Measure Connectivity and Assess Project Impact
(Yue Li, AIIB)

Comments by Siddharth Sharma
World Bank
March 10, 2022
Interpreting Transport Performance Measure

- In a sense, it is a measure of the “technical” accessibility gap.
- If the density of road network increases, RTP would increase.
- RTP potentially reflects both efficiency and scale of transport investment.
- Would adjusting for total road length (by quality) within the 120 KM radius bring it closer to a measure of transport network efficiency?
Interpreting RTP II

- RTP may depend on how the population is distributed.
- For example, RTP is high along coastal areas, perhaps because population is linearly distributed.
- Consider how to control for such factors when comparing RTPs.
Role of endogenous mobility

• If people and firms move to be closer to roads, then the RTP would increase over time.

• Europe’s RTP may be higher because the road network is older, and people have had a longer time to adjust location in response to it.
  • Is there data on transport network vintage?

• Higher RTP could reflect greater factor mobility and more efficient land markets.
How should policymakers use measures such as the RTP?

- Evaluate “efficiency” of transport network design:
  - Weak correlation between public expenditure and RTP is interesting.

- Targeting investments:
  - Which locations do we want to prioritize for increasing RTP?
  - Should transport investments be targeted to places with the lowest RTP, or to places with the highest marginal impact of investment on RTP.
    - Counterfactual RTPs.

- Impact evaluation:
  - RTP is available at a finer resolution than most “outcome” indicators.
  - Nightlights don’t work well at high resolutions.
  - Khachiyan et al. (forthcoming AEJ-I) develop deep learning methods to use daytime satellite imagery to predict income at high resolution.
Impact of Rural Roads: Methodology

• Small villages may be receiving other government programs. Did the qualitative interviews yield any information on this?
• Consider using an RDD approach (villages just above and below the 500-population threshold).
• Population is an instrument for treatment. Regressing outcomes on the instruments likely understates the impact of the roads (since treatment won’t be perfectly correlated with population threshold)
• Consider checking robustness to dropping the subdistrict with highly clustered treated villages
Impact of Rural Roads: Economic Significance

• Limited evidence base on rural roads.
• The impacts are quite sizable: 1.8-2% in total village output, 11% in hours worked and 20% in cotton sold.
• Did output per unit labor fall?
• A cost-benefit analysis of output impacts would be interesting.
• A discussion on why impacts are more sizable than those seen in Asher and Novosad’s study would be interesting.