



Credits: Photos by Dominic Chavez/IFC, Izmir Metropolitan Municipality, and WRI Turkey

IFC'S IMPACT IN THE CITY OF IZMIR, TURKEY

FINDINGS FROM A CASE STUDY



**Sector Economics and
Development Impact**

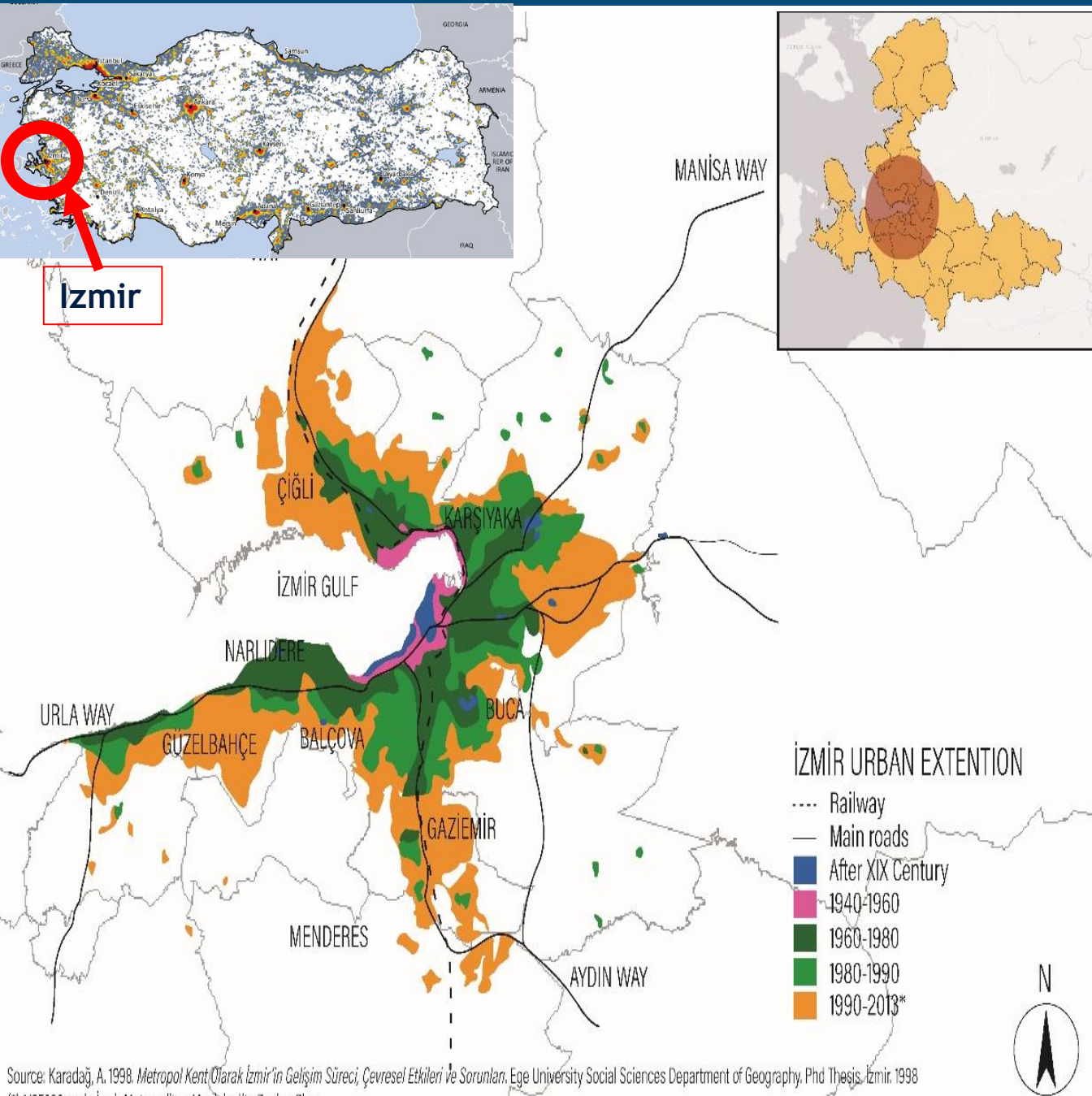


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SUSTAINABLE
CITIES

June 19, 2018

İZMİR CONTEXT – RAPID URBANIZATION



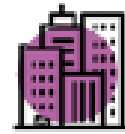
2nd fastest growing metropolitan area in 2015



4 million
population



45.3 %
employment rate



3rd
most developed
city in Turkey



91.4%
urbanization rate



Rapid growth is posing challenges:

Expanded boundaries,
sprawl, and migration

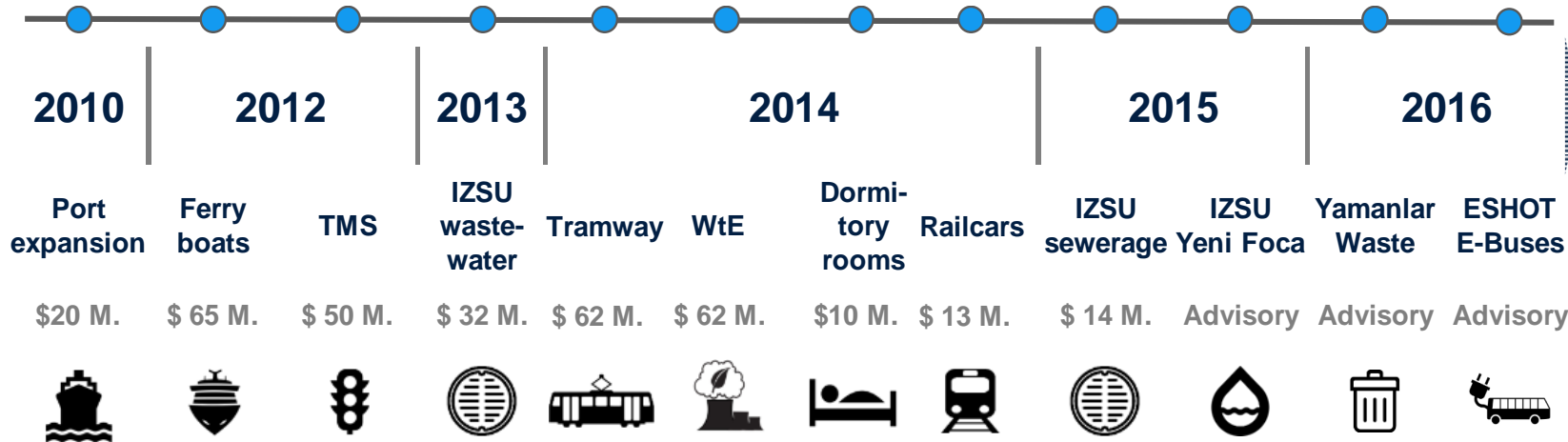
Congestion

Risk of pollution of
fragile ecosystems



MOTIVATION - CASE STUDY

IFC's partnership with Izmir spans over a decade



IFC role evolved from financing single transactions to become a trusted advisor.

Potential to inform future initiatives -> **looking forward assessment:**

1. Estimation of effects at the **city level** (not individual transactions)
2. Analysis of benefits from strategic engagement with the city

KEY TAKEAWAYS

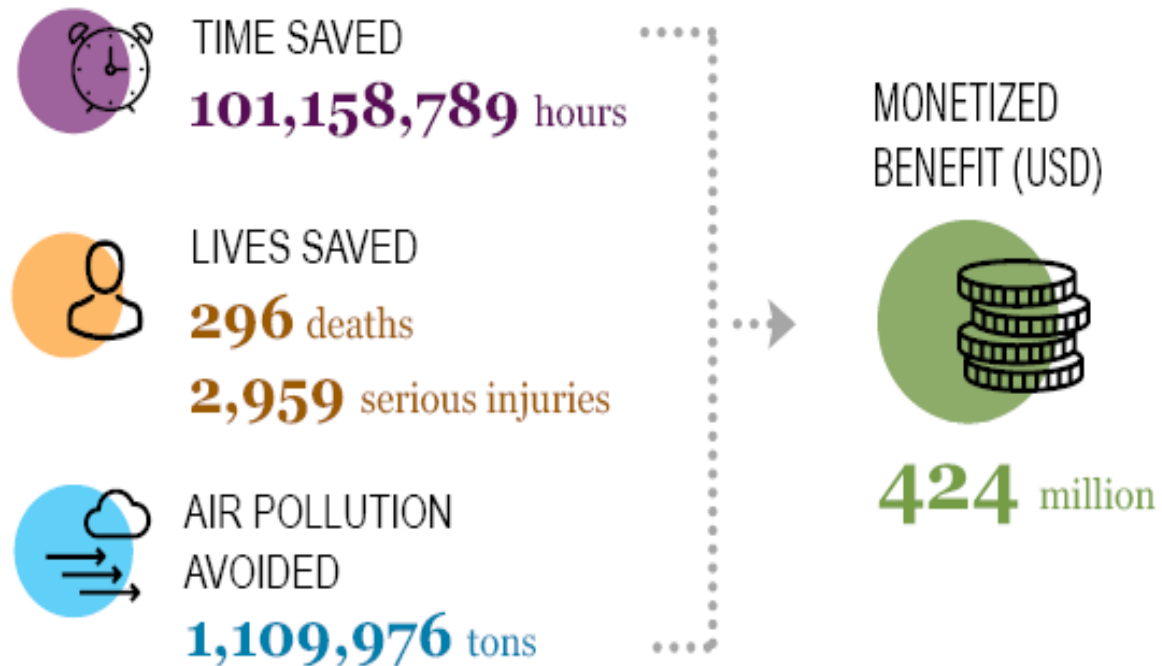


1. Investments leading to expanded transport network ops and integration -> **better urban mobility**.
2. Significant contribution to **increase accessibility to employment** at the city level, a precondition to enable agglomeration benefits.
3. Limitations: assessment of agglomeration effects constrained by data granularity.
4. Positive implications: city planning and monitoring of global commitments (notably SDG- 11)
5. IFC enabled Izsu (water utility) to test innovative solutions to reduce carbon footprint from waste water treatment plant operations -> demo **operationalization of circular economy concepts**
6. IFC engagement with both sub sovereign entities (IMM and Izsu) in line with **MFD -> catalyzing commercial financing**

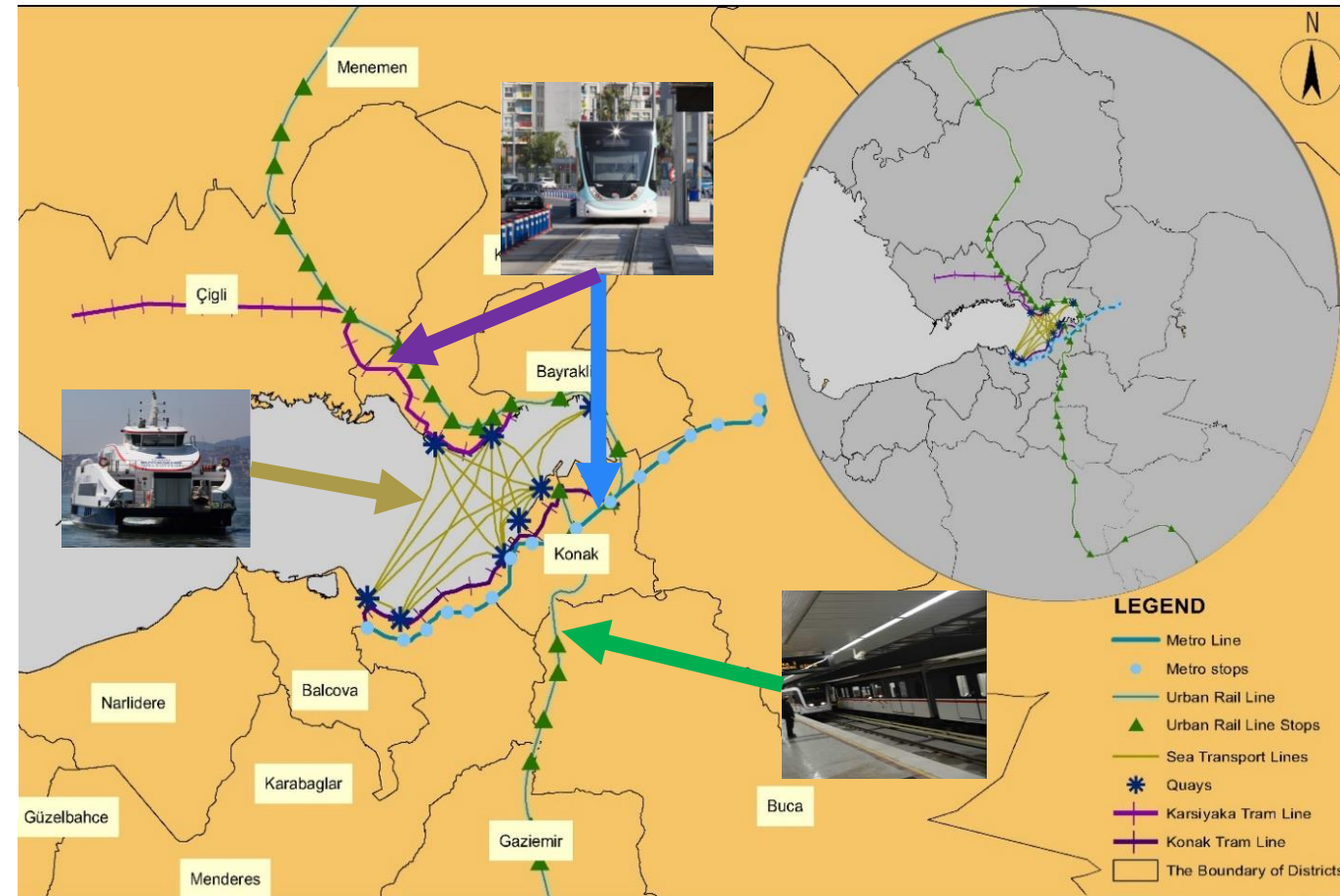
DIRECT IMPACTS – IMPROVED URBAN MOBILITY

IFC investments -> expanded transport operations and obtained synergies between transport modes -> improved urban mobility due to network effects

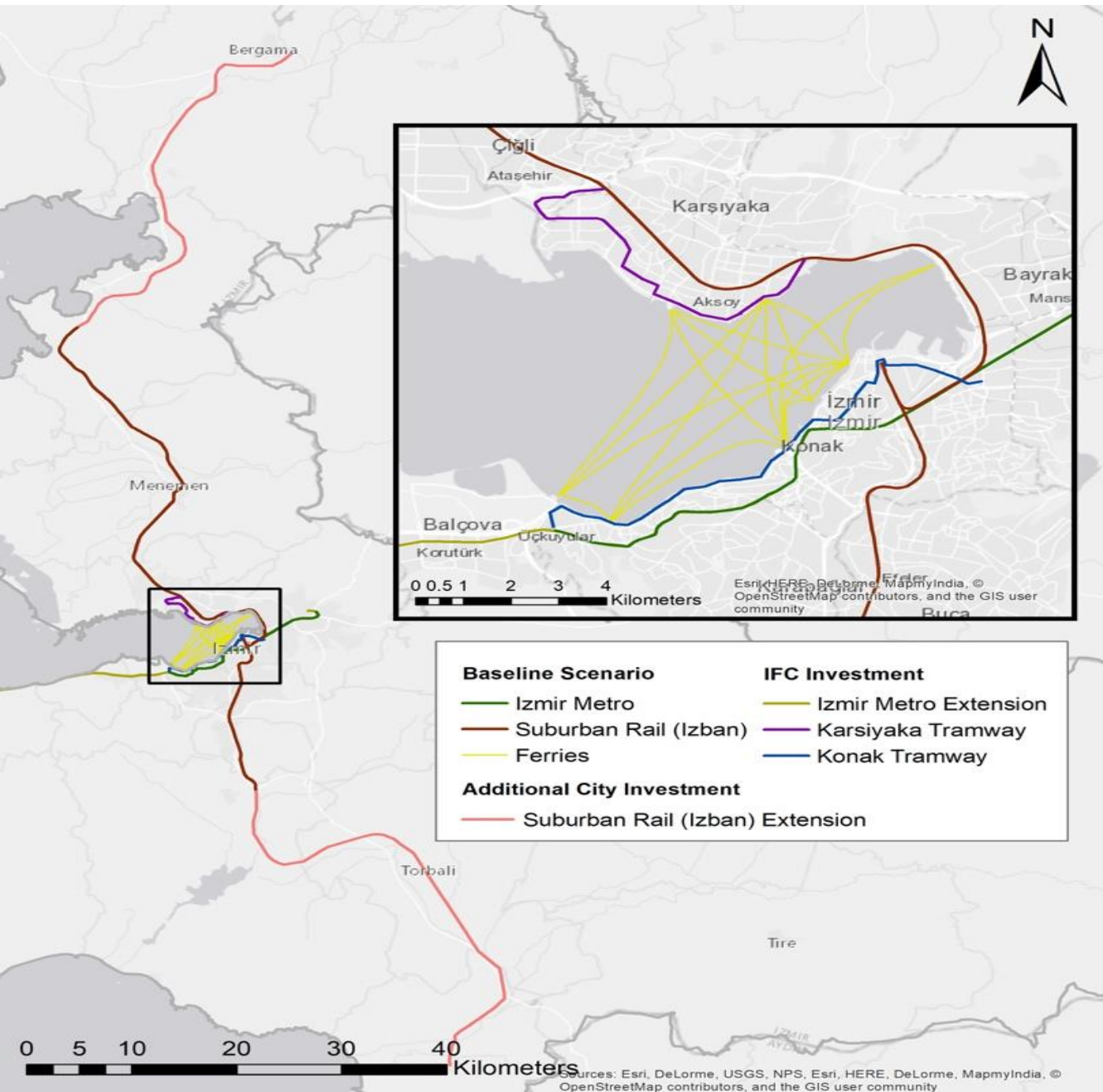
Benefits for Izmir citizens:



Izmir transport system



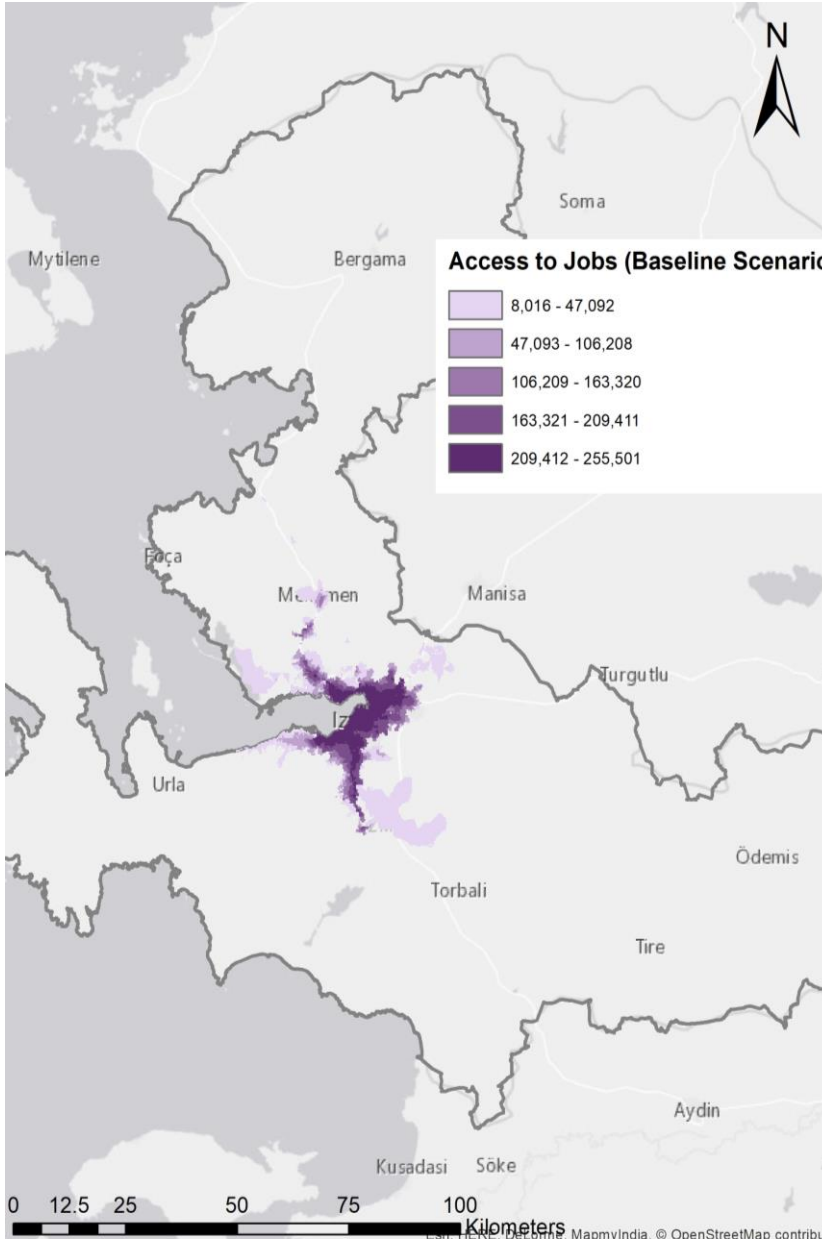
CITY WIDE IMPACTS – METHODOLOGY



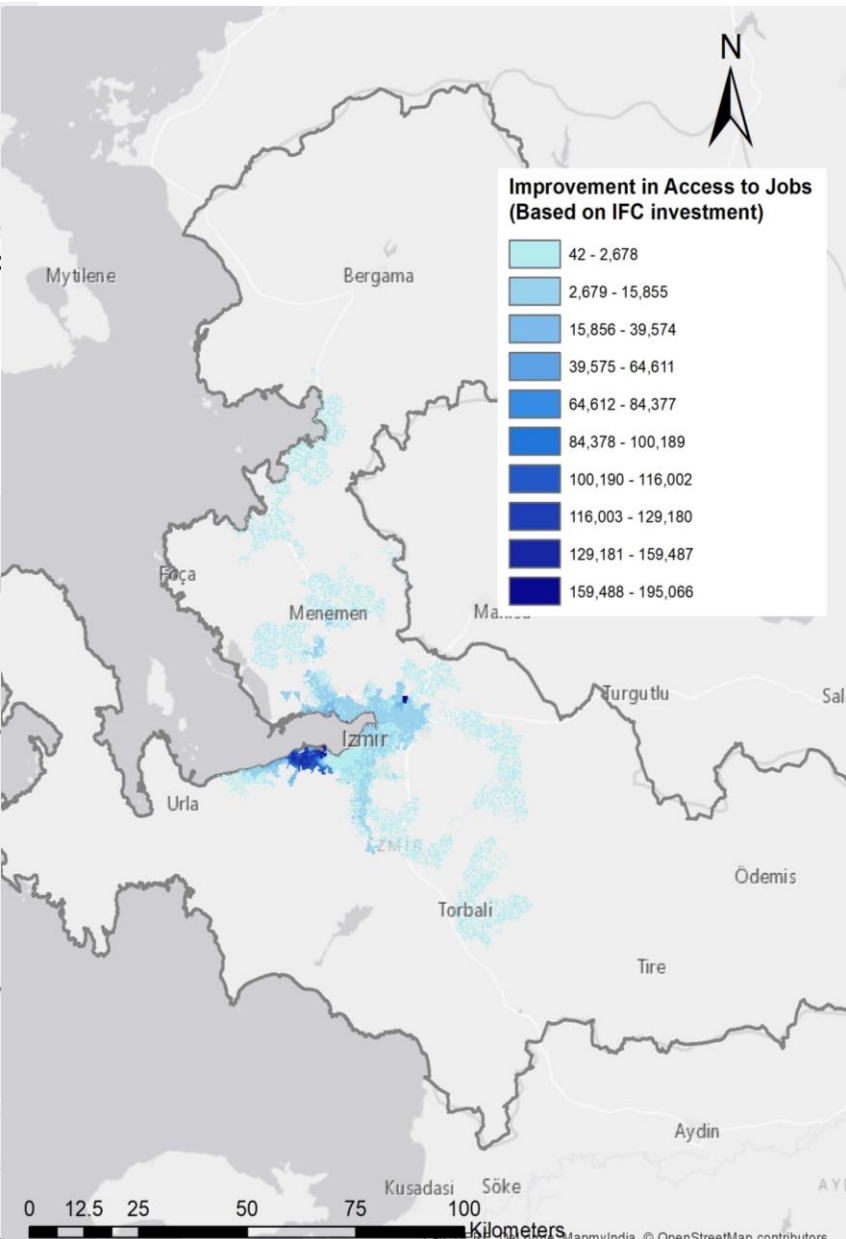
| Baseline Scenario 1 | IFC projects Scenario 2 | IFC + Other City Investments - 3 |
|--|--|---|
| Metro Line (Existing route) | Metro line + new extension (8 new stations) | Baseline + IFC |
| Izban (80km Existing route from Aliaga to Cumaovasi) | Same as baseline | Izban + new extensions to Bergama and to Selçuk + new direct services added from Aliaga to Tepekoy |
| Ferries (18 routes) | Baseline + added fleet | Baseline + IFC |
| | Tramways (Konak and Karsiyaka) | Same as IFC |
| Bus network (48 routes)** | Same as baseline | Same as baseline |

ACCESSIBILITY - CITY WIDE

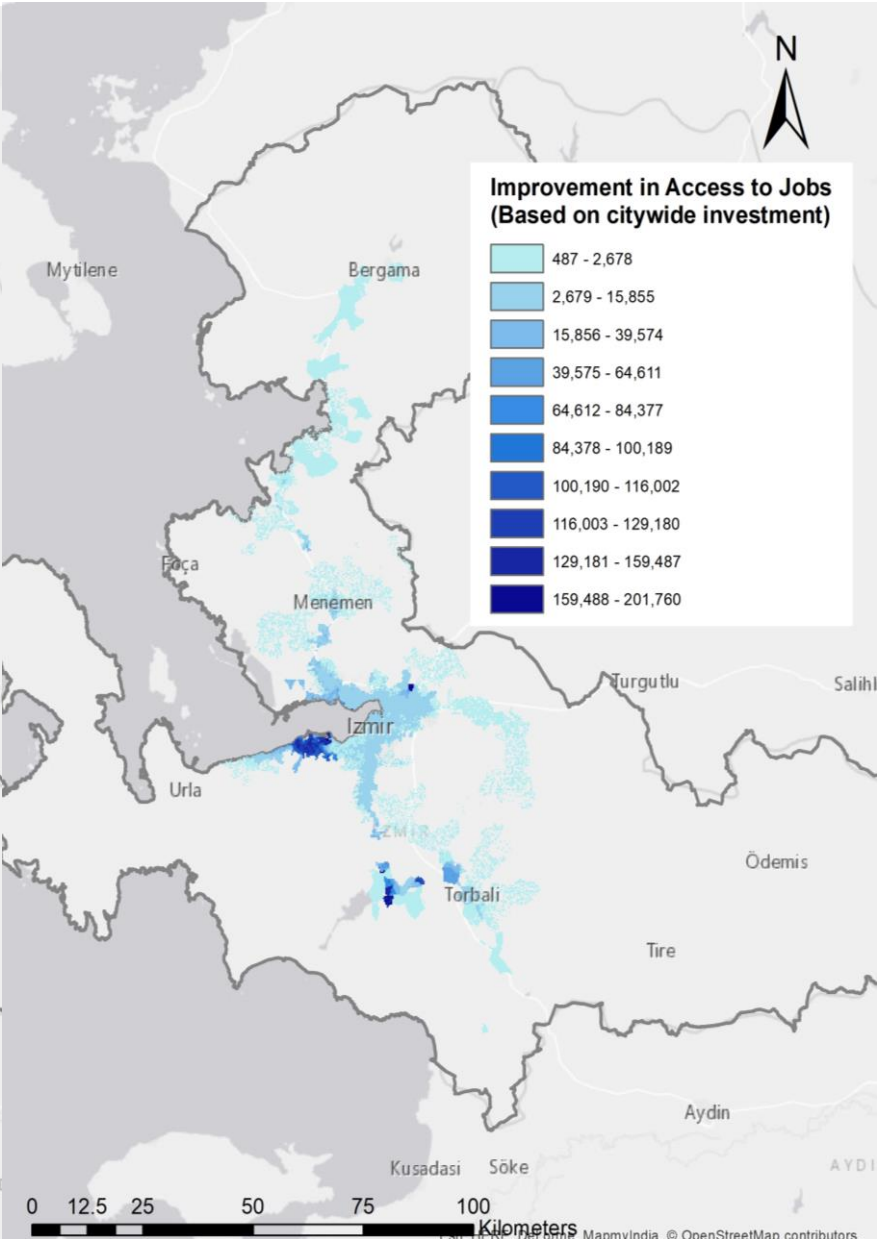
Baseline



IFC

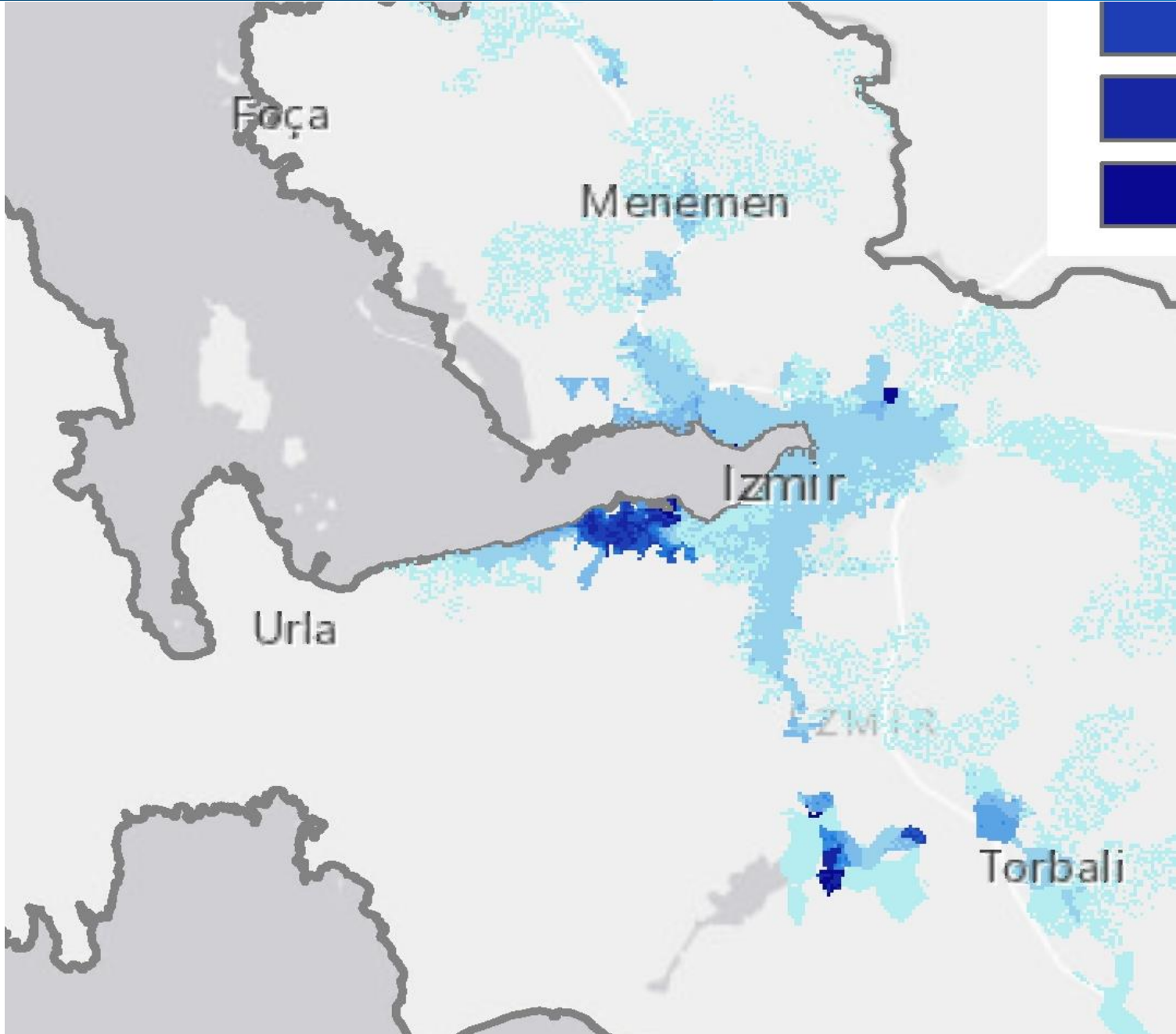
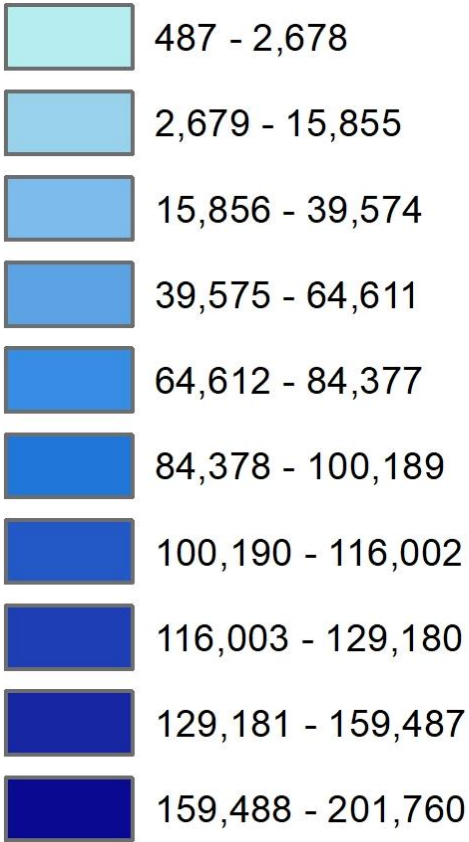


IFC + other investments



ACCESSIBILITY CITY WIDE

IFC + other investments Improvement in Access to Jobs (Based on citywide investment)



IFC projects contributed to increase by 4% the number of jobs accessible

- 5.7% increase -> service sector

| Bertaud indicator - Average job Accessibility | | |
|--|------------|------------|
| Measure | Scenario 1 | Scenario 3 |
| Number of jobs accessible to all residents within 60 mins | 79,239 | 84,555 |
| % of total jobs in the City that are accessible within 60 mins | 10% | 12% |

| Indicator | Izmir (Scenario 3) | New York Metro | Los Angeles Metro | Greater Buenos Aires | Greater Cairo |
|--|--------------------|----------------|-------------------|----------------------|---------------|
| % Total jobs accessible within 60 mins | 12% | 14% | 6% | 34% | 15% |

Positive results when compared with highly dense Cities with better infrastructure

IMPACTS FROM THE ENGAGEMENT WITH IZSU

- Introducing a case for operationalization of circular economy
- Replacement of septic tanks with municipal sewerage service & new wastewater plant in Yeni Foca district
- Expansion of the treatment capacity of Cigli wastewater treatment plant (WWTP)



Significant impacts on the fragile marine ecosystem
Protection of vital resources



Improved treatment standards according to EU requirements.



Innovative solutions to reduce the carbon footprint



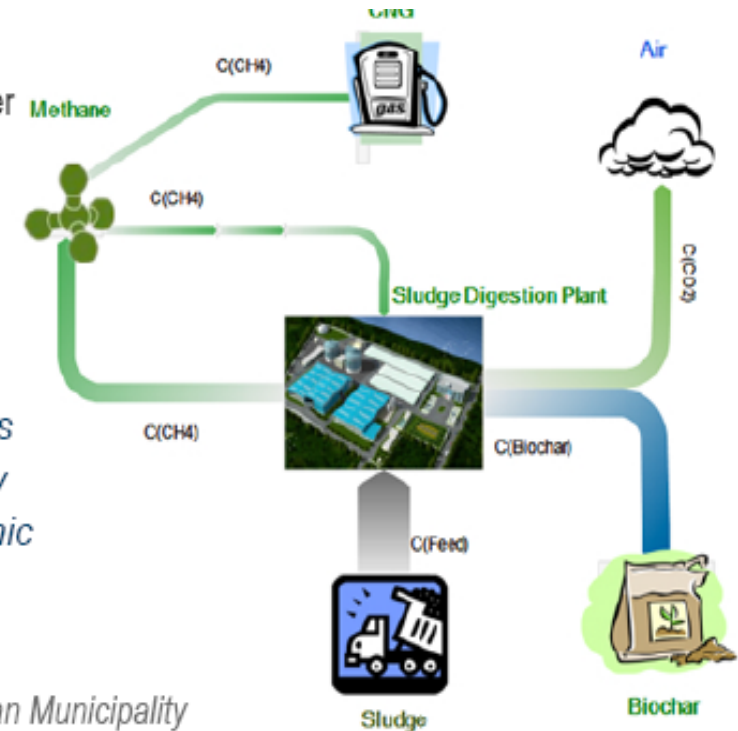
Improved sanitation



CIRCULAR ECONOMY and integrated urban water management

“IZSU and Izmir have gained valuable experiences in implementing circular economy based on the ongoing operations of drying sludge via solar energy and recycling nutrients via organic fertilizers.”

**IZSU is water utility of Izmir Metropolitan Municipality*



Four categories of additionality identified through IFC Engagement

1. **Financial risk mitigation** – access to long term commercial financing on attractive terms when others not willing to provide financing
2. **Non-financial risk mitigation** – risk comfort, facilitator role with new partners
3. **Knowledge and Innovation** – shared knowledge, improved fin risk management
4. **Standard setting:** better processes --> strengthened transparency and accountability

Piloting of MfD -> IMM access to commercial financing and testing of circular economy concepts by IZSU

- **Main benefit:** Validation to the Market that Izmir Municipality is a credible borrower without seeking recourse to sovereign guarantees.
- More collaboration between IFC and Izmir is necessary before market equity finance interest is generated.
- On Izmir's side, willingness to provide open access to urban services performance data is necessary for attracting private investor interest

KEY TAKEAWAYS

Key findings

1. Evidence of significant IFC contributions to city wide impacts:
 - a. 4% increase in number of accessible jobs, notably services.
 - b. A citizen in Izmir will reach 12% of available jobs, similar to other mega cities.
2. Limitations: agglomeration effects constrained by data granularity/access.
3. IFC enabled IZSU (water utility) to test innovative solutions to reduce carbon footprint -> demo circular economy concepts



Lessons learned on methodology

1. Tool -> simple and leverages digital, open, and standardized data (Open street map, GTFS) – challenges to get data when ownership is not well defined.
2. Method -> Bertraud indicators useful to measure city wide effects.

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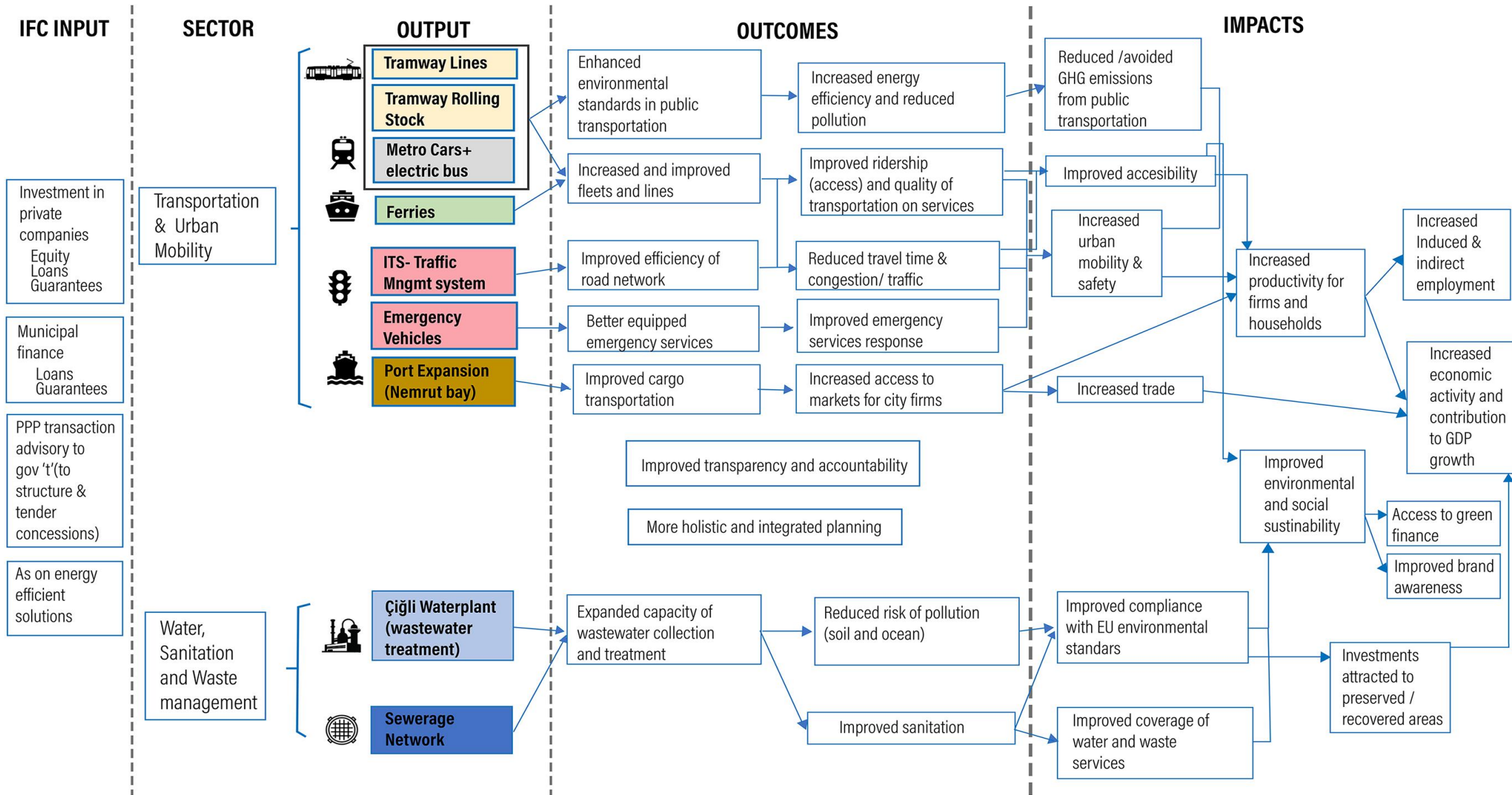
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WRI Ross Center for Sustainable Cities: Vijay Jagannathan, Robin King



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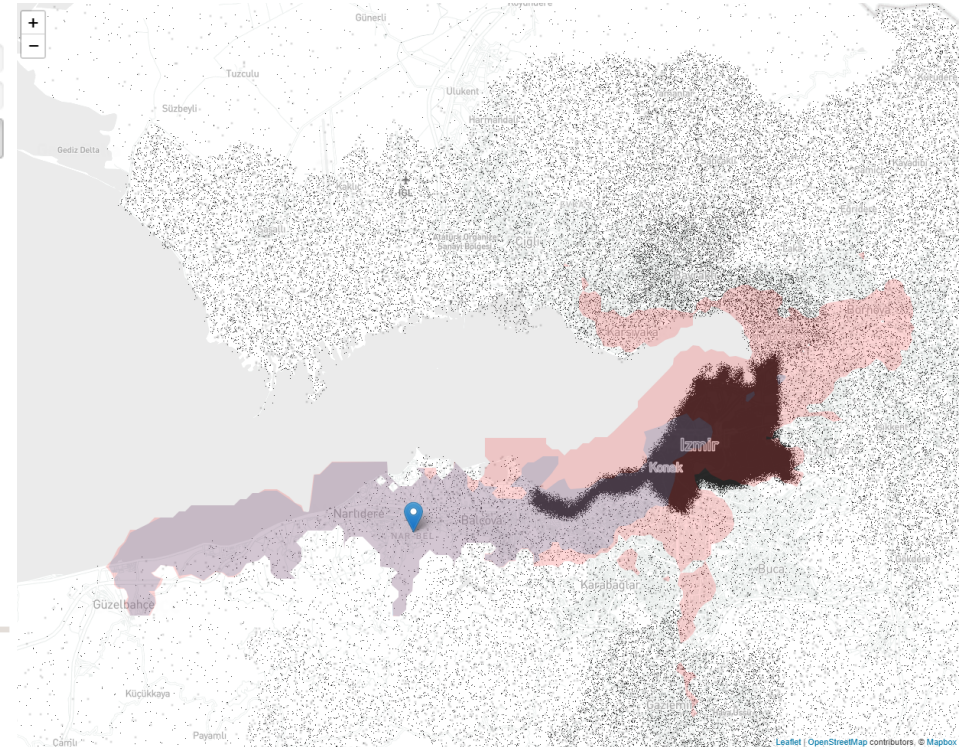
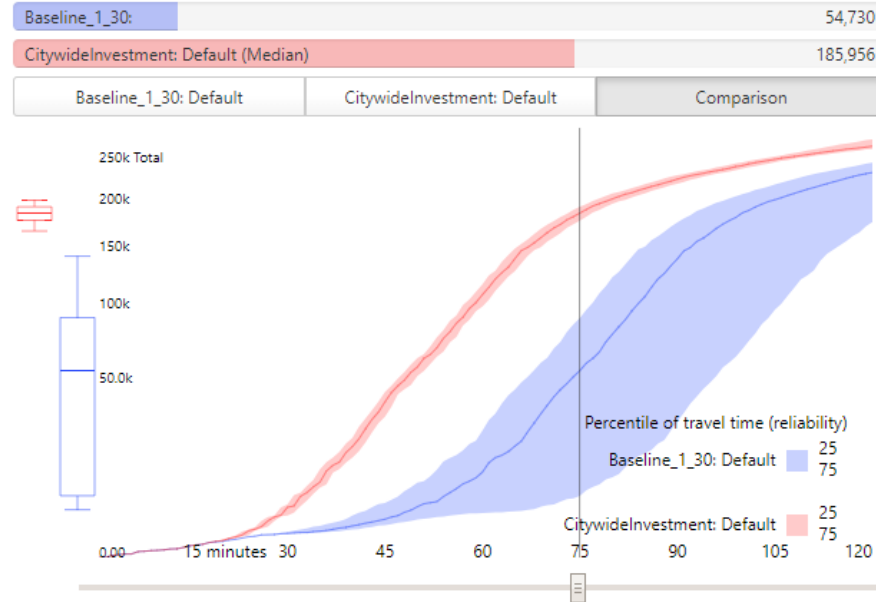
ANNEX 1 – THEORY OF CHANGE



ACCESSIBILITY ANALYSIS FOR IZMIR

Changes in job accessibility within an area near the Konak tram and Metro extension, within 75 minutes

Aggregate accessibility to **Total** within 75 minutes



The table and map display dramatic improvements in job accessibility within an area near the Konak tram and Metro extension between Scenarios 1 and 3 within a 75 minute travel time window

ACCESSIBILITY BY EMPLOYMENT SECTORS

| Population-weighted Average Accessibility to Jobs within 75 mins | | | |
|--|--------------------------------|---------------|----------|
| | Agriculture/ Natural Resources | Manufacturing | Services |
| Scenario 1 | 769 | 24,507 | 88,419 |
| Scenario 3 | 801 | 25,708 | 92,990 |
| % Increase between the two scenarios | 4.16% | 4.90% | 5.17% |

