

The milestone of the first one hundred years of motorway history corresponds to a shift in the design paradigms of these complex territorial architectures, as the challenges engendered by energy and ecological transitions are imposing to adopt a different posture from the one assumed during the XX century.

The international conference "Motorway Architecture and Landscapes. Retrospectives and Perspectives between Critique and Design" is an opportunity to reflect on history, places, theories and practices of architectural, urban and landscape design, by starting to study the interiors and the surroundings of the motorway: the elements that make them resonate with their contexts, whether physical or cultural, real or virtual.

Motorway Architecture and Landscapes

Retrospectives and Perspectives between Critique and Design

Motorway Architecture and Landscape

Retrospectives and Perspectives between Critique and Design

edited by
Andrea Gritti
Elena Fontanella
Claudia Zanda

Motorway Architecture and Landscape

Retrospectives and
Perspectives between
Critique and Design

edited by
Andrea Gritti
Elena Fontanella
Claudia Zanda

Motorway Architecture and Landscapes

Retrospectives and Perspectives between Critique and Design

INTERNATIONAL CONFERENCE

Politecnico di Milano

Piazza Leonardo da Vinci 32, Milano
Aula Magna, building 1
March 1, 2024

Le Gallerie

Piedicastello, Trento
Sala Conferenze C1, Galleria Bianca
March 2, 2024

Convenors

DASU - Dipartimento di Architettura e Studi Urbani, Politecnico di Milano

Andrea Gritti
Elena Fontanella
Claudia Zanda

with

Autostrada del Brennero SpA

Diego Cattoni, Chief Executive Officer
Carlo Costa, General Technical Director

Organization

Elena Fontanella
Claudia Zanda
DASU, Politecnico di Milano

Scientific committee

Eric Alonzo
Éav&t Paris-Est
Carmen Andriani
Università di Genova
Walter Angonese
Accademia di Architettura di Mendrisio
Renato Bocchi
Università IUAV di Venezia
Antonio De Rossi
Politecnico di Torino
Alberto Ferlenga
Università IUAV di Venezia
Andrea Gritti
Politecnico di Milano
Tullia Iori
Università degli Studi di Roma Tor Vergata
Mathieu Mercuriali
ENSA Strasbourg
Alessandra Oppio
Politecnico di Milano
Dominique Rouillard
ENSA Paris Malaquais
Ilaria Valente
Politecnico di Milano

Contents

7 MOTORWAY ARCHITECTURE AND LANDSCAPES. RETROSPECTIVES AND PERSPECTIVES BETWEEN CRITIQUE AND DESIGN

Andrea Gritti, Elena Fontanella, Claudia Zanda

9 1/ IN RETROSPECTIVES: STORIES, LEGACIES AND HERITAGES

Monumental Motorways

Eric Alonzo

Motorways: a Fragile Legacy
Walter Angonese

Machining the Moors: Motorway Landscapes and Policy
Richard Brook

To the Sea! The A6 Motorway from Torino to Savona
Michele Bonino, Massimo Moraglio

The Motorway and the City: Design Precedents for a much Needed Reconciliation
Guilherme Lassance

Henri Prost and the Design of Motorways. From Urban to Metropolitan, Evolution of Scale and Use
Laurent Hodebert

The Cube. Costantino Dardi
Roberta Albiero

Past Forward: Preserving the Endangered Legacy of Italian Motorway Restaurants (1955-1975)
Verdiana Peron

Autostrade, 1959-1975. The Italian Motorways of the Expansive Phase in the Words and Images of a Trade Magazine
Alessandro Benetti

When the Highway Looks to the Pacific: the Avenida del Mar Project of the School of Architecture of the Catholic University of Valparaíso
Anna Braghini

Speed and Suburban Landscape in Buenos Aires. A New 'Highway' on the Edge of the City (1930-1960)
Valeria Gruschetsky

33 2/ IN PERSPECTIVE: VISIONS AND SCENARIOS

Chasing the "Arrow of Time"

Ilaria Valente

Reinventing Road Infrastructure as Public Space. The Territorial Architecture of Vlora Riviera Coastal Road
Athanasios Pagonis, Erion Cobani

What could be the Future of Madrid's Puente de Vallecas Scalextric? Insights between Preservation and Removal
Federico Camerin, Alejandro Tamayo Palacios, Nerea Morán Alonso

From the Motorway to the Territory: the Cadore Ring Road Project. Measures, Large and Small, to reconnect Landscape Textures and Contexts
Michele Ugolini

Autofficina Futuro@2086
Giulio Ceppi

Urban Highways as an Urban Opportunity. The Particular Case of the A86 in the Territory of Saint Denis
Anna Maria Bordas, Michel Peiro

From Land Overlay to the in-Landscape Design
Rita Occhiuto

Post-Highway Imaginaries. Possible Futures for Infrastructure through Poetics Design
Jeremy Hawkins, Andreea Grigorovschi

High-Speed Railway as Landscape Bonanza. TU Delft alternative Lehigh: a Case Study from Zwolle to Groningen
Fazhong Bai, Adriaan Geuze, Aksel Ersoy

Landscaping of the Logistics Hub and Gates of the Frejus Motorway Tunnels A32 in Bardonecchia
Massimo Crotti, Marie Pierre Forsans

Nesting over a Tangled Mess of Flows. Infrastructural Hybridization
Vicente Arancibia Pena

Motorways as Linear Forests. An Interdisciplinary Survey through the Verges of the Likoto's Great Infrastructures Network
Denis Delbaere

59

3/ ARCHITECTURE AND LANDSCAPE: TOWARDS A CASE STUDIES ATLAS

Lines and Borders. An Atlas of Endless Infrastructure
Mathieu Mercuriali

A19 Palermo-Catania Motorway. The "Existential Anchor" of Sicilian Landscape
Fabio Guarrera

The Motorway Republic. Ecologies of Aix-Marseille-Provence Motorways
Gabriele Salvia

Urban Imaginaries and Landscapes Motorway. Evolution of an Infrastructure in Bordeaux, France
Manon Espinasse

Under the Great Old Cities, the Urban Freeway. Burying the Infrastructure of the Parisian Contested Freeway Plan (1959-1976)
Marion Emery

Through Liège's Motorways. Revealing River Slope Landscapes on the Edge of High-speed Lines
Giacomo Dallatorre

The Brussels' Roadscape. About the "Obviousness" of an Urban Transformation Grounded on Car Mobility
Gery Leloutre

A16 Motorway. South to South
Angela D'Agostino, Giovangiuseppe Vannelli, Gennaro Vitolo

Between Viaducts and Tunnels. The Bottleneck of A14 in Piceno Region
Ludovico Romagnì, Emilio Corsaro

We the North. Desanthropic Urbanization of the Trans-Canada Highway along the Great Lakes of Northern Ontario
Shin Kozeki

Splitting the City as a Mirror: Medellín, its River and its Regional Motorway
Inés Aquilué Junyent

Motorway Ring Roads: the Rise of a New Significance in the European Landscape. The Cases of Berlin, Moscow, Paris and Rome
Alessandro Panzeri

85

4/ RESEARCH BY DESIGN METHODS: ECOLOGIES, ENERGIES AND TRANSITIONS

Infrastructures as a Multidimensional System
Carmen Andriani

SEW Line. Socio-Ecological Way for a Holistic Mobility Infrastructure Planning in Periurban and Rural Landscape

Catherine Dezio, Anna Lei, Mario Paris

Green Mobility Landscape. Rest Areas as Landscape Elements along the Autobrennero

Luigi Siviero, Michelangelo Savino

Motorways of Reconstruction. Reimagining Infrastructural Systems within New Urban Models

Jacopo Galli

The River and the Tree: a Nature Based Interpretation of the Impact of Infrastructure. The Case of the A22 and the UNESCO Landscapes

Andrea Rolando, Alessandro Scandiffo

The Challenge of Highways' Urban Voids. Reliquati as Spatial Opportunities for Urban Regeneration

Nicolò Chierichetti

Trans-modality and Infrastructural Design of Inner Landscapes
Massimo Crotti, Adelina Picone

The Pace of Myth. The Valley and the Sleepless Snake, an Ancient Myth in the Contemporary World

Lorenzo Guzzini, Francesco Tosetto

Motorway Landscapes, the Sequence as a Landscape Reading. The C-32 Motorway in the Metropolitan Area of Barcelona

Eugènia Vidal-Casanovas

Italian Motorways. From Lacking Contextual Integration to Plural, Open and Inventive Maintenance

Andrea Oldani

Rest Stop Architectures. Spaces for Safety and Well-being between Infrastructures and Landscapes

Cassandra Cozza

109

5/ BEYOND CRITIQUE: REALITIES VS IMAGINARIES

The Future in the Silence of Engines and the Silence of Signs
Dominique Rouillard

The Magic Motorways of Futurama
Richard Randell, Robert Braun

Public Engineering and the Future of Infrastructures. Lessons from the Italian Motorway System

Angelo Salento, Stefano Susani

Motorways as Catalysts of Post-Fordist Urban Transition: Turin and Detroit
Asma Mehan

Viktor Gruen's Pastiche of European Medieval Towns and Its Influence on the American Way of Life

Timo Daum

El Helicoide, a Gasoline Driven Building. From the Machine toward an Architecture

Henry Rueda

Modern Motorways. Welcome to the "Talking" Landscapes!

Christina Vasilopoulou

Nocturnal Lanes

Beatrice Azzola, Valentina Noce

The Altering Landscape of the M6 Motorway

Kevin Crooks

Exploring Novel Ways of Reading and Annotating the Adriatic Coast. Spatial Montage through the Method of Linear Mapping

Damir Gamulin, Antun Sevsšek

Motorways and Syntagms. Or how AI Represents the Landscapes of the Future

Matteo Aimini

Across the Great Silk Road. The Story of the m-39 Motorway

Alex Ulko

135 POSTER SESSION

High Speed Railway as Landscape Bonanza

Fazhong Bai

Dynamic D100: Navigating Urban Challenges and Shaping Istanbul's Future

Ayça Yilmaz

NH44: Bridging Highways and Habitat

Apoorva John

A Passage drawn from Memory - Recalling the KL - Karak Expressway

Yi Xing Chow

Motorway Architecture and Landscape

Retrospectives and Perspectives between Critique and Design

Andrea Gritti, Elena Fontanella, Claudia Zanda

Dipartimento di Architettura e Studi Urbani, Politecnico di Milano

Since 1924, when the Milano-Laghi motorway was opened to traffic, to nowadays, the construction of motorway networks have gone through three non-linear phases: pioneering, expansive and consolidative.

The latter, characterised by the need to ensure adequate safety and technological efficiency parameters for motorways on a global scale, has highlighted two competing phenomena. Firstly, the progressive weakening of the design impulses that characterised the pioneering and expansive phase. Secondly the accumulation of an increasingly large heritage of architectural and engineering works as well as motorway landscapes, deserving to be enhanced through preservation and not only maintenance. The milestone of the first one hundred years of motorway history, therefore corresponds to a shift in the design paradigms of these complex territorial architectures. Contemporary design cultures must, therefore, adopt a different posture from the one assumed during the XX century to face the numerous challenges engendered by energy and ecological transitions: from the decarbonisation of transport to the regulation of the imbalances induced by routes in the crossed territories. The conference aims to explore motorways both in retrospective and perspective terms. Looking towards the past, motorways appear as emblems of modernity, able to characterize territories and landscapes and, with alternating fortunes, to face the shocks produced by recurring economic, political and social crises. At the same time, looking towards the future, motorways emerge as a frontier place where it is possible to test new design strategies, both to counter the effects of climate change and to seize the opportunities offered by the expansion of new digital technologies in integrated systems for the mobility of people and goods. By assuming this twofold point of view, the Conference is addressed to researchers that, since the beginning of the 21st century, have studied the relationship between motorways and their contexts, proposing a series of questions.

What are the design experimentations that characterised the first century of motorway history from the points of view of architecture and engineering and their scales of intervention? Which of these projects, later realised, is worthy of preservation today, or which of them are object of maintenance cycles that changed their meaning or to removals that have erased their presence?

Where and how has the relationship between motorway infrastructure

and the crossed territories changed among decades? Why do motorway landscapes emerge at different latitudes that are sometimes generic and sometimes specific?

How should the design of motorway infrastructure change to counteract nowadays the effects of climate change and strengthen processes of ecological and energy transition? When and how could designers collaborate with transport systems providers to reduce motorway ecological footprint?

Motorway Architecture and Landscapes conference is therefore an opportunity to reflect on history, places, theories and practices of architectural, urban and landscape design, by starting to study the interiors and surroundings of the motorway: the elements that make them resonate with their contexts, whether physical or cultural, real or virtual.

1/ In Retrospective Stories Legacies Heritage

Monumental Motorways

Eric Alonzo

OCS/AUSser, École d'Architecture de la Ville & des Territoires Paris-Est,
Université Gustave Eiffel



84 What can be done with freeways after the automobile age? (© Kevin Lynch)

Motorways, symbols of twentieth-century modernity, are nowadays the object of heritage approaches. They can even claim the status of “monument”, as Aloïs Riegl characterized the “modern cult” in 1903 (Riegl 1982, 176-7). As products of the advent of automobile, and its subsequent mass-production, they clearly possess an historical value. More than a century old, the Milan-Varese motorway was built between 1923 and 1924, while the prototypes built in the United States and Germany are even older (Long Island Motor Parkway was delivered in 1909, and the Avus in 1921), the first motorways have also acquired an *age-value*. Moreover, by virtue of their form and materiality, they also have an *art-value*; especially since some of them were designed by architects and landscape designers as works endowed with a deliberate aesthetic dimension. However, this process of making a natural object part of heritage comes up against the continuous intensification of their use, forcing them to be constantly modified to adapt to new technical, safety or environmental standards. These gradual but profound evolutions have the effect of attenuating both their age-value by erasing the marks of time, and their art-value by progressively altering the original design.

The decarbonization of mobility agenda is now opening up new prospects: that of a probable reduction in the rate of motorization in Europe, or even the end of the individual car, at least as we know it nowadays. But the disappearance of the vehicle that gave rise to motorways does not necessarily mean the disappearance of motorways. This is the hypothesis envisaged by Kevin Lynch in his posthumous book *Wasting Away* (Lynch and Southworth 1990). Their abandonment, or more certainly their change of use, is even likely to amplify their monumental dimension, increasing their value in terms of *history*, *age* and *art*; in the same way as the partly ruined ancient infrastructures sublimated by Piranesi in the 18th century.

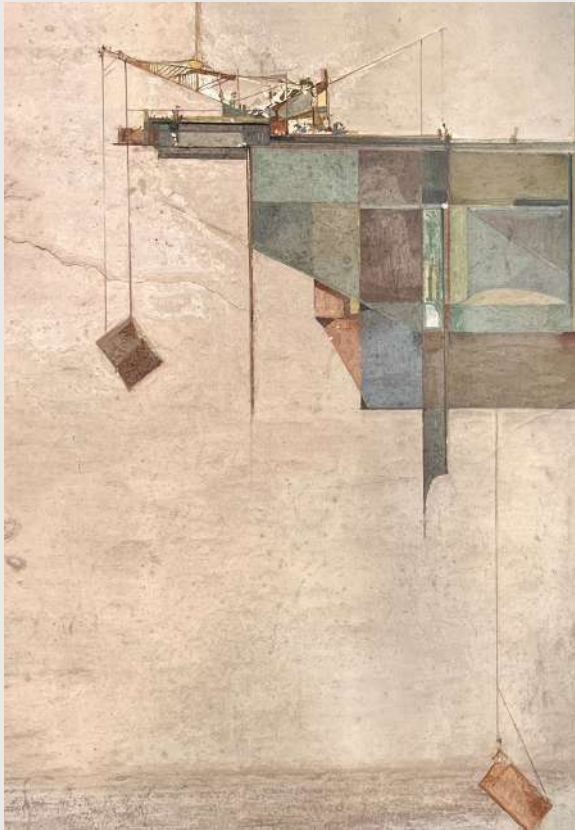
Riegl, Aloïs. 1982. “The Modern Cult of Monuments: its Essence and its Development” (1903). *Oppositions*, no. 25 (Fall): 21-51.

Lynch, Kevin and Michael Southworth. 1990. *Wasting Away*. San Francisco: Sierra Club Books.

Motorways: a Fragile Legacy

Walter Angonese

Accademia di architettura di Mendrisio



Karl Plattner, Schönberg motorway chapel A13 - Europabrücke. Detail from the fresco cycle, 1964.

The glorious days of motorway infrastructure development should really be over, today society has other infrastructural needs to prioritise. No question, mobility remains one of the primary issues, but there needs to be a greater balance between the different mobility typologies, regardless of the progress made in the field of Co2 free vehicle emissions.

In Europe, we can look back on wonderful examples of motorways, examples where architects still played a significant role in the co-design of such infrastructures (for example Rino Tami for the Gotthard motorway), where architecture, landscape architecture in connection with infrastructures still had a greater significance and nothing was just thrown over the spanner. Probably “temps perdu”!

The task now is to optimally conserve and maintain these unique examples that the 20th century has given us. This requires a stronger cultural approach to this fascinating topic of infrastructures in general and motorway infrastructures in particular.

This detail from the 1964 fresco cycle by Karl Plattner in the Schönberg motorway chapel on the Europabrücke of the A13, just before Innsbruck, impressively illustrates the special tectonic quality of many of these motorway structures. From now on, maximum attention should be paid to them, in the hope that at some point (in Italy), those who are actually responsible for the protection of our cultural assets will also become aware of them.

Belli, Gabriella, Peter Weirmair, and Karl Plattner. 1996. *Capolavori*. Bolzano: Tappeiner Editore.

Frampton, Kenneth, and Riccardo Bergossi. 2008. *Rino Tami. Opera completa*. Mendrisio: Mendrisio Academy Press.

From the Motorway to the Territory: the Cadorago Ring Road Project

Measures, Large and Small, to Reconnect Landscape Textures and Contexts

Michele Ugolini

Dipartimento di Architettura e Studi Urbani, Politecnico di Milano



Plan and sections of the road project showing the surrounding environmental arrangements

A new linear infrastructure, motorway or road, creates a caesura in unitary territories separating their landscape and environment. It interrupts pre-existing, often historic, vehicular routes, cycle-pedestrian paths, and agro-farm areas and paths. It breaks ecological continuity, water systems and field textures resulting from centuries-old patterns of soil usage. The aim of the proposed case study is to reflect on the design of a road as an opportunity to reconnect the elements of the landscape, interpreting it as an integrated and salient part of the landscape itself. Connecting to the territory in which the motorway is located requires and generates a system of road connections. The Cadorago ring road project connects the Lomazzo north exit of the A9 motorway (Milano Laghi) with the towns of Lomazzo and Fino Mornasco. It represents a variant to the existing road that centrally crosses Cadorago to relieve the heavy impact of urban-crossing traffic in terms of pollution, noise and danger. The design of a new infrastructure is, primarily, the transformation of a portion of the landscape, both natural and human-made. It is essential to avoid the creation of a merely specialized project which, though technically well-established and normatively correct, fails to consider the road as an integral part of the landscape and environmental context in which it is installed. The many values involved presuppose a multidisciplinary and multi-scale approach. The design of a road in its long dimension is specified on a small scale to adapt to its contexts through a variable and complex system of sections. Each section has its own specific morphological and functional elements: guardrails, bridges, underpasses, anti-noise barriers, earth movement and plant mitigation. It requires a constant design reference between small and large scale, a sort of elastic line between the road-edge and the dimensions of the landscape. The study was carried out by a group of researchers from the Department of Architecture and Urban Studies of Politecnico di Milano involved analytically and design-wise during the road design phases.

Secchi, Bernardo. 1989. "Lo spessore della strada", in *Casabella* no. 553-54: 38-41. Milan: Electa.

Gregotti, Vittorio. 1989. "La strada: tracciato e manufatto" in *Casabella* no. 553-54: 2-5. Milan: Electa.

Appleyard, Donald, Kevin Lynch, John Myer. 1964. *The View From the Road*. Cambridge: Mit Press.

On the cover: graphic editing
of Viadotto Ponticolo 1, (BZ)
photograph by Giovanni Hänninen
The photograph was displayed
in the exhibition:

Brenner Motorway
Architecture and Landscapes
29/09/23 – 03/03/2024,
Le Gallerie, Pledicastello, Trento
Spazio Espositivo B2

An exhibition promoted by
Autostrada del Brennero SpA;
DASTU - Dipartimento di Architettura
e Studi Urbani, Politecnico di Milano

In collaboration with
Alta Scuola Politecnica;
Fondazione ing. Lino Gentilini;

Curated by
Andrea Gritti, Elena Fontanella,
Claudia Zanda

Photographs by
Giovanni Hänninen;

With the collaboration of
Beatrice Azzola, Lucio Azzola,
Filippo Balma, Chiara Caravello,
Eleonora Dussin, Cosimo Gritti,
Gregorio Melchiorri, Gianluca Munari,
Marco Voltini

printed in February 2024
publisher
Arti Grafiche Saturnia -Trento