



SMOOTH PORTS

Good practice in the Port of Monfalcone: Slabs modal shift.

Drafted by Stefano Bevilacqua

Project Partner: Municipality of Monfalcone

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The modal shift of cast iron slabs traffic from the port of Monfalcone to the San Giorgio di Nogaro area as a good practice.

(1) Author contact information

Name: Stefano Bevilacqua

E-mail: s.bevilacqua@monfalconeport.it

Country: Italy

Region: Friuli Venezia Giulia

City: Monfalcone

Organisation name: Chamber of Commerce of Venezia Giulia - Special Agency for the Port of Monfalcone

(2) Organisation in charge of the good practice

Main institution in charge: Autonomous Region of Friuli Venezia Giulia

Location of the organisation in charge:

Country: Italy

Region: Friuli Venezia Giulia

City: Trieste

(3) Good practice general information

Title: Slabs modal shift

Geographical scope: Port of Monfalcone and San Giorgio di Nogaro area (Friuli Venezia Giulia Region - Italy)





(4) Good practice detailed information

- **Short summary of the practice**

Shifting the traffic of cast iron slabs from the road to the sea and to the rail from the Port of Monfalcone to the San Giorgio di Nogaro area.

- **Short description of the local situation**

The Port of Monfalcone handles more than 1.000.000 tons per year of cast iron slabs. Slabs are outgoing from the port to the iron works located in the San Giorgio di Nogaro area (48 km far away).

The slab traffic is performed by heavy trucks (total weight \cong 70 tons.) from the Port of Monfalcone to the San Giorgio di Nogaro area due to logistical and economical reasons.

The slab traffic performed by truck from the Port of Monfalcone to the San Giorgio di Nogaro area has relevant impacts on the road infrastructures and road safety as well as on the pollution level of the area.

The Municipality of Monfalcone, forced the heavy trucks to use highway connections instead of local roads in order to preserve the road infrastructures and prevent accidents. Nevertheless, this measure cannot impact on the externalities that this traffic has in the port surroundings and on the highway.

- **Detailed information on the practice**

The slab traffic performed by heavy trucks from the Port of Monfalcone to the San Giorgio di Nogaro area has relevant impacts on the road infrastructures, road safety as well as on the pollution and noise level of the area.

A study realized by the Municipality of Monfalcone highlights that the effects of the iron cast slab traffic performed by heavy trucks in the port surroundings are: road infrastructures life is reduced by 39%; average speed of vehicles is reduced by 3.3% with a decrement LoS from "E" to "F"; percentage of road accidents related to heavy truck is 1.4 times bigger than the one related to other vehicles; pollutant emissions (CO, PM10 and PM2.5) incremented by 21%; noise levels exceeded with more than 15 heavy trucks/day.

These effects forced the Regional Government to look after a solution capable to reduce the externalities related to the cast iron slabs traffic while protecting the procurement of these goods to the iron works located in the San Giorgio di Nogaro area.



The GP performed by Autonomous Region of Friuli Venezia Giulia consists in shifting the slab traffic from the road to the sea or to the rail to reach the end users.

In 2019, 10,615 cast iron slabs (351,675 tons) have been carried by sea from the Port of Monfalcone to the Port of Porto Nogaro. In the same year, over 4,000 slabs (more than 125,000 tons) have been carried by rail from the Port of Monfalcone to the Port of Porto Nogaro.

Nearly 15,000 cast iron slabs, equal to 7,500 heavy truck have moved from the road to other transport mode in 2019 thanks to this GP.

The main stakeholders of this GP are the iron works companies of the San Giorgio di Nogaro area, port operators, rail operators, ship agencies and truck companies.

The beneficiaries are the citizens living along the truck route going from the port of Monfalcone to San Giorgio di Nogaro, the Municipalities of these areas and the Friuli Venezia Giulia Government.

How does the modal shift of cast iron slabs traffic from the port of Monfalcone to the San Giorgio di Nogaro area contributed to a reduction of CO₂ emissions by road transport in the port.

The Port of Monfalcone handles more than 1,000,000 tons per year of cast iron slabs. Slabs are outgoing from the port to the iron works located in the San Giorgio di Nogaro area (48 km far away). The slab traffic was mainly performed by heavy trucks from the Port of Monfalcone to the San Giorgio di Nogaro area due to logistical and economic reasons.

From the estimations carried out by the Port Authority, in 2019 the GHG emissions of the Port of Monfalcone, comprehensive of the marine traffic quote, are equal to 19,392 tons of CO_{2eq}; 443 tons of CO_{2eq} are related to trucks operations inside the port premises.

The good practise performed by the Autonomous Region of Friuli Venezia Giulia consists in shifting the slab traffic from the road to the sea or to the rail to reach the end users: in 2019, nearly 15,000 cast iron slabs, equal to 7,500 heavy trucks, have been shifted from the road to other transport modes.

These numbers signify that more than 0.15 tons of CO_{2eq} per week and 7.8 tons of CO_{2eq} per year has been saved inside the port of Monfalcone (0.68 km² area) due to the reduction of heavy trucks activities related to the slabs traffic.



- **Resources needed**

Shifting part of the slabs traffic from the road to the sea and rail have been possible with an economic aid to fund the bigger logistic costs.

In 2019, rail operators have been funded with 600,000 € to perform the GP.

- **Timescale**

Ongoing from 2018.

- **Evidence of success (results achieved)**

In 2019, this practice has saved more than 14.5 tons. of CO₂eq per week / 754 tons. of CO₂eq per year.

- **Potential for learning or transfer**

This practice can be replicated in other regions affected by a heavy truck traffic going from a port to an industrial area nearby another port or served by railways.

- **Recommendations for implementation in other ports**

A thorough analysis of the externalities and carbon footprint generated by the traffic is necessary to assess the impact of this measure on the contribution to climate change caused by port activities both inside the port and in the port's surroundings.

- **Further information**

<http://www.regione.fvg.it/rafvg/cms/RAFVG/>

- **Keywords related to your practice**

#intermodality, #cooperation, #sustainability, #Climate change, #Emissions, #Environment, #Green Ports, #Transport