



# Managing our transportation assets for the future



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# Asset Management in TII

## *Protecting Ireland's Investment*

Transport Infrastructure Ireland (TII) delivers transport infrastructure and services that contribute to the quality of life of the people of Ireland and support the country's economic growth. Our purpose is to provide sustainable transport infrastructure and services, delivering a better quality of life, supporting economic growth and respecting the environment. It is the duty of TII to secure the provision of a safe and efficient network of national roads and to secure the provision of light railway and metro railway infrastructure. TII is responsible for c.5,300km of national roads, which carry almost 50% of all road traffic and over 90% of freight traffic. These national roads have a replacement value of c. €31 billion, making them one of the largest asset classes in state ownership.

We are also responsible for developing, operating and maintaining the Luas network in partnership with the National Transport Authority (NTA). The replacement value of the Luas is c. €2 billion. With such a large asset value base, and the constant deterioration in condition of our networks through traffic and environmental impacts, substantial ongoing reinvestment is required to protect the value of the original investment. Efficient asset management ensures that we plan for the most cost-effective and appropriate interventions so that our transport infrastructure can withstand the various risks that threaten its operation.

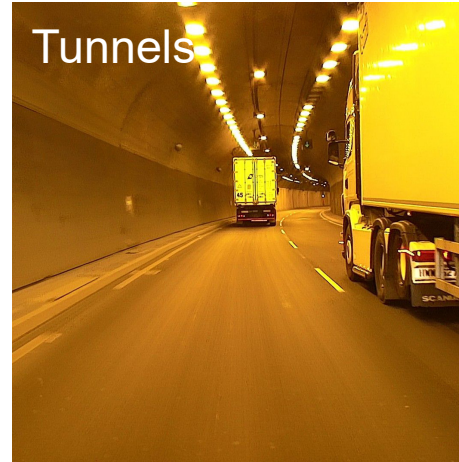
The performance of an Asset Managing organisation is strongly dependent on the quality and availability

of asset data and information, including good inventory and condition information and the costs associated with replacing or renewing infrastructure. The first step in managing assets is knowing what we manage and where it is located. We must also know how our assets are performing to determine their optimum management strategies. A consistent and structured approach to data and data management, built on common standards, brings benefits such as collaborative approaches to decision making, coordinated service provision across the organisation, and faster and more cost-effective system development.



# Assets we Manage

*TII manages a diverse range of assets that are critical to the welfare of society and the movement of goods and services across the country.*



# Snapshot of our Road Network Assets

The road network represents a very substantial level of investment by the people of Ireland



**Carriageway & Earthworks**  
assets worth  
€ 14.1 billion

5314 km roads  
1200 km is high quality  
motorway and dual  
carriageway



**Drainage & Ducting**  
assets worth  
€2.5 billion

600 km urban positive drainage  
1200+ km designed drainage  
(filter, carrier, kerb and gully)



**Bridges, Walls and Structures**  
assets worth  
€ 4.2 billion

3400 structures,  
700 gantries



**Land**  
assets worth  
€ 5.2 billion

14000 hectares



**Tunnels & Major Structures**  
assets worth  
€ 1.9 billion

3 x tunnels  
(1 x bored  
2 x immersed tube)



**Traffic Systems, Signs and Markings**  
assets worth  
€ 0.4 billion

600 traffic signals  
130,000 road signs



**Street Lighting**  
assets worth  
€ 0.2 billion

42,000 streetlights



**Footpaths and Cycleways**  
assets worth  
€ 0.1+ billion

1000+km of footpaths,  
200+ km cycleways

**Gross Replacement Cost of TII Road Network**

**€31 billion**

GRC

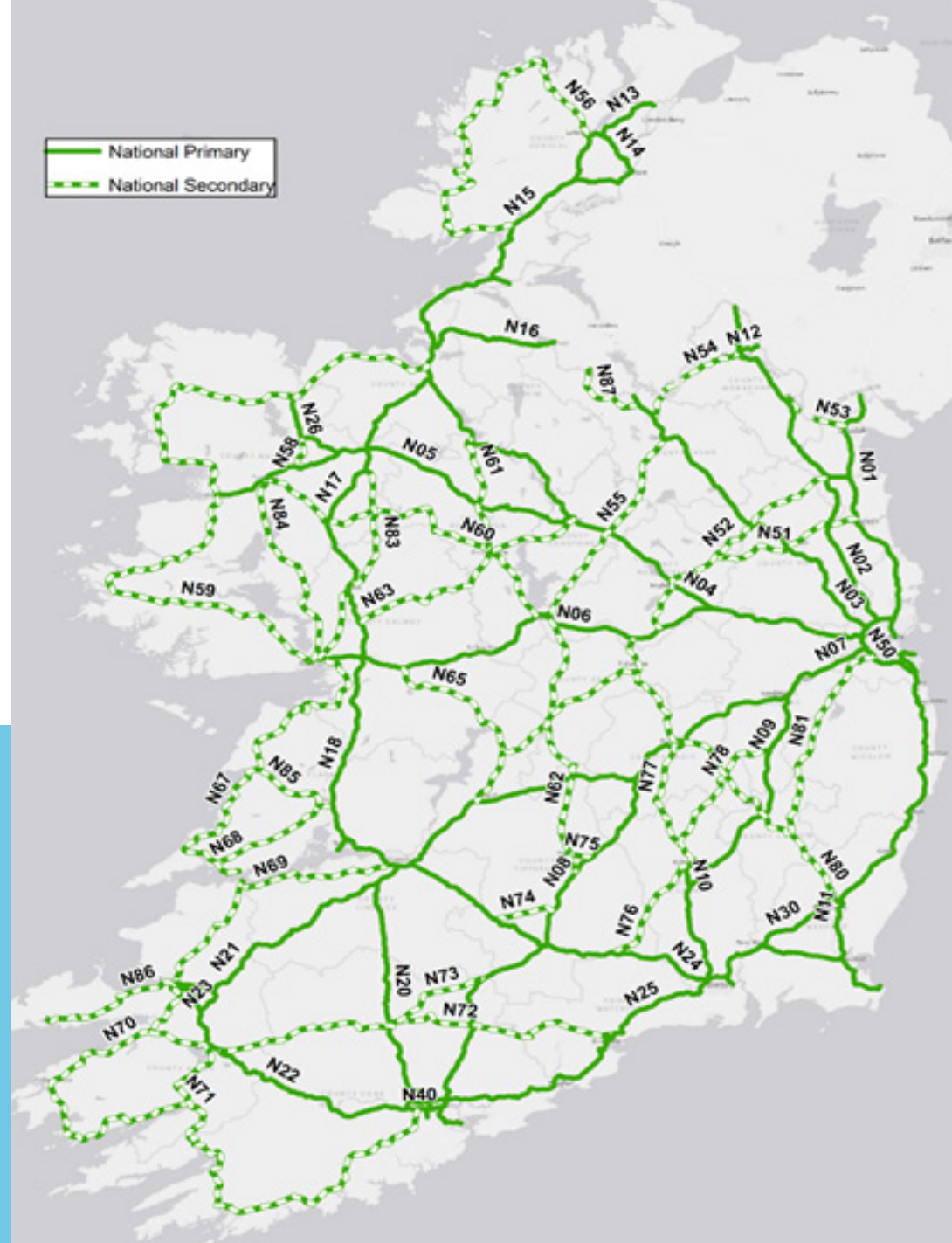
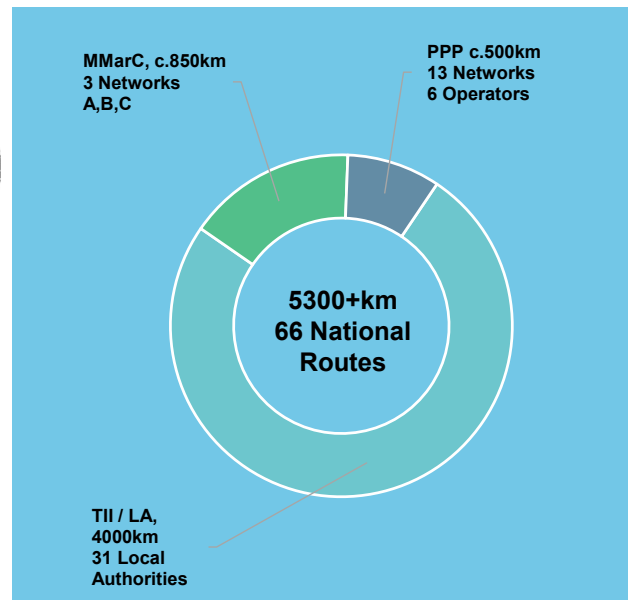
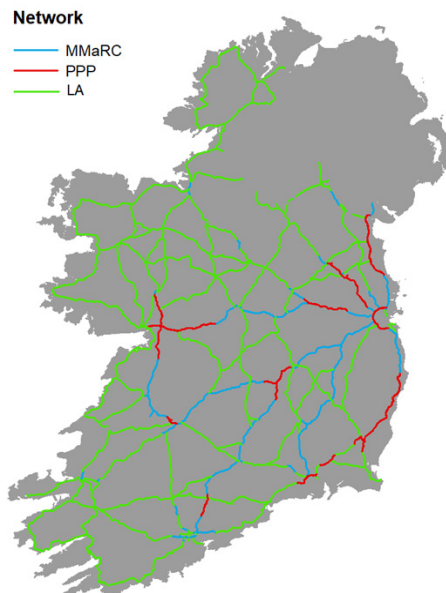
\*Other Ancillary Assets not shown such as buildings, depots, ITS, safety barriers, other street furniture, utilities and accommodation works total c. € 2.4bn

# Road Network

## National Roads

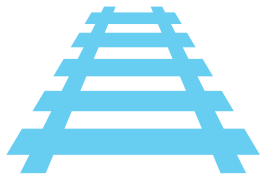
TII operates and manages the national road network in partnership with local authorities (LA). In total there are 66 National routes broken out into 34 National primary routes (N01-N50) and 32 National secondary routes (N51-N87), totalling c. 2650km in each designation. Approximately 50% of the National primary network, amounting to c. 1,300 km of motorway and dual carriageway, is managed directly by TII.

TII oversees the operations and maintenance of c. 500km of the motorway network through thirteen Public Private Partnership (PPP) contracts, with the remaining balance of the network maintained by three regional Motorway Maintenance and Renewals Contractors (MMaRC).



# Snapshot of our Light Rail Network

*The light rail network provides an essential service to connect communities in the Greater Dublin Area*



**2**  
lines



**43**  
km



**67**  
Stops

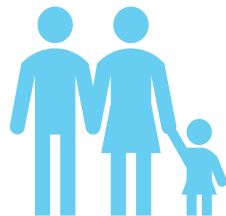


**3**  
Depots

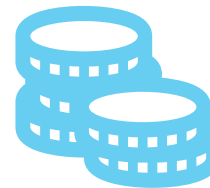
**€2**  
billion  
Value



**81**  
Trams



**48** million  
passenger journeys  
per annum



**€ 87** million  
revenue  
2019



**3.7** million  
km per annum



# Light Rail Network

## Dublin's Light Rail Network

Luas is Dublin's Light Rail Transit system, also known as the tram network. TII manages Luas through a series of operating and maintenance (vehicle and infrastructure) contracts. The Luas network consists of the Luas Red Line and the Luas Green Line.

The Luas Red Line extends from Tallaght, in the south west of Dublin, through the city centre, to The Point in Dublin's Docklands. The line consists of twin tracks and is 20.5km in length overall.

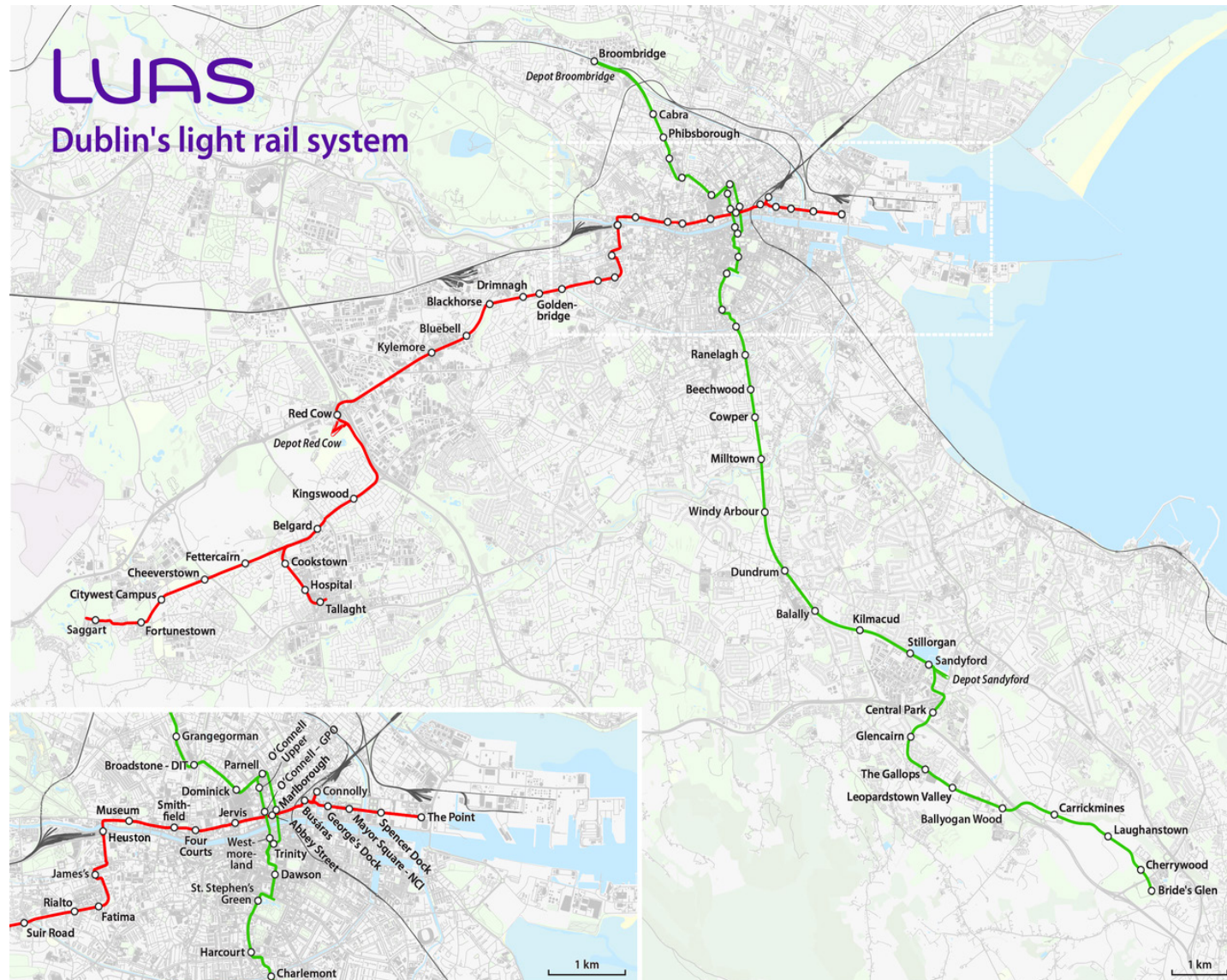
The Luas Green Line extends from Bride's Glen in the south east of Dublin to Broombridge in the north west of the city. The line comprises single and twin tracks with a length of 21.9km.

Depot and stabling facilities for the Luas Red Line are located at Red Cow and for the Luas Green Line at Sandyford and Broombridge.

Working with the NTA, TII oversees the Luas operations and maintenance contract

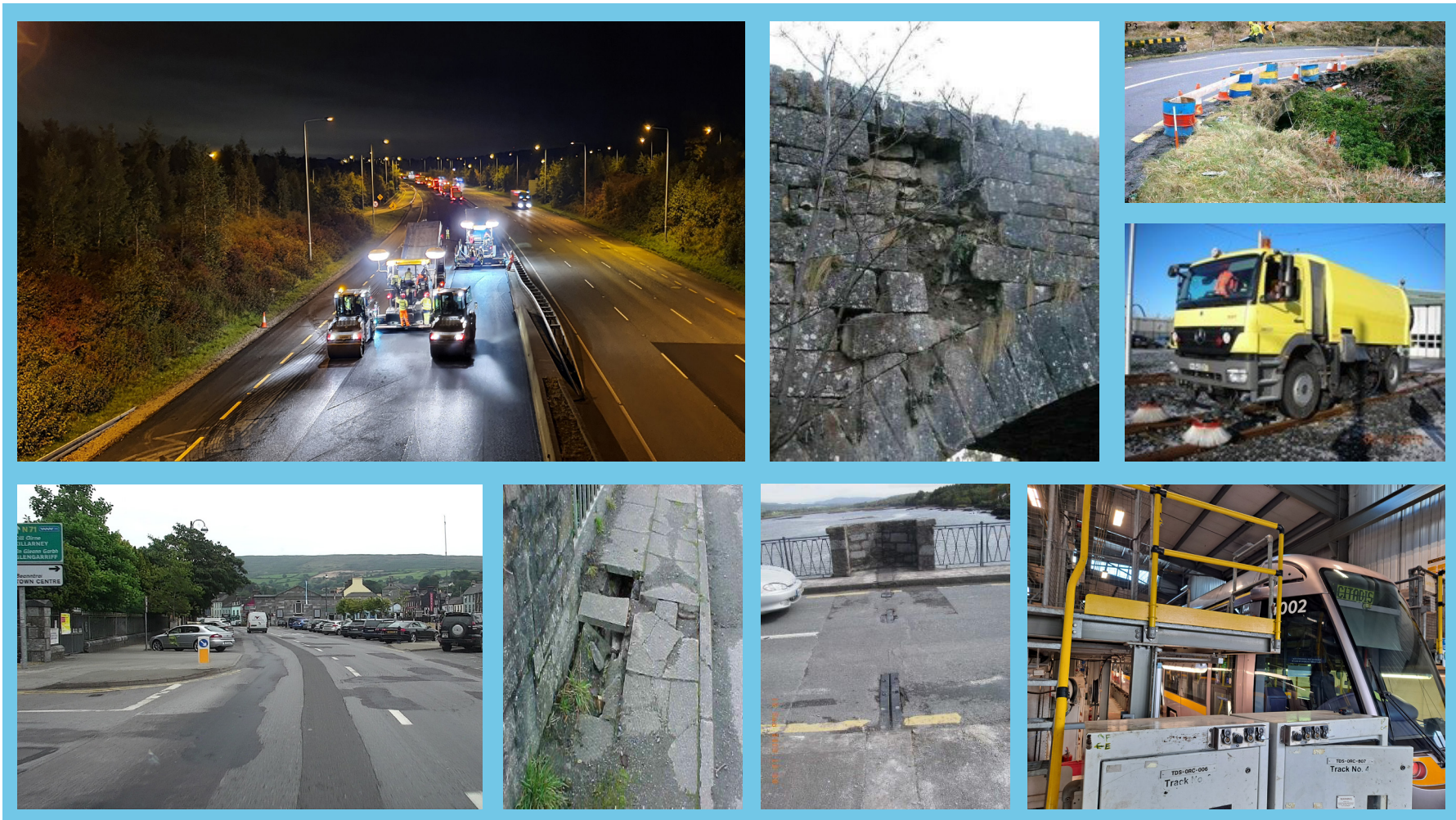
Additional responsibilities include:

- life cycle asset management of all Luas infrastructure and rolling stock;
- service planning and timetabling; and
- development of fare policy in conjunction with the NTA.

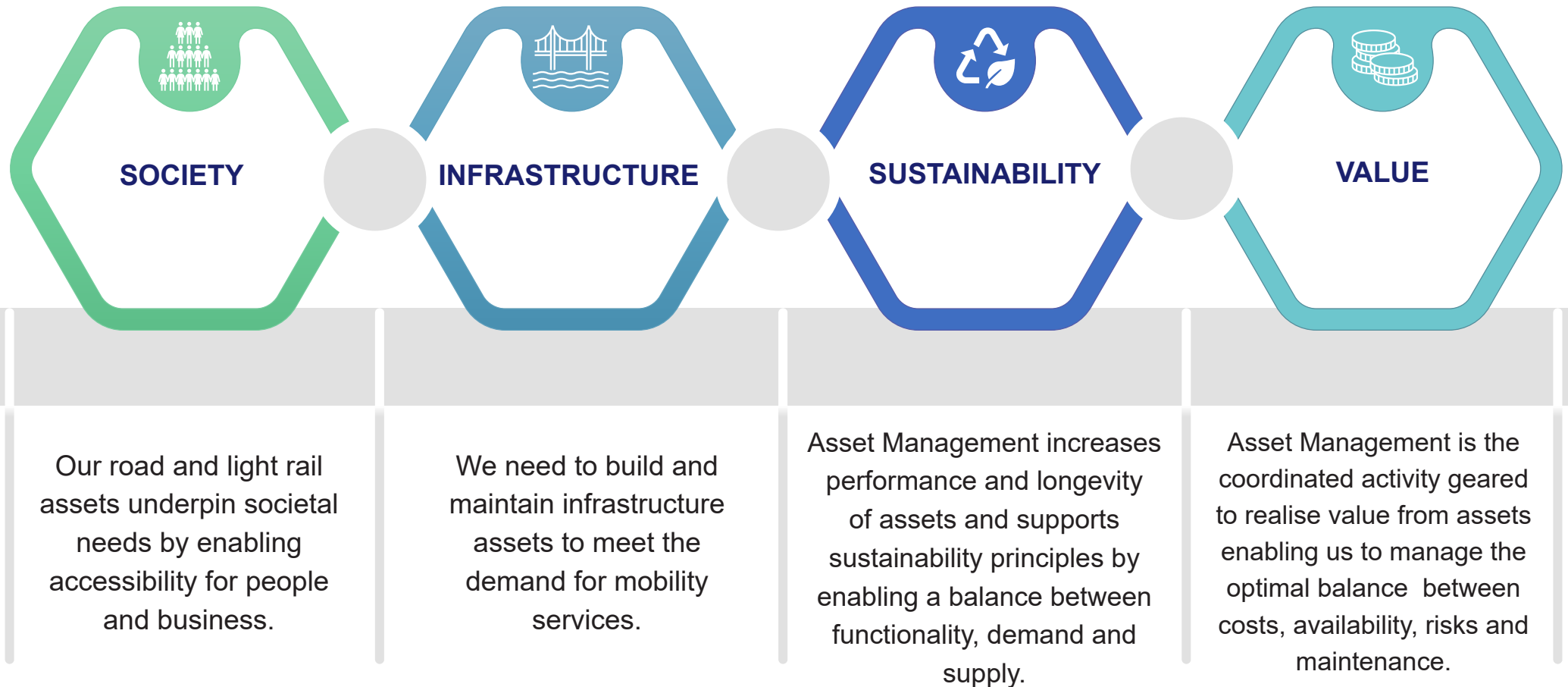


# Maintaining our Assets

*Our assets are continuously exposed to traffic, wind, rain, cold, heat and other factors. Inevitably, any asset's condition will deteriorate over time if left untreated. A key aspect of effective asset management is intervening at the right time with the right treatment. This in turn will minimise the total lifecycle cost to TII and to the users while preserving the asset value and keeping our road and light rail networks open and working for all users*



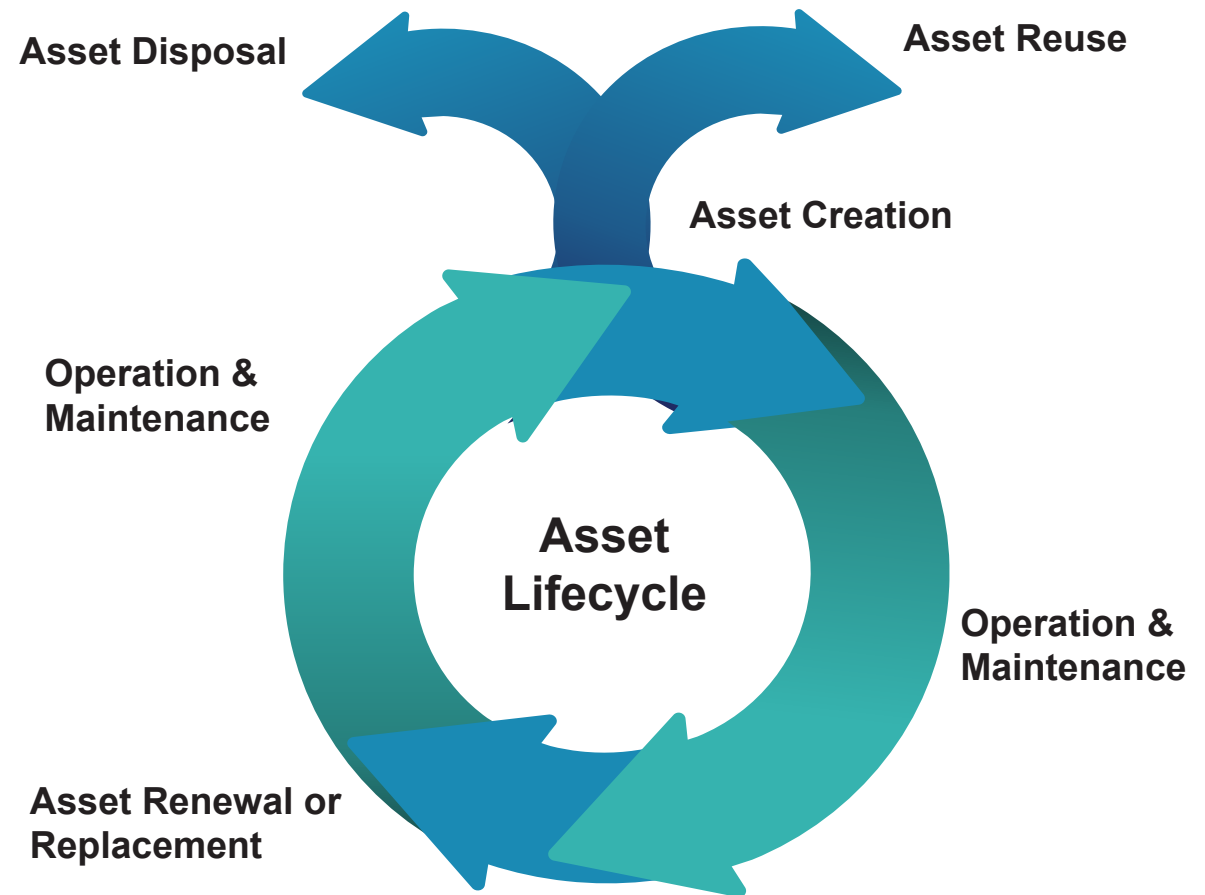
# The Importance of Asset Management in TII



# Asset Life Cycle Management

A core benefit of a well-designed asset management system is an ability to demonstrate a high level of accountability and governance for strategic national assets. The aim of asset management under this approach is the conservation of the asset value of the network, whilst optimising performance. Good asset management requires coordinated and optimised planning throughout its lifecycle from development, creation, maintenance and ultimately disposal or renewal. The international standard (ISO 55001) specifies the foundational pillars for the establishment and implementation of asset management best practice, which serve as the basis for TII's asset management framework.

As a general principle, good asset management has clear connectivity between an organisation's statement of strategy and the asset management activities delivered by staff and strategic partners. This is known as alignment, or 'line of sight' and enables everybody to understand how they contribute to achieving success. 'Line of Sight' translates organisational objectives into asset management policy, strategy and objectives, which cascade down into more detailed asset management plans and activities.



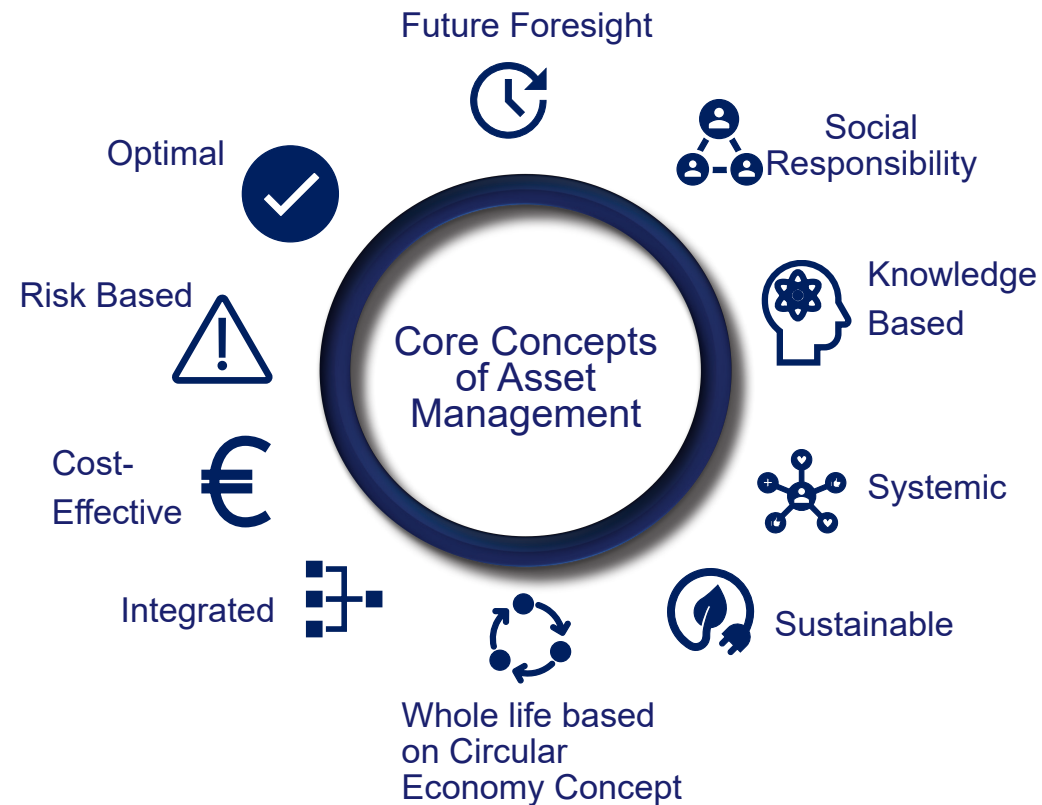
*Good asset management requires coordinated and optimised planning throughout its lifecycle from development, construction, maintenance and ultimately disposal or renewal*

# TII Goals and Objectives

Asset Management at TII is tailored to serve the unique needs of the organisation, covering a multitude of light rail and road assets. Our approach is to integrate the core concepts of Asset Management in our activities while ensuring that we support the strategic objectives and goals outlined in TII's Statement of Strategy. This integration yields the optimal outcomes from our transport asset management practices.

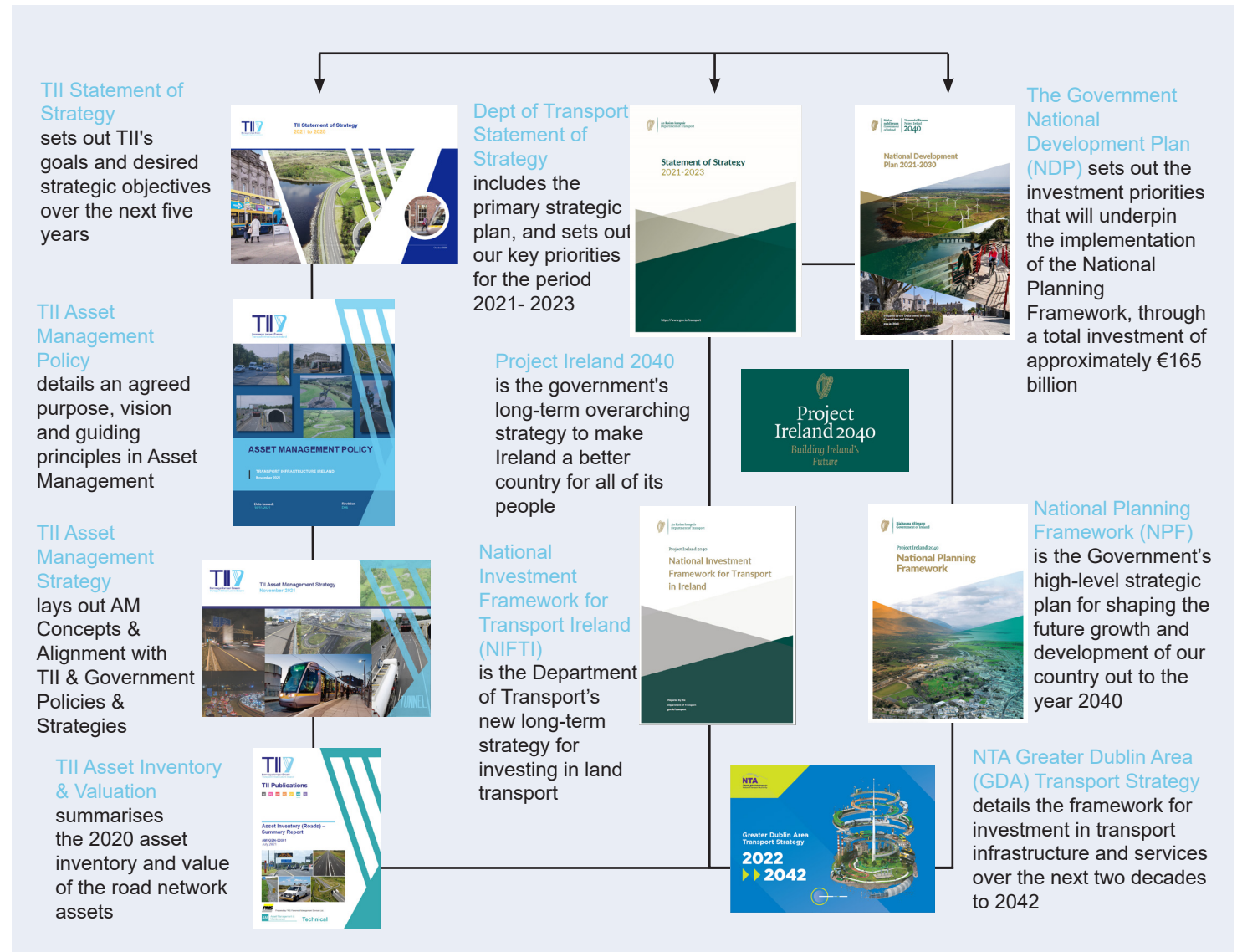


TII Goals	TII Strategic Objectives
<b>Existing Infrastructure</b>	Operate, maintain and extend the life of national roads and light railway infrastructure to ensure the safety, resilience, availability and efficiency of our transport networks.
<b>New Infrastructure</b>	Deliver national road, light railway, metro and Active Travel infrastructure
<b>Services</b>	Operate TII's light rail, tolling and traffic control systems and contribute to the electrification and digitalisation of transport
<b>Safety</b>	Reduce the risk and number of collisions, injuries and deaths on our light rail and road infrastructure
<b>People</b>	Maintain, enhance and harness the capability of our people to ensure the delivery of our goals
<b>Engagement and Collaboration</b>	Engage and collaborate, partnering effectively with external parties, both nationally and internationally
<b>Organisational Excellence</b>	Implement best practice in governance and how we conduct our business in TII



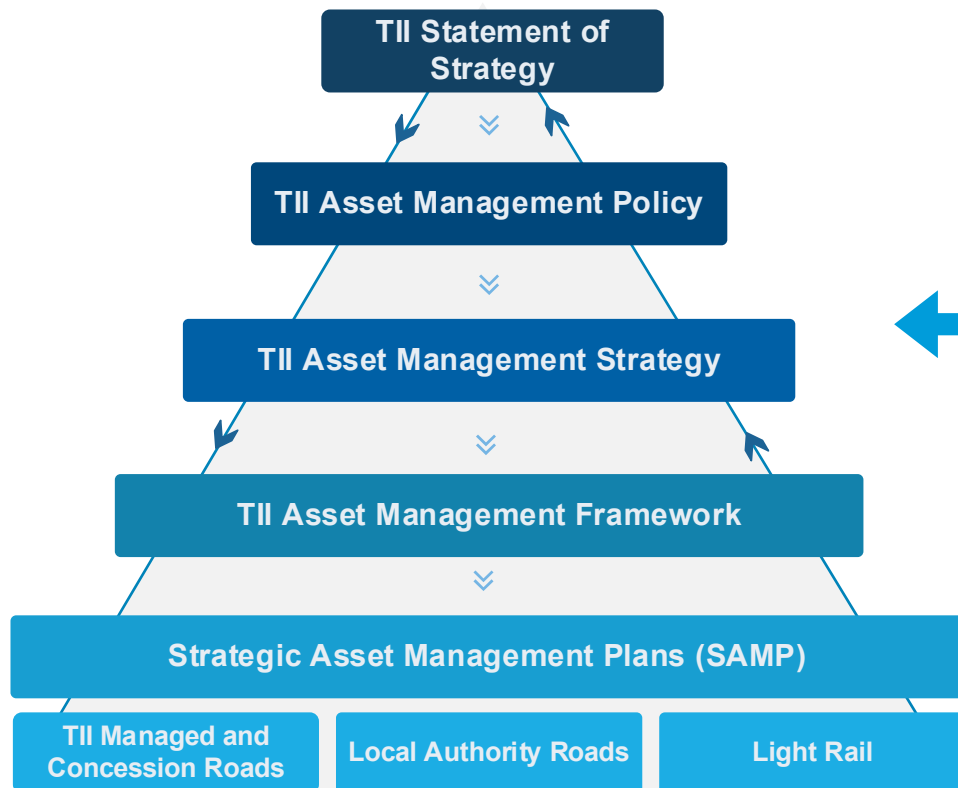
# TII Asset Management - External Alignment

The Asset Management (AM) Strategy describes how we manage our complex transport network in the public's interest. The AM Strategy is aligned with other TII, Department of Transport and Government initiatives.



# TII Asset Management - Line of Sight

Line of Sight translates our organisational objectives into asset management policy, strategy and framework, which cascade down into more detailed asset management plans and activities.



# TII Asset Management - Internal Alignment



# TII Asset Management Principles

The strategic outcomes from our Asset Management systems and processes are driven by our policy principles



## POLICY-DRIVEN

Resource allocation is based on a well-defined set of organisational goals and objectives that inform all of our asset management decisions



## RELIANT ON ANALYSIS OF OPTIONS AND TRADE-OFFS

Decisions on how to allocate resources within and across various asset types are based on an analysis of how different options best align with relevant policies, risk mitigation strategies, and performance objectives over the life of the assets.



## PERFORMANCE-BASED

Asset management objectives are translated into system performance measures that are used for both operational and strategic management.



## PROVIDING ACCOUNTABILITY AND FEEDBACK

Performance results are monitored and evaluated for both efficiency and effectiveness.



## FOUNDED ON QUALITY INFORMATION

Informed decision making and management over the full lifetime of the assets is based on relevant, accurate and reliable data.



## CONTINUAL IMPROVEMENT

Performance feedback allows for continual assessment of results and improvement on past performance.



# Protecting and Renewing Our Assets

As Asset Management is continually evolving, TII will...

Set strategic objectives and use performance measures to set targets and monitor progress.



- Safety
- Mobility
- Customer service
- Asset sustainability

Generate optimal cost-effective decisions that:



- Achieve strategic objectives
- Foster collaboration
- Promote systematic and sustainable approaches
- Satisfy relevant regulations and standards
- Reflect community values

Make improvements to address changes to the data, processes, and systems that may be needed to advance asset management.



Implement life-cycle strategies that consider needs over the whole life of an asset with an emphasis on preventative rather than reactive interventions.



Consider risks and uncertainties that can impact the level of service that is provided.



## *TII Asset Management - Protecting Ireland's Investment*



Bonneagar Iompair Éireann  
Transport Infrastructure Ireland