

NEW OPPORTUNITIES IN THE RAILFREIGHT SECTOR



THE **FREIGHT TRAIN** COMPANY

- The National Rail Policy Green paper of 2015 said the following
 - **“ PRASA and TFR are the Government enablers as operators in the rail sector. Service will be provided by operators, which may be SOC’s or the private sector, or a combination of any of them.”**

- And the White paper of 2017 said
 - **“Regulated, on rail competition shall be introduced on TFR’s existing Cape Gauge national network by admission of qualified-----third party freight train operators”**

- **So we suggest it is time for something new**

- These new rules would make it possible for cargo owners to lease from operators optimised train sets based on the routes they envisage using.
- And to seek proposals from a choice of train operators(including Transnet Freight Rail).
- These sets should maximise payload based on axle loads and gradients and loco tractive effort.
- And turn time should be made efficient by micro management, set by set, journey by journey for a range of O/D pairs.
- And paid for in a manner that allows reward for efficiency on a **rate per km and rate per day basis**—just like auto hire.

- This requires a detailed knowledge of the operating circumstances prevailing on the railway and of the flow routes intended.
- The rolling stock building block choice currently available is shown below.

class TAL branch/main line loco-16t a/



60 t payload capacity-4 hoppers



class 43 main line loco-21t a/



44 t payload capacity-3 or 4 hoppers

- For our example we have chosen the option with reasonable route accessibility.

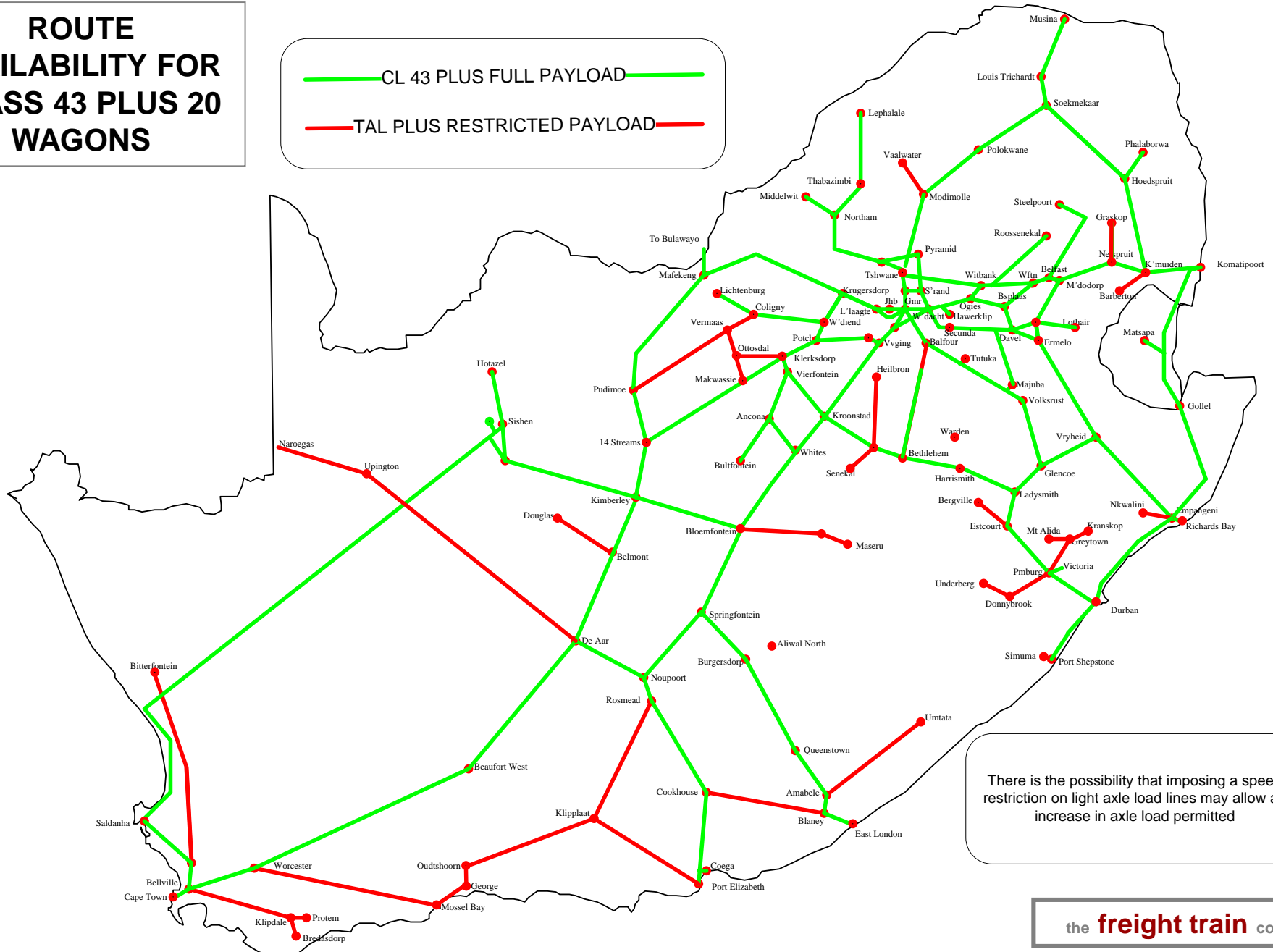
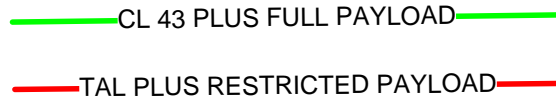


- This locomotive is one of the newest from GE—called the class 43.
- It has a 21 ton axle load—thus it cannot go on branch lines.
- But it is capable of hauling our standard train set up and down the escarpment and on any inland 20 ton axle load route.
- The branch line loco will have to be used to feed wagons to the interchange point.
- It has become the standard main line loco and is thus familiar to train crews.
- On flat Highveld lines wagon numbers could be augmented.



- The FGL 3 is the most modern currently available grain wagon.
- It is top loading and bottom dumping.
- It has the ability to fill to 60 ton payload—but can be short loaded to comply with restricted axle load lines(44tons).
- It is air brake fitted.
- This wagon can run in sets of 20 almost anywhere in South Africa.
- The train can thus carry 1200 tons payload(880 on 16 ton axle load track).
- Important for the trains efficiency is a 6 hour load and a 6 hour discharge.
- This may mean upgraded terminals and track layout.

ROUTE AVAILABILITY FOR CLASS 43 PLUS 20 WAGONS



There is the possibility that imposing a speed restriction on light axle load lines may allow an increase in axle load permitted

- These rate estimates will need confirmation with a train operator and the track owner.
- Routes shown are chosen to show a spread of possible examples.
- Note the savings on full both ways trips.

FROM	TO	Rail dist round trip	Pay load	Total time	Rate per day	Rate per km	Rate per ton	Remarks	Road estimate
Bultfontein	Robinson	710	1200	2	29149	133.5	127.55	Empty return	242
Klerksdorp	Durban	751	1200	2.4	29149	133.5	141.82	Grain to Durban	254
Durban	Klerksdorp	751	1200	2.4	29149	133.5	141.82	Bulk Fertiliser return	254
Mod River	Dal Josafat	1902	1200	4	29149	133.5	308.70	Empty return	681
Vermaas	Robinson	418	880	2.4	29149	133.5	142.89	Axleload restricted	152
Hennenman	East London	1558	1200	2.6	29149	133.5	236.43	Export port comparison	573
Hennenman	Coega	1740	1200	2.6	29149	133.5	256.67		627
Hennenman	Durban	1262	1200	2.4	29149	133.5	198.65		419

Axleload restricted lines add a surcharge of R14.90 per ton

- Introduction of this system will see the end of the next weeks business concept and the relative inflexibility and unreliability of that system.
- Instead a Grain Train centre (GT) would be introduced.
- This would consist of:-
 - A rep of the track owning company whose main task will be the creation of train paths for each train set with as little as 3 hours notice.
 - A rep of the rolling stock owner whose main task will be to ensure crewing and fuelling at appropriate intervals and communication with trains directly.
 - A rep of the cargo owners whose main tasks will be to provide train routing instructions and ensure loading and unloading terminals are geared up.
- The cargo owners may wish to provide roving superintendents to help speed turn time.
- We are aware that persuading all parties to change and co-operate will be difficult.

- Two other opportunities arise from this
 - Loading on the branch line itself(not at a silo)-to avoid short haul and silo costs
 - Dispensation to use 80 ton payload short haul vehicles to silos

- Needless to say there is still a lot of research into route specific details that must be completed for each cargo owner.
- And there will be **many more than one option** that will emerge for train set assembly.
- And individual cargo owners peculiarities must be taken into account.
- So these results are still preliminary and details may well alter matters but:-



**A NEW SYSTEM CAN BE CREATED THAT
OFFERS MUCH MORE RELIABLE AND
FLEXIBLE DELIVERIES AND HAS THE
POTENTIAL TO OPERATE AT FAR LOWER
COSTS**



FGL-3
86-100 300
TARE 18800kg
LOAD 80000kg
774

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THANK YOU

Some photos thanks to the late Col Andre Kritzinge