



New  
Development  
Bank

INDEPENDENT EVALUATION OFFICE

People's Republic of China  
LUOYANG  
METRO PROJECT

# PROJECT PERFORMANCE EVALUATION

EXECUTIVE SUMMARY IN ENGLISH AND CHINESE

DECEMBER 2023

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# EXECUTIVE SUMMARY

## A. Background and Context

1. The Luoyang Metro Project, supported by a sovereign loan from the New Development Bank (NDB), is the first project evaluated by the Independent Evaluation Office (IEO) in the People's Republic of China.
2. The project was designed to launch the first metro line in Luoyang City in the Henan Province. The provincial Government recognised the urgent need to create a sustainable and integrated urban transport system in Luoyang and developed a four-phase strategy. Metro Line 1 is part of the first phase of this plan.
3. As a thousand-year-old ancient city, Luoyang has a rich historical and cultural heritage and has been the capital of 13 Chinese dynasties. Luoyang meets the criteria established by the Government for prioritising its urban transport system due to its population size, economic development, and fiscal profile. The city is also a rapidly growing metropolis with sites that attract a large number of tourists every year.

## B. Project Design

4. The project was designed to construct a total length of about 22.34 km and 18 underground stations connected by tunnels and two above-ground depots for maintenance at the two ends of the line. The length of the metro line was enhanced, and another station was added subsequently to increase the system's efficiency.
5. On August 16, 2018, the NDB Board of Directors (BoD) approved the loan for the project, which involves NDB financing of USD 300 million, representing 10.8% of the total cost of the Luoyang Metro Line 1 (LML1), estimated at USD 2,775.7 million. The co-financiers included commercial banks (USD 1,311 million) and funding from the People's Government of Luoyang (USD 1,164 million).
6. The NDB loan proceeds were to finance the purchase and installation of equipment for Line 1 under Project Component 2. The procurement of goods, works, and services to be funded by the NDB loan for the project was mandated to comply with the Chinese country systems and NDB's procurement policy.
7. The NDB loan was expected to be disbursed over a five-year period from 2018 to 2022. The loan proceeds were on-lent to the People's Government of Henan Province for financing the project. The project implementation was the overall responsibility of the Luoyang Rail Transportation Co. Ltd. (LRTC), also known as Luoyang Metro Group Company, assigned as the Project Implementation Agency (PIA).
8. The project was expected to improve Luoyang's infrastructure and connectivity, positively impacting the city's economic growth, productivity, and the environment. Travel conditions were expected to improve with an alternative and more time-efficient way to travel. Road congestion was expected to ease, and emissions were also projected to be reduced.

## C. Evaluation Methodology and Process

9. The methodology for this evaluation entailed the use of internationally recognised evaluation criteria adopted by the Evaluation Cooperation Group of the Multilateral Development Banks but duly tailored to the NDB context. The criteria that provided the framework for assessing project performance included the following: relevance, effectiveness, efficiency, impact, and sustainability. In addition, IEO assessed the performance of NDB and borrower, respectively.

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10. The evaluation used mixed methods for data collection and analysis, including a review of secondary data, site visits, and interviews with key implementing agencies, especially the LRTC, customers, resettled households, employees, collaborating institutions, NDB staff, and others. The IEO evaluation team met more than 200 people representing various stakeholders, implementing partners at various tiers of government, as well as private sector and research and academic institutions involved in the design and implementation of the project.
  11. The IEO evaluation team visited the Luoyang Metro project and its main facilities, such as the control room, the air-conditioning room in one of the subway stations, the maintenance depot, the training facilities, and the Metro Line 1 as well as the transfer station between Line 1 and the recently completed Line 2. This gave IEO the opportunity to assess first-hand the infrastructure and systems put in place.
  12. The draft evaluation approach paper and the evaluation report were shared with NDB management and the borrower for comments. The comments have been included in the report. A final stakeholders' workshop is planned in Beijing in January 2024 to discuss the evaluation results and lessons learned.

## D. Evaluation Findings: Project Performance

### 13. Overall Project Achievement: *Successful*.

Overall, the project has been rated as successful as it was completed before the original completion date, incorporated notable innovative and energy-efficient aspects, and was implemented with due consideration to social and environmental safeguards. LML1 has received 15 awards for its innovation and technical aspects at the national level. A high degree of customer satisfaction has been assessed through both third-party surveys and direct interviews.

14. The completed length of the metro line exceeded the plans and is 25.342 km, with 19 stations and two underground facilities for train servicing and maintenance at either end. The project entailed not only the physical construction of the underground tunnels and subways in a heritage site in a congested part of the city but also putting in place an elaborate institutional infrastructure, which now employs 2,613 regular staff in LRTC and provides many other employment opportunities to handle each aspect of the operations, including safety, security, ticketing, maintenance, and repair of the system. The project also took an innovative approach to developing digital applications for use by customers and back-end support. There are, however, some aspects of the project that could have been given greater attention, such as monitoring and evaluation (M&E), knowledge management, and supervision.

### 15. Relevance: *Successful*.

The project is fully aligned with the policies and strategies of the Government of China and NDB, as well as the needs of citizens. The project has made a major contribution to expanding the city's green and sustainable transport facilities. The project's development objectives were consistent with the Luoyang Master Urban Plan 2011-2020, which was approved by the State Council, demonstrating high alignment with government priorities. The project design is also in line with the NDB General Strategy 2017-2021, as sustainable infrastructure has been an NDB priority due to its vital importance to economic growth and high demand in BRICS countries and other emerging markets and developing countries. However, the quality of the Design and Monitoring Framework (DMF) was mixed, and some project targets were over-ambitious.

### 16. Effectiveness: *Successful*.

NDB funds were utilised effectively for planned project activities (i.e., the purchase and installation of equipment). The share of metro in motorised travel (SMMT) achieved 11.65% in 2022, about 194.2% of the target set at design. Similarly, the target set for the share of the metro in public transportation (SMPT) was 24.13% in 2022, which is 202.1% of the target set in the DMF. The rate of passenger level of satisfaction reached 98.17% in 2022, exceeding the target of 97% set at project appraisal. The passenger flow intensity (PFI) and average travel time savings (ATTS) have been much lower than the targets, mainly due to travel restrictions during the COVID-19

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pandemic between 2020-2022 and the fact that the three-year passenger cultivation period usually required for citizens to get used to new transportation options made available has not yet been crossed.

**17. Efficiency:** *Highly Successful.*

The metro project was delivered nine months before the original completion date. The disbursement rate reached 100% within the timeframe specified in the loan agreement. The period between the loan approval and effectiveness of the financing agreement was less than three months. During project implementation, 21 procurement contracts were issued between February 2019 and September 2020. The economic benefits are also positive. The re-evaluated Economic Internal Rate of Return (EIRR) is 11.11%, and Economic Net Present Value (ENPV) is CNY 8,382 million - while the Economic Internal Rate of Return is slightly less than the estimation in the project design document (original estimated Economic Internal Rate of Return at 11.15%) - the ENPV is significantly higher than that at design (original estimated ENPV 1,813 million).

**18. Impact:** *Highly Successful.*

Overall, the project impact is considered positive based on the results achieved within a short period after the completion, notwithstanding the negative fall-out of COVID-19-related factors. The project demonstrated innovative features in terms of its investments in energy efficiency, information technology, operation and maintenance (O&M) systems, customer orientation and satisfaction, and personnel recruitment, management, training, and retention. Although it would take time to fully assess the extent to which the development impact has been achieved, some evidence of emerging impact was observed from an economic and institutional perspective during this evaluation. Indeed, the project has achieved its main objective of a modern and efficient transport system for the city, which will facilitate economic growth and development.

**19. Sustainability:** *Successful.*

Various elements of sustainability, such as technical operations, financial sustainability, and environmental sustainability, were examined. The project is technically sustainable in terms of the technical capacity of the staff and compliance with technical standards of safety and environmental safeguards. The project cannot currently sustain itself through the revenues it generates, but there is a strong government commitment to subsidise the operations until required. LRTC is also developing revenue generation opportunities from the sale of retail space and advertisements and expects an increase in ticket sales from the growing tourist traffic, especially during the holiday and festival seasons.

**20. NDB's Performance:** *Moderately Successful.*

Given that this was among the initial projects approved by the NDB in China and considering the Bank's limited staff capacity at the time, weaknesses in project design and supervision, to some extent, constrained the achievement of even more significant project results. The frequent turnover of the designated NDB staff for this project limited the Bank's oversight and intervention during implementation (e.g., in terms of needed adjustments to DMF indicators and targets). The NDB played a minimal role in the technical aspects of project design since the project commenced implementation before the NDB financing was approved by the BoD. NDB maintained a very light-touch role in supervision and conducted only one physical supervision mission during project implementation and three missions after the project was completed in March 2021. NDB has not undertaken any mid-term review (MTR) of the project and has yet to produce the project completion report (PCR). While NDB reviewed the procurement documents routinely and focused on the environmental and social safeguards aspects, it did not provide a record of any significant technical backstopping or review of the monitoring or evaluation systems it may have undertaken.

21. NDB's approach reflected its high reliance on country systems in China. In the case of the project, considerable reliance was placed on the well-developed technical capacity of the country and its strong regulatory systems in place. The NDB Operations staff provided flexibility and timely support in processing loan withdrawals and reimbursement applications, which was important

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to ensure that project activities could be undertaken as planned. However, NDB did not invest much in documenting and sharing lessons and knowledge from this successful operation.

**22. Borrower Performance: *Highly Successful.***

The performance of the various tiers of government is rated as highly successful. As this was the first metro line in Luoyang City, the Provincial and Municipal governments and the LRTC paid significant attention to it, and concerned government departments actively cooperated with the project. The performance of the LRTC was particularly successful, which ensured the readiness of the project implementation (e.g., recruitment and training of staff before the project start-up, mobilising technical support from experienced cities), the on-track implementation, and even early completion of project activities, and compliance with policies to ensure safety and quality. The key challenges, such as land acquisition and demolition, municipal pipeline relocation and reconstruction, and connection with utility services such as water and electricity, were facilitated in a well-coordinated and efficient manner. The Henan Provincial Finance Department managed the designated account and processed the loan withdrawals and reimbursement applications in a timely and efficient manner. The Ministry of Finance in Beijing provided the needed support and broader oversight.

## E. Conclusions

23. The story of the LML1 project is one of significant success. The Luoyang Metro achievements are not just confined to the construction of a state-of-the-art metro line in record time, but more importantly, it is a story of how a mammoth institutional and operational structure was created from scratch to ensure the safe and efficient management of the system. LRTC has incorporated energy efficiency and technical innovations, introduced very compassionate principles of customer care,<sup>1</sup> resettlement and compensation of construction workers, and spearheaded the development of a range of information technology products for its clients and for backend support that are now being patented.<sup>2</sup>
24. The project's success owes much to the high degree of technical and institutional support provided by various state planning, financing, and regulatory institutions working closely with a range of public and private institutions in China. The project provides a model for implementing infrastructure projects in many respects, and highlights the importance of a supportive and coordinated ecosystem. The LML1 also showcases how effective coordination and collaboration can yield dividends and provide a showcase for wider replication.
25. The experience of the LML1 project demonstrates that a strong, supportive ecosystem is vital to the success of a project. The development of the metro project received the highest level of support from state institutions and is a testament to the very strong regulatory, technical capacity and quality standards that have been established and are continuously being refined in China for something as sophisticated and complex as an underground metro in a historical city with all its associated issues of protecting heritage sites, dealing with resettlement and dislocation of households and businesses. Few developing countries have such well-developed and supportive systems, and therefore, it is important in selecting projects first to determine the country's capacity for implementation.
26. There are, however, some areas that would have warranted more attention, such as the quality of the DMF, M&E activities, supervision processes, knowledge management, communication and outreach, and NDB staff continuity. These are equally important aspects, especially for a relatively young organisation like the NDB.

<sup>1</sup> Including being the first metro line to include facilities for nursing mothers.

<sup>2</sup> Annex 2 provides a brief listing of the information innovations.

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## F. Recommendations

### 27. Recommendation 1

Strengthening project evaluability. There is a need to strengthen NDB-financed project evaluability for assessing results, generating lessons, and promoting greater impact and sustainability. Among others, this would need Project Design Reports to include an explicit theory of change, clearly and explicitly defined project objectives in a dedicated section of the report, a coherent set of indicators listed in the DMFs at different levels of the results chain, and realistic targets.

### 28. Recommendation 2

A sharper focus on green and climate-resilient technologies and innovations. NDB should ensure a sharper focus on the extent to which its investments lead to the adaptation of green and climate-resilient technologies and innovations. This can be done by promoting the inclusion of these criteria in the identification and selection of projects for financing, including specific clauses and monitoring indicators in the project financing agreements, as well as terms of references of supervision missions, among others.

### 29. Recommendation 3

Strengthening the value additions of the Bank at project design. In designing new projects, sufficient attention should be given to ensure the design document adequately reflects the added value that the financing provided by NDB could bring to the borrower country and the project. This would assist in maximising the impact of NDB at the country and project level and would further strengthen NDB's role not only as co-financers of development projects but, more importantly, as a multilateral development bank with internationally recognised standards and practices, particularly for social and environmental aspects.

### 30. Recommendation 4

Improving project implementation support and supervision. More regular and in-depth supervision of projects should be undertaken to follow up on some of the emerging insights in a timely manner and capture the opportunities to enhance impact. NDB should pay particular attention to ensure the DMF is designed with technical inputs from the concerned sector experts. In addition, NDB should ensure that the PIA nominates a dedicated staff for M&E to generate regular and reliable data and information. MTRs should be a regular feature for all operations, and the Bank should ensure more staff continuity during implementation.

### 31. Recommendation 5

Developing knowledge products based on projects to facilitate scaling up. By consolidating experiences and good practices generated from the projects, IEO recommends that NDB prepare knowledge products to record and showcase the successful experience of NDB-financed projects. The knowledge products should be disseminated to a wider audience, including governments, Multilateral Development Banks, and other development partners in the international development community, to share successful experiences of the projects being designed and implemented in the unique context of NDB. This would be particularly useful for BRICS and other emerging markets and developing countries to learn, especially in the design and implementation of similar projects in the country. In order to properly operationalise this recommendation, design reports should include dedicated provisions for knowledge management products and dissemination.

# 摘要

## A. 项目概况

1. 洛阳地铁项目由金砖国家新开发银行（下称“新开发银行”）提供主权贷款支持。洛阳地铁项目评价是新开发银行独立评价局在中国开展的首个独立项目评价。
2. 该项目规划建设河南省洛阳市的首条地铁线路。基于对洛阳建设一体化和可持续的城市交通系统的迫切需要，河南省政府制定了四个阶段的战略。其中，洛阳地铁1号线建设属于该计划的第一阶段。
3. 作为十三朝千年古都，洛阳承载了丰富的历史文化遗产，见证了中国数千年的历史变迁。从人口规模、经济发展情况和财政状况来看，洛阳属于河南省政府的城市群都市圈交通体系优先发展区域。此外，洛阳也是一个快速发展中的城市，名胜古迹众多，每年都有大批游客慕名而来观光游览。

## B. 项目设计

4. 项目初期规划建设地铁线路全长22.34公里，设地下车站18座，正线地下区间为隧道，线路两端设车辆段、停车场各一处，项目设计后期为提高运营效率对原规划线路进行了延伸，新增设车站1座。
5. 2018年8月16日，新开发银行董事会批准了该项目的贷款申请，同意提供为该项目建设提供3亿美元的贷款支持，约占洛阳轨道交通一号线建设总造价（估计为27.757亿美元）的10.8%。此外，还有多家商业银行参与了此次联合融资（共13.11亿美元），洛阳市人民政府也为该项目提供了约11.64亿美元的资金支持。
6. 新开发银行的贷款资金主要用于在遵循中国相关法律法规规定和新开发银行采购政策的基础上采购及安装洛阳市地铁一号线的相关设备。
7. 新开发银行贷款计划于项目批准后五年内（2018年至2022年）拨付完毕。该笔贷款由中央财政转贷河南省人民政府进行项目融资。洛阳市轨道交通集团有限责任公司（简称洛阳地铁）作为项目实施机构，负责该项目整体实施。
8. 该项目旨在进一步提升洛阳市的整体流动性、可达性和城市交通连通性及基础设施建设，并对助力洛阳市经济增长，提高生产力和促进环境保护产生了积极影响。该项目的建成为乘客提供了多样化和更省时的出行方式。与此同时，该项目对缓解路面拥堵和节能减排也作出了积极贡献。

## C. 评价方法论和流程

9. 本次独立项目评价所使用的方法论以国际公认的Evaluation Cooperation Group（由多边开发银行评价机构组成的联合组织）评价标准为基础，并根据新开发银行的特点进行相应调整。在构建评价框架以及评价项目成效时，考虑了以下几个指标：相关性、有效性、效率、影响力和可持续性。此外，独立评价局还分别就新开发银行和借款方的表现进行了评定。

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10. 项目评价采用混合方法进行数据收集和分析，包括审查二手数据、实地调查和对主要执行机构进行访谈，特别是洛阳市轨道交通集团有限责任公司管理层及员工、乘客代表、拆迁安置户、合作机构、新开发银行相关工作人员等。在此期间，独立评价局评价团队共与200多名代表进行会见，他们代表了参与项目设计和实施的各利益相关方、各级政府的实施合作单位以及参与项目设计和执行的私营部门和学术研究机构。
  11. 此外，评价团队还实地走访了洛阳地铁项目及其主要设施，如控制室、地铁站空调候车室、停保场、培训设施、轨道交通一号线正线区间以及一号线与近期竣工的二号线之间的换乘站等。这有利于独立评价局对已建成的基础设施和交通系统进行直观评价。
  12. 评价方法文件草案和评价报告已与新开发银行管理层和借款方分享，并征求其意见。相关意见已纳入最终的评价报告中。最终的知识分享研讨会计划于2024年1月在北京举行，该研讨会旨在探讨评价结果，总结分享相关经验与做法。

## D. 评价结果：项目绩效

### 13. 项目总体成果：成功

洛阳地铁一号线项目的总体完成情况被评为“成功”。该项目不仅提前竣工，同时在创新和节能方面成效显著，并且在实际实施过程中合理适当考虑了保障社会和环境方面的需求。该项目在规划和实施过程中采用了很多创新型设计和新技术，如在地铁站内安装磁悬浮直膨通风空调系统，在保持运行的同时实现降低碳排放、减少噪音和空气污染的绿色发展目标。第三方问卷调查和直接访谈都显示，乘客总体满意度较高。

14. 洛阳地铁一号线竣工长度为25.342公里，超出原规划长度，共设有19座车站及2处列车停保场。该项目不仅成功地在道路条件复杂和城市繁华区域及众多文物保护区建设地铁，同时在建设过程中利用创新性技术最大限度减少了施工对文物保护的影响，同时有力缓解了城市地面交通拥挤的状况。洛阳地铁项目在实施期间先后共招聘2613名正式员工，覆盖地铁运营的方方面面，如安全、安保、票务、系统维护和列车修理，创造了大量的就业机会。该项目还开发了供乘客和后端支持人员使用的数字应用程序。此外，也应注意某些领域包括《项目设计和监测框架》的质量、知识管理、监督等方面还需要更多的关注。

### 15. 相关性：成功

该项目与中国政府以及新开发银行的相关政策和机构战略要求高度契合，也与洛阳市民期望缓解市区交通拥堵，节省出行时间的实际需求相匹配。同时，该项目的建设为拓展中国城市绿色交通和新时代可持续发展的交通设施网络做出了重大贡献。该项目的发展目标完全符合中国国务院批准的《洛阳市城市总体规划（2011-2020年）》，体现了项目与政府优先发展事项的高度一致性。项目设计也符合新开发银行的2017-2021年总体战略。可持续基础设施对于促进金砖国家和其他新兴市场及发展中国家的经济增长以及满足人民日益增长的高需求至关重要，因此一直是新开发银行的优先发展事项。不过，《项目设计和监督框架》的质量有提升的空间，最突出的表现是部分项目目标设定的高于实际。



## 16. 有效性：成功

新开发银行资金在项目活动（例如采购和安装设备）中得到了有效的利用。据统计数据显示，2022年轨道交通占洛阳市居民机动化出行比例达11.65%，约为设计目标的194.2%。此外，2022年轨道交通占洛阳市公共交通出行比例为24.13%，达到了近期规划客流量目标的202.1%。2022年洛阳地铁一号线乘客满意度为98.17%，超出了项目设定的97%的目标。洛阳地铁客流强度和节省出行时长远低于预期目标，主要原因是2020-2022年间，为防控新冠疫情，政府采取了严格的限制人员流动措施。除此之外，地铁客流培养以及市民采取地铁出行的习惯需要三年左右的培育期才能实现。

## 17. 效率：非常成功

与原计划相比，洛阳地铁项目提前9个月竣工。在贷款协议规定的时间范围内，拨付率达到100%。贷款批准和贷款协议生效时间差距不到三个月。在该项目实施期间，2019年2月至2020年9月共签发了21份采购合同。该项目经济效益良好。重新评估的经济内部收益率为11.11%，经济净现值为83.82亿人民币，其中经济内部收益率略低于项目设计文件中的估算值（原估算结果为11.15%），但经济净现值远高于项目设计文件中的估算值（原估算结果为18.13亿人民币）。

## 18. 影响力：非常成功

总体而言，从项目竣工后短期内取得的成果上来看，即使存在新冠疫情等相关因素的影响，洛阳地铁项目产生了积极影响。该项目还在能源效率、信息技术、运营和维护系统、乘客引导和满意度以及人员招聘、管理、培训和留用方面进行有特色的投资，并体现出了较强的创新性。虽然全面评价洛阳地铁项目对促进城市发展的影响力还需更多时间，但在本次评价中，独立评价局发现该项目已经在推动经济发展和完善社会基础设施方面产生新的积极影响，并且已经能够观测到部分相关实证。该项目经实现了建设高效的现代化城市群都市圈交通体系的主要目标，促进经济增长和城市发展。

## 19. 可持续性：非常成功

这一评价指标考量了如技术操作、财务可持续性和环境可持续性等方面。该项目规划和施工人员均具备专业知识和技能，项目生产施工过程中严格遵守安全和环境标准，充分体现了技术可持续性。尽管项目目前暂无法通过车票收入等维持运营，但政府承诺会在其需要时提供补贴。洛阳市轨道交通集团有限责任公司同时也在利用出售零售空间和广告位实现创收，尤其是在节假日期间，游客数量激增带动了车票收入。

## 20. 新开发银行表现：比较成功

洛阳地铁项目是新开发银行成立初期在中国批准的首批项目之一。考虑到当时人力资源有限，项目设计和监督都属于较薄弱环节，在一定程度上限制了项目成果的实现。负责该项目的新开发银行项目团队成员更换较频繁，使得项目团队一定程度未能充分发挥银行在项目实施期间的监督作用和引导能力（例如，在对设计和监督框架指标和目标进行及时和必要的调整方面）。新开发银行在项目设计环节技术领域发挥的作用较少，因为该项目在新开发银行融资获得董事会批准之前就已开始实施。新开发银行的监督角色较少，项目实施期间开展了一次实际考察任务，在2021年3月项目竣工后，共执行了三次考察任务。新开发银行目前尚未对项目进行中期审查，也尚未出具项目完工报告。虽然新开发银行定期审查采购文件，并重视环境和社会保障方面的内容，但其并未提供有关重要技术支持，或就监督或评价系统潜在的问题进行审查。

21. 新开发银行的做法表明其重点依托中国国内制度体系。就该项目而言，新开发银行重点依托中国较强的技术能力及其强有力的监管制度。新开发银行业务人员在处理贷款提款和偿付申请方面具有灵活性，能够及时提供支持，这对于确保项目活动按计划取得进展十分重要。然而，新开发银行在记录、总结和分享此次成功经验和专业知识方面投入的时间和精力较少。

## 22. 借款方表现：非常成功

各级政府和相关单位在洛阳地铁项目中的表现非常好。该项目规划建设洛阳市首条地铁线路，洛阳市政府和洛阳市轨道交通集团有限责任公司对此高度重视，相关政府部门也积极配合。其中，洛阳市轨道交通集团的表现尤其突出，它不仅妥善安排好了项目准备工作（例如，在项目启动前招聘和培训工作人员，动员有经验的团队提供技术支持），保证项目正常实施，甚至还实现项目提前竣工，在遵守政策要求的情况下，以高速度、高质量、高安全水平顺利交付项目成果。项目期间，土地征收和房屋拆迁、市政给水管道迁改、水电等公用服务连接等关键挑战层出不穷，各级政府和相关单位积极协调，高效合作，妥善地解决了项目施工过程中遇到的各种问题。河南省财政厅负责管理专款专项账户，保障了及时高效地处理贷款提款和偿付申请工作。中国财政部为此提供了必要的支持和广泛的监督。

## E. 结论

23. 洛阳轨道交通一号线建设项目取得了极大的成功。它不仅在极短时间内建成了一条技术先进的高质量地铁线路，创下历史纪录，通过从零开始构建复杂庞大的基础设施和交通运输网络，确保交通体系得到安全和高效的管理。洛阳市轨道交通集团在项目建设过程中展现出充满人性化的乘客关怀<sup>1</sup>、建筑工人安置和补偿原则，有效整合能源效率和技术创新成果，并开创性地为乘客和后端支持人员开发了一系列信息技术产品，这些产品目前正在申请专利<sup>2</sup>。

24. 洛阳地铁项目的成功离不开中国各级政府规划提供技术和制度支持、融资举措以及与公共和私营机构密切合作以及监管机构的支持。该项目在许多方面均具有借鉴意义，为未来相关领域基础设施项目树立了成功的典范，体现了多部门联动协调、合力推进的重要性。洛阳轨道交通一号线建设项目还体现了协调合作的力量，为将成功经验推广至中国所有的在建或新建地铁项目提供了一个展示平台。

25. 同时，洛阳地铁一号线项目的建设经验充分显示出强有力的国家政府机构在项目实施过程中所发挥的关键作用。洛阳地铁项目的开发得到了政府和国家机构的大力支持，其成果证明中国已经建立健全强大的监管、技术开发和质量保障制度体系，可妥善应对为历史文化名城修建地铁这样复杂和精密的问题，并就如何保护文物、处理居民安置和搬迁等所有相关问题做出合理的安排和妥善的解决。极少有发展中国家像中国一样拥有如此完善的支持性制度体系。因此，新开发银行在确定所支持的项目时，应注意分析项目所在国的实施能力。

26. 此外，项目的设计和监管质量、监督和评价活动、监督程序、知识管理、沟通和外联以及新开发银行工作人员的连续性方面值得更多关注。这些方面同样重要，特别是对于像新开发银行这样相对新的多边发展银行而言。

<sup>1</sup> 包括首条配备母婴设施的地铁线。

<sup>2</sup> 附件二详列。

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## F. 建议

27. 建议 1：  
需加强项目的可评价性。有必要加强新开发银行所支持项目的可评价性，以评价结果，总结经验为核心，汲取经验教训并促进更大的影响和可持续性。具体措施可包括在项目设计报告中纳入明确的变革理论，在报告的专门部分明确定义项目目标，在成果的各级设计和监督框架中指定明确的指标以及切合实际的目标。
28. 建议 2：  
进一步关注绿色和适应气候变化的技术和创新。新开发银行应更加关注其支持的项目对推动绿色发展和适应气候变化的技术和创新的影响。这一点可通过在确定和选择贷款项目时纳入这些标准来实现，包括在贷款协议中的特定条款和监督指标，为项目考察团设置参考事项等等。
29. 建议 3：  
在项目设计中加强新开发银行的附加值。在设计新项目时，应尽可能确保设计文件充分反映新开发银行贷款为资金借入国和项目带来的附加值。这有助于最大限度地发挥新开发银行在国家和项目层面的影响，并进一步加强新开发银行联合融资的积极作用。更重要的是，强化其作为多边开发银行采用国际公认标准和惯例的做法，尤其是在社会和环境方面。
30. 建议 4：  
优化对项目实施过程中所提供的支持和监督。应对项目进行更加定期和深入的监督，以便及时跟进最新动向，并利用合适机会增强项目的影响力。新开发银行项目团队应特别注意确保设计和监督框架参考相关行业专家的技术意见。此外，新开发银行应确保项目实施机构指定专门的监督和评价人员，以确保定期生成真实可信的数据和信息。中期审查应作为常规流程运用在所有业务中，新开发银行须在项目实施期间确保其跟进项目进展的工作人员的连续性。
31. 建议 5：  
基于项目开发知识产品，促进项目经验推广。独立评价局建议新开发银行通过整合项目中产生的经验和良好做法，开发知识产品，以记录和展示新开发银行支持的项目的成功经验。知识产品应向更广泛的受众传播，包括政府部门、其他多边开发银行和国际社会的其他发展伙伴，以分享在新开发银行独特背景下设计和实施的项目的成功经验。这些经验对金砖国家和其他新兴市场及发展中国家十分具有借鉴意义，特别是该国在设计和实施类似项目的时候。为确保这一建议得到合理推进，项目设计报告应包括有关开发知识管理产品及其传播的专门规定。



**INDEPENDENT EVALUATION OFFICE**

New Development Bank  
1600, Guozhan Road, Pudong New District,  
Shanghai – 200126 China

Tel: +86-21-8021-9512

E-mail: [ieo@ndb.int](mailto:ieo@ndb.int)

Website: <https://www.ndb.int/governance/independent-evaluation/>