



# IE CONNECT FOR IMPACT

Transforming the Growth Potential  
of Transport Investments

## Progress So Far

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# Progress so far



Climate



Gender



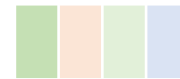
Green Mobility



Road Safety



Projects incorporating these areas



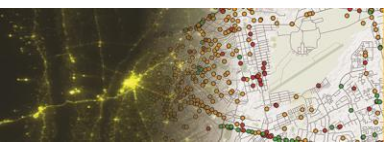
Projects not yet incorporated these areas

# CHAD



## Chad Rural Mobility and Connectivity Project

Improve and sustain access by rural populations to markets and basic social services



# Chad Rural Mobility and Connectivity Project

## Research Questions:

- What is the impact of rehabilitation and maintenance of roads on development in the province of Mandoul et Moyen-Chari?
- What is the differential impact on the welfare of men and women?
- What is the impact of a complementary policy to **improve women's incomes**? The project will experiment with a subsidy provision to buy motorized vehicle/cart.
- Does the project contribute to **reducing deforestation** when subsidized access to modern energy resources is provided?

## Outcome Indicators

- Travel time to market, school, hospital, transportation cost, access to market, distance to hospitals, frequency of visits, school attendance, mortality, morbidity, number of new businesses

## Identification Strategy

### Quasi experimental method and RCT

- Propensity Score Matching
- Difference in difference (first 75km)
- Triple DDD across the entire road

## Implementation Plan

- Budget: ~USD 450k for baseline and midline **already procured**
- Timeline: 75 km out of 400 km of the road will be starting construction in January; roll out will begin on the first 75 km constructed

# COTE D'IVOIRE



## Abidjan Urban Mobility Project

Improve access to socio-economic opportunities and increase efficiency of the public transport system along the Yopougon-Bingerville corridor and its feeder lines in Abidjan

# Abidjan Urban Mobility Project

## Research Questions:

- What is the impact of interventions aiming to formalize and professionalize informal transporters and drivers on road safety and general safety?

**Identification strategy:** Experimental

**Datasets:** Administrative registries

## Outcome Indicators

- Drivers: formal/informal, knowledge level, stress level, revenue, risky behavior and violence
- Owners: formal/informal, knowledge level, revenue

## Results Chain

- Training will increase the general skills of the owners and drivers, reducing risky behaviors by drivers and improving management practices
- Subsidies to formalization will encourage the stability of firms in the sector and reduce drivers stress, leading to increased safety.

# MOROCCO



## Community-Based Rural Roads Maintenance

Provide employment and livelihood to disadvantaged rural inhabitants in lagging areas (particularly women and youth) and maintain the road access of local communities to markets and essential services in the project area

# Morocco Community-Based Rural Roads Maintenance

## Research Questions:

- What is the impact of a rural road maintenance program led by community-based organizations/microenterprises on revenues?

### Outcome Indicators

- Transit conditions, trips length, road safety (number of incidents), transport costs, risk of road degradation, market access, employment rate, revenue, village level welfare

### Results Chain

- Lower risks of degradation
- Increase job opportunities for local population
- Fewer traffic accidents

### Datasets

- National study conducted between 2013 and 2014
- Data from the ministry of equipment on the assessment of road conditions

### Implementation Plan

- Approximate budget: USD 50, 000 for IE (Project budget 2.85 million)
- Timeline: December 2019- December 2023

## Notes:

- Limited expectation of integration of gender component, despite elaborate discussions on overcoming design challenges to do so
- Limited funding available



# RWANDA



## Rwanda Feeder Roads Development Project

Enhance all season road connectivity to agricultural market centers in selected districts

# Rwanda Feeder Roads Development Project

## Research Questions:

- What are the impacts of Feeder Road rehabilitation on the costs for traders of connecting remote communities to markets?
- How does improved connectivity affect rural households?
- How are male and female headed households and male and female traders differently affected by increased connectivity?

## Outcome Indicators

- Number of km rehabilitated, market prices, land prices, transport cost, agriculture commercialization, household income

## Results Chain

- We expect feeder road rehabilitation to reduce transportation costs between small rural areas and large markets
- This could increase the amount traders are willing to transact at farmgate

## Identification strategy

- Experimental and quasi-experimental methods:
- Event study, market access and RCT for varying pricing incentives to travel through the feeder roads to buy agriculture produce

## Datasets

- *Primary data*: Household survey, market price survey, trader survey, remote sensing data
- *Secondary data*: Business census, population census, agriculture land registry and transactions

# SENEGAL



## Dakar Bus Rapid Transit Pilot Project

Enhance urban mobility between Dakar and Guédiawaye through the development of a Bus Rapid Transit (BRT) corridor

# Dakar Bus Rapid Transit Pilot Project

## Research Question:

How is air pollution affected by the BRT construction, the modernization of the bus fleet (eliminating informal buses and replacing them with “formal” buses) and the start of the BRT corridor?

*Outcome Indicator:* Air pollution generated by traffic

## Results Chain

- During construction: Increase in air pollution because of dust generated by the construction work + more traffic generated by traffic deviations
- After construction: Decrease in air pollution as people will switch from using private cars to using the BRT

## Identification strategy

- Identifying hot spots (need to know the traffic deviation plan)
- Treatment -> where the construction is done first
- Control -> where the construction will happen at a later stage

## Datasets

- Air pollution data collected via 7 fixed stations and 30 mobile monitors
- Traffic counts data, congestion data from Google Maps and Waze

# SIERRA LEONE



## Freetown Integrated and Resilient Urban Mobility Project

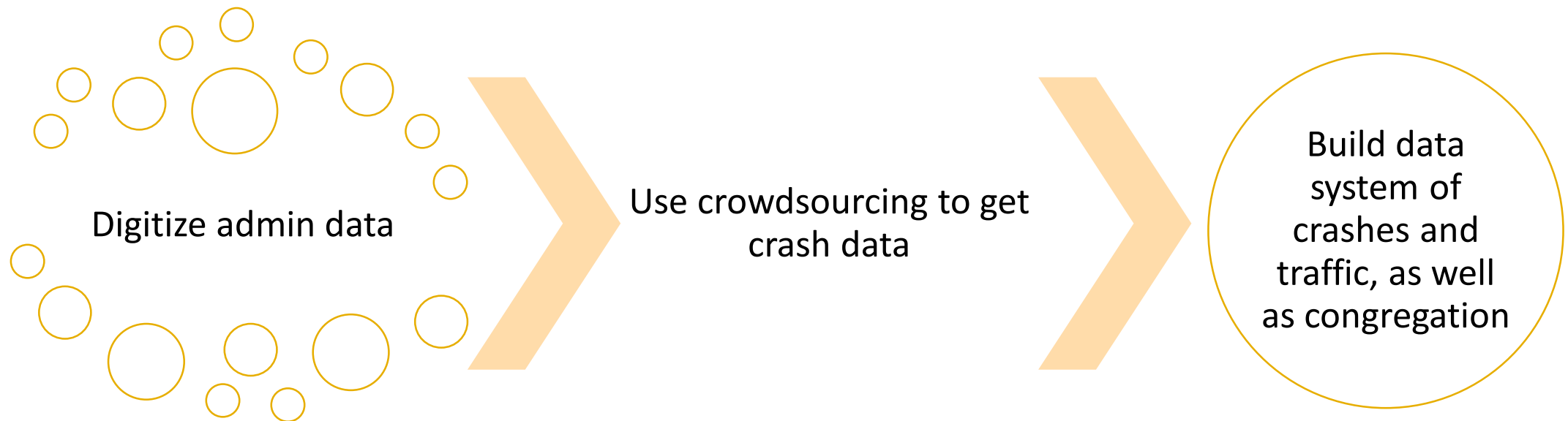
Improve quality of public transport, address climate resilience, improve road safety in selected areas and enhance institutional capacity in the transport sector

# Freetown Integrated and Resilient Urban Mobility Project

## Research Question:

What is the impact of barriers along the street on **pedestrian safety** and congestion?

What is the impact of pedestrian infrastructure (pedestrian crossings, signalization, etc.) on crashes involving pedestrians?



# VIETNAM



## Local Bridge Construction and Road Asset Management

Objective: construction of **1.700 rural bridges** across 51 provinces in Vietnam to improve connectivity and safe access for rural poor and ethnic minority



A ***cầu khỉ*** ("monkey bridge") in Vietnam is a handmade bamboo or wooden pass way across a stream or gully.

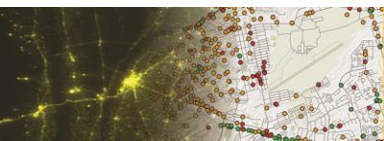
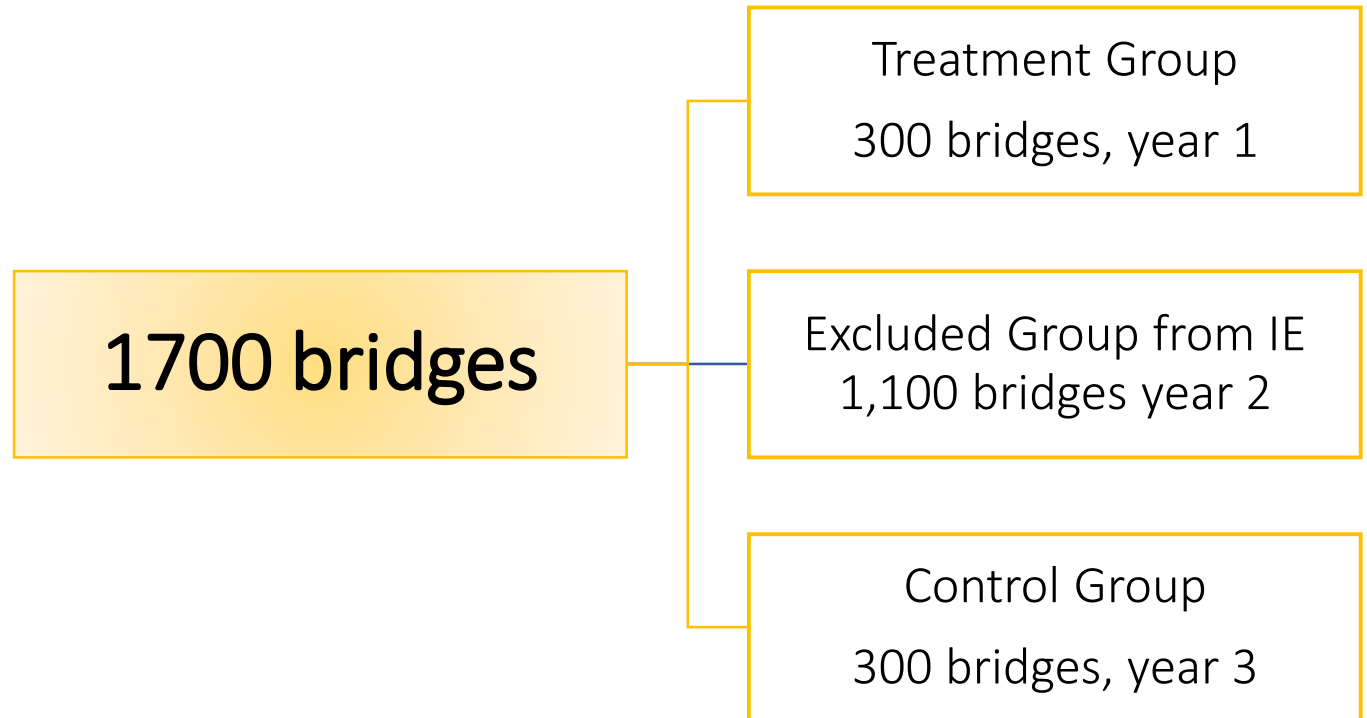
The 1700 concrete bridges to be constructed in this project are to do away with such dangerous bridges.







# Vietnam Local Bridge Construction and Road Asset Management

**Research Question: What is the impact of bridge construction on connectivity, human development, safety, and social economic outcomes?**

- **Objective:** Construction of 1.700 rural bridges across 51 provinces in Vietnam
  - Bridges will typically be rigid from 6 to 200 meters allow motorize traffic
  - Randomization of the order that the bridges are constructed



How are we doing on Climate, Gender, Green Mobility, and Road Safety?

	Chad	Cote D'ivoire	Morocco	Nigeria	Rwanda	Senegal	Sierra Leone	Vietnam	
Climate	✓					✓			
Gender	✓		?		✓			✓	
Green Mobility	✓					✓			
Road Safety		✓	✓				✓	✓	

# MEASUREMENT

Measure	Countries
Air pollution	Senegal, Sierra Leone, Nigeria, Vietnam, Chad, Rwanda, Cote D'Ivoire
Deforestation/Reforestation	Chad, Rwanda
Efficient freight / Green mobility (freight per truck)	Chad, Morocco
Carbon emissions	Senegal, Nigeria, Sierra Leone, Cote D'Ivoire, Vietnam
Flooding	Sierra Leone
Resilience	Sierra Leone,
Congestion	Sierra Leone

# COMPLEMENTARY INTERVENTIONS

Interventions	Countries
Subsidies (for modal shift, joint car use)	Chad, Sierra Leone, Rwanda, Vietnam
Information (to optimize truck use)	Morocco
Technology (electric buses, electric vehicles)	Senegal, Rwanda, Cote D'Ivoire
Regulation (limit transit of old vehicles)	Sierra Leone
Infrastructure (electric charging points, paving to reduce dust)	Vietnam, Nigeria
Other (increase quality of diesel, renovate transport fleet, make fertilizer available for improving ag intensity)	Senegal, Sierra Leone, Chad