



Dividends of proactive urban planning: Household-level evidence from Ethiopia's urban expansion initiative

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- Ethiopia's Urban Expansion Initiative (UEI) took a proactive approach to urban growth, deploying arterial road grids in peri-urban areas of 18 cities before informal settlement could take hold.
- A rigorous household-level evaluation across eight cities finds that the UEI raised annual household income by 7% to 14% and significantly improved residents' perceived economic well-being compared to a decade ago.
- The initiative expanded access to piped water by seven to eight percentage points and improved sanitation by 12 to 14 percentage points, and reduced travel times to city centres, clinics, and markets.
- Despite these gains, employment structures remain informal, and poverty rates show no significant decline, underscoring the need for complementary policies and a longer time horizon to convert infrastructure gains into structural gains.
- The initiative has reshaped local housing markets, with rising property values and rental demand along arterial corridors; proactive land governance is needed to ensure lower-income residents share in these gains.

The evidence shows that significant household-level benefits can be achieved through incremental infrastructure action – even in the absence of coordinated policymaking. This is a compelling argument for cities to act early on arterial road grids rather than delay until investment plans and policies are fully aligned. Cities that delay risk losing ground that is far more costly to recover later.

The challenge: managing rapid urbanisation in Ethiopia

Ethiopia is urbanising rapidly. The share of its population living in cities has grown from 7% in 1994 to 24% in 2025 and is projected to reach 39% by 2050 – equivalent to 44 million new urban residents over the next 25 years (United Nations, 2018). The government has embraced urbanisation as a driver of national development, targeting middle-income status in part through city-led growth.

Yet rapid urbanisation routinely outpaces infrastructure provision. When cities grow without forward-looking spatial plans, much of the new settlement occurs in peripheral areas where land is more affordable and more easily obtained - without roads, utilities, or services. Evidence from the region shows that a doubling of urban population typically triples urban land area, and that fewer than one in four new residential areas were planned before settlement between 1990 and 2014 (Angel et al., 2016). Without early preparation, this creates informal, poorly serviced settlements that are expensive to upgrade later.

Ethiopia's urban expansion initiative

To address this challenge, the Government of Ethiopia, in collaboration with New York University, launched the Urban Expansion Initiative (UEI) between 2013 and 2017. The UEI is a comprehensive four-point strategic programme centred on the creation of 30-year growth maps to proactively anticipate long-term spatial needs, coupled with expansion of city boundaries to establish a unified planning authority (Lamson-Hall & Martin, 2022). This was complemented by the deployment of a standardised 1km × 1km grid of 30-metre-wide arterial roads designed to provide essential connectivity, and the designation and protection of public open spaces to ensure environmental and social sustainability within the expanding urban fabric.

While urban planning is often judged by macro-level spatial success, this brief provides a causal analysis of the UEI's impact on household-level economic welfare, accessibility, and employment.

About this research

This study evaluates the household-level impacts of the UEI using a survey of 4,000 households across eight Ethiopian cities that implemented sufficient arterial roads to permit rigorous assessment. The analysis compares households within 500 metres of newly constructed arterial roads (the impact group) with comparable households located further away (the control group).

To ensure the comparison is fair, accounting for the possibility that better-off households may have chosen to settle near the new roads, the study uses rigorous statistical methods to match impact and control households on comparable characteristics and track changes over time.

Key findings

Income and economic well-being improve substantially

The initiative generated clear and consistent income gains. Households in arterial road impact areas earn between 7 and 14% more annually than comparable households outside these areas, a finding that holds across different statistical approaches. The initiative has successfully created new economic opportunities - through improved market access, higher land and rental values, and other location-specific advantages - that translate directly into higher incomes for residents most exposed to the intervention. Importantly, these gains are strongest among longer-term residents rather than recent arrivals, ruling out the possibility that results reflect the selective in-migration of better-off households.

"Households in impact areas earn 7% to 14% more per year than comparable households in control areas, and are up to 17 percentage points more likely to report an improved economic situation."

Subjective well-being improved in parallel: impact-area households are between five and 17 percentage points more likely to report that their economic situation has improved compared to a decade ago - suggesting the initiative not only raised household cash flow but also improved residents' confidence in their economic prospects.

Connectivity improves, and services expand

The arterial road grid successfully reduced travel times to key urban destinations. Households near new arterial roads experience shorter travel times to city centres and grocery markets (by one to two minutes) and to clinics (by approximately three minutes). While modest in absolute terms, these reductions are statistically robust and represent meaningful daily gains in mobility for peripheral residents. In contrast, travel times to schools show no statistically significant differences, suggesting that educational facilities may already have comparable spatial distributions across impact and control areas, or may not be directly shaped by the intervention.

Access to utilities improved substantially. The analysis finds a seven to eight percentage point increase in access to piped water and a 12 to 14 percentage point increase in access to improved sanitation in impact areas relative to control areas. These gains demonstrate that arterial roads serve as effective conduits for utility infrastructure, providing the rights-of-way needed to extend piped water and sanitation networks into expansion areas.

Limited evidence on formal employment and poverty reduction

The study finds no statistically significant differences in formal employment rates between impact and control areas. Most households in both groups continue to rely on informal or self-employed livelihoods. Similarly, poverty likelihood shows no statistically significant change over the study period once time trends are accounted for. The absence of detectable effects in these domains should not be read as evidence of no impact, but rather as an indication that structural outcomes such as poverty and employment respond more slowly to infrastructure investment than income and service access measures, and are likely to require complementary policies and broader economic conditions to fully materialise.

Housing tenure: a dynamic market adjustment

Housing tenure outcomes reveal a nuanced picture. In cross-sectional comparisons, impact-area households are somewhat less likely to own their homes, reflecting the higher residential mobility and stronger rental demand that characterise newly developing urban corridors. Proximity to arterial roads raises property values, making these locations attractive for rental investment. However, over time, homeownership has grown more rapidly in impact areas, with households transitioning into ownership as neighbourhoods mature, with robustness checks showing a seven percentage point increase in ownership probability in more restrictively matched samples. These dynamics underscore the need for proactive land governance alongside infrastructure provision.

Policy recommendations

1. Scale the arterial road grid to all secondary cities

The significant economic and spatial benefits of the UEI emerged even without full policy coordination or complementary investment, underscoring high unmet demand for connected urban land in rapidly urbanising cities. The arterial grid model is simple, scalable, and far less costly than retrofitting informal settlements after the fact, and the grid acts as a skeleton that naturally attracts serviced development. Municipalities should expand the 1km × 1km grid to secondary cities before settlement occurs, securing rights-of-way early to avoid the high costs of later resettlement and demolition.

2. Integrate utility and service planning from inception

The strong gains in water and sanitation access confirm that arterial roads function as effective conduits for utility networks. This opportunity should be formalised: water, sanitation, electricity, and telecommunications providers should be incorporated into the planning process from the outset, with aligned investment timelines - preventing the wasteful practice of digging up newly laid roads to install pipes later.

3. Address the formal employment gap

Since higher incomes have not translated into formal employment, complementary economic policies are needed. Governments should consider designating service-ready industrial or commercial zones along new arterial corridors to attract formal businesses, manufacturing, and formal retail. Vocational training programmes targeted at residents of expansion areas - particularly youth, including those linked to the construction and maintenance of the expanding urban fabric can help communities access formal employment opportunities. Without such policies, expansion areas risk remaining "urban" in density but not in economic structure.

4. Strengthen land governance and manage housing market transitions

Urban expansion reshapes local housing markets along arterial corridors, with rising rental demand and land values that risk concentrating gains among property owners. Policies should manage rental growth to ensure rising land values benefit a broad range of residents, including lower- and middle-income households, while preventing excessive speculation that could destabilise communities. Policymakers should:

- Implement fast-track land registration and certification in expansion areas to provide tenure security for both owners and renters.
- Develop rental market regulations that protect tenants while preserving landlord incentives, keeping housing accessible as neighbourhoods appreciate.
- Allow diverse housing supply responses through flexible zoning, enabling density increases that prevent artificial scarcity that would otherwise concentrate gains among existing property owners.

Conclusion

The evidence from Ethiopia's UEI shows that proactive urban planning is not just an administrative task; it is a powerful tool for household economic gains. Simple infrastructure can yield high returns even with a limited budget and in the absence of coordinated policymaking, as demonstrated by the significant household-level benefits recorded: higher incomes, improved access to services, and better connectivity. This is an encouraging finding, not least because coordinated policymaking is difficult to achieve in rapidly urbanising low-income settings where institutional capacity is stretched, and fiscal resources are limited.

These results make a compelling case for acting early and taking incremental action. Cities wait for full policy alignment before investing in arterial road infrastructure, risking losing ground that is far more costly to recover later. Avoid delaying the deployment of arterial road grids while waiting for labour market

strategies, land administration systems, or utility investment plans to align. The UEI shows that acting early on infrastructure already generates real returns at the household level. Where complementary policies can be achieved alongside infrastructure - the 'software' of urban life: secure tenure, formal jobs, and integrated services - they will deepen and broaden these gains further, turning incremental progress into a more complete urban development dividend (Lamson-Hall et al., 2019).

References

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