

# Karachi Bus Rapid Transit Red Line Project





# Karachi BRT: Integrated Urban Transformation

**Urban  
transport**



**Third-generation  
BRT**

**Climate  
resilience**



**Bioswales**

**Environmental  
sustainability**



**Air and noise  
quality**

**Social  
sustainability**



**Community  
development**

**Energy**



**Biogas energy  
plant**

**Urban  
agriculture**



**Community  
farming**

**Historical  
restoration**



**Building  
restoration**



**Non-motorized  
transport**



**Permeable  
pavements**



**Waste  
management**



**Gender  
mainstreaming**



**Energy efficiency**



**Circular economy  
water recycling**



**City center  
revitalization**



**Transit-oriented  
development**



**Integrated utility  
relocation**



**Ocean cleaning**



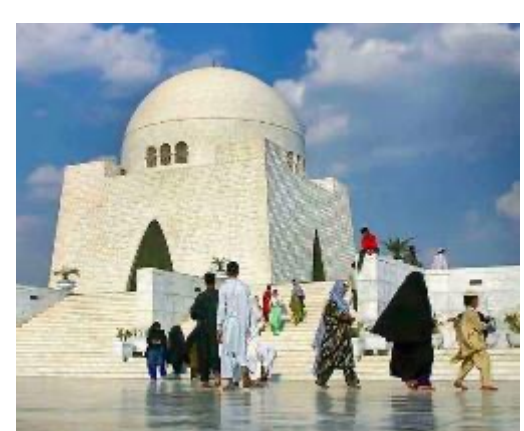
**Universal  
accessibility**



**Electric feeder  
vehicles**



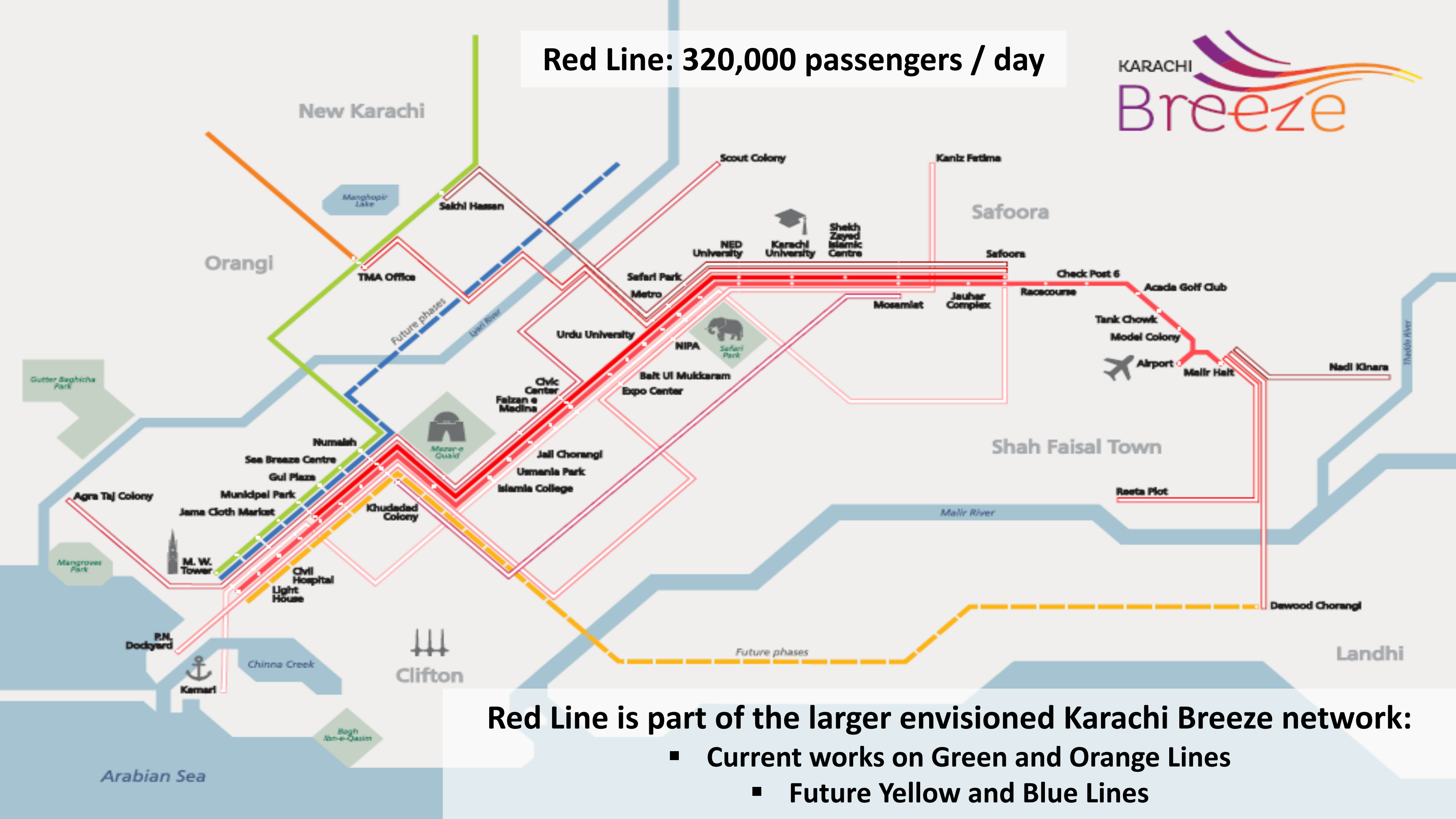
**Compost  
production**



**Tourism  
promotion**



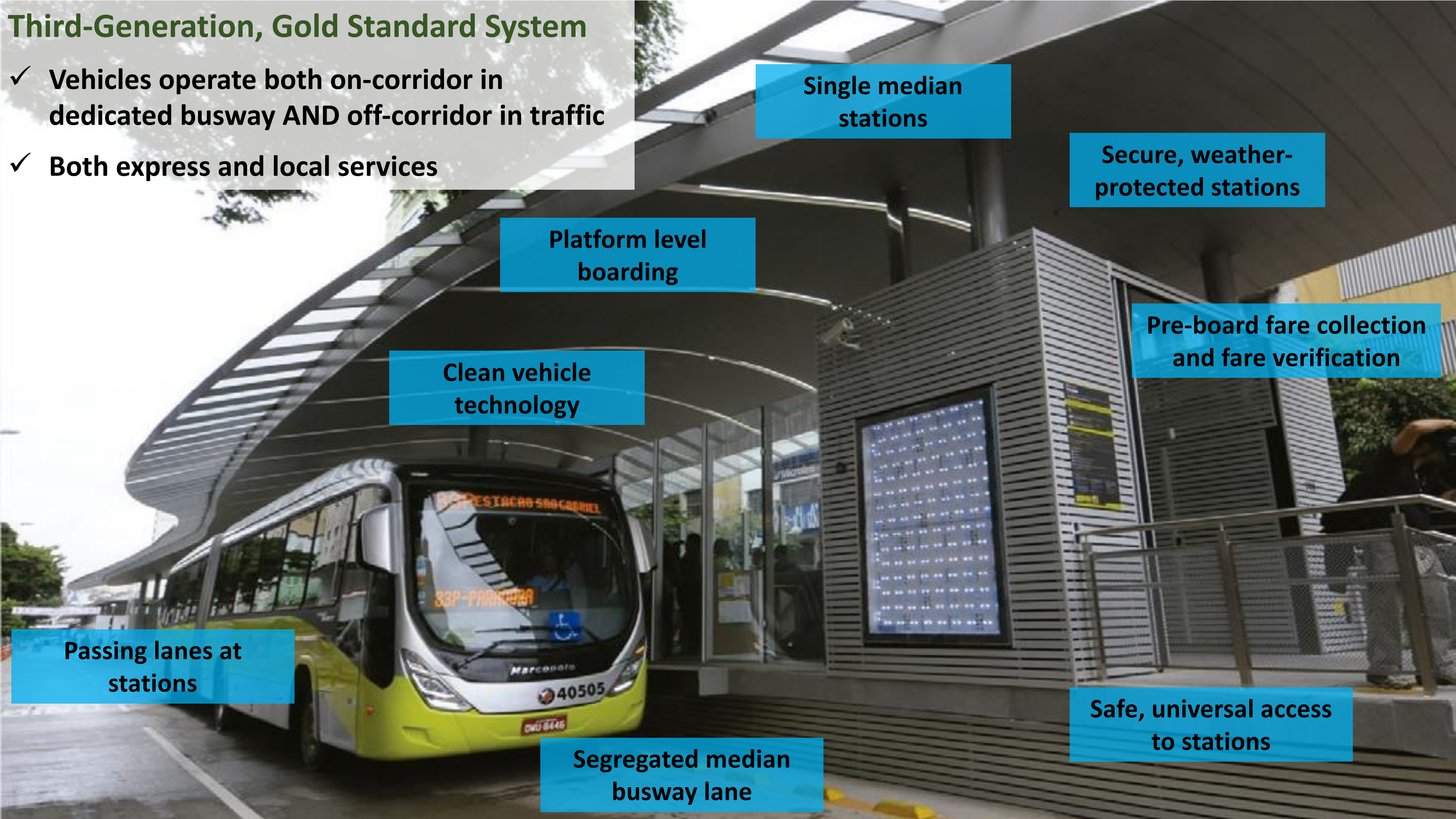
**Red Line: 320,000 passengers / day**



## Red Line is part of the larger envisioned Karachi Breeze network:

- **Current works on Green and Orange Lines**
  - **Future Yellow and Blue Lines**





# Third-Generation, Gold Standard System

- ✓ Vehicles operate both on-corridor in dedicated busway AND off-corridor in traffic
- ✓ Both express and local services

Single median stations

Secure, weather-protected stations

Platform level boarding

Clean vehicle technology

Pre-board fare collection and fare verification

Passing lanes at stations

Segregated median busway lane

Safe, universal access to stations



# Security for women: Women's only sections in station and vehicle







**System will be fully universally accessible to all**





**Clean Vehicle Technology**





**Behn's Colony Karachi**  
400,000 cattle raised in dense urban area





## **Impact on the Local Community and Environment**

**3,500 tons of animal dung disposed each day onto local streets  
50,000 tons of freshwater used each day to wash away the waste**





**Cattle waste and other waste streams have  
made Karachi Bay biologically dead**





**This city in Pakistan has an  
innovative new way of  
powering its buses**







**GREEN  
CLIMATE  
FUND**

**[www.greenclimate.fund](http://www.greenclimate.fund)**

**Waste-to-fuel component supported by  
funding Green Climate Fund (including  
\$12 million in grant)**

**First transport project world-wide to be  
awarded funding from the GCF**

**Project has direct GHG reduction impact of  
2.6 MtCO<sub>2e</sub> over 30 years**





# Lifecycle Financial Modelling Results for Red Line by Technology

	Diesel (at current market price)	Diesel Plug-in Hybrid (at current market price)	CNG (at current market price)	CNG hybrid (Biomethane from cattle waste)
Net cash flow (2021) (PKR million)	(1,521)	(829)	(432)	517

**Biomethane is the only option that results in a positive net cash flow for the Karachi BRT system**



# **Circular economy:** **Using biogas wastewater for community farming in Behn's Colony**





# ***Transforming Karachi with Resilient Solutions***

