

## Project Objectives

Create the first metro rail system in Luoyang city in Henan Province.

## Country Context

- Average **growth rate of 9%** since 1978.
- Unprecedented urbanisation due to economic growth and rising living standards.
- High demand for rail transit networks.
- China has developed the **world's largest metro systems**.

## Impact



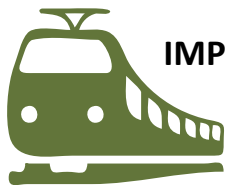
Reduced traffic congestion



Improved connectivity



Increased productivity



IMPACT



Technologically innovative



Reduced carbon emissions and pollution



Led to energy efficiency



Boosted tourism

## Program Highlights

Total cost: **USD 2.77 billion**

NDB loan: **USD 300 million**  
for equipment purchase and installation

Project Timeline: **2018-2021**

Commercial Banks: **USD 1,311 million**

People's Government of Luoyang:  
**USD 1,164 million**

**Luoyang Metro Line 1**  
is the first phase of the urban transport system

Length: **25.342 km with 19 stations**

Built institutional capacity to operate and maintain the system

Traffic volume between January and August 2023:  
**133.28 million person-km**

Metro's share in motorised travel:  
**11.65% (194.2% of the target)**

Metro's share in public transportation:  
**24.13% (202.1% of the target)\***

Around **35% energy savings**  
through energy efficient air conditioning system.

Carbon emission reductions:  
**32,843.6 tons per year**

Passenger satisfaction:  
**98.17% in 2022**

\*Metro's share in motorised travel and public transportation as in 2022.

## Project Performance

- Completion: **Nine months before the original date**
- Loan approval to financing agreement: **Less than three months**
- Project cost: **1% less than the initial budget**
- **15 national awards** for innovation and technical aspects
- First metro line in Henan province with **facilities for nursing mothers**
- An effective system for compensation of displaced households

## Areas for Improvement



Quality of the design and monitoring frameworks



Monitoring and evaluation activities and timelines



Supervision processes



Knowledge management, communication, and outreach



NDB staff continuity

## Recommendations

Strengthen NDB-financed project evaluability for assessing results, generating lessons and promoting greater impact and sustainability.

Ensure a sharper focus on the extent to which NDB investments lead to the adaptation of green and climate-resilient technologies and innovations.

In designing new projects, sufficient attention should be given to ensure the design document adequately reflects the added value of NDB financing.

Strengthen the supervision processes to assess emerging insights to enhance impact.

Prepare and disseminate knowledge products for sharing lessons with a wider audience.

## Timeline

Luoyang Comprehensive Traffic Plan (2010-2020)		2009
City Master Plan (2011-2020)		2010
NDRC Approval		2010
Luoyang Metro Company Established		2016
Construction Survey		2017
Construction Permission	March	2018
NDB Approval	July 20	2018
Project Agreement Signed		2018
NDB Loan Effectiveness	Oct 15	2018
Completion of Physical Works	Jun 26	2019
NDB Equipment Purchase Initiation		2019
Trial Operation	Dec 1	2020
Completion Acceptance	Mar 8	2021
Initial Operation	Mar 28	2021
First NDB Review Mission	Apr 21	2021
NDB E&S Monitoring	Jun 21	2021
Virtual Mission	Apr 27	2022
Loan Closing	Aug 16	★ 2022

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