

HaRakevet

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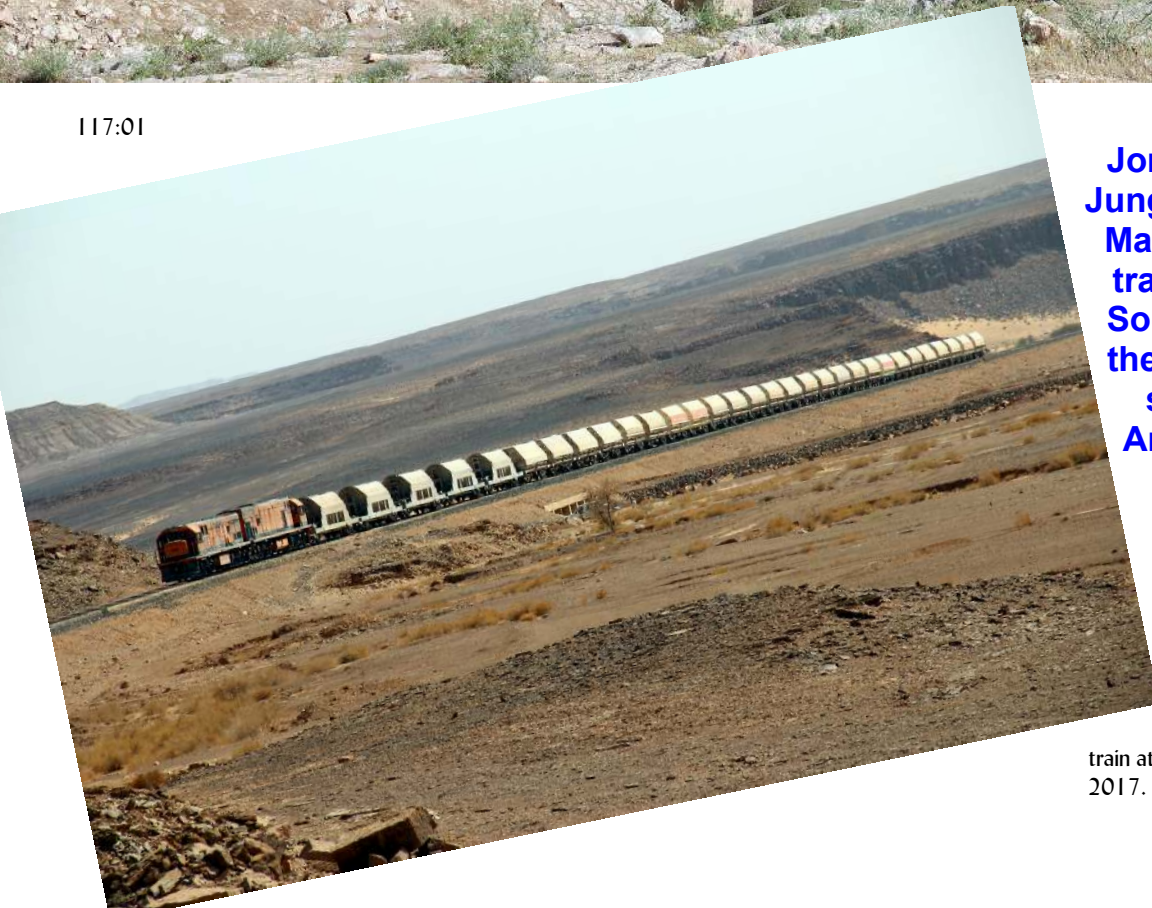
הרכבת

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117:01



**Jordan Hedjaz Railway
Jung 2-8-2 No. 52 with the
Mafrak to Aqaba special
train of the Branch Line
Soc. & LCGB heads over
the ten-arch bridge at the
southern outskirts of
Amman on 11 May 2017,
made up of coaches
Nos. 431, 4, 2 and 1.
(Photo: Harel Even).**

For how much longer will these trains run?
Aqaba Railway GE U20C no.304 and GE
C24 no. 701 double heading an Aqaba
Port to Aqaba Hedjaz empty phosphate
train at the entrance to Hiswa station on 13 May
2017. (Photo Harel Even).

EDITORIAL

It is getting harder and harder to find space for historical items due to the sheer volume of new development, both in Israel and elsewhere. Under 'News from the Line' one will find, in addition to several references to line closures for infrastructure works, or special timetables for special events, news on the A1 line, Modi'in Curve, Carmiel and even Afule-Jenin projects; orders for electric locos and coaches. IR traffic statistics would do any railway system proud. It is hard to keep an overview sometimes. And despite difficult political climates there is progress on new lines in Turkey and Iran, to mention but two of the countries covered in our rubric 'Other Middle East Railways'.

Enjoy! The Editor.



117:03. Traxx locos under construction.

117:04:

NEWS FROM THE LINE

• (i). TEMPORARY SHUTDOWN OF TEL-AVIV HASHALOM STATION.

Due to the digging works of the Light Rail Tunnels by NTA Company, with the possibility of subsidence under the tracks, changes were to be made to the railways traffic. "Commencing on the night between Sunday 05.03.17 and Monday 06.03.17 at 00:01 until Sunday 12.03.17 at 05:00, the segment of Tel-Aviv Savidor Central - Tel-Aviv HaHagana and Tel-Aviv HaShalom Stations will be closed. Changes will be made to the railways' traffic:

·Railway traffic from/to North: shall begin and end at Tel-Aviv Savidor Central Station.

·Railway traffic from/to South: shall begin and end at Tel-Aviv HaHagana Station.

·Jerusalem – Herzliyya Line: the railway traffic shall begin and end at Lod Station.

-A designated travel route bypassing Tel-Aviv Stations will be operated:

Coming from North: From Nahariya Station/ Haifa, Herzliya, Lod, Ramla, Kiryat Gat, Lehavim-Rahat Stations up to Be'er Sheva Stations

Coming from South: from Be'er Sheva, Lehavim-Rahat, Kiryat Gat, Ramla, Lod, Herzliya Stations up to Haifa/ Nahariya Stations

Stopping at Ramla Station on Sun.-Thu.

Stopping at Binyamina Station on Fri. only

Night trains to Ben Gurion Airport: will operate from/to Tel Aviv Savidor Central Station. Shuttle services will be operated (free of charge) in both directions.

Hod Hasharon – Tel Aviv Line: on the following dates the frequency of trains will be reduced:

Commencing on Mon. 06.03.17 (from 18:00) and until Tue. 07.03.17 (at 06:00)

Commencing on Thu. 09.03.17 (from 20:00) and until Fri. 10.03.17 (Sabbath)"

But the blockage was ended early: From a press release of 08.03.2017 by the Transport and Roads Safety Ministry and Israel Railways Ltd.:

"Transport Minister Mr. Israel Katz today instructed Israel Railways to reopen the Tel-Aviv Hashalom station and consequently the sections between this and Tel-Aviv Savidor/Central northwards and Tel-Aviv HaHagana southwards; in other words resuming traffic as normal. The reason is that, while boring tunnels for the Tel-Aviv METRO/LRV Red Line went on, 90 sensors and measuring devices which were installed at Tel-Aviv Hashalom station had shown that works did not affect the soil and tracks, neither did they cause any danger. Therefore traffic will resume tomorrow, 09.03.2017 at 05:00 instead of 12.03.2017 at 05:00."

Despite free bus shuttle services which covered 1,200 journeys between the stations carrying over 60,000 passengers, the line closure caused severe traffic jams and the public pressured hard to resume service; at least this proves again rail's importance!

•(ii). ELECTRIFICATION WORKS.

If one goes to:

<http://www.ynet.co.il/articles/0,7340,L-4929858,00.html>

one reaches a brief video, very slick and hi-tech, (in Hebrew) from ynet, showing work on installing electrification masts etc. on the new Jerusalem line.

•(iii). TBM'S TO GO.

Transport Minister Mr. Katz said on 08.03.2017 during his visit at the A1 line that the two TBMs (Tunnel Boring Machines) used on the line are now "unemployed" and may probably be for sale.

• (iv). KIRYAT MOTZKIN STATION TO BECOME RAILWAY MUSEUM.

From 'Haaretz' 07.03.2017 - from an article by Naama Riba. "A green wooden hut at the Kiryat Motzkin station in northern Israel may not look so special, but it's being turned into a small museum, celebrating its status as the last surviving building of its type that was constructed on the pre-state's railroads during the British Mandate era. "This building is the last vestige, as far as we know, of the wooden structures that the Mandate government built along the railway routes," said Chen Melling, director of the Israel Railway Museum in Haifa.Most of the structural elements in train stations from the Mandate period have been destroyed. "Some of the stations were closed and the buildings replaced. There are several stations with historical remains, like Binyamina and Atlit, but not like this. This station was preserved because it was one of the last to be built, and wood is a material that doesn't generally survive. There were wooden huts in the original Tel Aviv station and in Binyamina, Atlit, Kiryat Haim and Ein Harod – where, for example, the station closed in 1938."

The historical hut had two levels, one cubicle for the cashier, and one cubicle for the signalman. The cashier's cubicle which today holds the original safe and cash register, will become an office of sorts for

one of the railway directors. The signalling space will become a small museum that will showcase the history of the station. "We left most of the original parts," says preservation architect Nili Bar-On, who is in charge of preserving the structure, together with fellow architect Idit Shlomi. "We added to some of the planks, the facade of the building, the floor and the structure, and we replaced what was rotten. The approach was to preserve the maximum amount of original material. Before we took everything apart, every beam was numbered so they would find their proper place during assembly. The only thing we replaced was the roof, which is similar to the original one.

Kiryat Motzkin was established in 1934, but the route that passed through it was part of the Hejaz railroad.... The railroad, which was built between 1911 and 1913, began at the Balad al-Sheikh station (today's Tel Hanan)..... the railroad crossed the Kishon River on a bridge that still exists, and from there to Acre, without any intermediate stops. In 1914, with the outbreak of World War I, the Ottoman Empire joined the Axis powers. [sic. - in WWI they were the 'Entente'.] During that period parts of the railroad tracks were removed on many routes.... and used for the military railroad built by the Turks under the guidance of the Germans. The tracks from Haifa to Acre were also taken up and service to Acre was discontinued.

The British renewed the track in the 1920's.... there were three stations on the line in 1927: Acre, Acre Junction and Haifa. In 1929 another station was added, Sabinya, which later became the Kiryat Motzkin station. This station was meant to serve a farm that was started by Ephraim and Sabinya Katz in the area that is today Kiryat Bialik.The train became the most popular mode of transport for residents of the Krayot (the Haifa suburbs) in the 1930's, because most of them were merchants and government workers who worked in Haifa's lower city. In addition, there was no regular bus service and the road between Haifa and Acre was poor. The train would slow down between Kiryat Haim and Kiryat Motzkin and people could easily board and disembark. The architects note that this 'easy' boarding cost one passenger his leg, which was severed by one of the cars.

During World War 2, after the capture of Syria and Lebanon by the Allies and transferring these regions into the hands of the Free French forces, British army forces remained in the area. They required orderly supplies, which led to the building of the Haifa-Beirut-Tripoli railway. Due to the importance of the line, the British laid a standard-gauge track from Kiryat Motzkin to Beirut and Tripoli and three tunnels were excavated at Rosh Hanikra on the Lebanon border....

Preserving the wooden hut is unusual for Israel Railways. Government decisions regarding preservation orders usually only apply to local government; organizations such as the Israel Electric Corporation and Israel Railways have no government incentives to carry out preservation. "It's an area that wasn't handled properly in the past," said Melling. "In recent years, due to outside pressures and internal decisions, we've tried to turn the ship around and to change direction. We're implementing a more orderly preservation process and examining the importance of preserving the railroad – which played a significant part in the founding of the state."

Landscape architect Michal Zussman, who is in charge of the environment and landscaping at Israel Railways, outlined their other plans. "We're starting a preservation process of the Atlit station building and are about to preserve a structure from the period when the Valley Railway operated, next to the Israel Railway Museum in the Haifa East station."

- (v). TRAXX LOCOS FOR IR UNDER CONSTRUCTION.

In 'Eisenbahn Kurier' 3/2017 is a photo of the first of the new TRAXX Bo-Bo electric locos for IR under construction. (Interesting is how individual parts are painted before assembly). From Andreas Lindner comes the following information:

"62 locos have been ordered so far; They are classified as Type TRAXX F160 AC3; three pre-series locos (Nos. 3001-3003) are being constructed initially – at this point No. 3001 is under construction but Nos. 3001 & 3002 should be sent before the end of 2017 to be tested on the extensive test track at Velim in the Czech Republic whilst 3003 will be sent to Israel for experience to be gained. In 2018 the series production will commence. Compared to the standard version there are additional air-conditioning units mounted on the roof over the cabs. In addition the brake resistances will be so laid out that they prevent an excess of recuperated energy being returned to the catenary if this should cause an overload."

It is hoped that nine locos might have been delivered by the time test running commences on the A1 line in 2018. IR states: "The electrification project is in progress and turns a vision to reality. It will significantly change the railways by being a main factor in the railways' future ability to keep growing and reach new destinations".

- (vi). NETANYA – HERZLIYYA TRACKWORKS.

Israel Railways Ltd. announced on their website that "between Thursday 16.03.2017 at 22:00 (instead of 19:00 as originally planned) and Sunday 19.03.2017 at 05:00 the line section between Netanya Sapir station, Beit-Yehoshua, and Herzliya will be closed due to infrastructure works to be carried out to improve tracks. Consequently, trains from the south will terminate at Tel-Aviv University station; trains from the north will terminate at Netanya station; trains between Beer-Sheva and Hod-HaSharon will operate regularly as well as trains between Tel-Aviv and Modi'in, Jerusalem, and Beer-Sheva through Lod and Kiryat-Gat; bus shuttle services will be provided."

- (vii). MODI'IN CURVE WORKS START.

From a press release of 15.03.2017 by the Transport & Roads' Safety Ministry and Israel Railways Ltd.: "On 14.03.2017, the ceremony of laying the corner stone for the so called "Modi'in Curve"- the rail link between Modi'in and the A1 line - took place at Modi'in Outskirts station near the worksite where construction works are already underway.

Participants in the ceremony were: Transport Minister Mr. Israel Katz, the mayor of Modi'in and the Chairman of the Federation of Israeli Local Authorities Mr. Haim Bivas, Israel Railways Ltd. General Manager Mr. Shahar Ayalon, and many other VIP's.

The 2.5 km linking curve at a cost of \$90M (NIS 330M) is to be completed towards the last quarter (Q4) of 2019; it will improve significantly the service for the people of Modi'in (currently there is no rail link to Jerusalem) with a 17 minutes journey between Modi'in Outskirts and Jerusalem HaUma stations with 2 trains/hour in each direction at rush hours; this will save many a lot of stressful driving on the congested Roads 1 and 443 to Jerusalem.

The project includes also upgrading and enlarging Modi'in Outskirts station, an overhead pedestrian bridge to link directly with the nearby Isparo malls' area, a new parking area south of the station, infrastructures for railway bridges, supporting walls, track understructure, installing the required systems in the underground subways, landscape rehabilitation, etc.

The railways have published tenders for the project with the following two winners:

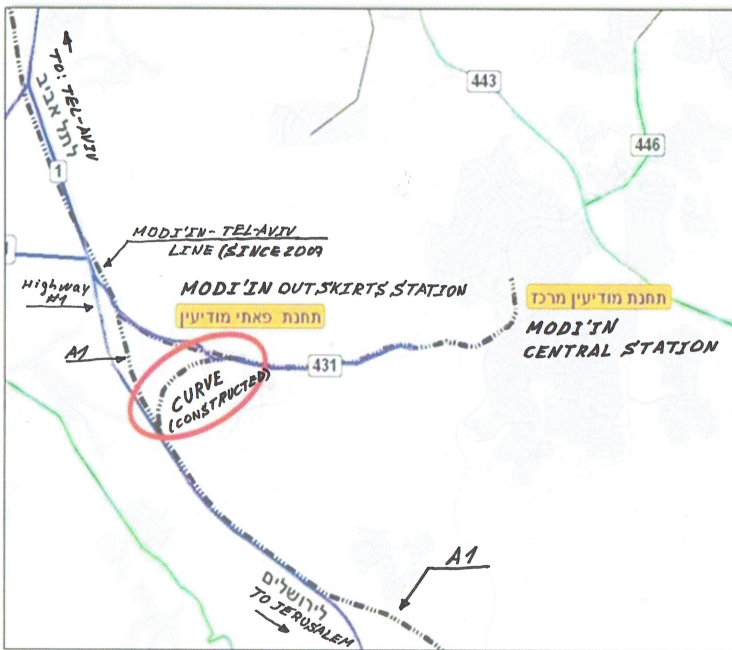
The winner of the first \$21M (NIS 77.3M) infrastructures' tender is the Israeli company Minrav Engineering & Construction Ltd.;

The winner of the second \$21.1M (NIS 77.7M) infrastructures' tender is the Israeli company Einav Hakhetz (1965) Ltd.

Transport Minister Mr. Israel Katz said: "This project has been designed and discussed for quite a time but not promoted. When I entered my job 8 years ago, we restarted it. Additionally, I have instructed my staff to activate the long-discussed rail link between Modi'in Outskirts and Rishon LeZion West (Moshe Dayan) in order to link the latter with Jerusalem through the A1; this project has a high importance for many living in these cities and travelling daily to/from work at each of them".

Mayor Bivas said: "The new link is a real good message for the city's people; it will significantly improve quality of life and service; it will enable us to better utilize the city's potential and turn it into a central hub of business companies which have decided to locate and will locate themselves at the technological park; I wish to thank the Transport Minister, the railways' General Manager, and all those doing whatever they can to make public transport accessible all over Israel".

The railways' General Manager Mr. Shahar Ayalon said: "The project which will link Modi'in with the A1 will enable a real rail accessibility between Modi'in and Jerusalem; we're proud to promote the project and furthermore to serve the area's inhabitants; I'm determined to do everything needed in order that the railways' customers will keep enjoying rail travel."



g r a d e separations, bridges and access roads, as well as treating the environment including replanting of trees.

The line is to be opened officially on the 20.09.2017, the eve of the new Jewish year.

The General Manager of Israel Roads Mr. Nissim Peretz said: "The completion of the line is for Israel Roads a significant milestone; this is the second rail project that the company is completing successfully, after the Valley Line project; this success will increase the co-operation in designing and implementing additional lines to Kiryat-Shmona and Tiberias in the north, to Eilat in the south, and the revival of the eastern line between Kfar-Sava and Hadera East in the centre".

• (viii). **AHIHUD STATION.**

From Sybil: "A test run was operated from this as-yet-unfinished station (on the line to Carmiel) on March 21st. Starting with a reception at 10.00, a train ride somewhere at 10.30, return by 12.00 and event ends 12.30."

• (ix). **CARMIEL LINE TEST RUNS.**

From a press release of 21.03.2017 by the Transport & Roads' Safety Ministry: 'The city of Carmiel in the Lower Galilee is on the map! On 21.03.2017 Transport Minister Mr. Israel Katz, Israel Railways General Manager Mr. Shahar Ayalon, Israel Roads General Manager Mr. Nissim Peretz and other VIP's participated in the official first test run between Carmiel and Acre (Akko) and on up to Tel-Aviv (about 147 km) which was covered in about 90 minutes.

Minister Katz said: "The line on which we travelled today is one of the most important in the periphery; it will help to close the economical and social gaps with the centre of Israel." He added that the ministry is continuing design work on the line between Carmiel and Kiryat-Shmona in the Upper Galilee near the Lebanese border.

"In addition to a higher quality of life, the area's residents will enjoy an advanced and fast transportation system; we bring today the rail news to Carmiel and other residential areas too, hand in hand with completion of transportation projects in the south and in the north. Once the line is opened, the area's residents will enjoy free tickets for three months from each of the two new stations - Carmiel and Achihud - to railway stations all over the network (similar to the arrangement which was introduced after the opening of the Valley Line) by using the multi-liner smart card; after that, passengers will enjoy 50% reductions of ticket price".

The \$774M (NIS 2.6Bn) 23km project has been built by Israel Roads and includes twin-bored tunnels of 5km each; for the first time in Israel slab track has been used, in this case the Swiss Sonneville system built for 160km/h. The project includes

• (x). **HAHAGANAH STATION WORKS.**

Israel Railways Ltd. announced on their website that due to track infrastructure improvement works, the following changes in traffic would take place between Thursday night 06.04.2017 at 23:00 and Sunday morning 09.04.2017 at 05:00:

From/to north: trains will start/terminate at Tel-Aviv Savidor/Central station.

From/to south: trains will start/terminate at Lod and Tel-Aviv HaHaganah stations.

Consequently the stations of Tel-Aviv Hashalom, Modi'in Central, Modi'in Outskirts, Ben-Gurion Airport, Kfar-Habad, and Lod Ganei-Aviv will be closed.

On Friday 07.04.2017 and on Saturday night 08.04.2017 a special service by-passing Tel-Aviv stations will be provided calling at the following stations:

From north: Nahariya, Acre (Akko), Haifa stations, Binyamina, Herzliyya, Bnei-Brak, Lod, Kiryat-Gat, Lehavim-Rahat, and Beer-Sheva stations.

From south: Beer-Sheva stations, Lehavim-Rahat, Kiryat-Gat, Lod, Bnei-Brak, Herzliyya, Binyamina, Haifa stations, Acre (Akko), and Nahariya.

On Saturday night 08.04.2017 trains in both directions will call at Ramla station too. Night trains to/from Ben-Gurion Airport start/terminate at Tel-Aviv Savidor/Central station. Free bus shuttle services will be provided between Tel-Aviv Savidor/Central and Ben-Gurion Airport stations in both directions.

During this period IR will lay a double turn-out at Tel-Aviv HaHaganah station, causing temporary closure of platforms 1, 2 and 3.

• (xi). **I.R. 2016 ANNUAL REPORT- VERY POSITIVE INDEED!**

From a press release of 30.03.2017 by Israel Railways Ltd.:

The railways presented on 30.03.2017 their achievements in 2016 including financial reports, which show a significant grow in the company's activities both in passenger and freight traffic, while attaining a net profit consecutively over the last 4 years.

- The profit from current activity on 2016 was \$21.3M (NIS 77M) as against \$19.32M (NIS 70 M) in 2015; up by 10%.

- The company reached a positive cash flow of \$51.9M (NIS 188M) for 2016 from current activities.

- The railways net profit for 2016 was \$42.23M (NIS 153M); this was slightly lower than in 2015, due to one-time revenues' difference in 2015 of \$52.44M (NIS 190M) from selling property.

• **Passenger Sector:**

- During 2016 the railways carried 59.5M passengers compared with 52.8M in 2015; up by 13%.

- Between 2011 and 2016 passenger traffic grew by 66% from 35.9M in 2011 to 59.5M in 2016; from 2012 and on, due to service improvements - including punctuality - there was a significant rise in traffic as against a stagnation until 2011 which did not exceed 36M annually.

- Daily average passenger traffic was 223,000 compared with 200,000 in 2015; up by 11%; on Sundays and Thursdays (beginning and end of working week), average daily passenger traffic exceeded 250,000.

- Revenues from passenger traffic for 2016 were \$195.4M (NIS 708M) compared with \$214M (NIS 775M); 9% less, due to the reform of tariffs introduced by the Transport Ministry which caused tariff reduction.

New lines and passenger stations:

During 2016 the number of stations grew by 11% to 61; Four new stations opened on the Valley Line in addition to Netanya Sapir station.

There is a growing demand for rail services on almost all lines including those that have existed a long time. On the following lines there was a rise in traffic during 2016 compared with 2015:

- Ashkelon – Tel-Aviv : 16%.

- Binyamina – Tel-Aviv : 16%.

- Beer-Sheva – Ashkelon : 253%! (The growth on this line is significant for it comes despite criticism concerning competitive frequent bus services between the two cities and the alignment running near the Gaza strip border and the low socio-

economic status of users; clearly the facts are quite different!)

- Modi'in - Tel-Aviv : 7%.

- Nahariyya - Haifa : 7%.

- At the end of 2016 525 trains (passenger and freight) were operated daily.

- During 2016 the railways operated mileage was 16.5M km of which 14M km by passenger trains.

• **Punctuality:**

The average punctuality for 2016 was 94.3%; slightly lower than 95.4% in 2015; this was caused by speed restrictions due to many track works; the average punctuality between 2013 and 2016 was 94.5% compared with 88.67% between 2010 and 2012; an improvement of 6%.

• **Freight Sector:**

- During 2016 9,232,000 tons were carried compared with 7,501,000 tons in 2015; up by 23%; The cargo department's share in land transport to/from ports has exceeded 15%.

- Revenues from freight for 2016 were more than \$51.6M (NIS 187M) compared with \$45.54M (NIS 165M) in 2015; up by 13%; the lower rise of revenue (in per-cent) than the rise in freight traffic is due to updating haulage fees for customers caused by reduced fuel prices.

- The net profit from freight haulage for 2016 was almost \$8.56M (NIS 31M).

- The cargo department enjoyed an increase of 40% in output per employee over that of 2013 due to an internal organizational procedure which increased activity while keeping the existing manpower.

The cargo department has achieved a 40% increase in haulage volume compared with 2013, while profitability continues to improve and the profit for 2016 was twice that of 2015.

• **Development & infrastructures:**

During 2016, more than \$552M (NIS 2Bn) have been invested in the following main projects:

• **The Electrification Project:**

- Electrification of 420km at \$3.3Bn (NIS 12Bn) including 14 substations, assimilation of command and control system (SCADA) and building new as well as converting existing depots for electric traction.

The project has been expedited at several levels:

- Bombardier has been selected as the supplier for the electric locomotives, type TRAXX, the first of which is currently undergoing tests at the supplier's test centre.

- PB has been selected as the project management company.

- The Spanish company S.E.M.I. has been selected as electrical infrastructures' sub-contractor.

- The work of converting 293 double-deck cars into electric traction has started in co-operation with Bombardier.

- The Railways have promoted the tender procedures for purchasing EMUs in which world-wide manufacturers are participating.

• **The AI fast rail link to Jerusalem:**

During 2016 this \$1.93 Bn (NIS 7Bn) project has been promoted at several levels:

- All the tunnels along the alignment with an overall length of 37km (twin-bored) have been completed.

- Construction of the Jerusalem Yitzhak Navon (HaUma) station is advancing fast.

- The stage of installing electro-mechanical systems and laying slab tracks in tunnels and on bridges has started.

- Track laying between Anava Interchange (where the line to Modi'in starts) and bridge No. 6 (near Latrun monastery) is completed.

At present the plan is for the line to be opened in March 2018.

• **Passenger Stations Upgrading and Improvement works:**

- The stations of Kiryat-Motzkim, Haifa Bat-Galim, Haifa Hof-HaCarmel, Binyamina, Hadera West and Netanya are being upgraded and improved at an overall cost of \$24.83M (NIS 90M).

- All the stations are now easily accessible for the disabled and dozens of lifts have been purchased for this important purpose.

- The parking areas adjacent to the stations of Rosh-HaAyin North, Beit-Yehoshua, Kiryat-Motzkim and Binyamina have been expanded; additional areas at Beit-Shemesh, Atlit, Hadera West, etc. will be expanded during 2017.

- Dozens of bicycle parking facilities have been added to enable parking of hundreds of bicycles at various stations.

- New station frontages have been built at various stations, entrances and exits have been separated to improve passenger flow, waiting halls enlarged, platform canopies enlarged and buffets' structures changed to conform with safety requirements.

These works continue in 2017.

Works of upgrading the two main stations of Tel-Aviv; Savidor/Central and Hashalom:

- At both stations new terminal buildings are being added at overall cost of \$33.1M (NIS 120M):

At Tel-Aviv Savidor/Central station a new entrance/exit building is being added at the northern end creating easy access to/from the nearby Stock Exchange and other business areas through an escalator and elevator leading to the overhead road bridge and sidewalks; this will regulate the passenger flow.

At Tel-Aviv Hashalom station service and safety levels are being improved by adding a structure to the platforms at the southern end for easy access to/from the nearby Hashalom overhead road bridge and sidewalks; additional bicycle parking facilities are being installed at this side of the bridge.

Both projects are quite complex because works are being carried out at two active stations with high volumes of passenger flows, while there is almost no access to worksites from the adjacent Ayalon highway.

Inset: New sign for Mazkeret Station



- A new passenger station at Mazkeret Batya (south of Na'an junction on the line to Beer-Sheva) at a cost of \$16.56M (NIS 60M) is currently under construction, and is to be opened in September 2018.

- A new passenger station at Kiryat-Malakhi-Yoav (north of Kiryat-Gat on the line to Beer-Sheva) at a cost of \$27.6M (NIS 50M) currently under construction, is to be opened at the end of 2017.

- On 16.09.2016 the 60km Valley Line was opened and during the first 6 months of operation more than 100,000 passengers used it, mainly due to free travel; However, the line is a success and parking areas particularly at Afula, Kfar-Yehoshua-Yokne'am are already insufficient; many of the residents have "discovered the rail wonder" and use it to avoid the ever-growing severe bottlenecks at the eastern entrance/exit of Haifa.

- On 21.03.2017 the first test run took place on the recently-completed 23km line between Acre in the Western Galilee and Carmiel in the Lower Galilee with the participation of Transport Minister Mr. Israel Katz; the line is to be opened on 20.09.2017 on the eve of the Jewish New Year; Mr. Katz is pushing ahead with the detailed design for continuing the line to Kiryat-Shmona in the Upper Galilee near the Lebanese border.

- **Technological projects:**

- Increasing train capacity and making the systems suitable for electrical traction.

- The \$966M (NIS 3.5Bn) projects include: installing electronic signalling to replace electric signalling, replacing the existing control and communication systems by the most advanced of their sort; ETCS Level 2 for train traffic control and GSMR digital radio communication system for transmitting data and commands.

Regarding the GSMR, a tender was published in 2016, while a PQ has been published for the ETCS L2 both for infrastructures and rolling stock.

One important fact not mentioned in the report should be noticed: although there are many oppositions to railway investments (as anywhere else), the fact that even closing short line sections for weekends has brought a huge pressure from the public, despite real efforts both by the railways and the Transport Ministry to reduce disruption, proves that rail has been recognized in Israel as an essential mean of transport despite an unprecedented rise in car ownership!

Israel Railways Ltd. General Manager Mr. Shahar Ayalon said: "The railways continue to achieve growth and profitability in all sorts of activities; the double-digit growth both in passenger trips and cargo volume show that rail has become a central national hauler and the preferred mean of transport by a growing number of businessmen; we're proud of the traffic growth on the older passenger lines while there is high demand on the new lines, as well as on positive results by all parameters.

During 2016 the railways moved ahead another stage towards changing the railway image, the peak of which is expected within the next few years with starting operations on new lines, the electrification project, the new control and command systems, receiving the new trains, and – as a result – a dramatic increase in the number of trains and journeys offered.

In the current year of 2017 we'll put the emphasis on progress in implementing the design towards completion of the projects and our main tasks - passenger service, punctuality, significant progress in the various projects and preparing for their completion and service commencement.

We're doing our best to provide the public with a high quality advanced rail service, deeply understanding the importance of the transport alternative rail can bring, as well as the heavy responsibility we have as a leading factor in the public transport".

- **(xii). PESACH HOLIDAY SERVICES.**

Israel Railways Ltd. announced on their website that due to Passover (Pesach) holidays - between 09.04.2017 and 18.04.2017 inclusive - the following timetable changes would take place:

On Sunday 09.04.2017 (one day prior to Passover eve) the train departing from Beer-Sheva Central at 22:59 will terminate at Tel-Aviv Savidor/Central instead of Netanya.

On Monday 10.04.2017 - the eve of Passover - trains will operate as per Fridays timetable.

On Tuesday 10.04.2017 - trains will operate as per Saturday night timetable.

On Wednesday 12.04.2017 and Thursday 13.04.2017 the following changes will take place:

- **Herzliyya-Jerusalem line:**

The trains departing from Herzliyya station at 09:29, 11:29 and 13:29 will terminate at Jerusalem Malkha station instead of Beit-Shemesh.

The trains to Herzliyya will depart from Jerusalem Malkha station instead of Beit-Shemesh at 10:16, 12:16 and 14:16.

The trains departing from Herzliyya station at 12:29, 14:29, 15:29 and 17:29 will call also at Jerusalem Biblical Zoo and Malkha stations.

The train of 11:16 from Jerusalem Malkha station will call also at Jerusalem Biblical Zoo station and will terminate at Herzliyya station.

Eged - the bus operator in Jerusalem - will provide a special bus line No. 111 from Jerusalem Malkha station to the Western Wall and back, coordinated with the train timetable.

- **Beer-Sheva - Haifa line:**

The trains of 08:59, 09:59, 10:59 and 11:59 departing from Beer-Sheva Central station will terminate at Haifa Central instead of Tel-Aviv Savidor/Central, and will call at Tel-Aviv University, Haifa Hof-Ha-Carmel, and Haifa Bat-Galim.

The trains of 11:06, 12:06, 13:06, 14:06 to Beer-Sheva will start at Haifa Central the 8 instead of Tel-Aviv Savidor/Central, and will call at Haifa Bat-Galim, Haifa Hof-HaCarmel and Tel-Aviv University stations.

- **Beit-She'an - Haifa line (the Valley Line):**

The trains of 06:02 and 07:02 from Beit-She'an will terminate at Haifa Hof-HaCarmel station instead of Haifa Bat-Galim station.

The trains of 16:36 and 18:36 from Haifa will start at Haifa Hof-HaCarmel station instead of Haifa Bat-Galim station.

On Friday 14.04.2017 trains will operate as on regular Fridays.

On Saturday night 15.04.2017 trains will operate as on regular Saturday nights.

On Sunday 16.04.2017 - the eve of the last day of Passover - as on regular Fridays.

On Monday night 17.04.2017 trains will operate as on regular Saturday nights.

On Tuesday 18.04.2017 trains will operate as on 12.04.2017 & 13.04.2017.

- **(xiii). NTA WORKS AFFECT SUBURBAN SERVICES.**

From a press release of 09.04.2017 by Israel Railways Ltd.:

"Due to works to be performed by NTA (Tel-Aviv LRV/METRO), train traffic changes will take place on the Hod-HaSharon - Rishon-LeZion West (Moshe Dayan) - Beer-Sheva line in both directions, from

Friday 14.04.2017 at 04:00 until Monday 17.04.2017 inclusive. Traffic will resume on Tuesday, 18.04.2017. There will be no changes on other lines.

As a result, the following changes will take place on this line:

- The number of trains will be reduced in both directions.
- Trains departing from Beer-Sheva destined for Hod-HaSharon will terminate at Tel-Aviv HaHagana station.
- Trains departing from Hod-HaSharon destined for Beer-Sheva will terminate at Tel-Aviv Savidor/Central.
- It will be possible to continue northwards and southwards by other rail services which will operate between Tel-Aviv stations without changes.

- (xiv). **WORKS IN BEER-SHEVA.**

Due to infrastructure works to be carried out in order to improve track, the section between Beer-Sheva Central and Beer-Sheva University stations will be closed for traffic between Thursday 27.04.2017 at 23:00 and Sunday morning 30.04.2017 at 05:00. Bus shuttle services will be provided between the stations.

- (xv). **MEMORIAL AND INDEPENDENCE DAY SERVICES.**

The railways announced the following in their website:

On Monday 01.05.2017 - the Memorial Day for the IDF and security forces personnel, and on Tuesday, Independence Day - trains would be operated according to a special timetable.

"Since it is a tradition to go to military cemeteries on Memorial Day, the railways will provide special bus services to/from the cemeteries which are in the vicinity of 23 stations.

Until 15:00 trains will operate as usual; additionally, the trains departing from Beer-Sheva Central at 08:59, 09:59, 10:59 and 11:59 will terminate at Haifa Central instead of Tel-Aviv Savidor/Central.

In the opposite direction trains usually starting at 11:06, 12:06, 13:06 and 14:06 towards Beer-Sheva will start at Haifa Central instead of Tel-Aviv Savidor/Central.

The following reduced services will be provided from 15:00:

- On the Nahariyya - Beer-Sheva line there will be an hourly service each direction calling at Binyamina.
- On the Nahariyya - Modi'in line there will be an hourly service in each direction calling at Kiryat-Hayim, Hutzot-HaMifratz and Atlit.
- On the Beit-She'an - Atlit (Valley Line), Binyamina - Rehovot, Binyamina - Ashkelon, Herzliyya - Beit-Shemesh/Jerusalem, Hod-HaSharon - Beer-Sheva and Tel-Aviv - Rishon LeZion Rishonim lines there will be an hourly service each direction.
- On the Hod-HaSharon - Rishon LeZion Moshe Dayan (West) line there will be an hourly service each direction until 17:00.
- On the Dimona - Beer-Sheva line there will be 6 trains/day each direction as usual.
- On the Independence Day trains will operate as on the Memorial day; services will terminate as on normal weekdays.

On Wednesday, 03.05.2017 trains will operate as on a Sunday.

- (xvi). **NAHARIYYA LINE WORKS.**

Israel Railways Ltd. that due to maintenance works dealing with a leakage, the section between Nahariyya and Haifa Lev-Hamifratz will be closed for traffic between Thursday 04.05.2017 at 00:01 and Friday 05.05.2017 at the end of the day. As a result, all the stations on this section - Nahariyya, Akko (Acre), Kiryat-Motzkin, Kiryat-Hayim, Haifa Hutzot-Hamifratz and Haifa Lev-Hamifratz will be closed. Traffic will resume on Saturday night 06.05.2017.

On Thursday 04.05.2017 the trains of 22:18 and 23:18 from Modi'in to Nahariyya will instead terminate at Haifa Central the 8. On Friday 05.05.2017 trains will start/terminate at Haifa Central. On Thursday 04.05.2017 night trains to/from Ben-Gurion airport will start/terminate at Haifa Central. The Transport Ministry will strengthen bus line No. 274 services between Haifa and Nahariyya in both directions.

And later:

Israel Railways Ltd. announced on their website that due to track upgrading infrastructure works the line section between Nahariyya and Haifa Lev-Hamifratz would be closed for traffic between Thursday night 18.05.2017 at 00:01 and Sunday midnight 21.05.2017 at 01:00.

Consequently, the stations of Nahariyya, Akko (Acre), Kiryat-Motzkin, Kiryat-Hayim, Haifa Hutzot-Hamifratz, and Haifa Lev-Hamifratz will be closed.

On Thursday, 18.05.2017 the trains departing from Modi'in Central to Nahariyya at 22:18 and 23:18 will terminate at Haifa Central instead of Nahariyya.

Between Friday 19.05.2017 and Sunday midnight 21.05.2017 all trains will start/terminate at Haifa Central. The night trains to Ben-Gurion airport will start/terminate at Haifa Central.

On Saturday night 20.05.2017 trains departing from Modi'in Central at 23:08 and later will terminate at Nahariyya as normal. In the night between Thursday 18.05.2017 and Friday 19.05.2017 bus shuttle services will be provided between Nahariyya and Haifa Lev-Hamifratz in both directions.

- (xvii). **BOMBARDIER DOUBLE-DECKERS.**

A German newsletter announced on 10.05.2017: "At present a series of sixty double-deck passenger coaches which Bombardier Transportation is constructing for Israel Railways is being shipped. The carriages are loaded at the Neustädter Hafen in Bremen, at a terminal of BLG Cargo Logistics GmbH, onto ships of the Normed Line. The carriages are then unloaded at Ashdod."

From 'R.G.I. 10.05.2017: "Bombardier Transportation announced on May 10 that it had signed a €56m contract to supply a further 33 Twindexx Vario double-deck push-pull coaches to Israel Railways by February 2019. The order has been placed within the terms of an October 2010 framework agreement and will take ISR's fleet of Bombardier double-deck coaches to 462 vehicles supplied under five orders.

'Israel Railways is coping with a sustainable increase in ridership', said ISR's Head of Project Portfolio Dr Amir Itskovich. 'We are pleased to have the opportunity to receive additional proven and reliable rolling stock from Bombardier in order to further increase capacity.'

The new coaches will be an improved version of those currently in service, with carpeting on both levels, a 'state-of-the-art' passenger information system, powerful air-conditioning, secondary air-suspension and a safety system that allows departure only after the doors have fully closed.

Bombardier has begun training local staff to carry out the final assembly of coaches at ISR's Be'er Sheva workshops."

Aharon writes: "The Ministries of Transport and Finance have recently approved Israel Railways Ltd. to purchase 33 additional Twindexx Vario double-

deck coaches from Bombardier at a cost of €56M (NIS 220M); this will bring the number of double-deck coaches to 462."

- (xviii). **LAG BA'OMER SPECIAL.**

The Transport & Roads' Safety Ministry announced a special train would depart on Saturday night 13.05.2017 at 22:30 from Beit-Shemesh, calling at Tel-Aviv Savidor/Central at 23:10 and due to arrive at Ahihud station (on the Akko/Acre-Carmiel line) at 00:45, from which point shuttle buses would bring the passengers to a tomb at the Meiron location in the Upper Galilee to commemorate Rabbi Shimon bar Yochai, an ancient Rabbi who lived there; This is a festival with a great bonfire and dancing (Lag BaOmer) with hundreds of thousands of participants over the whole night and the following day; Transport and Roads' Safety Minister Mr. Israel Katz would also be on the train.

On Sunday morning 14.05.2017 the bus shuttle services would depart from Meiron at 08:30 and arrive at Ahihud station in time, coordinating with the train departure at 10:10 on the way back to Tel-Aviv and Beit-Shemesh.

While this festival takes place every year at the same time, (the 33rd. Day of the Omer period between Passover and Shavuot) there are two exceptions this year:

- This is the first time ever that a special train has been organized to the event by the government and particularly with the participation of Minister Katz. Rumours suggest that it is a political act since the general elections are to take place within two years, when he will need the votes of the ultra-Orthodox population who are the main participants in the festival (although everybody can be there).

There will be also 8,000 bus journeys from all over Israel to Meiron and back; an unprecedented number; probably for the same reason of forthcoming elections. But also, this means the new unfinished Ahihud station will be opened for these special services.

- (xix). **PIANISSIMO: Israel Railways Ltd. call to donate pianos:**

The railways operate and maintain pianos at 10 railway station as part of the project "Playing Music in the Station". Due to the success of the project and the positive responses from the public, the railways want to put pianos at additional stations during 2017. Therefore this call is published and the public is being asked to donate any pianos owned, provided that they are in working condition. The pianos will thus become the railways' property and in no case will be returned to owner. The railways will pick-up the pianos from donors' houses. Latest date for submission of proposals: 25.05.2017.

- (xx). **THE LAST TRUMP.**

Israel Railways Ltd. announced on their website that due to US President Mr. Donald Trump's visit

in Israel on 22. - 23.05.2017 and consequently the temporary blockage of Highway No.1 to Jerusalem, services to/from Jerusalem Malka station were strengthened on these dates as follows:

The trains departing from Herzliya station at 09:29, 11:29 and 13:29 for Beit-Shemesh would instead be extended to Jerusalem Biblical Zoo station and terminate at Jerusalem Malka station.

The trains from Beit Shemesh of 10:17, 12:17 and 14:17 to Herzliya would instead depart from Jerusalem Malka station and call at the Jerusalem Biblical Zoo station.

- (xxi). **AFULE – JENIN LINE TO BE BUILT.**

Prime Minister Mr. Netanyahu and Transport Minister Mr. Israel Katz announced on 22.05.2017 that among the gestures to the Palestinians; building the long awaited rail link between Afula (on the Valley/Hedjaz line) and the Arab city of Jenin (Samaria), will be accelerated.

- (xxii). **PUBLIC TRANSPORT USEAGE GROWS.**

From a press release of 21.05.2017 by the Transport & Roads Safety Ministry:

"Transport Minister Mr. Israel Katz announced on 21.05.2017 that during the first quarter of 2017, 217M passengers used public transport services of all sorts, compared with 202M over the same period of 2016, and 191M in 2015; on the Jerusalem LRV the rise was 15%; The rise on buses was 13% and on rail by 25%."

- (xxiii). **2017 FIRST QUARTER STATISTICS.**

From a press release of 29.05.2017 by Israel Railways Ltd.:

During the first quarter of 2017, the railways' operational profit was \$6.17M (NIS 22M).

Nett profit was \$6.72M (NIS 24M) compared with \$9.72M (NIS 35M) over the same period of 2016.

Total revenues reached \$169M (NIS 604M) compared with \$157.2M (NIS 566M) over the same period of 2016-up by 6.7%.

- **Passenger Sector:**

The most significant rise in revenues was in the passenger sector, where it reached \$139M (NIS 497M) compared with \$128M (NIS 458M) over the same period of 2016 - up by about 9%.

During the first quarter of 2017 the railways carried 15.8M passengers, compared with 14.8M over the same period of 2016 - up by about 7%; the forecast for 2017 is of 63M passengers compared with 59.5M in 2016-5.9%.

Daily average number of passengers was 232,000; while on peak days (Sundays and Thursdays) it reached 250,000.

Punctuality over the period was 93.5%; slightly low due to many speed restrictions caused by continuing infrastructure works.

- **Cargo Sector:**

During the first quarter of 2017 the railways carried 2.4M tons compared with 2.3M tons over the same period of 2016 - up by about 4%.

Revenues were \$26.6M (NIS 95M); similar to the same period of 2016, thanks to keeping the number of trains daily and providing a quality, punctual, and reliable service for customers.

- **Infrastructure Development:**

2017 is characterized by intensive efforts to promote building of new lines including the A1 to Jerusalem, promoting the revival of the "Eastern Line" between Kfar-Sava and Hadera East, and large works to upgrade existing railway stations like: Tel-Aviv Savidor/Central, Tel-Aviv Hashalom, Petakh-Tikva Sgula, Ramla, Pardes-Hannah-Keysariya, Yavne West, Kiryat-Motzkin, etc.

Israel Railways Ltd. General Manager Mr. Shahar Ayalon said: "During the first quarter of 2017 the railways accelerated the processes of being prepared for the revolution in coming years - opening of new lines using long tunnels - particularly on the A1, but also on line Akko (Acre) - Carmiel line in the Lower Galilee; the '531 line' (in the median of a highway with the same number) between Hod HaSharon and the coast line; opening new stations; and introducing the most advanced signalling ETCS and communication GSM systems.

We are proud of a combined growth in two principal activities - passengers and cargo. The continuing rise in the number of passengers as well as cargo volumes are achieved mainly thanks to managerial attention, punctuality and other aspects of services being provided to customers; railways are the solution to road congestion, better safety, environment, and life quality issues."

- (xxiv). **EARLY WARNING SYSTEM ON LOCOS.**

The developer of a thermal automated early warning systems for rail accident prevention was chosen for the fourth batch of Deutsche Bahn's innovation accelerator Mindbox. The company was among seven to be chosen out of more than 130 applicants.

DB's innovation accelerator is located in the Janowitz Bridge in Berlin, near the seat of the national railway company's headquarters. The accelerator focuses on railway infrastructure and mobility-related startups. Companies chosen by the accelerator receive a 25,000 Euro grant, access to DB's data sets and infrastructure, guidance from internal and external coaches and of course, 3 months' of office room in one of Berlin's most central addresses.

A cooperation with Israel Railways and Foresight

The cooperation with DB is not RailVision's first cooperation with a national railway company. A



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(Continued from page 8)

few weeks ago Techtime reported the cooperation between RailVision and Israel Railways. Israel Railway has agreed to conduct tests and to integrate the system in the company's locomotives and trains as well as to assist in the distribution of the system worldwide, utilizing its position as national railway subsidiary and its reputation. Israeli ADAS developer ForeSight is a major investor in RailVision and has recently invested \$1.6M in the company. ForeSight, which currently holds 36% control of RailVision retains the option to acquire an additional 18% of RailVision's stock giving it an option to take over control of the company.

RailVision was founded in 2014. The Israeli startup is developing a safety device that is mounted onto the locomotive. A specially-adapted sensor with a unique algorithm is located on the top of the locomotive, providing an alarm for any suspicious interfering object with a preliminary classification of the nature of the object. This information is presented to the driver as a visual image (on-board monitor) for additional exploration of the obstacle ahead of the train. The operational range of the system is up to two miles."

- (xxv). ADDITIONAL PEAK HOUR TRAIN.

Israel Railways Ltd. announced on 28.05.2017 through their website an improvement in the service on the Tel-Aviv - Haifa line: On Sundays only, an additional train will depart at 07:44 from Hadera West and call at Netanya, Beit-Yehoshua, Herzliyya and Tel-Aviv University, terminating at Tel-Aviv Savidor/Central. (The significance here is that this is the first train to start at Hadera and allows commuters from here to find places more easily than in trains from the north, already well filled.)

Light Rail



Pictures of tunnelling works on the Red Line near Tel-Aviv Arlosoroff station, adjacent to Tel-Aviv Savidor/Central station,
 (Courtesy of Mr. Galit Porat, NTA Spokesman and Mr. Asaf Bareket, her media assistant.)

See article on following pages.....



Preparatory works for extending the Red Line at Moshe Dayan St., Neve-Ya'akov.

A. TEL AVIV.

• (1). CHINESE LABOUR.

In 'Times of Israel' 24.04.2017 is a picture – which, for reasons to do with it being credited to 'Flash 90' agency we shall NOT reproduce here – of Chinese construction workers and a narrow-gauge line in a tunnel – and an accompanying story: "Israel signed an agreement with China on Sunday to bring in 6,000 Chinese construction workers, and agreed they will not work in the West Bank. The move comes despite an ongoing Israeli government campaign to counter attempts to boycott West Bank or settlement products that has included calls to block boycott proponents from even entering the country. Israeli media reports said Israel had acceded to Chinese demands that the laborers not work in Jewish settlements, citing safety concerns. Foreign Ministry spokesman Emmanuel Nahshon confirmed the deal, telling reporters the agreement "is based on the concern for the safety and security of the workers," and said that the two sides agreed on locations where the laborers will work.

However, in January, when the outline of the deal was announced, a spokesperson for the Chinese Foreign Ministry made clear that the real issue was not safety, but China's objection to construction in the settlements.

Geng Shuang was asked about whether Chinese workers would be taking part "in building Jewish settlements in the occupied Palestinian territories" and whether this would "change China's position on the Palestine-Israel issue." He answered that "China's position on the Palestine-Israel issue is consistent, clear and unchanged. We oppose building Jewish settlements in the occupied Palestinian territories including East Jerusalem and West Bank. The Resolution 2334 recently adopted at the Security Council also has clear stipulations on this."

The deal to bring the Chinese workers was held up for a year and a half over this issue — last June, it was reported that a similar deal was snagged over making a distinction between Israel and the West Bank. The workaround to avoiding an obvious distinction between Israel and the West Bank, according to 'Haaretz', was that Israel and China agreed on a list of locations where the laborers will work, to be updated at intervals, based on construction needs. None of the agreed locations are in the West Bank."

• (2). NEW GREEN AND PURPLE LINES.

From a press release of 09.04.2017 by the Transport & Roads' Safety Ministry:

"The Ministries of Transport and Finance and NTA agreed today on the procedures for purchasing the systems for the Red Line. After marathon discussions conducted by Transport Minister Mr. Israel Katz, a new purchasing strategy has been formulated in order to keep the original Red Line schedule.

According to the plan, the signaling tender will be published by NTA by 15.05.2017; at the same time NTA will prepare itself to publish the tender for

the electrification, tracks and communications by no later than the beginning of August 2017.

The Finance Ministry has committed itself to increasing the budget in case of gaps between the bids and the budget approved in August 2014; additional discussions will be held at the Higher Steering Committee.

Minister Katz has instructed discussions leading to an immediate budget and publishing of the detailed tenders for the Green and Purple lines by 31.05.2017.

The Green Line will link the southern parts of the Greater Tel-Aviv Area (the cities of Holon and Rishon-LeZion outskirts) with Tel-Aviv; its southern part includes two arms starting at Rishon-LeZion, one arm to Rishon-LeZion West (Moshe Dayan) and the other arm to the interchange of Jubilee Avenue and road No. 412.

The Purple line starts at Yahud (south of Petakh-Tikva) and runs through Sheba Medical Centre, Ramat-Gan, southern Tel-Aviv, and terminates at Tel-Aviv Savidor/Central.

• (3). TENDERS for TEL AVIV LRV/METRO PROJECT:

(i). NTA tender No. 2017/015: Performing occasional sub-contractor works of Paving, development, etc. in access of between \$2.67M (NIS 10M) and \$9.3M (NIS 35M): The intention is to select up to four subcontractors. The contract is for 12 months with optional extensions of up to additional 48 months. Latest date for submission of proposals: 08.03.2017.

(ii). Tender No. 2016/196: Providing consulting services regarding Noise and Vibrations: The contract is for 36 months with optional extensions of up to additional 24 months. Latest date for submission of proposals: 06.04.2017.

(iii). Tender No. 2017/017: Providing consulting services for Preventing Ground and Water Contamination: The contract is for 36 months with optional extensions of up to additional 24 months. Latest date for submission of proposals: 06.04.2017.

(iv). NTA tender No. 039/2017: Providing detailed Design Services for the Red Line surface section in the city of Petakh-Tikva:

The services required for the 4km surface section are: preliminary design, detailed design, high level inspection of: physical/geometrical design (traffic and traffic lights), building architecture, landscape architecture, soil consultant, construction, wet infrastructures (water, sewage and drainage), dry infrastructures (electricity, lighting and communication), safety, traffic safety, safety survey, agronomy, environmental design, acoustic, accessibility, cathodic protection, quantities' calculation, etc. The contract is for 36 months with optional extensions of up to additional 36 months. Latest date for submission of proposals: 14.05.2017.

(v). NTA Tender No. 035/2017: Providing Engineering Catalogue services including maintenance: The contract is for 36 months with optional extensions of up to additional 36 months. Latest date for submission of proposals: 21.05.2017.

(vi). NTA Tender No. 48/2017: Providing detailed Design Services for the Green and the Purple lines:

Works include: Preliminary design, detailed design and an overall inspection within the following disciplines: physical/geometrical design, traffic and traffic lights, LRT Track Design, buildings and landscape architecture, construction design, ground soil consulting, wet infrastructures (water, sewage and drainage), dry infrastructures (electricity, lighting and communication), safety, agronomy, environmental design, acoustic,

accessibility, ventilation and air conditioning (including smoke evacuation), cathodic protection and quantities calculation.

The tender refers to five sections of the Green Line which will connect the cities of Herzliyya, Tel-Aviv, Holon and Rishon-LeZion; it will be 40km long of which about 35km are on the surface and the rest of about 4km will be in tunnel; it will run generally north-south.

The tender refers to two sections of the Purple Line which will connect the cities of Tel-Aviv, Kiryat-Ono, Or-Yehuda and Yahud; it will be 19km long, entirely on the surface; it will run generally north-west/south east. NTA intends to select 7 designers (5 for the Green Line and 2 for the Purple Line); one designer for each section. The contract is for 36 months with optional extensions of up to an additional 36 months. Latest date for submission of proposals: 13.07.2017.

(vii). NTA Tender No. 046/2017: Providing management, inspection, and monitoring services for the Green Line and the Purple Line: The contract is for 60 months with optional extensions of up to additional 60 months. Latest date for submission of proposals: 13.07.2017.

(viii). NTA Tender 055/2017: Signalling and Train Control of the Red Line project. Design, Development, Manufacture, Procurement, Supply, Testing, Commissioning, Warranty and Maintenance of Signalling and Track Control Systems. Submissions by 03.08.2017.

(ix). Tender Awarded. The Israeli company Minrav Infrastructures (1993) Ltd. announced on 14.05.2017 that it had won the NTA tender to build the Red Line's last underground section at Tel-Aviv in the Jaffa direction. The relevant section is 1 km long between Pines street at the Neve Tzedek neighbourhood and Kaufmann street, both near Jaffa. Work is estimated to cost about \$62.2M (NIS 224M) and to last about 36 months.

• (4). PROGRESS ON TUNNELLING.

From a press release of 28.05.2017 by the Transport & Roads Safety Ministry:

"The Tel-Aviv LRV/METRO project is gaining acceleration: Today – 28.05.2017 - the 3rd TBM for the Red Line was positioned at Galey-Gil shaft 30m below the surface in the direction of Ramat-Gan along the Jabotinsky road.

The 3rd TBM is called 'Rosa' after Mrs. Rosa Parks (1913-2005) a woman who made a breakthrough against the discrimination of Black people in the US public transport services.

According to the excavators' tradition it is usual to name TBM's after a woman, both for good luck and in order that the excavation will be carried out successfully!

The TBM Rosa will bore the tunnels under the stations of: Abba Hillel and Bialik at Ramat-Gan and Ben-Gurion at Bnei-Brak; the Rosa will meet there the 4th TBM which will start boring in June 2017 the section from the depot at Petakh-Tikva up to Ben-Gurion station.

The first 2 TBM's 'Golda Meir' and 'Margaret Thatcher' keep boring 30m below the surface; they crossed already under Ayalon Roads (Highway 20) and kept boring westwards under the stations of Arlosoroff, King Shaul and Carlebach.

Meanwhile and simultaneously, building the stations is going on schedule and according to NTA, the line is to be opened on October 2021 as planned."

B. JERUSALEM.

(1). Not railed transport, but nevertheless a form of public transport: From 'Times of Israel' 07.03.2017:

CABLE CAR TO JERUSALEM'S OLD CITY EXPECTED TO BE OPERATIONAL IN THREE YEARS.

"Plan aimed to ease access to Western Wall is set to bypass local and district planning committees.

The national planning council is expected within the next two months to consider a controversial plan for a cable car from West Jerusalem to the Old City, easing access to the Western Wall, in line with a Tourism Ministry plan to have the project up and running within the next three years.

The cable car, to run from the city's First Station complex to the Old City's Dung Gate — the main entrance to the Western Wall — aims to ease traffic in and around the maze of narrow streets in the ancient part of Jerusalem by whizzing visitors across the 1.5km route (just under a mile) as the crow flies in just 3.5 minutes.

A Tourism Ministry statement Monday indicated the cable car will have three stops — the First Station, Mount Zion and the Dung Gate.

The plan will go straight to the national council, by-passing local and district planning committees, thanks to a successful legislative move by Tourism Minister Yariv Levin (Likud) to have the project declared part of the national tourism infrastructure. Levin told Army Radio on Monday that after approval and expected objections to the Supreme Court, the cable car would take 18 to 24 months to build.

"The tourist infrastructure is so behind," he said. "The Old City and the Old City Basin [the ring of land around the Old City] are not accessible. There is no parking for buses and no good public transport." The cable car would not enter the Old City nor go over the Old City walls, but would stop just outside, he stressed. Expectations are that up to 25,000 visitors will use the system on peak days, Levin said.

The cable car will not run on the Jewish Sabbath or religious festivals, but this would not deter overseas tourists, most of whom come for several days at a time, he said.

The project, the brainchild of the Jerusalem City Council and its Mayor, Nir Barkat, has stoked controversy because the route passes over parts of East Jerusalem. Two years ago, the France-based utility giant Suez Environment said that, because of political sensitivities, it had decided not to take part in the project.

In August, Barkat reportedly told Likud Party activists that the cable car route would include a stop in the Palestinian neighborhood of Silwan, so that passengers would "understand who really owns this city," the 'Haaretz' newspaper reported.

Daoud Siam, a social activist from the Palestinian village of Silwan, just below the Old City, told Army Radio that the cable car would pass over village homes, robbing residents of their privacy.

Urging the government to invest in the village first, he said, "millions [of shekels] go into the City of David [a tourist site on what is thought to be the original urban core of ancient Jerusalem, located on the western ridge of Silwan and today housing Israeli settlers] yet "not a shekel goes into Silwan." "Silwan has no pavements, no road, no infrastructure. Houses are falling down, there are no permits to build, just decades of [authority-ordered] demolitions. They [the authorities] want a village without residents," he said."

On 28.05.2017 Deutschland Radio reported on its news bulletin at length on the decision to approve construction.

- (2). AGREEMENT ON EXTENSIONS.

From a press release of 09.04.2017 by the Transport & Roads' Safety Ministry:

"After two years of a negotiation in an "explosive" atmosphere, understanding and agreements have been achieved today - 09.04.2017 - between the government and the Jerusalem LRV concessionaire CityPass to perform the extensions for the Red Line after the Finance Ministry agreed to improve its offer by adding about Euro 10.3M (NIS 40M).

In the meeting between the sides involved (including CityPass shareholders), it was decided to enable CityPass to extend the Red Line to Hadassah Ein Kerem in the south and Neve-Ya'akov in the north, as well as branches to the Hebrew University both on Mount Scopus and Givat Ram; both sides have agreed upon a schedule of 2 months to reach a detailed agreement.

As an integral part of the agreement, all the operational, preparation and integration of building the extensions have been given to CityPass.

In the negotiation, the state was represented by the Finance Ministry's Accountant General Mr. Rony Khizkiyahu and Head of the Finance Ministry's Budgeting Department Mr. Amir Levy, as well as Head of Railway Department in the Transport & Roads' Safety Ministry Mr. Moshe Amsalem; CityPass was represented by its Chairman Mr. Abraham (Beiga) Shokhat (in the past the Finance Minister).

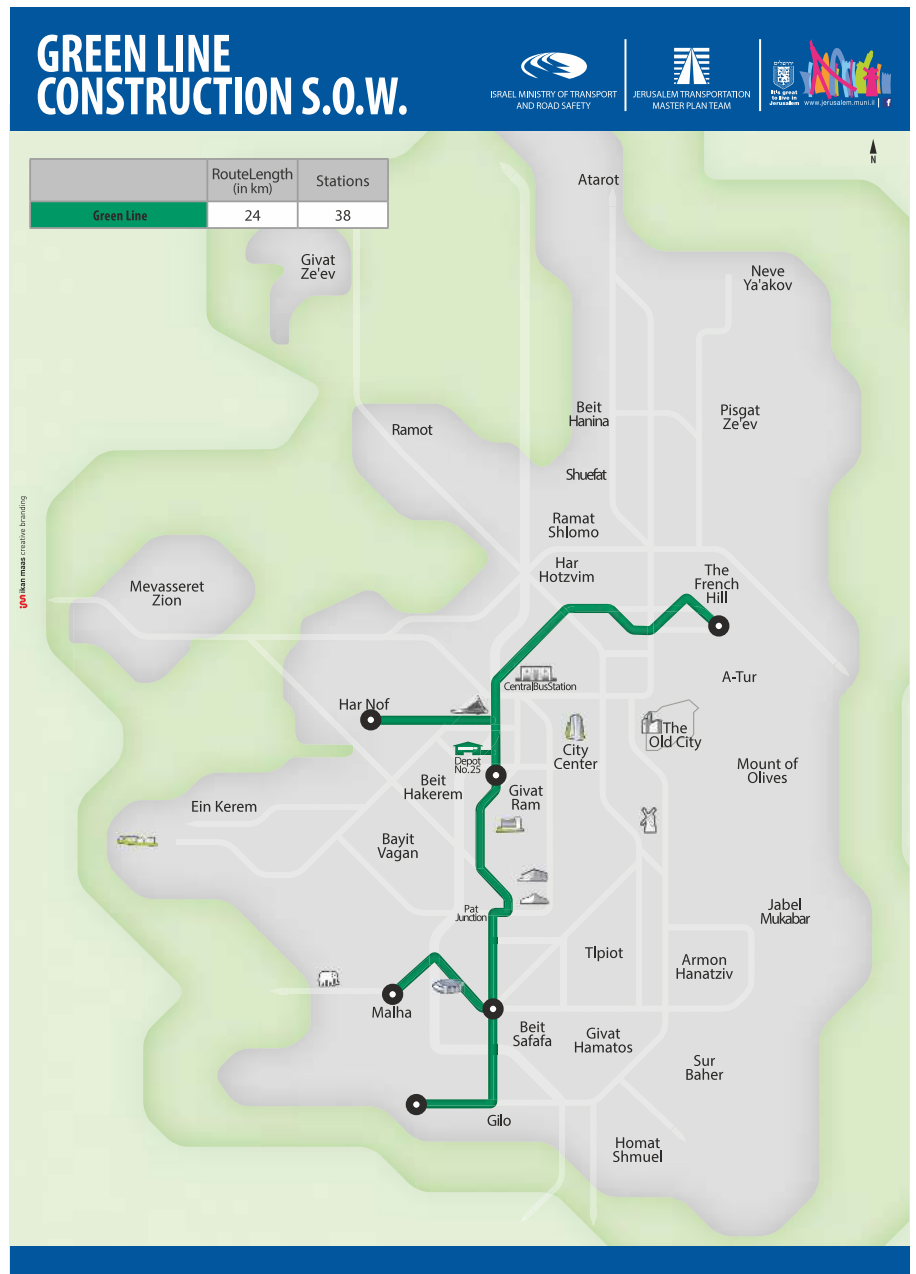
Due to the agreement achieved, the inter-ministerial tenders committee in which the Jerusalem municipality is a partner, to be headed by the Finance Ministry's Senior Deputy Accountant General Mr. Yariv Nekhama, will soon publish the PQ documents for the extensions of the LRV network plan including the Green Line.

Mr. Abraham (Beiga) Shokhat said: "We congratulate the understanding and agreements achieved, first of all in favour of the Jerusalem citizens who seek LRV to link with the academic institutes, medical centres and remote neighbourhoods; CityPass is ready to start soon the extensions due to the fact that most of the alignment preparatory works are completed and excavation can start immediately"

1. The line will be extended by a total length of 7.7km of which the extension to Hadassa Ein-Kerem Medical Centre is 5km and the rest of 2.7km belongs to the extension to Neve Ya'akov.

2. The total cost of the project is 1.23M Euros, to be funded by the Finance Ministry; this is still to be finally settled but works will start.

3. Works are to start within 6 months; 60% of the preparatory works are completed including the bases for the catenary masts; the section to Neve Ya'akov will open within about 2 years; the longer section to Hadassa Ein-Kerem medical centre will, however, take up to 5 years due to the need to build 2 big bridges, the tender for which has not yet been published due to disagreements with the government resolved only on last week.



The line extensions will be opened in sections; after completion of each section, services will be provided along the completed section.

It is estimated that 70,000 passengers/day will be carried on the completely extended line bringing the daily number to 215,000 and more.

After the local partner Ashtrom withdrew itself from the project, and as agreed with the Government, Alstom will be responsible for the whole works of the project; 44 additional cars = 22 LRV sets will be ordered for services on the extended to line.

- (3). MURDEROUS TERRORIST ATTACK IN A TRAM.

From 'Times of Israel' 14.04.2017:

"The family of a British exchange student murdered in a terror attack in Jerusalem on Friday has said it is "devastated" by her death in a "senseless and tragic attack."

Hannah Bladon, 21, was stabbed multiple times with a kitchen knife by a Palestinian terrorist while riding on Jerusalem's light rail. She was critically wounded and later died of her injuries.

In a statement on Saturday her family in the UK said Hannah "was the most caring, sensitive and compassionate daughter you could ever wish for." The statement noted that Hannah was "a talented student," an "enthusiastic rugby player" and "a keen Derby County supporter. She was driven and passionate and her death leaves so much promise unfulfilled."

Bladon had been studying religion, theology and archaeology at the University of Birmingham since 2015. As part of her studies she began a program in Jerusalem's Hebrew University in January, which she was set to complete in September. Her family said she had been returning from an archaeological dig when she was killed.

The Hebrew University sent its condolences to the family, saying in a statement that it "condemns such acts of terror that harm innocent people, and especially a student who came to Jerusalem to study and widen her academic horizons."

In a Facebook post in January, Bladon wrote that she was doing okay in response to some concerns for her safety amid an ongoing wave of terror attacks that had largely subsided since beginning in October 2015. "Thanks guys. I'm ok thanks!" she posted. "Security is really tight on campus so no worries at mo[ment]! Managed to see a lot of sites before starting my classes today so defo (definitely) having a great time! Xx".

The comment accompanied a picture of the Dome of the Rock on the Temple Mount in Jerusalem.

After Bladon was stabbed an off-duty police officer and a passer-by wrestled the terrorist, a Palestinian man from East Jerusalem, to the ground before he could harm anyone else. Two other people were lightly injured when the tram made an emergency stop.

Footage from inside the tram shows the suspect being subdued as armed police stand by. Personal belongings including a suitcase and a children's double stroller can be seen next to the scene."

.....

"The Palestinian man who stabbed to death a British woman on a Jerusalem tram on Friday was on his way home from a mental care facility, police said. According to police, 57-year-old Jamil Tamimi left the hospital in northern Israel and was travelling toward his house in East Jerusalem's Ras al-Amoud neighborhood on the capital's light rail system.

As the train approached IDF Square, outside the Old City, shortly before 1:00p.m., Tamimi "noticed the young woman standing next to him, crouched, took out a knife from his bag and stabbed her a number of times," police said.

The victim was, later named as Hannah Bladon a 21-year-old British exchange student at the Hebrew University of Jerusalem. Bladon was fatally wounded in the attack. Medics from the Magen David Adom ambulance service performed CPR on the woman at the scene before taking her to Jerusalem's Hadassah Hospital Mount Scopus, where she was eventually pronounced dead, a hospital spokesperson said.

According to the Shin Bet security service, Tamimi had a history of mental illness. He tried to commit suicide earlier this year by swallowing a razor blade, and he was found guilty of sexually abusing his daughter in 2011. "This is another case, out of many, where a Palestinian who is suffering from

personal, mental or moral issues chooses to carry out a terror attack in order to find a way out of their problems," the Shin Bet said in a statement.

After stabbing her, Tamimi was subdued, without gunfire, by an off-duty police officer and a civilian.

"I was travelling on the light rail with my family. Suddenly I heard people shouting, 'Terror attack! terror attack!' I hit the handbrake and ran toward the scene. I tackled the terrorist and 'neutralized' him so he couldn't continue hurting innocent people," the officer said.

Jerusalem Police Chief Yoram Halevi praised the officer's quick response, saying it prevented additional casualties, considering the light rail was full of people at the time of the attack. "Jerusalem police are prepared at all times to respond immediately to any event, especially terror attacks," he said. After he was subdued, Tamimi was hauled out of the train by a number of police officers and was taken into custody.

In addition to Bladon, two other people were lightly injured as a result of the attack. A pregnant woman fell when the train came to a sudden halt, and a man hurt his leg while trying to run from the scene, medics said.

Security forces have been on high alert over the Passover and Easter holidays when hundreds of thousands of people visit Jerusalem. The army imposed a closure on the West Bank for the duration of the holidays.

The attack occurred near IDF Square in the capital, along Jaffa Road, right near the walls of the Old City which was packed with Good Friday pilgrims and Jews celebrating Passover. Following the attack, the Border Police shut down the nearby Damascus Gate entrance to the Old City, but it was later reopened. Tamimi's knife was recovered from the scene by police.

Though a marked drop has been recorded by security officials in recent months, 41 Israelis, two Americans, a Palestinian and an Eritrean national have been killed in the spate of stabbing, car-ramming and shooting attacks that began a year and a half ago. Israeli officials have said that many of the attackers have done so due to personal problems, with some hoping to commit suicide by cop or soldier.

According to AFP figures, some 250 Palestinians, a Jordanian and a Sudanese migrant have also been killed, most of them in the course of carrying out attacks, Israel says, and many of the others in clashes with troops in the West Bank and at the Gaza border, as well as in Israeli airstrikes in the Gaza Strip in response to rocket attacks.

The spate of Palestinian attacks that began in October 2015 was dubbed the "lone wolf" intifada, as many of the attacks were carried out by individuals who were not connected to any terror group."

From 'Times of Israel' 15.04.2017:

"Hannah Bladon, the British student who was stabbed to death on the Jerusalem light rail on Friday, was standing by the exit doors of the train, near to the murderous Palestinian assailant, because she had given up her seat to enable a woman who was holding a baby to sit down, Israeli TV reported Saturday.

The Palestinian terrorist, Jamil Tamimi, 57, told investigators that he attacked her because he wanted to die and hoped the soldier who was standing next to her on the train would kill him, Channel 2 news further reported, describing the killing as "an attempted suicide attack."

Tamimi was on his way from a mental hospital in northern Israel when he carried out the fatal stabbing. He had telephoned his family when he reached Jerusalem, and spoken to one of his sons, who told him that the family wanted no contact with him, in part because he had previously been convicted of sexually abusing his daughter.

He told investigators that he felt he had "nothing left to lose." He purchased a knife in the Old City and boarded the light rail at Damascus Gate shortly before 1:00p.m. Seeing an armed soldier on board, he decided to attack the young woman — Bladon — who was standing nearby. He took out the knife he had just purchased and stabbed her multiple times, critically wounding her.

"I attacked her so that the soldier would shoot me," the TV report quoted Tamimi as saying to investigators. A Jerusalem court on Saturday remanded Tamimi in custody and ordered him sent for psychiatric tests.

In a statement on Saturday, her family in the UK said Bladon "was the most caring, sensitive and compassionate daughter you could ever wish for." Her "final act of kindness," the TV report said, was to give up her seat on the train for the woman who was holding a baby. Bladon had previously been sitting further back in the carriage, but got up for the woman, and went to stand near the exit door.

Bladon's family said they were "devastated" by her death in a "senseless and tragic attack."

• (4). YOM HAZIKARON - MEMORIAL AND INDEPENDENCE DAYS.

Similar to the arrangements made by Israel Railways Ltd. for the IDF Memorial Day, on Monday 01.05.2017 CityPass will strengthen service frequencies from the city centre to Mount Herzl military cemetery before the ceremony and back after it finishes.

A special stand for free tickets will be placed at the LRV station adjacent to the central bus station between 08:00 and 13:00; tickets will be given to users and will be valid on that day only.

Passengers will have to validate the tickets after boarding at the validator.

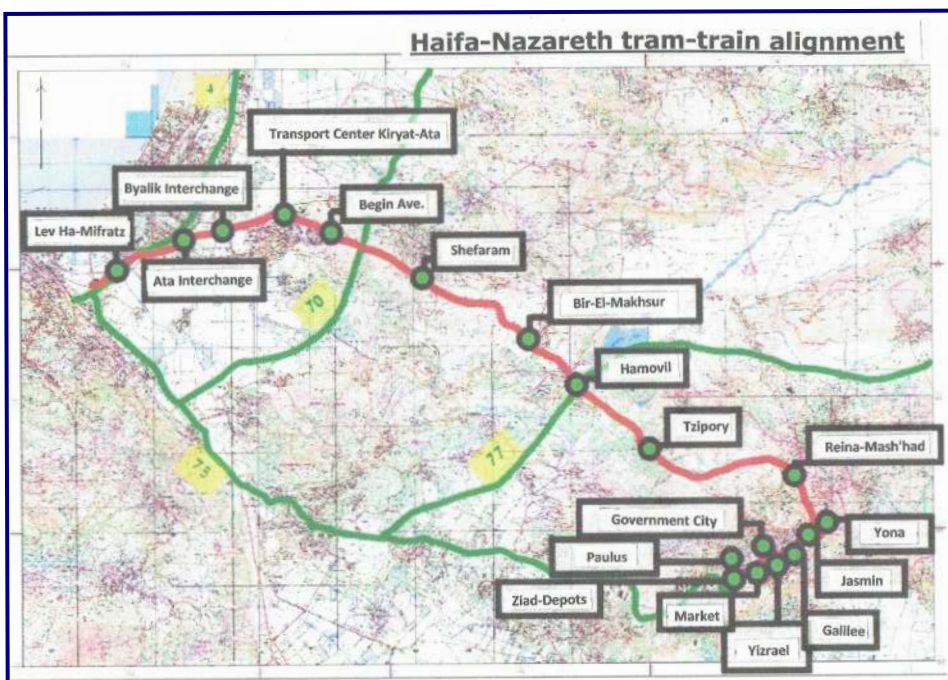
On the same evening - the start of Independence Day celebrations - trains will operate along the whole night; according to the police instructions the Jaffa Central station will not be used due to the celebrations on this section of Jaffa street.

C. HAIFA – NAZARETH TRAM-TRAIN PROJECT.

From Aharon: "Here is a map of the alignment of the planned Haifa-Nazareth tram-train project. It has been provided by courtesy of Yefe-Nof; unfortunately, it is in Hebrew only in addition to changes to station names, so I've translated them into Hebrew with the updated names."

117:06

TENDERS



(i). Tender No. 11730: Operating a Catering service as well as supplying, installing and maintaining Kitchens at the new Railways Management Complex to be opened soon at Lod station: The contract is for 36 months with optional extensions of up to additional 84 months. Latest date for submission of proposals: 09.04.2017.

(ii). Tender No. 21648: Supplying various sorts of Wires: communication, command, optical, and signalling: Latest date for submission of proposals: 27.04.2017.

(iii). RFI No. E-04-0004. For Railbound Vehicle with Rail Surface Defects Elimination System. Should be designed to carry out the operations on all types of track found on IR including station tracks, level crossings, track with check rails etc.

Should be able to perform Initial Reprofileing, Preventive Cycle Profileing, Corrective Reprofileing, Gauge Widening Profile etc. and remove various rail-head defects, whilst not interrupting axle-counting. Meetings to be held in April 2017.

(iv). Tender No. 170101: Operating a new Café at Tel-Aviv Savidor/Central station: The contract consists of 4 months suitability time; then permission to operate over 60 months; this can be extended by up to additional 60 months. Latest date for submission of proposals: 27.03.2017.

(v). Tender No. 21613: Performing maintenance works around tracks in the Israeli northern area: Works include: track sections, sites and stations, aerial rehabilitation, pest control, etc. The contract is for 24 months with optional extensions of up to additional 36 months. Latest date for submission of proposals: 04.04.2017.

(vi). Tender No. 170301: Taxi services to/from Haifa Hof-HaCarmel railway station; The contract is for 36 months. Latest date for submission of proposals: 20.04.2017.

(vii). Tender No. 11724: Providing Legal Advice services for the railways: The contract is for 36 months with optional extensions of up to additional 36 months. Latest date for submission of proposals: 08.05.2017.

(viii). Israel Railways Tender No. 1173: Providing Consulting services regarding the retaining and follow up of the railways' Quality System in a frame agreement: The contract is for 12 months with optional extensions of up to additional 36 months. Latest date for submission of proposals: 05.06.2017.

(ix). Request for Information. Conversion of Power Cars to Driving Trailers. IR has 64 Power Car Driving Trailers – double-deckers – built by Bombardier Transportation, as follows:

2001: 7; 2002: 7; 2004: 9; 2005: 1; 2006: 6; 2012: 16; 2013: 6; 2014: 12.

Each consists of three major sections: a driver's cab, a machine room equipped with two generator sets for supplying power to the train auxiliary systems (especially air-conditioning); and a passenger saloon. The intention now is to rebuild these carriages so that the machine room is converted into additional passenger accommodation. This will involve removal of all diesel generator sets and all related auxiliary systems and equipment inside and outside the coach; conversion of the former machine room into a passenger area, with all normal furnishings – seats, racks, windows, entrance doors etc; and installation of normal carriage systems including lighting and sockets, passenger information systems etc. In future power for auxiliary systems will come direct from the electric locomotives. Since the locos will be fitted with a driver's desk in

accordance with UIC-612 and eventually also ETCS Level 2, the cabs need to be retro-fitted with these desks and with provision made for future ETCS installation.

(x). Request for Information: Israel Railways Ltd. RFI No. 61750 - Suppliers for performing glazing works on Bombardier Double-Deck driving cars:

The railways have 64 Bombardier Double-Deck driving cars in use. The intention is to replace the driver's cab front windows and those beside the driver, as well as panel screen displays and front flash lights. The glasses will be supplied by the railways, while replacing the glasses as well as installing sealing rubber profiles will be performed by the winning bidder. The contract is for 48 months. Latest date for submission of proposals: 18.05.2017.

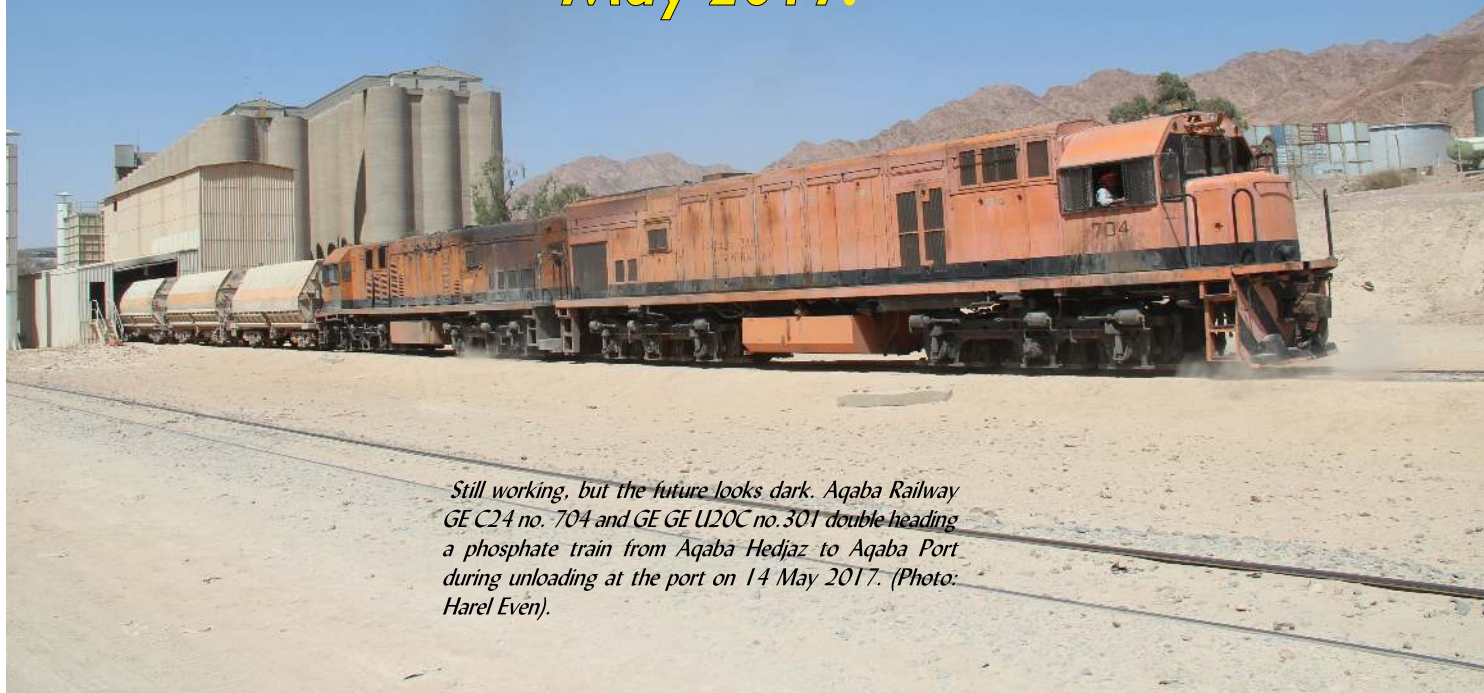
(xi). Israel Railways Ltd. Tender No. 11633: Providing Archive services: The contract is for 60 months with an optional extensions of up to additional 60 months. Latest date for submission of proposals: 12.06.2017.

(xii). Israel Railways Ltd. Tender No. 21716: Constructing a logistic Storage Site within the area of Kfar-Vitkin station (between Netanya and Hadera-West on the Tel-Aviv - Haifa line): Latest date for submission of proposals: 06.06.2017.

(xiii). Israel Railways Ltd. Tender No. 11732: Providing Security and Guarding services at the railways' southern sites: The contract is for 24 months with optional extensions of up to additional 36 months. Latest date for submission of proposals: 27.06.2017.

(xiv). Israel Railways Ltd. Tender No. 21701: Performing laying of Communication Cables: Works include: excavating and laying communication and signalling systems, and installation of cables for signalling systems. Latest date for submission of proposals: 22.06.2017.

Report on the Branch Line Society & The LCGB Jordan Rail Tour May 2017.



Still working, but the future looks dark. Aqaba Railway GE C24 no. 704 and GE GE U20C no. 301 double heading a phosphate train from Aqaba Hedjaz to Aqaba Port during unloading at the port on 14 May 2017. (Photo: Harel Even).

By Harel EVEN

The tour was organized on behalf of the Branch Line Society and the Locomotive Club of Great Britain, through the auspices of the Jordan-Hijaz Railway (JHR) and with the permission of the Aqaba Railway Corporation (ARC) to traverse their freight railway to the Red Sea port of Aqaba.

The tour was planned, organized and managed by Iain Scotchman after nearly two years in the planning and arose out of a holiday to Jordan in March 2015 when a visit to Amman station railway museum lead to the discovery that the railway was not dead since the cessation of the Amman – Damascus service with the Syrian civil war in 2011, and operated weekend “family” trips to El-Jiza with the potential for charter train hire. Iain's trip on one of these trains was hastily arranged and, with the contacts made, sowed the seeds for this tour. Logistics for the tour including hotels, coach transportation and the provision of packed lunches was ably provided by United Travel Agency of Amman, who also arranged the tour guide and tourist police (both official Government requirements). 38 participants took part.

Train Formation

Our train was formed of 4 airconditioned coaches in the following order:

- 1 (north end) – Kitchen and Generator car rebuilt in 2005 by Jordan Hejaz Railway on the frame of a 1959-built Nippon Sharyo tank wagon.
- 4 – Open saloon coach rebuilt in 2005 by Jordan Hejaz Railway on the frame of a 1959 built Nippon Sharyo tank wagon. The seating arrangement includes two facing long sofas parallel to the windows.
- 2 – Similar to no.4.

- 431 – Baume & Marpent, originally HR III class Open saloon coach. The current seating arrangement is 2+2 face to face.

Tour Day I - 10 May 2017: AMMAN – MAFRAK - AMMAN

First thing in the morning we went by bus to visit 4-6-2 Nippon Sharyo JHR locomotive no. 84 (1959) exhibited at the University of Jordan, Amman. Then we continued to Amman station. The station tracks were occupied by the following:

- Track no. 1 – clear.
- Track no. 2 – Roelux (Yemen) HR I & II coach no. 48 + Baume & Marpent HR Ambulance coach no. 66 + JHR Open saloon coach no. 5 rebuilt in 2005 on the frame of a 1959-built Nippon Sharyo tank wagon.
- Track no. 3 – Roelux (Yemen) HR I & II coach no. 81 + Ammendorf HR Brake Post & Luggage van no. 622 + freight wagons.
- Track no. 4 – clear.
- Track no. 5 (main line) – our train.
- Track no. 6 – freight wagons.

The dead-end tracks on the south end of the station are occupied by more freight wagons and also out-of-use Robert Stephenson & Hawthorns 2-8-2 no. 21 (1951) and Haine-Saint-Pierre 2-8-2 no. 71 (1955).

The following freight wagons were noticed as original HR stock:

- 15-ton Box wagon no. 1750
- 15-ton low-sided wagons no. 1545 and 2854.

There is a small railway museum just next to the main building. Next to it Haine-Saint-Pierre 2-6-2T no. 62 (1955) is plinthed.

A Ransomes & Rapier crane (Ipswich England 1918) is mounted on a concrete stage adjacent to the north connecting point between tracks no. 5 and 6.

Inside the locomotive shed Jung 2-8-2 no. 51 (1955) and Haine-Saint-Pierre 2-6-2T no. 61 (1955) were parked on the eastern track and GE U10B A1A-A1A DEs no. 40212 & 40213 (1976) in yellow livery were parked on the western track.

Outside the locomotive shed situated on the north side of the station Robert Stephenson & Hawthorns 2-8-2 no. 23 (1951) was in steam under preparation to pull our train to Mafrak.

GE U10B A1A-A1A DE no. 40210 (1976) in orange livery was shunting Jung 2-8-2 no. 52 (1955) to the turntable. The turntable was operated using a rope connected to no. 40210.

Due to some technical problems, it was decided by JHR to run our train with no. 40210 leading and then no.23 running idle to Zarka. The plan was to uncouple 40210 at Zarka and steam run to Mafrak and the return to Amman. Arriving at Zarka it was decided to shunt aside no. 23 and to continue the rest of the day with 40210. No. 23 ran as light engine back to Amman. At Zarka station a single tank wagon (1959 built Nippon Sharyo) no. 1017 is stabled on the middle of track no. 2.

Some of the journey passed through urban areas, mainly in the vicinity of Zarka, and level crossings were protected by JHR personnel escorting the train onboard or running parallel to the train in a road vehicle. Out-of-use barriers and electric flashing lights are visible at some level crossings.

Two disused sidings branch out of the main line:

1. North of Amman on the eastern side of the main line.
2. Zarka Refineries - North of Zarka on the western side of the main line (two tracks).

No block or interlocking systems exist so train movements between stations are authorized by phone messages between traffic operators at Amman, Zarka and Mafrak and points are manually operated. The old home single arm semaphore on the southern entrance of Amman station was noticed.

The track is still made of the 20 kg/m original HR rails (many of them marked "Cockerill – 1900") and original HR steel sleepers. The rails are not welded and the sleepers lay directly on the embankment with no ballast. Maximum speed is usually no more than 35 KPH. Although there is no regular train traffic we were told the line is daily checked by an JHR MoW trolley.

Next stop, Samra station is not manned and has one siding.

7 box wagons are stabled on track no. 1 at Mafrak station. There is a closed gate at the north end of the station and we were told that no traffic is allowed northbound to the Syrian border.

The train timings running north were:

The train timings running north were:				
Notes	.DEP	.ARR	KM	Station
	12:48		222.571	AMMAN
	14:28	14:00	202.978	Zarka
Including one photo stop en route	15:30	15:20	185.535	Samra
		16:35	161.868	Mafrak

Our train departed Mafrak at 17:38 and arrived Amman at 21:50 (including one photo stop on the 10-arch stone bridge between Samra and Zarka.

Tour Day 2 - 11 May 2017: AMMAN – Al Abyad

Arriving at Amman station in the morning we found the station busy:

GE Des 40210 and 40213 departed Amman to Jiza with Open saloon coach no. 5.

Jung 2-8-2 no. 52 (1955) in steam departed the depot to head our train southbound. On our way, we stopped for a run-past photo over Amman Viaduct.

At Kassir station one box wagon is stabled in the middle of track no.4. A disused siding branches out of track no. 1 south of the station over the level crossing.

The next station was Lubban where tracks no. 1 & 4 are occupied with many freight wagons - mainly box vans as well as a tank wagon.

Then we arrived at Giza station located just south of Amman International airport. The station went through preparations to make it ready for a wedding celebration due a week later, for which Haine- Saint-Pierre 2-8-2 no.71 (1955) and coaches no. 5, VIP and 3 were brought in as scenery and stabled on track no. 2. 4-6-2 Nippon Sharyo locomotive no. 81 (1959), a tank wagon and GE 40213 were parking on track no. 1.

At Giza GE 40210 replaced Jung 2-8-2 no. 52 leading our train for the rest of our journey southbound. The next stops were Daba, Khan Zebib and Suaka – unmanned stations with a crossing loop, and a 6-arch stone bridge just south of the latter. Then we arrived at Katrani manned station. The triangle still exists and so does the water tank building. Track no. 4 is occupied with freight wagons including a 1912-built wooden box van of Roelux, Belgium. After a short stop on the 6-arch stone bridge just south of the station we continued to Menzil – an unmanned station with a passing loop only connected to the main line at the south end.

The colour light home signal of El Abyad station was the first sign of entering the part of the Hejaz railway under supervision of Aqaba Railway Corporation (ARC). Here we ended our 2nd tour day and went back to Amman by bus for an overnight stay.

The train timings were:				
Notes	.DEP	.ARR	KM	Station
min. photo stop at Amman Viaduct	08:12		222.571	AMMAN
	09:16	09:00	234.350	Kassir
Including a photo stop en route from Kassir	10:17	10:09	249.10	Lubban
	11:23	10:46	260.038	Giza
	12:07	11:53	279.10	Dab'a
	13:02	12:42	295.686	Khan Zebib
	13:28	13:20	309.70	Suaka
Inc. a photo stop on km 227 6-arch bridge	15:00	14:20	326.558	Katrani
	16:26	16:10	348.784	Menzil
Inc. a photo on a bridge en route from Menzil		16:51	?	Al Abyad

Tour Day 3 - 12 May 2017: Al Abyad – Ma'an

The 3-track station is controlled from a signal panel on the second floor of the modern station building. Currently points are manually operated and there is no regular traffic. From here on the ballasted track is made of 30.1 kg/m rails on concrete or wooden sleepers. The El Abyad phosphate mine is connected by a branch line to the north end of the station.

We went with our train from the station to the mine with GE 40210 pushing the train and coach no. 1 in front as it is not possible to run the loco around at the mine any more. The track ends some hundreds of metres before the loading facility as it was dismantled from then on. There has been no rail

phosphate traffic from that mine for several years. The mine is operational but all traffic to the port of Aqaba is taken by road.

We then travelled back to the station and continued southbound on the main line to El Hassa Junction. The crossover points used to be controlled by a local relay interlocking and signals still in place. Our train was shunted to the 4-km branch to the El Hassa mine with GE 40210 pushing the train and coach no. 1 in front as it is not possible to run the loco round at the junction. We were able to get as far as the El Hassa Mine station at km 4. The 2-track station is controlled from a relay signal box at the one-storey building and signals were lighted. There is a triangle. The loading sidings were not in operation although the mine was operational and all traffic to the port of Aqaba was made by road.

We then travelled back to the junction and continued southbound on the main line to our next stops: El Hassa, Jerouf, Aneiza and Jurdoun stations. Each has one passing loop and is controlled by local relay interlocking and colour light signals – one home and one departure signal at each end. Signal rooms are manned and there is a trains diary in use.

On the north side of Jurdoun station we found 3 derelict freight wagons disconnected from the track including:

- 15-ton low sided wagon no. 1520 built by Baume & Merpent. It is still marked HR with a date 9.12.1944 (next maintenance?) and the words: FOR HAIFA PIPE TRAFFIC ONLY.
- wooden box wagon.
- Flat wagon no. 1308 (cut from a 15-ton box van?)

Just before sunset we arrived at Ma'an new station. The home signal at YELLOW marked the first locked train route along our journey. From here on train routes were locked for our train at the entrance and departure at all stations. 40210 then ran around the train and shunted coach no. 431 to the old HR station which is now a group of sidings branching out of the main line at the north end of the station. The original station buildings and depot are still in place as well as the turntable.

Here we ended our 3rd tour day and went to Petra by bus for an overnight stay.

The train timings were:					
Notes	. DEP	. ARR	KM	Station	
	08:25		0.000 / ?	El Abyad	
	08:57	08:33		El Abyad Mine	
	09:30	09:04	3.5	El Abyad	
	10:30	10:05	0.000 / ?	. El Hassa Junc	
			0.000 / ?		
	11:25	11:02		El Hassa Mine	
	11:50	11:37	4.0	. El Hassa Junc	
			0.000 / ?		
	13:01	12:05	378.206	El Hassa	
	14:33	13:58	397.802	Jerouf	
	16:19	15:52	423.000	Aneiza	
	17:35	17:14	440.5	Jurdoun	
shunt coach 40210 no. 431 only	18:26	18:14	458.800	(Ma'an (new	
	?	18:35	459.158	(Ma'an (HR	
		?	458.800	(Ma'an (new	

Tour Day 4 - 13 May 2017: Ma'an – Wadi Rum

We had a second chance to visit by foot the old Ma'an Hejaz Railway station and depot in the morning – this time with the sun shining from the east. ARC phosphate wagons (BREL, Ashford 1975 and KSEC, Korea 1987) are stabled here for repairs. Other phosphate wagons are seen behind the new station off track waiting for accident repairs. At the new station the ARC engines GE

U20C 2,150 hp CO-CO (1980) no. 313 & 315 coupled together outside the new depot sound from the distance. JHR GE U10B 800 hp A1A-A1A (1976) no. 40209 (on lease to ARC) was shunting empty phosphate wagons into the depot. Unlike the screw couplers, single central buffer and vacuum braking is in use on JHR rolling stock, ARC rolling stock is equipped with automatic couplers and air brake system.

The station tracks as well as the old station and new depot sidings main points are controlled by a relay interlocking from the main station building with all 5 station tracks equipped with colour light departure signals. Signals are located on the right-hand side although having a British shape.

Our train then started its journey southbound to the first stop: Bir Chedieh – a crossing station with 2 crossing loops with one home and one departure signals at each end. Then we stopped on a 5-arch stone bridge near km 491 before arriving at Aqaba Hejaz station. A short dead-end branch connects the station to El Shidiye phosphate mine located just east of the station.

Track no. 1 was occupied with ARC GE C24 MMI 2400 hp Co-Co (remanufactured 2007) no. 704 & GE U20C 2,150 hp Co-Co (1980) no. 301 coupled together and an empty phosphate train waiting to enter the branch. Inside the branch were ARC GE U20C 2,150 hp Co-Co (1980) no. 305 & 314 double-heading a phosphate train loading under the El Shidiye loading facility. A loaded train at last...

Our next stop was km 0.000 of the Aqaba Railway – the point from where we left the Hejaz main line which used to continue southbound to Medina, now Saudi Arabia. The track bed of the main line is very much visible with its ballast and culverts – probably as a consequence of the northern part of the line 100 km into Saudi Arabia being rebuilt in 1966 and then suspended.

From here the Aqaba railway starts descending south-west and 40210's dynamic braking is frequently used to maintain the speed limit. Very soon we stop at Baten El-Ghul station – a typical crossing station with one crossing loop with one home signal and one departure signal on each side of the station. We had to stop near a bridge at KM 19.2 because the road vehicle escorting our train submerged in the sand. Then we arrived at Hiswa station about 4 km down the line. A 31-empty phosphate wagon train was climbing from the west double headed by ARC GE U20C 2,150 hp Co-Co (1980) no. 304 &

C24 MMI 2400 hp Co-Co (remanufactured 2007) no. 701 to cross with our train at Hiswa station. The scenery around the wide valley is made of red rocks immersing in wide sand dunes. Our next stop was a tunnel about 4 km down the line. Next station was Qa El-Disi after which we arrived at Wadi Rum station – the biggest intermediate station with three passing loops (of which only one is controlled by an interlocking) and an abandoned triangle.

Here we ended our 4th tour day and went to Wadi Rum Bedouin Camp by bus for an overnight stay.

The train timings were: *(see chart next page)*

Tour Day 5 - 14 May 2017: Wadi Rum – Aqaba Port – Aqaba.

When we arrived at Wadi Rum station in the morning a 31-empty phosphate wagon train was passing the station from the west double-headed by ARC GE C24 MMI 2400 hp Co-Co (remanufactured 2007) no. 701 & U20C 2,150 hp Co-Co (1980) no. 304.

Track no. 3 was occupied (west to east) by the following:

- JHR Wadi Rum tourist train made of ARC GE U17C 1825/1700 hp Co-Co (11.1974) no. 955, 3 JHR passenger coaches, high

The train timings were:

Notes	.DEP	.ARR	KM	Station
	10:30		458.800	(Ma'an (new
minute stop at -13 km 491.3 bridge	11:38	11:23	487.000	Bir Chedieh
	13:10	12:40	514.200	Aqaba Hejaz
	13:48	13:32	0.000 / 519.700	Aqaba Railway Jun
minute stop at -12 km 19.2	14:20	13:55		Baten El-Ghul
	15:37	15:17	4.1	Hiswa
			23	
minute stop at -9 the tunnel	16:30	16:24	40.6	Qa El-Disi
		17:19		Wadi Rum
			58.4	

sided flat wagon with machine gun and another JHR passenger coach, and JHR 4-6-2 Nippon Sharyo JHR locomotive no. 85 (1959). Each tourist train vehicle is equipped with a screw coupler and central single buffer each side.

- 8 ARC ballast hopper loaded wagons
- MoW vehicles.

We then travelled on the touristic train headed by DE 955 (without 4-6-2 no.85) a few kilometers westbound and then reversed back to Wadi Rum.

We then departed Wadi Rum to the next station down the line – El Umran. Near the one-storey station building is a narrow steel footbridge above the two tracks. We were told that it used to serve customs personnel to check from above that no merchandise was smuggled from Aqaba free zone area on board trains. On the way to Ytum station we passed through a short tunnel. Before arriving at Ytum the Red Sea is unveiled together with the cities of Aqaba and Eilat. After Ytum station we enter the urban area of the city of Aqaba. Before entering Aqaba station, we pass a dead-end track intended to catch running away vehicles on our left-hand side.

First, we see derelict ARC DE locomotives stabled to our left-hand side including (east to west) GE U17C 1825/1700 hp Co-Co (1974) no. 957, GE U18C 1950 hp Co-Co no. 411 (1977), GE U17C 1825/1700 hp Co-Co (1974) no. 956 and JHR GE U10B A1A-A1A DE no. 40211 (1976).

In and around the locomotive shed the following locomotives were maintained: 316 coupled with 702, 305 coupled with 314 and 703.

The station has 4 running tracks – each with a departure signal at both ends - controlled by the local relay interlocking from the signal room on the station building second floor. Connected to the loco shed from the west side is a triangle.

Our train then continued the last section of the journey to the port station. We passed through some level crossings – two of them manned by a gate keeper located in a tent and closing the barriers using ropes. These were the only two manned level crossings throughout our whole journey in Jordan.

We arrived at the middle track whereas the two tracks either side are equipped with an unloading facilities connected by conveyors to the port phosphate stores. The points on the northern side of the station are controlled from the local signalling room while those on the southern side, used to turn around locomotives, are manually operated. There is a branch line to the opposite grain silo marked on the signal panel.

We were welcomed by the port manager and his team. We were told that this part of the port has been sold to a United Arab Emirate company which will develop the area as a housing and touristic area. A new port was built a few kilometres south but is not rail connected. Therefore only about 25% of Jordan phosphate export is now carried to Aqaba by rail and the future of this is in question.

A loaded phosphate train double-headed by GE C24 MMI no. 704 & GE U20C no. 301 arrived at track no.1 and started unloading below the eastern unloading facility. We were told by the local staff that it takes 4 minutes to unload a wagon and about 2 hours per train. The last wagon of the ARC train is marked by a green metal sign connected to the rear automatic coupler.

While the phosphate train was unloaded our train departed back to Aqaba station where we had a short ceremony with our local hosts from JHR and ARC to conclude the whole journey and for us to thank them for the great job done in operating the special train throughout those 5 days and 473 route-km of which 358 route-km on the HR main line and 115 km on the Aqaba line. As we had a return running on the Amman – Mafrak line the total voyage distance was 534 km. That might have been the first-ever Mafrak – Aqaba Port through passenger train.

While travelling north on the main Aqaba – Amman highway next morning, we saw our train running empty stock back to Amman at El Umran station.

Special thanks to Mr. Nader Malkawi who was the JHR train team manager throughout our journey. He is also the point of contact at JHR for future special train orders at www.jhr.gov.jo. 31.5.2017

The train timings for the last day were:

Notes	.DEP	.ARR	KM	Station
	10:17		58.4	Wadi Rum
	11:37	11:16	89.0	El Umran
	12:46	12:25	105.0	Ytum
	13:46	13:04	111.0	Aqaba
	15:09	14:02	114.8	Aqaba Port
		15:23	111.0	Aqaba

Notes: The GE locos referred to are actually TypeUM10 of 820/900hp.
At Aqaba Port - the grain silo siding marked on the signal panel does not actually seem to exist!
Counting the section Aqaba - Aqaba Port and back, total kilometrage traversed was actually 540.

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NOTES AND COMMENTS.

- (a). A WARTIME LIGHT RAILWAY AT AQABA.

In 'New Zealand Engineers in the Middle East' Chapter 8 entitled 'A Miscellany of Work' is the following:

"The celebrations that had started in the Western Desert on New Year's Eve were continued at Aqaba in Transjordan by the sappers from 21 Mechanical Equipment Company and 19 Army Troops Company but had nothing man-made about them. A storm blew up from the south and by dusk a six-foot-high wall of water, constrained by the mountainous flanks of the narrow gulf, was sweeping everything before it. At dawn there was only a muddy swell rolling lazily up the beach. But it was rolling through a tangled mass of breakwater and Victoria pier and swirling around beached lighters. The temporary lighter jetty was saved by its more sheltered position, and while the wreckage was being cleared and the barges repaired long hours were worked until the end of January. It was during this period that Lieutenant H. C. Page was transferred as second-in-command to 7 Field Company and his place taken by Lieutenant Dalmer.

February in Aqaba was notable only for the preparations for a visit of inspection by General Sir Henry Maitland Wilson and the arrival towards the end of the month of the first ship to use the new port facilities. The cargo was landed speedily and efficiently with the aid of mobile cranes from the Mechanical Equipment Company plant. Four days later another freighter called to unload NAAFI stores. This was done even more speedily and efficiently.

March the 5th was a very notable day indeed for it was the only time rain fell while the sappers were at Aqaba. The shower lasted for only about thirty minutes, during which time men were stationed at vantage points to retrieve tables, beds, and other gear that was rapidly en-route to the sea. A torrent swept towards what was left of the damaged pier and on its way tore a stone crusher out of its quarry. A light railway line between the RE yards and an Indian labour company's brick kiln was left hanging in mid-air and two diesel trolley engines were overturned and buried in mud. It was quite a shower.

The main job of the Army Troops section now was the quarrying of metal for the concrete used by 21 Mechanical Equipment sappers on their lighter basin work, and the building of an anchor wall for the sheet-piling being driven along the foreshore by the sister unit. On 11 April they left Aqaba by sea for Suez, had a filthy, seasick passage down a stormy Red Sea and cursed their folly in joining the Engineers."

May and June followed much the same pattern.

"Back on the Nagb the final section of the road, which had to be scalloped out of the hillside like the highway over the Olympus Pass, was finished in late May. The detachment then camped with Repairs Section and worked on the filling and levelling of the marshalling yards, the station and transit sheds for the approaching railway from Ma'an. The line was to end in a shallow valley and the spoil had to be obtained from a neighbouring hill. The carry-alls, confined to a narrow track, made up to fifty trips daily through a foot and a half of powdered, choking, rocky dust. Coalmine respirators were tried but found useless and recourse was made to Arab headdress. The keffiyahs have side flaps that normally hang over the back and shoulders and are so designed that they can be drawn across the face to give fair protection against the dust.

The construction of the lighter basin at Aqaba had been pushed on sufficiently by May for dredging to be started. At low tide there was a depth of from nil to four feet, and it was intended to dredge to an over-all depth of six feet. At this stage something of a problem presented itself, namely, how to dredge a basin without a dredge. Sappers are not supposed to be daunted by situations that halt lesser men in their tracks and an ingenious method was evolved to meet the situation.

A tractor was made secure in a barge moored at a convenient distance out to sea and an excavator made equally secure on shore. A dragline bucket was placed in the basin and attached by a rope to the winches of the tractor. The excavator would haul the bucket along the seabed, lift the spoil and deposit it on the beach to form a staging from which lighters would later discharge their cargo. The tractor on the barge would then come into operation and direct the empty bucket back into the required position for another fill. It was not fast but it worked. Sappers not employed on this work excavated for flood diversion in case of another cloudburst and levelled off sites for transit sheds. Some months were spent thus.

Jan-Jun. 1942. Ninth Railway Survey Company still worked from its Almaza headquarters. Over the New Year it had staged its first almost complete concentration since its arrival in Egypt but within a few days was again at work in four countries: in Palestine on a base ordnance depot at Haifa, in Syria on rail extensions at Rayak, in the Sudan on a contour survey at Shallal, in Egypt on the line from Ataq to Adabiya and finally on the Western Desert Extension..."

- (b). THE ROTHSCHILD SNOWPLOW.

Just a bit of whimsy but thanks to Lorenz Degen and his contacts I was sent an article by Hans Conrad on 'The Winter Operations on the Rhätische Bahn with especial reference to the avalanche period January/February 1951' published in 'Bündnerisches Monatsblatt' 1951 Vol. 9. Not something one stumbles across all the time, but available in the ETH Bibliothek in Zürich. Conrad was the RhB's chief engineer.

Describing first various methods used to prevent avalanches (poles, afforestation) or the construction of galleries and tunnels (as on the Beirut-Damascus line) he goes on to the problems on the Bernina line and snow accumulations. But in the early days of the Landquart – Davos Bahn (opened throughout in July 1890) there was still but little experience of operating railways in heavy snow conditions – the Gotthard line had opened in 1882. Nevertheless the firm Philipp Holzmann of Frankfurt and Jakob Mast of Zürich, who had constructed the line and were to provide the rolling stock, were also asked to provide a snowplough. This arrived in October 1890; it was built mainly of wood and required four years of modifications before it operated satisfactorily. Due to its red livery the staff called it the 'Rothschild'. [lit. 'the red shield'.] It worked until Christmas Day 1923 when it derailed, hit a mast and was irreparably damaged.

- (c). GLUBB PASHA.

In 'Railways Still at War' by Robin Jones, a compendium on various railway museums and others who hold stock with connections to military activity in one form or another, is an item (p.12) on the 'Simplex' 4wP and a new interactive diorama at Gelert's Farm in Porthmadog, the headquarters of the Welsh Highland Heritage Railway: "To commemorate the centenary of both trench railways in 2016 and that of No. 264 (a Baguley 15hp 0-4-0) the WHHR has built an interactive diorama... it allows visitors to appreciate the locomotives and the service they provided to the military during the war. Once inside the museum building, visitors are invited to imagine they are in Bazentin-le-Petit, a devastated village near the Somme battlefield in the late autumn of 1916.

The idea is that the building represents the 'office' of the Royal Engineers 7th. Field Company, which has built (and been left to run) a 60cm (2ft.) gauge tramway system supplying part of the Front north of the Somme. Research revealed detailed diaries, which included commentary from a man called John Glubb, who was 19 at the time and an acting Captain. (He went on to become General Glubb 'Pasha', a key influence on the Royal Jordanian Army after the Second World War)."

From Wikipedia – this merely states that Glubb (1897-1986) served in France in World War I, having gained a commission in the Royal Engineers in 1915, and received a severe wound with a smashed jaw. I had no idea that Glubb had been an RE with railway experience!

- (d). HOLOCAUST MEMORIAL, MILANO.

117:09

OTHER MIDDLE EAST RAILWAYS.

Milano Centrale station is a massive (24-platform) terminus built in extravagant Fascist-period style - actually a very beautiful building in its own right. It opened in July 1931. The main tracks come in at an elevated 'First Floor level'; if one walks along the right side of the building, looking north, one passes the Piazza where various airport shuttle buses start and end, then crosses a busy road with the 90 & 91 circular trolleybus routes, then one comes to Edmund Safra Piazza and the entrance of the Holocaust Memorial. Opposite on the right is the former main postal office – and under the terminus, on the ground floor so to speak, was a series of platforms for the loading and unloading of postal and perishables traffic in such a way that they did not get in the way of passenger movements. These platforms were linked at each end by traversers and these served also lift shafts upon which individual wagons could be brought up or down to spurs at platform level – one of these shafts can also be seen at the end of Binario 6 & 7 although the connecting spur has been lifted and an electrification mast placed in the way.

Entry is €10. Only two of the tracks are still accessible here, at one of which ('Binario 21') stand four old wooden Italian goods vans of different types, with no identification markings or numbers. Side doors are open so one can walk through and inside some are also memorials. On one side is a row of booths (looking like goods vans) showing short videos of the history of the place, also an exhibition on the deportations of Italian Jews from here and from Rome from 1943; on the further side is a large panel with individual names. The traverser at the lift end has been retained, that at the far (northern) end replaced by a conical room for meditation. Above rumble the trains to and from Malpensa.....

- (e). THE ISRAEL RAILWAYS AND TRAMWAYS SOCIETY.

This is a fairly new initiative by Steve Sattler – details of forthcoming meetings (albeit publication may come after the first has passed) are:

- MAY meeting - on the Jerusalem to Bet Shemesh train and back on Friday 26th May. We will take the second to last carriage. Sybil will be the MC. We should be at the Malcha Station [in Jerusalem] before 09.35; Parking, buying tickets and getting down the escalators takes 10 mins. The train leaves at 09.45! We will return on the BS > Malcha train at 12.55. {There is plenty of time till Shabbat }

- Our JULY meeting - in the Map-Room of the National Library - Givat Ram, Jerusalem will/can be either on 17th or 24th July from 17.30. We will consult and discuss old Palestine maps - and rail.

In early July--We will close on the final date.

- Our OCTOBER meeting will on the 6th floor of CITY HALL— Jerusalem. We will then visit the full-room-scale MODEL of Jerusalem and all her streets and building---and trains/trams, in the basement. A city engineer will give us a review of "The Future of Jerusalem".

For details: Steve Sattler on: sattler31@gmail.com

- (f). WORLD WAR TWO MUSEUM AT GDANSK, POLAND.

This new museum has caused some controversy because the Polish Government apparently wants to see more emphasis on Polish suffering and heroism whereas the Museum – quite rightly in our opinion – covers the whole world in what was a world war, and does it well. The main exhibition is at the 3rd. floor underground, and here is a G10 goods van wagon of the PKP, numbered 'PKP 180 381 Kd', this is crossed out and replaced with 'Deutsch', so representing the takeover. One axle-box cover is marked 'DWV 1919'. Was it a Reparations wagon? Because of its situation it is hard to photograph. There is also a 60cm. Tipper wagon representing Forced Labour.

A. IRAN

- (i). FURTHER CONSTRUCTION OF SIEMENS DIESEL LOCOS 'ER 24PC' IN IRAN.

In 'Schienenverkehr Aktuell – Österreich' 2/2017 pp. 76-78 by 'hpe'. Translation by the Editor.

The main traction in Iran is provided by six-axle diesel-electric locomotives. Most numerous at present are the General Motors EMD Type GT26CW. In this type classification 'G' stands for a Road Switcher locomotive, 'T' for Turboloader, '26' for 16-cylinder motor of EMD type 645 E, 'C' for all-axle operation and 'W' for standard gauge. The worldwide distribution of EMD locomotives and their further construction under license in several countries means that the constant provision of spare parts has been maintained in spite of the US embargo.

The majority of the EMD GT26CW were built in 1970-76, that is, in the period of Shah Mohammed Reza Pahlavi, and were imported direct from the USA (83 with the numbers 60-501 to 60-569, 60-901 to 60-914). Under the Mullah regime in 1984/85 66 GT26CW-2 with the numbers 60-915 to 60-974 delivered from the Canadian EMD works in London (Ontario) and 20 GT26CW-2A as a license construction from Hyundai in South Korea (60-975 – 60-994). From 1992-1994 62 U30C-7i type locos from GE were delivered from their works in Montreal (Canada). In 1986 ten Type-LDE 626 (60-351 - 60-360) were ordered from the Romanian Electroputere in Craiova but all these have been standing for many years on the scrap lines at the main workshops at Bafgh.

Alstom Belfort signed an agreement with Iran for the delivery and license construction with technology transfer of 100 modern AD43C locos, of which 30 had 2880kW power and a top speed of 150km/h for passenger trains, and 70 had 2600kW and 110km/h top speed for goods traffic. 20 machines were completed in 2001/2002 in France with Ruston 16RK215 Diesel motors. The locomotives erected at Wagon Pars received instead a Diesel motor built by an Iranian sub-contractor named Desa, but in the meantime these have been increasingly found to be prone to failures. Apparently up to two-thirds of the AD43C locos built under license (Nos. 221 - 300) are stored damaged. The Anglo-Belgian Corporation has now delivered sample motors of type ABC 12 DZC to Iran and shall possibly take over also the re-motoring of this crippled fleet of Prima locos.

Whilst Siemens can so far report barely any sales of its Vectron-DE version, its predecessor the 'Euro-Runner', whose production run ended in München-Allach in 2011, continues to be produced in Iran under license. During the visit of a large German trade delegation with Federal Economics Minister Sigmar Gabriel at its head, on 3rd October 2016 a contract was signed in Teheran which included amongst others Siemens, its local licensee Mapna and the State Railways RAI for the construction of a further 50 diesel-electric single-cab locomotives of the type ER 24PC. The first 30 such machines were built complete in 2010/2011 in München-Allach; 120 further were delivered from 2012-2016 with 50-60% provided by Siemens and MTU to the Mapna Locomotive Works in Karaj in Iran and erected here.

The name applied to them locally is not 'Iran-Runner' but 'Safir' and they are used exclusively on passenger services with a top speed of 160km/h. They are therefore fitted with the standard UIC hook coupling, whereas goods traffic in Iran employs an automatic coupling developed from and compatible with the Russian-type SA3 coupling. Whilst RAI normally runs a Diesel Generator van on its passenger trains behind the EMD GT26CW, the GE U30, the Alstom Prima AD43C and even the electric locomotives built by ASEA, to provide on-train supply, the heating current transformer on the ER 24PC makes this unnecessary. When necessary two single-cab units are coupled together to a double-locomotive. The ER24PC have a 16-cylinder Diesel motor of 2400kW of MTU type 16 V 4000 R43L (in contrast to the 2000kW motors of the ER20 or ÖBB class 2016). The braking resistance of the Iran locomotives is mounted not in a roof

pod but inside, free-standing behind wide grilles at the corridor end (instead of a second driving cab).

The RAI fleet with numbers 1501-1700 will eventually total more than the entire number of ER20's built. Of these 100 went to the ÖBB as class 2016, five to the KCR in Hong Kong and 76 to various operating companies, and a further 44 as six-axle machines to Lithuania. At the signing of the contract in 2006 a press statement valued the entire worth of the contract for 150 Iranian locomotives at 450 Million Euros. It remains a mystery how Siemens was able to prepare and deliver the contract in spite of the economic and finance embargo placed upon Iran, and apparently without any hindrance. In contrast the South Korean firm Hyundai-Rotem has revealed that it has received no payment since 2010 for the 68 (of 150) double diesel railcar sets delivered to Iran, due to the embargo. The news agency SDA reported that Siemens states that Iranian customers were supported by the concern's own bank as well as Export Credit Agencies and the German federal government."

- (ii). **MASHHAD METRO: SECOND METRO LINE PARTIALLY OPENED.**

From 'Metro Report Intl. 22.02.2017: "The first phase of the second metro line in Mashhad opened on February 20, running northeast-southwest from Kashfrod to Shohada. The 8 km section of Line 2 has six stations, with an additional station due to open at a later stage.

The second phase, running southwest from Shohada to Tabarsi, will be 6.5km with six stations, including an interchange with Line 1 at Shariati. Both sections are in bored tunnel. Shohada will provide interchange with Line 3, the first 11.5km section of which is under construction between Ferdowsi Boulevard and Saba Boulevard. This route is to be extended by 17km in the longer term.

Services on Line 2 are operated using a fleet of three-car trainsets. In 2010-11 CNR Changchun supplied 70 trainsets for use on lines 1 and 2."

And from 15.03.2017:

"CRRC Changchun is to supply 20 five-car trainsets for the second phase of Mashhad metro Line 2, which is due to open in May. The first three sets will be manufactured in China, with the remainder being made in Iran by a joint venture that CRRC Changchun formed with a local supplier in 2016.

The first 8km phase of Line 2 opened on February 20 and uses three-car trainsets supplied by CRRC Changchun. The second phase will add 6.5km.

Last year CRRC Changchun started deliveries of 1,008 metro cars to Tehran under a US\$1.4bn five-year contract.

Iran plans to open 30 metro lines in nine cities over the next five years, with a combined length of 350 route-km. These plans would require around 2,000 metro cars."

- (iii). **AZERBAIJAN – IRAN BRIDGE OPENED.**

From 'R.G.I.' 06.03.2017. ASIA: "The first test train ran across the recently-completed bridge over the River Astarachay which forms the border between Azerbaijan and Iran at Astara on March 3, hauled by a GE/LKZ TE33A Evolution diesel locomotive.

Construction of the cross-border link was approved by Azerbaijan's President Ilham Aliyev on December 7 2015, and a groundbreaking ceremony was held on April 20 2016. The project includes the 82.5m long, 8.0m high and 11.8m wide bridge, plus 16 track-km of new 1,520mm gauge track. The 8.3km single-track extension of the ADY network to the border has now been completed, while on the Iranian side the first 650m has been completed of the 1.4km route to the site of the future 35ha freight transshipment terminal.

The terminal will eventually have gauge-changing facilities to enable through running to the 167km long 1,435mm gauge line which is being built to connect Astara to the Iranian rail network at Rasht. This would complete the North–South International Transport Corridor between northern Europe and the Indian Ocean. The first direct freight service from India to Russia along the corridor ran in September and October 2016, with the sea and rail journey between Mumbai and Moscow taking 23 days including road transport from Rasht to Azerbaijan.

Azerbaijan has 'mobilised significant financial resources for the construction of the Rasht – Astara railway', President Aliyev said after a meeting with Iran's President Hassan Rouhani on March 5. 'A year ago, I said that Azerbaijan would build a railway to the Azerbaijani-Iranian border in 2016, and we achieved that. This is already a reality."

- (iv). **NEW STRATEGIC LINK TO MEDITERRANEAN PLANNED.**

From: 'DEBKA file March 28, 2017': "Rouhani: Iran to build a railroad to the Mediterranean via Iraq, Syria." :

"On a visit to the Kurdish Sanandaj region of western Iran, President Hassan Rouhani announced Tehran's plan to build a direct rail line through Iraq up to the Syrian Mediterranean coast. This important project would, he said, provide many jobs."

- (v). **RUSSIAN ELECTRIFICATION.**

From 'R.G.I.' 04.04.2017: "Russian Railways' export business RZD International and the Islamic Republic of Iran Railways signed a €1.2Bn contract on March 28 for the electrification of the 495km route from Garmsar on the Tehran – Mashhad main line to Incheh Borun on the border with Turkmenistan. This builds on an initial agreement signed in November 2015.

The scope of the work includes 25kV 50Hz electrification and track, signalling, and telecomms enhancement to increase capacity on the route. It also covers the supply of maintenance vehicles and electric locomotives and the provision of technical assistance during the first year of electric operation.

The work is scheduled to take four years, and will start as soon as the governments have finalized a €1Bn Russian export loan which is to be repaid over five years with a 2.77% annual interest rate. A memorandum of understanding has also been signed which could see RZD International and RAI use the project as a basis for co-operating on work elsewhere."

- (vi). **TEHRAN METRO ORDERS 70 METRO CARS FROM CRRC.**

From 'Metro Report International': 06.04.2017. "The Tehran Wagon Manufacturing Co joint venture of CRRC, Norinco and Tehran Metro has won a €93M contract to supply 70 metro cars for the capital's expanding network.

The order is the latest of several that CRRC has won in Iran. Last year CRRC Changchun started deliveries of 1,008 metro cars to Tehran under a US\$1.4Bn five-year contract. Last month the supplier signed a contract covering 100 cars for the second phase of Mashhad metro Line 2, which is due to open in May. In October CRRC Nanjing Puzhen announced that it is supplying 215 metro cars to Esfahan, Shiraz and Tabriz."

- **TEHRAN – HAMDAN & FIROUZAN RAILWAYS OPENED.**

From 'R.G.I.' 09.05.122017: "The 267 km railway linking Tehran with the city of Hamadan was officially opened on May 8 by President Hassan Rouhani and Minister of Roads & Urban Development Abbas Akhoundi.

Construction of the line began in 2001, but work stopped in 2004 before being restarted after the easing of sanctions in 2015. "The people of Hamadan province were waiting a long time for this railway", said Rouhani at the opening ceremony. "The inauguration of the line is a source of joy for those people."

The line has cost 9.7Tr Rials to build. It starts at a junction at Robot Karim near Imam Khomeini International Airport southwest of the capital, then runs west via Saveh and Famenin. The alignment is designed for passenger trains running at a maximum speed of 160km/h and 120km/h freight services, and the line has an annual capacity of 2 million passengers and 4 million tonnes of freight.

The 70km Malayer – Firouzan route built at a cost of 941Bn Rials was also opened on the same day.

Rouhani said developing national and international rail links was a crucial part of his administration's agenda, and called for cutting the bureaucracy which has impeded progress.

Tracklaying has begun on the Hamedan – Sanandaj line, one of several projects currently underway including Arak – Khosravi, Mahabad – Orumiyeh, Mianeh – Tabriz and the North–South corridor which will connect Europe and the port of Bandar Abbas."

B. JORDAN.

• JORDAN AND THE AQABA RAILWAY.

At risk of making this issue a little overbalanced, here are TWO reports from Jordan, one from three years ago, one from last month.....

First: By Matthias Hille, In 'Fern Express' 3/2015 pp. 14-16.

"The Near East ... Many people in Germany assume due to their lack of knowledge that the entire region is dangerous. Thank God this is only relevant to a few countries. Jordan, with its borders to Syria, Iraq, Saudi Arabia, Israel and the West Bank is the peaceful pole compared to its currently restless or even warlike neighbours. Not least due to the clever, diplomatic and also tolerant policies of King Abdullah II – the country is seen nowadays as one of the most secure in the region.

In consequence there was no reason not to undertake a journey there in March 2015. One week seems a bit short, but the tourist sights, the bathing opportunities in the Red and Dead Seas and also what is currently the only working railway line in the country are all situated not very far from each other. Since there are currently no rail passenger services in Jordan a hire car is the best way in which to get to see the land, the people and of course the railway.

Following the landing on Monday evening at the Queen Alya International Airport, which is situated some 40km south of the capital, Amman, we collect our pre-booked hire car and drive to Madaba, where a hotel for the night has already been reserved. Amman itself is not in our travel plans – firstly, it is not exactly to be recommended to arrive in the dark in an unknown city of millions of inhabitants and look for an hotel, and secondly because the local train on Saturdays to Az Zarqa is, according to another railway enthusiast, no longer operating.

Around 23.00 we have at last found our hotel – there is time for a nightcap but the little bottle of beer costs five Jordanian Dinars, around seven Euros! So we see straight away that Jordan is a fine but expensive country to travel in!

Before travelling further next day we visit the St. George's Church with its Palestine mosaic made out of over two million stones. The mosaic, made around 560, is therefore the oldest known map of the country. We also visit the Church of John the Baptist – this stands on a hill in the town centre and from its clock tower one has a wonderful view of the town and its surroundings. So we take the opportunity to look for the street we shall have to use to get to Al Karak, for road signage is often pretty poor, as we had observed yesterday evening.

The King's Highway that leads us to Al Karak is certainly not the fastest road southwards, but

nevertheless it traverses the most attractive landscape. At Wadi Mujib the road takes several sharp curves to lead down into a magnificent canyon. Al Karak is distinguished by the old Crusader castle situated high above the town and the Wadi Karak. There is however no time left for a visit to the castle, it is already late afternoon and we still have to get to Wadi Musa which is some 150km away, closer to the historical high point of Jordan, the rock city of Petra. The view from the hotel window the next morning with a clear blue sky is majestic. Below the hotel lies the town, in the background the first cliffs of Petra can be made out. Petra, the rose-red city of the Nabataeans, lies in an enclosed valley. The Nabateans settled here in the seventh century BC.

The entry fee for non-Jordanians is substantial – 50 Dinars, about 70 Euros for a day ticket! But the visit is worth it. After a long narrow passageway the Khazne Faraun treasury suddenly appears. Steven Spielberg shot the final scenes of 'Indiana Jones and the Last Crusade' here, which led to the place with its monuments cut into the rock faces becoming famous worldwide.

In the early afternoon we leave Petra, after we have seen the other sights it has to offer, deeply under the impression it has made on us, and now at last the Railway is to play a role in our excursion! However this is a rather modest role, since at present in Jordan only a single line is operated and that only for freight trains. It is the line from the phosphate mines north of Ma'an to the harbour of Aqaba. Between the phosphate mines of Abiad and Al Hassa and the station of Batn al Ghul the trains run along the modernised line of the old and famed Hedjaz Railway. The actual Aqaba Railway begins at the junction of Hattiyya and runs to the harbour at Aqaba. It is 116.8 kilometres long and was built between 1972 and 1975 with German development aid.

So we deliberately make a detour via Ma'an – maybe it will be possible to get a photo on the Hedjaz section of line. But, as we had read already while preparing for the journey, the line here is not very spectacular, running mainly dead straight through monotonous desert landscape. The station at Ma'an is quickly found. It is fenced off – no train is to be seen anywhere. So, back to the motorway and straight on to the turn-off for the road to Wadi Rum.

After an hour's journey we have reached the place and encounter the railway line again. The further we go into the direction of Wadi Rum, the more impressive is the landscape. The rocks that rear out of the desert sand have been heavily split by the temperature variations and have often taken bizarre shapes. We decide to wait at one attractive spot, perhaps a train will come. However, instead comes something wholly unexpected in the form of a severe attack of kidney colic for my travel companion. Despite the intense pain Andreas spots a train approaching in the distance. As far as the light is concerned it is coming from the wrong direction but it is worth a shot with back-lighting. It soon passes us with a long cloud of dust trailing it, the engine driver greets us with the horn.

While my passenger is bent double in pain I rush us towards Aqaba. The tachometer keeps sending warning signals. After half an hour we are at the edge of the town, it is already getting dark and a taxi driver shows us the way to the hospital. In the following hours we get to know the Islamic Hospital of Aqaba. An interesting experience but one we could have well done without.

The night was short, but thanks to the medicines from the hospital's pharmacy Andreas is somewhat better. We need to make a further visit to the hospital and the doctor advises Andreas to continue with the tablets he has. In the hope that these will continue to work well we return to the hotel. This does not provide breakfast – it is very new but not yet quite completely fitted out. In compensation the roof terrace offers a wonderful view over the city and the Red Sea and across to Israel. In a street café we get ourselves a modest breakfast and then we head for the nearby station, which we find quite easily.

After some time waiting with the gateman a member of the Aqaba Railway staff leads us to the office of the chief. Here I bombard him with questions in English, and he answers promptly. Yes, there are up to five train pairs per day running, often indeed even more. Since only stored wagons are standing around the station here and no locomotive is brumming to itself nearby, I ask him where these ten wonderful trains actually are. The answer is deeply disappointing. Due to delays in payments by the mine to the railway, no trains have run for the past few days. For the present the phosphate is being transported by lorry to the factories where it is processed. My question as to whether trains can be expected again in the coming days is answered in the negative. This is indeed the first time since the beginning of the Aqaba Railway that such a situation has existed.

Rather depressed, we depart after a round of tea in the station master's office. His offer to start up one of the two remaining locos in the shed, I turn down with thanks. My disappointment is too deep. But what the heck, we can fill the three remaining days with a normal tourist programme – the main thing is that my partner's health should not get worse!

So in the following days we visit the Wadi Rum and let ourselves be driven in a jeep by a Beduin. On Saturday we go bathing in the Red Sea, Beach No. 5 is wholly empty, the shoreline rather stony, but the water wonderful. Then we explore the area up to the border with Saudi Arabia. We photograph the sunset near the edge of the city and treat ourselves to two 10-per-cent beers of the 'Petra' brand. Perhaps this will help against kidney stones?

On Sunday there is no rush to depart. There is plenty of time for the journey to the Dead Sea, to Suwaymah. Here we have our last night in an hotel and of course we want to bathe in the Dead Sea. So we find a snack place for breakfast and look around the city a bit – and in this way discover the Catholic church, built only recently. It was constructed mainly for the Christian crew members

of ships that dock here. The churchwarden willingly opens up to let us look inside. Another quick prayer for a train? No, better not.

Nevertheless, before we set off we make one last detour to the station. And what is rolling in here from the north? Correct – a long, loaded phosphate train! That cannot be! Now, as we are getting ready to go, the trains are running again! I turn our car round straightaway and rush with slightly excessive speed back to the gatehouse at the station entrance. The barrier is half open, without stopping and with a cloud of dust behind us we come to a stand at the car park. I run to the tracks. Just in time, the train is rolling slowly into the station, at its head three of the GE locos!

Hah, got the photo! And now it is time to explain ourselves to the astounded railwaymen. There is no problem, after all, we are not the first railway fans to turn up here. Nevertheless such a relaxed and open attitude of the staff is amazing for an Arab land. Just think how it would be if someone acted like this at home! In the office there is tea again and the important information for us: There are to be two further trains today; an empty train should depart here around 15.00 and a full train arrive around 18.00. In terms of the light the full train from the North is better, so we decide to go and meet up with this. Thanks to our trip on Friday we don't need to scurry around looking for photo positions and, after a good hour's drive by about 15.00 we are near the village of ad-Disa. So, we catch our breath and eat the midday snack which has, in the meantime, got cold. But hardly are our tripods in position than there is a roar and with its trailing cloud of dust the train from the North arrives. Such stress! Not only do we do a dance of joy, also the second man on the leading loco, when he recognises us.

Once Andreas has got his video there begins the usual and long-yearned-for procedure – dash to the car and with the accelerator pedal down past the train (as the train is doing about 40km/h this is relatively easy), jump out, look for a good position, take a shot and so on. The train comes to a halt at the station of Ram – in spite of the modern electric signals each driver gets at each station a hand-written Train Order to the next station. Time for a brief chat with the loco crew and a joint photo as a souvenir, then the train moves off again. The driver accelerates and with massive clouds of smoke the two modernised GE locos thunder off. That makes for a good mood and a good impression! I'd have done the same myself.

Soon Main Road No. 15 to Aqaba is reached; due to the four lanes of traffic photos of the train on the other side are now more difficult. When we get to the junction for the road for lorries by-passing Aqaba we turn off as well – here we should get the last shot of the train. And the spot is really great – mountains in the background and in the foreground a bridge over a dried-up wadi. All we need now is the train. Or will the train in the other direction come first? This must surely already have passed? Crossing in the station of Umran (Amrawah)? Now at last there is time to eat the more-than-cold snack. The sun sinks ever deeper, but then the longed-for train emerges in the distant mountains. In the last light of the evening sun it passes majestically over the bridge before us. Another minute later and the first of the bridge spans is already in shadow.

The last chapter of our journey is quickly told. It is already long dark when we turn up to our hotel in Suwaymah at 22.00. Dinner lasts almost till midnight. So next morning we are simply too tired to walk to the shore of the Dead Sea, some one kilometre away, at 6am. So breakfast and set off, our plane is due to start at 11. Literally at the last whistle we reach our flight. The serpentine curves in the direction of Madabba were quite a challenge!

It was a journey with many obstacles but nevertheless it was fun to be travelling again and we even got some railway photos at the end after all. ...Our thanks go to the friendly and informative and understanding railwaymen of the Aqaba Railway – without them we would probably have got home without any railway photos.

In order to follow current events on the Aqaba Railway check the website www.arc.gov.jo where the daily transport volume of the line can be followed – albeit personal experience indicates this need not necessarily always be the whole truth.

Current Loco Roster: Wagons:

Type	Weight	No. Built	Type	Tare	weight	Load	Built
U17	94.3t	7	1974	Bar-Metro	21t	42t	1974
U18	94.3t	3	1977	Gregg	20t	42t	1979
U20	103t	12	1980	Samsung	18t	42-47t	1986.
C24	103t	4					2007

C. TURKEY.

• (i). ERBD SUPPORTS BOZANKAYA METRO CAR MANUFACTURE.

From 'Metro Report International' 22.02.2017:

"The European Bank for Reconstruction & Development is providing bus and rail vehicle manufacturer Bozankaya with a €10M loan to finance expansion of production capacity at its Ankara plant including investment in an automated welding machine.

This will support a contract for Bozankaya to act as a subcontractor to Siemens in the production of 22 four-car metro trainsets which Bangkok Mass Transit System Public Co. ordered last year for use on the Thai capital's Skytrain elevated metro.

'Bozankaya is a pioneer in Turkey when it comes to environmentally-friendly electric buses and trams,' said Jean-Patrick Marquet, EBRD Managing Director for Turkey on February 22. 'Now, this partnership with Siemens is taking it to a new level. The company, its staff and the Turkish manufacturing sector as a whole will benefit enormously from the know-how that the leading global engineering company is bringing into this joint undertaking. We are pleased to play a role and wish the consortium the best of luck in future tenders across the globe.'

• (ii). FROM THE BOSPHORUS TO BAKU.

In 'Lok Magazin' 03/2017 p.102-105 is an article by Johannes Glöckner:

"A new railway line is developing between Turkey and Georgia. This link between Europe and Asia has as its main purpose the avoidance of Russia and Armenia. The railway equivalent of the old Silk Road should go into operation in 2017. It had long been wondered whether such a project across three countries was realistic, for there are around 2,200 kilometres between Istanbul and Baku. 105 kilometres of new standard gauge line and a 2.4km tunnel needed to be built.

The problem of the different gauges is resolved not far behind the border to Georgia. Here in Achalkalaki an enormous gauge-changing transshipment station for passengers and goods traffic is being constructed, The standard-gauge line here from Turkey is almost completed. The extensive modernisation of the 192km broad-gauge line to Tbilisi should also be completed fairly soon. The 30 Sleeping and Dining Cars with adaptable bogies necessary for the services are currently being built by Stadler in Switzerland.

• HISTORY.

With the collapse of the Soviet Union in 1991 the joint economic region of all Eastern Bloc states was also over. Many markets for products disappeared and the trade routes needed to be totally realigned. The independent former Soviet Republics in the south discovered trade with China

and Europe and the old Silk Road was reawakened to new life. The way from Kazakhstan, Uzbekistan, Turkmenistan via rail ferries across the Caspian Sea to Baku in Azerbaijan was already established practice in Soviet times. Then, however, one had to cross Armenia. This small country was however from the time it gained its independence in a state of deep hostility with its neighbours Azerbaijan and Turkey.

Due to the conflict over Nagorno-Karabakh the international railway route Kars – Gjumri – Jerevan – Ijevan - Quazax was also affected. However, if one wishes to avoid passing through Russia then the only alternative is through Georgia. Since there had never been a railway link to Turkey here, Azerbaijan began to push for such a railway route and was prepared to invest deeply in it. The country, which exports oil, had a major interest in such a new route.

Actually, in Georgia the broad-gauge line from Tbilisi to Achalkalaki had already been effectively written-off. The line, first opened by the Soviets in 1986, was by 2007 in such a desolate condition that only a single daily train pair traversed it and at little more than walking pace. The overhead catenary was no longer working, so a Diesel loco was used. As with many secondary railways in Georgia, complete closure seemed only a matter of time. Then however it was decided to rehabilitate the line and the gauge-changing station was built. It lies some eight kilometres south of the former terminus of Achalkalaki, which has now been closed. Azerbaijan and Georgia invested jointly some 300 Million Dollars in the project. For works in the broad-gauge area firms from Azerbaijan are responsible; they have their own locomotives and wagons, hired from the Ukraine - so M62 type Diesels have appeared in Georgia for the first time.

Construction of the standard-gauge line has been taken on by firms from Turkmenistan. Passenger traffic at least will be operated by the Azerbaijan Railways (AY). These have ordered three Sleeping Car trains from Stadler, each of ten carriages - a train has 257 beds and a Restaurant Car. The special characteristic is that they have gauge-changing axles of type 'RAFIL/DBAG Type V'. This German product (from the Bochumer Verein, Axle Factory Ilsenburg) is able to change its gauge while moving at 10km/h. There is an option for a further 70 such Sleeping Cars.

• ARMENIA ISOLATED.

Once the Eurasian Magistral through Georgia is ready, the situation of Armenia will become even more precarious. The only external trade worth mentioning is via Georgia. The Armenian Railways, which since 1st. June 2008 have been operated by the Russian Railways RZD, are in a lamentable condition. Some 4,000 Russian soldiers are based in the country; 2,000 Russian border troops have taken over the securing of the border to Turkey. The conflict over Nagorno-Karabakh that has lasted since 1992 is only paused, though at present one may once again traverse the road that runs parallel to the cease-fire line. The situation in Georgia as regards the separatist areas of Abkhazia and South

Ossetia is not much more peaceful. In 2008, during the Caucasus War when Russian and Georgian tanks stood face to face, all thoughts of a Trans-Eurasian Magistral seemed to have died. However, it seems it has been precisely this complex political situation which has encouraged the planning and construction of this new international link."

• (iii). TURKEY – GEORGIA.

To the same theme as above, but from 'Fahrplancenter News' No. 56. In 2007 works began on construction of the new line between Kars in Turkey and Akhalkalaki in Georgia and the reconstruction of the Georgian line Akhalkalaki – Tbilisi. The entire line should have been completed and operational by 2010 but various factors led to the works being delayed. The Georgian section was complete by 2014 but the line on to Tbilisi only in 2015. The Turkish section is now approaching completion and freight traffic should commence by the end of 2017. The TCDD reckons that passenger services should commence during 2018, although these would be operated by the Azerbaijan Railways ADY. For this, ADY has ordered three train sets from Stadler in Switzerland; the first set has arrived in Baku and at present is undergoing trials for running on the Russian broad gauge of 1,520mm. Permission for use on standard gauge will begin once production of the carriages is completed in Germany and Switzerland and this will therefore be valid also in Turkey. Full operations between Baku and Turkey will begin only when all three sets have been delivered and accepted. Travel time between Baku and Istanbul will then be some 50 hours."

(Editor adds: In 'Eisenbahn International' April 2017 is a note that some completed carriages have been placed into storage in Switzerland and production of others suspended until problems with payment are resolved!)

(iv). FURTHER INTERNATIONAL CONNECTIONS.

From 'R.G.I.' 20.03.2017: *ASIA: Officials and policy makers from Afghanistan, Bangladesh, Bhutan, India, Iran, Kazakhstan, Myanmar, Nepal, Pakistan, Russia and Turkey attended a conference on March 15-16 to discuss proposals to improve international rail connectivity in South & Southwest Asia.*

The event in Delhi was organised by United Nations Economic & Social Commission for Asia & the Pacific, the Organisation for Co-operation between Railways and India's Ministry of Railways. The aim was to inform participants about the work of ESCAP and related organisations, to explain OSJD's role and to agree the next steps for improving cross-border rail connections.

Matthew Hammill, acting head of ESCAP's South & Southwest Asia Office, said consultations with stakeholders had identified a rail corridor which would link South & Southwest Asia to Central Asia and Europe. A proposal for 'seamless rail connectivity' would extend the Istanbul – Tehran –

Islamabad route which has been used by container trains onwards to serve Delhi, Kolkata and Dhaka. This ITI-DKD corridor could be further extended to Yangon to become the ITI–DKD–Y Rail Corridor, forming a key part of the Trans-Asian Railway network that is backed by ESCAP member states.

Participants at the conference discussed regional initiatives to complete missing sections of infrastructure, and the Regional Co-operation Framework for Facilitation of International Railway Transport which could help overcome operational and non-physical barriers to the use of existing infrastructure.

'International rail transport connectivity can potentially become one of the largest sources of growth and development in southern Asia', said India's Minister of Railways Suresh Prabhu. 'Physical connectivity is required for market integration', he added, pointing out that 'railways can transport huge capacity compared to other modes'.

• (v). TRAINS TO EUROPE ONCE MORE.

From 'Fahrplancenter News' 56 p.17. "Irrespective of the diplomatic problems between Turkey and Europe, the TCDD had resumed passenger traffic to Bulgaria from 20.02.2017. According to information from Istanbul the 'Bosphor Express' runs daily from the suburban station of Halkali to Sofia and back, according to the following timetable:

Halkali dep. 22.40, Sofia arr. 08.30.

Sofia dep. 21.00, Halkali arr. 07.00.

The operator 'TCDD Tasimacilik', which runs the European section of TCDD, has announced that from the summer – possibly June 2017 – there will also be through coaches from Halkali to Beograd and Bucuresti. Between Halkali and the city centre of Istanbul connecting buses run, albeit the first passengers for the train to Sofia could not find these buses and reported that it was very difficult to reach Halkali station! Construction works on the urban stretch between Istanbul and Halkali seem to be some way from completion.

(vi). ALWAYS IN A CIRCLE: ISTANBUL TRAM T3.

The Moda Tram in Istanbul. The Turkish capital with its millions of inhabitants has an extensive network of subways, metro and tramways, with modern vehicles. An exception is the Moda-Tram, on which old German Gotha and Reko cars still make their rounds.

Officially known as Line T3, the tramline with a length of 2.6 kilometres links Kadiköy and Moda in the Asian side of Istanbul. The line, opened on 1st. November 2003, forms a 'ring' line, which is operated only in the clockwise direction. That sounds like a quite simple operation, but the line passes through heavily built-up areas and has many sharp curves and sharp gradients. The trams, metre gauge, were acquired second-hand from Jena and

Schöneiche and are of the Gotha- or Rekowagen types, of which some were passed on to Bursa in 2010 for a planned 'nostalgic' tramway there.

The Moda-Tram is however not a purely nostalgic operation but actually serves to resolve a transport problem in the narrow streets of the Old City – otherwise minibuses with a much lower capacity would be needed. The tram is linked at the Uskele Camii stop in Kadiköy with the Kadiköy-Metro and is included in the transport map of Istanbul and is fully integrated into its tariff. The Moda tram runs daily between 07.00 and 21.00, in the rush hours at ten-minute intervals and otherwise at 20-minute intervals. The trams themselves carry the line number 20, but this is apparently purely for nostalgic reasons.

- (vii). **NEW TRAMLINE FOR ISTANBUL.**

From 'Metro International' 27.03.2017. "Construction of a new tram line in Istanbul began on March 20. The 10km route will run along the southern edge of the Golden Horn from Eminönü to Alibeyköy Cep Otagari.

Interchange will be provided with tram route T1 at Eminönü, with metro line M2 at Küçük Pazar, with MetroBus at Ayvansaray, with the cable car at Eyüp and with the future metro line M7 at Alibeyköy.

Doğuş İnşaat is undertaking the work under a €153M contract signed in October. Opening is scheduled for May 2019. The line will have a capacity of 25,000 passengers/hour per direction and will offer an end-to-end journey time of 30min."

- (viii). **TURKISH 'NATIONAL TRAIN' TO WORK IN 2019.**

From 'R.G.I.' 03.03.2017. "The first of 21 five-car electric multiple-units being developed under the 'National Train' programme to enhance local manufacturing capabilities is set to carry passengers in late 2019.

The 160 km/h inter-regional trainsets are to be produced at the Tüvasaş factory in Sakarya province and will make use of a much higher proportion of local components than existing designs. Tüvasaş is leading the design work, and the company exhibited a mock-up of the exterior at the Eurasiarail trade show in Istanbul on March 2-4. National passenger operator TCDD Tasimacilik has already agreed to introduce the fleet from late 2019.

As well as fostering a stronger domestic supply chain, the National Train project is also intended to showcase Turkish suppliers' ability to deliver products that comply with European Technical Specifications for Interoperability. Tüvasaş has previously supplied TSI-compliant hauled coaches to Bulgaria, and sees the National Train EMU as a potential foundation for it to win more orders internationally.

Principal local contractors include Bozankaya (bogies) and Tülomsaş (traction equipment). Where TSI-compliant components cannot be sourced from local businesses, Tüvasaş expects Turkish companies to reach licensing agreements with international suppliers that would support the government's localisation policy objectives.

The aluminium-bodied trains will include first class and buffet cars as well as a vehicle designed to be accessible for passengers of reduced mobility. The total seating capacity would be 322 plus two wheelchair spaces. The trains will have an axleload of less than 18 tonnes, and operate under Turkey's standard 25kV 50Hz electrification,"

- (ix). **NEW HIGH-SPEED TRAINS.**

From 'Fahrplancenter News' 56 p.17f. "On 10.03.2017 TCDD took into service six new sets of the Siemens 'Velaro TR' train sets. The new sets allow services to be expanded: The daily trains from Ankara to Konya from 7 to 10, from Ankara to Eskisehir from 5 to 6 and from Ankara to Istanbul from 6 to 7. The new trains offer 424 Economy seats and 45 Business Class."

- (x). **DEFICIT TRAINS.**

It was well known that the State-owned TCDD could always cover the costs of its loss-making passenger trains through its almost unlimited State subsidies. But these times seem to be past. In 2016 for the first time the accounts were inspected in more detail and consequences drawn from what was learned. Initially the profitability of specific trains and not of entire lines was checked. In consequence during 2016 all trains were withdrawn that covered less than 2% of their direct operating costs. These comprised the following:

Cerkezköy – Uzunköprü: This train, in the European section of Turkey, operated once daily in each direction and provided 294 seats. It was withdrawn just four months following the reopening of the

refurbished line, since the average daily occupation was just 43 passengers. The lack of connections to Istanbul on the one hand and from Uzunköprü on the other were some of the reasons, but also the frequent and faster private buses had attracted most passengers to themselves during the lengthy period when services were suspended for the line to be refurbished.

Cerkezköy and Kapikule – also in the European section – was also a daily service, but with an average of barely 30 passengers. Here the TCDD points out that once international services are reintroduced the link will be offered once again – albeit tickets in these trains are much more expensive than on the local trains.

In 2016 the two Regional train pairs between Konya and Aksehir were also withdrawn. They had been introduced as connecting services to the high-speed line Ankara – Konya. Although operated with new railcar sets, in the best month a grand total of merely 681 passengers were transported and the monthly deficit was €500,000.

The TCDD is facing some major changes, for from 01.01.2019 the government wishes to completely liberalise rail traffic. Little problem is seen with freight traffic, for here the railways have a great deal of room to catch up and with the growing economy of the country this should be a profitable business. Passenger traffic in general however brings in only 19% of its costs. The 'S-Bahn' in the cities of Istanbul, Izmir and Ankara are not included in this, for their funding is subsidised by the Government separately and in any case they covered 65% of their operating costs. In 2015 the TCDD deficit reached a total of €330M."

[Ed. adds: The controversial referendum on expanding presidential powers on 16.04.2017 led to press reports of a major downturn in the Turkish economy. The confiscation of many private firms has made the middle class very insecure, credit worthiness has plummeted as has the value of the Turkish Lira. Inwards foreign investment and tourism have also plunged to new lows. Apparently much of President Erdogan's success until now had rested on major infrastructure investments, including of course in the railway network as well as roads and motorways.... but now things are changing radically. So the report above may have been prepared in a different economic and political climate. We shall see how things develop.]

- (xi). **MARMARAY.**

From 'Fahrplancenter News' 56 p.18: "Following an interruption of almost three years, construction work on the Marmaray Project has at last recommenced. Following the opening of the underground line through the Bosphorus Tunnel the works were suspended; the main reason was the lack of finance or, depending on which source one followed, falsified accounts for the costs. In the first weeks of February 2017 works on the urban line Halkali – Istanbul – Gebze began. The inauguration of the high-speed services into the centre of Istanbul depends on the completion of these lines, which will also connect to the line through the tunnel; in

addition the through freight traffic between Europe and Asiatic Turkey will only then become possible."

- (xii). NEW TURKISH WAGONS.

From 'R.G.I.' 12.04.2017. "Rolling stock manufacturer Tüdemtaş has unveiled its own design of articulated container wagon, developed since 2013 in partnership with national railway TCDD.

The 29.5m long twin-section Type Sggmrs wagon has a tare weight of 25.5 tonnes, which permits a payload of 109.5 tonnes, 4 tonnes more than existing heavier wagon designs. It is designed for operation at up to 120km/h, while reducing noise and offering lower production and life cycle costs.

The wagon project forms part of a wider national strategy to increase Turkey's domestic industrial and export capabilities. This includes the 'National Train' electric multiple-unit project which is being co-ordinated by Tüvasaş."

- (xiii). CZECH LOCOS FOR TURKISH STEELWORKS.

From 'Rail Magazine' (Netherlands) No. 343 p.30: "The Czech firm CZ Loko is delivering two Bo-Bo diesel locos to the Turkish steel producer Erdemir; these are nos. 744 704 and 705; Erdemir will renumber them L18 and L19 respectively. The type 744 is in fact a hybrid, a combination of parts from other CZ loco types., including the 741.7 and the EffiShunter 500 as well as re-using components from older types 740-742."

One of the two new TCDD ferries that work the 100km route in under four hours from Tatvan (specifically Tatvan Iskele terminal) in Turkey to Van in Iran. The ferry service was inaugurated in 1964 when the TCDD line was extended from Elazig. The lake is 1690m above sea level. From Van the RAI rail connection continues to Tabriz and beyond. Two new ferries were built by Nursoy and, after some delay, placed in service in 2015, having a 'through' formation allowing entrance and exit at each end. Each has a capacity of 4,500 tons and four tracks with a capacity for 50 four-wheel wagons (type E or Fas), or 35 larger 4-wheel wagons (e.g. type Gbs or Hbbills) or 20 bogie wagons. Each is 135.66m long, 24m wide, has a draft of 4.20m and a top speed of 14 knots.



One of the new TCDD Train ferries on Lake Van, working from Van to Tatvan

STEAM RAILTOUR IN TURKEY.: Probably the very last chance to experience a working steam loco in Turkey - a five day tour September 13-17th. Details from [<kramer.dietmar@web.de>](mailto:kramer.dietmar@web.de)

- (xiv). KONYA METRO.

From 'Metro Report International' 27.04.2017: "Konya Metropolitan Municipality has finalised plans for a two-line metro network in the city. To be built in three stages, the network would connect the city's main universities and hospitals. Plans for a metro were originally published in 2015, and a feasibility study started in November 2016. Geological surveys are now underway, and construction is scheduled to begin in the autumn. The project is being funded by the Ministry of Transport, Maritime Affairs & Communications.

The first phase would see the construction of a 12.2km semi-circular route linking the future high speed station with Meram Belediyesi, running under Fetih Caddesi.

Interchange would be provided at Meram and the high speed station with a second line, which would link Selçuk University in the north with Meram, via Alaaddin in the city centre.

The third stage would extend Line I by 8.4km from the high speed station to Necmettin Erbakan University in the west."

- (xv). IZMIT TRAM LINE OPENING IN JUNE.

From 'Metro Report International' 05.05.2017: "Revenue services on the Akçaray tram line in Izmit are due to begin next month following the completion of tracklaying on May 5. Test running began on March 23, and seven trams have so far been delivered. Durmazlar is supplying 12 Panorama trams from its factory in Bursa under a €19.7M contract signed with Kocaeli municipality in October 2015.

Gülermak is the contractor for the 7.4km line with 11 stops that will run from Sekapark in the west to Otogar in the east via the main railway station."

D. SAUDI ARABIA.

- (i). **FIRST PASSENGER SERVICES.**

From 'R.G.I.' 27.02.2017:

"Saudi Railway Co began operating its first regular passenger service between Riyadh and Al-Qassim on February 26, using one of its CAF-built diesel trainsets which can operate at up to 200km/h.

Until April 1 the service will run five days a week, leaving the terminus close to the capital's King Khalid International Airport at 10.00 on Thursday, Friday, Saturday, Sunday and Monday. The journey time to Al-Qassim is 2hr 31min, including a 10min intermediate stop at Majmaah. The return trip leaves Al-Qassim at 15.00 with similar timings.

From April 2 the day train will become a daily service, but switch directions, departing from Al-Qassim at 05.00 and returning from KKIA at 18.00. In the third stage of its phased ramp-up, SAR plans to extend the day train further north to serve Hail, although no date for this has been announced. Phase 4 will see the introduction of overnight train linking Riyadh with Al-Qassim, Hail, Al-Jouf and Al-Qurrayat, 1,242km from the capital.

SAR Vice-President for Operations Director Wallace Weatherell said it was 'a great day today, as we commenced the first high speed passenger service in the Kingdom of Saudi Arabia.' He added that he was 'so proud of my team and all at SAR, with more to come.'

CAF is supplying a fleet of 12 diesel power cars and 65 coaches, which will form four daytime and two overnight trainsets. The standard day train will have seats for 444 passengers in business and economy class, while the overnight services will carry up to 377 passengers in a mix of seats and sleeping berths."

- (ii). **MORE ON THIS: THE SAUDI RAILWAY COMPANY STARTS OPERATIONS.**

On 26.02.2017 the Saudi Railway company SAR (not to be confused with the State railway SRO) commenced passenger services over the 460km line between Riyadh and Al Qassim. The trains start from the new station Riyadh King Khaled International Airport (abbreviated to KKIA) and on the way serve only the station of Majmaah before ending at Al Qassim after a journey time of around 2hrs. 30Min.

In an initial phase, from 26.02 to 01.04.2017 the train ran on Thursdays, Fridays, Saturdays, Sundays and Mondays from Riyadh at 10.00, arriving in Al Qassim at 12.31, returning at 15.00 to Riyadh, arriving 17.31. From 02.04.2017 the service was reversed, with a daily departure from Al Qassim at 05.00, arrival in Riyadh 07.31 and the return from Riyadh 18.00 and arrival at Al Qassim 20.31. These day trains work at a maximum of some 200km/h and have nine carriages and two locomotives/power cars. There are 120 seats in Business Class and 322 in Economy Class, plus two places for wheelchairs. There are compartments for Men Only or Women Only, as well as Family Compartments on offer. In addition there is a Restaurant Car and a Prayer Car. In addition to powerful air-conditioning the trains are fitted for mobile internet access and an information system that shows the external temperatures. They are conceived for operation with a daytime temperature of 55°.

At the end of 2017 two further train sets for day travel should enter service, and this will then be operated over the longer route Riyadh – Al Qassim – Hail. In 2018 there will follow a night-time service which will cover the entire line Riyadh via Hail and Al Jauf to Qurayyat. The night trains, also to be constructed by CAF in Spain, will work at 160km/h and in 13 cars offer 377 seats and 92 sleeping berths, a Restaurant and Prayer Cars and Car-Carrying wagons. Timetables for these trains, that will cover 1,418km, have not yet been published. But according to insider information the journeys should last 9 to

10 hours. The fares are quite economical (for Saudi conditions); for a single ticket between Riyadh and Al Qassim one must pay in the Economy Class some €30."

- (iii). **RIYADH METRO RECEIVES FIRST ALSTOM SET.**

From Metro Report Intl. 06.03.2017:

"Arriyadh Development Authority has taken delivery of the first Alstom Metropolis trainset for the Riyadh metro.

Alstom is supplying 69 two-car driverless trainsets from its Katowice factory in Poland, with deliveries due to be completed in 2018. The 36m long trains have a maximum speed of 90km/h and can handle gradients of up to 6%. Adaptations for the local desert climate include air-conditioning and door seals to prevent sand ingress.

The Metropolis trains will run on lines 4, 5 and 6, which are being built by the FAST consortium under a €5.8Bn contract awarded in 2013. Led by FCC, the consortium also includes Samsung C&T, Freyssinet Saudi Arabia, Strukton, Setec and Typsa. Alstom's share of the contract is €1.2Bn and includes the supply of rolling stock, signalling, power supplies and an energy recovery system.

Alstom is one of three rolling stock suppliers for the project. Siemens is supplying 45 four-car trainsets for Line 1 and 29 two-car sets for Line 2, and Bombardier Transportation is supplying 47 two-car sets that will operate on Line 3."

E. UNITED ARAB EMIRATES.

- **ETIHAD RAIL.**

In 'R.G.I.' 09.03.2017: "On January 20 the Etihad Rail DB joint venture of Etihad Rail and DB Cargo which operates and maintains Stage One of the UAE's railway network ran its 1,000th train since the official start of commercial operations in January 2016. More than 20,000 tonnes/day of granulated sulphur is carried from the gas fields of Shah and Habshan to the port of Ruwais".

FILM REVIEW

RAILWAYS AT WAR – The First World War.

By Strike Force Entertainment. 'Exempt from Classification'.

No. SNBB723. 2013.



The old black and white films made officially and part of the IWM Collection are fascinating, of course all shot in sunny weather! Significant for us are two sequences near the beginning of the two-and-a-half-hour film – one shows standard-gauge Baghdadbahn wagons in Mesopotamia being pulled by a team of horses – the commentary alas refers to this as a narrow-gauge tramway! - and shots of Samarra depot destroyed with a row of German locomotives that have had their cylinders blown off and sabotaged; another refers to the Second Gaza Campaign and shows the Sinai Military Railway being built – again the commentary, by Major Tonie Holt, described on the back as a "celebrated military historian" lets the sequence down. Or maybe he is there to indicate how little the military mind understood the realities of railway technology and operation! (He constantly refers to Decauville sections as 'like Hornby tracks'.) An LSWR 0-6-0 (still marked as such!) is working a construction train forward. Holt also refers to a sequence where a WDLR wagon is having a bogie removed for overhaul and a Baldwin 4-6-0T is being jacked up to remove a wheelset as examples of "exchanging bogies so that trains could run on both gauges"! Clearly he is thinking of Brest-Litovsk gauge-changing installations or Talgo trains but here totally incorrect.

At 1hr. 29 mins. we get shots of Ludd with an s.g. train arriving on 5th. May 1918 comprising an LSWR 0-6-0 on ESR open wagons converted to covered troop carriers – in the background are ESR 6-wheelers converted to Ambulance Cars. Troops disembark, a bit stiff, march off and then a HL 0-6-0ST just trundles at speed through the column on a train of opens loaded with large packing cases! From 01.30.40 we get five wonderful minutes of 'The Journey to Jerusalem' with again an 0-6-0 on several of these converted opens and then goods vans, the camera mounted on the roof of a van, from just after Beit Shemesh, crossing a double-headed downhill train at Bittir, at Jerusalem station an 0-6-0 in the newly-converted goods yard, then locals are boarding a passenger train composed of six WD 10-ton open wagons, a covered Van, two more Opens then a converted ESR Open with the makeshift timber covers, a van, an Open and a Brake Van (looks like a GCR type.) What an amazing train and the passengers are waved off as though it is perhaps a load of recruits setting off.

Following a sequence of Allenby meeting Weizmann and the Chief Rabbi the film then shows that the campaign continued at Beer Sheba! Chronologically incorrect but from 01.38 we see standard-gauge track being laid to Beer Sheba and at 01.40 Indian troops at a Field Hospital loading their dead into 60cm. gauge bogie open wagons and the wounded into bogie flats, the whole hauled off by a Simplex and – significantly – the last wagon carries a Red Cross flag indicating that this was classed as an ambulance train....

Then at 01.42-45 comes a sequence of Indian sappers in Mesopotamia laying standard-gauge track from a construction train – very labour-intensive but rapid.

The film sequences – each with a title page - are fascinating and fabulous, professionally filmed for the Ministry of Information, presumably for newsreels – and cover erection of wagons and locomotives, the use of rail-mounted guns, loading and unloading munitions and hay and men, incredibly labour-intensive earthworks, inspection of destroyed trackwork and destroyed villages, train ferries with trains of tanks, and more – in France, Belgium, Palestine, Mesopotamia, even Siberia! - but the voice-over caption or commentary comes across as unscripted and vague and often simply wrong. He cannot tell standard from metre from 60cm gauge, cannot tell a main line from a branch line. He is totally uninformed about what happened to 'Reparations' locos, and seems to be simply recorded as he watches the film for the first time.

