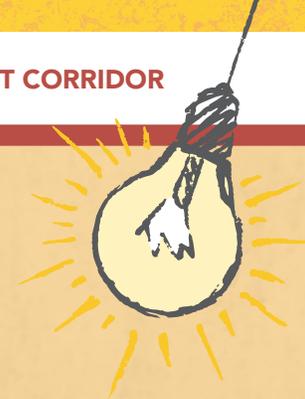


ESTIMATING THE IMPACT OF THE MOJO-HAWASSA EXPRESSWAY



What is the impact of highway construction on travel times, travel costs, firm-level outcomes, and aggregate economic activity?

The Mojo-Hawassa Expressway Project Details

PROJECT STATUS:

Under Implementation

IMPLEMENTING AGENCY:

Ethiopian Roads Authority

LENGTH:

203 km

DIRECT BENEFICIARIES:

400,000 estimated

ADDITIONAL DESIGN:

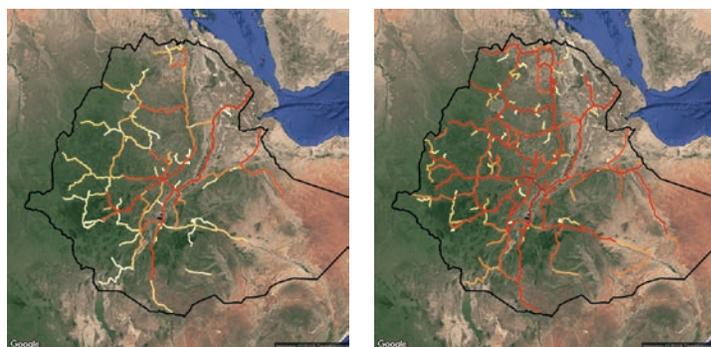
Two carriageways, each with two 3.65-meter-wide lanes and paved outer and inner shoulders; grade separated junctions; a 9-meter wide median; 31 local crossings for animals and pedestrians.

Context

Light manufacturing is a critical step on the path to industrial development, but no sub-Saharan African country has yet managed to get more than a foot on the ladder. Ethiopia is widely considered the most focused on achieving this goal. The binding constraint in Ethiopia's way has been poor trade logistics, which wipe out its labor cost advantage and cut it off from the higher-value, time-sensitive segments of the market.

To address this issue, the Government of Ethiopia embarked on the ambitious Road Sector Development Program (RSDP) in 1997. The main objectives of this initiative are to improve linkage between key cities and industrial parks, lower transportation costs for firms, provide better transportation infrastructure for local companies and households, and improve economic outcomes. Since 2014, a key component of the RSDP has been upgrading key economic corridors to expressways.

Among these, the expressway between the cities of Mojo and Hawassa will be completed in 2020. This particular expressway is very specifically tied to the effort to develop a flagship industrial park in the city of Hawassa, the Hawassa Industrial Park (HIP). Segments of this expressway are financed by the AfDB, the Korea Exim Bank, the China Exim Bank, and the World Bank itself.



2002 **2016**

Km of traffic

0-10,000	10,000-20,000	20,000-30,000	30,000-40,000	40,000-50,000	50,000-100,000	100,000-1,000,000	1,000,000 and over
----------	---------------	---------------	---------------	---------------	----------------	-------------------	--------------------



Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized

Public Disclosure Authorized

Impact Evaluation Research

The expansion of Ethiopia's expressway network provides a key opportunity to assess the impact of better transportation infrastructure on the economic welfare of firms and households. The aim of this project is to isolate the benefits of improving key economic corridors on economic development in Ethiopia. This impact evaluation focuses on the impact evaluation of the Mojo-Hawassa expressway. In addition, the team prepares a retrospective impact evaluation of the RSDP, looking at the development impacts of the road program across all roads in Ethiopia.

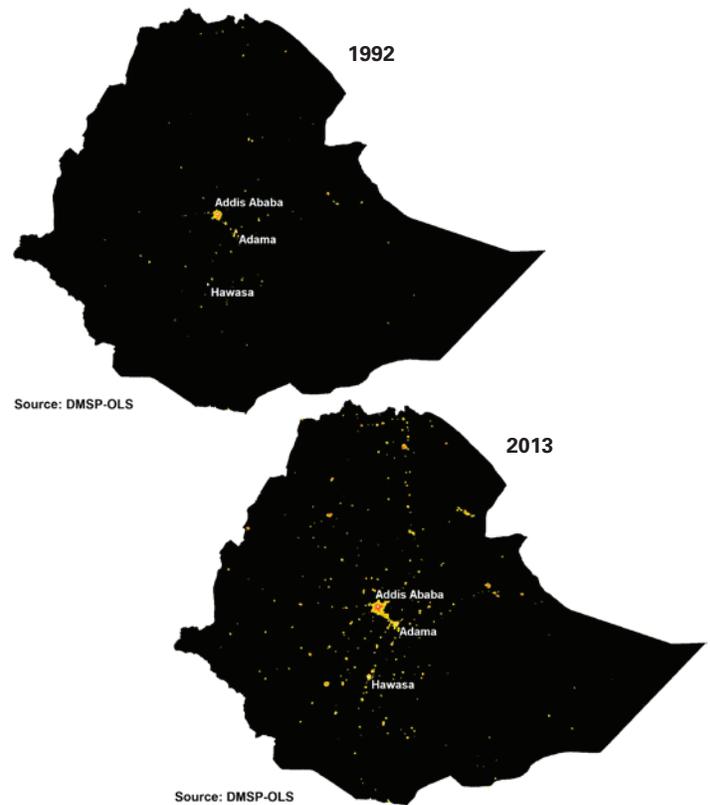
To be able to cover more than 20 years of data at a national scale, the team uses satellite imagery to measure nighttime light intensity and land use. Nighttime lights (DMSP-OLS data pre-2012, VIIRS data from 2012 to today — Map below) are used as a proxy for GDP while landcover imagery from Globcover classify the land according to its use: agricultural land, forest, urban area,...

These impact evaluations use the timing of the RSDP's deployment and the distance to the project roads to evaluate their impacts. For the Hawassa-Mojo expressway, the team relies on a spatial triple-difference (also known as "difference-in-difference-in-difference") method. Improved outcomes for those firms closer to the highway relative to the other households and firms can then be attributed to the highway itself.

Policy Relevance

While poor transport infrastructure is seen as a key constraint to development in many countries, little rigorous evidence has been produced to date on the impact of investments in transport corridors in settings like in Ethiopia, where urbanization and industrialization are both at low levels. It is evidently important to understand the extent to which infrastructure investments lead to structural transformation, higher incomes, and lower poverty.

The findings from this evaluation will be disseminated at the national, regional, and international level. At the national level, dissemination sessions will be conducted to ensure outreach



to all collaborative parties engaged in the project, including civil society, regional, national, and international authorities (Ministry of Transport, Ethiopia Roads Authority, Ministry of Finance, other large ministries, World Bank). In collaboration with the Government, a final workshop will be held to discuss with all relevant stakeholders the implications of the study results in relation to the scaling-up potential of the initiatives. In addition, at the end of each cycle of work, interim results will be disseminated.

Throughout the IE cycle — from design to dissemination — the key stakeholders will be actively engaged, which will help design a customized dissemination strategy that can maximize knowledge sharing and impact from the evaluation.

For more information email dimetransport@worldbank.org or visit www.worldbank.org/en/research/dime/brief/transport



The ieConnect for Impact program links project teams with researchers to develop rigorous and innovative impact evaluations that both substantially improve the evidence-base for policy making and induce global shifts in transport policy. The ieConnect program is a collaboration between the World Bank's Development Impact Evaluation (DIME) group in the Development Research Group and the Transport Global Practice (TR GP). This program is part of the Impact Evaluation to Development Impact (i2i) multi-donor trust fund and is funded with UK aid from the UK government (DFID) and by the European Union (EU).