

Antofagasta, Chile

Partner city

Status of the project: Completed Sustainable Urban Mobility Plan



Basic Information

Antofagasta urban area: 30,718 km²

Population: 388,545 | Growth rate: 2%

Region capital city

GDP per capita: USD 47,000

Modal Share:

Formal public transport: 25.08%

Walking: 28.31%

Cycling: 0.33%

Private cars: 35.13%

Taxis: 9.13%

Freight vehicles: 1.28%

Other: 0.74%

National GHG emissions per capita: 5.92 (tCO₂eq)

Exposure to climate change: MEDIUM

Context

Antofagasta is 30 km long and on average 2 km wide, where about 380 thousand citizens live, according to the 2017 census. The city, whose economic development is mainly linked to the copper mining industry, is characterised as being the destination of tens of thousands of migrants seeking job opportunities. The intercensal variation (2002-2017) shows a higher population increase of 22.99%, which is greater than the growth experienced in the country (16.26%). The total population growth in Antofagasta stands out, with 72,396 new inhabitants in the intercensal period. An important part is immigrants who come to the region are attracted by the climate and job opportunities.

Around 100,000 vehicles circulate daily in the city, and the average travel distances are between 5.9 and 7.4 km. Geographic restrictions and demographic pressures have pushed the city's development to the north and the south, and more than 60% of the population live in the northern sector. However, most of the city's services, employment, and economic activities remain concentrated in the centre, creating congestion and putting additional stress on the city's already fatigued and poorly functioning transport network. The transport network has, in turn, only exacerbated urban development and land use challenges. The two branches of the private train that transports materials from the mines to the port pass through the heart of the municipal territory, dividing the city in two, interrupting traffic flows and consuming a large part of the urban territory with its right of way.

Faced with this, the Regional Government, in conjunction with the Local Government and other institutions, have promoted a series of mobility initiatives that complement the current public transport system and the urban transport master plan. However, these are not necessarily linked to each other, and their impact in terms of emissions is unknown.

The regional Government of Antofagasta has the mandate and responsibility to finance mass public transport infrastructure, not its operation. It has the authority to borrow from international finance sources. Systems and procedures are not yet in place to monitor, evaluate and report on urban transport development.

The SUMP process has already achieved important milestones. A Technical Board that institutionally and politically validates the development of the SUMP has been established, as well as a Social Board responsible for including the demands and perspectives of citizens and other stakeholders in the SUMP. The authorities also set up a website (www.movilidadantofagasta.cl) that is the primary communication tool with citizens, hosting surveys and news.

Phases 1, 2 and 3 of the SUMP development process have ended. There is already a consolidated vision, objectives, indicators, and goals for the SUMP and a selection of measures. SUMP's official launch happened in November 2022.

Support from the Partnership

Technical assistance: Sustainable Urban Mobility Plan

Funded by: European Union

Funding amount: EUR 500,000

Implemented by: GIZ through the EUROCLIMA+ Programme

Local counterpart: Regional Government of Antofagasta

Supported activities:

- Develop an Integrated Sustainable Urban Mobility Plan, which adds environmental goals and monitoring, reporting and verification (MRV) mechanisms to existing measures and isolated modal plans
- Support the integration of various modes of transport and improve existing bike lanes, sidewalks and public transport infrastructure
- Formalise the Technical Board for Sustainable Mobility in the city
- Train regional and municipal government officials
- Promote citizen empowerment and give them access to decision-making, focusing on investments

Status of the SUMP process

Project start date: May 2018

SUMP adoption date: 2022 Q4

Completed outputs:

- Status quo analysis, including emissions inventory
- Implementing the communications and participatory process strategy, including the web page and social networks accounts
- Implementation and results of online surveys
- Implementation of the Technical Board
- Implementation of the Social Board
- MRV plan
- Phase I to IV completed
- Draft SUMP policy document

- Implement an [Observatory for Sustainable Urban Mobility](#) in the city of Antofagasta
- Communications products (graphic summary of the policy text, short video, poster)
- Launch of SUMP implementation

SUMP key measures and cost estimates

The following table highlights the most significant measures identified in the SUMP. The measures presented here are part of the prioritised set of measures¹.

Measure	Cost Estimate
Total prioritised measures	USD 1,222,680,555
Physical (infrastructure, rolling stock, etc.)	USD 1,202,049,946
Renewal of buses and collective taxis fleet	USD 417,000
Mass transit system	USD 576,666,667
Shelters and public transport transfer zones	USD 2,027,778
Network of high-standard pedestrian axes	USD 299,042
Extending the network of cycle lanes and cycle parking areas	USD 7,381,944
Urban renovation zones and incentives for residential use	USD 1,291,667
Traffic calming measures	USD 4,861,111
Enabling and consolidating urban transects	USD 78,889
Continuity of north-south road axes	USD 214,930
Integrated intermodal stations and terminals	USD 16,541,667
Technical (studies, plans, design)	USD 76,000
Restructuring of the taxi-bus service network	USD 76,000
Policy & regulation	USD 20,569,444
Parking management policy	USD 55,555
Incentives for the generation of centralities	USD 3,166,667
Incentivos para la generación de centralidades	USD 69,444
Integration of logistics in land-use planning	USD 576,389
Establishment of a regional metropolitan transport corporation	USD 76.389
Development of the Public Space Infrastructure and Mobility Plan	USD 16,625,000

The following table summarises the total capital expenses (CAPEX) estimates for different measures in the SUMP.

Urban transport investment measures	CAPEX Estimate
Public transport	USD 579,284,722
Active transport	USD 314,965,277
Disincentive to car use	USD 17,888,888

¹ Measures that due to their technical, financial feasibility and GHG emissions reduction potential are indispensable to kick-off the implementation of Antofagasta's SUMP.

Urban transport investment measures	CAPEX Estimate
Land use and public space	USD 430,152,777
Freight and logistic transport	USD 716,027,777
Intermodality	USD 310,513,888
Governance	USD 16,701,388
Total	USD 2,385,534,722

Projected impacts

Indicator	Impact 2030 (SUMP vs BAU)	Baseline – 2017	Projected 2035 BAU	Projected 2035 SUMP scenario
Total annual GHG emissions (Mt CO₂eq)	-0.36 Mt CO ₂ eq	0.343 Mt CO ₂ eq	0.400 Mt CO ₂ eq	0.364 Mt CO ₂ eq
Annual transport related GHG emissions per capita (kg CO₂eq)	Not quantified	815 kg CO ₂ eq / capita	Not quantified	600 kg CO ₂ eq / capita
Access				
Increase of the proportion of the population living 500 meters or less of a public transport stop	Not quantified	80.4% (2018)	Steady	90%
Modal share				
Increase of the modal shares of trips by public transport, walking and cycling	Not quantified	63.3% (2018)	Gradually decreasing	70%
Road safety				
Decrease of traffic fatalities in the urban area, per 100,000 inhabitants	Not quantified	5.56 fatalities / 100,000 hab (2018)	Gradually increasing	3.50 fatalities/100 000 hab

Perspectives for implementation

Public authorities are working together to allocate funding for SUMP implementation

The regional Government has been working during December 2022 with other central and local government public agencies to develop a programming agreement for financing the projects of the SUMP. A programming agreement is a financing agreement between two or more financial institutions, such as Ministries, Municipalities and Regional Governments, aimed at pooling resources for the achievement of an objective of high regional interest.

Insights from practice: lessons learned from the SUMP process

Global methodologies need to be adapted to the local context

Transport planning methods and tools used for SUMP development must meet the requisites of the Chilean national investment system; otherwise, projects cannot get financial resources from the central Government. Learning from Antofagasta's SUMP, the regional Government has overcome this problem in a new project when developing terms of reference for Calama's SUMP. The central Government accepts the used planning methods and tools so that projects can opt for public resources.

Participation is a crucial component of the SUMP formulation. Still, related strategies must be the most cost-efficient alternatives considering the available resources are important to consider public participation from the beginning of the SUMP process. This trade-off worked very well for the Antofagasta SUMP case, becoming one of the strengths of this experience. Public participation was particularly relevant for understanding the current problems and needs of the Antofagasta population.

Although the generation of two participatory roundtables (the Technical Roundtable and the Social Roundtable) was a successful process in Antofagasta, it required more resources and the need to cross-reference the work carried out in both spaces. Generating a single broad participatory roundtable (multi-sectoral, multi-level and multi-stakeholder) from the beginning of the SUMP can reduce costs and increase efficiency for process management.

It is vital to be able to communicate progress while the SUMP is under development so that people can become involved in it to generate a «collective awareness» about the urgency of acting in the transport sector to mitigate the climate crisis. Implementing the website and other digital tools was of great help in this regard.

Even if it is not a binding policy instrument, ensuring budget at different levels of government and governance bodies can uphold the SUMP

The Antofagasta SUMP is a non-binding public policy instrument, so its approval rests in the hands of the principal, which corresponds to the Regional Government of Antofagasta. However, to secure part of the public funding required for the plan, the Regional Government has committed to sign a «Programming Agreement», which is the general instrument through which Regional Governments engage shared funding with Ministries to finance local initiatives.

The Regional Secretariat of the Ministry of Housing and Urban Development has decided to give continuity to work carried out by the SUMP participatory roundtables, merging them and taking over their leadership. This leadership will make it possible to exercise control over the SUMP's implementation and continue empowering the stakeholders involved.

Sustainable urban mobility should be planned in interaction with other urban planning instruments and adapted to the local context

Antofagasta conceived its SUMP as compatible with other urban public policies, such as regeneration, housing or development plans, since authorities should not understand mobility from a single sectoral perspective. Several urban components influence urban mobility and vice-versa.

For the SUMP development in Antofagasta, the SUMP team harmonised the SUMP methodology proposed by MobiliseYourCity with existing transport or mobility planning processes and experiences in the local territory. Existing transport plans already addressed aspects such as modelling, indicators or measures' scope.

Antofagasta launches Chile's first SUMP mobility observatory

As part of the SUMP process, Antofagasta presented its Mobility Observatory, a platform that allows the visualisation of the indicators of the SUMP, the first of its kind in a Chilean city. The observatory consists of a web platform that monitors the implementation of the Antofagasta SUMP and its strategic objectives. [Read more on EUROCLIMA+ website.](#)