STRATEGIC ENVIRONMENTAL ASSESSMENT ON THE NATIONAL TRANSPORT MASTER PLAN 2030

ENVIRONMENTAL REPORT

Version 2: January 2026

Report Reference:

Adi Associates Environmental Consultants Ltd, 2026. Strategic Environmental Assessment on the National Transport Master Plan 2030. Environmental Report Version 2. San Gwann, January 2026; ix + 124pp + 2 Appendices.

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Quality Assurance

Strategic Environmental Assessment on Malta's Transport Master Plan 2030
Environmental Report
January 2026

Report for: **Transport Malta**

Revision Schedule

Rev	Date	Details	Written by:	Checked by:	Approved by:
00	Oct 2025	Submission to Client	**Rachel Xuereb** Director	**Andrea Pace** Planning Consultant	**Adrian Mallia** Managing Director
00	Jan 2026	Final	**Rachel Xuereb** Director	**Andrea Pace** Planning Consultant	**Adrian Mallia** Managing Director

File ref: G:_Active Projects\SEA\TM0030 - SEA of TMP changes 2024\Environment Report\Environmental Report TMP Jan 2026.docx

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CONTENTS

FIGURES

TABLES

APPENDICES

ACRONYMS

AA	Appropriate Assessment
AEI	Area of Ecological Importance
AAI	Area of Archaeological Importance
AHLV	Area of High Landscape Value
BAU	Business-As-Usual
BYM	Base Year Model
CBD	Convention on Biodiversity
CO	Carbon monoxide
CO_2	Carbon dioxide
DS	Do-Something
EC	European Commission
EIA	Environmental Impact Assessment
ERA	Environment & Resources Authority
EWA	Energy & water Agency
EU	European Union
EV	Electric Vehicle
GHG	Greenhouse Gas
GI	Green Infrastructure
GRDP	Greening Regional Development Programme
HFC	Hydrofluorocarbons
HGV	Heavy Goods Vehicle
IBA	Important Bird Area
IPCC	Intergovernmental Panel on Climate Change
LDV	Light-duty vehicle
LN	Legal Notice
LULUCF	Land–use, Land-use Change and Forestry
MDG	Millennium Development Goal
MEPA	Malta Environment & Planning Authority

NA	Not applicable
NASA	National Aeronautics and Space Administration
NECP	National Energy and Climate Plan
NF_3	Nitrogen trifluoride
NFRP	National Flood Relief Project
NGO	Non-Governmental Organisation
NH_3	Ammonia
NMVOC	Non-Methane Volatile Organic Compounds
NO_x	Nitrogen oxides
NO_2	Nitrogen dioxide
N_2O	Nitrous oxide
NSO	National Statistics Office
NTS	National Transport Strategy
O_3	Ozone
P and R	Park and Ride
PM	Particulate matter
PT	Public Transport
R&I	Research and Innovation
RDP	Rural Development Programme
RES	Renewable Energy Sources
SAC	Special Area of Conservation
SDS	Sustainable Development Strategy
SEA	Strategic Environmental Assessment
SF_6	Sulphur hexafluoride
SO_2	Sulphur Dioxide
SSI	Site of Scientific Importance
TEN-T	Trans-European Network - Transport
TM	Transport Malta
TMP	Transport Master Plan
UK	United Kingdom
UN	United Nations

UCA	Urban Conservation Area
UNESCO	United Nations, Educational, Scientific and Cultural Organisation
UNFCCC	United Nations Framework Convention on Climate Change
VOCs	Volatile organic compounds
WCMP	Water Catchment Management Plan
WFD	Water Framework Directive
WSC	Water Services Corporation

1. CHAPTER 1 – INTRODUCTION

1.1. The objective of the Strategic Environmental Assessment (SEA) Directive is to provide a high level of protection to the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans and programmes with a view to promoting sustainable development. SEA is the process of evaluating the environmental impacts of any proposed plan / programme likely to have significant effects on the environment. The SEA process helps to inform the decision-making process and the final plan / programme. In addition, the SEA process aims to increase public involvement in decision making at a strategic level.

THE SEA PROCESS

1.2. The SEA on Malta's Transport Master Plan 2030 (TMP) started in December 2024, when Adi Associates Environmental Consultants Ltd was awarded the contract to carry out the SEA.

1.3. The SEA involves several key stages, as described in **Table 1.1**. Importantly, the *Scoping stage* aims to agree the scope and level of detail of information to be included in the Environmental Report. It is one of the most important stages in the process as it identifies the issues for consideration in the Environmental Report. Although no longer a legal requirement, it is considered good practice to clearly document the scoping process. Preparation of the *Environmental Report* commences once all relevant information is collected.

Table 1.1: Key stages in the SEA process

Stage in SEA Process	Details of Process Required
Screening	Screening is required to determine whether the proposed plan/programme is likely to have significant environmental effects and whether an SEA is required.
Scoping	Scoping enables the coverage and level of detail of the Environmental Report to be determined in conjunction with the statutory consultee/s.
Environmental Report	The Environmental Report details the anticipated environmental impacts of the programme and any proposed amendments to the plan to mitigate its effects. It must be consulted upon.
Adoption	The Adoption Report details the results of consultation; how comments have been incorporated into the programme; the final programme; and the proposals for monitoring the environmental impacts of the programme.
Monitoring	The Monitoring stage is undertaken during implementation of the programme and serves to identify the level of monitoring required and, should adverse impacts be identified, any remediation proposals.

1.4. A Scoping Report was prepared and is included in **Appendix 1.**

1.5. This Environmental Report is based on the Scoping Report. It outlines the assessment of the impacts of the TMP on various environmental parameters, as

described in **Chapter 7**. Public consultation on the TMP and the Environmental Report has been carried out concurrently.

Guidance

1.6. Guidance on SEA for Malta has not yet been published. The Environmental Report therefore draws on other European Guidance, namely, the Greening Regional Development Programme (GRDP) (2006) "*Handbook on SEA for Cohesion Policy 2007-2013*", the Commission's "*Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*"[1] and the UK's (2005) "*A Practical Guide to the Implementation of the SEA Directive*".

STRUCTURE OF ENVIRONMENTAL REPORT

1.7. The structure of the Environmental Report has been developed following consideration of European Guidance and as described in the Scoping Report. The Environmental Report structure is detailed below:

- Non-technical summary;
- Glossary of abbreviations;
- **Chapter 1** – Introduction (overview of the TMP and its purpose; layout of report);
- **Chapter 2** – Summary of the TMP and its context (brief description of the TMP and related documents);
- **Chapter 3** – Methodology (identification of main options: approach taken, who has been consulted, and when);
- **Chapter 4** – Baseline environmental information and trends (and limitations of data), including evolution of baseline without the implementation of the TMP;
- **Chapter 5** – SEA objectives and context (key environmental aspects, relevant environmental objectives and criteria, and likely environmental implications without the SEA);
- **Chapter 6** – Assessment of alternatives, including reasons for selecting alternatives dealt with;
- **Chapter 7** – Assessment of environmental effects and proposed mitigation;
- **Chapter 8** – Recommendations; and
- **Chapter 9** – Monitoring requirements.

[1] DG Environment ,Implementation of Directive 2001/42/EC on the assessment of the efffects of certain plans and programmes on the Environment

2. CHAPTER 2 – MALTA'S TRANSPORT MASTER PLAN 2030

INTRODUCTION

2.1. This chapter describes the Transport Master Plan[2]. It also gives an overview of the Operational Objectives and related measures.

MALTA'S TRANSPORT MASTER PLAN 2030

2.2. The six Strategic Goals and the eight Guiding Principles set out in the National Transport Strategy (NTS) 2050 remain relevant for the development of the different transport sectors over the longer term. The TMP builds on this Strategy.

2.3. The TMP contains 6 Sections as follows:

- Section 1: Current Situation of the Transport Sector;
- Section 2: Defining Operational Objectives;
- Section 3: Forecasting;
- Section 4: Maintenance;
- Section 5: Delivery and Timelines; and
- Section 6: Conclusion.

2.4. Building on the foundations of the 2025 Plan, the TMP strategic framework aligns Malta's transport policies with socio-economic, environmental, and EU objectives. It integrates lessons from past initiatives and addresses evolving challenges to outline a roadmap for Malta's transport future. Since the implementation of the 2025 Master Plan, Malta has gone through a series of significant, transformative changes, including major infrastructural projects, such as the Marsa Junction and Santa Lucija tunnels. Maritime upgrades have taken place including the onshore power supply for ports and new ferry services between Malta and Gozo. Public transport, both land-based and sea-based, is now provided free of charge for local residents.

2.5. Despite progress, significant challenges remain:

- Dependence on private vehicles: high car ownership and urban congestion persist, exacerbated by population growth.
- Environmental impacts: the ageing vehicle fleet and increased traffic volumes contribute to air quality concerns and carbon emissions.

[2] Version dated 16th June 2025

- Infrastructure constraints: limited land availability and urban density pose barriers to expanding transport networks.
- Climate vulnerability: rising sea levels and extreme weather events threaten transport infrastructure.

2.6. The TMP envisions a multi-modal transport system, focusing on:

1. Sustainability: embedding climate adaptation, renewable energy, and low-emission transport into infrastructure planning.
2. Accessibility and Inclusion: enhancing public transport coverage, integrating active mobility routes, and ensuring equitable transport access.
3. Technological Advancements: expanding ITS deployment, real-time data systems, and electric vehicle (EV) infrastructure.
4. Asset Management: prioritising preventive maintenance and performance-based frameworks to sustain infrastructure quality.
5. Public Transport and Active Mobility: expanding bus networks, promoting park-and-ride schemes, and improving cycling and pedestrian infrastructure.

2.7. The Plan includes a demand-supply forecast, addressing growth scenarios and impacts on traffic, the environment, and safety. Investments focus on completing the TEN-T Core network, electrifying the bus fleet, expanding EV charging infrastructure, and modernising maritime and aviation hubs.

2.8. The objectives of the TMP are to:

- Put in place and maintain a strategic framework for the integrated, long-term planning and design of Malta's transport network;
- Identify new and sustainable financing mechanisms;
- Incorporate climate adaptation and mitigation in the long-term planning and design of Malta's transport network;
- Establish and maintain a framework (strategic and procedural) for research and innovation in transport;
- Explore the establishment of a single transport accident safety investigation entity covering all modes;
- Develop and maintain a high-quality network in line with the EU's TEN-T network;
- Develop a safe, accessible network of infrastructure for cycling, walking and micro-mobility;
- Promote the use of cycling, walking and micro-mobility as alternatives to private

car journeys;

- Improve service quality and modal share along strategic routes by introducing public transport quality corridors;
- Improve public transport service quality to and between strategic employment nodes, services outside the inner harbour regions and peripheral residential areas;
- Improve physical accessibility of public transport service;
- Reduce the impact of clustering unscheduled public transport, particularly in tourism hot-spots and commercial areas;
- Improve intermodal seamless mobility (travel information, journey planning services and multi-modal ticketing);
- Improve the quality of the environment at primary and secondary public transport hubs;
- Reduce the role of the car in urban centres and on congested inter urban routes to increase space for other modes;
- Reduce the adverse environmental, social and economic impacts of motorised modes, both in urban areas and on the wider road network;
- Promote, facilitate and incentivise the purchase and use of zero-emission vehicles to replace internal combustion engine vehicles for personal/passenger use;
- Ensure a robust framework is followed for road safety strategy, regulation and enforcement;
- Ensure effective and efficient management of roads and related equipment ensuring quality and sustainability of investment through regular maintenance;
- Raise the level of standard and resources applied to traffic management to address congestion, correct use of traffic lanes, manage diversions and road works and effectively manage incidents;
- Identify new technology and data management techniques to efficiently monitor, report and fine traffic violations;
- Reduce the impact of goods-carrying vehicles on urban areas and the road network;
- Ensure efficiency of freight deliveries;
- Ensure the Internal Maritime Sector is backed by long-term planning to support long term mobility patterns, safety, and security;
- Improve data collection and use across ports and harbours to inform planning and

operation of maritime transport and infrastructure;

- Improve operations and enforcement so that internal maritime transport is properly regulated and monitored;
- Reduce the adverse environmental, social, and economic impacts of internal maritime navigation;
- Develop and maintain the Ports of Valletta and Marsaxlokk in line with EU TEN-T Policy;
- Provide alternative fuel infrastructure to promote efficiency and competitiveness at TEN-T maritime ports;
- Increase efficiency and innovation of the maritime administration to maintain sectoral competitivity;
- Ensure equipment, tools and human resources for the use, monitoring and enforcement of maritime areas are updated and to improve safety and security;
- Reduce the adverse environmental, social and economic impacts of external maritime navigation, particularly on the nearby urban areas;
- Safeguard space within the airport and its contiguous area to ensure developments support long-term sustainable growth in the aviation sector;
- Develop and maintain the Malta International Airport in line with EU TEN-T Policy;
- Provide alternative fuel infrastructure at the TEN-T Core Airport;
- Improve availability and access to aviation transport statistics;
- Improve air connectivity for commercial passengers, freight and business travellers; and
- Provide sustainable aviation fuel (SAF) infrastructure to promote efficiency and competitiveness.

2.9. Within each of these objectives there are identified issues and a number of measures as described below.

Table 2.1: List of Proposed Measures

	A	B	C	D	E
1	**Theme**	**Objective No.**	**Objective**	**Measure No.**	**Measure**
2	Strategic Policy Framework / Planning	2.2.1	Put in place and maintain a strategic framework for the integrated, long-term planning and design of Malta's transport network	2.2.1.1	Set up a Monitoring framework to ensure the successful implementation of the Plan
3				2.2.1.2	Transport Malta and MTIP to work in collaboration with key stakeholders to implement and monitor a framework within the spatial planning process in order to promote greater transit-oriented development.
4				2.2.1.3	Conduct, collate, and analyse a National Household Travel Survey and publish a report every five years to help identify the travel and transport trends of the national population
5				2.2.1.4	Conclude development of design guidelines for infrastructure on local streets, including those to promote a balanced approach to different modes
6		2.2.2	Identify new and sustainable financing mechanisms	2.2.2.1	Carry out a Transport System Public Finance Review to understand the efficiency, effectiveness and equity of public spending in the transport sector
7		2.2.3	Incorporate climate adaptation and mitigation in the long-term planning and design of Malta's transport network	2.2.3.1	As part of the Transport System Public Finance Review, analyse how considerations at the planning and design stage can reduce retrofitting costs and aid in climate change adaptation and resilience
8				2.2.3.2	Monitor the share of GHG emissions from transport that could be mitigated by the measures recommended in this master plan and, therefore, fairly contribute to climate change targets
9		2.2.4	Establish and maintain a framework (strategic and procedural) for research and innovation in transport	2.2.4.1	Set up a transport research and innovation body to improve links with research institutions and encourage research, testing and piloting of innovative technology and solutions in the transport sector
10				2.2.4.2	Develop Transport Malta's in-house capability for data analytics
11				2.2.4.3	Set up and maintain a centralised open database for transport data and statistics
12		2.2.5	Explore the establishment of a single transport accident safety investigation entity covering all modes	2.2.5.1	Establish a Transport Safety Investigation Commission and a programme of work for this body that has sufficient resources to remain functionally, financially and legally distinct from the regulatory bodies
13				2.2.5.2	Transport Safety Investigation Commission to contribute to the action plan for response to national disasters and accidents on strategic infrastructure
14		2.2.6	Develop and Maintain a High Quality Road Network in line with the EU TEN-T Policy	2.2.6.1	Completion of the TEN-T Core Road Network by 2030 and Extended Core Road Network by 2040
15				2.2.6.2	Completion of the TEN-T Comprehensive Road Network by 2050
16				2.2.6.3	Completion of other strategic road Infrastructure projects – Non-TEN-T
17				2.2.6.4	Complete and publish a review of the road classification system that is currently underway
18	Land Transport - Active Travel and Micromobility	2.3.1	Develop safe, accessible network of infrastructure for cycling, walking and micro-mobility	2.3.1.1.	Publish the National Cycling Strategy
19				2.3.1.2	Develop and implement a Pedestrian and Cycling Infrastructure Plan and define and implement active mobility routes across the Maltese Islands
20		2.3.2	Promote the use of cycling, walking and micro-mobility as alternatives to private car journeys	2.3.2.1	Develop and uphold design guidelines for active travel infrastructure, parking, and storage, incorporating best practices for cycling, walking and micro-mobility
21				2.3.2.2	Set minimum level provision of active travel facilities required at government offices and commercial developments
22				2.3.2.3	Ensure Integration of the Malta Road Code
23				2.3.2.4	Review and implement enforcement regime to prevent other road users from using active mobility infrastructure
24				2.3.2.5	Run an awareness campaign for the benefits of active mobility
25				2.3.2.6	Promote active travel at schools
26				2.3.2.7	Plan and implement an annual active travel day and further promote active mobility activities.
27				2.3.2.8	Explore further financial incentives for the purchase of electric bikes and e-scooters
28				2.3.2.9	Improve the vertical and pedestrian connectivity between the Sliema-Valletta ferry service in Valletta and the city centre

	A	B	C	D	E
29	Land Transport - Public Transport and Shared Mobility Services	2.4.1	Improve service quality and modal share along strategic routes by introducing public transport quality corridors	2.4.1.1	Draft a new national public transport strategy for the Maltese Islands, with periodic reviews
30				2.4.1.2	Evaluate and redesign the current public transport network
31				2.4.1.3	Assess the feasibility of a Mass Rapid Transit system in Malta
32				2.4.1.4	Carry out in-depth analysis on the prioritisation of public transport over other motorised modes
33		2.4.2	Improve public transport service quality to and between strategic employment nodes, services outside the inner harbour regions and peripheral residential areas	2.4.2.1	Implement Intelligent Transportation System technologies across the public transport network to support the efficiency and punctuality of public transport services
34				2.4.2.2	Use data from the public transport operator to quickly adapt bus routes timetables and combined frequencies to temporal and seasonal demand changes and identify additional PTQC
35				2.4.2.3	Run public awareness campaign to promote bus travel and feeder services as an alternative to private car
36				2.4.2.4	Evaluate the use of parking facilities integrated with the public transport network to manage congestion in dense urban areas
37		2.4.3	Improve physical accessibility of public transport service	2.4.3.1	Review design of Valletta public transport hub to ensure adequate shelter and facilities in extreme weather
38				2.4.3.2	Ensure requirements in the EU Accessibility Act 2019 (EUAA) is reflected in relevant national standards and policies
39		2.4.4	Reduce the impact of clustering unscheduled public transport particularly in tourism hot-spots and commercial areas	2.4.4.1	Evaluate school transport services
40				2.4.4.2	Facilitate a scaling up of a national carsharing/liftsharing/ car club scheme
41	Multimodal	2.5.1	Improve intermodal seamless mobility (travel information, journey planning services and multi-modal ticketing)	2.5.1.1	Collect and consolidate all public transport route and scheduling data into a single platform
42				2.5.1.2	Facilitate the provision of journey planning and ticketing information at key transport hubs such as ferry ports
43		2.5.2	Improve the quality of the environment at primary and secondary public transport hubs	2.5.2.1	Carry out an accessibility audit of all transport hubs to improve the environment for pedestrians, cyclists and vulnerable road users, as well as those with mobility impairments.
44	Land Transport - Private Transport / Road General	2.6.1	Reduce the role of the car in urban centres and on congested inter urban routes to increase space for other modes	2.6.1.1	Study the feasibility of Green Travel Plans at new and existing developments that are high-volume travel generators
45	Land Transport - Public Transport and Shared Mobility Services			2.6.1.2	Implement awareness campaign around carpooling journeys in connection with green travel plans
46	Land Transport - Private Transport / Road General			2.6.1.3	Carry out an assessment of parking provision in Malta and develop a comprehensive national parking/travel demand management strategy
47	Land Transport - Private Transport / Road General			2.6.1.4	Review and update parking standards to facilitate greater transit oriented development
48	Land Transport - Private Transport / Road General	2.6.2	Reduce the adverse environmental, social and economic impacts of motorised modes, both in urban areas and on the wider road network	2.6.2.1	Continue contributing to the alignment with air quality plans for areas that will exceed EU air quality standards in 2030
49	Land Transport - Private Transport / Road General			2.6.2.2	Carry out a feasibility study for a Low Emission Zone within the Northern /Southern Harbour Region. Follow with a Pilot a Low Emission Zone within the Northern Harbour/Southern Harbour region
50	Land Transport - Private Transport / Road General			2.6.2.3	Align transport policies with noise action plans to ensure that Malta will comply with the EU Noise Directive
51	Land Transport - Private Transport / Road General	2.6.3	Promote, facilitate and incentivise the purchase and use of zero-emission vehicles to replace internal combustion engine vehicles for personal/passenger use	2.6.3.1	Review the current approach to providing incentives to promote Malta's fleet renewal to cleaner vehicles, and update as necessary to increase uptake of zero emission vehicles in Malta by 2030
52	Land Transport - Private Transport / Road General			2.6.3.2	Maintain and adapt as required, the substitution requirements on importers of road diesel and petrol
53	Land Transport - Private Transport / Road General			2.6.3.3	Support the implementation of an EV charging infrastructure deployment plan for road transport that is aligned with Malta's National Energy and Climate Plan

	A	B	C	D	E
54	Land Transport - Private Transport / Road General			2.6.3.4	Develop a transition plan to ensure the replacement of all public sector (Government and Local/Regional Authority) vehicles with zero emission alternatives by 2030
55	Land Transport - Private Transport / Road General			2.6.3.5	Collaborate with the private sector to launch an Electric Vehicle Skills and Capacity Building Programme
56	Land Transport - Road Safety, Management and Enforcement	2.7.1	Ensure a robust framework is followed for road safety strategy, regulation and enforcement	2.7.1.1	Review and update the Road Safety Strategy for Malta
57				2.7.1.2	Review and update road specifications and standards in line with European guidance and road safety commitments.
58				2.7.1.3	Increase operational capacity within the Transport Malta enforcement section
59				2.7.1.4	Monitor fine levels and penalty points to ensure they provide the appropriate deterrents for specific road traffic offences
60				2.7.1.5	Implement recommendations and investment plan from iRAP road network assessment
61				2.7.1.6	Investigate and report the overall EuroNCap rating of the Maltese vehicle fleet including a review of the mechanisms, such as incentives, through which it can be improved to enhance road safety
62		2.7.2	Ensure effective and efficient management of roads and related equipment ensuring quality and sustainability of investment through regular maintenance	2.7.2.1	Carry out a needs-based analysis in terms of the appropriate number of weighbridges and weigh-in-motion systems for use at maritime terminals and weigh-in-motion systems on TEN-T road network
63				2.7.2.2	Implement an advanced digital asset management system and the road network, which enables better asset performance management, performance analysis and investment planning
64				2.7.2.3	Improve stormwater management in local roads to prevent flooding and avoid degradation of road surfaces
65				2.7.2.4	Review existing guidelines and develop an action plan to improve the quality of street furniture and information
66		2.7.3	Raise the level of standard and resources applied to traffic management to address congestion, correct use of traffic lanes, manage diversions and road works and effectively manage incidents	2.7.3.1	Update traffic management guidelines to improve traffic management and safety during road works
67				2.7.3.2	Introduce a new digital road permits system to assist in permanent and temporary traffic management
68				2.7.3.3	Integrate Intelligent Transport Systems in traffic management (ITS) to improve safety and efficiency of the transport network
69		2.7.4	Identify new technology and data management techniques to efficiently monitor, report and fine traffic violations	2.7.4.1	Continue to update Malta's Speed Camera framework to technical developments
70				2.7.4.2	Investigate and introduce technology to reduce labour-intensive enforcement (e.g. for red light and bus lane cameras)
71	Land Transport - Freight and Logistics	2.8.1	Reduce the impact of HGVs and LDVs on urban areas and the road network	2.8.1.1	Develop a national low emission logistics action plan, aligned with the anticipated uptake of zero emission vehicles in accordance with the EU's Clean Vehicles Directive (Directive (EU) 2019/1161)
72				2.8.1.2	Evaluate the current scrappage scheme for older commercial vehicles
73				2.8.1.3	Assess the impact of freight and logistics movements during peak hours on Malta's road network
74				2.8.1.4	Assess the status of overnight on-street parking of HGVs and opportunities for safe off-street overnight parking at existing parking sites
75		2.8.2	Ensure efficiency of freight deliveries	2.8.2.1	Facilitate the setting up a national freight forum by the private sector to improve urban logistics
76				2.8.2.2	Study the feasibility of logistics hubs in industrial areas and last-mile deliveries to surrounding urban areas
77		2.9.1	Ensure the Internal Maritime Sector is backed by long-term planning to support long term mobility patters, safety and security	2.9.1.1	Maximising sea links for passengers and goods using alternative transport modes
78				2.9.1.2	Assess the potential of underutilised port areas, new ferry-landing sites and improve the capacity of domestic ports in line with EU TEN-T Policy
79				2.9.1.3	Review the financial sustainability of Malta-Gozo Ferry Services to develop a business model that minimises the need for government financial support
80				2.9.2.1	Maintain and explore further improvements to the framework for collation, analysis and dissemination of meteorological and hydrographic data to support planning, design and operations of internal maritime transport

	A	B	C	D	E
81	Maritime - Internal Maritime	2.9.2	Improve data collection and use across ports and harbours to inform planning and operation of maritime transport and infrastructure	2.9.2.2	Collaborate with port concessionnaires/operators to understand data gaps and determine methods to collect the missing data.
82				2.9.2.3	Evaluate and review the current monitoring and management of vessels within territorial waters to increase the safety of navigation and minimise risks at sea
83				2.9.2.4	Evaluate and improve the utilisation of the National Single Window
84		2.9.3	Improve operations and enforcement so that internal maritime transport is properly regulated and monitored	2.9.3.1	Establish clear guidelines with port infrastructure users for operators to be aware of and use infrastructure within design limits
85		2.9.4	Reduce the adverse environmental, social, and economic impacts of internal maritime navigation	2.9.4.1	Undertake a feasibility study to review opportunities for low-emission or zero-emission infrastructure, vehicles and vessels for internal maritime transport
86				2.9.4.2	Develop and implement an internal maritime sustainability plan
87	Maritime - External Maritime	2.10.1	Develop and Maintain the ports of Valletta and Marsaxlokk in line with EU TEN-T Policy	2.10.1.1	Develop and implement an External Maritime Action Plan until 2030 that is aligned with a wider National Maritime Transport Policy.
88				2.10.1.2	Improve efficiency of infrastructure at the TEN-T Core Port of Valletta
89				2.10.1.3	Improve efficiency of infrastructure at the TEN-T Core Port of Marsaxlokk
90		2.10.2	Provide alternative fuel infrastructure to promote efficiency and competitiveness at TEN-T maritime ports	2.10.2.1	Implement a shore power supply at the Grand Harbour and Marsaxlokk
91		2.10.3	Increase efficiency and innovation of the maritime administration to maintain sectoral competivity	2.10.3.1	Improve efficiency and quality of maritime administration through digitisation of the ship registration system and Transport Malta's Merchant Shipping Directorate
92				2.10.3.2	Launch a Maritime Skills Development Programme
93				2.10.3.3	Create an infrastructure asset management database system that details all port infrastructure and equipment
94		2.10.4	Ensure equipment, tools and human resources for the use, monitoring and enforcement of maritime areas are updated and to improve safety and security	2.10.4.1	Ensure equipment and tools for the monitoring and enforcement of maritime areas are updated and enable the required regulatory control to ensure safety and security
95		2.10.5	Reduce the adverse environmental, social and economic impacts of external maritime navigation, particularly on the nearby urban areas	2.10.5.1	Implement and enhance pollution mitigation measures as set out in the European Green Deal
96				2.10.5.2	Explore incentives and disincentives to encourage port operators to upgrade their equipment / facilities to reduce pollution and support transition to zero-emission fuels and infrastructure
97	Airports and Aviation	2.11.1	Safeguard space within the airport and its contiguous area to ensure developments support long-term sustainable growth in the aviation sector	2.11.1.1	Develop an action plan that implements the measures under the ICAO and EASA regulations
98				2.11.1.2	Introduce a digital aviation register
99		2.11.2	Develop and Maintain Malta International Airport in line with EU TEN-T Policy	2.11.2.1	Improve efficiency of infrastructure at the TEN-T Core Airport
100				2.11.2.2	Carry out feasibility studies subject to the revised Airport Master Plan on the development of the route network of the airport
101				2.11.2.3	Ensure safeguarding of the safety of aviation services when integrating new aviation technologies
102				2.11.2.4	Ensure that airport infrastructures and operations continue to comply with the conditions established in their planning and operational conditions
103				2.11.2.5	Encourage the use of less noisy ground equipment
104		2.11.3	Provide alternative fuel infrastructure at The TEN-T Core Airport	2.11.3.1	Encourage the replacement or deployment of zero-emission airside and landside vehicles at the TEN-T Core airport
105				2.11.3.2	Encourage the TEN-T Core Airport to in implementing the other measures of its Net Carbon Zero Plan
106		2.11.4	Improve availability and access to aviation transport statistics	2.11.4.1	Continue with the inclusion of contract clauses requiring concessionaires and contractors to provide regular information to the authorities
107		2.11.5	Improve air connectivity for commercial passengers, freight and business travellers	2.11.5.1	Ensure air connectivity with Gozo
108				2.11.5.2	Maintain the establishment of new bilateral agreements with non-EU countries
109				2.11.5.3	Continue to encourage route development to attract new aviation services
110				2.11.5.4	Review opportunities to support business aviation through the development of parking and lounge improvement for business persons
111				2.11.5.5	Explore the use of emerging Advanced Air Mobility (AAM) technologies for passenger and freight transport in Malta
112		2.11.6	Provide sustainable aviation fuel (SAF) infrastructure to promote efficiency and competitiveness	2.11.6.1	Ensure the deployment of SAF at the TEN-T Core airport is in line with EASA Regulations
113					

RELATION OF THE TRANSPORT MASTER PLAN TO OTHER NATIONAL DOCUMENTS & LEGISLATION

2.10. Schedule 2 of the SEA Regulations requires a discussion of "*the degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources" and "the relevance of the plan or programme for the implementation of Community legislation on the environment, such as plans and programmes linked to waste-management or water protection*".

2.11. A detailed analysis was carried out at the scoping stage and is presented in its entirety in the Scoping Report (see **Appendix 1**). The analysis was subdivided into the following main categories:

(i) **International Commitments**: this category covered the international environment and sustainability policy framework within which Malta must work. It included a selection of global commitments, such as those arising from the Millennium Development Goals (MDGs), UN Framework Convention on Climate Change (UNFCCC) and Kyoto Protocol.

(ii) **EU requirements**: relevant EU communications were included. In the case of European Union Directives already transposed into national legislation, the Directives *per se* were not discussed; the section on national legislation is described below;

(iii) **National Environmental & Planning Documents**, including the *Strategic Plan for the Environment & Development*, the *National Sustainable Development Strategy*, the *National Environment Policy* and the *National Energy & Climate Plan*. The review provided herein summarised the key issues raised in these documents; further information can be obtained from the original documents;

(iv) **National Sectoral Policies and Strategies**: this category covered highest-level policy and strategy documents published by the Government, such as the *National Strategic Plan*. Rather than summarise entire documents, this review sought to emphasise the key sustainability objectives and priorities;

(iv) **National legislation**: no attempt was made to assess the individual regulations, as is done at the project level EIA (Environmental Impact Assessment). However, the main areas of concern for the TMP were highlighted. Given the scale (and evolutionary nature of this field), this review was not exhaustive and represented a current (December 2024) snapshot.

3. CHAPTER 3 – METHODOLOGY

INTRODUCTION

3.1. This chapter describes the approach adopted in this SEA, the SEA process itself, its limitations, and the consultation process.

3.2. As discussed in **Chapter 1**, the SEA process in Malta is regulated by the SEA Regulations S.L. 549.61; this Legal Notice transposes Council Directive 2001/42/EC[3]. Since guidance on SEA for Malta has not yet been published, this assessment draws on other European Guidance, namely, the Greening Regional Development Programme's (GRDP) (2006) "*Handbook on SEA for Cohesion Policy 2007- 2013*", the Commission's "*Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*", and the UK's (2005) "*A Practical Guide to the Implementation of the SEA Directive*".

3.3. As mentioned, this SEA began in December 2024; the Consultants (Adi Associates Environmental Consultants Ltd) have carried out the SEA in consultation with the proponents of the Plan.

DETERMINING THE SCOPE OF THE SEA

3.4. The scope of the SEA is identified in the Scoping Report for the TMP. The Scoping Report identifies a range of relevant polices and plans that could be influenced by, or which could influence, the TMP.

3.5. The Scoping Report also contains an initial list of key environmental issues that were identified, and reasons for their inclusion in the Scoping Report are also provided. SEA objectives and indicators were also described. Monitoring, based on the chosen SEA indicators, will provide information on the effectiveness of the TMP in achieving the SEA objectives.

CONSULTATION

3.6. In addition to the general public, the following entities were specifically consulted on the Environmental Report, which includes the respective designated authorities as required by S.L. 548.61 article 7(3):

- SEA Focal Point;
- Environment & Resources Authority;
- Planning Authority;

[3] Directive 2001/42/EC of the European Parliament and of the Council 27th June 2001on the assessment of the efffects of certain plans and programmes on the Environment

- Climate Action Authority;
- Infrastructure Malta;
- Ministry for Transport, Infrastructure and Public Works;
- Ministry for the Environment, Energy and Regeneration of the Grand Harbour;
- Energy & Water Agency;
- Regulator for Energy and Water Services;
- Ministry for Health and Active Ageing;
- Environmental Health Directorate;
- Ministry for Gozo and Planning; and
- Superintendence of Cultural Heritage.

ASSESSMENT PROCESS

3.7. The SEA process provides the start of the 'green thread', having identified:

a) potential environmental impacts that could result from the implementation of the specific objectives of the TMP;

b) various mitigation strategies and measures that could be used to minimise or negate the impacts of these actions; and

c) a number of future areas or activities for which further environmental assessments may be required before and during the implementation of the TMP.

Link to other assessments

3.8. The SEA takes into account environmental issues in accordance with Schedule I(f) of the SEA Regulations, S.L. 549.61

ALTERNATIVES

3.9. The SEA Directive requires the assessment to identify the likely significant effects on the environment of implementing the plan or programme, as well as considering reasonable alternatives, taking into account the objectives and the geographical scope of the plan or programme. **Chapter 6** provides an assessment of alternatives considered when developing the TMP.

4. CHAPTER 4 – ENVIRONMENTAL BASELINE

INTRODUCTION

4.1. A good understanding of the environment of the areas covered by the SEA is essential for the performance of a sound assessment. It is therefore necessary to establish the environmental baseline relevant to the plan or programme being proposed. This provides a snapshot of the existing state of the environment and a description of the likely future trends (based on past trends) without the programme being in place.

4.2. Schedule I of the SEA Regulations requires that the Environmental Report includes a description of "*the relevant aspects of the current state of the environment*". This Chapter provides summary information on the current state of Malta's environment, environmental trends (where available), and indicates those issues that are considered to be of particular relevance to the development of the TMP.

4.3. The data replicated here were collated from a number of sources; the SEA relies on existing data. The description provided below is essentially a broad-brush[4] "State of the Environment" review of the Maltese Islands, focusing on the main environmental issues.

4.4. Malta's Sustainable Development Vision for 2050 identifies the country's environmental challenges; it arises from the Sustainable Development Act (Chapter 521). This legislative framework mandates the Government to "mainstream Sustainable Development across the workings of Government, to raise awareness of sustainable development issues and practices across society". Malta's *National Environmental Policy 2012* further strengthens the environmental pillar of the Sustainable Development Strategy and seeks to integrate environment and development policies within the context of Europe 2020.

4.5. The National Strategy for the Environment (NSE) is another policy document of relevance, which lays down the strategic policy direction for Malta's environment till 2050 by setting out long-term Strategic Goals, while defining Strategic Objectives that outline how this is going to be achieved. In November 2020, a Wellbeing First Vision for Malta's Environment 2050 was adopted which envisages a future where strategic alignment across government entities creates a robust policy framework that contributes to an improved quality of life that endorses environmental limits. The NSE, which is mandated by Article 45 of the Environment Protection Act (Cap. 549), translates this vision into a strategic policy direction for the environment. The NSE is therefore a national environmental policy that aims to organise and incorporate

[4] This broad-brush review does not purport to be a complete treatise of environmental data available for the Maltese Islands but aims solely to give an overview of the main environmental issues and trends applicable to the sector under review in this SEA. Hence, there may be documents, papers, or reports that are not referenced or referred to in this Environmental Report; this does not in any way devalue the content of this environmental baseline.

environmental goals into all levels of national policy through eight primary pillars known as Strategic Goals. The Strategic Goals lay out a roadmap to enable and empower changes required to support an environmental transformation over a generation, along with supporting strategic objectives that focus on the major environmental challenges.

4.6. The following environmental parameters were identified:

- Air quality;
- Climatic factors and climate change;
- Energy-efficiency and renewable energy resources;
- Biodiversity, including the marine environment;
- Freshwater;
- Waste;
- Land use;
- Soils;
- Landscape;
- Cultural heritage;
- Population and human health; and
- Material assets.

4.7. On the basis of the above, and the scope of the SEA, **Table 4.1** shows how the Environmental Report draws together the relevant issues and baseline data.

Table 4.1: Environmental baseline

Issue	Relevant baseline data	Illustrative material
Biodiversity / fauna and flora	• Areas protected and managed under international and local legislation • Areas known to support priority Annex I habitats and/or Annex II species under the Habitats Directive • Overall conservation status and trends of habitats and species of importance • Protected species • Areas for which surveys have been carried out • Natura 2000 network	Designated, managed and surveyed areas; where relevant, any data related to areas, habitats and/or species that are not formally protected although they are considered to be of conservation value, will be included

Issue	Relevant baseline data	Illustrative material
Emissions to air and climate change	• GHG inventory • Air emissions inventory • Emissions from various sectors in particular the transport sector • Coastal erosion, sea level rise, changing weather patterns resulting from climate change • Energy from renewables • Energy consumption	Graphs and figures
Water	• Freshwater and marine ecosystems • Groundwater bodies • Surface water bodies (including linear) • Water Framework Directive targets, objectives, protected areas	Maps / graphs / tables
Soil	• Contamination of soil • Soil erosion • Soil sealing • Soil Organic Matter	Published data and figures
Landscape	• Areas protected for landscape value	Landscape sensitivity areas and protective designations
Cultural heritage	• Sites protected for cultural heritage & cultural landscape • Intangible cultural heritage linked to the rural environment/landscape	Maps
Human health	• Air quality	Graphs and tables Published data
Material assets and population	• Transport infrastructure (air, land and sea) • Vehicle ownership • Modal split • Green infrastructure • Population density	Maps and figures

4.8. Where possible, quantitative data are presented in the form of maps, tables and figures. A brief description of the baseline and any trends are given, where available.

LIMITATIONS OF DATA

4.9. The data used to formulate the environmental baseline were collated by a range of organisations, for a number of purposes. No information was collated specifically for the assessment of the environmental impacts of the TMP; however, given the specificity of the sector, much of the information collected to date has a direct bearing on what the TMP aims to achieve, thus facilitating the inference of relationships between changes in the environmental baseline recorded and the

potential effects of the TMP.

BIODIVERSITY

4.10. Malta's natural environment can be characterized under three subcategories including terrestrial, freshwater and marine habitats. Forest and natural areas cover only 0.7% and18% of Malta's surface area respectively[5]. Nonetheless, the Islands have a rich biodiversity, which includes a large number of native plants and animals.

4.11. The local terrestrial vegetational assemblages are composed by three groups: (i) major communities that are part of the succession towards climax communities; (ii) minor communities that are either specialised to occupy particular habitats, or occupy habitats that are rare, or are relics from a previous ecological regime, and; (iii) vegetational assemblages of disturbed habitats, which owe their existence to anthropogenic activities. The main vegetational assemblages are maquis, garrigue and steppe, whilst minor ones include patches of woodland, coastal wetlands and saline marshlands, freshwater and rupestral communities and sand dunes. Marine habitats on the other hand include seagrass meadows, algal forests, reefs, caves and sediments.

4.12. Since joining the European Union in 2004, Malta carried out three assessments in line with the Habitats Directive Article 17. Relevant reports on implementation measures were published in 2007, 2013 and 2019 (https://cdr.eionet.europa.eu/mt/eu/art17).

4.13. The figure below presents the conservation status of habitats and species for 2007 – 2012 and 2013 – 2018. In the subsequent sections the last two assessments will be compared to identify any changes. It should be noted that the two assessments are not necessarily directly comparable due to potential changes in methods and data.

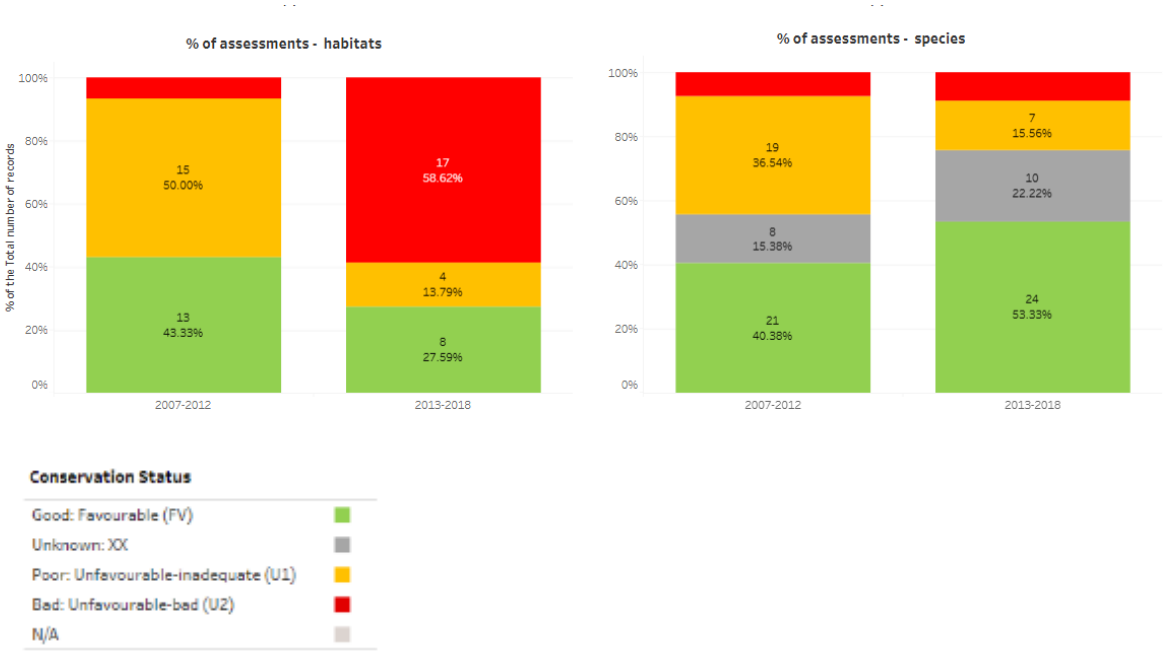
4.14. The 2013 assessment was based on 30 habitats and 52 species of community interest, whilst the 2019 assessment was based on 29 habitats and 45 species of community interest. The deterioration in the conservation status of the habitats between the two assessments is conspicuous. On the other hand, there appears to be an improvement in the conservation status of the species.

4.15. The habitats and the species that were deemed as having an unfavourable conservation status, were further analysed to determine which exhibit stability, improvement, or deterioration, or, in some cases, 'indeterminate' as it is not known whether they are stable or changing. Most habitat and species assessments that were classified to have an unfavourable conservation status in both reporting periods did not show signs of improvement or deterioration and remained stable throughout the

[5] ERA (2018) Land and Coast (Chapter 4) State of the Environment Report https://era.org.mt/en/Pages/State-of-the-Environment-Report-2018-Summary-and-Chapters.aspx

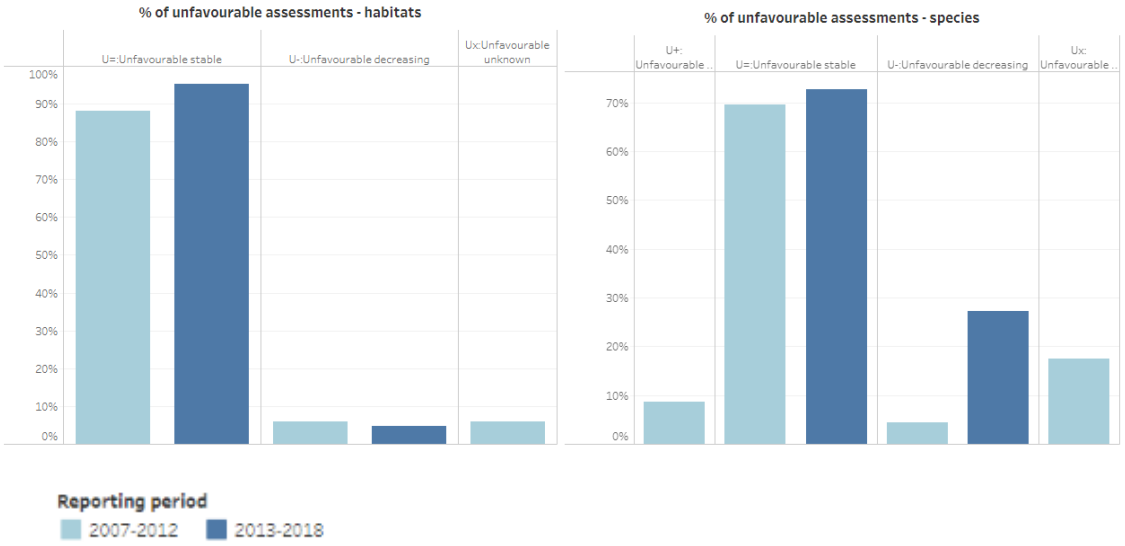
reporting period.

Figure 4.1: Overall assessment of conservation status



Source: European Environment Agency (2019) https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends

Figure 4.2: Overall trend in unfavourable conservation status



Source: European Environment Agency (2019) https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends

4.16. The table and figure below show the conservation status and trends for the different habitat assessments between 2013 and 2018 as per habitat group. The statistics on the assessments undertaken show that the rocky habitats are in the most favourable

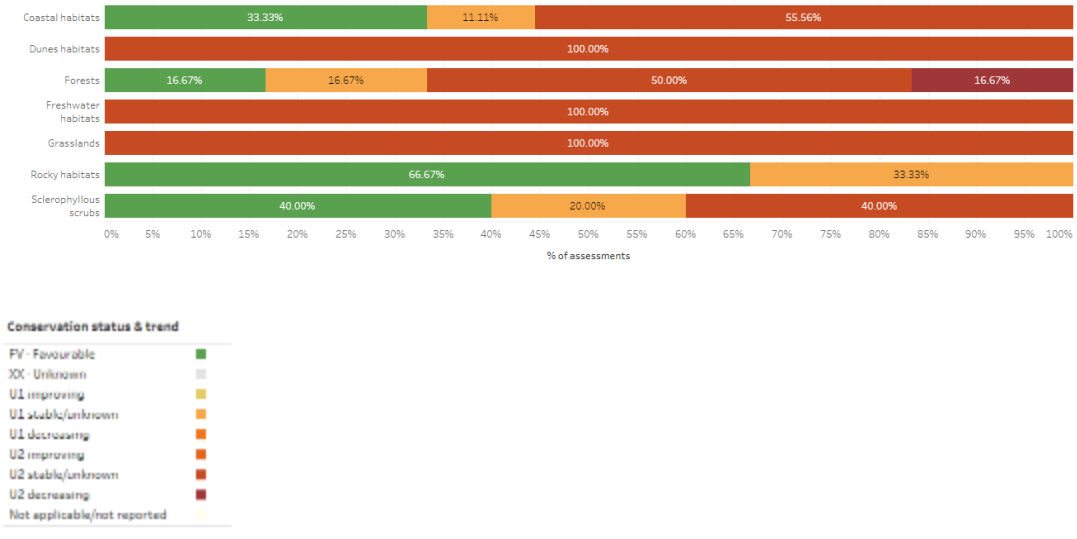
conditions.

Table 4.2: Number of habitat assessments in categories of conservation status and trend in CS

	Favourable	Unfavourable-inadequate - stable	Unfavourable - bad - stable	Unfavourable - bad - decreasing	Total
Coastal	3	1	5		9
Dunes habitats			3		3
Forests	1	1	3	1	6
Freshwater habitats			2		2
Grasslands			1		1
Rocky habitats	2	1			3
Sclerophyllous scrubs	2	1	2		5
Total	**8**	**4**	**16**	**1**	**29**

Source: European Environment Agency (2019) https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends

Figure 4.3: Habitat conservation status and trend in conservation status



Source: European Environment Agency (2019) https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends

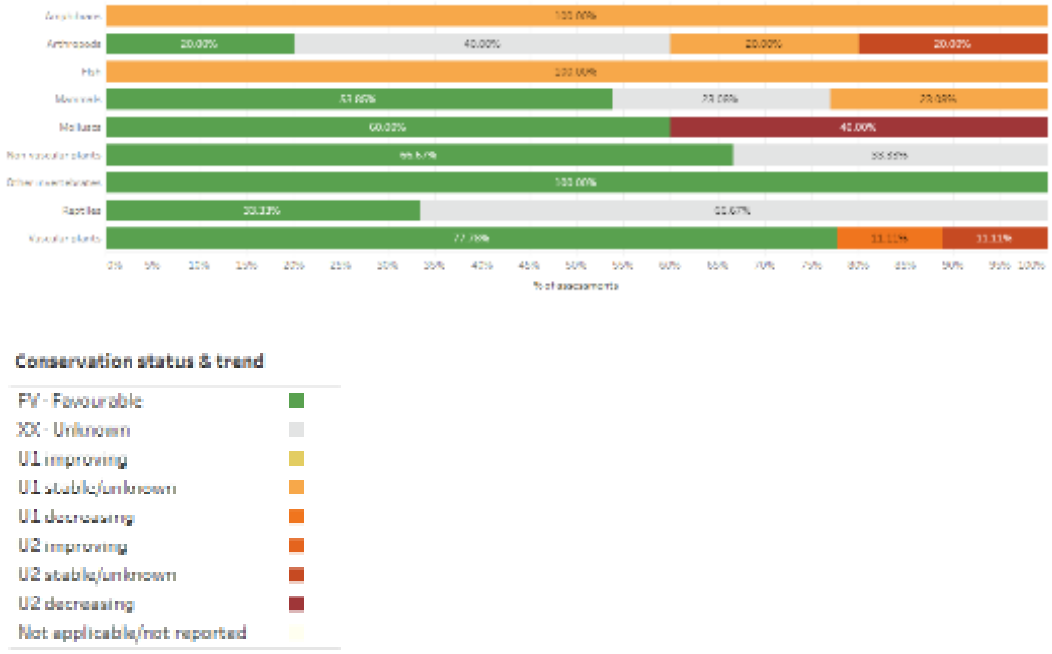
4.17. Similarly, the table and figure below show the conservation status and trends for the different species assessments between 2013 and 2018 as per species group.

Table 4.3: Number of species assessments in categories of conservation status and trend in CS

	Favourable	Unknown	Unfavourable – inadequate - stable	Unfavourable – inadequate - decreasing	Unfavourable - bad - stable	Unfavourable - bad - decreasing	Total
Amphibians			1				1
Arthropods	1	2	1		1		5
Fish			1				1
Mammals	7	3	3				13
Molluscs	3					2	5
Non-vascular plants	2	1					3
Other invertebrates	2						2
Reptiles	2	4					6
Vascular plants	7			1	1		9
Total	**8**	**4**			**16**	**1**	**29**

Source: European Environment Agency (2019) https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends

Figure 4.4: Species conservation status and trend in conservation status



Source: European Environment Agency (2019) https://www.eea.europa.eu/themes/biodiversity/state-of-nature-in-the-eu/article-17-national-summary-dashboards/conservation-status-and-trends

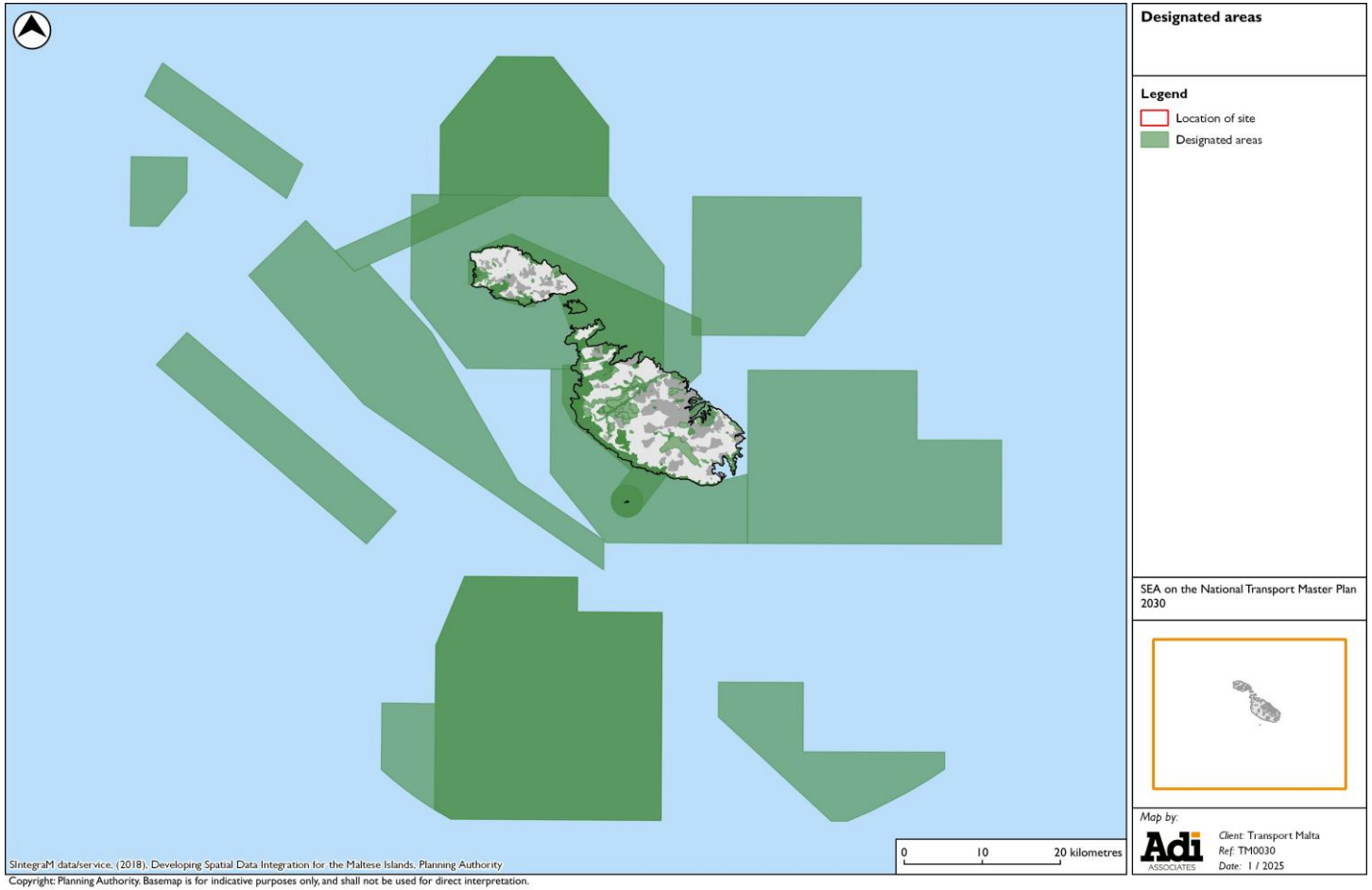
Protected areas

4.18. Biodiversity is safeguarded mainly through the protection and management of sites and areas. **Figure 4.5** illustrates the designated and managed areas on the Islands. The protected areas cover 29.0 per cent of the total land cover, 13.8 per cent of which are part of the EU Natura 2000 network[6].

4.19. As of 2024, Malta has 54 Special Areas of Conservation (SACs): 40 of international importance and 14 of national importance[7], see **Figure 4.6**. There are 22 Special Protection Areas. There are also 42 Areas of Ecological Importance (AEI) and Sites of Scientific Importance (SSIs), 24 AEIs, and 10 SSIs, 60 Tree Protection Areas and four Nature Reserves across the Islands. Beaches and swimming areas (including 11 specifically named beaches) are also protected from hunting activities[8].

[6] These figures do not consider the Special Areas of Conservation – National Importance approved in 2024 (G.N. 399 of 2024). Spatial datasets have not been updated with the new sites to date. Nonetheless some of the sites overlap with other designations.
[7] Inclusive of the 2024 Special Areas of Conservation – National Importance.
[8] ERA (2018) Biodiversity (Chapter 8) State of the Environment Report

Figure 4.5: Designated areas



Source: European Environment Agency, Common Database of Designated Areas (CDDA) 2023-2024. Retrieved 08 January 2025 from https://www.eea.europa.eu/en/datahub/datahubitem-view/f60cec02-6494-4d08-b12d-17a37012cb28

Figure 4.6: Natura 2000 sites

Source: European Environment Agency, Common Database of Designated Areas (CDDA) 2023-2024. Retrieved 08 January 2025 from https://www.eea.europa.eu/en/datahub/datahubitem-view/f60cec02-6494-4d08-b12d-17a37012cb28

4.20. Another important aspect of the Maltese Islands in relation to biodiversity is the river valleys. Notwithstanding the size of the Islands, it has been calculated that there are a 100 km of river valleys[9].

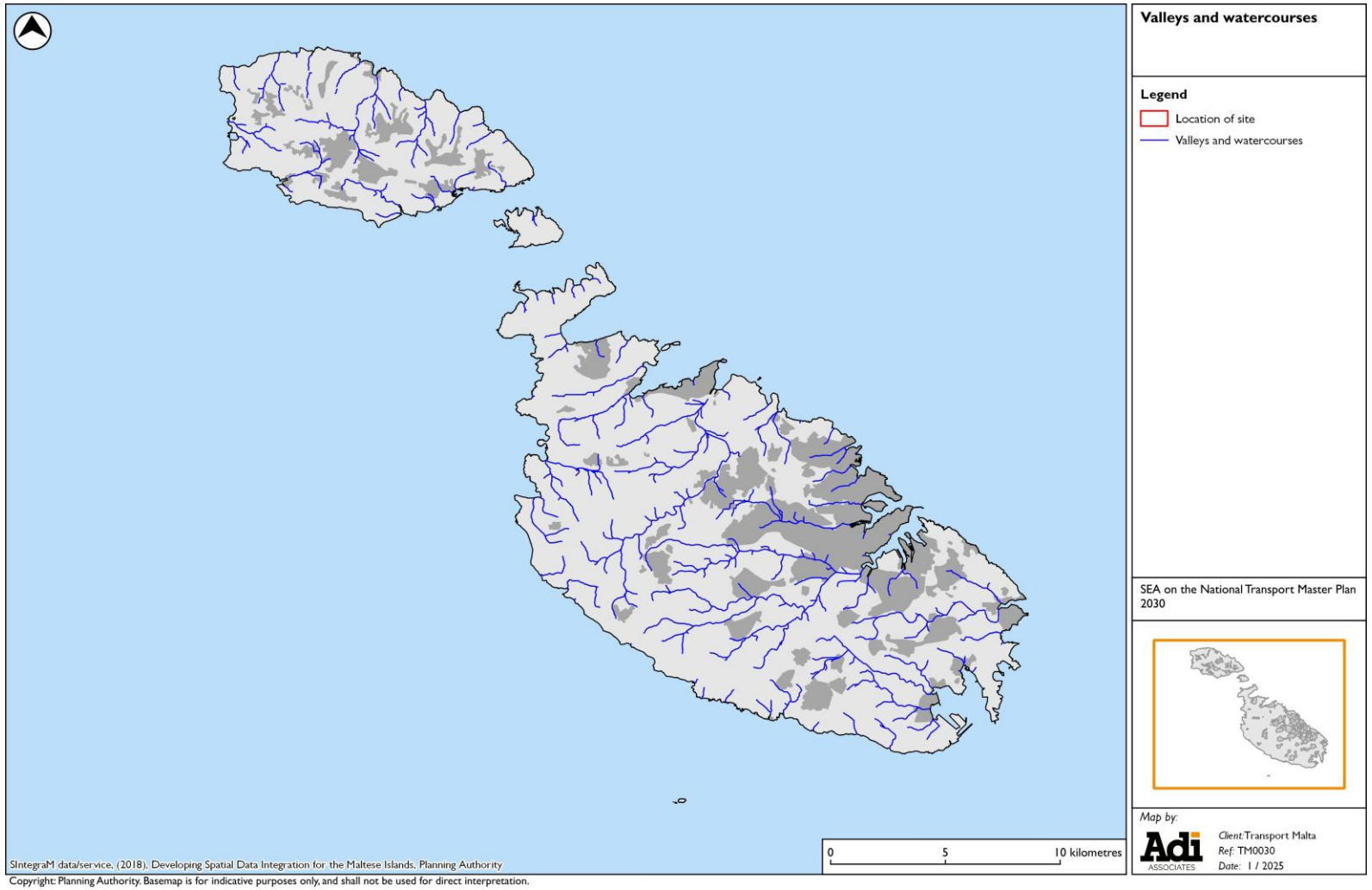
4.21. Malta has three main *widien* systems: River Għasel System, River Kbir System, and River Sewda System. There are other smaller *widien* across the Maltese Islands. **Figure 4.7** shows the valleys and watercourses present in the Maltese Islands.

4.22. River valleys support a number of habitats and species. The different floral habitats within the river valley systems include those along and in streams, in damp places, and in shaded valleys, etc.; rock pools; valley woody plants; valley plants of rocky places; valley plants of arid places (where there is some habitat overlap with valley plants of rocky places); valley plants of the fields etc.; valley plants of waste places; valley plants of grassy places; and valley plants of more general habitats[10].

4.23. Other important areas that are not protected are the green spaces within the urban areas. Some of these areas are designated as Strategic Open Gaps / Public Open Spaces under their relevant Local Plans or scheduled for their architecture (in the case of gardens); however, there is no proper protection of green spaces. Green spaces in urban areas are important for aesthetic, health, and for recreational reasons; they are also important from an ecological point of view.

[9] Haslam, S.M. and Borg, J. (1998) *The River Valleys of the Maltese Islands: Environment and Human Impact*. Published by the Islands and Small States Institute of the Foundation for International Studies, Malta in collaboration with CIHEAM, Bari, Italy.
[10] Ibid.

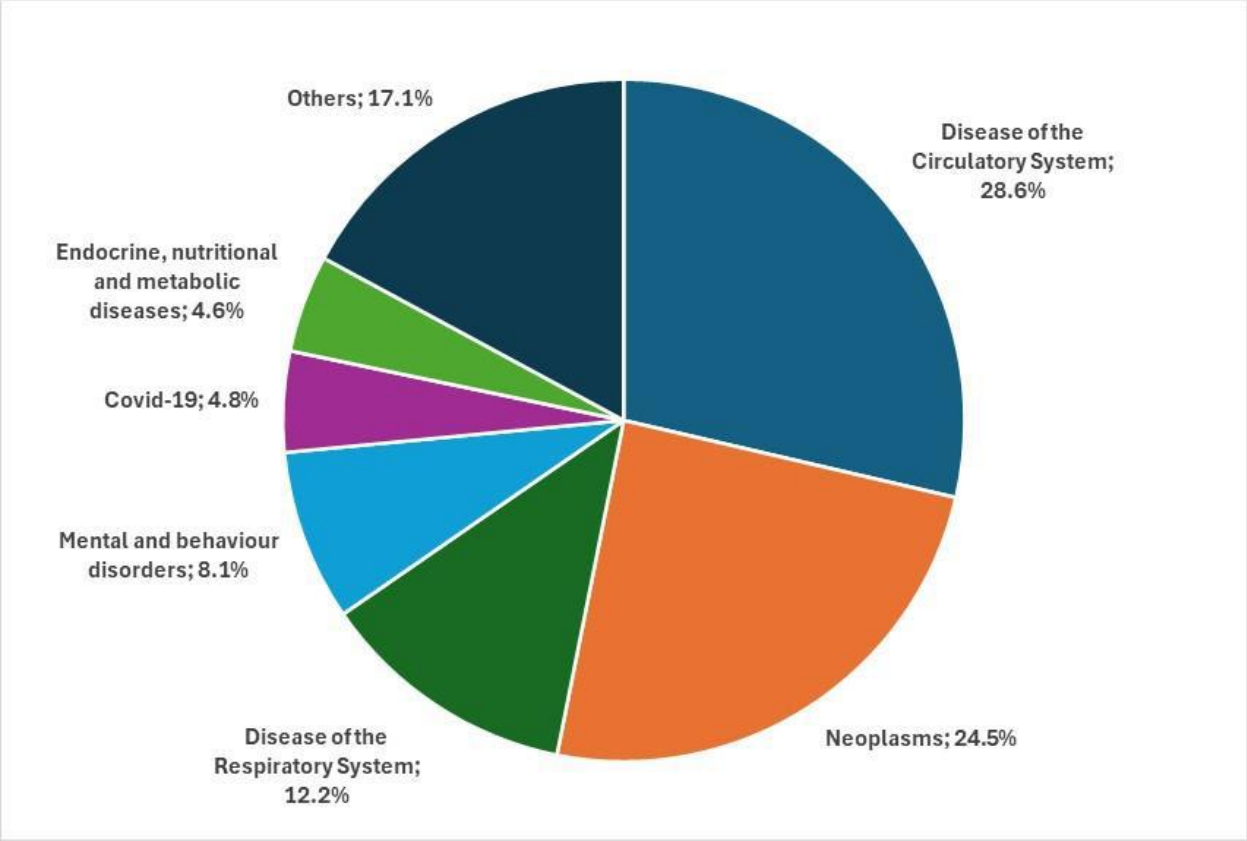
Figure 4.7: Valleys and watercourses in the Maltese Islands



HUMAN HEALTH AND POPULATION

4.24. In 2025, the life expectancy at birth is of 83.63 year[11]. The main cause of death in 2022 was disease of the circulatory system (28.6%) followed by neoplasms (24.5%)[12], see **Figure 4.8**.

Figure 4.8: Major causes of death: 2022



Source: Directorate for Health Information and Research (2024) Annual Mortality Report 2022

[11] United Nations, Department of Economic and Social Affairs, Population Division (2024). *World Population Prospects: The 2024 Revision*. Retrieved 09 January 2025 from https://population.un.org/dataportal/data/indicators/61/locations/470/start/1990/end/2025/table/pivotbylocation?df=6e8a6356-8b0d-4f73-ad4b-c649660aa863

[12] Directorate for Health Information and Research (2024) Annual Mortality Report 2022

Noise Pollution

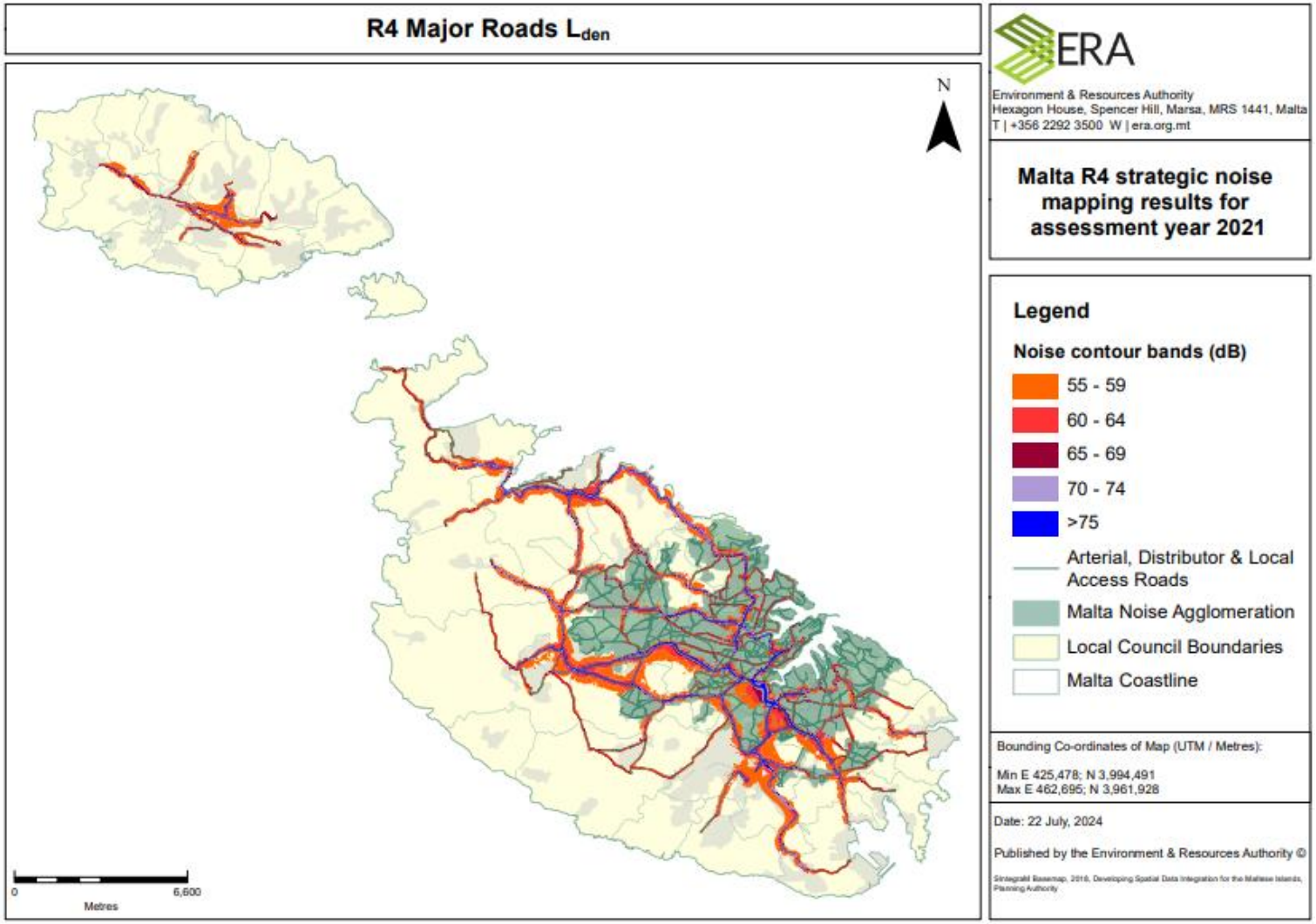
4.25. In line with the Noise Directive, Malta must adopt a policy that safeguards existing low background environmental noise, and to identify and reduce noise levels where they are excessive. To this end the Government has prepared 'strategic noise maps' for major roads and agglomerations, see **Figure 4.9** to **Figure 4.13**. These strategic noise maps are useful to inform the public and the decision-makers alike, to develop action plans for the purpose of managing noise exposure and to assist the European Commission in developing the European noise policy.

4.26. The analysis of the 2024 noise mapping exercise has been presented in the *Noise Action Plan: Malta Agglomeration 2019-2024*[13]. The number of people living within dwellings, the number of dwellings and the area within the noise agglomeration were categorised in 5 dB bands starting from 55 dB for L_{Den} and 50 dB for L_{night}. This exercise was undertaken to analyse exposure to noise from air traffic, industry, roads within the agglomeration and major road traffic. Sensitive locations such as schools and hospitals were also analysed.

4.27. Analysis of the strategic noise maps has shown that the dominant source of noise exposure within the Malta noise agglomeration is from road traffic.

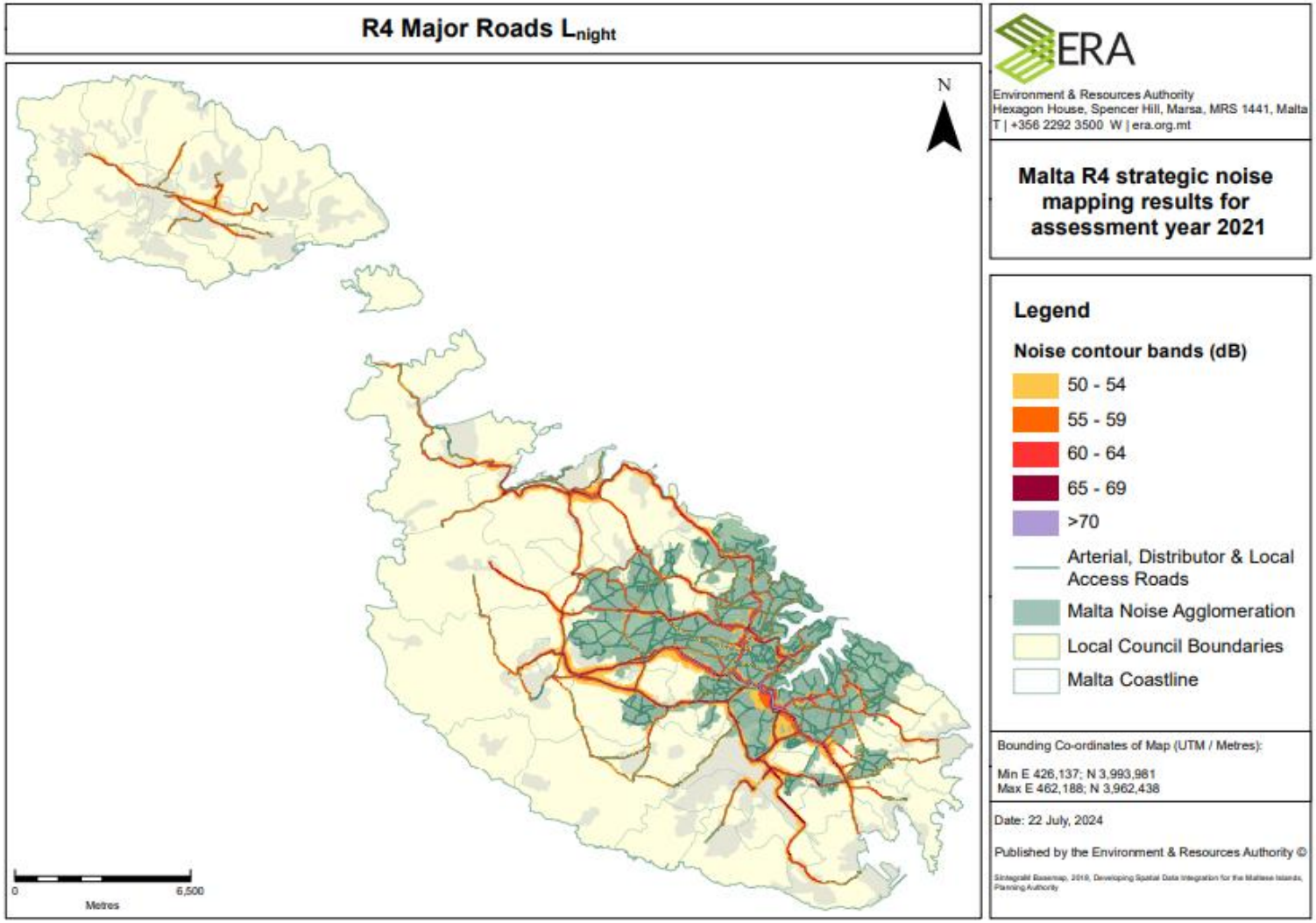
[13] era.org.mt/wp-content/uploads/2023/12/Noise-Action-Plan-Agglomeration-Interactive.pdf

Figure 4.9: Major Roads 2021 Noise Map Lden



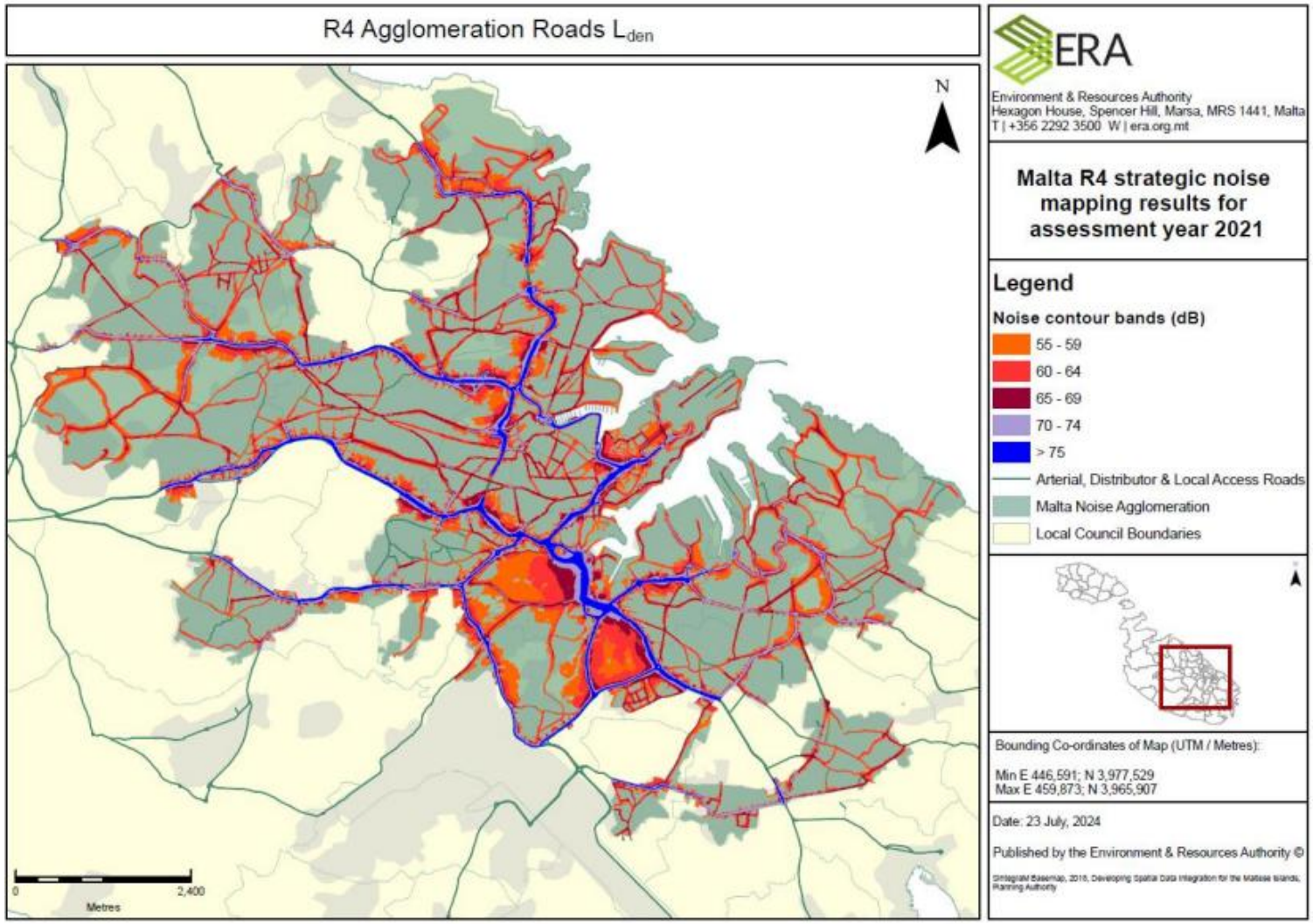
Source: ERA (2024) Noise Maps - ERA - accessed online on 30th January 2026

Figure 4.10: Major Roads 2021 Noise Map Lnight



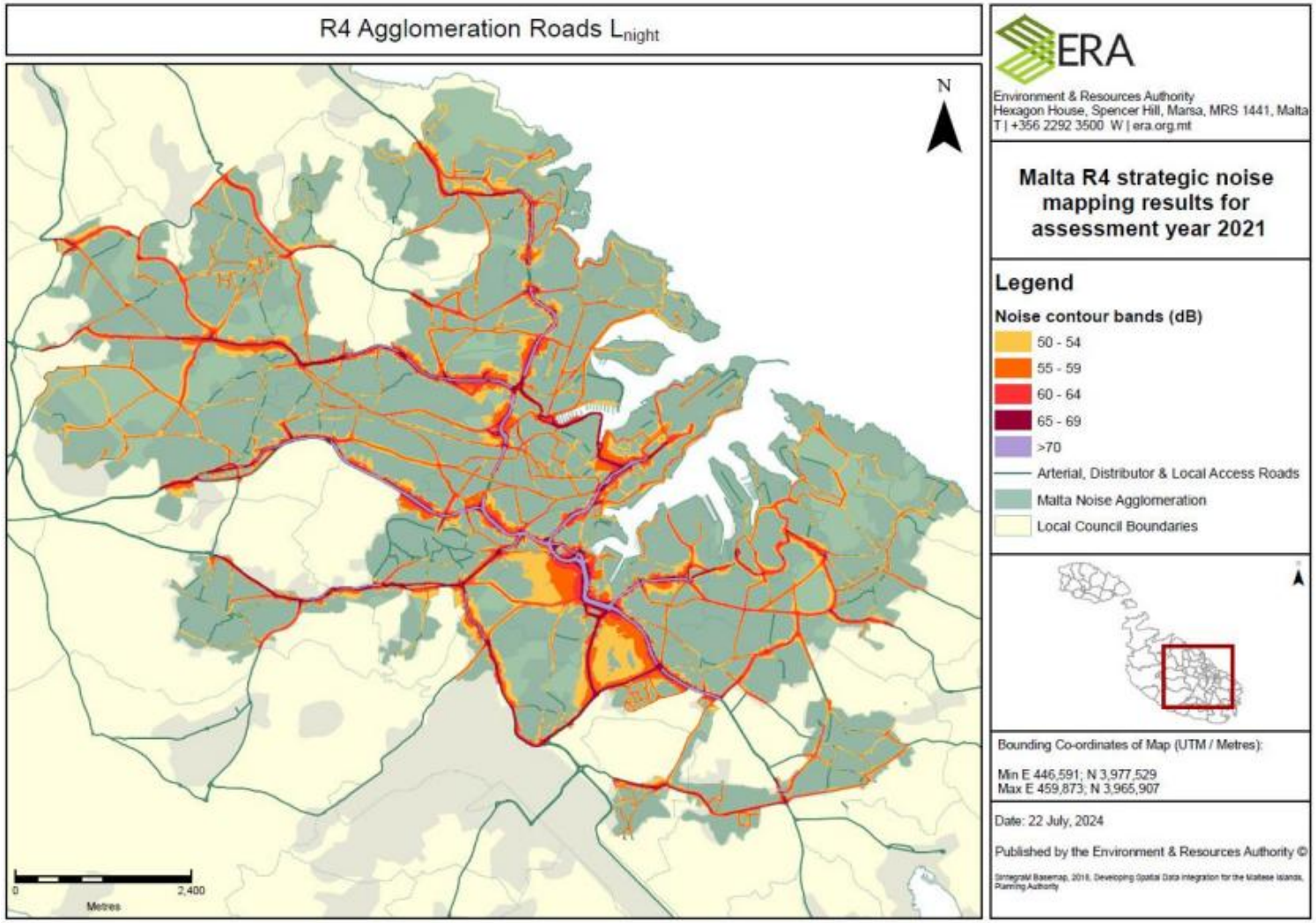
Source: ERA (2024) Noise Maps - ERA - accessed online on 30th January 2026

Figure 4.11: Major Agglomeration Roads 2021 Noise Map Lden



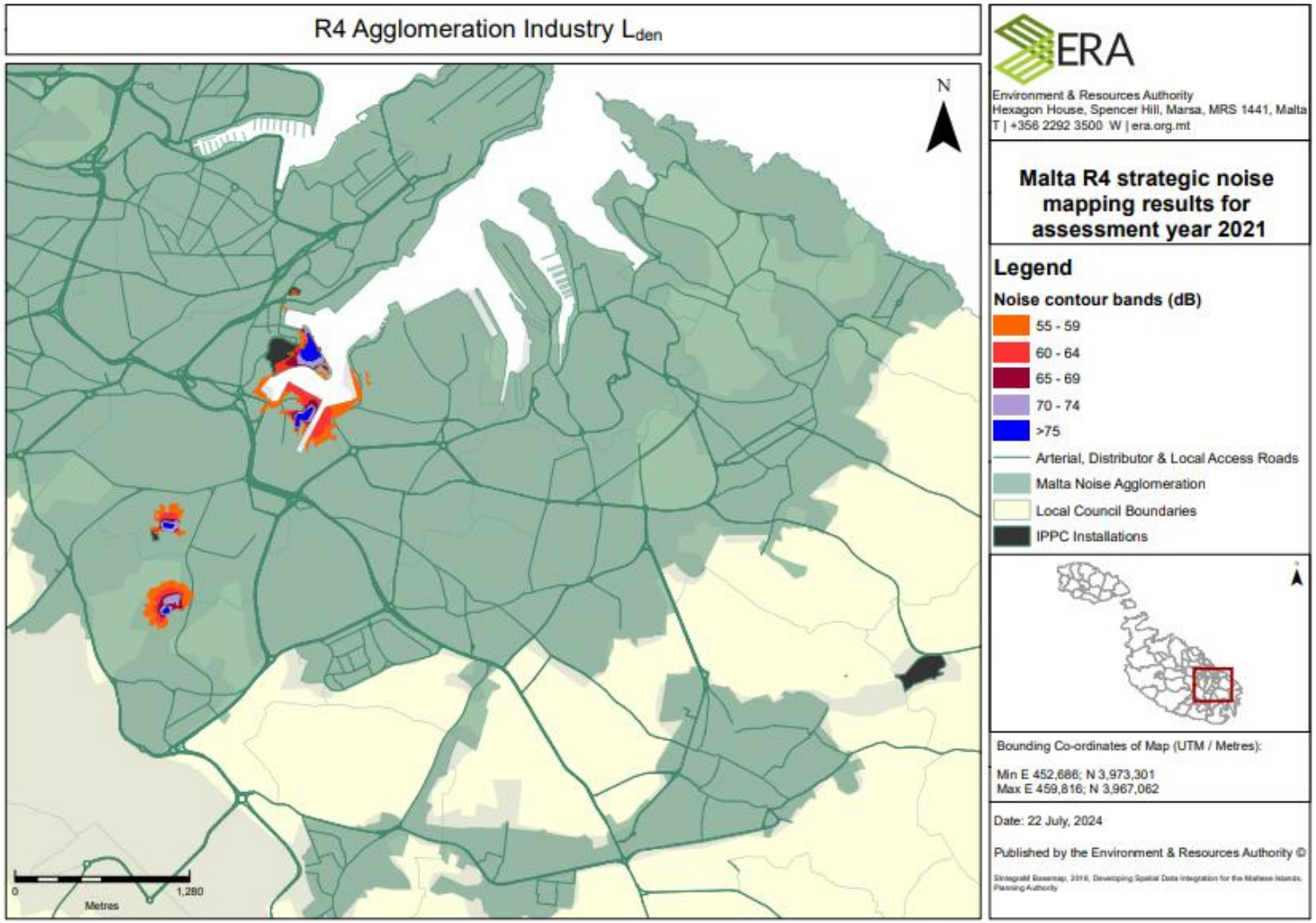
Source: ERA (2024) Noise Maps - ERA - accessed online on 30th January 2026

Figure 4.12: Major Agglomeration Roads 2021 Noise Map Lnight



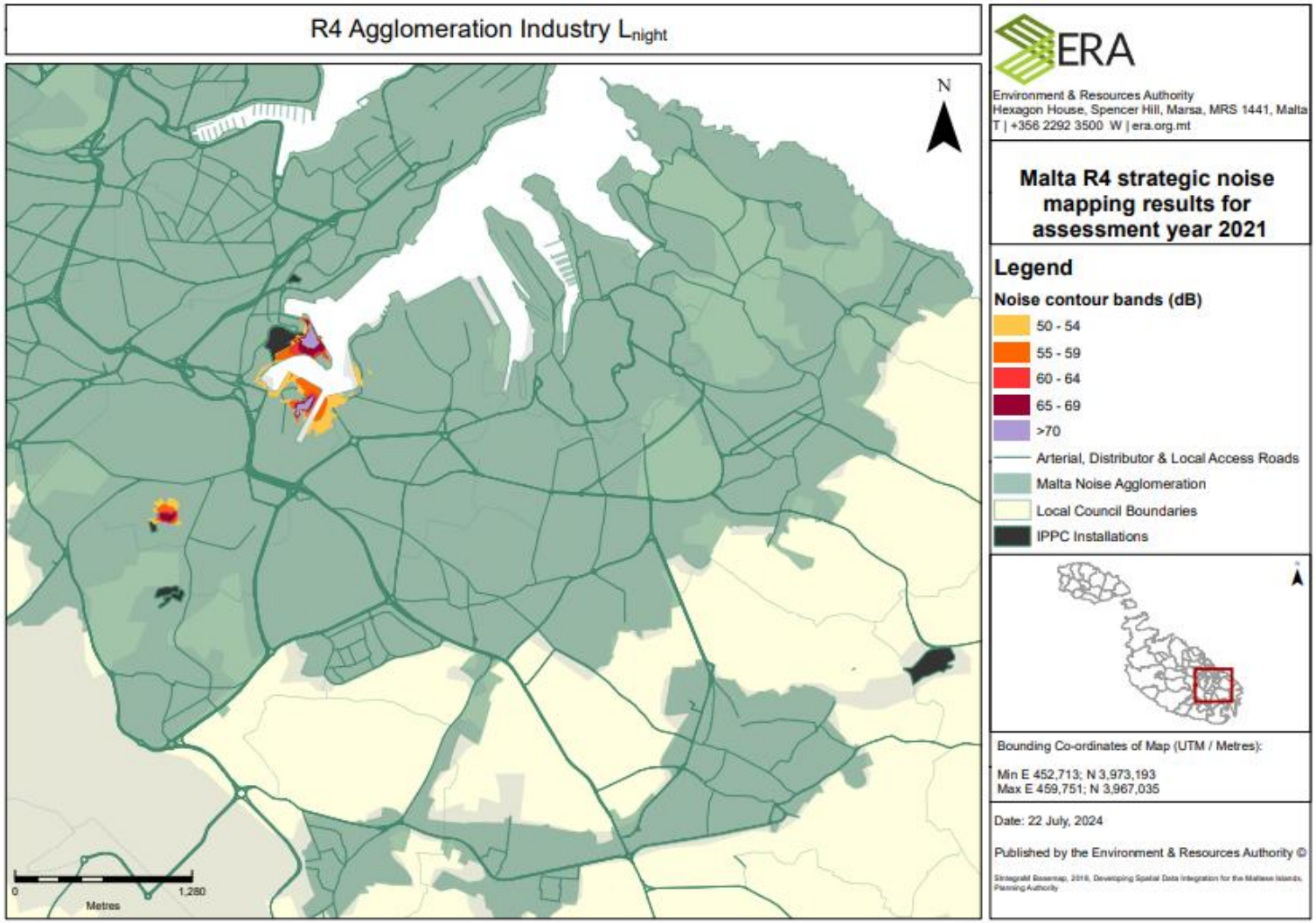
Source: ERA (2024) Noise Maps - ERA - accessed online on 30th January 2026

Figure 4.13: Major Agglomeration Industry 2021 Noise Map Lden



Source: ERA (2024) Noise Maps - ERA - accessed online on 30th January 2026

Figure 4.14: Major Agglomeration Industry 2021 Noise Map Lnight



Source: ERA (2024) Noise Maps - ERA - accessed online on 30th January 2026

Dust Pollution

4.28. Dust pollution is mostly linked with the construction industry, and mainly with quarrying and mechanically entrained dust. Dust pollution can be related to particulate matter concentrations in the atmosphere. Particulate matter was discussed in more detail in the section dealing with 'Emissions to Air'.

4.29. The Eastern Mediterranean region is experiencing significant effects of climate change, characterized by higher average temperatures, decreased rainfall, and more frequent and intense dust storms. Over the past decade, a notable increase in the occurrence of dust storms in the Mediterranean area, with an average of around 2 additional dust days per year have been observed[14]. Projections suggest that this trend will continue.

Light Pollution

4.30. Urban light pollution threatens street trees, flora in nature reserves, parks and gardens. Such light pollution also disturbs fauna (e.g. bats and birds), in particular lighting in the vicinity of breeding areas for seabirds. It has been estimated that 30 per cent of electricity generated for outdoor illumination is wasted[15].

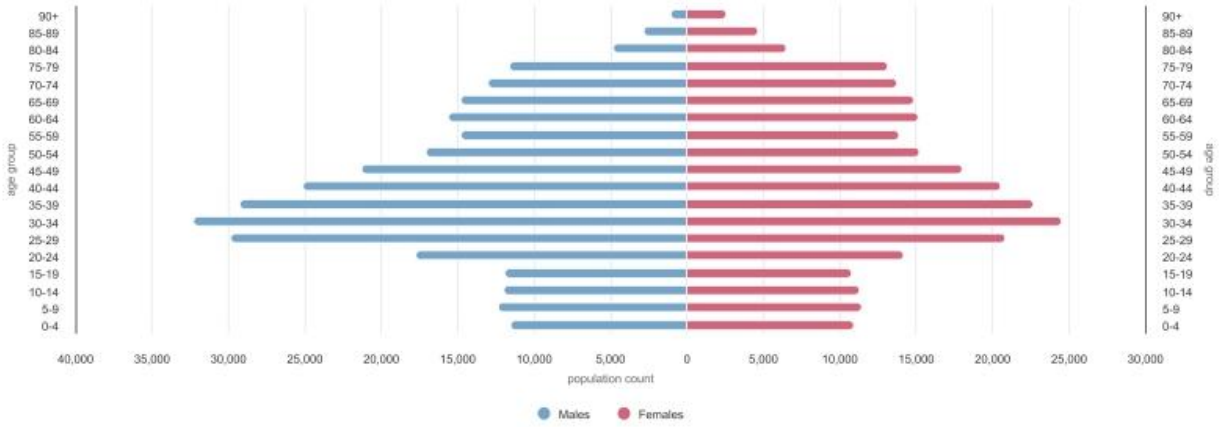
Population

4.31. In 2023, the population of the Maltese Islands stood at 563,443 persons[16]. This was an increase of 3.9 per cent over the 2022 figure. This figure consisted of 298,746 males and 264,697 females[17]. Moreover, 405,075 were Maltese citizens, 43,698 European citizens and another 114,670 were third country nationals (citizens of countries outside of the European Union)[18].

4.32. The largest age cohort is those aged between 30 and 34. The population under the age of 18 makes up 14.7. per cent of the total population, whilst the population aged 65 and over represents 18.4 per cent[19], see **Figure 4.15**.

[14] LIFE-MEDEA | Climate Change and Desert Dust Storm events in Cyprus
[15] This estimate was made in the United States. Source: DarkSky (2023) *Light pollution wastes energy and money and damages the climate*. Retrieved on 09th January 2025 from https://darksky.org/resources/what-is-light-pollution/effects/energy-climate/
[16] NSO News Release 124/2024 (2024) *World Population Day: 11 July 2024*
[17] Ibid.
[18] NSO (2024) End year population estimates by age sex and broad citizenship 2012-2023 – Selected indicator
[19] NSO News Release 124/2024 (2024) *World Population Day: 11 July 2024*

Figure 4.15: Total population by age group and sex as at 31 December 2023



Source: NSO News Release 124/2024 (2024) World Population Day: 11 July 2024

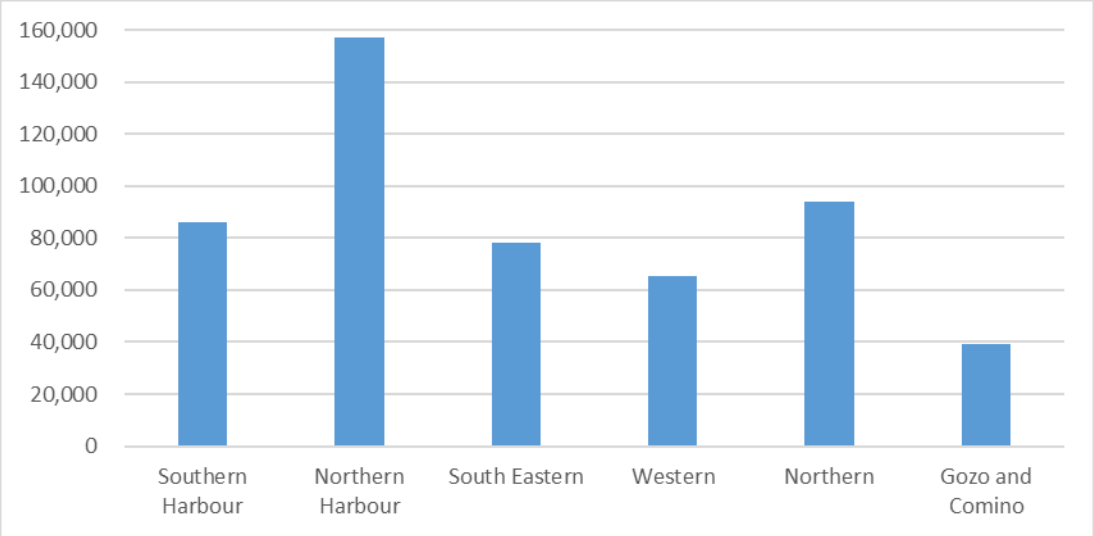
4.33. Between the 2011 Census and the 2021 Census, Malta's population has grown considerably through increased immigration[20]. In 2017, foreigners accounted for one in six residents in Malta and one in nine residents in Gozo. In 2022, foreigners increased to one in four residents in Malta and one in five residents in Gozo[21].

Geographical Distribution

4.34. The 2021 Census has shown that the largest concentration of the population is found in the Northern Harbour District with 157,297 residents accounting to close to a third of the whole population. The smallest district is Gozo with 39,287 residents accounting for less than ten per cent of the whole population, see **Figure 4.16**. In 2021, the localities with the largest populations were San Pawl il-Baħar with 32,042 residents, Birkirkara with 25,807 residents and Tas-Sliema with 23,482 residents, see **Figure 4.17**. The smallest locality is Mdina with 193 residents, see **Figure 4.18**[22].

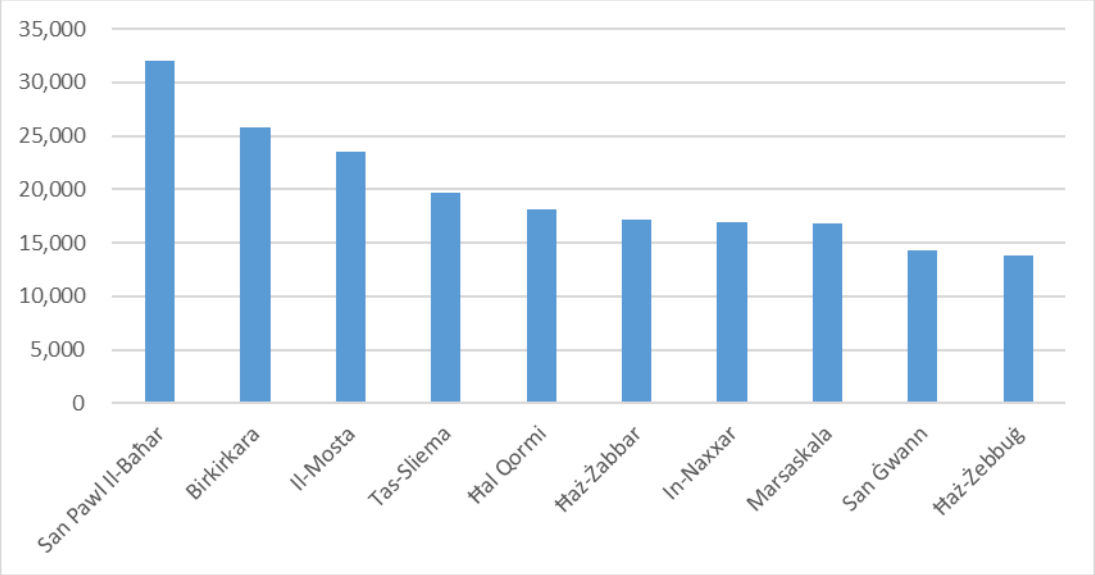
[20] NSO (2022) *Census of Population and Housing 2021: Preliminary Report*
[21] NSO (2024) *Regional Statistics Malta: 2024 Edition*
[22] NSO (2023) *Census of Population and Housing 2021: Final Report – Population, migration & other social characteristics*

Figure 4.16: Geographical distribution by census district



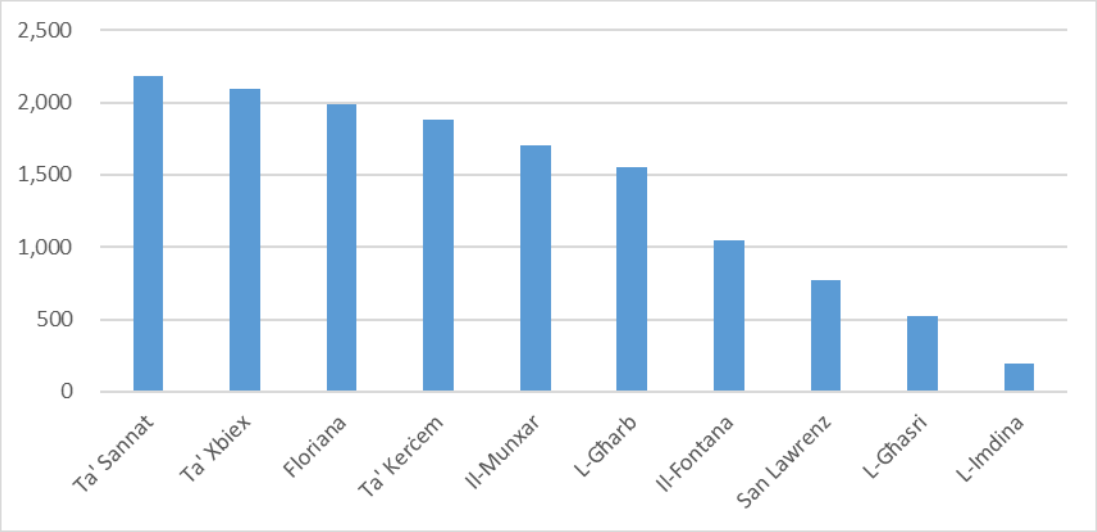
Source: NSO (2023) *Census of Population and Housing 2021: Final Report – Population, migration & other social characteristics*

Figure 4.17: Largest ten localites in 2021



Source: NSO (2023) *Census of Population and Housing 2021: Final Report – Population, migration & other social characteristics*

Figure 4.18: Smallest ten localites in 2021



Source: NSO (2023) *Census of Population and Housing 2021: Final Report – Population, migration & other social characteristics*

Population Density

4.35. In 2022, the Malta region had a population density of 2,037 persons per square kilometre. On the other hand, the Gozo region had 585 persons per square kilometre. The localities with the highest population densities are Tas-Sliema (16,287 persons/km^2), followed by L-Isla (14,591 persons/km^2) and Tal-Pietà (14,139 persons/km^2). The locality with the lowest population density is L-Għasri (103 persons/km^2)[23].

Households and Dwellings

4.36. In 2021, Malta had 199,339 households whilst Gozo had 16,352 households (main residential dwelling). The Northern Harbour district region was the region with the most households: 69,071 households, that is 32 % of the national share. There were 68,237 and 13,376 secondary, seasonally used or vacant dwellings in Malta and Gozo, respectively. The total housing stock was 297,304 dwellings[24].

4.37. More than half of these dwellings are flats or penthouses[25].

[23] NSO News Release 015/2024 (2024) *Population and migration: 2012 – 2022 (including intercensal revisions)*
[24] NSO (2023) *Census of Population and Housing 2021: Final Report – Dwelling characteristics*
[25] Ibid.

WATER

4.38. Water resources in the Maltese Islands are limited both due to the size of the country and its dry climate. Water resources are mainly sea water and groundwater. Other water bodies include inland surface waters and transitional waters that are generally ephemeral[26] in nature. Streams and watercourses are part of a wider valley system known as *widien*. These valley systems are important for multiple uses, including landscape character, flood protection, agricultural activities, recreational uses and groundwater recharge.

4.39. The Water Framework Directive (WFD) (2000/60/EC), transposed into Maltese legislation as S.L. 549.100 (Water Policy Framework Regulations, 2015), provides for the long-term sustainable management of water resources based on a high level of protection of the aquatic environment.

4.40. The WFD adopts an iterative approach characterised by the identification of the status of the different water bodies, the development and implementation of measures in determining the pressures and the proposed measures to maintain / improve the status of the water body and monitor to assess the effects of the proposed measures. Finally, this is recorded in the Water Catchment Management Plan, which is reviewed every six years.

4.41. The Third River Basin Management Plan is currently in force and covers the period 2022 to 2027.

4.42. The Plan describes the main issues for the management of water resources in the Maltese Islands and proposes actions or measures needed to deal with these issues. It spells out the steps needed to protect, enhance and improve the water environment of Malta and Gozo. The approach adopted by the plan is a holistic one, since it considers the integrated management of groundwaters and surface waters at the water catchment scale.

4.43. In line with the Water Framework Directive, the Maltese Islands have been designated as one whole Water Catchment district. Most inland surface waters in the Maltese Islands are related to the river valleys and their catchments whilst transitional waters are linked to coastal processes. Only a few watercourses and streams are permanent. These are linked to springs that are the result of the Blue Clay formation's impermeability. Due to their scarcity, inland surface and transitional waters are often protected for their ecological value.

[26] Ephemeral refers to watercourses only, excluding permanent freshwater pools or the transitional waters (apart from il-Ballut ta M'Xlokk).

4.44. There are five transitional waters, three watercourses and two pools that are protected under the WFD, see **Figure 4.19**.

Fresh water

4.45. Fresh water is a limited natural resource in the Maltese Islands. It derives from rainwater percolating through the porous limestone rock accumulating in aquifers, from where it either seeps out from fissures in the rock or is extracted for agricultural use or human consumption.

4.46. There are two main types of aquifers: the perched aquifers and the mean sea level aquifers, see **Figure 4.20**. Perched aquifers are found within the Upper Coralline Limestone formation, above the impervious Blue Clay formation, and above sea level. Such aquifers are not in contact with seawater and hence do not suffer from saltwater intrusion. A perched aquifer is characterised by its low permeability (0.2 – 0.5 m per year) and high porosity (41 - 45%). This means that the rate of downwards movement in the aquifer matrix will be slow and the travel time in the unsaturated zone will be long in the thicker parts of the aquifer[27]. The depth of the perched aquifer varies between 20 m and 50 m.

4.47. The Lower Coralline Limestone formation hosts the mean sea level aquifer. This aquifer consists of freshwater that floats in a lens-shaped formation above saline sea water, due to differences in water density. The current highest piezometric level in this aquifer is around 3 m. Due to abstraction pressures, the piezometric levels in some central regions of Malta can reach levels as low as 1 m above mean sea level. The mean sea level aquifer is characterised by relatively low porosity levels (7 – 20%) and a downward movement rate of 0.5 – 2.8 m per year. Yet, the thickness of the Maltese aquifers suggests that residence times in the saturated zone range from between 15 and 40 years. The longest residence times occur within the Gozo mean sea level aquifer and range from between 25 and 60 years[28].

[27] British Geological Society, A preliminary study on the identification of the sources of nitrate contamination in groundwater in Malta - Results and interpretation, 2008
[28] Ibid.

Figure 4.19: Inland surface and transitional water bodies

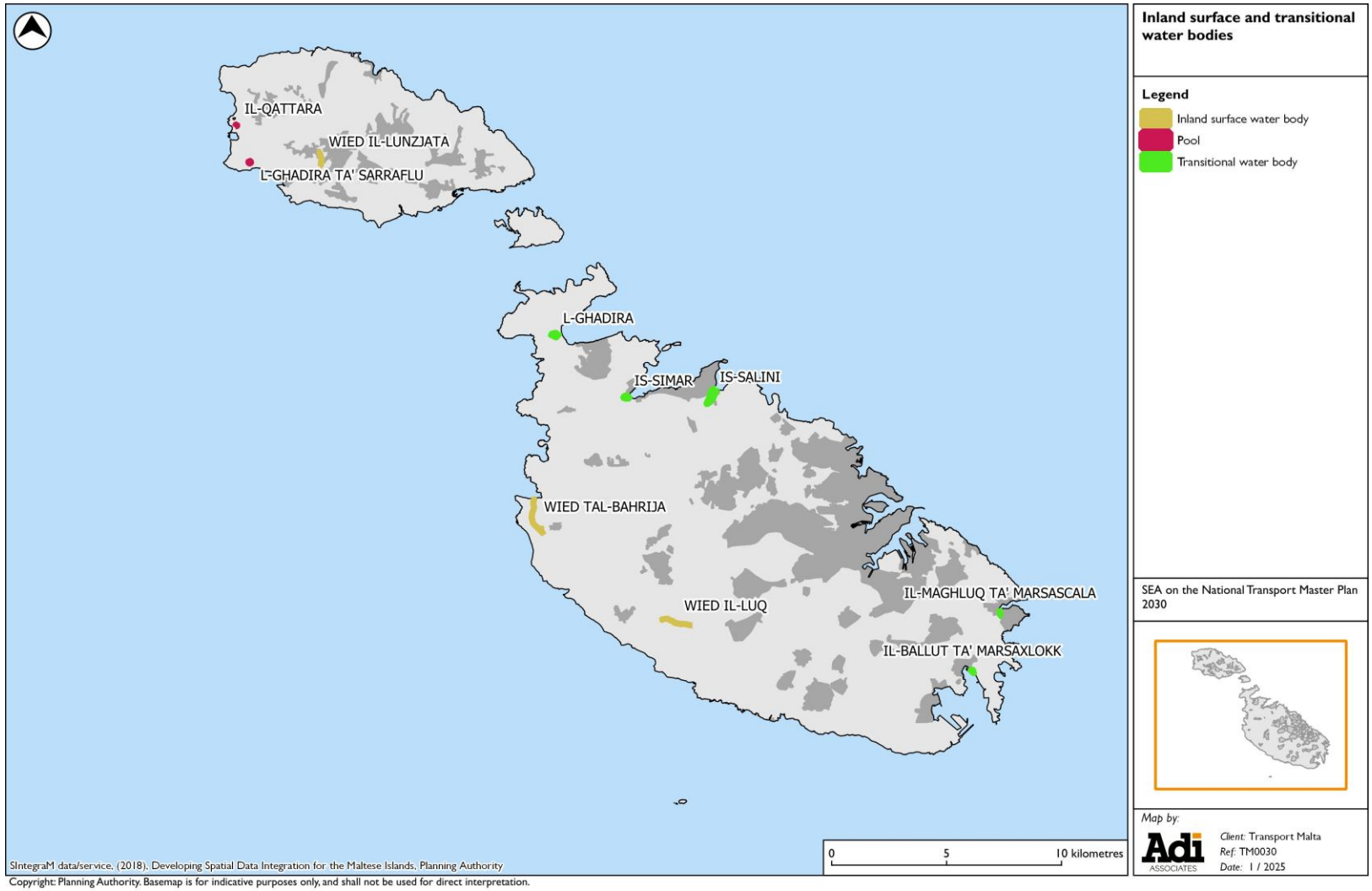
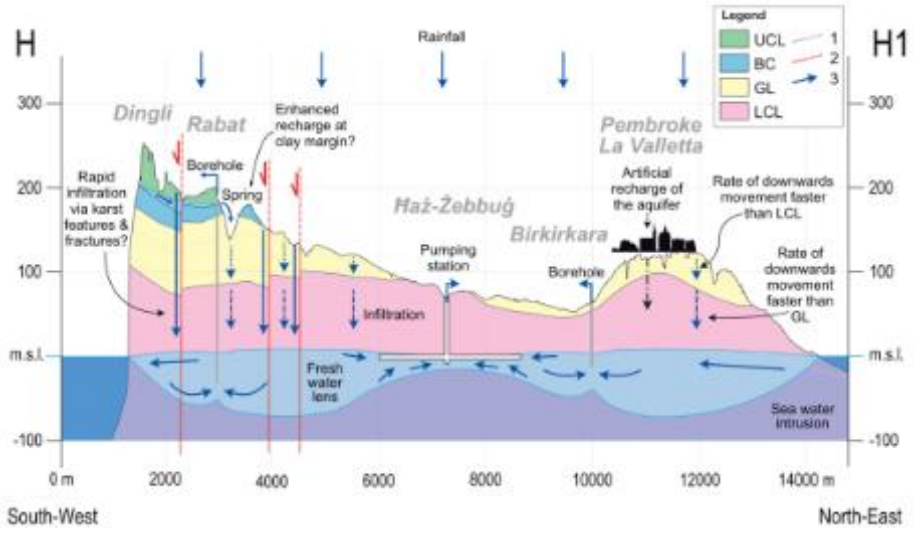


Figure 4.20: Conceptual model of perched and mean sea level aquifer



Source: Lotti et al., 2021. Numerically enhanced conceptual modelling (NECoM) applied to the Malta Mean Sea Level Aquifer. Hydrogeology Journal, 29: 1517-1537.

4.48. There are a total of 15 groundwater bodies across the Maltese Islands. Thirteen of these groundwater bodies have a good quantitative status. The location of the groundwater bodies is shown in **Figure 4.21**.

4.49. Groundwater is an important part of Malta's water resources. In 2022, it accounted for 36 per cent of the public water supply, with the other 64 per cent coming from desalinisation by reverse osmosis[29]. In the same year, groundwater abstraction also represented 83 per cent of the agricultural water supply. Other sources of water used by the agricultural sector are harvested water (9 per cent) and New Water (reclaimed water) (8 per cent). Agriculture was the primary user of privately abstracted groundwater, consuming 76%, while the commercial sector accounted for 16%, and domestic use made up the remaining 8%.

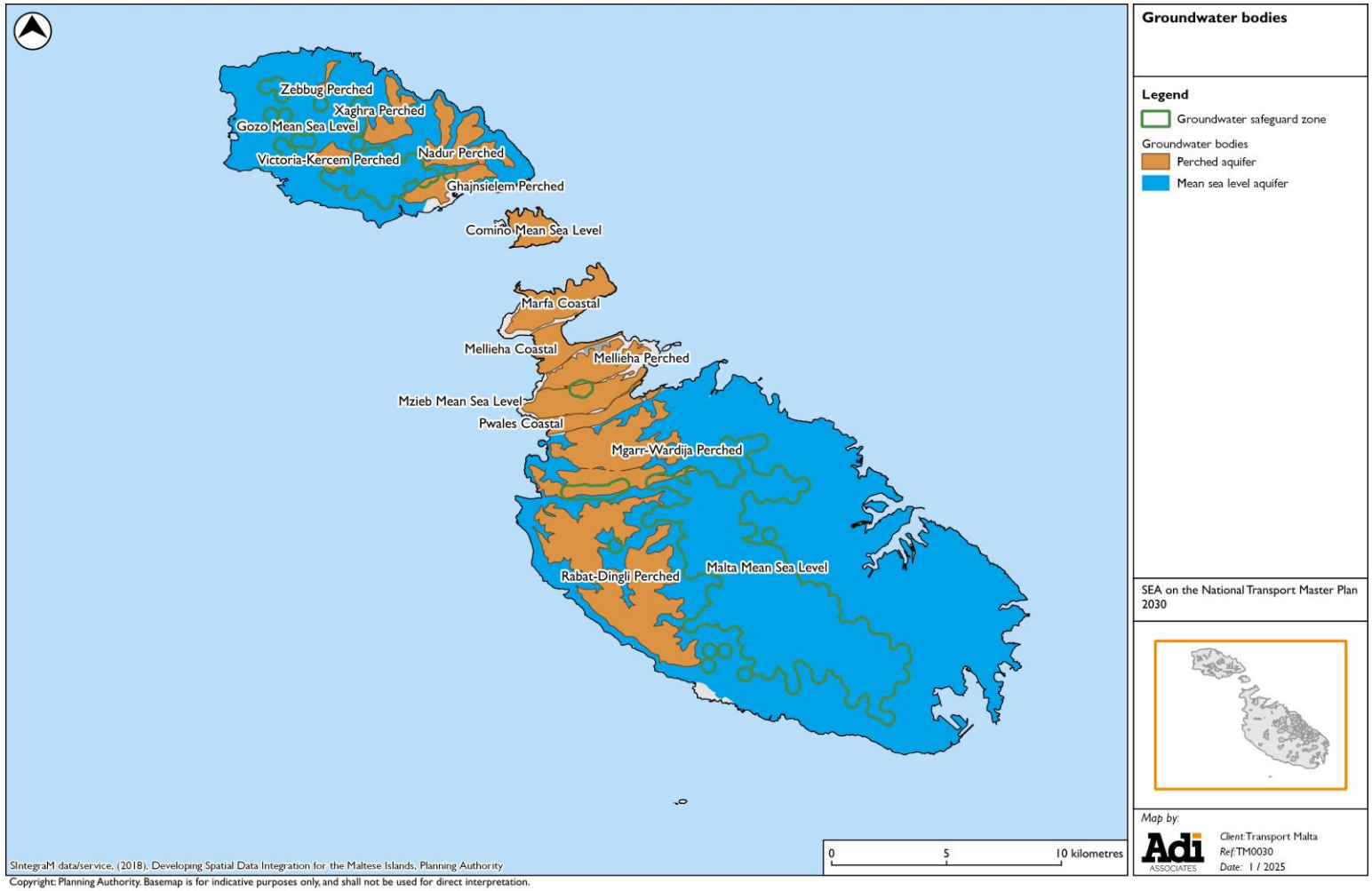
[29] Ministry for the Environment, Energy and Enterprise, EWA & EWA (2023) Green Paper on the Regulation of Groundwater Abstraction in the Maltese Islands

Table 4.4: Application of the Water Balance Model at Groundwater Body level

Groundwater Body	Size (km^2)	Inflow (Mm^3)	Outflow (Mm^3)	Balance (Mm^3)	Status
Malta Mean Sea Level	216.6	35,600,000	38,857,986	-3,257,986	Poor Status
Rabat Dingli Perched	22.6	4,926,800	2,055,570	2,871,230	Good Status
Mġarr-Wardija Perched	13.7	2,986,600	1,173,336	1,813,264	Good Status
Pwales Coastal	2.8	324,800	143,190	181,610	Good Status
Miżieb Mean Sea Level	5.2	603,200	554,500	48,701	Good Status
Mellieha Perched	4.5	981,000	17,390	963,610	Good Status
Mellieha Coastal	2.9	336,400	161,690	174,710	Good Status
Marfa Coastal	5.5	638,000	276,020	361,980	Good Status
Comino Mean Sea Level	2.7	313,200	100,640	212,560	Good Status
Gozo Mean Sea Level	65.8	12,570,000	13,805,815	-1,235,815	Poor Status
Għajnsielem Perched	2.7	588,600	308,030	280,570	Good Status
Nadur Perched	5.0	1,090,000	562,560	527,440	Good Status
Xagħra Perched	3.0	654,000	403,840	250,160	Good Status
Żebbuġ Perched	0.4	87,200	66,080	21,120	Good Status
Victoria-Kerċem Perched	1.5	327,000	125,330	201,670	Good Status

Source: ERA & EWA (2024) The 3rd River Basin Management Plan for the Malta Water Catchment District 2021 – 2027

Figure 4.21: Groundwater bodies



4.50. The groundwater bodies are under both quantitative and qualitative pressures. The quantitative pressures include an increase in population.

4.51. There are also indirect quantitative pressures related to climatic changes resulting in a drier climate, hence less water. This change will exacerbate water demand from sectors like agriculture and reduce groundwater recharge. Additionally, continued urbanisation has resulted in more impermeable surfaces and reduced groundwater recharge.

4.52. The groundwater bodies are also facing qualitative pressures mainly through saline intrusion and nitrate contamination, amongst others.

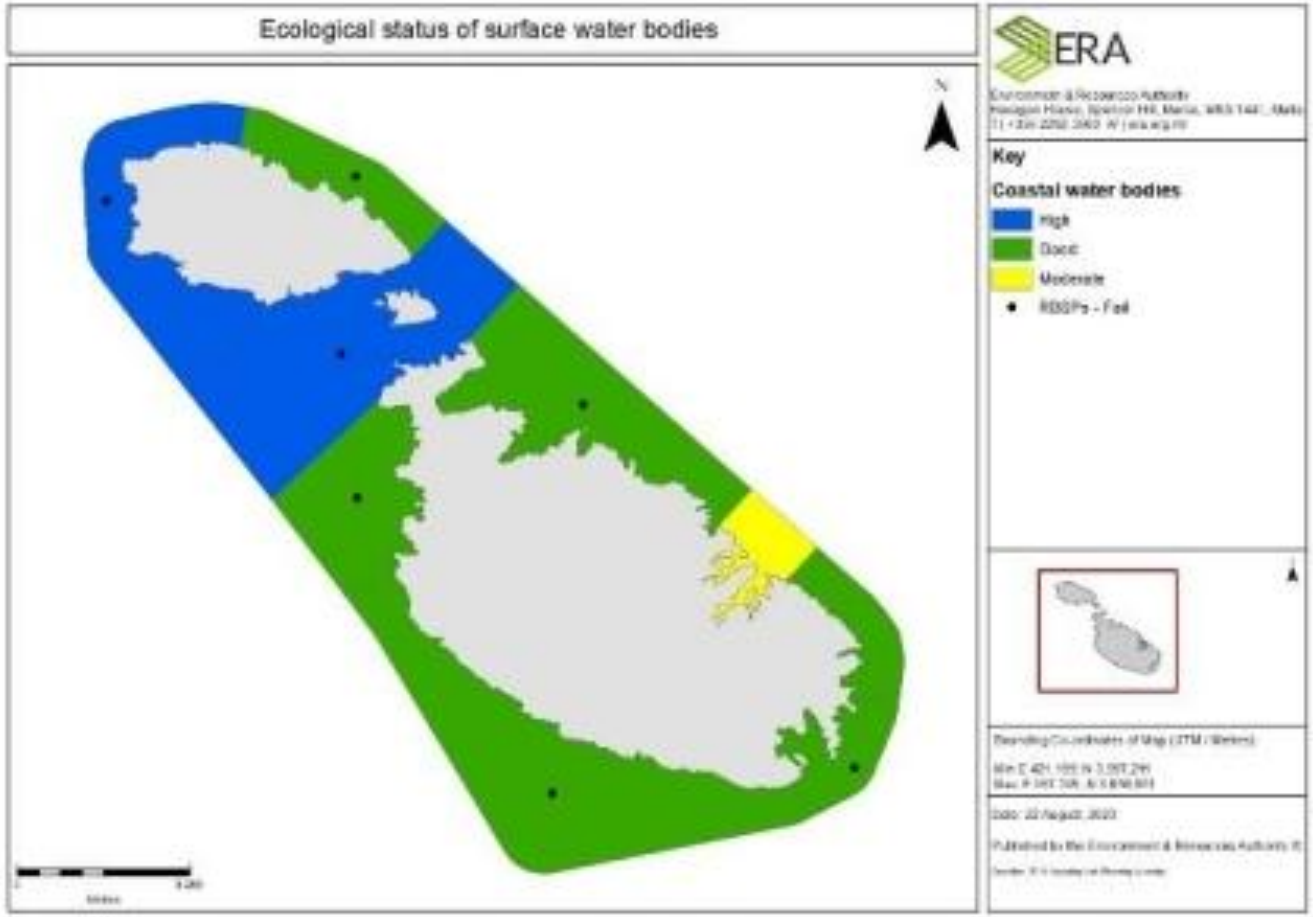
Coastal waters

4.53. The River Basin Management Plan identified 9 distinct coastal water bodies. These water bodies were categorised into 4 classes, which included:

- Type 1 – Very exposed, deep waters (>50 m);
- Type 2 – Exposed, intermediate (30-50 m);
- Type 3 – Exposed, intermediate (30-50 m) to deep waters (>50 m); and
- Type 4 – Exposed, intermediate (30-50 m) to deep waters (>50 m) with channel mixing.

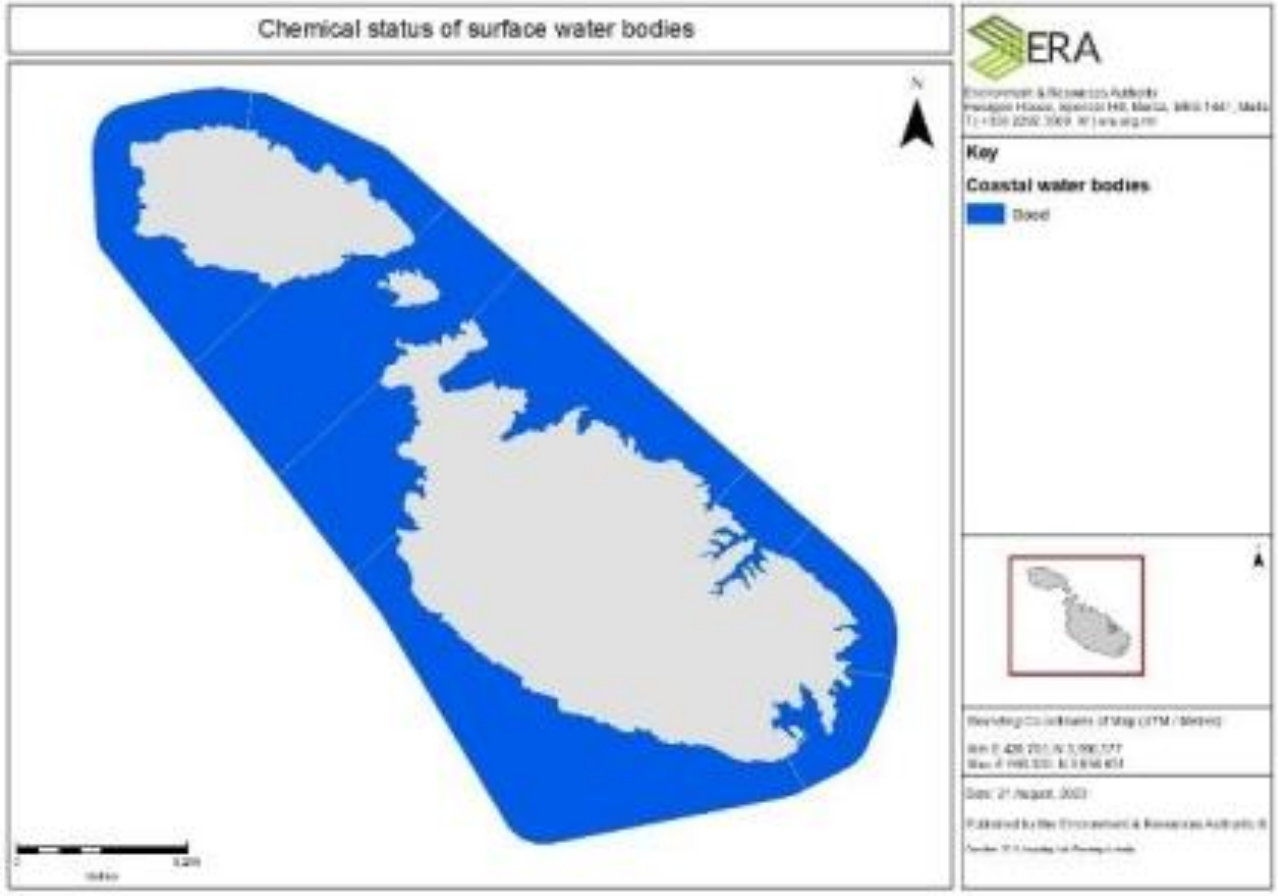
4.54. These water bodies have been assessed for their ecological and chemical status, see **Figure 4.22** and **Figure 4.23.**

Figure 4.22: Ecological status of surface water bodies



Source: ERA & EWA (2024) The 3rd River Basin Management Plan for the Malta Water Catchment District 2021 – 2027

Figure 4.23: Chemical status of surface water bodies



Source: ERA & EWA (2024) The 3rd River Basin Management Plan for the Malta Water Catchment District 2021 – 2027

4.55. Coastal water quality is monitored in line with various Directives including the Water Framework Directive, Marine Strategy Framework Directive, Nitrates Directive, Bathing Water Directive, and the UN Barcelona Convention.

4.56. Over the years, water quality has improved significantly since all sewage is treated prior to disposal into the sea.

CLIMATIC CONDITIONS, CLIMATE CHANGE AND EMISSIONS TO AIR

Climatic conditions

4.57. The climate of the Maltese Islands is a typical Mediterranean one, with mild wet winters and hot, dry summers.

4.58. The annual mean ambient temperature between 1952 and 2020 has been on the increase, with the highest annual mean temperature at 20.1°C recorded in 2016, followed by annual mean temperature of 19.9°C in 2001[30]. The annual mean ambient temperature has risen by 1.5°C, that is a 0.2°C increase per decade.

4.59. The table below presents the monthly average temperatures based on observations made in a 30-year period between 1991 and 2020.

Table 4.5: Monthly average temperature (1991-2020)

Month	Average Temperature (°C)	Average Maximum Temperature (°C)	Average Minimum Temperature (°C)
January	12.9	15.7	10
February	12.6	15.7	9.6
March	14.1	17.4	10.9
April	16.4	20.1	12.7
May	20.0	24.3	15.8
June	24.2	28.8	19.6
July	26.9	31.7	22.1
August	27.5	32.0	23.0
September	24.9	28.6	21.2
October	21.7	25.0	18.4
November	17.9	20.8	15.0
December	14.5	17.1	11.8

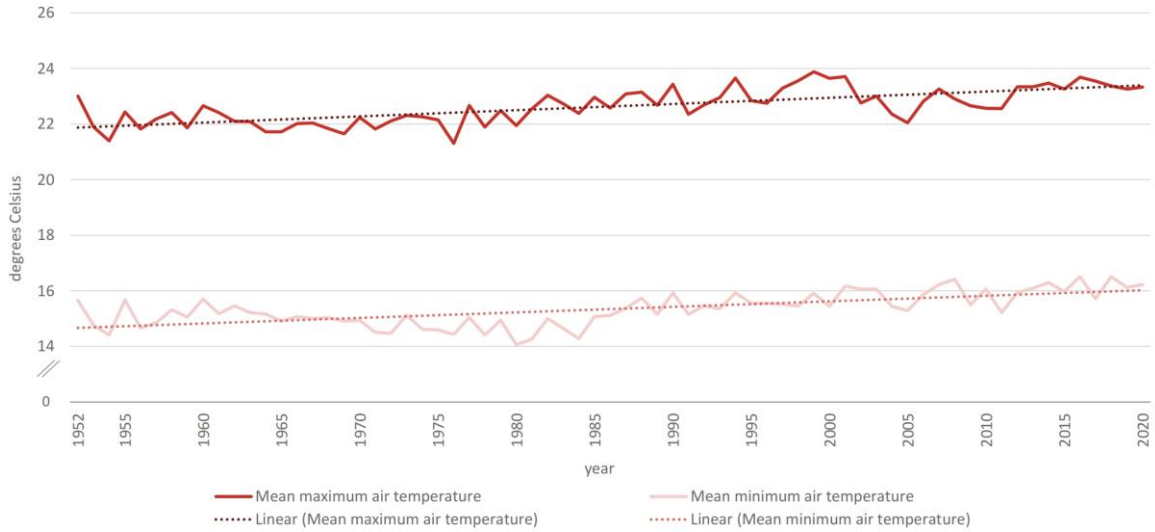
Source: Malta International Airport Meteorological Office; NSO (2022) *The State of the Climate 2022: A Multidecadal Report and Assessment of Malta's Climate*

4.60. Analysis of the average maximum and the average minimum temperatures has shown

[30] NSO (2022) *The State of the Climate 2022: A Multidecadal Report and Assessment of Malta's Climate*

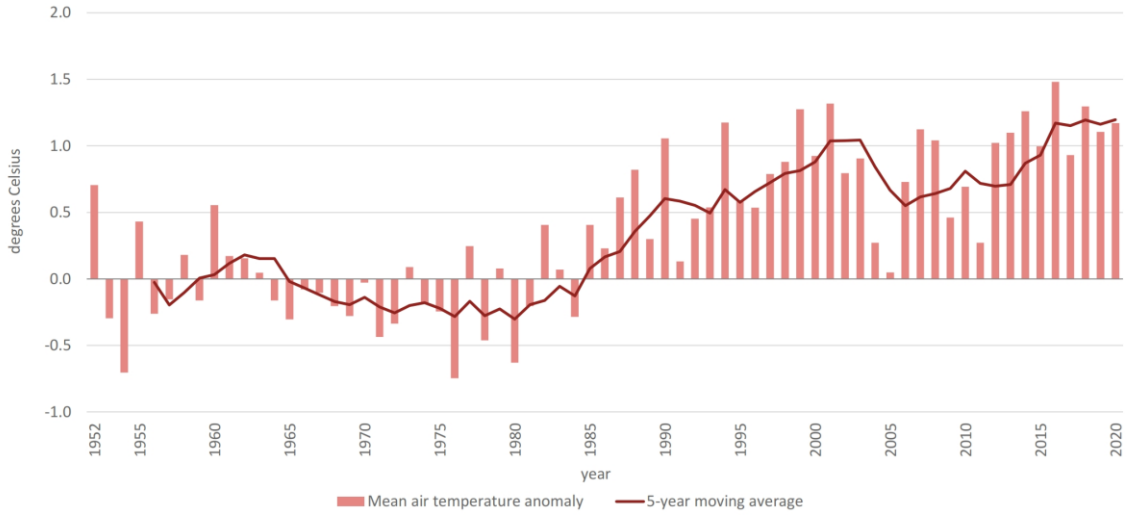
that there have been a common trend resulting in hotter days and warmer nights, see **Figure 4.24**. The highest increases in the maximum temperature were seen during July, followed by April and June. The highest increases in the minimum temperature anomalies were highest during July, and the lowest in October, August and November.

Figure 4.24: Annual maximum and minimum temperature trend



Source: NSO (2022) *The State of the Climate 2022: A Multidecadal Report and Assessment of Malta's Climate*

Figure 4.25: Annual mean temperature anomaly (1952-2020)



Source: NSO (2022) *The State of the Climate 2022: A Multidecadal Report and Assessment of Malta's Climate*

4.61. In terms of climate change, data collected over the past century indicates a notable increase in air temperature in Malta[31]. The overall rate of warming is approximately 0.71°C per 100 years, comparable to the global average. The most significant warming has occurred since the 1970s, particularly in the last two decades of the twentieth century, with a rate of approximately 1.5°C per 30 years. This warming trend is particularly pronounced during the summer season. Additionally, according to IPCC Global under SSP5-8.5, temperature is projected to warm by about 1.5°C and 3°C by 2050 and 2080, respectively[32].

4.62. The Mediterranean region has exhibited a pronounced warming trend surpassing the global average in the last five decades. As the ocean serves as a pivotal climate regulator, absorbing approximately 90% of excess heat generated by human activities, its role in mitigating environmental impacts is indispensable. Notably, recent analysis of COPERNICUS[33] data reveals a concerning trend: marine heatwaves in the Mediterranean Sea reached unprecedented levels during the summer of 2022. Throughout this period, Europe witnessed a series of extraordinary marine heatwaves, particularly in the western Mediterranean, characterized by their intensity, duration, and expansive surface impact. These events underscore the increasing vulnerability of the Mediterranean area to extreme heatwaves.

4.63. A summary of statistics for the mean temperature (based on the period 1947-2010)[34] and the predicted temperature increase by 2050 and 2080 is shown in **Table 4.6**.

Table 4.6: Summary of statistics for the mean temperature and projected change by 2025 and 2080

Summary of statistics for the mean temperature	1947-2010 (°C)	Projected change by 2050 (+1.5°C)	Projected change by 2080 (+3°C)
Average	19.0	20.5	21.0
Minimum (average of lowest minimum temperature)	7.6	9.1	10.6
Maximum (average of highest maximum temperature)	33.3	34.8	36.3

Source: NSO (2011) The Climate of Malta: statistics, trends and analysis 1947-2010

[31] Green Stormwater Infrastructure Guidance Manual, 2022. Ministry for Public Works and Planning. June 2022

[32] EEA (2024) *Projected changes in annual near-surface temperature for periods 2021–2050 and 2071–2100.* Retrieved on 10 January 2025 from https://www.eea.europa.eu/en/analysis/maps-and-charts/projected-changes-in-annual-near

[33] COPERNICUS (2023) OBSERVER: Record-Breaking Marine Heatwaves in the Mediterranean and Safeguarding Marine Ecosystems | Copernicus Retrieved on 10 January 2025 from https://www.copernicus.eu/en/news/news/observer-record-breaking-marine-heatwaves-mediterranean-and-safeguarding-marine

[34] NSO (2011) The Climate of Malta: statistics, trends and analysis 1947-2010

4.64. There has been a strong negative trend in relative humidity between 1961-2020. The decrease is of 4.7 percentage points overall. The strongest negative trends have been recorded in the summer months, consistently with an increasingly warmer climate whereby the atmosphere has an increased capacity to hold more water vapour[35].

4.65. A positive trend in the heat stress index (Humidex) has also been registered. This is of greater concern due to its potential impact on biodiversity and agriculture. Concurrently, there is a declining trend in wind chill events. These trends suggest an increasingly warm and dry climate[36].

4.66. Precipitation in Malta takes the form of rain, hail, dew, and soft rime. The average precipitation rate between 1961 and 1990 was of 553.1 mm. This rate went down to 543.4 mm in the following thirty-year period (1991-2020). While rainfall rates have been variable, there has been a trend towards less rainy days and drier conditions. Concurrently, the number of days with thunderstorms have increased in the 1952-2020 period.

Figure 4.26: Annual total rainfall between 1952 and 2020

Source: NSO (2022) *The State of the Climate 2022: A Multidecadal Report and Assessment of Malta's Climate*

[35] NSO (2022) *The State of the Climate 2022: A Multidecadal Report and Assessment of Malta's Climate*
[36] Galdies, C.; Said, A.; Camilleri, L.; Caruana, M. (2016) Climate change trends in Malta and related beliefs, concerns and attitudes toward adaptation among Gozitan farmers.

4.67. Climate models are projecting the following climate change impacts over Malta[37]:

- *Increased air temperature;*
- *Increased frequency of heatwaves and drought conditions;*
- *Increased torrential rains, flooding, and severe storms;*
- *Increased sea temperature;*
- *Higher probability that groundwater recharge will be reduced; and*
- *A decrease in precipitation and warmer temperatures.*

Emissions to air

4.68. Air quality is a particular indicator for both environmental quality and human health. At a national level, air quality is assessed by measuring the levels of the major pollutants: suspended particulate matter (PM) concentrations, ozone (O_3), benzene and other volatile organic compounds (VOCs), nitrogen dioxide (NO_2), and sulphur dioxide (SO_2). In Malta, these pollutants are mainly created by traffic and electricity generation plants.

4.69. **Table 4.7** lists various pollutants and their source.

[37] NSO (2022) *The State of the Climate 2022: A Multidecadal Report and Assessment of Malta's Climate*

Table 4.7: Pollutants and their sources

Pollutant	Source(s)
Particulate Matter	• Fuel combustion in power generation • Fuel combustion in road transport • Incineration • Tyre and brake wear • Road wear
Ozone (O_3)	• A secondary pollutant that results from reactions involving precursor gases such as volatile organic compounds and nitrogen oxides
Nitrogen Oxide (NO and NO_2)	• Combustion sources (results in NO mostly, with subsequent oxidation to NO2)
Sulphur Dioxide (SO_2)	• Combustion of fuels containing high levels of sulphur (e.g. • Heavy Fuel Oil in thermal power plants)
Benzo[a-]pyrene (BaP)	• Incomplete combustion of fuels and rubber-tyre wear
Carbon monoxide (CO)	• Incomplete combustion of fuels in road transport
Benzene	• Incomplete combustion of fuel in road transport • Handling and distribution of petrol
Arsenic	• Metal smelters • Coal combustion
Cadmium	• Non-ferrous metal production • Iron and steel production • Cement production • Waste Incineration • Stationary combustion of fossil fuel
Nickel	• Combustion of fuel oil and coal in stationary plants • Combustion of fuel in ships • Waste incineration • Steel manufacture • Electroplating
Lead	• Combustion of fossil fuel • Waste incineration • Production of non-ferrous metals • Production of iron and steel • Production of cement
Mercury	• Combustion of coal

Source: ERA (2018) Ambient Air (Chapter 2) State of the Environment Report

Air quality monitoring

4.70. Malta has five near real-time monitoring stations that can determine concentrations of most pollutants every fifteen minutes. The pollutants monitored in near real time are ozone (O_3), sulphur dioxide (SO_2), nitrogen oxides (NO_x), carbon monoxide (CO), volatile organic compounds (VOCs), gaseous mercury (Hg), particulate matter (PM_{10} and $PM_{2.5}$) and meteorological variables. Dust speciation in the PM_{10} fraction also takes place at specific locations through periodic measurements around the Maltese Islands. The monitoring stations' locations are as follows: two traffic sites in Msida and St Paul's Bay, an urban background site in Żejtun, an urban site in Attard, and a rural background site in Għarb, Gozo.

Particulate matter (PM)

4.71. Particulate matter originates from the combustion of fuel in the power generation and road transport sectors, as well as from incineration and biomass burning. It also originates from abrasion, such as tyre, brake and road wear. Soft stone quarries and construction sites can also be sources of PM_{10} and, to a lesser extent of $PM_{2.5}$ concentrations. Natural sources, such as Saharan dust and sea salt, also play an important role in Malta and can, on occasion, lead to significantly high PM concentrations.

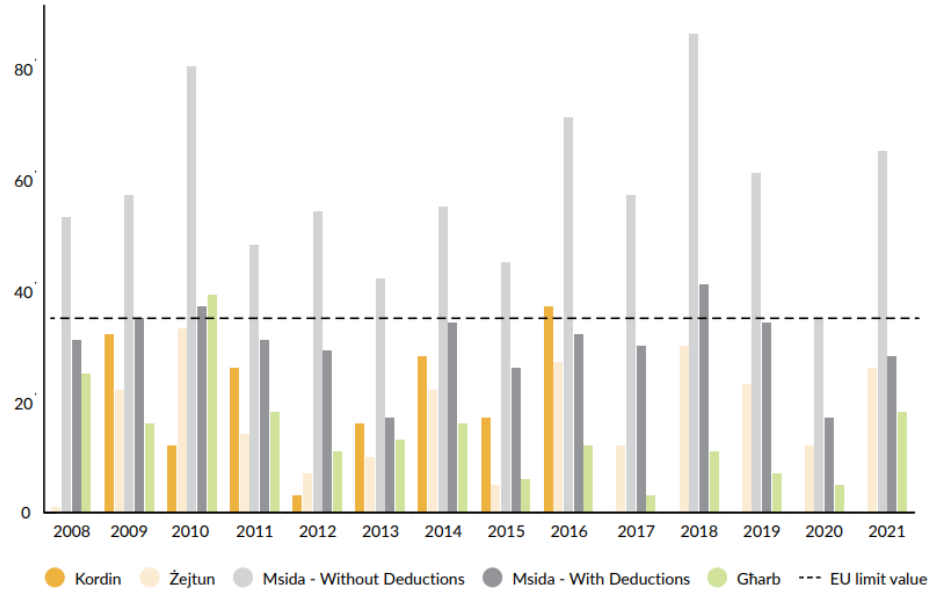
4.72. The daily limit value for PM_{10}[38] is 50 µg/m³ and the annual limit value is 40 µg/m³. The daily limit should not be exceeded more than 35 times a year (approximately 10% of days measured). The annual limit value for $PM_{2.5}$ is 25 µg/m³.

4.73. Trends in air quality data demonstrate that locations that experience high volumes of traffic, as well as high levels of traffic congestion, suffer from poorer air quality. This is increasingly the case within the inner harbour area. The assessment of data from the monitoring stations for the year 2018, showed that the Msida Air Quality Monitoring Station exceeded the allowed number of exceedances of the daily limit value for PM_{10}. In fact, the PM_{10} daily limit value of 50µg/m^3 was exceeded on 41 days in one calendar year in the Msida station, when the number should not exceed 35. The daily limit value for PM_{10} indicated in the latest WHO Air Quality Guidelines has been revised and is now 45 µg/m3 (WHO, 2021b).

4.74. In recent years, the PM_{10} daily limit value was exceeded more than 35 times per year in several instances, as shown in **Figure 4.27**. The graph highlights the number of exceedances without deductions of natural contributions for all stations. However, for Msida (traffic) station, data with natural contribution (Saharan dust and sea salt) deductions was also added. As highlighted in the graph, Malta reported exceedances in PM_{10} in 2010 and 2018. However, it is important to note that the majority of cases happened prior to deductions of the Saharan dust and sea salt contributions. Following the deduction of the natural fraction of PM_{10}, the only station which was not compliant was Msida in 2010 and 2018. Another exceedance of the PM_{10} daily limit value was recorded at the Msida station in 2023, when the limit value was exceeded on 52 days.

[38] PM_{10} refers to particles with an aerodynamic diameter smaller than 10 mm while $PM_{2.5}$ refers to particles of diameter smaller than 2.5 mm, with the latter being the more dangerous for human health due to their deeper lung penetration.

Figure 4.27: Number of exceedances in days of PM10 daily limit value of 50µg/m^3 at ERA's monitoring stations



Source: ERA, 2023 – Air Quality Plan for Malta accessed from https://era.org.mt/wp-content/uploads/2025/02/DIGITAL-Air-Quality-Plan.pdf. on 15th January 2025

Greenhouse gases

4.75. Increases in anthropogenic greenhouse gases (GHGs) are the major contributor to climate change[39].

4.76. The emission intensity of Malta's economic development can be described in terms of the relationship between the trend in national GHG emissions and the trend in Gross Domestic Product (GDP). **Figure 4.28** shows how GHG emissions per unit million GDP changes over the time-series. The figure below also gives the trend for GDP. Overall, apart from the years 1990 to 1995, the trend is a continuous decrease in the emissions intensity of Malta's economy. Between 1990 and 2023, Malta's GDP saw an overall increase of 614.58%, while GHG emissions per unit million GDP in 2023 were 87.98% lower than in 1990

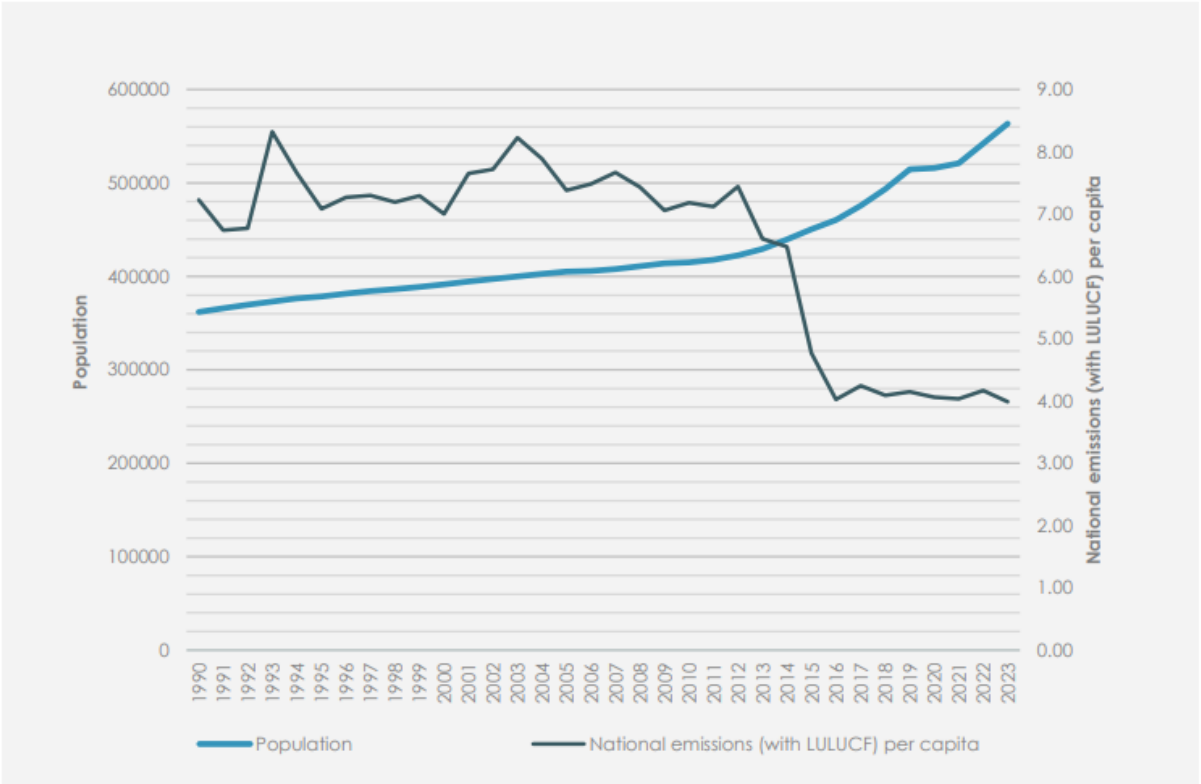
4.77. The energy sector is the highest overall contributor to greenhouse gas emissions, by a significant margin over other sectors; its influence on the total emissions profile is decisive. In turn, the energy sector total is mostly determined by emissions emanating

[39] IPCC, 2021: Summary for Policymakers. In: *Climate Change 2021: The Physical Science Basis*. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

from the two main category contributors, energy generation and transport. Both contribute towards the increase up to 2012. Investment in new generation capacity, fuel switching, and alternative sourcing of electricity all contribute towards the rapid decrease in emissions observed for the years after 2012. This trend is reversed between 2016 and 2017, as there was a shift back towards local electricity generation as opposed to the previous use of the interconnector with mainland Europe's electricity grid.

4.78. Population has grown steadily over the years. GHG emissions per capita remain fairly stable for the most part from 1990 until 2012, after which there is a significant drop-off. This is the result of the general decrease in emissions, which proves more significant than the high level of population growth seen in this period. Emissions per capita in 1990 stood at 7.23 tonnes CO_2 eq. per capita, reaching their highest level in 1993 at 8.32 tonnes CO_2 eq. per capita and a low of 4.02 tonnes CO_2 per capita in 2016, with 3.99tonnes CO_2 eq. per capita being produced in 2023.

Figure 4.28: National total GHG emissions



Malta_GHGInv 1990-2023_NID_Apr2025_Final.pdf

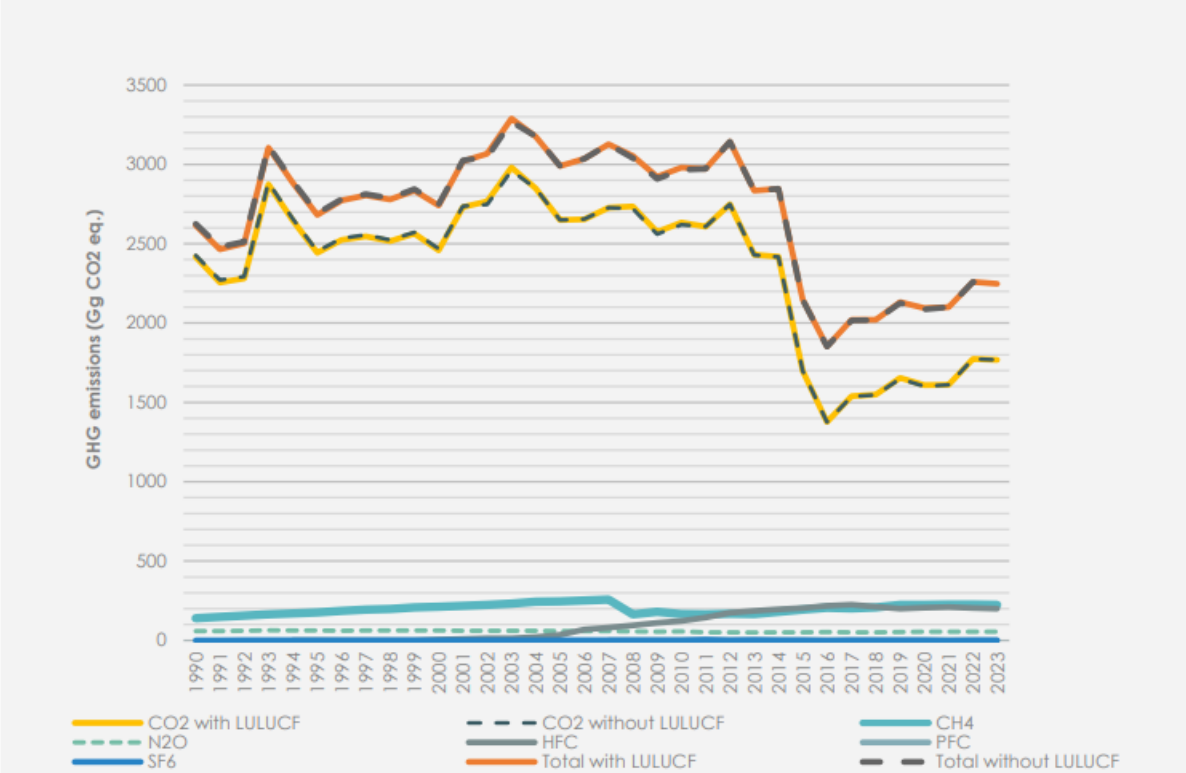
Source: Malta Resources Authority obo The Ministry for the Environment, Energy & Regeneration of the Grand Harbour (2024) Malta's National Inventory of Greenhouse Gas Emissions and Removals, 2024

4.79. The main GHG in Malta is carbon dioxide (CO_2). The sector that has the highest contribution towards total CO_2 emissions is energy, being responsible for more than 99% of total carbon dioxide emissions in all years between 1990 and 2023 (see **Figure 4.29** and **Table 4.8**).

4.80. Methane (CH_4) is another GHG. Methane is mainly generated by the waste sector (78.24% of the total national methane emissions in 2023). A fifth (20.7%) of the national methane emissions originates from the agricultural sector, while the energy sector contributes to a 1.06% of methane emissions.

4.81. Nitrous oxide emissions represent a small share of the GHG emissions. Two thirds (68.37% in 2023) of the nitrous oxide emissions originate from the agricultural sector.

Figure 4.29: GHG emissions by gas



Source: Malta_GHGInv 1990-2023_NID_Apr2025_Final.pdf accessed on 30th January 2026

Table 4.8: GHG emissions by gas

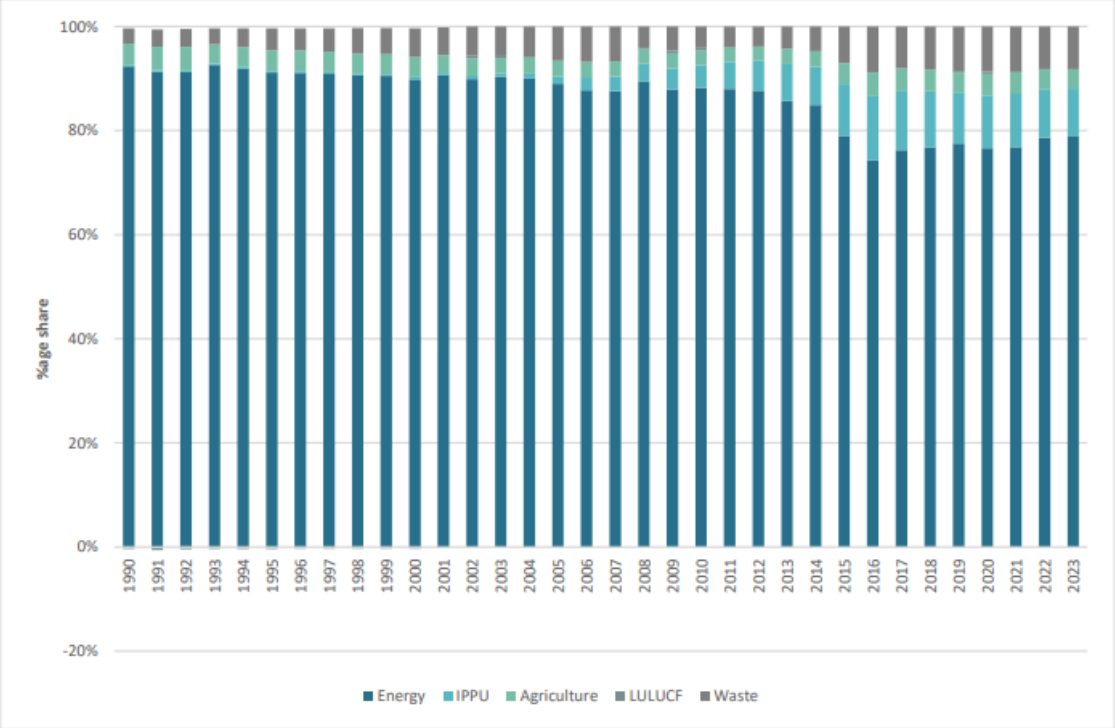
	CO2 with LULUCF	CO2 without LULUCF	CH4	N2O	HFC	PFC	SF6	NF3	Total with LULUCF	Total without LULUCF
	Gg CO2 eq.									
1990	2417.16	2427.41	139.81	59.58	IE,NA,NE,NO	NA,NO	0.01	NO	2616.56	2626.47
1995	2442.55	2452.15	175.67	61.99	0.00	NA,NO	1.48	NO	2681.68	2690.98
2000	2459.00	2468.17	212.83	62.52	4.63	NA,NO	1.51	NO	2740.49	2749.40
2005	2649.55	2649.81	245.45	58.76	34.15	NA,NO	1.61	NO	2989.52	2989.55
2010	2633.11	2619.26	166.03	56.20	122.21	0.00	1.84	NO	2979.39	2965.40
2015	1698.54	1697.47	193.30	51.13	204.64	0.00	0.29	NO	2147.89	2146.70
2020	1608.86	1600.89	224.88	54.10	206.56	0.00	0.41	NO	2094.82	2086.26
2023	1768.39	1768.00	224.25	54.24	199.72	0.01	0.28	NO	2246.88	2245.93

Source: Malta_GHGInv 1990-2023_NID_Apr2025_Final.pdf accessed on 30th January 2026

4.82. The energy sector contributes to the bulk of national GHG emissions (see **Table 4.9** and **Figure 4.30**). A closer look at the energy sector shows that the primary contributor to emissions are the energy industries followed by transport. Following 2012 there was a dip in GHG emissions from this sector. This is linked to the introduction of the interconnector with mainland Europe. The increase in emissions observed in 2017 compared to 2016 is mainly due to a renewed shift towards indigenous electricity generation, as opposed to outside sourcing, though the impact is markedly subdued because of the shift to natural gas as the main generation fuel. The contribution to GHG emissions from transport is particularly high due to high private car ownership and a general growth in road transport, see **Figure 4.31**.

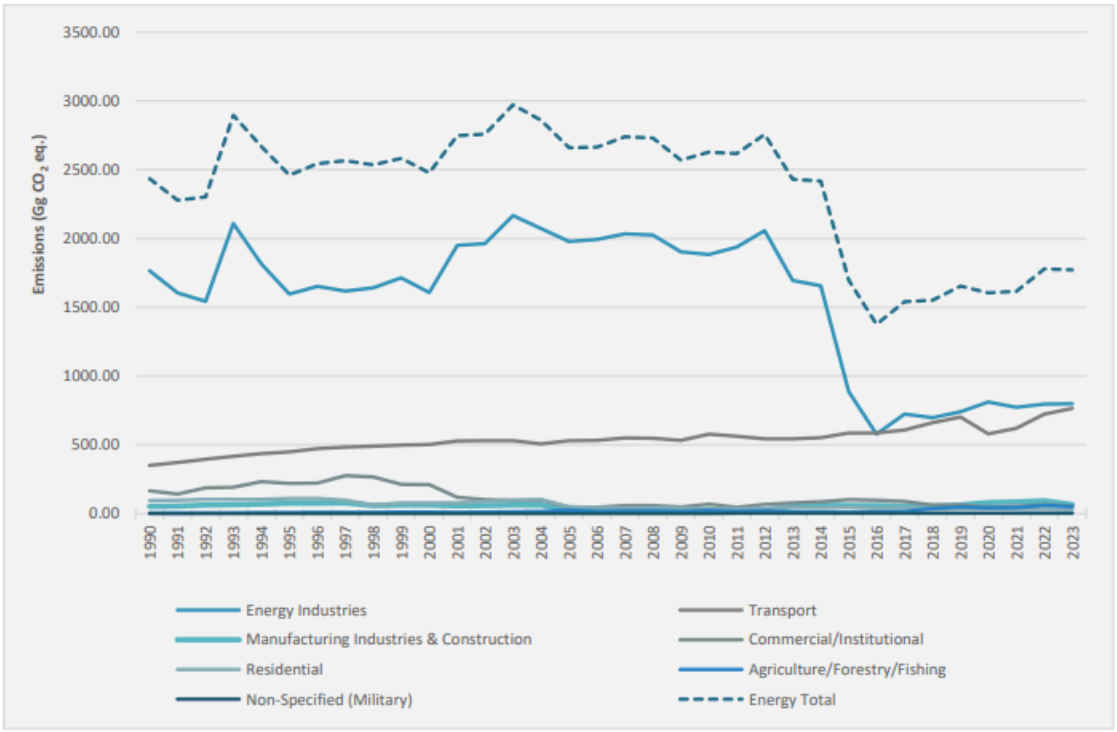
4.83. Transport emissions have shown a sustained and gradual increase over the entire time series. However, the COVID-19 pandemic led to a notable dip in emissions during 2020 and 2021. This decline was followed by a rebound in 2022, as economic recovery and the resumption of normal activities drove emissions back to pre-pandemic levels. Despite improvements in emissions intensity, transport-related greenhouse gas (GHG) emissions were 765.24 kt in 2023, accounting for approximately 34% of Malta's total GHG emissions.

Figure 4.30: GHG emissions by sector



Source: Malta_GHGInv 1990-2023_NID_Apr2025_Final.pdf accessed on 30th January 2026

Figure 4.31: Emission trends for sector Energy, by category



Source: Malta_GHGInv 1990-2023_NID_Apr2025_Final.pdf accessed on 30th January 2026

Table 4.9: GHG emissions by sector

	Energy	IPPU	Agriculture	LULUCF	Waste	Total with LULUCF	Total without LULUCF
				Gg CO2 eq.			
1990	2435.14	7.50	108.61	-9.91	75.22	2616.56	2626.47
1995	2460.59	9.07	107.35	-9.29	113.97	2681.68	2690.98
2000	2477.95	12.64	104.82	-8.91	153.99	2740.49	2749.40
2005	2660.00	41.61	91.20	-0.03	196.73	2989.52	2989.55
2010	2628.42	129.02	84.69	13.99	123.28	2979.39	2965.40
2015	1696.64	215.13	84.34	1.19	150.59	2147.89	2146.70
2020	1604.25	213.59	86.30	8.56	182.12	2094.82	2086.26

Source: Malta_GHGInv 1990-2023_NID_Apr2025_Final.pdf accessed on 30th January 2026

Climate change

Sea-level rise

4.84. According to ADAPT[40], the sea level is increasing in the Maltese Islands. In addition, based on the analysis conducted using the NASA Sea Level Projection Tool, which relies on the Sea level projections from the IPCC (RCP 8.5), the estimated sea level rise in the Maltese Islands by 2080 is projected to be 0.52 metres.

4.85. Malta is densely populated, and a significant percentage of the population lives in the low-lying area around the harbours. Urban development covers 35 per cent of Malta's coast and 19 per cent of Gozo's coast[41].

Coastal erosion

4.86. One of the main effects of sea-level rise is an increase in coastal erosion. In 2021, a project C-COVER Coastal-Climate Overall Vulnerability and Exposure Risk – protection strategy for the Maltese Islands was launched and is funded by the European Commission's (EC) Technical Support Instrument through the Public Works Department, Ministry for Transport Infrastructure & Capital Projects, and the Malta Tourism Authority (MTA)[42].

4.87. To date, coastal defence works have been carried out in a piecemeal way. The existing coastal defences have been built to protect harbours. In 2021, Infrastructure Malta built two defensive structures in Marsaxlokk Bay specifically to protect the

[40] https://climate-adapt.eea.europa.eu/en
[41] Ibid.
[42] Public Works (2021) https://publicworks.gov.mt/en/Documents/Coastal-COVER_PWD%20Website%20feed%20%282021-1202%29.pdf (Accessed online on the 23rd February 2022).

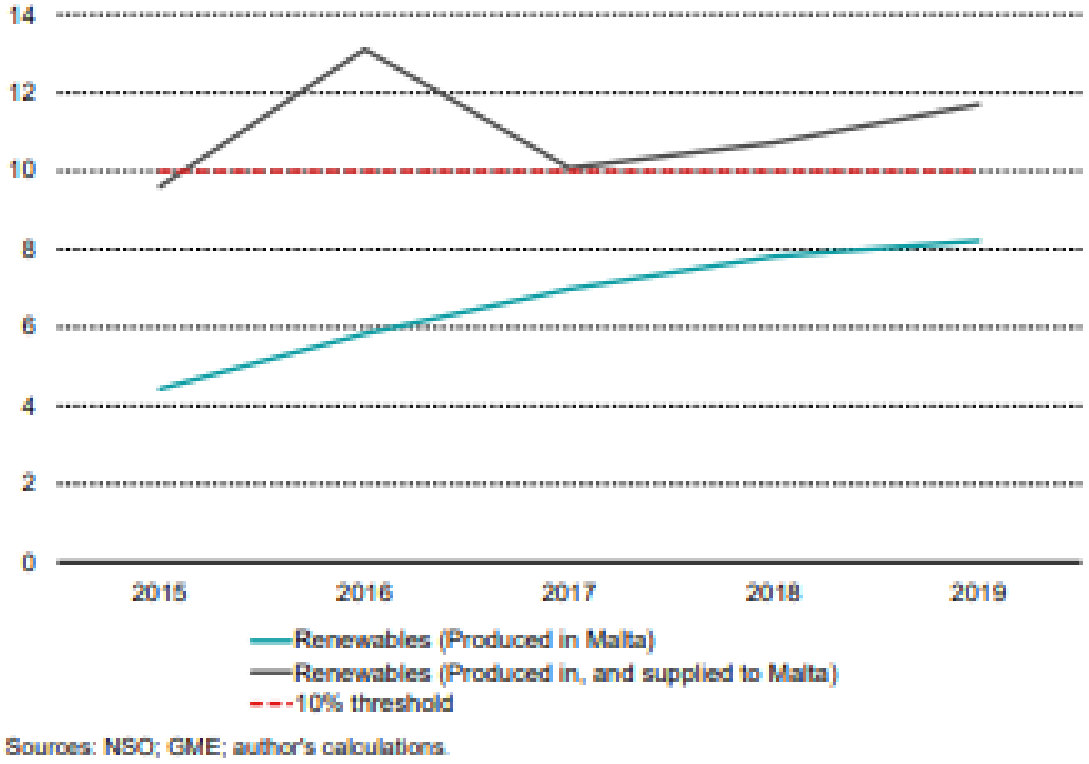
Magħluq area, which includes a protected wetland and a pocket beach[43].

Renewable energy

4.88. The *National Energy and Climate Plan* set a target of 11.5% renewable energy in energy consumption by 2030; a 14% renewable energy target applies for the transportation sector too. [44].

4.89. Renewable energy production in Malta has increased from 4.4 per cent in 2015 to 8.2 per cent in 2019. This doubling was the result of a policy drive to increase renewable energy production. Considering the gross local electricity production, the 10 per cent threshold was exceeded from 2016[45], see figure below. The gross local electricity supply includes the imported energy to Malta. It is noteworthy that the figures on the imported energy to Malta includes a number of assumptions.

Figure 4.32: Share of renewable energy in electricity supply

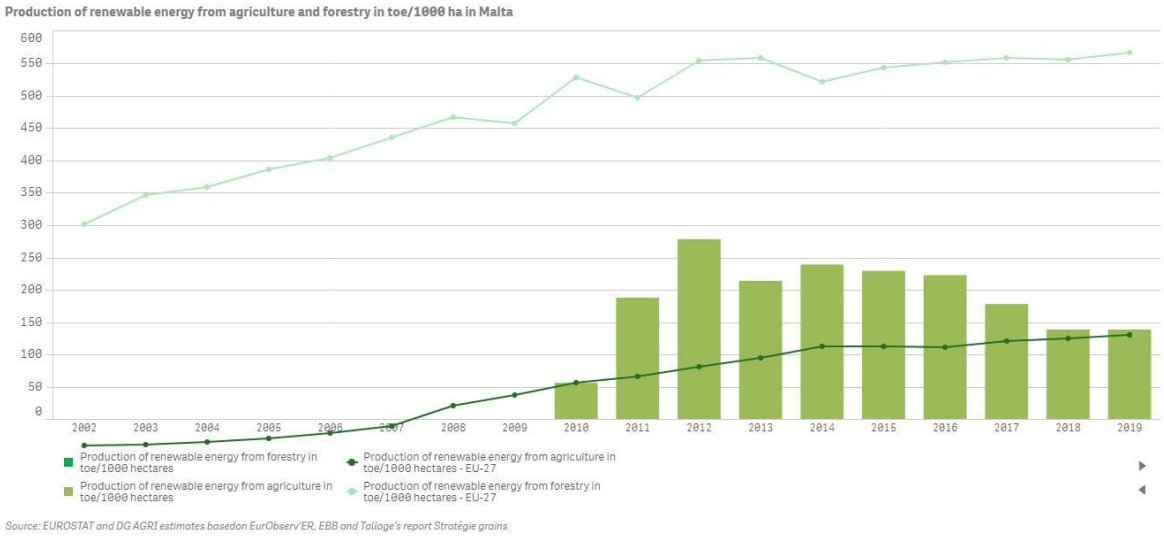


Source: Central Bank of Malta (2021) Renewable electricity in Malta: a question of sources.

[43] Malta Today (2021) Shore protection structures in Marsaxlokk aim to prevent coastal erosion https://www.maltatoday.com.mt/news/national/111926/shore_protection_structures_in_marsaxlokk_aim_to_prevent_coastal_erosion_#.YhYlv-jMKM8 (Accessed on the 23rd February 2022).
[44] EWA (2019) *Malta's 2030 National Energy and Climate Plan.*
[45] Central Bank of Malta (2021) Renewable electricity in Malta: a question of sources. *Quaterly Review* 3:38-40 https://www.centralbankmalta.org/site/Reports-Articles/2021/Renewable-electricity-in-Malta.pdf?revcount=3176 (Accessed online on the 23rd February 2022).

4.90. **Figure 4.33** shows the production of renewable energy from agricultural and forestry biomass. The renewable energy from agricultural biomass sums the amount of energy obtained from: biodiesel from oilseeds crops; bioethanol from starch/sugar crops; second generation biofuels (from non-food cellulosic materials); agricultural biogas (livestock manure and energy crops, waste and residues); energy crops for electricity or heat (including short rotation coppice); and agricultural crop residues for electricity or heat as applicable to Malta. The renewable energy from forestry biomass sums the amount of energy obtained from: wood provided directly from forestry (fuel wood, wood chips, bark, shavings, forest residues) or transformed from any of the above (pellets, briquettes etc.); and forest-based industry by- and co-products in EU used for energy production (e.g. sawdust, black liquor). The indicator is expressed in tonnes of oil equivalent per 1,000 hectares of land. Production of renewable energy from agriculture and forestry is increasing[46].

Figure 4.33: Production of renewable energy from agriculture and forestry in toe/1000 ha in Malta



Electricity supply

4.91. In 2023, two thirds of the electricity supply was generated in Malta; 21.6 per cent was imported and 10.6 per cent was from renewable sources[47].

4.92. In 2015, the interconnector linking Malta to the European mainland grid was inaugurated. In 2017, Malta started to use the same interconnector to export electricity to Sicily.

[46] https://agridata.ec.europa.eu/extensions/CountryFactsheets/CountryFactsheets.html?memberstate=Malta#
[47] NSO (2024) *Electricity Supply: 2023* (NSO184/2021)

4.93. The electricity supply is based on the net production and the imported electricity (reducing the exported electricity). The table and figure below show the electricity supply in Malta from the power plants and the renewable sources together with the imports and exports of electricity. Net imports are shown from 2015 onwards since it is related to the use of the Sicily-Malta interconnector.

Table 4.10: Electricity supply by year

megawatt-hours (MWh)

			2019	2020	2021	2022	2023[P]
a	+	*Power Plants*	1,857,984	1,900,262	1,951,818	1,996,507	2,026,021
b	+	*Renewable sources*	201,845	242,814	263,045	296,843	318,606
c=(a+b)		**Gross production**	**2,059,829**	**2,143,076**	**2,214,863**	**2,293,350**	**2,344,627**
d	-	*Own use (Power Plants)*	58,623	62,250	54,595	51,807	48,711
e=(c-d)		**Net production**	**2,001,206**	**2,080,826**	**2,160,268**	**2,241,543**	**2,295,916**
f	+	*Imports (balance)*	656,756	419,810	547,250	646,139	648,353
g	-	*Exports (balance)*	20,451	4,233	35,887	6,853	26,226
h=(e+f-g)		**Electricity supply**	**2,637,511**	**2,496,403**	**2,671,631**	**2,880,829**	**2,918,044**

[P] Provisional

Sources: Enemalta plc, Energy and Water Agency (EWA) and Regulator for Energy and Water Services (REWS).

Notes:

1. The electricity supplied was generated from Enemalta plants at Delimara and Marsa, D3 Power Generation Ltd and Electrogas Malta Ltd plants at Delimara and partly imported via the Sicily-Malta interconnector.
2. Renewable energy is produced from photovoltaic panels, micro wind turbines and Combined Heat and Power (CHP) plants.
3. Own use by power plants is the difference between the Gross and Net production. Refer to definitions in the methodological notes.
4. Totals may not add up due to rounding.

Source: NSO (2024) *Electricity Supply: 2023* (NSO184/2021)

SOIL

4.94. Soil is a basic resource necessary for agriculture and horticulture. It has several functions such as maintaining and supporting vegetation, managing water quality and distribution, preserving archaeological heritage, and managing potential pollutants[48].

4.95. There are seven major soil types with an intricate spatial distribution. This is mostly the result of the movement of excavated soil material, the replenishment of eroded or shallow soils, and the impacts of urbanisation.

4.96. Soil bulk density is an indicator of soil compaction. The higher the density, the more is the soil compact and hence the lower the yields produced and the vegetation cover, making the soil more vulnerable to erosion. Bulk density was calculated in 97 sites in 2003 and 2013. Bulk density stood at 1.12 g/cm^3 in 2003 and 1.17 g/cm^3 in 2013.

4.97. Electrical conductivity indicates the salinity and nitrate levels in the soil. As explained above, five of the fifteen aquifers surpassed the electrical conductivity thresholds, whilst most aquifers surpassed the nitrate levels. In 2013, lower soil electrical

[48] MEPA, State of the Environment Report 2005, Sub-report 5: Soil, 2005.

conductivity was recorded in 67% of the total 141 sites under study. This decline might have been the result of better agricultural practices such as management of fertilisers.

4.98. Soil organic matter is a key determinant of soil productivity. It influences many functions such as exchange of nutrients, water retention, and soil ecology. A major threshold of soil organic matter content is two percent. Below this level, a potentially serious decline in soil quality will occur. Soil was assessed for organic carbon content in 2003 and 2013 (a total of 70 sites). In 2003, the organic content stood at 2.11 % and in 2013, 2.30 %[49]. 59 % of the locations in 2013 had higher organic carbon content when compared to 2003. This represents a marginal improvement in soil quality and its functions.

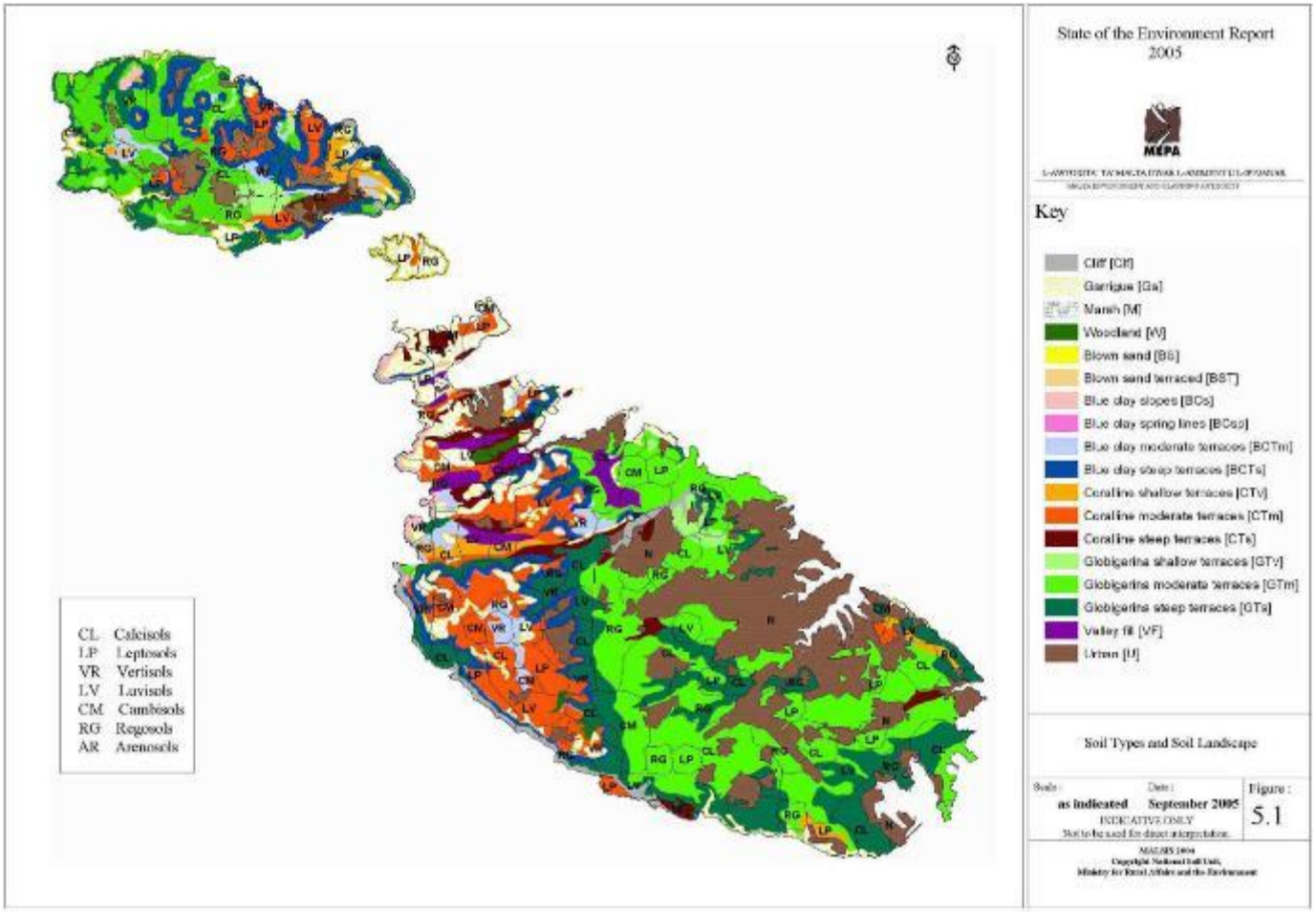
4.99. The soils were also tested for their pH value. The 2013 assessment showed that 65% of the 40 sites registered a decrease in pH values. In 2003, the average pH value was 8.01, whilst the average pH value in 2013 was 7.92.

4.100. Soil moisture has increased between 2003 and 2013. An increase in soil moisture was recorded in 61% of the sites (from a total of 148 sites).

4.101. Soil depth was measured in 2013. The average soil depth, excluding sites exceeding the 200 cm depth, was 47.76 cm. Soil depths less than 10 cm were typical of plateaux and steep valley sides. Soils between 10 cm and 100 cm have been associated with agricultural areas.

[49] ERA (2018) Land & Coast (Chapter 4) State of the Environment Report

Figure 4.34: Soil types and soil landscape

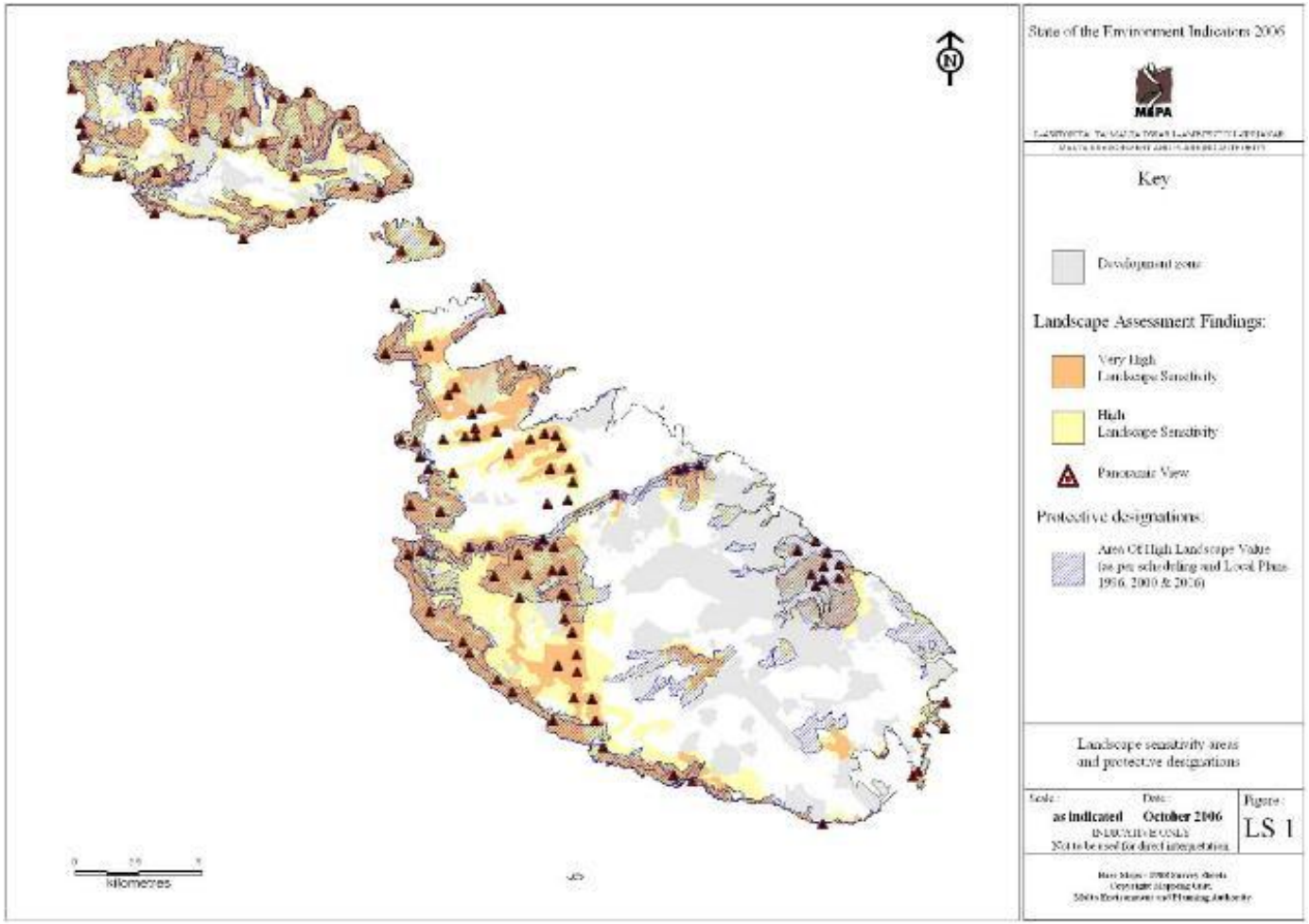


Source: MEPA, State of the Environment Report 2005, Sub-report 5: Soil, 2005

LANDSCAPE

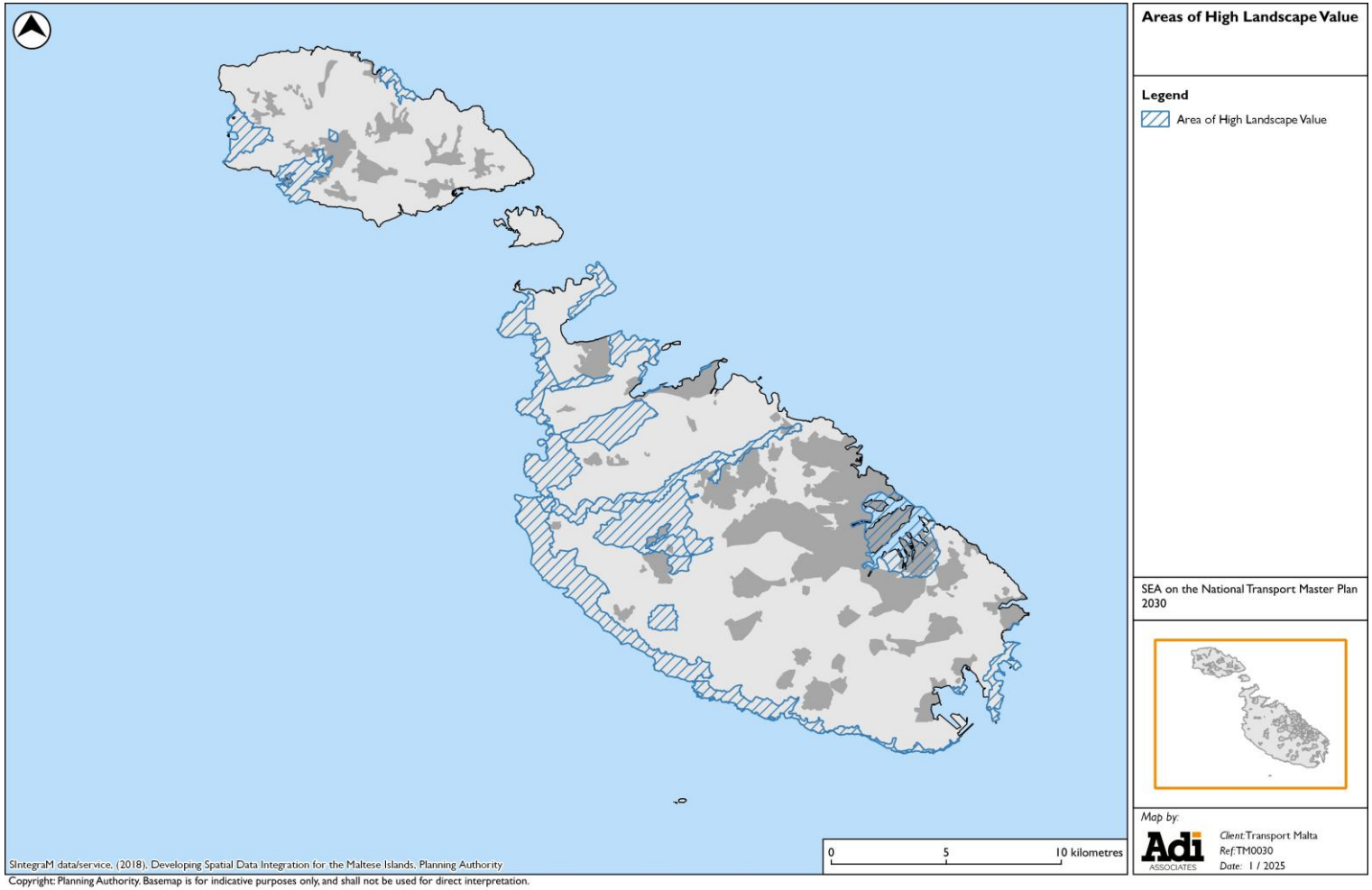
4.102. In 2004, MEPA published a Landscape Assessment Study. The Study concluded that 51 per cent of the landscape is of high or very high sensitivity, see **Figure 4.35**. Until 2021, there were 14 Areas of High Landscape Value (AHLV), which cover 64.2 km^2, that is 20.3 per cent of the Maltese Islands, see **Figure 4.36**.

Figure 4.35: Landscape Sensitivity Areas and Landscape Protective Designations



Source: MEPA, State of the Environment Indicators 2006, 2007

Figure 4.36: Areas of High Landscape Value (AHLVs)



CULTURAL HERITAGE

4.103. Malta's history is reflected in its rich cultural heritage sites, buildings, and expressions.

4.104. Buildings, monuments, and sites (including marine sites) are protected through the Cultural Heritage Act and the Development Planning Act. The former allows the Superintendent of the Cultural Heritage to recommend to the PA sites and buildings for scheduling, whilst the latter establishes the PA as the competent authority to schedule culturally important buildings and sites. In addition, three sites, namely the city of Valletta, Ħal Saflieni Hypogeum, and the megalithic temples (Ħaġar Qim, Mnajdra, Tarxien, Skorba, Ta' Ħaġrat and Ġgantija) are UNESCO World Heritage Sites. In 2020, the Maltese *ftira*, a flattened sourdough bread, was the first local product to be enlisted in the UNESCO's Intangible Cultural Heritage of Humanity list. T his was followed by L-Għana, Malta's traditional folksong, in 2021; and Il-Festa Maltija, the Maltese feast, in 2023.

4.105. In addition to scheduled properties there are scheduled areas for landscapes and archaeology such as Areas of High Landscape Value (AHLVs) and Areas of Archaeological Importance (AAI).

4.106. Another important designated feature is the Urban Conservation Area (UCA) which is an urban area with a distinctive character making it worthy of protection and conservation. Urban Conservation Areas are protected from inadequate developments that can jeopardize the integrity of these zones.

4.107. The agricultural sector is also directly linked to the cultural heritage of the Maltese islands. The agricultural landscapes include vernacular rural structures with the most important feature being the dry rubble wall. Other typical features include traditional farmhouses and corbelled stone huts (*giren*). Agriculture also contributes to intangible cultural heritage assets such as traditional recipes and foods amongst others.

4.108. The typical dry-stone walls also known as rubble walls, together with non-habitable structures are protected through the Rubble Walls and Rural Structures (Conservation and Maintenance) Regulations as amended by LN 169 of 2004. These structures are protected because *of their historical and architectural importance, their exceptional beauty, their affording a habitat for flora and fauna, and their vital importance in the conservation of the soil and of water*.

4.109. Over the years Malta's Rural Development Programmes (RDP) have funded the building and repair of rubble walls to protect soil from erosion and safeguard the traditional agricultural landscape.

MATERIAL ASSETS

Transport infrastructure

4.110. Transport can be divided into three main branches: air transport, maritime transport, and land transport.

4.111. Malta has one international airport. In 2022 there was a 130% increase on the 2021 traffic. This sharp increase was a result of the COVID-19 pandemic which resulted in a sharp drop in air traffic. Italy and the UK were key origin/destinations with 1,322,699 and 1,060,264 passengers respectively[50].

4.112. Malta has always been a maritime centre and has a number of harbours. The main port is the Grand Harbour at Valletta. Another harbour is the Port of Marsaxlokk, which has a container terminal and industrial storage facilities. The Ċirkewwa and Mġarr (Gozo) ports are the ports used for inter-island ferry transport. In 2022, there were 40,739 inter-islands trips (Malta-Gozo) and 421,944 Valletta-Three Cities ferry trips. There are currently 11 yacht marinas with a total of 2,461 berths. In 2022, 283 cruise liners called in Malta[51].

4.113. In 2022, Malta had 8,644 registered vessels: 5,837 pleasure yachts, 730 motor fishing vessels, 1,034 dry bulk carriers, 769 liquid bulk carriers (tankers) and 274 other types of vessels[52].

4.114. In 2022, there were 424,904 licensed vehicles in Malta. Passenger cars totalled to 74.7% of these vehicles. The number of traffic accidents during this year was 15,713. There were a total of 28 fatalities[53].

4.115. In the same year there were 2,517 agricultural motor vehicles and 1,160 road tractors[54].

4.116. Currently the public transport is run by the Malta Public Transport which was set up in 2014 as the bus service operator. In 2022, the number of public transport commuters amounted to 49.22 million passengers[55].

Modal split

4.117. The National Household Survey 2021 revealed the high dependence on private car usage. The survey showed that 84.3 per cent of all trips in the survey were undertaken by the private car, seven per cent walked and another 5.2 per cent used other modes. The use of private vehicles is most prevalent among the travellers of

[50] NSO (2024) *Transport Statistics 2023*
[51] Ibid.
[52] Ibid.
[53] Ibid.
[54] Ibid.
[55] NSO (2024) *Transport Statistics 2023*

25 and 44 years of age, while persons aged 65 and over walk the most.

Green infrastructure

4.118. Green infrastructure has been defined as "a strategically planned network of natural and semi-natural areas with other environmental features designed and managed to deliver a wide range of ecosystem services. It incorporates green spaces (or blue if aquatic ecosystems are concerned) and other physical features in terrestrial (including coastal) and marine areas. On land, GI is present in rural and urban settings"[56].

4.119. The 'Spatial analysis of green infrastructure in Europe' (EEA, 2014) shows that both the conservation and the restoration GI networks applicable for Malta are 0.0%. This value, which is also applicable to Cyprus, is explained through the fact that, when compared with the European average, Malta's size does not allow it to be described as an optimal/maximum ecosystem service provider. It is more appropriate, therefore, to also consider GI at national and regional level rather than at European level when describing GI in the Maltese Islands.

4.120. Malta's national policy framework for the environment is the National Environment Policy (NEP) adopted by Government in February 2012. It lays down the principles upon which Malta's environment will be managed and upgraded, and which other non-environmental sectors must respect and adhere to. Green infrastructure in the NEP is specifically referred to in the context of achieving the 15% target on the restoration of damaged ecosystems adopted at EU level (Measure 2.6.22 of the NEP).

4.121. The NEP also includes measures that cover particular elements of green infrastructure namely vis-à-vis protected areas (Measures 2.3.16 and 2.6.19), increasing urban green space (Measures 2.2.21), enhancing the contribution of afforestation projects to deliver ecosystem services such as in terms of flood management, soil erosion control, and recreation (Measure 2.4.29), promotion of safe and healthy rural areas for informal recreation (Measure 2.4.30), integrated valley management (Measure 2.4.33), countryside access (Measure 2.4.34), pedestrian rights of way (Measure 2.4.35) and protection of the countryside from inappropriate development (Measure 2.4.36), amongst others.

4.122. Malta's National Biodiversity Strategy and Action Plan to 2030, serves as the main national policy instrument dedicated to biodiversity and its mainstreaming in line with the UN Convention on Biological Diversity (CBD) and its Article 6. Specifically in the context of GI, the NBSAP calls for the following: TARGET 7: By 2030, there is an increase in coordinated and strategic application of nature-based solutions, including blue green infrastructure, so as to contribute to climate change mitigation and adaptation and noise abatement, while ensuring ecosystem resilience and supporting

[56] EC (2013) Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - Green Infrastructure (GI) — Enhancing Europe's Natural Capital

urban biodiversity.

EVALUTION OF THE BASELINE IN THE ABSENCE OF THE IMPLEMENTATION OF THE TMP

4.123. The SEA Regulations require a description of the relevant aspects of the current state of the environment and the likely evolution thereof without the implementation of the TMP with a particular emphasis on the future developments arising from other relevant plans and programmes.

4.124. The description of the likely future trends should the TMP not be implemented is further constrained by uncertainties including availability of data on future economic development, technological progress or advancements in regulatory frameworks that collectively influence future trends. The following assessment, therefore, includes certain assumptions.

4.125. This analysis focuses on the main environmental issues that have been identified and described above. It includes a description of the past and current trends from data available from existing monitoring systems or through expert judgement (in cases where data are lacking). It also outlines the likely evolution of these trends, if the TMP were not implemented.

Biodiversity

4.126. The main impacts on biodiversity resulting from the implementation of the TMP are likely to result from the implementation of infrastructure projects both on land and in the marine environment in sensitive areas as well as stretches of road close to sensitive areas. It is unclear whether in the absence of the Master Plan such projects would be funded.

4.127. In the absence of Master Plan, there is still likely to be pressure on the development and regeneration of greenfield and brownfield sites that have the potential to have negative effects on biodiversity. This may be offset by increasing provision of open space, increasing awareness of biodiversity needs and sensitive design.

Population & Human Health

4.128. In the absence of the TMP, a continued reliance on private cars will continue to exacerbate problems related to air and noise pollution and subsequent health issues arising from such pollution. In the absence of the Master Plan, the sector will also be unlikely to help combat the issue of obesity in the Maltese Islands as alternative modes of transport are unlikely to be promoted.

Emissions to air and climate change

4.129. Both emissions to air and climate change targets are regulated by legislation and requirements at EU level (refer to Appendix 1 of Scoping Report presented as an Appendix to this Environmental Report). It is anticipated that the Master Plan will contribute positively to climate change as a number of actions are targeted at reducing private car use, increasing modal shift, reducing vehicle age, and improving

infrastructure for pedestrians and cyclists with a view to reduce GHG emissions. The various measures are designed to contribute to the achievement of EU and national climate change targets. In the absence of the Master Plan, the attainment of climate change targets and improved air quality will be more difficult.

4.130. Current levels of transport related CO_2 in Malta are high; without intervention, overall traffic levels on the local highway network during the peak hours will increase further. This will increase the level of CO_2 emissions from transport, counteracting technological improvements in the energy efficiency of vehicles.

4.131. The effects of climate change will become more apparent in the future, increasing the risk of flooding and intrusion of the sea. Transport infrastructure, in particular roads, is likely to be affected by flooding, and sea level rise. The use of public transport may also be affected by high summer temperatures. The actual impacts will depend on the climate change adaptation measures that are introduced.

4.132. Without the Master Plan, despite technological improvements, localised air quality problems are likely to persist and may become worse due to increasing levels of traffic and congestion.

Water

4.133. The implementation of the Water Framework Directive is likely to result in improvements to the water environment. It is likely that the water environment will be safeguarded in the future and even in the absence of the Master Plan, any projects that could affect inland and groundwater and the marine environment will require an impact assessment with implementation of mitigation measures as appropriate.

Landscape

4.134. Landscape impacts from the TMP are mainly related to the siting of certain infrastructure. Positive impacts could accrue in terms of improving the quality of both the urban and rural environment especially through measures related to modal shift. Pressures for development have the potential to reduce landscape quality in the future, affecting the amount and quality of open space and green belt.

Cultural Heritage

4.135. In the absence of the TMP, increasing traffic levels are likely to reduce the quality of the public realm and setting of cultural and heritage assets. Regeneration efforts are likely to offset these negative effects to some degree, improving the quality of the built environment.

Material Assets

5. Local transport infrastructure requires significant investment, and a number of regeneration initiatives are currently under way. However, successful completion of the ongoing projects without the Strategy and Master Plan in place may be undermined. Key routes operate at capacity and increasing congestion levels will further affect the efficiency of the transport network without the Strategy and Master Plan.

5. CHAPTER 5 – SEA FRAMEWORK

INTRODUCTION

5.1. This Chapter describes the identification of the objectives against which the TMP will be assessed in the SEA process.

5.2. Although the SEA Directive does not specifically require the use of objectives or indicators in SEA, they are a recognised way to describe, analyse, and compare environmental effects. SEA objectives encompass the relevant national and EU environmental priorities that can be inferred from a number of relevant national documents, as outlined below. The TMP is assessed in light of the SEA objectives. The TMP's performance against the SEA objectives is generally measured by indicators. The SEA objectives are distinctly different from the TMP's objectives, though the two influence each other, and they may overlap. To fulfil the requirements of the SEA Directive and the SEA Regulations S.L. 549.61, the SEA objectives must cover: biodiversity; population; human health; fauna; flora; soil; water; air; climatic factors; material assets; cultural heritage; and landscape, as well as the interrelationships between them where these are relevant to the sector being addressed by the plan or programme. Those objectives relevant to the TMP are described in this chapter.

5.3. In developing appropriate objectives and indicators the following documents have been consulted:

- The GRDP "Handbook on SEA for Cohesion Policy 2007- 2013";
- The Commission's "Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment";
- A Practical Guide to the Implementation of the SEA Directive, ODPM;
- The SEA Directive 2001/42/EC;
- SEA Regulations, 2010;
- The European Green Deal targets and associated plans and strategies;
- Malta's Sustainable Development Vision for 2050;
- National Environment Policy, 2012;
- National Strategy for the Environment, 2050;
- Malta's 2030 National Energy & Climate Plan;
- Air Quality Plan for Malta – 2023; and
- Malta's State of the Environment Report, 2018.

SEA OBJECTIVES & INDICATORS

5.4. **Table 5.1** defines the set of objectives relating to the environmental issues identified in **Chapter 4**, in support of which relevant assessment criteria and possible data sources have also been identified.

5.5. The SEA indicators are measurements of trends over time. Changes in the indicators show whether the implementation of the TMP would be, or has been, successful in improving the environment. It is to be noted, however, that changes in the indicators could be the result of factors outside the influence of the TMP. Hence, the SEA process is both uncertain and constrained.

5.6. The proposed indicators will not all be relevant to all the recommendations.

Table 5.1: SEA environmental objectives & indicators for assessing impacts

Issue	SEA Objective	Criteria How will this measure…	SEA Indicator	Data source
Biodiversity, Flora & Fauna	• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	• Number of permitted sites in protected areas • Conservation status of habitats and species	Environmental monitoring through Environmental Impact Assessment (EIA), Appropriate Assessment (AA), or other regulatory requirements as relevant. Environment & Resources Authority Natura 2000 Management Plans National scheduling and protection statuses
Human health and Population	• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	• Compliance with air quality emission level standards • Number of noise complaints related to transport related activities • Number of road accidents/injuries • Access to services and facilities by public transport, walking and/ or cycling • Number of improvement schemes for pedestrian and cycle routes • % of bus fleet with facilities for accessibility for the disabled and people with impaired mobility	Transport Malta Environment & Resources Authority National Statistics Office

Issue	SEA Objective	Criteria How will this measure…	SEA Indicator	Data source
	• To improve accessibility and transport links to services, facilities, and opportunities		• Modal split • Bus services running on time • Journey times • Public transport patronage • Satisfaction with local bus service • Number of schemes for improving transport coordination and integration including interchange between cycling / walking and other forms of travel • Life expectancy	
Water	• To meet the standards required by the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	• Quality of the marine environment • Bathing water quality • Number of pollution incidents attributable to transport related activities • Quality of the marine environment in terms of biological and physico-chemical elements • Quality of groundwater in the vicinity of any projects related to the transport sector • % of rainwater harvested	Environmental Health Directorate Water Services Corporation Environment & Resources Authority Energy and Water Agency.
Emissions to air	• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	• Emission trends of key pollutants (such as NO_2, PM_{10}) over time	Environment & Resources Authority Climate Action Authority

Issue	SEA Objective	Criteria How will this measure…	SEA Indicator	Data source
Climatic factors and climate change	• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	• CO_2 emission trends over time • Area of land at risk of flooding • Number of projects in flood risk areas • Number of projects that feature energy efficient design and/or use of renewable energy • Proportion of fleet using alternative fuel technology • Modes of transport	Environment & Resources Authority Climate Action Authority Transport Malta
Soil	• To prevent soil sealing	• Affect soil sealing?	• Soil conservation in the vicinity of any projects related to the transport sector • Number of pollution incidents attributable to transport related activities • Area affected by new developments • Number of soil permits issued by the Department of Agriculture for transport related projects	Environmental Impact Assessment, Environmental monitoring as part of permit Department of Agriculture
Material assets	• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical	• Use green infrastructure? • Affect sustainable transport modes?	• Number of measures/actions that include green infrastructure • Number of vehicles on the road over time • Number of schemes aiming to modernise and upgrade the transport systems • Modal shift	Planning Authority Transport Malta

Issue	SEA Objective	Criteria How will this measure…	SEA Indicator	Data source
	infrastructure standards			
Cultural heritage	• To maintain or improve the conservation status of cultural heritage sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant	• Affect cultural heritage including archaeological heritage? • Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	• Number of operations located away from cultural heritage sites / areas or areas with known cultural / archaeological remains as a percentage of the total number of operations • Number of projects targeting the improvement of the cultural landscape, townscape or quality/amenity of Urban Conservation Areas	Planning Authority Superintendence of Cultural Heritage
Landscape	• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	• Environmental Impact Assessment results on landscape assessment • Number of transport measures aimed at improving local landscape character	Environment & Resources Authority Planning Authority Transport Malta

6. CHAPTER 6 – ASSESSMENT OF ALTERNATIVES

6.1. The SEA Directive Article 5(1) states:

Where an environmental assessment is required under Article 3(1), an environmental report shall be prepared in which the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives taking into account the objectives and the geographical scope of the plan or programme, are identified, described and evaluated.

6.2. No alternatives to the Plan were made available by Transport Malta. The only options considered were the 'do-nothing scenario' and the TMP as described in this Environment Report.

6.3. Transport Malta advised that only one option was considered because:

Following an evaluation of environmental, social and economic benefits against compared to the cost of investment, the benefits outweighed the costs. Benefits were seen in GHG emission reduction, air pollution savings, savings in lost time and vehicle operational costs as well as a reduction in the economic and social cost of accidents. The benefit-to-cost ratio (BCR) of the package of measures was 1.30 with a payback of the cost of investment by 2051.

6.4. As described in Section 3 of the TMP the following scenarios were modelled:

*The **Business-As-Usual scenario (BAU)** includes all the recently implemented supply changes to the transport network as of 2021. It refers to a probable scenario regarding implemented infrastructure projects and measures, and no further significant policy changes that would significantly affect the supply or demand of transport.*

*The **Do-Something scenario (DS)** contains a package of measures involving infrastructure projects, improvements and incentives to multimodal and public transport, provision of new park-and-ride services, and a large investment in transport electrification. In this case, only the time horizon 2030 is considered due to the relatively short period considered in the TMP.*

6.5. The TMP compares the baseline scenario (2021) with the BAU scenarios for 2025 and 2030 and the DS scenario for 2030. The relative increase in daily trips to 2021 is 9% in 2025 and 18% in 2030 for both BAU and DS growth scenario. The resulting increase of freight daily trips is 20% in 2025 and 40% in 2030. In modal share terms, AM and PM results differ slightly.

6.6. In terms of modal split, similar results were obtained for both forecast years since the transport supply is similar. The impact of the measures (DS scenario) is low in the modal share, since the measures are mainly focused on road projects. Public Transport (PT) share, including Park and Ride (P and R), increases from 7% in the Base Year up to almost 10%.

6.7. In the DS scenario, in which measures are focused on improving the modal share for public transport, the impact in the modal share is higher. Specifically, for the AM period, the PT share increases up to almost 11%, 3 points higher than in BAU 2030

and almost 5 points higher than in the Base Year Model (BYM). Similar results are obtained in the PM scenario.

Table 6.1: Daily trips by scenario

Daily Mobility	Base year 2021	BAU 2025	BAU 2030	DS 2030
Daily person trips	482,776	524,880	571,829	571,828
increase (ref. 2021)	-	*9%*	*18%*	18%
Freight trips	8,361	10,063	11,735	11,735
increase (ref. 2021)	-	*20%*	*40%*	*40%*

Source: National Transport Master Plan, Section 3

Table 6.2: Modal choice by scenario and time period AM/PM

Modal Choice – AM (%)	Base year - 2021	BAU 2025	BAU 2030	DS 2030
Car share	88.14	85.93	85.07	82.48
PT share	6.05	7.77	7.95	10.42
Others	5.05	5.81	6.46	6.32
PandR	0.76	0.50	0.52	0.78
Modal Choice – PM (%)				
Car share	88.85	85.98	85.04	80.34
PT share	7.90	10.33	10.86	15.08
Others	2.83	3.09	3.51	3.55
PandR	0.42	0.59	0.59	1.03

Source: National Transport Master Plan, Section 3

6.8. The TMP also estimated the total quantity of pollutants generated by the transport sector yearly for each of the future scenarios.

6.9. In general terms, in 2030, due to the impact of the planned measures included in DS (vehicle electrification and increase in the public transport modal share) emission levels are slightly better than those obtained in BAU2025.

6.10. The TMP also describes the modelling results of the yearly fuel consumption by vehicle type in tonnes and fuel type in terajoules (TJ) and the CO_2 emissions as well as the pollutants emissions for the future BAU and DS scenarios.

6.11. Considering that vehicle characteristics remain constant in the NTM for the future scenarios, CO_2 emissions drop by 11% in the DS scenario compared to BAU due to the investments. For the air pollutants considered, the impact in the DS scenario is of a reduction of 8% in CO and in NMVOC annual tonnes emissions and 12% in NOx emission levels. In terms of PM emissions, in DS they are reduced by 16%.

Table 6.3: Estimation of annual fuel consumption (tonnes/year and TJ/year)

Vehicle type	**BAU 2025**	**BAU 2030**	**DS 2030**
LV (t)	162,224	176,154	156,471
HV (t)	11,100	12,964	11,800
PT (t)	7,485	7,520	6,768
Total (t)	180,809	196,638	175,039
Fuel type			
Total petrol (TJ)	5,211	5,660	5,219
Total diesel (TJ)	2,717	2,961	2,461
Total (TJ)	7,928	8,622	7,680

Table 6.4: Air Pollutants: Estimation of annual emissions of CO, PM, NOx and NMVOC

Pollutant	**BAU 2025**	**BAU 2030**	**DS 2030**
CO	10,281.27	11,171.98	10,298.48
PM	76.28	83.59	70.00
NOx	2,021.34	2,188.13	1,933.40
NMVOC	1,246.65	1,354.45	1,245.30

Table 6.5: Climate change: CO2eq Emissions in tonnes

Pollutant	BAU 2025	BAU 2030	DS 2030
CO_2 (t)	562,429	611,686	544,023
CH_4 (t)	162	176	161
N_2O (t)	39.8	43.2	38.8
CO_2 eq (t)	598,757.04	651,185.80	579,383.54

7. CHAPTER 7 – ASSESSMENT OF ENVIRONMENTAL EFFECTS AND PROPOSED MITIGATION

INTRODUCTION

7.1. This Chapter describes the assessment process followed in the SEA and describes the results of the assessment and mitigation measures recommended to minimise or negate the impacts.

ASSESSING SIGNIFICANCE

7.2. Significance is assessed in accordance with the criteria listed in Schedule 2 of the SEA Regulations, 2010. It is already well established in Environmental Impact Assessment (EIA) literature whereby significance is a function of impact magnitude and the sensitivity of receptors. Significance may be determined in a number of ways, including expert judgement, the use of thresholds, reference to legislation, and consultation with stakeholders. Although this SEA draws on each of these methods, expert judgement and consultation predominate.

7.3. The assessment of significance is based on the probability of the impact occurring, on the scale of the impact, its duration, reversibility, whether it has transboundary effects, and the certainty of impact prediction. **Table 7.1** describes the assessment framework and the symbols used to denote the various types of impact.

7.4. The relevant SEA objectives identified in **Chapter 5** are used to assess the measures in accordance with the significance criteria described below.

Table 7.1: Assessment legend

Impact character	Symbol	Description of Impact
Probability	VP	Impact very likely to occur
	P	Impact likely to occur
Scale	++	Large positive impact
	+	Positive impact
	0	No impact
	-	Negative impact
	--	Large negative impact
Direct / Indirect	I	Indirect impact
	D	Direct impact
Frequency / duration	LT	Long term
	ST	Short term
Transboundary dimension	TR	Possible transboundary effect
Uncertainty	?	Impact uncertain

IMPACT ASSESSMENT

7.5. Based on the methodology described above, each of the themes were assessed against each SEA objective. The results are presented in **Table 7.2**. No potential significant transboundary impacts were identified.

Table 7.2: Impact assessment

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
Theme 1: Strategic Planning Policy & Framework					
Operational Objectives: • Put in place and maintain a strategic framework for the integrated, long-term planning and design of Malta's transport network • Identify new and sustainable financing mechanisms • Incorporate climate adaptation and mitigation in the long-term planning and design of Malta's transport network • Establish and maintain a framework (strategic and procedural) for research and innovation in transport • Explore the establishment of a single transport accident safety investigation entity covering all modes • Develop and Maintain a High-Quality Road Network in line with the EU TEN-T Policy					
• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	Most of the objectives and measures under this theme are related to monitoring framework, financing mechanisms, surveys, guidelines, databases and research and innovation. There is one operational objective that requires interventions on the TEN-T road network. These interventions include removal of traffic bottlenecks and reduction in severance between urban communities in Marsa, Tarxien, Regional Road, more efficient use of road space and reduction in the severance on Route 6, upgrading of road quality and improving safety at the Valletta Ring Road, removing conflicts between high traffic flow and urban activity and major junction improvement in Bulebel, removal of traffic bottleneck along Route 1 and improving connectivity between TEN-T Core and Comprehensive Road networks in Hamrun / Marsa, upgrading of road infrastructure quality on Marsalforn Road, New Link Road to Smart City, Removal of traffic bottleneck by upgrading intersection between Triq Guze Duca, Triq Manuel Dimech and Triq L-Imdina, Qormi and the Msida Creek grade-separated intersection.	P - - D LT	The softer interventions are unlikely to have a significant effect on biodiversity. However, the infrastructure projects listed in the TMP could affect biodiversity as well as land take up. While most of the interventions are in urban areas, some abut Natura2000 sites and agricultural areas such as the interventions near the former White Rocks Complex, the Link Road to Smart City and the Marsalforn Road. The Msida Creek project also involves works in the marine environment. Impacts from such road works in particular the creation of a new road across mainly agricultural land is expected to have a negative impact on this SEA objective.	Transport interventions should be sited away from sensitive / protected ecological areas. Ensure that prior to major infrastructure interventions the required EIA and AA studies are carried out including the assessment of alternatives. Compensatory measures to be provided in the case of uptake of land and impacts on biodiversity. Monitoring of works for infrastructure abutting natural sites to ensure there is no overspill into areas outside the designated infrastructure routes. Measures for the enhancement of biodiversity should be implemented and, where possible, measures such as the use of native species where planting is required, the use of SUDS ponds and the creation of greenways for the continued linkage of habitats, and wildlife tunnels in areas known to harbour populations of protected fauna (e.g. hedgehogs), should all be considered.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options • To improve accessibility and transport links to services, facilities, and opportunities	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	As above.	P 0	With the exception of the further development of the TEN-T network the measures are all soft measures that involve planning, monitoring, surveying, and analysis that in their own right do not yield any tangible benefits on human populations. Hence no positive or negative impact is predicted on human health from the measures. The extension of the TEN-T network promotes road users and not sustainable modes of transport so while traffic congestion would be addressed in the short-term, benefits in the long term are unlikely.	To accrue benefits from the proposed measures it is strongly recommended that each of the measures is associated with a target. The Plan also requires strategic targets in relation to some of the indicators being assessed under this SEA Objective such as a target for a reduction in air pollution, a target for increase road safety and targets for modal shift.
• To meet the standards required by the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	As above.	P (+) I LT	No significant impacts on water are expected from the proposed measures. Some positive impacts would accrue if stormwater management infrastructure is included in planned roads.	To ensure that the development of new roads / upgrading of the TEN-T network includes stormwater management and, where possible, rainwater harvesting.
• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	As above.	P +/- D LT	The investment to upgrade the TEN-T network is aimed at reducing bottlenecks and therefore alleviating air pollution in certain areas. However, in the medium term it is likely that the roads would become saturated again and improvements in air quality will be limited.	It is strongly recommended that targets related to pollutants from the transport sector are set in order to gauge the effectiveness of the proposed measures. Furthermore, all proposed roads should include infrastructure for alternative transport modes.
• To ensure resilience to climate change by minimising the risk of flooding and adapting	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	One of the measures that specifically mentions climate change states: *Monitor the share of GHG emissions from transport that could be mitigated*	?	While the measure on climate change commits to monitoring GHG emissions from transport, it does not give any indication as to targets of reduction as a	To include a target, in line with national targets, of how the TMP will achieve climate related targets from emissions from the transport sector.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions		*by the measures recommended in this master plan and, therefore, fairly contribute to climate change targets.* Furthermore, the explanatory text states: *Malta's National Energy and Climate Plan commits to a 2030 target of 19% of ESR GHG emissions from 2005 levels. The transport sector is a large contributor to emissions; indeed, in 2023 it contributed to 34% of total national GHG emissions and approximately 49% of ESR emissions….. This measure further commits to this cooperation, and indeed, it should be integrated into the general monitoring of the implementation of the Transport Master Plan.*		result of the TMP and contains no specific goals related to climate change. The effectiveness of the measure to reduce transport related CO_2 emissions is therefore uncertain.	
• To prevent soil sealing	• Affect soil sealing?	As above.	P - D LT	The softer interventions are unlikely to have a significant effect on soil. However, the infrastructure projects listed in the TMP could affect soil sealing through land take up. Impacts from such road works, in particular the creation of a new road across mainly agricultural land, is expected to have a negative impact on this SEA objective.	Transport interventions should be designed to avoid significant adverse impacts to Good Quality Agricultural Land. Ensure that prior to major infrastructure interventions the required EIA and AA studies are carried out including the assessment of alternatives. Compensatory measures to be provided in the case of uptake of land. Monitoring of works for infrastructure abutting natural sites to ensure there is no overspill into areas outside the designated infrastructure routes.
• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical infrastructure standards	• Use green infrastructure? • Affect sustainable transport modes?	As above.	P 0/+ I LT	One of the aims of upgrading the TEN-T network is to improve efficiency of transport networks and physical infrastructure standards so part of this SEA Objective is being met. However, the operational objectives do not significantly address green infrastructure or affect sustainable transport modes.	Proposed road interventions should include infrastructure for alternative transport modes.
• To maintain or improve the conservation status of cultural heritage sites / areas with	• Affect cultural heritage including archaeological heritage? • Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	As above.	P - D LT	The softer interventions are unlikely to have a significant effect on cultural heritage. However, the infrastructure projects listed in the TMP could affect cultural heritage through land take up.	Ensure that prior to major infrastructure interventions the required studies are carried out, including the assessment of alternatives. Compensatory measures

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant				Impacts from such road works in particular the creation of a new road is expected to have a negative impact on this SEA objective.	to be provided in the case of uptake of land. Monitoring of works for infrastructure abutting sites of cultural heritage interest or areas known for the archaeological sensitivity.
• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	As above.	P - D LT	The softer interventions are unlikely to have a significant effect on landscape. However, the infrastructure projects listed in the TMP could affect landscape through land take up.	Ensure that prior to major infrastructure interventions the required studies are carried out, including the assessment of alternatives.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
Theme 2: Active Travel and Micromobility					
Operational Objectives: • Develop safe, accessible network of infrastructure for cycling, walking and micro-mobility • Promote the use of cycling, walking and micro-mobility as alternatives to private car journeys					
• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	The measures under these objectives including development of a national cycling strategy, development of a Pedestrian and Cycling Infrastructure Plan, promoting the use of cycling, walking and micro-mobility as alternatives to private car journeys, setting minimum level provision of active travel facilities required at government offices and commercial developments, reviewing the Highway Code, reviewing and implementing an enforcement regime to prevent other road users from using active mobility infrastructure, awareness campaigns, promoting active travel at schools, exploring financial incentives for the purchase of bikes, electric bikes and e-scooters, and improving the vertical and pedestrian connectivity between the Sliema - Valletta ferry service at Valletta and the city centre.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect biodiversity. The impact is therefore neutral.	None required.
• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options • To improve accessibility and transport links to services, facilities, and opportunities	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	As above.	P +/? D LT	All the proposed measures are aimed at promoting active travel and mobility through the development of dedicated infrastructure, development of plans, and promotion of the use of alternative modes of travel and incentives for using sustainable transport modes. However, none of the measures have associated targets so the effectiveness of the measures cannot be assessed.	It is strongly recommended to include targets for each measure as well as overall targets for modal shift.
• To meet the standards required by	• Affect Malta's groundwater, surface water and coastal waters?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect rainwater harvesting capacity?			proposed measures are unlikely to require infrastructure development that could affect water quality. The impact is therefore neutral.	
• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	As above.	P 0	All the proposed measures are aimed at promoting active travel and mobility through the development of dedicated infrastructure, development of plans, and promotion of the use of alternative modes of travel and incentives for using sustainable transport modes. However, none of the measures have associated targets so the effectiveness of the measures cannot be assessed. Furthermore, Chapter 3 of the TMP associates a slight reduction in emissions with electrification of the fleet and the increase in the share of public transport. This indicates that these measures are unlikely to affect this SEA Objectives.	It is strongly recommended to include targets for each measure as well as overall targets for modal shift.
• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	As above.	P 0	All the proposed measures are aimed at promoting active travel and mobility through the development of dedicated infrastructure, development of plans, and promotion of the use of alternative modes of travel and incentives for using sustainable transport modes. However, none of the measures have associated targets so the effectiveness of the measures cannot be assessed. Furthermore, Chapter 3 of the TMP associates a slight reduction in emissions with electrification of the fleet and the increase in the share of public transport. This indicates that these measures are unlikely to affect this SEA Objectives.	It is strongly recommended to include targets for each measure as well as overall targets for modal shift.
• To prevent soil sealing	• Affect soil sealing?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect soil sealing. The impact is therefore neutral.	None required.
• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical infrastructure standards	• Use green infrastructure? • Affect sustainable transport modes?	As above.	P +/? D LT	None of the interventions are likely to have an impact on green infrastructure. However, the aim of the measures is to promote sustainable transport modes. The effectiveness of the measures is uncertain since no targets are associated with the measures	It is strongly recommended to include targets for each measure as well as overall targets for modal shift.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To maintain or improve the conservation status of cultural heritage sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant	• Affect cultural heritage including archaeological heritage? Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect cultural heritage. The impact is therefore neutral.	None required.
• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect landscape character. The impact is therefore neutral.	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
Theme 3: Public Transport and Shared Mobility Services					
Operational Objectives: • Improve service quality and modal share along strategic routes by introducing public transport quality corridors • Improve public transport service quality to and between strategic employment nodes, services outside the inner harbour regions and peripheral residential areas • Improve physical accessibility of public transport service • Reduce the impact of clustering unscheduled public transport particularly in tourism hot-spots and commercial areas					
• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	The measures under these operational objectives include a new national public transport strategy, redesign of the current public transport network, assess the feasibility of a Mass Rapid Transit system, analysis on the prioritisation of public transport over other motorised modes, implementation of Intelligent Transportation System technologies across the public transport network, public awareness campaigns, evaluation of the use of parking facilities integrated with the public transport network to manage congestion in dense urban areas, review of the Valletta public transport hub, evaluation of school transport services, and facilitation of a scaling up of a national car sharing/lift sharing/car club scheme.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect biodiversity. The impact is therefore neutral.	None required.
• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options • To improve accessibility and transport links to services, facilities, and opportunities	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	As above.	P +/? D LT	The aim of the operational objectives and the associated measures is to increase public transport use. Chapter 3 of the TMP suggests that the increase in public transport use is one of the reasons for a slight reduction in emissions from the transport sector. However, the effectiveness of the operational objectives against this SEA Objective cannot be determined with certainty because the objectives and measures lack implementation targets.	It is strongly recommended that targets for objectives and measures are included, in particular the increase in public transport patronage and consequent improvements in air quality as a result of the objectives.
• To meet the standards required by the Water Framework Directive	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect water. The impact is therefore neutral.	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To maintain or improve rainwater harvesting capacity					
• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	As above.	P +/? D LT	In terms of air pollution Chapter 3 of the TMP states: *In general terms, in 2030, due to the impact of the planned measures included in DS (vehicle electrification and increase in the pt modal share), the tendential increase of the environmental externalities linked to transport is reverted, achieving emission levels slightly better than those obtained in BAU2025.* However, the effectiveness of the operational objectives against this SEA Objective cannot be determined with certainty because the objectives and measures lack implementation targets.	It is strongly recommended that targets for objectives and measures are included, in particular the increase in public transport patronage and consequent improvements in air quality as a result of the objectives.
• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	As above.	P +/? D LT	In terms of CO_2 emissions air pollution Chapter 3 of the TMP states: *Considering that vehicle characteristics remain constant in the NTM for the future scenarios, CO_2 emissions drop by 11% in the DS scenario compared to BAU due to the investments.* However, the effectiveness of the operational objectives against this SEA Objective cannot be determined with certainty because the objectives and measures lack implementation targets.	It is strongly recommended that targets for objectives and measures are included, in particular the increase in public transport patronage and consequent improvements in CO_2 emissions as a result of the objectives.
• To prevent soil sealing	• Affect soil sealing?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect soil sealing. The impact is therefore neutral.	None required.
• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical infrastructure standards	• Use green infrastructure? • Affect sustainable transport modes?	As above.	P + D LT	All the operational objectives and associated measures are aimed at improving efficiency of transport networks through the improved patronage of public transport.	It is strongly recommended that targets for objectives and measures are included, in particular the increase in public transport patronage.
• To maintain or improve the conservation status of cultural heritage	• Affect cultural heritage including archaeological heritage? Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant				cultural heritage. The impact is therefore neutral.	
• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect landscape character and scenic value. The impact is therefore neutral.	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
Theme 4: Multimodal Transport					
Operational Objectives: • Improve intermodal seamless mobility (travel information, journey planning services and multi-modal ticketing) • Improve the quality of the environment at primary and secondary public transport hubs					
• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	The measures under these objectives include consolidation of all public transport routes and scheduling data into a single platform, provision of journey planning and ticketing information at key transport hubs such as ferry ports, and carrying out an accessibility audit of all transport hubs to improve the environment for pedestrians, cyclists and vulnerable road users, as well as those with mobility impairments.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect biodiversity. The impact is therefore neutral.	None required.
• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options • To improve accessibility and transport links to services, facilities, and opportunities	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	As above.	P +/? D LT	Again, the aim of the operational objectives and the associated measures is to increase public transport use. Chapter 3 of the TMP suggests that the increase in public transport use is one of the reasons for a slight reduction in emissions from the transport sector. However, the effectiveness of the operational objectives against this SEA Objective cannot be determined with certainty because the objectives and measures lack implementation targets.	It is strongly recommended that targets for objectives and measures are included, in particular the increase in public transport patronage and consequent improvements in air quality as a result of the objectives.
• To meet the standards required by the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect water. The impact is therefore neutral.	None required.
• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	As above.	P +/? D LT	In terms of air pollution, Chapter 3 of the TMP states: *In general terms, in 2030, due to the impact of the planned measures included in DS (vehicle electrification and increase in the pt modal share), the tendential increase of the environmental externalities linked to transport is reverted, achieving emission levels slightly better than those obtained in BAU2025.* However, the effectiveness of the operational objectives against this SEA	It is strongly recommended that targets for objectives and measures are included, in particular the increase in public transport patronage and consequent improvements in air quality as a result of the objectives.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
				Objective cannot be determined with certainty because the objectives and measures lack implementation targets.	
• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	As above.	P +/? D LT	In terms of CO_2 emissions air pollution Chapter 3 of the TMP states: *Considering that vehicle characteristics remain constant in the NTM for the future scenarios, CO_2 emissions drop by 11% in the DS scenario compared to BAU due to the investments.* However, the effectiveness of the operational objectives against this SEA Objective cannot be determined with certainty because the objectives and measures lack implementation targets.	It is strongly recommended that targets for objectives and measures are included, in particular the increase in public transport patronage and consequent reduction in CO_2 emissions quality as a result of the objectives.
• To prevent soil sealing	• Affect soil sealing?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect soil sealing. The impact is therefore neutral.	None required.
• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical infrastructure standards	• Use green infrastructure? • Affect sustainable transport modes?	As above.	P + D LT	All the operational objectives and associated measures are aimed at improving efficiency of transport networks through the improved patronage of public transport.	It is strongly recommended that targets for objectives and measures are included, in particular the increase in public transport patronage.
• To maintain or improve the conservation status of cultural heritage sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant	• Affect cultural heritage including archaeological heritage? Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect cultural heritage. The impact is therefore neutral.	None required.
• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
				biodiversity. The impact is therefore neutral.	

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
Theme 5: Privatised Motorised Transport					
Operational Objectives: • Reduce the role of the car in urban centres and in congested inter urban routes to increase space for other modes • Reduce the adverse environmental, social and economic impacts of motorised modes, both in urban areas and on the wider road network • Promote, facilitate and incentivise the purchase and use of zero-emission vehicles to replace internal combustion engine vehicles for personal/passenger use					
• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	The measures under these objectives include studying the feasibility of Green Travel Plans at new and existing developments that are high-volume travel generators, awareness campaigns around carpooling journeys in connection with green travel plans, assessment of parking provision and development of a comprehensive national parking / travel demand management strategy, updating parking standards to facilitate greater transit-oriented development, continue contributing to the alignment with air quality plans for areas that will exceed EU air quality standards in 2030, feasibility study for a Low Emission Zone within the Northern/Southern Harbour Region, aligning transport policies with noise action plans , review the current approach to providing incentives that promote Malta's clean vehicle fleet renewal and update as necessary to increase uptake of zero-emission vehicles in Malta by 2030, maintain and adapt, as required, the substitution requirements on importers of road diesel and petrol, support the implementation of an EV charging infrastructure deployment plan for road transport and develop a transition plan to ensure the replacement of all public sector vehicles with zero emission alternatives by 2030.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect biodiversity. The impact is therefore neutral.	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options • To improve accessibility and transport links to services, facilities, and opportunities	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	As above.	P +/- D LT	Although one of the operation objectives is: *Reduce the role of the car in urban centres and on congested inter urban routes to increase space for other modes* none of the associated measures are actually aimed at reducing the use of the car. The proposed measures are only related to assessing and studying Green Travel Plans and Parking Standards. There are no targets aimed at reduction in use of the car. The only measure associated with potentially improved air quality is the electrification of the fleet. According to the TMP this is one of the main measures to achieve a slight reduction in emissions. While the operational objectives may contribute to reduce air pollution, they will not contribute to a reduction in traffic congestion and certainly do not encourage modal shift.	It is recommended that the operational objectives address reduced reliance on the car including targets to reduce such reliance. In addition to reducing congestion and improving air quality it would also assist in the uptake of other measures related to sustainable transport modes.
• To meet the standards required by the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect water. The impact is therefore neutral.	None required.
• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	between transport and air quality objectives.	P + D LT	Although one of the operation objectives is: *Reduce the role of the car in urban centres and on congested inter urban routes to increase space for other modes* none of the associated measures are actually aimed at reducing the use of the car. The proposed measures are only related to assessing and studying Green Travel Plans and Parking Standards. There are no targets aimed at reduction in use of the car. Another measure objective is to *continue contributing to the alignment with air quality plans for areas that will exceed EU air quality standards in 2030.* However, the TMP is unclear how this will be achieved and simply states: *As transport is a key contributor to poor ambient air quality, Government will therefore ensure alignment and coherence between transport and air quality objectives.* The only measure associated with potentially improved air quality is the electrification of the fleet. According to the TMP this is one of the main measures to achieve a slight reduction in emissions.	It is recommended that the operational objectives address reduced reliance on the car including targets to reduce such reliance. In addition to reducing congestion and improving air quality it would also assist in the uptake of other measures related to sustainable transport modes. In addition, clearer measures regarding the low emission zones and the implementation of the Air Quality Plan are recommended.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	As above.	P + D LT	Although one of the operation objectives is: *Reduce the role of the car in urban centres and on congested inter urban routes to increase space for other modes* none of the associated measures are actually aimed at reducing the use of the car. The proposed measures are only related to assessing and studying Green Travel Plans and Parking Standards. There are no targets aimed at reduction in use of the car. The only measure associated with potentially improved air quality is the electrification of the fleet. According to the TMP this is one of the main measures to achieve a slight reduction in emissions.	It is recommended that the operational objectives address reduced reliance on the car including targets to reduce such reliance. In addition to reducing congestion and improving air quality it would also assist in the uptake of other measures related to sustainable transport modes. Targets are also required for other measures including implementation of the Air Quality Plan, Low Emissions Zones, concrete measures to restrict parking, and enforcement in the implementation of Green Travel Plans.
• To prevent soil sealing	• Affect soil sealing?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect soil sealing. The impact is therefore neutral.	None required.
• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical infrastructure standards	• Use green infrastructure? • Affect sustainable transport modes?	As above.	P 0/+ I LT	One of the measures is the electrification of the fleet and includes grants and installation of charging pillars. This is expected to contribute positively to part of the SEA objective through the provision of infrastructure. However, none of the measures actually encourage modal shift.	It is recommended that the operational objectives address reduced reliance on the car including targets to reduce such reliance.
• To maintain or improve the conservation status of cultural heritage sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant	• Affect cultural heritage including archaeological heritage? • Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect cultural heritage. The impact is therefore neutral.	None required.
• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect landscape character and scenic value. The impact is therefore neutral.	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
Theme 6: Road Safety and infrastructure Management					
Operational Objectives: • Ensure a robust framework is followed for road safety strategy, regulation and enforcement • Ensure effective and efficient management of roads and related equipment ensuring quality and sustainability of investment through regular maintenance • Raise the level of standard and resources applied to traffic management to address congestion, correct use of traffic lanes, manage diversions and road works and effectively manage incidents • Identify new technology and data management techniques to efficiently monitor, report and fine traffic violations					
• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	The measures under these objectives include updating the Road Safety Strategy for Malta, updating road specifications and standards, increasing operational capacity within the Transport Malta enforcement section, monitoring fine levels and penalty points to ensure they provide the appropriate deterrents for specific road traffic offences, implementing recommendations and investment plan from iRAP road network assessment, reporting on the overall Euro New Car Assessment Programme (Euro NCAP) rating of the Maltese vehicle fleet, carrying out a needs-based analysis in terms of the appropriate number of weighbridges for use at maritime terminals and weigh-in-motion systems on TEN-T road network, implementation of an advanced digital asset management system and the road network, improvement in stormwater management in local roads, reviewing existing guidelines and develop an action plan to improve the quality of street furniture and signage, updating traffic management guidelines to improve traffic management and safety during road works, introducing new digital road permits system to assist in permanent and temporary traffic management, integrating Intelligent Transport Systems in traffic management (ITS) to improve safety and efficiency of the transport network, updating Malta's Speed Camera framework and introducing technology to reduce labour-intensive enforcement.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect biodiversity. The impact is therefore neutral.	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options • To improve accessibility and transport links to services, facilities, and opportunities	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	As above.	P +(?) D LT	The measures are all focused on increasing road safety with a mix of strategy implementation type measures and better enforcement. The success of the measures would determine the contribution to the SEA Objectives. An overall positive contribution to road safety is expected but no impacts on air pollution, congestion and modal shift are anticipated. The degree of improved road safety would be better assessed if the measures were associated with targets.	In order to improve the effectiveness of the measures it is recommended that targets related to road safety such as number of accidents / fatal accidents, etc is included.
• To meet the standards required by the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	There is a specific measure on water that states: *Improve stormwater management in local roads to prevent flooding and avoid degradation of road surfaces*. The explanatory text of the measure states: *There is scope for closer collaboration between relevant entities to ensure that all new stormwater systems (pipes, soakaways and reservoirs) are mapped out and an inventory is kept for maintenance purposes. Furthermore, given the envisaged impact of changes in intensity and rainfall patterns, such infrastructure is essential to ensure safe travel for all road users, reduction of flooding and damages to property and congestion on the road networks.*	P + (?) D LT	The measure is expected to have a positive impact on stormwater management especially if rainwater is harvested. The impact is indicated as uncertain because it is not certain whether there will be a significant amount of rainwater harvesting.	Where possible, ensure that implemented projects have an element of rainwater harvesting.
• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	The measures under these objectives include updating the Road Safety Strategy for Malta, updating road specifications and standards, increasing operational capacity within the Transport Malta enforcement section, monitoring fine levels and penalty points to ensure they provide the appropriate deterrents for specific road traffic offences, implementing recommendations and investment plan from iRAP road network assessment, reporting on the overall Euro New Car Assessment Programme (Euro NCAP) rating of the Maltese vehicle fleet, carrying out	P 0	None of the proposed objectives are expected to have an impact on emissions.	None.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
		a needs-based analysis in terms of the appropriate number of weighbridges for use at maritime terminals and weigh-in-motion systems on TEN-T road network, implementation of an advanced digital asset management system and the road network, improvement in stormwater management in local roads, reviewing existing guidelines and develop an action plan to improve the quality of street furniture and signage, updating traffic management guidelines to improve traffic management and safety during road works, introducing new digital road permits system to assist in permanent and temporary traffic management, integrating Intelligent Transport Systems in traffic management (ITS) to improve safety and efficiency of the transport network, updating Malta's Speed Camera framework and introducing technology to reduce labour-intensive enforcement.			
• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	As above.	P 0	None of the proposed objectives are expected to have an impact on emissions or to decarbonize the transport sector. The impact is therefore neutral.	None.
• To prevent soil sealing	• Affect soil sealing?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect soil sealing. The impact is therefore neutral.	None required.
• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical	• Use green infrastructure? • Affect sustainable transport modes?	As above.	P 0/+ I LT	The measures aim at improving road safety as well as to improve public spaces related to transport infrastructure.	Where possible, to introduce green infrastructure to enhance the public space under the Objective: *Ensure effective and efficient management of roads and related equipment ensuring quality and sustainability of investment through regular maintenance* Where possible, stormwater infrastructure in ODZ areas (e.g. pipes, soakaways and reservoirs) should be contained within the

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
infrastructure standards					footprint of existing roads (Measure 2.7.2.3).
• To maintain or improve the conservation status of cultural heritage sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant	• Affect cultural heritage including archaeological heritage? • Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect cultural heritage. The impact is therefore neutral.	None required.
• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect landscape character and scenic value. The impact is therefore neutral.	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
Theme 7: Land Based Freight					
Operational Objectives: • Reduce the impact of goods-carrying vehicles on urban areas and the road network • Ensure efficiency of freight deliveries					
• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	The measures under these objectives include implementation of a national low-emissions logistics action plan, evaluation of the current scrappage scheme for older commercial vehicles, assessing the impact of freight and logistics movements during peak hours on Malta's road network, facilitate the setting up of a national freight forum by the private sector to improve urban logistics, and studying the feasibility of logistics hubs in industrial areas and last-mile deliveries to surrounding urban areas.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect biodiversity. The impact is therefore neutral.	None required.
• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options • To improve accessibility and transport links to services, facilities, and opportunities	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	As above.	P 0	The objectives are aimed at reducing emissions and congestion associated with freight. However, none of the measures are concrete actions to address these issues; instead, measures are to formulate an action plan, evaluation of scrappage scheme, assessing impacts, setting up of a forum and feasibility study. The effectiveness of such measures is limited so no significant positive impacts are expected.	It is recommended that the measures are made more effective to include measurable targets and actions to reduce the impact of freight on emissions and congestion.
• To meet the standards required by the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect water. The impact is therefore neutral.	None required.
• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	As above.	P 0	The objectives are aimed at reducing emissions and congestion associated with freight. However, none of the measures are concrete actions to address these	It is recommended that the measures are made more effective to include measurable targets and actions to

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
				issues; instead, measures are to formulate an action plan, evaluation of scrappage scheme, assessing impacts, setting up of a forum and feasibility study. The effectiveness of such measures is limited so no significant positive impacts are expected.	reduce the impact of freight on emissions.
• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	As above.	P 0	The objectives are aimed at reducing emissions and congestion associated with freight. However, none of the measures are concrete actions to address these issues; instead, measures are to formulate an action plan, evaluation of scrappage scheme, assessing impacts, setting up of a forum and feasibility study. The effectiveness of such measures is limited so no significant positive impacts are expected.	It is recommended that the measures are made more effective to include measurable targets and actions to reduce the impact of freight on emissions.
• To prevent soil sealing	• Affect soil sealing?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect soil sealing. The impact is therefore neutral.	None required.
• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical infrastructure standards	• Use green infrastructure? • Affect sustainable transport modes?	As above.	P 0	The objectives are aimed at reducing emissions and congestion associated with freight. However, none of the measures are concrete actions to address these issues. The effectiveness of such measures is limited so no significant positive impacts are expected.	It is recommended that the measures are made more effective to include measurable targets and actions to reduce the impact of freight on emissions and congestion.
• To maintain or improve the conservation status of cultural heritage sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant	• Affect cultural heritage including archaeological heritage? • Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect cultural heritage. The impact is therefore neutral.	None required.
• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	As above.	P 0	None of the interventions are likely to have an impact on this SEA Objective since the proposed measures are unlikely to require infrastructure development that could affect landscape character and scenic value. The impact is therefore neutral.	None required.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
Theme 8: Internal Maritime Transport					
Operational Objectives: • Ensure the Internal Maritime Sector is backed by long-term planning to support long term mobility patterns, safety and security • Improve data collection and use across ports and harbours to inform planning and operation of maritime transport and infrastructure • Improve operations and enforcement so that internal maritime transport is properly regulated and monitored • Reduce the adverse environmental, social, and economic impacts of internal maritime navigation					
• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	The measures under these objectives include maximising sea links for passengers and goods using alternative transport modes, assessing the potential of underutilised port areas, new ferry-landing sites and improving the capacity of domestic ports, reviewing the financial sustainability of the Malta-Gozo Ferry Services , exploring further improvements to the framework for collation, analysis and dissemination of meteorological and hydrographic data to support planning, design and operations of internal maritime transport, collaborating with port concessionaires/operators to understand data gaps and determine methods to collect missing data, reviewing the current monitoring and management of vessels within territorial waters to increase the safety of navigation and minimise risks at sea, improving the utilisation of the National Single Window, establishing clear guidelines with port infrastructure users for operators to be aware of and use infrastructure within design limits, carrying out a feasibility study to review opportunities for low-emission or zero-emission infrastructure, vehicles and vessels for internal maritime transport, developing and implementation an internal maritime sustainability plan.	P -(?) D LT	One of the proposed measures namely: *Assess the potential of underutilised port areas, new ferry-landing sites and improve the capacity of domestic ports in line with EU TEN-T* Policy has the potential to significantly negatively affect this SEA Objective since the proposed measure could result in the development of infrastructure on the coast / sea that could affect biodiversity. The impact is therefore potentially negative. There is an element of uncertainty as it isn't clear what projects will be pursued and where.	Ensure that prior to major infrastructure interventions the required EIA and AA studies are carried out including the assessment of alternatives. Where possible sensitive habitats should be avoided. Compensatory measures to be provided in the case of land reclamation and impacts on biodiversity. Monitoring of works for infrastructure in protected areas to ensure there is no overspill into areas outside the designated infrastructure.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options • To improve accessibility and transport links to services, facilities, and opportunities	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	As above.	P +/-(?) D LT	The proposed measures aim to increase the use of sea transport across the Maltese Islands. This could have negative impacts on marine water quality and potentially affect bathing areas in the vicinity of proposed infrastructure or through displacement of vessels from existing berthing sites. The extent of the impact would depend on the intensification of such marine travel. On the other hand, if marine travel is expected to increase, then this could alleviate some road congestion. However, the extent is not expected to be significant as the TMP (Chapter 3) doesn't consider that these measures will reduce emissions.	Ensure that prior to major infrastructure interventions the required EIA and AA studies are carried out including the assessment of alternatives. Monitoring of works for infrastructure in the marine environment to ensure there are no significant impacts on water quality from construction. During operation noise impacts should be addressed, as relevant.
• To meet the standards required by the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	As above.	P -(?) D LT	The proposed measures aim to increase the use of sea transport across the Maltese Islands. This could have negative impacts on marine water quality. The extent would depend on the intensification of such marine travel.	Ensure that prior to major infrastructure interventions the required EIA and AA studies are carried out including the assessment of alternatives. Monitoring of works for infrastructure in the marine environment to ensure there are no significant impacts on water quality from construction.
• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	As above.	P 0	The proposed measures aim to increase the use of sea transport across the Maltese Islands. If marine travel is expected to increase, then this could alleviate some road congestion. However, the extent is not expected to be significant as the TMP doesn't consider these measures to reduction emissions, hence the impact is judged as neutral.	To render the measures more effective, targets should be included in the TMP that indicate how the proposed measures could lead to the desired impacts on both sea travel and potentially on land transport too.
• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	As above.	P 0	The proposed measures aim to increase the use of sea transport across the Maltese Islands. If marine travel is expected to increase, then this could alleviate some road congestion. However, the extent is not expected to be significant as the TMP doesn't consider these measures to reduction emissions, hence the impact is judged as neutral.	To render the measures more effective, targets should be included in the TMP that indicate how the proposed measures could lead to the desired impacts on both sea travel and potentially on land transport too.
• To prevent soil sealing	• Affect soil sealing?	As above.	P 0	Since any infrastructure interventions are likely to be on the coast, soil sealing is not anticipated.	None.
• To maintain and include green infrastructure as relevant • To promote better use of road space	• Use green infrastructure? • Affect sustainable transport modes?	As above.	P 0/+ D LT	The improvement in marine transport could have a positive impact on the SEA Objective related to the improvement in efficiency of transport networks and physical infrastructure standards.	As above.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To improve efficiency of transport networks and physical infrastructure standards					
• To maintain or improve the conservation status of cultural heritage sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant	• Affect cultural heritage including archaeological heritage? • Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	As above.	P -(?) D LT	One of the proposed measures namely: *Assess the potential of underutilised port areas, new ferry-landing sites and improve the capacity of domestic ports in line with EU TEN-T* Policy has the potential to significantly negatively affect this SEA Objective since the proposed measure could result in the development of infrastructure on the coast / sea that could affect cultural heritage. The impact is therefore potentially negative. There is an element of uncertainty as it isn't clear what projects will be pursued and where.	Ensure that prior to major infrastructure interventions the required studies are carried out including the assessment of alternatives. Monitoring of works for infrastructure to ensure there no impacts on cultural heritage/ archaeological artefacts.
• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	As above.	P -(?) D LT	One of the proposed measures namely: *Assess the potential of underutilised port areas, new ferry-landing sites and improve the capacity of domestic ports in line with EU TEN-T* Policy has the potential to significantly negatively affect this SEA Objective since the proposed measure could result in the development of infrastructure on the coast / sea that could affect landscape. The impact is therefore potentially negative. There is an element of uncertainty as it isn't clear what projects will be pursued and where.	Ensure that prior to major infrastructure interventions the required studies are carried out including the assessment of alternatives.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
Theme 9: External Maritime Transport					
Operational Objectives: • Develop and maintain the ports of Valletta and Marsaxlokk in line with EU TEN-T Policy • Provide alternative fuel infrastructure to promote efficiency and competitiveness at TEN-T maritime ports • Increase efficiency and innovation of the maritime administration to maintain sectoral competitivity • Ensure equipment, tools and human resources for the use, monitoring and enforcement of maritime areas are updated to improve safety and security • Reduce the adverse environmental, social and economic impacts of external maritime navigation, particularly on nearby urban areas					
• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	The measures under these objectives include implementing an External Maritime Action Plan until 2030 that is aligned with a wider National Maritime Transport Policy, improving the efficiency of infrastructure at the TEN-T Core Ports of Valletta and Marsaxlokk, finalization of the On-Shore Power Supply at all TEN-T Core Ports, improving the efficiency and quality of maritime administration through digitisation of the ship registration system, launching of a Maritime Skills Development Strategy and Action Plan, an infrastructure asset management database system that details all port infrastructure and equipment, ensuring equipment and tools for the monitoring and enforcement of maritime areas are updated and enabling the required regulatory control to ensure safety and security, enhancement of pollution mitigation measures as set out in the European Green Deal and collaborating with port operators to encourage the upgrading of their equipment/facilities to reduce pollution and support the transition to zero-emission fuels and infrastructure.	P -- D LT	Two of the proposed measures namely *Improve efficiency of infrastructure at the TEN-T Core Port of Valletta* and *Improve efficiency of infrastructure at the TEN-T Core Port of Marsaxlokk* have the potential to significantly negatively affect this SEA Objective since the proposed measures could result in the development of infrastructure on the coast / sea that could affect biodiversity. The impact is therefore potentially negative as land reclamation is envisaged as well as the upgrading of the Breakwater in the Port of Valletta.	Ensure that prior to major infrastructure interventions the required EIA and AA studies are carried out including the assessment of alternatives. Where possible sensitive habitats should be avoided. Compensatory measures to be provided in the case of land reclamation and impacts on biodiversity. Monitoring of works for infrastructure in protected areas to ensure there is no overspill into areas outside the designated infrastructure.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options • To improve accessibility and transport links to services, facilities, and opportunities	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	As above.	P +/-(?) D LT	The infrastructure improvements in the ports of Valletta and Marsaxlokk have the potential to generate more ship traffic with consequent potential impacts on water quality, air quality, and noise. On the other hand, the implementation of onshore power supply projects (OPS) in both Valletta and Marsaxlokk is expected to have positive impacts on air quality as, when berthed, ships will no longer need to burn fossil fuel but will be connected to the grid. However, the extent of mitigation of emissions from the ship to shore project is not documented in the TMP (Chapter 3).	None envisaged.
• To meet the standards required by the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	As above.	P -(?) D LT	The proposed measures have the potential to increase maritime transport. This could have negative impacts on marine water quality. The extent would depend on the intensification of such traffic.	Ensure that prior to major infrastructure interventions the required EIA and AA studies are carried out including the assessment of alternatives. Monitoring of works for infrastructure in the marine environment to ensure there are no significant impacts on water quality from construction.
• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	As above.	P +(?) D LT	The onshore power supply project (OPS) has the potential to reduce air pollution in the ports of Valletta and Marsaxlokk as ships will no longer need to burn fossil fuels. The impact is expected to be felt in the longer term when more and more ships have the connectivity to shore supply. It is unclear how other measures under the operational objective *Reduce the adverse environmental, social and economic impacts of external maritime navigation, particularly on nearby urban areas* will achieve the objective aims since there are no concrete proposals and targets.	The measure in the TMP: *Implement and enhance pollution mitigation measures as set out in the European Green Deal* is unclear in what exactly will be done up to 2030. Concrete measures and targets are required to ensure that pollution mitigation measures are in fact implemented and yield the desired reduction in emissions. Similarly, the measure on cooperation with port operators needs concrete targets and actions for implementation. These are required so that the overarching operational objective: *Reduce the adverse environmental, social and economic impacts of external maritime navigation, particularly on nearby urban areas* is achieved.
• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	As above.	P + D LT	The OPS projects at the Valletta and Marsaxlokk ports directly contribute to the decarbonization of the maritime transport sector.	As above.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions				It is unclear how other measures under the operational objective *Reduce the adverse environmental, social and economic impacts of external maritime navigation, particularly on nearby urban areas* will achieve the objective aims since there are no concrete proposals and targets.	
• To prevent soil sealing	• Affect soil sealing?	As above.	P 0	Given that projects are mainly located on the coast or the marine environment, soil sealing impacts are unlikely.	None.
• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical infrastructure standards	• Use green infrastructure? • Affect sustainable transport modes?	As above.	P + I LT	The proposed infrastructure projects are expected to increase efficiency of transport networks and physical infrastructure standards through the provision of upgraded port facilities.	None.
• To maintain or improve the conservation status of cultural heritage sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant	• Affect cultural heritage including archaeological heritage? Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	As above.	P - D LT	Given the location of the port projects in Valletta, a UNESCO World Heritage Site, there is the potential for negative impacts on cultural heritage especially from projects such as the breakwater and land reclamation.	Ensure that prior to major infrastructure interventions the required studies are carried out, including the assessment of alternatives. Monitoring of works for infrastructure in the marine environment to ensure there no archaeology artefacts are lost.
• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	As above.	P - D LT	Given the location of the port projects in Valletta, a UNESCO World Heritage Site with designated Area of High Landscape Value, there is the potential for negative landscape impacts especially from projects such as the breakwater.	Ensure that prior to major infrastructure interventions the required studies are carried out, including the assessment of alternatives.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
Theme 10: Aviation					
Operational Objectives: • Safeguard space within the airport and its contiguous area to ensure developments support long-term sustainable growth in the aviation sector • Develop and maintain Malta International Airport in line with EU TEN-T Policy • Provide alternative fuel infrastructure at the TEN-T Core Airport • Improve availability and access to aviation transport statistics • Improve air connectivity for commercial passengers, freight and business travellers • Provide sustainable aviation fuel (SAF) infrastructure to promote efficiency and competitiveness					
• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	The measures under these objectives include an action plan that implements the measures under the ICAO and EASA regulations, the introduction of a digital aviation register, improvement in the efficiency of infrastructure at the TEN-T Core Airport, carrying out of feasibility studies subject to the revised Airport Master Plan on the development of the route network of the airport, ensuring safeguarding of the safety of aviation services when integrating new aviation technologies, ensuring that airport infrastructure and operations continue to comply with the conditions established in their planning and operational conditions, encouraging the use of less noisy ground equipment, encouraging the replacement or deployment of zero-emission airside and landside vehicles at the airport, encouraging the airport to implement the other measures of its Net Carbon Zero Plan, ensuring air connectivity with Gozo, continuing to encourage route development to attract new aviation services, reviewing opportunities to support business aviation, exploring the use of emerging Advanced Air Mobility (AAM) technologies for passenger and freight transport , and ensuring the deployment of SAF at the airport is in line with EASA Regulations.	P -- D LT	Two of the operational objectives, namely *safeguard space within the airport and its contiguous area to ensure developments support long-term sustainable growth in the aviation sector* and *improve air connectivity for commercial passengers, freight and business travellers* contain measures that require the provision of infrastructure that include the expansion of the airport and the Gozo air strip. The latter, in particular, is expected to have some impact on biodiversity including avifauna.	Ensure that prior to major infrastructure interventions the required EIA and AA studies are carried out including the assessment of alternatives. Compensatory measures to be provided in the case of impacts on biodiversity, including avifauna. Monitoring of works for infrastructure in protected areas to ensure there is no overspill into areas outside the designated infrastructure.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options • To improve accessibility and transport links to services, facilities, and opportunities	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	As above.	P -/+ D LT	The measures under these operational objectives are intended to increase air passenger travel. The more air traffic there is the more likely are impacts on air quality and noise to increase. Although there are some measures to reduce energy consumption and to invest in renewables, these are unlikely to compensate for the increase in pollution from air travel.	The objective: *provide sustainable aviation fuel (SAF) infrastructure to promote efficiency and competitiveness* contains one measure: *ensure the deployment of SAF at the TEN-T Core airport is in line with EASA Regulations.* As written in the TMP this measure is basically the *development of studies and an action plan for the deployment of refuelling facilities at the Airport in Malta*. For there to be improved air quality from the use of SAF more concrete measures in this regard are required, including a timeline for the use of SAF.
• To meet the standards required by the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	As above.	P + D LT	One of the projects under Objective 2 *develop and maintain Malta International Airport in line with EU TEN-T Policy* and measure *improve efficiency of infrastructure at the TEN-T Core Airport* is the inclusion of a 10,000 m^3 reservoir under the project entitled Apron X. This will have a positive impact on the SEA objective related to rainwater harvesting.	None.
• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	As above.	P -/+ D LT	The measures under these operational objectives are intended to increase air passenger travel. The more air traffic there is the more likely are impacts on air quality to increase. Although there are some measures to reduce energy consumption and to invest in renewables, these are unlikely to compensate for the increase in pollution from air travel.	The objective: *provide sustainable aviation fuel (SAF) infrastructure to promote efficiency and competitiveness* contains one measure: *ensure the deployment of SAF at the TEN-T Core airport is in line with EASA Regulations* as written in the TMP basically requires the *development of studies and an action plan for the deployment of refuelling facilities at the Airport in Malta*. For there to be improved air quality from the use of SAF more concrete measures in this regard are required, including a timeline for the use of SAF.
• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	As above.	P -/+ D LT	The measures under these operational objectives are intended to increase air passenger travel. The more air traffic there is the more likely are impacts on air quality to increase. Although there are some measures to reduce energy consumption and to invest in renewables, these are unlikely to compensate for the increase in pollution from air travel.	The objective: *provide sustainable aviation fuel (SAF) infrastructure to promote efficiency and competitiveness* contains one measure: *ensure the deployment of SAF at the TEN-T Core airport is in line with EASA Regulations* as written in the TMP basically requires the *development of studies and an action plan for the deployment of refuelling facilities at the Airport in Malta*. For there to be improved air quality from the use of SAF more concrete measures in this regard are required, including a timeline for the use of SAF.

SEA Objective	Assessment Criteria: How will this Strategic Objective…	Comment	Significance		Mitigation
			Symbols	Summary description	
• To prevent soil sealing	• Affect soil sealing?	As above.	P -- D LT	Two of the operational objectives, namely *safeguard space within the airport and its contiguous area to ensure developments support long-term sustainable growth in the aviation sector* and *improve air connectivity for commercial passengers, freight and business travellers* contain measures that require the provision of infrastructure that include the expansion of the airport and the Gozo air strip. The latter, in particular, is expected to have an impact on soil sealing.	Ensure that prior to major infrastructure interventions the required EIA and AA studies are carried out including the assessment of alternatives. Monitoring of works for infrastructure in protected areas to ensure there is no overspill into areas outside the designated infrastructure.
• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical infrastructure standards	• Use green infrastructure? • Affect sustainable transport modes?	As above.	P + I LT	The proposed infrastructure projects are expected to increase efficiency of transport networks and physical infrastructure standards through the provision of upgraded airport facilities.	None.
• To maintain or improve the conservation status of cultural heritage sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant	• Affect cultural heritage including archaeological heritage? • Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	As above.	P -- D LT	Two of the operational objectives, namely *safeguard space within the airport and its contiguous area to ensure developments support long-term sustainable growth in the aviation sector* and *improve air connectivity for commercial passengers, freight and business travellers* contain measures that require the provision of infrastructure that include the expansion of the airport and the Gozo air strip that could have an impact on cultural heritage.	Ensure that prior to major infrastructure interventions the required studies are carried out, including the assessment of alternatives. Monitoring of works for infrastructure in protected areas to ensure there is no overspill into areas outside the designated infrastructure and that no archaeological artefacts are lost.
• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	As above.	P -- D LT	Two of the operational objectives, namely *safeguard space within the airport and its contiguous area to ensure developments support long-term sustainable growth in the aviation sector* and *improve air connectivity for commercial passengers, freight and business travellers* contain measures that require the provision of infrastructure that include the expansion of the airport and the Gozo air strip. The latter, in particular, is expected to have an impact on landsape.	Ensure that prior to major infrastructure interventions the required studies are carried out, including the assessment of alternatives.

SUMMARY OF THE ASSESSMENT

7.6. The assessment identifies several opportunities for beneficial impacts in relation to the environmental objectives. Areas where potential significant negative impacts could arise are related to the development of road, maritime, and airport infrastructure. Here impacts on biodiversity, soil sealing, water quality, cultural heritage and landscape could accrue, especially where new roads are proposed, such as the Link Road to Smart City, and the Gozo airstrip.

7.7. The TMP has a number of objectives and measures related to modal shift that will directly result in beneficial impacts on air quality and climate objectives if their implementation is successful. The generally positive impact however will be dependent on the extent of modal shift occurring. The effect will be greater over time as more measures are implemented; however, some negative impacts will be seen through increased air services. There is a degree of uncertainty in the assessment due to the lack of targets especially those related to improvements in air quality and modal shift. Considering that this is an update of the TMP 2025, it was expected that more concrete measures would be proposed and less reliance is made on surveys and studies. For example, a measure entitled: *study the potential to introduce low emission zones in dense and polluted urban areas* was already present in the 2025 TMP so, at this stage, it was expected that the current TMP would have implemented such zones. There are other measures in the TMP 2030 that are very similar to those contained in the 2025 TMP, such as awareness campaigns, a cycling strategy, developing pilot cycling routes, developing a comprehensive parking management system, developing an action plan to improve the quality of street furniture and information, review and updating road specifications and standards, implementing the Road Safety Strategy, increasing the use of Intelligent Transport Systems in traffic management, reviewing the school transport services, planning and development of a Mass Rapid Transit system, and improving the vertical and pedestrian connectivity between the Sliema-Valletta ferry service in Valletta and the city centre. Had these measures been implemented, this TMP could have been more ambitious in the setting of measures and targets.

7.8. Overall, therefore, the TMP is expected to result in beneficial impacts, in particular if it is successful in implementing modal shift. However, the significance of the beneficial impacts is uncertain given that no targets are assigned to the measures that were identified to likely result in beneficial impacts.

CUMULATIVE & SYNERGISTIC IMPACTS

7.9. Cumulative effects are those effects that result from incremental changes caused by other past, present, or reasonably foreseeable, actions together with the proposal. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

7.10. Synergistic effects interact to produce a total effect that is greater than the sum of the individual effects.

7.11. **Table 7.3** provides a general overview of the key issues identified for each environmental topic considered within the assessment process.

Table 7.3: Summary of cumulative environmental effects of TMP

Environmental Receptor	Key impacts of the Draft TMP
Biodiversity	Impacts on biodiversity, as discussed in **Table 7.2** are likely to be somewhat negative when new infrastructure is envisaged both on land and in the marine environment. The SEA makes recommendations for interventions in sensitive areas where protected habitats and species are found. Potential for significant impacts to occur to habitats and protected species across the Maltese Islands through cumulative impacts between transport and land use plans.
Population and Human health	The TMP is beneficial in terms of human health through measures that seek to reduce emissions through promotion of modal shift. Improvements to road safety to reduce the number of accidents / injuries will also be accrued through the road transport operational objectives. Increased cycling and pedestrian facilities are also envisaged in the TMP. Public transport measures are also expected to improve public transport patronage and potentially reduce use of the private car with a consequent potential reduction in emissions. However, the lack of TMP targets makes the assessment uncertain. Positive cumulative impacts if transport and land use plans are developed with accessible public transport and the provision of additional facilities for sustainable travel, such as cycleways, etc.
Water	No significant impacts are anticipated; however, increased ferry services do have the potential to lead to adverse impacts on the water quality.
Emissions to air	Generally positive impact; however, this will be dependent on the extent of modal shift occurring. The effect will be greater over time as more measures are implemented; however, some negative impacts will be seen through increased air services. The lack of TMP targets makes the assessment uncertain.
Climatic factors and climate change	Generally positive impact; however, this will be dependent on the level of modal shift occurring. The effect will be greater over time as more measures are implemented; however, some negative impacts will be seen through increased air services. The lack of TMP targets makes the assessment uncertain.
Soil	No significant impacts to the soil resource are anticipated; however, soil sealing is expected where new land is taken up for the construction of roads or air transport infrastructure.
Material assets	Positive with enhancements to existing transport infrastructure and an encouragement of modal shift to sustainable transport modes – extent of cumulative impact is dependent on measure implementation. However, the lack of TMP targets makes the assessment uncertain.
Cultural heritage	There is the potential for adverse impacts to occur to archaeological and cultural heritage features where new infrastructure projects, such as new roads and the Gozo air strip, are built.
Landscape	There is the potential for adverse landscape impacts to occur where new infrastructure projects, such as new roads and the Gozo air strip, are built

8. CHAPTER 8 – RECOMMENDATIONS

8.1. When considering the need for mitigation, a hierarchy of mitigation measures was considered:

- Avoiding the implementation of unsustainable actions;
- Reducing the extent of unsustainable actions;
- Remedying or compensating for any negative impacts by incorporating mitigation measures into the actions to prevent or minimise the impacts; and
- Enhancing positive impacts.

8.2. Potential mitigation measures for each of the Strategic Objectives are listed in **Table 7.2** above. Whilst finalising the TMP, following the issuance of the Environmental Report and the public consultation, these measures should be considered. These mitigation measures are discussed below.

Monitoring

8.3. Monitoring forms part of the SEA process. It has been identified in this assessment as an integral part of mitigation given the past performance in the sector with regards to certain aspects such as modal shift and impact of the transport sector on emissions. The data obtained should feed back into the process and, where any potential significant negative effects have been identified (or where positive impacts identified during the assessment are not being accrued), corrective action should be planned and implemented. **Chapter 9** provides more details on monitoring.

Setting targets

8.4. One of the key recommendations emerging from the SEA is the need to ensure that the operational objectives and the corresponding measures work towards the implementation of targets in particular with respect to GHG emissions. Currently no targets are set for any of the operational objectives and measures. This means that, while the assessment notes that the Master Plan has the potential to yield positive environmental effects, the assessment remains uncertain because of the missing targets. The setting of targets and their monitoring over the lifetime of the Master Plan is essential to ensure that objectives and measures are being implemented and targets met. It is therefore recommended that each objective within the TMP be paired with a corresponding target, ideally aligned—where possible—within the parameters established by the modelling outputs

Project Level Mitigation

8.5. Further impacts to the environment will arise from specific proposals put forward to implement the objectives outlined in the TMP. These will need to be assessed on a scheme-by-scheme basis and mitigated at project level. Identified impacts on biodiversity, soil sealing, cultural heritage and landscape are likely from the construction of new infrastructure both on land and in the marine environment. This

Environment Report recommends the carrying out of project-level Environmental Impact Assessments and Appropriate Assessments, as relevant, and the consideration of alternatives. Monitoring of projects during implementation is also crucial to prevent avoidable impacts. It should be noted that detailed mitigation measures at project level can only be provided when objectives have been fully developed and the TMP is at the implementation stage.

9. CHAPTER 9 – MONITORING REQUIREMENTS

INTRODUCTION

9.1. Monitoring the environmental performance of the TMP should make it possible to identify corrective actions and establish how well the TMP conforms to SEA objectives during implementation.

9.2. The European Commission Guidance suggests that SEA monitoring activities and reporting can be integrated into the regular planning cycle or may coincide with the regular revision of a plan. Other SEA guidance indicates that the existing monitoring arrangements of the plan and that undertaken for other plans can be used to obtain the required information.

9.3. Monitoring significant environmental effects resulting from the implementation of the TMP is an important aspect of the SEA process.

9.4. The SEA objectives and indicators outlined in **Table 5.1** provide the most appropriate tools for monitoring significant environmental impacts that may arise from the implementation of the TMP. It is recommended that the TMP should include a monitoring framework. SEA monitoring can be carried out as part of the TMP monitoring framework, where possible. It is likely, however, that SEA monitoring will utilise data collected for the purposes of monitoring the TMP, or other sectoral strategies as relevant, to avoid duplication of effort.

9.5. Difficulties associated with monitoring include data collection itself. In addition, it may be difficult to relate data directly to the implementation of the Plan, given that there are other factors that may be affecting that data. This could present difficulties when deciding on appropriate remedial action.

Monitoring Plan

9.6. **Table 9.1** summarises the proposed monitoring plan of potential negative impacts identified in **Table 7.2**.

9.7. Although positive impacts are expected from the TMP, it is recommended that these impacts are also monitored. **Table 9.1** proposes a monitoring plan for such impacts.

Table 9.1: Monitoring Plan

SEA Theme	Potential cumulative significant effects	Monitoring parameters
Biodiversity	Impacts on biodiversity, as discussed in **Table 7.2** are likely to be somewhat negative when new infrastructure is envisaged both on land and in the marine environment. The SEA makes recommendations for interventions in sensitive areas where protected habitats and species are found. Potential for significant impacts to occur to habitats and protected species across the Maltese Islands through cumulative impacts between transport and land use plans.	• Number of interventions that are permitted in protected areas • Results of EIAs and Appropriate Assessments
Population and Human health	The TMP is beneficial in terms of human health through measures that seek to reduce emissions through promotion of modal shift. Improvements to road safety to reduce the number of accidents / injuries will also be accrued through the road transport operational objectives. Increased cycling and pedestrian facilities are also envisaged in the TMP. Public transport measures are also expected to improve public transport patronage and potentially reduce use of the private car with a consequent potential reduction in emissions. However, the lack of TMP targets makes the assessment uncertain. Positive cumulative impacts if transport and land use plans are developed with accessible public transport and the provision of additional facilities for sustainable travel such as cycleways etc.	• Number of walking and cycling routes • Number of traffic accidents • Public transport patronage • Bus services running on time • Journey times • Number of road accidents/injuries
Water	No significant impacts are anticipated however increased ferry services do have the potential to lead to adverse impacts on the water quality.	• Results from EIA and Appropriate Assessment concerning water quality • Water quality monitoring results from projects affecting the marine environment • % of rainwater that is harvested

SEA Theme	Potential cumulative significant effects	Monitoring parameters
Emissions to air	Generally positive impact; however, this will be dependent on the extent of modal shift occurring. The effect will be greater over time as more measures are implemented; however, some negative impacts will be seen through increased air services. The lack of TMP targets makes the assessment uncertain.	• Air quality indicators • Emissions from the transport sector
Climatic factors and climate change	Generally positive impact; however, this will be dependent on the level of modal shift occurring. The effect will be greater over time as more measures are implemented; however, some negative impacts will be seen through increased air services. The lack of TMP targets makes the assessment uncertain.	• GHG emission trends over time from transport • Proportion of fleet using alternative fuel technology • Modal split
Soil	No significant impacts to the soil resource are anticipated; however, soil sealing is expected where new land is taken up for the construction of roads or air transport infrastructure.	• Area that is soil sealed as a result of project implementation
Material assets	Positive with enhancements to existing transport infrastructure and an encouragement of modal shift to sustainable transport modes – extent of cumulative impact is dependent on measure implementation. However, the lack of TMP targets makes the assessment uncertain.	• Number of walking and cycling routes • Public transport patronage • Number of measures/actions that include green infrastructure • Number of vehicles on the road
Cultural heritage	There is the potential for adverse impacts to occur to archaeological and cultural heritage features where new infrastructure projects, such as new roads and the Gozo air strip, are built.	• Number of projects resulting in a negative impact on landscape • Environmental Impact Assessment results on landscape assessment
Landscape	There is the potential for adverse landscape impacts to occur where new infrastructure projects, such as new roads and the Gozo air strip, are built	• Number of projects resulting in a negative impact on landscape • Environmental Impact Assessment results on landscape assessment

Other data sources

9.8. In addition to the above framework to gather data, other assessments, both at project and at planning level, will likely gather monitoring data that can feed into the TMP SEA monitoring programme.

9.9. Projects developed through implementation of the TMP that require planning permission and possibly, depending on the project, an EIA, are likely to be monitored either through the EIA or by ERA to ensure permit conditions are being abided by. The information gathered can inform the TMP. Additionally, the evaluations required to be prepared throughout the implementation of the TMP could also provide some of the indicators.

CONCLUSIONS & NEXT STEPS

9.10. Following consultation on the SEA and the draft TMP, changes were made to the draft Plan as described in **Appendix 2**.

9.11. An Adoption Statement will be prepared indicating how the TMP took into consideration the findings and recommendations of the SEA, if at all. Where recommendations were not adopted, a justification must be provided.

Appendix 1: Scoping Report

STRATEGIC ENVIRONMENTAL ASSESSMENT ON THE NATIONAL TRANSPORT MASTER PLAN 2030

SCOPING REPORT

Version 1: December 2024

Report Reference:

Adi Associates Environmental Consultants Ltd, 2024. Strategic Environmental Assessment on the National Transport Master Plan 2030. Scoping Report Version 1. San Gwann, December 2024; iv + 23pp. + 2 Appendices.

THIS IS A DIGITAL COPY OF THE REPORT.

RESPECT THE ENVIRONMENT – KEEP IT DIGITAL

Quality Assurance

Strategic Environmental Assessment on the National Transport Master Plan 2030
Scoping Report
December 2024

Report for: **Transport Malta**

Revision Schedule

Rev	Date	Details	Written by:	Checked by:	Approved by:
0.0	Dec 2024	First Draft	**Rachel Xuereb**	**Eilis McCullough**	**Adrian Mallia**

File ref: G:_Active Projects\SEA\TM0030 - SEA of TMP changes 2024\Scoping Report\Scoping Report TMP Draft.docx

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CONTENTS

TABLES

APPENDICES

ACRONYMS

AA	Appropriate Assessment
EIA	Environmental Impact Assessment
ERA	Environment and Resources Authority
ETS	Emissions Trading Scheme
EU	European Union
GHG	Green House Gas
GRDP	Greening Regional Development Programme
MCCAA	Malta Competition and Consumer Affairs Authority
MDG	Millennium Development Goal
MRA	Malta Resources Authority
NECP	National Energy and Climate Plan
NH_3	Ammonia
NO_x	Nitrogen oxides
NMVOC	Non-Methane Volatile Organic Compounds
NSO	National Statistics Office
$PM_{2.5}$; PM_{10}	Particulate matter
RBMP	River Basin Management Plan
SDS	Sustainable Development Strategy
SEA	Strategic Environmental Assessment
SMR	Statutory Management Requirements
SO_2	Sulphur dioxide
SPED	Strategic Plan for the Environment and Development
TM	Transport Malta
TMP	National Transport Master Plan
TS	Transport Strategy
UK	United Kingdom
UNEP	United Nations Environment Programme
WCMP	Water Catchment Management Plan
WFD	Water Framework Directive

SCOPING REPORT

INTRODUCTION

1. Transport Malta (TM) is responsible for the drafting of the National Transport Master Plan 2030 (TMP). The Transport Master Plan describes in more detail Malta's transport needs and projects up to 2030.

2. Screening of the National Transport Master Plan determined that it qualifies for a Strategic Environmental Assessment (SEA) in accordance with Legal Notice 497 of 2010 (S.L 549.61), the Strategic Environmental Assessment Regulations, 2010. **Appendix I** presents the completed screening template. The SEA is being undertaken by Adi Associates Environmental Consultants Ltd. The Team is working closely with TM.

3. This is the Scoping Report for the Strategic Environmental Assessment (SEA) of the Transport Master Plan covering the entire territory of the Maltese Islands. The aim of the Report is to set out the framework for the SEA, including setting the context of the SEA, establishing the baseline, setting the SEA objectives and indicators for the assessment, and identifying any potential significant impacts on the environment that could result from the implementation of the TMP, which is hereafter referred to as 'the Plan'.

Strategic Environmental Assessment

4. European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment requires that a SEA of a wide range of plans and programmes is carried out prior to the implementation of the plan or programme. The objective of the "SEA Directive" is to provide a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans with a view to promoting sustainable development. SEA comprises:

   - Preparing an Environmental Report on the likely significant effects of the draft plan or programme;
   - Consulting on the draft plan or programme and the accompanying Environmental Report;
   - Considering the Environmental Report and the results of consultation in decision making; and
   - A discussion of how the results of the environmental assessment would be considered in the plan or programme.

5. The information to be included in the Environmental Report for the Plan will include:

   - A description of the baseline environment;

- Links between the Plan and other relevant policies, plans, programmes, and environmental objectives;
- An identification of existing environmental problems affecting the Plan;
- The Plan's likely significant effects on the environment, including issues such as biodiversity, population, human health, fauna, flora, soil, water, air, climate, material assets, cultural heritage, landscape, and the interrelationship between such factors;
- The mitigation measures envisaged;
- A description of the alternatives considered and those discarded in favour of the selected action(s);
- Monitoring measures envisaged; and
- A non-technical summary.

6. The SEA Directive (2001/42/EC) has been transposed into national legislation by the SEA Regulations, 2010 (Legal Notice 497 of 2010).

The National Transport Master Plan 2030

7. The six Strategic Goals and the eight Guiding Principles set out in the National Transport Strategy (TS) 2050 remain relevant for the development of the different transport sectors over the longer term. The TMP builds on this Strategy.

8. The SWOT analysis described in the TMP identifies the Strengths, Weaknesses, Opportunities and Threats currently facing each of the transport sectors in Malta taking into account significant socio-economic, environmental and demographic developments that have an impact on transport and mobility.

9. Building upon the foundations of the 2025 Plan, the TMP strategic framework aligns Malta's transport policies with socio-economic, environmental, and EU objectives. It integrates lessons from past initiatives and addresses evolving challenges to outline a comprehensive roadmap for Malta's transport future. Since the implementation of the 2025 Master Plan, Malta has gone through a series of significant, transformative changes, including major infrastructural projects, such as the Marsa Junction and Santa Lucija tunnels. Maritime upgrades have taken place including the onshore power supply for ports and new ferry services between Malta and Gozo. Public transport, both land-based and sea-based, is now provided free of charge for local residents.

10. Despite progress, significant challenges remain:

- Dependence on Private Vehicles: High car ownership and urban congestion persist, exacerbated by population growth.
- Environmental Impacts: The ageing vehicle fleet and increased traffic volumes

contribute to air quality concerns and carbon emissions.

- Infrastructure Constraints: Limited land availability and urban density pose barriers to expanding transport networks.
- Climate Vulnerability: Rising sea levels and extreme weather events threaten transport infrastructure.

11. The TMP envisions a multi-modal, climate-resilient transport system, focusing on:

1. Sustainability: Embedding climate adaptation, renewable energy, and low-emission transport into infrastructure planning.
2. Accessibility and Inclusion: Enhancing public transport coverage, integrating active mobility routes, and ensuring equitable transport access.
3. Technological Advancements: Expanding ITS deployment, real-time data systems, and electric vehicle (EV) infrastructure.
4. Asset Management: Prioritising preventive maintenance and performance-based frameworks to sustain infrastructure quality.
5. Public Transport and Active Mobility: Expanding bus networks, promoting park-and-ride schemes, and improving cycling and pedestrian infrastructure.

12. The Plan includes a comprehensive demand-supply forecast, addressing growth scenarios and impacts on traffic, the environment, and safety. Investments focus on completing the TEN-T Core network, electrifying the bus fleet, expanding EV charging infrastructure, and modernising maritime and aviation hubs.

13. The objectives of the TMP are to:

- Put in place and maintain a strategic framework for the integrated, long-term planning and design of Malta's transport network;
- Identify new and sustainable financing mechanisms;
- Incorporate climate adaptation and mitigation in the long-term planning and design of Malta's transport network;
- Establish and maintain a framework (strategic and procedural) for research and innovation in transport;
- Explore the establishment of a single transport accident safety investigation entity covering all modes;
- Maintain a high-quality network in line with the EU's TEN-T network;
- Develop a safe, accessible network of infrastructure for cycling, walking and

micro-mobility;

- Promote the use of cycling, walking and micro-mobility as alternatives to private car journeys;
- Improve service quality and modal share along strategic routes by introducing public transport quality corridors;
- Improve public transport service quality to and between strategic employment nodes, services outside the inner harbour regions and peripheral residential areas;
- Improve physical accessibility of public transport service;
- Reduce the impact of clustering unscheduled public transport, particularly in tourism hot-spots and commercial areas;
- Improve intermodal seamless mobility (travel information, journey planning services and multi-modal ticketing);
- Improve the quality of the environment at primary and secondary public transport hubs;
- Reduce the role of the car in urban centres and on congested inter urban routes to increase space for other modes;
- Reduce the adverse environmental, social and economic impacts of motorised modes, both in urban areas and on the wider road network;
- Promote, facilitate and incentivise the purchase and use of zero-emission vehicles to replace internal combustion engine vehicles for personal/passenger use;
- Ensure a robust framework is followed for road safety strategy, regulation and enforcement;
- Expand and monitor the reach of awareness raising road safety campaigns;
- Ensure effective and efficient management of roads and related equipment ensuring quality and sustainability of investment through regular maintenance;
- Raise the level of standard and resources applied to traffic management to address congestion, correct use of traffic lanes, manage diversions and road works and effectively manage incidents;
- Identify new technology and data management techniques to efficiently monitor, report and fine traffic violations
- Reduce the impact of HGVs and LDVs on urban areas and the road network;
- Ensure that freight is delivered in an efficient way;

- Ensure developments in ports are backed up by long-term planning to support long-term mobility patterns, safety, and security;
- Improve data collection and use across ports and harbours to inform planning and operation of maritime transport and infrastructure;
- Improve operations and enforcement so that internal maritime transport is properly regulated and monitored;
- Ensure that users comply with conditions established for publicly accessible maritime facilities as specified in contracts for use of these infrastructures;
- Remove bottlenecks at TEN-T comprehensive and secondary ports;
- Reduce the adverse environmental, social, and economic impacts of internal maritime navigation;
- Ensure development of ports and contiguous areas are backed up by long-term planning to support sustainable growth in long term mobility patterns, resilience, safety, and security;
- Increase efficiency and innovation of the maritime administration to maintain sectoral competitivity;
- Remove bottlenecks at TEN-T core ports;
- Ensure equipment, tools and human resources for the use, monitoring and enforcement of maritime areas are updated and to improve safety and security;
- Reduce the adverse environmental, social and economic impacts of external maritime navigation, particularly on the nearby urban areas;
- Provide alternative fuel infrastructure to promote efficiency and competitiveness;
- Safeguard space within the airport and its contiguous area to ensure developments support long term sustainable growth in the aviation sector;
- Remove Bottlenecks at the TEN-T Core Airport;
- Improve availability and access to aviation transport statistics;
- Improve air connectivity for commercial passengers, freight and business travellers;
- Provide sustainable aviation fuel (SAF) infrastructure to promote efficiency and competitiveness; and
- Provide alternative fuel infrastructure for land vehicles operating at the airport.

14. Within each of these objectives there are identified issues and a number of measures.

THE SEA PROCESS

15. Transport Malta commissioned Adi Associates Environmental Consultants Ltd in November 2024 to carry out this SEA.

16. The SEA involves several key stages:

- The *screening stage* that determines whether the plan / programme requires a SEA;

- The *scoping stage* aims to agree the scope and level of detail of the information that must be included in the Environmental Report. This sets the context for the assessment and defines its scope. It is one of the most important stages in the process as it identifies the issues for consideration in the Environmental Report. Although no longer a legal requirement, it is considered good practice to clearly document the scoping process. Consultation on the draft Scoping Report will be undertaken with a number of identified stakeholders including the SEA Focal Point, the Environment & Resources Authority (ERA), the Planning Authority (PA), the Climate Action Authority, the Ministry for the Environment, Energy & Enterprise, the Ministry for Health, the Energy & Water Agency (EWA) / the Regulator for Energy and Water Services (REWS), the Agriculture Directorate, the Ministry for Gozo, the Ministry for Agriculture, Fisheries and Animal Rights, the Superintendence of Cultural Heritage, and the Environmental Health Directorate.

- The *collection of baseline data* and *analysis of relevant plans, programmes, and environmental objectives* has already commenced. The Consultants collected baseline data from a wide range of sources, including studies of the key growth areas, and analysed a wide range of plans/programmes/objectives using matrices to structure the data collection. Maps of key environmental issues are being prepared.

- Preparation of the *Environmental Report* – this commences once all relevant information is collected and following consultation with the stakeholders and the Managing Authority. Following public consultation on the Environmental Report, the latter is amended and includes the responses to any comments received during the public consultation process.

- Preparation of an *Adoption and Monitoring Report,* which, in accordance with the SEA Regulations, produces a statement of how the findings of the environmental report and the results of the consultations have been integrated into the plan and the reasons for choosing the plan as adopted in light of the other reasonable alternatives considered. Part 1 of the Regulation lays out the monitoring requirements. A monitoring framework will also be included in this report.

Guidance

17. Draft guidance on SEA for Malta has not yet been published. The Environmental Report therefore draws on other European Guidance, namely, the Greening Regional Development Programme (GRDP) (2006) "*Handbook on SEA for Cohesion Policy 2007-2013*", the Commission's "*Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*" and the UK's (2005) "*A Practical Guide to the Implementation of the SEA Directive*". The EU Commission published a guidance document in 2013 entitled "*Guidance on Integrating Climate Change and Biodiversity into Strategic Environmental Assessment*".

RELATION OF THE NATIONAL TRANSPORT MASTER PLAN TO OTHER NATIONAL DOCUMENTS & LEGISLATION

18. Schedule 2 of the SEA Regulations requires a discussion on "the degree to which the plan or programme sets a framework for projects and other activities, either with regard to the location, nature, size and operating conditions or by allocating resources" and "the relevance of the plan or programme for the implementation of Community legislation on the environment, such as plans and programmes linked to waste-management or water protection". **Appendix 2** provides a list of the policies, plans, and programmes relevant to the TMP, which have been analysed.

19. The analysis has been subdivided into four main categories:

(i) **International Commitments**: this category covers the international environment and sustainability policy framework within which Malta must work. It includes a selection of global commitments, such as those arising from the Millennium Development Goals (MDGs), UN Framework Convention on Climate Change (UNFCCC) and the Kyoto Protocol.

(ii) **EU requirements**: Relevant EU Directives and communications have been included and summarised;

(iii) **National Environmental & Planning Documents** including Malta's Strategic Plan for Environment and Development, the National Sustainable Development Strategy, the National Environment Policy, and the National Energy & Climate Plan. The review provided herein summarises the key issues raised; further information can be obtained from the original documents;

(iv) **National Sectoral Policies and Strategies**: this section covers highest-level policy and strategy documents published by the Government, such as the National Strategic Plan. Rather than summarise entire documents this review seeks to emphasise the key sustainability objectives and priorities;

(iv) **National legislation**: no attempt will be made to assess the individual regulations, as is done at the project level EIA (Environmental Impact Assessment). However, the main areas of concern for the TMP will be highlighted. Given the scale

(and evolutionary nature of this field) this review is not exhaustive and represents a current (December 2024) snapshot.

BASELINE DATA

20. A good understanding of the environment of the areas covered by the SEA is essential for the performance of a sound assessment. It is therefore necessary to establish the environmental baseline relevant to the plan or programme being proposed. This provides a snapshot of the existing state of the environment and a description of the likely future trends (based on past trends) in the absence of the plan or programme.

21. Existing environmental and sustainability data will be collected from a wide range of sources. **Table 1** summarises this broad-brush description. The list is not exhaustive and may be modified in the Environmental Report. It will also depend on the availability of data.

22. The following environmental parameters were identified:

- Air quality;
- Climatic factors and climate change;
- Energy-efficiency and renewable energy resources;
- Biodiversity including the marine environment;
- Water;
- Waste;
- Land use;
- Soils;
- Landscape;
- Cultural heritage;
- Population and human health; and
- Material assets.

23. The SEA baseline will focus on the parameters listed under Schedule 1(f) of the SEA Regulations, 2010 - Information to be included in the Environmental Report.

24. **Table 1** shows how the Environmental Report will draw together the issues and baseline data. Sources of information included the statistics produced by the National Statistics Office, the State of the Environment Report, 2018 (and subsequent updates), statistics available from COPERNICUS and the European Environment Agency, and the documents prepared in connection with National Strategy for the Environment for 2050. As the Environmental Report is developed the baseline may be modified to reflect available and other relevant data.

Table 1: Environmental baseline

Issue	Relevant baseline data	Illustrative material
Emissions to air and climate change	• GHG inventory • Air emissions inventory • Emissions from various sectors in particular the transport sector • Coastal erosion, sea level rise, changing weather patterns resulting from climate change • Energy from renewables • Energy consumption	Graphs and figures
Biodiversity / fauna and flora	• Areas protected and managed under international and local legislation • Areas known to support priority Annex I habitats and/or Annex II species under the Habitats Directive • Overall conservation status and trends of habitats and species of importance • Protected species • Areas for which surveys have been carried out • Natura 2000 network	Designated, managed and surveyed areas; where relevant, any data related to areas, habitats and/or species that are not formally protected although they are considered to be of conservation value, will be included
Water	• Freshwater and marine ecosystems • Groundwater bodies • Surface water bodies (including linear) • Water Framework Directive targets, objectives, protected areas	Maps / graphs / tables
Soil	• Contamination of soil • Soil erosion • Soil sealing • Soil Organic Matter • Land productivity	Published data and figures
Landscape	• Areas protected for landscape value	Landscape sensitivity areas and protective designations
Cultural heritage	• Sites protected for cultural heritage & cultural landscape • Intangible cultural heritage linked to the rural environment/landscape and traditional agricultural practices	Maps
Human health	• Air quality	Graphs and tables Published data
Material assets and population	• Transport infrastructure (air,	Maps and figures

Issue	Relevant baseline data	Illustrative material
	land and sea) • Vehicle ownership • Modal split • Green infrastructure • Population density	

25. Quantitative data will be presented in the form of maps, tables, and figures, where possible. A brief description of the baseline and any trends will be given, where these are available. Where difficulties in obtaining data are encountered, they will be described in the Environmental Report.

EVALUATION OF THE CURRENT SITUATION

26. The SEA Regulations require a description of the relevant aspects of the current state of the environment and the likely evolution thereof without the implementation of the policy document with a particular emphasis on the future developments arising from other relevant plans and programmes.

27. This analysis will focus on the main environmental issues that are identified in **Table 1**. It will include a description of the past and current trends from data available from existing monitoring systems or through expert judgements (in cases where data are lacking). It will also outline the likely evolution of these trends, if the TMP were not implemented.

28. The description of the likely future trends should the Plan not be implemented is constrained by uncertainties, including availability of data on future economic development, technological progress, or advancements in regulatory frameworks that collectively influence future trends. The assessment will include a list of major uncertainties.

SEA OBJECTIVES

29. The SEA Directive does not specifically require the use of objectives or indicators in SEA, although they are a recognised way through which environmental effects can be described, analysed, and compared.

30. It is therefore preferable to use indicators to monitor the performance of the policy against the SEA objectives. The SEA objectives are meant to be separate from the policy objectives and provide a way to assess the potential environmental performance of the policy objectives. Thus, the environmental objectives should influence the policy objectives, and the two may even overlap. To fulfil the requirements of the SEA Directive and the SEA Regulations, 2010, the SEA objectives must cover biodiversity, population, human health, fauna, flora, soil, water, air, climatic factors, material assets, cultural heritage, landscape, and interrelationships between them.

31. In developing appropriate objectives, the following documents have been consulted:

- GRDP's Handbook on SEA for Cohesion Policy 2007- 2011;
- Guidance on Integrating Climate Change and Biodiversity into Strategic Environmental Assessment. 2013;
- The Commission's "*Implementation of Directive 2001/42 on the Assessment of the Effects of Certain Plans and Programmes on the Environment*";
- The Office of the Deputy Prime Minister (UK), 2005, A Practical Guide to the Implementation of the SEA Directive;
- The SEA Directive 2001/42/EC; and
- SEA Regulations, 2010.

32. In developing appropriate indicators, the following documents have been consulted:

- National Strategy for the Environment for 2050;
- National Environment Policy, 2012;
- Air Quality Plan for the Maltese Islands;
- National Energy and Climate Plan;
- National Biodiversity Strategy and Action Plan to 2030;
- 3rd River Basin Management Plan;
- Malta's Sustainable Development Vision for 2050; and
- Malta's State of the Environment Report, 2018 and subsequent updates.

33. **Table 2** defines the set of objectives relating to the environmental issues identified in **Table 1**. Alongside these, relevant criteria for assessment and possible data sources have been identified.

34. The SEA indicators are measurements of trends over time. They will be used as a means of ascertaining the success of implementation of the TMP against the various SEA Objectives. Where possible, the SEA process endeavours to identify how the TMP would affect these indicators (i.e. the trends); such a process is constrained by the fact that the SEA indicators themselves depend on other factors outside the control of the TMP.

Table 2: SEA Environmental Objectives & Indicators for Assessing Impacts

Issue	SEA Objective	Criteria How will this measure…	SEA Indicator	Data source
Biodiversity, Flora & Fauna	• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	• Number of permitted sites in protected areas • Conservation status of habitats and species	Environmental monitoring through Environmental Impact Assessment (EIA), Appropriate Assessment (AA), or other regulatory requirements as relevant. Environment & Resources Authority (ERA) Natura 2000 Management Plans National scheduling and protection statuses
Human health and Population	• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more sustainable options	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities, and opportunities?	• Compliance with air quality emission level standards • Number of noise complaints related to transport related activities • Number of road accidents/injuries • Access to services and facilities by public transport, walking and/ or cycling • Number of improvement schemes for pedestrian and cycle routes • % of bus fleet with facilities for accessibility for the disabled and people with impaired mobility	Transport Malta Environment & Resources Authority (ERA) National Statistics Office (NSO)

Issue	SEA Objective	Criteria How will this measure…	SEA Indicator	Data source
	• To improve accessibility and transport links to services, facilities, and opportunities		• Modal split • Bus services running on time • Journey times • Public transport patronage • Satisfaction with local bus service • Number of schemes for improving transport coordination and integration including interchange between cycling / walking and other forms of travel • Life expectancy	
Water	• To meet the standards required by the Water Framework Directive • To maintain or improve rainwater harvesting capacity	• Affect Malta's groundwater, surface water and coastal waters? • Affect rainwater harvesting capacity?	• Quality of the marine environment • Bathing water quality • Number of pollution incidents attributable to transport related activities • Quality of the marine environment in terms of biological and physico-chemical elements • Quality of groundwater in the vicinity of any projects related to the transport sector • % of rainwater harvested	Environmental Health Directorate Water Services Corporation ERA (Environment & Resources Authority) EWA (Energy and Water Agency).
Emissions to air	• To ensure air pollutants are minimised and air quality is improved	• Contribute or otherwise to air pollutants?	• Emission trends of key pollutants (such as NO_2, PM_{10}) over time	Environment & Resources Authority (ERA) Climate Action Authority

Issue	SEA Objective	Criteria How will this measure…	SEA Indicator	Data source
Climatic factors and climate change	• To ensure resilience to climate change by minimising the risk of flooding and adapting to the predicted changes in weather conditions • To decarbonise transport to reduce transport related CO_2 emissions	• Affect climate change (considering in particular mitigation and adaptation)? • Reduce transport related CO_2 emissions?	• CO_2 emission trends over time • Area of land at risk of flooding • Number of projects in flood risk areas • Number of projects that feature energy efficient design and/or use of renewable energy • Proportion of fleet using alternative fuel technology • Modes of transport	ERA Climate Action Authority Transport Malta
Soil	• To prevent soil sealing	• Affect soil sealing?	• Soil conservation in the vicinity of any projects related to the transport sector • Number of pollution incidents attributable to transport related activities • Area affected by new developments • Number of soil permits issued by the Department of Agriculture for transport related projects	Environmental Impact Assessment, Environmental monitoring as part of permit Department of Agriculture
Material assets	• To maintain and include green infrastructure as relevant • To promote better use of road space • To improve efficiency of transport networks and physical	• Use green infrastructure? • Affect sustainable transport modes?	• Number of measures/actions that include green infrastructure • Number of vehicles on the road over time • Number of schemes aiming to modernise and upgrade the transport systems • Modal shift	Planning Authority Transport Malta

Issue	SEA Objective	Criteria How will this measure…	SEA Indicator	Data source
	infrastructure standards			
Cultural heritage	• To maintain or improve the conservation status of cultural heritage sites / areas with known cultural / archaeological remains • To maintain or improve the cultural landscape, townscape or quality/amenity of Urban Conservation Areas as relevant	• Affect cultural heritage including archaeological heritage? • Affect cultural landscape, townscape or quality/amenity of Urban Conservation Areas?	• Number of operations located away from cultural heritage sites / areas or areas with known cultural / archaeological remains as a percentage of the total number of operations • Number of projects targeting the improvement of the cultural landscape, townscape or quality/amenity of Urban Conservation Areas	Planning Authority Heritage Malta Superintendence of Cultural Heritage
Landscape	• To conserve or enhance landscape character and scenic value	• Affect landscape character and scenic value?	• Environmental Impact Assessment results on landscape assessment • Number of transport measures aimed at improving local landscape character	Environment & Resources Authority Planning Authority Transport Malta

LIKELY SIGNIFICANT EFFECTS AND CONSTRAINTS

35. Significance will also be assessed in accordance with the criteria listed in Schedule 4 of the SEA Regulations, 2010. Consultation will ensure that all factors are considered. Subsequent sections further describe how impacts will be assessed.

36. The assessment of significance is already well established in Environmental Impact Assessment (EIA) literature. Significance is a function of impact magnitude and the sensitivity of receptors. Various methods can be used to determine significance including expert judgements, the use of thresholds, reference to legislation, and consultation with stakeholders. It is expected that, during the SEA process, all these techniques will be used.

37. The assessment of significance is based on the probability of the impact occurring, on the scale of the impact, its duration, reversibility, whether it has transboundary impacts, and whether the impact is uncertain. **Table 3** describes the assessment framework, and the symbols used to denote the various types of impact. Potential secondary, cumulative, or synergistic impacts will also be identified as relevant.

38. The relevant SEA objectives identified in **Table 2** will then be used to assess the TMP initiatives in accordance with the significance criteria described in **Table 3**. The results of the assessment will be presented in the format indicated in **Table 3**.

Table 3: Assessment legend

Impact character	Symbol	Description of Impact
Probability	VP	Impact very likely to occur
	P	Impact likely to occur
Scale	++	Large positive impact
	+	Positive impact
	0	No impact
	-	Negative impact
	--	Large negative impact
Direct / Indirect	I	Indirect impact
	D	Direct impact
Frequency / duration	LT	Long term
	ST	Short term
Transboundary dimension	TR	Possible transboundary effect
Uncertainty	?	Impact uncertain

Table 4: Example TMP Assessment framework and format for Environmental Report

Relevant SEA Aspect	SEA Objectives	Criteria How will this measure.....	Comment	Significance		Mitigation
				Symbols	Summary description	
Measure/Initiative:						
Biodiversity, Flora & Fauna	• To maintain biodiversity (including terrestrial and marine) • To avoid negative effects on protected habitats and species • To retain connectivity and avoid habitat fragmentation	• Affect the integrity of designated areas? • Affect protected species and habitats? • Affect take up of land which supports a natural environment? • Affect the creation / maintenance of natural corridors and stepping stones?	What is the potential impact?	Impact assessment in accordance with the criteria listed in **Table 3**	Justification of the impact assessment	Description of mitigation measures, if these are necessary
Human health and Population	• To protect and improve the health and well-being of the population • To reduce air pollution • To improve road safety • To reduce road traffic and congestion through modal shift to more	• Affect air pollution? • Affect road safety? • Affect overall levels of health? • Affect well-being? • Affect road traffic and congestion through modal shift to more sustainable options? • Affect accessibility and transport links to services, facilities and opportunities?	What is the potential impact?	Impact assessment in accordance with the criteria listed in **Table 3**	Justification of the impact assessment	Description of mitigation measures, if these are necessary

Relevant SEA Aspect	SEA Objectives	Criteria How will this measure.....	Comment	Significance		Mitigation
				Symbols	Summary description	
	sustainable options • To improve accessibility and transport links to services, facilities and opportunities					

Cumulative & Synergistic Impacts

39. This stage of the process involves an assessment of the cumulative and synergistic effects of all proposed priorities in the TMP on the relevant environmental issues, objectives, and indicators. Cumulative effects are effects that result from incremental changes caused by other past, present, or reasonably foreseeable actions together with the proposal. Cumulative effects can result from individually minor but collectively significant actions taking place over a period of time.

40. Synergistic effects interact to produce a total effect that is greater than the sum of the individual effects. Synergistic effects often happen as habitats or human communities begin to reach carrying capacity and/or non-renewable resources are depleted unsustainably.

41. The cumulative and synergistic impact assessment will be based on the information generated by the preceding assessments (described above) of the individual priorities. Any identified cumulative and synergistic effects will be summarised and used as recommendations for final adjustments to the programming document.

ALTERNATIVES

42. The SEA Directive requires that an assessment must identify the likely significant effects on the environment of implementing the plan or programme, and reasonable alternatives considering the objectives and the geographical scope of the plan or programme.

43. During the development of the TMP, feasible alternatives considered by the Programming Unit will also be assessed from an environmental viewpoint against the SEA objectives identified in **Table 2**.

MONITORING

44. The Environmental Report will include a section that describes how the success of the Plan's implementation will be measured with respect to the SEA objectives, by measuring (monitoring) the significant effects of the Plan on the environment.

45. The SEA will assess the monitoring arrangements proposed for the Plan and may recommend incorporation of new indicators based on the relevant environmental issues, objectives, and indicators for the programming document.

46. Again, it is noted that the correlation between indicators for monitoring and the Plan objectives may be constrained because indicators may be affected by other initiatives, including private sector initiatives, other plans and programmes, and legislative measures that are outside the scope of the Plan.

THE ENVIRONMENTAL REPORT

47. The proposed structure of the Environmental Report is as set out in **Table 5**. It is noted that as the Report develops the structure may change slightly; however, the following table gives the general framework. It is in accordance with the provisions of Schedule 1 of the SEA Regulations, 2010.

Table 5: Outline of Structure of the Environmental Report

Section	Content
Summary and outcomes	Non-technical summary
Introduction	Strategic Environmental Assessment (compliance with the SEA Regulations, 2010) Aim and structure of the report TMP background
Methodology	Approach adopted Stages of SEA process (timings and responsibilities) Limitations Consultation
Baseline	The environmental baseline Summary of environmental issues Links to other relevant policies, plans, programmes
SEA framework	Objectives and indicators Assessment of significance
Assessment of alternatives	Alternatives considered Comparison of alternatives Consideration of environmental issues in development of alternatives Preferred alternative (including reasons for rejection of others)
Detailed Assessment of the TMP	Assessment of each TMP initiative/measures Recommended changes to the TMP (if any) Proposed mitigation Uncertainties and risks
Monitoring proposals	A description of the monitoring requirements
Appendices	As necessary

STRUCTURE OF ENVIRONMENTAL REPORT

48. The structure of the Environmental Report has been developed following consideration of European Guidance and as described in the Scoping Report. The Environmental Report structure is detailed below:

- Non-technical summary;
- Glossary of abbreviations;
- **Chapter 1** – Introduction (overview of the TMP and its purpose; layout of report);
- **Chapter 2** – Summary of the TMP and its context (brief description of the TMP and related documents; links to other plans / programmes);
- **Chapter 3** – Methodology (identification of main options: approach taken, who has been consulted, and when);
- **Chapter 4** – Baseline environmental information and trends (and limitations of data) including evolution of baseline without the implementation of the TMP;
- **Chapter 5** – SEA objectives and context (key environmental aspects, relevant environmental objectives and criteria, and likely environmental implications without the SEA);
- **Chapter 6** – Assessment of Alternatives including reasons for selecting alternatives dealt with;
- **Chapter 7** – Assessment of environmental effects and proposed mitigation;
- **Chapter 8** – Recommendations; and
- **Chapter 9** – Monitoring requirements.

Appendix 1: SEA Screening Template for the TMP

Appendix 2: Analysis of Related Plans, Programmes, and Legislation

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
1. International Commitments		
UN 2030 Sustainable Development Agenda	The Agenda identifies 17 Sustainable Development Goals and 169 targets which build on the Millenium Development Goals (MDGs) and aim to achieve what was not by the MDGs. The Goals seek to realise the human rights of all and to achieve gender equality and the empowerment of all women and girls. They are integrated and balance the three pillars, economic, social and environmental, of sustainable development.	The TMP is to be developed within the principles of this Agenda.
UN Framework Convention on Climate Change	The ultimate objective of this Convention, and any related legal instruments that the Conference of the Parties may adopt, is to achieve stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a timeframe sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened, and to enable economic development to proceed in a sustainable manner. Malta is not an Annex I country, which means that it does not have to meet quantified targets for a reduction in greenhouse emissions. It does, however, support efforts to reduce greenhouse gas emissions and is bound by EU legislation.	The TMP should be aware of Malta's efforts to combat and adapt to climate change and encourage efforts to reduce emissions. The SEA proposes indicators related to climate change.
Gothenburg Protocol of the Convention of Long Range Transboundary Air Pollution (CLRTAP)	Cooperation under the convention includes development of policies and strategies to cut emissions of air pollutants through protocols with emission control obligations, exchanges of information, consultation, research and monitoring. The Gothenburg Protocol establishes mandatory emission reductions for the following major air pollutants – sulphur dioxide, nitrogen oxides, ammonia, volatile organic compounds, and particles.	The TMP will need to be aware of potential contribution to emissions and opportunities to reduce.
Bern Convention on the Conservation of European Wildlife and Natural Habitats (1979)	Malta is a party to the Bern Convention. The Convention aims to ensure conservation of wild flora and fauna species and their habitats. Special attention is given to endangered and vulnerable species, including endangered and vulnerable migratory species specified in appendices. The Parties to the Convention must undertake to take all appropriate measures to ensure the conservation of the habitats of the wild flora and fauna species. Such measures should be included in the Parties' planning and	The TMP should be aware of the endangered and vulnerable species of flora and fauna in Malta and ensure that the TMP is not in conflict with measures for their protection and conservation and those of their habitats. This will be done through the assessment of the TMP using the SEA objectives on biodiversity.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	development policies and pollution control, with particular attention to the conservation of wild flora and fauna. They should also undertake to promote education and disseminate general information concerning the need to conserve species of wild flora and fauna and their habitats.	
The Convention for the Protection of the Marine Environment and the Coastal Region of the Mediterranean, 1976 (the Barcelona Convention)	This Convention, known as the Barcelona Convention, requires the Contracting Parties to "…*individually or jointly take all appropriate measures in accordance with the provisions of this Convention and those Protocols in force to which they are party to prevent, abate, combat and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area and to protect and enhance the marine environment in that Area so as to contribute towards its sustainable development*" (UNEP, 2004[1]). The Convention, as revised in 1995, strives to "*take all appropriate measures to prevent, abate and to the fullest possible extent eliminate pollution of the Mediterranean Sea Area caused by dumping from ships and aircraft or incineration at sea*." This is in line with similar moves in other international and regional conventions (e.g. the London Dumping Convention, the Oslo Convention[2], and the Helsinki Convention[3]), and is based on the precautionary principle, which has set a new level of priority in emerging international legislation, including EU Directives. These various amendments include the extension of the Convention's geographical field of application to the coast, the application of the precautionary and "polluter pays" principles, the obligation on the Parties to carry out and promote impact assessments, protect and preserve biological diversity as well as combat pollution from cross-border movements of dangerous waste, and access to information and public participation (EU, 2005[4]).	The application of the precautionary and "polluter pays" principles, the obligation on the Parties to carry out and promote impact assessments, protect and preserve biological diversity, and access to information and public participation are of relevance to the TMP.

[1] http://www.unep.ch/seas/main/med/medconvii.html. As accessed in March 2005.
[2] The Convention for the Prevention of Marine Pollution from Ships and Aircraft (1972).
[3] The Convention of the Protection of the Marine Environment of the Baltic Sea Area (1974 revised in 1992).
[4] Europa website. Accessed on http://europa.eu.int/scadplus/leg/en/lvb/l28084.htm; March 2005.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
The Protocol of the Barcelona Convention concerning Specially Protected Areas and Biological Diversity in the Mediterranean, 1999	This Protocol, promulgated by the Contracting Parties to the Barcelona Convention in 1999, aims to protect, preserve, and manage in a sustainable and environmentally sound way the areas of particular natural or cultural value of the Mediterranean through the establishment of Specially Protected Areas (SPAs), and to protect, preserve and manage threatened or endangered species of flora and fauna. To date, 4 SPAs have been designated in Malta under this Protocol, namely l-Ghadira, Il-Gzejjer ta' San Pawl, Filfla & surrounding islets and l-Gebla tal-General.	Its relevance to the TMP lies in its requirement for EIA for any industrial or other projects that could significantly affect protected areas and species and their habitats (Article 17 of the Protocol). The requirement for EIA will also be highlighted in the Environment Report.
The Convention on Biological Diversity, 1992	The Convention on Biological Diversity, also known as the Rio Convention, was enacted in 1992. Its objective is to "*conserve the maximum possible biological diversity for the benefit of present and future generations and for its intrinsic value*". This pact among the vast majority of the world's governments sets out commitments for maintaining the world's ecological underpinnings while maintaining economic development. The Convention establishes three main goals: the conservation of biological diversity, the sustainable use of its components, and the fair and equitable sharing of the benefits from the use of genetic resources. Relevant aspects of the Convention are the emphasis on the sustainable use of components of biological diversity, the requirement for EIA, and the inclusion of biodiversity issues. A direct result of the Rio Convention was the concept of Agenda 21 – a global partnership for sustainable development. Agenda 21 addresses today's pressing problems aiming to prepare the world to meet its challenges. It reflects a global consensus and political commitment at the highest level on development and environment cooperation. Its successful implementation is first and foremost the responsibility of Governments but the broadest public participation and the active involvement of the non-governmental organizations and other groups should also be encouraged. National strategies, plans, policies, and processes are crucial in achieving	The sustainable conservation of resources is relevant to the TMP and will be assessed in the Environment Report.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	this (UNEP, 2005[5]). Agenda 21 has four sections: Social and economic dimensions; Conservation and management of resources for development; Strengthening the role of major groups; and Means of implementation.	
Strategic Plan for Biodiversity 2011-2020	At the tenth meeting at the Conference of the Parties of the Convention on Biological Diversity held in 2010 in Japan, a Strategic Plan for Biodiversity 2011-2020 was adopted. This plan provides the new overarching international framework for biodiversity including the Aichi Biodiversity targets for the period 2011-2020. There are twenty targets in all, divided into five strategic goal areas as follows: • Strategic Goal A: Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society; • Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use; • Strategic Goal C: To improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity; • Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services; and • Strategic Goal E: Enhance implementation through participatory planning, knowledge	The SEA will consider the biodiversity targets in the assessment of the TMP for Biodiversity.

[5] UNEP Earthwatch website, 2005. Accessed at http://earthwatch.grid.unep.ch/agenda21/ in March 2005.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	management and capacity building. It was agreed that all signatories to the Convention would translate this Plan into national biodiversity strategies and action plans. The Plan needs to take into account the new goals, milestones and targets of the first draft of the post-2020 global biodiversity framework, which will replace the Aichi Targets	
2. EU requirements		
The European Green Deal	In light of the climate crisis, the European Union has increased its climate and energy targets, through a number of regulations and policy packages, including the European Green Deal (2020), the European Climate Law (2021), the Fit for 55 package and the RePowerEU plan. The European Climate Law, adopted in 2021, set the target of climate neutrality by 2050, including an intermediate target of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels, also known as the 2030 Climate Target Plan. The Fit for 55 package is a set of proposals to ensure EU legislation and policies are in line with the 55% reduction target for 2030 under the Climate Law. In order to combat climate change and environmental degradation, the EU aims to transform the EU into a modern, resource-efficient and competitive economy, aiming for: • No net emissions by 2050; • Economic growth decoupled from resource use; and • No person and no place left behind. In the context of transport, the Green Deal aims are: • To support efforts to reduce emissions from buildings and road transport a new separate emissions trading system (known as ETS2) will start operating in 2027. The carbon price set by the ETS 2 will provide a market incentive for investments in building renovations and low-emissions mobility. Although it will be a 'cap	The SEA will consider the European Green Deal targets in its assessment of the TMP and assess how the TMP addresses the requirements of the Green Deal.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	and trade' system like the existing EU ETS, the ETS 2 will cover emissions upstream that will regulate distributors of fuels for buildings and road transport rather than households and drivers. The ETS 2 cap will be set to bring emissions down by 42% by 2030 compared to 2005 levels. Revenues generated by this separate ETS will fund the new Social Climate Fund (SCF); • The EU–level greenhouse gas emissions reduction target will increase from 29% to 40%, compared with 2005 and in turn the national targets will be updated accordingly. Malta's 2030 target for greenhouse gas (GHG) emissions not covered by the EU Emissions Trading System (non-ETS), is -19% compared to 2005. • Revision of existing legislation aiming to accelerate the deployment of infrastructure for recharging or refuelling vehicles with alternative fuels and to provide alternative power supply for ships in ports and stationary aircraft. A number of targets for 2025 or 2030 include charging stations for cars and vans to be installed every 60 km, charging stations every 120 km for trucks and buses by 2028 on core TEN-T and hydrogen refuelling stations serving cars and lorries to be deployed from 2030. • Introduce increased EU–wide reduction targets for 2030 and sets a new target of 100% for 2035 in respect of the CO_2 emission standards for cars and vans. • Reduction of the aviation sector's environmental footprint by looking at sustainable aviation fuel. Renewable hydrogen will be part of the sustainable fuel mix and EU airports will need to help aircraft operators get access to sustainable aviation fuels, including with infrastructure for hydrogen refuelling and electric recharging. • The goal of the FuelEU maritime initiative is to reduce the greenhouse gas intensity of the energy used on-board of ships. .	

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
Zero Pollution Action Plan	A key deliverable of the Green Deal, the EU Action Plan: Towards a Zero Pollution for Air, Water and Soil (and annexes), was adopted on 12th May 2021. The zero pollution vision for 2050 is *for air, water and soil pollution to be reduced to levels no longer considered harmful to health and natural ecosystems, that respect the boundaries with which our planet can cope, thereby creating a toxic-free environment.* The following key 2030 targets are aimed at accelerating reduction of pollution at source: -improving air quality to reduce the number of premature deaths caused by air pollution by 55%; - improving water quality by reducing waste, plastic litter at sea (by 50%) and microplastics released into the environment (by 30%); - improving soil quality by reducing nutrient losses and chemical pesticides' use by 50%; - reducing by 25% the EU ecosystems where air pollution threatens biodiversity; - reducing the share of people chronically disturbed by transport noise by 30%, and - significantly reducing waste generation and by 50% residual municipal waste.	The TMP can contribute to the achievement of some of these targets.
European Landscape Convention	This is the first international treaty that exclusively addresses all aspects of European landscape and covers natural, rural, urban and peri-urban areas. The Convention aims to protect, manage and plan landscape and raises awareness of the value of a living landscape. Signatory States are *…concerned to achieve sustainable development based on a balanced and*	The measures proposed in the TMP need to consider the implications of the strategic direction and aims of this Convention, which will also be addressed through the environmental assessment process.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	harmonius relationship between social needs, economic activity and the environment…' considering the cultural dimension of the landscape.	
EU Climate and Energy Framework, 2030	The 2030 climate and energy framework includes EU-wide targets and policy objectives for the period from 2021to 2030. As part of the European Green Deal, in 2020, the Commission proposed to raise the 2030 greenhouse gas emission reduction target including emissions and removals, to at least 55% compared to 1990. Actions required across all sectors were analysed to understand what was needed to achieve this. The EU will thus be able to move towards a climate-neutral economy and implement its commitments under the Paris Agreement by updating its Nationally Determined Contribution. Key targets for 2030 are: • At least 40% cuts in greenhouse gas emissions (from 1990 levels); • At least 32% share for renewable energy; and • At least 32.5% improvement in energy efficiency.	The SEA will consider the key targets in the assessment of the TMP.
EU Circular Economy Action Plan, 2020	Europe's new agenda for sustainable growth, the circular economy action plan is one of the main building blocks of the European Green Deal. One area that the Action Plan addresses is food, water and nutrients. The food value chain is responsible for significant resource and environmental pressures. The Commission will consider several specific measures to increase the sustainability of food distribution and consumption. The new Water Reuse Regulation will encourage circular approaches to water reuse in agriculture. The Commission will also develop an Integrated Nutrient Management Plan, with a view to ensuring more sustainable application of nutrients and stimulating the markets for revovered nutrients.	The TMP will need to consider the circular economy approach in its development.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
Directive 2016/2284 reduction of national emissions of certain atmospheric pollutants	This Directive includes a requirement for Member States to draw up, adopt and implement their national air pollution control programmes. The Directive makes a requirement for emission reduction measures, specifically for the transport sector to control sulphur dioxide (SO_2), nitrogen oxides (NOx), non-methane volatile organic compounds (NMVOC), ammonia (NH_3) and particulate matter (PM).	The TMP is crucial in assisting in the implementation of requirements of this Directive.
Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC	This directive sets out new renewable energy targets for EU Member States aimed at reaching the overall EU share of 20% of energy from renewable energy sources by 2020. Member States may comply with their obligations under this Directive either by investing in renewable energy sources and/or using the flexible mechanisms provided by the same Directive such as statistical transfers and participation in joint projects in other Member States or in non-member states subject to a number of conditions.	Malta has an obligation to reach a 10% share of renewable energy in the energy consumption by 2020 (including a separate 10% target of renewable fuel in transport) with interim targets.
European Commission Communication Energy Roadmap 2050	The EU is committed to reducing greenhouse gas emissions to 80-95% below 1990 levels by 2050 in the context of necessary reductions by developed countries as a group. In the Energy Roadmap 2050 the Commission explores the challenges posed by delivering the EU's decarbonisation objective while at the same time ensuring security of energy supply and competitiveness. The Energy Roadmap 2050 is the basis for developing a long-term European framework together with all stakeholders[6].	The Strategic direction of the TMP should reflect the spirit of the Energy Roadmap 2050.
EU Biodiversity Strategy for 2030	As identified through the 2015 Mid-term evaluation of the EU Biodiversity Strategy, the 2018 IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) Regional Assessment for Europe and Central Asia and the 2019 IPBES Global Assessment, and as reported also	The TMP will be assessed against biodiversity objectives through the SEA.

[6] Directly from website http://ec.europa.eu

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	by the European Habitats Forum, the objective to halt biodiversity loss by 2020 was not reached. The following shortcomings were reported as reasons for not reaching the objective: (i) insufficient implementation of existing nature, water and marine legislation; (ii) lack of ownership and lack of mainstreaming with other sectors and policies - agriculture, fisheries and forestry – main drivers of biodiversity loss, not sufficiently addressed; and (iii) lack of resources (finance gap) and continuation of harmful subsidies. The 2030 EU Biodiversity Strategy identifies several mechanisms to bring about transformative change with an aim to combat these shortcomings. It seeks to unlock funding for biodiversity and set in motion a strengthened governance framework. Interreg Europe (2020) highlights a strategy for improved governance through: (i) fostering multi-stakeholder involvement and partnership, garnering cooperation; (ii) empowerment through capacity-building and crucially ensuring the allocation of resources; (iii) strategic horizontal integration across sectoral plans and programmes; (iv) setting up an effective monitoring system and ensuring the gathering of good quality data; and (v) use of fiscal instruments. The 2030 Biodiversity Strategy actions include: • Establishing a larger EU-wide network of protected areas on land and at sea; • Launching an EU nature restoration plan; • Introducing measures to enable the necessary transformative change, setting up a strengthened governance framework: to ensure better implementation and track progress; improve knowledge, financing and investments; and better respecting nature in public and business decision-making; and	

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	• Introducing measures to tackle the global biodiversity change.	
The Habitats Directive (92/43/EEC)	The Habitats Directive is one of two main nature conservation Directives (the other being the Birds Directive). It centres around two pillars, one being the Natura 2000 network (designating Special Conservation Areas), the largest network of protected areas in the world, and the other the protection of species of conservation interest. In the event that a proposed plan/programme or project could negatively affect the integrity of a Natura 2000 site or listed species therein, the Habitats Directive requires an Appropriate Assessment. Rather than being a decision-informing instrument, such as EIA and SEA, Appropriate Assessment is a decision-maker in that should significant negative impacts be identified, the associated plan/programme or project will not be allowed to move forward in accordance with the requirements of this Directive.	The TMP measures should seek to ensure that they do not not affect the integrity of a Natura 2000 site or relevant species. Any risk of this will be identified through the SEA.
The Waste Framework Directive (2006/12/EC).	The Waste Framework Directive (previously 75/442/EEC) is the foundation legislation for sustainable waste management. The Framework Directive places obligations on plan making authorities to have regard to certain objectives, such as encouraging the prevention or reduction of waste. A key objective is the minimisation of waste and where possible the encouragement of materials recycling and energy recovery. The Directive sets out to ensure that waste is recovered or disposed of without endangering human health and without using processes or methods which could harm the environment. It requires a system for the co-ordinated management of waste within the community; it defines waste and introduces the principles of the waste hierarchy, proximity principle and regional self sufficiency. The competent authority is required to draw up a waste management plan to set out anticipated quantities of different waste streams, how these streams will be managed and identify sites for waste management.	The Strategic direction adopted in the TMP in relation to Waste Management should be in the spirit of the Waste Framework Directive. This will be assessed through the SEA.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	There are currently proposals to amended the Directive with a focus on textiles.	
The Water Framework Directive (2000/60/EC)	The Water Framework Directive seeks to establish a structured framework for action in the field of water policy. It aims to establish a framework for the protection of inland surface waters, transitional waters, coastal waters and groundwater that: - Prevents further deterioration and protects and enhances the status of aquatic ecosystems and, with regard to their water needs, terrestrial ecosystems and wetlands directly depending on the aquatic ecosystems; - Promotes sustainable water use based on a long-term protection of available water resources; - Aims at enhanced protection and improvement of the aquatic environment, inter alia, through specific measures for the progressive reduction of discharges, emissions and losses of priority substances and the cessation or phasing-out of discharges, emissions and losses of the priority hazardous substances; - Ensures the progressive reduction of pollution of groundwater and prevents its further pollution, and - Contributes to mitigating the effects of floods and droughts and will have a significant role to play in protecting and managing water resources.	In accordance with this Directive, Malta is required to ensure that designated surface waters achieve good ecological and chemical status and that this status is to be maintained. The TMP must have regard to this requirement. This will be assessed through the SEA.
Bathing Water Quality Directive (76/160/EEC)	This Directive provides a framework for the monitoring, assessment, and management of the quality of bathing water and defines minimum quality criteria that Member States must adhere to.	The TMP should be mindful of the need to abide by these standards. This will be assessed through the SEA, if applicable.
Marine Strategy Framework Directive (2008/56/EC)	This Directive is the first all-encompassing piece of European legislation aimed at protection of the marine environment. The main aim is to achieve Good Environmental Status (GES) in European waters by 2020 through the adoption of an ecosystem-based approach to the management of all human activities that impact the marine environment. The regulation includes	The TMP must operate within the spirit of this Directive, although it does not directly apply to the implementation of the TMP.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	implementation of a number of key steps to achieve the overriding aim including an initial assessment of the current environmental status of marine waters as well as the environmental pressures and impacts on the marine environment. The initial assessment must include an economic and social analysis of the use and degradation of the marine environment. The determination of GES must then be carried out based on a number of qualitative descriptors. Environmental targets and associated indicators must then be set in order to guide progress towards the achievement of GES.	
European Communication Green Infrastructure (GI) – Enhancing Europe's Natural Capital COM/2013/0249	This Communication highlights the many benefits of GI solutions and the importance of integrating green infrastructure solutions in spatial planning. It notes that Cohesion Policy has identified GI as an investment priority for the next programming period.	The SEA will assess whether GI is being promoted through the TMP.
SEA Directive (2001/42/EC)	The SEA Directive requires that certain plans and programmes are subject to an environmental assessment prior to their implementation.	The TMP is undergoing an SEA in accordance with the Directive.
Environmental Noise Directive (2002/49/EC)	The Environmental Noise Directive (the END) aims to define a common approach intended to avoid, prevent or reduce on a prioritised basis the harmful effects, including annoyance, due to the exposure of environmental noise. In addition, it aims to provide a framework for the development of EU measures to reduce noise from major noise emitters including road and rail vehicles and infrastructure, aircraft, outdoor and industrial equipment and mobile machinery.	The TMP and SEA will consider this Directive during their development.
3. Most Relevant National Environmental, Planning & Sectoral Documents		
Malta's Low Carbon Development Strategy	The Low Carbon Development Strategy (LCDS) addresses a series of EU obligations that constitute ambitious targets to minimise climate change. The purpose of this policy is to gradually reshape the country into a Low Carbon Economy. One of the main pillars which is tackled in this policy is the transport sector. 6 main goals for transport are described: • Support Economic Development • Promote Environmental and Urban Sustainability • Provide Accessibility and Mobility • Support Social Development and Inclusion	The TMP is critical in meeting the targets of the LCDS.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	• Remain Safe and Secure • Improved Public Health	
Malta's 2030 National Energy and Climate Plan (NECP)	The NECP provides a strategic planning framework to guide Malta's contribution to achieving the EU Energy Union's 2030 objectives and targets. The Plan's key objectives and targets are: • Decarbonisation: - 19% GHG emissions reduction target under the Effort Sharing Regulation; - 10-13% share of renewable energy in gross final energy consumption in 2030; • Energy efficiency: - Energy intensity of 0.08 toe/€ in 2030; • Energy security: - Generation adequacy based on the N-1 principle; - Continued diversification of energy sources; • Internal energy market: - Ensure competitive electricity prices for households, commercial and industrial sectors; • Research & Innovation and competitiveness: - Develop a specific strategy for R&I for energy and water by the end of 2019.	The TMP is critical in meeting the targets of the NECP.
Malta's National Reform Programme, 2024	Malta's National Reform Programme for 2024 refers to transport as follows: • Aim to diminishing the carbon footprint of the transportation sector by supporting the electrification of vehicles and advocating for increased utilisation of public and alternative modes of transportation • Steer the economy towards decarbonisation, with the ultimate aim	The TMP should be in line with the NRP's strategic direction.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	of achieving carbon neutrality by 2050. • Improving the road infrastructure, specifically focusing on the TEN-T roads • Committed to reduce the transport sector's carbon footprint through the electrification of vehicles. • In order to improve the air quality in the highly urbanised areas surrounding the Grand Harbour, the Government is committed to the Grand Harbour Clean Air Project, providing onshore electricity power supply for berthed vessels.	
Long Term Waste Management Plan 2021-2030	This Plan aims to move the Maltese Islands current waste management practices up the waste management hierarchy and sets out a number of targets as well as measures to reach those targets.	The TMP must ensure that any proposed measures are in line with the spirit of the plan. Waste management will be addressed through the SEA.
Third River Basin Management Plan, 2024	The European Union (EU) Water Framework Directive (WFD) requires EU Member States to develop River Basin Management Plans (RBMP) aimed at the adoption of an integrated approach towards the protection of water, including groundwater, inland surface waters, transitional waters and coastal (marine) waters. This plan, which is subject to updating and reporting to the European Commission on the basis of six-year implementation cycles, focuses on the management of water resources as defined through designated 'water bodies. RBMPs constitute the main management tool for the protection of all water resources in Malta, and in fact are considered as National Water Management Plans in their own right. These plans are developed pursuant to the EU Water Framework Directive 2000/60/EC and are updated every six years on the basis of the six-year implementation cycle of the Directive. The plan describes and assesses these water bodies in terms of their status and pressures thereon. On the basis of such assessment, the Plan put forward a Programme of Measures targeting the protection and, where necessary, the restoration of water bodies.	The SEA considers impacts of the TMP in relation to the requirements under the Water Framework Directive and the RBMP including impacts on water quality, and water-related ecology as relevant.
Malta's Sustainable Development Vision for 2050	The sustainability principles outlined in this vision are:	Sustainable development principles must be integrated as part of the TMP. These will be assessed through the SEA.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	- Circular consumption and production patterns - Transition towards a low-carbon emission economy - Sustainable mobility - Transition towards a digital economy - Creation of more high-skilled and high value-added jobs - Increased investments in research and innovation - Transition towards low-Carbon energy - Sustainable buildings and urban development - Protection, conserving and enhancing natural capital - Combating poverty and social exclusion - Fair and inclusive labour market - High quality education and training - Good health and wellbeing - Building safe and integrated communities	
National Cultural Policy 2021	The Policy's mission states: *Inspired by cultural rights, Malta's National Cultural Policy 2021 integrates culture in national development with a global outlook that contrbutes towards sustainable development.* Policy objectives seek to protect and conserve cultural heritage including the cultural landscape. .	The TMP will seek to ensure that the cultural policy objectives are respected.
Strategic Plan for the Environment and Development (SPED), 2014	The Environment and Development Planning Act (2010) requires the preparation of a Strategic Plan for the Environment and Development (SPED). The SPED replaces the current Structure Plan, providing a strategic spatial planning framework up to 2020. The SPED is based on an integrated planning system that aims to (i) ensure the sustainable management of land and sea resources together with the protection of the environment; and (ii) guides the development and use of land and sea space. A key SPED objective is 'To facilitate sustainable rural development and the diversification of activities within the Rural Area to sustain agriculture and safeguard its distinctiveness'.	The TMP must consider the relevant spatial planning objectives. These will be considered in the Environmental Report.
National Climate Change Adaptation Strategy	The National Climate Change Adaptation Strategy presents a series of actions aimed at various sectors that requires integration of such measures	The TMP should have regard to the relevant actions and policy direction of the NCCAS.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
(NCCAS), 2012	as part of the strategic planning in areas such as fisheries, agriculture, water management, etc.	
Malta's National Air Pollution Control Programme, 2019	This programme was prepared in accordance with Article 6 of the National Emission Ceilings Directive with an aim to limit the annual anthropogenic emissions of five pollutants, namely, nitrogen oxides (NO_x), non-methane volatile organic compounds (NMVOC), sulphur dioxide (SO_2), ammonia (NH_3), and fine particulate matter ($PM_{2.5}$) emissions. As identified in the programme, agricultural activity is the main source of ammonia emissions in the Maltese Islands.	Relevant direction and requirements listed in this programme should be considered also in the TMP
Air Quality Plan for Malta 2023	The Ambient Air Quality Directive (2008/50/EC), transposed into national legislation through the Ambient Air Quality Regulations (S.L. 549.59), is a legislative framework aimed at safeguarding public health and the environment by setting air quality standards for various pollutants, including particulate matter (PM10). The Directive calls for Member States to maintain ambient air quality where it is good and improve it in other cases, by means of plans and programs of action. The Air Quality Plan focuses on implementing measures related to transport while also taking into account other potential sources of particulate matter. The main objective of the Air Quality Plan is to introduce measures focusing on the Air Quality Management Area (AQMA), an area characterised by poorer air quality. The AQMA extends over areas within the Northern and Southern Harbour Districts, namely the entire locality of Pietà, as well as areas of Floriana, Msida, Marsa, Ħamrun, Qormi, Luqa and Paola. The AQMA is split into two zones: the North Zone consisting of Pietà, Msida, Floriana, Ħamrun and the northern portion of Marsa, where short to medium-term measures shall be implemented, many of which aiming to reduce congestion. The South Zone consists of the remaining areas of the AQMA: the southern portion of Marsa, Qormi, Paola and Luqa. Short to long-term measures will be implemented in this zone, such as road infrastructure-related measures to alleviate traffic and reduce congestion. Other infrastructural projects outside the South Zone will also contribute to the reduction of congestion times.	The measures contained in the TMP directly link to the Air Quality Plan and will be assessed in the SEA.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	The Air Quality Plan presents measures from other policy documents that have already contributed to improvements in air quality in Malta, such as the reform in the power generation sector, grants for more sustainable transport, free school transport, improvement of ferry landing places, a fast ferry link between the main islands and free public transport for all. The plan also presents measures committed by Government in other policy documents that are either in progress or yet to be implemented, such as the Sustainable Urban Mobility Plan (SUMP) for the Valletta Region, the Slow Streets initiative, the shore supply project, the study relating to the effectiveness of a Low Emission Zone (LEZ), the cut-off date on the sale of new internal combustion engine vehicles, and the Strategic Plan for the Environment and Development (SPED) review. Furthermore, the Air Quality Plan proposes additional measures aimed at supporting Malta in improving air quality, with a primary focus on the transport sector. These measures aim to reduce dependence on private vehicles and promoting the use of sustainable mobility, increasing awareness, implementing infrastructural interventions, and enhancing vehicle technology fleet, amongst others.	
National Noise Action Plan, 2022	The Environmental Noise Directive (END, 2002/49/EC) requires member states to develop action plans designed to manage noise issues and effects, including noise reduction if necessary for major roads and agglomerations. In this regard, the updated **Noise Action Plan** is designed to address the management of environmental noise affecting Malta from transport noise including road and air, together with industrial noise as well as Major Roads across the Maltese Islands. The NAP provides an overview of the requirements and obligations of the regulations, present a summary of the results of the strategic noise maps and illustrate actions which responsible authorities intend to take in the	Impacts of noise from the TMP will addressed in the SEA.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	coming five years. Noise as a nuisance and environmental noise pollution are different and are not interchangeable. It is continuous long term exposure to noise that exceeds a limit that harms the environment that is considered as pollution. The objectives of the Noise Action Plan are to outline a long-term plan aiming to prevent and reduce environmental noise where necessary and particularly where exposure levels can induce harmful effects on human health and preserve environmental noise quality where it is good; to take a staged approach in assessing the existing levels of environmental noise from the different noise sources to identify potential locations for actions using a prioritization exercise; and to preserve relatively quiet areas in the agglomeration and in open countryside through the identification and delineation of such areas.	
National Environment Policy, 2012	The final NEP was launched in February 2012 and covers all end sectors and natural resources, including air, waste, water, land, soil, climate, biodiversity, coastal and marine area, noise chemicals and mineral resources. The policy covers the period from 2012 to 2020.	This policy outlines the need to manage the coastal and marine areas in an environmentally-sustainable and integrated manner. The development of the SEA objectives consider the NEP objectives ensuring that the assessment is directly related to the national objectives in relation to the environment
National Strategy for the Environment, 2050	This strategy identifies key challenges for safeguarding the environment. The need to strengthen environmental stewardship in agriculture is mentioned specifically as a key challenge related to sustainable use of land resources.	The TMP will seek to contribute to addressing the key challenges in particular that related directly to transport and will be assessed in the SEA.
National Biodiversity Strategy & Action Plan (NBSAP) to 2030	As a Party to the Convention on Biological Diversity (CBD), Malta is required to establish a National Biodiversity Strategy and Action Plan (NBSAP) with the purpose of integrating biodiversity concerns into relevant sectoral or cross-sectoral plans, programmes and policies. The NBSAP to 2030 is driven by a long-term vision to 2050, as established in the National Strategy for the Environment. The vision asserts that: "By	The TMP and the accompanying SEA must consider the potential impacts clearly outlined in the NBSAP and ensure strategic measures to prevent and/or minimise as far as possible any negative effects.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	2050, Malta's biodiversity is valued, conserved, restored and sustainably used for the benefit of nature, people and climate." To achieve this vision, the NBSAP's mission was defined as: "to put Malta's biodiversity on a path to recovery by 2030 for the benefit of the planet and people, by stepping up national efforts to effectively respond to the biodiversity crisis". The NBSAP establishes a Strategic Framework to guide the fulfilment of the mission of the NBSAP to 2030. It outlines the following 5 policy areas where action is necessary: conserving and restoring nature; addressing the drivers of biodiversity loss; using biodiversity sustainably; mainstreaming and awareness-raising; and enhancing implementation and cooperation. Under each policy area, targets to be achieved by 2030 have been defined. These address protected areas, ecosystem restoration, genetic diversity, invasive alien species, climate change, pollution, sustainable agriculture and fisheries, biotechnology, mainstreaming of biodiversity in the public and private sectors, and education and public awareness, amongst others. Nested within 22 targets are 78 actions, the implementation of which contributes to the achievement of each target. These targets and actions are aligned with biodiversity targets at global and EU level, while reflecting national priorities and capacities.	
National Cultural Policy 2021	Malta's National Cultural Policy 2021 (NCP 2021) integrates culture in national development. The policy asserts the principle that culture is dynamic and ever changing, and creative practitioners through culture and the arts are the meaning makers that question and push the boundaries of society. This policy takes a proactive approach to identify and remove barriers to ensure full and equal participation in cultural life. NCP 2021 reflects on the global and local impacts of the COVID-19 pandemic on the cultural and creative sectors and society at large. It provides a policy response to	The TMP must consider this policy and integrate measures where relevant.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	address the challenges faced by the sectors, the need to intensify support for the sectors and the opportunities that emerge from the aspirations of the community. The eight overarching priorities of this policy are as follows: • Strengthening Cultural Governance • Increasing cultural access and widening participation • Elevating the status of the artist and professionals in the cultural, heritage and creative sectors • Improving artistic and cultural education • Developing cultural infrastructure • Protecting and safeguarding Cultural Heritage • Promoting a culturally distinctive Gozo • Advancing international cultural relations	
4. National Legislation		
Constitution of Malta	The Constitution of Malta (Section 9) declares that the State shall safeguard the landscape and the historical and artistic patrimony of the Nation. These are the only aspects of the environment referred to in the Constitution, underlining the importance of the landscape and historical heritage.	Landscape and historical heritage must be recognised as important assets in the TMP where relevant.
Environment Protection Act, 2016	This Act seeks to protect the environment and make provision for the establishment of an authority with powers to that effect. It names the Environment and Resources Authority (ERA) as the Competent Authority. The Act requires everyone together with the government to protect the environment and to assist in the taking of preventative and remedial measures to protect the environment and manage natural resources in a sustainable manner. Various duties that fall to the government are established including: 4(a) to manage the environment in a sustainable manner by integrating and	Projects resulting from the TMP must conform to the requirements of this Act.

Plan, Programme, Legislation	Description	Implications for the National Transport Master Plan
	giving due consideration to environmental concerns in decisions and policies on land use, socioeconomic, educational and other matters; 4(b) to take such preventive and remedial measures as may be necessary to address and abate the problem of pollution and any other form of environmental degradation in Malta and beyond, in accordance with the polluter pays principle and the precautionary principle; 4(e) to apply scientific and technical knowledge and resources in determining matters that affect the environment; 4(f) to ensure the sustainable management of wastes, to promote the reduction of waste and the proper use, reuse and recovery of matter; 4(g) to safeguard biological diversity; 4(h) to combat all forms of pollution and environmental degradation; 4(i) to consider the environment as the common heritage and common concern of humankind; and 4(j) to provide incentives leading to a higher level of environmental protection.	
Development Planning Act, 2016	The Planning Authority (PA) was established under the mandate of this Act and it is the national agency responsible for land use planning in Malta.	The SEA will highlight any measures whose implementation may require consultation and/or permission will be required from the PA.
Climate Action Act, 2015	The Objective of the Act is to *contribute to the mitigation of climate change by limiting anthropogenic emissions of greenhouse gases and protecting and enhancing greenhouse gas sinks and reservoirs, and to contribute to the prevention, avoidance and reduction of the adverse impacts of climate change and the reduction of vulnerability, enhancement of resilience, and adaptation to the adverse effects of climate change.*	The requirements of the Act will be assessed in the SEA.

Appendix 2: Response to Public Consultation on the Environment Report

STRATEGIC ENVIRONMENTAL ASSESSMENT ON THE NATIONAL TRANSPORT MASTER PLAN 2030

RESPONSE TO PUBLIC CONSULTATION COMMENTS ON THE STRATEGIC ENVIRONMENTAL ASSESSMENT

Version 1: January 2026

Report Reference:

Adi Associates Environmental Consultants Ltd, 2026. Strategic Environmental Assessment on the National Transport Master Plan 2030. Response to Public Consultation Comments on the Strategic Environmental Assessment Version 1. San Gwann, January 2026; iv + 20pp.

THIS IS A DIGITAL COPY OF THE REPORT.

RESPECT THE ENVIRONMENT – KEEP IT DIGITAL

Quality Assurance

Strategic Environmental Assessment on Malta's Transport Master Plan 2030
Public Consultation Report
Janaury 2026

Report for: **Transport Malta**

Revision Schedule

Rev	Date	Details	Written by:	Checked by:	Approved by:
00	Jan 2026	Submission to Client	**Rachel Xuereb** Director	**Andrea Pace** Planning Consultant	**Adrian Mallia** Managing Director

File ref: G:_Active Projects\SEA\TM0030 - SEA of TMP changes 2024\Environment Report\Response to consultation on ER.docx

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CONTENTS

TABLES

INTRODUCTION

1. This document presents the replies to comments received on the Environmental Report (ER) prepared as part of the Strategic Environmental Assessment (SEA) for the Transport Master Plan.

2. The consultation process on the ER was held between 10th November 2025 to 9th December 2025. Comments were received from the following:

   - Environment & Resources Authority;
   - Ministry for Gozo & Planning;
   - Ministry for Health & Active Aging; and
   - Climate Action Authority.

3. The tables below provide a description of the comments made by the stakeholders and the response and how the comments were addressed in the updated Environment Report.

RESPONSE TO COMMENTS MADE BY THE ENVIRONMENT AND RESOURCES AUTHORITY

Table 1: Response to Comments made by Environment and Resources Authority (ERA)

ER Section	*ERA Comments*	*Adi Associates' Responses*
1. Introduction		
	1.1 ERA welcomes the opportunity to comment on the Strategic Environmental Assessment (SEA) Environment Report (ER) of Malta's National Transport Master Plan 2030. 1.2 The following comments are provided without prejudice to ERA'S environmental review of the specific infrastructural projects arising from this Plan. This may include an Environmental Impact Assessment (EIA) and/or an Appropriate Assessment (AA).	Noted.
2. ***General comments***		
	2.1 ERA welcomes various proposals in the plan which are intended to alleviate road congestion and associated environmental issues. However, some proposals could give rise to environmental impacts, including land take-up and impacts on the landscape: • Resolving conflicts between high traffic volume and urban activity and improving road safety at Xemxija Road [Nodes NA6-NA7] - Xemxija Bypass. The impacts on the countryside and the coast are unclear, including those on is-Simar wetland and environs (Natura 2000 site and a Bird Sanctuary); the marine Special Areas of Conservation (SAC) and Special Protected Areas (SPA); Wied Il-Mizieb; and the landscape and other surrounding natural sites. •The future upgrading of Ghadira Road. Details of the proposal are not available and therefore, its potential impacts on the Ghadira wetland (Natura 2000 site and Bird Sanctuary); the beach and marine	The Environment Report takes note of the potential impacts of development arising from projects funded under the TMP. The comments relate mainly to the TMP itself.

ER Section	ERA Comments	Adi Associates' Responses
	SAC/SPA; other natural sites (e.g. garrigue areas); and the surrounding landscape, are unclear. • The New Link Road to Smart City, most of which is proposed on rural land, seems different from the latest proposal reviewed by ERA. The indicative route/s shown in the plan needs to be updated in line with the proposal currently reviewed by ERA. • The proposed new link road/bypass at Burmarrad (see Figure 32 in the Forecast section of the plan), the removal of bottlenecks along Triq Burmarrad and other related road/junction improvements in the area, would take-up further rural land. • Improving road infrastructure quality of the Distributor Road (Route 30) to Marsaxlokk Bay and reducing traffic impact in village centre on Marsaxlokk Road Nodes SA13-SD17], will result in take-up of rural land due to a new link road. • New multi-modal hubs (and similar facilities) affecting rural land ODZ, such as that at Haz-Zabbar (Measure 2.4.2.4). Details of the proposed modal hubs (Figure 19 in the Plan) and the new Park and Ride facilities are not available. • Infrastructure required to implement active travel and micromobility, such as the possible upgrading of certain roads ODZ to accommodate cycle lanes. The impacts of these proposals (Measure 2.3.1.2) on biodiversity, soil sealing, natural sites (e.g. valleys and watercourses) and the landscape are unclear at this stage.	

ER Section	ERA Comments	Adi Associates' Responses
	•The possible expansion of the Airport precincts to accommodate future growth including that related to business and leisure needs (Measure 2.11.1), could have adverse impacts on adjacent rural areas.	
	2.2 ERA should be consulted on the details of the above-mentioned proposals, amongst others, to ensure that relevant environmental considerations, objectives and mitigation measures are factored into strategic decisions and the design of infrastructure at an early stage. Priority should be given to the lowest environmental impact options. Take-up of fresh land should be considered as the last resort, while pristine landscapes and open countryside should be safeguarded. It is suggested that most infrastructural works are carried out within urbanised contexts, whereas other minor works are implemented within the footprint of existing roads and similar committed sites. The SEA study should also consider, as part of the mitigation measures, the possibility of rehabilitating redundant roads into public green spaces.	The Environment Report (Chapter 8) has been updated to include this recommendation.
3. Detailed comments		
Chapter 5 - SEA Objectives and Indicators (Table 5.1)	3.1 The landscape indicators considered by the SEA study focus on landscape character and scenic value in general. It is suggested that the impact assessment study could also have regard to potential impacts on: Areas of High Landscape Value (AHLVs); SPED's sensitive landscapes; open countryside; urban and urban fringe settings; and extensive natural areas, valleys and coastlines.	Comments noted, however the list provided by ERA are not indicators but designations. These indicators are already taken into account in the provided indicators including in EIAs as well as landscape character as both these consider AHLVs, strategic open gaps, etc.
Chapter 7 -Impact Assessment (Table 7.2)	3.2 Theme 3: Public Transport and Shared Mobility Services: Early engagement with ERA is recommended in relation to the Mass Rapid Transit System (Measure 2.4.1.3). Efficient use of existing parking facilities is welcomed (Measure 2.4.2.4), with new facilities preferably located	Comment noted and passed onto plan proponent.

ER Section	ERA Comments	Adi Associates' Responses
	within areas already zoned or committed for development to reduce pressure on undeveloped land.	
Chapter 7 -Impact Assessment (Table 7.2)	3.3 Theme 4: Multimodal Transport: The design of hubs (Measure 2.5.2.1) should incorporate green infrastructure to enhance environmental quality and climate resilience (e.g. mature trees for shade, green roofs, rainwater harvesting for in situ irrigation, etc.).	Comment noted and passed onto plan proponent.
Chapter 7 -Impact Assessment (Table 7.2)	3.4 Theme 5: Privatised Motorised Transport: The ER does not address the management of end-of-life batteries, including storage facilities and pollution risks (e.g. land and water contamination) resulting from Measure 2.6.3.4. Such facilities should be sited within existing urban or committed sites.	Comment noted. However, the TMP does not advocate for new storage facilities just vehicle substitution. In any case the location of storage facilities would be guided by policy.
Chapter 7 -Impact Assessment (Table 7.2)	3.5 Theme 6: Road Safety and infrastructure Management: Stormwater infrastructure in ODZ areas (e.g. pipes, soakaways and reservoirs) should be contained within the footprint of existing roads (Measure 2.7.2.3)	Comment noted and passed onto plan proponent.
Chapter 7 -Impact Assessment (Table 7.2)	3.6 Theme 8 & 9: Internal & External Maritime Transport: While some projects under Objectives 2.9 and 2.10 are already under discussion with ERA, others require further consideration as more details become available. At this stage, the SEA ER could distinguish between construction and operational impacts and outline mitigation 2 measures for marine or coastal interventions, such as avoiding sensitive habitats (e.g. seagrass) or addressing potential operational pressures (e.g. noise).	Mitigation measures added to Environment Report.
Chapter 7 -Impact Assessment (Table 7.2)	3.7 Theme 10: Aviation: Ongoing coordination with ERA is recommended to ensure proper identification and mitigation of environmental impacts from Objective 2.11.	Comment noted and passed onto plan proponent.
Chapter 8 - Recommendations and Mitigation Measures	3.8 The ER's mitigation framework is useful for addressing some of ERA'S environmental concerns. It is suggested that projects adhere to these measures and those proposed (see above) to ensure environmental safeguards are maintained throughout the implementation of the plan.	Comment noted.

ER Section	***ERA Comments***	***Adi Associates' Responses***
Chapter 9: Monitoring Requirements	3.9 Other indicators are to be considered to assess improvements in air emissions (e.g. public transport patronage, traffic counts and vehicle classification, increase in the use of active mobility, etc.). Where applicable, monitoring proposals in the ER should be aligned with existing national monitoring frameworks, including permitting regimes requirements, to ensure consistency and avoid duplication.	Paragraph 9.4 already acknowledges that *SEA monitoring will utilise data collected for the purposes of monitoring the TMP, or other sectoral strategies as relevant, to avoid duplication of effort.*
Chapter 4 - Environmental Baseline (Human health and population)	3.10 ERA suggests the following amendments to Paragraph 4.25: To this end the Government has prepared 'strategic noise maps' for major roads, airports, and the agglomeration including road, aviation and industrial noise sources, see Figure 4.9 to Figure 4.13. No strategic noise maps have been prepared for airports.	Environment Report updated.
Chapter 4 - Environmental Baseline (Human health and population)	3.11 Paragraph 4.26 - A new set of noise maps for the assessment year 2021 has recently been published. The SEA ER is to be updated to reflect the latest available information. For instance, reference to the Noise Action Plan in Appendix 2 should read 2023 (https://era.org.mt/wp-content/uploads/2023/12/Noise-Action-Plan-Agglomeration Interactive.pdf)	Environment Report updated.
Chapter 4 - Environmental Baseline (Human health and population)	3.12 Paragraph 4.27 - Figures and percentages are to be updated according to the latest maps and report: R4_Noise_Maps_IVlalta_Final_Report_compressed.pdf	Environment Report updated.
Chapter 4 - Environmental Baseline (Human health and population)	3.13 Paragraph 4.73-Another exceedance of the PM10 daily limit value was recorded at the Msida station in 2023, when the limit value was exceeded on 52 days. Paragraph 4.74 to be revised accordingly.	Environment Report updated.

ER Section	*ERA Comments*	*Adi Associates' Responses*
Chapter 4 - Environmental Baseline (Human health and population)	3.14 The link for accessing the Air Quality Plan is to be updated as follows: https://era.org.mt/wp-content/uploads/2025/02/DIGITAL-Air-Quality-Plan.pdf.	Environment Report updated.

RESPONSE TO COMMENTS MADE BY THE MINISTRY FOR GOZO & PLANNING

Table 2: Response to Comments made by the Ministry for Gozo & Planning

ER Section	*Comments*	*Adi Associates' Responses*
1. Ministry for Gozo		
	The Ministry for Gozo and Planning acknowledges the Strategic Environmental Assessment (SEA) on the National Transport Plan 2030 and expresses its agreement in principle, recognizing that environmental protection is a fundamental priority for the island of Gozo. The preservation of natural assets, including the marine environment and coastal biodiversity, is crucial for Gozo, as our economy heavily relies on tourism. These natural assets are major attractions for tourists, particularly those interested in aquatic activities such as diving, as well as other outdoor recreational pursuits. Any negative impact on these resources would significantly affect Gozitan businesses that depend on tourism for their livelihood. Therefore, there should be an alignment with Gozo's Development Vision: where there is a guarantee that transport measures support Gozo's distinct identity, rural character, and sustainable tourism, rather than encouraging overdevelopment or unsustainable growth. At the same time, the Ministry emphasizes that the required studies mentioned in the SEA should not act as a barrier to projects earmarked for Gozo. Rather, such studies should provide clear guidance on how the proposed projects can be implemented with the least possible negative impact on the environment. This should include the adoption of precautionary measures and the establishment of robust monitoring mechanisms throughout the implementation process, ensuring that development and environmental stewardship progress hand in hand.	Comments noted – none refer specifically the Environment report.

ER Section	Comments	Adi Associates' Responses
	Ultimately, the Ministry calls for a balanced approach—one that recognizes the legitimate need for socio-economic development in Gozo while upholding the highest standards of environmental stewardship. The goal should be to achieve synergy between development and conservation, ensuring that progress in one area does not come at the expense of the other. By fostering close collaboration between project proponents, regulatory authorities, and the local community, it is possible to identify solutions that deliver tangible benefits for Gozo's residents while preserving the island's unique natural and cultural heritage for future generations. In summary, the Ministry urges that the process of environmental assessment be seen not as an obstacle, but as a constructive pathway to achieving the best possible outcomes for both development and the environment. Striking the right balance is essential, and this can only be achieved through a commitment to evidence-based planning, precaution, and ongoing monitoring	
2. ***Planning Authority comments***		
	The PA has reviewed the findings from the Draft Environment Report for the National Transport Master Plan 2030. As the Authority responsible for spatial planning on land and sea and which depends on government policy direction on transport to align it with other government policy direction in its spatial planning policy framework, the PA notes that the Draft Environment Report has concluded that 'currently no targets are set for any of the operational objectives and measures. This means that, while the assessment notes that the Master Plan has the potential to yield positive environmental effects, the assessment remains uncertain because of the missing targets'. If the recommendations of the Draft Environment Report that 'each objective	Comments noted and passed onto the Plan proponent.

ER Section	Comments	Adi Associates' Responses
	within the TMP be paired with a corresponding target, ideally aligned—where possible—within the parameters established by the modelling outputs' is not taken forward, there is the likelihood that the level of detail that spatial planning can undertake would be limited and less likely to support the expected synergy between transport and spatial planning. Furthermore, in the absence of more certainty in the assessment of potential impacts at the Master Plan level, the environmental impacts are likely to be addressed at the project level. The Draft ER states that 'further impacts to the environment will arise from specific proposals put forward to implement the objectives outlined in the TMP' and cautions that 'detailed mitigation measures at project level can only be provided when objectives have been fully developed and the TMP is at the implementation stage.' In this regard, the PA strongly supports the recommendations of the Draft ER for each objective to have a corresponding target, as this would provide for more detail on expected spatial requirements to support the implementation of the objectives and measures and would result in a clearer picture of associated environment impacts resulting from transport policy. A lack of such information is likely to lead for the uncertainties identified in this SEA to be inherited at project level where opportunities to consider alternative options would be narrower.	

RESPONSE TO COMMENTS MADE BY THE MINISTRY FOR HEALTH & ACTIVE AGING

Table 3: Response to Comments made by the Ministry for Health & Active Aging

ER Section	*Comments*	*Adi Associates' Responses*
	The National Transport Master Plan 2030, referred as the Plan, identifies key environmental issues linked to transport, particularly air pollution and road traffic noise, which have direct impacts on public health. The Plan proposes measures such as promoting public transport, low-emission vehicles, and active mobility. However, it does not fully detail how these measures will align operationally with Malta's national Air Quality Plan and Noise Action Plan, which is essential to ensure that public health is prioritised. The transport measures outlined in the Plan have the potential to improve public health by reducing exposure to air pollution and noise. Nevertheless, without clear operational targets, systematic monitoring, and spatial prioritisation, these benefits may not be fully realised. The Strategic Environmental Assessment (SEA) strongly recommends that each transport measure be associated with clear, measurable targets, including reductions in air pollution, increases in road safety, and explicit goals for modal shift. Such targets are essential for assessing progress and ensuring that interventions deliver tangible public-health benefits. The Plan should also include strategic targets for the indicators assessed under the SEA to enable effective monitoring over time. Identifying the root causes of private-car dependence is critical to tailoring policies to local needs and ensuring that interventions are effective. The proposed National Household Travel Survey, conducted, analysed, and published every five years, will be an important tool for monitoring travel patterns and guiding evidence-based transport policy.	Comments noted – none refer specifically the Environment report.

ER Section	Comments	Adi Associates' Responses
	Furthermore, the Plan does not provide a detailed explanation of why Malta's vehicle fleet is old when compared to other EU countries. While the Plan acknowledges this issue and highlights its implications—higher emissions, reduced road safety, and increased maintenance costs—it does not systematically analyse the underlying causes. Understanding why older vehicles are still being used is essential, as this affects air quality, emissions, road safety, and the effectiveness of policies promoting vehicles with lower or zero emissions or the introduction of low-emission zones. Without addressing these root factors, the Plan may not adequately reduce emissions or public-health risks. Increasing incentives for zero-emission vehicles, consistent with the European Union directive requiring all new cars to be zero-emission by 2035, will help reduce air and noise pollution and mitigate climate change. However, such measures alone will not resolve long-standing issues such as traffic congestion, heavy reliance on private vehicles, and declining physical activity. Incentivising the purchase of e-bikes can help reduce congestion and air/noise pollution; however, care needs to be taken to ensure that individuals are appropriately trained in how to drive such e-bikes/scooters and that measures are in place to ensure parking and storage are available in public places. These challenges require effective implementation of the transport research and innovation framework. While the Plan promotes zero-emission vehicles to reduce emissions, it does not address end-of-life battery management. The SEA identifies the importance of ensuring that all major infrastructure interventions, including energy and charging infrastructure, are supported by proper	

ER Section	Comments	Adi Associates' Responses
	environmental assessments. A clear strategy for electric-vehicle battery collection, recycling, and safe disposal is needed to avoid water, soil, and air contamination, which would undermine both environmental and public-health objectives. The SEA recommends that all proposed road interventions and multimodal facilities include infrastructure for alternative transport modes, ensuring they support a genuine shift away from private-car use. This analysis is essential for understanding potential reductions in exposure to NOx, PM2.5, noise, heat, and road-safety risks. Active travel and micromobility offer opportunities to increase physical activity, reduce pollution, and improve urban wellbeing. However, clear health targets, monitoring frameworks, and safety measures are needed to mitigate risks related to traffic injuries and congestion. Improved public education, awareness campaigns, and enforcement of road-safety regulations will further support sustainable mobility and improve public health. The expansion of Malta's internal maritime transport network provides connectivity benefits but raises environmental and public-health concerns. Increased vessel traffic and port development near official bathing sites could compromise water quality through fuel or wastewater discharge and increase turbidity that may pose safety risks to bathers. The SEA emphasises the need for rigorous Environmental Impact Assessments (EIA) and Appropriate Assessments (AA) prior to major infrastructure works, including assessment of alternatives, and calls for continuous monitoring during construction and operation.	

ER Section	Comments	Adi Associates' Responses
	Plans to introduce low- or zero-emission vessels and develop a maritime sustainability plan are positive steps, but additional preventive measures are needed. These include careful route planning to minimise marine traffic, shoreline-protection measures, and robust monitoring to ensure that increased maritime activity does not adversely affect water quality, coastal habitats, or the safety and enjoyment of bathers. The Plan describes potentially increasing civilian landing points for aircraft, which may encourage more private aircraft flights leading to increased air and noise pollution, negatively affecting public health. Overall, while the Malta National Transport Master Plan offers significant public-health benefits through cleaner mobility, expanded active-travel options, and improved public transport, several risks remain. The SEA highlights the need for strict environmental controls during infrastructure works, stronger policies that reduce car dependence, and tighter emission-reduction measures for ports and the airport. Incorporating these SEA-recommended mitigation measures, along with clear operational targets, improved monitoring, and pollution-reduction strategies, will help ensure that the Plan delivers its full potential for enhanced public health and improved bathing-water quality.	

RESPONSE TO COMMENTS MADE BY THE CLIMATE ACTION AUTHORITY

Table 4: Response to Comments made by the Climate Action Authority

ER Section	*Comments*	*Adi Associates' Responses*
NA	The Climate Action Authority (CAA) welcomes the opportunity to review and comment on the Strategic Environmental Assessment (SEA) on the National Transport Master Plan (TMP) 2030. With reference to the National Inventory Report (NIR), the values used in the SEA belong to 2022, pertaining to the 2024 NIR. An updated version of the NIR was submitted in March 2025, with values from year 2023. Given that the SEA was published in October 2025, it should reflect the most recent data. This change would align the SEA with best practices in using the latest NIR, elevating its robustness, while following the United Nations Framework Convention on Climate Change (UNFCCC) guidelines.	The Environment Report has been updated with latest NID.
	CAA acknowledges and supports the inclusion of air quality, climate factors and climate change, as well as energy efficiency and renewable energy resources under Section 4.6 – Identified Environmental Parameters. While the report makes several references to the reduction of greenhouse gas (GHG) emissions, it does not outline how these reductions will be achieved, nor does it provide information on the associated abatement costs. CAA also notes the vague phrasing in Section 4.8, which states: "Where possible, quantitative data are presented in the form of maps, tables and figures. A brief description of the baseline and any trends are given, where available." CAA is concerned that if baseline data are not readily available at this stage, the Transport Plan will fall short in its ability to	Comments noted and passed onto the Plan proponent.

ER Section	Comments	Adi Associates' Responses
	effectively monitor the measures proposed, including those related to emissions. CAA recognizes the comments under table 7.2 Impact Assessment in the mitigation header, pertaining to air pollutants and the decarbonisation of transport. We acknowledge that it is desirable to have specific targets and indicators used to monitor progress. However, CAA understands that at this stage there are no established sectoral targets. Additionally, CAA notes that several measures address the same target, CAA proposes a mapping exercise linking mitigation actions to various objectives, bringing together several ministries and entities, such an approach will reduce fragmentation. This recommendation can be addressed through the development of a dedicated Road Transport Decarbonisation Plan (RDP), whereby CAA is willing to collaborate with Transport Malta (TM) to develop it. This plan should set out the pathway to decarbonise the road transport sector by 2040, complementing and going beyond the TMP. CAA remains actively supportive of the continued collaboration between the two authorities. In light of the above, CAA expresses its support for Section 8.3 – Monitoring and Section 8.4 – Setting Targets, as these components are crucial for ensuring accountability and progress. CAA looks forward in seeing its feedback integrated into the final version of the SEA as well as future collaborations with TM.	