



The Impact of Ethiopia's Road Investment Program on Economic Development and Land Use: Evidence from Satellite Data

First Submission: RR_ETH_2025_437

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October 10, 2025

This review verifies the reproducibility of the exhibits included in the paper *"a really cool title"*.

Contents in this review:

1. Main findings
2. List of exhibits and reproducibility status
3. Reproduction Environment

Main findings

- **Every exhibit in the main section of the paper and 10 exhibits form the Appendix have been reproduced accurately.**
- The code was successfully executed on a new computer without any changes.
- The code takes approximately 48 hours to run.
- We conducted our reproducibility analysis based on the paper shared by the authors via OneDrive on September 23, 2025.
- **Verification Process and Data Handling:**
 - The reproducibility package relies on 2 types of data: open data and accessible data (public but not included in the reproducibility package).
 - Open data is included in the public reproducibility package.
 - Reviewers used the accessible data provided directly by the authors to conduct the reproducibility verification, and this is not included in the public reproducibility package.
 - Reviewers did not verify that the publicly available accessible data matches what was provided by the authors.
 - *data_hash_report.csv* lists the SHA256 hashes of all files in the Data folder to support data integrity checks. Users who acquire the data can use this file to verify that the data has not been altered.
- **Reproducibility Summary:**
 - **Data:** All data sources are publicly available and included in the reproducibility package.
 - **Code:** All code files (from cleaning to analysis) are included in the reproducibility package.
 - **Outputs:** All outputs are generated by code included in the reproducibility package.
 - **Dependencies environment:** The reviewers created a new environment using the latest versions of dependencies available at the moment of the review.

List of exhibits and reproducibility status

Results in the Main Section of the Paper

- **Figure 1 (a) Reproduced.** The exhibit was compared against *sankey_speed_rsdpyears.png*.
- **Figure 1 (b) Reproduced.** The exhibit was compared against *sankey_speed_rsdpyears.png*.
- **Figure 2 Reproduced.** The exhibit was compared against *maps_NTL_GC_RSDP.png*.
- **Figure 3 Reproduced.** The exhibit was compared against *mst_maps_rsdpi123.png*.
- **Figure 4 Reproduced.** The exhibit was compared against *did_main_ntl.png*.
- **Figure 5 Reproduced.** The exhibit was compared against *did_main_roads.png*.
- **Table 1 Reproduced.** The exhibit was compared against *depvar_sumstats_kebele.tex*.
- **Table 2 Reproduced.** The exhibit was compared against *lc_before_urban_simpl.tex*.
- **Table 3 Reproduced.** The exhibit was compared against *ols_iv_near_mst_cost_distance_5km_kebele_results_rsdpi123_regions.tex*.
- **Table 4 Reproduced** The exhibit was compared against *MA_table_longdiff_theta3_8_exclude50km_log_kebele_startyear1996_endyear2009_ols_iv.tex*.
- **Table 5 Reproduced** The exhibit was compared against *MA_table_longdiff_theta3_8_exclude50km_log_kebele_startyear2012_endyear2016_ols_iv.tex*.
- **Table 6 Reproduced** The exhibit was compared against *MA_table_longdiff_theta3_8_exclude50km_log_kebele_startyear1996_endyear2016_ols_iv.tex*.

Results in the Annex

For the Appendix, we did not review every exhibit. Instead, we randomly selected 10 exhibits from the remaining datasets to assess the appendix. Our review was based on those 10 exhibits. Since they were chosen randomly, we are operating under the assumption that if all randomly selected exhibits are reproducible, then the rest should be as well. The seed used to generate the random selection was 397890, the Stata version used was 18.5, and the exhibits selected were: 28 (Table S11), 43 (Table S21), 44 (Table S22), 51 (Table S29), 55 (Figure S26), 65 (figure S36), 80 (Table S40), 81 (Table S41), 82 (Table S42), 101 (Table S61)

- **Table S11 Reproduced.** The exhibit was compared against *iv_near_mst_cost_distance_5km_1kmkebele_results_rsdpi123.tex*.
- **Table S21 Reproduced.** The exhibit was compared against *MA_table_log_theta3_8_exclude50km_kebeleworeda_all_iv_2ntlgroups.tex*.
- **Table S22 Reproduced.** The exhibit was compared against *MA_table_log_theta3_8_kebeleworeda_rsdpi_iii_ols.tex*.

- **Table S29 Reproduced.** The exhibit was compared against *MA_table_log_theta3_8_exclude50km_kebeleworeda_rsd piv_iv_2ntlggroups.tex*.
- **Figure S26 Reproduced.** The exhibit was compared against *did_by4ntlggroups_dmspols_grid_nearroad_All.png*.
- **Figure S36 Reproduced.** The exhibit was compared against *did_by4ntlggroups_kebele_All_randrestrict.png*.
- **Table S40 Reproduced.** The exhibit was compared against *MA_table_longdiff_theta3_8_exclude20km_log_kebele_startyear1996_endyear2009_ols_iv.tex*.
- **Table S41 Reproduced.** The exhibit was compared against *MA_table_longdiff_theta3_8_exclude20km_log_kebele_startyear2012_endyear2016_ols_iv.tex*.
- **Table S42 Reproduced.** The exhibit was compared against *MA_table_longdiff_theta3_8_exclude100km_log_kebele_startyear1996_endyear2016_ols_iv.tex*.
- **Table S61 Reproduced.** The exhibit was compared against *MA_table_longdiff_theta3_8_exclude50km_log_woreda_startyear1996_endyear2009_ols_iv*.

Reproduction Environment

Paper exhibits were reproduced on a computer with the following specifications:

- OS: Windows 11 Enterprise, version 23H2
- Processor: Intel(R) Xeon(R) Platinum 8562Y+ 2.80 GHz (2 processors)
- Memory available: 64 GB
- Software version: R 4.5.1