

MERIDIAM'S IBERIAN MOTORWAYS : AN ILLUSTRATION OF HOW HIGHWAYS CONNECT COUNTRIES AND COMMUNITIES WITH LONG-LASTING BENEFITS



BEST FOR...

- o Investment to support economic and social development
- o Improving safety
- o Supporting industry and local business
- o Generating local jobs and employment opportunities

■ KEY HIGHLIGHTS...

- 80% REDUCTION IN FATALITIES SINCE THE OPENING OF NEW MOTORWAYS
- CUTTING JOURNEY TIMES BY 60%
- REDUCING ENERGY CONSUMPTION BY 40%
- CATALYST FOR INVESTMENT IN NEW HOSPITALS, COMMERCIAL CENTRES AND PUBLIC AMENITIES

INVESTING IN MOTORWAYS: CONNECTING COUNTRIES AND COMMUNITIES WITH LONG-LASTING BENEFITS

In March 2001, the Hintze Ribeiro bridge near the town of Entre-os-Rios in the Douro Valley collapsed after a period of prolonged rain, sending a coach and three cars into the river below.

The disaster, which resulted in 59 deaths, was one of the worst in Portugal's history. It highlighted the ageing infrastructure in one of the country's most remote regions, as well as the nation's poor record on road safety.

Twenty years on, the region inland from Portugal's second city Porto, and the centre of production for the world-renowned Port wine, has been transformed by a network of modern roads and motorways. At the same time, road safety has made rapid progress across the country as attitudes to safety and driving habits have changed. By 2015, road fatalities had fallen to 57 per million inhabitants from well over 150 in 2001, according to a European Commission road safety review, bringing Portugal in line with the EU average. During that period, the number of reported fatalities in rural areas reduced from 832 to 228, representing an average¹⁾ annual improvement of about 10%.

Motorways deliver benefits for individuals and societies as, in addition to saving lives by raising safety standards and reducing traffic volume on existing roads, they connect people to work and economic opportunities by shortening journey times and creating places for new businesses and services to spring up near those roads. Toll roads can also deliver tax revenues directly to the State from their operations, and indirectly by helping stimulate economic growth and development in the regions and communities that they serve.

"Motorways fit very clearly within our theme of investing in mobility solutions for people and goods. Whilst they can have a significant carbon footprint, we weigh up the potential economic and social benefits of these projects," explained Ginette Borduas, Head of ESG and Sustainability at Meridiam.

"When you dig into the strategy, roads can have very far-reaching benefits in terms of economic advantages for countries and communities, as well as significantly improved safety and dramatically reduced accidents and fatalities. We also look to identify opportunities for reducing carbon footprint over the projects' life."

MERIDIAM'S IBERIAN MOTORWAYS

A66 - Spain - Concessionaire Autplata

- Built between 2013-2015
- 49km highway between Benavente and Zamora
- Links Asturias (North) to Andalusia (South)

Auvisa - Spain - Concessionaire Auvisa

- Built between 2003-2005
- 74.5km highway through Consuegra to Tomelloso in the centre of Spain
- Has 14 interchanges allowing accessibility to the highway from local towns
- Carries more than 2 and a half million vehicles per year

A24 - Portugal - Concessionaire Norscut

- Built between 2001-2007
- 156km motorway across northern Portugal, linking Viseu in the interior and Chaves on the border with Spain
- Crosses Douro Valley some 100km east of Porto
- Links with key east-west routes: A4 from Porto, A25 from Aveiro, and A7 from Porvoa de Varzim
- Helps cut journey time from Chaves to Lisbon in half to 4.5 hours
- Carries more than 2 million vehicles per year

Ausol - Spain - Concessionaire Ausol

- Built between 1996-1999 (Ausol I) and 2000-2002 (Ausol II)
- 105km motorway from Malaga to Guadiaro
- Provides vital link to tourist entry hub in Malaga and Spain's largest container port at Algeciras
- Cuts journey time by 60% along length of the route to 43 minutes
- Links to A-381 west towards Jerez de la Frontera and Cadiz, and AP-45 north towards Cordoba
- Carries more than 6 million vehicles per year



¹⁾https://ec.europa.eu/transport/road_safety/sites/roadsafety/files/erso-country-overview-2017-portugal_en.pdf



BOOSTING TAX REVENUES AND DRIVING ECONOMIC DEVELOPMENT

Infrastructure investment has a proven track record of generating economic benefits that flow through society. Every euro invested in Spanish infrastructure in the decade between 2005 and 2014 delivered a return of €1.92 for the economy, according to research from AT Kearney⁽²⁾. As a result, Spanish infrastructure investment generated €1.6 trillion in economic activity over that period.

Motorways are a critical piece of the economic story. Toll roads generate revenues that flow directly back to the State. Over the two decades between 1999 and 2019, the Ausol route generated tax revenues of €323 million, including €287 million for

the national government. It also contributed €36.5 million of land taxes for local municipalities, representing sizeable portion of their income and finances that they would otherwise not receive if it were not for the toll-generating motorway. During the same period, the concessionaire committed over €220 million for maintenance and upgrades along the route.

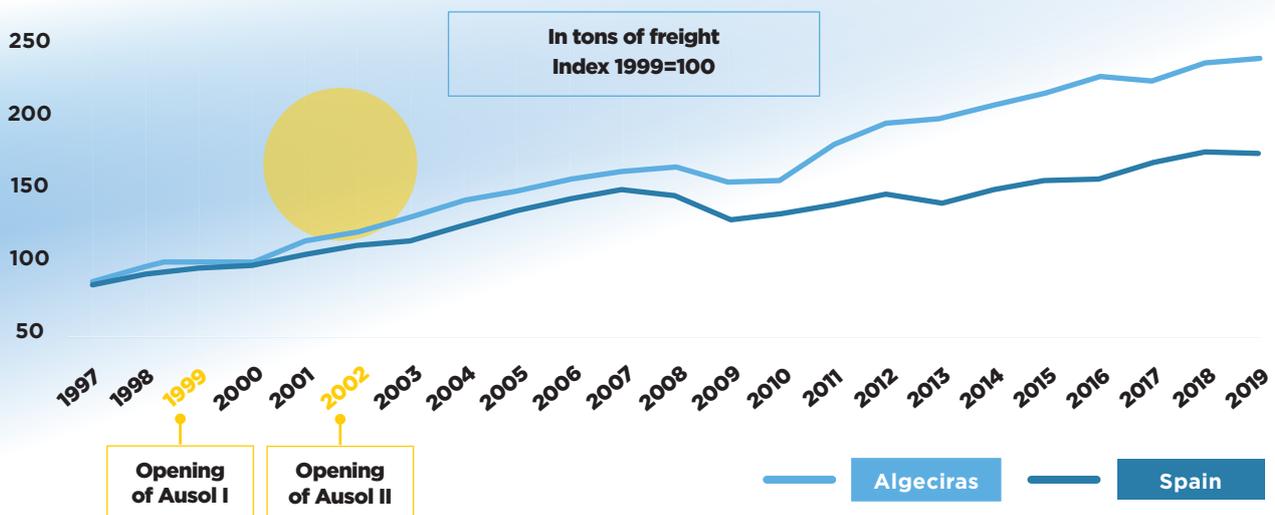
“Toll roads generate revenues for government and municipalities that they can invest in other projects for the communities. The contribution is further enhanced by the capital and operating expenditures they avoid. If the concessionaire was not there to pay those costs, then the government would have to support them itself,” said Juan Marchini, CEO of Autopista del Sol (Ausol).

The extent of the potential drain

on public finances became clear in March when the Spanish government put out tender road maintenance contracts worth €627.8 million for almost 480kms of motorways that will revert back to national ownership when their concessions expire later in 2021⁽³⁾.

Motorways also serve the transportation of people and freight over long distances, linking with other infrastructure services. Ausol has been a key regional infrastructure to enable the rise in maritime freight from the port of Algeciras, Spain’s largest container port, which outstripped the increase in freight shipped across Spain as a whole. Similarly, the motorway served a near-doubling of tourists staying at hotels in Andalucia to almost 20 million by 2020, up from 11 million in 2000.

INCREASE IN SEA FREIGHT TRAFFIC IN ALGECIRAS COMPARED WITH OTHER SPANISH REGIONS



⁽²⁾Contribucion-de-las-infraestructuras-al-desarrollo-economicoSEP2015.pdf (seopan.es)

⁽³⁾Licitado por 627 millones el mantenimiento de la AP-7 y la AP-2 (lavanguardia.com)

CONNECTIONS THAT SERVE REGIONAL BUSINESS DEVELOPMENT

The development of motorways in underserved regions can act as catalyst for new businesses. **Shortening connection times between cities and towns can encourage companies to form and expand, while also creating new hubs for business at major intersections along the route. This is all in addition to the 1,500 people who were working on the A24 project at the peak of construction.**

“We have seen major industrial zones being developed near new interchanges. In that respect, the motorway has been very important to the economic development of the region,” said Simão Pereira, CEO at Norscut, the concessionaire for Portugal’s A24.

In 2016, the Vila Real municipality established the Regia Douro Park, a science and technology



development hub that now has 82 companies employing 477 staff. Reflecting the park’s location in the heart of the prestigious wine region, its focus is on businesses at the intersection of wine, food, technology and the green economy. In Andalucia, centres for tourism have developed close to Ausol. These have included new places for visitors to stay, as well as theme parks, golf courses and shopping centres to serve growing demand for entertainment and retail.

“It’s now much easier to access Malaga or travel between the towns along the coast. Many of the tourist attractions and shopping centres have been developed since the motorway was built or were upgraded and expanded afterwards,” said Ausol’s Marchini.

It is not only modern developments that have been given a boost. **The concessionaire has been directly involved in the protection and conservation of historic sites in coastal Andalucía. It has financed a range of projects to the tune of more than €3.5 million, alongside regional and local government, as well as the Ministry of Culture.** That investment has helped to restore the renowned Roman Theatre in Malaga, as well as the Torre del Reloj, an iconic 16th century church tower in Estepona. Furthermore, when a Roman site from the third century was discovered as a result of highway construction work, Ausol worked with the authorities on a new cultural centre to celebrate and mark the significance of the find.

TOURIST ATTRACTIONS BENEFITING FROM AUSOL

A landmark music festival launched in 2012 that takes place every summer in Nagüeles near Marbella.

STARLITE FESTIVAL



A theme park and zoo located in Estepona, with more than 2000 animals across 100 hectares.

SELWO AVENTURA



SELWO MARINA

A new wildlife park and dolphinarium located in Benalmádena.

LA CAÑADA SHOPPING MALL

The largest shopping centre on the Costa del Sol, set in Marbella. Extended in 2003 to 250 shops and 3,900 parking spaces.



MIRAMAR SHOPPING CENTER

A multi-storey shopping center built in 2004 in Fuengirola with over 200 outlets.



AQUALAND TORREMOLINOS

Fully renovated in 2015, a large family water park in Torremolinos, with slides, rapids and a surf beach area.

ORCHIDARIUM ESTEPONA

A new orchid house covering about 1,000 m² and housing many varieties of orchid in Estepona.



BENALMÁDENA CABLE CAR

A new cable car rising from Benalmádena to the top of Monte Calamorro at an altitude of over 700m.



Industrial Zones Connected by the A24

CHAVES

An enterprise zone developed in 2006 with 29 industrial lots and a logistics base, upgraded in 2009 with an interchange to provide direct access to the motorway.

LAMEGO

Built in 2008, the industrial zone has 25 lots and is located just 5km from the Lamego interchange.

VILA POUCA DE AGUIAR

The Municipality of Vila Pouca de Aguiar announced the extension of its existing industrial zone in 2020, with the construction of 16 new industrial lots, linked to Pedras Salgadas interchange with a direct access road.

VILA REAL

Created in 2016, the Regia Douro Park is a science and technology park with 82 businesses and 477 workers over 25 lots. In October 2020, the city announced plans to invest €1.8 million to expand the zone.

UISEU

A new industrial zone valued at €12 million in the Lordosa district alongside the A24 with capacity for 38 businesses, due to be completed in 2022.

BRINGING EMPLOYMENT OPPORTUNITIES WITHIN REACH OF COMMUNITIES AND INDIVIDUALS

The economic benefits of motorways at a national and regional level are closely linked to the opportunities they bring to people who live near them. The two construction phases of the Ausol motorway in Andalusia required almost 1,900 workers over six years. **In the two decades since completion, Ausol has remained an important employer, securing jobs for some 110 people** across management, administrative, operational and maintenance roles on average every year.

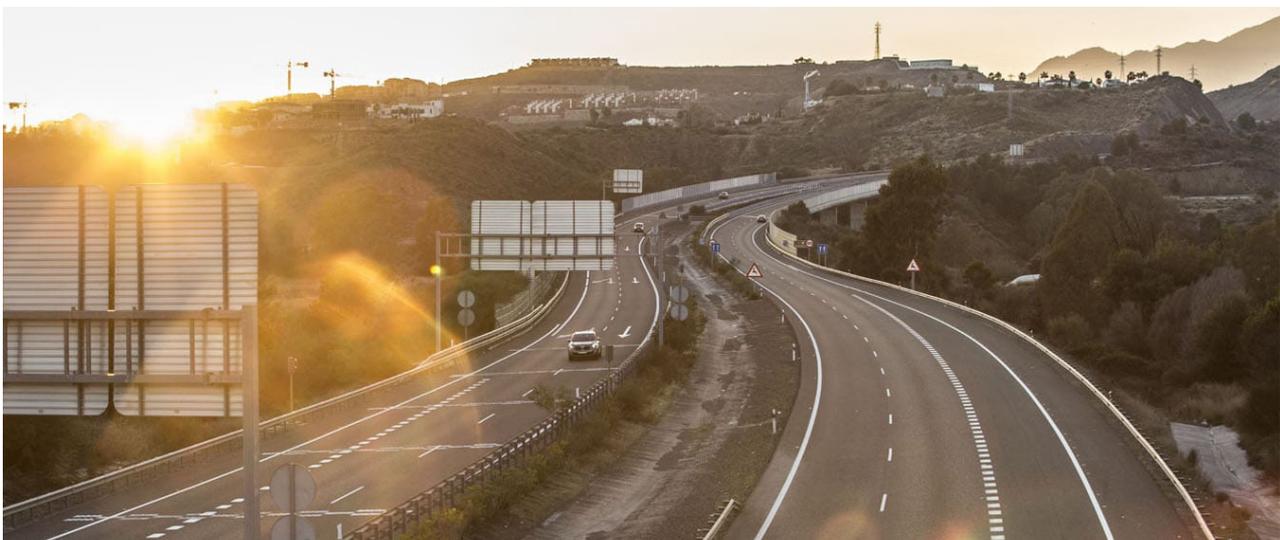
More widespread are the economic opportunities created by the new businesses

springing up in better connected towns and cities. The number of companies in Vila Real, a town of about 50,000 inhabitants in Portugal's interior, rose from 10.8 per 100 inhabitants in 2009 to 13.6 in 2018 – an increase of 26% – taking the town from below the national average to 1.2 percentage points above.

The increase in business activity spurred an increase in employment as journey times reduced and people in rural settings found it easier to reach major towns and cities. **The number of people working in Vila Real rose by 8.4% between 2001 and 2011, while in larger Viseu, the capital of the Dão-Lafões region, there was an 8.9% increase in jobs.** In contrast, employment across Portugal as a whole rose by just 0.9% over the same period.

“The A24 has reduced journey times for people to get to cities like Vila Real. It has meant better access to jobs by enabling them to get to work much more easily all year round,” explained Norscut's Pereira.

Taking care of existing jobs and livelihoods in rural communities is equally important. The A24 crosses the Douro Valley, a UNESCO World Heritage Site thanks to its stone-built terraces that contain small vineyards on the steep slopes. This is why, to build the motorway, the concessionaire worked closely with local growers and wine producers, and made sure to respect and preserve historic vineyard sites and the overall landscape.





INFRASTRUCTURE THAT SAVES LIVES

The impact of modern dual carriageway motorways on road safety can be significant. **On the one hand, the creation of a new artery can reduce the volume of traffic on existing single carriageway roads, limiting the potential for accidents at traditional blackspots. On the other hand, motorways can provide a safe route that incorporates modern safety features**, from barriers to lighting and non-slip surfaces for bad weather.

The development of Ausol brought a significant reduction in both accidents and fatalities on the busy Costa del Sol route. In the ten years running up to the opening of the motorway, there

were on average 70 deaths per year on toll and non-toll highways in the Malaga province. Since the opening, the number has decreased by more than 80%. In Northern Portugal, the number of accidents involving injuries across national roads - existing single carriageway routes that typically follow the winding landscape - and toll roads in the Vila Real and Viseu provinces fell by some 40%. Accidents involving fatalities reduced even more significantly.

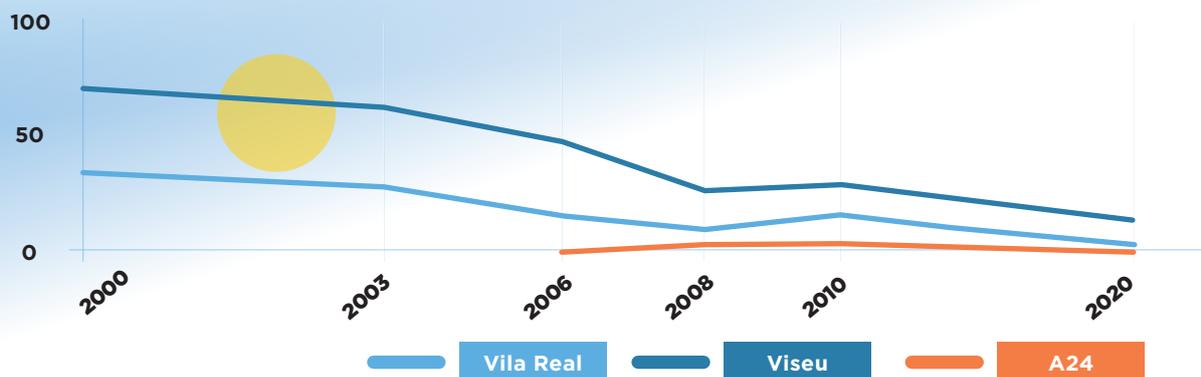
After the immediate benefit of opening the motorway, investment in further safety measures is a continuous process. Among its potentially life-saving initiatives, the A24 concessionaire invested in improving barriers to increase protection for motorbike riders. It also increased signage at accident hotspots with

warnings and reminders for road users to slow down. Engaging with local communities about safety has also proved successful at educating and improving outcomes.

“We work with local stakeholders through regular events. We have a yearly winter maintenance forum which brings together other concessions and local organisations - firefighters and police - to inform and support them in improving their processes around winter maintenance,” said Norscut’s Chief Technical Officer Filipa Morais. The A24 also has upgraded weather stations along the route to monitor for humidity, the threat of frosts and other dangerous driving conditions.

Evolution of number of deaths

Road accident fatalities fell immediately after the opening of the A24 and continued to decline as more drivers switched to the motorway from existing single carriageway roads. This trend continued even as traffic continued to increase.





Safety can mean going above and beyond regulatory standards. The EU Tunnels Directive requires all tunnels over 1,000 metres to have evacuation lighting. However, the A24 concessionaire exceeded the rules by installing evacuation lighting on the A24's longest tunnel, which is 880 metres long. It is also investigating the introduction of barriers at tunnel entrances to close the route in the event of an accident or fire.

There are also synergies with critical infrastructure. New hospitals have been built near interchanges to enable better and quicker access to healthcare services. Since the construction of Ausol, five new hospitals have been built in Marbella and Estepona close to the motorway.

Just as importantly, the motorway has enabled serious cases to reach hospital in time to save lives. Air ambulance service Helicopteros Sanitarios, based in Marbella, was established in 1988 as almost two out of every five people who required urgent care because

of accidents at a notorious blackspot on the existing national road died before reaching hospital. While still in operation today, Helicopteros Sanitarios now employs a fleet of ambulances to reach hospitals via the motorway.

THE IMPACT OF BALANCED BENEFITS

Around the world, motorways play an essential role in movement of people and goods, as well as our mission to deliver sustainable infrastructure that improves the quality of people's lives. Meridiam's impact-led strategy and UN SDG focus ensures that benefits of our investments are clearly measured, and performance is constantly improved.

On top of the creation of wide-ranging positive societal benefits, Meridiam also embeds sustainability into motorways to ensure that these critical highways can improve environmental impact. On Ausol, a programme is underway to replace traditional sodium lights at interchanges, toll stations and in tunnels, reducing overall

power consumption by 40%. And that power can increasingly be generated from renewable sources with the installation of a new solar plant providing 60% of total energy consumption in the Santa Maria I tunnel in 2020, one of the main underground sections along the route. These investment programmes can be financed by toll revenues, ensuring that income generated by motorways is actively channelled back into further improvements.

The life-saving impact of improved road safety for individuals is a hugely compelling benefit of motorway development, while access to employment can have a transformative effect on less advantaged communities. At a societal level, the pluses are wide-ranging and flow through local and national economies, from new business creation in underdeveloped towns and cities, to new tax revenue streams for municipalities and governments that enable them to invest in better services for people. ■

