



# ZAMBIA RAILWAYS LIMITED



**THE DEVELOPMENT  
OF SUSTAINABLE  
INTERMODAL  
TRANSPORT  
SYSTEM IN AFRICA:  
THE ZRL APPROACH**



**ZRL Presentation to the Delegates of the 13<sup>th</sup> Edition of the Inter- Modal Transport Africa Conference and Exhibition**

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# TABLE OF CONTENTS

- Background
- Mission Statement
- Vision Statement
- Corporate Strategic Goals
- Current Route Network
- Rail Network Versus Road Coverage in Zambia
- Establishment of Intermodal Dry Ports
- ZRL Achievements
- ZRL Service Strengths
- Conclusion



# BACKGROUND

- ZRL is the national railway organisation of Zambia mandated to provide both freight and passenger train services to its customers.
- In September, 2012, the Government took over the management of ZRL from the concessionaire known as Railway Systems of Zambia (RSZ) and commenced its recapitalisation in 2013.
- The type of decision by the Government of the Republic of Zambia was premised on the inter-modal approach of combining both rail and road transport in Zambia and the sub region at large.
- The Zambian Government continues to focus on infrastructure development including railway infrastructure.
- With reliable, dependable, and efficient train operations in Zambia, infrastructure development projects embarked on by the Government under the link Zambia 8000 and pave Zambia 2000; etc would become more viable.
- This arises from the fact that there would be reduced damage to the road infrastructure as more of the heavy and bulk cargo would be moved by rail.
- Zambia Railways has continued to make strides towards regaining its position as a major contributor to the development of sustainable intermodal freight transport system in Africa as highlighted in this presentation.



# MISSION STATEMENT

“To provide reliable, secure and environmentally friendly cargo and passenger rail transport to the satisfaction of all stakeholders”



# VISION STATEMENT

“To be the leading bulk and heavy cargo transport company in Zambia and the most reliable link in Southern Africa railway network operating in a cost effective, efficient and safest manner”



# STRATEGIC GOALS

- To increase train speeds to an average of 70km/h and 80 km/h for freight and passenger trains respectively after full track rehabilitation
- To provide adequate and reliable rolling stock by 2018 for 5 million tons/ year
- To achieve 3% on sales as net profit
- To sustain business growth through high quality services
- To make ZRL the employer of choice
- To increase passenger traffic to 400,000 people per year.



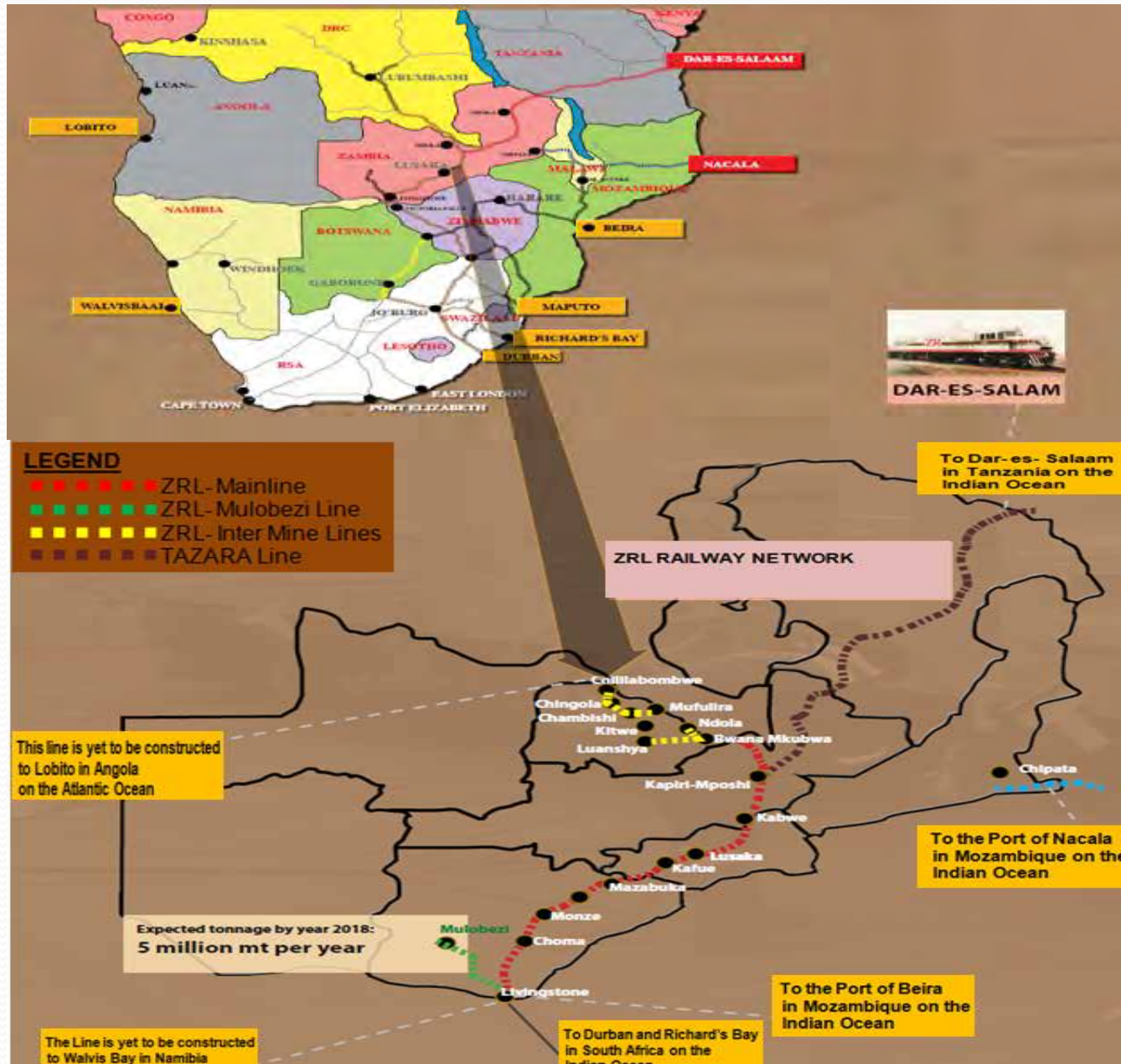
# CURRENT ROUTE NETWORK

The current ZRL total route length is 1,248 km of 1,067 mm gauge, single track and is made up of:

- Mainline from Vic Falls Bridge to Kitwe...848 km
- Branch Lines.....214 km
- Mulobezi Line.....162 km
- Chipata- Mchinji Line.....24 km



# ZRL – CURRENT ROUTE NETWORK AND CONNECTIVITY IN THE SUB-REGION



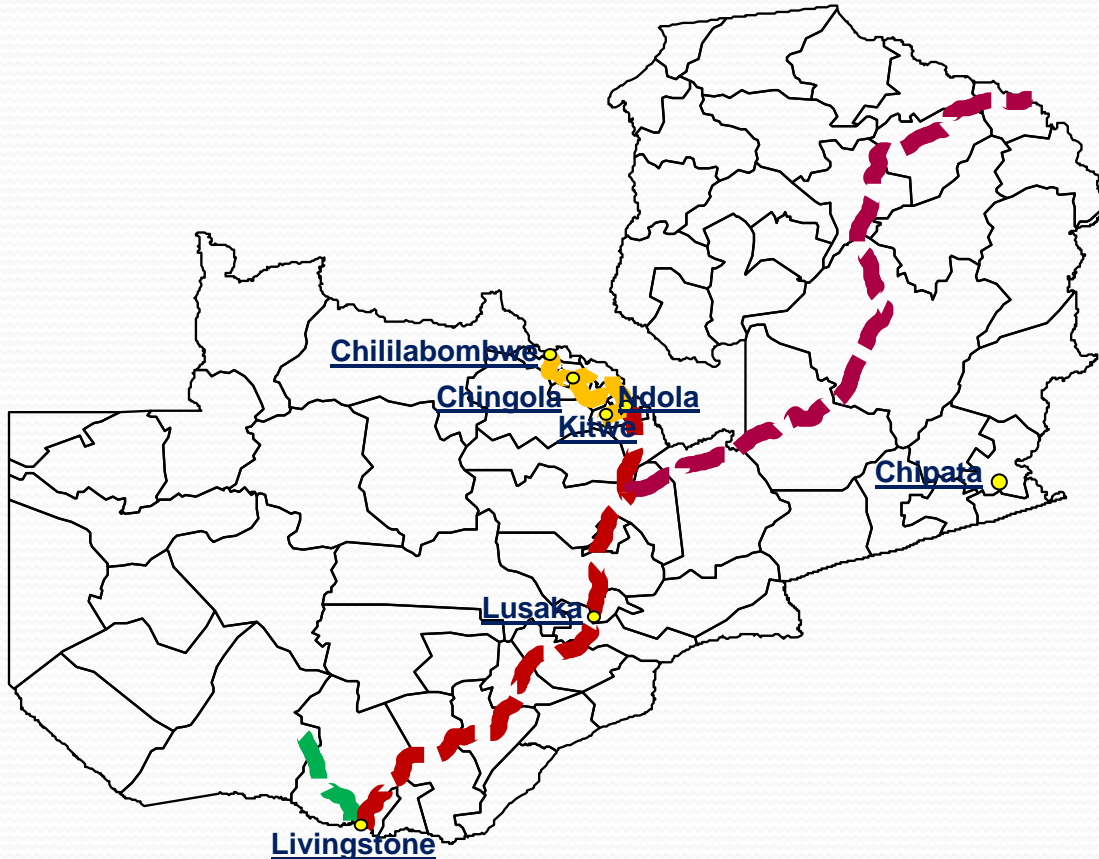




# ESTABLISHMENT OF INTERMODAL DRY PORTS BY ZRL

ZRL intends to put up intermodal terminal facilities through public private partnerships for handling cargo (ZRL will provide land)

The map below shows the targeted locations for the development of these terminals



The goal is to offer improved intermodal service delivery to a wide range of customers

The terminal facilities will see a significant growth in the movement of copper, containers, equipment, parts, coal and other traffic by ZRL. Importers will benefit by providing flexible terminals for easy offloading and loading



# ZAMBIA- RAIL AND ROAD NETWORK

Road Map

## ROAD COVERAGE AND RAIL NETWORK IN ZAMBIA





# ACHIEVEMENTS BY ZRL

## **(A) CORRIDOR IMPROVEMENTS**

- ZRL made strides by expanding and growing its operational routes after the cancellation of the concession. The following routes have been opened:

### **(I) THE NACALA CORRIDOR**

- ZRL commenced train operations on the Nacala Corridor (Chipata to the Port of Nacala) in May, 2014 in our efforts to contribute to the transport needs, particularly, in respect of long distance goods traffic in the eastern part of Zambia and the sub region at large.
- The company has 3 locomotives and 71 wagons for train operations on the Nacala corridor.





# ACHIEVEMENTS BY ZRL

## (A) CORRIDOR IMPROVEMENTS

### (I) THE NACALA CORRIDOR

- ✓ In order to enhance its train operations on the Nacala Corridor, ZRL intends to make the following investments:
  - i. Procurement of 10 trucks for trans-shipment of cargo between Chipata and the other parts of Zambia where there is no rail line; and
  - ii. Develop a container terminal facility at Chipata for inter-modal transportation.



Cotton loading at Chipata Station



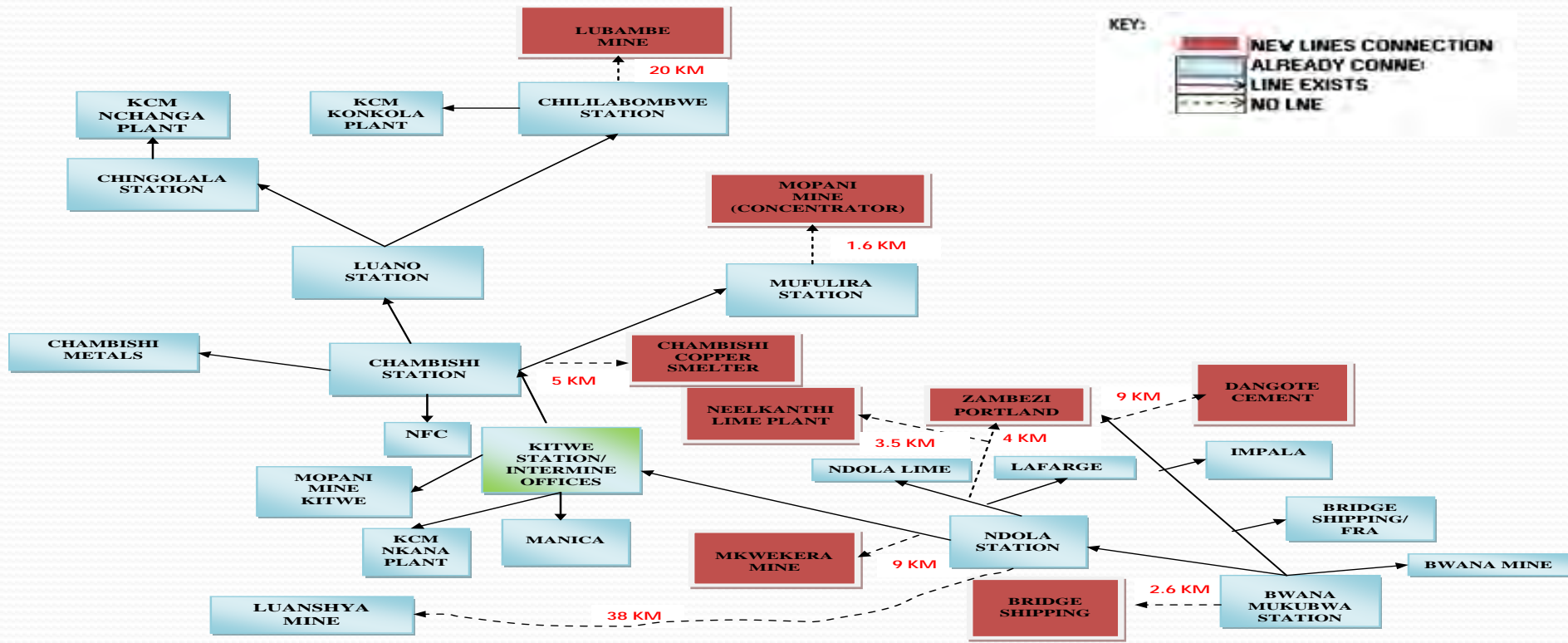
Cotton loaded in containers at Chipata



# ACHIEVEMENTS BY ZRL

## (II) INTER-MINE OPERATIONS

- The Inter- mine railway network (total route length of 167 km) is one that connects the mining plants to ZRL's rail network on the Copperbelt Province.





# ACHIEVEMENTS BY ZRL

## (II) INTER-MINE OPERATIONS CONTD

- The railway lines on the Inter- mine deteriorated to unprecedented levels due to lack of maintenance and vandalism as the concessionaire had very little interest in the Inter- mine.
- However, ZRL has resuscitated the Inter- mine operations. Further, the company intends to construct new linkages to the new mining plants as shown in the map.
- Currently, the market size in the Inter- mine Region which is Zambia's main economic stay is 3 million tons per year. ZRL expects to move up to 2.1 million tons per annum from the Inter- mine region once the new lines are constructed.



ZRL is manufacturing side tipping wagons for the purpose of hauling copper concentrates and limestone on the Inter- mine. The programme started in Nov, 2014 and to date 7 wagons have been produced, tested and certified suitable for train operations.





# ACHIEVEMENTS BY ZRL

## (II) MULOBEZI TRAIN OPERATIONS

- ZRL took over Mulobezi mixed train operations on 1<sup>st</sup> January 2014 from Leoson General Contractors. At take over, the line and passenger coaches were in a very deplorable state.
- ZRL maintained the line and built staff offices, passenger waiting hall, and a platform at Mulobezi station. The company also refurbished passenger coaches and livestock wagons for Mulobezi train operations. Further, there has been an improvement in the transit time of our trains from 3 days at takeover to 10- 14 hours between Livingstone and Mulobezi.
- This line is an important route for Zambia and it can be a possible link to Tsumeb in Namibia where there is a line connecting to Walvis Bay.





# ACHIEVEMENTS BY ZRL

## **(B) RAILWAY TRACK REHABILITATION**

- ZRL commenced the rehabilitation of its railway track in October, 2013. The main objective of track rehabilitation is to increase speed to an average of 70km/h for freight trains and 80km/h for passenger trains.
- As at 31<sup>st</sup> December, 2014 the following works were done by ZRL under its track rehabilitation programme:

<b>Activity</b>	<b>Progress Made</b>
Re- Sleepering Involving 442 Km of the Track	137 Km
Deep Screening Involving 524 Km of the Track	478 Km
Tamping and aligning of the track 966Km	157Km
Ballasting of 966 Km of the Track	58 Km

So far, these activities have resulted into gradual increases in train speeds from an average of 15km/h- 20km/h at takeover to an average of 30km/h- 40km/h for freight and passenger trains respectively.

A total of 291,000 concrete sleepers have been installed to replace expired wooden and steel sleepers on the track





# ACHIEVEMENTS BY ZRL

## **(C) ROLLING STOCK REHABILITATION**

- The aim of the rolling stock rehabilitation is to provide adequate and reliable rolling stock and locomotives for the haulage of more traffic volumes and movement of more passengers.
- ✓ ZRL has a total fleet of 37 and 2,094 locomotives and wagons respectively. 25 locomotives are operational and 12 are defective where as 1,363 wagons are operational, 731 are defective.
- ✓ Out of the 18 locomotives earmarked for rehabilitation and periodical overhaul, 7 locomotives were overhauled by 30<sup>th</sup> June, 2015.
- ✓ ZRL has rehabilitated 91 wagons and refurbished 13 passenger coaches.
- ✓ ZRL has commenced the re-manufacturing of ten (10) locomotives at Kabwe workshops, so far, Four (4) U20C Locomotive frames have been prepared.





# ACHIEVEMENTS BY ZRL

## **(D) EQUIPMENT PROCURED**

- The following rail equipment and machinery which is very critical to the operations of Zambia Railways has been procured:
  - q 30 Passenger Coaches of which 13 were received in Oct, 2014 and are operational and is awaiting for 17 coaches from Transnet Engineering of RSA;
  - q Six (6) sets of the Hegensheidt- MFD (Multi-Functional Dynamics) re-railing equipment. This equipment is used for raising and re-railing trains during train derailments;
  - q Fifty (50) push trolleys for ferrying track workers and their tools;
  - q Fifty (50) dip trolleys for ferrying rail materials during rehabilitation and track maintenance; and
  - q Three (3) heavy duty motorized trolleys , Two (2) tamping machines for leveling and aligning the track and a 120 Ton Crane have been received by ZRL.



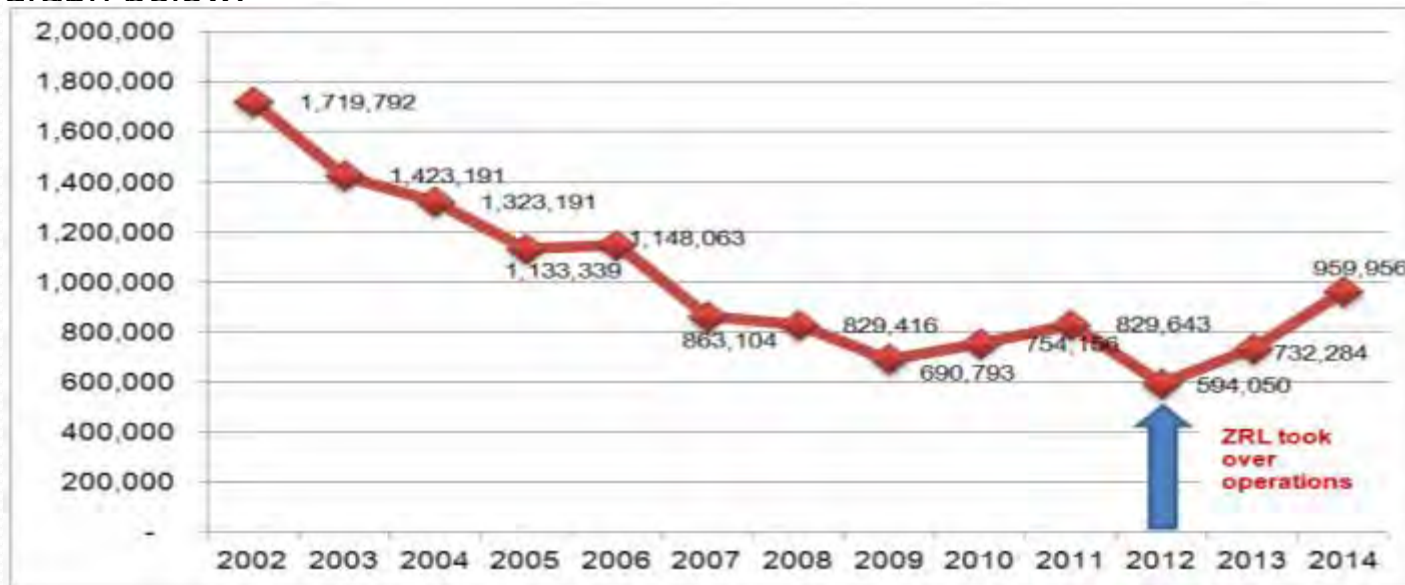
- ✓ ZRL has received 20 thermit welding machines and one (1) out of the two (2) mobile flash butt welding machines for welding of the joints on the track in order to increase train speeds.



# ACHIEVEMENTS BY ZRL

## (E) FREIGHT PERFORMANCE

- The performance of ZRL has continued to improve from 2012 when the Government took over the management of the company from RSZ as shown in the graph below:



- The performance of ZRL was 1.7 million tons in 2002 as shown in the table above. However, under the concessionaire the freight performance dropped to 1.4 million tons in 2003.
- The poor performance continued until it reached 594,050 tons in 2012 when the concession was nullified. It improved to 959,956 tons in 2014 as shown in the table above.



# ZRL- SERVICE STRENGTHS

- **Bulk haulage capacity:** Able to transport a minimum of 1,200 tons per one train, compared to road haulers an average of 40 road trucks is needed to haul the same capacity.
- **Convenience:** ZRL gives access to all Zambia's mining towns on the copper belt.
- **Inter- railway working arrangements:** ZRL has effective operational arrangements with neighboring railways such as the Democratic Republic of Congo (SNCC), Zimbabwe (NRZ), Tanzania (TAZARA) , South Africa (TFR), Malawi (CEAR) and Mozambique (CFM and CDN).
- **Security:** ZRL provides security of goods in transit. Trains are secured from hand over at departure till delivery to the customer upon arrival. Armed security personnel trains are reinforced by armed personnel on escort vehicles which run parallel to the train.
- **Suitable wagons:** ZRL has different wagon types for loading various commodities tailored to suit client needs.





# CONCLUSION

- Intermodal is an ideal form of transportation for import, export and local traffic. It is key to any success in any supply chain management.
- In Zambia, where ZRL cannot reach all business houses due to lack of railway connectivity, the road hauliers are being engaged to collaborate with us to deliver the cargo for the customers. This has worked well for movement of local coal from Maamba Collieries and fertiliser etc.
- Intermodal working system can also be employed as a strategy to pick more cargo by ZRL and local road haulers. The company intends to link new customers who are not linked by rail such as Dangote Cement, Zambezi Portland Cement, etc by implementing intermodal system.



**THANK YOU!**  
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ZRL- Presentation at the Inter-modal Transport  
Africa Conference