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TRANSPORT



Transport

Roads and Bridges

Macao has 349.6 kilometres of roads and highways, including 190.6 kilometres on the Macao peninsula; 91.9 kilometres on Taipa Island and Cotai; 45.2 kilometres on Coloane; 3.4 kilometres in New Urban Zone Area A and the bridge connected with New Urban Zone Area A; 8.7 kilometres in the Zhuhai-Macao border crossing area on the Artificial Island of the Hong Kong-Zhuhai-Macao Bridge; 4.6 kilometres in the campus of the University of Macau (including the cross-river tunnel); and 2.8 kilometres in the Macao border crossing area and related extension zones of the Hengqin checkpoint.

Three bridges and a strip of reclaimed land link the Macao peninsula with Taipa island and Coloane island. Opened to traffic in October 1974, the Nobre de Carvalho Bridge (also known as the Macao-Taipa Bridge) is 2.5 kilometres long. The 4.4-kilometre Friendship Bridge was completed in April 1994. The 2.1-kilometre Sai Van (West Bay) Bridge was completed in December 2004 and opened to traffic in January 2005. In addition, the 800-metre Lotus Flower Bridge was completed in December 1999 and opened to traffic in March 2000. Linking the reclaimed area between Taipa and Coloane with Zhuhai City's Hengqin island and connected to the Guangzhou-Zhuhai Expressway, this bridge is the second land route between Macao and its neighbouring cities.

Macao has 471.2 kilometres of roads for motor vehicles. This figure includes 205.4 kilometres on the Macao peninsula; 153.6 kilometres on Taipa island and Cotai; 68.8 kilometres on Coloane island; five kilometres on Nobre de Carvalho Bridge; 10.2 kilometres on the Friendship Bridge; 4.2 kilometres on the Sai Van Bridge; 1.6 kilometres on the Lotus Flower Bridge; 5.6 kilometres in New Urban Zone Area A and the bridge connected with New Urban Zone Area; and 16.8 kilometres in the Zhuhai-Macao border crossing area on the Artificial Island of the Hong Kong-Zhuhai-Macao Bridge. There are also 14 kilometres of roads of the University of Macau (including the cross-river tunnel) and 4.1 kilometres in the Macao border crossing area and related extension zones of the Hengqin checkpoint.

Public Transport

Macao has a well-established public transport network connecting the Macao peninsula and the two islands. A variety of vehicles, including buses, taxis and light rail transit, are available for local residents and tourists.

Public Bus Service

Public bus service in Macao is currently operated by two bus companies: Transportes Urbanos de Macau, S.A.R.L. (Transmac) and Sociedade de Transportes Colectivos de Macau, S.A. (TCM).

At the end of 2023, there were 1,091 buses in service – 100 minibuses, 312 medium-sized buses and 679 large buses, on 86 routes. In 2023, a total of 214 million passengers were served, representing an increase of 27.13 percent over the 2022 figure, covering a total distance of 50.71 million kilometres, representing an increase of 5.87 percent over the 2022 figure.

The Government signed the amendment to the concession contract regarding the Public Service of Road Mass Transport for the first and fourth tender sections and the amendment to the concession contract regarding the Public Service of Road Mass Transport for the third tender section with Transportes Urbanos de Macau, S.A.R.L. (Transmac) and Sociedade de Transportes Colectivos de Macau, S.A. (TCM), respectively. The two companies provide bus services under the new contracts starting from 1 January 2021, for a period of six years.

Sociedade de Transportes Colectivos de Macau, S.A.

Sociedade de Transportes Colectivos de Macau, S.A. (TCM) (previously known as Companhia de Transporte de Passageiros entre Macau e as Ilhas) has been providing public services since the 1950s. With over 60 years of developmental history, TCM is one of the two bus companies approved by the MSAR Government and the only second-tier enterprise under the state-owned Nam Kwong (Company) Limited, which is headquartered in Macao.

TCM operates 57 of the MSAR Government's Section III public bus routes, accounting for 63.33 percent of routes operated in Macao, with 300,000 passengers served per day and an average total distance of 70,000 kilometres covered each day.

The TCM invested over 500 million patacas between 2021 and 2023 to introduce 469 extended-range electric buses in three phases, becoming the first company in Macao to introduce range-extended electric buses on a large scale. By upgrading its fleet on a large scale, TCM has achieved carbon emission peak ahead of schedule, with 95 percent of its fleet being environmentally friendly vehicles by 2024. This initiative significantly contributes to the development of green transportation in Macao and actively contributes to the achievement of the country's dual carbon goals.

Transportes Urbanos de Macau, S.A.R.L. (Transmac)

Transportes Urbanos de Macau, S.A.R.L. (Transmac) was previously known as Companhia de Autocarros Fok Lei. Founded in 1952, it was restructured and changed its name to Transportes Urbanos de Macau in July 1988. It is the largest bus company in Macao. The company introduced the ISO Quality Management System in 2004 for overall management, making it the first franchised bus company in Macao to pass the ISO 9001:2015 Quality Management System. In 2022, Transmac received the Industry and Commerce Merit award from the MSAR Government.

Transmac has around 1,100 employees and a fleet of over 400 buses that serve 42 bus routes including 37 regular routes, 4 special routes, and 1 free route, covering Macao, Taipa and Coloane islands. During 2023, 101,943,096 passengers were carried and 24,529,185 kilometres covered.

To keep in line with the Government's environmental protection policies, Transmac introduced the first extended range electric bus in Macao in 2018. Transmac will continue introducing more energy efficient vehicles that are suitable for Macao.

Macao Light Rapid Transit Corporation Limited

The Government established the Macao Light Rapid Transit Corporation Limited in accordance

with By-law No. 8/2019. Macao Light Rapid Transit Corporation Limited is mainly responsible for building and maintaining the infrastructure and facilities necessary for the operations of the Light Rapid Transit system, as well as the LRT operation management and provision of passenger services. Other extended services include advertising and commercial services. The company is committed to supporting the Government's public transportation policy, thereby elevating people's quality of life and convenience in commuting.

The Macao LRT Taipa line officially commenced operation in December 2019. The line has 11 stations, covering the major residential areas, old districts, and tourist spots of downtown Taipa, linking Macao's three major ports of entry by sea, land and air. In December 2023, the Taipa line was extended to the Barra Station on the Macao peninsula via the lower level of the Sai Van Bridge, increasing the total number of stations to 12 and extending the line length to 12.5 kilometres.

The Macao LRT Taipa Line maintained services of one train every 12 to 13 minutes during 1 January to 7 December 2023. After the line was extended to Barra Station on 8 December, the service schedule was adjusted to one train every 7.5 to 10 minutes. A total of 60,568 train services were provided in 2023, carrying more than 2.47 million passengers.

Taxis

At the end of 2023, Macao had 1,220 licensed black taxis and 300 special taxis. There were 7,939 licensed taxi drivers.

Traffic Management

Transport Bureau

The Transport Bureau was established in May 2008. It is responsible for: studying, planning, promoting and implementing the Government's road transport policies; pursuing road improvements; regulation of vehicles; as well as installing, maintaining and improving transportation and pedestrian infrastructure.

Vehicle Statistics

At the end of 2023, there were 251,867 vehicles on Macao's roads, including 128,542 motorcycles, 116,282 light vehicles and 7,043 heavy vehicles. During the year, 11,974 new vehicles were registered, an increase of 12.93 percent compared to 2022. Of these, 6,107 were motorcycles and 5,507 were light vehicles.

Traffic Monitoring

Traffic management and monitoring are essential for ensuring the safe and orderly operation of the transport system. The Government has installed closed circuit TV (CCTV) and radar speed monitoring systems to monitor traffic conditions on the Macao-Taipa bridges and main roads.

The system includes 50 video cameras and 11 speed monitoring systems on and near the

Friendship Bridge, 111 video cameras and 21 speed monitoring systems on and near the Sai Van Bridge and surroundings, and 18 video cameras and four speed monitoring systems on and near the Ponte Governador Nobre de Carvalho. Also, there are 898 video cameras and 85 speed monitoring radar units; a comprehensive system of 89 monitors at road junctions to detect speeding, vehicles jumping red lights and driving in contravention of road markings; as well as 21 monitors to detect illegal parking, installed in various locations. On the Macao artificial island of Hong Kong-Zhuhai-Macao Bridge, 66 video cameras have been installed.

According to the Public Security Police, during 2023 the monitoring systems identified 12,983 cases of speeding on roads, 1,514 cases of speeding along bridges, 5,091 cases of jumping red lights, and 17,366 cases of illegal parking.

Parking

Macao had 68 public car parks as at 31 December 2023, which together provided 26,975 parking spaces for light vehicles, 697 spaces for heavy vehicles, and 19,324 spaces for motorcycles.

Public Car Parks in Macao	
Name of car park	Available parking spaces
Pak Lane Car Park	507 light vehicles
Pak Tou Car Park	211 light vehicles
Pak Lai Car Park	355 light vehicles
Pak Lik Car Park	417 light vehicles
Pak Lok Car Park	411 light vehicles, 300 motorcycles
Pak Vai Car Park	515 light vehicles, 120 motorcycles
Pak Kai Car Park	208 light vehicles
Pak Wai Car Park	1,019 light vehicles
Pak Keng Car Park	161 light vehicles
Alameda Dr. Carlos d'Assumpcao Car Park	720 light vehicles
Nam Wan (Pak Wu) Car Park	644 light vehicles, 196 motorcycles
Pak Kong Car Park	287 light vehicles, 35 heavy vehicles
Sewage Treatment Plant Car Park	276 light vehicles, 452 heavy vehicles
Vasco da Gama Garden Car Park	250 light vehicles, 218 motorcycles

(Cont.)

Public Car Parks in Macao	
Name of car park	Available parking spaces
Iao Hon Park Multi-Storey Car Park	406 light vehicles, 404 motorcycles
Art Garden Car Park	351 light vehicles, 446 motorcycles
Ferreira do Amaral Roundabout Car Park	247 light vehicles, 580 motorcycles
Ho Yin Garden Car Park	415 light vehicles, 542 motorcycles
Malaca Street Car Park	215 light vehicles, 563 motorcycles
S. Lourenco Market Car Park	60 light vehicles, 74 motorcycles
Estrada Flor de Lotus Heavy Vehicle Car Park	108 heavy vehicles
Macao Science Center Car Park	415 light vehicles, 413 motorcycles
Lido Car Park	62 light vehicles, 24 motorcycles
Transport Bureau Car Park	148 light vehicles, 178 motorcycles
Cheng Choi Building Car Park	304 light vehicles, 518 motorcycles
Mong Sin Block Car Park	133 light vehicles, 231 motorcycles
Almirante Sergio Road Car Park	155 light vehicles, 106 motorcycles
Fai Fu Building Car Park	215 light vehicles, 194 motorcycles
Flor de Lotus Road Car Park	416 light vehicles, 512 motorcycles
Tranquilidade Road Car Park	58 light vehicles, 93 motorcycles
Parque Central da Taipa Car Park	1,343 light vehicles, 1,379 motorcycles
The Taipa Temporary Ferry Terminal Car Park	740 light vehicles, 196 motorcycles
Edifício Mong In Car Park	143 light vehicles, 237 motorcycles
Edifício do Lago Car Park	678 light vehicles, 1,132 motorcycles
Edifício Koi Nga Public Car Park	307 light vehicles, 366 motorcycles
Edifício Ip Heng Public Car Park	389 light vehicles, 606 motorcycles
Edifício Cheng Chong Public Car Park	244 light vehicles, 386 motorcycles

(Cont.)

Public Car Parks in Macao	
Name of car park	Available parking spaces
Edificio Lok Kuan Public Car Park	362 light vehicles, 550 motorcycles
Rua da Ponte Negra Public Car Park	95 light vehicles, 80 motorcycles
Fai Yat Building Public Car Park	259 light vehicles, 228 motorcycles
Cheng Chun Building Car Park	54 light vehicles, 38 motorcycles
Cheng I Building Car Park	283 light vehicles, 286 motorcycles
Iat Seng Building Car Park	292 light vehicles, 315 motorcycles
Chun Shu Mei Car Park	197 light vehicles, 197 motorcycles
Vala Das Borboletas Car Park	369 light vehicles, 165 motorcycles
Iat Fai Building Car Park	59 light vehicles, 132 motorcycles
Alameda da Harmoniai Car Park	209 light vehicles, 146 motorcycles
Rua da Bacia Sul Car Park	306 light vehicles, 214 motorcycles
Fai Ieng Building Car Park	121 light vehicles, 107 motorcycles
Hong Kong-Zhuhai-Macao Bridge Checkpoint Building (West) Car Park	3,089 light vehicles, 2,054 motorcycles
Hong Kong-Zhuhai-Macao Bridge Checkpoint Building (East) Car Park	3,000 light vehicles
Patane Municipal Market Complex Car Park	116 light vehicles, 194 motorcycles
New Wholesale Market Car Park	230 light vehicles, 198 motorcycles
Cheng Tou Building Car Park	80 light vehicles, 83 motorcycles
Border Gate Sports Complex Car Park	788 light vehicles, 800 motorcycles
Bairro da Ilha Verde Building Car Park	1,427 light vehicles, 1,628 motorcycles
Joao Lecaros Car Park	46 light vehicles, 56 motorcycles
Qingmao Checkpoint Public Car Park	158 light vehicles, 207 motorcycles
Mong Tak Building Car Park	476 light vehicles, 280 motorcycles

(Cont.)

Public Car Parks in Macao	
Name of car park	Available parking spaces
Edifício Toi Fai Car Park	105 light vehicles, 119 motorcycles
Mong-Há Sports Centre Car Park	264 light vehicles, 212 motorcycles
A-Ma Transport Interchange Car Park	201 light vehicles, 403 motorcycles
A-Ma Transport Interchange Heavy Vehicle Car Park	27 heavy vehicles
Taipa Estrada Gov. A. Oliveria Heavy Vehicle Car Park	58 heavy vehicles
Rotunda Da Concordia Car Park	198 light vehicles, 104 motorcycles
Macao Cultural Centre Car Park	135 light vehicles, 34 motorcycles
Estrada Gov. A. Oliveria Public Outdoor Car Park	41 light vehicles, 17 motorcycles
Macao Union Hospital Public Car Park	590 light vehicles, 480 motorcycles

As at 31 December 2023, there were 7,544 parking meters for light vehicles, of which 197 were one-hour parking meters, 5,567 were two-hour parking meters and 1,780 were four-hour parking meters. There were 923 non-metered parking spaces. There were 2,976 parking meters for motorcycles, of which 1,686 were two-hour parking meters and 1,290 were four-hour parking meters. There were 28,899 non-metered parking spaces for motorcycles.

Road Safety

The Transport Bureau and law enforcement departments continued promoting the importance of compliance with traffic regulations, thus strengthening the understanding of laws and sense of road safety among local residents. Workshops and talks about road safety were also held in schools, community centres, non-governmental organisations and private organisations, to strengthen the understanding of road safety among local residents. In addition, they utilised various channels such as WeChat public accounts, websites, bus advertisements, newspaper advertisements, and television information programmes to promote traffic safety. Through long-term education, the Transport Bureau aim to enhance road safety awareness among residents and jointly create a safe traffic environment.

In 2023, a total of 123 events promoting traffic safety and knowledge were held. The participants included schools, community organisations, the transportation sector, and other institutions, with

a total of 9,033 participants.

To further enhance road safety awareness among Macao drivers and support the promotion of the mutual driving licence recognition scheme, the Transport Bureau updated the “Guidelines and Rules for Driving in Macao” and produced videos on Macao traffic conditions. The bureau also collaborated with law enforcement, tourism departments, car rental companies, and others to promote information on driving safety and road conditions in Macao.

Cross-border Traffic

Cross-border Land Routes

Five land routes link Macao and mainland China: the Border Gate, the Zhuhai-Macao Cross-border Industrial Zone, Qingmao, the Hong Kong-Zhuhai-Macao Bridge (Zhuhai-Macao border) checkpoint, and the Macao border crossing area of Hengqin.

In 2023, the numbers of arrivals of Macao residents via the Border Gate, Hong Kong-Zhuhai-Macao Bridge (Zhuhai-Macao border), Macao border crossing area of Hengqin checkpoint, Zhuhai-Macao Cross-border Industrial Zone and Qingmao checkpoint were 39,784,660, 2,291,664, 4,129,920, 142,282 and 13,856,542, respectively.

During 2023, there were 22,421,938 visitor arrivals by land, representing an increase of 3.2 times from the previous year’s figure.

Of these, 10,538,358 entered via the Border Gate; tourists from mainland China and Hong Kong represented 90.4 percent and 7.5 percent of the total, respectively.

There were 1,343,150 visitors who arrived via Hong Kong-Zhuhai-Macao Bridge (Zhuhai-Macao border) checkpoint; tourists from mainland China and Hong Kong accounted for 90.5 percent and 8.0 percent of this total, respectively.

There were 6,177,379 visitors who arrived via Hong Kong-Zhuhai-Macao Bridge (Hong Kong-Macao border) checkpoint; tourists from mainland China and Hong Kong accounted for 23.2 percent and 67.3 percent of this total, respectively.

The number of visitors who arrived via the Macao checkpoint of Hengqin Port was 3,130,923, while 7,758 arrived via the Zhuhai-Macao Cross-border Industrial Zone.

There were 1,224,370 visitors who arrived via the Qingmao Checkpoint; tourists from mainland China and Hong Kong accounted for 90.2 percent and 9.8 percent of this total, respectively.

Cross-Border Marine Transportation Services

The Outer Harbour Ferry Terminal, Taipa Ferry Terminal and Inner Harbour Ferry Terminal provide cross-border transportation services for passengers travelling between Macao and Hong Kong and mainland China. Scheduled passenger ferries to Hong Kong and mainland China are operated by the Shun Tak China Travel — Companhia de Gestão de Embarcações (Macao), Limitada; Far East Hydrofoil Company; Hong Kong-Macau Hydrofoil Company; Yuet Tung Shipping Company; and Cotai Waterjets (Macao) Limited.

Outer Harbour Ferry Terminal

The Outer Harbour Ferry Terminal commenced operations in 1993. The terminal has a total floor area of 65,000 square metres, and provides 14 berths and a helicopter pad on its rooftop. The main building is a three-storey building, with the first floor as arrival floor, the second as departure floor and the third as food and beverage, shopping and passenger waiting area. The terminal provides maritime passenger transportation services between Macao and various places including Sheung Wan, Kowloon and Hong Kong International Airport in Hong Kong, Fuyong and Shekou in Shenzhen, and Jiuzhou Port in Zhuhai. Moreover, it also provides helicopter transportation services between Macao and Hong Kong, and between Macao and Shenzhen.

Since the resumption of the ferry services between the Macau Outer Harbour Ferry Terminal and the Hong Kong-Macau Ferry Terminal in January 2023, there were an average of around 54 sailings per day by December 31, 2023, nearly 2.5 times more than when the service first resumed.

Additionally, on 15 December 2023, the ferry route between the Macau Outer Harbour Ferry Terminal and the SkyPier at Hong Kong International Airport resumed, operating on Tuesdays, Wednesdays, and Fridays, with two sailings per day. The ferry routes between the Macau Outer Harbour Ferry Terminal and both Kowloon and Zhuhai Jiuzhou Port remained suspended throughout 2023.

Taipa Ferry Terminal

The Taipa Ferry Terminal commenced operation in June 2017, with a total floor area of 200,000 square metres, 16 berths, three multi-functional berths for ferries and a helicopter pad on its rooftop. The ground floor and first floor serve as the arrival floor and departure floor, respectively, with a food square in the west of the ground floor. The Terminal provides maritime passenger transportation services between Macao and various places including Sheung Wan, Kowloon, Tuen Mun and Hong Kong International Airport in Hong Kong; Fuyong and Shekou in Shenzhen; Humen in Dongguan; and Jiuzhou Port and Guishan Island Port in Zhuhai, to provide leisure cruise services.

The ferry service between Taipa Ferry Terminal and SkyPier at Hong Kong International Airport resumed on 30 December 2022, operating on Tuesdays, Wednesdays, and Fridays, with two round-trip sailings per day. In January 2023, the ferry service between the Taipa Ferry Terminal and the Hong Kong-Macau Ferry Terminal resumed, with an average of 45 sailings per day by 31 December 2023, nearly triple the number when the service resumed.

On 15 July 2023, a new ferry service between Taipa Ferry Terminal and Zhuhai Guishan Island Ferry Terminal was added, operating on Saturdays and Sundays. On 1 December 2023, the ferry service between the Taipa Ferry Terminal and the China Ferry Terminal in Hong Kong resumed, with four sailings per day. On 15 December 2023, the service to Hong Kong International Airport was again suspended; and the services to Tuen Mun in Hong Kong, Humen in Dongguan, and Jiuzhou Port in Zhuhai remained suspended.

Inner Harbour Ferry Terminal

The Inner Harbour Ferry Terminal, which commenced operation in 2008, has a total floor area of

1,200 square metres and two berths. The ground floor is the arrival hall and the first floor is the departure hall. The terminal provides maritime passenger transportation services between Inner Harbour Ferry Terminal and Wanzai in Zhuhai.

Maritime Passenger and Cargo Transportation

In 2023, there were a total of 28,851 ferry sailings between Hong Kong and Macao, and 38,876 ferry sailings between mainland China and Macao.

During 2023, the numbers of arrivals of Macao residents via the Outer Harbour Ferry Terminal, Inner Harbour Ferry Terminal and Taipa Ferry Terminal were 246,999, 240,035 and 122,721, respectively. Regarding visitor arrivals, 3,699,874 passengers arrived in Macao by sea, representing an increase of 21 times compared with the 2022 figure. Of these, 1,337,890 entered Macao via the Outer Harbour Ferry Terminal, 193,932 via the Inner Harbour Ferry Terminal, and 2,168,052 via the Taipa Ferry Terminal.

In 2023, 96,782 containers, holding 144,324 TEUs (twenty-foot equivalent units) were shipped into and out of Macao by sea, representing increases of 12.51 percent and 12.94 percent, respectively, over the 2022 figures.

Yuet Tung Shipping Company Limited and Macau Cruise Development Company Limited commenced operating regular sightseeing maritime routes at the Inner Harbour Ferry Terminal in September 2018 and October 2019, respectively.

Shun Tak China Travel Ship Management (Macao) Limited commenced operating Macao Aquatic Trek charter services at Taipa Ferry Terminal and Coloane Pier in December 2018, and on 1 July 2021 began utilising Barra Pier for passenger embarkation and disembarkation. On 15 July 2023, Yuet Tung Shipping Co. launched a new ferry route between the Taipa Ferry Terminal and Guishan Island in Zhuhai, offering a new island travel option for residents and tourists.

In 2023, there were 629 Macao Aquatic Trek charter services, with a total of 5,339 passengers. On 28 August 2023, Shun Tak China Travel – Companhia de Gestão de Embarcações (Macao) – resumed its Macao Aquatic Trek charter services.

2023 Aquatic Trek services

	No. of Sails	No. of Passengers
January 2023	4	761
February 2023	2	221
March 2023	2	305
April 2023	0	0
May 2023	23	233

(Cont.)

2023 Aquatic Trek services		
	No. of Sails	No. of Passengers
June 2023	24	239
July 2023	19	246
August 2023	13	160
September 2023	36	220
October 2023	113	738
November 2023	177	909
December 2023	214	1,307

Cross-Border Helicopter Services

Helicopters are the most convenient way to travel between Macao and Hong Kong and between Macao and Shenzhen. A Hong Kong-Macao helicopter passenger transportation service was inaugurated in 1990. The Shenzhen-Macao helicopter passenger transportation service was launched in 2002. Currently, there are 54 daily flights between Macao and Hong Kong, and 12 daily flights between Macao and Shenzhen, with flight times of just 15 minutes.

Ports

Outer Harbour

The Outer Harbour is located on the east coast of the Macao peninsula, which is primarily the Outer Harbour Ferry Terminal and designated for scheduled high-speed ferries between Macao and Hong Kong and Pearl River Delta. Its watercourse is 120 metres wide and 4.4 metres deep.

Inner Harbour

Located on the west coast of the Macao peninsula, the Inner Harbour has many piers for loading and discharging cargo, plus Pier 11A, the ferry terminal, used by passenger ferries licensed by the Marine and Water Bureau. The South Sampan Pier between Piers 8 and 9 is used by crewmembers of ships berthed in the Inner Harbour to land and depart. The use of the North Sampan Pier has been suspended from 1 March 2021.

The Macao Channel is 60 metres wide, and its fairway is 55 metres wide and 3.5 metres deep.

Taipa

The Taipa Ferry Terminal is situated on the north-eastern tip of Taipa island, and is exclusively for scheduled high-speed ferries shuttling between Macao and Hong Kong, and between Macao and the Pearl River Delta area. Its fairway is 120 metres wide and 4.4 metres deep.

Ka Ho Harbour

Located on the northeast shore of Coloane island, Ka Ho Harbour consists of the Fuel Oil Terminal, Cement Terminal, Ka Ho Container Port, and Power Plant Terminal. Its approach channel is 75 metres wide and 4.4 metres deep.

Ka Ho Container Wharf and Fuel Oil Terminal

Phase One of Ka Ho Container Wharf commenced operations in December 1991. With a total construction area of 49,524 square metres, it includes a container wharf, container yard and warehouses. At present, it has two berths, of 135 metres and 171.4 metres in length; a 10,428-square-metre cargo working area; a 23,828-square-metre container yard; and 2,850 square metres of cargo warehousing space. The terminal's annual handling capacity is 100,000 TEUs.

In 2023, Ka Ho Harbour handled 27,502 inbound TEUs (twenty-foot equivalent units) and 26,842 outbound TEUs; both figures include re-exports.

The Fuel Oil Terminal commenced operation in June 1995. It can store a wide variety of fuel oil imported into Macao, and can simultaneously load and unload two fuel-carrying vessels. It has 14 storage tanks with a combined capacity of 86,000 cubic metres.

Marine and Water Bureau

The Marine and Water Bureau was created through a restructuring of the former Maritime Administration, and is under the Secretariat for Transport and Public Works of the MSAR Government. It is a public department with administrative autonomy, and is responsible for exercising maritime authority, promoting the development of maritime activities, and coordinating water resources management and water supply.

To promote and assist economic development of the fishery sector, in 2007 the Government promulgated By-law No. 3/2007 to establish the Fisheries Development and Support Fund. The Fisheries Development and Support Fund started to receive applications on 30 April 2007. The loans approved by the end of 2023 totalled around 90.31 million patacas.

Maritime Area Management

The Marine and Water Bureau commissioned professional research institutions from mainland China to conduct studies on the functional zoning and planning of Macao's marine areas. The research aims to provide fundamental data to enable the Marine and Water Bureau to develop plans on marine

zoning based on the functions and the planning of maritime areas. The planning will be based on Macao's marine locations, natural resources, and development and utilisation needs, aligning with national planning policies, adhering to national technical standards, and following the principles and framework of Macao's Maritime Area Management Framework Law.

To implement the specific provisions regarding use of marine areas management outlined in the Maritime Area Management Framework Law, and to establish the regulations for marine area use management, the Marine and Water Bureau has been actively following up regarding the legislative process of the Law on Use of Maritime Areas. Through research and by referencing legislative experiences in mainland China and Portugal, the bureau has proposed a legislative framework for the Law on Use of Maritime Areas.

In December 2022, the Marine and Water Bureau submitted drafts on Marine Zoning Based on Functions; Planning Maritime Areas; and the Law on Use of Maritime Areas to the Central People's Government for their comments. In December 2023, a 50-day public consultation on the aforementioned bills was conducted. After completing the consultation summary report, the bills on Marine Zoning Based on Functions and Planning Maritime Areas will be announced and implemented. The bureau will also actively ensure progress with the legislative process for the Law on Use of Maritime Areas.

Ships

Maritime Registration

By law, all vessels engaged in economic activities – including freighters, passenger vessels, fishing boats and auxiliary boats – must be registered with the Marine and Water Bureau and the Commercial and Movable Goods Registry. The registration procedures are designed to verify conformity with official requirements concerning technology, safety and environmental protection. Maritime registration is a prerequisite for vessels seeking commercial registration. There were 258 registered vessels at the end of 2023.

In addition, maritime and commercial registration is required for vessels over 2.5 metres in length that are used for non-profit-making purposes, such as water sports, fishing or recreational activities. These include ocean-going, coastal, inshore, channel and river pleasure boats. There were 70 registered vessels in this category at the end of 2023, including five that were newly registered.

Seafarer Registration

According to the law, Macao residents aged 18 or above may apply for seafarer registration with the Marine and Water Bureau. All Macao residents who wish to conduct professional maritime activities on commercial vessels, auxiliary boats or fishing boats are required to register with the Marine and Water Bureau beforehand. At the end of 2023, a total of 50 people held seafarer's books issued by the Marine and Water Bureau.

Maritime Training School

The Maritime Training School is Macao's only nautical education institution. Its principal objectives are: provide cultural and professional training in maritime and port activities, organise training activities within the scope of the Marine and Water Bureau's responsibilities, and promote scientific knowledge related to maritime, port, and oceanic matters.

Most of the training school's students are staff members from the Marine and Water Bureau, Macao Customs Service, Fire Service and Public Security Police Force, as well as sailors, fishermen and nautical athletes in Macao. The training school also provides after-school activities for youngsters and students.

During 2023, the school held 22 training courses, for a total of 652 trainees.

Government Dockyard

The Government Dockyard is a department under the Marine and Water Bureau. As well as shipbuilding and ship repairs, it is responsible for maintaining and repairing government vehicles, verifying their status and inspecting them, handling newly purchased vehicles, as well as making and installing vehicle identification plates. At present, most of the vessels built and repaired at the Government Dockyard belong to the Marine and Water Bureau and Macao Customs Service.

In 2023, the Government Dockyard completed the construction of two new vessels – one 38-metre beacon vessel for the Marine and Water Bureau, and one 11-metre fibreglass vessel. It also carried out 217 vessel maintenance projects, 191 of which were completed. The shipyard carried out 1,960 projects concerning examination, maintenance and repair of 1,842 vessels.

Civil Aviation

Civil Aviation Authority

The Civil Aviation Authority was founded on 4 February 1991, in accordance with Decree-Law No. 10/91/M dated 4 February 1991. It is constituted as a public institution under the Secretariat for Transport and Public Works, and it enjoys autonomy over administration, finances and property. It is responsible for directing, controlling and monitoring all civil aviation activities in Macao, and the operations of all aircraft registered in Macao.

Aviation Service

To implement its "Open Skies" policy, the Government has adopted a series of measures to enhance Macao's civil aviation infrastructure network. Every effort has been made to attract additional investment from domestic and foreign airlines, to promote the use of Macau International Airport, and to enhance the development of passenger and cargo transportation.

By 31 December 2023, Macao had initialled air services agreements with 50 nations and regions, 41 of which had been officially signed.

Signatories of Air Services Agreements with Macao	
Nation	Signing date
Brazil	15/07/1994
Finland	09/09/1994
Austria	04/11/1994
Belgium	16/11/1994
The Netherlands	16/11/1994
Luxembourg	14/12/1994
New Zealand	09/03/1995
Portugal	31/08/1995
Switzerland	05/09/1995
Singapore	27/10/1995
Malaysia	31/10/1995
Thailand	01/11/1995
United States	03/07/1996
Vietnam	07/08/1996
Germany	05/09/1996
DPR Korea	08/12/1996
Denmark	11/12/1996
Sweden	11/12/1996
Norway	11/12/1996
South Korea	03/04/1997
The Philippines	18/07/1997
India	11/02/1998
Nepal	19/02/1998

(Cont.)

Signatories of Air Services Agreements with Macao	
Nation	Signing date
South Africa	04/04/1998
Brunei	24/05/1998
United Arab Emirates	06/12/1998
Russia	21/01/1999
Myanmar	12/03/1999
Australia	24/08/1999
Poland	22/10/1999
Pakistan	15/11/2000
Czech Republic	25/09/2001
Cambodia	12/12/2001
United Kingdom	19/01/2004
Iceland	13/07/2004
Maldives	16/01/2006
France	23/05/2006
Sri Lanka	08/06/2006
Mongolia	27/06/2006
Japan	10/02/2010
Laos	25/06/2013
Oman	Initialled
Indonesia	Initialled
Israel	Initialled
Greece	Initialled
Slovakia	Initialled

(Cont.)

Signatories of Air Services Agreements with Macao	
Nation	Signing date
Cape Verde	Initialled
Chile	Initialled
Turkey	Initialled
Qatar	Initialled

As at 31 December 2023, two airlines were registered in Macao and providing flight services: Air Macao Company and Sky Shuttle.

The fleets and scheduled flight services of the two companies were as follows:

Airline	Fleet	Destinations
Air Macao Co, Ltd	6 x Airbus A320 4 x Airbus A320neo 8 x Airbus A321 4 x Airbus A321neo	Shanghai (Pudong, Hongqiao), Beijing (capital, Daxing), Hangzhou, Xiamen, Nanjing, Ningbo, Chengdu, Nanning, Chongqing, Taiyuan, Tianjin, Zhengzhou, Changzhou, Qingdao, Fuzhou, Wenzhou, Yiwu, Nantong, Guiyang, Taipei, Kaohsiung, Tokyo, Osaka, Hanoi, Da Nang, Singapore, Bangkok (Suwannahum, Don Mueang), Seoul and Jakarta.
Sky Shuttle (Helicopter service)	2 x Agusta AW139	Hong Kong and Shenzhen

The numbers of pilots licensed by the Civil Aviation Authority, as at 31 December 2023, were:

Airline	Number of licensed pilots
Air Macau Company Limited	168
Sky Shuttle	4
Total	172

Macao International Airport is located at the eastern end of Taipa island and neighbouring waters. The terminal building was constructed on a rock-cut platform at Ponta da Cabrita, while the apron was built on reclaimed land. East of the apron, the air-traffic control building, control tower and ancillary fire station are on Kia Kiong Islet. The runway is on an artificial island linked to the apron by two taxiway bridges.

The main fire station is on the runway island, next to the oblique taxiway. The airport is within easy reach of the Macao peninsula, the Outer Harbour and Zhuhai via motorway, the Friendship Bridge and the Lotus Flower Bridge. Commuting time from each of these points is less than 20 minutes.

Macao International Airport handled 5.15 million passengers during 2023, 760 percent more than in 2022. Its cargo volume was 63,810 tonnes, representing an increase of 24 percent. A total of 42,504 flights took off or landed, representing an increase of 212 percent.

The number of private and commercial air charters increased from 90 in 2022 to 813 in 2023, representing an increase of 803 percent.

Air Traffic Control

Since it opened in 1995, the airport's air traffic control system has followed the International Civil Aviation Organization standards, to ensure service efficiency and flight safety. Air traffic control facilities include secondary surveillance radar, ground radar and the Automatic Terminal System. Telecommunications facilities include AMHS, while air-ground communications facilities include a UHF radio station, and navigation facilities include a Doppler VHF omnidirectional radio range (DVOR) apparatus and Instrument Landing System.

The zone with Macao's air traffic control service is classified as Category-C under International Civil Aviation Organization (ICAO) standards. The keyhole-shaped air traffic zone is centred on Macao International Airport. It extends up to an altitude of 3,000 feet and a radius of five nautical miles. The western boundary is a straight line parallel to and three nautical miles from the runway. To the south, the zone forms a rectangle five nautical miles wide and extending southwards for 10 nautical miles.

Macao's air traffic zone lies between the Hong Kong and Guangzhou flight information zones. All aircraft, including helicopters entering Macao airspace, are supervised by the airport control tower. Arriving and departing aircraft can land or take off from both the southern and northern approaches. The mainland China authorities control air traffic to the north of Macao's air zone, while traffic to the south is controlled by the Civil Aviation Department of Hong Kong. Since traffic in the Pearl River Delta airspace is busy and complex, the air-traffic control authorities of Macao, mainland China and Hong Kong must work closely to ensure the safety and efficiency of air traffic control in Macao and the neighbouring air zones.

Aircraft Noise

Macao International Airport was constructed offshore and far from residential communities, avoiding the need to install soundproofing. However, to protect Zhuhai from noise pollution caused

by northbound flights taking off from the runway, aircraft are not allowed to pass the 231-degree radial line of Zhuhai's Jiuzhou omni-directional beacon station.

Aviation Security

To optimise the regulatory framework for civil aviation security, By-law No. 16/2022 – “Air Transport Facilitation and Civil Aviation Security Systems” and Executive Order No. 68/2023 – “Macao Special Administrative Region Civil Aviation Security Programme (MCASP)” were promulgated. Additionally, several aviation notices were issued, including technical requirements, standards, measures, and procedures, to ensure that civil aviation operations are protected from unlawful interference. Various aviation industry operators also developed their own security programmes in accordance with the related laws and regulations to ensure civil aviation is safeguarded from unlawful interference.

Macau International Airport Company

Macau International Airport Company (CAM) has been appointed by the Government to operate Macau International Airport. It was responsible for the airport's construction, and it is now responsible for its operation. The Government approved the company's application in 2001 to extend its franchise by a further 25 years, to 2039.



LRT Barra Station





At 6:30am on 8 December 2023, the first train from the LRT Barra Station to Taipa Ferry Terminal departs, marking the official extension of the Macao LRT Taipa line service to Barra Station. The opening of Barra Station is a milestone in connecting Taipa and the Macao peninsula with the LRT service for the first time, and establishes the first cross-harbour section of the LRT line. Trains travel between Barra Station and the Taipa line's Oceano Station via the lower deck of the Sai Van Bridge. The entire Taipa line now connects 12 stations, and has a total length of approximately 12.5 kilometres, with the maximum journey time increased to approximately 27 minutes.