Antofagasta, Chile

Sustainable Urban Mobility Plan — Completed

Basic information

Urban area	→	30,718 km²
Population	→	388,545
Growth rate	→	2%
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%
Annual transport emissions per capita	→	5.92 (tCO2eq)
Exposure to climate change	→	MEDIUM

Context

Antofagasta spans 30 km in length and averages 2 km in width, with approximately 380,000 residents according to the 2017 census. The city, primarily reliant on the copper mining industry for economic development, attracts tens of thousands of migrants seeking employment opportunities.

Support from the Partnership

Technical Assistance: Support for Sustainable Urban Mobility Plan Development
Funded by: European Union
Funding amount: EUR 500,000
Implemented by: Gesellschaft für Internationale Zusammenarbeit (GIZ) through the EUROCLIMA+ Programme
Local counterpart: Regional Government of Antofagasta
Consultant(s) involved: Not reported
Final Sump report: Antofagasta SUMP - Final Report | MobiliseYourCity

SUMP Summary

SUMP Status	Approved
SUMP Development Timeline	Start of SUMP process Q2 2018 Completion and adoption in the Q1 2023
SUMP Vision	"A city whose mobility system is based on the principles of sustainable urban development, that reduces the effects of climate change, that promotes equity and social justice in public space, that improves the habitability and quality of life of the inhabitants of Antofagasta through a city on a human scale, and that collaborates with the economic diversification of the region." (SUMP report, p.130)
Key expected results (GHG, modal share and access)	Compared to 2018, in a SUMP scenario by 2035, Antofagasta expects to • Reduce the annual transport-related GHG emissions per capita by 26% • Increase access to formal public transport from 80.4% to 90% of the population • Increased modal share of all public transport, walking, and cycling combined from 63.3% to 70% Decrease of traffic fatalities from 5.56 fatalities/100,00 hab to 3.50 fatalities/100,000
Total SUMP Investment Requirement	• Total SUMP investment: ≈ EUR 1.81 billion • Short term (0–5 years): ≈ €167 million • Medium term (5–15 years): ≈ EUR 941 million • Long term (15–30 years): ≈ EUR 700 million

SUMP preparation process and stakeholder involvement

The SUMP area is based on Antofagasta's Functional Urban Area (AUC), defined by INE–MINVU–SECTRA (2018), updated to 2020. It expands the AUC to include new housing developments and irregular settlements (campamentos) identified via SII, MINVU and TECHO. It extends eastward to the planned Circunvalación Avenue and key road corridors (Routes 1, B400, 26, 28, and 5) that link the city to the airport and the main industrial/logistics areas (La Negra, Salar del Carmen).

SUMP preparation process and stakeholder involvement

The SUMP area is based on Antofagasta's Functional Urban Area (AUC), defined by INE–MINVU–SECTRA (2018), updated to 2020. It expands the AUC to include new housing developments and irregular settlements (campamentos) identified via SII, MINVU and TECHO. It extends eastward to the planned Circunvalación Avenue and key road corridors (Routes 1, B400, 26, 28, and 5) that link the city to the airport and the main industrial/logistics areas (La Negra, Salar del Carmen).

Figure 1 SUMP-impacted territory

The development of the Sustainable Urban Mobility Plan (SUMP) of Antofagasta included the involvement of the public, private and civil sectors in the city's mobility planning, the proposal of a financing scheme for the measures contained in the plan, and a consistent methodology for the monitoring of Greenhouse Gas (GHG) emissions derived from the transport sector.

Regarding the SUMP time horizon, a 30-year implementation period (year 2050) was defined, with measures and actions projected for the short term (0 to 5 years), medium term (5 to 15 years), and long term (15 to 30 years).

Participatory process[1]

The SUMP followed the 12-step methodology and used continuous feedback: technical workshops with the Mesa Técnica in all tasks, online citizen surveys (on scenarios, vision/objectives, measure prioritisation and financing), and a Mesa Social involving civil society and private actors. A final Unification Workshop brought together both mesas to consolidate priorities and the short list of measures that underpin the final PMUS proposal.

[1] To know more, check the Antofagasta case study in the Topic guide - Participatory processes in urban mobility planning | MobiliseYourCity : https://www.mobiliseyourcity.net/topic-guide-participatory-processes-urban-mobility-planning

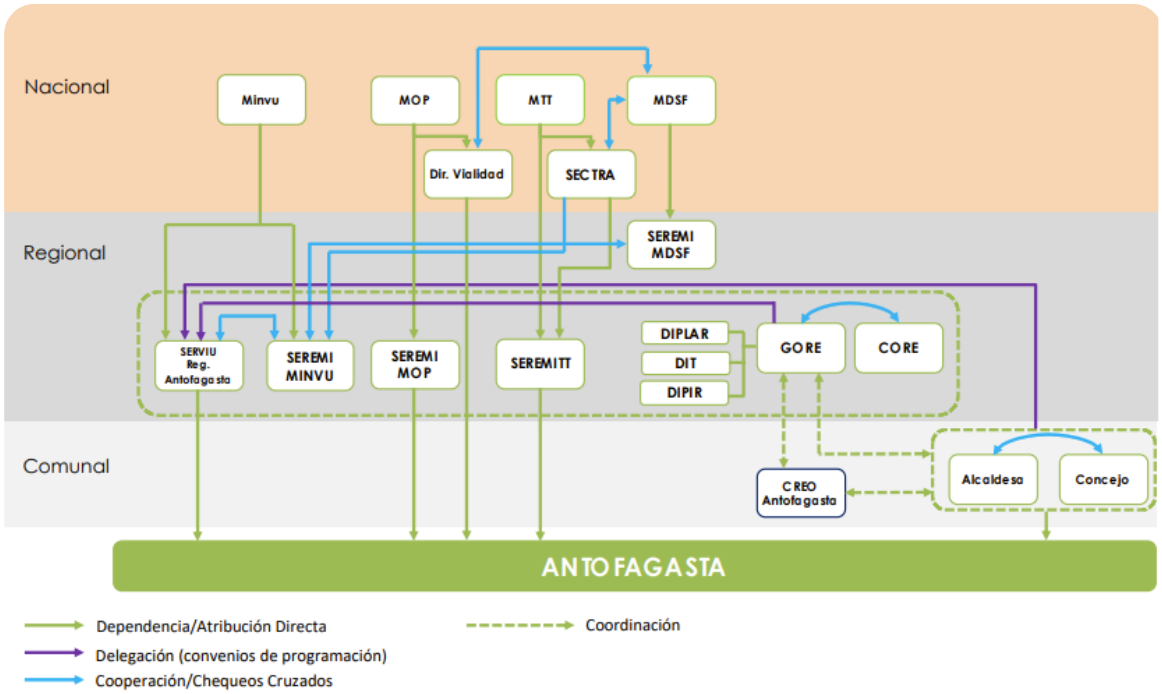

Figura 2 Mapa de actores intervinientes sobre la ciudad de Antofagasta

The public institutions that made up the SUMP Technical Committee and the social organisations that formed part of the Social Committee, an instance of citizen participation that accompanied the development of the SUMP in its different stages, can be distinguished. The Technical Table was composed of the following institutions:

Regional Government of Antofagasta, Illustrious Municipality of Antofagasta, CREO Antofagasta, Secretariat of Transport Planning - SECTRA North, Regional Ministerial Secretariat of Environment, Regional Ministerial Secretariat of Housing and Urbanism, Regional Ministerial Secretariat of Energy, Regional Ministerial Secretariat of Women and Gender Equity, Regional Ministerial Secretariat of Transport and Telecommunications, Regional Ministerial Secretariat of Public Works, Regional Service of Housing and Urbanism.

Diagnosis of urban mobility

Existing Mobility and transport services

Antofagasta spans 30 km and averages 2 km in width, with approximately 380,000 citizens according to the 2017 census. The city, primarily reliant on the copper mining industry for economic development, attracts tens of thousands of migrants seeking employment opportunities. The intercensal variation (2002-2017) indicated a notable 22.99% population increase, surpassing the national growth rate of 16.26%. Antofagasta experienced a significant population surge, adding 72,396 new inhabitants during the intercensal period. A considerable portion of these newcomers are immigrants drawn to the region by its climate and employment prospects.

Around 100,000 vehicles traverse the city daily, covering distances of 5.9-7.4 km. Geographic constraints and demographic pressures have pushed the city's expansion to the north and south, with more than 60% of the population residing in the northern sector. Nonetheless, the central area remains the focal point for services, employment, and economic activities, leading to congestion and straining the already inadequate transport network. The transport network has, in turn, only exacerbated urban development and land use challenges. The two branches of the private train that transport materials from the mines to the port pass through the heart of the municipal territory, dividing the city into 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, has 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, and their impact on emissions is unknown.

The regional Government of Antofagasta has the mandate and responsibility to finance mass public transport infrastructure, not to operate it. It has the authority to borrow from international financial 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 serves as the primary channel of communication with citizens, hosting surveys and news.

Distribution of trips by purpose and gender

The following table highlights the major gender differences (greater than 20%) in trip purposes. For example, the biggest difference occurs in trips for Health (30.98% of trips are made by men and 69.02% by women in this category), followed by Shopping (women make 66.59% of trips and men 33.41%). The opposite occurs with work-related trips, where women account for only 37.87% of them. These differences in travel purposes reveal much bigger differences in gender roles, where domestic or reproductive work associated with caring for or maintaining the household triggers more trips among women for purposes such as health, shopping, errands or looking for/leaving someone. Meanwhile, men dominate in tasks associated with productive activities and in trips to or from work.

Tabla 27: Distribución de viajes por proposito y género - EOD Antofagasta 2010

Propósito	Cantidad Viajes Día Laboral			Proporción Viajes Día Laboral		
	Hombre	Mujer	Total	Hombre	Mujer	Diferencia
Al Estudio	54.001	52.879	106.880	50,52%	49,48%	1,05%
Al Trabajo	67.412	41.092	108.504	62,13%	37,87%	24,26%
Buscar/dejar algo	1.343	1.569	2.912	46,12%	53,88%	-7,76%
Buscar/dejar alguien	23.581	42.107	65.688	35,90%	64,10%	-28,20%
Comer/tomar algo	1.269	953	2.222	57,11%	42,89%	14,22%
De compras	21.217	42.286	63.503	33,41%	66,59%	-33,18%
De Salud	4.028	8.974	13.002	30,98%	69,02%	-38,04%
Otra Cosa	5.433	7.826	13.259	40,98%	59,02%	-18,05%
Por Trabajo	5.292	2.474	7.766	68,14%	31,86%	36,29%
Recreación	6.252	7.479	13.731	45,53%	54,47%	-8,94%
Trámites	12.275	18.824	31.099	39,47%	60,53%	-21,06%
Ver a alguien	8.189	13.473	21.662	37,80%	62,20%	-24,39%
Volver a casa	177.903	203.352	381.255	46,66%	53,34%	-6,68%

Fuente: EOD Antofagasta 2010 (Sectra, 2012)

Social, environmental, and economic aspects

Modal split by gender

In the city of Antofagasta, women are the main users of public transport, accounting for 56.44%. For this reason, the design of public transport must include a gender perspective to improve the quality of travel for these users. This aspect is very relevant, as the Gender Equity in Transport Policy (MTT, 2018) reports that perceptions of insecurity among women when using public transport have increased, affecting their mobility patterns. Another important difference is that women walk in much higher proportions than men (61.48% vs 38.52%), so public spaces must have features that allow them to use them and not create barriers to women's participation in the city.

Environmental Impact

In the case of Antofagasta, the GHGs reported by the PRTR are four types: carbon dioxide, methane, NOx, and nitrous oxide. In 2017, the most recent and consistent year in the PRTR database, total GHG emissions from road transport in Antofagasta exceeded 296 thousand tonnes per year.

The study by Palme et al. (2016) quantifies the future effects of heat islands, based on the different factors identified as causing them. Thus, if urban development continues to trend in Antofagasta, vehicular traffic will account for 20% of the effects during the daytime and up to 49% at night.

Institutional and financial situation

The institutional framework for urban mobility in Antofagasta is characterised by a multi-level, sectorally fragmented governance structure, with strategic leadership at the regional level and regulatory authority largely retained at the national level. The SUMP was led by the Gobierno Regional de Antofagasta (GORE), positioning the region as the main actor in strategic mobility planning. However, core regulatory competences, particularly for public transport, remain under the Ministry of Transport and Telecommunications (MTT), with bus services operating under nationally defined "Condiciones de Operación" frameworks rather than locally designed systems. This reflects limited local autonomy in structuring and reforming public transport services.

Urban mobility responsibilities are distributed across multiple sectoral institutions, including the Regional Government, the Municipality of Antofagasta, SECTRA Norte, and various regional ministerial secretariats (Transport, Housing and Urbanism, Environment, Energy, and Public Works), as identified in the Mesa Técnica of the PMUS. While this configuration allows for cross-sectoral input, the report highlights structural coordination challenges stemming from overlapping mandates and difficulties in adapting national policies to local realities. In this context, CREO Antofagasta emerges as an important interinstitutional coordination platform that brings together public, private, academic and civil society actors, partially compensating for institutional fragmentation.

Overall, Antofagasta's mobility governance is regionally driven in planning but nationally regulated in operation, with implementation dependent on coordination among multiple sectoral bodies. The PMUS identifies improved interinstitutional alignment and stronger governance integration as essential conditions for advancing sustainable mobility in the city.

SUMP visions and goals

Strategic Vision:

"A city whose mobility system is based on the principles of sustainable urban development, that reduces the effects of climate change, that promotes equity and social justice in public space, that improves the habitability and quality of life of the inhabitants of Antofagasta through a city on a human scale, and that collaborates with the economic diversification of the region."

SUMP Goals and targets

1. Enhance and consolidate the generation of sub-centralities throughout the city, facilitating access to public and private goods and services close to people's places of residence, and reducing the need for long trips in terms of distance and time.
2. Increase the use of sustainable transport modes in the urban context by improving the operating conditions and accessibility for public transport, walking and cycling.
3. Reduce and rationalise car use, creating the conditions for less car dependency.
4. Efficiently mitigate the effects of large-scale logistics transport in the city (mainly focused on port activity) and manage the insertion of micro-logistics in the urban fabric (mainly focused on parcels between distribution centres and final consumers).
5. Improve the habitability, quality and safety of public spaces, through conditions and standards of urban design on a human scale.
6. To promote the use of low-emission technologies in a transversal way throughout the urban mobility system.
7. Promote economic diversification in the region through the mobility system, overcoming the predominant paradigm of the mining sector in favour of other sectors, such as the technological and scientific sector (with emphasis on astronomy) and tourism.

Test scenarios and selected scenario

- BAU scenario The BAU (E0) scenario assumes continuation of current trends plus national decarbonisation commitments, with no major policy shift in street allocation or land use. Emissions stabilise and then decline only moderately towards 2050.
- Alternative sustainability scenarios Three advanced scenarios (E1, E2, E3) combine the measure packages with increasing ambition: from improving sustainable modes (E1), to prioritising them over cars (E2), to a high-ambition mix including strong demand management, land-use changes and logistics optimisation (E3).
- Selected scenario and measures. Multi-criteria and cost-efficiency assessments show that only E3 can meet the GHG reduction target (about −57% vs BAU by 2050) while delivering the strongest co-benefits for equity, safety, and livability. E3 is therefore recommended as the final PMUS scenario, with phased implementation to 2025, 2035 and 2050.

SUMP key measures

The following table highlights the most significant measures identified in the SUMP. The measures presented here are part of the prioritised set[2].

Cluster	Measure ID	Measure	Cost (EUR)	Proposed source of finance	Implementation schedule
TP – Public Transport					
TP	TP-02	Redesign of the taxibus service network	60,000	Public (GORE / MTT)	Short–Medium
TP	TP-03	Renewal of the taxibus and shared taxi fleet	32,000	Concessionable (300)	Short–Medium
TP	TP-07	Mass Public Transport System (MPTS)	437,000	Concessionable (350,000) + Public	Medium–Long
TP	TP-09	Public transport shelters and transfer areas	1,540,000	Public (MINVU / GORE)	Short
TA – Active Transport					
TA	TA-01	High-standard pedestrian corridor network	227,000	Public (MINVU / GORE)	Medium–Long
TA	TA-04	Expansion of the cycling network and bicycle parking facilities	5,600,000	Public	Short–Medium
AU – Car Use Disincentive					
AU	AU-02	Traffic calming measures	3,700,000	Municipal / Public	Short
AU	AU-04	Parking management policy	40,000	Municipal	Short
US – Land Use & Public Space					
US	US-01	Incentives for the development of urban centralities	2,400,000	Public + urban development instruments	Medium
US	US-02	Urban renewal zones and residential development incentives	1,000,000	Public (MINVU)	Medium
LG – Urban Logistics					
LG	LG-06	Integration of logistics planning into land-use planning	44,000,000	Public	Medium
IM – Intermodality					
IM	IM-06	Fare integration and integrated payment systems	50,000	Public (MTT)	Short
IM	IM-08	Continuity of north–south arterial corridors	163,000	Public (MOP / GORE)	Medium–Long
IM	IM-09	Development and consolidation of urban transversal corridors	60,000,000	Public	Medium
IM	IM-10	Intermodal stations and integrated terminals	12,500,000	Concessionable (10,650) + Public	Medium
GB – Governance					
GB	GB-05	Establishment of a Regional Metropolitan Transport Corporation	60,000	Public	Short
GB	GB-10	Development of the Public Space Infrastructure and Mobility Plan (PIMEP)	12,600,000	Public	Medium

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

SUMP expected results and impact

Indicator	Impact 2030 (SUMP vs BAU)	Baseline - 2017	Projected 2035 BAU	Projected 2035 SUMP scenario
Total annual GHG emissions (Mt CO_2eq)	-0.36 Mt CO2eq	0.343 Mt CO2eq	0.400 Mt CO2eq	0.364 Mt CO2eq
Annual transport-related GHG emissions per capita (kg CO_2eq/capita)	Not quantified	815 kg CO2eq / capita	800 kg CO2eq / capita	600 kg CO2eq / capita
Access Increase in the proportion of the population living within 500 m or less of a mass transit stop	Not quantified	80.4% (2018)	Steady	90%
Modal share Increase in the modal share of trips by public transport, walking, and cycling	Not quantified	63.3% (2018)	Gradually decreasing	70%
Road safety Decrease in traffic fatalities within the urban area (per 100,000 inhabitants)	Not quantified	5.56 fatalities/ 100,000 hab (2018)	Gradually increasing	3.50 fatalities/ 100 000 hab

Insights from practice: lessons learned from the SUMP development 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 obtain financial resources from the central Government. Learning from Antofagasta's SUMP, the regional Government has addressed this problem in a new project by developing the terms of reference for Calama's SUMP. The central Government accepts the planning methods and tools used to ensure projects qualify for public resources.

Participation is a crucial component of SUMP formulation, yet related strategies must be the most cost-efficient options given the available resources. It is 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 Antofagasta's population.

Although generating two participatory roundtables (the Technical Roundtable and the Social Roundtable) was successful in Antofagasta, it required more resources. It necessitated cross-referencing 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 in process management.

It is vital to communicate progress during the SUMP's development so people can get involved and build a "collective awareness" of the urgency of action in the transport sector to mitigate the climate crisis. Implementing the website and other digital tools proved very helpful in this regard.

Even if it is not a binding policy instrument, ensuring budget allocation 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 with the principal, which is the Regional Government of Antofagasta. However, to secure part of the public funding required for the plan, the Regional Government has committed to signing a "Programming Agreement", the general instrument through which Regional Governments engage in shared funding with Ministries to finance local initiatives.

The Regional Secretariat of the Ministry of Housing and Urban Development has decided to continue the work carried out by the SUMP participatory roundtables, merging them and assuming leadership. This leadership will enable control over the SUMP's implementation and continue to empower 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, the scope of indicators and measures.

Antofagasta launches Chile's first SUMP mobility observatory

As part of the SUMP process, Antofagasta presented its Mobility Observatory. This platform allows visualisation of the SUMP indicators, 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[3].

[3] https://www.euroclima.org/en/recent-events-urban/news-urban/1891-antofagasta-presents-its-urban-mobility-plan-and-mobility-observatory

SUMP finance leverage

Leveraged financing (resulting or enabled by the SUMP preparation process)

Description	Source of financing	Type	Status	Amount (EUR)[4]
State funding sources	Regional Government of Antofagasta	Budget allocation	Planned	22,459,520
State funding sources	Ministry of Housing and Urban Planning	Budget allocation	Planned	351,916,320
State funding sources	Ministry of Public Works	Budget allocation	Planned	345,861,600
Electrification of the freight train	Private company investment FCAB	Budget allocation	Planned	490,280,000
Concession mechanisms through public-private partnerships	Private sector	Budget allocation	Planned	355,781,440
Mi Taxi Eléctrico Antofagasta. Subsidised replacement of 59 taxis/colectivos with 100% electric vehicles; includes home charger	Gobierno Regional de Antofagasta	Subsidy (grant to beneficiaries)	Secured	693,840

Perspectives for implementation

Local Political Framing of Implementation Priorities[5]

In statements from regional leadership, mobility planning has been framed not just as transport policy but as part of broader sustainable economic development. Discussions have included future-oriented elements such as electromobility infrastructure (e.g., electric buses and electrolineras) tied to Antofagasta's renewable energy potential and industrial transition, demonstrating a cross-sectoral narrative shaping local implementation priorities.

[4] Exchange rate : $1 = €0.85
[5] https://www.norteyenergia.cl/antofagasta-finaliza-el-diseno-tecnico-de-su-plan-de-movilidad-urbana-sostenible-pmus/

Highlights in past years

There is policy momentum to boost electromobility in Antofagasta[6]

Regional leadership has publicly emphasised the importance of the SUMP for advancing electromobility, including the prospect of electrified buses and infrastructure such as charging points (electrolineras), aligning mobility transformation with broader environmental and economic goals. A regional electric mobility project has introduced 40 high-quality electric buses in Antofagasta, equipped with user-centred features such as air conditioning, universal accessibility, and onboard amenities, representing a concrete shift toward cleaner public transport vehicles in the city's fleet.

Last updated December 2025

[6] https://latamobility.com/en/vg-mobility-inaugurates-regional-electric-mobility-project-in-antofagasta-chile/