Africa’s Rail Renaissance:

Since gaining independence, most African governments have focused on developing roads and let railways deteriorate. Having realized the tremendous economic potential of rail transport, the continent has experienced a renaissance.

Text: Janine Stephen
When it came to rail traffic, for quite a while, Africa was ahead of the game. The first railway tracks were laid in Egypt in 1852, and crept rapidly over the continent. By the 1920s, most of Africa’s main lines had been completed. Trains opened up tremendous economic potential, stimulating trade and easing the transport of natural resources. They connected countries in a way that helped colonial powers to explore, exploit, and gain control over areas — and also fight wars. But when numerous African nations gained independence in the 1960s, investment in rail ceased, despite the fact that it was profitable. Many lines collapsed when postindependence governments branded railways as “colonial technology” and instead invested in roads, which were seen as “modern.” Rail transport of passengers and goods dropped dramatically. “There have been very low levels of investments in the railways. This has negatively affected the overall performance of the transportation sector of most economies in Africa, which in turn slowed down economic growth,” says Ronald Phiri, Managing Director of the Tanzania-Zambia Railway Authority (TAZARA).

Soon, African railway infrastructure dropped far behind that of China, India, the USA, and Europe. While historically, bulk traffic was moved by rail, in the last 30 years, Africa experienced a serious reversal in the ratio of bulk traffic moved by road versus rail. “The current modal share is that 90 percent of traffic is moved by road and only 10 percent by rail. This is unsustainable. Heavy traffic over long distances is much more efficiently moved by rail,” says Love-more Bingandadi, Transport and Corridors Program Manager for the Southern African Development Community’s Secretariat for Infrastructure and Services.

New Projects, from Cape to Cairo
In recent years, African governments have acknowledged that revitalizing the network is a prerequisite for economic growth and integration. “The current decade is one of resurgence, reinvestment, and revitalization of railways in Africa — a renaissance of sorts,” explains Bingandadi. Ambitious projects either at design stage or being built include a Trans-Kalahari line between Botswana and Namibia, the rehabilitation of the Benguela line in Angola (which authorities hope to connect to the copper belt in Zambia and the Democratic Republic of Congo), and recapitalization of the national railway company of the DRC with the assistance of the World Bank. The ultimate goal is to create transport networks that allow freight to move freely across the continent, connecting economies. Compared to roads, railways offer cheaper transportation options for goods due to economies of scale, reasonable transit times, and higher standards of safety and security. This is especially true in Africa, where bulk cargo such as minerals, fuels, machinery, and agricultural goods places huge logistical demands on transport.

“If faster economic growth is to be registered in Africa, railways will have to be accorded more priority in terms of budget allocation and investments,” notes Phiri. Africa has one key advantage: Because of historic investments, its existing rail network is currently used below its designed capacity and can relatively easily be rehabilitated and upgraded. Costly construction of new tracks is only necessary in remote locations, for example when new mineral deposits are discovered.

Safe Passage
In numerous countries, new investments in rail have already started to take off. South Africa’s 25,000-kilometer rail network, for example, is the best developed in Africa, according to experts. The country’s first mass rapid transit line between Johannesburg and Pretoria was completed in 2012, the modern Gautrain transports over 50,000 passengers a day at a top speed of 160 kilometers per hour. However, other mainline routes and intercity passenger networks are considerably older. Due to personal safety and reliability concerns, rail is not considered an option by many South Africans, even though urban roads are badly congested. This is set to change: In 2014, South African President Jacob Zuma said that over 120 billion rand (over $8 billion) would be spent on new trains over the next ten years. Besides investment in new rolling stock, the Passenger Rail Agency of South Africa’s rehabilitation of the “core” stations (design for these 20 is already complete). Large signaling contracts have been awarded in the Western Cape, KwaZulu-Natal, and the province of Gauteng, the country’s economic heart. The largest of these, in Gauteng, has seen Prasa invest €280 million in new rail automation technology from Siemens. The Gauteng Nerve Centre, a new operations control center, will optimize all traffic based on electronic interlocking systems including modern fiber-optic communication technology. The new systems, due for completion in 2018, will make Gauteng’s passenger trains far more punctual and safe, and thus encourage passengers and freight transporters to switch to rail. Other improvements to the passenger rail system in Gauteng will improve infrastructure and services, rail travel is a viable alternative to congested roads.

Across the continent, investment in Africa’s railways can boost economic growth and cohesion.

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Ronald Phiri
Managing Director, Tanzania-Zambia Railway Authority.
Railways in Africa

Trans-entering Johannesburg, the capital of South Africa’s economic heart, Gauteng province.

“Railways in Africa are reaching a phase of resurgence, reinvestment, and revitalization of railways in Africa.”

Loumore Bingangadi
Transport and Corridors Program Manager, SADC Secretariat for Infrastructure and Services

Tunisia transit system upgrade

The decades-old mass rapid transit system in Tunisia is undergoing a major upgrade, and Siemens is equipping two of five lines (Line D from Tunis to Gouba and Line E to Sidi Hassine) with train protection technology. The European train control system Trainguard, as well as 28 on-board units, three electronic interlockings, and a track vacancy detection system will increase both passenger capacity and operational safety. Siemens is also equipping an operations control center and will train personnel to use the new technology. The lines will sport telecommunications and data recording systems, supplied by Siemens’ consortium partners (Siemens is working with French company Colas Rail and its local mixed-traffic partner, SOMAT). The project, scheduled for completion by 2016, is expected to ease traffic congestion and shorten commutes times.

Algiers metro project

Algiers, the capital of Algeria, had no subway until 2011. Metro Line 1, coupled with a new tramway that opened a year later, has already provided some congestion relief, and Algiersans are said to be proud of the clean, modern system. Accessibility will increase when the new extensions to Line 1 connect the suburbs to the urban center. Work on the first extension is under way and will see four new stations added to Metro Line 1. Siemens is also providing signaling for the extension and is equipping it with the Trainguard MT automatic train control system, train location, and radio transmission systems. Subcontracts have already been awarded for the second and third extensions, and work will begin in 2014 and 2015, respectively.

Algeria’s new mainland projects

Algeria’s outdated mainland network had either old relay interlockings, or none at all. Massive infrastructure upgrades to boost freight and passenger traffic and provide new lines are now under way, mainly in the more populous north. Major projects have been awarded to ESTEL RA, a joint venture between Siemens and ESTEL, a Franco-Algerian company. The European train control system Trainguard, as well as 28 on-board units, three electronic interlockings, and a track vacancy detection system will increase both passenger capacity and operational safety. Siemens is also equipping an operations control center and will train personnel to use the new technology. The lines will sport telecommunications and data recording systems, supplied by Siemens’ consortium partners (Siemens is working with French company Colas Rail and its local mixed-traffic partner, SOMAT). The project, scheduled for completion by 2016, is expected to ease traffic congestion and shorten commutes times.

Making Tracks in North Africa

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