



Moving Byron

2022-2042

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About *Moving Byron*.

Providing and maintaining Byron Shire roads is the single most important Council service considering that the delivery of most other services as well as the social and economic wellbeing of the community is dependent on the ability to move people and goods.

Roads are much more than conduits for movement of cars, bikes and pedestrians. They are service corridors that bring people together to exchange goods, connect and share ideas. Without access to these movement corridors, it is not possible to take the 'first steps' in life, to get an education, healthcare or a career. It is therefore vital that our transport networks can build and sustain community life.

Moving Byron is an opportunity for Council to look ahead twenty years at how our transport network (aka roads, footpaths, cycleways) is likely to evolve if we follow a business as usual (BAU) approach. It is clear that BAU would largely continue current trends in car dependency, demand for parking, congestion and community amenity. The network will face increasing challenges to maintain financially sustainable levels of service and struggle to meet a diverse range of movement needs and community expectations.

Moving Byron takes an over the horizon view of our transport network to identify the changes we can begin making now that can sustainably provide better outcomes for people and communities. To ensure this, an overriding objective is that the *Moving Byron Integrated Transport Strategy (Strategy)* helps Council to manage a financially and environmentally sustainable road network.

Moving Byron is in two parts.

Part 1: A big picture view of our existing transport network and the ways we move to identify priority and future directions in transport infrastructure, services and behaviours as well as the tools that can help us achieve meaningful change (Future Direction 1).

Part 2: Connecting Communities: How we will go about applying the changes identified in Part 1 (Future Directions 2-7).

Moving Byron Vision

Byron Shire residents and visitors have connected, diverse, sustainable movement choices that;

- Reduce car dependence and carbon pollution;
- improve public and shared transport;
- Expand safe, accessible walking and cycling;
- Promote people focused town and village centres;
- Support long term efficiency and financial sustainability of roads.

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Moving around Byron Shire and beyond

Moving Byron is grounded in the following observations of the key movement patterns and main features of the Byron Shire network and its links to the region and beyond.

- Byron Shire is located in a high growth Coastal Corridor (north-south) connected and bisected by a singular link to Queensland (M1 Motorway) that has been forecast to become the busiest intercity link in the country by 2026.
- While there is a degree of regular movement through the Coastal Corridor by Byron residents, it is day tripper visitors principally from Queensland as well as domestic and international tourists transiting through Coolangatta Airport that make up the greater proportion of M1 users moving to, from and around the Shire.
- There is a reliance on the M1 by local people moving between the north and south of the Shire or between the coast and hinterland, who have to use or intersect with the M1.
- An east-west corridor linking Byron to the regional hub of Lismore, Casino and the New England Highway to the west (Bruxner Corridor). This intersects with the Coastal Corridor at Ewingsdale where the M1 interchange is regularly beyond capacity during peak commuter periods reflecting the importance of the Bruxner Corridor as a jobs and services connector for Byron Shire residents.
- Hills and valleys constrain the hinterland road network to the west of the M1, often to one road for all needs. Roads mostly follow old narrow formations with conditions that make safe access for pedestrians and cyclists difficult. Active movement is also restricted by limited opportunities to cross the M1.
- Urban roads, especially in coastal locations bear the brunt of visitor traffic. There is an expanding network of cycling and pedestrian facilities in towns, usually in the road reserve. Traffic and parking compete for limited people space in town centres. A trend all Masterplans would like to see reversed.
- There is a rail corridor that runs within both the Coastal and Bruxner movement corridors and links the town centres of Byron Bay, Mullumbimby and Bangalow, three key destinations in the Coastal Corridor. The corridor is largely unused with the exception of the Solar Train at West Byron.



(Source: Northern Rivers Regional Transport Plan, page 23)

Business as usual trends and car dependence

- Population growth in South East Queensland and along the Coastal Corridor continues to see increasing movement in the Shire.

Forecast Population Growth 2016 to 2041

South East Queensland	64%
Tweed Shire	19%
Byron Shire	14%
Ballina Shire	10%

- Ongoing expansion of domestic and international capacity at Coolangatta Airport increases visitor traffic to Byron Shire.

Passenger Numbers Gold Coast Airport

Annual passenger numbers 2019	6.5 million
Comparative monthly growth December 2018 and December 2019	4.9%
2036 Forecast	16 million

- High reliance on the M1 as the sole conduit and distributor of all local, regional and cross border traffic in the Coastal Corridor concentrates movement onto local roads, particularly on Ewingsdale Road and increasingly at other intersections with the motorway.

Visitor numbers to Byron Shire

<u>Year</u>	<u>Total</u>	<u>I/national Overnight</u>	<u>Domestic Overnight</u>	<u>Day Trippers</u>
2008	1,290,000	190,000	520,000	587,000
2019	2,210,000	225,000	994,000	991,000
2030 Forecast	3,860,000	340,000	1,750,000	1,780,000
2019 Visitor Nights	5,500,000	1,750,000	3,850,000	-
2030 Forecast Visitor Nights	8,580,000	3,040,000	5,550,000	-

Traffic growth 2006-2019, M1 Motorway intersections

Ocean Shores	29%	Coastal Corridor
Mullumbimby	43%	Coastal Corridor
Ewingsdale	31%	Coastal/Bruxner Corridor
Bangalow (Hinterland Way)	58%	Coastal/Bruxner Corridor

- Lack of alternative infrastructure in the Coastal Corridor as exists (rail line) north of the Queensland border further concentrates movement onto the M1.
- Few public transport services. Poor regularity, connectivity and convenience of existing services, particularly between the north and south as well as hinterland areas of the Shire.
- Money for roads skews towards temporary “fixes” for traffic congestion bottlenecks and away from meeting the transport needs of the community.
- Greenhouse gas emissions from transport remains the fastest growing contributor to overall CO2 emissions since 1990.

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Part One - The Big Picture

2022-2042

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Future Direction 1: Transport diversity that supports roads

Lead, engage and partner with all levels of government, the community and transport planners in the development of a sustainable regional transport network than supports roads to deliver services to our community.

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Desired Outcome 1. A plan for a sustainable road network that operates efficiently and safely for a diverse range of users over the long term.

Principles

- Look beyond business as usual cycles to identify and plan for long term challenges.
- Think people and goods movement before vehicle movement.
- Evaluate roads as movement and service corridors that deliver more than car carrying capacity alone.
- Engage community as a key resource and have regard for local perspectives.
- Ground truth project and transport network assumptions.
- Value diversity and adaptability to drive sustainability.

Big Picture Challenge

The dominant influence on the future shape and functioning of our transport system is the M1 as a conduit for the high visitation by car. An effective strategy to reduce car dependence over time has to address this problem at the source by providing diversified travel options servicing the key routes used by visitors to the Shire. Without the following there appears little scope to make a meaningful reduction in car dependence.

- A rail link connecting to Queensland.
- Expanded public and shared transport.
- Activation of the rail corridor, both Coastal and Bruxner



Council will lead and collaborate with all levels of government and operators to advocate for planning and investment that can deliver these expanded links and services. This will be done through regular Transport Forums organised by Council, the Northern Rivers Joint Organisation (NRJO) and direct approaches to MPs. These leadership actions will be detailed in Council's Operational, Delivery and Community Strategic Plans.

Priority partnerships

Council will continue priority discussions with TfNSW to activate the rail corridor and expand travel options in the Ewingsdale Road and Coastal corridors. Solutions can include movement that by-passes the M1 Interchange as well as using Park and Ride to intercept car movements and replace with connected bus, rail, cycle and walking options.

A regular Transport Roundtable of Council(s), TfNSW and relevant transport agencies will be established to ensure there is a better fit between Federal, State and local transport policy. The Roundtable will review regulations, funding programs and policies that act as a barrier to *Moving Byron* directions or further entrench car dependence.

Roads That Sustain Community

A business as usual approach to the design of road upgrades is where cars are counted but people and active movements are not. Council will take a fresh look at how key roads need to work to best sustain community and support alternatives to car movement.

Corridor Assessments map the full range of transport use can be considered looking at the way people need to move, connect and do business within the neighbourhoods serviced by the road. The movement patterns, trip generators, meeting nodes and diffusion points as well as community needs and aspirations within each corridor can be mapped as a guide to more diverse, safe, connected networks that make active and public transport convenient.

Corridor Mapping can be used for:

- Major projects and planning such as for diversified infrastructure and services in the Coastal Corridor
- Urban and hinterland roads to improve access and safety.
- Movement and Place plans, Masterplans where people and community needs can be prioritised such as in town centres.

Planning For Sustainable Movement

Travel Demand Management (TDM) builds on the information gathered in Corridor Mapping, Masterplans and Movement and Place plans to design and manage transport systems that reduce car dependence.

TDM can be applied as a long term planning tool (eg *Moving Byron*), used in significant event planning or provided as a resource used by individuals to plan sustainable travel.

Corridor Mapping and TDM can guide future development so walking, cycling and public transport connectivity can be built in to new development. Council will review Development Control Plans to include these as part of Council's assessment and approvals process.

Road Access and Safety Principles (RASPs)

Council has adopted RASPs to ensure safe access for all road users. The principles are being incorporated into road infrastructure planning, design, delivery and maintenance so that new infrastructure and major upgrades can accommodate walking, cycling and public transport use.

In some instances where active and public transport infrastructure is not feasible, such as 'transition zones' on approaches to villages (see Future Direction 5) or 'constrained road segments' on hinterland roads (See Future Direction 5), policy support is required to regulate speed and other behaviours to provide equitable safe access for all road users.

A key output of the project is to develop a Road Access and Safety Manual to bring policies and resources together in an accessible format. The Access Panel (AP) are acknowledged as key stakeholders in the implementation of RASPs and safe access projects.

In addition to meeting the safe travel needs of a diverse range of users, implementing RASPs is an essential ingredient for adapting our road and transport networks to support active and sustainable transport choices.

Desired Outcome 2 A priority project to diversify movement, infrastructure and service options in the Ewingsdale Corridor and support sustainable movement and access within Coastal and Bruxner movement corridors.

Activating The Rail Corridor

A priority project for multi use activation of the rail corridor that provides expanded active and shared transport options catering to visitors and residents;

- Reducing car dependence and emissions,
- Easing road congestion on Ewingsdale Road, at the M1 interchange and on the local road network,
- Diversifying transport options including in the Coastal Corridor.

Council has resolved to proceed with activation of the rail corridor and completed a study into the Multi-Use Rail Corridor (MURC) that canvasses a number of options for light rail vehicles, walking and cycling. The study identified two possible options, very light rail and hi-rail (dual use vehicles for road and rail) in combination with walking and cycling paths.

Council has identified that the priority for rail activation is the section between Byron Bay and Mullumbimby that runs in the Ewingsdale Road and Coastal Corridors. As such there is an opportunity for rail corridor activation to help deliver a long term solution through this congestion bottleneck that also provides significant benefits to the community.

The project can be integrated with the Movement and Place Plan being developed in partnership with TfNSW and can be supported with a Travel Demand Plan that includes:

- Park and Ride locations in the Ewingsdale Road Corridor and possible intercept points at Tyagarah and Mullumbimby.
- Well-connected and convenient public and shared transport services including trials of flexible (eg on demand) services and priority access lanes.
- Travel experiences that suit commuters and residents as well as appeal to visitors.
- Parking management.
- Aligns with the Byron Bay Town Centre Masterplan.

Council with the support of partners and funding bodies will complete the following steps towards rail corridor activation:

- With TfNSW, a Movement and Place Plan incorporating rail corridor activation and upgraded pedestrian and cycling access over the M1.
- Business Plan for rail activation options.
- Corridor Assessments for the Ewingsdale Road and Coastal Corridors.
- Travel Demand Plan that includes Park and Ride and parking management.

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- Long term financial planning to compare the costs of business as usual with a plan to diversify infrastructure and services that better meet community needs and is environmentally sustainable.
- Work with TfNSW and public transport operators to make services more regular, convenient and connected to the Ewingsdale, Coastal and rail corridors.

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Part Two - Connecting People and Community 2022-2032

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Future Direction 2: Cycling, walking and active movement

Deliver and manage a diversified transport network for Byron Shire that encourages an overall modal shift away from private car use towards active and shared transport choices that make a positive contribution to the amenity, well-being and sustainability of our communities.

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Desired Outcome 3: People in Byron Shire choose active movement.

Principles that help to make active infrastructure and facilities accessible:

- Connectivity of walkways and cycling facilities.
- High priority in civic and town centres.
- Connect to central locations.
- Safe access for everyone.
- All journey types and groups in the community catered for.

Connecting walking and cycling networks

In 2020, Council adopted a second Byron Shire Bike Plan and first Pedestrian Access and Mobility Plan (PAMP).

Priority projects from these plans will continue to rollout as grant, developer contribution and other funding becomes available including completion of the four stage Byron Bay to Suffolk Park cycleway.

Walking and cycling are easier choices to make when paths, and cycleways are connected, including to public transport, peripheral parking and park and ride. Regular reviews of the plans will give priority to connecting;

- Transport hubs
- Community open spaces and facilities
- School communities
- Existing network segments

and the following major projects;

- Mullumbimby to Brunswick Heads cycleway
- Bangalow rail corridor east west shared path
- Belongil to Main Beach foreshore active link

Making walking safe for everyone

Active movement networks also need to be safe and accessible for a diverse range of needs including mobility scooters, and wheelchairs.

Council will increase budgets for PAMP projects by 15% in years 1-5 to achieve and then maintain as a proportion of overall road funding. The aim is to better connect the pedestrian network and improve access and safety at road crossings.

Co-design a project with the Access Panel and place planning groups to identify and resolve connectivity, safety and access issues.

Review the PAMP at least every four years to ensure that emerging issues can be prioritised.

Seeing and counting everyone

One of the key measures used in transport planning is the data collected by the 'journey to work' question in the Census. While it provides a good breakdown of the types of transport used on the commute to work, it does not give insight into the many other 'non work' reasons people travel around. In Byron Shire, a significant number of these non work trips are by visitors and leisure seekers.

Council and transport planners need to consider the transport needs of all types of transport users to best design for and promote active choices:

- Commuters
- Non—work trips (eg shopping, visiting, leisure)
- Visitors, arrival, departure and local touring
- Business, trading, deliveries - eg
- Restricted mobility
- Public transport patrons

Council can expand its understanding of community needs and ground truth network assumptions through use of:

- Corridor Mapping
- Movement and Access studies
- Place planning with community
- Council's Visitation Strategy
- Community Survey
- Engagement with visitor economy, and
- Other resources from the toolkit

Promoting active movement

Council will develop a supporting facilities plan that can include;

- Start and end of trip facilities

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- Shade on route
- Experiential features that are attractive to visitors, leisure riders and walkers. eg views, picnic areas, heritage

Seeing and counting everyone provides new insights so safe accessible active pathways are built into future road projects as well as giving transport planners a better understanding of local needs for State and Federal transport projects.

Council will promote the benefits of active transport for all types of users including through

- Road safety campaigns
- Social media
- Way finding signage
- Visitor economy engagement
- Community Strategic Plan

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Desired Outcome 4: The transport system supports the local lifestyle and tourism by delivering active, shared and public transport infrastructure that helps reduce excessive traffic in town centres and neighbourhoods.

People in...

Currently there are three adopted town and village Masterplans (Byron Bay, Mullumbimby and Bangalow) and one nearing completion (Federal Village). All four have been based around initial Movement and Access studies and are focussed on town centres and civic space that make it easier for people to come to and move around town without a car.

Place making is the business of implementing Masterplans with Council supporting a number of place planning groups.

In recognition of the priority of people and business for town centres, TFNSW has developed a Movement and Place framework where road corridors are prioritised for people or vehicles or a combination of both. For example, the M1 Motorway would be prioritised for movement of vehicles whereas a town centre can give priority to place features such as people, outdoor meeting places and commerce.

Council will continue to undertake place planning and will develop and deliver a program of place plans for key locations as well as:

Use travel demand planning that make it easier for people to choose active movement such as

- Car free Sundays
- Working with market and event managers to provide priority access for active and shared transport.
- Providing the community with information and services that help people to choose sustainable transport.

Adapt the planning system to reflect community preferences for 'place' features so as to create active and shared transport routes in and around town and village centres that are central, direct and convenient.

...cars out

The high visitation to our coastal towns in particular puts stress on our roads, but also creates an increasing demand for parking in town centres with limited space. To encourage sustainable transport choices that help to keep the experience of visiting towns and villages pleasant and memorable, Council will:

- Ensure that existing parking is providing the highest level of turnover and service through regular parking scheme reviews.

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- Work with place planning groups to create peripheral parking areas that help to distribute parking away from, but safety linked to town and village centres.
- Develop park and ride opportunities to give commuters, visitors and event patrons sustainable choices especially during peak periods with priority in the Ewingsdale Road and Coastal corridors.
- Use pay parking in place planning and to encourage motorists to choose sustainable alternatives.
- Provide targeted facilities in parking areas such as EV charging, share car and mobility spaces.

Safe access for all

Safe access is vital in all our daily lives for work, play, social contact and getting to the services we need. Ensuring the movement needs of mobility challenged, aged, socially isolated and vulnerable people are met is to ensure maximum inclusion and community wellbeing.

To better understand community movement expectations and needs Council will do this by partnering with;

- Neighbourhood and Community Centres,
- Community organisations such as Social Futures,
- Government agencies,
- Access Panel,

As noted above, the reasons for and movement patterns associated with 'non-work' trips is not well understood. Council will sponsor a research project focusing on local and regional non-work trips to overcome this knowledge gap.

Future Direction 3: Public transport

Increase public/shared transport use by providing priority infrastructure connected to pedestrian and cycle links and by partnering with transport agencies and providers to improve services.

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Desired Outcome 5. Public transport across Byron Shire is convenient, regular and easy to access, and

Desired Outcome 6. Key regional destinations such as Lismore, Tweed Heads, Ballina and services such as hospitals, airports and universities are readily accessible by shared / public transport from Byron Shire.



Principles for building public transport patronage

Connectivity: Services that connect with other services and active links.

Regularity: There is sufficient choice of services that make public transport a time efficient choice, weekends, evenings and public holidays included.

Convenience: Facilities are close at hand and have priority links to town centres that are as or more convenient as driving and parking a car.

Access: Buses are adaptable to all needs while facilities such as bus stops and interchanges are safely located, sheltered and can be used by all abilities

Public transport can support our road network in many ways.

- Diversifying transport infrastructure and services in the Coastal and Bruxner corridors as discussed in Part One.
- Provide alternatives to car travel for visitors and residents.

- Ease pressure on congested roads, notably around the M1 interchange at Ewingsdale.

Public transport can support civic precincts and town centres to create space for and prioritise desired place features.

Town bus services that provide convenient stops in town centres can reduce the number of cars circulating and reduce the demand for parking. Transport interchanges located adjacent to town centres help to make public transport easier to access, expand travel options and support active movement choices.

Public transport is vital for sustaining community life.

For those who have to rely on public transport the lack of regular services can impact heavily on education, training, employment opportunities and wellbeing through lack of social contact, access to health and other services. Commerce in town is not maximised where a proportion of the population have limited access to retail services.

Current levels of service in Byron Shire are generally poor.

There are circulating 'town services' in the Brunswick Valley and Byron Bay catchments, however these only operate a regular service weekdays with no evening, very few weekend and public holiday services.

Connections within the Coastal Corridor between southern locations (Byron Bay/Bangalow) and northern locations in the Brunswick Valley are more limited. In many parts of the hinterland there are no services especially during school holidays when school buses are not running. See case studies on connections between Mullumbimby and Byron Bay and Mullumbimby and Lismore for details.

What is Council's role in public transport development?

Generally, in Byron Shire the NSW Government is responsible for public transport services and Council is responsible for the infrastructure used by services, with the exception of the rail corridor, M1 Motorway, Lismore/Bangalow Road and Ewingsdale/Broken Head Road that all remain under State control.

It is clear from Council's regular Community Survey and Community Strategic Plan the community want Council to play a more active role on public transport development. There are a number of ways this could be achieved.

- As per discussion and priority project in Part One, a key and ongoing role for Council is to lead regional advocacy for diversified infrastructure such as rail in the

- Coastal Corridor and more immediately for increased public transport services.
- Through its ongoing engagement with the community and the information gathering tools proposed in *Moving Byron*, Council is in possession of significant local perspectives that can better inform State Government on the delivery of improved public transport.
- Council can apply these local perspectives and above principles to design of roads, paths, cycleways and facilities that provide public transport access with bus bays, shelters and priority lanes.
- There is considerable scope to adapt Council's planning and assessment system to ensure future land use is planned in a way that can reduce car dependence and ensures that development builds in public transport infrastructure and access as discussed further at Future Direction 4.
- Council can actively seek funding for public transport infrastructure and service development including where appropriate by linking public transport development outcomes to projects and grant applications.

Big picture public transport challenge

Diversify public transport infrastructure and expand services in the Coastal and Ewingsdale Road corridors to provide sustainable transport options, particularly for day trippers and visitors transiting through Gold Coast Airport.

In the long term this would be best achieved by rail link as it would provide the greatest support to the road network. In the short to medium term express shuttle buses have potential to intercept significant numbers of visitors.

Case Study

Skybus: Connection, Convenience, Integration, Success.

Visitors to Melbourne Airport will probably be familiar with the Skybus express airport services situated immediately at the front door as the most convenient transport option to or from the city centre (Southern Cross interchange). Skybus carries over two million passengers a year and 8.3% of all Melbourne Airport travelers .

The service operates 365 days of the year on a 10 minute interval between 6am and midnight (20 minutes otherwise) and is competitive with taxis on price as well as journey times as it has priority access in peak times.

Skybus: Strategic transport planning to support the road network

The main link between the city centre and Melbourne Airport is the Tullamarine Freeway that is regularly at or over capacity and has had a number of upgrades during the period of Skybus operations commencing in 1978. Compared to the 7,000 plus taxi trips a day carrying airport passengers on the freeway, Skybus takes up substantially less road space

and recently improved on this by introducing double decker buses that also use no more fuel.

Patronage success is built on convenience, value and connectivity, however there are clear benefits to the Victorian Government and community from a \$20 million partnership struck with Skybus in 2002 that allowed the Government to defer construction of a rail link to the airport, a project now under construction.

A further benefit for both patrons and government is the convenience of the city loop, metropolitan and regional rail networks only metres away from the undercover interchange located within Southern Cross Railway Station. Hotel and suburban airport transfers also connect with Skybus at the interchange with trams, footpaths and taxis all at the front door.

This integration with other public, shared and active movement choices means there is a knock on benefit as car journeys are avoided across the broader transport network as travelers fan in and out through the suburbs and regions.

In 2018, Skybus introduced an express service between Byron Bay and Gold Coast Airport. There is scope to build demand through better connection and coordination with local transfer services, share car and ride services. Priority access to avoid congestion would also help attract patronage.

Proactive public transport development in the near term

Council will partner with agencies to investigate, fund and trial innovative services in Byron Shire such as

- on demand
- shuttle buses
- automated buses

Trials will be designed to improve services between the south of the Shire and Brunswick Valley and also linked with easy to use digital apps to make them more accessible.

Trials will also prioritise options that can promote a shift away from car use in the Ewingsdale Road and Coastal corridors including consideration of on rail options as part of multi use activation of the rail corridor.

Council will establish a Sustainable Transport Working Group (STWG) with TFNSW, transport operators, community and Councillor representatives. The focus of the STWG is on services and an application of the patronage building principles so as to;

- Expand patronage, existing services and hours of operation
- Develop new routes including hinterland and village connectivity
- Make transport information more accessible
- Participate in trials
- Use digital technology for marketing and service support

- Consider ways to capture new market segments such as visitors
- Recommend priority infrastructure and facilities that support service
- Development
- Regularly review public and shared transport services across the shire for, connectivity, convenience, regularity, accessibility, service gaps.

Bruxner Corridor a jobs and services connector

While the Coastal Corridor is dominated by visitor movement, the Bruxner Corridor linking Byron Bay, Ballina, Bangalow, Lismore, Casino and the New England Highway at Tenterfield remains the more significant movement corridor for Byron Shire residents in their daily lives. Lismore is the regional hub with major hospitals, Southern Cross University, schools, government, agricultural, retail and other services.

Public transport in the Bruxner Corridor is very poor. There is a circulating town service on weekdays between Byron Bay and Ballina, however few options connecting Lismore with Byron Shire, especially the Brunswick Valley. This contributes to high car dependence and traffic congestion at the Ewingsdale M1 intersection with the Coastal corridor during peak periods.

Council can lead on public transport development in both the Bruxner and Coastal corridors through advocacy, preparing reports for the Northern Region Joint Organisation (NRJO) and convening regular transport forums focused on regional trip generators (eg Airport, University), local government and transport providers.

Part time public transport presents opportunity

Twice a day, morning and afternoon a fully functioning integrated public transport system operates across Byron and neighbouring shires. The school bus system provides around 10,000 students with an actual or virtual door to door pickup and delivery service often relying on one or more connecting buses to travel beyond the Shire boundary. Outside of pre and after school periods, most of these buses are idle.

An opportunity exists to harness this under-utilised school bus fleet, drivers and operators to expand services outside school hours. Especially in hinterland locations, school buses are used by general travelers due to limited other services. In addition, some of the school bus services are also general services that do not run during school holidays or on weekends and public holidays. Expanding services to include these additional days would provide more options for commuting and help build patronage.

There would also be the potential for some of these buses and their drivers to participate in trials.

Shared transport supports public transport

Convenient location of kiss and ride bays, car, bike and ride share facilities close to transport interchanges and facilities helps to reduce demand for parking and also promotes public transport as part of 'multi modal' travel experiences that can appeal to both residents and visitors. Council will;

- Expand share transport facilities at transport hubs, town centres, villages and other strategic locations,
- Give priority to facilities and access as part of parking management,
- Review development controls and policies to promote shared transport in place and land use planning.

Research and funding for public transport development

These public transport initiatives can be informed by further research, data collection and review of Council strategies to better understand the trip generators and movement patterns of a range of traveler groups in the community.

- Non-work trips
- Visitors
- Commuters
- Mobility challenged
- Leisure

Persistent advocacy is required for increased public transport services as well as funding to assist Council to undertake these public transport development projects.

Other funding options for public transport development and infrastructure include pay parking revenue as discussed in the section on Future Direction 2 and including public transport in developer contribution plans as discussed in the next section on Future Direction

Future Direction 4: Planning for sustainable transport

The transport system drives sustainable development where active and public transport are prioritised and supported by an adaptable planning system.

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Desired Outcome 7: New development is connected by and easily accessible by active, public and shared transport.

Planning for sustainable transport development

Council can shape transport networks and their ability to deliver services and sustainable outcomes to the community by the approach taken to long term residential and business land use planning.

Development that is sprawling tends to increase car dependence as the distances people have to travel in daily life are greater. On the other hand, development that is contained with services close by can make it easier for people to walk, cycle or catch public transport.

Council can undertake informed planning by incorporating Corridor Mapping and other resources from the toolkit into planning processes to influence transport outcomes for new development as follows.

- Review and update land use strategies for residential, rural residential and business and industrial land use to provide for future land release patterns that are contained, close to services and affirm sustainable transport choices.
- Amend LEP clauses and zoning maps to reflect updated land use strategies as above.
- Review and amend Development Control Plans to build prioritised, connected active and public transport infrastructure into new development.
- Review and amend Development Control Plans to promote design outcomes that better reflect zone objectives that reference sustainable transport such as for Zone B2 objective to 'maximise public transport patronage and encourage walking and cycling'.

Planning for less car dependence

Planning controls can also be used to influence travel preferences and set the conditions for people to choose sustainable transport.

Travel Demand Management assessments can consider how the transport movements associated with development can best be diversified towards alternatives to cars. They can be used and included in:

- Development Control Plans
- Standard conditions
- Strategic land use planning including planning proposals
- Development and events that are significant trip generators
- Subdivisions and new land releases

- Place making and master planning for strategic locations

Planning options for services such as local shops, corner stores, playgrounds and cafes within neighbourhoods reduces the need to drive elsewhere for a range of everyday needs and entertainments.

Under business as usual conditions, traffic impact assessments that inform transport infrastructure requirements for new development tend to prioritise vehicular traffic. There are many reasons for this, one being that often only cars are counted when looking at the performance of a road. To this end Council will amend the assessment criteria to incorporate the following:

- Counts for pedestrians, cyclists and other road users.
- Measures that address risks to all road users (including pedestrians and cyclists)
- The provision of public transport facilities
- Travel Demand Management strategies

Plans to fund sustainable transport choices

Developer Contributions Plan (aka s7.2 plan) are an important mechanism that can deliver active and public transport infrastructure and facilities through the planning system. Council is currently undertaking a review of the plan to consider how public transport can be included as a category for which contributions can be collected.

As suggested in the previous section, there is a case for public transport development projects proposed in *Moving Byron* to also be included for funding under the plan.

A review of the s7.2 plan can also ensure that other infrastructure funded under the plan is adapted to diversified transport. For example, how well do open space and community facilities cater to active and public transport connectivity and access?

Future Direction 5: Safe Access

Safe access within movement corridors encourages a shift away from car dependence and supports a diverse range of movement needs in the community.

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Desired Outcome 8: People are able to move safely around Byron Shire.

To effectively reduce car dependence, safe access through key corridors in hinterland areas and approaches to towns and villages is required for active and public transport. There are a number of existing challenges that need to be overcome to achieve this.

Constrained hinterland roads

The topographical features of much of the hinterland road network means that there is a high reliance on 'trunk' routes and roads that service valleys as a necessary part of all travel whether by car, bike, walking or catching a bus. Many of these roads are on old formations, have narrow pavement widths and often little or no shoulder making it difficult for walkers and cyclists. School and other buses cannot pull over in many locations.



Visitation and development

Increasing visitation and development in hinterland areas is leading to higher vehicle numbers using these constrained sections of the network, particularly in peak periods. It is also during these periods that school bus services are operating with students waiting for collection or being dropped off on roadsides without facilities.

Along these trunk routes meeting points at various intersections are obvious, particularly as drop off points for school buses as well as informal park and share ride commuting. Other services delivered by the hinterland road network, such as rubbish collection, postal, water delivery flag these roads as increasingly having both movement and place features.

A fresh look at hinterland roads

There is a need for a reassessment of the hinterland road network so it is able to effectively deliver services to the community and ensure safe access for all present in the road reserve. In particular where risks to active road users and school students are heightened by the constrained nature of the road.

Previously when traffic numbers were lower, the roads were primarily managed as movement corridors. Under current conditions, place features need to be acknowledged as does the presence of significant numbers of vulnerable road users during peak periods.

Council will;

- Undertake corridor mapping of key hinterland trunk routes to identify 'constrained' road segments and inform movement and place planning.
- Review speed limits on high risk constrained segments of the hinterland network to ensure safe and equitable access for all road users.
- Advocate for better recognition of hinterland trunk routes as needing to meet the access needs of all road users and to adapt NSW Speed Zoning Guidelines.
- Employ a Road Safety Officer to work with the community to build road safety programs, resources and place plans as well as assist with the delivery of *Moving Byron*.
- Use corridor mapping to inform a priority funding plan of hinterland connection nodes such as bus transfers, road intersections, halls and schools that can be made safer with improved facilities such as bus bays, kiss and ride, shelters and signage.

Motorway crossings

A significant impediment to active movement between the hinterland and the coastal parts of the Shire is the lack of safe movement over the M1. There is only one dedicated pedestrian access over the M1 in the Shire, a grade separated covered pedestrian bridge linking Ocean Shores and Billinudgel. At five of six other crossing points, cyclists and pedestrians have to negotiate roundabouts with varying degrees of accessibility. There is no connected pedestrian access at the Ewingsdale Interchange.

Council will advocate for priority upgrades of safe accessible M1 crossings for pedestrians and cyclists.

Transition zones to town and village centres

Current NSW Speed Zoning Guidelines have not proven sufficiently adaptable to be able to provide for lower speeds on approaches to town and village centres. Of particular note are regional roads under State control at Bangalow and Suffolk Park where speed zone reviews have not supported reductions.

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At Suffolk Park, Broken Head Road dissects the community including along the village centre boundary at Clifford Street on the eastern side while community sporting and recreational facilities are located on the western side.

At Bangalow, Lismore-Bangalow Road approaches the village from the West adjacent to a residential area with a constrained intersection at Rifle Range Road with school bus conflicts and poor pedestrian access. The community have repeatedly requested that the 50 kph zone be extended further to the west to incorporate this segment.

As part of the review of NSW Speed Zoning Guidelines sought in relation to hinterland roads, similar adaptability is sought for 'transition zones' where roads dissect communities or where there is proximity to

- Residential precincts
- Formal or informal active movement on road approaches to villages
- Schools, bus stops, sports fields, community facilities

To support this, Council will create Transition Zone Maps for all towns and villages to be incorporated into Movement and Place and Master Plans

Neighbourhoods

Safe access in urban and coastal precincts can be compromised due to heavy visitor traffic and demand for parking. Council will create an easy to use resource kit to assist neighbourhoods to develop localised Movement and Place Plans.

Local Traffic Management Plans that are part of place planning processes can be used to help calm traffic and put in place infrastructure to ensure that pedestrian and active movement is supported for safe access.

Future Direction 6: Sustainability

Responding to climate change provides the opportunity to diversify transport infrastructure that promotes environmental and financial sustainability

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Desired Outcome 9. Byron Shire's transport network is adapted to support and move towards climate sustainability.

Towards zero emissions

Greenhouse gas emissions from Australian transport in 2018 reached 102 million tonnes of carbon dioxide (MtCO₂) and continues to be the fastest rising contributor to overall emissions since 1990. As part of the response to the climate emergency declared by Byron Shire, there is a need to reduce emission at the local level. Together the Future Directions of the Moving Byron strategy to reduce car dependence and a shift to active and public transport will help to reduce emissions from the Byron Shire transport network.

Council will also work with the community to quantify and reduce local emissions.

- Support community group Zero Emissions Byron to develop a transport sector emissions inventory for Byron Shire.
- Collaborate with Zero Emissions Byron to develop a community transport emissions reduction plan that supports Moving Byron.
- An action plan has been adopted to monitor and help reduce emissions from Council operations including the delivery of transport infrastructure.
- Implement actions D2, D5 and E4 of Council's Net Zero Emissions Action Plan for Council Operations 2025:

D2 – Conduct Councillor and staff education on carbon monitoring and offsets

D5 – Develop an emissions disclosure framework for Council staff

E4 – Investigate alternative materials for construction of infrastructure.

The community has access to electric vehicle charging stations already installed in a number of locations such as the Byron Bay Library and Mullumbimby Council administration. Council will investigate e-bike charging opportunities at Council owned charging stations.

An expansion of charging stations will be supported with incentives for the installation of private and commercial electric vehicle charging stations in the Shire including amendments to Development Control Plans (DCPs).

Desired Outcome 10. Byron Shire's transport network and connecting regional networks are financially sustainable while meeting the movement needs of residents and visitors.

Financial sustainability

A key reason for taking a big picture view of our transport network is so that Council and the community are best informed about the future financial sustainability of infrastructure investment decisions made now.

Financial sustainability for transport projects has many dimensions that need to be considered over the longer term.

- **Affordability** - How is the initial investment to be funded?
- **Maintenance** - Are ongoing costs of maintenance realistically assessed and able to be funded into the future?
- **Demonstrable benefits** - Are the diverse range of individual and community transport needs met?
- **Strategic goals** - Does the investment reduce car dependence, promote active and public transport that support the road network to deliver services to the community.
- **Opportunity costs** - Does the investment draw funding away from other community priorities?
- **Referred costs** - Are there negative impacts and knock on costs to the community such as increased demand for parking or reduced amenity, safety or access?
- **Accounting for environmental impacts** - Does the project avoid, offset and account for impacts on the natural environment?

Emerging risks

A number of big picture risks are apparent from the discussion in Part One.

1. Singular reliance on the M1 Motorway as a conduit for all local and regional transport needs in the Coastal Corridor into Queensland concentrates movement creating bottlenecks and congestion around intersections with the Motorway, particularly at the intersection of the Coastal and Bruxner corridors at Ewingsdale.
2. Lack of diversified transport infrastructure and service options, particularly in the Coastal Corridor into Queensland further entrench car dependence and reliance on the Motorway to meet all transport needs.
3. Costs to 'fix' bottleneck congestion and respond to demand for more road space and parking draw funds away from other transport priorities including local roads and public transport.

4. Ongoing projects that expand active links and people focused town and village centres are overwhelmed by continuing high traffic volumes due to induced car dependence for regional movement.

Without a circuit breaker, these trends are likely to undercut financial sustainability over the longer term when measured against the criteria above. A key factor being the need to bring forward high cost bottleneck projects more likely to compound existing problems than support Moving Byron Future Directions.

These choices are already very real as demonstrated by a high level comparison of two projects that exemplify a 'business as usual' approach versus a potential strategic circuit breaker.

- Business as usual project - Augmentation of M1 Interchange and widening Ewingsdale Road to McGettigans Lane.
- Circuit breaker project - Multi-Use Rail Corridor Activation incorporating cycling, walking and rail shuttle in rail corridor, hi-rail option.

	Augmentation of M1 Interchange at Ewingsdale	Multi-Use Rail Corridor Activation
Project description	Storage of queuing vehicles off the M1 by way of elevated ramps at interchange and widening Ewingsdale Road to McGettigans Lane.	Active and rail use of rail corridor from Bangalow to Billinudgel.
Estimated cost	\$78 million	Option 1. Bangalow to Billinudgel \$31.4 million Option 2. Mullumbimby to Byron Bay \$12.6 million
Strategic consideration	Improve safety on M1 by removing queuing traffic from impeding transit lanes.	Diversifies sustainable transport infrastructure and service options.
Reduces car dependence	No	Yes by providing alternatives to car travel.
Promotes active movement	No. Currently no plans to connect pedestrian accsss to cross the M1.	Yes. Walking and cycling paths included in corridor activation.
Promotes public transport	No. Proposal involves no public transport infrastructure.	<ul style="list-style-type: none"> • Rail activation provides opportunity for public transport. • Hi rail buses can be adapted for on demand and flexible services.

	Augmentation of M1 Interchange at Ewingsdale	Multi-Use Rail Corridor Activation
Reduces demand for parking in towns and villages	No.	Can be part of parking management and Travel Demand Planning that can also incorporate park and ride.
Supports the Byron Shire Road network	<ul style="list-style-type: none"> Improves safety on the M1. Shifts queued traffic to interchange ramps and Ewingsdale Road. Longer travel times for east-west commuter flows along the Bruxner Corridor due to reduced priority. 	<ul style="list-style-type: none"> Eases increasing congestion and pressure on the road network. Diversifies transport infrastructure and travel options. Improves connectivity of active and public transport. Long term financial benefits to Council and community from reduced maintenance pressures and longer periods between major upgrades.
Addresses the ‘big picture’ challenge identified in Part One - providing alternative transport options for regional travelers, particularly cross border visitors in the Coastal Corridor.	No.	<ul style="list-style-type: none"> Rail options in activated corridor with potential to connect towns and villages with longer term rail link to Queensland and Gold Coast Airport. Supports development of alternatives to car transport including experience based options tailored to appeal to visitors.

Network investment and maintenance

A key measure of financial sustainability is the extent to which the Moving Byron Future Directions can promote a shift away from car use that allows Council to maintain levels of service on the road networks with longer periods between the need for major upgrades. To achieve this and drive Moving Byron Council management will;

1. Articulate Regional priorities.
2. Strengthen partnerships with State and Federal agencies and actively seek funding for *Moving Byron* projects.
3. Harness parking fees as an important revenue source to fund capital works and maintenance for active, public transport, parking management and Travel Demand Strategies.

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4. Identify opportunities to hand infrastructure back to state government.
5. Build a framework for selecting projects for delivery consistent with *Moving Byron* Future Directions that considers long term financial, environmental and climate sustainability
6. Develop a method for monitoring and evaluating project performance against *Moving Byron* Future Directions.
7. Build partnerships and work with technology providers and innovators to expand knowledge and identify opportunities.
8. Consider adopting a Smart Byron framework for leveraging new technologies and approaches to sustainable infrastructure management.

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Future Direction 7: The way forward

Clarity of process, regular review and funding pathways empower the Community to engage with Council for successful implementation of Moving Byron.

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Desired Outcome 11. Council delivers Moving Byron.

As a high level strategy, Moving Byron sets future directions with a plan of action, rather than a detailed blueprint. The plan is best viewed as an adaptable living document that can be carried forward to 2032 with timing and progression of detailed actions to be a matter for consideration of Council within a broader governance framework.

Governance establishing a clear custodian role that ensures actions can be prioritised and progressed with robust stakeholder and community engagement is critical to keep the strategy moving forward. In the first instance, a necessary task will be to review the timeframes in the Action Plan and align projects and actions with budgets, operational and delivery plans.

It is recommended that the Constitution of the Transport and Infrastructure Advisory Committee (TIAC) be reviewed to:

- Ensure strategic focus and early engagement
- Include implementation role and plan for Moving Byron

Council may consider expanding stakeholder and community representation on TIAC and or using Project Reference Groups for specific projects.

A Rail Activation Project Team (RAPT) is to be established on adoption of Moving Byron for priority discussions with TFNSW on progression of the project (Desired Outcome 2) with TFNSW.

An initial level of cross directorate co-ordination and capacity building will provide a solid basis to align project criteria and assessment tools, particularly between Infrastructure Services (IS) and Sustainable Environment and Economy (SEE).

A cross directorate Working Party (WP) is proposed for an initial twoyear period to resolve the following

- Co-ordinating shared Moving Byron actions
- Development of a shared timeline
- Scope and criteria for Corridor Mapping to ensure consistency of use in land use and infrastructure planning
- Creation of toolbox of resources for place and infrastructure planning
- Identify data collection and research priorities
- Harmonise technical and planning approaches to transport Infrastructure
- Review of planning instruments (eg dcpa) for exhibition
- Liaise with the RAPT

It will be a focus of the Working Party to encourage greater collaboration between Council, TFNSW, service providers and key stakeholders.

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The Constitution of the Access Panel will be reviewed to acknowledge the Panel as a key stakeholder group with both direct engagement and representative Panel members on other PRGs etc to be options used as needed.

Council to initiate an annual Transport Forum for community and stakeholders that focuses on active and public transport issues and needs.

Expanding community engagement and information

Other options can be included as required;

- Deliberative democracy such as citizens' juries for big or difficult issues
- Project Reference Groups (PRGs) that allow for community and stakeholder participation in specific projects.
- A high level 'bounce group' for Moving Byron reviews and major projects.

Establish Moving Byron landing page on Council's website to include:

- Moving Byron
- Fact sheets
- Transport information
- Reports, studies and other transport resources
- Portal for engagement

Reporting and reviews

Council will receive reports on progress of Moving Byron as follows;

- TIAC meetings and recommendations.
- Annual progress report to Council.
- Reports on major projects and issues as required.

Review of projects and actions that are in progress will be undertaken as part of budget, Operational/Delivery Plan and Community Strategic Plan processes.

A five year progress review to identify possible improvements to Moving Byron that can better achieve outcomes aligned to the Future Directions.

Funding priorities - year 1

The following actions nominated as 'priority' are recommended for budget allocations in year 1;

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- Project development budget for priority project (Desired Outcome 2)
- Operational support for the Rail Activation Project Team (RAPT) and cross directorate Working Party (WP)
- Action 5.2.9 Jonson Street Bus Bay
- Action 8.2.3 Bangalow and Suffolk Park 'transition zone' reviews.
- Action 8.2.4 Place Planning for Suffolk Park
- Actions 1.1.3 and 8.1.2 Employment of Road Safety and Transport Officers

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