

000131

SHAANXI'S HIGHWAYS

TRANSPORTATION
DEPARTMENT OF
SHAANXI PROVINCE
JUNE 1987

陕西公路

1987 . 6

陝西公路

SHAANXI'S HIGHWAYS



陝西省交通廳編 1987 . 6

TRANSPORTATION DEPARTMENT OF
SHAANXI PROVINCE

JUNE 1987

定价: 50.00

序

陝西地處我國腹地，是一個內陸省，公路交通的地位十分重要。

從1922年西安到潼關的公路建成通車至今，陝西公路交通有了60餘年的歷史，而主要是在解放後30多年裏發展起來的。在黨的領導下，交通部門為適應經濟發展和人民生活改善的需要，依靠羣衆，排除干擾，逢山開路，遇水架橋，努力進行基礎設施建設。特別是黨的十一屆三中全會以來，公路建設堅持改革開放，實行多方集資、多家興辦的方針，呈現了多渠道、多層次發展的繁榮景象，無論是公路數量還是質量都有了很大的發展和提高。現在，全省共有公路148條，37,600多公里，橋樑3,903座，129,600多延米，基本形成了以西安為中心，縱橫三秦大地，聯結城鎮鄉村的公路網，為促進國民經濟的發展發揮了重要作用。目前，一些高等級的公路在建設之中。陝西公路正在向高標準、高質量邁進。

但是，還應當清醒地看到，陝西公路交通仍然是制約國民經濟發展的薄弱環節。為要從根本上改變交通閉塞的落後面貌，治陝富秦，我們還要進行艱苦的努力。為了總結經驗，策勵未來，特將收集到的公路建設方面的一些照片匯集成冊，印刷發行，藉以互相交流，取長補短。特以為序。

陝西省交通廳廳長 李文光

1987年10月於西安

PREFACE

Shaanxi is situated in the middle of China, in other words, it is an inland province. So its highway traffic plays quite an important role.

The highway traffic in the province has a history of more than 60 years since the first road between Xi'an and Lintong was built in 1922, but most of its road construction was developed during the 37 years after liberation.

Under the leadership of the Party, the provincial transportation authorities have made great efforts in the infrastructure construction to accommodate the economic development and to improved the living condition of the people; by relying on the masses and eliminating various interferences, more and more roads and bridges have been built. Especially since the Third Plenary Session of 11th Party Central Committee, in light of insisting on reformation and opening to the outside world, raising funds and setting up works by various channels and levels, the highway construction, both in length and quality, has been developed greatly and prosperously.

Up to now, the total length of 148 highways in Shaanxi is more than 37,600 km, with 3,903 bridges totalling 129,600 meters in length. A highway network, centered at Xi'an, criss-crossing the Qin land and connecting towns with countryside has been basically formed. It contributes greatly to the developments of the local national economy.

At present, several high-standard highways are under construction and the road traffic in the province is stepping forward to a target of high-standard and high-quality.

However, we should understand that the highway traffic today still remains a bottleneck impeding the development of the national economy. To transfer the backward state of the existing traffic condition and then make the Province prosperous, we have a lot work to do.

For the purpose of summarizing our experience and creating a better future, we have printed this pictorial collecting a number of photographs of highway construction in Shaanxi. We expect that it will contribute to the exchange of experience and the ability to learning from each other.

Li Wenguang

(Director, Transportation Department of Shaanxi Province)

October, 1987.

目 錄

前言	6
陝西省主要公路路線圖（1985）	10
陝西省公路橋樑增長示意圖（1949—1985）	12
陝西省公路里程增長示意圖（1949—1985）	13
橋	15
歷史悠久的古橋	16
絢麗多姿的現代橋樑	18
石拱橋	18
鋼筋混凝土橋	24
鋼橋 索橋	54
竹筋混凝土橋	56
新型支撐結構——加筋土工程	58
路	62
秦直道	63
躍上葱嶺萬千旋	64
昔日：鳥道蛇行獨馬穿	
今朝：寬闊公路通天邊	68
斬山開路去險阻 公路行來欲上天	70
傍山依水勢宏偉 大好河山展新顏	72
路堤、路渠結合 綜合治理	74
治沙防沙 人定勝天	77
公路、鐵路立交	78
綠化 美化	80
文物薈萃 旅遊路千姿百態	86
隧道	94
辦公大樓拔地起	98
深山曠野道工之家	104
公路建設步入新的發展時期	110
西安——臨潼高速公路開工	112
西安——三原一級公路開工	114
建設中的草灘渭河大橋	116

Contents

INTRODUCTION	6
Route Map of the Main Highways in Shaanxi Province (1985)	10
The increase in highway bridge in Shaanxi Province (1945-1985)	12
The increase in Shaanxi's highway length (1949-1985)	13
Bridges	15
Some old bridges having a long history	16
Gorgeous modern bridges	18
Stone Arch Bridges	18
Reinforced Concrete Bridges	24
Steel and Suspension Bridges	54
Bamboo Reinforced Concrete Bridge	56
New type retaining structure — reinforced earth	58
Road	62
Historical relics in a section of the "Direct Path"	63
Leaps onto the luxuriant green by thousand circles	64
In former days: Like a snake path only a horse could pass.	
Today: A wide road going up to the horizon	68
By cutting the mountain and opening the road we overcome the obstacles of nature, so driving on the road seems like going into the sky	70
Between the steep hill and the water we come into a magnificent spirit, so the beautiful mountains and rivers appear fresh and new	72
Comprehensive solution by combining the road with the river levees and stream channels	74
Harnessing the sand dunes to protect the road — Man will conquer the Nature	77
Grade-separation of highway and railway	78
Greening and improvement of the road environment	80
An area abounding with antiquities and cultural relics.	
Tourist roads offering hundreds of interesting sites to visit	86
Road Tunnels	94
Main buildings related to roads	98
The remote home of Highway Maintenance Workers in the wilderness of vast mountains	104
Road construction has stepped into a new developing stage	110
The start of the construction of Xi'an — Lintong Expressway	112
The Commencement of Xi'an-Sanyuan Class 1 National Road Construction	114
Wei River Bridge at Caotan is under construction	116

前 言

陝西地處我國中部偏東靠北，面積205,600平方公里，人口2,900萬。境內分爲陝北黃土高原，關中平原和陝南秦巴山區。山、原地帶佔全省面積80%。

陝西是中華民族的發祥地之一，歷史悠久。從公元前11世紀時的西周起，到公元907年的唐末，共有13個封建王朝在境內建都。在長達一千多年的歲月裏，是全國政治、經濟、文化、交通的中心。自宋以後，國都東遷，但仍是聯接西南、西北的樞紐。1840年以後，隨着帝國主義的入侵，中國經濟畸形發展，陝西因係內陸省份，遂日漸落後。中華民國時期，由於軍閥割據，戰禍頻繁，經濟每況愈下。就公路交通來說，1949年中華人民共和國成立時，全省只有公路4,300多公里，且多分佈在關中和陝南、陝北的平川地帶，廣大邊遠和山區根本沒有公路。

當時，公路數量既少，質量也差。路基窄，坡度大，彎道急，只有少數碎、礫石和沙礫簡易路面，絕大多數爲土路，晴通雨阻，行車時速一般只有20公里左右。公路橋樑只有694座，共長1.44萬延米，半永久式和臨

時式佔58%；永久式也多爲磚、石拱橋，鋼筋混凝土和鋼構橋爲數極少。所有橋樑在國民黨軍隊潰退時幾乎全部破壞。隧道基本空白。

中華人民共和國成立後，在中國共產黨的領導下，各項建設事業蒸蒸日上。隨着國民經濟的不斷發展，全省人民艱苦奮鬥，採用國家投資、地方集資、羣衆義務建勤等辦法，專業隊伍和廣大羣衆相結合，努力進行公路建設。到1985年底，全省公路里程達到3.7萬多公里，爲1949年的9倍，全省縣、鄉都通了公路。有路面的里程佔58.4%，高級、次高級路面佔有路面里程的22.3%。

全省公路共有大、中、小橋樑3,903座，總長12.96萬延米。公路跨過的主要江河，大都有了現代化的鋼筋混凝土大橋相通。全省共有公路隧道25處，總長2,381米，橋樑和隧道的設計理論、施工工藝，以及新材料、新技術的應用，隨着科學技術的不斷進步，也日新月異。目前，陝西已擁有一批掌握現代化公路橋隧設計理論和施工工藝的技術力量及先進的施工設備。

A PICTORIAL ON SHAANXI'S HIGHWAYS

INTRODUCTION

Shaanxi Province is situated in the middle of China with the center a little to the northeast. It covers an area of 205,600 square kilometers and has a population of more than 29 million people. The province could be divided into three main topographic parts: The Loess Plateau of Northern Shaanxi, The Guangzhong Plain in the middle and Qinba Mountains Area in the south, some 80 percent of the province consists of mountains and plateau land.

Having a long standing history, Shaanxi is one of the cradles of Chinese civilization. Already from 11 Century B.C., the first Western Zhou Emperor, to the end of the Tang Emperors at 907 A.D., 13 imperial dynasties set up their capitals in the Guangzhou Plain. For more than one thousand years, the province was the political, economic, cultural and traffical center of China. At the end of the period, the Song Dynasties moved the capital to the east of China, but Shaanxi was still the hub connecting the Northwest with the Southwest of the country.

As the result of the imperialist aggression (culminating in the first Opium War), the national economy after 1840 developed abnormally. Shaanxi, as an inland province, was gradually falling behind. During the period of the Republic of China from 1911 – 1949, the local economy steadily deteriorated due to the disasters following frequent warfare between separatist warlords.

Highway traffic was very limited. When the People's Republic of China was found in 1949, there were only some 4,300km of highways in the province, mainly in the Guangzhong Plain and other main river plains. Vast mountains and remote areas had no highway connection.

Traffic conditions on these highways were relatively poor. The roads generally were narrow with many steep climbs and sharp turns. Only a few roads were paved in the most simple way with stone macadam, gravel or sand-gravel. The majority of the roads had only earth surface, where a motor vehicle could obtain a travelling speed of some 20 km/h in good weather conditions only. During rain most of the earth roads were impassable.

On the highways were 694 bridges with a total length of approximately 14,400 linear meters. 58 percent of the bridges were simple structures classified as semi-

permanent or temporary bridges. Although the remaining 42% were classified as permanent bridges, the majority were old brick and stone structures, and only a few bridges were up-to-date structures made of reinforced concrete or steel. Unfortunately most of these were destroyed during the defeat and retreat of the Kuomintang troops.

There were no road tunnels at the time.

After the founding of the People's Republic of China, many construction undertakings in a number of fields have been vigorously carried out under the leadership of the Communist Party. With the development of the National Economy, the people of the whole province have struggled hard to execute the highway construction financed by Government investments as well as locally raised funds and local people voluntarily contributing their manpower. The roads have thus been built both by professional road-builders and by the broad masses of the people.

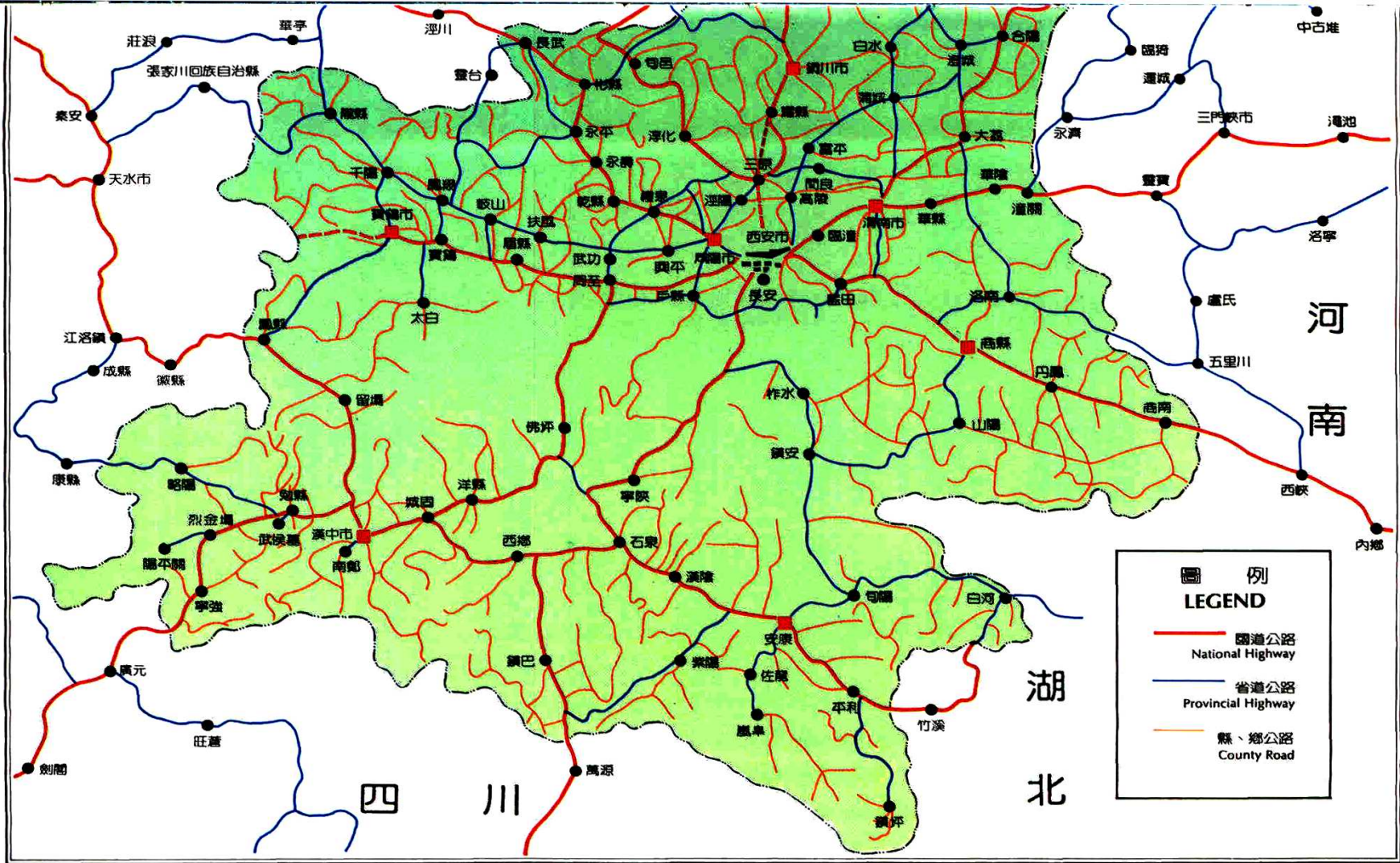
Up to the end of 1985, the total length of highways in the province is approximately 37,000 km, which is more than 8 times the highway length of 1949. We can now drive by road to every county and township in the province.

At present 58.4 percent of the highways are paved, including 22.3 percent with high-type or sub-high-type pavements. There are 3,903 bridges including large, medium and small structures with a total length of approximately 129,600 linear meters. The large bridges across the main rivers are mainly made of modern reinforced concrete.

Shaanxi now has 25 highway tunnels with a total length of 2381 m.

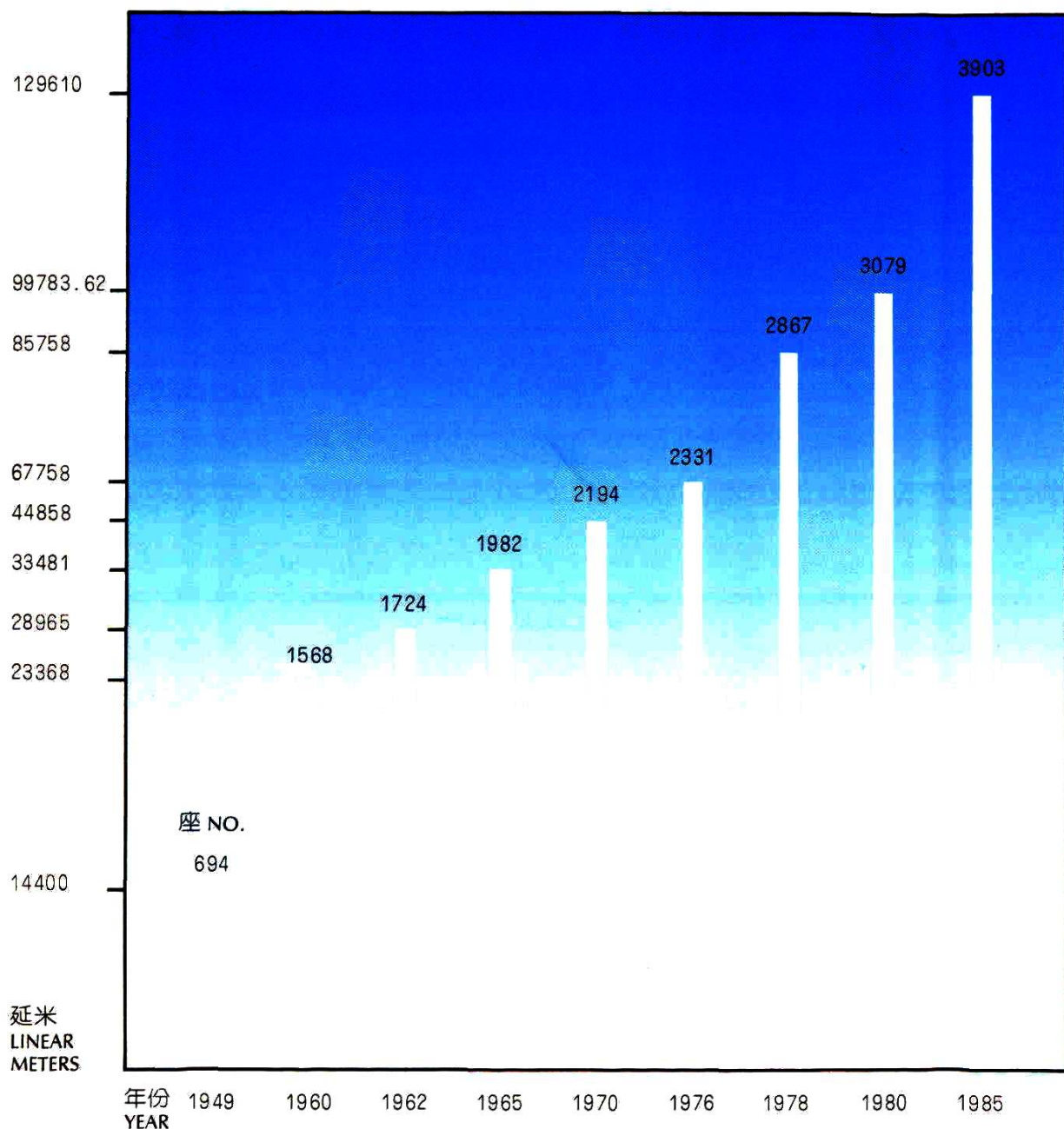
Design theories and construction methods for bridges and tunnels as well as the utilization of new materials and techniques have been rapidly developed and adopted in a continuous process following the progress of science and technology.

Shaanxi is today served by a number of professionals mastering modern design theories of highway, bridge and tunnel as well as up-to-date working methods including the use of advanced construction equipment.



陝西省公路橋樑增長示意圖(1949 - 1985)

The increase in highway bridges in Shaanxi Province (1949-1985)

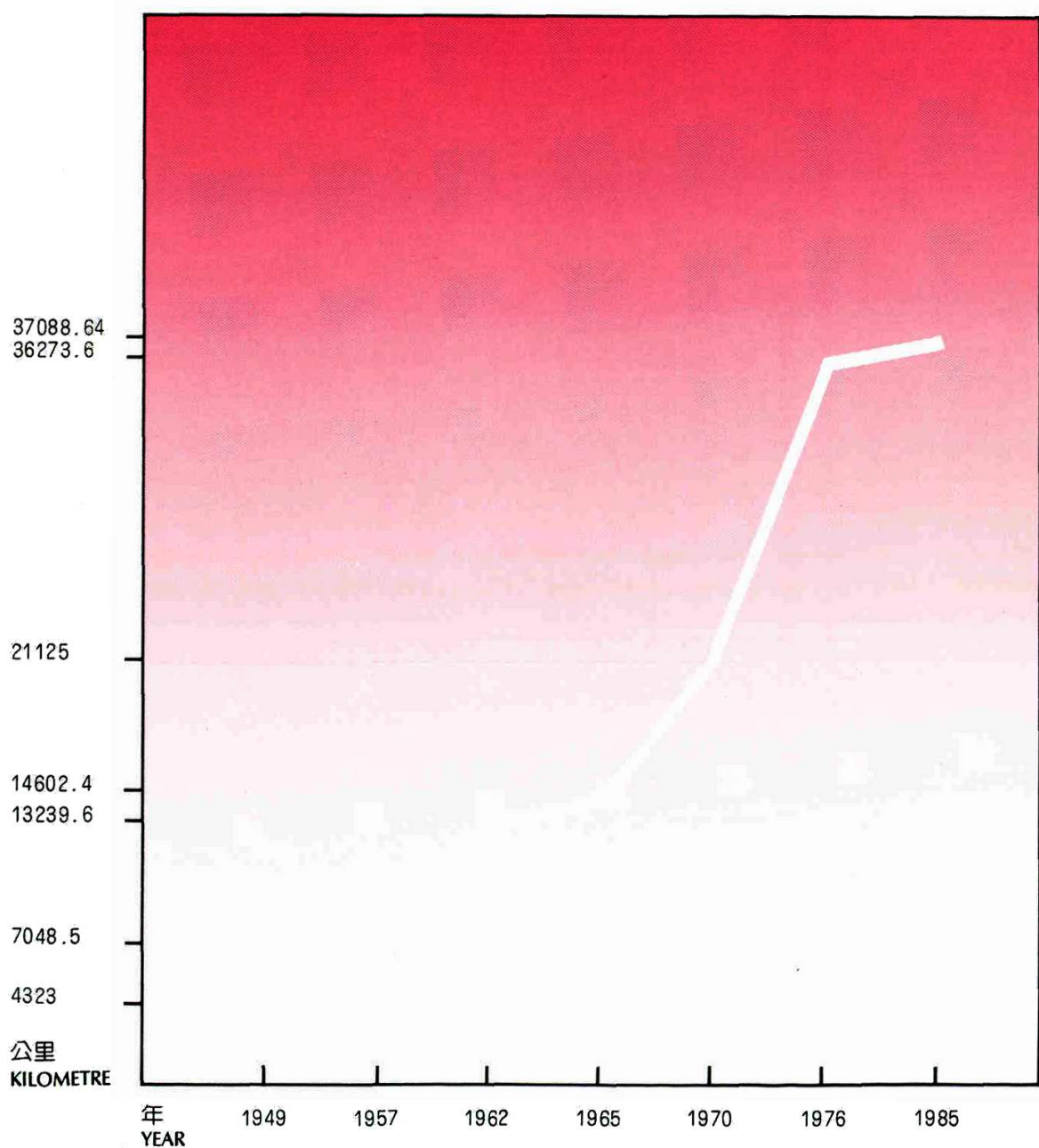


註：1949年橋樑數係民國時修建的數量，國民黨潰退時，大部份遭到破壞。

The number of bridges in 1949 were built during the period of the Republic of China, most of these were destroyed when the Kuomintang troops retreated.

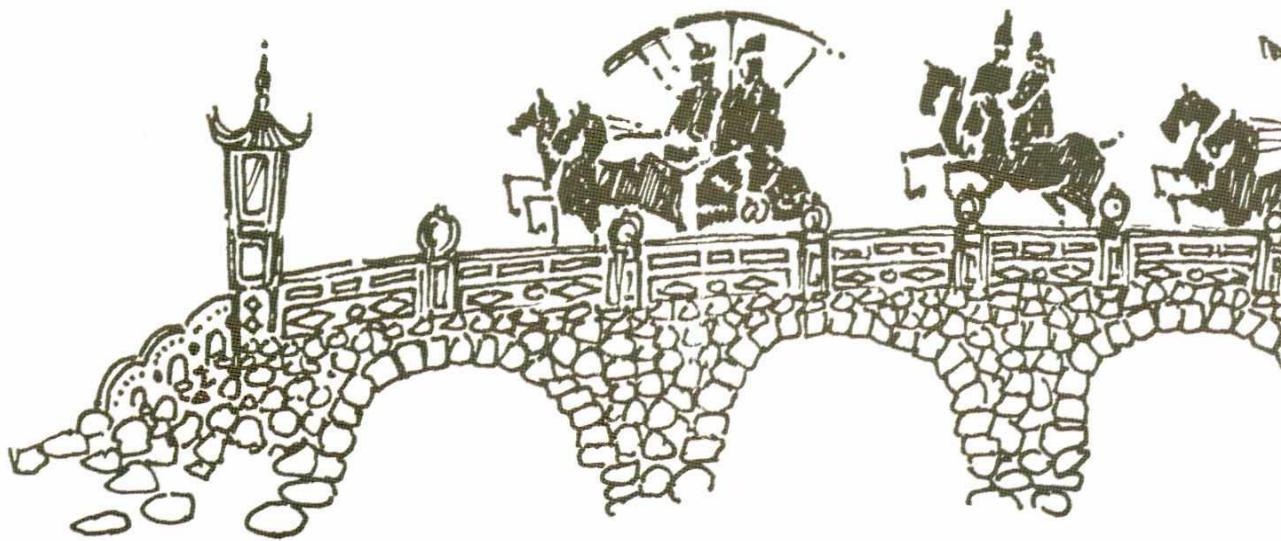
陝西省公路里程增長示意圖(1949 - 1985)

The increase in Shaanxi highway's length (1949-1985)



橋

BRIDGES



歷史悠久的古橋

Some old bridges having a long history

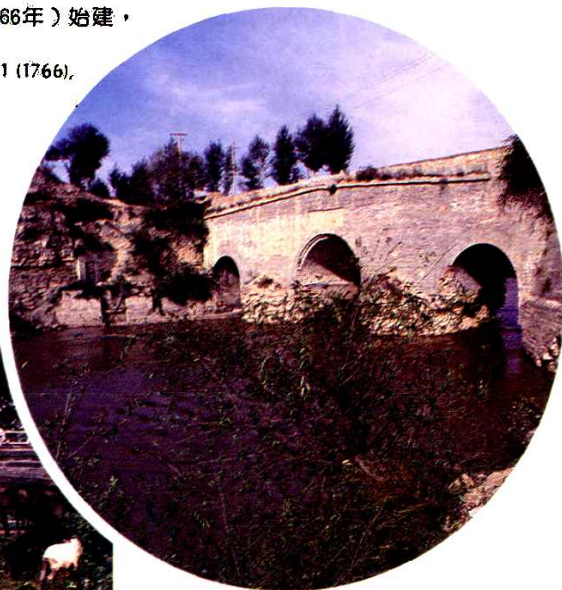


歸德堡橋——清朝乾隆年間始建，水毀後1906年重建。

Guidebu Bridge — first built in Qianlong, Qing Dynasty, rebuilt in 1906 after washout by flood.

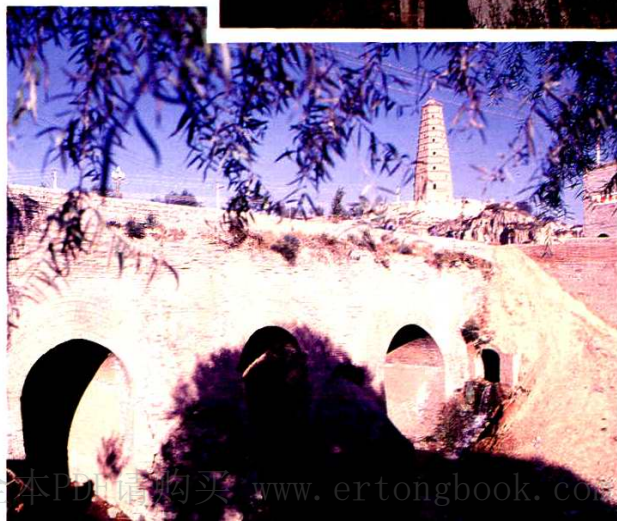


永濟橋——清乾隆三十一年（1766年）始建，
同治元年（1862年）重修。
Yongji Bridge—first built in Qianlong 31 (1766),
rebuilt in 1st of Tongzhi (1862).



塔寺橋——清順治三年（1646年）始建，
道光二十年（1840年）重建。
Tasi Bridge—originally built in 3rd year of Shunzhi
(1646), Qing Dynasty; rebuilt in 20th year of
Daoguang (1840).

三原龍橋——明萬曆三十年（1602年）建成。
Lung (Dragon) Bridge in Sanyuan—built in 30th year of
Wanli (1602), Ming Dynasty.



榆陽橋——明朝中期始建，
清朝三次增修。
Yuyang Bridge—first crossing
built in the middle of the Ming
Dynasty, later rebuilt three
times in Qing Dynasty.