

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

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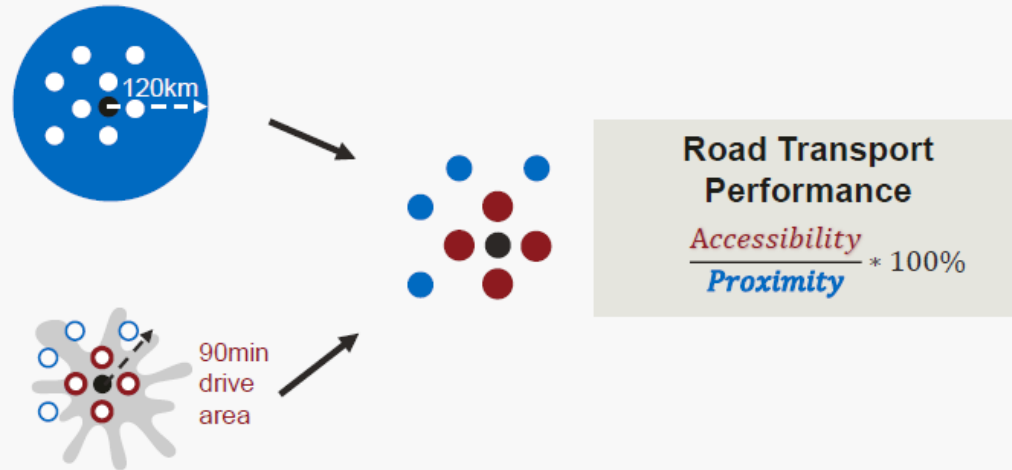
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Interpreting Transport Performance Measure

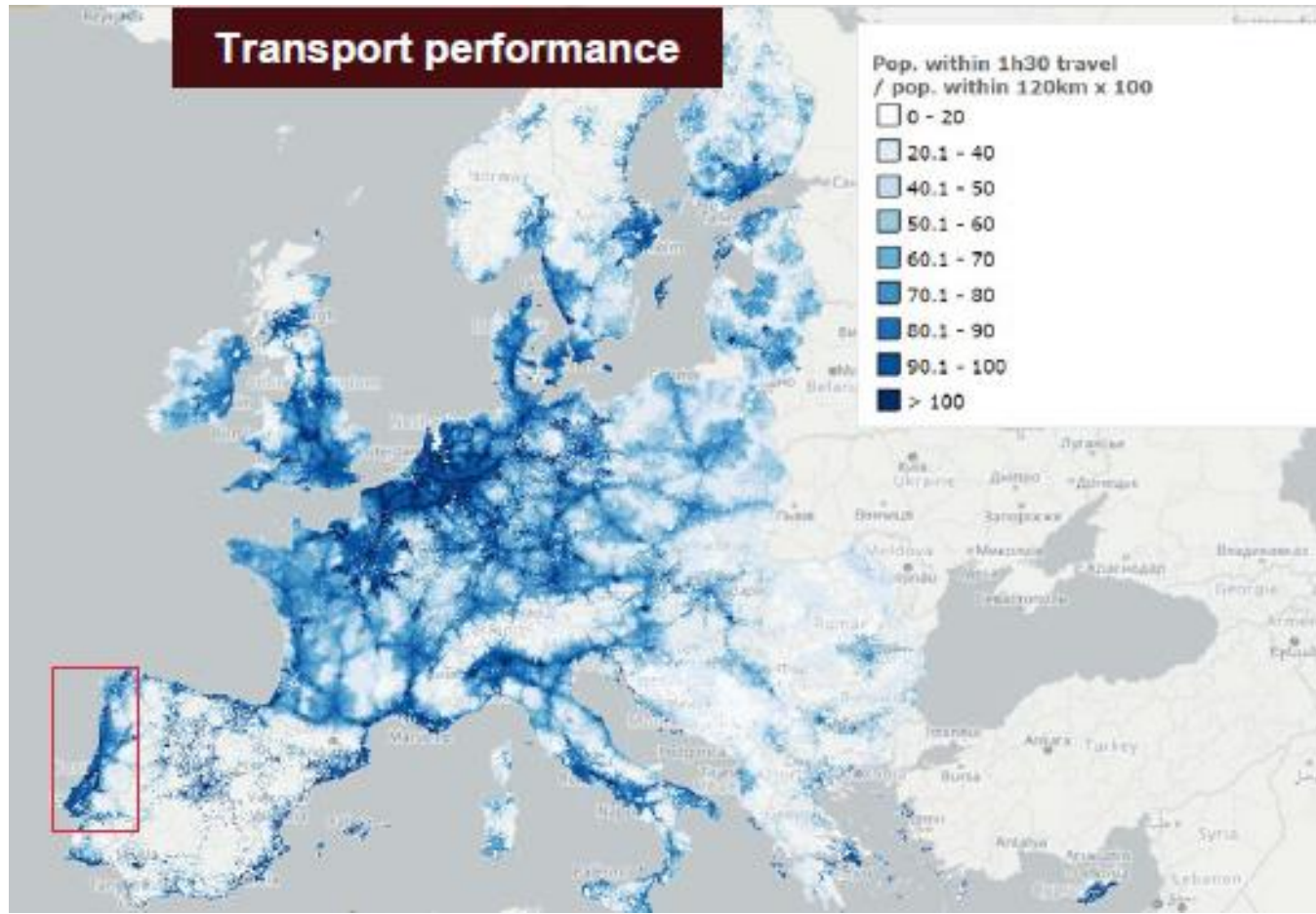
- **Proximity:** within 90 minutes time, assume that one can drive at 80km/hour in a straight line, how many people can one reach in this *ideal case*?
(80km/hour X 1.5 hr = 120 km)

- **Accessibility:** within a 90 minutes drive, how many people can one reach using existing road network *in reality*? 🗺️



- 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

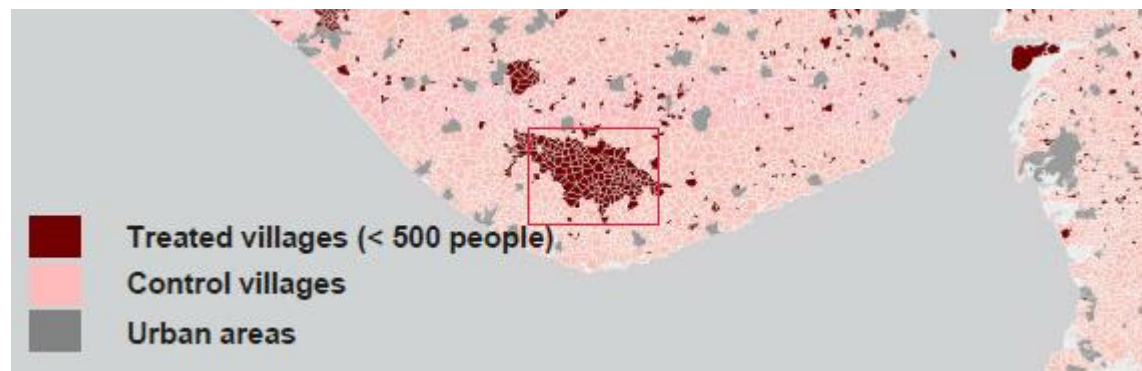
- If people and firms move to be closer to roads, then the RTP would increase over time.
- Europe's RTP may be higher because the road network is older, and people have had a longer time to adjust location in response to it.
 - Is there data on transport network vintage?
- Higher RTP could reflect greater 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.