

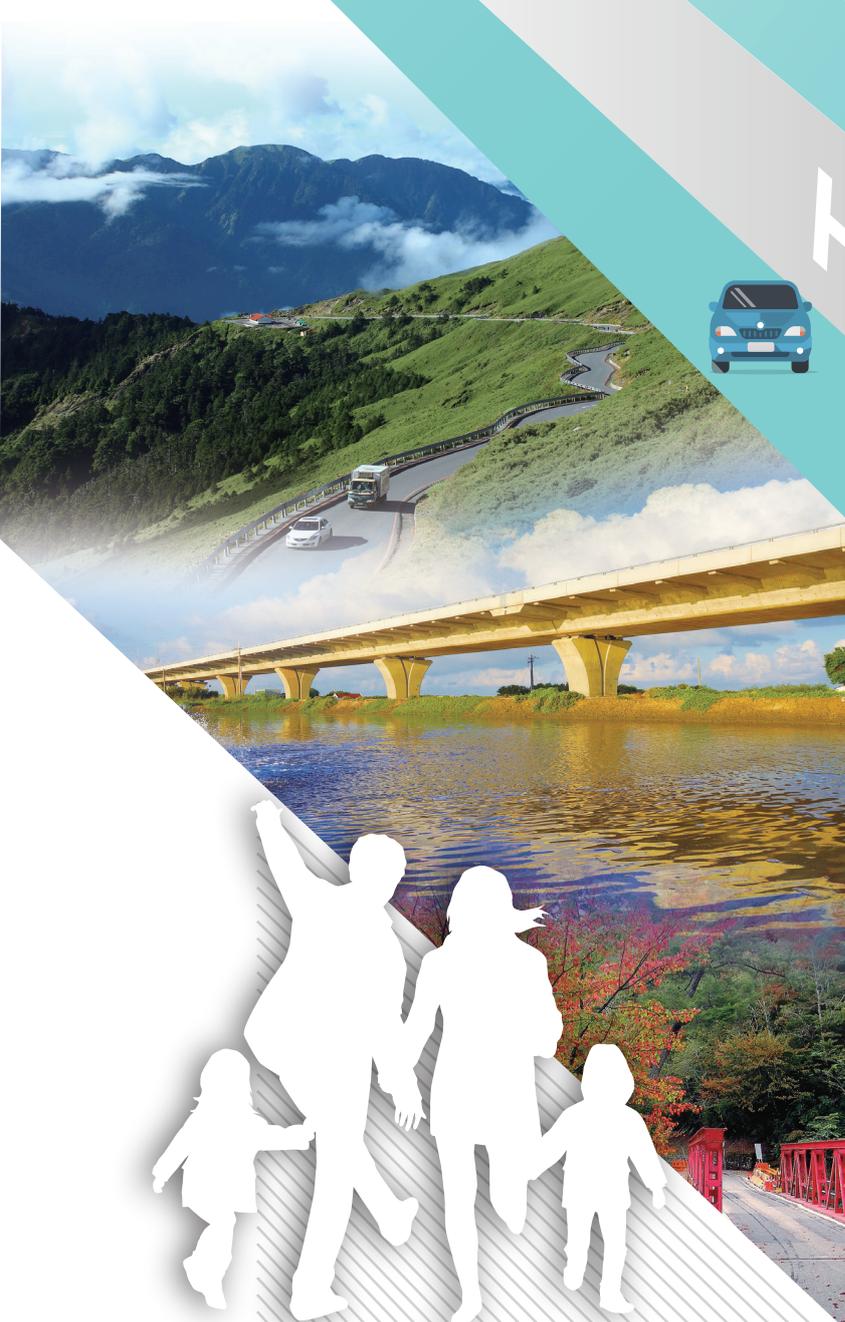


# 交通部公路總局

107年年報

Directorate General of  
Highways, MOTC

Annual Report 2018



HIGHWAYS



HIGHWAYS



# 交通部公路總局

107年年報

Directorate General of  
Highways, MOTC  
Annual Report 2018



# CONTENTS



## 06 局長的話

### Words from the Director-General

#### Chapter 1

## 共創

高效優質  
健全路網

### Create Together

A High Efficiency, Excellent and Sound Road Networks

- 12 啟動：串聯城鄉能量  
生活圈建設計畫  
Initiation: Connecting the Urban and Rural Region-Based Road System Construction Project
- 16 安全回家的路更近了  
台9線蘇花公路山區段改善計畫  
The Safety Way to Home is Closer  
The Suhua Highway of Provincial Highway No.9 Mountainous Section Improvement Project
- 24 提升西部便捷交通網  
西濱快速公路後續建設計畫  
Improving Convenient Transportation Network in the West  
The Follow Up to the West Coast Expressway Continuous Construction Project
- 30 安朔至草埔段C2隧道標北上線  
於107年3月24日貫通  
Northbound Lane of C2 Tunnel Tender of Anshuo-Caopu Section was Holed Through on March 24, 2018

#### Chapter 2

## 共築

人本交通  
美麗行跡

### Build Together

Human-Oriented Transportation, Beautiful Trace

- 36 通往幸福的公路  
台26線護蟹工作  
The Highway to Happiness Crab Protection on Provincial Highway No.26
- 40 努力不懈、如期如質  
省道改善計畫  
Persistent Dedication, Schedule Quality Highway Improvement Project
- 42 前瞻啟動  
道路品質提升伴我行  
Forward Looking Initiated  
Improved Road Quality Along the Way
- 46 公路翻轉、景觀先行  
台9線花東縱谷公路安全景觀大道  
Highway Transformation; Landscape First  
A Safe Landscape Boulevard on East Rift Valley Highway of Provincial Highway No.9
- 50 防災先預警，人車平安行  
Disaster Prevention Starts with Early Warning, Safety Travel for Road Users and Vehicles





Chapter 3

## 共安

多管齊下  
用路安心

### Safety Together

With Multiple Efforts, an Easy Mind to Drive

#### 56 加速汰除法規差異性較大遊覽車

Accelerated Elimination of Tour Buses Not Compatible with Laws and Regulations

#### 58 機車考訓再精進，新手駕駛免慌張

Improved Motorcycle Training and Test, No Panic of New Riders

#### 60 銀髮族駕駛關懷服務揪感心

Making an Extra Effort to Care for the Elderly Drivers

#### 62 臨時通行證及學習證照e指通

Provisional Pass and Learner's License at Your Finger Tips

#### 64 e化服務，汽燃費徵收總額再創高

Vehicle Fuel Fee Collection Hit Record High with Digitalization



# 共利

科技領航  
低碳永續

## Benefit Together

Navigate with Science and Technology, Sustainable Low Carbon

68 完善精進遊覽車 GPS 管理

Improved Management of Tour Buses with GPS

70 幸福巴士計畫，拉近城鄉距離

Happiness Bus Project to Mitigate Urban and Rural Distance

72 公路公共運輸多元推升計畫，全國持續進步

Highway Public Transport Multiple Enhancement Project in Progress Country-Wide

74 前瞻基礎建設計畫推動，改善地方交通及停車問題

Forward Looking Infrastructure Project Promotion Tackles Local Traffic and Parking Problems

76 107年連假、花季疏運全日監控，服務不打烊

24H Monitoring Service During Continuous Holidays and Floral Seasons in 2018

78 省道管理智慧化，提升管理人員作業效率

Provincial Highway Intelligent Management, Improving Management Personnel's Work Efficiency



Chapter 5

## 共進

創新守護  
堅實後盾

### Progress Together

Guarding Innovation, Strong Backup Force

#### 84 率先與友館結盟，共同聯展

Alliance with Partner Museums,  
Promote Joint Exhibition

#### 86 翻轉廉政教育

工程廉政倫理互動式研習

Innovating Education Against  
Corruption Interactive Learning of  
Engineering Ethics

#### 90 通過四合一國際驗證

Qualified for the 4-in-1  
International Certification

#### 92 精進法制作業成果卓越

Improved Legal System Operation  
with Excellent Results

Chapter 6

## 共享

為民治道  
繁榮至善

### Share Together

For the People, Strive for Perfect

#### 96 組織系統

Organizational Structure

#### 98 施政計畫

Administrative Project

#### 99 參賽成果

Competition Results

#### 103 研究發展

Research and Development

#### 104 大事紀要

Major Events

#### 110 預算執行

Budget Execution



局長的話

## 幸福公路 無限綿延

Words from the Director-General

## Happiness Highways Unlimited

四通八達的路網 跨越許多難以踰越的天險

人與人之間的距離不斷在縮短

不只連接地域 更是實現跨文化聯結的重要通道

交通，與民眾日常生活息息相關，亦攸關國家經濟產業的榮枯，對國家未來走向具有關鍵性的影響。公路總局秉持交通部「人本交通、與民同行」的施政目標，以安全、效率、品質及綠色四個面向推行各項政策與服務，期能貼近民眾需求，追求實現公共利益最大的價值。

回顧過去一年，公路總局在國家重大新建工程，交出了具體亮麗的成績，包括蘇花改蘇澳至東澳段開放通車、中仁及仁水隧道全線貫通；西濱快速公路「大甲大安主線高架工程」、「觀音至鳳岡段主線新建工程」、「白沙屯至南通灣段新建工程」完工通車；台9線南迴公路草埔隧道全線貫通等，持續消除瓶頸路段及連結斷鏈，並配合地方政府道路建設需求辦理各項生活圈補助計畫，均衡地方區域發展，逐步完成環島路網的藍圖目標。透過如期如質完成的工程建設，及各項災前、災中、災後等科技化防救災機制，不僅保障民眾安全通行需求，也改善用路的便利性及順暢度，達到兼顧「安全」與「效率」的目標。

除了連結既有路網、便利行旅外，發展公路美學亦是潮流所趨。例如「浪漫台3線」、「台9線花東縱谷公路安全景觀大道」等計畫，即遵循人與環境共生的永續





**Extensive road network, spanning many insurmountable natural hazards.**

**A shrinking distance between people,**

**It is not only connecting regions but also an important channel to realize a cross-cultural connection.**

Transportation, which is highly relevant to people's daily life and the economy development in a society, has critical impacts to future direction of the country. The Directorate General of Highways (DGH) adheres "human-oriented transportation, and walking with the people", the objectives of the Ministry of Transportation and Communications (MOTC), and implements various policies and services in the four aspects, safety, efficiency, quality and green, which is aimed to meet the needs of the public and to bring out the maximum value of public interests.

In the past year, the Directorate General of Highways had achieved brilliant and solid achievements in major infrastructure projects of national significance, including the commissioning of Su'ao to Dong'ao Section of the Suhua Highway Improvement Project, the completed hole through Zhongren and Renshui Tunnels, the completion and the opening of the "Dajia-Da'an Elevated Mainline Project", the "Guanyin to Fenggang Section Mainline Construction Project", the completion and the opening of the "Baishatun to Nantongwan Section Construction Project", and the completed hole through of the Caopu Tunnel of the South Link Highway of Provincial Highway No.9. The Directorate General continues to remove bottlenecks and link up broken chains. The Region-Based Road System Construction Project is applied according to the needs of road construction from local governments. With the timely and quality completion of construction projects as well as various high-tech prevention and rescue mechanism for pre-during and post-disaster period, not only the public demand for safe transportation is ensured, but also the convenience and smoothness of road usage can be improved. Both the "safety" and "efficiency" goals are achieved.

In addition to connecting the existing road networks for the convenience of traveling, the development of Highway Aesthetics is also the trend. For example, the "Romantic Provincial Highway No. 3 Project" and the "Safety Landscape Boulevard of the East Rift Valley Highway of Provincial Highway No.9" are following the sustainable "green concept" of co-existent between human beings and the environment, which is against the traditional planning and design mode and nicely integrated the four goals of "safety, landscape, humanity, and ecology". As such, a comfortable and beautiful road using experience is created.



性「綠色」概念，翻轉傳統規劃設計模式，結合「安全、景觀、人本、生態」四大目標，創造舒心、美好的用路體驗。

同時為了迎接智慧運輸時代的來臨，我們善用科技管理，讓服務更有感、管理更有效，除了完成遊覽車業裝置GPS設備，充分掌握及揭露車輛動態資訊，強化業者源頭管理外，並藉由大數據分析，掌握產業趨勢，與其他機關跨域合作，共享系統資源。此外，開發智慧化省道交控系統，推出「幸福公路APP」，提供用路人即時的道路訊息；貼近民眾需求並簡化行政流程，推出臨時通行證及學習駕照e化作業。各項與時俱進的電子化系統運用，達到簡政便民與智慧化之效益，提升民眾對交通管理「效率」與「品質」的滿意度。

公路總局秉持「人安、車安、路安」的服務宗旨，事事皆以用路人為念。針對提升道路交通安全所做的駕照考訓精進，導引民眾正確駕駛觀念，降低交通事故發生；關懷高齡年長者行車安全，實施銀髮族駕駛關懷方案；鑑於偏鄉地區運輸資源相對不足與公共運輸涵蓋率偏低，推動偏鄉幸福巴士運輸服務，亦對都會區外圍及高齡化村落，加強運輸供給，落實照顧偏鄉弱勢民眾的政策，深獲民眾讚賞與肯定。

每一條道路，帶領人們「連結共好」往希望前行；行駛於路上的車輛，穿梭記錄著幸福的軌跡。為了踐履守護的承諾，公路人夙夜匪懈解決無數難題，同心戮力服務每位用路人。藉由107年年報的發行，我們再次彙集年度耕耘公路園地的點點滴滴，分享在用路便捷與安全上所做的種種努力，期能與全體用路人共同攜手體現「幸福公路、安平美暢」的美好願景。

局長

陳彥伯

At the same time, to meet the coming era of intelligent transportation, the Directorate General of Highways makes the best use of science and technology management to make the service more humanized and the administration more effective. The installation of GPS on tour buses helps to completely control and disclose the dynamic vehicle information, and strengthens the management of operators from the source. Through the analyses of big data, mastering industrial trends, and cooperation across other agencies, the resources from the system are shared. Besides, the development of intelligent provincial highway traffic control system and the launch of "Happiness Highway App" provide real-time road information for road users. Provisional passes and learner's licenses can be applied online in order to address the needs of the public and simplify the administrative process. All kinds of digital systems that keep pace with the times are applied to achieve the results of simplified administration, convenience for the public as well as the digitalization, and to improve the public's satisfaction towards the "efficiency" and "quality" of traffic management.

The Directorate General of Highways upholds the service tenet of "safety of people, safety of vehicles, and safety of roads", everything is considered from the thoughts of road users. For the improvement of road traffic safety, the driver's license training and test were amended to guide the public with correct driving concept so as to reduce traffic accidents. For the safety diving of the elderly, an elder driving care scheme was implemented. To address the transportation problems in rural areas such as relatively insufficient transport resources and low coverage rate of public transport, the Happiness Bus Transport Service was launched in the remote rural areas for serving people in the outskirts of urban areas and those aging communities to enhance the supply of transportation. These policies have won high appreciation and recognition from the public.

Each road leads people to "connect for common good" towards one's hope. Vehicles shuttling on the roads record the trails of happiness. Highway staffs work tirelessly day and night to solve numerous problems and pull together to serve every road user so that our commitments are fulfilled. Through the publication of the 2018 Annual Report, we once again collect every bit of the year's cultivation from the road garden, and share our efforts in facilitating the convenience and safety of the roads. Let's join hands with all road users to fulfill the beautiful vision of "happiness highways, safety and smooth traveling".

Director-General



Chapter 1

# 共創

高效優質  
健全路網

**Create Together**

A High Efficiency, Excellent and Sound  
Road Networks





## 啓動：串聯城鄉能量 生活圈建設計畫

### Initiation: Connecting the Urban and Rural Region-Based Road System Construction Project



苗栗縣銅鑼交流道東延段新闢道路工程，改善苗栗銅鑼科學園區聯外交通，促進地方產業轉型與升級。

The Miaoli Tongluo Interchange East Extension Construction Project, improving the connecting transport of the Miaoli Tongluo Science Park and promoting the transformation and upgrade of the local industries.

### 承先啓後，永續推動

道路交通建設關乎國家競爭力與社會民生福祉，「提升生活品質」、「活絡產業發展」及「永續自然環境」則為道路交通建設的終極目標，也是生活圈道路系統建設的努力方向。

79年臺灣省政府依據「臺灣地區綜合開發計畫」所劃分的18個地方生活圈，陸續擬訂各個生活圈道路系統建設計畫書，自84年起編列預算逐步推動，已近20個年頭，隨處可見生活圈道路建設成果。

本期生活圈計畫道路交通建設計畫（公路系統）原計畫期程104年-107年，中央編列經費300億元，期間配合行政院政策指示調整計畫期程及擴大經費，並以「系統整合、斷鏈補缺及瓶頸改善」為推動重點辦理計畫修正，全案已於107年5月14日奉行政院核定，計畫名稱修正為「生活圈道路交通系統建設計畫（公路系統）8年（104~111）計畫」，除期程延長為8年外，中央編列經費亦增加至439億元，協助地方建構完善路網、提升區域產業運輸效能。

## Linking the Past and the Future, a Sustainable Promotion.

Road traffic construction is related to national competitiveness and social people livelihood. "Improving the quality of life," "promoting industrial development," and "sustaining natural environment" are the ultimate goals of road traffic construction, as well as the direction of living circle road system construction.

In 1990, the Taiwan Provincial Government based on the "Taiwan Area Comprehensive Development Plan" dividing Taiwan into 18 regional living circles, successively drew up the road system construction projects for each living circle. Since 1995, the projects had been budgeted for continuous implementation for nearly 20 years, the results of road construction for living circles can be seen everywhere.

The central government had budgeted the funds of NT\$30 billion dollars for the current phase of the Region-Based Road System Construction Project (Highway System), scheduled originally from 2015 to 2018. Under the guidelines of the Executive Yuan's policy, the scheduled period and budget had been expanded to accommodate the adjustment for "system integration, broken chain remedy and bottleneck improvement". On May 14, 2018, the entire project had been approved by the Executive Yuan and renamed as the "Region-Based Road System Construction Project (Highway System) 8-year (2015-2022) Plan". In addition to the project schedule had been extended to 8 years, the budget from the central government had also increased to NT\$43.9 billion dollars. It was to assist the local authorities to construct complete road network and improve transport efficiency for

regional industry.

## Diversified of Subsidy Events and Making Road Construction Better

The Region-Based Road System Construction Project (Highway System) assisted only the matters of new road construction and widening in the past. However, as the road networks keep expanding in recent years, the maintenance budget of local governments had not increased. It leads to disrepair of roads, poor driving quality, and low service efficiency under the jurisdiction. Moreover, life and property of road users is unsafe. Hence the Directorate General of Highways includes subprojects "Mountain Aboriginal Townships (Districts) Road Improvement Project (Highway System)", "Assisting local governments in accelerating repairing of damaged road and bridge project", and "Improvement of dangerous and bottleneck road sections (highway system)" in the Region-Based Road System Construction Project (Highway System). Resources are allocated to assist the remote rural townships, or the roads required immediate improvement for the repair and eliminating dangerous bottleneck road sections.

In addition, the highway network should bear integrity with longer term planning. To maximize the efficiency of resource investment and reduce the number of broken chain of road networks, as well as to maintain service level, the Region-Based Road System Construction Project (Highway System), starting in 2019, will also assist the local authorities to promote planning of overall network evaluation. It will include the following factors such as the future policy, the transportation strategy, the actual traffic demand, the urban development, and major

## 補助項目多元化，道路建設更完善

生活圈計畫（公路系統）計畫過往僅協助地方辦理道路新闢拓寬事項，考量近年來道路面積持續擴大，地方政府之養護資源卻未隨之增加，致使轄管道路年久失修，造成行車品質低落及未能發揮應有之服務效率外，亦無法保障用路人生命財產安全。爰公路總局於本期生活圈計畫（公路系統）項下新增「山地原住民鄉（區）道路交通改善計畫（公路系統）」、「山地原住民地區公路系統道路易致災路段改善工程」、「協助縣市政府加速整建受損公路橋梁計畫」以及「危險、瓶頸路段改善（公路系統）」等子計畫，匡列部分資源協助偏鄉或急需改善之道路進行整建修復工作，消彌危險瓶頸路段。

另鑒於公路系統路網應有完整性及長遠之規劃，使資源投入效益最大化，減少路網斷鏈並達到應有之服務水準，生活圈計畫（公路系統）

自108年起亦將協助地方推動整體路網評估規劃作業，將未來施政主軸、運輸策略、實際交通需求、都市發展及重大區域建設等事項納入考量，並以達成路網完整串聯及斷鏈補缺為目標進行各項作業，做為未來道路建設之重要依據。

## 路網脈動，連結臺灣

臺灣地區以公路運輸為主幹，公路路網即好比心血管系統，高、快速公路及省道為大動脈，負責身體血液的主要輸送，縣、鄉道等地方生活圈道路則是微血管，負責傳達養分。而生活圈道路系統建設計畫這劑營養劑，協助維護這些微血管的健康，得以順利運作。

為讓臺灣持續躍動起飛，生活圈道路系統建設計畫未來仍將積極推動，協助地方完善道路建設，有效串聯區域路網並促進產業繁榮。



南投縣竹山南雲交流道聯絡道新建工程，強化區域交通服務水準及提升觀光產業發展。

Zhushan Nanyun Interchange, Nantou County, Connecting Road Construction Project, enhancing the regional transport service level and raising the development of the tourism industry.



新竹縣縣道115線20k+016~25k+950段道路拓寬工程，截彎取直，坡度減緩，景觀更為遼闊且提升可視性。  
The Hsinchu County Highway No.115 20k+016~25k+950 Section Widening Construction Project, with the cut-off route and the reduced slope, for more extensive landscape and improved visibility.

regional constructions. The goal of each operation is to build a complete road network and remedy of broken chains, which will be the important basis of road construction in the future.

### The Road Network Links Taiwan

Highway transport is the main trunk of traffic in Taiwan. The highway network is like the cardiovascular system, with the highways, expressways and provincial highways as the main arteries, which are responsible for the main transport of blood in the body, county and village roads of living circle are the microvessels, which are

responsible for transmitting of nutrient. The Region-Based Road System Construction Project (Highway System) is a nutritional agent that helps maintain the health of these microvessels so that they can function smoothly.

In order for Taiwan to maintain continuous energetic activities, the Region-Based Road System Construction Project (Highway System) will be actively implemented in the future to assist local authorities to complete road construction, to build effective regional road networks, and to promote industrial prosperity.

生活圈道路交通系統建設計畫（公路系統）8年（104~111）計畫

Region-Based Road System Construction Project (Highway System) 8-year (2015-2022) Plan

公路系統道路新闢拓寬  
Highway system construction and widening

山地原住民鄉（區）交通改善計畫（公路系統）  
The Mountain Aboriginal Townships (Districts) Traffic Improvement Project (Highway System)

協助縣市政府加速整建受損公路橋樑  
Assisting local governments in accelerating repairing of damaged road and bridge project

山地原住民地區公路系統道路易致災路段改善  
Mountain aboriginal areas road system vulnerable section improvement

危險、瓶頸路段改善（公路系統）  
Improvement of dangerous and bottleneck road sections (highway system)

生活圈道路交通建設計畫（公路系統）補助項目表。

Table of subsidized items of the Region-Based Road System Construction Project (Highway System)

## 安全回家的路更近了 台9線蘇花公路山區段改善計畫

### The Safety Way to Home is Closer The Suhua Highway of Provincial Highway No.9 Mountainous Section Improvement Project

#### 蘇澳東澳段於107年2月5日通車

台9線蘇花公路為東部與北部區域間唯一聯外公路，區域地勢險峻，山區路段大部份臨海鑿岩關建，邊坡因長期風化致侵蝕剝落，又不時面臨颱風豪雨侵襲，公路總局雖已對易災路段進行改善，惟對當地產業運輸及聚落居民之交通往來仍有阻斷之重大風險，為提供往來宜蘭地區安全、可靠的聯外道路－蘇花改計畫最北端的蘇澳至東澳段，自民國101年9月開工以來，歷經1,967天，期間東澳隧道遭遇多重不良環境險阻，在施工團隊全力挹注資源，焚膏繼晷，努力

不懈之堅持下，排除萬難終於完工，於107年2月5日下午4時正式開放通車。

蘇澳東澳段工程為台9線蘇花公路山區路段改善計畫之北部路段，北起宜蘭縣蘇澳鎮蘇澳路南至南澳鄉東岳村，全長約9.7公里，包含蘇澳永樂段（A1標）、東澳隧道（A2標）、東澳東岳段（A3標）3個土建標，以及蘇澳東澳段機電照明（A4標）、植栽綠美化工程（A5標）、零星工程（A6標）及交控工程（E1標）等，設計監造由中興工程顧問股份有限公司承攬，工程總經費約91.1億元。



白米脊背景觀橋全景。

A panoramic view of landscape bridge with the Baimi Ridge as background.

## Su'ao-Dong'ao Section was Opened to Traffic on February 5, 2018

The Suhua Highway of Provincial Highway No.9 is the only connecting highway between the eastern and northern regions. The area is rugged and the mountainous roads are mostly created by coastal drilling. The flake slopes are easily eroded due to long term weathering, they have to face the challenge of heavy rain storms in typhoons. Despite the Directorate General of Highways has been improving the weak sections, but for the local industrial transport and the settlement residents, traffic interruption is still a major risk. To provide a safe and reliable connection towards Yilan area and a reliable connecting road – the northern top section from Su'ao to Dong'ao of the Suhua Highway Improvement Project was started in the September of 2012. In the 1,967 days of construction, the Dong'ao Tunnel had suffered from multiple adverse environment and obstacles. With the full resources from the construction team and the unremitting efforts, the project was finally completed despite all difficulties and was officially opened to traffic at 4:00 p.m. on February 5, 2018.

The Su'ao-Dong'ao Project is the northern section of the Suhua Highway of Provincial Highway No.9 Mountainous Section Improvement Project, starting from Su'ao Road, Su'ao Township of Yilan County in the north to Dongyue Village of Nang'ao Township in the south. The overall length is about 9.7 km, including three civil construction tenders of the Su'ao-Yongle section (A1 tender), the Dong'ao Tunnel (A2 tender), and the Dong'ao-Dongyue section (A3 tender). Together with the electro-mechanical and lighting of Su'ao-Dong'ao section

(A4 tender), planting and landscaping engineering (A5 tender), miscellaneous construction (A6 tender), and traffic control engineering (E1 tender), the total budget is about NT\$9.11 billion dollars. The design and supervision contractor is Sinotech Engineering Consultants, Ltd.

The Su'ao-Dong'ao section includes a tunnel of 3.8 km, a bridge of 4.6 km, and embankment of 1.3 km. In which, the Dong'ao Tunnel is class A highway tunnel. The total length is about 3,380 meters running through the 152 meters high Xiaomao Mountain and the 124 meters high Houyi Mountain, of which both are located in the dense fault area. Plus the high rainfall in the Dong'ao ridge area and high groundwater, the superposition of multiple environmental interference leads to water gushing in the tunnel which is the most severe case in the Suhua Highway Improvement Project. During the upper section excavation, it had encountered the massive time-consuming process of groundwater inflow and cave-in, with a total of 27 incidents (12 in the northbound line and 15 in the southbound line). The overall number of various groundwater inflow and cave-in incidents was 176. The construction process was very difficult. In order to keep the Su'ao-Dong'ao section project on schedule – to be opened to traffic before the Chinese lunar new year of 2018, the construction team including the subcontractors of civil engineering, electro-mechanical, and traffic control tenders worked closely for a seamless integration. The interface interference was inevitable, but each party had the consensus to maintain the working atmosphere the first, the work orders had been readjusted. The civil engineering part was fitted with the demand of the electro-mechanical and traffic control work so that the completion for opening



北口北上線往南 (NS3)-襯砌 (NO.81) 混凝土澆置。

Concrete pouring of the lining (No.81)- of the north end of northbound lane (NS3) towards south.

蘇澳東澳路段，包含隧道3.8公里、橋梁4.6公里及路堤1.3公里，其中東澳隧道為甲級公路隧道，總長約3,380公尺，因經過152公尺小帽山及124公尺猴椅山等密集斷層區，又因東澳嶺高降雨量與高地下水等多重不良環境因素疊加干擾，為蘇花改計畫中隧道湧水最為嚴重的區段，上半斷面開挖階段遭遇較具規模與耗時處理之抽坍與湧水之災害共計有27次（北上線12次、南下線15次），合計176次大小抽坍及湧水處理，施工過程可謂十分艱難。施工團隊為能如期達成任務-蘇澳東澳段工程於107年農曆年前通車，土建、機電、交控各標以及所屬協力廠商施工須採無縫接軌密切配合方式，界面干擾無法避免，所幸各承商均體會以營造且維持施工團隊合作之氛圍為首要，經重新整合工序，土建標配合機電及交控標趕工需求，隧道內改採分區交付之施工方式，各分區完成後立即交付機電及交控工程進行設備建置及測試工作，並於最後分區採機電標

與交控標緊跟土建標施工進度方式進行，此方式雖可縮短機電及交控標設備建置及測試期程，但各標承商施工界面干擾倍增，監造單位除每日晨間召集各標承商滾動檢討前日應完成及後續一週應進行之工作因應外，並每週召開整合會議，整合土木標交付期程及機電與交控標設備建置及測試時程，過程中不免產生施工界面衝突，惟各承商均充份配合以達成通車目標為首要之工序安排，充份尊重監造單位之協調，經施工團隊日夜趲趕，最終於107年2月5日開放通車。

「安全」是改善蘇花公路的中心思想，蘇花公路山區路段改善計畫的目標策略及所有規劃設計，皆以此中心思想來進行與推動，本計畫將持續推動提供東部地區一條安全、可靠的聯外公路，並提升道路安全服務水準及行車舒適性，提供用路人一條安全回家的路，既有蘇花公路（台9丁線）也將活化且提升安全，轉型成為景觀廊道。



東澳隧道避難圖示。  
Evacuation diagram of the Dung'ao Tunnel.

became the primary goal in process arrangement. The team fully respected the coordination of supervision unit, working day and night, and finally had the project opened to traffic on February 5, 2018.

"Safety" is the main concept of improving the Suhua Highway. The target strategy and all the planning and design of the Suhua Highway of Provincial Highway No.9 Mountainous Section Improvement Project are based and promoted with that concept. The project will continue to provide the eastern region a safe and reliable connecting road. Road safety, service level, and driving comfort

will be improved to provide a safe way home for road users. The existing Suhua Highway (Provincial Highway No.9D) will be activated and enhanced in terms of safety. It will be transformed into a landscape corridor.

### The Zhongren Tunnel Continuous Construction (C1A tender) was Completely Holed Through on May 25, 2018

The Zhongren Tunnel is configured as a double-hole one-way tunnel. The total length is 4.7 km long, running through the Feitianpan Mountain which is rock overburden to 1,226 meters, the depth of rock overburden is rare in Taiwan. The construction difficulty is high. The tunnel is facilitated with three connecting tunnels for vehicles, eleven connecting tunnels for pedestrians, and six emergency parking bays. There is one machine room on each end of the north and the south entrances and two auxiliary machine rooms in the vehicle connecting tunnel. From the north to south, the tunnel passes through the following





仁水隧道開挖貫通。  
 Hole through of the Renshui Tunnel excavation.



## 中仁隧道接續工程（C1A標）於107年5月25日全線貫通

中仁隧道為雙孔單向隧道，長約4.7公里，通過飛田盤山，最高岩覆達1,226公尺，岩覆深度國內少見，施工困難度高，內設3座車行聯絡隧道、11座人行聯絡隧道、6處雙向緊急停車彎，南北洞口各設1座機房、車行聯絡隧道內各設2座輔助機房。隧道路線由北往南穿越險峻區域為：片麻岩/大理岩交接段、和中斷層、和中溪崩積層段及高岩覆段。

本隧道施工全程採風險管理，針對地質弱帶輔以地電阻影像（RIP）預先進行地質探查，隧道開挖全程實施不取心前進探查及震波探測（TSP），於施工前提出預警以擬定各項輔助工法施作時機及方式。工程最艱困之地質挑戰「片麻岩與大理岩交界軟弱帶」、「和中斷層與和中

溪崩積層段」及「高岩覆區段」，已分別於104年12月12日、105年8月11日及107年1月3日順利通過。

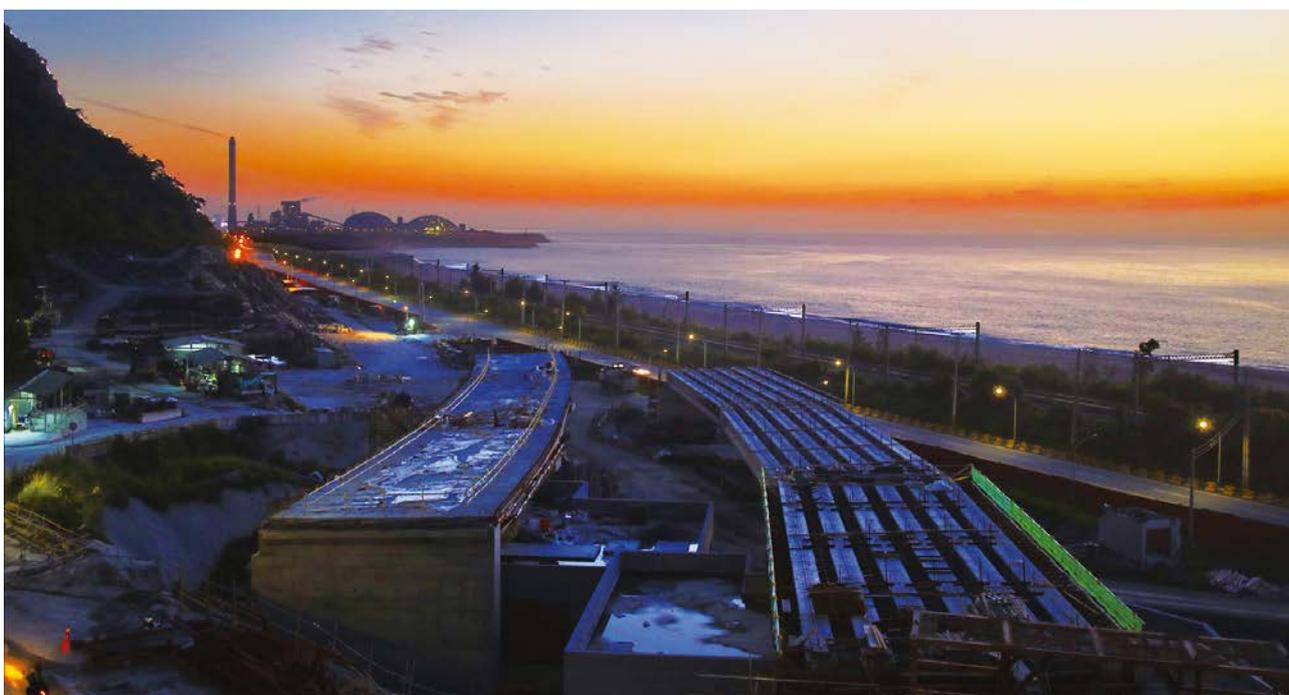
施工期間本工程遭遇不可抗拒之災變-隧道湧水，其中隧道湧水狀況以106年10月18日最大，其出水量達每分鐘113,500公升，當下造成隧道內各工項皆停擺，且隧道外之洞口機房淹滿水，宛如一座大水池。無情的天災仍澆不息施工團隊的奮戰意志，展現出人定勝天的精神，歷經1,047天的努力，隧道上半斷面終於107年5月25日全線貫通，象徵蘇花改計畫又向前邁進一大步。目前正積極趕趕隧道襯砌、北洞口電氣廊道通風管道及擋土牆等要徑作業，在重視安全第一的前提下，仍將持續全力以赴，期能如期如質完成蘇花改和中～大清水段工程，提供東部民眾一條安全回家的路。

dangerous areas: gneiss/marble junction, Hezhong fault, Hezhong Creek colluvial strata and a high rock overburden section.

Risk management is adopted in the whole process of tunnel construction. Geological exploration is carried out in advance for geological weak zone supplemented by Resistivity Image Profiling (RIP). Non-coring forward detection and Tunnel Seismic Prediction (TSP) is carried out in the whole process of tunnel excavation. Early warning is put forward before the construction to formulate the timing and mode of each auxiliary construction method. The most difficult geological challenges of the project, "the weak zone at the boundary between gneiss and marble", "the Hezhong fault and Hezhong Creek colluvial strata" and "the high rock overburden section", were successfully passed through on December 12, 2015, August 11, 2016

and January 3, 2018 respectively.

During the construction period, the project encountered an irresistible disaster - tunnel water gushing, of which the tunnel water gushing condition was the largest on October 18, 2017, with a capacity of 113,500 liters per minute. Relentless natural disasters are still pouring in the construction team's fighting will. By showing the spirit of man to conquer, after 1,047 days of efforts, the upper section of the tunnel was finally holed through on May 25, 2018. It was a symbolic moment of the Suhua Highway Improvement Project and a big step forward. At present, the project is running at full speed on the operations of tunnel lining, the north end electrical corridor ventilation duct, and retaining wall, etc. With safety first, all efforts will continue to be made to complete the Hezhong-Daqingshui section construction of the Suhua



中仁隧道北口和中橋施作。

Construction of the Hezhong Bridge at the north end of Zhongren Tunnel.

## 仁水隧道於107年11月13日貫通

台9線蘇花公路改善計畫最南段標案「C2標仁水隧道新建工程」上半部開挖於107年11月13日貫通，這是蘇花改計畫八座隧道中最後一座貫通的隧道，象徵蘇花改計畫又邁向新的里程碑，貫通儀式由蔡英文總統親臨主持，與會人士尚有公路總局陳局長、區域立委、地方民意代表及施工團隊共同見證此歷史性的一刻。

仁水隧道位在花蓮縣秀林鄉，隧道全長約2.9公里，全區位於太魯閣國家公園內，屬環境敏感地區，為減少總開挖量體仁水隧道為蘇花改

唯一的單孔雙向之隧道，其斷面開挖高度13公尺、寬度17.5公尺，面積達202平方公尺，相較一般雙孔單向隧道斷面增加達60%，是目前全臺斷面最大的公路隧道之一，施工期間開挖方式因受環評限制，施工團隊僅能由北洞口往南進行單一工作面開挖及出渣，導致相關風、水、氣、電等資源設備供應，皆因開挖長度增加而需提高能量及加強維管，增加整體施工難度；另外在地質因素挑戰上，仁水隧道自規劃、設計至施工階段，全程進行風險管理，針對地質弱帶輔以地電阻影像（RIP）預先地質探查，隧道開挖全程實施不取心前進探查及震波探測（TSP），於施工前提出預警以擬定各項輔助工法施作時機及方式，始能安全通過片麻岩與大理岩交界軟弱帶地質的考驗。

仁水隧道自104年4月6日開挖進洞，採用全能工班24小時不停地趕，歷經1,318天努力後終於貫通，後續將緊接著進行南洞口清水溪橋A1橋臺井式基礎及排氣排煙隧道開挖等要徑工作，典禮中蔡總統期許蘇花改工程團隊，效法蘇花先民葦路藍縷的精神，迎接後續的挑戰，為工程界、為蘇花改帶來新的力量、新的願景，這也是東部甚至全國人民的期待。



仁水隧道開挖貫通。  
 Hole through of the Renshui Tunnel excavation.



排氣排煙隧道先撐鋼管鑽設。  
 Drilling for the steel pipe brace of the exhaust smoke tunnel.



南洞口清水溪橋A1橋臺井式基礎開挖。  
 Abutment shaft foundation excavation of the Qingshui Creek Bridge A1 at the south end.

Highway Improvement Project as scheduled to provide a safety way to go home for the people in the east.

## The Renshui Tunnel was Holed Through on November 13, 2018

The upper excavation of the "C2 Tender Renshui Tunnel Construction Project" was holed through on November 13, 2018. It was the southern tip section tender of the Provincial Highway No.9 Suhua Highway Improvement Project, which was the last hole through among the eight tunnels in the Suhua Highway Improvement Project. It was another symbolic milestone of the project. The hole through ceremony was presided over by President Tsai Ing-wen, together with participants such as the DGH Director-General Chen Yen-Po, the regional legislators, the local elected representatives, and the construction team, witnessing this historic moment.

The Renshui Tunnel is located at Xiulin Township of Hualien County. The overall length is about 2.9 km sitting in the Taroko National Park, which is an environmental sensitive area. To reduce the total excavated volume, Renshui Tunnel is the only single-hole two-way tunnel in the Suhua Highway Improvement Project. The height of section excavation is 13 meters, while the width is 17.5 meters. It covers an area of 202 square meters, 60% increase, comparing to that of the general double-hole one-way tunnel. The total cross section is the largest one among highway tunnels in Taiwan. The excavation method of the construction was limited due to the environmental impact assessment restriction. The construction

team can only work from the north end towards the south with a single working face excavation and slagging. It leads to increased resource demands such as ventilation, water, gas, electricity, and other related equipment supply. The increase in excavation length had increased the demand for energy as well as control measures, which increased difficulties of the overall construction. Due to the geological challenges, Renshui Tunnel from planning, design to implementation, overall risk management was deployed. The weak geological belt was monitored with Resistivity Image Profiling (RIP). Geological exploration was performed in advance, and on-coring forward detection and Tunnel Seismic Prediction (TSP) was applied during the entire excavation process. Early warning could be available before the operation to plan the timing and methods of various construction techniques so that the geological challenge of weak gneiss and marble boundary could be safely passed through.

The excavation of the Renshui Tunnel was started on April 6, 2015. 24/7 shifts were deployed around the clock, after 1,318 days of efforts, it was holed-through. The subsequent work included the abutment shaft foundation excavation of the Qingshui Creek Bridge A1 at the south end and exhaust smoke tunnel excavation. In the opening ceremony, President Tsai had expected the Suhua Highway Improvement Project engineering team to follow the hard work exploration spirit of the Suhua ancestors for the challenge of the follow-up construction. It is hoped to bring new strength and new vision to the Suhua Highway Improvement Project, which is also what the eastern residents are looking forward as well as the rest of Taiwan.

## 提升西部便捷交通網 西濱快速公路後續建設計畫

### Improving Convenient Transportation Network in the West The Follow Up to the West Coast Expressway Continuous Construction Project

#### 大甲大安主線高架工程

「西濱快速公路大甲大安路段主線高架新建工程」全長約13.9公里，計畫總經費65億元，主線採雙向各2車道配置，沿線設置房裡、大甲、福住、大安一及大安二等計5處上下匝道。本路段自102年10月開工，工期約4年5個月，施工期間承蒙地方協助及用路人之體諒，經過施工團隊戮力趕辦，終能如期完工通車，提供用路人更便捷安全之運輸服務，通車完工後效益如下：

(一) 本計畫路段原與140線、132線等13處路

口平面交織，路口交通事故頻傳，造成生命財產莫大損失，西濱快速公路大甲大安路段主線高架化改善後，將有助於該路段降低肇事率，提升地區道路安全性。

(二) 西濱快速公路沿線緊鄰數個重大工業區，主線高架化改善後，將可改善平交路口轉向衝突，提升通行安全，分流國道南北往來車流，帶動沿海觀光經濟效益，交通移轉至主線高架橋後增進當地居民通行安全，紓解西部濱海工業區大型車輛車流，節省行車時間及成本。



大甲至大安段完工照片。  
Completion photo of Dajia-Da'an section.

## Dajia-Da'an Elevated Mainline Project

"The West Coast Expressway Dajia-Daan Section Elevated Mainline Construction Project" runs a total length of roughly 13.9 kilometers, with the total planned expenditure of NT\$6.5 billion dollars. The mainline adopts two-way two lane configuration. There are five interchanges along the way at Fangli, Dajia, Fuzhu, Da'an 1 and Da'an 2. The construction of this section started in October 2013. The overall construction schedule is around 4 years and 5 months. Thanks to the assistance from the local community and the understanding of road users, the construction team managed to finish the construction on time and provided more convenient and safe transportation services for road users. The benefits are as follows:

- (1) The planned section has 13 intersections with county highways No.140, No.132 and others. Traffic accidents occur frequently at the intersections, causing great loss of life and property. The improvement of the elevated mainline of Dajia-Da'an section of the West Coast Expressway will help to reduce the accident rate of this section and improve the road safety in the region.
- (2) Along the West Coast Expressway, there are several adjacent major industrial zones. After improvement with the mainline viaduct, it will improve the traffic at the intersections. Traffic safety can be improved. The northbound and southbound traffic of the national highway can be diverted here to drive coastal tourism economics. Diverting traffic to the elevated

mainline can improve the safety of the local residents. It helps to ease the large vehicle traffic of the west coast industrial zones and save the traveling time and cost.

## Guanyin to Fenggang Section Mainline Construction Project

The section opened to traffic is the northern section of the "West Coast Expressway WH10-A Tender 54k+320~60k+312 Mainline Construction Project" and "West Coast Expressway WH10-B Tender 60k+312~64k+005 Mainline Construction Project" in "the Follow-Up to the West Coast Expressway Construction Project". The length is about 10 km, with a budget of NT\$5.03 billion dollars. The mainline viaduct is in two-way two-lane configuration, surface traffic under the viaduct is two-way separated two-lane configuration. In order to highlight the local features, a landscape bridge is designed at the intersection of county highway No.114. It is designed as a monocline tower column asymmetric back bridge. Combining with the design concept of "high mast and long cable, sail and break the tides" of the nearby Yong'an Fishing Port, it shapes the image of "sail with pleasure and returns with full load". The bridge highlights the "Yong'an Fishing Port" as a new landmark. Benefits after completion of the project are as follows:

After this section is open to traffic, it can not only reduce the accident rate at each intersection, but also increase the traffic flow and improve the driving efficiency. It will improve transportation safety, reduce the conflicts at the intersections adjacent to the major industrial areas, divert traffic flow from the northbound and southbound traffic



桃園永安交流道至新竹新豐交流道通車典禮剪綵。

The opening ceremony of the section between Taoyuan Yong'an interchange and Hsinchu Xinfeng interchange.

### 觀音至鳳岡段主線新建工程

本次通車路段為「西濱快速公路後續建設計畫」北部路段之『西快WH10-A 標54k+320~60k+312主線新建工程』及『西快WH10-B 標60k+312~64k+005主線新建工程』，全長約10公里，工程金額約新臺幣50.3億元，主線高架橋採雙向各2車道配置，橋下平面道路則採雙向分離各2車道配置。為彰顯在地特色，於114線交會處，設計一座景觀橋，採單斜塔柱不對稱脊背橋設計，與鄰近永安漁港結合「高桅長纜，揚帆破海」設計發想，塑造『悠遊揚帆，滿載歸航』意象橋梁意涵，創造並突顯「永安漁港」為新地標。通車完工後效益如下：

本路段通車後，不僅可降低各橫交路口肇事率，增加交通流量，提高行車效率，

促進交通安全，並可改善沿線緊鄰重大工業區平交路口轉向衝突，分流國道南北往來車流，縮短行車時程，帶動沿海觀光經濟效益，讓桃竹地區交通網絡更趨完善。並可促進區域內工業與觀光產業經濟發展，結合計畫路段北側臺北港、桃園科技園區、大潭工業區開發，與濱海沿線永安漁港、南寮漁港等觀光遊憩發展。透過台61與台66快速公路系統與國道系統結合，完備北部地區高快速路網，分流國道南北往來車流，縮短行車時程，讓整體交通網絡更趨完善。另快速車流轉由高架橋行駛，平面車道可結合沿線新屋綠色隧道、新豐紅樹林生態保護區等自行車道慢遊活動，創造新型態多功能公路，同一路廊兼具快速通行、慢活通行與綠色活動，作為往後公路運輸新典範。

of national highway, shorten the driving time, promote the economics of coastal tourism. So that the traffic network of Taoyuan and Hsinchu is even better. It can also promote the economic development of industry and tourism industry in the region, together with the development of the Taipei Harbor, Taoyuan Science and Technology Park, and Datan Industrial Zone development on the north side of the planned section, and the development of sightseeing and recreation with the Yong'an Fishing Port and Nanliao Fishing Port along the coast. Through the integration with the No.61 and No.66 Expressway Systems as well as the national highway system, the highway and expressway networks in the northern region will be complete, and divert the traffic flow of the northbound and southbound national highway, so as the journey time can be shortened with the improvement of the overall traffic network. Moreover, since the high-speed traffic is taken to viaduct, the surface lanes can accommodate more light travel activities such as bike ways at the Xinwu green tunnel and Xinfong mangrove ecological protection area along

the road. A new type of multi-functional highway is established. The same corridor can accommodate both fast and slow traffic and green activity. It will serve as a new model of highway transportation in the future.

### The construction project from Baishatun to Nantongwan section

The project of West Coast Expressway from Miaoli Baishatun interchange to Tongxiao interchange covers a total length of about 9.5 kilometers with a total expenditure of NT\$5.53 billion dollars. It is a two-way two-lane configuration with three interchanges at Baishatun, Xinpu and Tongxiao. The project was started in February 2014, with a schedule around 4 years and 2 months. Thanks to the assistance from the local community and the understanding of the road users during the construction, the project was finally completed and opened to traffic as scheduled through the effort of the construction team, providing more convenient and safe transportation services for road users. The benefits are as follows:

- (1) The West Coast Expressway in Miaoli County was completed in 2005. After it is opened to traffic, from Baishatun to Tongxiao is the only section that has not been completed. The temporary joint traffic using the Provincial Highway No.1 often causing traffic congestion in continuous public holidays. After its completion, the project can help to divert the traffic from the Provincial Highway No.1, and relieve traffic congestion of the National Highway No.1 and National Highway No.3. With the improvement of the road network, it can attract more road users



永安至新豐段完工照片。  
Completion photo of the Yong'an-Xinfeng section.

## 白沙屯至南通灣段新建工程

西濱快速公路苗栗白沙屯交流道至通霄交流道工程全長約9.5公里，總經費55.3億元，主線採雙向各2車道配置，沿線設置白沙屯、新埔及通霄等3處交流道。本工程自103年2月開工，工期約4年2個月，施工期間感謝地方協助及用路人之體諒，經過施工團隊戮力趕辦，終能如期完工通車，提供用路人更便捷安全之運輸服務。其效益如下：

(一) 西濱快速公路苗栗縣境內路段於民國94年完工通車後，僅剩白沙屯至通霄路段尚未貫通，暫利用與台1線共構方式銜接，連續假日常造成車流壅塞，於本工程完工後，可達成與台1線車流分流，並紓解國道1號及國道3號壅塞之車流，完善道路路網，增加用路人使用意願，加強台61線快速公路運轉功能。

(二) 提供後龍、通霄與苑裡間便捷舒適之交通服務，促進區域發展及地方繁榮，縮短城際間旅行時間。

(三) 西濱快速公路沿線緊鄰數個重大工業區，具有空間上優勢，本工程完工通車後，將可改善台1線平交路口轉向衝突，提升通行安全，分流國道南北往來車流，帶動沿海觀光經濟效益，交通移轉至主線高架橋，友善當地居民通行安全，紓解西部濱海工業區大型車輛車流，節省行車時間及成本。

公路總局西濱北工處107年度完成之上開三路段完工通車，對於西濱快速公路現階段用路人使用意願，已有顯著提升，並達成預期中之重型車交通流量轉移，對連續假期分散車流、降低台1線及台17線等省道交通事故成效顯著，提供南北長途用路人旅行另一便捷路線，並可提振西部濱海地區經濟發展、人口回流等政策目標。



白沙屯至南通灣段完工照片。

Completion photo of the Baishatun-Nantongwan section.



白沙屯至南通灣段完工照片。  
Completion photo of the Baishatun-Nantongwan section.

and increase the traffic functionality of the No. 61 Expressway.

- (2) It provides convenient and comfortable transportation among Houlong, Tongxiao, and Yuanli, and promotes regional development and local prosperity. It certainly shortens inter-city travel time.
- (3) Along the West Coast Expressway, there are several major adjacent industrial zones. After its completion and open to traffic, the project will reduce conflicts at the intersections of the Provincial Highway No.1. It will improve safety and divert the northbound and southbound traffic flow of the national highway. Coastal tourist economics can be promoted. After diverting traffic to the mainline viaduct, it will be friendly to the local community driving safety. The

heavy vehicle traffic of the West Coast industrial zones can be released and in turns, both the traveling time and cost can be reduced.

The West Coast Northern Engineering Office of the DGH has had the above three projects completed and open to traffic in 2018. There have been increased interests of road users in utilizing the West Coast Expressway. The original expectation has been reached and results in the diversion of heavy vehicle traffic. The ease of traffic during the continuous public holidays has helped reducing traffic accidents on the Provincial Highways No.1 and No.17. It provides a convenient alternative for the north-south long distance road users. It can also help to boost the west coastal economic development, and return of population, and other policy goals.

## 安朔至草埔段 C2 隧道標北上線 於 107 年 3 月 24 日貫通

Northbound Lane of C2 Tunnel Tender of Anshuo-Caopu  
Section Holed Through on March 24, 2018



公路總局陳彥伯局長、賴常雄總工程司、鄧文廣副總工程司、陳保展代理處長、台灣世曦工程顧問王昭烈總經理及互助營造董事長隧道貫通處合影。

Group photo of Director Chen Yen-po of the Directorate General of Highways, Chief Engineer Lai Chang-xiong, Deputy Chief Engineer Deng Wen-kuan, Acting Director Chen Bao-zhan, General Manager Wang Zhao-lie of CECI Engineering Consultant Inc., Taiwan, and the Chairman of Futsu Construction Co., Ltd. at the point of tunnel holed through.

C2隧道標工程主要乃貫通大武山脈銜接屏東縣獅子鄉與臺東縣達仁鄉兩地交通，全長4,706公尺，包含草埔隧道段4,617.5公尺、南口鋼箱梁橋50公尺及路工段工程38.5公尺；隧道採雙孔分離雙向兩車道設計。為縮短施工期程及配合地質條件，隧道採鑽炸法方式採24小時全能工班輪進開挖，本工程在106年獲得勞動部金安獎，並於107年度獲得公共工程委員會金質獎特優。

107年3月24日北上線豎井與北口間第三工作面貫通，由交通部公路總局陳彥伯局長親赴工地主持按鈕儀式，在數聲巨響下，兩工作面終於貫通，陳局長於充滿激動歡喜氣氛的北口工作面迎接穿越貫通面的施工團隊，並與施工團員握手打氣並致贈紅包，感謝施工團隊對台9線拓寬改善計畫無私的奉獻，也代表C2隧道標施工團隊又向前邁進一大步。

The C2 Tender Tunnel Construction Project connects the Shizi Township of Pingtung County and the Daren Township of Taitung County through the Dawu mountain range. The total length of the tunnel is 4,706 meters, including 4,617.5 meters in the Caopu Tunnel section, 50 meters in the steel box girder bridge at the south end, and 38.5 meters in the road section. The tunnel has a dual-hole design separating the two ways, of each has two lanes. In order to shorten the construction time and cope with the geological conditions, the tunnel has adopted drill and blast method for excavation with 24/7 shifts. The project has won the 2018 Golden Safety Award of the Ministry of Labor, and the 2019 Golden Quality Award Superior of the Public Construction Commission.

On March 24, 2018, the third working face between the northbound lane shaft and the north end was holed through. The ceremony was presided over by the DGH Director-General Chen Yen-Po. After several loud noise, the two working faces were finally holed through. Director-General Chen was at the north end with full excitement, welcoming the construction team crossing the hole through point. He shakes hands with the construction members, cheer, and gave a red envelope. Thanks to the construction team's selfless dedication to the Provincial Highway No.9 Widening Project. It marked a milestone for the C2 tunnel construction team of a big step forward.

### **Anshuo-Caopu Section C2 Tunnel Tender was Completely Holed Through on May 18, 2018**

On May 18, 2018, President Tsai Ing-wen, MOTC Political Deputy Minister Wang Kwo-

tsai, Taitung County magistrate Huang Jian-ting, legislator Liu Zhai-hao, legislators Chen Ying, and the DGH Director-General Chen Yen-Po participated in the hole through ceremony of "the Follow-Up to the South Link Highway of Provincial Highway No.9 Widening Project Anshuo-Caopu Section C2 Tender Construction Project". Led by the President and the participating VIPs, the color ball was lit. The last wall was broke through with the blasting and excavator. The construction personnel walked out of the breakthrough point with joy. It is the important symbolic milestone of the Follow-Up to the South Link Highway of Provincial Highway No.9 Widening Project Anshuo-Caopu Section C2 Tender Construction Project. It is a big step toward the goal of open to traffic. The ceremony was simple and grandly, full of joy and expectation.

In her speech, President Tsai affirmed that the design and supervision team of the Ministry of Transportation and Communications, the Directorate General of Highways, the West Coast Expressway Southern Region Temporary Engineering Office, the design and supervision team of Taiwan Shixi Engineering and Consulting Co., Ltd. and the construction team of the Fuzhu Construction Construction Co., Ltd. overcame the challenges of terrain, geology and water gushing to achieve the project objectives. Thanks were given to magistrate Huang and the county colleagues presented at the same time, as well as legislator Liu Zhai-hao who had devoted to the tunnel project along the way.

The President also mentioned that she traveled by car all the way from Taitung center to the southernmost part of Taitung County. Along the way, she could feel that the completed road section



蔡英文總統、交通部王國材政務次長、臺東縣黃健庭縣長、劉櫂豪立法委員、陳瑩立法委員及公路總局陳彥伯局長共同啟動貫通彩球儀式。

The hole through ceremony was jointly hosted by the President Tsai Ing-wen, the Political Deputy Minister Wang Kwo-tsai of MOTC, Taitung County magistrate Huang Jian-ting, legislator Liu Zai-hao, legislator Chen Ying, and Director Chen of the Directorate General of Highways.

## 安朔至草埔段C2隧道標於107年5月18日全線貫通

107年5月18日，由蔡英文總統、交通部王國材政務次長、臺東縣黃健庭縣長、劉櫂豪立法委員、陳瑩立法委員及公路總局陳彥伯局長等人參加「台9線南迴公路拓寬改善後續計畫安朔至草埔段C2標新建工程」草埔隧道全線貫通儀式。在總統與在場貴賓的引領之下，一同點亮彩球，貫通點在爆破與挖掘機的配合之下，突破最後一道牆，施工人員帶著喜悅，魚貫步出隧道貫通點，象徵著台9線南迴公路拓寬改善後續計畫中之C段標工程完成貫通的重要里程碑，並朝通車目標更邁進一大步，儀式簡單隆重，過程充滿喜悅和期待。

蔡總統於致詞中肯定交通部、公路總局、西濱南區臨時工程處、台灣世曦工程顧問股份有限公司設計及監造團隊及互助營造公司施工團隊，克服了地勢、地質、湧水等挑戰，達成工程

目標。同時謝謝在場的黃縣長、縣府同仁，以及長期爭取隧道工程的劉櫂豪委員一路走來的努力。

總統也提到她從臺東市區一路坐車來到臺東縣最南端，沿途確實可以感受到，已經完工的路段，比還沒完工的路段寬敞、平坦許多，通行上更順暢。政府努力做，在兩年後，往來屏東、臺東的車程就可以縮減30分鐘。這不僅會是一條安全回家的路，也將是增加區域合作、促進在地發展的公路。

王國材次長則於典禮中致詞表示，本次貫通之草埔隧道是南迴公路改善計畫最關鍵、工期最長的工程。其開挖過程中發生30餘次大規模抽坍及大湧水事件，但施工團隊克服困難，投入眾多的人員及機具，在物資缺乏及補給不足的地方，仍能按既定計畫，掌控進度。並鼓勵同仁，讓台9線南迴公路拓寬改善後續計畫成為公路工程的典範。

## 安朔至草埔段C1橋梁標於107年9月9日完工

另隧道北口之C1橋梁標位於臺東縣達仁鄉，全長6,300公尺，包含路堤段1,460公尺、高架橋梁段4,840公尺，亦於107年9月9日完工，本工程於既有安朔溪及五福谷溪施作，施工困難度較一般工程高，為避免影響用路人的使用權益，施工期間施工團隊特別維護既有台9線用路人行車安全，注意交通管制與車輛疏運等問題；C1橋梁標及C2隧道標完工後將改善台9線安朔至草埔路段道路線型不佳之運輸瓶頸，提高用路人安全。

台9線南迴公路拓寬改善後續計畫完成後，將使往來臺東至楓港間的行車時間由2個小時縮短為1個半小時，不但大幅拉近臺東與屏東的距離、紓解連續假期台9線山區道路壅塞之現象，並且大幅提升了南迴公路的抗災能力。

was much more spacious and smooth than the unfinished one. The government is working hard to reduce the traveling hours of to and from Pingtung and Taitung by 30 minutes in two years. This would be not only a safe way to home, but also a way to increase regional cooperation and promote development in the region.

In his speech at the ceremony, the Political Deputy Minister Wang Kwo-tsai said that the holed through of the Caopo Tunnel was the most critical and longest project under the South Link Highway Improvement Project. In the process of excavation, there were more than 30 times of large-scale collapse and water gushing events, but the construction team overcame the difficulties, put in a lot of personnel and tools, and could still control the progress according to the established plan in the places where materials were short and supplies were insufficient. The colleague was encouraged to let the Follow-Up to the South Link Highway of Provincial Highway No.9 Widening Project become the role model of a highway project.



安朔高架橋沿著五福谷溪新建造型優美如同山林裡的巨龍。  
The stylish design of the Anshuo viaduct along the Wufu Valley Creek, imitates a dragon in the mountain.

## The Tender of Anshuo to Caopo Section C1 Bridge was Completed on September 9, 2018

Another bridge C1 tender at the tunnel north end is located in Daren Township of Taitung County. The total length is 6,300 meters, including connecting roadway of 1,460 meters and elevated bridge section of 4,840 meters, was completed on September 9, 2018. The project was conducted in both the Anshuo Creek and Wufu Valley Creek. It is of high difficulty compare to general engineering construction. In order to avoid affecting the use and interests of road users, special maintenance during the construction has been made to the Provincial Highway No.9 for driving safety, attention to traffic safety and vehicle control. The completion of the C1 bridge tender and C2 tunnel tender will eliminate the bottleneck of the unsatisfactory alignment of the Provincial Highway No.9 from Anshuo to Caopo section, and improve the safety of road users.

After the completion of the Follow-Up to the South Link Highway of Provincial Highway No.9 Widening Project, the travel time between Taitung and Fenggang will be shortened from two hours to one and a half hours, which not only shortens the distance between Taitung and Pingtung, but also alleviated the traffic congestion in the mountainous area of the Provincial Highway No.9 during continuous public holidays, and greatly improves the disaster resistance capability of the South Link Highway.

Chapter 2

# 共築

人本交通  
美麗行跡

Build Together  
Human Oriented  
Transportation,  
Beautiful Trace





## 通往幸福的公路 台 26 線護蟹工作

### Highway to Happiness Crab Protection on Provincial Highway No.26



公路總局同仁向民眾說明護蟹交管緣由並發放DM。

Explanations of the crab protection project and flyers given by the colleagues of the Directorate General of Highways.

### 公路總局與墾丁國家公園管理處持續 辦理護蟹工作

台26線香蕉灣為學界公認研究陸蟹的天堂樂園，根據陸蟹研究學者劉烘昌博士民國98年與99年的調查，在墾丁國家公園內海岸林及溪流共記錄蟹類7科39種，包括中型仿相手蟹、毛足圓軸蟹、兇狠圓軸蟹、黃灰澤蟹等，多樣性相當高，其中台26線39.5k至41.5k（香蕉灣至砂

島）1公頃面積內高達20幾種陸蟹，為世界上最高歧異度的陸蟹棲息地。

每年農曆6月至9月的月圓3天（15、16、17日傍晚時間）為墾丁地區陸蟹繁殖高峰期，為提高陸蟹行經道路的安全性，公路總局與墾丁國家公園管理處持續辦理護蟹工作，利用「道路縮減交通管制措施」及「陸蟹導引設施」達到行車減速友善陸蟹先行，由於辦理成效良好，受到在地民眾及愛護陸蟹的保育人員肯定。



配合陸蟹喜好粗糙面習性，利用麻繩梯、角材木條導引陸蟹行走地下箱涵安全降海釋幼。

With the crab's preference for a rough surface, the hemp rope ladder and the angle batten are guiding the land crabs towards the underground box culvert for a safe route to the sea and giving birth.

## The DGH and Kenting National Park Headquarters are Jointly Supporting the Crab Protection Project

Provincial Highway No.26 at Banana Bay has been recognized among academic researchers the paradise of land crab study. According to the crab researcher, Dr. Liu Hong-chang, who had conducted a research in 2009 and 2010, there are 7 families and 39 species of crabs off the coast forest and streams of Kenting National Park. It is highly diversified to include *Sesarmops* intermedium, *Cardisoma hirtipes*, *Cardisoma carnifex*, Yellow grey jersey crab, etc. In the one hectare area from 39.5k to 41.5k (Banana Bay to Sand Island) of Provincial Highway No.26, there are as much as 20 several land crabs. It is the land crabs habitat with the world's highest diversity.

Every year, the three days of full moon between lunar June and September (in the evening of the 15<sup>th</sup>, 16<sup>th</sup>, and 17<sup>th</sup> of the month) have been the breeding peak of the land crabs in Kenting area. To improve the safety of land crabs at passing through

the road, the Directorate General of Highways and Kenting National Park Headquarters continue to support the crab protection work. "Road narrowing traffic control measures" and "land crabs guiding facilities" are deployed for slower driving speed and making way to land crabs. Due to the positive feedback, the activity has been more than welcome by the public and the conservationists caring for the land crabs.

## Careful Slow Ride, Careful Give Way

1. A total of 2 kilometers from 39.5k to 41.5k on Provincial Highway No.26 is subject to the "road narrowing traffic control measures". The four-lane road is reduced to two lanes (the outer lane of each direction is temporarily shut down). Traffic cones, warning lights and warning signs are set to remind road users to slow down on this road section. The traffic will be shut down for 10 minutes and re-open for 10 minutes. There is a leading vehicle which controls the speed below 30 km/h for the period during July 27-29, August 25-27, September 24-26 and October 23-25. For the first 3 months, it will be from 18:30 to 20:30, and for the last month, it will be from 18:30 to 20:00.
2. The recently installed CMS board at 39K (southbound) and 41K (northbound) on Provincial Highway No.26, disseminates the information of traffic control location and schedule. The DGH colleagues distributed flyers to the public at the spot and provided explanations.

## Happiness Crab Way, Diverted Way

Professor Zeng Qing-xian of Tsinghua University helped the construction of "land crab guidance facility". In 2018, there were one existing



阻隔帆布塗抹混和牛油可防止黃狂蟻攻擊陸蟹。  
Blocking canvas smeared with butter mixture can prevent yellow crazy ants from attacking land crabs.

★ 台 26 線 39.5k  
實施「道路縮減交通管制措施」  
39.5k to 41.5k on  
Provincial Highway  
No.26 is subject to the  
"road narrowing traffic  
control measures".



## 十分慢行，十分讓路

- 一、在台26線39.5k至41.5k共2公里實施「道路縮減交通管制措施」，將四車道縮減為二車道（雙向各縮減外側車道），並設置交通錐、警示閃燈及警示路牌提醒用路人經此路段減速。管制時間內每封路10分鐘後開放內線道通行10分鐘，通行時以前導車控制車速在30公里/小時以下，執行期間為7月27~29日、8月25~27日、9月24~26日及10月23~25日，前3個月為晚間18時30分至20時30分，最後1個月為晚間18時至20時。
- 二、利用107年於台26線39k（南下）、41k（北上）2處新設之CMS看板傳播交通管制地點及時段訊息，公路總局同仁於現場向民眾發放DM並進行解說。

## 幸福蟹道，車蟹分流

清華大學曾晴賢教授指導打造「陸蟹導引設施」，於107年在台26線39.7k既有1處箱涵、41.4k及41.5k新設2處箱涵共完成阻隔帆布583公尺、麻繩梯176公尺、角材木條155公尺。利用帆布光滑面無法攀爬原理，阻擋陸蟹穿越馬路遭路殺，再配合陸蟹喜好粗糙面習性，利用麻繩梯、角材木條導引陸蟹行走地下箱涵安全降海釋幼，為防止外來種黃狂蟻攻擊陸蟹，相關設施均塗抹混和牛油防止蟻殺，箱涵出口則就地取材以珊瑚礁岩為下梯道。

## 標竿學習，經驗分享

公路總局107年9月25日辦理標竿學習活動，局內暨所屬單位觀摩人員計54人，交通部祁文中次長親至現場瞭解尊重陸蟹生態所做的努力成果，並邀請清華大學曾晴賢教授、陸蟹研究學者劉烘昌博士等人分享護蟹經驗及進行現場解說，本次透過標竿學習觀摩，讓主管人員瞭解陸蟹路殺議題及保育作為，並將學習到的觀念帶回所屬單位，提升對生態議題的重視和支持，達到路殺減緩和交通安全的成效，活動圓滿成功。

box culvert at 39.7k on Provincial Highway No.26 and two new boxes culverts at 41.4k and 41.5k. There are 583 meters of barrier canvas, 176 meters of hemp rope ladder, and 155 meters of angle wood strips. Based on the principle that smooth canvas surface is hard to climb, land crabs were blocking from the road to prevent being kill. The rough surface of the hemp rope ladder and angle batten are guiding land crabs to walk through the underground box culvert for safe traveling to sea to give birth. To prevent foreign yellow crazy ants from attacking the land crabs, the facilities are covered with mixed butter to stop the ants. Local materials of coral reef rocks are used as the stairway at the outlets of the box culverts.

## Benchmark Learning, Experience Sharing

On September 25, 2018, the bench marking

learning activity was held by the DGH. There were 54 observers from the DGH and its subordinated units. MOTC Administrative Deputy Minister Chi Wen-jong attended in person to understand the results of land crabs protection with efforts. Profession Zeng Qing-xian of Tsinghua University and land crab researcher Dr. Liu Hong-chang shared the experience of crab protection and commented at the site. Through the bench marking learning activity, the road management personnel of the issue of road kill land crabs can understand the problem and the protective measures. It is hoped that the idea can be brought back to their subordinated units to promote and support the awareness of the ecological issues. So that the chance of road kill can be reduced, and the effectiveness of traffic safety can be further enhanced. The activity had come to a successful conclusion.



107年9月25日公路總局辦理「台26線39.5k-41.5k(香蕉灣-砂島)護蟹觀摩活動」，圖為交通部祈文中次長、陳彥伯局長及觀摩同仁合影。

Group photo of the Administrative Deputy Minister Chi Wen-jong of MOTC, the Director-General Chen Yen-po of the Directorate General of Highways, and the participating colleagues, at the observation event of crab protection of Provincial Highway No.26 39.5k-41.5k (Banana Bay-Sand Island), held by the Directorate General of Highways on September 25, 2018.

## 努力不懈、如期如質 省道改善計畫

### Persistent Dedication, Schedule Quality Highway Improvement Project

為配合國土空間發展規劃，符合國家整體發展需要，公路總局依據「臺灣地區公路整體規劃」案規劃成果及「行政院所屬各機關中長程個案計畫編審要點」規定，研擬「省道改善計畫（102~107年）」，以期省道公路系統有效提升使用效率、改善瓶頸路段及健全路網完整性。

「省道改善計畫（102~107年）」為永續性計畫，整體考量省道公路系統各項公路、橋梁之修建、改善、安全性提升及防救災應變等各種需求，並以彈性規劃原則，配合政府重大公共建設計畫先期作業時程，持續以滾動檢討方式，考量各項改善計畫（路段）急迫性、安全性、維護管理責任等，以排定年度辦理項目優先順序，在兼顧經濟發展、社會公義及環境保育之永續發展理念下，維持省道公路系統最高效能。

本計畫於107年度完成台21線龍神橋改建工程等1座省道橋梁耐震補強，以使其符合耐震標準，降低地震後可能毀倒及人員損傷，以及2018臺中市世界花卉博覽會周邊省道改善工程計畫等30標其他公路改善修建工程，以提高省道公路系統之機動性、可及性及連結性，俾供用路人安全、便捷、舒適之公路運輸服務，縮短旅行時間，滿足地方產業之運輸需求及促進地方經濟之發展。

公路總局在各位同仁的努力不懈下，已於107年度如期如質完成省道改善計畫（102~107年）之階段性任務，未來公路總局亦將持續為消除省道瓶頸路段、構建完善省道路網、提升省道公路可靠度、安全性及服務品質而努力，以提供用路人最優質的公路系統。



台21線78k+647龍神橋改建工程。  
Provincial Highway No.21 78k+647 Longshen Bridge Reconstruction Project.



台16線15k+361中山橋改建工程計畫。  
Provincial Highway No.16 15k+361  
Zhongshan Bridge Reconstruction Project.

For national spatial development planning, in accordance with national overall development needs, the Directorate General of Highways based on the conclusions of "Taiwan Highway Overall Planning" and the provisions of the "Executive Yuan Subordinated Agency Mid to Long-term Project Planning and Review Guidance", has developed the "Highway Improvement Project (2013~2018)" so as to effectively improve the service efficiency of provincial highway system, eliminate the bottleneck, and enhance the integrity of the road network.

The "Highway Improvement Project (2013~2018)" is a continuing project, with the overall considerations for the provincial highway system, such as the construction, improvement, safety enhancement, and emergency response of roads and bridges. Flexible planning principles are introduced to cope with the schedule of major public constructions. It will be continuously reviewed along the way. The improvement projects (by section) are reviewed for their urgency, safety, maintenance, management responsibility, etc., so that the annual priorities can be determined.

In considering both economic development and social justice under the concept of sustainable development and environmental conservation, the goal is to maintain maximum efficiency of the provincial highway system.

In 2018, the project completed the Provincial Highway No.21 Longshen Bridge Reconstruction Project, the provincial highway bridge had undergone seismic reinforcement to meet the seismic standards and reduce the chance of damage and casualties in the event of earthquakes. There are thirty improvement tenders including the surrounding provincial highways of the 2018 Taichung Flower Expo. It is to improve the mobility, accessibility, and connectivity of the provincial highway system, providing road users with safe, convenient and comfortable service. It is also hoped to shorten the travel time, meet the transportation needs of local industry, and promote the development of the local economy.

The DGH with the efforts of colleagues, has completed the phased task as formulated in the Highway Improvement Project (2013~2018) in 2018. In the future, The DGH will continue to

eliminate the bottleneck, build better provincial highway network, and enhance the quality of provincial highway reliability, strike for safety and quality service, providing road users with the most high grade highway system.



台20乙線0k+000~2k+680、3k+420~6k+800段改善工程。  
Provincial Highway No.20B 0k+000~2k+680, 3k+420~6k+800 Section Improvement Construction Project.

## 前瞻啟動 道路品質提升伴我行

### Forward Looking Initiated Improved Road Quality Along the Way



台3線57k+200~60k段公路設施改善。

Facility improvement of the Provincial Highway No.3 57k+200~60k section.

自106年度起公路總局藉由前瞻基礎建設-提升道路品質計畫已陸續補助各地方政府辦理提升道路品質工程達166案，補助申請持續至110年度，屆時完工後地方政府縣、鄉道公路系統之道路品質將令人耳目一新。

各地方政府之公路建設配合經濟發展，經過數十年新闢拓寬，在量的部分路網已趨於完整，提供產業及通勤旅遊活動便捷的交通基礎設施。但在質的方面仍有路面不平整孔蓋凸出，邊溝排水斷面不足、道路空間綠化程度不足、路燈

標誌及號誌桿未採共桿處理、標誌線過度設置未予整合及道路景觀缺乏人文地景特色等問題有待提升解決。故交通部特研訂本計畫，於106-110年度編列預算經費120億元（106-107年40億元、108-109年80億元），補助各地方政府辦理道路品質整體提升，以提供用路人更平整舒適的道路友善環境。

本計畫乃透過競爭評比旗艦型及提案審議政策輔導型兩種方式補助地方政府，鼓勵各地方政府提出整合型道路品質改善計畫，並依據提案



台3線83~87k段公路設施改善。

Facility improvement of the Provincial Highway No.3 83~87k section.

Since 2017, the Directorate General of Highways has successively subsidized local governments to manage 166 cases of improving road quality through the forward-looking infrastructure - highway quality improvement project. The subsidy application will last until 2021, upon completion the road quality of county and village road systems of local governments will be refreshing.



台3線103k+100段公路設施改善工程完工。

Road improvement project at Section 103k+100, Provincial Highway No.3 has been completed.

The highway construction of local governments is in line with the economic development. After decades of new construction and expansion, the road network in terms of volume has become complete, providing convenient transportation infrastructure for industrial, commuter and tourism activities. However, in terms of quality, there are still some problems to be solved, such as uneven road surface, protruding hole covers, insufficient drainage capacity limited by the cross section of side ditches, insufficient gardening of road space, failure to adopt common poles for street lamp, signs, and signposts, failure to integrate excessive set of signposts, and lack of humanistic features in road landscape. Therefore, the Ministry of Transportation and Communications has formulated this project with a budget of NT\$12 billion dollars (NT\$4 billion dollars in 2017-2018 and NT\$8 billion dollars in 2019-2020) to subsidize local governments for improvement of the overall road quality to provide a smoother and more comfortable road environment for road users.

內容之「既有道路養護整建」、「綠色生態路網建置」、「設立道路幸福設施」及「形塑城鄉人文地景道路」等項目擇優核定。

一直以來各地方政府於道路養護經費不足之情形由來已久，此補助計畫一推出即吸引各

地方政府踴躍提案，106-107年度各地方政府共提案222件，經委員會審議核定，第一期特別預算（106-107年）核定166件補助案件，中央補助金額達69.3億元。

截至107年底，本計畫補助各地方政府之案件，除旗艦型13案尚未施工外，大部分政策輔導型案件皆已進入施工、完工階段，目前已完成路面改善375公里、孔蓋下地4,200個、綠化面積增加8,900平方公尺及改善自行車通行空間55公里，已超過原計畫第一期之績效指標，執行成效日趨顯著。第二期特別預算（108-109）之補助案件，亦正如火如荼地展開，相信在公路總局同仁努力下及各地方政府單位之積極配合，第二期特別預算之執行亦能如質如期完成。



高雄市-美濃區高140 1k+800~4k+600道路改善。  
Road improvement of Kaohsiung City-Meinong District - Kaohsiung County Highway No.140 1k+800~4k+600 section.



宜蘭縣-宜4線4k+680~5k+200道路改善工程。  
Road improvement of Yilan County Highway No.4 4k+680~5k+200 section.

This plan supports the local governments in two ways: the flagship competition type and the proposal review policy guidance type. Local governments are encouraged to put forward the conception of integrated road quality improvement plan, and according to the proposed content of "the maintenance of the existing roads", "the building of green ecological networks", "the setting of road happiness facilities", and "the shaping of the urban and rural human cultural landscape roads", excellent projects are selected for approval.

There has always been an issue of insufficient road maintenance budgets among the local governments. This subsidy plan had brought up the attention of the local governments when launched. There were 222 proposals from the local governments in 2017-2018. Out of those, 166 proposals were approved by the committee for the special budget in the first phase (2017-2018). The total amount of central subsidies is as

large as NT\$69.3 billion dollars.

By the end of 2018, the cases of local government subsidies, except for the thirteen flagship projects that have not yet implemented construction, most of the cases of policy guidance type are at the stage of construction and completion. It has now completed road improvement of 375 kilometers, 4,200 hole cover elimination, increased green area of 8,900 square meters, and improved cycling path of 55 kilometers, which are more than the performance index of the first phase in the original plan. The outcome of the projects has become increasingly significant. The special budget (2019-2020) of the second phase is also in full swing. We believe that the implementation of the second phase can be completed as scheduled with the efforts of colleagues of the DGH and the active cooperation of local government departments.



臺中市-后里區（中30、中41、中41-1、中44線）道路改善。

Road improvement of Taichung City-Houli District (Taichung County Highways No.30, No.41, No.41-1, and No.44).

# 公路翻轉、景觀先行 台9線花東縱谷公路安全景觀大道

Highway Transformation; Landscape First  
A Safe Landscape Boulevard on East Rift Valley  
Highway of Provincial Highway No.9



台9線是花東縱谷區唯一兼具生活、遊憩及產業運輸功能的幹道，深切影響花東地區的生活、發展與遊憩品質，其改善工程也承擔了眾人對於交通快速、便捷、安全、觀光發展、促進商機等多元期待。因此本計畫翻轉傳統規劃設計模式，先行辦理景觀規劃（景觀先行），設立「安全、景觀、人本、生態」四大面向目標，同時兼顧道路兩旁的環境脈絡與社會需求，規劃台9線成為複合與多功能的道路。





台9線大禹路段田野遼闊夾於群山間，路側綠帶茂密豐富。（空拍圖）

The Provincial Highway No.9 Dayu section has board fields sandwiched in between the mountains, of which the roadside green belt is dense and rich. (aerial photo)

The Safe Landscape Boulevard on the East Rift Valley Highway of the Provincial Highway No.9 is the only highway with the functions of life, recreation, and transportation in the east rift valley area, which deeply influences the east area in terms of living, development, and quality of recreation. The improvement works are providing people with reduced traffic time, convenience, safety, and tourism development, it also helps to promote business. Therefore, this plan reverses the traditional planning and design mode, takes care of the landscape planning first (landscape first), and sets up the four goals of "safety, landscape, human-oriented, and ecology". It has taken into account the environmental context and social demands on both sides of the road, making the Provincial Highway No. 9 a composite and multi-functional road.

In response to the change of planning and design mode, the Directorate General of Highways

brought together experts and scholars of different backgrounds and built a "landscape consultant team". From June 2017 to October 31, 2018, six site review meetings with the advisers and five "citizen participation workshops" have been held. It is to invite the opinions of residents and experts for joint participation in the planning of the future safe landscape boulevard, as well as for the implementation of the local communication, proposed settlement area, and the local adaptive measures for the landscape area and ecological regions. The case of landscape planning was completed on November 30, 2018, with the whole road landscape planning terminal report approved.

The existing trees along the roadway of the project section, such as the mango trees, camphor trees, phoenix wood, etc., grow very well, which form the important landscape green corridor. Hence, having the goal of the "save the roadside trees", the highway construction project



玉里至東里路段保留大面積完整自然森林，為減少大挖大填規劃為高低分離路段。(模擬圖)  
The Yuli-Dongli section retains a large area of intact natural forest and is configured as a high-low divided section to reduce major excavation and refilling. (simulation)

配合規設模式改變，公路總局邀集不同背景之專家學者成立「景觀顧問團隊」，自106年6月至108年3月底止，辦理6次顧問現勘研商會議及7次「公民參與工作坊」，廣納居民及專家意見，共同參與未來安全景觀大道之規劃工作，落實在地溝通，提出聚落區、景觀區與生態區之因地制宜方案，本案之景觀規劃作業已於107年11月30日完成全路段景觀規劃期末報告核定。

規劃路段沿線既有喬木（如芒果樹、樟樹、鳳凰木等）生長良好，是在地重要的景觀綠廊，爰本計畫以「路樹保留」為目標，道路工程配合既有綠帶與環境資源調整，保留在地居民對花蓮的重要環境記憶，塑造更符合花東地標性的路廊。其次，在安全前提下減少混凝土設施物，突破傳統以凸起緣石作邊界，規劃綠帶改以「無緣石草溝」規劃設計，大幅度減少傳統道路一貫使用的生硬設施，並在公路隙地納入LID（低衝擊開發）設計理念。其中大農大富路段藉由公有地的整合，重新配置為6~8.8公尺寬



玉里至東里進聚落段前擴大中央綠帶，提醒用路人降速，兼顧安全與景觀。(模擬圖)  
The green belt between Yuli and Dongli has been enlarged to enhance beauty and safety, reminding drivers to slow down. (simulation)

的中央綠帶，融入雨水花園概念施作草溝，豐富了公路景觀，更希冀成為環保公路之示範路段。

本計畫期能充分考量公路在地環境特質進行規劃設計，突破過往工程導向的思維，開創全新的想像契機，讓用路人在每個時節到訪都能有不同以往的舒適體驗。



大農大富路段中央綠帶融入雨水花園理念，豐富公路景觀與生態。（模擬圖）

The central green belt of Danong-Dafu section blends the concept of the rainwater garden, enriching the highway landscape and ecology. (simulation)



光復糖廠隙地整合250k。

Guangfu Sugar Factory has integrated vacant lots at 250k.

accommodates both the green belt and the adjustment of the environment resources, keeps the important environmental memory of the residents in Hualien, and shapes the east coast landmark highway corridor. Secondly, on the premise of safety, the project reduced the number of concrete facilities, eliminated the conventional bump curbs, introduced "curb-less grass ditches" for the design of the green belt. It has greatly reduced the rigid facilities used in traditional highway construction, and implemented the rainwater garden where LID (low-impact development) and design intention are included. Integration with the public lands, the

Dafong-Dafu section is reconfigured with a 6-8.8 meter wide central green belt, which underlines the concept of rainwater garden for building grass ditches and enriches the highway landscape. It is hoped to become a demonstration section of an environment-friendly highway.

This plan is intended to fully consider the characteristics of the highway environment in the planning and design. The conventional engineering-oriented thinking was breakthrough for a new imagination opportunity, that road users in every season can have a different experience of comfort.

# 防災先預警 人車平安行

## Disaster Prevention Starts with Early Warning Safety Travel for Road Users and Vehicles

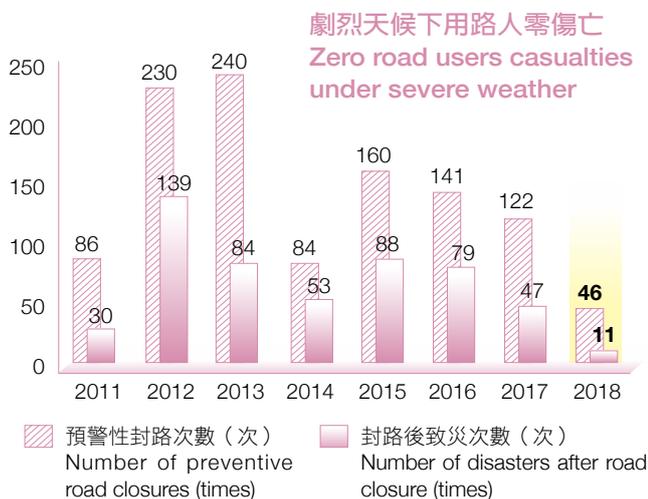
### 天候監控與指揮應變

公路總局持續落實「公路防救災預警機制」，於107年經歷4場致災性劇烈天候，0613豪雨、瑪莉亞颱風豪雨、0823熱帶性低氣壓水災及山竹颱風，公路預警性封閉46次，其中11次封閉後發生災情，因預警管制暨封路得宜於劇烈天候下無發生用路人傷亡之情事。

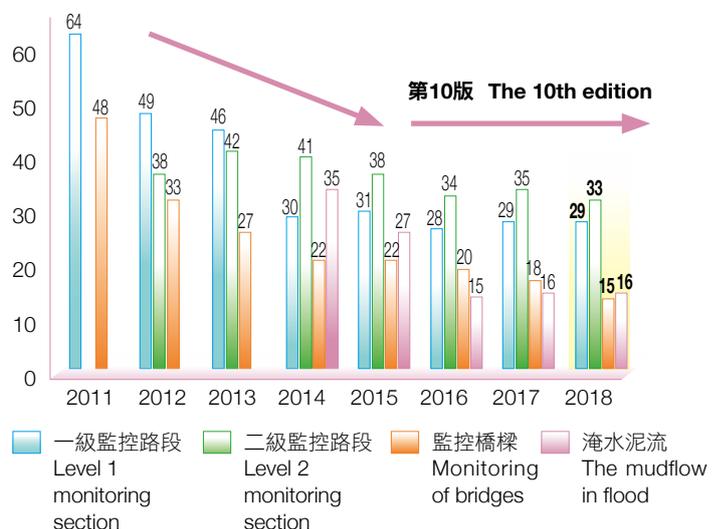
前揭機制於天候監控部分主要區分為兩個面向，一為災前看雲，另一為災中看雨，災前看雲部分首重氣象情資研判分析及其加值運用，公路總局及所轄養護工程處皆有委託氣象及水情監控專業服務，藉此辦理各項氣象預判、分析、防

災研究及防災監控。另災中看雨部分係利用地理資訊化的即時累積雨量圖（10分鐘更新產製）套疊運用監控應變，公路總局並以全流域管理配合氣象局QPESUMS系統及水保局次集水區律定降雨門檻值，據以執行監控橋梁之防災預警應變工作，並持續檢討律定一、二級監控路段62處、監控橋梁15處及公路易淹水、水瀑泥流區域16處，視每次颱風豪雨下高風險公路致災程度及頻率調整並不斷修正預警、警戒及行動值之多重降雨指標，截至107年年底共修正10個版本，皆公布於公路總局全球資訊網之防災特報專區內。

● 歷年預警性封路與致災比率圖  
Chart of the preventive road closure versus the disaster ratio over the years



● 重點監控路段橋梁及淹水泥流水瀑路段各年度彙整統計圖  
Annual statistical diagram of the key monitored sections for bridges, flooding, mudflow, and underground water case



## Weather Monitoring and Command Response

The Directorate General of Highways continues to carry out the "highway disaster prevention early warning mechanism", in 2018 suffering from four severe weather conditions, including June 13 rain storm, Typhoon Maria, August 23 tropical depression flooding, and Super Typhoon Mangkhut, there were 46 times of road closure based on the early warning. Out of which, there were 11 incidents where disaster occurred. Since the early warning has resulted in road closure, so that there were no casualties of road users under those severe weather conditions.

There are two major aspects of the above-mentioned mechanism of weather monitoring. One is to look for the cloud before the potential disaster, and the other is to look for the rain during the disaster. The pre-disaster cloud observation relies on the analysis of weather intelligence study and analysis, and its added-value application. The DGH and its subordinated maintenance offices have contract services from the weather and water information monitor professionals to cope with all kinds of weather forecasting, analysis, disaster prevention research, and disaster monitoring. On the rain side during the disaster, it relies on the geographic information of real-time cumulative rainfall (update every 10 minutes). The combined information is helpful to disaster monitoring response. The watershed and river basin management is combined with the QPESUMS system of the Central Weather Bureau and the rainfall thresholds value in secondary catchment areas from the Soil and Water Conservation Bureau, assists the monitoring for bridge disaster



公路總局應變中心作業情形。

Tasks performed by Emergency Response Center, Directorate General of Highways

prevention. There are 62 level one and level two monitoring road sections, 15 monitoring bridges, and 16 potential flood and mud flow area of the highway. Depending on the degree and frequency of disaster under the typhoon or heavy rain, adjustment will be constantly revised for indexes of early warning, alert and action. By the end of 2018, a total of 10 revisions had been published in the disaster prevention special report section on the website of the DGH.

## Operation Procedures and Drills

At the beginning of the year 2018, the DGH completed five rounds of natural disaster strategy exercises for each district maintenance office. The strategy exercises focused on the decision-making of emergency response team members and shifted supervisors at the command level. The situational scenarios are from case exercises between 2011 and 2017 to strengthen the weakness. In 2018, the natural disaster strategy exercise returned to normal exercise, handled senior level exercise between the DGH and its subordinated offices. In review of past pre-flood season exercises, from 2012 to 2013, it was the infancy stage of exercise. In 2014-2015, it was at the thriving stage with the concept of both

## 作業擬訂與演訓整備

公路總局於107年度年初完成各區養護工程處辦理107年度天然災害兵棋推演共5場，兵棋推演著重緊急應變小組成員及指揮層級輪值主管之指揮決策，情境想定係藉由100至106年間實例演練以進行弱點強化；107年天然災害兵棋推演將回歸兵棋推演宗旨，辦理局對處之高司演練；回顧往年於汛期前辦理兵棋推演，101~102年為兵棋推演萌芽階段，103~104年增加縱橫向聯防單位，係為茁壯階段，105~106年融入重大災害實兵演練，係蛻變階段，發展演變迄今，107年定調為成熟內化階段，驗證往年推演成果，持續熟練展演各類天然災害情境，提升各層級指揮官對防救災節奏要領及緊急應變處理能力。

為順行防汛期間之應變處置機制運作，公路總局轄管工程處（段）亦於年度汛期前完竣實際演練共57場，其中包含模擬颱風、地震、淹水及隧道等天然災害對轄管公路所造成之災情應變，使執行防災應變之第一線人員更加熟稔各項應變處置作為及通報機制，強化公路總局公路防災預警機制。

公路總局於107年度針對不同教育訓練內容

及對象共計辦理3項教育訓練（研習）課程，每年調訓人次100餘人，各項災害防救講習訓練對象，相關災害防救之主管及承辦人員均規定參加，以利防救災業務後續推動與經驗傳承。

## 建置崩塌機率模組與運用 UAV協助勘災

近年來氣候變遷，高頻率強降雨事件將可能持續出現，水所發生的災害（包含洪水、土石流、邊坡崩塌）在未來將會面臨更嚴苛挑戰，公路總局於不斷精進檢討公路致災風險，導入運用歷史災情數據統計，建置崩塌機率模組，期使於災前量化即時風險值啟動防災管理，實質反映道路抗災能力，於防災初期布署具相當高的決策支援價值，以降低無預警強降雨罹災風險。

另於災後為使建立流程迅速勘災，公路總局融入智慧防災元素，107年度於平時已運用 UAV/S來協助找出不穩定區，並針對易致災路段辦理空拍建模等作業，盤點孤島地區或易致災路線，依公路特性選用飛行設備，測試並錄製最佳飛行軌跡及坐標，災後迅速依預先規劃之飛行軌跡自動飛行航攝，以達到發生災害快速勘災，並可有效節省人力，增加勘災範圍，維護搶救災人員安全。



vertical and lateral joint defense units. In 2016-2017, it was at transformation stage to cope with real scenarios of major disasters. So far up to 2018, it had entered the mature stage of internalization. Continuing review of the past drill experiences while performing drills for various natural disaster situations, promote commanders at all levels with the capability of proper procedures for disaster prevention and relief, and emergency handling.

To streamline the emergency response mechanism in flood seasons, the DGH subordinated engineering and maintenance offices (sections) have performed 57 drills before the annual flood season. In which, simulated scenarios of typhoons, earthquakes, flooding and tunnel disasters were included for disaster responses of highway under respective jurisdictions. The first line staff was getting more familiar with various standard procedures and reporting mechanism, so as to strengthen the overall capability of the DGH in disaster prevention and early warning mechanism.

In 2018, the DGH handled three educational training (study) courses with different contents for various participants. With more than 100 people being attended and trained every year, the training participants of all disaster prevention and relief seminars and training were the relevant supervisors and handling personnel, they were required to participate in order to facilitate and follow up the disaster prevention and relief operation.

### Build and application of collapse probability module UAV assisted disaster survey

Climate change in recent years results in the events of high-frequency heavy rainfall. The water disasters (including floods, landslides, and slope



collapses) will bring an even more severe challenge in the future. The DGH in continuous diligent review the risk of the highways, has collected historical disaster statistics for the establishment of collapse probability module. So that the quantitative real-time risk value can initiate the disaster prevention management measures before the disasters. The capability against the disaster of the highways can be brought up to the edge. The high value decision support is provided for the deployment in the early stage of disaster prevention and reduces the risk of the heavy rainfall without any early warning.

In order to make quick response in the post disaster stage, The DGH has merged the wisdom of disaster prevention in 2018 to include UAV/S for the identification of instability regions and vulnerable sections, check isolated regions or vulnerable sections. Such flight equipment can be flexible in accordance with the highway features. Tests and record have been done for the best flight trajectory and coordinates so that in the post-disaster stage aerial photos can be taken according to the pre-determined flight trajectory, such that actions of disaster inspection can be quickly taken. It can effectively save manpower, increase the scope of the disaster survey, and most importantly keep the rescuers safe.

Chapter 3

# 共安

## 多管齊下 用路安心

Safety Together  
With Multiple Efforts,  
an Easy Mind to  
Drive





SENIO HIGH SCHOOL

## 加速汰除法規 差異性較大遊覽車

### Accelerated Elimination of Tour Buses Not Compatible with Laws and Regulations



106年2月13日發生遊覽車翻車事故，引發社會大眾對於傾斜穩定度與車身結構強度等法規熱烈關注討論，因此公路總局著手檢討該兩項車輛安全法規推動實施過程中，因其不同年期導入之差異性研擬分級分群管理之可行措施。針對88年6月30日以前出廠遊覽車，已利用經濟誘因方式，加速汰除該等車輛。截至107年12月31日止已有516輛完成報廢，至於尚未報廢車輛，轉成專辦交通車業務使用，並於108年12月10日後不得繼續使用。為建立未來遊覽車隨其車齡使用之制度性管理機制，公路總局續研擬遊覽車辦理相關延壽作業，所擬之制度性機制說明如下：

遊覽車出廠年份屆滿15年前後1年內，應依下列規定完成車輛安全查驗，並向公路主管機關申請使用營運。

(1) 依道路交通安全規則完成辦理底盤安全檢

修及車體重新打造者，得繼續使用五年當遊覽車。

- (2) 依道路交通安全規則僅完成辦理底盤安全檢修者，得繼續使用三年當遊覽車。
- (3) 未依前述規定辦理者，應以專辦交通車業務使用為限。
- (4) 規定實施後，其出廠年份已屆滿15年以上者，應於3年內依前述規定辦理營運使用。若其出廠年份已屆滿十八年者，於出廠年份屆滿二十年起，應以專辦交通車業務使用為限。

公路總局從法規差異性之面向並參酌各領域專家學者等意見，特將遊覽車分級分群管理並據以擬定遊覽車安全查驗後並向公路主管機關申請使用營運登記及退場機制措施，俾強化遊覽車管理，維護大眾乘車安全。



檢驗人員辦理遊覽車車身外觀及安全設備無線錄影。  
Wireless videoing by inspector on the vehicle body and the safety equipment of tour bus.

There was an accident that happened on February 13, 2017. The public paid great attention to the laws and regulations on the tilt stability and the strength of body structure. The Directorate General of Highways initiated a review of the two vehicle safety regulations to develop feasible measures for classification and group management measures. For the tour buses delivered before June 30, 1999, economic incentives are designed to accelerate elimination of such vehicles. As of December 31, 2018, there have been 516 buses scrapped. Buses that have not been scrapped are converted into transport vehicles only and shall not be use after December 10, 2019. To establish an institutional management mechanism for tour buses along with their age in the future. The DGH continues to develop a management system for the tour buses to pursue proper life-extending operations. The institutional mechanism is described as follows:

Tour bus that has been in service for 15 years must complete vehicle safety inspection according to the following provisions within 1 year, and to apply to the highway authority for operation.

- (1) According to the road safety rules, conduct chassis safety maintenance and body rebuilt, it would continue to use for five years as a tour bus.
- (2) According to the road safety rules, only conduct chassis safety maintenance, it would continue to use for three years as a tour bus.
- (3) Failure to comply with the preceding provisions, it can only apply for use as dedicated transport vehicles.
- (4) After the implementation of the regulations, those in service for more than 15 years, have to comply as aforesaid within three years to apply for operation. Those in service for more than 18 years, can only apply for use as dedicated transport vehicles starting the 20th service year.

The DGH considering the regulatory diversity and taken into account the opinions of experts and scholars in various fields, has set up the tour bus classification and group management measures. Tour buses after passing safety inspection, it is required to apply for operation registration with the highway authority or taking the elimination mechanism measures. It is to strengthen the management of tour buses and maintain the safety of public transportation.



遊覽車於監理站進行安全查驗。  
Safety inspection of tour bus at the motor vehicles office.

## 機車考訓再精進 新手駕駛免慌張

### Improved Motorcycle Training and Test No Panic of New Riders



監理所（站）辦理機車初領駕照考前講習實況。

Pre-test lecture for the first-time motorcycle license applicants, held by the motor vehicles office (station).

有鑑於機車是交通事故主要車種，其主要肇事因素為未注意車前狀況、未依規定讓車、酒後駕車及未遵守號誌標誌管制等態樣，為藉由機車考驗筆試提升機車駕駛人對交通安全之認知，公路總局前於105年5月1日起實施新增圖像式情境考題，情境題目的讓考生可透過圖像呈現，減少對文字解讀的錯誤，容易看懂題目，可以降低未來事故發生，實施至今民眾普遍反映良好，故公路總局持續精進機車筆試題庫，於107年11月1日再新增60題機車情境題考題，主要命題為車道行駛與變換車道、轉彎、危險駕駛、駕駛不當行為、路權及防禦駕駛等題型，期能讓應試民眾充分瞭解騎乘機車相關正確觀念，進而降低日後上

路交通事故發生率。

另為加強初領機車駕駛執照駕駛人安全駕駛意識，提升機車行車安全，公路總局已於103年11月1日開辦「初領機車駕照安全駕駛講習」，自辦理以來參訓民眾多數反應良好，據警政署統計資料顯示，參訓者較未參訓者事故率相對降低，公路總局為持續強化機車初領駕照考前講習內容，自107年12月1日起講習時間由90分鐘增加為120分鐘，新增「機車防禦駕駛」30分課程，包含防衛駕駛的基本觀念、認識人、車、路的特性與各種路況的防衛駕駛概念，期望考生在取得駕駛執照上路前，能充分了解防衛駕駛觀念，確保騎乘機車的安全。

In view of motorcycle is the primary type of traffic accident, the leading causes of the crash are not paying attention to the condition at the front, failure to give way by regulations, drunk driving, failure to comply with traffic signals, etc. The written test for promoting motorcycle trains driver's awareness of traffic safety. As from May 1, 2016, the DGH had implemented new pictorial situational test questions. Situational questions with image presentation can reduce errors in text interpretation, which is easy to understand and reduce future accidents. Since the implementation, the response was generally positive. The DGH continues to improve the written test questions bank. On November 1, 2018, 60 motorcycle new situational test questions were added. The main topics are staying in lane, changing lanes, making turns, dangerous driving, driving misconduct, the right of way, and defensive riding. Hopefully people can fully understand the correct concept of riding a motorcycle from the test, and reduce road accidents in future.

To strengthen driver's safety driving awareness for the first-time applicants of motorcycle driver's



新版機車情境題示意圖。

Schematic diagram of the new motorcycle situational test questions.



license, and to improve the safety of motorcycle. On November 1, 2014, the DGH had started "lecture on safety driving for the first-time applicants of motorcycle driver's license". Ever since the majority of participants responded well. According to statistics of the National Police Agency, the accident rate is relatively low for the participants comparing to non-participants. The DGH continues to enrich the content of the lecture for the first-time applicants of motorcycle driver's license. As of December 1, 2018, the lecture time has increased from 90 minutes to 120 minutes. A new 30 minutes "motorcycle defensive driving" course was added, which covered the basic concept of defensive driving, understanding the characteristics of people, cars and roads, the idea of defensive driving in various road conditions. It is expected the candidates, before getting a driver's license, can fully understand the concept of defensive driving to ensure ride safety.

## 銀髮族駕駛 關懷服務揪感心

### Making an Extra Effort to Care for the Elderly Drivers

依據內政部統計，我國65歲以上老年人口占總人口比率，在107年3月底達到14.05%，正式邁入「高齡社會」，且預計8年後將達到「超高齡社會」，如何維護高齡年長者的生活品質與尊嚴，以及因應老化社會帶來的各種影響，已成為政府施政的重要議題之一。為了主動關懷高齡年長者之行車安全，公路總局自106年7月1日起實施銀髮族駕駛關懷方案，藉由體格檢查及認知功能測驗等檢測機制，讓高齡年長者了解自身身體狀況是否適合駕駛車輛，其家屬亦可藉以勸導不適駕車者停止駕駛行為，並喚起社會大眾對於高齡年長者用路安全之注意。

因實施日期後甫年滿75歲的銀髮族駕駛，首次換照有3年的緩衝期，大多數人抱持觀望心態，未在年滿75歲時即辦理換照或繳回，故實施初期整體辦理率僅約2成；而在各監理單位透過鄰里長宣導及結合各處行政資源的努力下，民眾更加了解本案規劃內容且多能接受換照新制措施，辦理率亦逐步提升，達到公路總局訂定的5



成年度目標。此外，公路總局主計室針對106年7月1日至107年10月31日期間，銀髮族駕駛的性別、居住縣市、交通違規態樣等進行統計分析，以作為未來政策檢討之參考依據；其中，針對已來換照的銀髮族駕駛，其換照前後半年之交通違規情形分析顯示，違規率從21.6%下降至3.5%，顯見民眾換照後更加注意駕駛之安全，符合提升整體用路安全之規劃目的。

換照前半年 6-month before renewal	人數 number of people	違規率 violation rate	換照 後半年 6-month after renewal	人數 number of people	違規率 violation rate
有違規 violation	9,071	21.6%	有違規 violation	597	3.5%
			無違規 no violation	8,474	
無違規 no violation	32,860	有違規 violation	884		
		無違規 no violation	31,976		

Based on statistics of the Ministry of the Interior, in Taiwan the population of those more than 65-year-old was with the ratio of 14.05% at the end of March 2018. It is officially entered the "Aging society" achieve "super-aged society in 8 years". Protecting the elderly, providing quality of life and dignity, and the effects of an aging society, those are some of the most critical issues for the government administration. To proactively care for the safety of elderly drivers, the DGH has implemented driving care for the elderly since July 1, 2017. Through physical check and cognitive function test, the elderly drivers can know their physical condition and whether it is suitable for driving. Family members can also advise those who are unfit for driving to stop driving. It is hoped to arouse the public caring for elderly people, and road safety.



After the implementation, for elderly drivers aged 75 or above, there is a 3-year buffer period of the first change of license. Most people are on the fence, failing to apply for a new license or return it upon reaching the age of 75. The implementation rate is only about 20% at the beginning. Due to the effort of the motor vehicles offices through the help of neighborhood leaders and combined various administrative resources, the public is more aware of the plan and is more acceptable to the new policy. The implementation rate has been gradually improved, achieved the annual target set by the DGH. The DGH had made a statistical analysis on the senior drivers with gender, residential place, traffic violations during July 1, 2017 to October 31, 2018. It is a basis for future policy reviews, and the result indicates that for senior drivers who have changed the driving license, the rate of traffic violations dropped from 21.6 percent to 3.5 percent, comparing the half year time frame before and after. After people change their license, they pay more attention to driving safety, which is in line with the planning purpose of improving overall road safety.

## 臨時通行證及學習證照 e 指通

### Provisional Pass and Learner's License at Your Finger Tips



線上即時查核學習駕駛證。  
Real-time online inspection of the learner's license.

為提供更臻符合實際申請人使用需求及簡化臨時通行證核發作業，現行各類臨時通行證除可於監理服務網上申請辦理外，自107年7月1日提供線上核發功能，審核通過者，提供臨時通行證電子檔供申請者自行下載、列印，無須再親自至監理機關領取紙本通行證，另審核通過之臨時通行證上亦將提供QRcode防偽機制，以供執法機關（含警察、監理等）稽查運用。

另除通行證事項之簡化外，公路總局亦於107年7月30日起實施學習駕駛證電子化，作為民眾取得正式駕照前核准於道路學習駕車之證明（效期1年），該等駕駛證過去必須臨櫃辦理，期滿或考取駕照後即予收回作廢，不符節能減碳之概念，電子化後民眾可即時利用載具下載、儲

存，減少監理機關每年紙張的耗用，同時監警機關透過監理服務網或APP可線上即時查核學證相關資訊而無須比對民眾紙本證件，實為達簡政便民之效益。

相關電子化系統除可帶來無紙與智慧化之效益外，亦可透過共享化機制，與各有關主管機關共享資訊因電子化後所帶來之效益，亦是未來科技趨勢之一，而除前揭臨時通行證與學習駕駛證外，公路總局亦陸續規劃多項網路申辦及證照電子化計畫，如駕照日文譯本電子化、公路客運路線許可證電子化及公運補助申請審核電子化等，除可減少民眾及業者往返奔波申辦之時間成本外，亦減輕監理機關審核人員負擔。

To be more in line with the actual needs of the applicants, the DGH simplified the issuance of provisional passes. The application can be made online for current types of provisional passes. Since July 1, 2018, the DGH has provided online verification function. For those approved applications, provisional electronic pass files will be delivered. Applicants can download and print by themselves. There is no need to visit the motor vehicles office to obtain the paper pass in person. The approved provisional passes provide a QR code anti-counterfeiting mechanism for law enforcement agencies (including police and motor vehicles office) for the purpose of inspection.

In addition to the simplification of pass matters, since July 30, 2018, the DGH has implemented the electronic learner driver's license for use by people before getting a full driver's license. The learner driver's license is valid for road learning driving in one year time. Such learner driver's license used to be issued in person. Upon expiration of the period

or upon obtaining a driver's license, the license shall be revoked, which is not in line with the concept of energy saving and carbon reduction. The public can now download and save to storage device immediately after the digitalization, which reduces annual paper consumption of the motor vehicles office. The motor vehicles office and police, through the motor vehicles office service network or App, can check relevant information online instantly. There is no need to compare people's paper documents, which achieves the benefit of simplified administration and convenience to the public.

In addition to the paperless and intellectual benefits with the related digitalized system, through the sharing mechanism, sharing information with relevant regulatory authorities is possible. Besides the benefits of being digitalized, it is also one of the future technology trends. In addition to the above provisional pass and learner's license, the DGH is also planning several network applications and certification electronic program, such as

the automatic translation of Japanese driver's license, electronic highway passenger route permits, computerized application and examination of public transport subsidy application. In addition to reducing the time and cost for people and businesses to apply, it also reduces the burden of motor vehicles office's examination personnel.



線上自行下載臨時通行證。  
Online download of the provisional pass.

## e 化服務 汽燃費徵收總額再創高

### Vehicle Fuel Fee Collection Hit Record High with Digitalization



偏鄉宣導繳納汽燃費。  
Propaganda on vehicle fuel fee in remote rural areas.

公路總局致力於每一條省道、縣道、鄉道及區道等公路之修建、養護與管理，提供用路人平坦、舒適、安全的使用體驗，為此所需之經費來源即是「汽車燃料使用費」（以下簡稱汽燃費）。

為使公路養護經費無匱乏之虞，公路總局暨所屬各區監理單位積極投入甚多努力於汽燃費稽徵業務，諸如：102年機車徵收制度變革，每年廣續宣導舉辦抽獎活動，鼓勵按時繳納；同一車主所有車輛繳納通知書採歸戶合併掣單，方便一次繳納；重（溢）繳退費抵繳次年應繳費額，省去民眾兌領退款之困擾；徵收率偏低行政區及欠費大戶專案辦理催繳、移送強制執行並予追蹤

管制；結合法務部行政執行署共同推行執行憑證電子化及實施簡化移送、分案流程，使欠費案件加速進入執行政程序等。

此外，為讓車主能夠簡單、迅速地完成繳費義務，公路總局每年持續研議開發多元繳費管道及提升電子化措施，除了已建置的監理服務網、監理服務APP提供汽燃費線上查詢及繳納功能外，107年首次實施寄發「汽燃費電子繳款單」並結合線上繳費，同時新增行動繳費臺灣pay支付服務，除響應環保、e化政策，民眾免出門即可繳費，也能減少紙本費單收不到或遺失的困擾，讓支持環保、履行義務變得更簡單。

102至105年汽燃費徵收率平均維持在96%，106年首度突破達97%，近5年徵收總額屢創新高，歲入決算金額由102年428.8億元，逐年攀升至106年已達519.9億元，107年復再創新高已突破520億元。公路總局積極行使公權力，實現國家債權，使得公路養護所需經費充裕，為的就是要維護大眾行的安全。

102至105年汽燃費徵收率平均維持在96%，106年首度突破達97%，近5年徵收總額屢創新高，歲入決算金額由102年428.8億元，逐年攀升至106年已達519.9億元，107年復再創新高已突破520億元。公路總局積極行使公權力，實現國家債權，使得公路養護所需經費充裕，為的就是要維護大眾行的安全。

Directorate General of Highways is committed to the construction, maintenance, and management of every provincial highway, county highway, township highway, and district road. To provide a smooth, comfortable and safe experience for road users, the source of funds needed for this purpose is the "vehicle fuel fee".

To ensure no shortage of funds for highway maintenance, the DGH and its subordinated motor vehicles offices have actively put in many efforts with the collection of the vehicle fuel fee, such as reform of motorcycle collection system in 2013, ceaselessly promoting and organizing lucky draw activities every year, encouraging timely payment. Moreover, the same owner of all vehicles will receive one combined bill for the convenience of one-time payment. The refund of repeated or overpaid fee can be offset for the payment of next year, which save people the trouble of getting restitution. Administrative districts with low collection rate and large amount arrears individuals are handled as special cases for collection, they are transferred to enforcement and tracking control. In conjunction with the Administrative Enforcement Agency, Ministry of Justice, the DGH jointly promotes the implementation of electronic certificates, simplified transfer and case distribution process, so that

arrears can be processed in an accelerated enforcement procedure.

Also, for the vehicle owners to fulfill payment obligation simple and quickly, the Directorate General of Highways continues each year to develop multiple payment channels with improved digitalization. Besides the existing motor vehicles office services network and motor vehicles office service App which provide online query and payment service for vehicle fuel fee, for the first time in 2018, "Vehicle Fuel Fee Electronic Bill" was introduced with the online payment methods in which Taiwan Pay online payment service is included. Complying with environmental protection and the digitalization policy, the public can pay at home while reducing the use of paper. The bill is never lost, supporting environment and fulfilling an obligation becomes easier.

The average leviable rate of vehicle fuel fee remained at 96% from 2013 to 2016, in 2017 it broke 97% for the first time. In the past five years, the total amount of tax collection had repeatedly reached new highs. The final amount of annual revenue was NT\$42.88 billion dollars in 2013, it gradually reached NT\$51.99 billion dollars in 2017. In 2018, it has reached a new high and exceeded NT\$52 billion dollars. The DGH actively

exercises public power to realize the national debt, the funds required for road maintenance become sufficient, so that the maintenance of highways can be secured for the safety travel of the public.



臺灣Pay行動支付掃描付款。  
Scan payment of Taiwan Pay mobile payment system.



舉辦抽獎活動人員合影。  
Group photo of the colleagues in the lucky draw event.

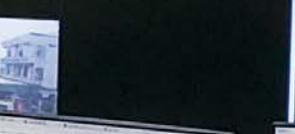
Chapter 4

# 共利

## 科技領航 低碳永續

Benefit Together  
Navigate with  
Science and  
Technology,  
Sustainable Low  
Carbon



A table with multiple columns and rows of data, possibly representing a schedule or a list of items. The text is small and difficult to read.A table with multiple columns and rows of data, similar to the one on the left. The text is small and difficult to read.A table with multiple columns and rows of data, similar to the ones on the left. The text is small and difficult to read.

## 完善精進遊覽車 GPS 管理

### Improved Management of Tour Buses with GPS



運管大樓揭牌活動。

The opening ceremony of the Operation and Management Building.

為保障消費者行旅安全及推動遊覽車業者自主管理，公路總局自交通部完成汽車運輸業管理規則新增條文修正後，便與各區監理所積極輔導全國919家遊覽車業者共計近1萬6,000輛遊覽車，裝置具有全球衛星定位系統（GPS）功能設備，並介接車輛動態資訊至公路總局動態系統。

遊覽車全面裝設GPS後，可提供業者及主管機關即時掌握每輛遊覽車行駛動態，強化源頭管理，系統即時監控異常事項發生，包括車輛速度異常、駕駛時間異常、進入禁行路段、逾檢出車等事件，業者應確實掌握並排除；另為充分運用遊覽車動態資訊，亦建立分級管理機制，與業者共同合作確保遊覽車營運安全，達成遊覽車科技化安全管理之里程碑。

為提升遊覽車GPS效益並讓資訊充分揭露，公路總局於107年新增透過監理服務APP、

或掃描遊覽車內QR code二項查詢措施，讓每位搭乘遊覽車乘客或其家人可查詢所搭乘車輛基本資料、車速是否異常、是否進入禁行路段等資訊，使遊覽車業者服務品質及車輛安全再提升，降低發生交通事故機率。

隨汽車運輸業管理業務逐步發展為重點核心業務之趨勢，公路總局規劃新建運管大樓已自107年11月2日啟用，該大樓係因應動態系統擴大運用，同時透過專業人力任務編組進駐，強化源頭管理。未來更將藉由大數據分析，掌握產業趨勢，適時扶植發展，與其他機關跨域合作，共享系統資源。

因應智慧運輸的時代，在公路總局完成上述重要工作後，將促使公路總局同仁與所有業者，善用科技管理，讓服務更有感，讓管理更有效，為行車安全共同努力。

To protect consumer travel safety and promote self-management of tour bus operators, the Regulations for Automobile Transportation Operators was revised by MOTC with the addition of new provisions. After that, the DGH and the subordinated regional motor vehicles offices have actively assisted 919 tour bus operators in Taiwan. A total of nearly 16,000 tour buses are equipped with a global positioning system (GPS). The vehicle dynamic information is sent to the DGH dynamic system.

After the tour buses are fully equipped with GPS, tour bus operators and regulatory authority can keep track of each tour bus in real time, which strengthens source management. The system immediately monitors abnormal events, including unnatural vehicle speed, unusual driving time, entering the prohibited road section, and servicing with inspection overdue. The operator should be sure to grasp and exclude those abnormal conditions. To make full use of the dynamic information of tour buses, the DGH also set up a classification management mechanism, cooperating with operators to ensure the operation safety of tour buses. It has set the milestone of technological safety management of tour buses.

To improve the GPS benefits of tour buses and let the information be fully disclosed, the DGH had introduced new practice in 2018. Through

the motor vehicles office service App or scan the QR code inside the tour bus, the two inquiry measures allow each tour bus passenger or their family members to check the basic information of the riding vehicle, as well as whether the speed is abnormal, and whether or not the tour bus enters prohibited road section, etc. It is to make the tour bus operators improve service quality with vehicle safety improvement and reduce the probability of traffic accidents.

As the management of automobile transportation operators gradually becomes core responsibility, the DGH had planned for the construction of a new transportation management building, which was opened for operation on November 2, 2018. The building was in response to the expanded application of dynamic system, it is stationed through professional manpower of task forces to strengthen source control. In the future, by big data analysis, it can master industrial trends and timely foster the development. Through cooperation with other agencies, system resources can be shared.

In the age of intelligent transportation, after completing the above important work, it will encourage the DGH colleagues and all operators to utilize technology management, make the service more meaningful, and management more effective. All works are for driving safety.



監理服務  
APP



Android



iOS



## 幸福巴士計畫 拉近城鄉距離

### Happiness Bus Project to Mitigate Urban and Rural Distance

鑑於偏鄉地區運輸資源相對不足，公共運輸涵蓋率偏低，107年公路總局延續照顧偏鄉弱勢民眾之政策，除持續推動偏鄉需求反應式運輸服務（幸福巴士）外，亦針對都會區外圍及高齡化村落，加強運輸供給，完善最後一哩之基本民行。

#### 偏鄉需求反應式運輸服務（幸福巴士）持續推動

公路總局於94年起推動「需求反應式公路公共運輸」試辦計畫，針對新竹縣尖石鄉等10個偏鄉導入多元化運具服務（中型巴士、計程車、鄉鎮小巴、租賃車及遊覽車）及彈性營運模式。107年除原有試辦鄉鎮持續推動外，另新增補助屏東縣來義鄉等7個偏鄉，至107年底止偏鄉地區公共運輸涵蓋率已達78%。

#### 小黃公車都會區外圍推廣

除偏鄉地區以外，針對都會區外圍運輸需求較少之區域，補助推廣小黃公車服務，包括高雄市、臺中市、臺南市、基隆市及屏東市等地，除節省運輸資源成本外，並開創計程車營運市場。

#### 客運路線延駛提供服務

針對其他公共運輸涵蓋率較低之地區，檢討當地之公共運輸服務情況，協調客運業者以既有公路客運或市區客運以路線延駛方式滿足需求，例如嘉義縣東石鄉以公路客運7206、7228及7233路線固定班次繞駛洲仔村；另針對全臺34個老年人口比例高於25%且無公共運輸服務之村落，持續檢討研擬改善措施，以滿足老年人乘車需求。



高雄市大湖線小黃公車。  
The taxi-bus of the Kaohsiung Dahu line.

Given the relative shortage of transportation resources in remote areas and low coverage rate of public transport, the DGH continued the policy of caring for the disadvantaged in 2018. Besides constantly promoting demand responsive transport services (happiness buses) in remote areas, the outskirts of metropolitan areas and aging villages are also prioritized, thus strengthening transportation supply and further perfecting the insurance of last-mile mobility rights of local residents.

### Continuous Implementation of Demand Responsive Transport Service (Happiness Bus) in Remote Areas.

Since 2015, the DGH has promoted the pilot project of "demand responsive public transport" for Jianshi Township, Hsinchu County and 9 other remote townships, introducing diversified transport services (micro bus, taxi, town minibus, rental and tour bus) under a flexible operation mode. In 2018, in addition to the original pilot townships, new subsidies were granted to seven rural townships, including Laiyi Township in Pingdong County. By the end of 2018, the coverage rate of public transport

in remote areas had reached 78%.

### Taxi-Bus Services in the Outskirts of Metropolitan Areas

In addition to the remote areas, the outskirts of the metropolitan areas where demand for transport is relatively low, the DGH subsidized the promotion of taxi-bus service, including Kaohsiung, Taichung, Tainan, Keelung, and Pingtung. In so doing, a new market for taxi services was created and transportation expenditures reduced.

### Extension of Local Bus Services

For other areas with low public transport coverage, the DGH reviewed the existing local public transport services and coordinated operators to meet local demands by way of extending the routes of existing intercity and local bus services. For example, in Dongshi Township, Chiayi County, the routes of intercity bus 7206, 7228 and 7233 now make a detour to serve residents of Zhouzai Village. Furthermore, the DGH is currently reviewing and seeking to satisfy the demand for transportation in 34 aging communities with elderly population exceeding 25% of the total population and has, currently, no public transport services.



8月1日公路客運固定班次繞駛嘉義縣東石鄉洲仔村。  
On August 1, 2018, the regularly scheduled passenger bus make a detour to reach the Zhouzai Village of Dongshi Township in Jiayi County.



南投縣仁愛鄉以9人座小型車提供彈性預約服務。  
Flexible reservation service of the 9-seat van in the Ren'ai Township of Nantou County.

# 公路公共運輸多元推升計畫 全國持續進步

## Highway Public Transport Multiple Enhancement Project in Progress Country Wide

延續106年度公運計畫之執行成果，107年公路公共運輸績效表現持續進步提升，主要績效指標包括公路公共運輸載客量（預估12.45億人次）、偏鄉公共運輸涵蓋率（78%）、電子票證使用率（非6都市區客運、公路客運81.2%到81.6%）及市區無障礙公車比例（59.8%）均已達到107年設定目標。

### 新闢路線，完善路網

107年共核定補助7個縣市新闢25條市區公車路線，補助183輛大客車，協助各縣市政府完善市區公車路網，提供民眾便利之公共運輸服務。

### 推動電巴，改善空汙

配合行政院與交通部政策，補助客運業者

汰換為電動公車，107年核定補助客運業者273輛（含新闢路線135輛及汰舊換新138輛），截至107年12月底止，全國市區客運電動公車已達463輛。

### 無縫轉乘，持續強化

為持續完善轉乘設施及鼓勵轉乘，107年共補助包括臺南市等5個縣市規劃及建置轉運站，核定經費共計3億2,300萬元；另為提升民眾轉乘意願及鼓勵搭乘公共運輸，實施3天以上連續假期乘高鐵、臺鐵及國道客運轉乘在地客運優惠、東部地區公共運輸轉乘優惠及補助6都實施公共運輸轉乘優惠，共計約嘉惠2,854萬人次。

受補助單位 Subsidized units	路線數 Number of route	低地板公車 Low floor bus	普通大客車 High floor Bus	無障礙大客車 Accessible bus	電動大客車 Electric bus
臺中市政府 Taichung City Government	10	3			81
臺南市政府 Tainan City Government	1				9
高雄市政府 Kaohsiung City Government	4				38
桃園市政府 Taoyuan City Government	4	12	10	4	
南投縣政府 Nantou County Government	1	1	1	2	
屏東縣政府 Pingtung County Government	2				7
宜蘭縣政府 Yilan County Government	3	11	4	0	
總計 total	25	27	15	6	135



宜蘭縣市區公車【羅東轉運站-蘇澳火車站】新購車輛。  
New Yilan City Buses Bought to Run from Luo Dong Transfer Station to Su'ao Station.



屏東轉運站於12月24日啟用。  
The Pingtung Bus Transfer Terminal was opened on December 24, 2018.

In continuation of the implementation results of 2017's Highway Public Transport Enhancement Project, the performance of highway intercity public transit continued improved consistently in 2018. KPIs including number of passengers served annually (estimated 1.245 billion), coverage rate of public transportation in remote areas (78%), E-ticketing usage (81.2% to 81.6% for intra-city bus services, excluding the 6 special municipalities; highway intercity bus services), and proportion of barrier-free buses in urban areas (59.8%) have all reached or exceeded the expected goals.

### New Routes for Improved Service Networks

Of the 7 counties and cities subsidized in 2018, 25 new intra-city routes were established and 183 vehicles purchased, assisting county and city governments to improve local service networks and to provide more convenient public transportation.

### Electric Buses for Cleaner Air

In line with the policies of the Executive Yuan and MOTC, service providers are subsidized by the DGH to replace conventional vehicles with electric buses. A total of 273 vehicles are purchased by bus companies under subsidy (including 135 for newly

established routes and 138 for replacement of obsolete buses). As of the end of December 2018, the number of electric buses deployed in urban areas has reached 463.

### Continous Enhancement of Seamless Intermodal Transfer

To further improve transfer facilities and encourage intermodal transfer, the total subsidy of 2018 covered five counties and cities, including Tainan City and reached NT\$323 million dollars for planning and construction of bus transit stations. To cultivate people's willingness of transferring between modes and encourage taking public transit, intermodal transfer discounts are offered during national holidays spanning or exceeding three consecutive days to passengers taking local buses after getting off high-speed rail, railway, and freeway scheduled bus services. Transfer discounts are also provided year-round in the eastern regions as well as the six special municipalities under the DGH subsidy, benefiting approximately 28.54 million passengers in total.



## 前瞻基礎建設計畫推動 改善地方交通及停車問題

### Forward-Looking Infrastructure Project Promotion Tackles Local Traffic and Parking Problems

為改善「公共運輸場站停車轉乘停車位不足」、「觀光遊憩旅次量大地區停車位不足」及「人車密集商業活絡區域停車位不足」問題，行政院「前瞻基礎建設-城鄉建設-改善停車問題計畫」期程自106年9月至110年8月，中央補助經費共200億元，該建設計畫之政策目標包括：一、改善地方停車問題，帶動地方公共運輸發展，紓緩觀光遊憩旅次吸引量大地區之停車需求。二、透過智慧化停車管理服務、綠能及性別友善設計原則，提升停車場使用效益與服務品質。三、帶動地方公共建設，擴大國內需求，促進國家建設發展。同時本計畫預計至110年目標值為提供停車格位數共4萬個。

本計畫分為「整體規劃及可行性評估」與「工程建設」兩階段補助辦理，其中「整體規劃及可行性評估」由地方政府辦理；「工程建設」採競爭型申請方式，優先採取由民間投資興建經營方式辦理，或由地方政府自行興建。截至107年底，公路總局辦理本計畫已完成核定補助10縣市55座停車場，合計總工程經費為198億元，中央補助81億元。其中107年已開工停車場共16件，公路總局未來將持續加速推動本計畫之進行，以達到提供4萬個停車格位目標，有效改善國內停車問題。（附圖提供已核定之停車場工程案例供參考。）

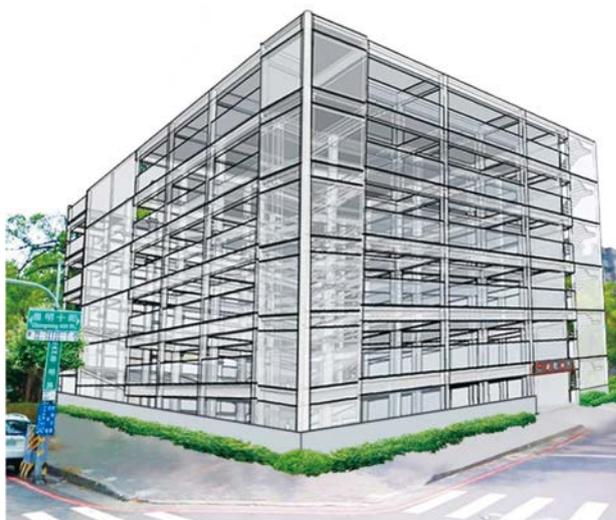


豐原區為臺中市三大副都心之一，為解決豐原區長年的交通問題，將在豐原火車站東側闢建結合豐原轉運中心之多目標立體停車場，整合客運轉運、鐵路、人本交通，扮演帶動臺中山線地區快速發展的媒介。停車場工程已於107年進行規劃設計及監造，預定於108年施工、110年竣工，估計可提供汽車位522席及機車位340席。

Fengyuan District is one of the three sub-city centers of Taichung City. To solve the long-standing traffic problem of Fengyuan District, a multi-objective parking tower at the Fengyuan Bus Transfer Terminal will be built on the east side of the Fengyuan Railway Station. It is to integrate the bus transfer, railway, and people-oriented transportation, acting as a medium to drive the rapid development of Taichung mountain line area. The parking lot project has been planned, designed and supervised since 2018. It is scheduled to begin construction in 2019 and to be completed in 2021. It is estimated to provide 522 parking spaces for cars and 340 parking spaces for motorcycles.

To improve the issues of "insufficient transfer parking spaces at public transport terminals", "shortage of parking spaces in areas with large attraction of tourist and recreational activities" and "shortage of parking spaces in crowded commercial activity areas". The Executive Yuan promotes the "forward-looking infrastructure - urban and rural development - parking improvement plan" from September 2017 to August 2021. The central government subsidizes a total of NT\$20 billion dollars. The policy objectives of the construction plan include: 1. Improving local parking problems, development of local public transport, and to alleviate parking demand in areas with large attraction of tourist and recreational activities. 2. Enhancing the efficiency and service quality of parking lots through intelligent parking management services, green energy, and gender-friendly design principles. 3. Promoting local public construction, to expand domestic demand, and to support national development. The plan is expected to provide a total of 40,000 parking spaces by 2021.

The plan is divided into "overall planning and feasibility assessment" and "project construction" for two-stage subsidy processing. The "overall planning and feasibility assessment" is handled by the local governments. "Project construction" adopts a competitive application approach. Priority



台南文化中心停E5停車場。  
Taiwan Municipal Cultural Center E5 parking tower

shall be given to private investment in construction and operation or by local governments themselves. By the end of 2018, the DGH completed processing the plan and approved subsidy for 55 parking lots in 10 counties and cities. The total project cost is NT\$19.8 billion dollars. The central government subsidizes a total of NT\$8.1 billion dollars. Among them, 16 parking lots started construction in 2018. The DGH will continue to accelerate the implementation of the project in the future to reach the target of providing 40,000 parking spaces, effectively improving domestic parking problems. (The attached drawings provide the approved parking lot project cases for reference.)



## 107 年連假、花季疏運 全日監控服務不打烊

### 24H Monitoring Service During Continuous Holidays and Floral Seasons in 2018

每年連續假期、花季，各地觀光人潮湧現，大型活動地點車流量大增，為了讓每位返鄉及出遊的民眾，開開心心的出門，平平安安的回家，公路總局都規劃完整的疏運計畫，提供公共運輸優惠方案、轉乘接駁資訊、規劃花季疏運專車、並在每次的連續假期前，擬定交通疏導及管制策略，避免造成景點周邊道路壅塞，並於假期期間成立疏運小組，全天候於應變中心輪值，監控路況並隨時通報相關單位即時應變及處理各種交通事件，公路人趨前服務，堅守崗位，服務不打烊。

為鼓勵民眾多搭乘公共運輸，於連假期間推出「國道客運票價優惠及公共運輸轉乘優惠措施」，由公路客運業者配合提供國道客運路線票價優惠，並且可享有10小時內轉乘在地公路客運或市區客運（高鐵快捷公車除外），基本里程或一段票免費優惠。此外，假期出遊民眾搭乘「臺灣好行」客運路線，持電子票證享半價優惠，花季期間為了創造舒適、便捷、安全、幸福的交通環境，公路總局規劃花季專車接駁民眾上山賞花，期許用路人返鄉出遊搭客運，省錢又平順，花季搭專車，賞花更幸福。

連假期間，公路總局隨時監控國道、省道易壅塞路段、地方政府大型活動及重要觀光熱點、節慶相關系列活動、公共運輸場站，掌握最新交通狀況，即時將資訊以公路總局省道即時交通資訊網、轄管道路資訊可變標誌（CMS）、手機App、警廣等發布壅塞路況及建議改道資訊，公路總局應變中心藉由即時的橫向聯繫，透過各地區交控中心遠端調控號誌，執行交通疏導管制策略，讓車流運行順暢，提供民眾便捷的用路環境。



局長視察武陵櫻花季疏運情形合影。

Group photo of the Director's review of the transport diversion of the Wuling Cherry Blossom Season.

Every year in consecutive holiday, floral seasons, and major event venues, there are large increase of traffic flow. For everyone to return home and travel, in the way of happily going out and safely back to home, the DGH is planning complete diversion plan to offer discount public transport schemes, transfer shuttle information, preparing floral season franchise buses. Before every consecutive holiday, traffic diversion and control strategies are formed to avoid road congestion around scenic spots. A diversion team is set up during the holidays, with an around-the-clock shift at the emergency response center, monitoring road condition to inform related units at any time. For immediate response and handling of traffic incidents, highway colleagues serve actively, stick to post and never rest.

To encourage people to use public transport, during consecutive holidays, the DGH launches "concessionary measures for national highway passenger transport discount fares and public transport transfer discount measures". Discount fares on national highway routes are offered by highway bus operators to those who within 10 hours of transfer to local highway bus or city bus (except express buses for high speed rail). There is a free concessionary of basic mileage or one section fare. Also, holiday travelers can take the

"Taiwan Trip Line" passenger transport routes and enjoy a half-price discount with an e-ticket. To create a comfortable, convenient, safe and happy traffic environment during the floral season, the DGH plans to transport people to appreciate flowers in the mountains by franchise buses. It is expected that road users travel more by passenger transport to return home and travelling, which saves money and makes travel more smoothly. Riding franchises buses in floral season to appreciate flowers is even more happiness.

In consecutive holiday, the DGH monitors national highways, and provincial highways with congestion-prone sections, large-scale activities of local governments and key tourist hot spots, festival series of events, public transport terminals to master the latest traffic conditions, release information of traffic congestion and suggestion of diversion information on the real-time traffic information network of the DGH, road information changeable message sign (CMS) under the jurisdiction, mobile phone App, and the Police Radio Station. Through instant lateral connection of the regional traffic control centers to remote control signals and enforcing traffic diversion control strategy, the response center of the DGH makes the traffic run smoothly and provides the public with convenient road use environment.



# 省道管理智慧化 提升管理人員作業效率

## Provincial Highway Intelligent Management Improving Management Personnel's Work Efficiency

近年來隨著公路路網逐漸完整，公路管理的有效性與即時性相對重要。為提供用路人相關即時公路資訊，公路總局自105年起辦理「省道交通資訊蒐集與管理系統規劃及建置」案，開發新一代智慧化省道交控系統，透過智慧化系統進行交通管理與控制策略，並充實省道即時交通資訊涵蓋面，提升整體交通路網之運作效能，以期

能快速舒緩道路壅塞現象，並提供更優質省道交通資訊予用路人作為旅運參考依據。

### 智慧化省道交控系統—內部管理系統

考量管理效率及運作，新一代智慧化省道交控系統採雲端化資料庫方式設計，操作介面則採Web化方式建置，跳脫傳統僅可於特定主機及特定內部網路環境下才可進行操作管理之

模式，透過介接公路總局內部網路單一簽入驗證功能，管理人員於任何環境持可上網之行動載具，即可於驗證身分通過後開始使用，大幅提高管理效率及運作；此外，新一代智慧化省道交控系統具備資料蒐集、資料分析、溝通協調、策略管理四大主要功能平臺，以更智慧化之系統功能輔助管理人員進行交通管理及相關策略運作。



智慧化省道交控系統功能架構。

Functional framework of the intelligent provincial highway traffic control system.



智慧化省道交控系統管理介面—首頁。

Management interface of the intelligent provincial highway traffic control system - homepage.

In recent years, with the completion of the highway network, the effectiveness and immediacy of highway management become relatively important. To provide real-time road information to road users, the project of “provincial highway traffic information collection and management system planning and construction” has been in execution since 2016. It is to develop a new generation of intelligent provincial highway traffic control system, through intelligent systems to implement traffic

management and control strategy, and enrich the coverage of real-time provincial highway traffic information, enhancing the operational efficiency of the overall transport network in order to quickly ease the road congestion and to provide better provincial highway traffic information to road users for travel reference.

## Intelligent Provincial Highway Traffic Control System - Internal Control System

Considering management efficiency and operation, the new generation of the intelligent provincial highway traffic control system has cloud-based database design. The operation interface is built in a web-based way, breaking away from the traditional mode of operation management which can only operate under specific host and specific Intranet environment, through the interface of the single check-in verification function of the DGH' Intranet, the administrator with an internet-accessible mobile vehicle in any environment, the services can be available after authentication, a significant improvement in management efficiency



## 智慧化省道交控系統— 智慧化網頁服務

為服務一般用路人，提供更完善省道交通資訊，亦同時改版建置新一代智慧化網頁，以視覺化、圖層化友善介面環境設計方式，並採適應性網頁（RWD）技術增加行動管理便利性，提供省道路段績效資訊、省道重要路段提供旅行時間、施工資訊、災害道路通阻等資訊，讓用路人獲取更多省道交通資訊。

## 智慧化省道交控系統—智慧化資訊應用軟體（App）服務

為提供用路人更優質、生活化的服務，公路總局自102年2月即推出省道即時交通資訊應用軟體（App），期間經103年進行改版，推出「App推播服務」，增加風景路線績效、交管措施、防災資訊、大客車禁行路段、交通生活資訊、單鍵撥號、交通安全宣導專區及重要訊息推播等多項功能，再於106年推出新版本「省道即時交通資訊App」Android及iOS版本服務智慧型手機使用者，讓用路人可利用手機查詢公路總

局各相關單位建置的交通資訊蒐集設備情形，包括影像監視設備（CCTV）及資訊可變標誌（CMS），並結合Google地圖顯示，提供使用者公路總局轄管道路即時施工資訊、大客車禁行路段、道路績效等路況資訊，以及重要省道與國道替代道路旅行時間資訊。

在107年度公路總局重新思維以個人隨身化功能的APP為主軸，規劃這個APP是以隨身資訊可變標誌（CMS）為設計概念，並提供個人化功能、適地性資訊，使用者透過起訖點的設定，APP就會提供建議行車路線，且適時顯示替代路徑及其旅行時間等圖形化資訊，並以紅、黃、綠三種顏色呈現路段順暢情形，讓使用者在單一頁面就能獲知視覺與聽覺的即時道路訊息，並加入一隻幸福公鹿，會與使用者互動，以貼心提醒駕駛人應注意事項與導引使用者熟悉系統的功能，故108年1月即將隆重推出「幸福公路APP」，以提供最新即時省道路況訊息予使用者，協助用路人據以調整行車路線、變更行程，讓旅次規劃更有效率。



連假疏運期間公路總局成立疏運應變小組監控路況。

General of Highways organized a team for traffic control over the holiday period.



幸福公路APP首頁。

Happiness Highway App homepage.

and operations. Also, the new generation of the intelligent provincial traffic control system has four principal functional platforms: data collection, data analysis, communication and coordination, and strategic management. It provides more intelligent system functions to assist the administrator in traffic management and related strategic operations.

### **Intelligent provincial highway traffic control system - intelligent web services**

To provide better provincial highway traffic information for the service of ordinary road users, at the same time, a new generation of the intelligent web page was built. Design in a visual, layer-friendly interface environment and adopting responsive web design (RWD) technology enhances the convenience of mobile management to provide provincial highway performance information, provincial highway important sections travel time, construction information, disaster road access and blockage, and other information, allowing road users to get more information about provincial highway traffic.

### **Intelligent provincial highway traffic control system - intelligent information application (App) service.**

To provide better quality and lifestyle services for the use of road users, Since February 2013, the DGH had released the provincial highway real-time traffic information application software (App). After 2014 revision, "App push and broadcast service" was released with increased performance of scenic routes, traffic control measures, disaster prevention information, prohibited sections for

buses, traffic life information, single-key dialing, traffic safety promotion zone, dissemination of important information, and many other functions. A new version was launched in 2017, the "provincial highway real-time traffic information App" in both Android and an iOS version for smartphone users. It allows road users to use mobile phones for inquiries on the traffic information collection equipment built by relevant units of the DGH, including video surveillance equipment (CCTV), changeable message signs (CMS), combined with Google maps providing users with real-time road construction information under the jurisdiction of the DGH, prohibited sections for buses, road performance information, important provincial highway and national highway alternatives travel time information.

In 2018, the DGH re-innovated and aimed for the App with personal portable function as the main goal. This APP is designed with the portable changeable message sign (CMS) as the concept, and provide personalized functions of locally adaptive information. Through the starting and ending point setting, the App will suggest driving routes and display graphical information such as alternative roads and travel time. Red, yellow and green is used to present the smoothness of the road to provide user with visual and auditory real-time road information on a single page. A happy stag will interact with the user, reminding driver to pay attention, and to familiarize user with the functions of the system, Therefore, the "Happiness Highway App" is launched in January 2019, can provide user with up-to-date provincial highway condition information, assist road users in adjusting the route and changing the itinerary to make the trip planning more efficient.

Chapter 5

# 共進

創新守護  
堅實後盾

Progress Together  
Guarding Innovation,  
Strong Backup Force





## 率先與友館結盟，共同聯展

### Alliance with Partner Museums, Promote Joint Exhibition



中華郵政博物館、國軍歷史文物館、國立歷史博物館及臺北市鄉土教育中心等友館至公路總局參訪交流。  
Visitors from the Postal Museum, the Armed Forces Museum, the National Museum of History, and the Taipei Local Education Center to the Directorate General of Highways.

#### 前言

公路總局陳彥伯局長非常重視幸福公路館的推廣與行銷工作，期許用路人中心向大館標竿學習、加強交流及推廣工作，在局長敦親睦鄰積極開放，暨強化館務交流的政策理念及親自穿針引線下，公路總局幸福公路館陸續積極與中華郵政博物館、國軍歷史文物館、國立歷史博物館及臺北市鄉土教育中心等進行姐妹館的交流與中華郵政博物館積極進行姐妹館的拜訪交流。

#### 率先與友館結盟

公路總局陳執行秘書秉持局長理念，帶領同仁前往各友館拜會學習，而郵政博物館由陳副館長率領管理師等人，及國立歷史博物館廖新田館長亦率展覽組組長及相關組員等人至公路總局參

訪指導，並就公路總局幸福館現行及未來佈展提供了諸多寶貴專業意見，諸如提供未來藝術之路的結合以及在教育推廣及環境氛圍上，如何以寓教於樂的方式或以互動性過關的方式吸引更多人潮。前述友館並於公路總局幸福公路館「幸福巴士」特展開展活動當日出席相挺，在開幕儀式中郵政博物館黃館長與公路總局黃副局長同步宣布為落實館際交流，將公路總局第一展期「四季公路之美」部分展品移至北門郵政博物館展出，持續延續展品生命週期並創造更多附加價值。

#### 共同聯展

中華郵政博物館於107年10月辦理「行遍天下-交通工具郵票特展」，主要展出內容為交通工具的發明，帶給人們「行」的生活便利，大幅縮短了世界的距離。為向民眾介紹各種交通工具，於臺北北門分館展出相關主題郵票，特色以郵政博物館館藏國內、外交通工具相關郵票為主，公路總局在局長敦親睦鄰積極開放，暨強化館務交流的政策理念及親自穿針引線下，促成公路總局幸福公路館四季公路之美特展與中華郵政博物館行遍天下交通工具郵票特展兩館聯展。

此次經由雙方交流聯袂展出與民行相關的郵票與公路四季經典美景，讓民眾在展開幸福之旅的過程中可以感受交通部團隊除了提供民眾在行的便利之外，對於道路景觀塑造與生態保育的努力，更是不遺餘力，除了可以飽覽歷代發行形形色色交通載具的郵票之外，更可以深入瞭解常見路樹植物的特色與美感，讓我們對土地更多一份認識與愛護。

## Foreword

The DGH Director-General Chen Yen-Po attaches great importance to the promotion and marketing work of the Taiwan Highway Museum. It is expected that the road users center can learn from the larger museums, and focus more on interaction and promotion. With the Director-General's efforts, the DGH Taiwan Highway Museum are actively interacted with other museums such as the Postal Museum, the Armed Forces Museum, the National Museum of History, and the Taipei Local Education Center. Mutual visits among the sister museums are on-going such as the Postal Museum.

## Alliance with Partner Museums

The DGH Executive Secretary Chen, upholding the concept of Director-General, led colleagues to visit sister museums for observation. Deputy Director Chen of the Postal Museum and the colleagues, Director Liao Xin-tian of the National Museum of History led the exhibition team leader and related team members to visit the DGH for guidance. The visitors provided valuable professional advice to the current and future exhibitions of the DGH Taiwan Highway Museum. Such as a combination that offers a path to the future of art and, in terms of educational promotion and environmental atmosphere, how to teach through lively activities, or interactive clearance way to attract more people. The sister museums have also attended the "Happiness Bus" Special Exhibition organized by the DGH Taiwan Highway Museum. On the day of the activity, during the opening ceremony, Director Huang of the Postal Museum and the DGH Deputy Director Huang made an announcement together. To facilitate inter-

museum interaction, some exhibits of the "beauty of the four seasons highway" would move to the Postal Museum in Beimen to continue the life cycle of the exhibits and create more added value.

## Joint Exhibition

The Postal Museum in October 2018 exhibited "travel around the world - special stamp exhibition on transportation means". The main contents of the exhibition were the invention of transportation, bringing people the convenience of life, greatly shortened the world's distance. To introduce the public to various means of transportation, stamps were displayed at Taipei Beimen Branch, featuring the carrier museum collection and stamps related to domestic and foreign transportation means. With the Director-General's friendly attitude and open minded, the will to strengthen the exchange of ideas between museums, the DGH Director-General had personally contributed to the joint exhibition of the two museums, the special exhibition of the four seasons highway of the DGH Taiwan Highway Museum and "travel around the world stamp exhibition" of the Postal Museum.

Exhibited through the bilateral exchanges of joint exhibition, private related stamps of highway, and the four seasons classic beauty of highway, let people in the process of a happy journey can feel the MOTC team in addition to provide people with convenient transportation, they also spare no effort in the effort of road landscape and ecological conservation, in addition to being able to get a good view of the stamps of various transport vehicles issued in past generations, it can understand more about the characteristics and aesthetic feeling of common trees and plants, let people have a greater understanding and caring of our land.

## 翻轉廉政教育 工程廉政倫理互動式研習

### Innovating Education Against Corruption Interactive Learning of Engineering Ethics

傳統廉政法令課程多以單向授課模式為主，抽象的法條釋義難以提振機關同仁的學習意願。公路總局政風室與亞洲土木聯盟反貪腐委員會主席王華弘教授、開瑞法律事務所謝彥安律師合作，並敦請交通部政風處具工程資歷之王珽副處長指導，推動創新「互動式教學」，透過小組討論及經驗分享，研析案例擬具解決方案，分組報告展現研討成果，最後由講師歸納總評，從實作中理解法令的規範目的及應用態樣。除參加同仁皆予正面評價外，更獲交通部列入優質廉政亮點業務，公路總局翻轉廉政教育的努力，獲得諸多肯定。

#### 系列課程3場次

公路總局政風室分別於106年6月16日（新進工程人員）、107年5月30日（新進、資深工程人員）及9月4日（新進、資深工程人員及政風人員）辦理3場次系列課程。

#### 創新互動模式、擺脫生硬的法律條文

本研習跳脫艱澀的法條演繹，以分組研究方式，聚焦案例討論，從中培養多元思考與周延溝通的能力，有助同仁未來在執行業務遭遇問題困境時，更能勇於任事。

#### 兼具實用、專業之廉政教育題材

本研習主題擇選實務常見之專業案例，如【辦理設計變更的兩難】、【規劃設計之專業與

民意之間所遭遇之瓶頸】等，由同仁以各利害關係人之角度（業主、廠商、監造）進行討論，深入瞭解如何將工程倫理及法律理論運用於實務工作中，培養解決問題能力，及保護自身權益之方法。

#### 研習成果分享

工地發現部分橋墩帽梁產生裂縫，設計簽證技師與施工廠商見解不同，彼此卸責產生衝突時如何應處？



交通部政風處王珽副處長講授工程與廉政倫理。  
Deputy Commissioner Wang Jue from the Civil Service Ethics Department MOTC to taught engineering and integrity politics.

Most of the traditional anti-corruption law courses were given in unidirectional teaching model. An abstract interpretation of law is difficult to boost the learning willingness of colleagues. Under the guidance of the invited speakers, Professor Wang Hua-hong, Chairman of the Anti-Corruption Committee, Asian Civil Engineering Coordinating Council, lawyer Xie Yan-an of Kairui Law Firm, and Deputy Director Wang Jue of Department of Civil Service Ethics, MOTC who is with engineering qualifications, the DGH Civil Service Ethics Office has promoted innovation in "interactive teaching". Through group discussions and experience sharing, the process includes analyzing of cases and proposing solutions. Group presentation gave the results of discussion. Finally, the lecturers summarized the general comments. It is to understand the normative purpose of statute in practice and applications. In addition to positive comments from all participants, MOTC has listed it as one of the highlights of quality civil ethics business. The efforts of the DGH to reverse the education of civil ethics has got much credit.

### Three Sessions of Series Courses

The DGH Civil Service Ethics Office had conducted three session of series courses. On June 16, 2017 (for new engineers), May 30, 2018 (new and senior engineers) and September 4, 2018 (new, senior engineering personnel and civil ethics personnel).

### Innovative and Interactive Mode Shed the Coldness of Statutes

This study breaks away from the difficult interpretation of law. In group study focusing on case studies, cultivate diversified thinking,

and complete ability to communicate. It helps colleagues in the future when encountering difficulties in the implementation, daring to take responsibility.

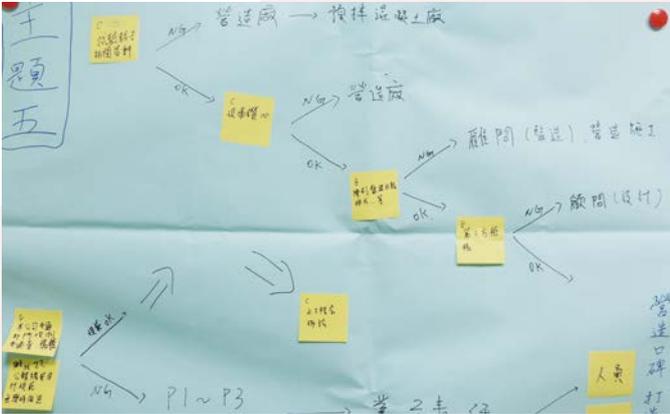
### Practical and Professional Civil Ethics Topics

Studying topics were chosen from common practical professional cases. For example, "the dilemma of making design changes" and "the bottleneck between the profession of planning and design and public opinion", etc. The discussion was conducted by colleagues from the perspective of stakeholders (owner, manufacturer, and supervisor). Besides understanding engineering ethics and legal theory application in practical work, it is hoped to develop problem-solving skills, and ways to protect their own rights and interests.

### Sharing of training results

The site found that some piers and cap beams are cracked. Design certification technician and construction company have different views. How to deal with the conflicts arising from the discharge of responsibilities?



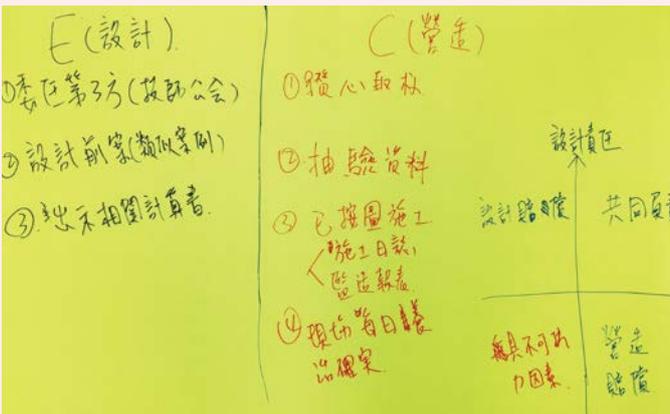


方案一

以路徑圖方式釐清設計及施工廠商之責任歸屬。

Plan 1

clarified the responsibility of the design and construction company by way of road map.



方案二

以設計、廠商責任為縱軸及橫軸，並加入第三方（技師公會鑑定）之意見。

Plan 2

took the design and contractor's responsibility as the vertical axis and horizontal axis and added the opinions of a third party (assessment of the Taipei Association of Civil Engineering Technician).



方案三

以各項客觀資料（包含裂縫大小、橋梁工程規範等）畫製魚骨圖，配合公正第三方意見，強調廠商善良管理責任。

Plan 3

used the objective data (including the size of cracks, bridge engineering specifications, etc.) to draw fishbone diagrams, combined with the impartial third-party opinions, and emphasized the good management responsibility of the contractor.

## 辦理成果深獲肯定

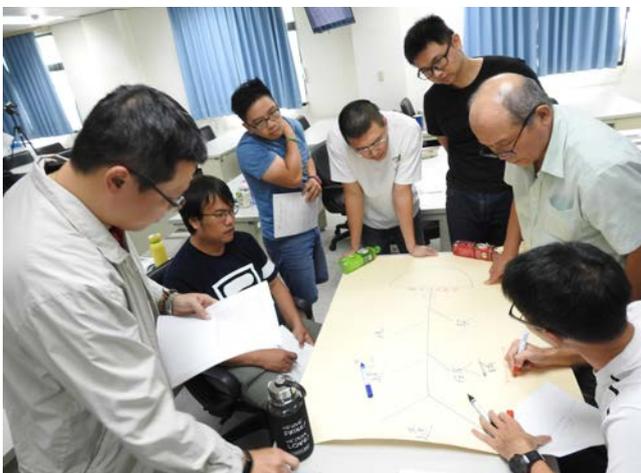
本項課程獲得參與同仁相當高的滿意度，每場滿意度均達95%以上，更獲交通部核列為優質廉政亮點業務，庶幾發揮以廉能教育「愛護」、「保護」、「防護」機關同仁的目標。

## Positive Feedback from the Participates

The course has got high satisfaction from the participants. Satisfaction of each class was over 95%. MOTC approves it as a high quality civil ethics business to promote ethics education with "love", "protection" and "prevention" among colleagues.



分組報告分享成果。  
Group presentation, sharing conclusions.



案例討論、互動熱絡。  
Case discussion, interacting progressively.



專業講師指導。  
Guidance from the professional lecturers.

## 通過四合一國際驗證

Qualified for the 4-in-1  
International Certification



四合一國際驗證證書。  
The 4-in-1 international certification.

### 揭櫫「資安即國安」政策

蔡英文總統上任後，於105年揭櫫「資安即國安」戰略目標，106年宣示「打造國家資安機制，確保數位國家安全」、「建立國家資安體系，加速數位經濟發展」及「推動國防資安自主研發，提升產業成長」三項國安級資安目標。為落實此三大目標，強化我國八大關鍵基礎設施之資安防護能力，立法院續於107年5月11日三讀通過「資通安全管理法」，並經總統於6月6日公布，而資通安全管理法六個子法則於11月21日公告。

### 導入三項管理制度

另行政院國家資通安全會報為建立國家資通安全整體防護體系，有效遏止潛在威脅可能發動之攻擊、入侵或破壞行動，發展政府機關（構）資通安全基本防護，強化關鍵資訊基礎設施與涉及重要業務之資安要求，復訂定「政府機關（構）資通安全責任等級分級作業規定」，而

公路總局因建置及維運「第三代公路監理資訊系統」，依據該規定係屬A級機關。為遵循國家資安政策、防範潛在資安威脅、提升資安防護水準及鑑別潛在風險，爰公路總局特別委託相關專業團隊協助導入資訊安全、資訊服務及個人資料三項管理制度。

### 通過四合一國際驗證

為確認管理制度之有效性及符合PDCA（Plan、Do、Check、Action）的要求，公路總局於107年11月12至16日委請第三方驗證機構—臺灣科技檢驗公司（SGS）進行資訊安全管理（ISO27001）、資訊服務管理（ISO20000）、個人資料管理（BS10012）、個資保護控制（ISO29151）國際標準驗證，並順利通過，成為第一個通過四合一國際標準驗證的中央政府機關，未來公路總局將繼續落實國家資安政策，並依循PDCA模式精進各項管理制度，與國際接軌。

## The Policy of Information Security is National Security

After President Tsai Ing-wen took office, the strategic objective of "information security is national security" was unveiled in 2016. Later on, in 2017, three national information security objectives--build a national information security mechanism to ensure digital national security, establish a national information security system to accelerate the development of digital economy, and promote independent research and development of defense information security and industrial growth--were announced. To achieve these three goals and strengthen the information security protection capabilities of the eight key infrastructure facilities, the Legislative Yuan, on May 11, 2018, passed the "Information and Communication Security Management Act". The President proclaimed on June 6, and the six sub-laws of the Information and Communication Security Management Act were proclaimed on November 21.

## Introduce Three Management Systems

To build an integrated protective system for national information and communication security, to effectively prevent the potential threat against possible attacks, invasions or destruction, and to develop the necessary protective measures of information and communication for the government agencies (institutions), the National Information and Communication Security Taskforce of the Executive Yuan has established "the Operation Procedures on the Responsibility

Levels Classification of Information and Communication Security for Government Agencies (Institutions)". According to the operation procedures, "Third Generation Motor Vehicle and Driver Information System" established and maintained by the DGH is a level A authority. To conforming with the national information security policy, guarding against potential information security threats, enhancing the level of information security protection, and identifying potential risks, the DGH has specially commissioned a relevant professional team to assist to introduce three management systems for information security, information technology service, and personal information.

## 4-in-1 International Certification

To confirm the effectiveness of the management system, complying with the requirements of PDCA (Plan, Do, Check, and Action), during November 12 to 16, 2017, the DGH invited the third party certification institution - SGS Taiwan Ltd. for the inspection of information technology security management (ISO27001), information service management (ISO20000), personal information management (BS10012), and personal information protection control (ISO29151). The DGH has passed the international standard certification to become the first central government agency to be certified with the four-in-one international standards. The DGH will continue to implement the national information security policy, and follow the PDCA model to improve the management system in line with international standards.

## 精進法制作業成果卓越

### Improved Legal System Operation with Excellent Results



交通部法規會許宏達專門委員率員蒞臨公路總局查核。

Welcome Mr. Xu Hong-da, senior specialist and his staff from the Legal Affairs Committee, MOTC to the Directorate General of Highways for Inspection.

交通部為配合法務部全國法規資料庫工作小組辦理106年度之法規通報績效查核作業，於106年11月7日函請部屬機關查填刊登行政院公報之法規及行政規則情形後擇定實地查核機關；嗣後，交通部抽選民航局及公路總局進行查核，並於106年12月25日函知公路總局有關實地查核日期，以及須辦理介紹法規網站之建置概況與功能。

本項查核由交通部法規會許宏達專門委員於107年1月5日率隊到局查核業務，公路總局由秘書室唐述如主任率原法制科（現為法制室）及相關科室（資訊室、監理組、秘書室文檔科）同仁接待查核，並由原法制科同仁進行專案簡報，介紹公路總局法規網站（公路總局官網、新e化中心及監理法規檢索系統）之建置維護情形、法

制作業及行政院公報刊登各項精進與改善缺失之作為。

承交通部長官蒞臨公路總局查核指導後，於107年2月9日函復公路總局，略以：「貴局同仁配合本部辦理106年度法規通報績效查核，辛勞得力，績效卓著，請惠予給予有功人員適當獎勵」、「貴局法制單位辦理法制作業講習與法規網站資料建置及維護事項不遺餘力，乃當前本部所屬機關中，表現最為卓越者，尤應予以敘獎鼓勵」，茲因有鑑於政府機關行政作為皆應依法行政，便民利民，而法制室為局內輔助業務組室之單位，應自我期許扮演「推進器」與「煞車器」如車之兩輪雙重角色，並再接再厲精進充實，以爭取公路總局最佳榮譽。

To cooperate with the national law and regulation database taskforce of the Ministry of Justice for 2016 law and regulation report performance audit operation, on November 7, 2017, MOTC requested the subordinated agencies to check and fill in the laws and regulations and administrative rules and regulations published in the gazette of the Executive Yuan, and select on-site inspection of agencies. Subsequently, MOTC selected the Civil Aeronautics Administration and the DGH for inspection. On December 25, 2017, MOTC informed the DGH of the date of field inspection, and to brief the progress and functions of the website introducing the laws and regulations.

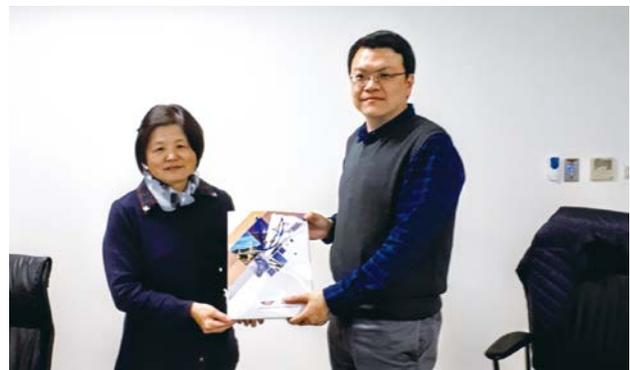
The inspection was conducted by Senior Specialist Hsu Hong-da of the MOTC Legal Affairs Committee on January 5, 2018, who led the team to the DGH to inspect. They were received by Chief Secretary Tang Shu-ru of the DGH Secretariat, colleagues of the original Legal Affairs Section (now Legal Affairs Office), and related departments (Information Management Office, Motor Vehicles Division, Documentation and Archives Section of the Secretariat). The colleagues of the original Legal Affairs Section conducted a special briefing to introduce the build and maintenance practice of the DGH's laws and regulations website (the content covered the official website, the new e-center, and the retrieval system of motor vehicle's laws and regulations), legal affairs operation, the publishing of the Executive Yuan gazette, and all the progress and improvement of shortcomings thereof.

After inspection and guiding, on February 9, 2018, MOTC replied to the DGH which stated: "Your colleagues cooperated with MOTC to inspect the performance of the report of laws and



交通部法規會長官查核公路總局於行政院公報刊登會稿情形。

An official from Legal Affairs Committee, MOTC is reviewing the Executive Yuan Gazette before it is published.



公路總局秘書室唐述如主任代表公路總局致贈紀念品。

Chief Secretary Tang Shu-ru of the Secretariat of the Directorate General of Highways, presented a souvenir on behalf of the Directorate General of Highways.

regulations in 2017. Working hard with excellent performance, please give appropriate rewards to the meritorious personnel", "Your legal affairs unit spare no effort to conduct legal affairs seminars, build and maintain the data for laws and regulation website, it is the most outstanding unit among MOTC subordinates, awards should be given". Given the administrative actions of government agencies shall be proceeded according to law, for the convenience and benefit of the people. The Legal Affairs Office is the unit of the DGH's subsidiary business, which should be self-expected to play the role of "thrustor" and "brake" as if the dual roles of the two wheels in a car. It shall make persistent efforts to enrich to strive for the best honor of the DGH.

Chapter 6

# 共享

為民治道  
繁榮至善

Share Together  
For the People, Strive for  
Perfect





## 組織系統

(含完成人事制改制成果)



## Organizational Structure

(Including the Result of Personnel System Reformation)

公路總局人事制度原為「資位職務分立制」（簡稱資位制），致薪資結構與任用制度有所差異，新進人員起薪較低，商調他機關人員不易，使機關人力進用及運用產生困境，經公路總局多年努力，終於於105年11月1日立法院三讀通過「交通部公路總局組織法」，同年11月16日總統公布；嗣經行政院核定107年1月15日施行，公路總局人事制度改為「官等職等併立制」（簡稱簡薦委任制），公路總局突破法令桎梏轉型為交通行政機關後，期能繼往開來、承先啟後，將優質經驗傳承，俾利公路工程、監理業務順利推動。

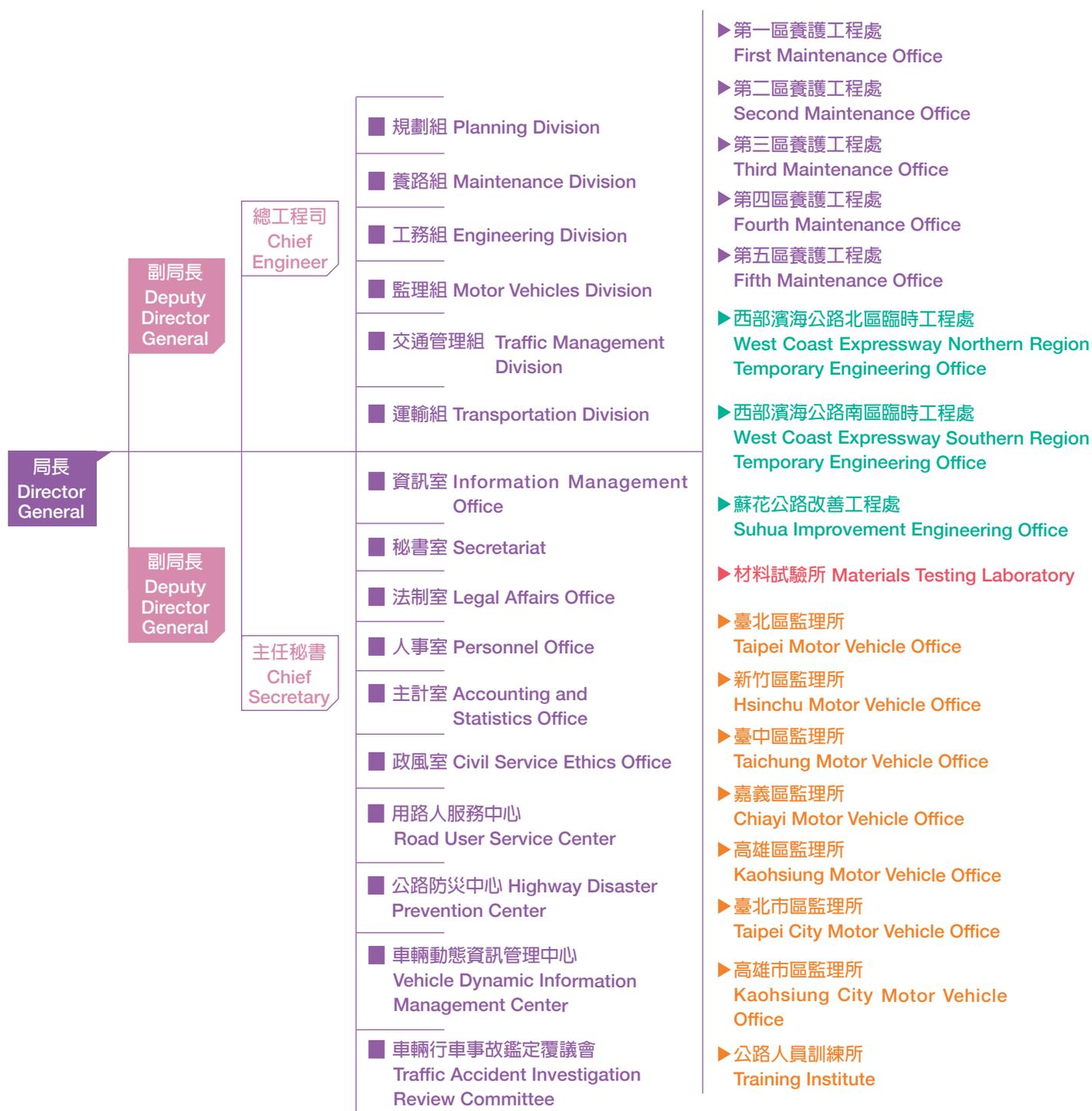
公路總局主要業務為公路工程及公路監理，茲考量公共運輸及交通管理業務日益增加日漸重要，爰配合本次改制將原由監理組劃出之任務編組「運輸管理中心」改為常設單位「運輸組」，並將規劃組交通工程科劃出成立「交通管理組」，同時將機料組、用地組裁撤業務分別併入工務組、監理組及秘書室；另鑑於國家賠償、行政救濟案件增多，將法制科自秘書室劃出成立「法制室」，使各組室業務量較為衡平。又將現行7個區車輛行車事故鑑定會分別併入各區監理所，西部濱海公路中區工程處整併至西部濱海公路北區臨時工程處，東西向快速公路高南區工程處整併至西部濱海公路南區臨時工程處，蘇花公路改善工程處維持，另配合派用人員派用條例廢止，三個臨時工程處改為任用機關。

改制後設置局長、2位副局長、總工程司及主任秘書，業務單位計有規劃、養路、工務、監理、交通管理及運輸等6組、資訊、秘書、法制、人事、主計、政風等6室（輔助單位），以及成立公路防災中心、用路人服務中心、車輛行車事故鑑定覆議會及車輛動態資訊管理中心等4個臨時性任務編組單位，並在總局之下設有5個地區養護工程處、3個新建工程處、7個地區監理所、公路人員訓練所、材料試驗所等17個所屬機關，組織系統圖如下：

The personnel system of the Directorate General of Highways was originally a "separated system of seniority and position" (hereinafter referred to the seniority and position system). Salary structure was independent of the employment system. The new staff was starting at a lower salary level, it would not be easy to transfer to other other agencies. It leads to a situation that employment and manpower utilization was lack of flexibility. After many years of effort of the DGH, on November 1, 2016, "the Organic Law for the DGH of the Ministry of Transportation and Communications" was finally approved by the Legislative Yuan after the third reading, which was proclaimed on November 16 of the same year by the President. Later on, the Executive Yuan had approved the effective date to be January 15, 2018. The personnel system of the DGH is now a "parallel system of seniority and position." (hereinafter referred to the appointment system). The DGH has broken through the law constraints into an administrative agency. It is expected that valuable experiences can provide highway engineering and supervision a better future.

The main business of the DGH is highway engineering and motor vehicles supervision. Considering the increase workload and importance of the public transportation and traffic management, by this system reform, the "Transportation Management Center" taskforce formerly under the motor vehicles Division is now the regular Transportation Division. A newly established Traffic Management Division is transformed from the Traffic Engineering Section of the Planning Division. Both the Machine & Material Section and the Land Acquisition Section are canceled and combined into the Engineering Division, motor vehicles Division and the Secretariat. Due to the increased case load of state compensation and administrative remedy, the Legal Affairs Section is now the Legal Affairs Office, independent from the Secretariat. The workload among offices and divisions is far better balanced. The current Traffic Accident Investigation Committee of the seven regions are merged into the regional Motor Vehicles Offices. The West Coast Expressway Central Regional Engineering Office has merged into the West Coast Expressway Northern Region Temporary Engineering Office. The Tainan & Kaohsiung Engineering Office for the East-West Expressway has merged into the West Coast Expressway Southern Region Temporary Engineering Office. The Suhua Improvement Engineering Office remains. Also, due to the appointment law is no longer active, all three temporary engineering offices are now employment agencies.

After reformation, the new organization consists of one Director-General, two Deputy Director-General, one Chief Engineer and one Chief Secretary. The business units are six divisions of Planning, Maintenance, Engineering, Motor Vehicles, Traffic Management, and Transportation, and six offices (auxiliary units) of Information Management, Secretariat, Legal Affairs, Personnel, Accounting, and Civil Service Ethics. There are four temporary taskforce units of Highway Disaster Prevention Center, Road Users Service Center, Traffic Accident Investigation Review Committee, and Vehicle Dynamic Information Management Center. Under the DGH, there are 17 subordinated units, they are, five regional maintenance offices, three engineering offices, seven regional motor vehicles offices, Training Institute, and the Materials Testing Laboratory. The organization chart is as follows:



## 施政計畫 ○—○ Administrative Project

計畫名稱 Project name	年度預算 (千元) Annual budget (NTD 1,000)	計畫期程 (年) Timeframe (year)	列管級別 Supervisory Level
台9線蘇花公路山區路段改善計畫 The Suhua Highway of Provincial Highway No.9 Mountainous Section Improvement Project	7,000,329	2010-2020	政院管制 Executive Yuan
台9線南迴公路拓寬改善後續計畫 Follow Up to the South Link Highway of Provincial Highway No.9 Widening Project	3,414,669	2011-2020	政院管制 Executive Yuan
西濱快速公路後續建設計畫 Follow Up to the West Coast Expressway Continuous Construction Project	6,625,784	2009-2019	部會管制 Ministry
台9線花東縱谷公路安全景觀大道計畫 A Safe Landscape Boulevard on East Rift Valley Highway of Provincial Highway No.9	20,272	2017-2024	部會管制 Ministry
淡江大橋及其連絡道路建設計畫 Danjiang Bridge and Connecting Roads Construction Project	1,366,380	2014-2024	部會管制 Ministry
公路公共運輸多元推升計畫 Highway Public Transport Multiple Enhancement Project	3,484,957	2017-2020	部會管制 Ministry
生活圈道路交通系統建設計畫 (公路系統) 8年 (104- 111) 計畫 Region-Based Road System Construction Project (Highway System) 8-year (2015-2022) plan	4,763,091	2015-2022	部會管制 Ministry
省道改善計畫 Highway Improvement Project	4,177,105	2013-2018	部會管制 Ministry
全國自行車友善環境路網整體規劃及交通部自行車路 網建置計畫 National Bicycle Friendly Route Network Planning Project and The construction for Bicycle Network by MOTC Project	252,440	2015-2018	部會管制 Ministry
科學城低碳智慧環境基礎建置—公共建設部分 Science City Low-carbon Intellectual Environment Foundation - Partial Plan for Constructing Infrastructure	369,341	2017-2024	部會管制 Ministry
改善停車問題計畫 Parking improvement project	900,000	2017-2021	部會管制 Ministry
提升道路品質建設計畫 Road quality improvement construction project	3,898,227	2017-2021	部會管制 Ministry
省道配合區域排水整治及環境營造計畫需辦理橋梁工 程 Construction of Provincial Highway Bridges Needed for Regional Drainage & Regulation and Environment Construction Plan for Major Rivers	181,933	2015-2020	自行管制 Autonomous Management

計畫名稱 Project name	年度預算 (千元) Annual budget (NTD 1,000)	計畫期程 (年) Timeframe (year)	列管級別 Supervisory Level
省道配合重要河川環境營造計畫需辦理橋梁工程 Construction of Provincial Highway Bridges Needed for the River Environment Construction Plan for Major Rivers	173,129	2015-2020	自行管制 Autonomous Management
公路養護計畫 Highway Maintenance Project	8,686,843	2018-2018	自行管制 Autonomous Management

## 參賽成果 ○—○ Competition Results

編號 Number	考評 (核) 或競賽名稱 Evaluation or the name of the Competition	得獎單位 Awarded Unit	成績 Result
1	交通部所屬各一級行政機關107年績效考評 2018 performance evaluation of the chief administration departments of Ministry of Transportation and Communications	公路總局 Directorate General of Highways	第1名 First Place
2	107年交通部公文檢核 2018 document review by the Ministry of Transportation and Communications	公路總局 Directorate General of Highways	第1名 First Place
3	106年公路監理機關徵收汽車燃料使用費績效評比 2017 annual evaluation of motor vehicle agencies collecting vehicle fuel fees	公路總局 Directorate General of Highways	特優 Superior
4	全國自行車友善環境路網整體規劃及交通部自行車路網建置計畫 (部會管制) National bicycle friendly route network planning project and The construction for bicycle network by MOTC project	公路總局 Directorate General of Highways	優等 Excellent
5	第17屆公共工程金質獎-台12線沙鹿陸橋改建工程 The 17 <sup>th</sup> Public Construction Commission Golden Quality Award—Provincial Highway No.12 Shalu Bridge Reconstruction Project	第二區養護工程處 Second Maintenance Office	優等 Excellent
6	107年勞動部推動職業安全衛生優良公共工程-台63線烏溪橋P41-P47橋梁改善工程 2018 Ministry of Labor promoted labor safety and health outstanding public construction – Provincial Highway No.63 Wuxi Bridge P41-P47 Improvement Project	第二區養護工程處 Second Maintenance Office	優等 Excellent
7	交通部106年創新提案制度 2017 MOTC innovative proposal competition	第二區養護工程處 Second Maintenance Office	創意獎 Creative Award
8	107年度交通部金路獎-路況養護類 2018 MOTC Golden Way Award - road condition maintenance category	第三區養護工程處 Third Maintenance Office	優勝 Merit Award

編號 Number	考評(核)或競賽名稱 Evaluation or the name of the Competition	得獎單位 Awarded Unit	成績 Result
9	107年度交通部金路獎-用路人資訊類 2018 MOTC Golden Way Award - road users information category	第三區養護工程處潮州工務段 Chaozhou Branch ,Third Maintenance Office	第1名 First Place
10	全民監督公共工程-106年度優良主辦機關 Supervision of public construction by all the people - 2017 outstanding host agency	第三區養護工程處 Third Maintenance Office	優等 Excellent
11	106年度參與災害防救工作 2017 participation in disaster prevention and Protection work	第三區養護工程處 Third Maintenance Office	特優 Superior
12	106年度橋樑維護管理作業督導考核 2017 bridge maintenance and management Assessment	第四區養護工程處太魯閣工務段 Tailuge Branch, Forth Maintenance Office	第1名 First Place
13	107年度交通部金路獎-路況養護類 2018 MOTC Golden Way Award - road condition maintenance category	第五區養護工程處阿里山工務段 Alishan Branch, Fifth Maintenance Office	第1名 First Place
14	107年度交通部金路獎-優良景觀類 2018 MOTC Golden Way Award - outstanding landscape category	第五區養護工程處阿里山工務段 Alishan Branch, Fifth Maintenance Office	第1名 First Place
15	交通動員準備業務考評 Transportation mobilization preparation assessment	第五區養護工程處 Fifth Maintenance Office	優等 Excellent
16	第17屆公共工程金質獎-西濱快速公路130k+123~134k+271房裡大安主線高架工程 The 17 <sup>th</sup> Public Construction Commission Golden Quality Award - the West Coast Expressway 130k+123~134k+271 Fangli to Da'an Elevated Mainline Project	西部濱海公路北區臨時工程處 West Coast Expressway Northern Region Temporary Engineering Office	優等 Excellent
17	107年度交通部金路獎-西濱快速公路195k+995~199k+348.5 (WH50-2標)王功至永興段新建工程 2018 MOTC Golden Way Award - the West Coast Expressway 195k+995~199k+348.5 (WH50-2 Tender) Wanggong-Yongxing Construction Project	西部濱海公路北區臨時工程處 West Coast Expressway Northern Region Temporary Engineering Office	第1名 First Place
18	107年勞動部推動職業安全衛生優良公共工程-西濱快速公路204k+530~209k+087 (WH52標)新街至大城路段新建工程 2018 Ministry of Labor promoted labor safety and health outstanding public construction - the West Coast Expressway 204k+530~209k+087 (WH52 Tender) Xinjie - Dacheng Section Construction Project	西部濱海公路北區臨時工程處 West Coast Expressway Northern Region Temporary Engineering Office	優等 Excellent
19	107年勞動部推動職業安全衛生優良公共工程(工程主辦機關)-台17甲線鹽水溪橋改建工程 2018 Ministry of Labor promoted labor safety and health outstanding public construction (host agency) - Provincial Highway No.17A Yanshui Creek Bridge Reconstruction Project	西部濱海公路南區臨時工程處 West Coast Expressway Southern Region Temporary Engineering Office	優等 Excellent

編號 Number	考評(核)或競賽名稱 Evaluation or the name of the Competition	得獎單位 Awarded Unit	成績 Result
20	107年勞動部推動職業安全衛生優良公共工程-台9線蘇花公路山區路段改善計畫仁水隧道新建工程 2018 Ministry of Labor promoted labor safety and health outstanding public construction - Provincial Highway No.9 Suhua Highway Mountainous Section Improvement Project Renshui Tunnel Construction Project	蘇花公路改善工程處 Suhua Highway Improvement Engineering Office	佳作 Honorable Mentions
21	106年度交通部服務獎-整體服務類 2017 MOTC Service Award - overall service category	臺北區監理所 Taipei Motor Vehicles Office	交通部服務獎 MOTC Service Award
22	院頒道路交通秩序與交通安全改進方案106年度執行成果考評-進步獎 2017 Executive Yuan annual inspection "Improvement Program for Traffic Order and Safety" - progress award	臺北區監理所 Taipei Motor Vehicles Office	第1名 First Place
23	院頒道路交通秩序與交通安全改進方案106年度執行成果考評-砂石車安全管理優秀獎 2017 Executive Yuan annual inspection "Improvement Program for Traffic Order and Safety" - dump truck management	臺北區監理所 Taipei Motor Vehicles Office	第1名 First Place
24	院頒道路交通秩序與交通安全改進方案106年度執行成果考評-公路監理第2組 2017 Executive Yuan annual inspection "Improvement Program for Traffic Order and Safety" - motor vehicle office team 2	新竹區監理所新竹市監理站 Hsinchu City Motor Vehicles Station, Hsinchu Motor Vehicles Office	第1名 First Place
25	第16屆金檔獎-中央組 The 16 <sup>th</sup> Archives Management Quality Awards - central government agency	臺中區監理所 Taichung Motor Vehicles Office	金檔獎 Archives Management Quality Awards
26	106年交通部服務獎-整體服務類 2017 MOTC Service Award - overall service category	臺中區監理所 Taichung Motor Vehicles Office	交通部服務獎 MOTC Service Award
27	院頒道路交通秩序與交通安全改進方案106年度執行成果考評-團體總成績第2組 2017 Executive Yuan annual inspection "Improvement Program for Traffic Order and Safety" - group overall score team 2	臺中區監理所彰化監理站 Changhua motor vehicles Station, Taichung Motor Vehicles Office	第1名 First Place
28	院頒道路交通秩序與交通安全改進方案106年度執行成果考評-團體總成績第3組 2017 Executive Yuan annual inspection "Improvement Program for Traffic Order and Safety" - group overall score team 3	臺中區監理所南投監理站 Nantou motor vehicles Station, Taichung Motor Vehicles Office	第1名 First Place

編號 Number	考評(核)或競賽名稱 Evaluation or the name of the Competition	得獎單位 Awarded Unit	成績 Result
29	院頒道路交通秩序與交通安全改進方案106年度執行成果考評-公路監理第3組 2017 Executive Yuan annual inspection "Improvement Program for Traffic Order and Safety" - motor vehicle office team 3	臺中區監理所南投監理站 Nantou Motor Vehicles Station, Taichung Motor Vehicles Office	第1名 First Place
30	106年汽車貨運調查-績優營業貨運調查單位 2017 Motor vehicle survey - outstanding business vehicles survey unit	臺中區監理所豐原監理站 Fengyuan motor vehicles Station, Taichung Motor Vehicles Office	第1名 First Place
31	院頒道路交通秩序與交通安全改進方案106年度執行成果考評-公路監理第1組 2017 Executive Yuan annual inspection "Improvement Program for Traffic Order and Safety" - motor vehicle office team 1	臺北市區監理所 Taipei City Motor Vehicles Office	第1名 First Place
32	院頒道路交通秩序與交通安全改進方案106年度執行成果考評-交通安全宣導第1組 2017 Executive Yuan annual inspection "Improvement Program for Traffic Order and Safety" - safety advocacy team 1	臺北市區監理所 Taipei City Motor Vehicles Office	第1名 First Place
33	第10屆道安創新貢獻獎-公路監理組 The 10 <sup>th</sup> Road Safety Innovative Contribution Award - motor vehicle office team	臺北市區監理所 Taipei City Motor Vehicles Office	第1名 First Place
34	106年度交通部創新提案制度 2017 MOTC innovative proposal competition	高雄市區監理所 Kaohsiung City Motor Vehicles Office	創新獎 甲等獎 First Class, Innovation Award
35	行政院核定105年度節能典範 2016 energy saving model approved by the Executive Yuan	高雄市區監理所 Kaohsiung City Motor Vehicles Office	節能典範 Energy Saving Model
36	106年度交通部創新提案制度 2017 MOTC innovative proposal competition	材料試驗所 Materials Testing Laboratory	創新獎 甲等獎 First Class, Innovation Award

## 研究發展 Research and Development

編號 Number	研究計畫名稱 Name of Research Development	研究單位 Research Unit
1	臺北市區監理所轄管汽車號牌註銷未繳回樣態大數據分析 Big data analysis of unreturned vehicle license plate canceled under the jurisdiction of the Taipei City Motor Vehicles Office	臺北市區監理所 Taipei City Motor Vehicles Office
2	第三代公路監理資訊系統-人員角色權限調整研究案 Third-Generation Motor Vehicle and Driver Information System - a case study on the adjustment of personnel role and authority	臺北區監理所 Taipei Motor Vehicles Office
3	無人值守機房巡檢機器人-A1機器人監理實務運用 Unattended machine room patrol and check robot - motor vehicles supervision practical application of A1 robot	高雄市區監理所 Kaohsiung City Motor Vehicles Office
4	稽查與檢驗共同項目不合格態樣分析 Analysis of nonconformance samples for audit and inspection of common items	高雄市區監理所 Kaohsiung City Motor Vehicles Office
5	防制機車改裝智慧平台 Prevention and control of modified motorcycle intelligent platform	高雄市區監理所苓雅監理站 Lingya motor vehicles Station, Kaohsiung City Motor Vehicles Office
6	瀝青鋪面材料對鋪面耐久性影響之研究 Study on the influence of asphalt pavement materials on pavement durability	材料試驗所 Materials Testing Laboratory
7	RAP混凝土添加卜作嵐材料之研究 Study on RAP concrete adding pozzolan materials	材料試驗所 Materials Testing Laboratory
8	高低平坦儀與慣性剖面儀之量測指標關聯性探討 Study on the correlation between the measurement index of the high and low flattener and the inertial profiler	材料試驗所 Materials Testing Laboratory



## 大事紀要 Major Events

2018

### 大事紀要

- 1  
1 為配合智慧電動機車產業推動規劃及執行，因應核發電動機車專屬號牌之政策，新增電動普通重型機車、電動輕型機車、電動小型輕型機車、電動大型重型機車、電動550cc以上大型重型機車（馬達及控制器最大輸出馬力54HP以上）等5款「電動機車號牌」，自107年1月1日起全國各監理單位將核發電動機車專屬號牌。
- 12 於交通部召開107年武陵農場櫻花季疏運記者會，發布「場內總量管制、道路交通管制、團客預約入場、公共運輸接駁」等四大疏運措施。團客部分於107.1.16開放預約，散客部分臺北端及宜蘭端車票於107.1.19開放售票。
- 15 「交通部公路總局組織法」奉行政院107年1月15日院授人組字第10700300611核定自107年1月15日施行。
- 22 交通部祁次長文中視察台9線蘇花公路善改計畫蘇澳—東澳段。
- 26 「東西向快速公路台76線（原漢寶草屯線）台19線以西路段改線工程」建設計畫奉行政院107.1.26院臺交字第1060102427號函核定。
- 29 因應107年春節連假，公路總局已擬定「107年春節連續假期疏運計畫」，並於107年1月29日於交通部辦理春節疏運記者會。
- 2 5 蘇花改蘇澳至東澳段已於107年1月23日辦理第三階段通車勘驗，並於107年2月5日下午4時開放通車，未來除持續監控車流狀況外，考量通車初期，民眾對於路況較不熟悉，已於疏導路線上重要轉向路口，增設大型指示標誌，提供重要行車資訊。
- 6 公路總局為因應0206花蓮地震事件，於2月7日0時應變小組二級開設，第一時間清查災情、執行應變，並配合中央應變中心於2月9日18時解除應變小組，應變時數共計66小時，執行完成地震期間之應變作為。地震後落石阻斷皆已排除，幸防災應變得宜，無人員傷亡事件，後續移由專案人員持續常時監控作業。
- 8 107年武陵農場櫻花季疏運於2月16日展開，並持續至2月25日，各單位已於櫻花季前完成各項疏運措施整備，並於櫻花季期間即時掌握沿途交通路況、公共運輸疏運情形及團客遊覽車動態即時監控等疏運成果，確保各項疏運措施運作順利。
- 9 0206花蓮強震造成省道台11線花蓮大橋錯動受損，經公路總局進行花蓮大橋安全檢視評估，勘定致災成因及擬定後續搶修工法後，並已於2月8日上午進場著手辦理橋梁修復施工，優先修復重點為涉及影響行車安全與平穩性之橋梁伸縮縫、止震塊等結構性修復，預計工期45天，將於107年3月30日前完成並開放恢復原有南下與北上雙向橋梁通車。
- 3 2 西濱快速公路WH10-A（54k+320-60k+312）標完工
- 2 台9線蘇花公路東澳隧道新建工程竣工。
- 22 台21線新中橫公路連結南投縣水里鄉及信義鄉的龍神橋改建；104年4月25日開工，於107年3月22日下午3時開放通行。
- 24 台9線南迴公路C2標草埔隧道北上線貫通。
- 31 「西濱快速公路苗栗房裡交流道至臺中大安交流道工程」通車。
- 4 9 賀陳旦部長主持台9線南迴公路拓寬改善後續計畫安朔段工程，「安朔高架橋」合龍典禮。
- 4 20 賀陳旦部長主持公路公共運輸推動成果分享暨展望研討會
- 5 4 台61線西濱快速公路永安至新豐主線路段高架工程，已於107年5月4日（星期五）完成第三階段通車勘驗，並於107年5月19日（星期六）下午18:00通車。

## 大事紀要

1

1

In collaboration to the planning and execution of promoting intelligent electric motorcycle industry, the policy is to issue exclusive license plates for an electric motorcycles. There are five types of new "electric motorcycle license plate", including ordinary heavy electric motorcycle, light electric motorcycle, small and light electric motorcycle, large and heavy electric motorcycle, and large and heavy electric motorcycle over 550 cc (the maximum output power of motor and controller is more than 54HP). Starting January 1, 2018, electric motorcycle exclusive license plates will be issued by national motor vehicles offices.

12

The Ministry of Transportation and Communications held a press conference on the transportation arrangement for the 2018 cherry blossom season in Wuling Farm. The press conference released four major transport measures, including "total control, road traffic control, group admission by appointment, and public transport connection". Group tickets were available for reservation on January 16, 2018, while individual tickets in Taipei and Yilan were available for booking on January 19, 2018.

15

The "Organic Act of the Directorate General of Highways of the Ministry of Transportation and Communications" came into force as of January 15, 2018, approved by the Executive Yuan.

22

MOTC Administrative Deputy Minister Chi Wen-jong reviewed the Suhua Highway of Provincial Highway No.9 Mountainous Section Improvement Project Su'ao-Dong'ao Section.

26

The "East-West Expressway of Provincial Highway No.76 (original Hanbao-Tsaotun line) West to Provincial Highway No.19 Section Diversion" Construction Project was approved by the Executive Yuan on January 26, 2018.

29

On January 29, 2018, the Ministry of Transportation and Communications held a press conference for the "transport arrangement plan of the 2018 Chinese New Year continuous holidays" planned by DHG.

2

5

The Su'ao-Dong'ao Section of the Suhua Improvement Project conducted the third stage inspection on January 23, 2018, and was opened to traffic at 4 p.m. on February 5, 2018. In the future, besides the continuous monitoring of traffic conditions, considering the initial phase of opening to traffic, the public is not familiar with the road conditions, large instruction signs are placed at major intersections to provide important traffic information.

6

In response to the February 6 Hualien earthquake, the Directorate General of Highways set up a level-2 emergency response team at midnight on February 7 to immediately check the situation and implement the emergency response. To cooperate with the central emergency response center, the emergency response team was dismissed at 6 p.m. on February 9. Total response hours was 66, completed execution of response after the earthquake, the roadways were reopened after being blocked by a series of falling rocks. Fortunately, due to disaster preparedness, no casualties were reported. Subsequently it was shifted to project staff for constant monitoring operation.

The 2018 Wuling Farm cherry blossom season began on February 16, to February 25. All units were prepared for various transportation measures, and traffic conditions along the way were monitored real-time during the cherry blossom season. Public transportation conditions and group tour buses movement were monitored real-time for transportation to ensure smooth operation of the transportation measures.

8

The February 6 Hualien earthquake caused dislocation and damaged to the Hualien Bridge of Provincial Highway No.11. After safety assessment, assessment of causes of damage and follow-up repair methods were determined of the Hualien Bridge by the DGH. On the morning of February 8, repair of the bridge was started. The priority of repair key point was the structural repair of expansion joints and seismic blocks that affect driving safety and stability. The schedule of repair was expected to be 45 days, which was completed before March 30, 2018, and open to traffic, restoring the original southbound and northbound two-way passing.

2018

大事紀要

6

7

18

蔡英文總統主持台9線南迴公路拓寬改善後續計畫「草埔隧道全線貫通」貫通典禮。

23

台61線西濱快速公路白沙屯至南通灣段新建工程，已於107年5月23日（星期三）完成第三階段通車勘驗，並於107年6月2日（星期六）下午18:00通車。

25

賀陳旦部長主持蘇花改計畫中仁隧道全線貫通典禮。

2

西濱快速公路台61線苗栗白沙屯交流道至通霄交流道開放通車。

21

基於號牌核發公平公正及資訊公開原則，自107年6月21日起，開放所有汽車車種（含電動汽車、拖車、營業、自用等車輛）號牌標牌及選號。

1

實施41條臺灣好行路線電子票證半價優惠措施，鼓勵民眾搭乘公共運輸旅遊，促進公共運輸使用及觀光發展。

交通部公告汽車改（加）裝LED大燈之變更檢驗標準，並自107年7月1日起施行。

自107年7月1日起對於營業大客車駕駛人違規行為遭逕行舉發如超速、闖紅燈、危險駕駛等應併受違規記點處分之案件，開始實施執行記點，在6個月內累計滿6點者即依規定吊扣駕駛執照1個月，藉以矯正駕駛人違規之駕駛行為。

公路總局自107年7月1日起於全國監理所（站）提供行動支付與信用卡繳費服務，繳納項目包含駕行照規費、考檢驗費、汽車燃料使用費及逾期罰鍰、強制險罰鍰、公路法罰鍰、交通違規罰鍰等監理規費。

自107年7月1日提供各類臨時通行證線上核發功能，經公路監理機關審核通過後提供臨時通行證電子檔供申請者自行下載、列印，大幅減少申請人往返監理機關領取通行證之不便。



## 大事紀要

- 3-9 The West Coast Expressway WH10-A (54k+320-60k+312) Tender completed.
- 3-2 The Provincial Highway No.9 Suhua Highway Dong'ao Tunnel Construction Project completed.
- 22 The Longshen Bridge Reconstruction Project of Provincial Highway No.21 New Central Cross-Island Highway, connecting Shuili Township and Xinyi Township of Nantou County. The construction started on April 25, 2015, and was opened to traffic at 3 p.m. on March 22, 2018.
- 24 The Provincial Highway No.9 South Link Highway G2 Tender Caopu Tunnel Northbound Lane holed through.
- 31 The "West Coast Expressway Fangli Interchange, Miaoli to Da'an Interchange, Taichung Project" was opened to traffic.
- 4-9 Minister Ho Chen-tan presided over the "Anshuo Viaduct" closing ceremony of the Follow-Up to the South Link Highway of Provincial Highway No.9 Widening Project Anshuo Section Project.
- 20 Minister Ho Chen-tan presided over the symposium on the sharing and prospect of promotion of highway public transport.
- 5-4 The Provincial Highway No.61 West Coast Expressway Yong'an to Xinfeng Elevated Mainline Project completed the third stage inspection on May 4, 2018 (Friday), and was opened to traffic at 6 p.m. of May 19, 2018 (Saturday).
- 18 President Tsai Ing-wen presided over the hole through ceremony of the "hole through of Caopu Tunnel" in the Follow-Up to the South Link Highway of Provincial Highway No.9 Widening Project.
- 23 The Provincial Highway No.61 West Coast Expressway Construction Project between Baishatun and Nantongwan completed the third stage inspection on May 23, 2018 (Wednesday) and was opened to traffic at 6 p.m. on June 2, 2018 (Saturday).
- 25 Minister Ho Chen-tan officiated at the hole through ceremony of the Suhua Improvement Project Zhongren Tunnel.
- 6-2 The West Coast Expressway of Provincial Highway No.61 from Baishatun Interchange to Tongxiao Interchange in Miaoli was opened to traffic.
- 21 Based on the principle of fairness and information disclosure in license plate issuance, starting June 21, 2018, the license plate and number selection of all types of automobiles (including electric vehicles, trailers, business vehicles, and self-use vehicles) were no longer restricted.
- 7-1 Implement half-price discount policy for e-ticketing on 41 Taiwan Trip Line routes to encourage people traveling by public transport and promote the use of public transport and tourism development.
- MOTC announced the inspection standards for change (add) of automobile LED headlights, which took effect on July 1, 2018.
- Starting July 1, 2018, for commercial bus drivers, who violates regulations such as speeding, running through red lights, dangerous driving, etc., violation points that should be marked on top of the fine, began the implementation of violation points. Accumulation of 6 points within 6 months means one-month suspension of the driving license. So that the driving behavior of drivers can be corrected.
- Starting July 1, 2018, the DGH has provided mobile payment and credit card payment service in the national-wide motor vehicles offices (stations). Payment items include driver's license fee, test and inspection fee, vehicle fuel fee, overdue fine, compulsory insurance fine, fine under the Highway Act, traffic violation fine, and other motor vehicle fees.
- Starting July 1, 2018, various provisional passes were available online. After being reviewed and approved by the motor vehicles agency, electronic files of provisional passes can be available to the applicants who can download and print by themselves. It greatly reduced the inconvenience of the applicants traveling to and from the motor vehicles agency to collect the pass.

2018

大事紀要

- 13 公路總局辦理台12線沙鹿陸橋改建工程於104年4月20日開工，因配合施工局部交通動線須改道行駛，目前全部工程已完工，於107年7月13日14時開放全線通車，回復原來動線行駛。
- 30 公路總局於107年7月30日起實施學習駕駛證電子化作業，民眾可直接線上查詢或利用載具下載儲存，規費也由原本100元減為50元，預估每年最多有32萬多名民眾受惠。
- 9 7 監察院交通及採購委員會巡查「淡江大橋及其連絡道路建設計畫」。
- 12 交通部吳宏謀部長主持第五屆台9線蘇花公路計畫論壇。
- 17 交通部祁文中次長視察台9線蘇花公路東澳南澳段。
- 11 1 107年11月1日起新增60題機車情境題考題，現共120題，出題比例由5題增加至10題，以提升機車駕駛人對於交通安全認知及模擬機車駕駛人上路後各種駕駛情境。
- 2 公路總局「運管大樓」於11月2日部長親臨揭牌啟用，並於11月12日頒布公路總局「車輛動態資訊管理中心」要點及編組表，車輛動態資訊管理中心正式成立。
- 13 台9線蘇花公路C2標仁水隧道全線貫通典禮，總統及部長蒞臨觀禮。
- 14 「淡江大橋修正計畫」行政院核定。
- 12 1 107年12月1日起初考領機車駕照講習，增加30分鐘防禦駕駛課程，共講習120分鐘，讓剛領有機車駕照之新手駕駛加強防禦駕駛觀念並降低肇事率。
- 12 公路總局蘇花改計畫經交通部「107年度交通工程環境影響評估追蹤考核現場勘察計畫」評定第1名。
- 28 「台9線南迴公路香蘭至金崙段拓寬改善工程」（A2-2標）里程410k+610-411k+010，完成海側雙向二車道，於107年12月28日15：00開放海側雙向通行。



## 大事紀要

13

The Provincial Highway No.12 Shalu Bridge Reconstruction Project was started on April 20, 2015 by the DGH. Due to the construction, some traffic lines had to be changed to other roads. At present, all the works had been completed, fully opened for both direction traffic at 2 p.m. on July 13, 2018 which restored the original driving lines.

30

On July 30, 2018, the DGH implemented the e-learning operation of learning licenses, enabling the public to make inquiries directly online or download their learning licenses for storage in storing device. The fee has also been reduced from NT\$100 to NT\$50. It is estimated that up to 320,000 people will be benefitted each year.

9

7

The Transport and Procurement Committee of the Control Yuan reviewed the Danjiang Bridge and Connecting Roads Construction Project.

12

MOTC Minister Wu Hong-Mou presided over the fifth forum of the Provincial Highway No.9 Suhua Highway Project.

17

MOTC Administrative Deputy Minister Chi Wen-jong inspected the Provincial Highway No.9 Suhua Highway Dong'ao-Nan'ao Section.

11

1

Starting November 1, 2018, 60 new situational test questions of the motorcycle were added. Now there are 120 questions in total, and the proportion of the situational questions has been increased from 5 to 10, to improve the motorcycle riders' cognition of traffic safety and simulate various driving situations that motorcycle riders would be facing on the road.

2

The "Operation and Management Building" of the DGH was inaugurated by the MOTC Minister on November 2. On November 12, the key points and organization chart of the DGH "Vehicle Dynamic Information Management Center" were proclaimed. The Vehicle Dynamic Information Management Center was formally established.

13

The President and MOTC Minister attended the hole through ceremony of the Provincial Highway No.9 Suhua Highway C2 Tender Renshui Tunnel.

14

The Executive Yuan approved the "Danjiang Bridge Revision Plan".

12

1

Starting December 1, 2018, training session for the first time examinees of motorcycle driver's license test, a new 30-minute defense driving course was added, which lasted 120 minutes in total. This allow the new driver who just got a motorcycle driver's license to strengthen the defense driving concept and reduce the accident rate.

12

The Suhua Highway Imporvement Project of the DGH was ranked the first place of the "2018 traffic engineering environmental impact assessment tracking assessment site investigation plan" by the MOTC.

28

The "Provincial Highway No.9 South Link Highway Shanglan-Jinlun Section Widening Improvement Project" (A2-2 Tender) 410k+610-411k+010, the two-way two-lane on the seaside was completed, which was opened to traffic in both directions on the seaside at 3 p.m. of December 28, 2018.

## 預算執行 Budget Execution

### 一、預算執行 Budget Execution

#### (一) 歲入部分 Revenues

**107年度** 本年度預算數79億9,903萬5千元，實收數90億3,788萬3千元，應收數5億2,302萬1千元（占預算數6.54%），合計95億6,090萬4千元，執行率119.53%。

**以前年度** 以前年度歲入應收款4億4,222萬6千元，實收數4億3,890萬元（占應收款99.25%），餘332萬6千元，轉入下年度繼續執行（占預算數0.75%）。

**2018** The DGH had budgeted revenue of NT\$7,999,035,000 in 2018, with receipts of NT\$9,037,883,000 and accounts receivable of NT\$523,021,000 (6.54 percent of budgeted revenue) for a total of NT\$9,560,904,000. Execution rate was 119.53 percent.

**Previous year** The DGH had annual receivables of NT\$442,226,000, with receipts of NT\$438,900,000 (99.25 percent of annual receivables). The surplus of NT\$3,326,000 (0.75 percent of annual receivables) was carried forward to the following year.

#### (二) 歲出部分 Expenditures

**107年度** 本年度預算數442億9,844萬8千元，實支數433億4,642萬6千元，賸餘數2,692萬5千元（占預算數0.06%），預付款7億2,148萬元，執行率（含預付款）99.54%。

**以前年度** 保留轉入數35億46萬1千元，實支數25億116萬6千元，應付數7萬8千元，註銷減免數3,509萬2千元（占保留數1.00%），預付款6億6,739萬2千元，執行率（含預付款）91.52%。

**2018** The DGH had budgeted expenditures of NT\$44,298,448,000 in 2018, with payments of NT\$43,346,426,000, treasury payments of NT\$26,925,000 (0.06 percent of budgeted expenditures) and suspense payments of NT\$721,480,000. Execution rate including suspense payments was 99.54 percent.

**Previous year** Encumbrances totaled NT\$3,500,461,000, with payments of NT\$2,501,166,000, accounts payable of NT\$78,000, write-offs and deductions of NT\$35,092,000 (1.00 percent of encumbrances), and suspense payments of NT\$667,392,000. Execution rate including suspense payments was 91.52 percent.

### 二、歲出預算保留 Expenditures Reservation

**107年度** 預算保留申請數9億2,509萬7千元（占預算數2.09%）。

**2018** Budgeted encumbrances totaled NT\$925,097,000 (2.09 percent of the budgeted amount).

**以前年度** 預算保留申請數9億6,420萬2千元（占保留轉入數27.55%）。

**Previous year** Budgeted encumbrances totaled NT\$964,202,000 (27.55 percent of encumbrances).

歲入預算執行表  
Revenues Execution Chart

單位：新臺幣千元  
Unit: NT thousand dollars

107年度 2018	預算數 Budget (1)	實收數 Actual Receipts (2)		應收數 Accounts Receivable 金額 Amount (3)		執行數 Execution Amount 金額 Amount (4) = (2) + (3)	
				占預算數 Share of Budget % (3) / (1)		%	
	7,999,035	9,037,883		523,021		6.54	
以前年度 Previous year	歲入應收款 Annual Receivables (1)	實收數 Actual Receipts		轉入下年度繼續執行數 Transferred to the Next Year's Budget for Execution			
		金額 Amount (2)	占應收款 Share of Annual Receivables % (2) / (1)	金額 Amount (3) = (1) - (2)		占應收款 Share of Annual Receivables % (3) / (1)	
	442,226	438,900	99.25	3,326		0.75	

歲出預算執行表  
Expenditures Execution Chart

單位：新臺幣千元  
Unit: NT thousand dollars

107年度 2018	預算數 Budget (1)	實支數 Actual Payments (2)		贖餘數 Treasury Payments 金額 Amount (3)		預付款 Suspense Payments (4)	執行數 Execution Amount 金額 Amount (5) = (2) + (3) + (4)	
				占預算數 Share of Budget % (3) / (1)			%	
	44,298,448	43,346,426		26,925		721,480	44,094,831	
以前年度 Previous year	保留轉入數 Encumbrances (1)	實支數 Actual Payments (2)	應付數 Accounts Payable (3)	註銷減免數 Write-offs and Deductions		預付款 Suspense Payments (5)	執行數 Execution Amount	
				金額 Amount (4)	占保留轉入數 Share of Encumbrances % (4) / (1)		金額 Amount (6) = (2) + (3) + (4) + (5)	
	3,500,461	2,501,166	78	35,092		667,392	3,203,728	

歲出預算保留表  
Expenditures Reservation Chart

單位：新臺幣千元  
Unit: NT thousand dollars

	保留申請數 Budgeted Encumbrances	申請數占預算（保留轉入）數 Share of Budget / Encumbrances%
107年度 2018	925,097	2.09
以前年度 Previous year	964,202	27.55
合計 Total	1,889,299	3.95

交通部公路總局107年年報  
2018 Annual Report of  
Directorate General of Highways, MOTC

出版機關 交通部公路總局  
出版年月 中華民國108年7月  
發行人 陳彥伯  
地址 10863 臺北市萬華區東園街65號  
電話 (02) 2307-0123  
網址 <http://www.thb.gov.tw> / 本局資訊 / 影音出版品  
編輯指導 黃運貴、許鈺漳  
總編輯 林福山  
編輯委員 王鎮國、何鴻文、吳季娟、林義勝、孟伯鈞、唐述如、陳守強、陳惠敏、  
陳松堂、陳敬明、劉育麟、蔡境列、薛讚添、蘇月娥 (依姓氏筆畫)  
撰稿人員 王韻瑾、毛皖亭、李香怡、林友康、林亨杰、吳品賢、周玉琪、邱妍菁、  
洪宗亨、胡凱超、姜宇峰、高世翔、符書維、陳怡安、陳威勳、陳美秀、  
郭婷文、郭重佑、黃國亭、黃品蓁、黃惠珍、黃淑敏、黃東雯、黃心嵐、  
曾心乃、楊智文、董嘉昇、鄭景木、衛俊安、賴佳聖、盧惟真、簡豪挺、  
羅瑩書、蘇永傑 (依姓氏筆畫)  
編印單位 秘書室 (02) 2307-0123  
設計印製 暉昕創意設計有限公司  
電話 (02) 2553-6152  
中華民國108年7月初版1刷  
ISBN 978-986-05-9519-2  
GPN 1010801061  
定價：新臺幣 500元

展售地點：  
國家書店 (松江門市)：10485 臺北市中山區松江路209號1樓  
電話：(02) 2518-0207 / 傳真：(02) 2518-0778  
網路書店：<http://www.govbooks.com.tw>  
五南文化廣場 (臺中總店)：40042 臺中市區中山路6號  
電話：(04) 2226-0330 / 傳真：(04) 2225-8234  
網路書店：<http://www.wunanbooks.com.tw>

著作財產權屬交通部公路總局，欲利用本書全部或部分內容者，須徵求著作財產權人 (公路總局) 同意或書面授權，請洽公路總局秘書室 (電話同編印單位)。

Publishing Agency: Directorate General of Highways, MOTC  
Publishing Date: July, 2019  
Publisher: Chen Yen-po  
Address: No.65, Dongyuan Street, Wanhua District, Taipei City, 10863, Taiwan, ROC  
Tel: +886-2-2307-0123  
Website: <http://www.thb.gov.tw>  
Supervising Editors: Huang Yung-kuei, Hsu Cheng-chang  
Chief Editor: Lin Fu-shan  
Editors: Wang Zhen-guo, He Hong-wen, Wu Ji-juan, Lin Yi-sheng, Meng Bo-jun, Tang Shu-ru, Chen Shou-qiang, Chen Hui-ming, Chen Song-tang, Chen Jing-ming, Liu Yu-ling, Tsai Jing-li, Xue Zan-tian, Su Yue-e (in Chinese surname stroke order)  
Writing Committee: Wang Yun-jing, Mao Wang-ting, Lee Xiang-yi, Lin You-kang, Lin Heng-jie, Wu Ping-xian, Zhou Yu-qi, Qiu Yan-jing, Hong Zhong-heng, Hu Kai-cao, Jiang Yu-feng, Gao Shi-xiang, Fu Shu-wei, Chen Yi-an, Chen Wei-xun, Chen Mei-xiu, Kuo Ting-wen, Kuo Zhong-you, Huang Guo-ting, Huang Ping-zhen, Huang Hui-zhen, Huang Shu-ming, Huang Jian-wen, Huang Xin-lan, Zeng Xin-nai, Yang Zhi-wen, Dong Jia-sheng, Zheng Jing-mu, Wei Jun-an, Lai Jia-sheng, Lu Wei-zhen, Jian Hao-ting, Luo Ying-shu, Su Yong-jie (based the surname stroke order)  
Editing unit: DGH Secretariat Tel: +886-2-2307-0123  
Art design and printing: Wish Creative Design Co., Ltd.  
Tel: +886-2-2553-6152  
The first printing: July, 2019  
ISBN 978-986-05-9519-2  
GPN 1010801061  
Price: NT\$500  
Selling locations:  
GovBooks (Songjiang Store): No. 209, 1F, Songjiang Road, Zhongshan District, Taipei City, 10485  
Tel: +886-2-2518-0207 / Fax: +886-2-2518-0778  
Internet Bookstore: <http://www.govbooks.com.tw>  
Wunan Books (Taichung main store): No.6 Zhongshan Road, Central District, Taichung City, 40042  
Tel: +886-4-2226-0330 / Fax: +886-4-2225-8234  
Internet Bookstore: <http://www.wunanbooks.com.tw>

Copyright © Directorate General of Highways, Ministry of Transportation and Communications. All rights reserved. No part of this publication may be reproduced without the prior written permission of the Directorate General of Highways. Please contact the DGH Secretariat at +886-2-2307-0123 for more information.

國家圖書館出版品預行編目 (CIP) 資料

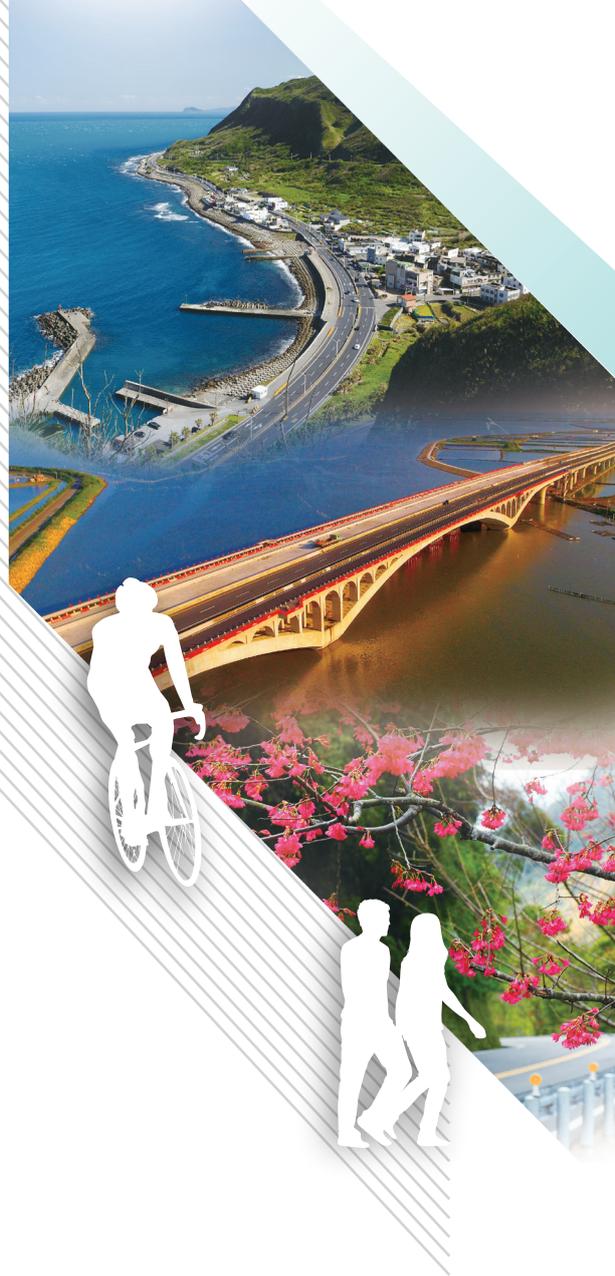
交通部公路總局年報. 107年 / 林福山總編輯. --  
初版. -- 臺北市：交通部公路總局，民108.07  
面；公分  
中英對照  
ISBN 978-986-05-9519-2 (平裝附數位影音光碟)

1.交通部公路總局

557.32

108009953





交通部公路總局  
Directorate General of Highways, MOTC

10863 臺北市萬華區東園街65號  
電洽：02-23070123（代表號）  
[www.thb.gov.tw](http://www.thb.gov.tw)



No.65, Dongyuan St., Wanhua Dist., Taipei City, 10863, Taiwan (R.O.C.)  
886-2-23070123 (Representative number)  
[www.thb.gov.tw](http://www.thb.gov.tw)

ISBN 978-986-05-9519-2



9 789860 595192

GPN：1010801061  
定價：新臺幣500元