A Simple Way to Reduce Urban Poverty: Pave Streets

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A defining characteristic of cities in the developing world is the lack of basic services. Only about a third of homes in these regions have piped water, and maybe three in five have electricity, according to a 2003 United Nations report. Even fewer have adequate sewage or treated waste. Transport infrastructure, particularly surfaced roads and street lighting, is lacking too.

That's the bad news. The good news is the simple act of providing some of these services may have a considerable impact on mitigating hardships in developing areas. A recent field test in Mexico offers the first experimental evidence that basic infrastructure upgrades — in this case paving streets — have a measurable effect on reducing urban poverty. Pavement projects boosted housing wealth, which boosted credit use, which boosted household consumption — all for a relatively low cost.

The test took place in the metro area of Acayucan, where roads in the central city are paved but those in the outer sections are surfaced gradually, in keeping with residential development. Several years back, researchers Marco Gonzalez-Navarro of the University of Toronto and Climent Quintana-Domeque of Universitat d’Alacant, in Spain, worked with Acayucan leaders to identify 28 streets set to receive pavement, and 28 others that wouldn't be paved. In September the researchers released the results of this case study [PDF, via The Transportationist].
Gonzalez-Navarro and Quintana-Domeque performed initial surveys with people living in the communities back in 2006. They looked at monthly expenditures on various home items (food, clothing, entertainment, etc.) as well as durable goods (cars, refrigerators, washing machines, etc.). They tracked credit use and loan acquisitions. They also followed property values through appraisals and homeowner valuations. Once the paving was finished or nearly finished, in 2009, they returned and surveyed the communities again.

The pavement seemed to have a clear positive impact on households along those streets. They owned 12 percent more durable goods and 43 percent more motor vehicles than non-paved households, and implemented twice as many home improvements. Paved households also engaged in more than double the credit use, and took out loans ten times as large as unpaved households: 1,643 pesos to 135 pesos, on average.

“All these changes point to a substantial reduction in material poverty,” write Gonzalez-Navarro and Quintana-Domeque.

The researchers believe this newfound wealth, tied closely to credit use, was the result of increased home values created by the street surfacing. Professional appraisers found that properties along the paved streets rose 16 percent (with land values climbing 54 percent), compared to those on unpaved streets. Rents were 31 percent higher on paved streets, and while there weren’t enough home sales to create statistical significance, the trend was clearly toward higher prices — with paved homes going for 85 percent more than their unpaved counterparts.

The work has some limitations: it follows a single location over a relatively short period of time, and produced some mixed effects. (The researchers found no significant difference in the amount of household items, which are generally cheaper than durable goods, purchased in the two communities.) At the same time, the basic upgrade at the center of the study is a very cost-effective one. While the price of paving the 28 streets in Acayucan came to roughly 11 million pesos, the land value increased roughly 12 million pesos — or 109 percent of the original investment.

Top image: Tomas Bravo/Reuters

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