Implications of the African Continental Free Trade Area for Demand of Transport Infrastructure and Services

Visual Summary
The introduction of the AfCFTA will lead to a general increase in intra-African freight demand of around 28%, compared with a scenario without the AfCFTA.

Currently, intra-African freight transport demand is heavily skewed towards road transport.

### Distribution of intra-African freight transport demand by transport mode

**Baseline**
- Currently, intra-African freight transport demand is heavily skewed towards road transport.

<table>
<thead>
<tr>
<th>Transport Mode</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road</td>
<td>77%</td>
</tr>
<tr>
<td>Rail</td>
<td>0.3%</td>
</tr>
<tr>
<td>Maritime</td>
<td>22%</td>
</tr>
<tr>
<td>Air</td>
<td>1%</td>
</tr>
</tbody>
</table>

### Four scenarios for AfCFTA implementation and socio-economic development

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Description</th>
<th>Road</th>
<th>Rail</th>
<th>Maritime</th>
<th>Air</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scenario 1</strong></td>
<td>max ambition (with AfCFTA) infrastructure do-nothing</td>
<td>71%</td>
<td>5%</td>
<td>24%</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Scenario 2</strong></td>
<td>max ambition (with AfCFTA) infrastructure do-everything</td>
<td>70%</td>
<td>7%</td>
<td>23%</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Scenario 3</strong></td>
<td>baseline (without AfCFTA) infrastructure do-nothing</td>
<td>75%</td>
<td>6%</td>
<td>19%</td>
<td>1%</td>
</tr>
<tr>
<td><strong>Scenario 4</strong></td>
<td>baseline (without AfCFTA) infrastructure do-everything</td>
<td>73%</td>
<td>8%</td>
<td>18%</td>
<td>1%</td>
</tr>
</tbody>
</table>
Road transport accounted for almost 77% of the total intra-African freight transport demand.

In 2019

Total Network
810,000 road links (445,018 km)

Road transport accounted for almost 77% of the total intra-African freight transport demand.

With the implementation of the AfCFTA the number of tonnes transported by trucks would double, from 201 million tonnes to 403 million tonnes.

The average travel speed for commercial vehicles:

- URBAN ROADS - 30 km/h
- MOTORWAYS - 70 km/h
- OTHER ROADS - 65 km/h

Scenario 2 [S2] By 2030
max ambition (with AfCFTA) infrastructure do-everything

S2 would see:

- New roads and road rehabilitation-upgrading
- An increase in the average travel speed to the same speed as motorways.

70%

The modal share of road transport would reduce from 77% to 70%.

With the implementation of the AfCFTA the number of tonnes transported by trucks would double, from 201 million tonnes to 403 million tonnes.

Truck demand to support trade flows would increase by:

- 39.3% within West Africa
- 19.8% from West Africa to Southern Africa
- 9.9% from Southern Africa to West Africa

Truck fleet needs

- increase by 179% for bulk cargo
- increase by 180% for container units

Impact of AfCFTA in 2019:

- Impact of AfCFTA within West Africa: 39.3%
- Impact of AfCFTA from West Africa to Southern Africa: 19.8%
- Impact of AfCFTA from Southern Africa to West Africa: 9.9%

Truck fleet needs:

- Increase by 179% for bulk cargo
- Increase by 180% for container units
Criticalities in Road Links

Critical road links in the with-AfCFTA, infrastructure do-everything scenario (S2)

Scenario 1

The sum of critical road links is 61,540 km

- Most of them are in Central and West Africa (Cameroon, Central African Republic and Nigeria) and East Africa (Eritrea, Ethiopia and Somalia).
- Several links belong to the Trans-African Highway, such as the Cairo–Dakar highway, the Tripoli–Windhoek–Cape Town highway and the Cairo–Gaborone highway.

Scenario 2

The sum of the critical links not found in scenario S1 is 18,189 km

- The total length of the solved critical links amounts to 20,031 km (33% of the critical links in scenario S1).
- The length of the top 10% of road links is 57,363 km.
In 2019

Total Network
80,607 km rail links

Rail transport accounts for just 0.3% of intra-African freight transport demand.

40 freight railway stations for intermodal transport

By 2030

Scenario 2 (S2) max ambition (with AfCFTA) infrastructure do-everything

With the implementation of the AfCFTA, the number of tonnes transported by rail wagons would increase almost 52 times, from 760,000 to 39 million tonnes.

6.8%
The modal share of rail would increase from 0.3% to 6.8%.

Rail wagon fleet needs by region:
The largest rolling stock demands to support trade flows are

48.4% West Africa
19.6% Southern Africa
11.5% North Africa

WAGON FLEET NEEDS

If the AfCFTA is implemented and the planned infrastructure projects are carried out by 2030 (S2), the rail wagon fleet should increase

bulk cargo increase by 132,857 units
container cargo increase by 36,482 units
Critical railway links in the with-AfCFTA, infrastructure do-everything scenario (S2)

**Scenario 1**

The total length of the critical links is about 8,760 km.

The critical links are most dense in North Africa (Algeria, Morocco, Tunisia), East Africa (Sudan), West Africa (Mali, Senegal) and Southern Africa (Mozambique, Namibia, South Africa).

**Scenario 2**

- The total length of the critical railway links amounts to 9,059 km.
- Extension of the rail network from 80,607 km to 106,930 km.
- The total length of resolved links is 8,228 km; only part of the railway network in Mali (Mahina–Bamako) remains critical.

The critical links are mostly in Central Africa (Chad, Congo, Democratic Republic of Congo), East Africa (Kenya, United Republic of Tanzania, Uganda) and Southern Africa (Botswana, Malawi, Mozambique, Namibia, South Africa, Zimbabwe), plus the section of the railway network in Mali.
Maritime transport accounts for 22.1% of intra-African freight transport demand.

In 2019
Maritime Links
65 seaports connected by 142

22%

Scenario 2 (S2)
max ambition (with AfCFTA)
infrastructure do-everything

No plans for new seaports in the next decade. The do-everything scenario present no changes in the maritime transport network.

Maritime fleet needs by region
The origin-destination pairs of regions that would require the largest number of vessels to meet demand are

- Southern Africa to North Africa: 26.7%
- Southern Africa to East Africa: 12.6%
- Southern Africa to West Africa: 10.3%

- 30 seaports upgraded in capacity and efficiency
- With the implementation of the AfCFTA, the number of tonnes transported by vessels would more than double, from almost 58 million to 131.5 million

0.6%

The total maritime transport share is expected to increase by only 0.6%, from 22.1% to 22.7%

VESEL FLEET NEEDS

bulk vessels: increase by 188%
container vessels: increase by 180%
Critical railway links in the with-AfCFTA, infrastructure do-everything scenario (S2)

Scenario 1
The total maritime transport share is expected to increase by 1.5%

Scenario 2
- The upgrade of the transport network has a minor impact on the criticalities of maritime transport infrastructure.
- It results in a total of 10 critical ports with a new port added in Morocco
Airports

Impact of AfCFTA

In 2019

**Total Network**

14,762 air routes

0.9%

Air transport accounts for only 0.9% of the total intra-African freight transport demand

122 international airports (at least one in each country)

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**Scenario 2 (S2)** max ambition (with AfCFTA)

Infrastructure do-everything

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With the implementation of the AfCFTA, the number of tonnes transported by aircraft would nearly double from almost 2.3 million to **4.5 million**

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**AIRCRAFT FLEET NEEDS**

If the AfCFTA is implemented and the planned infrastructure projects are carried out by 2030

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**AIRCRAFT FLEET**

Increase by **141%**

(compared to in 2019)

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**Aircraft fleet needs by region**

The trade flows in the region that would require the largest number of aircrafts to meet demand are

- **Within West Africa**: 13.2%
- **Within Southern Africa**: 12.2%
- **North Africa to West Africa**: 12.9%

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No plans for new airports in the next decade. The do-everything scenario present no changes in the air transport network
Criticalities in Airports

Critical railway links in the with-AfCFTA, infrastructure do-everything scenario (S2)

Scenario 1
The critical airports are mainly in East Africa (Djibouti, Eritrea, Ethiopia, Somalia, Sudan), along with in Mauritania in West Africa and Democratic Republic of Congo in Central Africa.

Scenario 2
The improvement of the transport network has little impact on the criticalities of air transport infrastructure resulting in almost the same top 10 critical airports, with just one change to include an airport in Gabon.
THE IMPACTS OF AfCFTA on demand for transport equipment

Fleet size varies according to the load capacity of the transport units. Considering the ideal case of scenario 2 (with-AfCFTA, infrastructure do-everything in 2030), the size of the fleet varies as follows:

### BULK

<table>
<thead>
<tr>
<th>Type</th>
<th>WITHOUT AfCFTA</th>
<th>WITH AfCFTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulky Containers</td>
<td>943,135</td>
<td>1,326,233</td>
</tr>
<tr>
<td>Air Transport</td>
<td>62,322</td>
<td>66,428</td>
</tr>
<tr>
<td>Maritime Vessels</td>
<td>41</td>
<td>85</td>
</tr>
</tbody>
</table>

- **BULK**: Trucks loaded with 44 tonnes: 1,326,233; Rail wagons loaded with 60 tonnes: 66,428; Maritime vessels with an effective load of 50,000 tonnes: 85 liquid-bulk maritime vessels.

### CONTAINERS

<table>
<thead>
<tr>
<th>Type</th>
<th>WITHOUT AfCFTA</th>
<th>WITH AfCFTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trucks</td>
<td>136,216</td>
<td>223,698</td>
</tr>
<tr>
<td>Rail Wagons</td>
<td>21,832</td>
<td>30,402</td>
</tr>
<tr>
<td>Maritime Vessels</td>
<td>4</td>
<td>9</td>
</tr>
</tbody>
</table>

- **CONTAINERS**: Trucks loaded with 40-foot containers: 223,698; Rail wagons loaded with 24 tonnes: 30,402; Maritime vessels with an effective load of 60,000 tonnes: 9 maritime vessels.

### AIR TRANSPORT

<table>
<thead>
<tr>
<th>Type</th>
<th>WITHOUT AfCFTA</th>
<th>WITH AfCFTA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargo Planes</td>
<td>63 cargo planes</td>
<td>98 cargo planes loaded with 50 tonnes</td>
</tr>
</tbody>
</table>

- **AIR TRANSPORT**: 63 cargo planes loaded with 44 tonnes; 98 cargo planes loaded with 50 tonnes.

THE IMPACTS OF AfCFTA in freight transport

In the 2030 without-AfCFTA scenarios,

- **Tonnes trade increase by 73% due to mass increases** (GDP per capita and workforces).
- **62% Thousands of dollars varied overall by 62%**.

In the 2030 with-AfCFTA scenarios

- **Tonnes trade increase by 121% (21% more than without AfCFTA)**.
- **112% Thousands of dollars varied overall by 112%**.