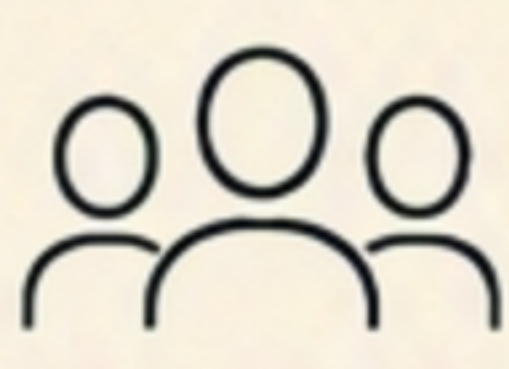


In Nanjing, smart mobility application use was associated with wider travel.

In this one-city, cross-sectional study, the links weakened where poor transport access overlapped with social disadvantage.



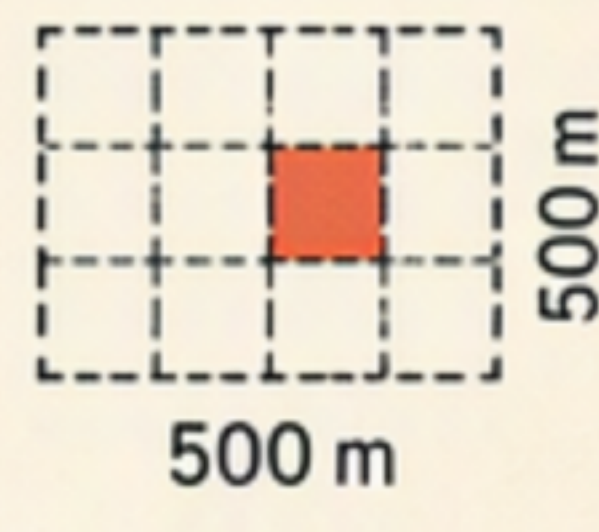
8.33 million

Nanjing residents represented



23

applications captured



500-meter grid level



about 2.5 minutes per resident per day use level for the average-distance pattern



1 Why this evidence was needed:

Prior research largely relied on surveys, self-reported behavior, individual-level analysis, and broad measures of Information and Communication Technology (ICT). This left limited evidence about city-level links between actual application use, observed travel, and inequity in poorly served places.



2 Study design:

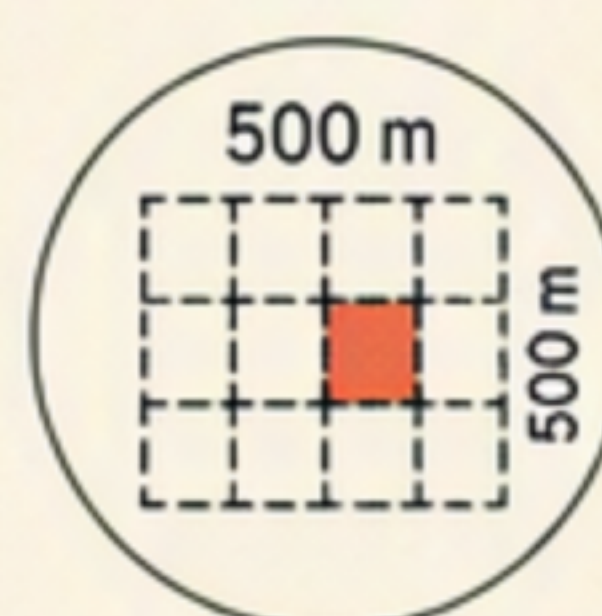
The study analyzed passively collected mobile-phone data representing 8.33 million Nanjing residents. It captured physical movements and use of 23 Applications (APPs) at the 500-meter grid level.



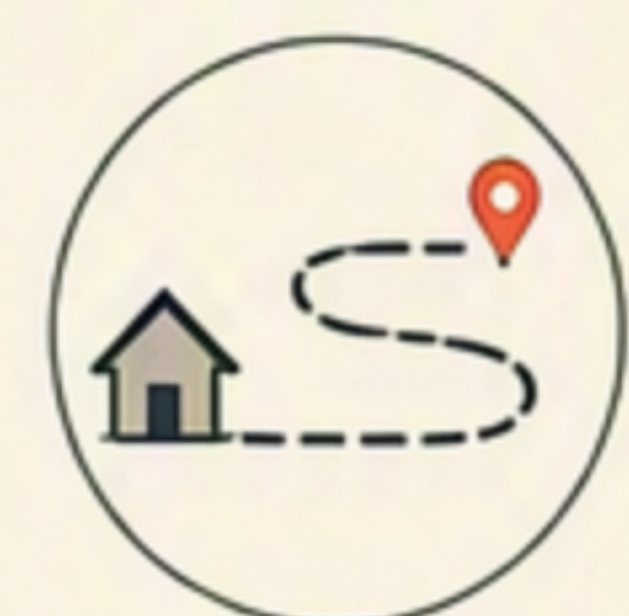
Passively collected mobile-phone data



Use of 23 Applications (APPs)



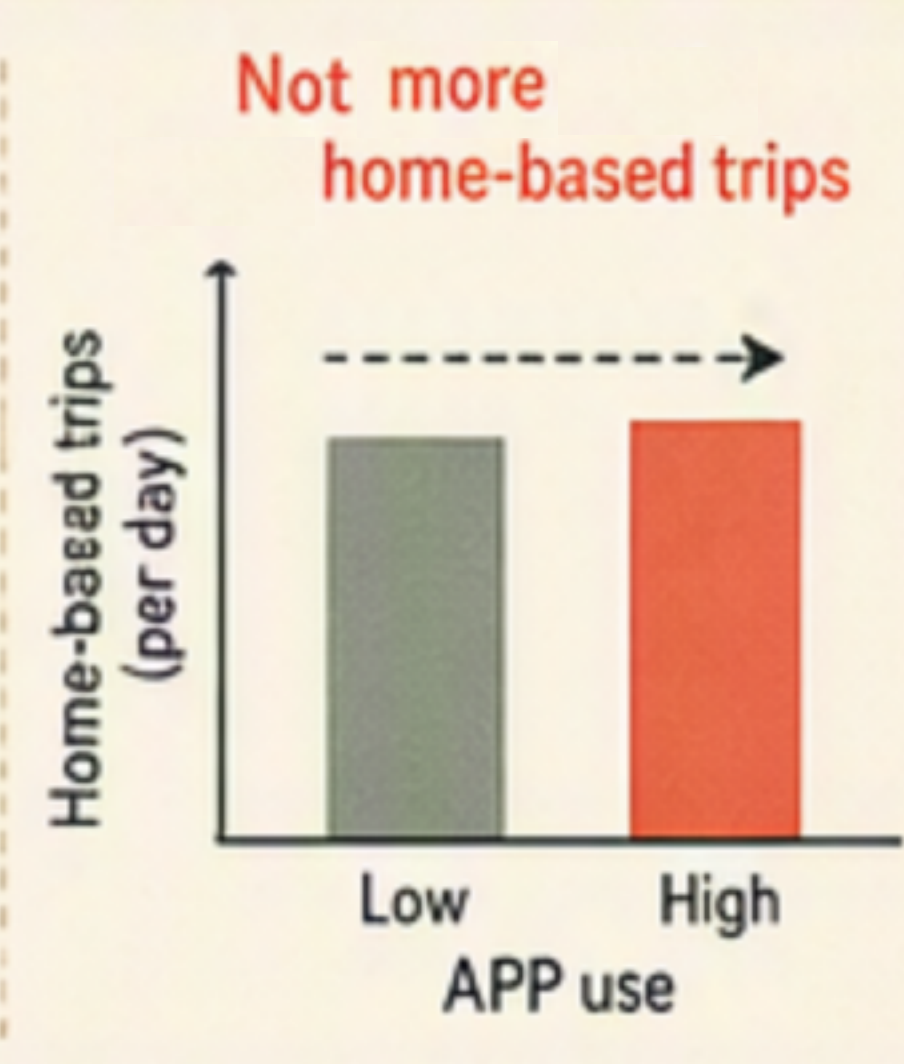
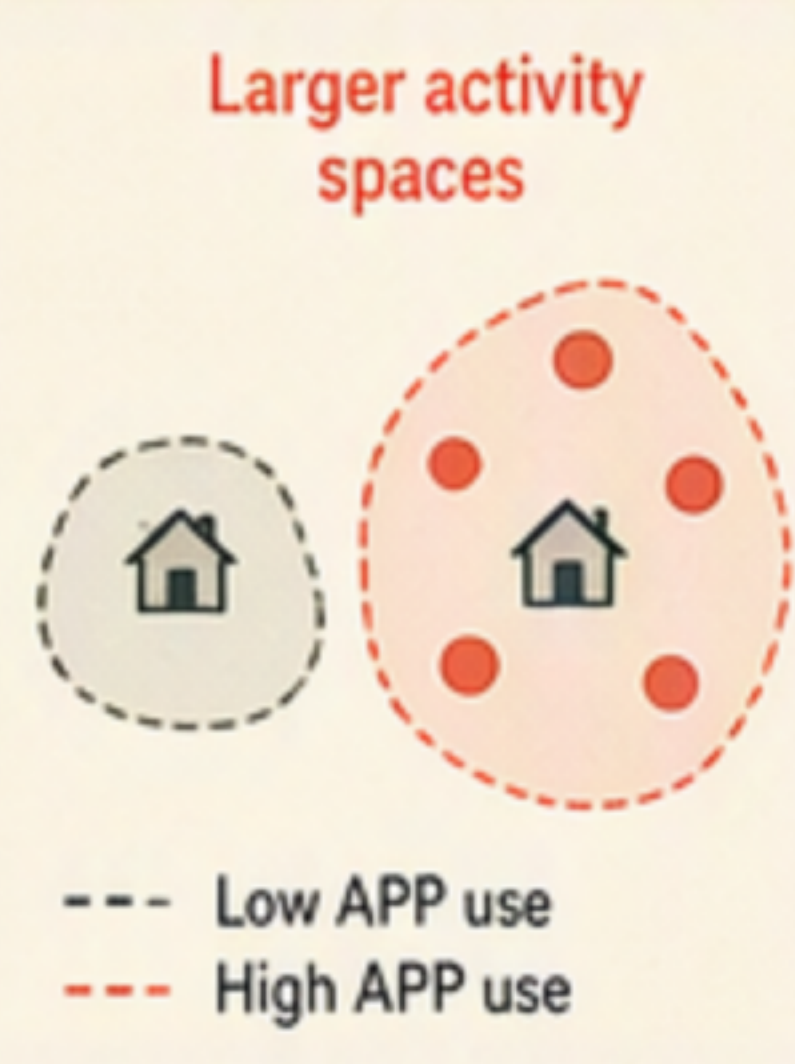
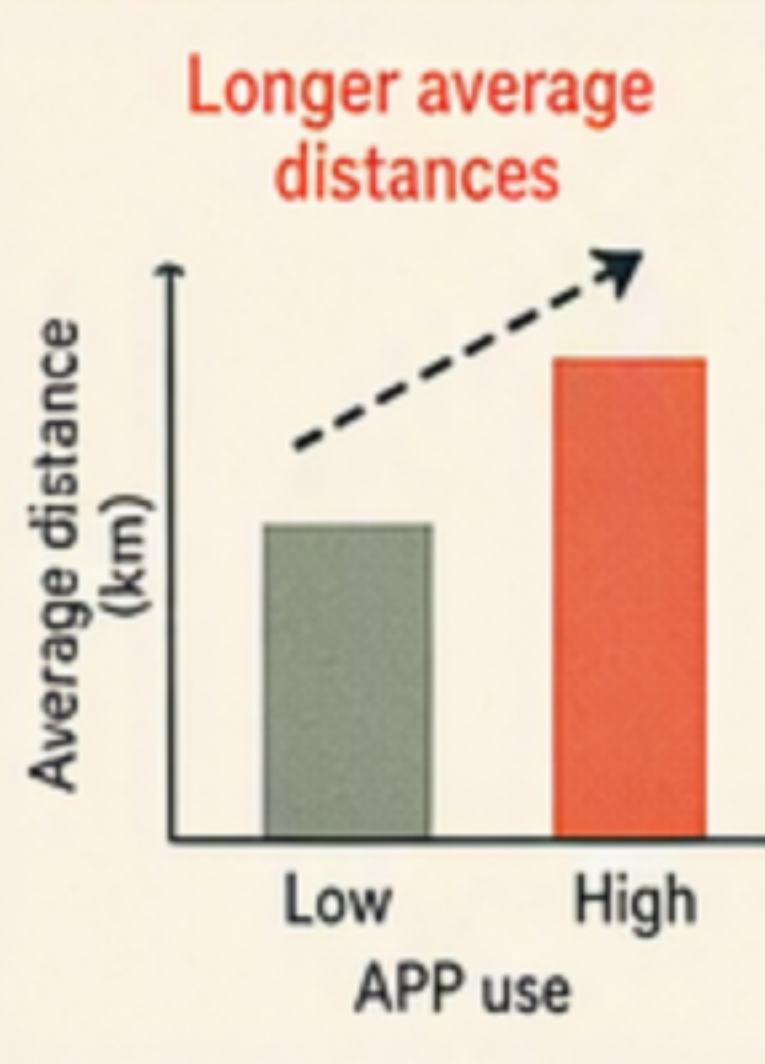
At the 500-meter grid level



Physical movements captured

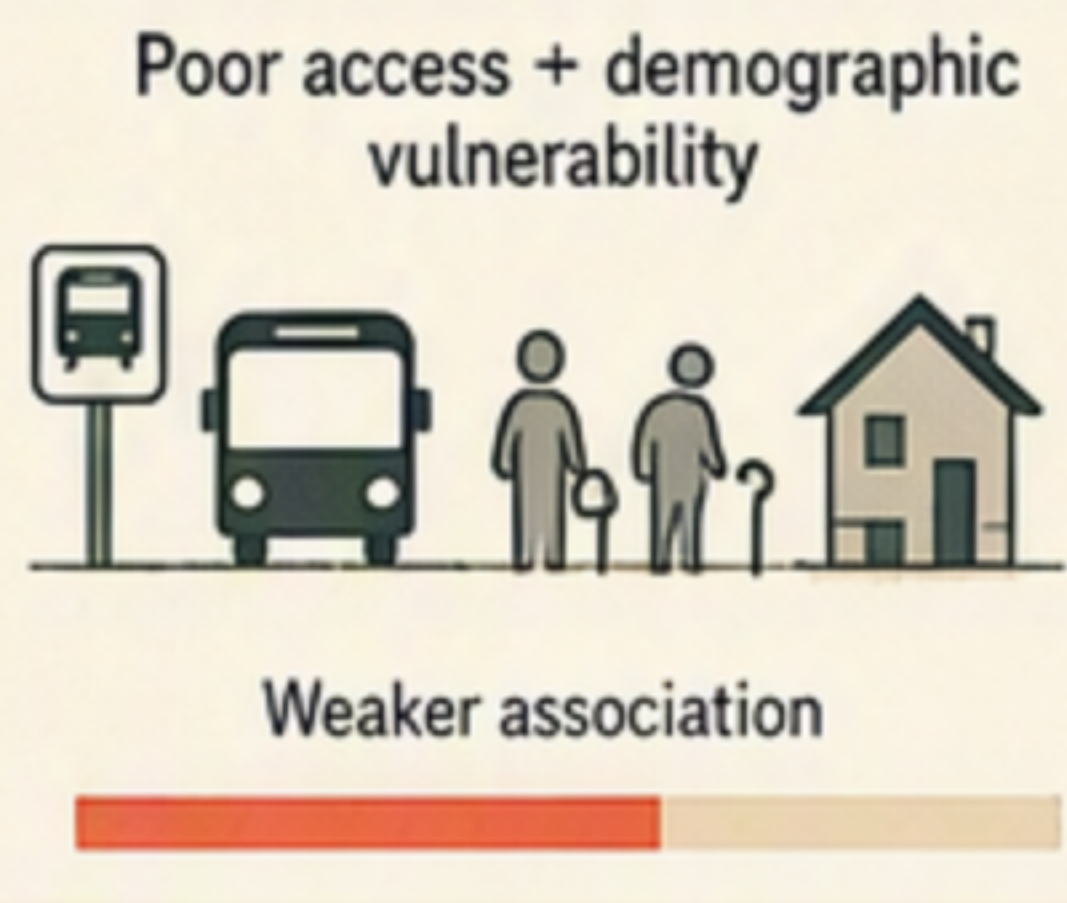
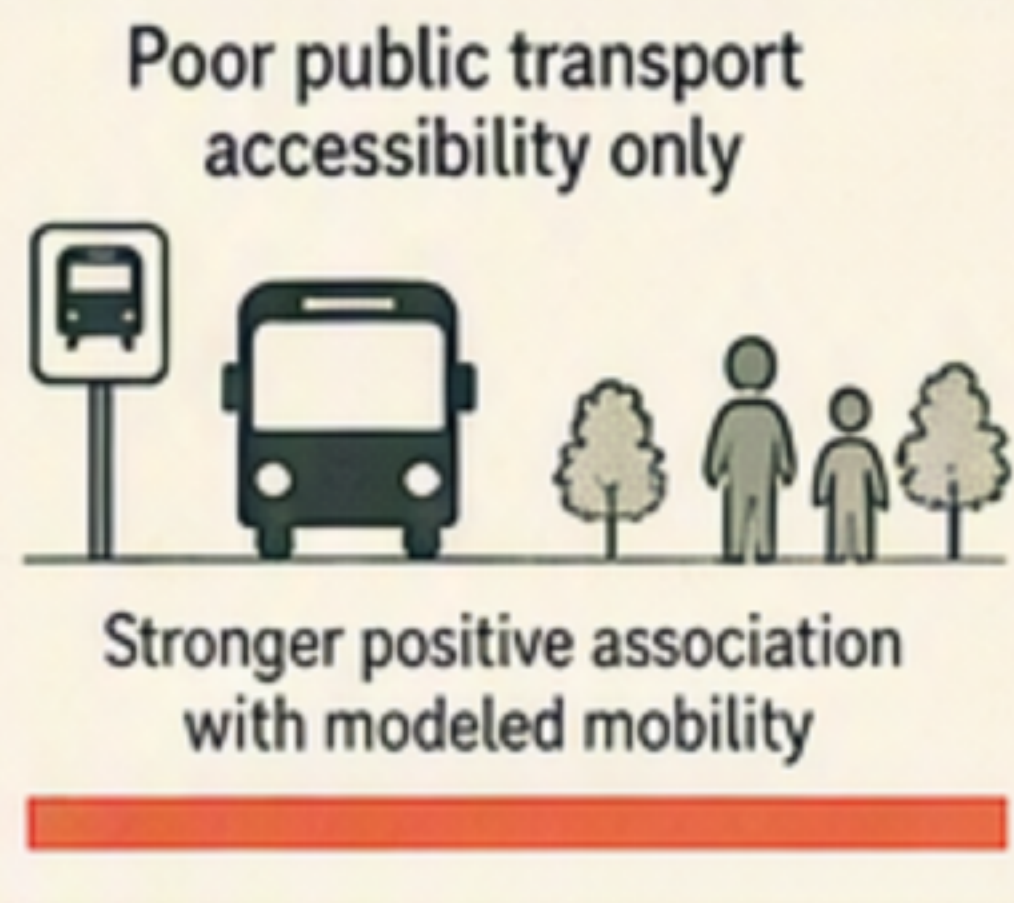
3 Wider travel, but not more trips:

Greater smart mobility APP use was associated with longer average distances, more diverse destinations, and larger activity spaces. It was not consistently associated with more home-based trips.



4 The link differed by disadvantage:

Dedicated smart mobility APP use was more important to modeled mobility in places disadvantaged only by poor public transport accessibility. This advantage weakened where poor access overlapped with demographic vulnerability or low housing prices.



5 Technology alone may not close the gap:

In this study, digital mobility services were not associated with equal benefits across all disadvantaged populations. The results show associations, not proof that application use changed travel.

