

PARKMORE AREA

Strategic Transport Framework
ENABLING THE EFFICIENT MOVEMENT OF PEOPLE AND GOODS





*A Transport Framework for the Parkmore
Area that enables the efficient movement
of people and goods*

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01 INTRODUCTION



1. Introduction

The Parkmore Area is a key employment location in the North-East of Galway City, with approximately 13,500¹ employees commuting to the zone daily.

For the purpose of this report, the “Parkmore Area” refers to the broad area of Parkmore and Ballybrit which straddles the Galway County Council border, and includes the following business parks (see Figure 1):

Parkmore East;
Parkmore West;
Galway Technology Park;
Ballybrit Business Park;
Ballybane Industrial Estate; and
Briarhill Business Park.

The Parkmore Area includes many large multi-national companies, technology development firms, medical device companies, as well as more traditional distribution and logistics, services and sales enterprises, and a shopping centre (Briarhill).

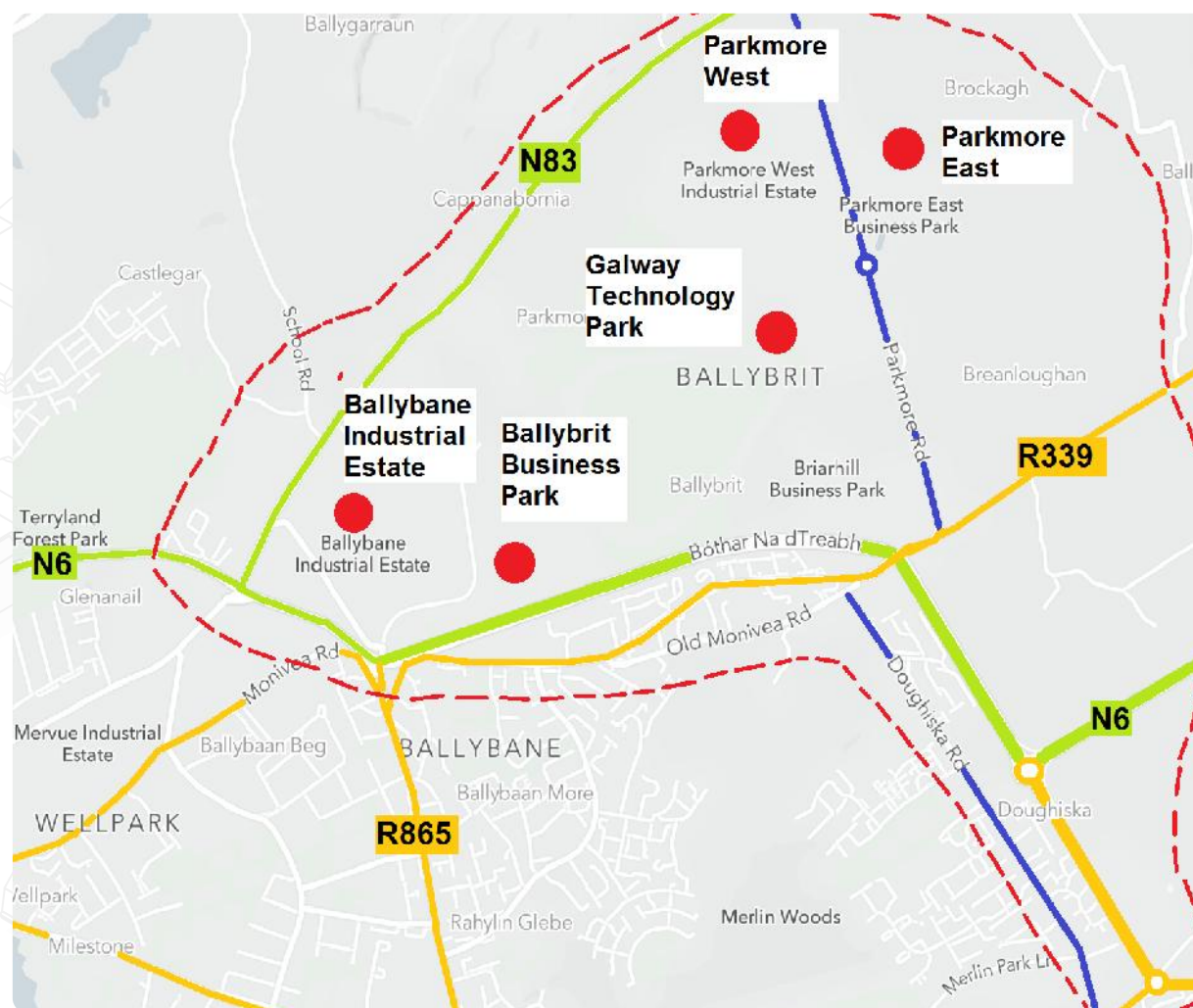


Figure 1: Parkmore Area

¹ 2016 CSO Census, POWSCAR

The population of Galway city and suburbs is 79,934² persons. The Parkmore Area represents a major but peripheral employment zone within the city, with significant daily impact on the overall transport network. Following completion of the Galway Transport Strategy, the National Transport Authority (NTA) undertook a study to determine a sustainable transport framework for the Parkmore Area.



Figure 2: IDA Business & Technology Park, Parkmore

1.1 Where are Parkmore Area Commuters coming from?

38% of Parkmore Area employees live in Galway City³, with the majority of these living between the Corrib River and the Parkmore Area (see Figure 3).

54% of Parkmore Area employees come from across Galway County³. The remaining 8% of Parkmore Area employees commute to the area from outside of Galway³.

“There is a predicted 35% growth of people working in the Parkmore Area by 2025”

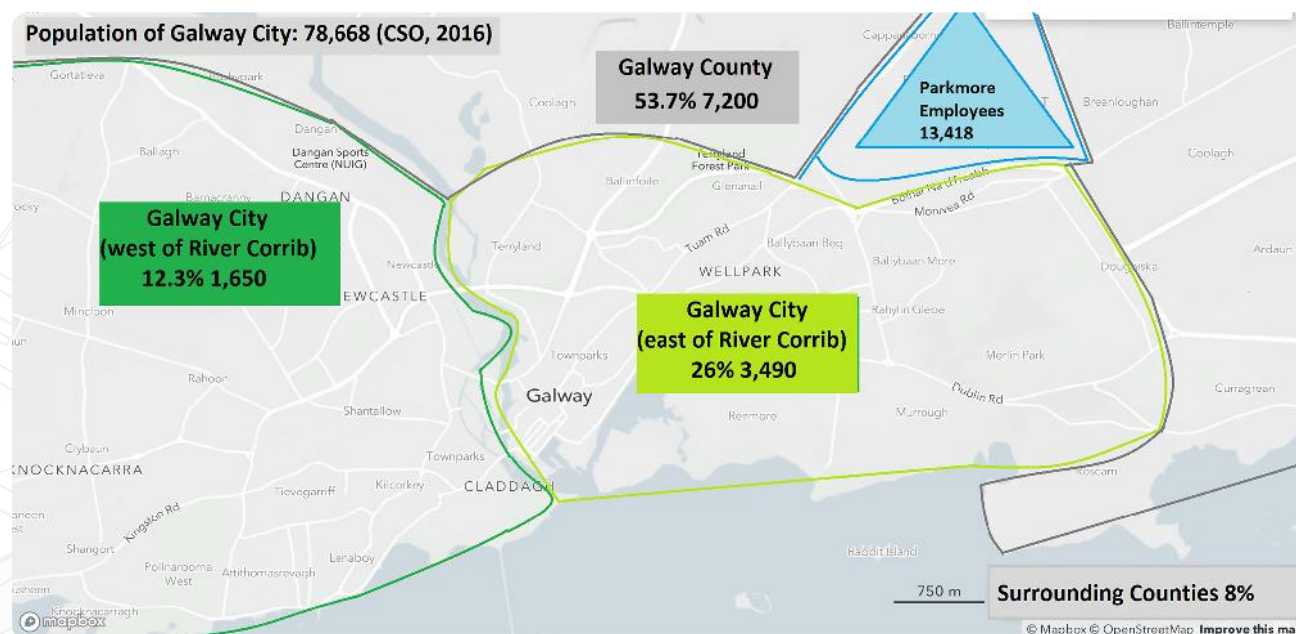


Figure 3: Macro Zones of Origin, for Parkmore Area Employees (CSO 2016)

1.2 Future Growth of the Parkmore Area

Many factors influence overall economic growth, as well as the decisions to expand within an existing employment zone. These factors include external global considerations, and more locally-based issues such as access, retention of staff, site availability etc.

At a regional level, the IDA Galway Business & Technology Park (including Parkmore East) is being promoted as an area for future growth accommodating large FDI investment⁴. Following discussions with stakeholders in the Parkmore Area there is a predicted 35% growth of people working in the area by 2025. This would generate an additional 4,725 commuter trips to the Parkmore Area on a daily basis.

³ CSO POWSCAR 2016 Database ⁴ Galway City Council Development Plan 2017-2023



02 CURRENT TRANSPORT STATUS



2. Current Transport Status

Business parks within the Parkmore Area were developed separately. Each business park has its own single point of access for all vehicles and other modes of transport. There is no permeability option for walking or cycling between business estates. Within each estate the option for walking and cycling is also limited due to the current layout.

There is a high car dependency among commuters in the study area which generates approximately 11,000⁵ car trips each weekday. Excluding vans, the car dependency rate (car drivers/passengers) for the Parkmore area



Figure 4: Briarhill Business Park commuters queuing to exit

is 81%, well ahead of the national average (65.5%), or indeed the average across Galway City and Suburbs (71%).

If the projected growth figure of 4,725 additional Parkmore Area commuters adheres to the current 81% modal split for car dependency, then the road network will face some 3,800 extra cars.

There is neither the network capacity nor car park space availability for such additional traffic.

The impact of predicted future traffic on the city network, and on the main approach roads from County Galway, is unsustainable.

2.1 Journey Time Delays

Inbound:

Recent investments delivered by Galway City Council have reduced inbound delays. However,

even with this investment, significant delays exist between Doughiska Road and Parkmore Area with lesser, but still considerable existing delays remains on other commuter routes.

Outbound:

Recent investment in an additional left-hand lane has reduced vehicular delay from Parkmore to the Tuam Road. Other commuter routes have varying levels of delay, with the Briarhill junction taking significant time to clear at peak times.

Delays exiting the estates remain problematic, with the most acute difficulties arising for those businesses located furthest from the (single) exit of the business park.

The delays experienced by car users in the Parkmore Area are significant. However, the delays to other road users in Galway City are also critical. Any reduction in car use for trips to the Parkmore Area, reduces congestion across the entire network. This generates benefits across the entire city, by freeing up trip-making possibilities for other key journeys.

⁵ CSO – POWSCAR 2016 Database

2.2 Mode Split Analysis

The Parkmore Area has experienced continued growth over a number of years (see Table 1).

The combined dependence on car / van stood at 91.4% in 2011. This dependency dropped to 88.7% in 2016, primarily by increased use of bus and cycling as modes of travel.

The challenge now is to accelerate this move towards bus, bicycle and walking, in order to significantly reduce the over-dependence on the car and van for trips to the Parkmore Area.

The dominance of the car is accommodated by the abundance of car parking spaces throughout the Parkmore Area, including "overflow" and unregulated car parks.

Table 1: Modal Split in Parkmore Area (CSO)

Mode	Census 2011		Census 2016	
	Number of Commuters	Percentage	Number of Commuters	Percentage
On foot	282	2.9%	378	2.8%
Bicycle	195	2.0%	368	2.7%
Bus, minibus or coach	230	2.4%	615	4.6%
Train, DART or LUAS	7	0.1%	8	0.1%
Motorcycle or scooter	50	0.5%	59	0.4%
Driving a car	7,870	81.8%	10,818	80.6%
Passenger in a car	534	5.5%	677	5.0%
Van	390	4.1%	418	3.1%
Other, including lorry	32	0.3%	21	0.2%
Not stated	33	0.3%	56	0.4%
Grand Total	9,623		13,418	

The Parkmore Area employers have had some success when implementing Smarter Travel initiatives. However, despite this, there has been a significant increase in car dependency among employees between 2011 and 2016. This increase has swamped any improvements made under the Smarter Travel initiatives.

2.3 Bus Network

There are three Bus Éireann city bus services serving the Parkmore Area, namely:

Route 409 (every 10 minutes)
from Eyre Square, via Parkmore Road

Route 405 (every 20 minutes)
from Rahoon via Eyre Square,
via Ballybane Road

Route 401 (every 30 minutes)
from Salthill via Eyre Square,
via Parkmore Road

Approximately 15% of trips to the study area originate within 500m walking distance of an existing direct bus service stop⁶.

If cross-city routes and transfers are taken into account this increases to an estimated 25% of trips (See Figure 6).

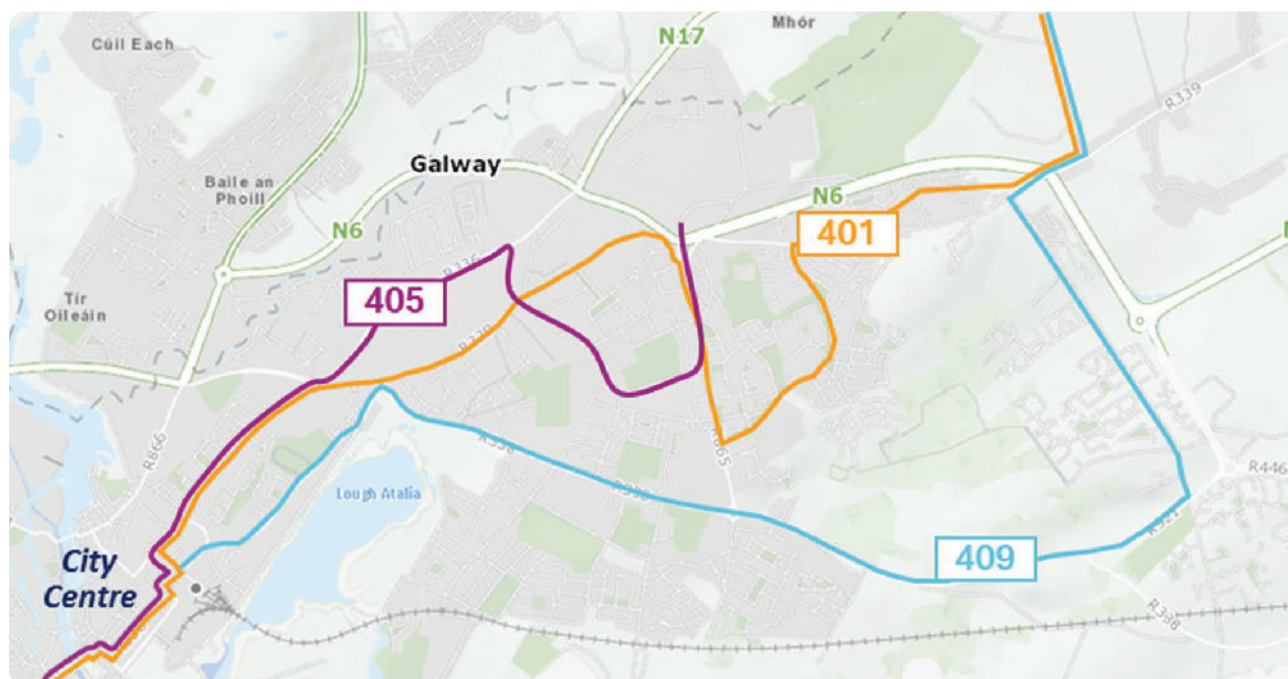


Figure 5: City bus services serving Parkmore

“Approximately 15% of trips to the Parkmore Area originate within 500m walking distance of an existing bus stop.”

⁶ CSO – POWSCAR 2016 Database

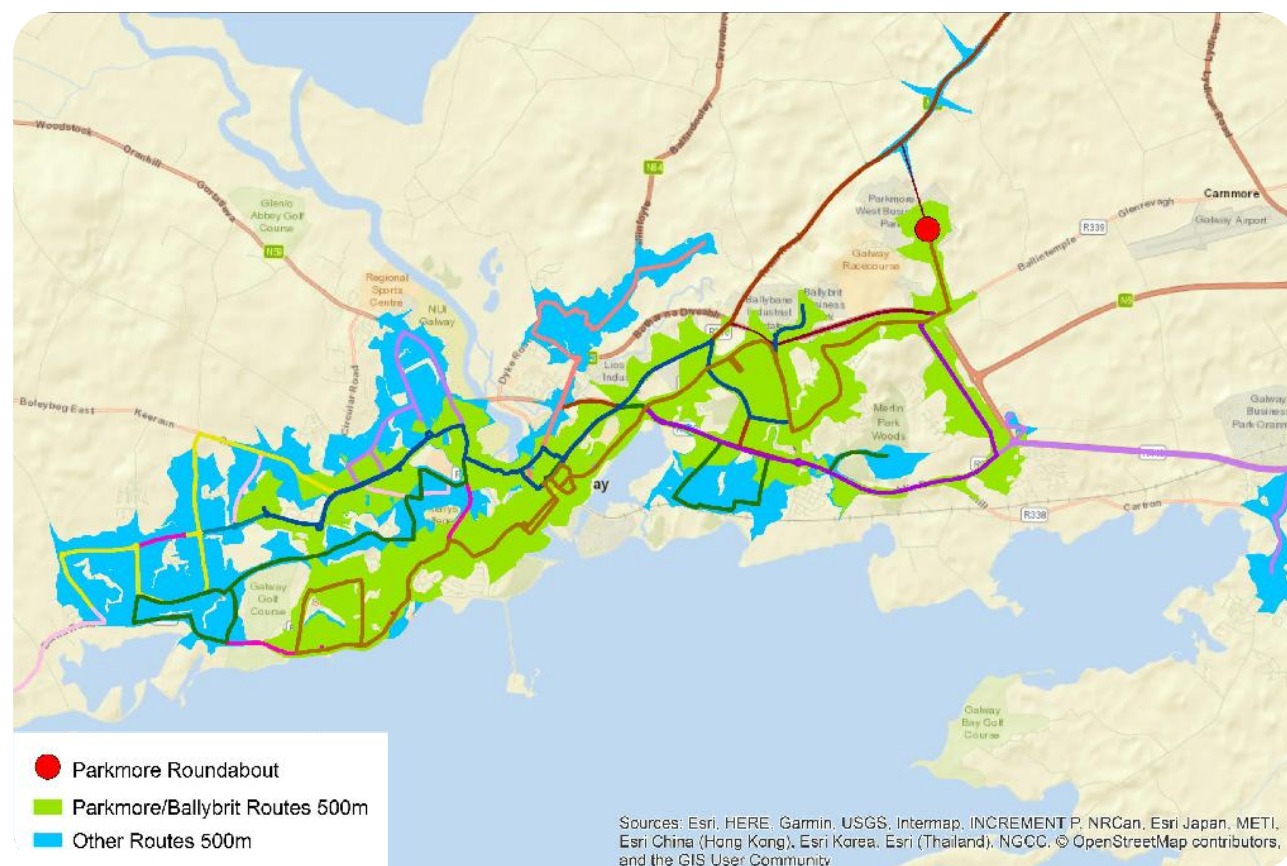


Figure 6: Bus routes within a 500m walking distance⁷

Bus patronage in Galway has continued to grow, increasing by 23.5% between 2013 and 2018 (NTA Bus and Rail Statistics, 2019). Bus patronage increased by a further 21.6% in a single calendar year from 2018 to 2019. This growth is primarily due to the provision of increased frequency of Bus Éireann services.

2.4 Walking – Active Travel

Over 2,500 employees in the Parkmore Area live within 5km of their place of work. However, despite the traffic congestion, (which probably makes the walking trip quicker than the car), take-up of walking to the Parkmore Area is poor (fewer than 400 employees). This is most likely due to the poor quality of service (QOS) offered to this mode.

Current junction layouts can be difficult to cross safely (due to excessive widths and sweeps), including the entrances to business parks and within the estates themselves.



Figure 7: Cyclist navigates Junction at Briarhill Business Park

Signal time delay is significant at major junctions (e.g. crossing the N6), with pedestrians and cyclists waiting minutes to cross the road at peak times.

Furthermore, there are no permeability links (i.e. connectivity / shortcuts) between the estates for pedestrians or cyclists within the Parkmore Area.

The absence of basic essentials (e.g. footpaths, waiting areas, safe crossing points etc.) militates against walking.



Figure 8: Bus Stop Parkmore Road (no hard standing or footpaths)

In addition, access to / from public transport is entirely dependent on a well-functioning pedestrian network.

For commuters leaving the Parkmore Area, access to bus stops across busy roads and junctions represents a specific challenge (See figure 7 & 8).

2.5 Cycling - Active Travel

In percentage terms, Galway City has the second highest rates of urban cycling in Ireland at 5.8%, (with Dublin being first at 7.6%)⁸.

There is some infrastructure in Galway to support and facilitate cycling, including high quality facilities on some key arteries such as Seamus Quirke Road, Quincentenary Bridge, and serving the University. Notably, the N6 has segregated cycle facilities in both directions from Tuam Road to Quincentenary Bridge.

However, the lack of continuity, coupled with difficulties at key links or key junctions, has resulted in only limited uptake of the cycling mode for trips to / from the Parkmore Area.

⁸ CSO – POWSCAR 2016 Database

Critically, with the exception of Doughiska Road, there is an absence of high quality cycling infrastructure connecting the residential areas on the East of the city (i.e. those close to Parkmore Area) into and through the Parkmore Area.

Accordingly, those who are risk-averse are unlikely to take up the cycling mode, even if it is the most efficient mode for their trip.

This represents a significant latent demand for cycling, in a city with relatively good numbers of cyclists.

Within the Parkmore Area, some employers have encouraged both walking and cycling by introducing mobility management measures in efforts to facilitate employees to use more sustainable means of travel (e.g. showers, lockers, bike-to-work, Taxsaver public transport tickets etc.), or reduce peak-hour congestion (e.g. flexi-working, car-sharing etc.).

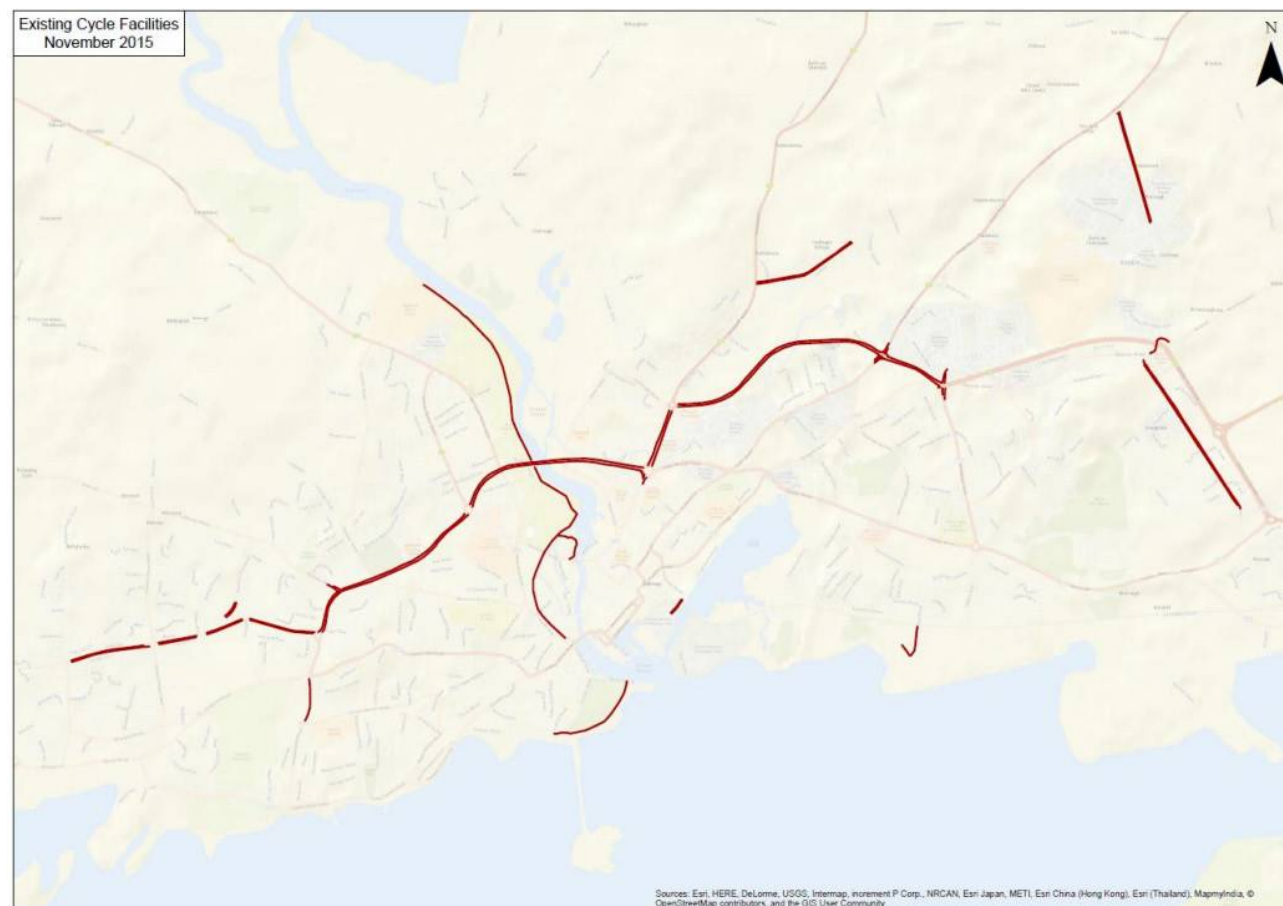


Figure 9: Existing Cycle Network (2015), from Galway Transport Strategy 2016

2.6 Access Points to Parkmore Area Business Parks

There are 8 entry traffic lanes (and 9 exit lanes) serving the Parkmore Area Business Parks, across 7 entrances. Four of the entrances are on Parkmore Road.

Employers in the Parkmore Area have responded to the limited road capacity by spreading the arrival / departure times across more than 2 hours, through flexi-working and shift scheduling (as well as many other best practice mobility management measures for bus, bike and walking).

The various Parkmore Area junctions were developed at a time when vehicular congestion was not problematic. However, presently, the signalised junctions operate above capacity, and the priority junctions are inappropriate to heavy prolonged peak traffic. In particular, there is an absence of bus priority, cycle facilities or controlled pedestrian provision at any of these access points.

In other words, the approaches to Parkmore Area are no longer fit for multi-modal traffic management.

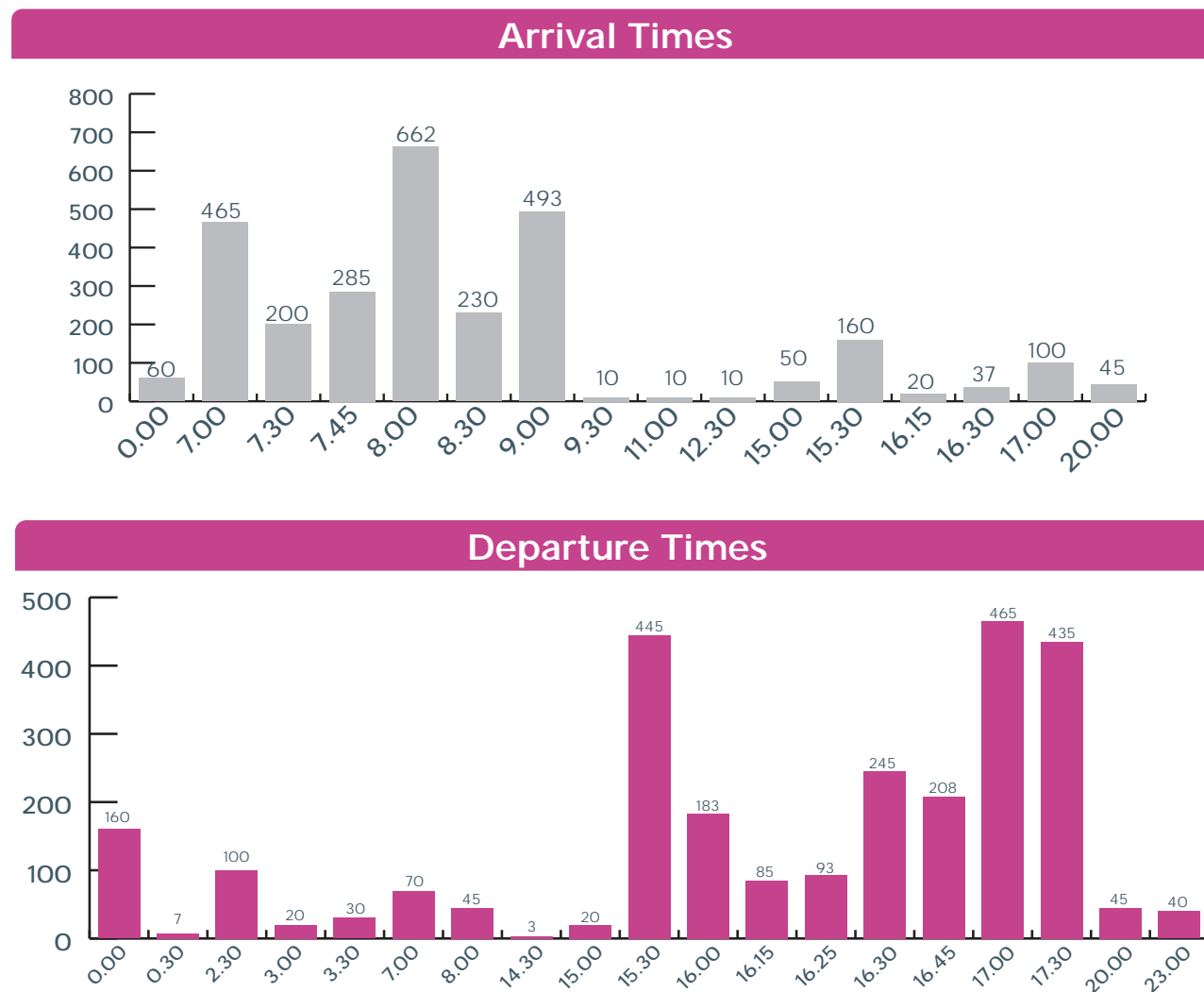


Figure 10: Arrival / Departure Times, Employers Survey, 2014

The departure traffic regime in the Parkmore Area is a cause for concern. Parkmore Road becomes a very busy two-way road (with significant queuing at each end). Finding opportunities to exit the various business parks and merge with traffic on Parkmore road is difficult and stressful for commuters, with evidence of inappropriate emerging manoeuvres in figure 11.

In particular, due to extended queues, it is very difficult to access Briarhill Business Park or (to a lesser extent) Ballybrit Crescent from the Tuam Road direction during the afternoon/evening exodus, without driving down the opposing lane.

"The departure traffic regime in the Parkmore Area is a cause for concern."



Figure 11: Traffic at Briarhill Business Park and Parkmore Road



03 SUMMARY OF EXISTING SITUATION



3 Summary of Existing Situation

Parkmore Area is one of the most successful locations for attracting key employers to the country. Approximately 13,500 employees work within the Parkmore Area (CSO, 2016).

Nearly 4 in every 10 Parkmore Area employees live in Galway City. One quarter of all employees live within 5km of the Parkmore Area.

The Parkmore Area culture of dependence on the car originated at a time when congestion levels in Galway were low. The experience of driving to the Parkmore Area is stressful, with inappropriate and inadequate designed priority (yield) junctions. Employers have encouraged both walking and cycling including provision of destination facilities, with limited impact.

The vast majority of employees continue to drive / are driven to the Parkmore Area. Congestion remains chronic.

Parking provision within the Parkmore Area remains uncontrolled, with significant amounts of irregular parking on-site. There

appears to be unapproved "overflow" car parking within the Parkmore Area. Planning permissions within the Parkmore Area continue to include for an abundance of parking.

Until recently, the primary focus has been on road-capacity enhancements, including additional stacking capacity towards the Parkmore Area along the N6 at Briarhill, signal changes, assessment of the potential for new access roads (e.g. for Parkmore East), and a general expectation that the Galway City Ring Road (GCRR) is "the solution".

Prospects for reduction in congestion in / around the area remains poor, even with the recent infrastructural changes.

Alternatives to the car for the Parkmore Area have not been sufficiently developed or prioritised to date.

In particular:

- There is no bus priority whatsoever in / out of the Parkmore Area (or anywhere else, except some sections of Dublin Road);
- Access to bus stops is very poor;

- Not all bus services to the Parkmore Area are cross-city (e.g. 409 terminates in the City Centre);
- There are no continuous cycle routes to or within the Parkmore Area;
- The pedestrian offer in/around the Parkmore Area is very poor; and
- There is no permeability between Parkmore Area business estates.

The remainder of this Strategy Framework will focus on

- A Strategic Transport framework and Approach**
- B Short Term Plan for the Parkmore Area**
- C Phasing of Short Term and Medium Term interventions**



04 STRATEGIC TRANSPORT FRAMEWORK OBJECTIVE AND APPROACH



4.1 Overall Transport Objective

“To put in place a Transport Framework for the Parkmore Area that enables the efficient movement of people and goods”

A defining element of the long term transport plan for the Parkmore Area and Galway City is the Galway City Ring Road (GCRR). This project is currently under planning consideration by An Bord Pleanála. Accordingly, the development of this Framework takes into account that traffic and transport patterns will change post implementation of the GCRR. However, it also focuses on projects that will not impinge in any way on the planning, construction or opening of the GCRR.

The framework will consist of a number of projects. This will be achieved in three phases.

Phase 2 (Medium Term):

Accelerate reconfiguration of the city's roads and streets, in favour of sustainable transport modes, coupled to provision of tailored public transport services, and provision of Park and Ride arrangements.

Long-Term Phase (post completion of GCRR):

Full Implementation of entire Galway Transport Strategy, providing extensive sustainable connections across Galway City within an appropriate land use for the City region.

4.2 Approach to Delivering the Parkmore Area Transport Framework

The focus of attention will be on enabling the optimal proportion of trips by sustainable modes. The approach will be consistent with the Galway Transport Strategy (2016-2036), the Galway City Development Plan 2017-2023, and the Galway County Development Plan (2015-2021).

Phase 1 (Short Term Measures):

Address existing transport demand, land uses and travel patterns, in the period in advance of the GCRR.

The delivery of initial investments will be designed to provide alternatives to the car for accessing the Parkmore Area, especially for those residing in Galway City.



05 SHORT TERM MEASURES



5. Short Term Measures

The following sections outline the approach and key interventions for each of the modes within the Parkmore Area Framework. It is intended that these projects can be delivered in the short term (e.g. up to and including 2021/2022). These projects are not dependent on, and have no impact on the GCRR. All projects and summary descriptions are included within the tables in Section 8.

5.1 Public Transport Interventions

In the short term, the critical interventions are intended to provide bus reliability and priority where possible, such that the bus becomes a viable and attractive alternative to the car.

The package of interventions will deliver:

- Bus priority towards Parkmore Road for the existing key routes (405, 409);

- Bus priority on Tuam Road for existing buses, and additional buses using Racecourse Road;

- Southbound bus priority for buses departing the Parkmore Area along Parkmore Road;

- Bus penetration into the Parkmore Area to reduce pedestrian walk times and the overall journey time; and

- New bus stops / road crossings where pedestrian permeability has been provided through the various business estates.

5.2 Park and Ride Interventions

Two possible sites have been identified as potentially viable.

Option (a): A 5km route from Oranmore Train station via Martin Junction, Doughiska Road and the Parkmore Area. This route is dependent on agreement from Galway County Council to include a junction from the Oranmore Road at Gurrane, as part of (and in advance of) the Gurrane Local Area Plan. Some works (temporary road, pedestrian bridge) are required at the Railway Station.

Option (b): A 4km route from Galway Airport, via Briarhill Village to Parkmore Road. This requires westbound bus priority (bus lane) along the R339 as close as possible to Parkmore Road, without land take. The section from the

end of the bus lane through the village will be managed by signalling, to ensure the traffic queue remains primarily on the traffic lane adjacent to the bus lane, and not within the village / school vicinity.

The determination of the preferred Park and Ride site(s) will be completed in the short term, by the NTA Park and Ride Project Office. However, a functioning Park and Ride will be dependent on completion of the Public Transport Interventions in section 5.1 above. Without these, bus services to / from the Park and Ride location will be delayed, with no competitive advantage over remaining in one's car. To maintain frequency without these interventions, many buses would be required in the peak periods, making the service unaffordable.

Accordingly, while Park and Ride site design will be progressed as quickly as possible, their successful operation is contingent on the (prior) provision of bus priority infrastructure. Accordingly, while the procurement of a suitable site and the design/planning process can be undertaken in the short term, the construction and operation of Park and Ride will be a Medium Term project.

5.3 Cycling and Walking Interventions

The approach is to ensure that those employees who live nearby can walk or cycle safely to and through the Parkmore Area.

Critical to this are the following:

Completion and promotion of the existing 5.7km West-East route from Dean Roundabout along Seamus Quirke Road via Browne Roundabout, Quincentenary Bridge, Terryland and N6 to the Tuam Road junction into the area. This provides a full length segregated route, linking many parts of the city to the corner of the Parkmore Area;

Improvements to the Briarhill / N6/ Monivea Junction, to provide better access to /from the Briarhill Underpass;

Permeability within the business parks, such that pedestrians and cyclists approach from the nearest entrance (whether Tuam Road, N6 or Parkmore Road) to reach their

destination, during peak hours (including darkness);

Enhancement of existing facilities;

Improved junction design, with acceptable pedestrian and cycling provision, for both signalised and non-signalised junctions;

Continuity of footpath / cycle track along routes, including a shared cycle/pedestrian facility along the entirety of Parkmore Road from the Briarhill Underpass to the Parkmore Road roundabout and

The removal of rat running from Merlin Park Hospital will immediately provide a high quality 3.5km safe cycle route linking Renmore / Murrough to the Briarhill Underpass into the Parkmore Area.

Also: The provision of additional Public Bikes stations at Parkmore is feasible and desirable, but will depend on the identification of funding sources to offset the additional operational costs associated with such expansion.

5.4 Traffic Management Interventions

The approach to traffic management will require optimising the infrastructure to achieve the greater use of public transport, walking and cycling, as well as providing for residual traffic

movements.

This will include:

Bus priority techniques within the Galway Urban Traffic Management System (UTMS), including bus detection, bus priority protocols at key junctions (green light extensions and hurry calls), bus gates etc.;

New signalised junctions (Martin, Kirwan) and connections to the UTMS Centre;

Revised junction management, to reduce the pedestrian / cycle wait penalty at key locations for those modes;

Provision of safe crossings and entrances (including the narrowing of junction mouths where possible);

Zebra Crossings where appropriate;

Information signage, including dynamic VMS signs with comparative Journey Time estimates, at decision point locations for Park and Ride and

Regular review of signal timings and maintenance.

A review of the traffic management arrangements at two key junctions will also be undertaken, and changes designed and delivered at both junctions in the short term.

These are:

The exit junction layout from Boston Scientific / Hewlett Packard to the N6 / R865 Ballybane Road. Specifically, the turbulence caused by the “teardrop” to the North of Boharmine Road will be reviewed, with a view to restricting this facility solely for terminating bus use;

The layout and signalling of the Tuam Road / N6 junction. This will be informed by the proposed southbound bus priority on Tuam Road, as well as the requirement for cyclists using the Quincentenary / N6 Cycle Route.

At a general level, agreement on traffic management KPIs, and reporting on performance against these KPIs, will be promoted within the UTMS Centre. This will complement the necessary activities in Traffic Management when the GCRR construction phase commences.

5.5 Other / Complementary Measures

The car-based culture within the Parkmore Area must be transformed into a Smarter Travel culture. Key to this is support from the

businesses themselves, both at a collective and individual level.

Co-operation and action will look to achieve:

- Permeability between business estates;
- Curtailment of excess / overflow car parking;
- Bus-only access/egress at Parkmore Road;
- Facilitation of bus, walking and cycling through Ballybrit Race Campus, including the Tuam Road entrance, and use of the external racecourse pathway for walking / cycling connection, and
- Funding support of certain transport (e.g. Park and Ride shuttle buses, public bikes etc.)

Greater focus and engagement of the Parkmore Transport Action Group (PTAG) and its members with the NTA's Smarter Travel team will enable greater alignment of effort, and facilitate the fast track of alternative modes.

5.6 Planning Issues

The future development of potential additional employment and /or other land uses requires careful consideration by the relevant authorities in light of the current transport difficulties. In particular, this report recommends the following:

An approach to master planning these employment areas in the Parkmore area will be proposed as an objective to be put in the development plan or proposed variation.

A revised approach to car-parking standards/management at these locations such that car-parking proposals/measures will only be facilitated where it ensures the objectives of the strategy (and Smarter Travel) are supported, not undermined. This again should be dealt with in a development plan review and/or variation.

Critical to curtailment of the car culture within the Parkmore Area is a complete review of parking requirements for both the existing and proposed developments in the Parkmore West / East Business Parks.

06 MEDIUM TERM MEASURES



6 Medium Term Measures

The following Sections outline the approach and key interventions for each of the modes within the Parkmore Area Framework in the period post 2022 and perhaps contemporaneous with the construction of GCRR.

These projects are further to those described in section 5, Short Term Measures. All projects and summary descriptions are included within the tables in Section 8.

6.1 Public Transport Interventions

Medium term interventions include:

Delivery of all 5 cross city routes / corridors within Bus Connects;

Completion of the Dublin Road Corridor; and

Additional Train Services.

6.2 Park and Ride Interventions

The construction of the Park and Ride facility, and associated bus priority and passenger infrastructure, will be delivered in the medium term. This will be undertaken by the NTA Park and Ride Project Office, which has been commissioned as an action (Action 89) of the Climate Action Plan⁹.

With the infrastructure in place, the Park and Ride bus service is expected to be commissioned by the Parkmore Traffic Action Group (PTAG) itself. With bus priority in place, a minimum of two (and more likely 3) buses are required during the peak periods to provide a (better than) 15 minute service between the Parkmore Area and the Park and Ride site(s).

Other Park and Ride sites identified in the Galway Strategy will be explored and delivered by the Park and Ride Project Office of the NTA.

These sites will collectively facilitate interception of regional traffic, and interchange with the emerging integrated public transport network for Galway.

6.3 Cycling and Walking Interventions

The delivery of 5 new cycle routes in East Galway city will provide the network that will link the majority of residents in East Galway to the Parkmore Area.

The design and delivery of these routes, including the incorporation of BusConnects requirements, is expected over the next 5 years, with the design stage already commenced.

⁹ DCCAE - Climate Action Plan 2019

07 LONG TERM MEASURES



7. Long Term Measures

The next (updated) Galway Transport Strategy will be developed and published during this period. The impact of the completed GCRR and the various components of the Transport Strategy will be assessed. Proposals to align Galway's transport infrastructure and services more closely to its strategic objectives will be developed.

Specifically, the long term requirements of Parkmore Road can be identified, and a final design can be prepared and delivered.



08 PROPOSED PROJECTS



8. Proposed Projects

Table A: Proposed Phased 1 (Short Term) Projects

Project Code	Phase 1 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P1_01	Parkmore Road Multi-modality	Parkmore Road, from Parkmore Roundabout to Monivea Junction	<ul style="list-style-type: none"> Provision of Bus Lane towards Monivea Junction (Bus lane replaces inner traffic lane, stopping approximately 50m before Monivea Road junction) Provision of shared pedestrian / cycle facility (on west side of road only) Alterations to T-junctions, to facilitate pedestrians and cyclists crossing mouth of junction, and address safe movement of traffic in evening peak Provision of cycle facilities entering / exiting business parks, where possible Provision of New Toucan crossings of Parkmore Road to access bus stops / SPAR Signalised crossings approaching Parkmore Roundabout, near mouth of Parkmore East and Parkmore West 	GCC	€€	2021	Walking Cycling & Bus

Project Code	Phase 1 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P1_02	Parkmore Business Internal Bus Routing	Parkmore Estate West and East	<ul style="list-style-type: none"> Provision of bus-only gates onto Parkmore Road from Parkmore East and West Provision of new signalised Junction to facilitate safe bus movements; bus-only control of gates Design to incorporate pedestrian / bicycle crossing of Parkmore Road between Parkmore East and West New bus stop in Parkmore West, in vicinity of 1st internal junction Clockwise bus routing to use Parkmore East during am peak, and Parkmore Road Agreements required with landowners for provision of bus gates and access 	GCC (IDA)	€€	2021	Bus
P1_03	Parking Management and Regulation	Parkmore West (and East); all other Business Parks within Parkmore Study Area	<ul style="list-style-type: none"> Quantification of excess / unregulated parking, including overflow car parking Phased decommissioning of above, in tandem with delivery of projects above Introduction of parking enforcement Development of maximum parking standards for future developments 	IIDA (GCC, GCoCo)	€	2020	Traffic Mgmt.

Project Code	Phase 1 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P1_04	Bus Priority (405)	Doughiska / Monivea / Briarhill jct.	<ul style="list-style-type: none"> Provision of Parkmore-bound bus lane from Pedestrian Crossing Clayton Hotel to Pedestrian Crossing Briarhill Removal of right-hand turning pockets 	GCC	€	2020/21	Bus
P1_05	Bus Priority (409)	Doughiska / Monivea / Briarhill junction	<ul style="list-style-type: none"> Provision of Parkmore-bound bus lane (approximately 200m) from NCT entrance to Briarhill New bus gate signals at Goods entrance to Briarhill 	GCC	€€	2020/21	Bus
P1_06	Bus Priority (405 /409)	Doughiska / Monivea / Briarhill	<ul style="list-style-type: none"> Signalisation of Doughiska / Monivea junction, incorporating existing pedestrian crossing to access Briarhill Underpass Installation of bus detection, and bus priority protocols 	GCC	€	2020	Walking & Bus
P1_07	Signalisation of Parkmore / Tuam Road junction	Parkmore / Tuam Road junction	<ul style="list-style-type: none"> Signalisation of junction, incorporating existing pedestrian crossing Installation of bus detection, and bus priority protocols Provision of bus stops on Tuam Road near Parkmore Road junction 	GCC (GCoCo/TII)	€€	2020	Walking and Bus, Safety

Project Code	Phase 1 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P1_08	Formal Bus / bicycle access to Racecourse	Tuam Road Racecourse Entrance	<ul style="list-style-type: none"> • Signalisation of junction, including toucan crossings, (to facilitate safe bus movements into/ out of Racecourse; • Installation of "bus-only" controls, (configurable for general traffic arrangements on race days etc.) • Installation of bus detection, and bus priority protocols • Appropriately located bus stops on Tuam Road • Racecourse agreements required 	GCC (HRI)	€€	2021	Walking & Bus
P1_09	Tuam Road Bus priority	Approach to N6 junction	<ul style="list-style-type: none"> • Signalisation of Castlegar junction • Citybound bus lane from Castlegar junction • Removal of Right-hand turn facility • Shared cycle-pedestrian (outbound) • New Bus Stops, with appropriate road crossings (2 locations) 	GCC (TII)	€€	2021	Walking, Cycling & Bus
P1_10	Cycle Access from Briarhill	Briarhill Junction	<ul style="list-style-type: none"> • Upgrade of Pedestrian / cycle tunnel and approaches • Enhanced lighting, CCTV • Upgrade to steps, including bicycle channels 	GCC (TII)	€	Q2 2020	Walking & Cycling

Project Code	Phase 1 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P1_11	Pedestrian & Cycle (only) Permeability with Lighting	Parkmore Study Area	<ul style="list-style-type: none"> • New direct access from Briarhill Tunnel to Briarhill Business Park • New connection from Briarhill Business Park to Ballybritt Crescent, via Racecourse Perimeter Road • New connection from Ballybritt Crescent to Tuam Road / Racecourse Junction • Improved connections (including upgrade and lighting) from Parkmore Road West, Racecourse Business Park, and Ballybritt Crescent to Shop (SPAR) / Restaurant • Connection from top of Racecourse Access Road to Racecourse perimeter road to HP / Hewlett Packard • Multiple Landowner agreements required 	GCC (TII, IDA, HRI)	€€	2020/21	Walking & Cycling
P1_12	Access from Tuam Road to Boston Scientific / Hewlett Packard (walking & cycling)	Tuam Road	<ul style="list-style-type: none"> • Enhancement of Pedestrian and Cycle Route (lighting, marking, vehicle control measures) on Residential Lane, connecting Tuam Road via (upgraded) existing pedestrian access to Service Road, Boston Scientific / Hewlett Packard campus • Co-operation of residents and stakeholders to be sought 	GCC (TII)	€	2020	Walking, Cycling & Bus

Project Code	Phase 1 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P1_13	Quincentenry Cycle Route	Brown R'about (N6 / R338)	<ul style="list-style-type: none"> New Cycle/ped crossings of Brown Roundabout Various enhancements to side road approaches 	GCC (TII)	€€	2021	Cycling
P1_14	Permeability (walking/ cycle) from Boston Scientific to Topaz / Galway Plate via Ballybane Industrial Estate	Ballybane Industrial Estate	<ul style="list-style-type: none"> Provide new pedestrian / cycle gated access between Boston Scientific and Ballybane Industrial estate, with agreed opening times Provide new footpath connections within Ballybane Industrial Estate Develop parking control agreement between parties Landowner agreements required Potential for pilot / trial in first instance 	GCC / Boston Scientific / Ballybane Industrial Estate	€	2020	Walking & Cycling
P1_15	Merlin Park Traffic Management	Merlin Park hospital	<ul style="list-style-type: none"> Removal of inbound ratrun from Doughiska Road via Merlin Park Hospital to Dublin Road 	Saolta	€	2020	Cycling & Traffic Mgmt.

Project Code	Phase 1 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P1_16	Ballybane / Bothar na Mine Jct, and "teardrop"	N6 approach from Boston Scientific	<ul style="list-style-type: none"> Restrictions on "Teardrop" U-turn for bus terminating use only Improvement to exit capacity from Boston Scientific 	GCC	€	2020	Traffic Mgmt.
P1_17	Tuam Road / N6		<ul style="list-style-type: none"> Rearrangement of junction and approach lane alignments Signalling rearrangements Inclusion of Tuam Road bus priority 	GCC	€€	2020/21	Bus
P1_18	City Bus Route Tuam Road (temporary route pending completion of GCRR)	Tuam Road	<ul style="list-style-type: none"> Provision of new 405 variant bus service, serving Tuam Road, via Racecourse entrance, terminating at Ballybritt Crescent (eastern end of Racecourse) New bus stops on Tuam Road and within Racecourse area 	NTA (GCC, HRI)	€	2020/21	Bus
P1_19	Bus Service route licence adjustments	Tuam Road and other locations in Parkmore Area	<ul style="list-style-type: none"> Adjustments to licences to facilitate existing bus routes to use new bus stops 	NTA, GCC	€	2020	Bus

Project Code	Phase 1 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P1_20	Parking Control Services for Parkmore Area	Business Parks within Study Area	<ul style="list-style-type: none"> Single contract for external parking control enforcement contractor across all business parks in Parkmore Area. 	IDA /PTAG	€	2020	Traffic Mgmt.
P1_21	Exit Etiquette Parkmore	Business Parks within Study Area	<ul style="list-style-type: none"> Etiquette to facilitate equity for exiting commuters leaving Parkmore West 	IDA /PTAG	€	2020	Traffic Mgmt.
P1_22	PTAG STWC Activities (Campus wide)	Business Parks within Study Area	<ul style="list-style-type: none"> Further expansion of Bike to Work scheme, Tax Saver Ticket, Bicycle Training, Group Social events (Walking & Cycling), Management and maintenance of permeability links for commuters within Parkmore. 	IDA /PTAG	€	2020	Cycling & Walking
P1_23	Monitoring Activities	Business Parks within Study Area	<ul style="list-style-type: none"> Smarter Travel survey, Bicycle Counters on cycle tracks near Parkmore, Parking Quantum and Enforcement Report, Bus Patronage data 	IDA / PTAG/ NTA/GCC	€	2020	Cycling & Bus
P1_24	Public Bikes Expansion	Parkmore Area	<ul style="list-style-type: none"> Provision of large (40 dock) stations at each of 3 main cycle entrances into Parkmore (Briarhill, Ballybane, Tuam Road) Subject to agreement with Parkmore PTAG re corporate membership. 	NTA	€	2021	Cycling

Project Code	Phase 1 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P1_25	Cross-city Link	UHG – Salmon Weir Bridge – Eyre Square – College Road – Moneenageisha	<ul style="list-style-type: none"> Provision of Public Transport priority route, with bus-only sections of route (including Salmon weir Bridge; College Road etc.) providing cross-city connection from Seamus Quirke Road via City Centre to Dublin Road / Doughiska Road 	GCC	€€	2021/22	Bus and Cycling
P1_26	Martin Junction	Martin Roundabout	<ul style="list-style-type: none"> Replacement of existing roundabout with signalised junction, providing multi-modal enhanced access to Ardaun, and including bus priority from Oranmore 	GCC (TII)	€€	2020/21	Bus, Walking & Cycling
P1_27	Ballybane Road Cycle Route	Ballybane Road	<ul style="list-style-type: none"> Delivery of high quality cycle route linking residential areas, schools, retail and employment zones in Galway East 	GCC	€€	2021/22	Cycling
P1_28	Castlepark Road Cycle Route	Castlepark Road	<ul style="list-style-type: none"> Delivery of high quality cycle route linking residential areas, schools, retail and employment zones in Galway East 	GCC	€€	2021/22	Cycling
P1_29	Doughiska Road Cycle Route Upgrade	Doughiska Road	<ul style="list-style-type: none"> Delivery of high quality cycle route linking residential areas, schools, retail and employment zones in Galway East 	GCC	€€	2021/22	Cycling

Project Code	Phase 1 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P1_30	Monivea Road Cycle Route	Monivea Road (Briarhill – Castlegar)	<ul style="list-style-type: none"> Delivery of high quality cycle route linking residential areas, schools, retail and employment zones in Galway East (some land acquisition) 	GCC	€€	2021/22	Cycling
P1_31	Ballyloughane Cycle Route	Ballyloughane Road	<ul style="list-style-type: none"> Delivery of high quality cycle route linking residential areas, schools, retail and employment zones in Galway East 	GCC	€€	2021/22	Cycling
P1_32	Doughiska (Southbound) Bus Priority	Doughiska Road	<ul style="list-style-type: none"> Provision of southbound bus priority on Doughiska Road approaching the Dublin Road junction. Scope of intervention to be determined - initially signal based. 	GCC	€€	2020/21	Bus

Table B: Proposed Phased 2 (Medium Term) Projects

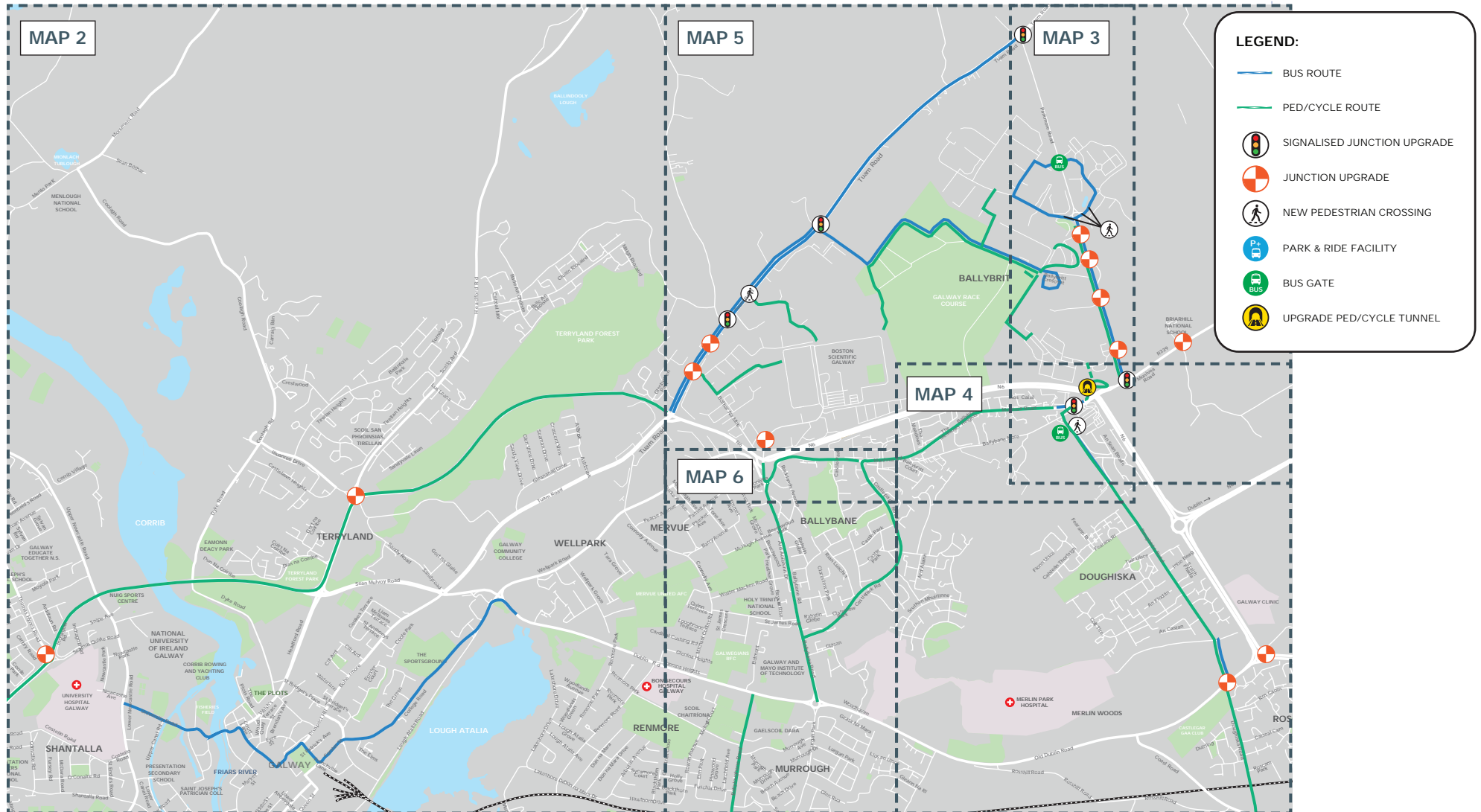
Project Code	Phase 2 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P2_01	Dublin Road Corridor	Doughiska to Moneenage-isha	<ul style="list-style-type: none"> Delivery of Multi-modal corridor, providing BusConnects bus facilities, as well as cycling / walking. 	GCC / TII	€€€	2022/23	Bus, walking & cycling
P2_02	BusConnects Red Route	Knocknacarra – Salthill – City-Centre – Mervue – Ballybane – Parkmore	<ul style="list-style-type: none"> Delivery of Cross-city bus corridor and bus services (incorporating some cycle route elements below), with reliability and priority as required, to deliver high-frequency, high-quality connected public transport 	GCC / NTA	€€€	2022/23	Bus
P2_03	BusConnects Yellow Route	Dangan -Westside – City Centre – Mervue – Castlepark – Monivea – Parkmore	<ul style="list-style-type: none"> Delivery of Cross-city bus corridor and bus services (incorporating some cycle route elements below), with reliability and priority as required, to deliver high-frequency, high-quality connected public transport 	GCC / NTA	€€€	2022/23	Bus
P2_04	Park & Ride (Gurrane South)	Oranmore Train Station	<ul style="list-style-type: none"> Provision of potential new access to Oranmore Train Station from R338 Oranmore Road, facilitating Park and Ride (from Northern side of station), and bus-rail interchange. 	GCoCo (IE, GCC)	€€	2023	Tra c Mgmt.
P2_05	Park and Ride (Airport)	R339 (Monivea Road)	<ul style="list-style-type: none"> Provision of new bus priority lane on existing road from Airport towards Briarhill National School Provision of signalised bus gate approaching village. 	GCoCo, Galway Airport, GCC	€€€	2023	Tra c Mgmt.

Project Code	Phase 2 Projects	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P2_O6	Park And ride bus service (Gurrane)	Campus Bus service (2 or 3 buses, providing 15min headway (or less) in morning and evening peak	<ul style="list-style-type: none"> Provision of Bus Route running Gurrane Park and Ride – Martin Junction-Doughiska – Briarhill – Parkmore - (5km between Gurrane and Parkmore) <p>Note: Route viable only with</p> <ul style="list-style-type: none"> Southbound (exit) priority on Parkmore Road and Doughiska Road; Northbound (approach) priority at Martin Junction, Doughiska / Briarhill; and Northern Access from Oranmore Road into Gurrane / Oranmore Station 	IDA / PTAG	€	2023	Bus
P2_O7	Park and Ride bus service (Airport)	Campus Bus service (2 or 3 buses, providing 15min headway (or less) in morning and evening peak	<ul style="list-style-type: none"> Provision of Bus Route running Airport Park & Ride – Briarhill Village (school) – Parkmore (4km between Airport and Parkmore) <p>Note: Route viable only with</p> <ul style="list-style-type: none"> Southbound (exit) priority on Parkmore Road; Westbound (approach) bus priority along R339 Monivea Road; and Revised bus/tra c access arrangements at Galway Airport site 	IDA / PTAG	€	2023	Bus

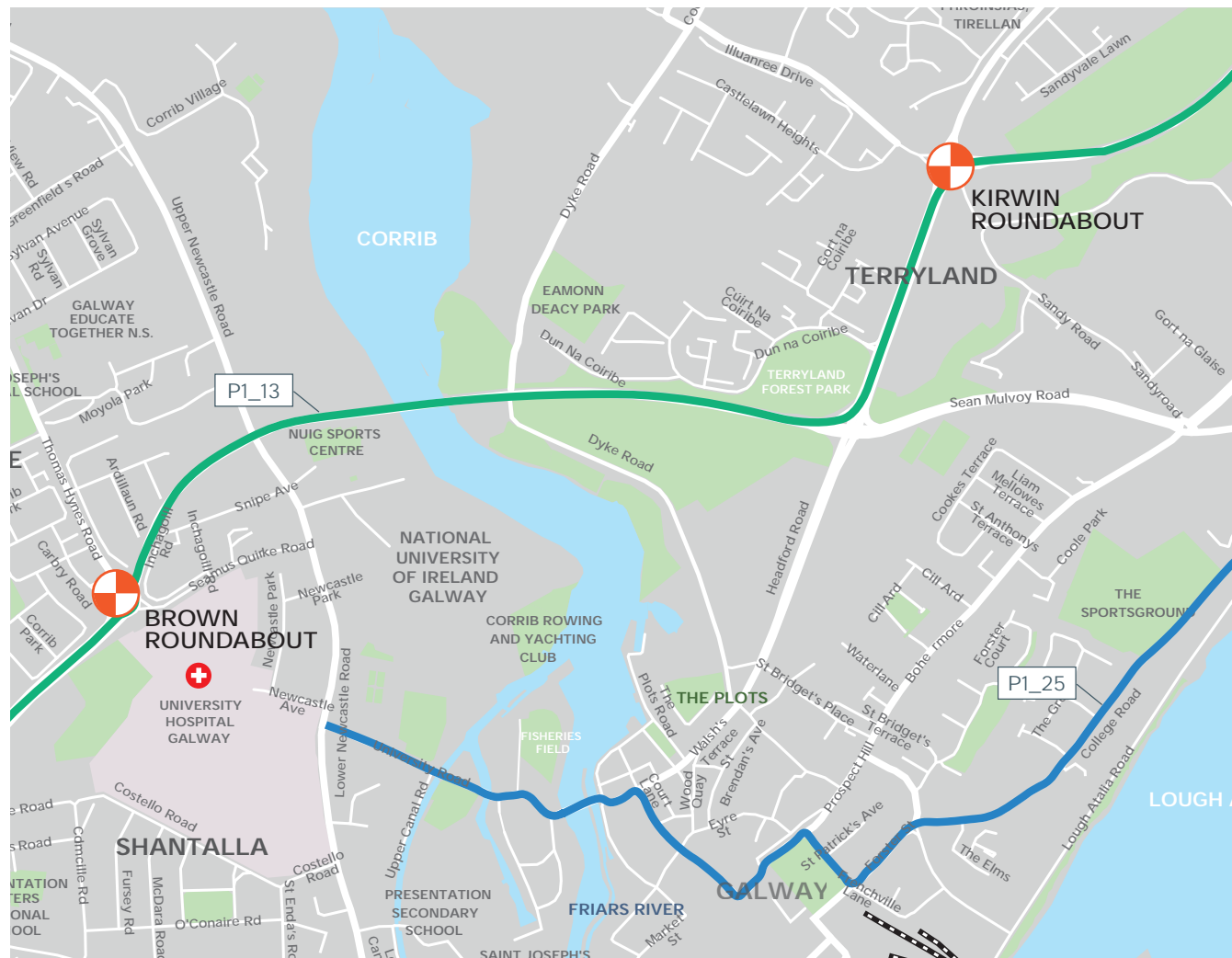
Table C: Proposed Phased 3 (Long Term) Projects

Project Code	Long Term (Post GCRR)	Location	Description	Lead agency (and dependant agencies)	Approx. Cost	Delivery Timelines Est.	Mode
P3_01	Parkmore Road Upgrade	From Parkmore Junction to Briarhill Junction	<ul style="list-style-type: none"> Upgrade, widening, full provision for walking, cycling, bus, junction re-design and bus stop facilities etc. <i>(Informed by the next Galway Transport Strategy, including future land use planning for the area).</i>	GCC/IDA/GCoCo	€€€	Post 2023	All modes









Short Term Measures: Map 1 Overall Short Term Measures



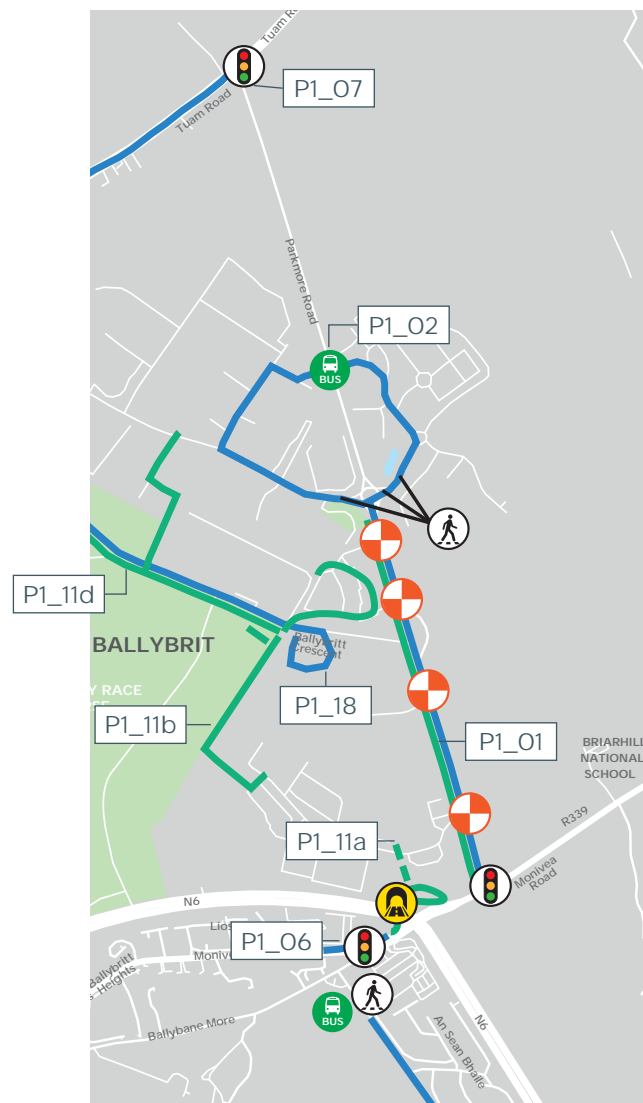
Short Term Projects: Map 2 City Centre











LEGEND:

-  BUS ROUTE
-  PED/CYCLE ROUTE
-  SIGNALISED JUNCTION UPGRADE
-  JUNCTION UPGRADE
-  NEW PEDESTRIAN CROSSING
-  PARK & RIDE FACILITY
-  BUS GATE
-  UPGRADE PED/CYCLE TUNNEL

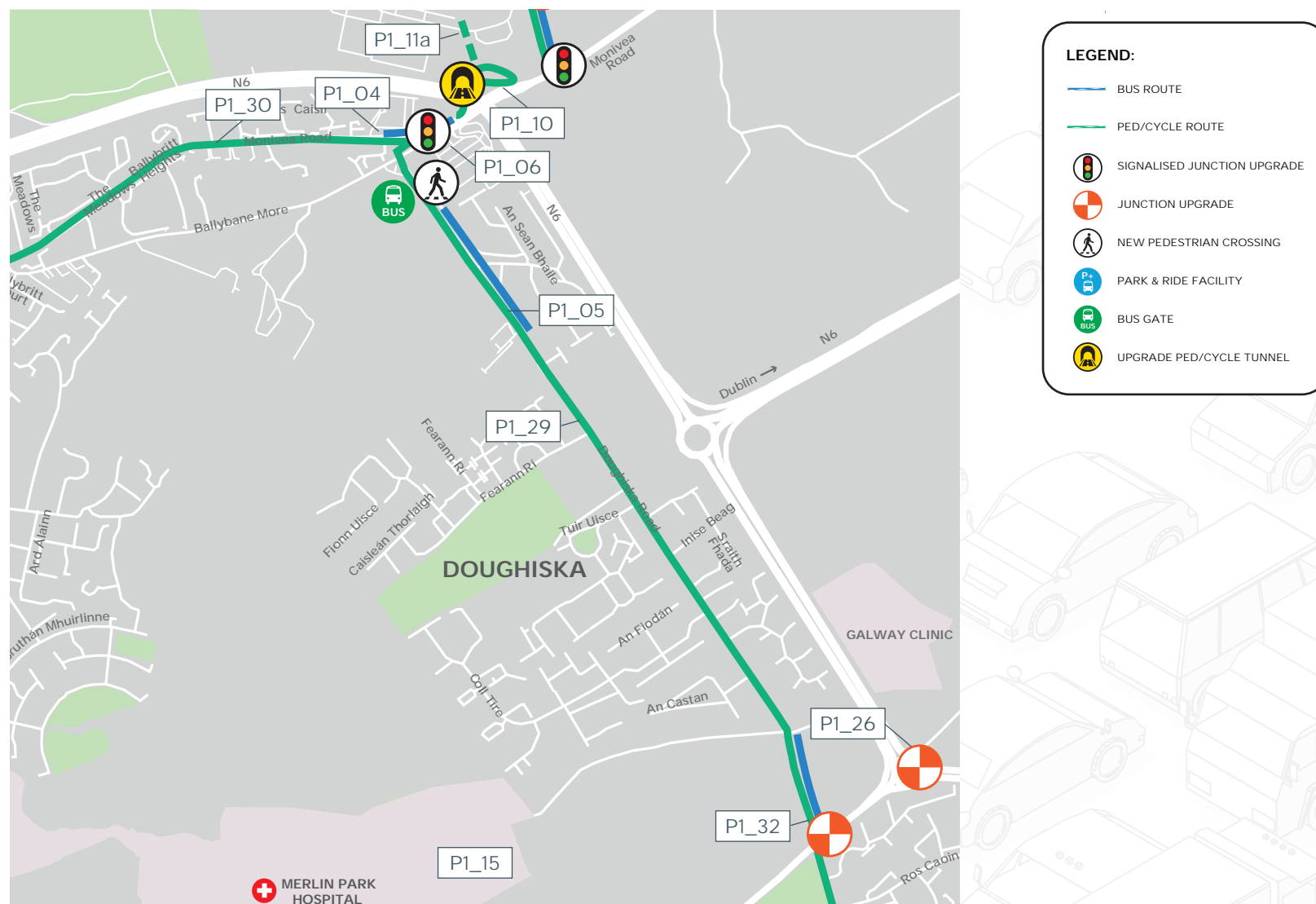
Short Term Projects: Map 3 Parkmore Road - Tuam Road to Monivea Road



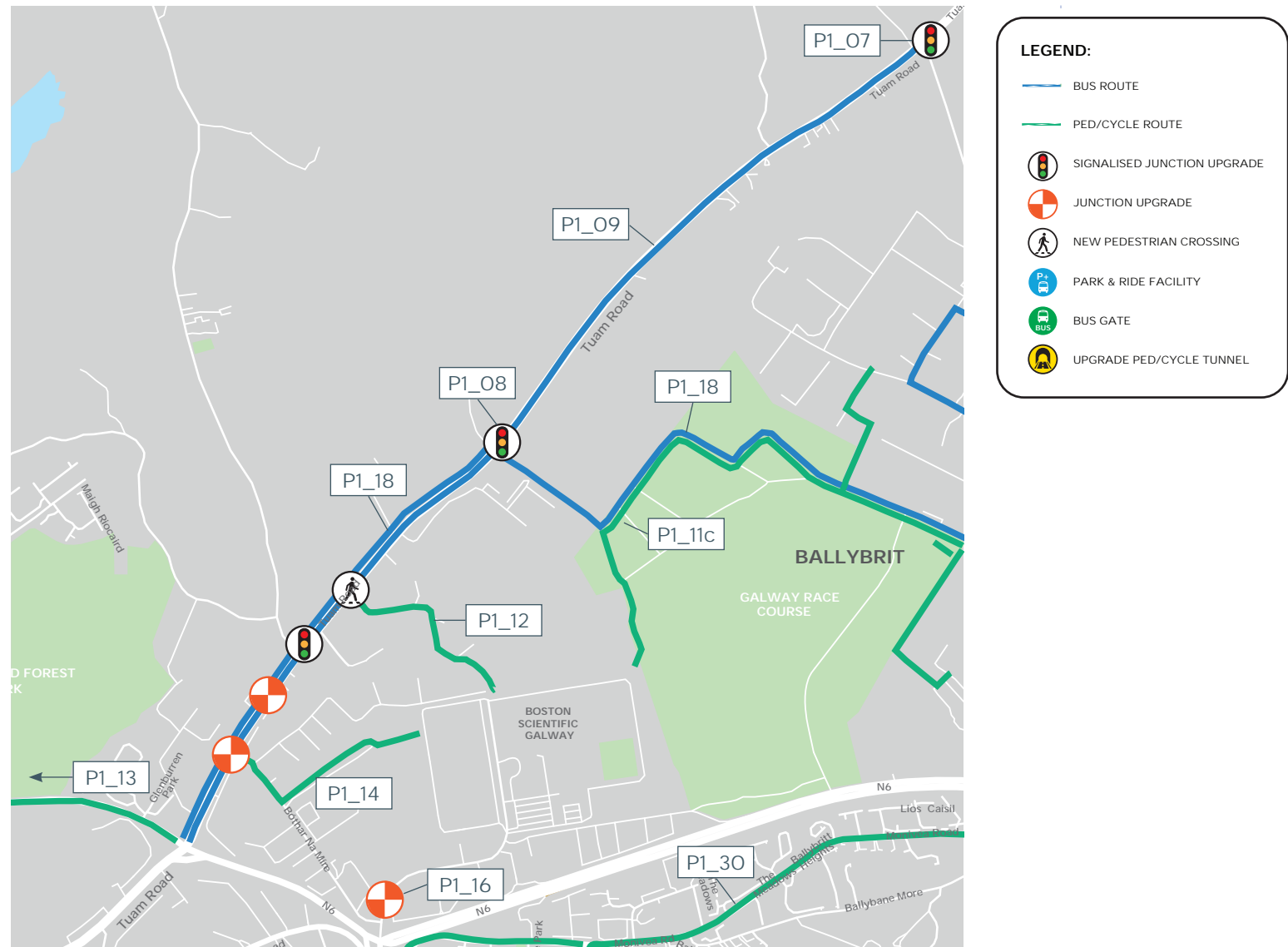
LEGEND:

-  BUS ROUTE
-  PED/CYCLE ROUTE
-  SIGNALISED JUNCTION UPGRADE
-  JUNCTION UPGRADE
-  NEW PEDESTRIAN CROSSING
-  PARK & RIDE FACILITY
-  BUS GATE
-  UPGRADE PED/CYCLE TUNNEL

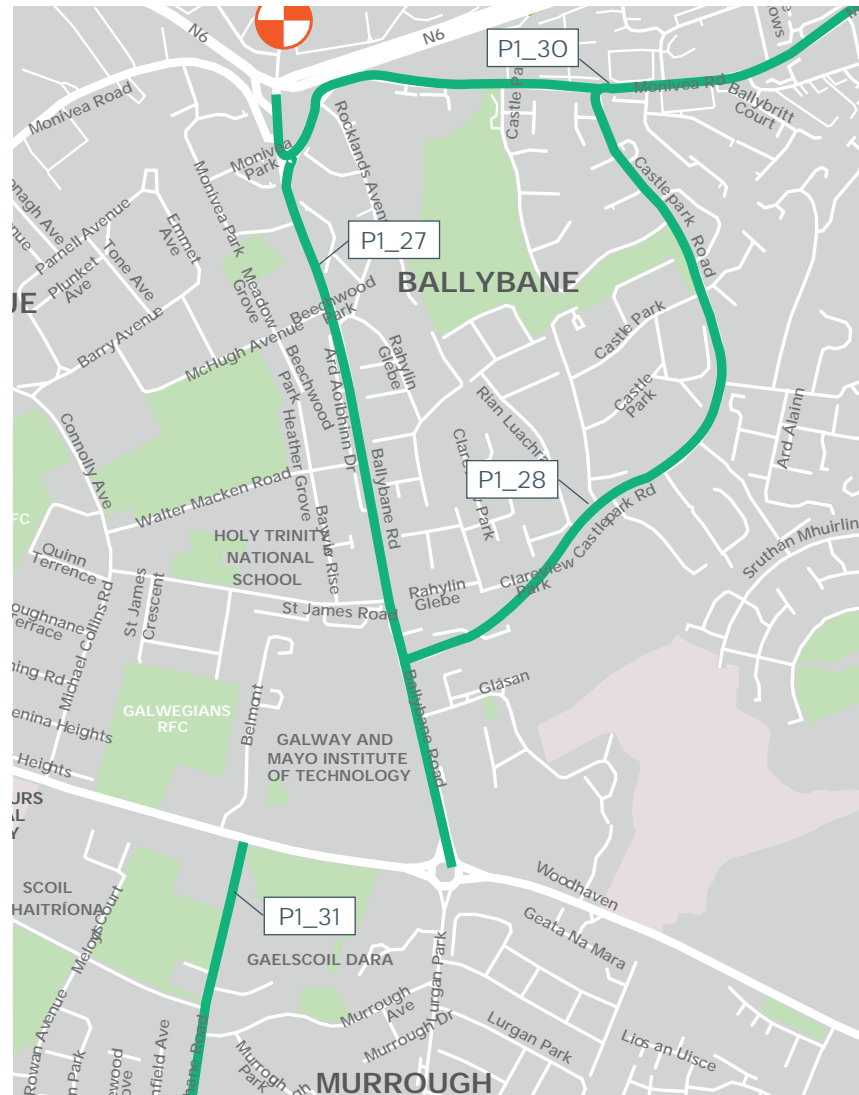
Short Term Measures: Map 4 Monivea Road to Doughiska Road



Short Term Measures: Map 5 Tuam Road and Parkmore West

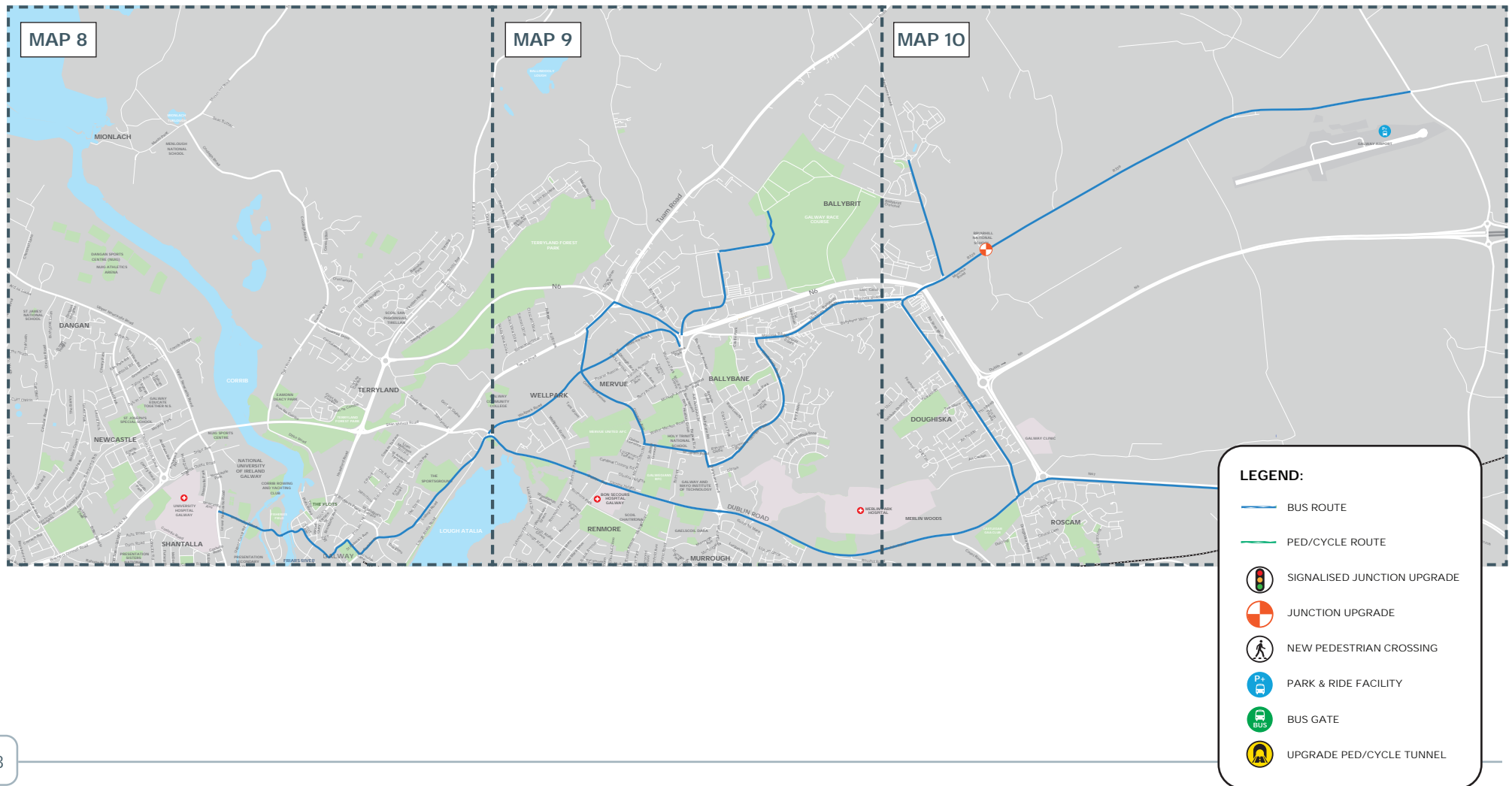


Short Term Measures: Map 6 Ballybane/Ballyloughane/R339 Monivea Road

**LEGEND:**

- BUS ROUTE
- PED/CYCLE ROUTE
- SIGNALISED JUNCTION UPGRADE
- JUNCTION UPGRADE
- NEW PEDESTRIAN CROSSING
- PARK & RIDE FACILITY
- BUS GATE
- UPGRADE PED/CYCLE TUNNEL









Medium Term Measures: Map 7 Overall Plan Medium Measures



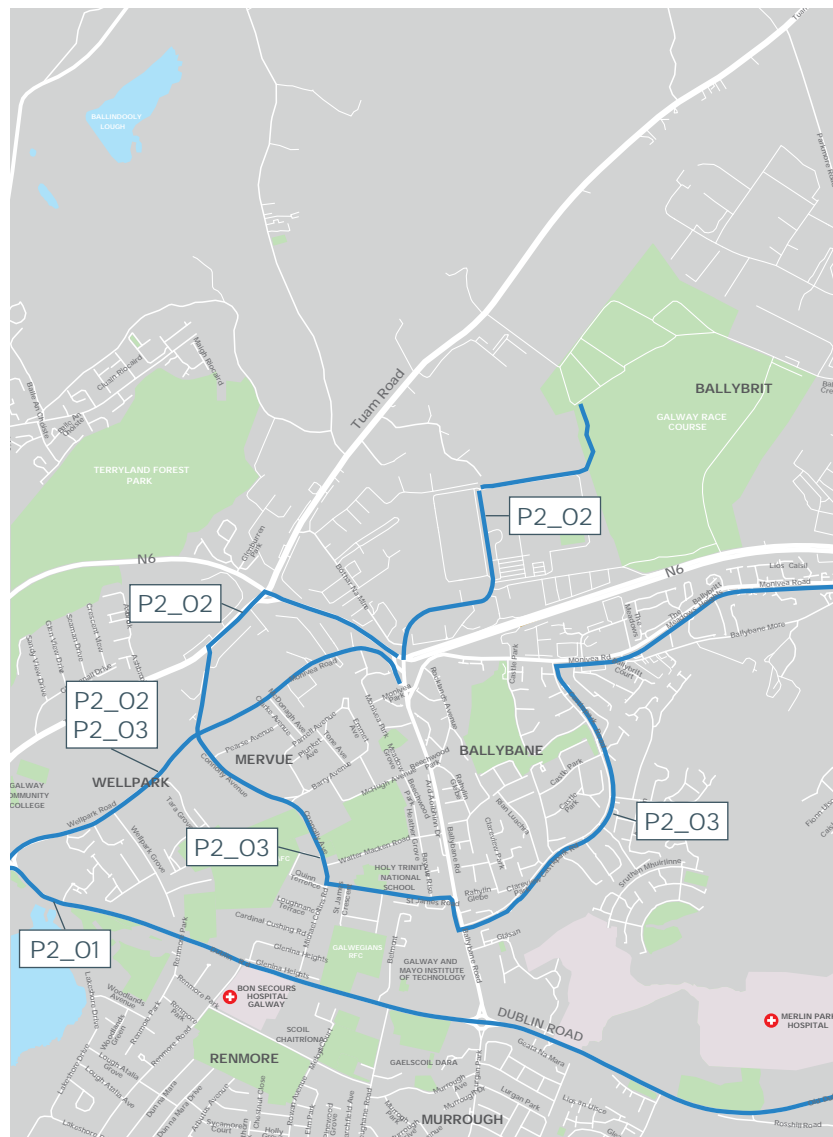
Medium Term Measures: Map 8 City Centre / Salthill



LEGEND:

-  BUS ROUTE
-  PED/CYCLE ROUTE
-  SIGNALISED JUNCTION UPGRADE
-  JUNCTION UPGRADE
-  NEW PEDESTRIAN CROSSING
-  PARK & RIDE FACILITY
-  BUS GATE
-  UPGRADE PED/CYCLE TUNNEL

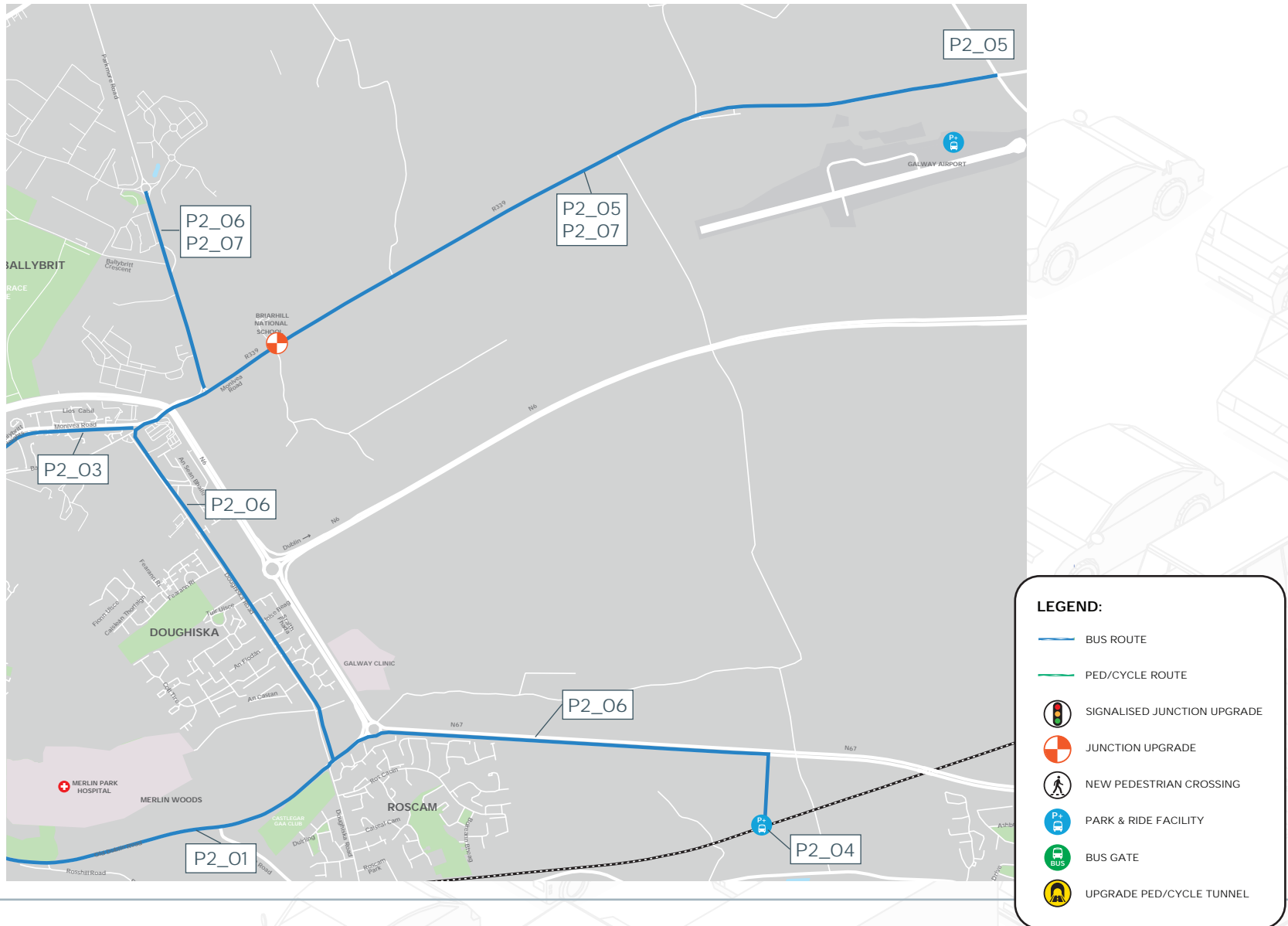
Medium Term Measures: Map 9 Tuam Road / Ballybane



LEGEND:

- BUS ROUTE
- PED/CYCLE ROUTE
- SIGNALISED JUNCTION UPGRADE
- JUNCTION UPGRADE
- NEW PEDESTRIAN CROSSING
- PARK & RIDE FACILITY
- BUS GATE
- UPGRADE PED/CYCLE TUNNEL

Medium Term Measures: Map 10 Doughiska / R339 Monivea Road





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