Are they being served?
Effective Infrastructure Access and Quality
“Nominal” Infrastructure Access: It exists

*Findings from a survey of 14,200 households in 15 Kenyan cities (2012-13 data)*
“Effective” Access: It works & is used
“Effective” Access: It works & is used

- Electricity: 33%
- Water: 48%
- Toilets: 32%
- Sewage disposal: 38%
- Access roads: 52%
- Public Transport: 33%
- Garbage Collection: 38%
- Phone: 32%

Nominal vs Effective Access:
- It works & is used
Raising the bar: Quality-adjusted access
Raising the bar: Quality-adjusted access

- Electricity: 46%
- Water: 29%
- Access roads: 24%
- Toilet: 34%
- Sewage disposal

Legend:
- Nominal
- Effective
- Quality-adjusted
WHO HAS EFFECTIVE ACCESS?
Who has effective access?

POVERTY LEVEL

- Electricity
- Phone
- Water
- Street Lights
- Garbage Collection
- Public Transport
- Toilet
- Sewage disposal
- Access roads

NON-POOR

POOR
Who has effective access?

SETTLEMENT TYPE

- Electricity
- Phone
- Water
- Street Lights
- Garbage Collection
- Public Transport
- Toilet
- Sewage disposal
- Access roads

FORMAL INFORMAL
Who has effective access?

SETTLEMENT TYPE

POVERTY LEVEL

Spatial versus income targeting
Spatial Variation in Access & Quality

FORMAL
- Electricity
- Water
- Access roads
- Sewage disposal
- Toilet

INFORMAL
- Electricity
- Water
- Access roads
- Sewage disposal
- Toilet

Diagram shows the variation in access and quality for formal and informal settings, with different indicators such as quality-adjusted, nominal, and effective.
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IMPLICATIONS
In sum: Informing Infrastructure Investments

1. Framework for diagnostics & decision-making
   - Informing investments; comparing results

2. Big gap: nominal, effective & quality-adjusted
   - Current data might be over-reporting access?
   - May be enhancing coverage without ensuring usability?
   - Costs depend on goal you set

Must ensure (atleast) effective access for all
Access varies by housing type too?!
Housing types

- Single Family: 50%
- Compound: 28%
- Dorm: 12%
- Multi-Story Apartment: 10%
COMPOUND HOUSES

- Majority **rent** rooms
- Shared or **no services**
- Shared or **no facilities**
ACCESS BY HOUSING TYPE

- Electricity
- Water
- Toilets
- Sewage disposal
- Access roads
- Public transport
- Street lights
- Garbage collection

SINGLE FAMILY

COMPOUND
ACCESS BY HOUSING TYPE

- Electricity
- Water
- Toilets
- Sewage Disposal
- Access Roads
- Public Transport
- Garbage Collection
- Street Lights
- Phone

ACCESS BY HOUSING TYPE

- SINGLE FAMILY
- COMPOUND
- MS DORM

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ACCESS BY HOUSING TYPE

Electricity
Water
Toilet
Sewage Disposal
Access Roads
Phone
Street Lights
Garbage Collection
Public Transport

SINGLE FAMILY
COMPOUND
APT
MS DORM
WHO HAS INFRA ACCESS?

NON-POOR

POOR