

美麗永存 Eternal Beauty

國道3號/大鵬灣橋下路段

The road section under Dapengwan Bridge on National Freeway No. 3

自然和諧

Coexisting in Harmony with Nature

道路串連城鎮，延伸城鄉的視野，每天習以為常的風景，也許是遊子的鄉愁回憶，也許是旅人的期待。歷經數十年的美化和復育，國道沿線早已充滿了景觀之美與無限生機，為工程與自然的和諧譜出美妙樂章。

Roads connect different towns and broaden the vision of people. The ordinary scenery in the eyes of some people may happen to be the sweet memory or nostalgia of those who are away from home, or may be a desired tourist spots of travelers. After decades of our efforts, the landscapes along freeways are very pretty and lively, with engineering and nature coexisting in harmony.

景觀綠美化

Landscape and Greenery



生態綠化可恢復自然風貌，也讓周邊動物擁有棲息的空間。

Ecological greening methods can restore natural landscapes and give adequate inhabitants to animals in the nearby areas.

大部分的人在旅程中都期望可以放鬆心情、欣賞風景，所以，提供優美的道路環境亦是交通建設的重要課題。道路景觀設計除了需考量用路人的視覺與感受外，周邊環境的生態及特色也很重要，需要各種專業領域的通力合作才能達成。

優美的道路景觀，從選線開始即考量降低對地形地貌的破壞，並決定沿線大致的景觀樣貌，輔以不同的道路形式，如橋梁、邊坡或隧道，且考量道路設施的形式、造型、色彩等，最後再透過植生景觀工作，才得以呈現綠意盎然且色彩繽紛的植栽之美。

近年來綠色運輸政策從植生綠化，發展為對周邊生態的關懷，我們除加強都會區重點路段的綠美化外，對沿線與自然邊坡銜接路段，亦以生態綠化方式恢復自然風貌；遇新增、拓建工程，則妥善利用現有的綠資源辦理植栽移植工作，並進行日後的景觀規劃與改善。

不同道路形式呈現不同的景觀樣貌。

Our landscape designs consider different road forms to present different landscapes.



此外，道路景觀在交通安全上亦扮演重要角色，如中央分隔帶的植栽可阻擋對向車燈眩光、彎道外側植栽則提供了視線誘導功能、道路兩側廣告物的管制除了維護景觀外，亦可防止用路人因分心而造成意外事故等等。我們提供媲美已開發國家的優質道路景觀，讓用路人的旅程除了行車安全之外，同時也能擁有賞心悅目的視覺享受。

研擬永續利用的發展策略，兼顧道路視覺景觀與環境復育工作，是未來景觀綠美化的重要工作。



國道1號／中壢路段
Zhongli Section of National Freeway No. 1

Most people wish to relax themselves and enjoy scenery on journey. Bearing this in mind, we devote ourselves to beautiful landscapes along freeway. Our landscape designs not only take into account what freeway users want, but also retain surrounding ecology and features. These require the cooperation of specialists in different professions.

Landscape planning starts from the selecting of road route. It should be considered how to minimize destructions to original topography and keep natural features as much as possible, while arranging the road patterns, such as bridges, tunnels and side slopes. Then, more attention should be paid to the forms, styles and colors of freeway facilities. Last but not least, the vegetation is a must to present natural landscapes.

In recent years, "green transportation" policy evolves from merely green vegetation to genuine concern over the environment. Apart from beautifying major freeway sections in urban areas, we have emphasized ecological revegetation on the side slopes in natural area to restore the environment. In undertaking new or widening construction projects, the best way to

treat the existing green resources is to transplant then having a improvable plan for landscape.

For obvious reasons, landscape design is essential to traffic safety. For example, the plants on median block the headlights of coming vehicles in opposite direction; the plants along outside lane on loop help induce driver's eyesight; and the restrictions on advertisements on roadsides prevent drivers from distracted attention. Indeed, our landscapes not only are enjoyable but also ensure traffic safety. Our greenery efforts foster sustainable development while emphasizing landscape maintenance and environmental restoration.

植生綠化讓道路景觀綠意盎然。

Our vegetation efforts have created green and lively freeway landscapes.



景觀藝術

Landscape Facilities and Public Arts

除了依照地域特色沿線種植原生花木外，設置多樣化的景觀設施及公共藝術，為剛硬的工程注入柔軟美化的元素，亦是道路的整體規劃項目之一。

早期高速公路樣貌平實，完全以功能為導向，直到第二條高速公路（國道3號）出現，工程人員改變了對於道路建設的想法，道路設施也加入景觀考量。從橋梁、橋墩的整體形式設計，服務區及收費站的地方特色或藝術風格展現，隧道洞口的藝術品處理，甚至是隔音牆的造型與色彩，處處都可見到將景觀藝術與道路工程融合的用心。

此外，還有單純為了提高視覺質感、環境美化而設置的景觀設施，內容包羅萬象，有充滿意象的概念，也有在地風情的呈現。

清水服務區公共藝術 (攝影·李佳樺)

The public art in Qingshui service area (by Lee Chia-hua).



透過公開徵選、委託創作或邀請比件，由藝術家全新創作的公共藝術，在國道沿線同樣隨處可見。

在設置過程中，民眾的參與是相當重要的部分，主要是期望設置地點附近的民眾能接近和觸摸藝術，也讓用路人認識當地的文化。因此，與民眾溝通討論並考慮環境特性來規劃設計，讓藝術融入環境和生活，是我們希冀的目標。

交通建設是百年建設，好的藝術作品更是流傳千古。對我們而言，每一種藝術、每一個景觀的設置，都是為了讓用路人在車輛奔馳或途中休憩時，獲得瞬間的美好經驗，提振用路情緒，給予人們一次又一次的舒暢旅程。



石碇服務區公共藝術 (攝影·任台生)

The public art in Shiding service area (by Zen Tai-sheng).

Besides planting native vegetation along freeway according to different local features, it is an integral part of projects to add versatile landscape facilities and public art works to hardware construction.

The concept of landscape design in function orientation before building the second freeway. From then on, the designs of bridges, the cultural or artistic features of service areas and toll stations, the artworks at tunnel entrances, and even the styles and colors of noise barriers have all become essential considerations in our main projects.

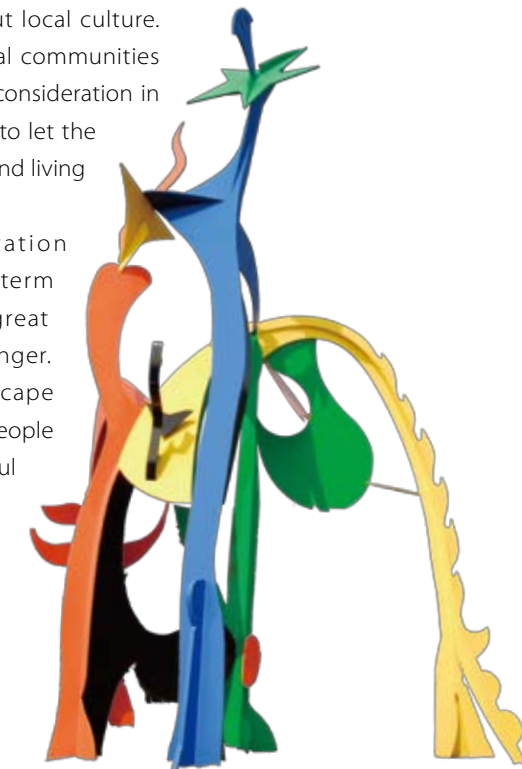
By the way, we install various landscape facilities for beautifying environment or increasing visual experience. They are full of different images and cultural identity. A variety of public arts can be seen along the freeways, too. We have obtained them through public selection, requested creation, or open competition.

In designing and planning process, public participation is very important. It is our hope to let nearby residents touch our public arts and freeway users learn more about local culture. Therefore, we discuss with local communities and take regional features into consideration in installing art works. Our goal is to let the art be part of people's daily life and living environment.

It's true that transportation construction concerns long-term national development, but great art works can survive even longer. We hope every art and landscape works along freeway can give people pleasant experiences and cheerful spirit on each trip.

西湖服務區公共藝術

The public art in Xihu service area



環境保護

Environmental Protection



隔音牆可大幅減低噪音。
Noise barriers can reduce noise.

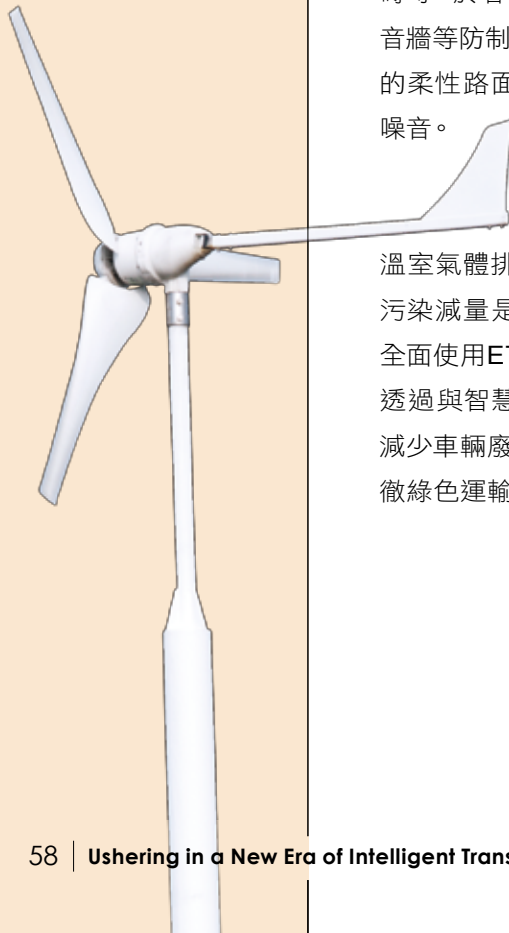
保護環境是每位世界公民的責任，我們當然不能置身事外。

近年來，為了響應全球節能減碳的環保趨勢，我們於多處設置太陽能板與風力發電，並已應用於交通設施上；部分路段採用省電或太陽能供電的LED燈，降低二氧化碳排放量。

在部分不影響交通安全的路段，於汰舊換新時逐步降低匝道照明燈的瓦數，或於交通量明顯低少的午夜至黎明，將照明改採隔盞減半啟亮，減少電量使用。並於服務區試辦屋頂集水，進行雨水回收再利用，以及生活廢水（中水）處理過濾後，作為澆灌花木之用。

對於噪音，我們依實際現況選擇能夠與環境搭配的材質，如金屬、混凝土或空心磚等，於容易影響附近居民的路段設置隔音牆等防制設施；道路鋪面多採用噪音較小的柔性路面，維持其平坦度以減低車行的噪音。

推動電子收費系統，更是為了有效節省燃油能源、減少溫室氣體排放和降低回數票的紙張用量。污染減量是邁向綠色運輸的第一步，未來全面使用ETC，全線計程電子收費後，將可透過與智慧型運輸系統的結合，更有效地減少車輛廢氣排放，減少能源浪費，對於貫徹綠色運輸將是一個重要利基。



It is the duty of all world citizens to protect the Earth, and we are no exception.

In recent years, in tandem with global energy-saving and CO₂-reducing efforts, we have been utilizing solar energy and wind power in some facilities, while adopting power-saving or solar LED lights in some freeway sections.

In some road sections, we use low-wattage road lights, or turn on only half road lights between midnight and dawn when traffic flow is light. Meanwhile, our service areas recycle and distill used and rain water for planting and cleaning and reduces the noise.

To reduce noise, we adopt materials that can match with surrounding environment, such as metals, concrete, or bricks, and we erect noise barriers along populous sections. Meanwhile, flexible pavement ensures smoother driving.

The ETC system also helps to save gasoline, minimize vehicle emissions, and save papers used for toll tickets. Pollution-reduction is the first step toward "green transportation". In the future, if all the vehicles can use ETC on all freeways, ETC can be integrated with intelligent transportation system to more effectively reduce vehicle emissions, save energy resources, and fully realize "green transportation".



生態保育

Ecological Preservation



為了減輕與補償道路工程建設對生態環境的傷害，我們持續關心並保育沿線各類生態與環境，以永續發展為前提，對自然環境進行友善設計。

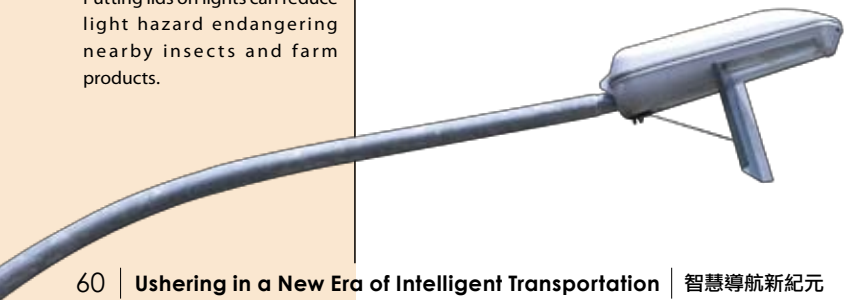
其中，以「國道讓蝶」最為人熟知。每年清明節前後，是紫斑蝶大量遷徙飛越國道3號林內段的尖峰期，為了降低車流對紫斑蝶的傷害，我們與專家學者聯手調查並規劃保護措施，於遷移尖峰時段封閉北上外側車道，設置防護網和植栽，來幫助紫斑蝶安全飛越國道。此舉不僅可以維護臺灣「蝴蝶王國」的美譽，並已大幅提升我國在國際生態保育上的正面形象。

此外，於4~9月游隼遷移時期，不定期關閉高屏溪斜張橋上的景觀燈光，避免影響其生態習性；國道1號高科交流道下的生態池，是兼具滯洪與生態的生態渠道，成功營造了一個適合動植物棲息的溼地環境；臺中交流道及機場系統交流道附近，向來都是白鷺鷥的聚集地，於繁殖期間我們持續監測其生態行為，避免道路致死情形發生；國3彰化路段的路燈加了遮光罩，減輕了光害對附近昆蟲及農作物的影響……

未來我們仍將跳脫傳統工程建設的思維，以宏觀角度來看待各項生態友善建設，讓工程設計兼顧原始的環境生態，達到保存或增加生物多樣性的目標，更希望這樣的友善原則，能讓工程與生態和平共處，讓所有的美麗身影與我們長相左右。

路燈加上遮光罩，可減輕光線對附近昆蟲及農作物的影響。

Putting lids on lights can reduce light hazard endangering nearby insects and farm products.



夜鷺
Nycticorax nycticorax

In order to minimize or compensate the damages to environment by our construction projects, we persistently preserve and restore various ecological and environmental resources. Sustainable development has been our first priority in designing nature-friendly facilities such as the widely-known story about “national freeway giving way to butterflies”.

Every April, before and after the Tomb-Sweeping Festival period, you can see the mass migration of *Euploea sylvestris swinhoi* Wallace, an extraordinary butterfly species indigenous to Taiwan. They would fly over National Freeway No. 3's Linnei Section. To ensure the safe passage of these national treasures, we take a series of protective measures by, for example, temporarily closing an outer northbound lane. Indeed, we have been doing our utmost to safeguard Taiwan's reputation as the “butterfly kingdom” and have greatly enhanced this country's international image in ecological preservation.

Our other efforts include:

- Between April and September when the migratory birds stay under the cable-stayed bridge over the Kaoping Stream, we would turn off the bridge's landscape lights in order not to disturb them.
- The ecology pond under National Freeway No. 1's Gaoke Interchange serves as a wetland inhabitant of fauna and flora.
- In the two places near Taichung Interchange and Taoyuan Airport System Interchange where egrets often stay, we monitor for preventing their accidental death.
- Along the Changhua section of National Freeway No. 3, we put lids on road lights to minimize light hazards damaging insects and farm produces.

設置防護網，幫助紫斑蝶安全飛越國道。

We set up protection nets to ensure purple crow butterflies safe passage.



國道1號高科交流道下的生態池。

The Ecology Pond under the Gaoke Interchange of National Freeway No. 1.

Looking to the future, we will continue keeping ecology-friendly construction in mind and leading our designs back to primitive nature so as to increase biological diversity. Yes, we will bring construction and nature in harmony so that everyone can enjoy natural beauty along freeways.



紫斑蝶
Purple Crow Butterflies
(*Euploea Eulvester*)