cost for Underground Section (in				
	cedure: 6mc			and procurement): USD150mil./km				
	employment			b) Unit cost for Elevated Section (including all construction and				
	ender Prepar cedure: 12m		nonths	procurement): USD60mil./km c) 13km x USD150mil./km + 13km x USD60mil./km =				
	n & Procurer		onths	USD2,730mil.	Doomin./km =			
15) Benefic	iarios			16) Impact to Environment (Natural/S	ocial)			
,		ecially pu	blic transport users.	Large impact to both natural and social	•			
All rangon				due to heavy traffic jam, noise and vibra and large scale land acquisition and res	tion during constructon,			
17) Project	Area	18) Loca	tion Map/Site Photo					
	ub-centers,	< Improv	ved Image >					
Mindama,	Tharya, and Dagon othit.		or and station platform		igalpdon R.S. To Vasturns Eliquated of Bris Citative-gone BS Detalogole Central R.S.			
		16 7		1				

	PROJECT SUMMARY SHEET								
No.	1) Sector	2) P	Project Title	3) Project Type					
TMS-01	Traffic Management and Safety	Yangon CBD Traffic C	Yangon CBD Traffic Congestion Mitigation Project						
4) Impler	nenting Agen	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term					
	YCDC	36 months	App. JPY 500 mil.	Urgent					
8) Backgro	ound/Current	Issues	•						
and becom parking, sti the traffic c	ne social proble reet vendors, i congestions, it	em in Yangon. Cause of the cong nsufficient traffic signals and reck	d traffic situation in CBD since vehicle im jestion is not only increased number of ve cless operation behavior of buses. Therei chensive measures including physical im	ehicles, but also on-street fore in order to mitigate					
9) Project									
- Remove o -Parking F - Remove s -Provision	ee charging sy street vendors of bus-bays a	ng from the congested road secti /stem (including parking meter) from foot path and develop a Hav	ons, provide sufficient number of lots to l wker Centre, and improve pedestrian env measures)						
10) Expect	ted Project Ef	fect							
the project environme		to mitigate traffic congestions in	CBD so as to enhance economic activitie	es and to improve urban					
		n Myanmar side al issues in national level	12) Relation with Other ProjectsTMS-2 and TMS-3Proposed Traffic Planning and Management Unit will responsible to manage this project.						
	nenting Sche	dule	14) Rough Breakdown of Preliminary						
Preparation c) Tenderir d) Construe	esign, Detail D n ng: ction, Procurer	Apr.2014 to June 2014 esign, Tender Document July 2014 to Nov. 2014 Dec. 2014 ment, Installation: Jan. 2015 to Dec. 2015 ect: Dec. 2015	 a) Remove on-street parking and street vendors and resurfacing: JPY 150 mil b) Upgrading traffic signal system (20 location) including intersection geometric improvement JPY 200 mil c) installation of bus and taxi bays and signs JPY 50 mil d) Propaganda activities JPY 50 mil e) Engineering Cost JPY 50 mil f) Total project cost JPY 500 mil 						
15) Benefi	ciarios		16) Impact to Environment (Natural/S	ocial)					
		cially living and working in CBD)							
17) Projec	t Area	18) Location Map/Site Photo							
Yang	on CBD	 < Current Situation A> < Location < Current Situation < Source: YUTRA Project Team < Current Situation B> Source: YUTRA Project Team 	Lagend Lagend	ested Road Section geston Due to the Roadside drag					

		PROJECT	SUMMARY SHEET						
No.	1) Sector	3) Project Type							
TMS-02	Traffic Managemen t and Safety	Yangon Main Roads Traff	Yangon Main Roads Traffic Congestion Mitigation Project						
4) Implem	enting Agend	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term					
Yangon	Region/YCDC	App. USD 17 mil.	Short						
8) Backgro	und/Current I	ssues							
congestions of experimental tremendously congested int occurred at a measures. ar time so that th	can be seen but project on 8-ma r improved. In ac resections. how djacent bottlene d also this proje he organization	mainly insufficient signal operation. Ir il intersection sponsored by JICA. Aft Idition intersection grade separation p ever, impact of the independent proje cks. Therefore, this project is aiming	ctions outside of CBD are seriously congested mpact of upgrading signal system is demonstr er replacing with the advanced signal system, projects are implemented by Myanmar govern ct at specific location will be limited, because to tackle the congestion problems with areal a pr the responsible organization to monitor the t untermeasures timely.	ated in the social the congestion is nent at the three most another congestion will be nd comprehensive					
- improvemer - installation of - provision of - developmen 10) Expecte the project v	and upgrading tr nt of intersection of Traffic monito pedestrian bridg it of bus intercha ed Project Eff will contribute 1	ges anges and improvement of bus stops, ect to mitigate traffic congestions and	etc. I provide to smooth and safe traffic flows,	, reducing economic					
		eterioration in the congested urba							
		Myanmar side I issues in national level	12) Relation with Other Projects						
 b) Basic De Preparation c) Tendering d) Construct 	sign, Detail De Jun g: Dec tion, Procurem	 2014 to May 2015 esign, Tender Document e.2015 to Nov. 2015 2015 nent, Installation: 2016 to Dec. 2016 ect: Dec. 2016 	a) installation and upgrading traffic signal control system an geometrics, installation of Road signs and pavement marking 34 locations x USD 0.05 mil/location = USD 1.7 mil. b) installation of Traffic monitoring system: 21 locations x USD 0.05 mil/location = USD 1.05 mil. c) provision of pedestrian bridges and safety facilities 6 locations x USD 0.5 mil/location = USD 3.0 mil. d) development of bus interchanges and improvement of bus 2 locations x USD 2.0 mil/location = USD 4.0 mil e) improvement of drainage system: 6 locations X USD 2.5 mil/location = USD 3.0 mil g) other construction cost USD 2.25 mil h) Engineering cost: USD 2.0 mil i) total project cost: USD 17.0 mil	g:					
15) Benefic	iaries		16) Impact to Environment (Natural/So	ocial)					
All Yangon	Citizen		no advance impact						
17) Project Yangoi	Area n Region	18) Location Map/Site Photo < Current Situation> Source: YUTRA Project Team < Image of bus interchange> Source: YUTRA Project Team < Image of bus interchange> Source: YUTRA Project Team < Image of bus interchange>	Maximum green	ector) al controller ection signal Vehicle Detector					

		PROJECT	SUMMARY SHEET					
No.	1) Sector	2) P	2) Project Title					
TMS-03	Traffic Managemen t and Safety	Capacity Development on	Traffic Planning and Management					
4) Implen	nenting Agen	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term				
	App. JPY 300 mil.	Urgent						
	ound/Current							
traffic deman economic los common targ society. How 'Traffic Plann This human r	id, nowadays rol sses induced by get in major cities ever, there is no ning and Manage resource develop	e of the traffic management is increas the traditional automobile oriented de s in the world. Traffic demand manage specialized organization responsible ement Unit' under Engineering Depart	policies to enhance the efficiency of road net sed to meet the requirement from global clima velopment. Then to build public oriented urba ement is indispensable component to build pu for the traffic management in Yangon. This pu ment YCDC and enhance their knowledge and o corroboration with the proposed traffic mitiga utually facilitating each other.	te changes as well as n development become a iblic transport oriented roject is aiming to establish d implementation capabilities.				
9) Project (Outline							
 implementa developmer training in J seminar and 10) Expect through the	ation of pilot proj nt of rules and re lapan and third of d workshop ed Project Eff human resour	egulation related to the traffic demand countries fect rce development project, YCDC w	vill improve capability to implement appro	ppriate traffic management				
measures for	or the environr	mentally friendly urban transport s	system.					
11) Needs/	Request from	Myanmar side	12) Relation with Other Projects					
From Engin	eering Depart	ment, YCDC	TMS-1, -2, -4, -5, -6					
13) Implem	nenting Sched	lule	14) Rough Breakdown of Preliminary	Project Cost				
Project peri August 2	iod 014 to July 20	17	Total project cost JPY 300 mil					
15) Benefic			16) Impact to Environment (Natural/S	ocial)				
		Yangon Citizen through ective traffic management	none					
17) Project	Area	18) Location Map/Site Photo						
17) Project	t Area	18) Location Map/Site Photo < Training Through Pilot Projec Source: YUTRA Project Team < Lecture for Counter Part>	t> S Photo of Workshop> S Photo of Workshop> S Force of Workshop> S Source of Workshop> Source of Workshop> Source of Workshop>					

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		PROJECT	SUMMARY SHEET	
No.	1) Sector	3) Project Type		
TMS-04	Traffic Managemen t and Safety	Yangon Parking Devel	opment Project (Master Plan)	
4) Implen	nenting Ageno	cy 5) Implementing Period	6) Preliminary Construction Cost	7) Term
Yangon	Region/YCDC	8 months	App. USD 1.50 mil.	Urgent/Short/Middle/Long
	und/Current I		ountermeasures to reduce on-street parking	vrahlama aquaing traffia
congestions. are numerous to charge par	The countermeans issues on the provident of the provident	asures will be mainly removal or reloc parking, such as development of publ vill responsible for maintenance of the	ation of existing on-street parking lots, will be ic parking separated from roadway, how is the e parking and so forth. Moreover, what kind of s urban development polices including TOD.	not radical solution. There e regulation for garage, how parking policies will be
9) Project (Outline			
		and estimation of parking demand egulations as well as technical guidel	inco	
- Public parki	ing development	plans		
		g operation, enforcement for illegal p uation, and funding	arking	
	ed Project Eff			ffeetively, exheapy, endy
		evelopment plan will contribute to environment in the CBD and othe	o implement necessary parking project e r commercial/business areas.	rrectively, subsequently
11) Needs/	Request from	Myanmar side	12) Relation with Other Projects	
13) Implem	enting Sched	ule	14) Rough Breakdown of Preliminary	Project Cost
Project peri August 2	od 014 to March 2	2015	Total project cost JPY 150 mil	
15) Benefic			16) Impact to Environment (Natural/S	ocial)
All Yangon	Citizen			
17) Project	Area	18) Location Map/Site Photo	I	
	n Region	< Location Map> Source: YUTRA Project Team	Proposed Parking Control Anto Tatic Praving to Visitors Tatic Praving to Visitors Tatic Praving to Visitors	Parente de la construcción de la
		Source: YUTRA Project Team	$\begin{array}{ c c } \leftarrow < \text{Current Situation} > \\ < \text{Image of enforcement} > \end{array} \rightarrow \overbrace{\text{Source: Methods}}^{\text{Source: Methods}} \end{array}$	etropolitan Police Department

PROJECT SUMMARY SHEET							
No.	1) Sector	2) F	Project Title	3) Project Type			
TMS-05	Traffic Manageme nt and	Yangon Parking Develo	opment Project (Construction)				
4) Implem	enting Agency	/ 5) Implementing Period	6) Preliminary Construction Cost	7) Term			
	YCDC	65 months	App. USD 130 mil.	Short/Middle			
8) Backgro	ound/Current Is	sues					
major transit parking locat including exa	terminals will be ed in the CBD ar	planed and constructed in the resp ea. Due to the limited land availabi vailability of underground spaces.	ster Plan. The proposed P&R parking facilities bective public transit project. Then this project to lity in the CBD, the location of the parking shal In the first stage of the project, feasibility study	will focus on the public I be carefully selected			
9) Project (Outline						
- to carry out - to prepare o	Feasibility Study	tender document	cluding environmental assessment				
10) Expect	ed Project Effe	ect					
		emoved and traffic congestions nt or pedestrian space.	s will be mitigated. Moreover the spaces o	can be used for urban			
11) Needs/	Request from	Myanmar side	12) Relation with Other Projects				
On-street p	arking is a maii	a cause of the congestion in -street parking is high.					
13) Implem	enting Sched	ule	14) Rough Breakdown of Preliminary	Project Cost			
b) Basic De Preparation c) Tenderin d) Construc	esign, Detail De Oct. 20 g: Oct. 20 stion, Procurem	ent, Installation: 018 to Dec. 2020	 a) Feasibility Study: b) Detail Design and tender document: c) Construction: Under ground 50,000m2 x 0.0 on the ground 50,000m2 x 0.0 mil d) Total Project Cost USD 130 mil 	002 mil/m2 = USD 100 mil			
15) Benefic	ciaries		16) Impact to Environment (Natural/So	ocial)			
17) Project	Area 1	8) Location Map/Site Photo	The second secon	1 m 1581			
		< Location Map> Source: YUTRA Project Team	Popuse Parking Control And Parking to Nations Parking to Nations	Pazudaung			
			$\leftarrow < \text{Current Situation} > \\ < \text{Image of Public Parking} > \rightarrow$	Insport Policy Advisory Services			

No.	1) Sector			2) P	roject	Title						3) Project Type		
TMS-06	Traffic Managemen t and Safety		Yangon Tra											
4) Implementing Agency 5) Implementing Period 6) Preliminary Construction Cost											t	7) Term		
Yangon	Region/YCD0	2	72 months/24months	(TA)		App. U	SD 20	mil./2	mil (T	A)			Sho	rt
) Backgro	und/Current	Issu	es								•			
vheels vehicl Illowed, man organizationa activities. Thi	les are allowed, by accidents cau al setup for the o s five-year prog	accio uses o compi jram i	has been increased acco dents involving the two wh of reckless driving of buses rehensive traffic safety inte s aiming (1) to develop ins o implement a series of tr	eels ar s and j erventi stitutior	re predo aywalki on; just n for the	ominant, ng of pe traffic p compre	while i destria olice ar	n the u ns are e playi	rban a reporte ng maj	reas w ed. Cur jor role	here tv rently, s throu	vo whe there i ıgh ad-	els veh s no pr hoc en	icles are i oper forcemen
) Project (
	of traffic safety ent Traffic Safet		cts for five years including) 3Es (Engine	ering, Er	nforcem	ent an	d Educ	cation)				
	nt of Traffic Acc	,												
	tion of the traffi			teliebe	المامة ألما	بماييم ما الم	traffia .		411 - 141					
Capacity De	evelopment for	Iraffic	Police Force and other s	takeho	older inv	volved in	traffic	safety	activitie	es				
	ed Project Ef		alities so as to develop		unoffin a	i - tr /								
	Request fron		-	sale	1	elation	with (Othor	Proio	ote				
			est from traffic police		TSM-		WILLIN	Juliei	Fioje	615				
3) Implem	enting Sche	dule			14) R	ouah E	Breakd	lown	of Pre	limina	arv Pr	oiect	Cost	
			2014 to June 2014		14) Rough Breakdown of Preliminary Project Cost a) Engineering improvement: USD 10 mil									
o) Basic De	sign, Detail D	esigr	n, Tender Document		b) Enforcement Improvement: USD 3 mil									
Preparation						fety Ed					2 mil			
a) Tandarin			2014 to Nov. 2014		d) Propaganda Activities: USD 2 mil e) Feasibility and Engineering Design: USD 3mil									
c) Tendering			o ct: Jan. 2015 to Dec. 2	010		asidility al Proje			-	USD 2		D 3mi	I	
a) implementer		rioje	ct. 3an. 2013 to Dec. 2	.013		(Huma						SD 2 r	nil	
15) Benefic	iaries				16) In	npact t	o Envi	ironm	ent (N	latura	l/Soc	ial)		
All Yangon					none							,		
		T												
17) Project	Area n Region	18)	Location Map/Site Ph	oto		14			6					
rangoi	II Region	•	< Current Situation>	N	lonth	2010	Accidents 2011	2012	2010	Injury 2011	2012	2010	Fatal 2011	2012
		So	urce: YUTRA Project Team	Janua	ary	54	90	112	12	17	31	101	115	126
				Febru March		61 69	69 85	101	13 16	11 13	22 26	88 109	98 141	118 197
				April		58	124	100	11	19	25	87	218	194
				May		55	99	93	19	17	25 23	110	123	171
				June July		51 77	101 105	102 91	11 17	15 25	18	70 109	155 157	150 147
				Augu		84	98	96	20	24	26	151	157	131
				Septe		74 68	100 79		12 10	15 14		129 78	137 176	
Octob Nove						80	106		18	14		118	140	
December 64 113 16 25 TOTAL 795 1169 807 175 208							196	101 1251	213 1830	1234				
						190	1109	007	110	200	190	1201	1030	1234
			< BANGKOK Safety Drivi	ing Cei	nter>		<	< Capa	city De	velope	emnt fo	or Traff	fic Safe	ty>
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								**			-	15	5.5	

Source: A.P. Honda Co. Ltd



Source: JICA Report

			PROJECT SU					
No.	1) Sector	ector 2) Project Title 3) Project Typ						
FT-01	Rail / Truck (Freight)	Inland Co	ontainer Deport and High	nway Truck Terminal Development				
4) Im	plementing Ag	6) Preliminary Project Cost	7) Term					
	Railways, Minis rtation, Yangor		2018 to 2022	Approximately US\$150M	medium term			
8) Backgro	und/Current Is	sues						
 Internationa The Express The Yangon MR is expect Land is avait The space of the s	I container throug way can be extend - Mandalay Rail ted to play a vita lable in East Dag of existing highwa	ghput at the T inded to react way will be im I role in trans gon Township ay truck termir	nal is limited and crowded.	ase. minal area (opportunity)				
	N - 412							
- Installation	Dutline hway Truck Terr of cargo handling op and Depot ca	facilities						
10) Expecte	ed Project Effe	ect						
- To improve - To remove g - To achieve l	MR business per goods traffic from	formance the highly ur nvironment ir	rgo transportation related bus banized area n the urbanized area (resident					
11) Needs/	Request from	Mvanmar si	de	12) Relation with Other Projects				
MORT to requ MR and High PW, MOC to	uest JICA to sup way Truck Assoc consider the exte improve missing	port the feasite tiation are coordiants of the e	bility study. ordinated. expressway	Expressway extension (from the 0 mile point Missing link improvement Yangon - Mandalay Railway Improvement (fi Thilawa Port Development (financially suppo	nancially supported by JICA)			
12) Implom	enting Schedu	ulo		14) Rough Breakdown of Preliminary	Project Cost			
 Feasibility st Budgeting / Procurement Tender and Construction 	tudy (2015/2016) Loan application t of consultants a selection of cont n (2020-2021) ment of the servi	(2016/2017) and detailed c ractors (2019	lesign (2018)	Civil work, pavement, buildings, lighting, acc million Cargo handling facilities, etc: USD 30 millior TOTAL USD 150 million	ess roads, etc: USD 120			
15) Benefic	iarioe			16) Impact to Environment (Natural/S				
- Myanma Ra				EIA is required	ocial)			
- Highway tru - Cargo forwa - Owner of go - Yangon resi	ck operators orders ods							
17) Pro	ject Area		1	8) Location Map/Site Photo				
East Dagon	Town Ship	Log Jolfy Shrropytha Bodg Bioc bool Get Anng Zaya Bodg Bioc bool Se Bioc bool Se Vinge	nexus provide and	Ac area for mer AR th New Highney and Bos Tenminal Edited Expressions to Taking area under the formation the formation	Team)			

			PROJECT SU	IMMARY SHEET	
No.	1) Sector		2) Pro	ject Title	3) Project Type
FT-02	Truck (Freight)	Redesignation of Highway Truck Routes			
			5) Implementing Period	6) Preliminary Project Cost	7) Term
Yangon Region PW, MOC YCDC		2018 to 2022	Approximately US\$2M	medium term	
8) Backgro	und/Current I	ssues			
on-going Th - The Expre - The Yangu - Highway tu - The roads - The land a business, c	hilawa port dev essway can be on - Mandalay ruck operators to the existing along the existi ommercial and	elopment. extended to Railway will are expecte highway tru ng highway residential	reach the proposed ICD be improved by 2023(op d to meet those changes ick terminal are congester routes running Thu Dhan	at the Thilawa ports will sharply increase /Truck Terminal area (opportunity) portunity), and MR needs services from s of cargo movement pattern ed (traffic environment in the neighboring nar road and Thanthumar road will be fu	truck operators. g areas is worsening).
9) Project (
- Redesigna	ation of highwa	y truck route	DC / YCDC (refer to RD- by Yangon Region and stem (CCTV, etc.) along		in FT-02.
10) Expect	ed Project Eff	ect			
- To remove - To achieve	e goods traffic	from the hig ort environm	ach new highway truck to hly urbanized area nent in the urbanized area	erminal in East Dagon Township a (residential areas).	
11) Needs/Request from Myanmar side				12) Relation with Other Projects	
MORT, Yangon Regional Government and Highway Truck Association are coordinated. PW, MOC and YCDC to improve missing links				Expressway extension (from the 0 mile point to Thilawa). Missing link improvement Yangon - Mandalay Railway Improvement (financially supported by JICA) Thilawa Port Development (financially supported by JICA)	
13) Implementing Schedule				14) Rough Breakdown of Preliminary Project Cost	
 S series of missing link improvement 19, and 21) Installation of truck traffic manageme 				Traffic signage, highway truck monitor TOTAL USD 2 million	
15) Beneficiaries				16) Impact to Environment (Natural/	Social)
 Highway ti Cargo forving Owner of given the second s	ruck operators varders goods	es		EIA is required for RD-18, 19 and 21.	
				18) Location Map/Site Photo	
	Existing I	nighway tru	ck route	Proposed highway truck re	oute after 2022
Log Jeffy Shwepyitta Bridge Max load 68 Aung Zaya Bridge Max load 38		Run (Br. (3)		Log Jetty	m the

llajor ports Yangon

Tanlyin Bridge Max load 36t

Major ports in Yangon

(YUTRA Project Team)

Maha Ban