Gladstone Regional Council Transport Strategy 2022

GLADSTONE
REGIONAL COUNCIL

Acknowledgement of Country

Gladstone Regional Council would like to acknowledge the traditional custodians of this land, the Bailai, the Gurang, the Gooreng Gooreng and the Taribelang Bunda people.

We pay respect to their Elders past, present and emerging.

Gladstone Regional Council is committed to cultivating a culture of inclusion and connectedness, acknowledging that our communities are richer when diversity is embraced.

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Document Control

Revision	Comment	Prepared by	Reviewed by	Approval	
				Approved By	Date
A	Final	PB	CF		
B	Endorsement changes			Council Endorsement	28/06/0222

1. Introduction

1.1.What is a Transport Strategy?

The purpose of the Gladstone Regional Council Transport Strategy (Transport Strategy) is to identify and set the Roles and Goals for Gladstone Regional Council (Council) as the Local Road Authority to support the region's community, economic, safety and environmental needs.

A transport strategy is crucial in planning the region's transport assets. Transport strategies sit at the top of the transport planning hierarchy and set the objectives for asset specific plans. The Transport Planning Hierarchy can be seen in Figure 1. The Gladstone Regional Council Transport Strategy will set Council's goals for the transport network and contain what actions are required to achieve those goals. This strategy will not include the specific issues and solutions. For example the Transport Strategy will reference an Active Transport Plan, but will not identify a specific pathway.

1.2.One Network Planning

The aim of One Network planning is to ensure all road authorities coordinate their respective planning and provide a seamless transport network, as it is uncommon for community members to know who the road manager is for a specific asset.

Council's role in delivering a transport service is to provide the "first and last mile" of transport assets that link community and industry activities to the state-controlled transport network. A key part of developing the Transport Strategy was engagement with other road authorities, key stakeholders and input from the community and industry.

While One Network planning focuses on joint planning between road authorities, road managers also play a vital role and should be included in the planning process when impacted. Road authorities refer to State and Local Governments (Council and the State Government's Department of Transport and Main Roads (DTMR)) whereas road managers refer to anyone who manages roads that are open to the public such as the Gladstone Ports Corporation (GPC). Road authorities are also road managers.

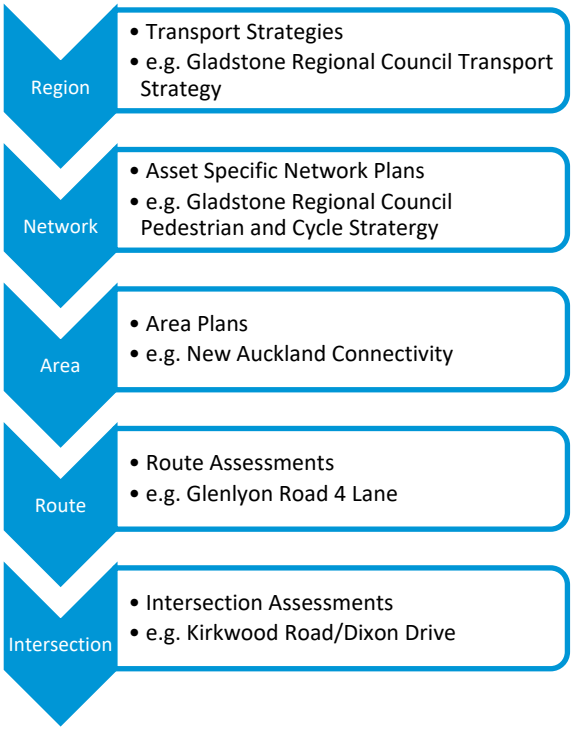


Figure 1 – Transport Planning Hierarchy

1.3.Strategic Planning Framework

The Transport Strategy has been aligned with Council's Strategic Planning Framework (Figure 2). The framework ensures that strategies and financial resources support the achievement of Council's corporate vision to **'Connect. Innovate. Diversify'**.

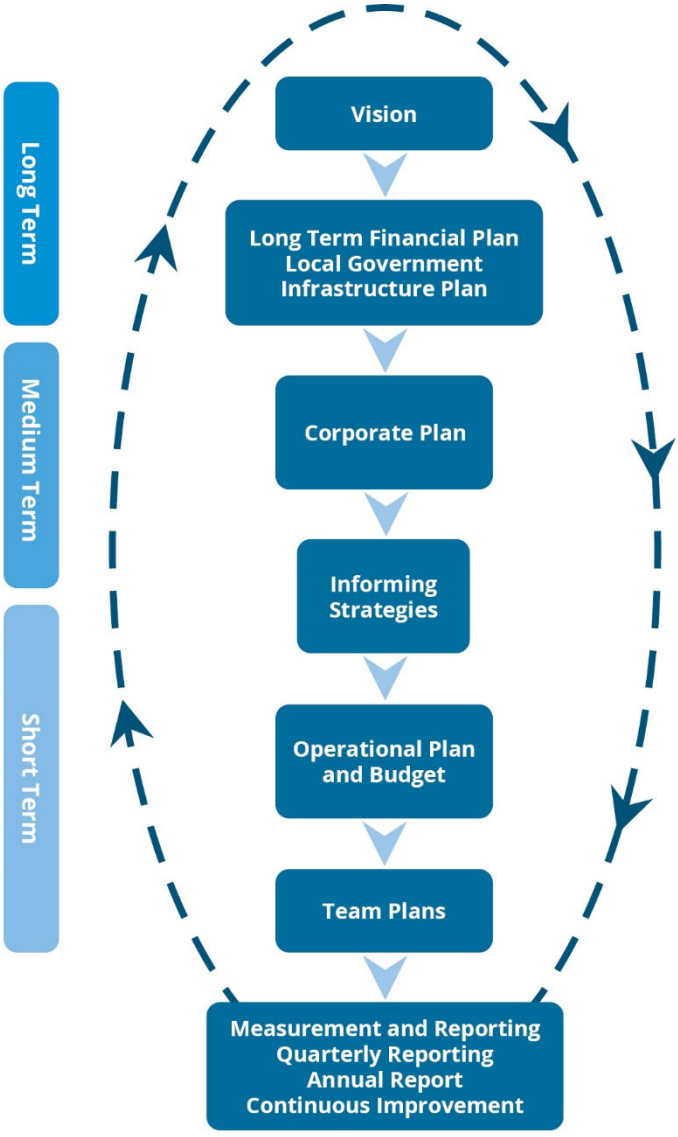


Figure 2 – Council's Strategic Planning Framework

In the Strategic Planning Framework, the Transport Strategy is an "Informing Strategy" and cascades the vision and goals from Council's Corporate Plan and Strategic Asset Management Plan (SAMP) to identify the future investigations and plans required to achieve the goals of The Transport Strategy.

1.4.Planning Alignment

In addition to Council's Strategic Planning Framework, there are several plans and strategies that relate to transport in the region that have been considered in developing this Transport Strategy. The following is a list of plans and strategies published by the State Government that were considered:

- Department of Transport and Main Roads, Fitzroy Regional Transport Plan 2019
- Department of Transport and Main Roads, Queensland Cycling Strategy 2017-2027
- Department of Transport and Main Roads, Queensland Walking Strategy 2019-2029
- Department of Transport and Main Roads, Priority Port Master planning, Priority Port of Gladstone 2018
- Queensland Government, Queensland Road Safety Strategy 2022-2031
- Department of Transport and Main Roads, Queensland Freight Strategy 2019
- Department of Transport and Main Roads, Action Plan for Walking 2022-2024

In addition to the above plans, the following Council plans and strategies have also been used in developing this Transport Strategy:

- Gladstone Region Economic Development Strategy 2021-2025
- Our Coast Our Future Strategic Plan
- Gladstone Region Visitor Economy Strategy 2025
- Gladstone Regional Council, 2021-2026 Corporate Plan
- Gladstone Regional Council Pedestrian and Cycle Strategy 2018
- Gladstone Region Recreational Vehicle Strategy 2019
- Community Development Strategy 2021-2026
- Gladstone Regional Council Strategic Asset Management Plan
- Gladstone Regional Council Transport Asset Management Plan

The following are other plans and strategies used in developing the Strategy:

- Commonwealth Scientific Industrial Research Organisation, Wide Bay Burnett to Gladstone Transport Analytics
- Gladstone Ports Corporation, 50 Year Strategic Plan, 2012

1.5.Planning Definitions

There are four (4) core regional development activities undertaken by Council. These definitions are consistent throughout Council's planning documents.

Prepare - Council will continue to take the initiative in establishing and nurturing effective partnerships and enabling industry innovation, through networking facilitation and information sharing working as a local 'solutions broker'.

Enable - Council will continue to plan for and provide those critical infrastructure items that fall under its remit and advocate for those items that fall outside of its direct control.

Support - Council will continue to help facilitate private sector investment by promoting the region. It will also continue to liaise with business and industry, representative organisations, peak industry bodies and education and training providers.

Promote - Council will continue to work to provide a unified voice for local communities and for local businesses across all sectors when lobbying to State and Federal Governments on key industry or infrastructure issues. Nurturing and promoting positive collaborative partnerships.

1.6. Developing the Transport Strategy

1.6.1. Structure

The Transport Strategy consists of four (4) chapters that reflect the development process for the Strategy;

Chapter 1 – Identifies the purpose and planning alignment of the Transport Strategy.

Chapter 2 – Provides an overview of transport assets within the region and how they relate to different activities.

Chapter 3 – Identifies the roles, goals, challenges and opportunities for the region's transport network.

Chapter 4 – Sets out the objectives and actions to improve the region's transport network management.

1.6.2. Approach

The Transport Strategy was developed based on the supporting documents to identify background and supporting information. Draft roles, goals, challenges and opportunities were then identified, and workshops were held with key stakeholders for the management of Council's transport network, as well as the broader Gladstone community. This engagement focused on community sentiment and needs with regards to the future of transport in the Gladstone Region.

The goals, challenges and opportunities were then used to develop the objectives and actions to achieve them.

1.6.3. Network Functions

The transport network is broken into four (4) key functions to enable specific roles, goals and objectives to be identified:

Community – The function of the transport network to support general community use such as everyday commuting, access to goods and services, active transport and recreation.

Economic Development – Economic development refers to the transport networks function that supports economic growth in the region, such as freight, land development and tourism.

Safety – Safety refers to infrastructure upgrades to improve safety as well as education.

Network Resilience – This function covers disaster management and mitigation (natural and industrial), infrastructure resilience and emerging technologies.

Future sections of the report will be divided into each of the primary functions to enable more focused analysis of the transport network.

2. Region Overview

From Kroombit Tops in the west to the coral lagoons of the Southern Great Barrier Reef, the Gladstone Region's landscape is as varied as its capacity for economic development.

The region has a population of about 63,000 people and covers 10,500 square kilometres.

It has a strong record of job creation and investment opportunities, with relaxed living, recreational and tourism options enhancing its appeal and potential for future growth.

In recent decades, the economy has been built around heavy industry with access to a deep-water harbour for export trade.

The region has two of the world's largest alumina refineries, an aluminium smelter and the Liquefied Natural Gas (LNG) industry on nearby Curtis Island.

After a period of economic slowdown and the world-wide pandemic, it is now looking to recover and revive its communities for a brighter future.

Industry, along with an engaged community, will be at the centre of this revival.

Several renewable energy projects embracing hydrogen, biofuels, solar energy and new waste management practices have been proposed for the Gladstone State Development Area.

Their go-ahead would position the city of Gladstone as a renewable energy hub, taking the economy in an exciting, new direction.

Away from industry, the Gladstone Region features plenty of green open space, including the nationally recognised Gladstone Tondoon Botanic Gardens, award-winning playgrounds, and other coastal locations where sailing and boating activities are popular.

Residents and visitors can see historical sites, go bush walking, mountain climbing or snorkel the reef to experience the outdoor environment.

The region's strength is a great sense of community with a 'can do' attitude. This, combined with well-developed infrastructure and services, supports our local communities to thrive.

10,489KM²
Gladstone Regional Council Local Government Area

Figure 3 – Gladstone Region Transport Network

2.1.Roads

The Gladstone Region's road network plays an essential part in connecting the community with goods and services, employment and recreation. In addition to connecting the community, the road network plays a vital role in the economic growth by enabling freight within and through the region, as well as providing access to regional tourism areas.

The primary through roads in the Gladstone Region are the Dawson Highway (east-west) and the Bruce Highway (north-south). These routes provide primary access to the various townships in the region and are controlled by the Department of Transport and Main Roads (DTMR). While the through routes in the region are provided by DTMR, the connecting and local roads are provided by Council. Council's role is the provision of local and collector roads that feed into the State Road Network, which is also referred to as the "first and last mile". A map with the region's major roads and road authority can be seen in Figure 3.

While the region's transport network is managed by different road authorities, the common road user's experience should be consistent across the entire network, reinforcing the need to have a one network approach to planning.

2.2.Active Transport

In addition to the primary road network, there is the Active Transport network, which consists of footpaths, shared paths and on-road and off-road cycleways. Active transport refers to non-motorised travel such as walking and cycling.

In a typical week approximately 17% of the Gladstone Region cycles (17.8% in 2015, 17.6% in 2020), this is above the Queensland and Regional Queensland rates which are 13.5% and 12.2% respectively[1].

While there is high walking and cycling participation by Gladstone Regional Council residents, the active transport network has the potential to be more inter-connected with arterial routes into and around residential areas and linking to major centres. The current focus for improving the active transport network in the Gladstone Region is around building the arterial routes that connect different suburbs to each other as well as different attractors, such as schools, places of employment, goods and services, and recreational areas.

Similarly, to the road network, the active transport network is provided by multiple government bodies, such as DTMR and Gladstone Ports Corporation (GPC), and the one network approach is adopted to provide a continuous network under the approach.

1. National Cycling Participation Survey, 2020, Gladstone Regional Council

2.3.Public Transport

Currently, Gladstone, Boyne Island and Tannum Sands are serviced by a public passenger bus service with these services provided by CDC Queensland. There are currently eight (8) routes that operate in these areas, however, they only operate Monday to Friday, with no services on weekends or public holidays. There are two (2) long-distance bus stops in the region, which are located at Miriam Vale and Gladstone.

Queensland Rail operates three (3) passenger services that service the region. All three (3) services have stops at Miriam Vale, Gladstone and Mt Larcom.

2.4.Air

The Gladstone Airport is operated by the Gladstone Airport Corporation, which is wholly owned by Gladstone Regional Council. The Gladstone Airport operates seven (7) days a week with general domestic flight services being operated by Qantas, Virgin Australia and partners. In addition to the standard domestic flights, the Gladstone Airport provides tourism flights to the surrounding reef and island areas via seaplane, helicopter and private charter services.

2.5.Marine

The Port of Gladstone and Port Alma Shipping Terminal are located within the Fitzroy Region and are both managed by GPC. The Port of Gladstone is Queensland's largest multi-commodity port, handling over 30 different products including coal, bauxite, alumina, aluminium, cement and Liquefied Natural Gas (LNG). It is one of only four Priority Ports identified for major growth. The port is located in the Gladstone Harbour and has eight (8) main wharf centres, comprising of 20 wharves. In the 2019/20 financial year, the port had a total throughput of 121.99 million tonnes. Coal, LNG and aluminium and associated products accounted for the majority of throughput, with the remainder comprising of a variety of other products, including cement, petroleum and grain.[2]

In addition to marine activity generating significant industrial economic activity for the region, recreational and tourism marine access is an important part of the region's lifestyle. Gladstone provides marine transport services to islands within the Southern Great Barrier Reef, including North West Island and Heron Island, supporting the region's tourism market. In addition to the commercial tourism activities, there are eighteen (18) public boat ramps in the region to support recreational needs. These boat ramps are provided by a combination of Council, DTMR and GPC.

2. Gladstone Ports Corporation (2018), Gladstone Ports Corporation Annual report 2019/2020

3. Roles, Goals, Challenges and Opportunities

3.1.Roles

The below roles have been identified as crucial aspects of a transport network and Council's responsibility.

Community -

- Enable a connected transport network that facilitates everyday use
- Enable better disability access to the transport network
- Promote joint planning with other transport managers to provide a "one network" approach
- Enable and encourage a connected active transport network
- Enable ancillary facilities that support the region's recreational needs e.g. boating
- Promote expansion of the public transport network
- Support Recreational Vehicle tourism

Economic Development -

- Enable freight and commuter movements though "one network" planning
- Support inter-modal transport networks
- Enable economic growth
- Support Active Tourism for all abilities
- Promote regional growth through advocacy and collaboration
- Enable access to land development to support growth
- Enable social infrastructure improvements for liveability and population attraction.

Safety -

- Enable a safe transport network for all users
- Enable response to defects/ accidents/ hazards in accordance with service level requirements
- Enable crime prevention through Environmental Design Principles
- Promote cross agency safety initiatives
- Enable and support innovations in technologies
- Support and enable road rule enforcement

Network Resilience -

- Enable improved resilience to the impact that extreme weather events, natural disasters, and commercial incidents have on the transport network
- Enable Network planning that considers alternative route planning for events (fit for purpose alternative)
- Enable appropriate information to be available to the public before, during and after extreme events
- Enable maintenance standards and schedules that support improved resilience
- Support emerging technologies e.g. electronic vehicles, driverless cars

3.2.Goals

The below table outlines Council's goals as a road authority. All sections of this Transport Strategy align back to one or more of these goals.

Table 1 – Gladstone Regional Council Transport Goals

Community	Economic Development	Safety	Network Resilience
Enable a connected and accessible transport network that supports and encourages the community's recreational and general transport needs.	Enable a transport network that supports economic development in the region.	Enable a safe transport network for all users.	Enable a resilient transport network that adapts to emerging technologies and mitigates and manages the impacts of events and event recovery.

3.3. Challenges

An analysis was undertaken to determine the challenges Council would have to overcome and acknowledge when planning the future actions to achieve its goals. A full list of challenges can be seen in Table 3, with the key challenges described in the following sections.

3.3.1.Accessibility and Connectivity

A key function of the transport network managed by Council is to provide accessibility and connectivity for the community. The transport network enables access to residences, goods and services, employment and public facilities (such as parks, schools and hospitals).

The level and types of accessibility varies across the region with some areas having a higher level of accessibility then others. The challenge of being a regional area with a low population density is that it is unlikely that consistent access to services across the region can be provided. For example only Gladstone, Boyne Island and Tannum Sands have access to a public passenger bus service.

Availability of active transport routes or dedicated infrastructure varies across the region with some suburbs having access to pathways within their suburb but no access to long distance pathways and vice versa. Topography also plays a factor in accessibility and connectivity for the active transport network as it creates a natural barrier.

3.3.2.Private Vehicle Dependence

The primary mode of transport in the Gladstone Region is private vehicles, which is supported by Table 2. It shows that Gladstone has one of the highest percentage of vehicle ownership in the region with only 4% of the population not having a vehicle, which is below the state average of 6% not having a vehicle.

The reliance on private vehicles brings with it the issues of parking availability, with Council requested to provide large amounts of parking at public facilities. It also creates congestion, especially around schools. A key issue identified during the workshops was parking and congestion issues. Congestion from private vehicle dependence increases hazards and risk for vulnerable users particularly near schools.

Table 2 - Motor vehicles per occupied private dwelling within the Fitzroy region local government areas compared to Queensland[3]

	Dwellings with no motor vehicles	1 motor vehicle	2 motor vehicles	3 or more motor vehicles
	%	%	%	%
Fitzroy Region	5.1	31.5	38.1	21.4
Banana	4.0	25.3	36.1	29.9
Central Highlands	3.1	28.9	39.1	24.8
Gladstone	4.0	30.4	41.3	21.3
Livingstone	4.1	30.6	38.1	22.5
Rockhampton	6.9	34.7	36.0	18.6
Woorabinda	48.6	31.8	11.4	1.2
Queensland	6.0	34.2	37.4	19.0

3. Department of Transport and Main Roads, Fitzroy, Regional Transport Plan 2019

3.3.3.Freight

Industry in the Gladstone Region is set for growth in the coming years due to the opportunities emerging within the renewable energy sector that can be enabled with the deep-water harbour adjacent to the Gladstone State Development Area (GSDA). This growth will bring additional freight movements to the region, in both volume and size.

This increase in freight demand creates potential conflicts between freight and other road network users, which can affect the efficiency of freight movements. Additionally, the competing demands of local, commuter, tourist and freight vehicles can impact safety and travel time for all road users.

With the increased volumes also comes an increase in the size of vehicles that exceed the standard size and weight envelopes and require a permit to use public roads. These vehicles are referred to as Over Size Over Mass (OSOM). The challenge with OSOM is to provide a network that supports OSOM movements with adequate height and width clearance, pavement strength, structure capability and suitable geometry, while also being used for general traffic.

3.3.4.Limited Data

With the increase in OSOM applications comes an increase in the number of non-standard vehicle configuration applications and requested loadings in excess of what the structure was originally designed for. These applications present several challenges for assessment due to the information required. Due to the topography and existing industrial facilities in the region, there are numerous bridges and culvert structures that the OSOM loads need to cross.

To assess these applications, large amounts of historical data is needed, such as construction year and standard, and original construction drawings. Additionally, current structural assessments and confirmation of a bridge/culvert's capability in comparison to the requested vehicle applications are required. Due to the extent of the network that Council manages, all the information for the requested route may not be available.

3.3.5.Safety

Road Safety is always a challenge for road authorities as any fatality is a fatality too many. Queensland has one of the most dispersed populations of the States and therefore large transport networks to manage. Regional areas being over-represented in crash statistics, with 31.5% of Queensland crashes occurring in the central policing district (includes Gladstone Region) over the 2013 to 2017 period, as well as 68.8% of all Queensland crashes occurring outside of major cities[4]. Council has a total of 2662km of formed roads to manage, 995km of that being sealed roads and 1667km unsealed.

Case Study: Co-Lab

Co-Lab is an annual event run by the DTMR StreetSmarts program where young Queenslanders come together and channel their creativity and enthusiasm to create a real road safety campaign aimed at young drivers. In 2020, Co-Lab was taken to regional Queensland for the first time.

In 2020, Co-Lab had 240 applications, 50 participants, 10 teams, 5 mentors and 2 days of creative-fuelled madness. The winning program was "Regional Roads Aren't a Game".

https://streetsmarts.initiatives.qld.gov.au/co-lab/

4. 2018 Summary Road Crash Report, Queensland Road Fatalities, May 2018

3.3.6.Network Resilience

Within the Gladstone Region, there are five (5) main basins which are the Fitzroy Basin, Curtis Island Basin, Calliope Basin, Boyne Basin and Baffle Basin. The catchments in these basins are prone to flooding in extreme rain events with some of the most significant events in recent memory occurring in January 2013 from Ex-Tropical Cyclone Oswald and April 2017 from Tropical Cyclone Debbie. These events significantly impacted the region's economy and community, including damaging public assets and private property. Poor weather resilience and a lack of flood immunity prolong these impacts, particularly where damage to transport assets occurs.

These flood events can isolate communities, resulting in food and medical supply shortages. Access is critical immediately after a disaster event to allow first responders to assess damage and community impacts and to connect impacted residents that have sheltered in place with essential supplies and support services for the recovery phase. Improved flood immunity and network resilience can be achieved by taking a network approach through strategic investment at a route level in improving flood immunity, identifying alternate routes and real-time information during and following an event advising route options.

Case Study: Cleaner Roads Runoff

Gladstone Regional Council is participating in a study provided by Local Government Association Queensland (LGAQ) and Reef Trust funding to improve the understanding of unsealed roads and their impact on water quality. It will inform development of a framework to enable road managers to better address erosion and sediment control (ESC) in the design and maintenance of unsealed roads. Local Governments manage thousands of kilometres of unsealed road networks within the Great Barrier Reef catchment area. This can expose earth that is prone to erosion, particularly over the wet season, and is contributing to gully erosion and increased sediment loads in waterways. Many of these roads will remain unsealed, as they do not attract high volumes to justify a higher level of service (sealing).

Objectives

a) Through an evidence-based assessment, establish the impact of unsealed roads on water quality and gully erosion to identify high risk road segments where improved infrastructure design or maintenance processes would benefit water quality;
b) Identify a suite of cost effective and practical measures to improve the management of water quality impacts from unsealed roads;
c) Facilitate road manager adoption and implementation of identified impact management measures to improve water quality in Reef catchments; and
d) Provide funding to address high priority/high risk locations.

Outcomes

a) Make an equitable contribution to meeting water quality targets in key catchments.
b) Minimum practice standards are in place for the management of unsealed roads in Reef catchments.
c) Road managers actively engaged in identifying and implementing best practice measures to improve water quality outcomes.
d) Measure/s of the water quality benefits of sealing roads in Reef catchments inform business cases proposing sealing of unsealed roads.
e) Baseline data established; monitoring and data sharing processes in place.

Table 3 - Identified Challenges

Challenges			
Community	Economic Development	Safety	Network Resilience
• Limited public transport availability • Reliance on private vehicle • Urban sprawl and multiple townships (low population density making service provisions less cost effective) • Limited and disconnected existing active transport network • Resistance in some sectors of the community to active transport • Topography (slight barrier for active transport and disability provision) • Constraints in the existing road network, such as road reserve widths and the location of other infrastructure • Limited close parking with expectation for parking in front of destination • Minimal existing disability access to existing infrastructure • Managing expectations, affordability, and availability of resources to provide infrastructure • Walking and cycling participation during hot periods impacted by shade, shelter and rest stops	• Ageing structures within transport network, resulting in load limits and loss of integrity • Increase in freight vehicle numbers and size • Limited existing active transport network • Constraints in the existing road network, such as road widths, bridge load limits and overhead obstructions • Limited joint planning with other transport managers • Protection of sensitive land uses whilst supporting economic development and not unduly constraining economic growth • Limited existing survey/condition assessment/as constructed data of existing network • Council's maintenance and financial costs increase as the region grows and transport network expands • Not optimised links/interactions between different transport types for freight/industrial purposes (i.e. rail to road, port to road)	• Regional Queensland is over-represented in crash statistics • Limited existing active transport network • Constraints in the existing rural road network e.g. narrow seals, tight bends • Increasing gap in current road standards versus standards at the time of construction • Increase in driver road condition expectations • Higher levels of maintenance required as standards increase • Community confusion around ownership and responsibility of asset. e.g. school zones, and community expectations where we are not empowered to fix • Finite resources • Managing emerging technologies e.g. infrastructure requirements for driverless vehicles, pedestrian and electric scooter interactions • Higher proportion of unsealed versus sealed roads • Increase in freight vehicle numbers and size • Active transport and active recreation participation impacted by time of day and street lighting provision	• Some roads flooding in small rain events • Limited alternate routes • Large portions of existing road network located in areas vulnerable to extreme events • Existing roads constructed out of unsuitable materials for their location increasing the impact of extreme weather events • Access to suitable material to build resilient roads • Disrupted public transport services and infrastructure damage in extreme events • Lack of data on existing road network (we don't know what we don't know for large portions of the network) • Limited funding sources to improve resilience • Providing for emerging technologies e.g. introduction of electric vehicles and charging station requirements, road infrastructure to support driverless vehicles.

3.4.Opportunities

In opposition to the challenges, development of the Transport Strategy also allowed for the identification of opportunities where Council can improve its management of the transport network.

3.4.1.Improving Freight

With the increase in industrial development in the Gladstone Region, will come an increase in Over Size Over Mass (OSOM) movements with lengths and heights being constrained by existing assets. Developments will start as early as 2022 with some of the leading projects identifying the need for 1000 OSOM movements throughout construction. The Gladstone Region has been identified as part of the Central Queensland Renewable Energy Zone with the Queensland Government working towards the Queensland Renewable Energy Target of 50% generation from renewables by 2030. Based on the applications already received, and the potential for future projects to meet the state requirements, early planning indicates there is potential for up to 25,000 OSOM loads between 2022 and 2035.

There is an opportunity for 'one network' planning to deliver an effective and efficient transport network, particularly for heavy vehicles. The National Heavy Vehicle Regulator (NHVR) provides a single system for proponents to get appropriate permits across many states, regions and local government areas. Leveraging this system helps streamline heavy vehicle movements and increase productivity, however, it also requires a high level of alignment across asset owners to provide an agile response to the region's logistics providers.

These projects will provide economic growth for the region, while also providing a driver for improved network planning across asset owners.

3.4.2.Improving Education & Awareness

Every year, approximately 1200 people are killed and another 44,000[5] are seriously injured on Australian roads. Traffic injury is the biggest killer of Australian children under 15 and the second-biggest killer of all Australians aged between 15 and 24. While infrastructure plays a major role in providing a safe road network, education and awareness is equally as important.

Every year, the Safer Australian Roads and Highways (SARAH) Group runs a Road Safety Week campaign that is supported by the Australian Government and all State Road Authorities, as well as many Local Governments. The SARAH Group provides a detailed media package that can be used by anyone to promote the campaign with the campaign's awareness increasing by 400% from 2019 to 2020[6].

The Queensland Government also provides a great resource for road safety education campaigns with the StreetSmarts website. The StreetSmarts website has information and campaigns for topics such as bicycle riders, drink driving, driving distracted, parents, pedestrians and speeding. The resources available through SARAH and StreetSmarts provide an extensive base of information for Council to utilise and support, providing greater education to the community.

3.4.3.Climate Change & Environment

Historically, environmental impacts and climate change have not been considered in detail as part of transport projects (excluding drainage); however, in recent years, the design standards, legislations, available information and general awareness of the environment has improved. Environmental impacts and climate change now form a key part of transport planning and design projects, as such, environmental impact and climate change has not been identified as a standalone item as it should form part of every project.

5. Australian Automobile Association, Reviving Road Safety, September 2019
6. National Road Safety Week 2020 Report, Safer Australian Roads and Highways (SARAH) Group

Case Study: Walking Network Planning Pilot Program

To achieve the Queensland Walking Strategy's 2019-2029 vision of walking becoming 'an easy choice for everyone, every day', the Department of Transport and Main Roads (DTMR) prepared up to date guidance during the 2020-2021 financial year on how to plan walking networks.

In developing the Queensland Walking Network Planning Guidance, DTMR partnered with three (3) local governments to pilot the process. The department selected Gladstone Regional Council as one of the partners. The pilot focused on Gladstone's CBD as it contains a mix of residential, education, commercial and recreational locations within walking distance of each other.

Local stakeholders participated in a workshop on the draft walking network plan. They reviewed and walked the potential key routes to confirm that they were appropriate. The Gladstone workshop involved representatives from Police Citizens Youth Club, Queensland Police Service, a local school principal, GPC, Gladstone Central Committee on the Aging, DTMR and Council officers. Stakeholder workshops were found to play a key role in the process as having people with diverse backgrounds and expertise provided unique input into practical requirements for the walking network plan.

The draft plan was then updated to include the changes identified as part of the workshop, and the final plan created. The final plan was then used to develop a works program to achieve the identified network over time.

Delivery of these priority network projects highlighted the importance of "one network" planning. One of the priority sites interfaced with the GPC East Shores pathway network. The project was able to transition from design to construction quickly, as GPC was aware of the project due to their involvement in the earlier planning stages. This enabled Council to meet their construction funding timeframes.

In addition to receiving a network plan and priority works program, DTMR provided $150,000 in funding to construct projects. This resulted in approximately 200m of new pathways, kerb ramps and tactile surface ground indicators within the CBD. The sites selected were Tank Street (Apex Park to Glenlyon Road) and the corner of Goondoon Street and Lord Street to connect the East Shores Parklands with the city centre.

Table 4 – Identified Opportunities

Opportunities			
Community	Economic Development	Safety	Network Resilience
• Improved community engagement • Improved joint planning and advocacy with other transport managers • Improved availability, connectivity, and usage of active transport • Support improved availability of public transport • Protect future corridors including location of other services in the road reserve • Develop and provide clear plans, strategies and level of service documents available to the community • Embrace emerging technologies to provide a more effect transport network e.g. mobility as a service • Identify coordinated high-density development, areas and supporting transport plans	• Support growth in freight movements • Support growth in Active Tourism • Support active recreational tourism routes • Support diversification of employment sectors • Collaboration with Department of Transport and Main Roads (DTMR), Gladstone Ports Corporation (GPC) and other transport managers • Provide clear planning information to the public to enable future investment • Support self-drive and recreational vehicle tourism • Improved advocacy with state and federal government bodies to improve regional transport network	• Improved safety through improvements in infrastructure and technology • Improved infrastructure for active transport to improve safety and usage • Support and partner with State and Federal safety education programs • Improve proactive road safety initiatives • Utilise technology to reduce physical infrastructure requirements • Improved safety through infrastructure such as signage, wayfinding, street lighting, crash hotspot identification	• Understand and potentially Improved transport network flood immunity/ reduced time of inundation • Improved access/egress before and after a major event • Increased resilience of road network after inundation • Make more information available to the public to enable decision making during events • Improved data capture during events to better inform future transport resilience • Improved network planning to identify network criticality and fit for purpose evacuation/ alternative routes • Improved planning to place Council in a better opportunity to apply for and be successful with funding applications. • Provide clear information to the community on Council's role and stance with different transport activities e.g. Charging Stations

4. Objectives and Actions

The objectives are an accumulation of the Roles, Goals, Challenges and Opportunities and set the transport planning goals for Council until the next reiteration of the Transport Strategy.

Actions have been identified for each of the objectives. The Actions are grouped into short-term, medium/long-term and ongoing. Short-term actions identify critical projects that have already been identified in Council's and partners' works programs, are easily achievable and do not need significant amounts of prework. Medium/long term actions identify projects that require additional data to be collected before they can proceed or need further discussions with potential partners. Ongoing actions are new or existing projects that are reviewed annually.

The actions have been described to provide guidance for future scoping and to facilitate initial discussion and collaboration with partners and stakeholders.

4.1.Community

Objective 1.1: A transport system that connects communities and provides access to goods and services across the Gladstone Region.

Access and connectivity are fundamental components of a transport network and, thus, Objective 1.1 is Council's commitment to improve and maintain access to educational establishments, employment opportunities, health facilities and other essential goods and services in the region.

Objective 1.2: A multi-modal transport system that offers a range of accessible and efficient transport options for residents and visitors.

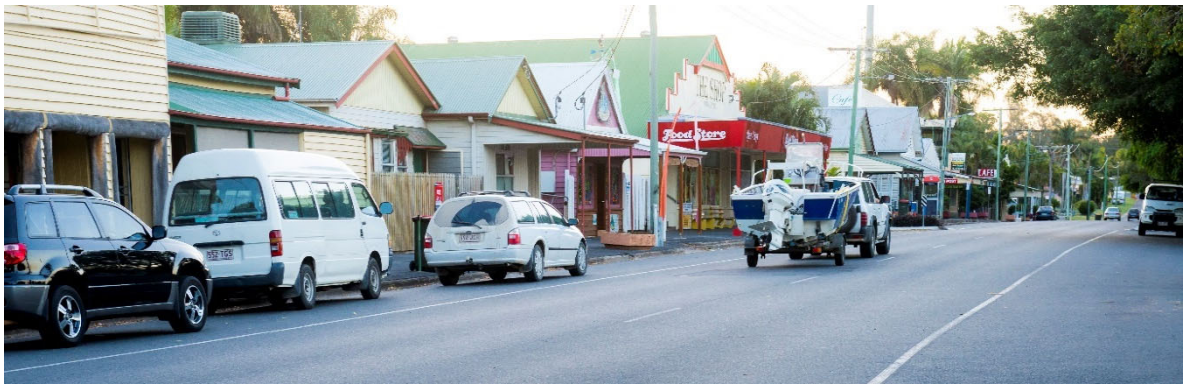
Transport mode decision is heavily dependent on the availability, affordability and reliability of the transport network and services. Council has a continuing commitment to enable the growth of transport modes in the region through provision of facilities, and effective coordination with agencies that provide public transport delivery.

Objective 1.3: A transport system that supports the region's recreational needs

Lifestyle opportunities play a significant role in where individuals choose to live. Council must ensure that the region's transport network supports the recreational needs of the region, to support continued population and economic growth.

	Objective No.		
Community Objectives	**1.1**	**1.2**	**1.3**
1.1 A transport system that connects communities and provides access to goods and services across the Gladstone Region.	x		
1.2 A multi-modal transport system that offers a range of accessible and efficient transport options for residents and visitors.		x	
1.3 A transport system that supports the region's recreational needs			x
Short term Actions			
Active & Public Transport Asset Growth Plan Aligned planning with Department of Transport and Main Roads (DTMR) and Gladstone Ports Corporation (GPC) to improve active transport services and assets within the Gladstone Region, such as; • Review strategic links on the principal cycle route as part of a regular review and update of the Principal Cycle Network and accompanying Priority Route Maps to enable a continuous bicycle network • Review the Gladstone Region Pedestrian and Cycle Strategy and incorporate other modes of active transport (e.g. pedestrian, cycling and bus assets)	x	x	x
Recreational Boat Launching Facilities Asset Growth Plan Develop an asset growth plan for recreational boat launching facilities within the Gladstone Region in consultation with DTMR and Maritime Safety Queensland.			x
Sealing Unsealed Roads Asset Growth Plan Development of a suitable process for determination and validation of the highest priority unsealed roads for upgrading and, to then develop a 10-year upgrade plan to tackle the highest priority roads. The process is proposed to include consideration of a range of factors such as road use, road function, maintenance requirements, rural impacts, dust impacts, traffic attractors and bio security.	x		
Intersection Asset Growth Plan Develop an Asset Growth Plan to effectively manage intersection upgrades within the Gladstone Region by identifying the appropriate treatment and upgrade timing to ensure the level of service is maintained.	x		

	Objective No.		
Community Objectives	**1.1**	**1.2**	**1.3**
1.1 A transport system that connects communities and provides access to goods and services across the Gladstone Region.	x		
1.2 A multi-modal transport system that offers a range of accessible and efficient transport options for residents and visitors.		x	
1.3 A transport system that supports the region's recreational needs			x
Medium/Long Term Actions			
Gladstone Regional Transport Model and Asset Growth Plan Partner with the Department of Transport and Main Roads to update existing multi-modal network modelling for the area with anticipated future transport demands, including those relating to population, employment and economic changes and growth. Utilising the data from the model, develop an asset growth plan for the region's major road link assets.	x	x	
Area Plans/Liveable Places Undertake multi-modal network planning of urban and high activity centres and develop area plans to support mobility and liveability in these areas, which will include parking plans and Walking Network Plans.	x	x	x
Long Term Transport Renewal Plan Development of a 10-year program of capital works based on asset condition assessments (including age, materials of construction, safety considerations). This may include, but is not limited to; • Pavement re-surfacing • Pavement rehabilitation	x		
Ongoing Actions			
Traffic Surveys Continue to monitor traffic growth in the region though regular traffic surveys to use in and update existing models, including freight and active transport.	x	x	x
Road Valuation and Condition Assessment Continue to monitor the condition of the region's road assets and valuations to support efficient management of Council's road assets.	x	x	



4.2.Economic Development

Objective 2.1: An integrated transport network that supports and enables the region's economic growth.

The efficient movement of goods between producers, manufacturers and customers is vital to economic growth in the region. Objective 2.2 is Council's commitment to ensuring that the transport network continues to support the growing freight needs with infrastructure and joint network planning with other road managers in the region.

Objective 2.2: A transport system that provides safe and reliable access to the region's natural assets and tourism destinations.

In addition to the region's natural beauty, the transport network plays a vital role in supporting tourism growth. This can be through the provision of a transport network that provides access and wayfinding signage to tourism locations, as well as providing tourism infrastructure such as lookouts and walking trails.

	Objective No.	
Economic Development	**2.1**	**2.2**
2.1 An integrated transport network that supports and enables the region's economic growth.	x	
2.2 A transport system that provides safe and reliable access to the region's natural assets and tourism destinations.		x
Short Term Actions		
Regional Freight Plan Develop a Freight Plan to identify and prioritise freight network improvements to support supply chain efficiency across the region. Developing this plan will include engagement with DTMR, GPC and other key stakeholders. The plan will focus on identifying key freight, heavy vehicle, and oversize and over mass routes and identifying appropriate asset upgrades to support these routes. In developing the Regional Freight Plan there will be smaller focused projects such as; • Goondoon St/Port Access Road Bridge • Gladstone State Development Area Transport Assessment	x	
Round Hill Road Economic Business Case Develop a business case for Round Hill Road to investigate improving the flood immunity of the road to support economic growth in Agnes Water and Seventeen Seventy.	x	
Medium/Long Term Actions		
Active Tourism Plan Undertake a review of active tourism (such as Rail Trail, mountain biking and hiking) within the Gladstone Region and develop a plan which identifies Council's position on the different forms of active tourism in the region and how to efficiently manage Council's active tourism assets.		x
Ongoing Actions		
Pre-Approved National Heavy Vehicle Regulator (NHVR) Route review Undertake regular reviews of the pre-approved NHVR routes within the Gladstone Region and update them as changes in the network occur.	x	

4.3.Safety

Objective 3.1: A transport network that is safe, reliable, and intuitive for all users

Providing and maintaining a safe transport network is one of the primary roles of a road authority, with the focus on continuous improvement. Council supports the National Road Safety Strategy 2021 to 2030 ideal that "we refuse to accept that deaths and serious injuries are an inevitable price of mobility".

Objective 3.2: All transport users understand safe travel behaviour

Supporting the physical provision and planning of a safe transport network are education and awareness programs. While Council may not be a primary producer of these programs, there are many well developed and run programs in the nation that Council can support to better promote safe transport practices in and outside of the region.

	Objective No.	
Safety Objectives	**3.1**	**3.2**
3.1 A transport network that is safe, reliable, and intuitive for all users.	x	
3.2 All transport users understand safe travel behaviour.		x
Short Term Actions		
Road Safety Action Plan Review existing data available to Council and develop a proactive Road Safety Action Plan, as well as developing a program to identify future data requirements to improve proactive and reactive road safety planning.	x	
Road Safety Communications Plan Review existing local, state and federal road safety educations campaigns and develop a communication plan for Gladstone Regional Council to support these campaigns.		x
Medium/Long Term Actions		
Street Lighting Asset Growth Plan Develop an asset growth plan to manage street lighting within the Gladstone Region. The plan will develop a program to upgrade existing street lighting to current standards, prioritising the areas of most concern.	x	
Ongoing Actions		
Road Safety Treatment Projects Continue to identify, prioritise and nominate locations, links and networks for road safety treatments, utilising annual data reviews.	x	
Community Education Continue to support education, promotion and communication campaigns developed by state, federal and public road safety campaign creators to encourage safe travel behaviour on roads, public transport, and active transport in the region.		x
Emerging technologies (Safety) Identify opportunities to use technology to communicate information on road conditions to the public in a timely and accurate manner, as well as identifying opportunities to utilise technology to improve safety when monitoring and maintaining Council road assets.	x	x
Enforcement Continue to enforce non-compliant transport related activities that fall within Council's jurisdiction, with a focus on enforcing safe parking practices, especially around schools.	x	

4.4.Network Resilience

Objective 4.1: A resilient transport network that keeps the Gladstone Region open following events and provides the emergency connections needed to keep the region safe.

Prolonged closure of roads can have significant impacts on freight transport, local businesses, visitors, and residents of the region. Making roads immune to the impacts of extreme weather events can be near impossible, though improvements can be made to make the network more resilient to events and, thus, enabling them to be reopened in a timely manner, in a safe and usable condition.

Objective 4.2: A transport network that adapts to and supports evolving technologies and environment.

Technology in the transport space is always advancing in different ways, such as pavement materials and technologies, driverless vehicles and zero emission vehicles, such as electric vehicles. In addition to advancements in transport technologies, advancements in our understanding of the environment and how to better protect it are also occurring. A transport network that is adaptable to and supportive of these advancements is essential to ensure that the transport network continues to meet the needs of all road users into the future.

	Objective No.	
Network Resilience Objectives	**4.1**	**4.2**
4.1 A resilient transport network that keeps the Gladstone Region open following events and provides the emergency connections needed to keep the region safe.	x	
4.2 A transport network that adapts to and supports evolving technologies and environment.		x
Short Term - Actions		
Nil.		
Medium/Long Term Actions		
Road Network Resilience Planning Undertake transport network flood investigations across the region to identify key road locations that flood and understand requirements and potential improvements that could reduce the impact of flooding, improve the resilience of the network and educate the community about potential road impacts during natural disasters.		
Alternative Route Assessment In conjunction with DTMR, Local Disaster Management Group (LDMG) and industry, undertake a review of critical routes within the Gladstone Region and identify how they may be impacted by different extreme events (flood, fire, evacuation, industry incident) and what alternative routes are available.		
Ongoing Actions		
Sustainable Assets Consider natural systems and environmental processes when undertaking planning, design and business cases for major transport projects. This includes, for example, minimising impacts on the Great Barrier Reef Marine Park, the Great Barrier Reef Coast Marine Park and using recycled and sustainable construction materials where appropriate.	x	x
Emerging Technology (Resilience) Continue to monitor emerging technologies and manage the transport system so that it supports emerging technologies and the benefits that come along with them, e.g. line marking maintenance so that it supports driverless vehicles.		x

5. Action Plan

The actions have been listed in order of priority as identified by the Roles, Goals, Challenges and Opportunities. It is noted that the order in which projects are completed are also dependent on resourcing and project duration.

Short Term - Actions
Regional Freight Plan
Road Safety Action Plan
Road Safety Communications Plan
Active & Public Transport Asset Growth Plan
Recreational Boat Launching Facilities Asset Growth Plan
Intersection Asset Growth Plan
Sealing Unsealed Roads Asset Growth Plan
Round Hill Road Economic Business Case
Medium/Long Term Actions
Long Term Transport Renewal Plan
Road Network Resilience Planning
Alternative Route Assessment
Gladstone Regional Transport Model and Asset Growth Plan
Active Tourism Plan
Area Plans/Liveable Places
Street Lighting Asset Growth Plan
Ongoing Actions
Traffic Surveys
Road Valuation and Condition Assessment
Pre-Approved National Heavy Vehicle Regulator (NHVR) Route review
Road Safety Treatment Projects
Community Education
Emerging Technologies (Safety)
Enforcement
Sustainable Assets
Emerging Technology (Resilience)

6. Transport Strategy Overview

	Community	Economic Development	Safety	Network Resilience
Goals	Enable a connected and accessible transport network that supports and encourages the community's recreational and general transport needs.	Enable a transport network that supports economic development in the region.	Enable a safe transport network for all users.	Enable a resilient transport network that adapts to emerging technologies and mitigates and manages the impacts of events and event recovery.
Roles	• Enable a connected transport network that facilitates everyday use • Enable better disability access to the transport network • Promote joint planning with other transport managers to provide a "one network" approach • Enable and encourage a connected active transport network • Enable ancillary facilities that support the region's recreational needs e.g. boating • Promote expansion of the public transport network • Support Recreational Vehicle tourism	• Enable freight and commuter movements though "one network" planning • Support inter-modal transport networks • Enable economic growth • Support Active Tourism for all abilities • Promote regional growth through advocacy and collaboration • Enable access to land development to support growth • Enable social infrastructure improvements for liveability and population attraction.	• Enable a safe transport network for all users • Enable response to defects/accidents/hazards in accordance with level of service requirements • Enable Crime Prevention through Environmental Design Principles • Promote cross agency safety initiatives • Enable and support innovations in technologies • Support and enable road rule enforcement	• Enable improved resilience to the impact that extreme weather events, natural disasters, and commercial incidents have on the transport network • Enable Network planning that considers alternative route planning for events (fit for purpose alternative) • Enable appropriate information to be available to the public before, during and after extreme events • Enable maintenance standards and schedules that support improved resilience • Support emerging technologies e.g. Electronic Vehicle, Driverless cars
Objectives	**Objective 1.1:** A transport system that connects communities and provides access to goods and services across the Gladstone Region. **Objective 1.2:** A multi-modal transport system that offers a range of accessible and efficient transport options for residents and visitors. **Objective 1.3:** A transport system that supports the region's recreational needs	**Objective 2.1:** An integrated transport network that supports and enables the region's economic growth. **Objective 2.2:** A transport system that provides safe and reliable access to the region's natural assets and tourism destinations.	**Objective 3.1:** A transport network that is safe, reliable, and intuitive for all users. **Objective 3.2:** All transport users understand safe travel behaviour.	**Objective 4.1:** A resilient transport network that keeps the Gladstone Region open following events and provides the emergency connections needed to keep the region safe. **Objective 4.2:** A transport network that adapts to and supports evolving technologies and environment.

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