
100 RESILIENT CITIES

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Asia Pacific

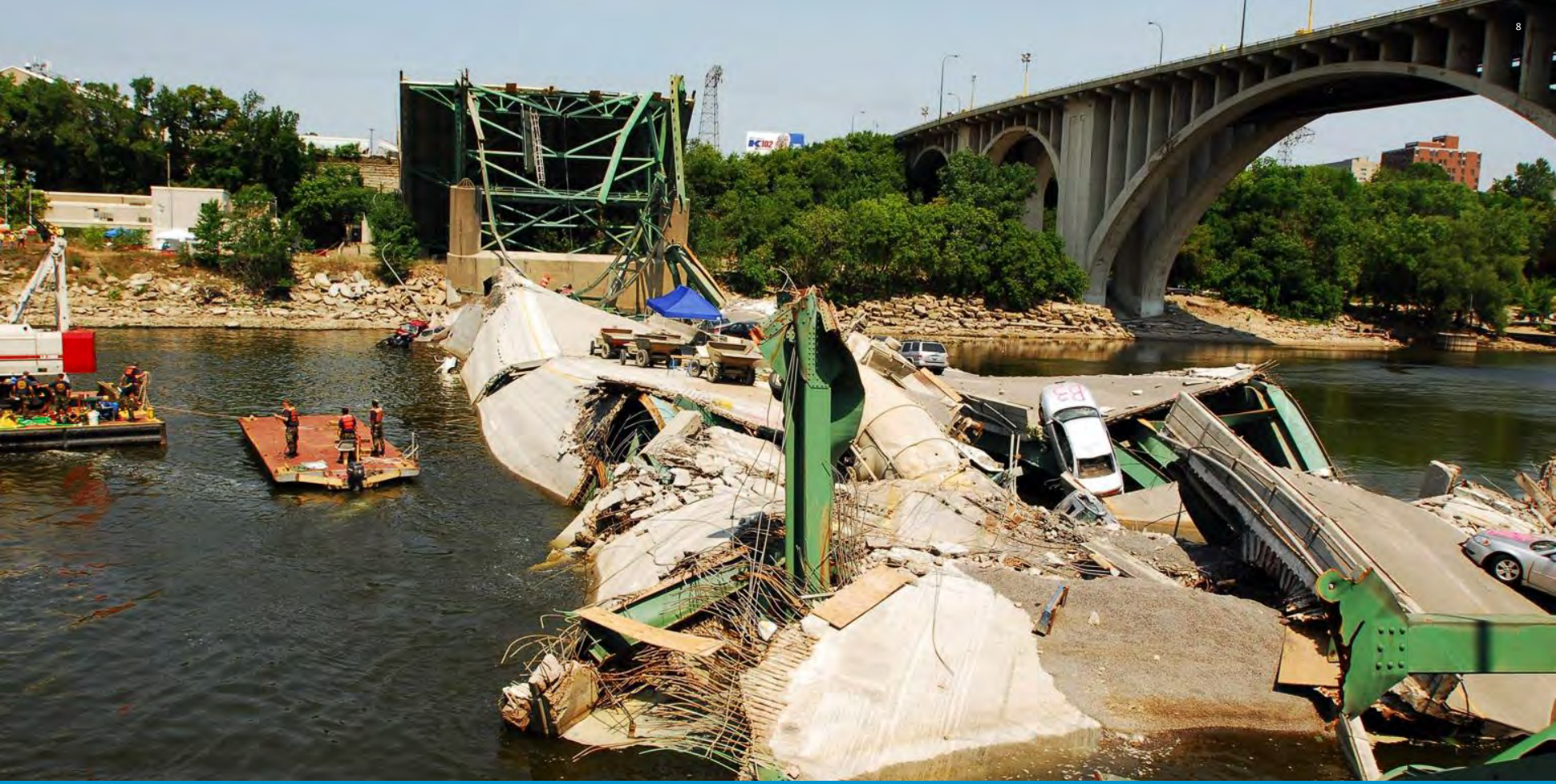

CITIES


54%
of world population


3/4 of global GDP


The world is in trouble.

Flooding in Jakarta, Indonesia



I-35W Mississippi River bridge collapse in Minneapolis, USA

Health officials taking temperatures of passengers arriving at the Nairobi airport, Kenya

Crowding in Chennai, India

Yiwu, China produces 60% of the world's Christmas decorations and accessories

In 2009, the deadliest bush fire in Australia's history caused over 173 deaths and destroyed over 2,000 homes in and around Melbourne.

Traffic Jam in Lagos, Nigeria


Cities are the future.
10%
1800

Cities are the future.

54%

2017


Cities are the future.
75%
2050

The time to build resilience is now.


PIONEERED BY THE
ROCKEFELLER FOUNDATION
100 RESILIENT CITIES

Urban Resilience is the capacity of individuals, communities, institutions, businesses, and systems within a city to survive, adapt, and grow no matter what kinds of chronic stresses and acute shocks they experience.


ACUTE
SHOCKS


607
CHRONIC
STRESS


URBAN
RESILIENCE

Medellín, Colombia 1988

[redacted]

Medellín, Colombia
TODAY

“We took a view that everything is interconnected—education, culture, libraries, safety, public spaces.”

— FEDERICO RESTREPO, former Director of Municipal Planning in Medellín

Outdoor escalator in Comuna 13

Flickr user: niconectado

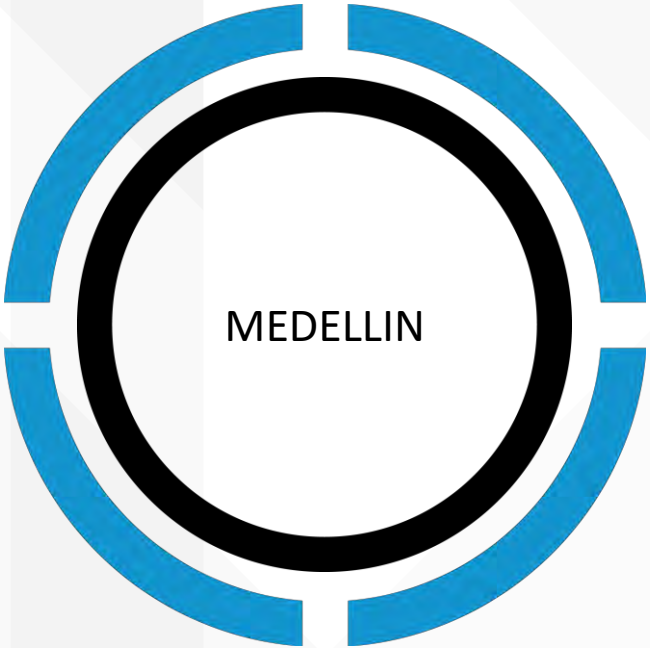
Metrocable gondola system in Medellín

Orquideorama in the Botanical Gardens of Medellín

Resilience Dividend

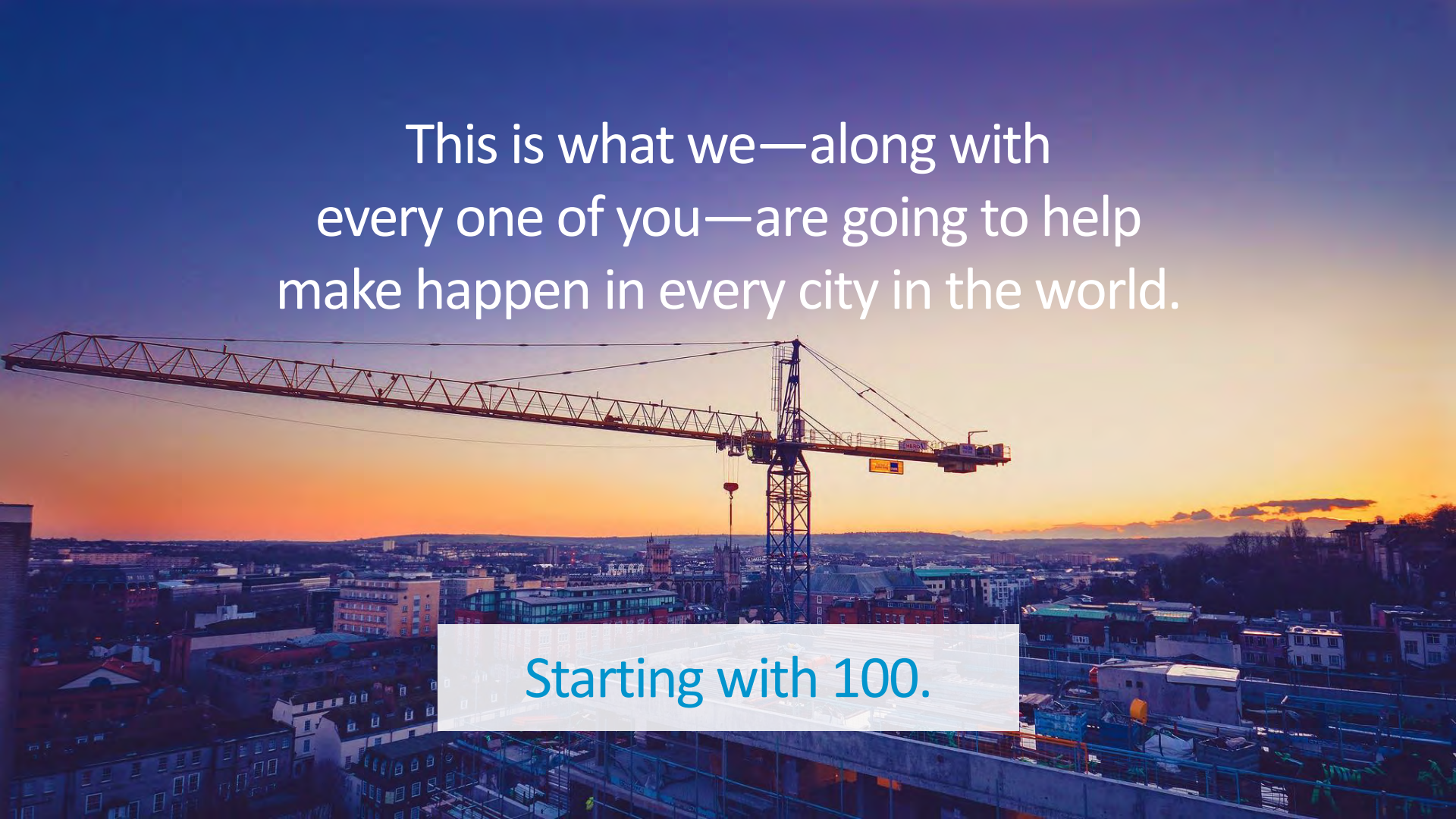
ENHANCED COMMUNITY CONNECTEDNESS

INCREASED ECONOMIC OPPORTUNITY

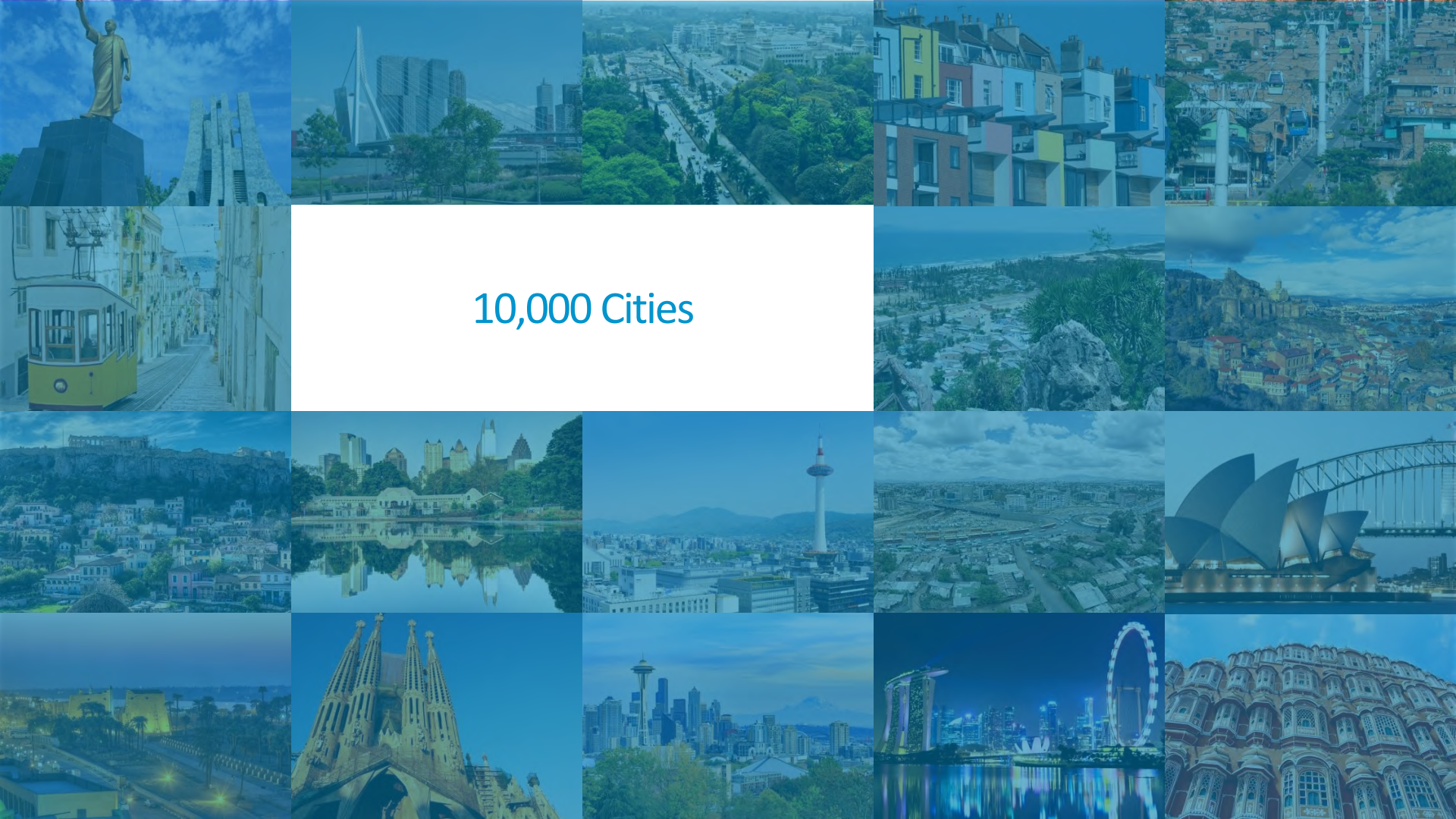


REDUCED CRIME AND VIOLENCE

EMPOWERED THE ECONOMICALLY DISADVANTAGED


This is what we—along with
every one of you—are going to help
make happen in every city in the world.
Starting with 100.


100 Cities


10,000 Cities

Partnering with cities for a better today and a stronger tomorrow.

CHIEF RESILIENCE OFFICER

RESILIENCE STRATEGY

GLOBAL NETWORK

GLOBAL PARTNERSHIPS

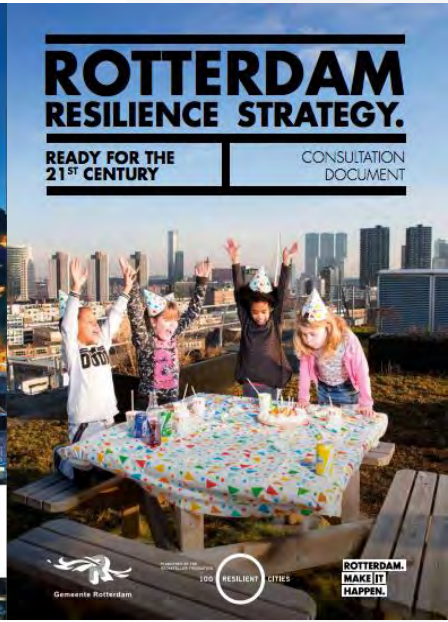
NYC Chief Resilience Officer Daniel Zarrilli with Mayor Bill de Blasio

Resilience Strategy planning workshop in Oakland


DAKAR
RESILIENCE STRATEGY
December 2016
VILLE DE DAKAR
100 RESILIENT CITIES


CDMX RESILIENCE STRATEGY
ADAPTIVE, INCLUSIVE AND EQUITABLE TRANSFORMATION
CDMX


RESILIENT SEMARANG
Moving Together Towards a Resilient Semarang
100 RESILIENT CITIES
Semarang


ROTTERDAM
RESILIENCE STRATEGY.
READY FOR THE 21ST CENTURY
CONSULTATION DOCUMENT
Gemeente Rotterdam
100 RESILIENT CITIES
ROTTERDAM. MAKE IT HAPPEN.


transform
finance


EY
Building a better
working world

Microsoft


amec
foster
wheeler


REBUILD
BY
DESIGN


CISCO


FUNDACIÓN
MARIO SANTO DOMINGO.
Por el Desarrollo Social de Colombia


Swiss Re


pacífico


สมาคมพัฒนาประชากรและชุมชน
POPULATION & COMMUNITY DEVELOPMENT ASSOCIATION


VEOLIA


INTERNATIONAL
RESCUE
COMMITTEE


Sandia
National
Laboratories


MFO
microfinance
opportunities


RMS


The Nature
Conservancy


JACOBS


WATSON
FOUNDATION


ARUP


CSIRO


Cities Development Initiative
for Asia


Save the Children


GLOBAL NETWORK FOR
ADVANCED MANAGEMENT

Global

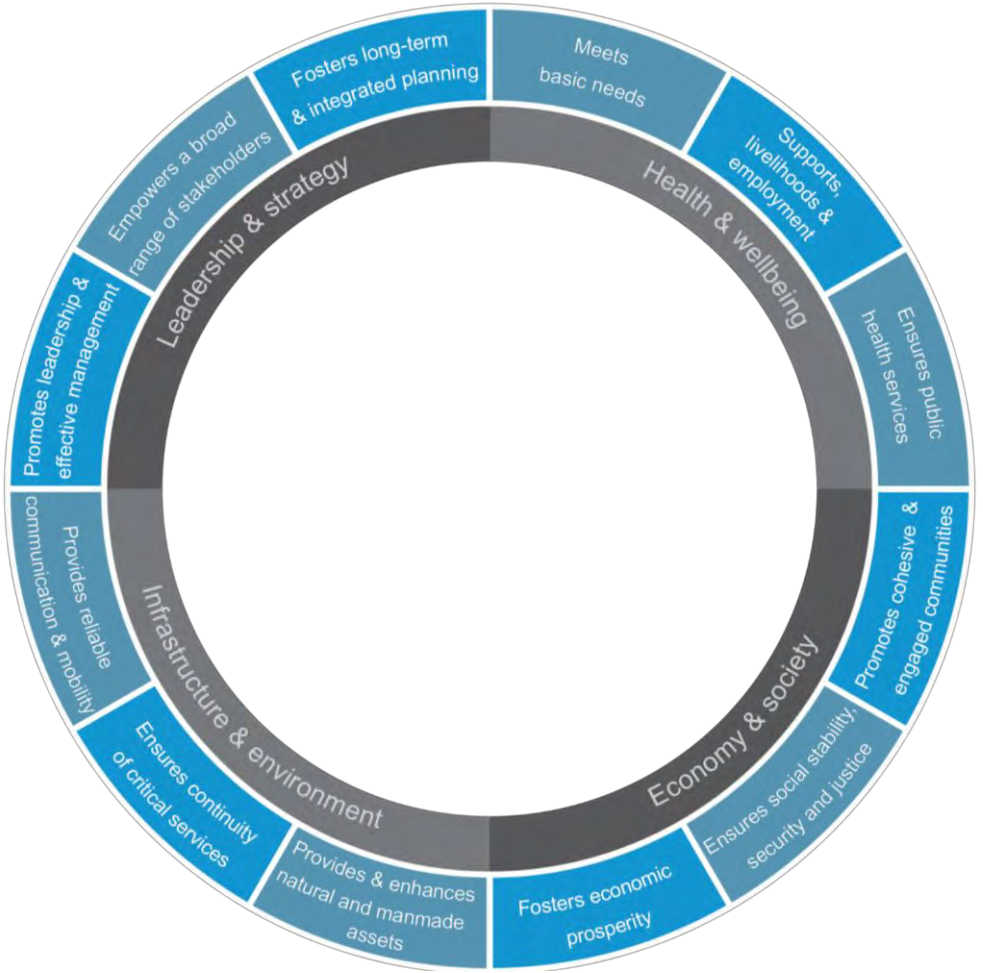
Network

MEASURING RESILIENCE:

CITY RESILIENCE FRAMEWORK

City Reslience Framework

12 drivers that determine the
city's ability to withstand a wide range
of shocks and stresses.



Health & Wellbeing
The health and wellbeing of everyone living and working in the city.

Meets basic needs

Supports livelihood & employment

Ensures public health services

Economy & Society
The social and financial organizations that enable urban populations to live peacefully, and act collectively.

Promotes cohesive & engaged economies

Ensures social stability, security & justice

Fosters economic prosperity

Infrastructure & Environment
The way in which manmade and natural infrastructure provides critical services, protects, and connects
urban citizens.

Provides & enhances natural & manmade assets

Ensures continuity of critical services

Provides reliable communications & mobility

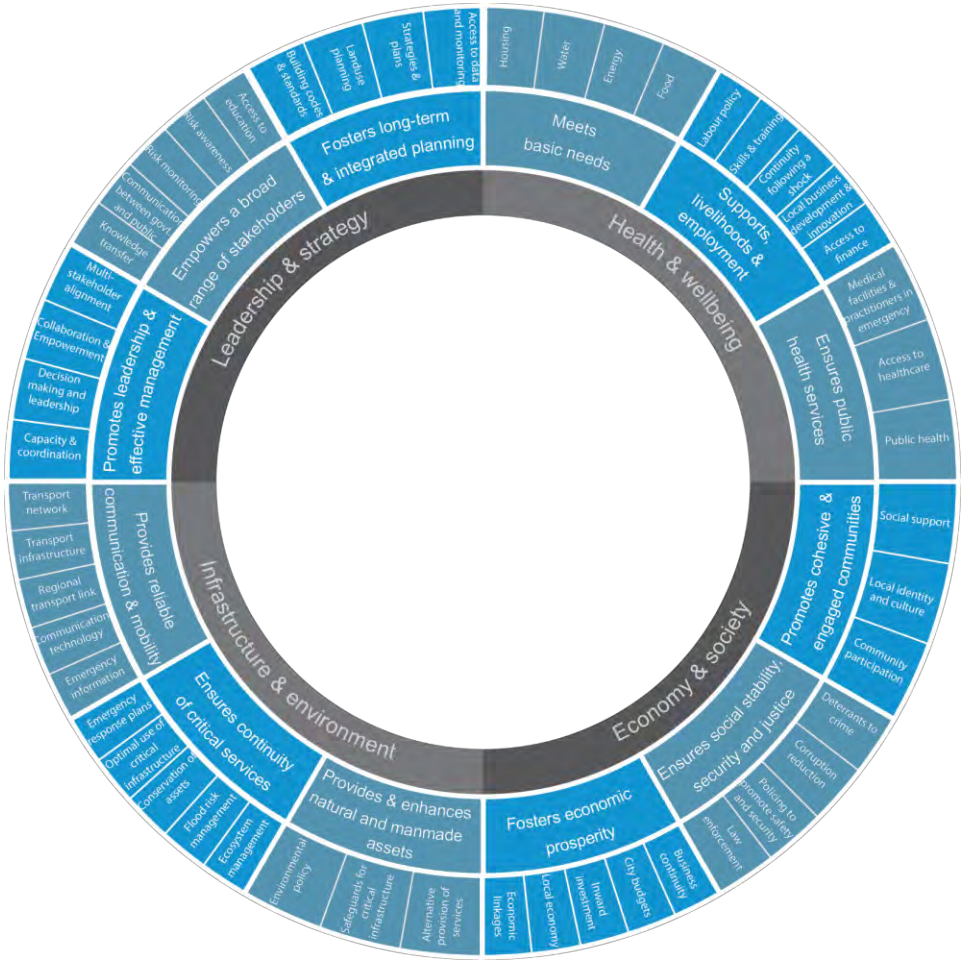
Leadership & Strategy
Effective leadership, empowered stakeholders, and integrated planning.

Provides leadership & effective management

Empowers a broad range of stakeholders

Fosters long-term & integrated planning

Multiple factors contribute to resilience

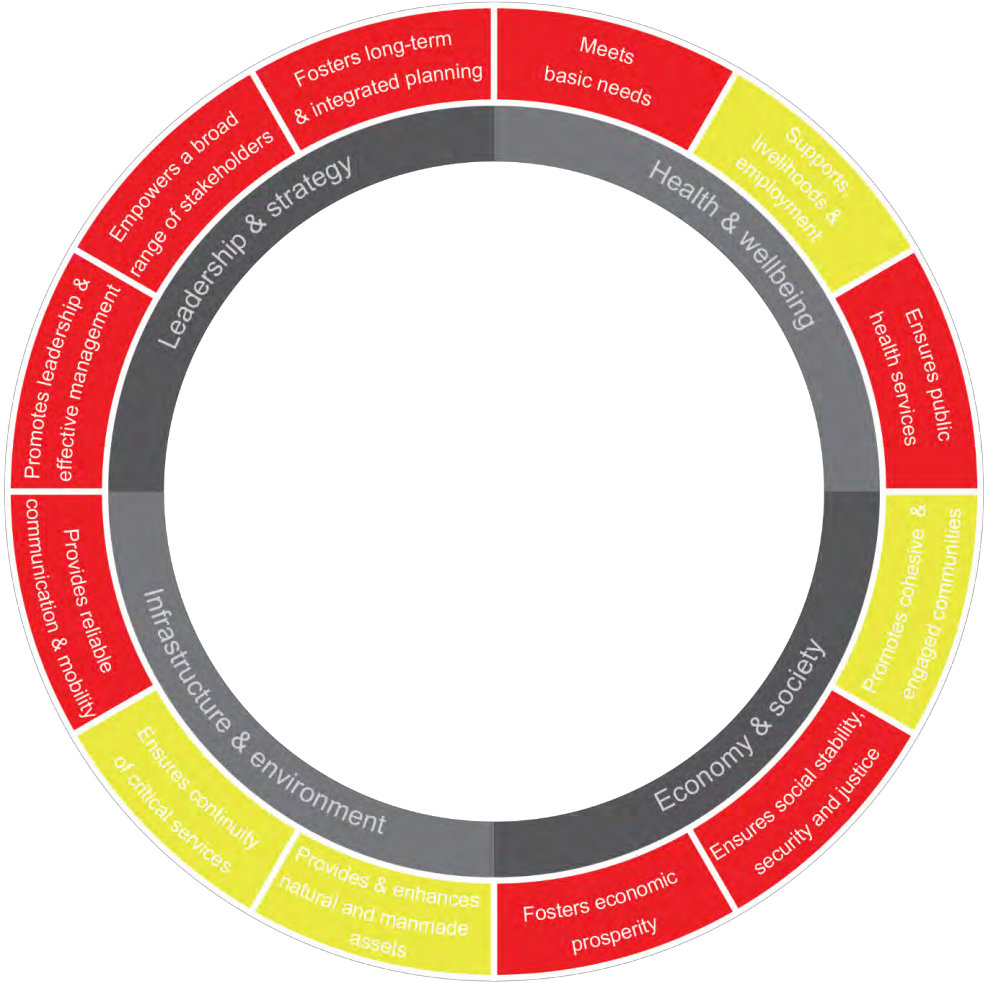


Medellín, Colombia

1988

LEGEND

Good Fair Poor

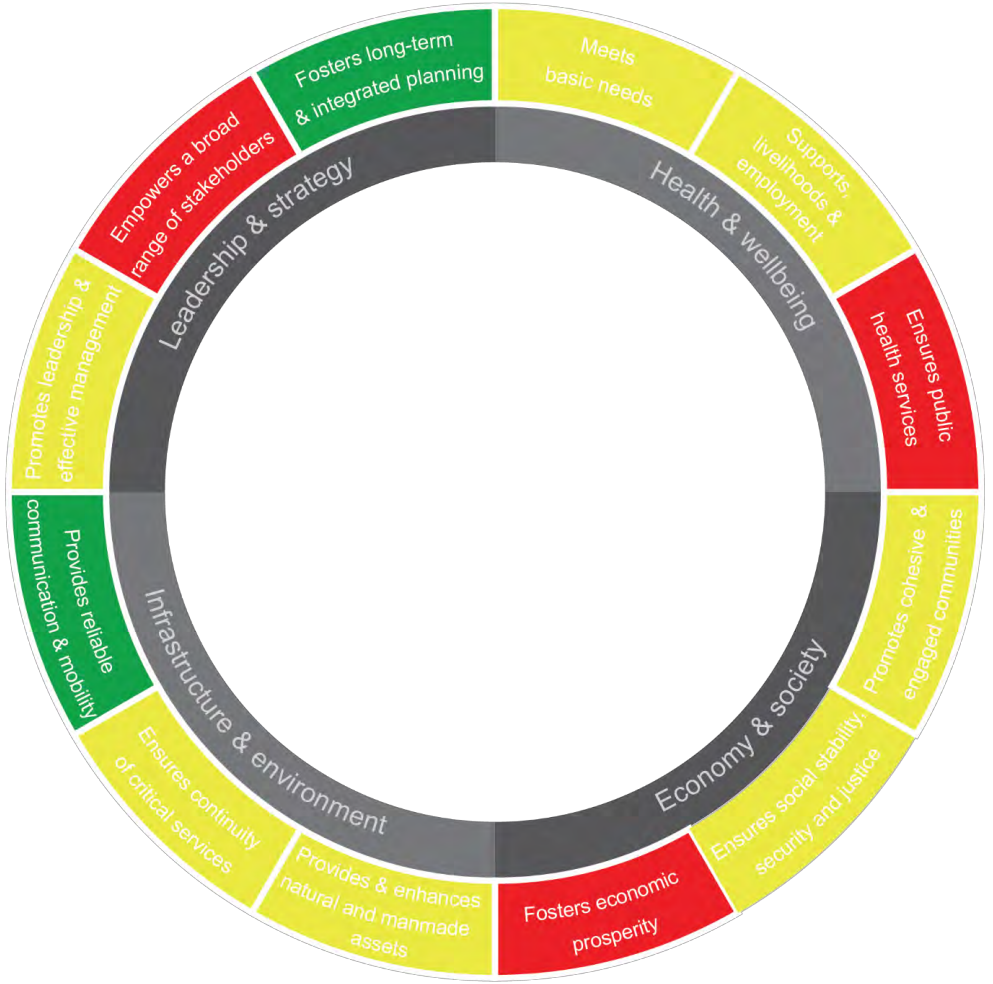


Medellín, Colombia

TODAY

LEGEND

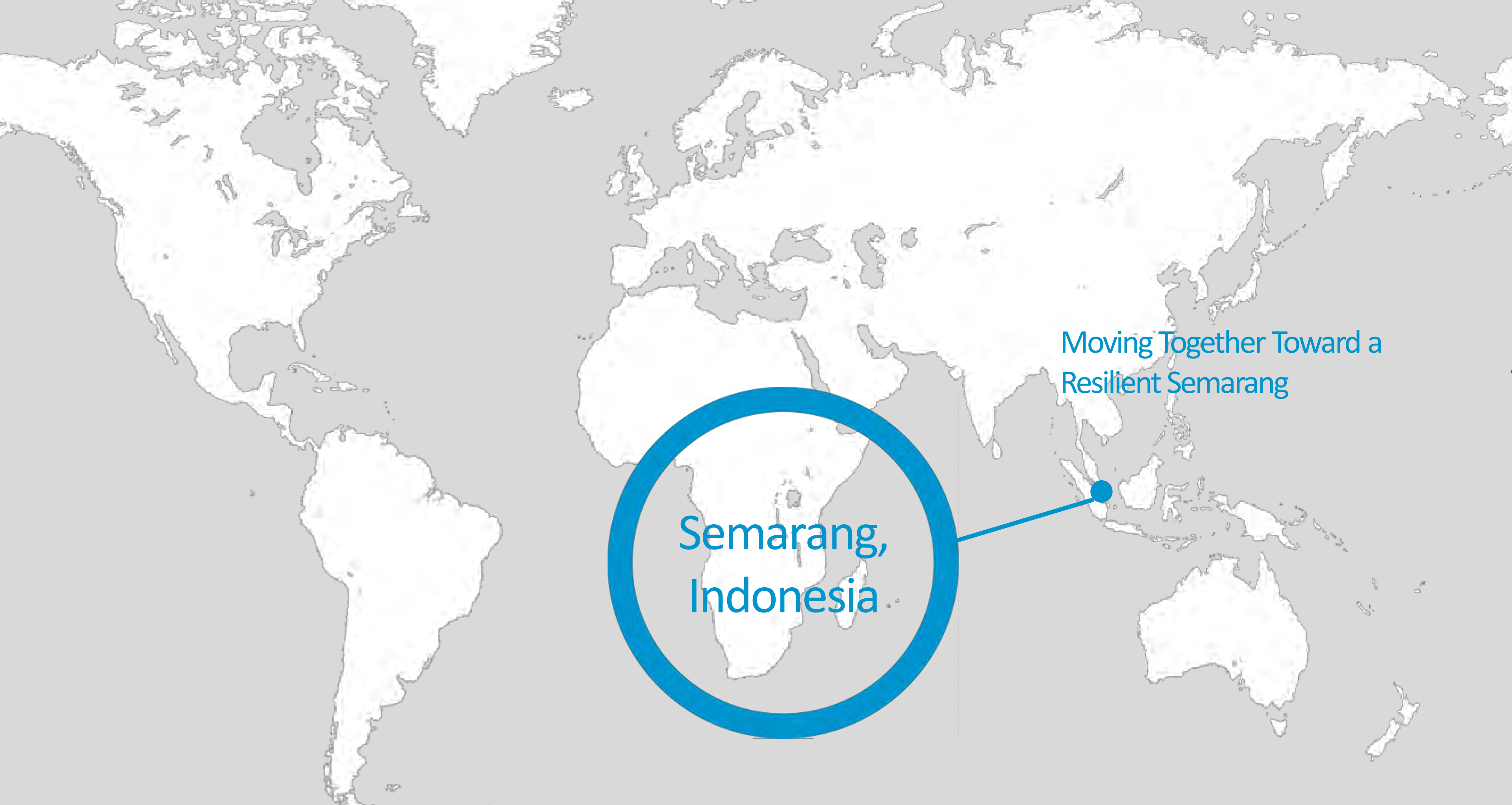
Good Fair Poor



REGIONAL MODULE:

100RC IMPACT

Moving Together Toward a Resilient Semarang



IGES – Public Transit Co-Benefit Analysis in Semarang

RESILIENCE CHALLENGE

What improvements can the City of Semarang make to its transport system that will reduce greenhouse gas (GHG) emissions and improve air quality?

THE SERVICE

IGES – Analysis of air quality and climate change co-benefits of transportation plans

IGES, in collaboration with the Asian Institute of Technology (AIT) and local researchers from Diponegoro University (UNDIP) worked with the city to develop a transport co-benefits action plan that helps Semarang implement transportation policies with significant co-benefits.

IGES – Public Transit Co-Benefit Analysis in Semarang

OUTCOMES

- IGES, AIT and UNDIP helped government officials collect data for an emissions inventory
- Using this data, the partners identified three emissions reduction scenarios and estimated the reductions in pollutants and GHG emissions:
  - modal shift improvement due to expansion of BRT Trans system
  - driving behavior (eco-driving) of BRT
  - introducing low emission vehicles for new corridors and revitalization of old fleets
- The results of the study were shared in a policy dialogue with policymakers and stakeholders, who selected one scenario for further study
- Policymakers are now considering the improving operations and expansion of BRT Trans Semarang to encourage more riders to take public transit
- Launched collaboration on a **set of guidelines to boost BRT ridership** with the Institute for Transport and Development Policy (ITDP)

NEW – Collaboration for emissions reductions across the 100RC Network: Semarang, Indonesia & Toyama, Japan

*Slide Courtesy of Institute of Global Environmental Strategies

Overview of City to City cooperation between Semarang City and Toyama City (Transportation)

【Overview of Semarang city】 Semarang City

challenges

- Population growth and urban sprawl
- Increasing energy consumption in transportation due to dependence on private vehicles
- Deterioration in air pollution

(Policies of Semarang)

【100RC】100 Resilient Cities
- Program by Rockefeller Foundation in the US to support improvement of city resilience
- Advocating establishment of "Resilient cities that endure and recover from various shocks and problems faced with cities like natural disaster, crime, and terrorism"
- Aiming to "Establish an Integrated transportation system" for improvement of city resilience

【BRT system expanding plan】
Increasing existing BRT lines from 4 to 8 to improve transporting capacity of public transportation
※Another research is planned to consider LRT introduction

【Infrastructure development plan】
Proclaiming development of LRT in "Integrated sustainable transportation system"

(National Transportation policies in Indonesia)

【Medium-speed railway plan】
- Plan to build medium-speed railway between Jakarta and Surabaya
- Intermediate station is expected in Semarang city as a core city in between.

※Similar to the case of Hokuriku Shinkansen; therefore, the experience of Toyama City will be useful.

Support for realization of plans in Semarang

Support for realization of policies of Indonesia

【Overview of support to Semarang city by Toyama city】

2013 2014

Establishment of city to city cooperation network through 100RC
- First elected in Indonesia (December, 2013)
- First elected in Japan (December, 2014)

Semarang City / Toyama City

2016

【Implemented・ongoing support】Support for Semarang city
- Semarang city formulated "City resilience strategy (CRS)" (May, 2016)
- IGES became a 100 RC platform partner of Semarang (May, 2016)
- IGES contracted MOU to support the low carbon society with Semarang city (May, 2016)
- Held a kick off seminar for above mentioned projects in Toyama City (July, 2016)
- Toyama RC Summit was held, attended by Chief Resilient Officer of Semarang city (November, 2016)

Semarang City / IGES / Toyama City

2017

Input by Toyama City/ Toyama LRT

Insights and experience in low carbon city transportation
- Build compact city focusing on public transportation
- Develop universal design in LRT
- Design structures consistent to users' needs
- Manage efficient operation schedule

Consensus built among stakeholders

Preliminary survey February/ April, 2017
- Collection of basic information
- Survey on needs of technology transfer
- Explanation on overview of JCM city to city project
- Preliminary adjustment with counterparts

Toyama City/ LRT / IGES / PCKK

【Project】 City to city project for realization of low carbon society (Ministry of Environment)(2017)

Support realization of the low carbon transportation system in Semarang city by utilizing knowledge of Toyama City about "creation of compact city focused on public transportation".

【Survey details】
a. Basic survey
(operation, passengers of each route, mileage)
b. Selection of route
(BRT Koridor I (Mangkang – Penggaron))
C. Planning the projects
(Improvement of BRT's operation efficiency/ Switching existing BRT to CNG fuel bus)

Semarang City ⇕ City to city cooperation / Toyama City / Toyama LRT Nihonkai Gas / IGES / PCKK

2018~

【Future project】 Switching from BRT to LRT
- Switch BRT route 1 to LRT for development of the low carbon transportation system in Semarang city
- Apply insights of Toyama City on "shifting to compact city focused on public transportation" and model shift to public transportation

Contribution to realize the low carbon and resilient society by horizontal expansion of best practice

IGES – Public Transit Co-Benefit Analysis in Semarang

BENEFITS

- Increase in public transit has multiple benefits, including reduction of traffic congestion, emissions reductions, improvement in air quality, and public health benefits
- Surveys sent to city departments, local drivers, and local communities built awareness of how to reduce emissions
- Workshop facilitated department buy-in from multiple agencies, who learned to share information
- Engagement increased interdepartmental coordination among the transportation department, the environment department, and BAPPEDA (regional development planning agency)
- Partner Network collaboration between IGES, Save the Children, and ETH Zurich
  - Save the Children shared information of what they learned in Semarang with IGES
  - IGES is helping ETH Zurich by sharing their data

IGES – Public Transit Co-Benefit Analysis in Semarang

NEXT STEPS

- IGES received funding to continue the study
- IGES is working with other Japanese NGOs to run an that awareness raising campaign promoting safe bicycling as well as taking the bus which asks students to write or draw a picture of what they **envision as sustainable and safe bus system with awards for most innovative ideas.**
- Will study modal shift improvement for Semarang's BRT system
- IGES will help the city simulate the expansion of the BRT system, and will analyze potential emissions reduction from increased public transit use
- Early 2018 – Semarang will host a consensus-building workshop with academics, NGOs, and government leaders to formalize buy-in and delivery of a policy recommendation


100 RESILIENT CITIES
Thank you