its Engineering Company

ADVANCED MOBILITY DEPARTMENT

Brochure

www.its-engineering.com

info@its-engineering.com

The Department

The Advanced Mobility Department focuses on the analysis, planning, and design of mobility systems, with the goal of delivering integrated, safe, and sustainable solutions for the transportation of people and goods. Key activities include traffic flow analysis, dynamic simulation of circulation models, infrastructure capacity assessment, and the optimisation of road and urban networks.

The Department stands out for its use of advanced surveying and modelling technologies, enabling realistic representations of vehicle behaviour and supporting design decisions through objective and predictive data. Advanced Mobility collaborates closely with public authorities, local administrations, and industry operators, ensuring solutions tailored to local needs and fully compliant with national and international design standards.

In addition to analytical activities, the Department also provides design support to the Infrastructure Department, contributing to the development of road infrastructures, intersections, roundabouts and complex accessibility systems.

Thanks to a multidisciplinary, data-driven approach, Advanced Mobility promotes an innovative vision of mobility, where engineering, technology and sustainability converge to create networks that are more efficient, safer and future-oriented.

Services

01 Traffic and Mobility Flow Analysis

Collection, processing and interpretation of traffic data through automated surveys, radar systems, video monitoring and manual counts. This activity identifies traffic volumes, directions and vehicle composition, providing a solid, objective basis for mobility planning and infrastructure design. Analyses include level of service (LoS), average speeds and travel times.

02 Dynamic Modelling and Simulation

Use of advanced micro- and macro-simulation software to reproduce vehicle behaviour and assess the performance of road networks. Simulations allow for the evaluation of design scenarios, optimisation of geometries and improvements in safety and traffic flow, while reducing design time and costs.

03 Mobility and Accessibility Planning

Analysis and design of strategies for sustainable mobility and territorial accessibility. The service supports public and private stakeholders in the development of Urban Traffic Plans, Sustainable Urban Mobility Plans (SUMP) and accessibility studies for major traffic attractors. The aim is to enhance connectivity between infrastructures, urban spaces and user flows through the integration of data, simulations and strategic vision.

04 Infrastructure Design

Design of road infrastructures and complex intersections (roundabouts, interchanges, storage lanes and channelisation systems) in compliance with national technical standards. Solutions are based on functional analyses and simulated models to ensure safety, efficiency and environmental compatibility. The Department also provides direct technical support to the Infrastructure Department.

05 Mobility Impact and Sustainability Studies

Assessment of the impact of new developments or infrastructures on existing networks, analysing demand, capacity and environmental effects. Studies include traffic forecasts, travel time analysis, emissions and level of service evaluations, supporting more informed and sustainable planning and design decisions.

06 Safety Management and Monitoring

Analysis and assessment of critical points within road networks through surveys, investigations and risk models. Advanced Mobility develops safety improvement plans, post-intervention monitoring activities and performance evaluation tools over time, enabling a preventive and predictive management of critical issues.

07 Integrated Design and Digital Innovation

Integration of traffic data and modelling with digital tools and collaborative platforms. The Department promotes a data-driven approach in which mobility information feeds coordinated design processes involving infrastructure, environmental and territorial teams, fostering more efficient and technologically advanced solutions.

Our Projects

Quistello (MN)

Traffic Survey and Analysis services

The Advanced Mobility Department played a key role in traffic planning and analysis for the third functional section of the Quistello South Ring Road, a strategic infrastructure completing the Oltrepò Po.PE corridor and improving connectivity between Provincial Road ex SS 413 "Romana" and Provincial Road ex SS 496 "Virgiliana".

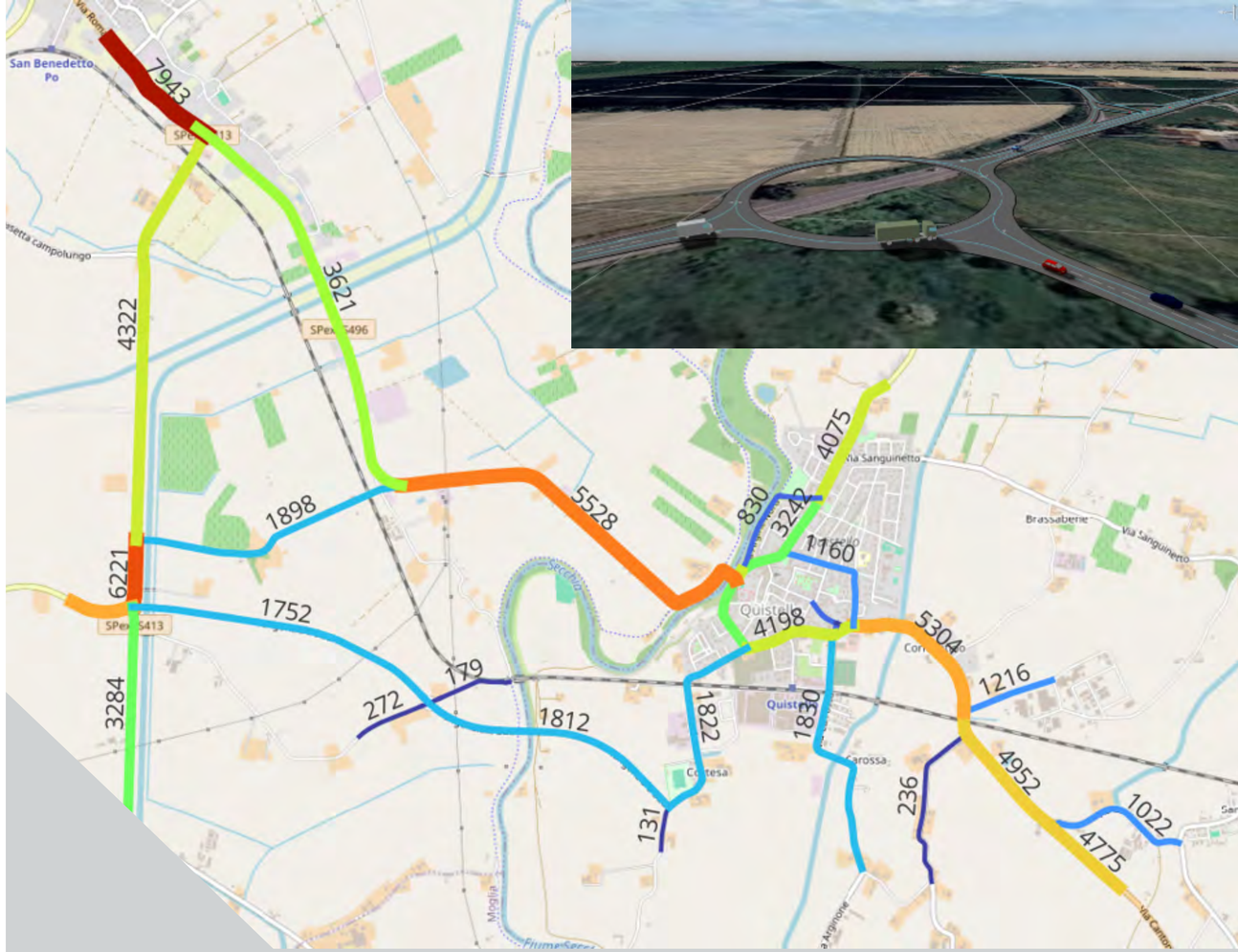
The project involved an extensive field survey campaign and the application of advanced traffic simulation models, ensuring a modern, safe and sustainable road design approach.

Through the use of radar-Doppler sensors and automated detection technologies, real-time traffic flows were monitored, traffic volume distribution was analysed, and the design of intersections and roundabouts was optimised.

The study defined both current and future scenarios, highlighting the benefits of completing the ring road in terms of reduced travel times, improved road safety and lower pollutant emissions within the town of Quistello.

Advanced Mobility's integrated approach—based on innovation, predictive analysis and strong territorial awareness—stands as a benchmark for smart mobility management at both provincial and regional levels.

This project demonstrates how advanced engineering vision can be transformed into tangible value for citizens, businesses and public authorities, contributing to a more efficient and sustainable mobility system for the future.

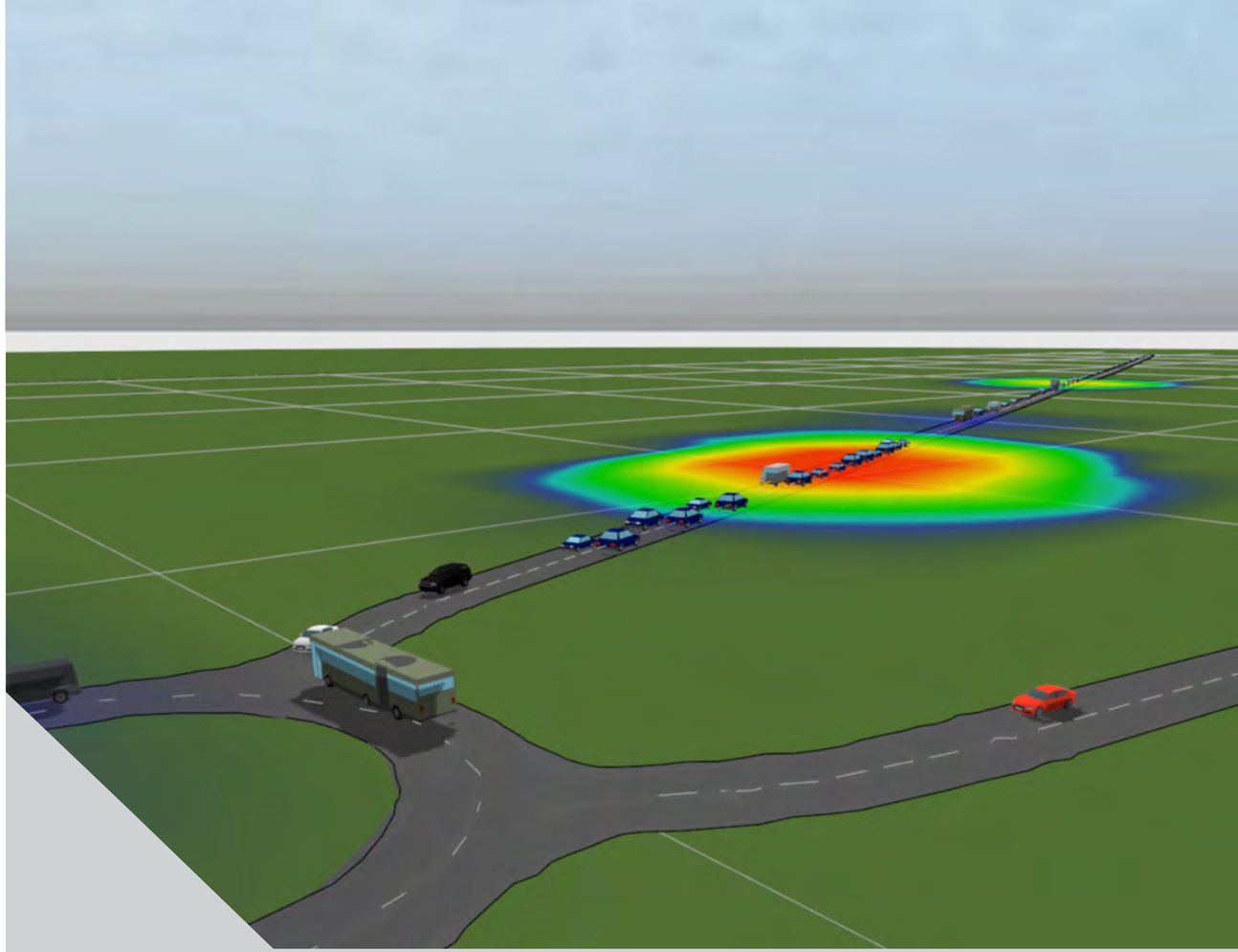


Location:	Lombardy, ITALY
Client:	Province of Mantua
Year:	2025
Services provided:	Traffic survey and analysis, microsimulation

New Terdoppio Bridge

Traffic Survey and Analysis services

A new bridge for smoother, safer and smarter mobility.
The Advanced Mobility Department carried out the traffic study for the construction of the new crossing over the Terdoppio stream along Corso Trieste, a strategic corridor connecting Novara city centre with the Eastern Ring Road and the Pernate district.
The analysis addressed all project phases—from construction management to final traffic configuration—using state-of-the-art microsimulation models to forecast traffic flows and service levels under multiple scenarios.
High-precision video surveys, dynamic monitoring and traffic signal cycle analysis enabled the definition of an efficient temporary traffic layout during construction works and the optimisation of the final two-way traffic configuration.
The study highlighted a significant improvement in travel times and overall traffic quality (LoS A), while ensuring safety and reducing urban congestion.
By integrating technical expertise with predictive simulation tools, Advanced Mobility supports municipalities and infrastructure managers in making data-driven decisions, turning traffic complexity into practical solutions.
The Terdoppio project is more than an infrastructure intervention: it represents a model of dynamic planning, where engineering and innovation converge to deliver real value to the territory and enhance citizens' everyday mobility.

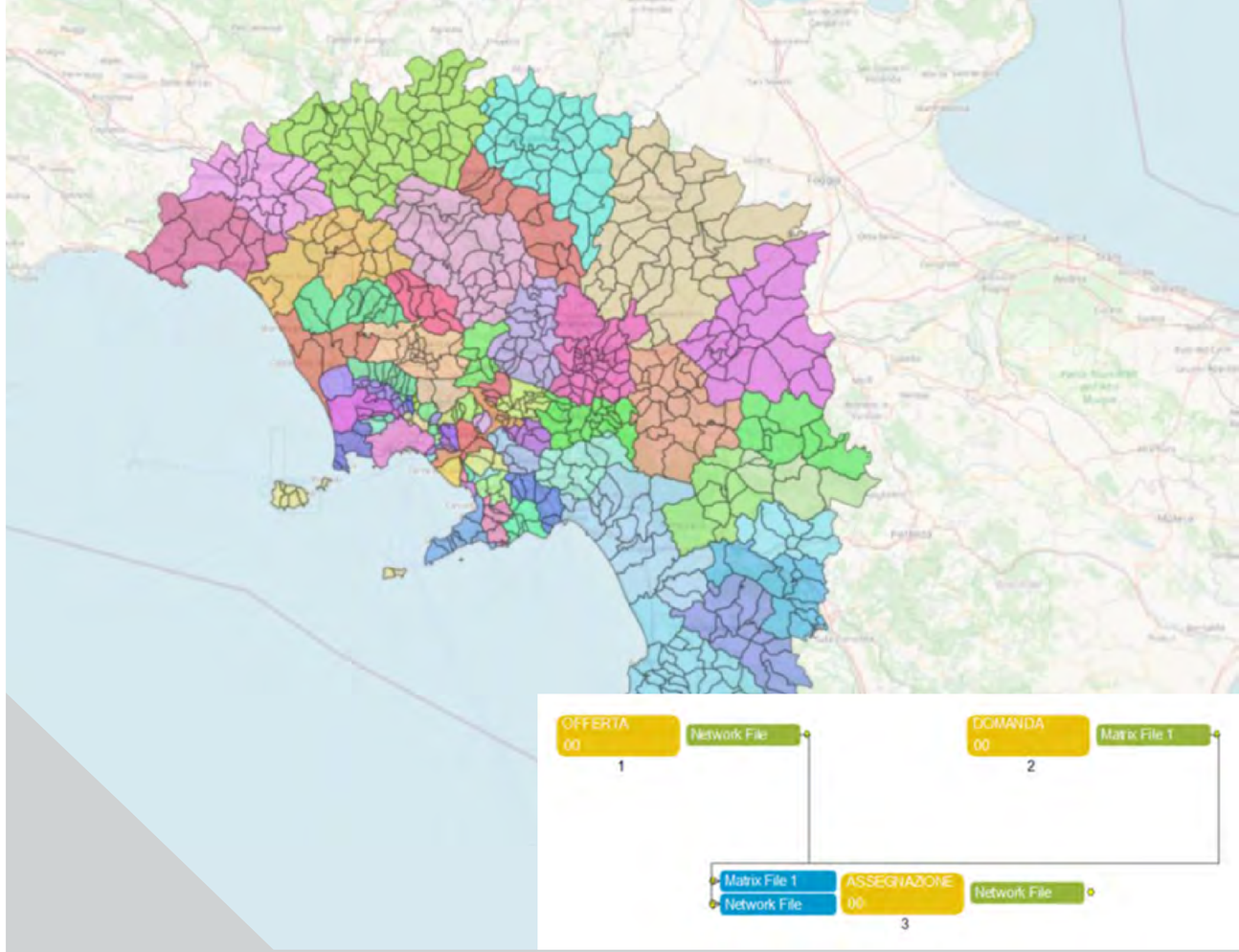


Location:	Lombardy, ITALY
Client:	Municipality of Novara
Year:	2023
Services provided:	Traffic survey and analysis, microsimulation

ACAMIR

Traffic Impact Analysis services – “La Porta del Vesuvio” Cableway connection

A new way to reach Europe’s most iconic volcano.
The Advanced Mobility Department developed the transport and modelling study for the “La Porta del Vesuvio” project, the cableway system connecting the town of Ercolano to the crater, redefining access to the National Park.
The analysis covered an area of over 650 municipalities and nearly six million inhabitants, developing a transport demand and supply model based on gravitational relationships and future mobility scenarios.
Using macrosimulation software and a data-driven approach, the team assessed vehicle flow impacts before and after the introduction of the cableway, considering network capacity, free-flow speeds, travel times and levels of service.
The result is an integrated vision: reduced traffic volumes, lower emissions, enhanced accessibility and more sustainable mobility for residents and visitors alike.
The study demonstrates how lightweight infrastructure solutions can seamlessly integrate with existing transport systems, transforming a complex territory into a laboratory for environmental and engineering innovation.
With this project, Advanced Mobility delivers an analysis that combines technical excellence with strategic vision, restoring to Mount Vesuvius a mobility system worthy of its history and landscape.



Location:	Campania, ITALY
Client:	ACAMIR
Year:	2024
Services provided:	Macrosimulation

Borgo Val Tidone (PC)

Traffic Survey and Analysis services – New roundabout at the SS 412 and SP 27 intersection

The Advanced Mobility Department conducted a traffic analysis study to support the design of the new variant of State Road SS 42 in the Ceto-Braone section, a strategic mobility infrastructure in the Upper Valle Camonica area.

The project forms part of the wider enhancement programme of the Lombardy road network, aimed at improving safety and traffic flow along a high-demand corridor.

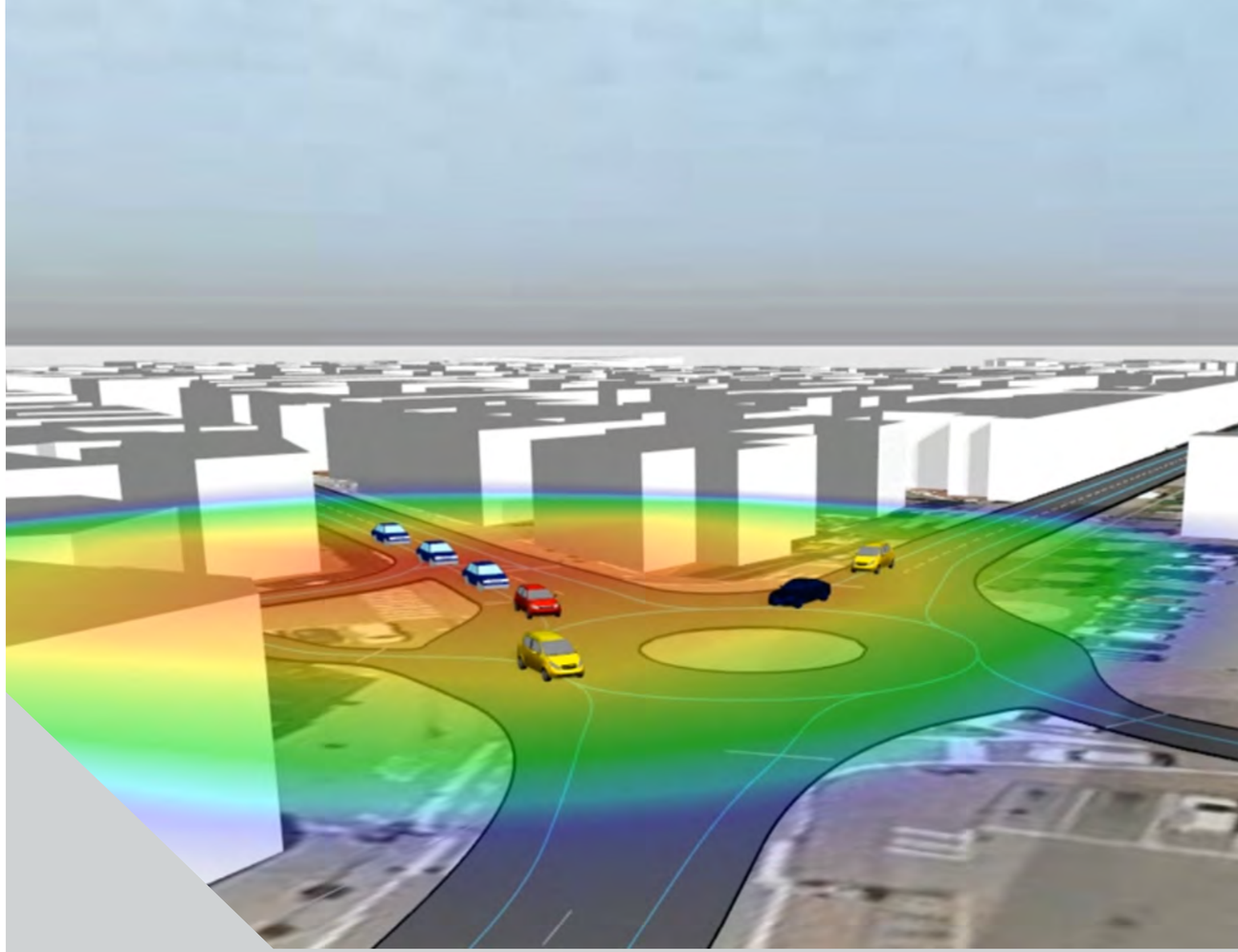
Through an extensive survey campaign—including manual counts, radar sensors and video monitoring—existing traffic flows were analysed and future demand estimated, distinguishing between light and heavy vehicles.

Advanced Mobility applied dynamic simulation models and Level of Service (LoS) indicators to assess infrastructure performance across multiple design scenarios, ensuring full regulatory compliance.

The results indicate a significant reduction in congestion, improved traffic distribution and an overall increase in road safety.

This project highlights the Department's ability to integrate advanced analytical methodologies with a broad territorial vision, supporting public administrations in designing infrastructure that combines functionality, efficiency and sustainability.

A rigorous, results-oriented approach based on technological innovation confirms Advanced Mobility's role as a technical partner of excellence in infrastructure planning.



Location:	Emilia-Romagna, ITALY
Client:	Province of Piacenza
Year:	2024
Services provided:	Traffic survey and analysis, microsimulation

Castelvetro Piacentino (PC)

Traffic Survey and Analysis services – New roundabout at the SP 588R intersection

In the heart of the Po Valley, traffic never stands still.
In Castelvetro Piacentino, the Advanced Mobility Department delivered the traffic analysis for the new roundabout at the intersection of SS 10 and SP 588R, a key junction connecting Cremona, Piacenza and the "Autostrada dei Vini".
Currently a congested intersection, the new layout will become a benchmark for traffic flow efficiency and urban safety.
The study examined traffic flows, peak hours and interactions with the local road network, using video surveys and three-dimensional dynamic microsimulation models.
The goal: to deliver an infrastructure capable of harmoniously managing traffic volumes, reducing crossing times and improving accessibility to the town centre. With a 34-metre diameter roundabout and a 9-metre circulatory roadway, the project ensures safety and smooth operation for all vehicle types, including heavy vehicles and vulnerable road users.
The results show a clear improvement in Levels of Service and a significant reduction in queues and delays.
A concrete example of how technology and planning can work together to create smarter, more sustainable mobility closely aligned with territorial needs.
Once again, Advanced Mobility turns transport engineering into innovation at the service of people.

Location:	Emilia-Romagna, ITALY
Client:	Province of Piacenza
Year:	2024
Services provided:	Traffic survey and analysis, microsimulation

Ponte Olio (PC)

Traffic Survey and Analysis services – New roundabout at the SP 36 and SS 654 intersection

The Advanced Mobility Department carried out the traffic analysis study for the construction of the new roundabout at the intersection of SP 36 di Godi and SS 654 Val Nure, in the Municipality of Ponte dell'Olio (PC).

This strategic intervention for the mid-Val Nure road network aims to improve road safety and traffic flow at a junction characterised by high traffic volumes and complex manoeuvres.

The analysis included on-site surveys, manual and video-radar vehicle counts, and dynamic microsimulation modelling using Paramics Discovery software.

Simulations calibrated on morning and evening peak data allowed comparison between existing and design scenarios, highlighting a substantial reduction in queues and average travel times.

The new compact roundabout, with an external diameter of 29 metres and a 9-metre circulatory lane, ensures high discharge capacity and Levels of Service (LoS) between A and B during critical hours.

The project was developed in line with regional and provincial planning instruments, ensuring full integration with the main road network.

The study confirms Advanced Mobility's technical expertise in high-precision analysis and simulation models, supporting public administrations in delivering efficient, safe and sustainable infrastructure.

Location:	Emilia-Romagna, ITALY
Client:	Province of Piacenza
Year:	2024
Services provided:	Traffic survey and analysis, microsimulation

Rivergaro (PC)

Traffic Survey and Analysis services – Roundabout reconfiguration at the SS 45 intersection

In the heart of the Trebbia Valley, where plains meet the Apennines, a new balance between mobility and territory takes shape.

The Advanced Mobility Department developed the traffic analysis study for the roundabout reorganisation of the intersection between Provincial Road 28 di Gossolengo and State Road SS 45 in the Municipality of Rivergaro—a key node for both local and regional mobility.

The intervention transforms a priority-controlled junction into a compact 35-metre diameter roundabout, designed to improve safety, traffic flow and route legibility.

High-resolution video surveys, dedicated monitoring campaigns and dynamic microsimulation models enabled a deep understanding of traffic flows and accurate simulation of peak-hour conditions.

Results show a marked improvement in traffic quality, with reduced queuing, increased average speeds and optimal Levels of Service even during peak periods.

The project forms part of a sustainable mobility strategy aimed at delivering more orderly traffic, lower emissions and more liveable urban spaces.

With this project, Advanced Mobility reinforces its mission: transforming road junctions into efficient, harmonious connections where engineering meets quality of life and territory becomes the driver of change.

Location:	Emilia-Romagna, ITALY
Client:	Province of Piacenza
Year:	2025
Services provided:	Traffic survey and analysis, microsimulation

New Pier VIII – Port of Trieste

Traffic Survey and Analysis services – Extension of common infrastructure for the development of the Free Port Area

The Advanced Mobility Department conducted the traffic study supporting the design of the new road interchange connecting the Grande Viabilità Triestina (GVT) with Pier VIII, at the core of the Port of Trieste.

This intervention represents a strategic logistics hub for the Northern Adriatic, aimed at improving connectivity between the Trieste Logistics Platform (PLT), port terminals and the European motorway network.

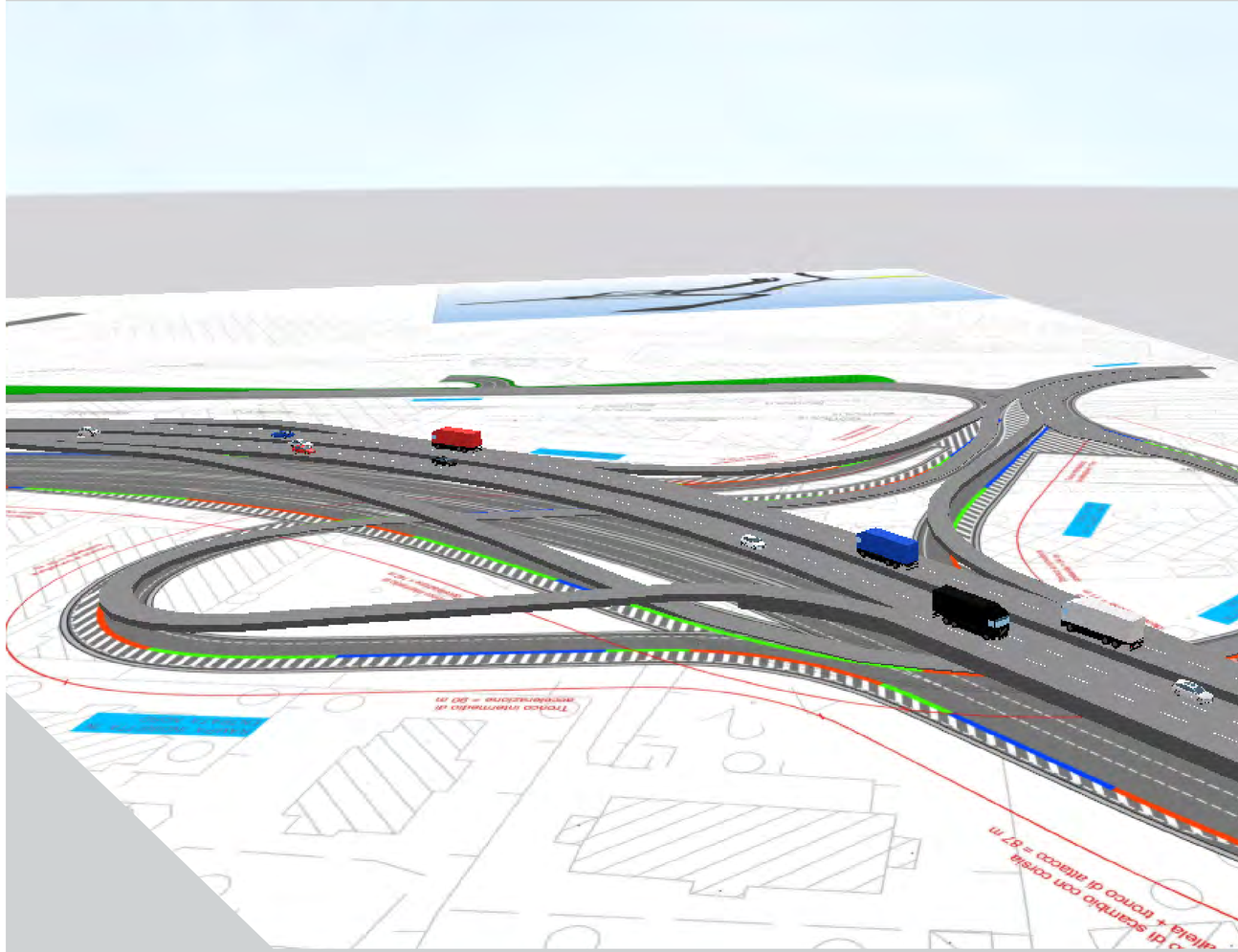
The analysis assessed traffic impacts from the new port infrastructure up to the 2040 horizon, evaluating vehicle flows, Levels of Service (LoS), and the operational performance of both urban and extra-urban networks.

Through a combination of field surveys, ANAS sensor data and VISSIM microsimulation models, the study accurately reproduced vehicle behaviour during peak hours, verifying capacity and safety of the new connections.

Results show that the new GVT-terminal ramps ensure optimal Levels of Service (LoS A) and a substantial improvement in traffic flow compared to the current scenario, eliminating congestion issues along Via Svevo and in the urban area.

The intervention also delivers sustainability benefits, reducing travel times, emissions and interference with city traffic.

A complex project addressed with technical rigour and a systemic vision, confirming Advanced Mobility's excellence in planning major logistics and infrastructure hubs nationwide.

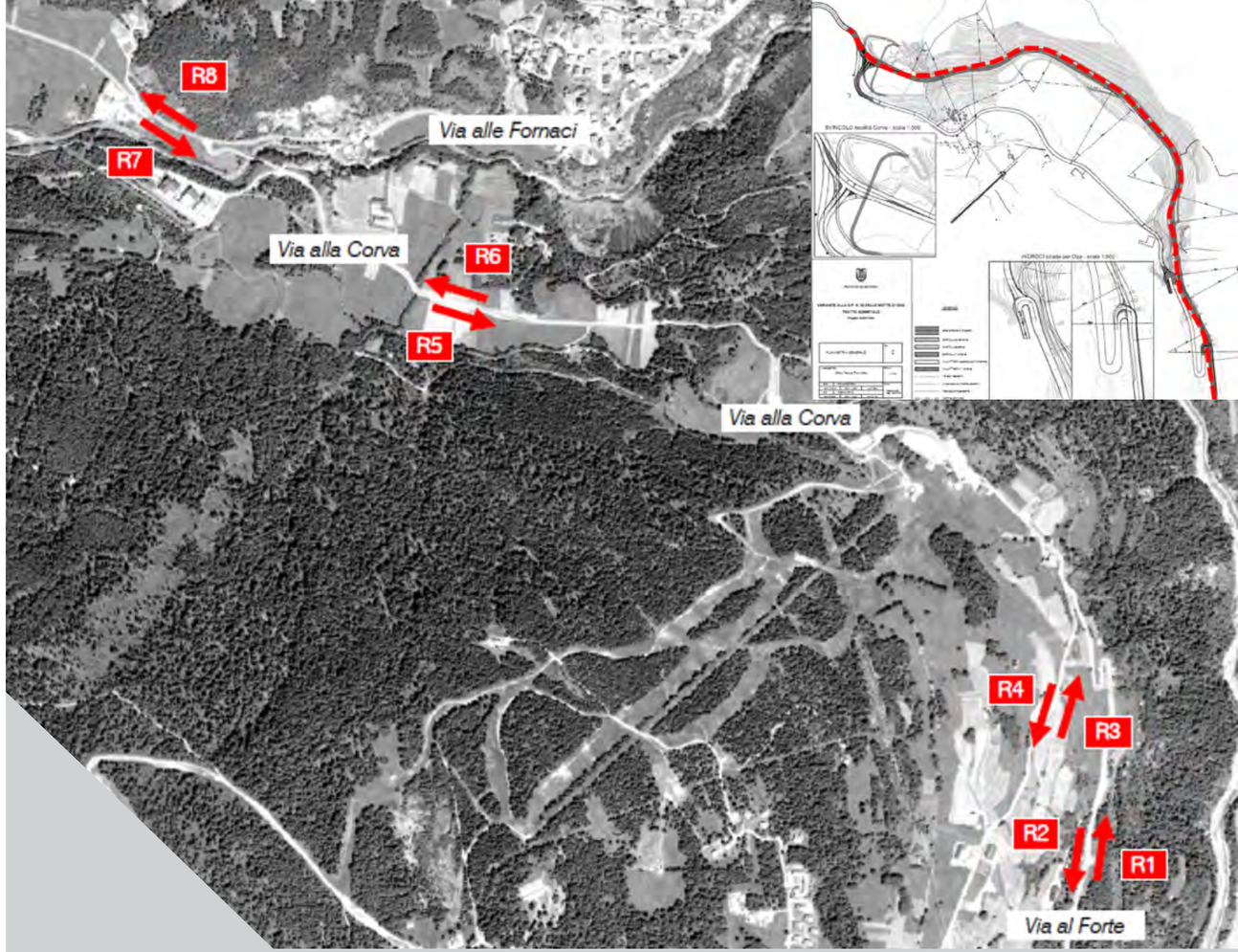


Location:	Friuli-Venezia Giulia, ITALY
Client:	AdSPMAO
Year:	2023
Services provided:	Traffic survey and analysis, microsimulation

Motte di Oga

Traffic Survey and Analysis services – SP 28 “Motte di Oga” variant road

In the heart of Upper Valtellina, where mountains meet the sky and winding roads tell the story of a living territory, a new chapter in alpine mobility unfolds.
The Advanced Mobility Department developed the traffic study supporting the variant of Provincial Road SP 28 “Motte di Oga”, within the municipalities of Valdisotto and Valdidentro, designed to reshape connections between Bormio and Livigno by restoring flow, safety and landscape harmony.
The project, part of a broader redevelopment programme shared with the Province of Sondrio and local municipalities, aims to separate tourist and through traffic from local movements, reducing congestion and travel times.
Through automated radar surveys, monitoring campaigns and forecasting models, the team analysed traffic behaviour throughout the day, delivering a precise and dynamic picture of mobility demand.
The new variant, smoother and fully integrated into the alpine morphology, will divert up to 80% of through traffic, easing congestion in Bormio and significantly improving residents’ quality of life.
A project that blends engineering, landscape and sustainability, where technology becomes an ally of the mountains and the road a symbol of balance between people and nature.
Advanced Mobility renews its commitment to mobility that respects the territory and prepares it for the future.



Location:	Lombardy, ITALY
Client:	Province of Sondrio
Year:	2022
Services provided:	Traffic survey and analysis

Trivulzia (SO)

Traffic Survey and Analysis services – SP 2 “Trivulzia” variant road

The Advanced Mobility Department carried out the specialised traffic study supporting the variant of Provincial Road SP 2 “Trivulzia”, between Ponte Nave and Ponte San Pietro, in the Municipality of Samolaco (SO).

The analysis aimed to verify the functional efficiency and sustainability of the new alignment, designed to improve connectivity between State Road SS 36 and SP 2, reduce through traffic in the town centre, and enhance overall network safety.

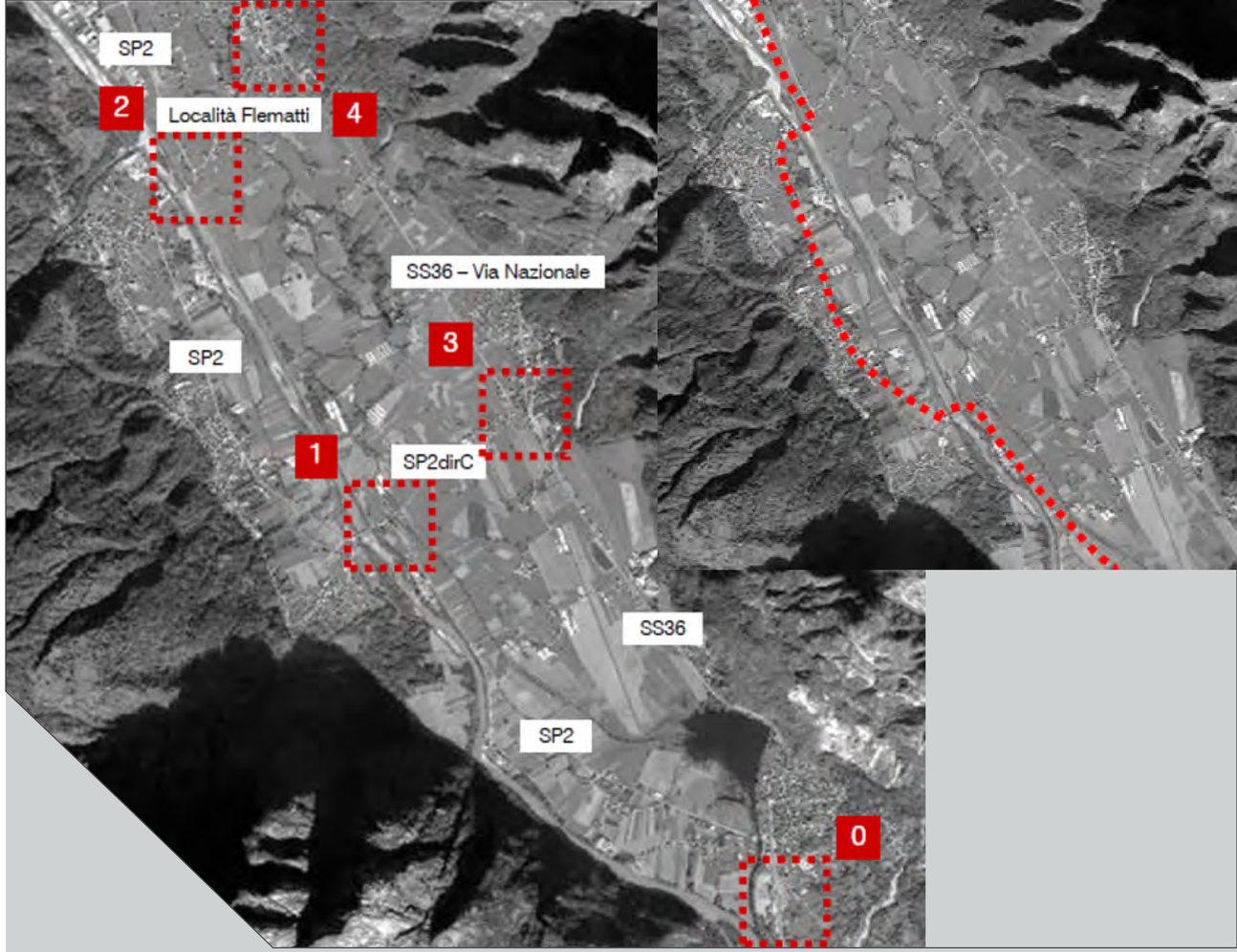
Through a multi-day survey campaign combining automatic radar and manual counts, real traffic flows were measured and future demand scenarios were reconstructed using microsimulation models.

The results identified peak hours, dominant vehicle types and current and future Levels of Service (LoS), assessing network performance with and without the variant.

The study supported the design of new roundabout intersections, ensuring geometric compatibility with public transport vehicles and delivering a significant improvement in safety and traffic flow.

The new F2 extra-urban local road, featuring 3.25-metre lanes and a dedicated cycle-pedestrian path, represents a modern infrastructure aligned with the area’s development needs.

Advanced Mobility confirms its role in integrated mobility planning and transport analysis, supporting major road infrastructure projects across Lombardy.



Location:	Lombardy, ITALY
Client:	Province of Sondrio
Year:	2021
Services provided:	Traffic survey and analysis

Engineering
Company

Operational offices

Italy
Venice (VE)
Padua (PD)
Cortina d'Ampezzo (BL)
Bolzano (BZ)
Catania (CT)
Rome (RM)
Verona (VR)

Abroad
Tirana (ALBANIA)
Dar es Salaam (TANZANIA)
Toronto (CANADA)

Headquarters

ITS single-member Ltd
Corte delle Caneve 11
31053 Pieve di Soligo (TV)
+39 0438 82082

Share Capital €100,000.00
Tax Code & VAT Number: 02146140260
REA Code: 351225
SDI Code: KRRH6B9

info@its-engineering.com
www.its-engineering.com

its
Engineering
Company