



Ministry of Rail Transportation

Myanma Railways



**Developing a Myanmar's Rail
Network that meet demand**

23rd November, 2015

CONTENTS

- ◆ **Current Situation and Demand Forecast of Myanmar Railways**
- ◆ **New Railway Lines Under Construction**
- ◆ **On-going Projects by External Assistance**
- ◆ **Railway Links to the Neighboring Countries**
- ◆ **Conclusion**



CURRENT SITUATION

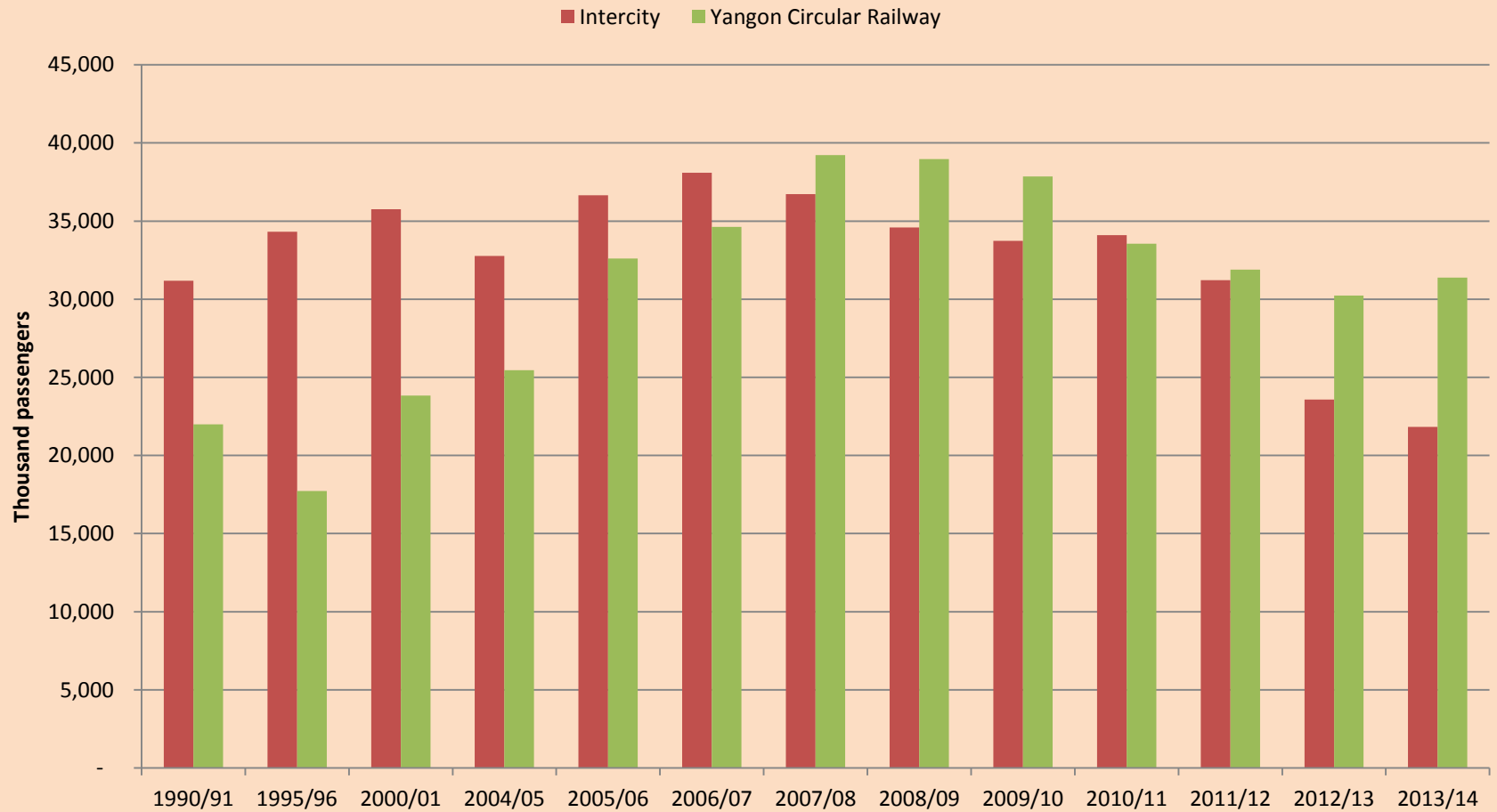
AND

DEMAND FORECAST

OF

MYANMA RAILWAYS

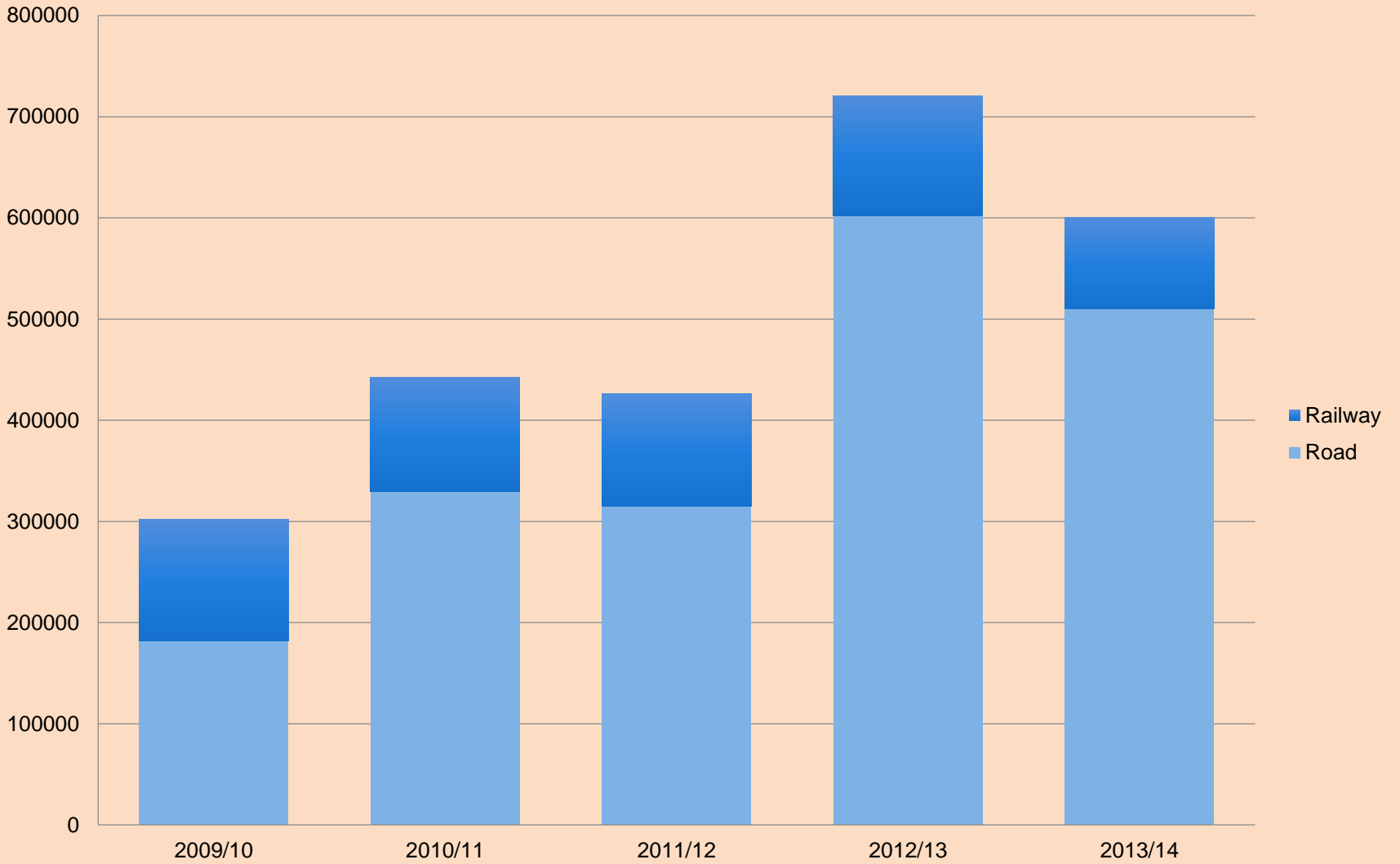
Trends in Passengers Carried by MR



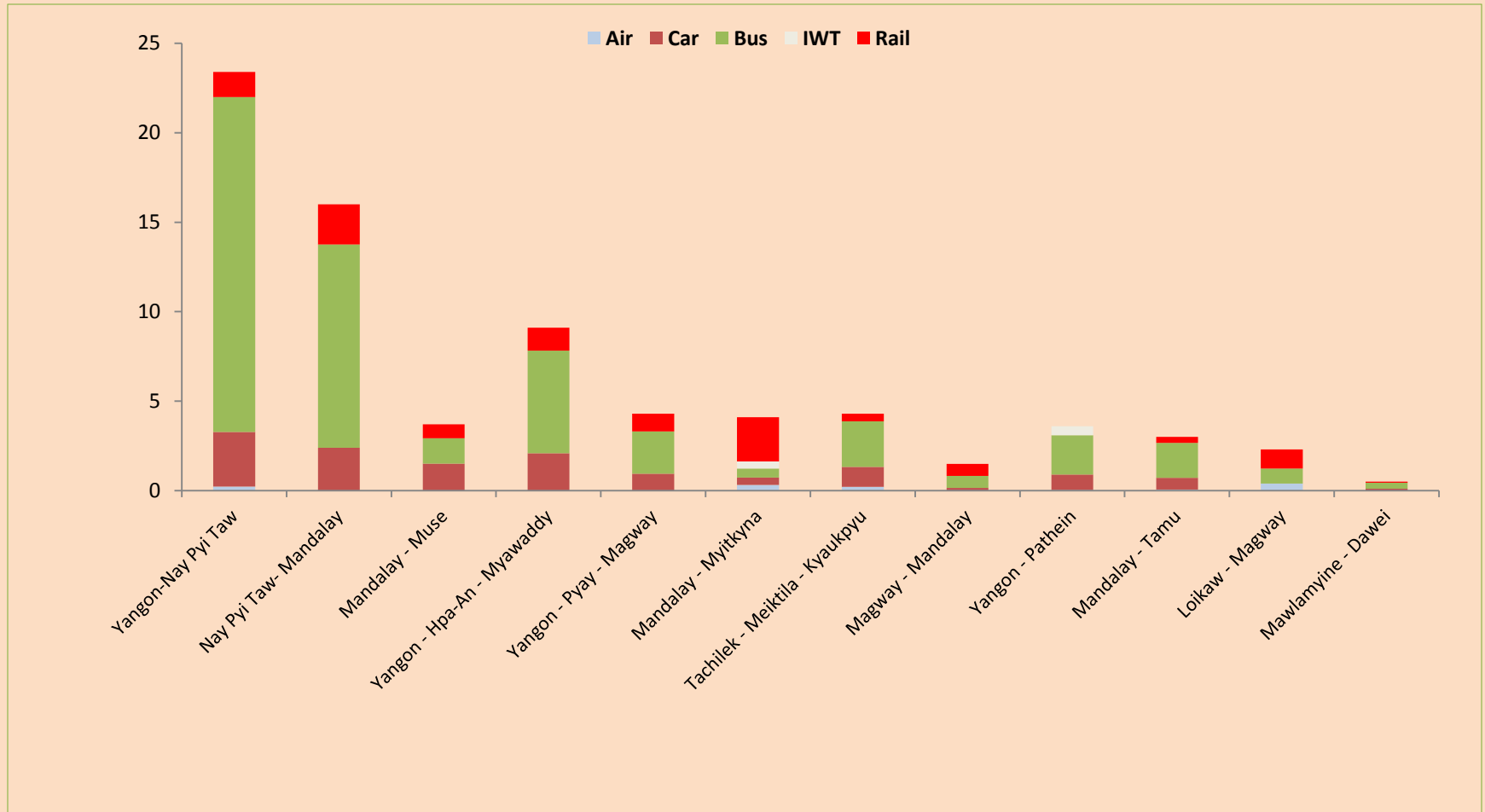
Modal share with other mode of transport

Trip	Distance (km)	Rail Fare (\$)	Bus Fare (\$)	Rail Time (h)	Bus Time (h)	Rail Fare (c\$/km)	Bus Fare (c\$/km)	Rail Speed (km/h)	Bus Speed (km/h)
Yangon-Mandalay	650	5.5 (ordinary)	10.5	16	9.3	0.85	1.62	40.6	70
		8.0 (upper)				1.23			
Yangon-Mawlamyine	305	3.4 (ordinary)	5.8	12.5	7.5	1.11	1.90	24.4	41
		5.0 (upper)				1.64			
Yangon-Pyay	280	2.5 (ordinary)	4.9	9	6	0.89	1.75	31.1	47
Mandalay-Lashio	280	2.5 (ordinary)	6.7	16	8.5	0.89	2.39	17.5	33

Infrastructure Investment (Million Kyats)

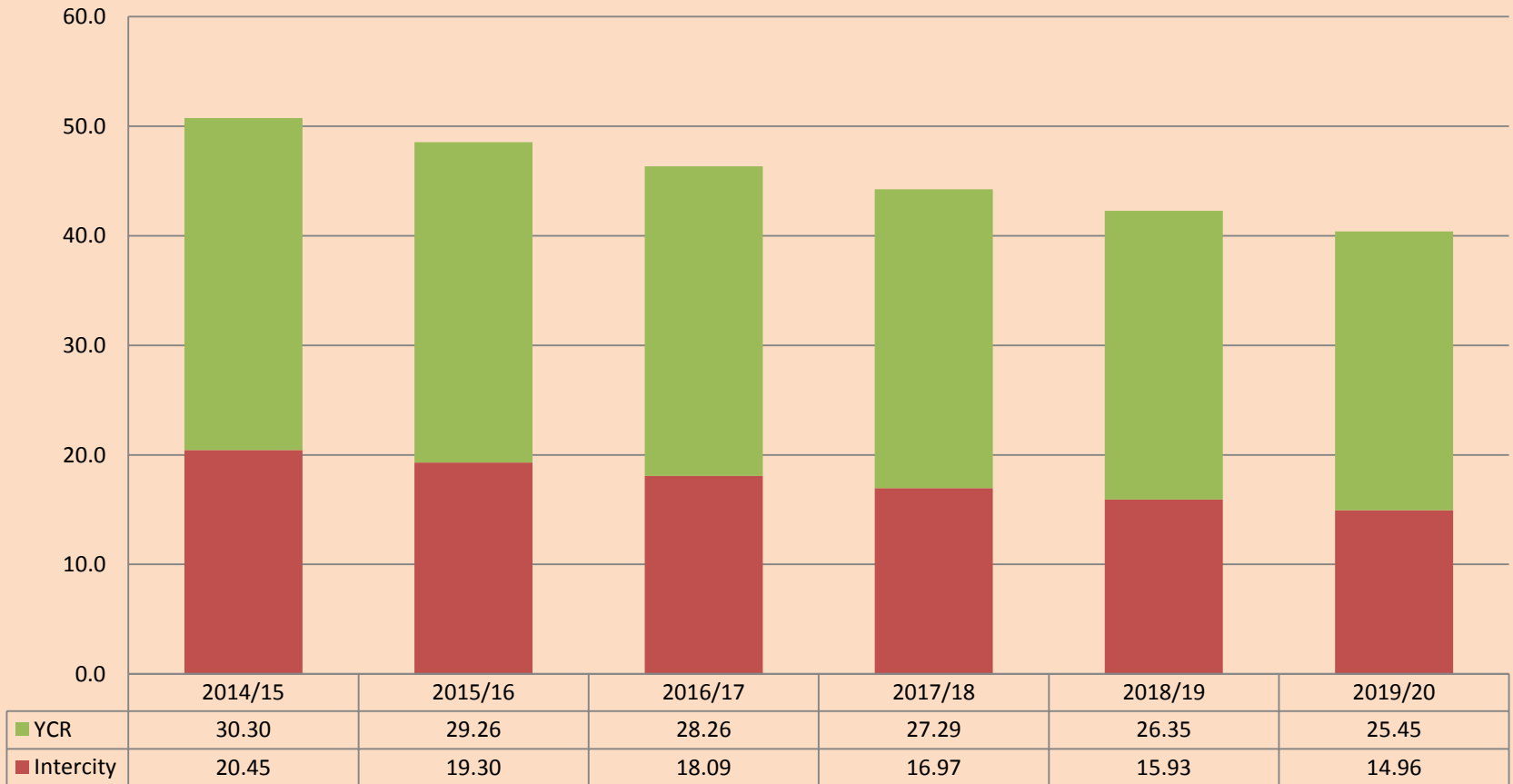


Market Segments



Projected Passengers – at Current Overall Trend

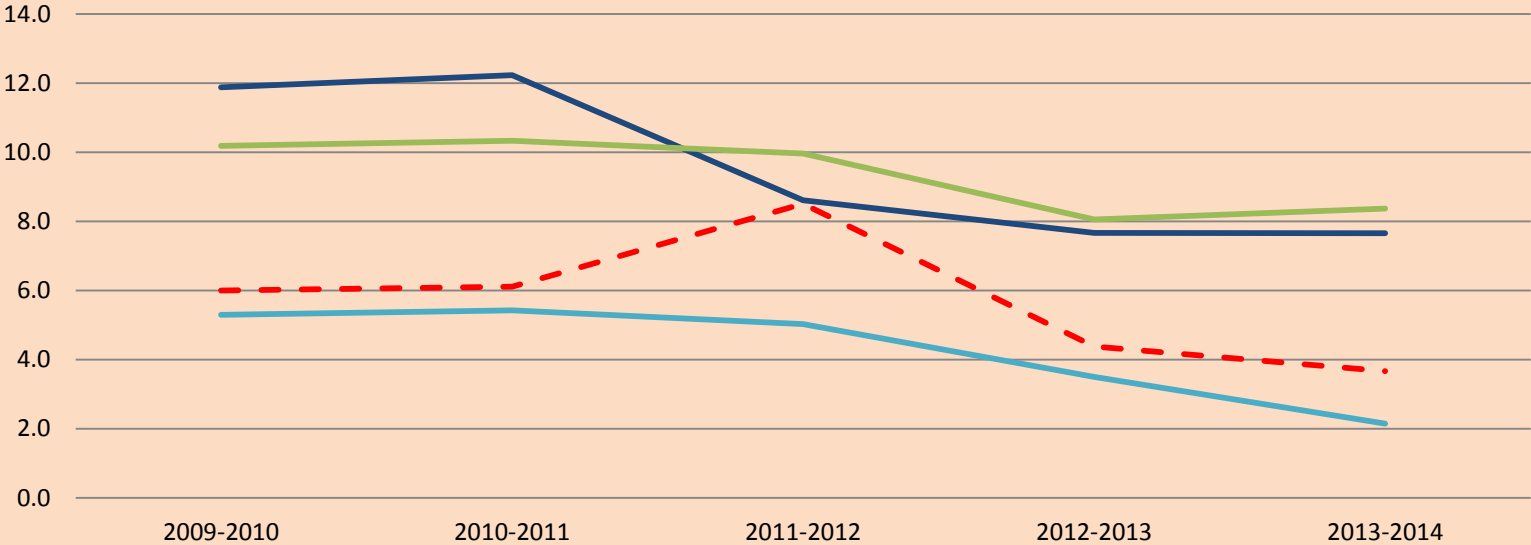
Projected Passengers (millions)



Passenger Trends, by Market

Segment

Passenger Carried (millions)

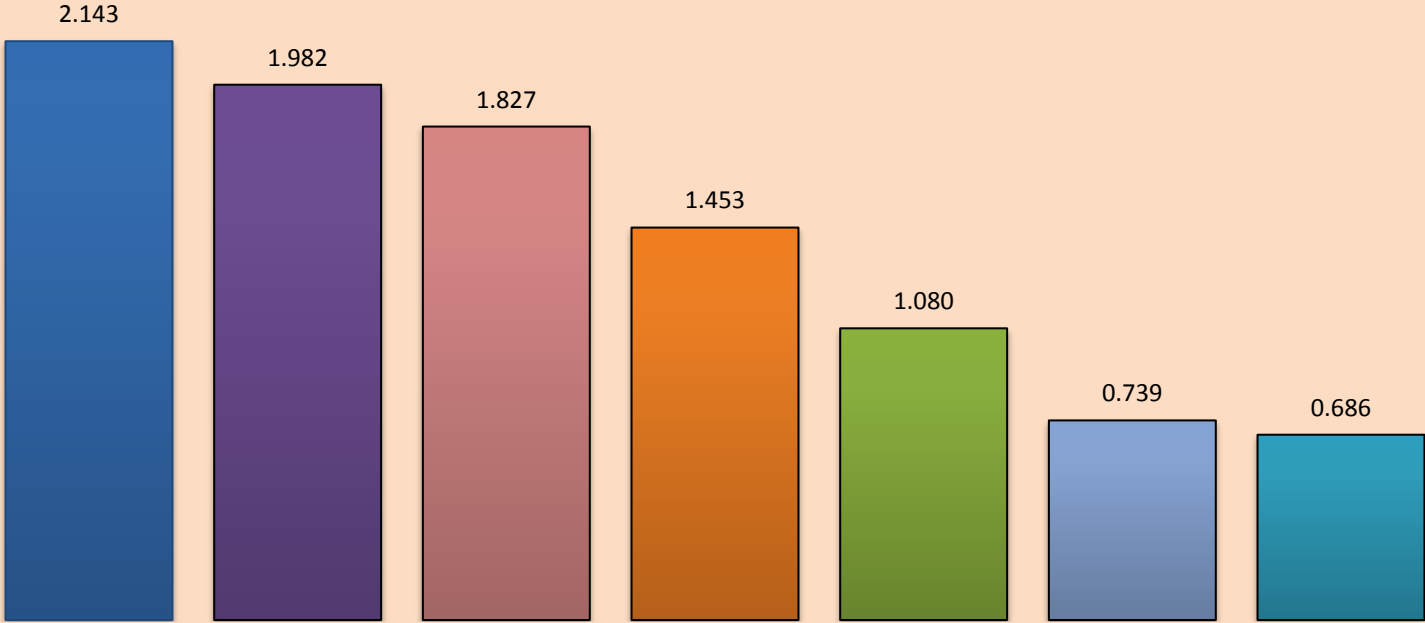


— Yangon-Mandalay — Mandalay-Myitkyina — Secondary Lines - - Tertiary Lines

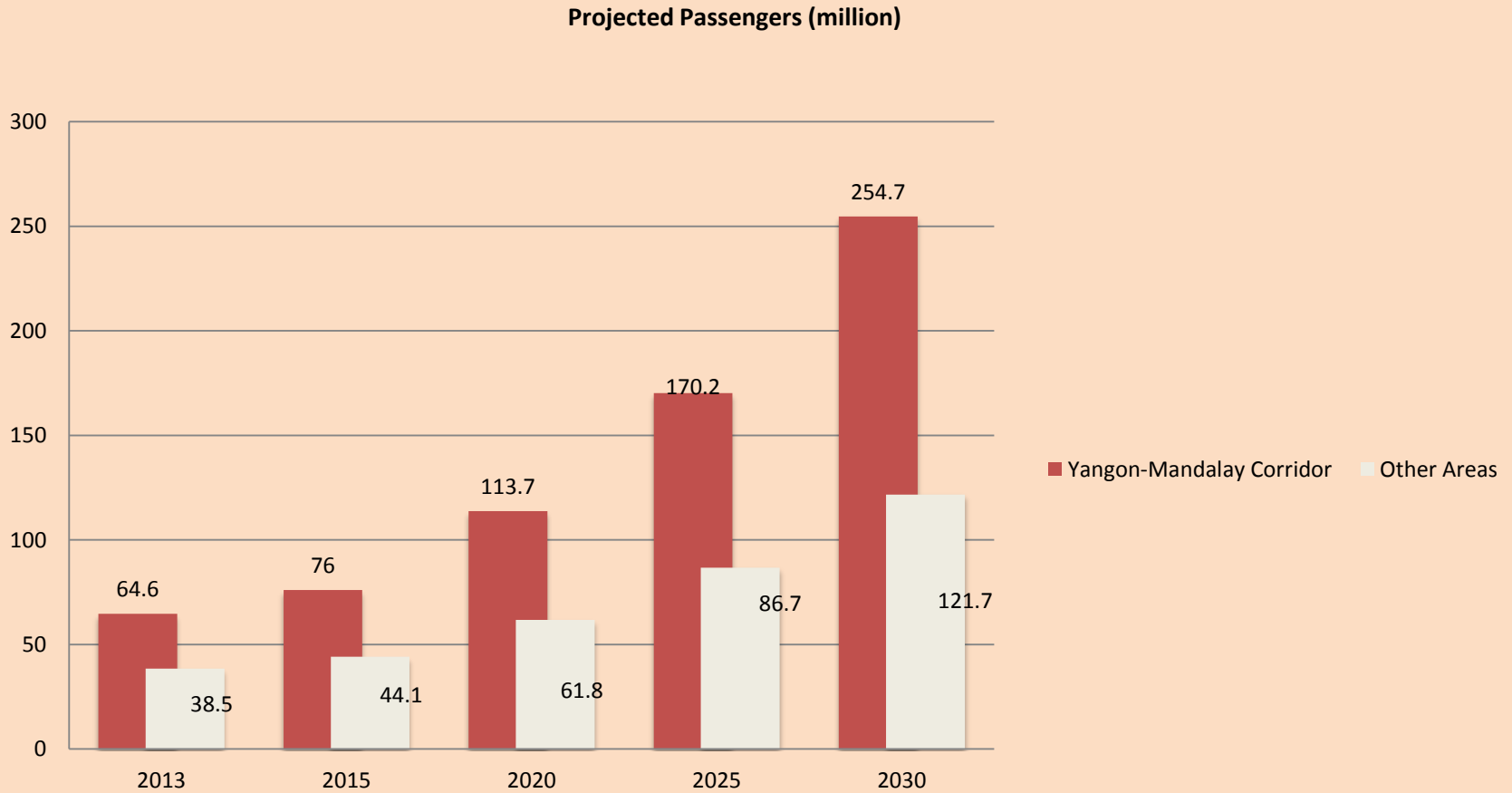
Passenger volumes on Secondary Lines

Passengers in 2013/14 (million)

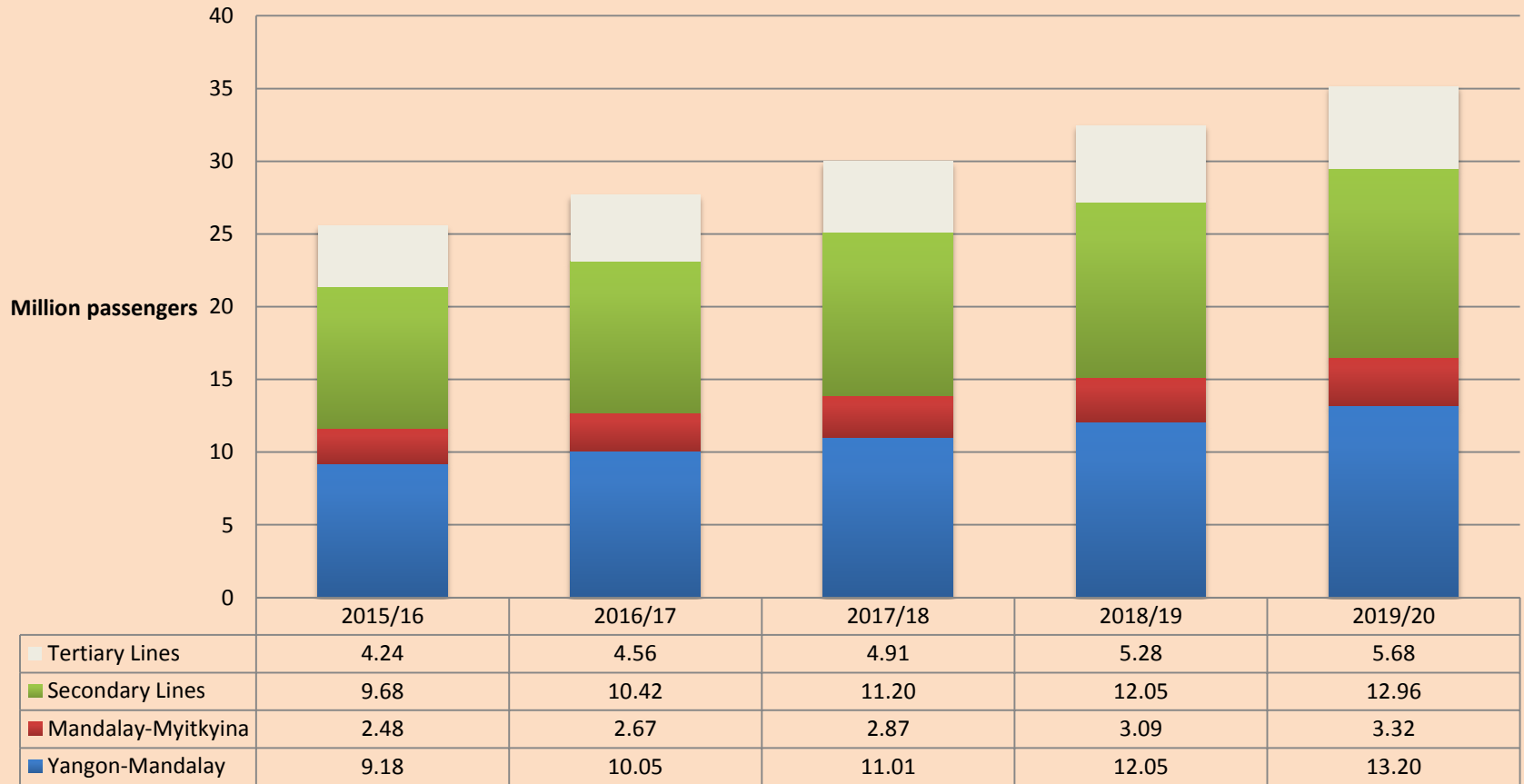
- Amarapura (Mandalay) - Myitkyina
- Kemmendine (Yangon) - Pyay
- Pathein - Henthata - Kyangin
- Pyudwin - Chauk
- Naungpattaya - Mawlamyine
- Thayeze- Madaya
- Awk - O - Pakokku - Kyaw - Kalay



Projected Passenger Market

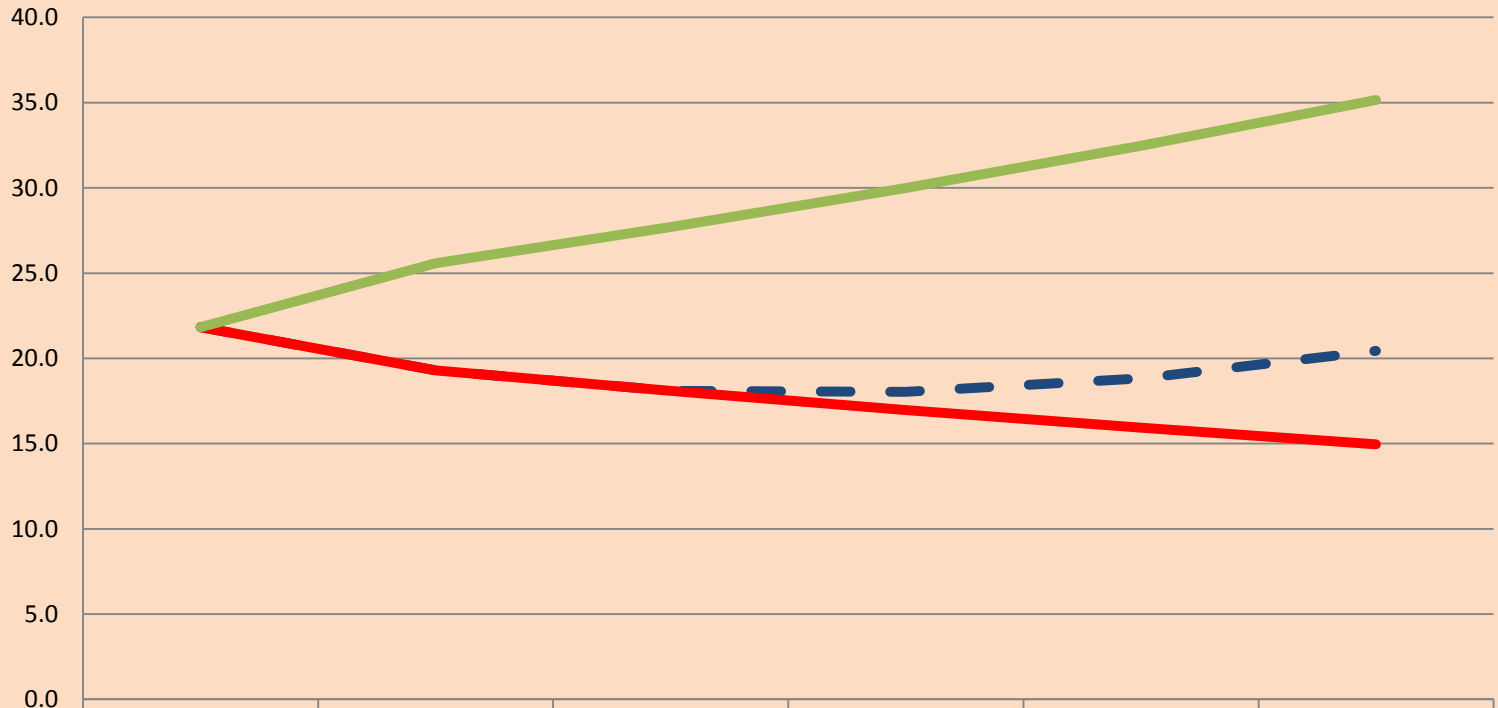


Projected Passengers by Market Segment - Potential Market



Projected Passengers by Scenario

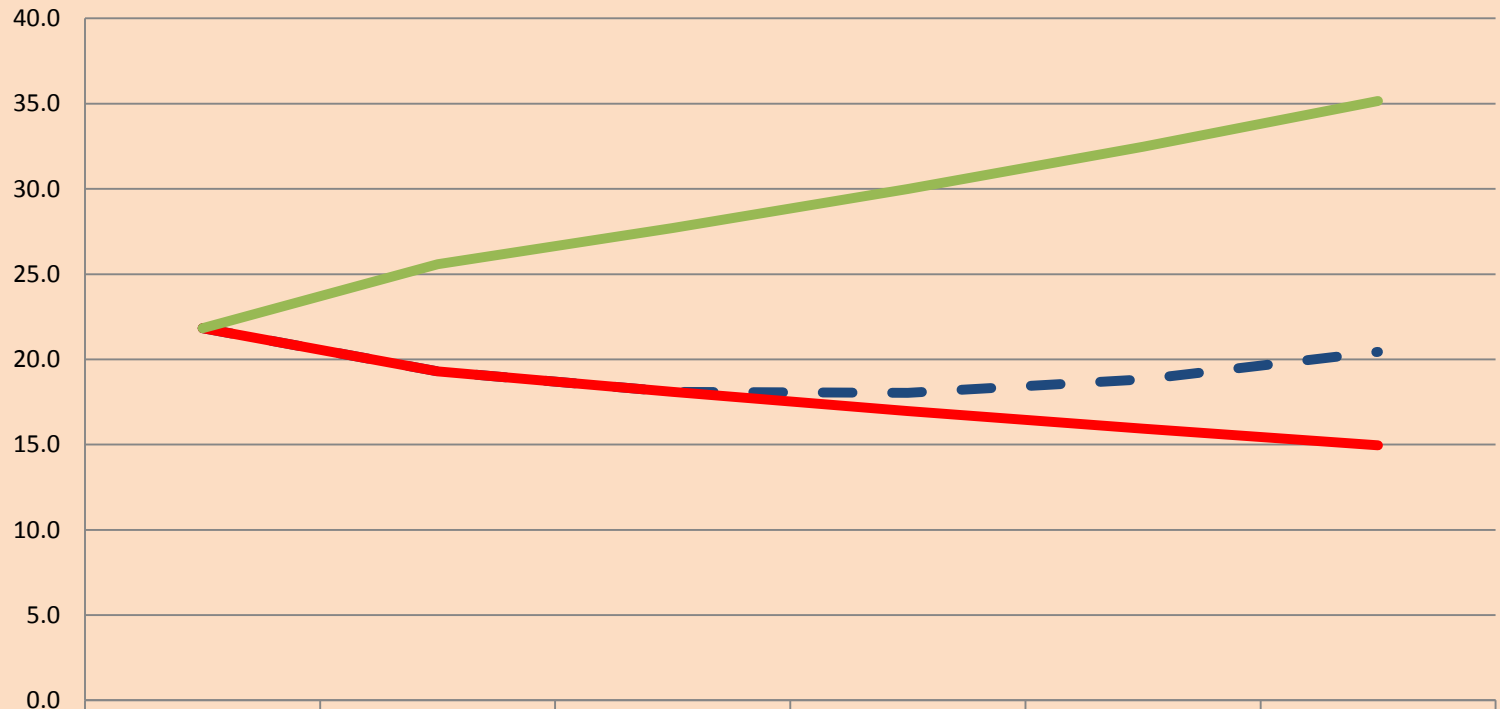
Projected Passengers (million)



	Actual (2013/14)	2015/16	2016/17	2017/18	2018/19	2019/20
Target	21.83	19.29	18.09	18.03	18.83	20.44
Trend (Low)	21.83	19.29	18.09	16.97	15.93	14.96
Market (High)	21.83	25.58	27.70	29.99	32.47	35.16

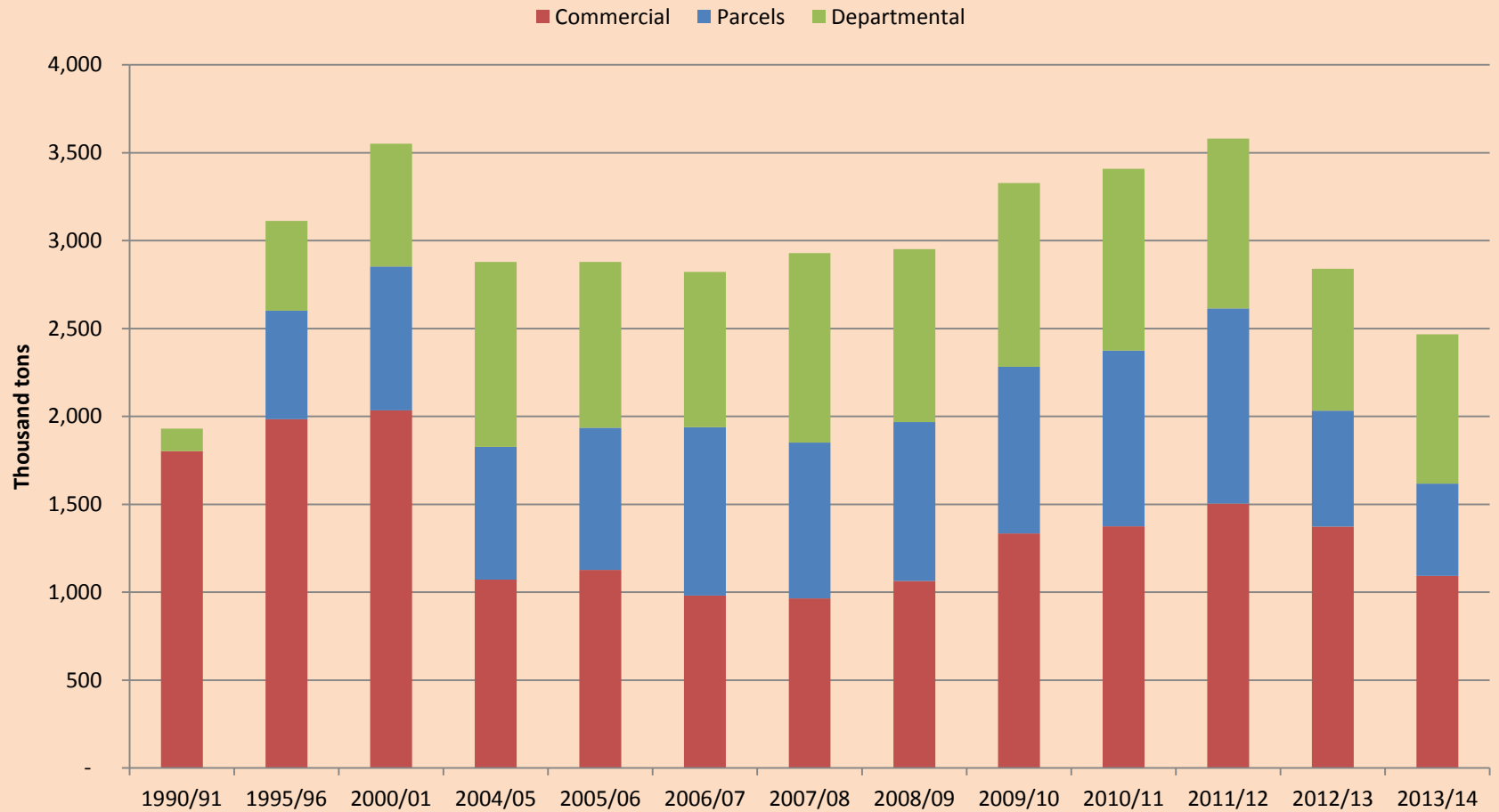
Target Passenger Volumes, Yangon-Mandalay

Projected Passengers (million)

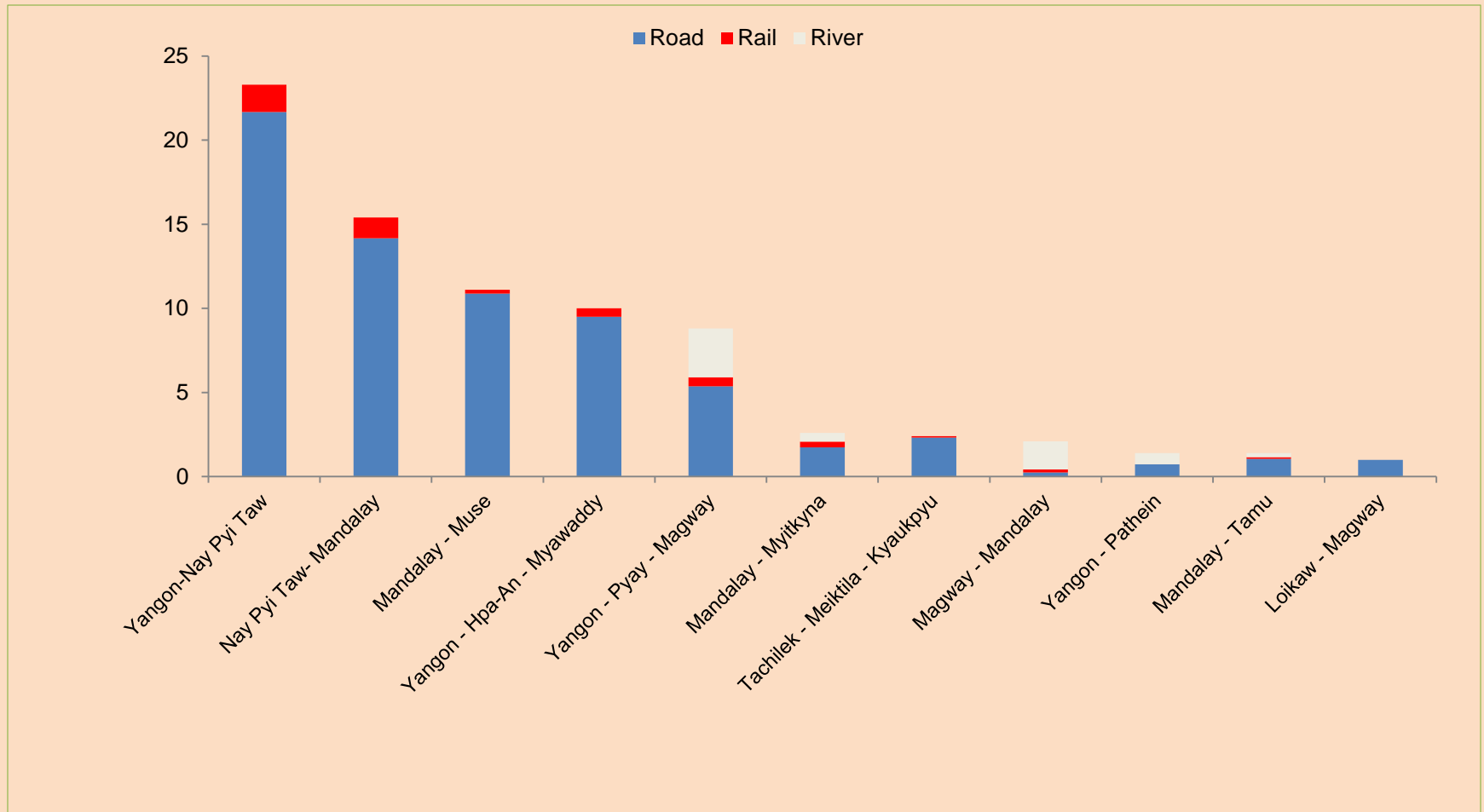


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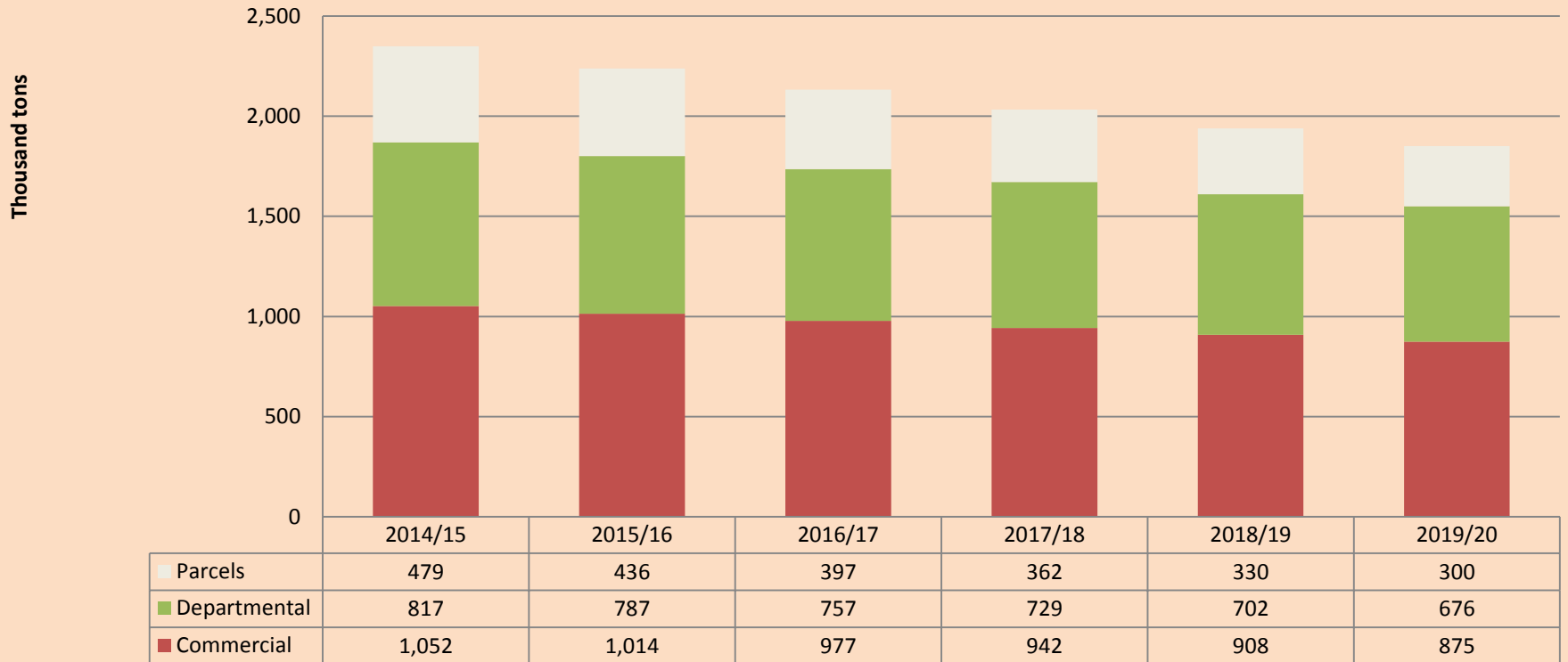
Trends in MR Freight Traffic



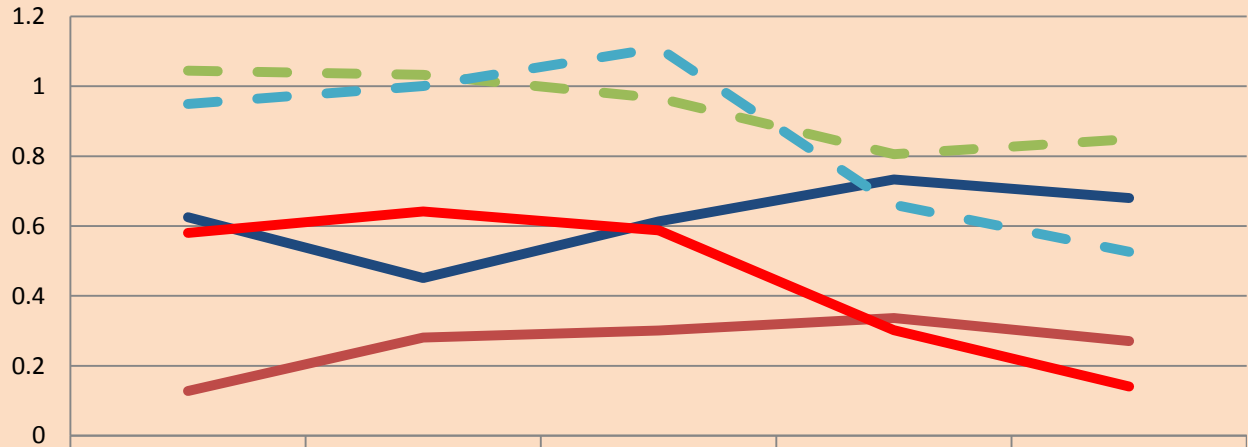
freight market on different corridor



Projected Freight - Current Trend

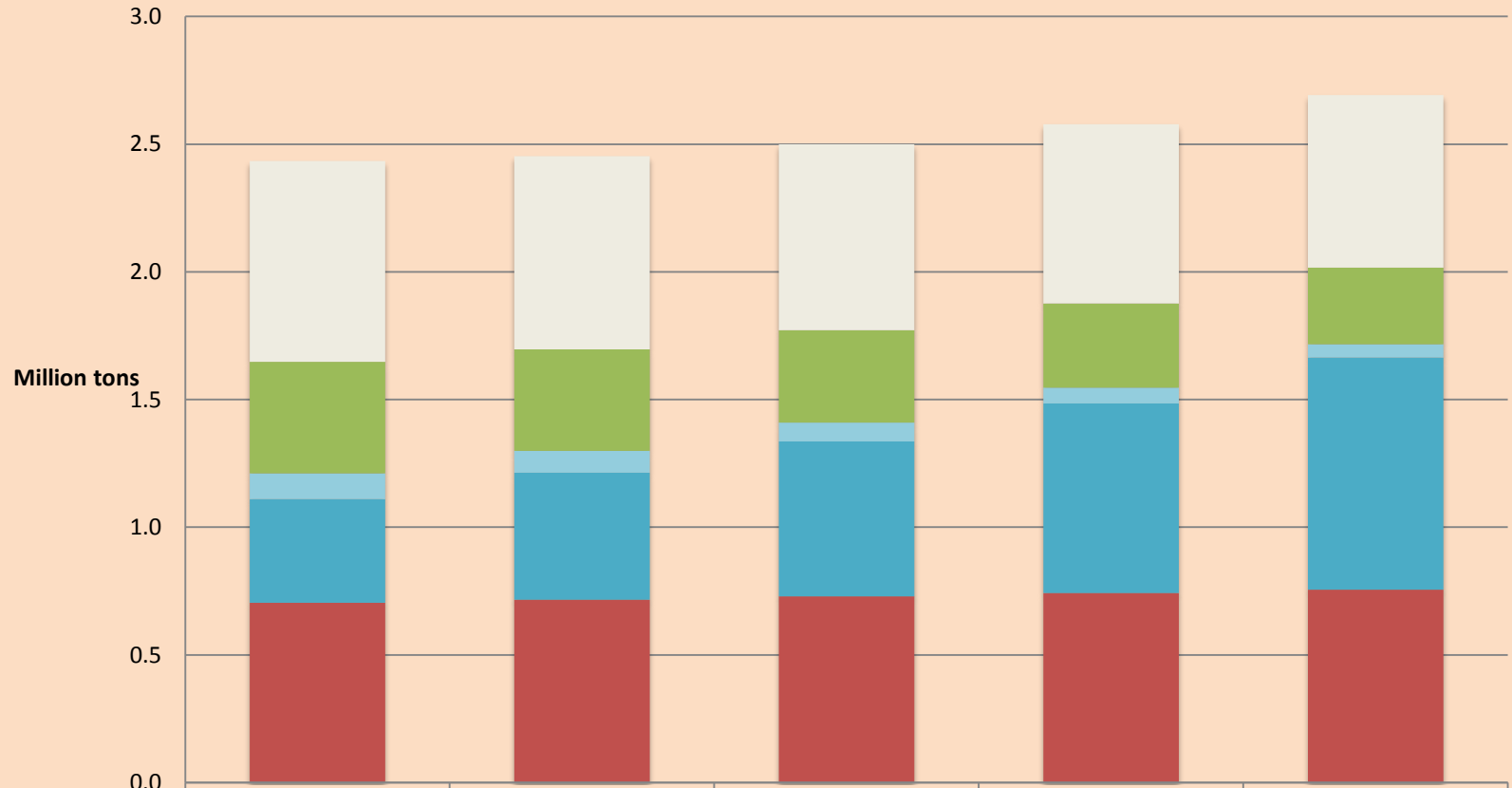


Freight Traffic Trends by Market Segment (million tons)



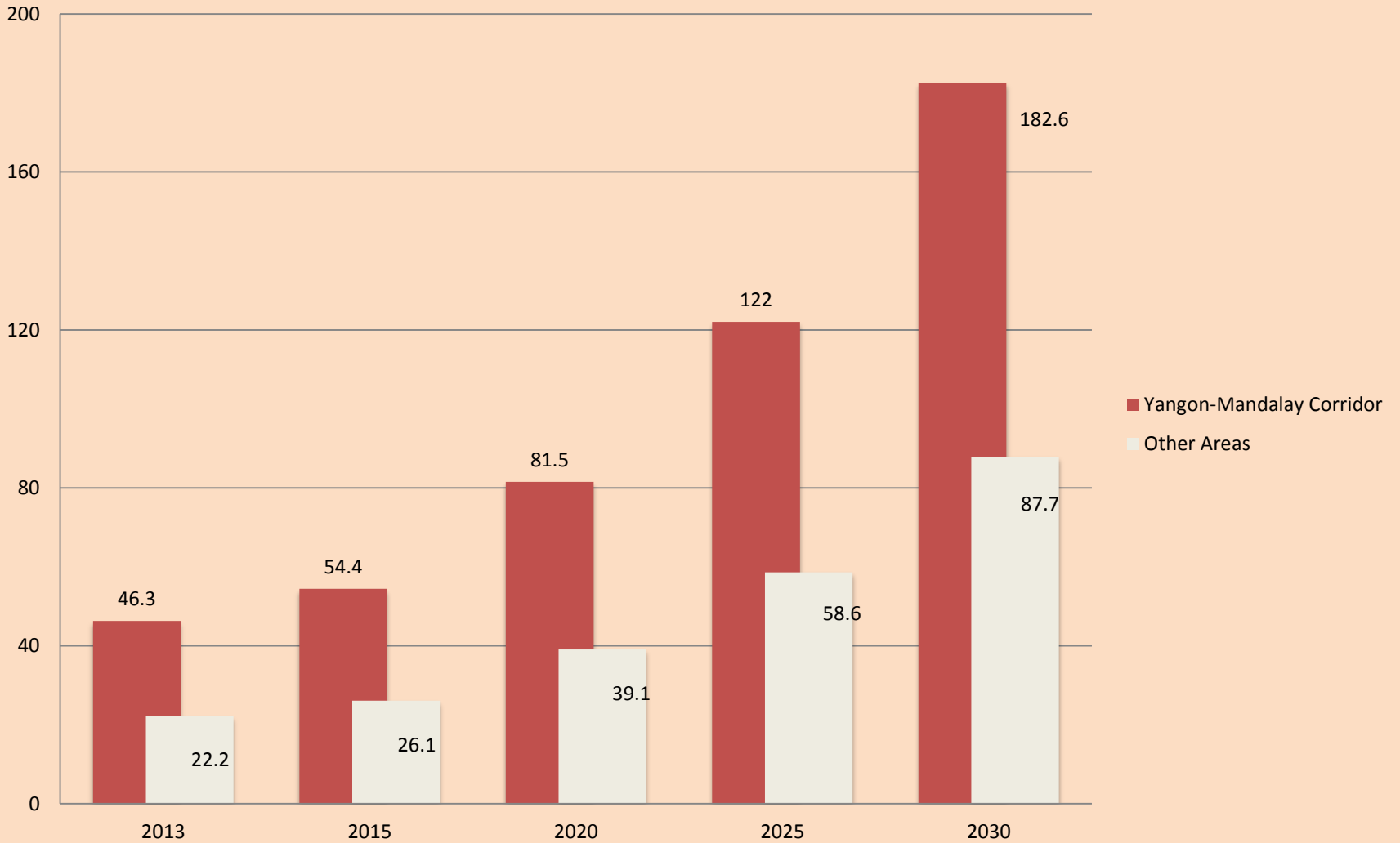
	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014
Yangon - Mandalay	0.625	0.451	0.613	0.733	0.680
Mandalay - Myitkyina	0.128	0.281	0.301	0.337	0.271
Other lines	0.580	0.642	0.588	0.302	0.141
Departmental	1.045	1.033	0.966	0.806	0.849
Parcels	0.949	1.001	1.110	0.661	0.526

Projected Freight Tons by Market Segment - At Current Trend

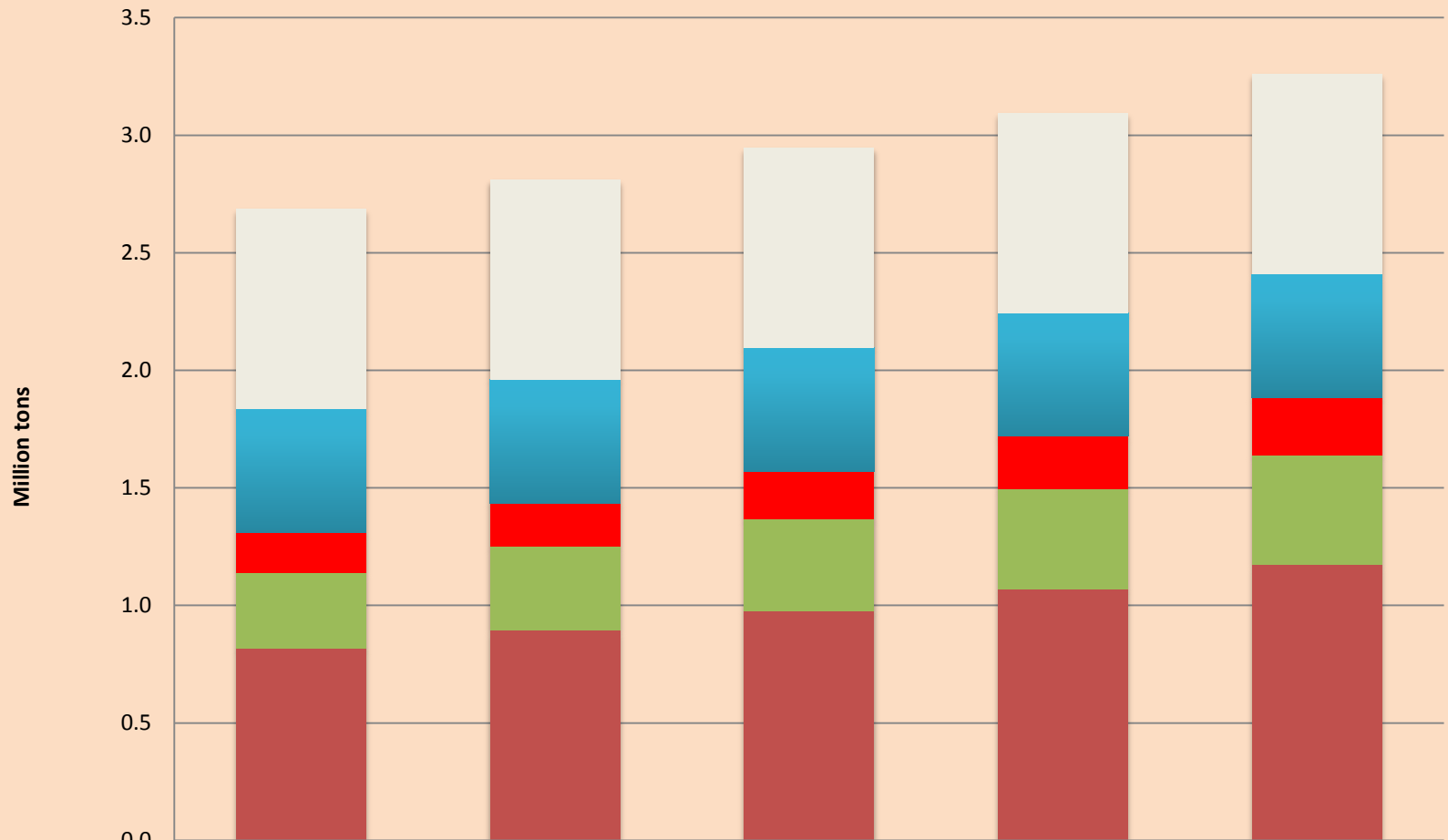


	2015/16	2016/17	2017/18	2018/19	2019/20
Departmental	0.79	0.76	0.73	0.70	0.67
Parcels	0.44	0.40	0.36	0.33	0.30
Other trains	0.10	0.09	0.07	0.06	0.05
Mandalay-Myitkyina	0.41	0.50	0.61	0.74	0.91
Yangon-Mandalay	0.70	0.72	0.73	0.74	0.76

Projected Freight Market (million tons)



Projected Freight Tons - Potential Market



	2015/16	2016/17	2017/18	2018/19	2019/20
Departmental	0.85	0.85	0.85	0.85	0.85
Parcels	0.53	0.53	0.53	0.53	0.53
Other trains	0.17	0.19	0.20	0.22	0.24
Mandalay-Myitkyina	0.32	0.36	0.39	0.43	0.47
Yangon-Mandalay	0.82	0.89	0.98	1.07	1.17

Target tonnage (million)

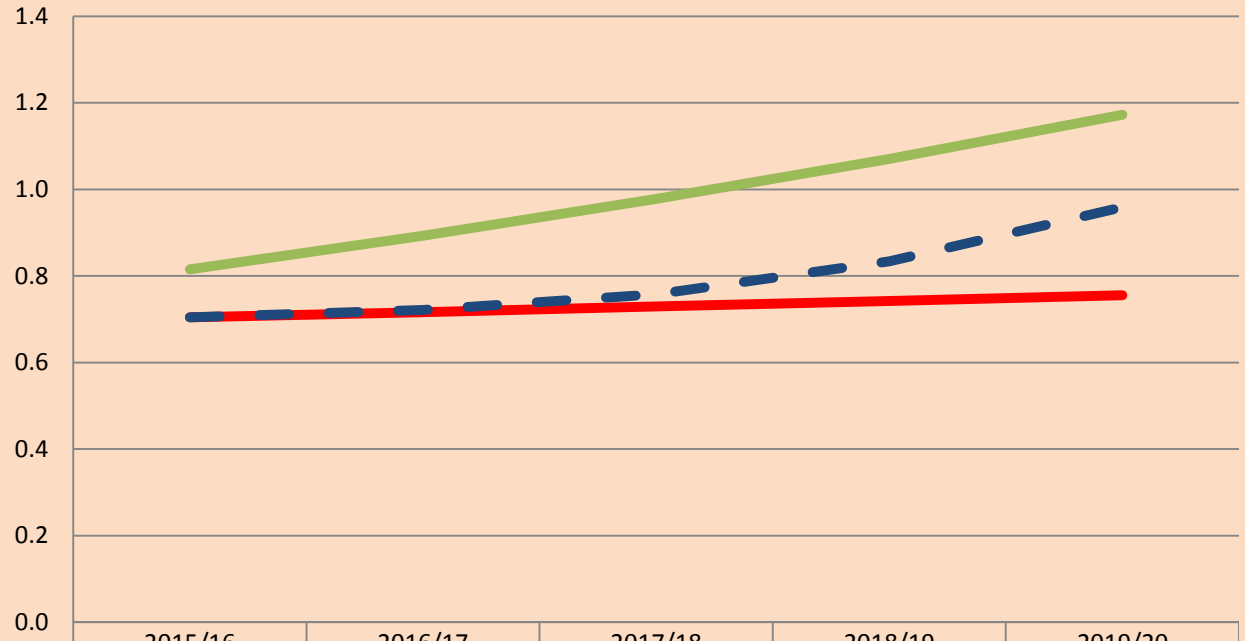


	Actual 2013/14	2015/16	2016/17	2017/18	2018/19	2019/20
Target	2.47	2.31	2.25	2.21	2.22	2.31
Trend (Low)	2.47	2.44	2.43	2.45	2.50	2.69
Market (High)	2.47	2.68	2.81	2.95	3.09	3.26

Freight Demand Forecast

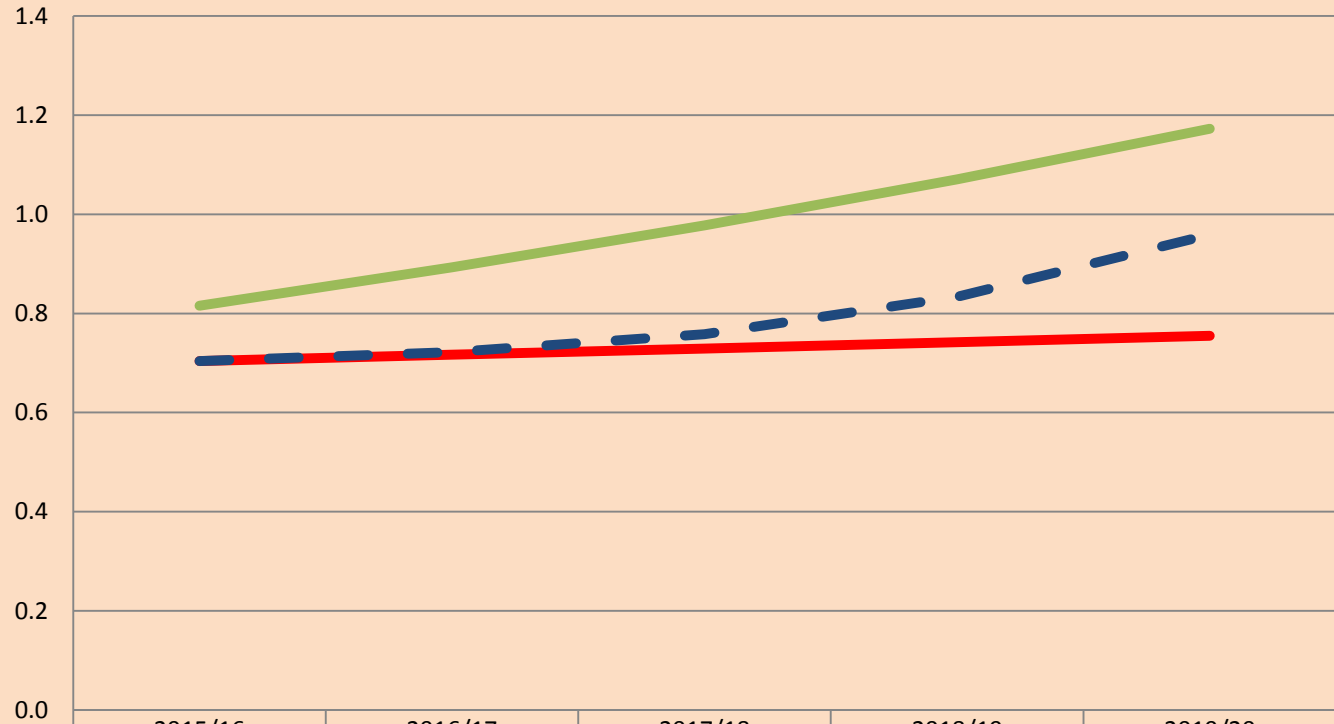
Segment	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Yangon-Mandalay	1.018%	1.018%	2.5%	5.0%	10.0%	15.0%
Mandalay-Myitkyina	11.2%	5.6%	0.0%	0.0%	2.5%	10.0%
Other trains	-15.1%	-15.1%	-15.1%	-15.1%	-15.1%	-15.1%
Departmental	-3.8%	-3.8%	-3.8%	-3.8%	-3.8%	-3.8%
Parcels	-8.9%	-8.9%	-8.9%	-8.9%	-8.9%	-8.9%

**Target tonnage (million)
Yangon-Mandalay**



	2015/16	2016/17	2017/18	2018/19	2019/20
— Current Trend (Low)	0.70	0.72	0.73	0.74	0.76
— Market Potential (High)	0.82	0.89	0.98	1.07	1.17
- - - Target	0.70	0.72	0.76	0.83	0.96

**Target tonnage (million)
Yangon-Mandalay**



	2015/16	2016/17	2017/18	2018/19	2019/20
— Current Trend (Low)	0.70	0.72	0.73	0.74	0.76
— Market Potential (High)	0.82	0.89	0.98	1.07	1.17
- - - Target	0.70	0.72	0.76	0.83	0.96

❖ Axle load and other technical standard

Item		MR
Target speed	Freight	48 km/hr
	Passenger	68 km/hr
Radius of Curvature	Rolling	200 m
	Mountainous	
Maximum Gradients	Rolling	1.00%
	Mountainous	4.00%
Track Structure	Rail section	37 kg/m
	Sleeper	P.C W.S
	Depth ballast	120 mm
Axle load		12.5 ton

Infrastructure and work forces

❖ Route Length

+ Route 6207.644 km

+ Track 8047.069 km

(Including Double Track 700.82 km)

❖ **Bridges** 12099 Nos

❖ **Stations** 960 Nos

❖ **Total Number of Locomotives** 368 Nos

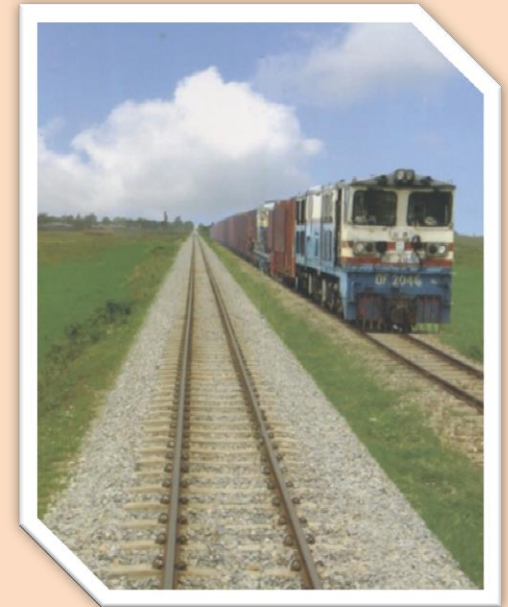
(Including Overage 219 Nos - 60%)

❖ **Total Number of Passenger Coaches** 1375 Nos

(Including Overage 404 Nos - 29%)

❖ **Total Number of Wagons** 3384 Nos

(Including Overage 1611 Nos - 48%)



Stations and Motive Powers



Bagan Stations



2000 HP DEL Dalian (China)



Passenger Coaches (China)



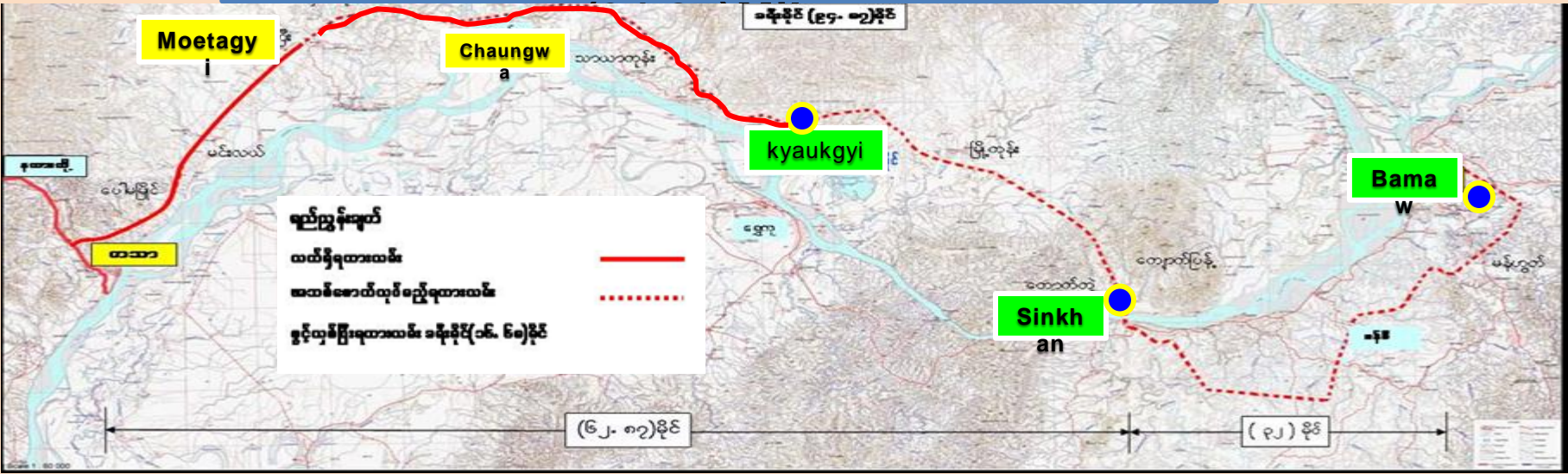
Covered Wagon

**New Railway Lines
Under Construction**

New Railway Lines Under Construction

Sr .	Name of Project	Distance (Mile)	constructed (mile)	Ongoing (Mile)
1	Kyaukyi- Sinkhan –Bamow Rail road Section of Katha-Bamow Railway Line Project	94.87	37.06	57.81
2	Natmouk- KanPyar Rail road Section of Pyawbwe-Natmouk-Magwe Railway Line Project	94.71	65.22	29.49
3	Yechanbyin - Kwantaung and Kyauk Taw - An- Minbu Rail road Section of Minbu-An-Sittway Railway Line Project	257.00	54.00	203.00
4	Einme-Nyaundong Rail road Section of Pathein(Begayet) – Einme - Nyaundong Yangon (Hlaing Thayar) Railway Line Project	96.51	61.09	35.42
Total		543.09	217.37	325.72

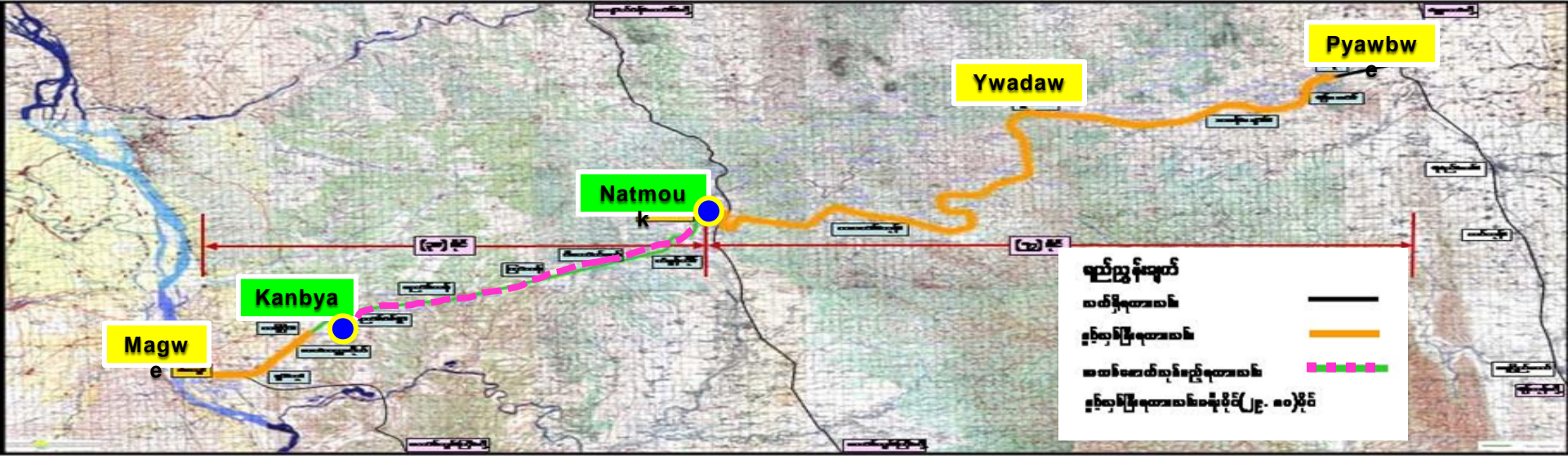
Katha-Bamaw Railway Line Project



❖ **Project Period 2007-2008 FY to 2018-2019 FY**

Section	Length (Mile)	Starting Date	Opening Date
Opened Section			
Katha-Moetagy	16.68	16-5-2007	20-2-2010
Moetagy - Kyaukgyi	20.38	16-5-2007	7-2-2014
Total opened length	37.06		
Sections to be opened			
Kyaukgyi-Ayarwaddy Bridge(Sinkhan) –Bamaw	57.81	16-5-2007	-
Total length to be opened	57.81		

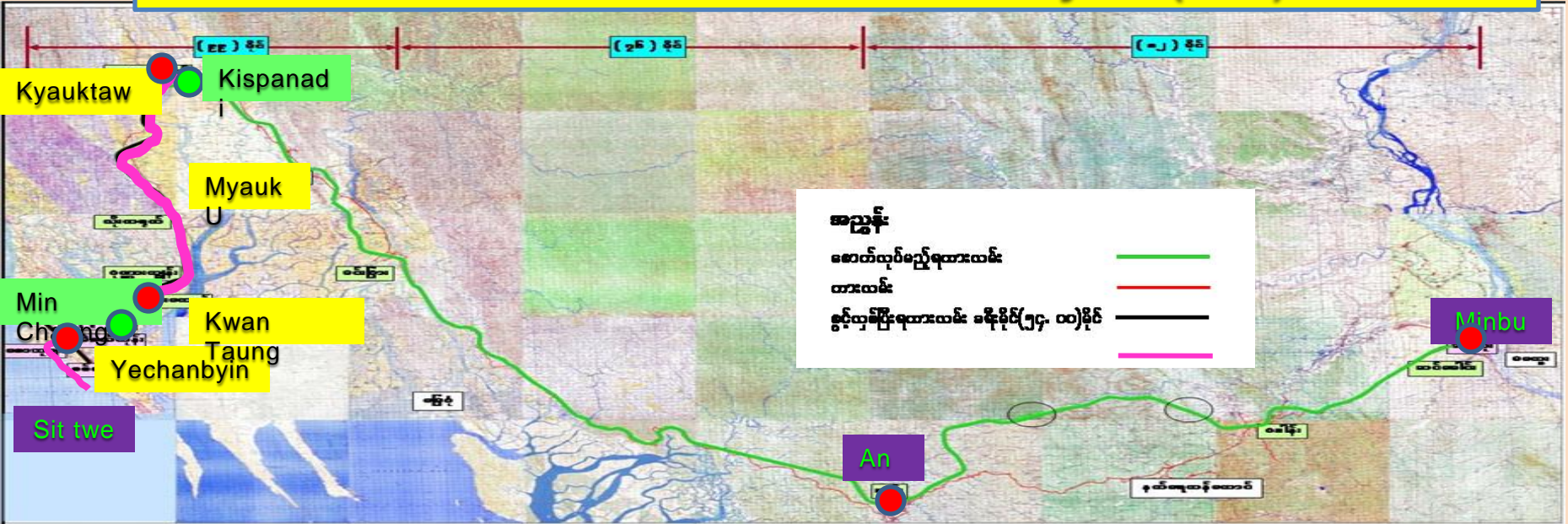
Pyawbwe-Natmauk-Magwe Railway Line Project (94.71)mile



❖ Project Period 2008-2009 FY to 2017-2018 FY

Section	Length(mile)	Starting Date	Opening Date
Opened Sections			
Magwe-Kanbya	7.68	10-11-2008	19-12-2009
Pyawbwe(Yan Aung) - Ywadaw	22.12	10-11-2008	16-1-2010
Ywadaw-Natmauk	35.42	10-11-2008	13-3-2013
Total Opened Length	65.22		
Section to be opened			
Kanbya-Natmauk	29.49	10-11-2008	-
Total length to be opened	29.49		

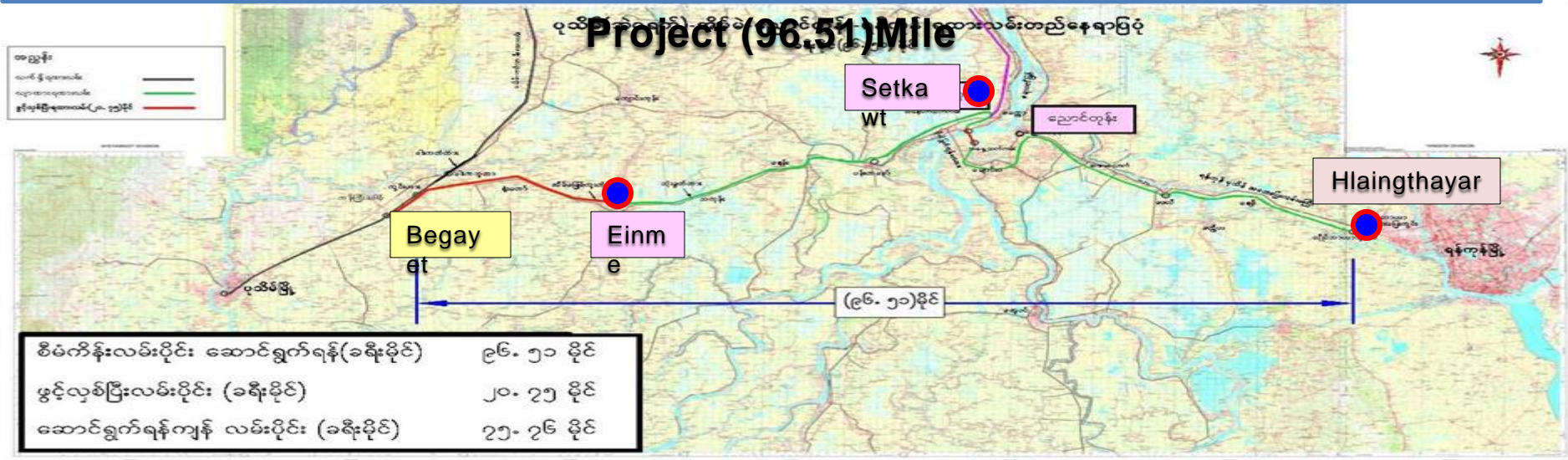
Minbu –An – Sittwe Rail Line Project (257)Miles



❖ Project Period 2009-2010 FY to 2021-2022 FY

Section	Length(mile)	Starting Date	Opening Date
Opened section			
Sit twe-Yechanbyin	11.46	15-2-2009	19-5-2009
Kwan Taung- Ponnagyun-Yotayouk	22.72	15-2-2009	15-5-2010
Yotayouk-Kyauk Taw	19.28	16-5-2010	10-4-2011
Total	54.00		
Sections to be opened			
Yechanbyin-Pardaleik	5.81	15-2-2009	-
Pardaleik-Kwan Taung	4.18	-	-
Kyauk Taw-An- Minbu	193.01	-	-
Total	203.00		

Pathein(Begayet)-Einme-Nyaungdong-Yangon(Hlaingthayar) Railway Line



❖ Project Period 2009-2010 FY to 2017-2018 FY

Section	Length(mile)	Starting Date	Openning Date
Opened Section			
Pathein(Begayet)-Einme	20.75	1-12-2009	20-3-2011
Section to be opened			
Einme-Nyaungdong-Hlaingthayar	75.76	1-12-2009	-

On-going Project by External Assistance

On-going Project by External Assistance

- ❖ **Yangon-Mandalay Railway Improvement Project Phase 1 (Yangon-Taungoo Rail-line of 267 km) by Japan ODA Loan of US\$647.8 million**

- ⊕ **Phase 1** Yangon - Taungoo
267 km

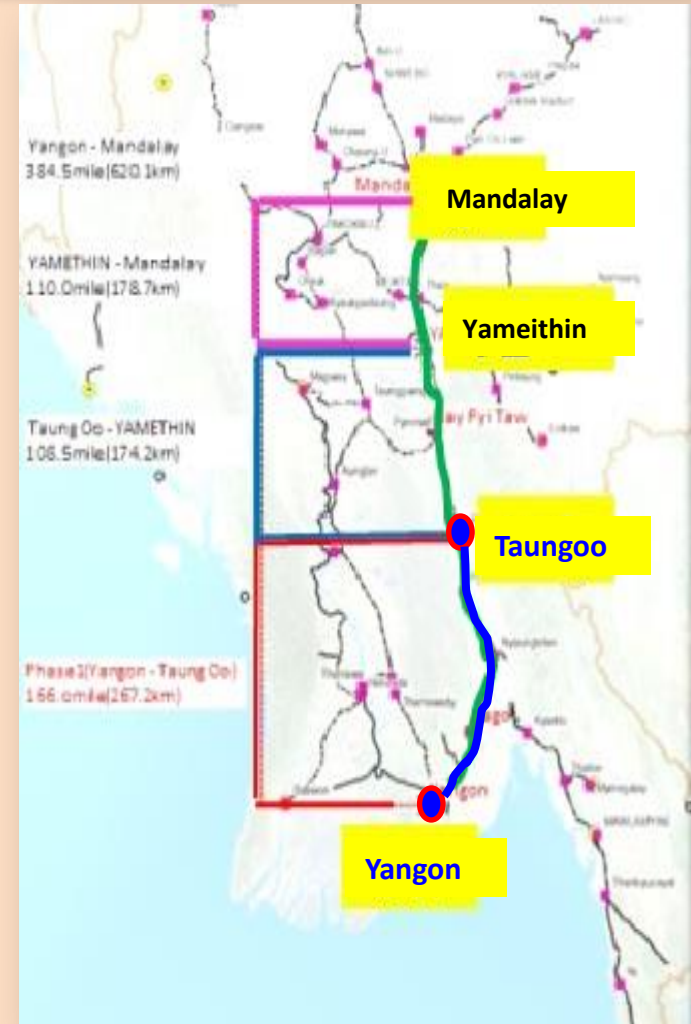
- ⊕ **Phase 2** Taungoo – Yameithin
175 km

- ⊕ **Phase 3** Yameithin – Mandalay
178 km

- ❖ **On-going**

- ❖ **Phase 1 Yangon – Taungoo Rail Line Upgrading**

- ⊕ According to the Project Schedule;
 - ⊕ Detailed Purpose has been conduct by JICA Expert Team as Grant,
 - ⊕ The Construction Management Consulting Service selection Purpose is under the negotiation.



On-going Project by External Assistance

❖ The Yangon Circular Railway Line Upgrading Project

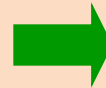
✚ The project consists of two parts:

- One is cover by Japan ODA Loan of Japanese Yen (24.866) billion (US\$ 207.8 million)
- the other is cover by national budget of Japanese Yen (11.41) billion (US\$ 43.38 million).

✚ The project composition is defined as follow:

The Project	“Project components covered by Japanese ODA Loan	Signaling Works DEMU Procurement works
	“Project components covered by National Budget	Civil and Track Works

- ### ✚ At present, MR submitted to parliament for approval of the using Japan ODA Loan and also for National Budget.



On-going Project by External Assistance

❖ Upgrading of Bago-Dawei Rail ways Line 507 km as Pipe Line Project

- ✚ Myanmar Railways submitted the project with estimated cost about 29.6 million US\$.
- ✚ But ADB increased the estimated cost up to US\$ 100 million at 17th Sub – regional Transport Forum (STF) held in Vientiane, Laos on 11 to 12 November 2013.
- ✚ Dawei deep seaport project and Dawei – Kanchanaburi rail line project would be linked with this line and for possible containerization; this Bago – Dawei rail line project should be upgraded.
- ✚ The project period is from 2016 to 2020.



Railway Links to the Neighboring Countries

Railways Links to the Neighboring Countries

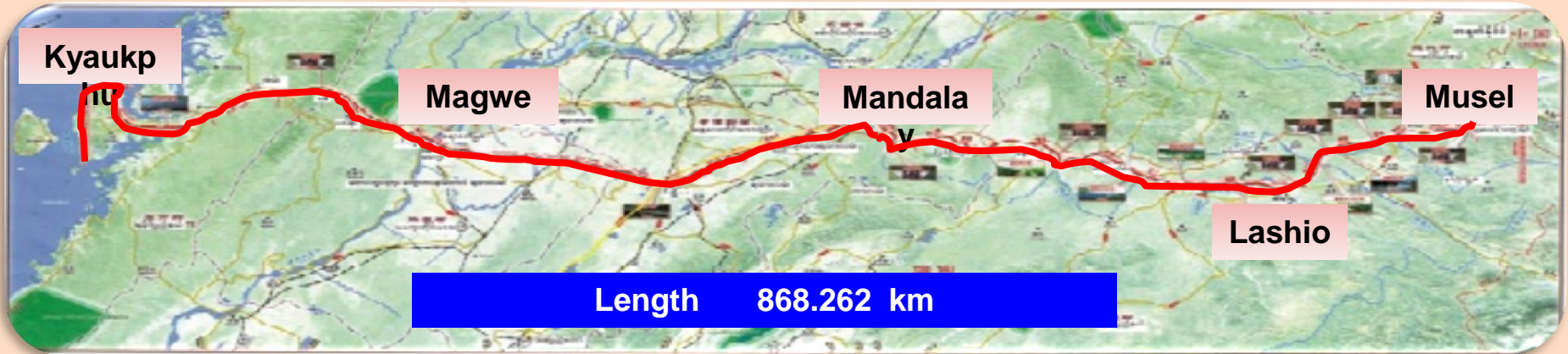
❖ Missing link between Myanmar and India



- ✚ The missing link between Kalay and Tamu is 135 kms in Myanmar territory. A survey team from Rail India Technical and Economics Services (RITES) had made the feasibility study for that link in 2004. That study reported this railway line is not economically viable.
- ✚ The first meeting of the Joint Working Group on Railways between India and Myanmar was held in Naypyitaw on 16-17 January, 2013.
- ✚ Participants from both side discussed to construct the new railway line from the termination station to border points in respective territory.
- ✚ In Myanmar territory, the new railway line will be 127.4 kilometer from the existing termination station (Kalay) to border township (Tamu).
- ✚ Both sides agreed to cooperate in preparing of detail report for Rail Line construction project.

Railways Links to the Neighboring Countries

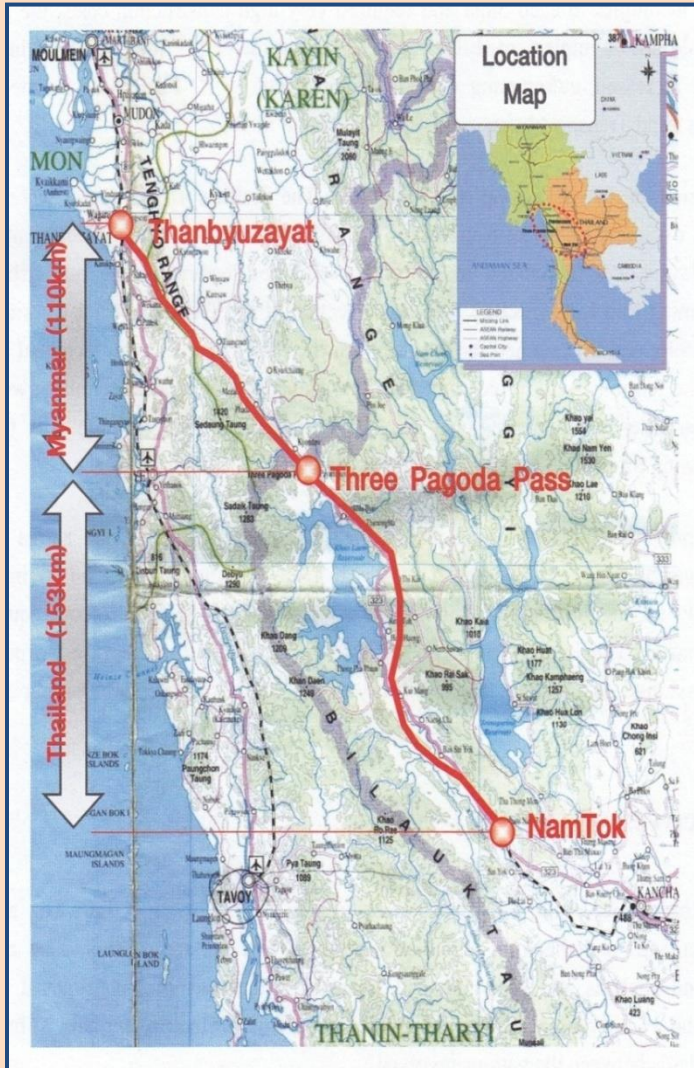
❖ Missing link between Myanmar and China



- ✚ For Muse-Kyaukphu Rail Transportation System implemented by BOT System, China Railway Engineering Corporation-CREC of the People's Republic of China and Ministry of Rail Transportation, the Republic of the Union of Myanmar signed Memorandum of Understanding in April, 2011 at Nay Pyi Taw and then the Supplementary Memorandum of Understanding was signed in May, 2011 at Beijing, China.
- ✚ That project is from Rulei of China to Kyaukpyu through Muse, Lashio, Mandalay, Magwe, Minbu and Ann in Myanmar. Total length is 4.2 km in China territory and 808.8 km in Myanmar territory altogether 813.015 km. The Expert team of CREC and Myanma Railway joint group made survey, geological investigation and checking infringed of buildings along the proposed alignment. And then the Feasibility Study Report was submitted in April, 2012.
- ✚ In the Feasibility Study Report, there are some unclear issues related to check the alignment, EIA and SIA evaluation, and also EIRR and FIRR evaluation. So Myanma Railways want to discuss with CREC on those issues.
- ✚ The original MoU was expired on April 27, 2013 and one year extension of MoU was signed on July 18, 2013 that term also expired again on 27th April 2014.
- ✚ The 2nd time Addendum to the MoU was signed on December 2014.
- ✚ The 3rd Addendum to the MoU is under process.

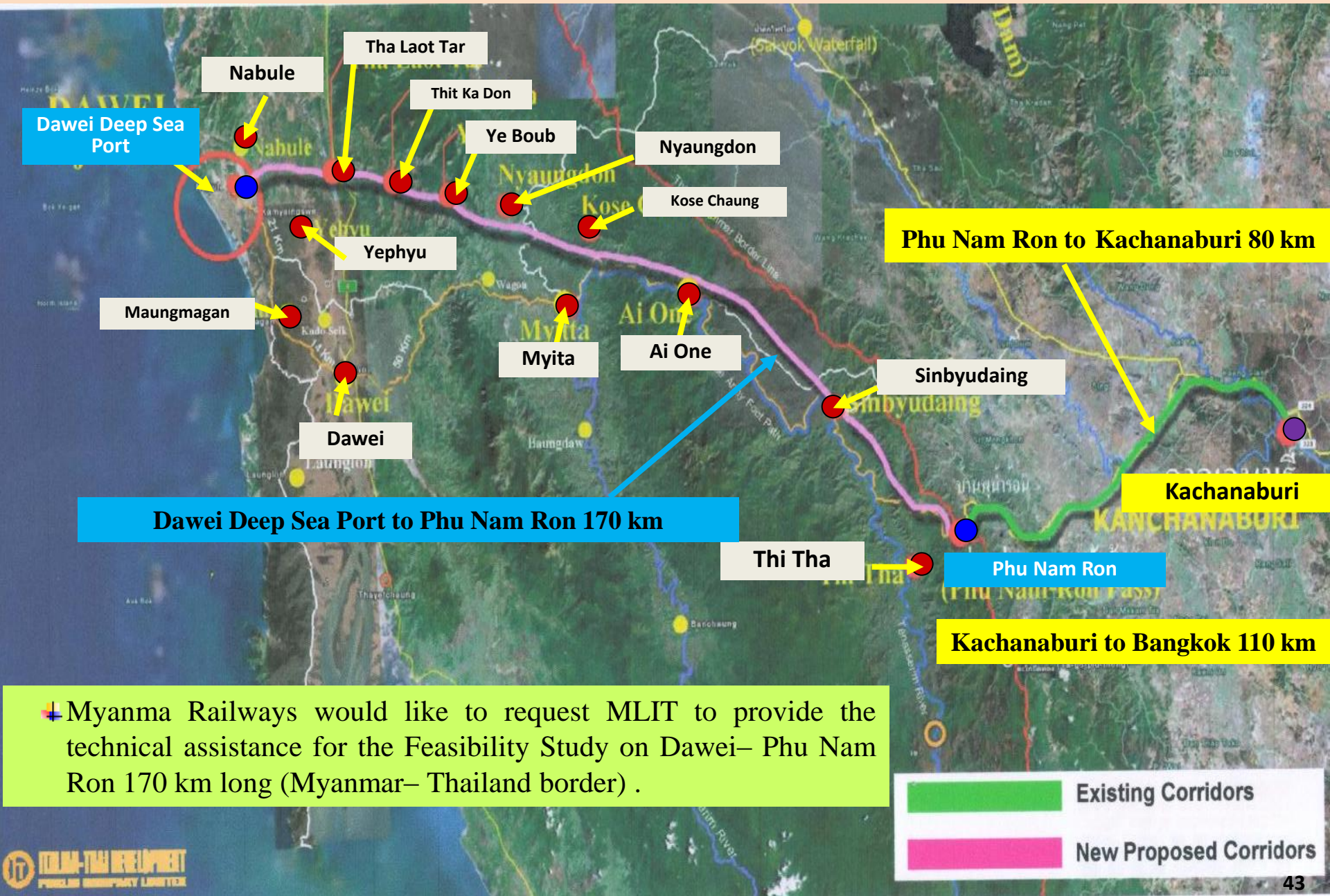
Railways Links to the Neighboring Countries

❖ Missing link between Myanmar and Thailand



- ✦ The rail link between three pagoda pass (Myanmar) and Namtok (Thailand) was spur line of Singapore - Kuming Rail Link Project.
- ✦ From 2005 to 2007, Feasibility Study for that rail link has been conducted by Korea International Cooperation Agency (KOICA) and submitted their report to each government.
- ✦ Due to construction of dam in Thailand side, some rail areas were flooded. New alignment might be mountainous area, steep gradient, high construction cost and low passenger & freight transport and more running time.
- ✦ Therefore, Thailand and Myanmar agree to put off the project at the 13th SKRL- SWG Meeting held in Myanmar in October, 2011.
- ✦ At the 14th Special Working Group Meeting on Singapore-Kunming Rail Link Project, held in Vientiane, Laos PDR, in 2012, representative from Thailand submitted to construct new rail line, Dawei - Kanchanaburi instead of old line Three Pagoda Pass - Kanchanaburi.

Proposed Alignment



Dawei Deep Sea Port

Nabule

Tha Laot Tar

Thit Ka Don

Ye Boub

Nyaungdon

Kose Chaung

Yephyu

Phu Nam Ron to Kachanaburi 80 km

Maungmagan

Myita

Ai One

Sinbyudaing

Kachanaburi

Dawei Deep Sea Port to Phu Nam Ron 170 km


Dawei

Thi Tha

Phu Nam Ron

Kachanaburi to Bangkok 110 km

Myanma Railways would like to request MLIT to provide the technical assistance for the Feasibility Study on Dawei– Phu Nam Ron 170 km long (Myanmar– Thailand border) .

	Existing Corridors
	New Proposed Corridors

CONCLUSION

“ CONCLUSION ”

As presented above , although Myanmar Railways is facing Big demand and lack of infrastructure and rolling stocks, we will try our very best for Myanmar Railways to meet demand , and enhance the quality of the **Rail Transport Service** , with Modernization and Rationalization in the short future

Thank You

