

南昆鐵路

NANNING-KUNMING RAILWAY



中华人民共和国铁道部

MINISTRY OF RAILWAYS OF THE PEOPLE'S REPUBLIC OF CHINA

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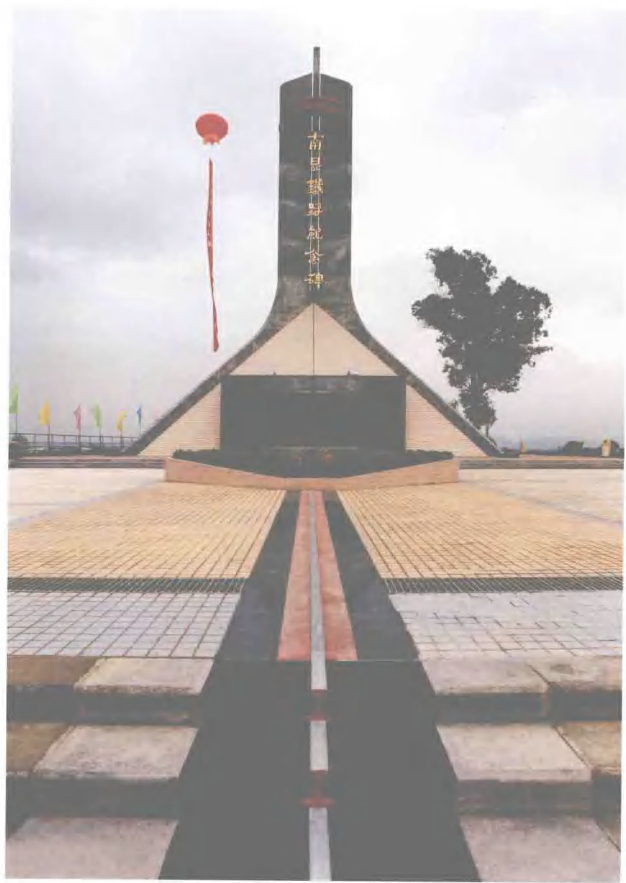
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为了永久纪念南昆铁路建设者为这项伟大工程作出的贡献，铁道部于1999年12月在百色市郊修建了“南昆铁路纪念馆”，并命名其为“铁路爱国主义教育基地”。



江泽民总书记 1996 年 10 月视察南昆铁路建设工程时亲笔为南昆铁路题的词。被镌刻在纪念碑园中。



1996年10月31日，中共中央总书记、国家主席江泽民视察南昆铁路建设工程。

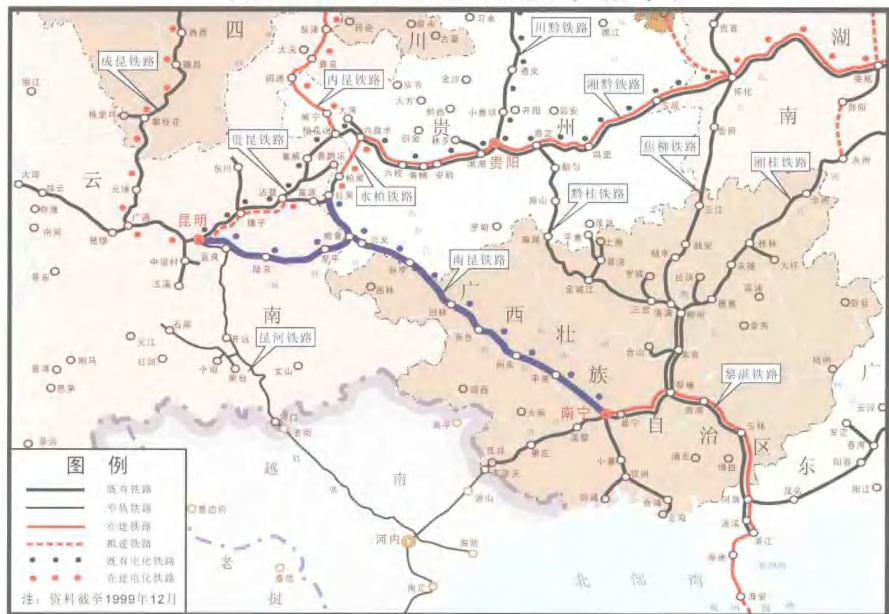


1997年3月18日，李鹏委员长（时任国务院总理）出席“南昆铁路全线铺通庆祝大会”，并接见了建设英雄。



1995年11月15日，朱镕基总理（时任副总理）视察南昆铁路建设工程。图为视察永乐一号隧道的情景。

南昆铁路地理位置示意图



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序 言

PREFACE

南昆铁路东起南宁，西至昆明，北接红果，全长899.68公里，经过6万多名筑路大军6年多艰苦卓绝的奋斗，于1997年11月全线建成交付临管运营。从此，大西南——我国最为深广的内陆腹地有了一条出海大通道，各族人民期盼百年的“世纪之梦”终于变为现实。

修建南昆铁路是党中央、国务院的重大决策。修建过程中，江泽民总书记和李鹏、朱镕基、邹家华等党和国家领导人多次听取汇报，亲临现场视察，作了许多重要指示。由国家计委、铁道部、原电力部和广西、贵州、云南3省（区）领导组成的南昆铁路建设领导小组，对工程建设实施强有力的领导，协调解决建设过程中出现的各种重要问题，确保了整个工程科学有序地推进，优质快速地地完成。

南昆铁路是我国继1970年建成成昆铁路之后，在艰险山区修建的又一条大能力长干线铁路。它从濒临北部湾海拔不足100米的南宁盆地，沿右江河谷，越黔桂山区，爬上海拔2000米的云贵高原，其间有8次大的起伏，其地形之险峻、地质之复杂、工程之艰巨浩大，为国内外山区铁路所罕见。铁道部把建设南昆铁路作为铁路建设工作的重中之重，组建南昆铁路建设指挥部靠前指挥，调集精兵强将和优良装备上“线”；将南昆铁路建设技术列入铁道部“八五”科技进步计划，组织各路科技人员协作攻关；全面加强勘测设计工作，确保了线路走向的经济合理。在各参建单位领导的精心组织下，在沿线各族群众的大力支持下，经过广大建设者的英勇奋战，南昆铁路建设不仅突

破了许多难关，确保了工程质量和进度，而且在桥、隧和线路的设计、施工等许多方面，取得一批重大科研成果，多项达到国际先进水平，将我国修建铁路的技术水平推上了一个新台阶，创造了一个人类征服自然的范例，以20世纪90年代中国铁路建设新水平的代表作而载入中国铁路建设史册。

江总书记的题词：“建设南昆铁路 造福西南人民”，高度概括了修建南昆铁路的政治经济意义。建设南昆铁路，是中央加快西部地区发展的重大步骤。大西南是我国自然资源最为富集的地区，蕴藏着全世界已探明140多种矿产中的130余种，其蕴藏量，钨、钛、锡居世界首位，铅、锑、铝、铜、镉等几种位居国内前列。这里有“江南聚海”，又是我国第二大林区和两大热带作物基地之一。然而，受交通条件的制约，这里丰富的自然资源没有得到应有的开发利用，是我国经济最落后的地区之一，仅南昆铁路经济吸引范围内3省（区）的6个地区、29个县（市），处于贫困线之下的人口就达2000万，占全国贫困人口的五分之一。南昆铁路的建成，为大西南的资源优势转化为经济优势创造了有利条件，将大大加快这一地区的脱贫致富和社会进步的步伐。因而，人民群众把建设南昆铁路看作是党和国家为大西南“雪中送炭”，是中央“最大的扶贫项目”。

南昆铁路东接湘桂、黎湛、南防各线，西连成昆、贵昆铁路，直通广西的防城、钦州、北海3港，不仅成为沟通我国西南与华南最便捷的陆上通道，也为云、贵、川3个内陆省份开

辟了最便捷的出海大通道。在我国发展区域经济的战略中，南昆铁路把包括云南、贵州、四川南部、广西、广东西部和海南在内的拥有2亿多人口的地区连成一体，使大西南的资源优势与华南沿海的区位优势互补互利，这对于促进西南和华南地区的经济腾飞和社会发展具有十分重要的作用。

南昆铁路于1998年12月通过了国家验收，设计和施工质量总评优良。南昆铁路投入运营后，柳州、昆明两个铁路局加强经营管理，取得了很好的社会效益和经济效益。两年多来，它对发展地方经济、推动社会进步和巩固民族团结等方面，已经起到了明显的促进作用，并将越来越充分地表现出来。

最后，我借《南昆铁路》画册出版的机会，再次向为修建这条铁路作出贡献的广大铁路工人、干部和科技人员，向全力支持修建南昆铁路的3省（区）各级领导和沿线各族群众，表示衷心的感谢。我特别要向那些为修建南昆铁路而献出宝贵生命的同志们致以崇高的敬意，他们的英名与业绩将与南昆铁路永存同在。

傅书霖

2000.5.15

PREFACE

Fu Zhihuan

Starting from Nanning, capital of the Guangxi Autonomous Region, and straggling northward to Hongqiao located in Guangxi, the Nanning-Kunming Railway runs westward 899.68 km and ends in Kunming of Yunnan Province. Thanks to over 6-years hard work by more than 60,000 railway workers, the entire Nanning-Kunming Railway was opened to traffic in November, 1997. The event marked the realization of the "centennial dream" cherished by the people in Southwest China and ever since then, this remote hinterland has been connected with the sea.

The construction of the Nanning-Kunming Railway is one of the key decisions made by the Party's Central Committee and the State Council. During the construction of the line, President Jiang Zemin and other Party or state leaders including Li Peng, Zhu Rongji and Zou Jiahua (deceased) by the timely returns for many times, and they even came to the construction sites to make inspections and gave much encouragement.

The Leading Group of the Nanning-Kunming Line Construction, made up of leaders from the State Planning Committee, the Ministry of Railways, former Ministry of Electric Power and those from the Guangxi Zhuang Autonomous Region, Guizhou and Yunnan Provinces, exercised efficient leadership and helped solve various major problems which arose during the construction of the line. This group also played an important role in keeping the construction going on smoothly and in a scientific way. As a result, this made it possible to complete the project faster without lowering the standard of quality.

In addition to the Chengtu-Kunming Railway finished in the 1960s, the Nanning-Kunming Line is another major trunk line constructed in China's complicated mountainous areas. It starts from the Nanning basin, which is less than 100 m above sea level and located near the Baibao River, runs along the Yuedang River Valley, crosses the mountainous area in Guizhou and Guangxi and finally climbs up the Yungui Plateau of 2,000 m above sea level. On its way from the Basin to the Plateau, it rises and falls eight times following the undulating terrain it passes. As far as the unpredictable terrain and complicated geological structures are concerned, the Nanning-Kunming Line is so huge a project that there is nearly no match in the world. The Ministry of Railways put the construction of the line on the most important part of the agenda, organizing the Front Instruction Committee of the Nanning-Kunming Line and contributing competent and ex-

perienced workers and superior equipment to the construction of the line. The Ministry of Railways placed the advanced technology to be used in constructing the Nanning-Kunming Railway on the lists of the Eighth Five-Year Science and Technology Progress Program of the Ministry. It called on all the railway science and technology personnel to work together to tackle the key problems. At the same time, an all-round survey and design of the project was carried out so as to make the run of the line more reasonable and economical. Thanks to the great efforts made by the leaders and the construction workers and the support provided by the local people along the line, the construction of the line not only produced many major breakthroughs, but also made great scientific achievements in such fields as design and construction of bridges, tunnels and routes while the quality and progress of the project was guaranteed. Among them, many have met the advanced international standards, as marks the great progress made in China's railway construction technology. The completion of the Nanning-Kunming Line once again set an example of man's conquest over Nature. As a masterpiece of China's railway construction in the 1990s, it will be recorded in the history of China's railway construction.

President Jiang Zemin's inscription of "Constructing the Nanning-Kunming Line to sustain the well-being of the local people" briefly but acutely summarizes the political and economic significance of building the Railway. Constructing the Nanning-Kunming Line is one of the major steps taken by the Central Committee in order to speed up the development of West China. Southwest China is one of the areas abundant in natural resources. More than 130 kinds of the already-known 140 kinds of minerals in the world are mined in this area. The amount of vanadium, titanium and tin mined in southwest China ranks first in the world and it is also rich in lead, zinc, aluminum, copper, phosphorus and so on.

This area is also known as "the Coal Sea of South China", and one of the two forest zones and tropical plants zones. However, poor transportation facilities and other factors hindered the exploration of the natural resources and made the region one of the most backward in China. In the 29 counties of the three provinces or regions economically benefiting from the Nanning-Kunming Railway, there are as many as 20 million people living under the poverty line, making up 20 per cent of the impoverished population in China. The completion of the Nanning-Kunming Line creates favorable conditions for the local people to develop their economy by taking advantage of the abundant natural resources. It will also help the people shake off the shackles of poverty more quickly and

speed up social development of this area. Consequently, the people consider that the construction of the line is help provided by the Party's Central Committee and also the most important "poverty-fighting" project.

The Nanning-Kunming Line is connected with the Hongqiao-Lianhuo, Liang-Zhaodang, and the Nanning-Changtong Lines to the east and with the Chengtu-Kunming Line to the west. It not only serves as the most convenient and quickest means of land transport in Southwest China with South China, but also makes the three provinces or regions easily accessible to the sea. The Nanning-Kunming Railway brings together over 200 million people from Yunnan, Guizhou, South of Sichuan, Guangxi, West of Guangdong and Hainan, facilitating access in Southwest China and those in coastal South China to take advantage of each other's strength. This, therefore, will play an extremely important role in promoting the rapid development of both economy and society in these areas.

The Nanning-Kunming Line passed the acceptance evaluation of the state level in December 1998, with its construction quality and design being regarded as fine. After put into operation, the line is in the charge of the Luzhou Railway Administration (LRA) and Yunnan Railway Administration (YRA), both of which manage the line very well and make great achievements in social benefit and economic profits. For over ten years, it has greatly promoted the development of local economy and society and also helped strengthen the unity of the local people. In the future, it will still give full play of its role of these respects.

In the end, taking the opportunity of the publishing of this picture album, I would like to extend my heartfelt thanks to all railway workers, leaders, science and technology personnel, the local people along the line and those who provided great support for the construction of the line. I also would like to avail myself of this opportunity to renew my highest consideration to those who dedicated their lives to the construction of the line. Their glorious names and accomplishments will be lasting forever with the name of the Nanning-Kunming Railway.

WRITING A MASTERPIECE AT THE TURN OF A CENTURY

铸 世 纪 辉 煌

南昆铁路是人类征服自然的新的代表作，创造了我国九十年代铁路建设的新水平，同时创造了良好的工程质量、建设速度和投资效益。这是时任国务院副总理的邹家华同志在建设期间对南昆铁路建设成就所作的评价。

全国政协考察团对南昆全线作了考察后也给予盛赞：南昆铁路建设速度快，质量优，效益好，是中国铁路建设的典范。

从中央到地方的新闻媒体对南昆铁路更是好评如潮，称赞这条铁路是时代的丰碑，世纪的辉煌。

地形险峻，地质复杂，世所罕见

这条东起南宁全长899.68公里的“铁龙”，从海拔78米的南宁盆地，爬上海拔2000多米的云贵高原，相对高差达2010米，其间随地势变化还有8次大的起伏。沿线地形的险峻，为中外铁路建设史所罕见。这就使桥隧数量大大增加，全线共有桥隧726座，总长267.5公里，占正线长度的31%，有的区段桥隧占线路的70%以上。南昆铁路长度不到京九铁路的二分之一，隧长长度却是它的3倍。

南昆铁路的地质复杂程度，比号称“地质博物馆”的成昆铁路有过之而无不及。铁路跨越了两大1级构造单元，地层相曲，断裂发育，岩体破碎，地下水丰富，条件复杂，地质灾害繁多，有岩溶、膨胀岩（土）、高瓦斯煤系地层、高裂度地震区等，全线有375公里建在可溶岩地区，140公里通过膨胀岩（土）区，220公里蜿蜒在7度以上的地震区内。

工程浩大宏伟，举世瞩目

地形险峻加上地质复杂，给南昆铁路建设带来了一系列难题和特点。工程的浩大宏伟是其中之一。

南昆全线路基土石方量达10107万立方米，虽是单线铁路，平均每公里（扣除桥隧总长）土石方量达15.99万立方米，比双线的京九铁路还多出50%；防护与工约673万立方米，每米铁路的平均工程量是一般铁路的2—3倍。

南昆建设者创造了中国铁路史上的多项新纪录：我国铁路最高的桥——清水河大桥，我国第一座铁路平弯梁桥——板其二号大桥，我国首次采用“V”型支墩的连续刚构桥——八渡南盘江特大桥，我国首次采用双薄壁桥墩高墩大跨度连续刚构桥——喜旧溪大桥，目前国内建成的最长铁路单线隧道——米花岭隧道，国内各项瓦斯指标最高并集高地应力和大涌水等于一身的铁路隧道——家竹箐隧道，而石头寨车站轴式柱板墙，其长度和高度均创亚洲最高纪录。

技术难度大，科技含量高，前所未有的

由于地形险峻加上地质复杂，南昆铁路的建设技术难度大，相应科技含量高。为了实现这条钢铁大道在高山深谷的穿行跨越，南昆铁路的建设必须依靠科技进步，铁道部把南昆线建设列入部“八五”科技进步计划，组建由部主要负责同志主持的“南昆线科技进步领导小组”，制订并实施了新建铁路新技术配套应用“一条龙”计划，选定37项科技攻关项目，25项新技术推广项目，组织全路科研、院校近50个单位协作攻关。1993年6月，铁道部组织了《复杂地质艰险山区修建大能力南昆铁路干线成套技术》科技成果鉴定，宣布，经过6年奋斗，南昆建设者圆满实现了铁道部制定的南昆铁路建设科技进步总目标。列入计划的科技攻关项目和新技术推广项目全部完成。整个研究成果具有国际先进水平，部分达到国际领先水平。

这使南昆成为迄今我国新建铁路中科技含量最高的山区铁路。第一，在勘测造线上采用了航测、遥感、光电测距等新技术，设计中大量采用计算机辅助设计；第二，在路基工程的防护措施中，采用了大量新型、轻型的支挡结构，首

