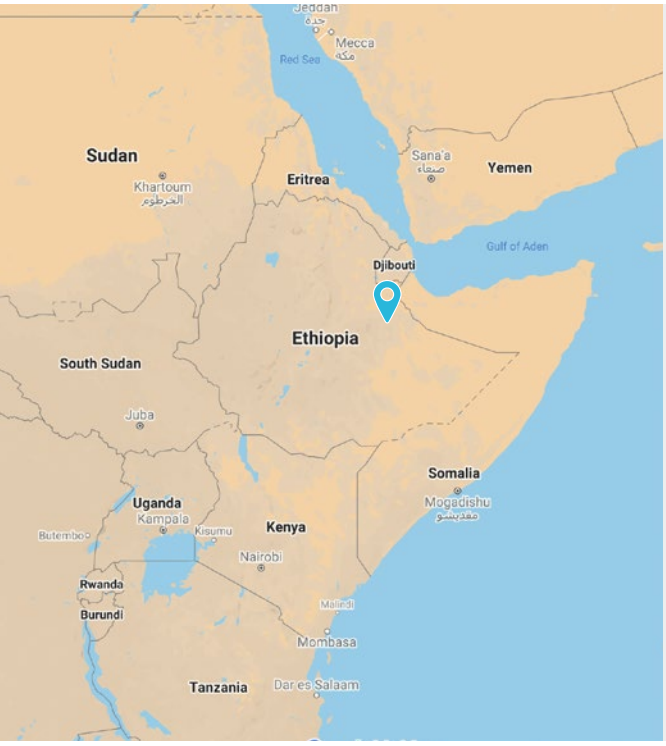
Dire Dawa, Ethiopia

Partner city

Status of the project: **Completed technical assistance**



Basic Information

Urban area: **70 km²**

Population: **408,000 (2020)** | Growth rate: **4,4%**

Region capital city

GDP per capita: **USD 855.8 (2019)**

Modal Share:

- **Informal public transport: 42%**
- **Walking: 46%**
- **Private cars: 4%**
- **Private motorbikes or 2-wheelers: 1%**
- **Other: 8%**

National GHG emissions per capita: **1,60 (tCO_2eq)**

Exposure to climate change: **HIGH**

Context

Located on a large flat plain between Addis Ababa and Djibouti, Dire Dawa is meant to become the main economic hub of eastern Ethiopia. Nowadays, it hosts a high density of commercial activities, including markets that generate important flows of goods and people at different scales, putting pressure on roads and public spaces. In the medium term, national freight transit is expected to increase, along with the development of the national road network and the integration of the new railway into the logistic system.

477,000 trips are made daily in Dire Dawa. Mobility patterns reveal a relatively high propensity to move (1.8 daily trips per inhabitant). Dire Dawa is located on a secondary national/international freight corridor between Addis Ababa and Djibouti, meaning that a significant volume of trucks transit through the city. Dire Dawa currently does not have any transportation master plan.

Two railway lines currently serve Dire Dawa. The century old Ethio-Djiboutian railway is now nearly disused and only operates one or two regional services between Dire Dawa and Dewele at the Djibutian border. The new Chinese-built railway line between Addis Abeba and Djibouti is operating since 2018 and links both passenger and freight services with a planned dry port near the new station. Railway services do not yet appear as a competitive alternative to road freight, but services are only beginning.

The road network in Dire Dawa can accommodate the different mobility flows going through the city, whether for transit, exchange, or internal purposes, without major disturbance. However, the pressure exerted on the network is extremely unbalanced, with an overwhelming weight on local roads and a limited coverage of structuring ones (primary, secondary, tertiary).

There is no existing mass transit system. Bajaj represents most of the public transport supply, with 6,000 units and a hundred lines. It can be used for both people and goods. Bajaj supply varies quite a lot according to places in the city and the time of the day. Bajaj is a fully private supply that only targets the most solvent market segments and does not properly address the others, leaving some mobility demand unanswered. During peak hours, a few minibuses provide a complementary supply to Bajaj on three routes. The publicly operated city bus service is very limited and consists of 10 urban routes limited to peak hours (four rides a day).

Urban and road transport are managed at both the federal and local levels. Although responsibilities and perimeters are properly defined, some interfaces regarding road or urban transport can be challenging to manage. Both the city and the region of Dire Dawa are under the authority of the mayor. The nine urban *Kebeles* are managed by the city administration with different transport related duties falling under its authority: city bus, road authority and traffic police. The Federal Transport Authority (FTA) is another major player regulating the transport sector through the delivery of licenses. It is the main interlocutor for Bajaj drivers associations. The Ethiopian Road Authority (ERA) manages the interurban road network and national interest road projects in the city (industrial park).

The Dire Dawa Administration, the local counterpart, has the mandate and responsibility to finance mass public transport infrastructure and the running cost of public transport is part of the public authority's budget. The budget for the urban transport sector was set between 480 and 655 million BRR (14 – 19 million USD) in the past few years.

Challenges and main aim of the SUMP

Mobility in Dire Dawa faces several problems simultaneously, including:

- Lack of structured road network
- Lack of integrated management for road axes
- Lack of proper organisation of Bajaj supply
- Lack of infrastructure for non-motorised modes, resulting in inadequate consideration in planning, investments, and policymaking
- Lack of robust organisation of logistic chains
- Lack of an integrated mobility strategy or multimodal approach
- Lack of coordination between economic, urban, and mobility development strategies

The technical assistance will contribute to institutional strengthening by providing training sessions on the following topics:

- Data analysis and updating (including household surveys analysis) – module 3 or 4
- Modelling and demand studies – module 3 or 4 (after the model has been developed)
- SUMP follow-up and evaluation, including the use and analysis of the household surveys – module 4

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan (SUMP)

Funded by: European Commission

Funding amount: EUR 550,000

Implemented by: AFD through Intra-ACP

Local counterpart: Dire Dawa Administration mayor and Cabinet Affairs Office, Finance and Economy Bureau

Supported activities:

- Project implementation support of the city government for the preparation of a SUMP

Status of implementation

Project start: 2019 Q4

Expected project completion: 2022 Q1

Completed outputs:

- Reporting notes following missions 1 & 2
- Minutes of stakeholders meeting
- Surveys results
- Module 1 report (Urban mobility diagnosis)
- Module 2 report (Vision, goal setting and measure planning)
- Training on transport modelling conducted in July 2021
- Module 3 Action plan
- Presentation of the final SUMP and implementation strategy

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP.

Measure	Cost Estimate
Main road projects	EUR 94,635,000
Micro road projects	EUR 15,000,000
Road design guidelines	EUR 312,458
Road maintenance plan	EUR 312,458
Target road and crossroad network	EUR 312,458
Road axis upgrade projects	EUR 6,014,120
Traffic and mobility management	EUR 14,120
Circulation plan	EUR 387,458
Mobility management integrated taskforce	EUR 28,239
Paratransit structuration and development	EUR 6,034,053
Quality of service targets/charter/commitment	EUR 234,136
Target local transit network	EUR 387,458
Paratransit sector capacity reinforcement	EUR 900,000
Bus network development	EUR 27,080,457
BRT development	EUR 157,659,204
Mass transit development plan	EUR 612,458
Mass transit fare integration	EUR 600,000
Main NMT projects	EUR 3,000,000
NMT micro projects	EUR 6,624,450

Measure	Cost Estimate
Bikes for all	EUR 150,000
NMT integration in transport and mobility projects	EUR 24,917
NMT development plan	EUR 609,136
Pedestrian-centred approach	EUR 300,000
Walking in Dire Dawa	EUR 300,000
Freight terminals	-
Urban logistics projects	EUR 9,000,000
Urban logistics development plan	EUR 450,000
Logistic pilot	EUR 24,917
Transport hub reorganisation	EUR 3,593,750
Sustainable mobility planning process	EUR 3,322
Mobility data management	EUR 150,000
SUMP evaluation	EUR 9,967
Multimodality strategy	EUR 600,000
Energy-wise mobility development	EUR 450,000
Demand management	EUR 300,000
Integrated Transport Authority	EUR 28,239
Integrated Mobility financing	EUR 28,239
Sustainable mobility project management	EUR 450,000
Inclusive, green and gender aware mobility	EUR 300,000
Inclusive, green and gender aware mobility	EUR 28,239
TOD[1] project opportunities	EUR 6,016,611
TOD handbook	EUR 230,814
TOD development plan	EUR 225,000
TOD funding opportunities	-

The following table summarises the total capital expenses (CAPEX) estimates for different types of measures in the SUMP.

Urban transport investment measures	CAPEX Estimate
Public transport and NMT	EUR 204,516,269
Street shaping urban roads and traffic management	EUR 117,016,311
Other measures	EUR 21,889,098
Total	**EUR 343,421,678**

1 TOD: Transit Oriented Development

Projected impacts

The impact projections presented in this section should be read considering the prospect of a significant population increase. With an estimated population of 408,000 in 2020 and an urbanisation rate of 4,4% averaged over recent years, the population will reach 627,574 inhabitants in 2030, following the current trend.

Indicator	Impact 2030 (SUMP vs BAU)	Baseline - 2020	Projected 2030 BAU	Projected 2030 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-0,011 Mt CO_2eq -40% compared to BAU	0,011 Mt CO_2eq	0,029 Mt CO_2eq	0,018 Mt CO_2eq
Annual transport related GHG emissions per capita (kg CO_2eq)	-19 kg CO_2eq / capita	27 kg CO_2eq / capita	47 kg CO_2eq / capita	28 kg CO_2eq / capita
Access Increase of the proportion of the population living 500 meters or less of a public transport stop	+28%	84%	58%	86% (+196,500 people with access compared to baseline)
Modal share Increase of the modal shares of trips by public transport, walking and cycling	Public transport: +1% Walking: +4% Cycling: NA% **TOTAL: +5%**	Public transport: 42% Walking: 46% Cycling: 0% **TOTAL: 88%**	Public transport: 43% Walking: 40% Cycling: NA% **TOTAL: 83%**	Public transport: 44% Walking: 44% Cycling: NA% **TOTAL: 88%**
Affordability of public transport Percentage of disposable household income spent on public transport for the second quintile household income group	- 1%	12%	10%	9%

Highlights

Dire Dawa completes the preparation of its SUMP to keep pace with strong ambitions and rapid urban growth

Dire Dawa, Ethiopia, completed the preparation of its Sustainable Urban Mobility Plan (SUMP) in 2022. This SUMP is a key document that outlines the city's strategy to improve its transportation system, reduce traffic congestion, and promote sustainable mobility.

The process of developing the SUMP involved extensive consultation with stakeholders, including government officials, private sector representatives, civil society organisations, and community members. The plan's objectives include increasing public transportation services, improving road safety, reducing greenhouse gas emissions, and promoting non-motorised transport modes such as walking and cycling.

The SUMP is expected to have a significant impact on the quality of life of Dire Dawa's residents, as it will help to create a more sustainable and efficient urban environment. The plan is also aligned with Ethiopia's national transport policy, which aims to promote sustainable and inclusive transportation systems.

This achievement highlights the commitment of Dire Dawa's authorities to improve the city's transportation system and promote sustainable mobility, and the crucial role played by AFD and the MobiliseYourCity Partnership in supporting cities in their transition towards sustainable mobility.

Linking urban planning and mobility planning will become essential considering the changing city scale

The number of inhabitants in Dire Dawa is expected to triple by 2040 (reaching 800,000 – 900,000 people). The patterns of this growth will significantly influence the mobility behaviour in the city. The SUMP scenarios are thus structured around the different future shapes of the city, taking into account construction of an already planned new industrial city 15km away from the urban core. While the *scattered city scenario* could increase the urban area by 114km^2, significantly increasing the length of trips, the alternative, desired scenarios of a polycentric city would ensure more efficient and sustainable transport through densified development. They would also significantly reduce the newly urbanised areas until 2040.

A structural plan for urban development has already been prepared by the municipality. Linking the SUMP to the structural plan and coordinating between urban development and mobility planning will be key to future sustainable mobility in Dire Dawa.

Walking is a shadow mode – data can shed a better light on its importance

The household survey results indicated that most trips in Dire Dawa are made on foot (46%). Collecting this data showed that the importance of walking had been underestimated before by local decision-makers and helped to put active modes of transport on the agenda in the SUMP process. Thus, the SUMP aims to keep the current modal share of active modes while making the city entirely walkable. Non-motorised modes will, for instance, be considered in planning and upgrading roads to ensure that enough space is provided for pedestrians.