Phoenix Park

Transport and Mobility Options Study

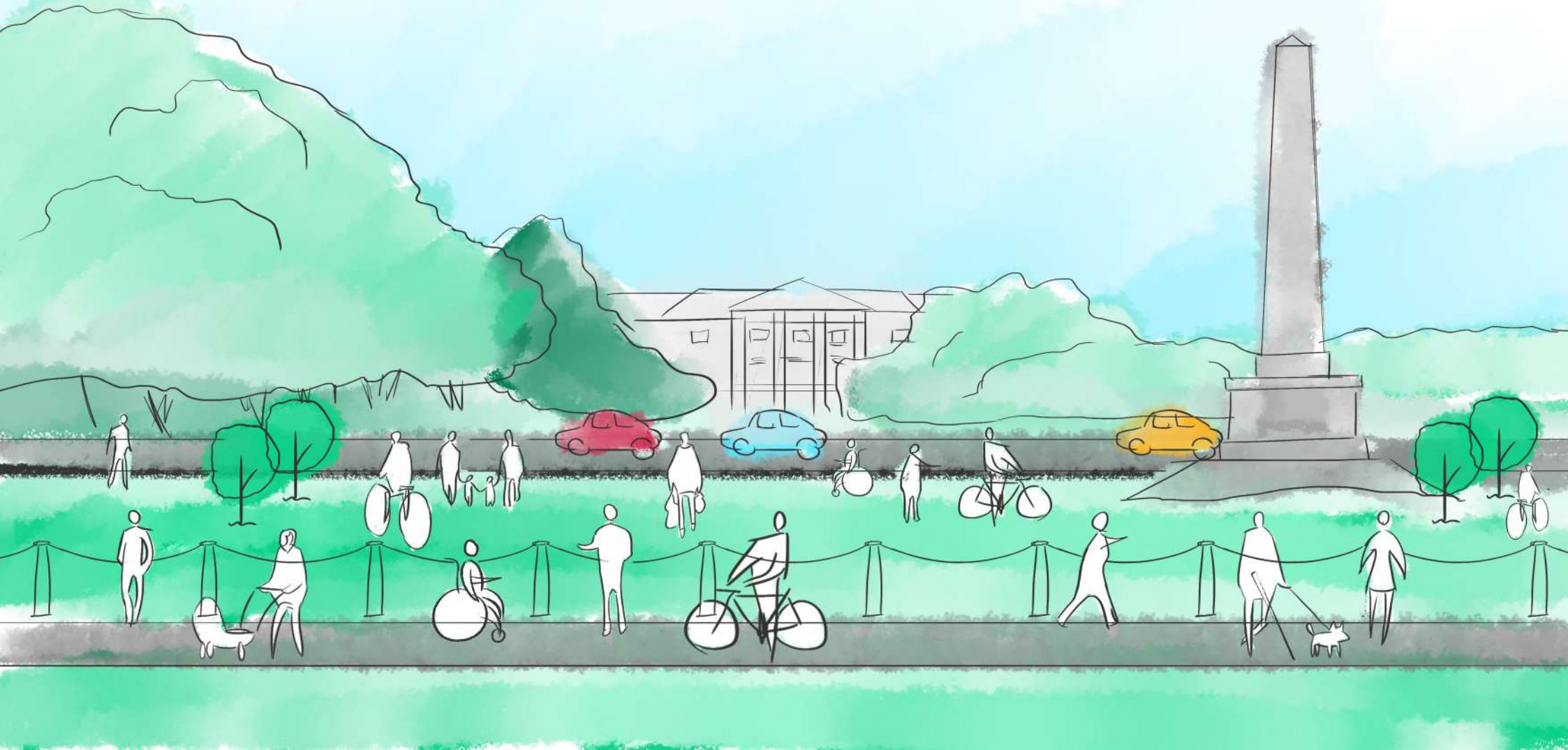


Table of Contents

Executive Summary

The long-term vision is to protect and conserve the historic landscape character of The Phoenix Park and its archaeological, architectural and natural heritage whilst facilitating visitor access, education and interpretation, facilitating the sustainable use of the Park's resources for recreation and other appropriate activities, encouraging research and maintaining its sense of peace and tranquillity.

The Phoenix Park Conservation Management Plan 2011

Background

The Phoenix Park is located at the western edge of Dublin City Centre, just north of the River Liffey. It extends over 700ha and is enclosed by 11km of perimeter wall. It was originally established as a Royal Deer Park in the 17th Century and is one of the largest designated landscapes in any European city. It is an historic natural and cultural landscape of a significant international importance and was designated as a National Historic Park in 1986 to recognise the Park's listing by I.C.O.M.O.S, an international organisation dedicated to heritage conservation.

The Park is a complex place comprising many components that serve a variety of functions. Likewise, the Park is an important location for biodiversity, recreation and home to a number of important institutions and visitor attractions. It is used by large numbers of people and is also a heavily trafficked route between the centre of the city and outlying suburbs. In recent decades, the growth of Dublin has significantly altered the position and use of the Park and affected its role and potential. Moreover, growing environmental challenges represent both an opportunity and a threat.

Key Drivers for the Study

At a time when the value of our urban green spaces is ever more keenly felt and appreciated, it is imperative that we are proactive in their management. The Phoenix Park, often referred to as the 'green lung' of Dublin City, provides an oasis within the hustle and bustle of Dublin City and suburbs.

Research undertaken by the Economic and Social Research Institute (ERSI) found that two trips a week to a park has significant health benefits. The environmental values of parks, such as the Phoenix Park are immense and increasingly significant in our urbanized world. They provide ecosystem services, protect and conserve unique species and as climate change takes hold, parks grow in value by protecting carbon. Trees reduce air pollution by intercepting airborne particulates and absorbing gaseous pollutants. The Park also plays a vital role in reducing storm water runoff.

During the first three decades of the 21st century, the world's population is predicted to rise from 2.9 billion to 5 billion. This has the potential to negatively impact Ireland's Phoenix Park through excessive demands on scarce resources and infrastructure. What we must seek to do is manage this unique resource to meet the public's needs while recognizing the need to care for this finite resource sensitively through sustainable resilient management and conservation practices including multimodal transport options. The Phoenix Park is a vital part of our local, national and international heritage, encompassing more facets of our culture and social history than any other art form.

Furthermore, cities across the globe are beginning to realise the myriad of benefits associated with getting more people walking and cycling, in tandem with reducing car dependency such as improved health and well-being, enhanced liveability, and improved air quality.

Ever-growing visitor numbers to the Park coupled with increasing volumes of vehicular through-traffic and congestion presents significant challenges in managing access for all in a sustainable manner.

This Study comes at a critical point and presents an opportunity to make changes to benefit the Phoenix Park and its users now and into the future, to make it a more attractive place for all users, from locals accessing it for sports and leisure to visitors coming to enjoy attractions such as Dublin Zoo.This Study presents a coherent framework to help shape and inform a vision for how visitors will access, experience and move within the Phoenix Park while protecting its character and biodiversity, and enhancing the overall visitor experience.

The emerging preferred option will help to reposition the Phoenix Park as an important resource for the citizens of Dublin and further afield while seeking to reduce through traffic over time. This multi-modal sustainable transport option will significantly improve pedestrian and cycling safety, provide sustainable transport options for those accessing its visitor attractions and amenities. The piloting of elements of the emerging preferred option will provide valuable data for the implementation phase and allow the public to familiarize themselves with the option over a number of months.

Study Governance

To oversee the development of the Study and ensure that it preserves the integrity of the Phoenix Park as a public recreational amenity whilst accommodating access for all, a Transport and Mobility Options Steering Group was set up.

Membership of the Steering Group included Chief Executive Officers of the National Transport Authority (NTA), Fingal County Council (FCC), and Dublin City Council (DCC), as well as both the Chairman and Commissioner of the Office of Public Works (OPW). The key objectives of the Steering Group were as follows:

- Provide guidance and instructions on a programme of transport and mobility options for the Phoenix Park having regard to the potential impact on the external environment;
- Establish a working group consisting of representatives from each of the four organisations;
- To direct and guide the work of the Working Group to finalise the Options report;
- Oversee the public consultation process and review preferred options following public consultation; and
- Make final recommendations to the Minister of State with responsibility for the Office of Public Works on the implementation of the preferred options.

Jacobs provided additional technical support and assistance in the preparation of the study..

A key challenge in delivering the Transport and Mobility Options Study was ensuring that the methodology applied is not only technically suitable, but also recognises, safeguards and enhances the unique and complex variety of functions that the Park serves, including its significance as a historic landscape, biodiversity habitat and recreational space.

In that context, a key early task for the Transport and Mobility Working Group was to develop a number of **Transport and Mobility Movement Principles** which would provide the overarching guidance and context for the development of the Study. The Movement Principles created the context for the establishment of the **Transport and Mobility Options Study Sustainable Objectives**, which would guide both the identification and assessment of options. The Movement Principles, Objectives and the alignment between the two is illustrated overleaf in Figure 1.

Steering Group Movement Principles	Mobility Study Sustainable Objectives	Alignment with the Movement Principle
We will protect and conserve the Biodiversity and historic landscape fabric of the Phoenix Park We must be sensitive to the heritage, character, archaeology, architecture, biodiversity, wildlife and landscapes of the Park with no net loss of trees or green spaces.	Provide access for all to institutions, visitor attractions and amenities within the park.	
The Park is for People The Park is a place that people come for relaxation, recreations or to visit the various institutions within it. We will prioritise walking and cycling.	Facilitate walking and cycling within and through the Phoenix Park linking to external networks and desirable linkages with appropriate infrastructure.	
We will encourage the use of more sustainable ways to access the Park How visitors arrive at the Park plays a significant role in how they experience it. We will promote and encourage visitors to use active and sustainable modes of transport for park visits, wherever they can.	Reduce the impact of vehicles on Phoenix Park and surrounding areas while contributing to improving the amenity of the park.	
We will liaise and consult with interested and relevant parties and organisations in the achievement of these principles The impact of the transport and movement decisions of our visitors does not end at the Park boundary. We will liaise and consult with key partners both within and external to the Park, to achieve the best possible outcomes for all.	Provide improved alternatives to the private car for access to the Phoenix Park from a wider metropolitan, regional and national catchment while acknowledging that private cars have a role in accessing the Park.	
We will seek to reduce commuter through traffic Park roads are primarily for the use of Park visitors and those working within the Park. We need to manage the levels of traffic within the Park. The roads should not be for commuters merely passing through. Over time, we should discourage the through movement of vehicles within the Park.	Improve sustainable transport mode share for all employers located within the park.	
We will make evidence based decisions To assist the decision-making process we will use all relevant evidence and data where available. The future of transport is changing quickly and we must keep abreast of the new technology available so as to improve the visitor expectations in line with our vision and strategic objectives enshrined in the Phoenix Park Conservation Management Plan.	Prioritise sustainable transport modes in accessing Phoenix Park.	

Figure 1 Movement Principles and Study Objectives

Study Methodology

Baseline Assessment

Having a robust understanding of the Park's spatial characteristics, it's existing transport and mobility networks and travel patterns is a key component of ensuring that the Study delivers the optimal Strategy to achieve the Objectives identified in Figure 1.

As a result, an extensive Baseline Assessment, outlined in detail in Section 2 of this report, was undertaken at the outset of the Study which undertook a number of key tasks, including:

- A review of the existing transport and mobility networks within the Park;
- A review of existing travel patterns to, from, through and in the vicinity of the Park through analysis of a number of data sources, including:
  - 2016 Census Data;
  - NTA's Eastern Regional Model (ERM);
  - Automated Traffic Counts undertaken by OPW in August and September 2020;
  - Yearly Canal Cordon count data from Site 18 on Chesterfield Avenue at the Parkgate Street Entrance;
  - Monthly visitor numbers to Dublin Zoo from 2017-2019; and
  - Phoenix Park Visitor Centre visitor numbers.

In analysing the various datasets that were available to the Study, a number of key takeaways were identified to inform its development, including:

- The Park caters for a complicated range of travel patterns due to its multi-faceted functions, including employment, visitor attractions, sport and leisure;
- Weekend demand is significant with greater proportions of visitor numbers than weekdays;
- Visitor numbers are growing based on the data provided for Dublin Zoo and Phoenix Park Visitor Centre;
- The vast majority of trips to the Park are made by car, however the number of people walking and cycling to and through the Park is increasing and has spiked recently due to the impacts of COVID-19 on travel and transport behaviours;
- The highest demand for trips to and from the Park within the Greater Dublin Area (GDA) are from areas such as the City Centre, Blanchardstown, Lucan and Finglas, however the strategic importance of the Park means that it has a countrywide catchment as well as being a major international tourist destination; and
- The ERM indicates that 76% of vehicles entering the Park during the AM peak and 64% in the PM peak have no destination within the Park (i.e. are travelling through the Park) which indicates that whilst the primary purpose of the Park's internal network is to facilitate access for visitors and staff, it is also fulfilling a strategic function within the GDA.

Context Review

To compliment the Baseline Assessment, a comprehensive Context Review, outlined in detail in Section 3 of this report, was also undertaken. It reviewed all policy documents pertinent to the Study as well as a number of case studies of similar locations around the world, including:

- The Royal Parks, London;
- Centennial Parklands, Sydney; and
- Stanley Park, Vancouver.

The Context Review concluded that whilst there is a general direction of travel regarding transport policy towards the prioritisation and promotion of sustainable modes of travel, this is also complemented by various user feedback studies which have been undertaken recently for both the Park itself and the wider Dublin area, demonstrating that the provision and promotion of sustainable modes of travel, as well as efforts to reduce private car use, are increasingly being recognised by the public as important drivers in the enhancement of visitor experience, health and wellbeing and public safety and so on.

Through the review of the global case studies, it has also been demonstrated that this approach is not unique to this Study. It has been adopted at a number of high profile comparable locations around the world, based on the appreciation of the outcomes that can be achieved through interventions that promote sustainable modes of travel, whilst also recognising that there will still be a role for private cars as a mode of accessing the Park.

Options Identification

The identification and assessment of options is outlined in detail in Section 4 of this report.

Walking and Cycling

Whilst the strategies for walking and cycling were derived based on the prioritisation of these modes in line with the Study Objectives and accommodating the main desire lines within the Park in a safe manner, a range of options for both Access and Roads and Public Transport were identified and assessed against an agreed set of Assessment Criteria to ensure that the eventual preferred option for each was selected based on its ability to achieve the Study Objectives, and in turn the Movement Principles.

Access and Roads

10 Options, including some sub options, for access points and roads were developed in conjunction with the Transport and Mobility Working Group. These options are outlined in detail in Table 12 in Section 4 of this report and focused on how different operational interventions on Park roads and gates could assist in achieving some of the key objectives of the Study such as reducing the impact of vehicles on the Phoenix Park and the surrounding areas and providing access for all to institutions and visitor amenities within the Park.

Public Transport

Public transport was identified by the Transport and Mobility Working Group as playing a key role in the achievement of many of the Objectives of the Study including the provision of improved alternatives to the private car, improving sustainable transport mode share for all employers located in the park, and reducing the impact of vehicles on Phoenix Park and the surrounding areas.

With regards to public transport, 3 Options were derived in conjunction with the Transport and Mobility Working Group. Options focused on the provision of radial and orbital services connecting areas of identified demand to the Park, connections with other public transport services such as Luas and Rail, as well as different routing options through the Park, maximising route options to key visitor attractions within the Park.

Options Assessment

The Options Assessment process, outlined in detail in Section 4 of this report, built upon the Steering Groups Movement Principles and the Study Objectives to ensure that the options for Access and Road and Public Transport were assessed in line with the overarching parameters of the Study.

In conjunction with the Transport and Mobility Working Group, a set of Assessment Criteria was developed under the key themes set out in the '*Common Appraisal Framework (CAF) for Transport Projects and Programmes, March 2016*' published by the Department of Transport, Tourism and Sport (DTTAS), namely:

- Environment;
- Accessibility and Social Inclusion;
- Safety;
- Physical Activity;
- Economy; and
- Integration.

When developing specific criteria under these themes, it was important to consider that the assessment of mobility options and the subsequent identification of the Preferred Strategy was undertaken against both transport and mobility criteria, as well as criteria which are relevant to the sensitive requirements of the Phoenix Park itself. These Park-specific requirements include opportunities to experience events, recreation, nature and tranquillity, as well as protection of its landscape and biodiversity. The full list of Assessment Criteria is presented in Table 1.

Moreover, it was important that all specific criteria identified under these six themes are aligned with the Study Objectives (and ultimately the overarching Movement Principles), ensuring the specific needs of the Park and its users are considered when assessing options. Table 10 of Section 4 of this report presents how each criterion aligns with the Objectives.

Table 1 Options Assessment Criteria

Theme	Assessment Criteria
Environment	The historic setting of the Phoenix Park including its archaeological, architectural and sensitive landscapes are enhanced through these measures.
	Minimise the impact on surrounding residential areas and road network.
	Reduce traffic volumes in the Phoenix Park resulting in a reduction of associated environmental impacts e.g. noise and air pollutants.
	The biodiversity, ecosystem services and habitats of the Park are not negatively impacted by these measures.
	Any proposals to be sustainable and resilient to climate change impacts.
	The preserved views, vistas and protected structures within historic landscape setting of the Phoenix Park is not negatively impacted.
	No net loss of trees or green areas as a result of proposed interventions.
Accessibility and Social Inclusion	Enhance access to the Phoenix Park institutions, key attractions and amenities providing for pedestrians, cyclists and other sustainable modes of transport.
	Improve quality of visitor experience through reduced traffic volumes.
	Facilitate attendance at events at the Phoenix Park through the provision of sustainable modes of travel to access the Park.
Safety	Improved safety for cyclists and pedestrians using the Park.
	Reduced traffic volumes will Improve safety for the public and deer herd within the Park.
	Ensure gate closure at night to minimise impacts of the deer and vehicles.
	Prioritise sustainable transport modes in accessing the Phoenix Park.
Physical Activity	Enhance opportunities to experience recreation and tranquillity within the Phoenix Park.
	Facilitate walking and cycling within and through the Phoenix Park.
	The proposals have minimal impact on events traditional to the phoenix park including on road running and cycling events and other third party large events such as Bloom and concerts.
Economy	Provide sustainable travel options for accessing visitor attractions, key institutions and the amenities of the Phoenix Park.
	Provide improved alternatives to private car for access to the Phoenix Park from a wider metropolitan, regional and national catchment.
	Improve sustainable transport mode share for employers located within the Phoenix Park.
Integration	Facilitate walking and cycling within and through the Phoenix Park linking to existing and proposed public transport services.
	Enable National, Regional and Local policy outcomes to be realized.

Each of the Options identified were assessed relative to each other against the Assessment Criteria using the rating system outlined in Table 2.

Table 2 Assessment Rating Table

Colour	Relative Performance
	Very Good
	Good
	Neutral
	Poor
	Very Poor

An aggregated score was awarded under each theme to enable the emerging preferred options to be identified

Access and Roads Options Appraisal

The options identified for Access and Roads interventions centred around variants of a number of key themes. These themes include various configurations of the gates being open/closed, cul-de-sacs on roads and a 'Pod' system, i.e. allowing access to specific areas of the Park only from specific gates. A detailed explanation of each Access and Roads Option is outlined in Table 12 of this report.

When reviewing the comparative assessment for the different Options, Options 3, 5, 9 and 10 were considered to be the best performing Options and a summary of these are outlined in Table 3.

Table 3 Summary of Options 3, 5, 9 and 10

Option	Roads
3	**Phase 1** All gates open 7am-11pm. Maintain Chesterfield Avenue as through route. Introduce pedestrian crossings. Cul-de-sacs on North Road east of Ratra House and west of Spa Road and Upper Glen Road past Cheshire Home and car park. **Phase 2** Ashtown Gate entry only. Cabra Gate exit only. **Phase 3** Close Knockmaroon Gate.
5	Current through roads open and all gates open 7am-11pm. Ashtown Gate entry only. Cabra Gate exit only.
9	Cul-de-sacs on North Road, Glen Road, at northern end of Acres Road, and Chesterfield Avenue at Phoenix Park Column on Castleknock side. 'Pod' system of dedicated access: **Pod 1 – City End Pod** Access via North Circular Road, Parkgate, Islandbridge and Cabra Gates to: Garda Headquarters; Dublin Zoo; Áras an Uachtaráin; Polo Grounds; and Phoenix Park Visitor Centre. **Pod 2 – St. Mary's Pod** Access via Chapelizod and Islandbridge Gates (Military Road one-way towards Islandbridge Gate) to: Cara Cheshire Home; St. Mary's Hospital; Magazine Fort; The Playing Fields; U.S. Ambassador's Residence; and Papal Cross. **Pod 3 – Mountjoy Pod** Access via Castleknock, Ashtown and Knockmaroon Gates to: Ordnance Survey Ireland; Knockmaroon Nature Study Area; and Farmleigh.
10	Ashtown Gate entry only. Cabra Gate exit only. Close Knockmaroon Gate. Cul-de-sac on North Road, Glen Road, Acres Road and Chesterfield Avenue at Phoenix Park Column on Castleknock side. 'Pod' system of dedicated access: **Pod 1 – City End Pod** Access via North Circular Road, Parkgate, Islandbridge and Cabra Gates to: Garda Headquarters; Dublin Zoo; Áras an Uachtaráin; Polo Grounds; and Phoenix Park Visitor Centre. **Pod 2 – St. Mary's Pod** Access via Chapelizod and Islandbridge Gates (Military Road converted to one way towards Islandbridge Gate) to: Cara Cheshire Home; St. Mary's Hospital; U.S. Ambassador's Residence; and Papal Cross. **Pod 3 – Mountjoy Pod** Access via Castleknock, Ashtown and Knockmaroon Gates to: Ordnance Survey Ireland; Knockmaroon Nature Study Area; Farmleigh; Magazine Fort and the Playing Fields.

A summary of the aggregate scores under each theme for these Options is illustrated in Table 4.

Table 4 MCA Aggregate Scores – Access and Roads

Theme	Access and Roads Option			
	3	5	9	10
Environment				
Accessibility and Social Inclusion				
Safety				
Physical Activity				
Economy				
Integration				

Under the Environment theme, whilst Options 9 and 10 were considered to provide significant benefits within the Park due to the removal of through traffic on both the side roads and Chesterfield Avenue, the potential for resulting impacts on the surrounding residential areas and road network of this displaced traffic was considered a negative.

Option 3 provided significant environmental benefits on the side roads and the retention of Chesterfield Avenue as a through route and an access road to amenities within the Park meant that the potential impacts in surrounding residential areas and road network of displaced traffic is much lower than in Options 9 and 10.

Option 5 was considered neutral under Environment as the reconfiguration of Ashtown and Cabra Gates in this scenario has the potential to reduce traffic volumes in the vicinity of these gates, but there was minimal positive environmental impacts elsewhere in the Park under this Option.

In terms of Accessibility and Social Inclusion, Options 3, 9 and 10 scored well in terms of improving the quality of visitor experience through reduced traffic volumes, with Option 5 scoring neutral for the same reasons as those discussed under the Environment theme. The Pod system proposed under Options 9 and 10, coupled with the closure of Chesterfield Avenue would mean some level of inconvenience for Park visitors accessing certain areas of the Park and therefore they scored lower under these criteria, whilst the retention of Chesterfield Avenue in Option 3 retains the flexibility of access to all amenities within the Park from both the main Gates.

Both Options 3 and 10 provide significant safety enhancements on the side roads through the reduction of traffic in these locations. Whilst the interventions on the side roads in Option 9 are not as extensive, it still scored well with the interventions proposed. As with other themes, whilst Option 5 scored well for safety around where the interventions in this Option are proposed, these are limited in the entire context of the Park when compared to the other Options.

Options 3, 9 and 10 provide excellent benefits for enhancing opportunities to experience recreation in a more relaxed and calmer environment due to the significant reductions in traffic volumes. As before, within Option 5, these benefits are limited to the areas where the interventions are targeted, namely on North Road in the vicinity of Ashtown and Cabra Gates.

All Options score well under the Economy theme as they do not restrict or jeopardise the provision of key criteria such as improved alternatives to private car and the opportunity to improve sustainable travel mode share for employers through the implementation of the walking, cycling and public transport strategies.

Again, Options 3, 9 and 10 scored well under this theme as they all integrate with the walking, cycling and public transport strategies. As with other themes, under Option 5, these benefits are limited to the areas where the interventions are targeted, namely on North Road in the vicinity of Ashtown and Cabra Gates.

Summary of Access and Roads Options Appraisal

Reviewing the comparative assessment of the different options, Options 3 and 10 were considered to be the best performing options, although their individual scores are stronger in differing aspects of the Assessment Criteria. Whilst Option 10 effectively eliminates the vast majority of through traffic in the Park, further impact assessments are required and recommended by the Study to ascertain the impact of its implementation on the surrounding neighbourhoods, both in terms of environmental impact and traffic impact.

The closure of Chesterfield Avenue in Option 10 also presents issues with the facilitation of running and cycling events at the Park, however it is acknowledged that traffic arrangements can be amended to facilitate these events. Option 3 performs well in a number of similar categories to Option 10 as it is effective in the reduction of through traffic on the side roads such as North Road, Upper Glen Road and Knockmaroon Road, but the retention of Chesterfield Avenue as a through route retains the flexibility of this route, within the context of this Study, to cater for elements of through traffic demand in a centralised location away from the biodiverse rich side roads whilst

limiting the impacts of redistributed traffic on surrounding neighbourhoods.

In this context, it was therefore considered that Option 3 provided the most balanced option to take forward as the Emerging Preferred Option for Access and Roads for the following key reasons:

- Significant reductions in traffic volumes on the side roads of the Park (Upper Glen Road and North Road), protecting and enhancing the Park's areas of rich conservation and biodiversity and making them a haven for walking, cycling, relaxation and recreation;
- Maintaining access on Chesterfield Avenue from both main Gates enables those who need to use a car to access amenities within the Park to continue to do so, ensuring access for all and limiting the impacts of dispersed traffic on surrounding residential neighbourhoods and roads; and
- Integration with the proposed walking, cycling and public transport strategies to further prioritise and facilitate sustainable transport modes in accessing the Park.

Public Transport Options Appraisal

Three Options were assessed as part of the public transport appraisal:

- Option 1 consisted of a Radial Route through the Park along Chesterfield Avenue connecting with high demand areas such as Castleknock, Blanchardstown and the City Centre, as well as Heuston Station;
- Option 2 consisted of an Orbital Route through the Park along the eastern section of Chesterfield Avenue and North Road connecting with high demand areas such as North City between City Centre and M50 and public transport interchanges such as Broombridge and Heuston Stations; and
- Option 3 consisted of a route from the City Centre to the Phoenix Park Column along Chesterfield Avenue.

A full description of options and internal routing detailed in Table 15 in Section 4 of this report.

A summary of the aggregate scores for each of the Public Transport Options is illustrated in Table 5.

Table 5 MCA Aggregate Scores – Public Transport

Theme	Public Transport Option		
	1	2	3
Environment			
Accessibility and Social Inclusion			
Safety			
Physical Activity			
Economy			
Integration			

Whilst Option 1 provides an arterial service linking high demand areas such as Castleknock, Blanchardstown and the City Centre with the Park, recreational events are a major feature of the section of Chesterfield Avenue between the Phoenix Roundabout and the Mountjoy Roundabout, and thus a continuous dedicated bus service could not be provided along this route.

Option 2 also links the Park with high demand areas such as the City Centre North and its routing along Odd Lamp Road and sections of North Road enable potential stops to serve areas of high visitor numbers such as the Phoenix Park Visitor Centre and Dublin Zoo more effectively.

Option 2 also presents no conflicts with any recreational events undertaken on Chesterfield Avenue between the Phoenix Roundabout and the Mountjoy Roundabout.

Whilst all options provide an effective interchange point at Heuston Station connecting with strategic public transport services, Option 2 also has the potential to interchange with the Luas Green line and Western Commuter rail services at Broombridge Station to provide enhanced connectivity to the Park via sustainable transport, including areas to the west of Phoenix Park that would also have been served by Option 1.

Option 3, whilst providing a connection to Heuston Station and the City Centre, is limited in terms of serving local residential demand to the Park and provides less coverage of the Park, in terms of public transport access, than either of the other two options.

Based on these conclusions, it was determined that Option 2 be considered the Emerging Preferred Public Transport Option for the purposes of this Study.

Options Refinement

Following identification of the Emerging Preferred Options for Walking, Cycling, Access and Roads, and Public Transport, a process of Option Refinement and Optimisation was undertaken to ensure that each of the Options integrated with each other to form a coherent, multi-modal strategy for the Park which remains aligned with the Working Group's Movement Principles and the Study's Objectives.

Whilst the walking and cycling strategies were agreed by the working group, a number of key refinements were proposed under both the Roads and Access and Public Transport Emerging Preferred Options, as outlined in Table 6.

Table 6 Option Refinement

Theme	Emerging Preferred Option	Proposed Refinements
Roads and Access	**Access and Roads Option 3:** • Cul-de-sac on North Road east of Ratra House and west of Spa Road; • Cul-de-sac on Glen Road past Cara Cheshire Home and at the car park on Upper Glen Road.; • Convert Ashtown Gate to entry only and convert Cabra Gate to exit only to reduce the impacts of traffic volumes on these protected gates; and • Close Knockmaroon Gate.	Introduction of cul-de-sac on Knockmaroon Road instead of closing the Gate to allow visitors to use the parking area at the Gate and access the Park via walking or cycling. Convert Cabra Gate to bus-only (as well as access for walking and cycling) to provide an enhanced level of bus priority at this location, as well as enhancing walking and cycling safety by removing a number of difficult turning movements that general traffic currently experiences at this Gate. It was agreed that a 30kph speed limit should be introduced for the entire Phoenix Park to improve public safety. It is also proposed that the Strategy recommends the commencement of a study to investigate the introduction of parking controls and the changing of bylaws to facilitate the better management of cars through and within the Phoenix Park.
Public Transport	**Public Transport Option 2:** • Orbital Service connecting North City Demand between City Centre and M50 to the Park; • Connects the Park with strategic transport hubs; and • Provides a direct route along Chesterfield Avenue between Parkgate Stree Entrance and the Phoenix Park Column, as well as North Road to Cabra Gate with potential stops serving key trip attractions.	In addition to the removal of general traffic at Cabra Gate, the entrance design should ensure efficient and safe bus movements. Provision of bus priority measures around the Phoenix Park monument roundabout and on Odd Lamp Road at the Visitor Centre to ensure efficient progression of the bus service. Traffic control measures to ensure that the Heuston Station bound bus does not get delayed at the Parkgate Street Entrance. Provision of bus stops at Dublin Zoo and Phoenix Park Visitor Centre. Any new infrastructure required in the Park related to public transport would have to be sensitively designed and take into account the historical and environmental context of the Park.

The Preferred Strategy

The Preferred Strategy has been developed to ensure that it aligns with the Study Objectives and in turn the Transport and Mobility Working Group's Movement Principles.

The Strategy aims to: significantly reduce through traffic volumes in the Park whilst maintaining access for all; prioritise sustainable modes of travel to, from and through the Park; and in turn enhance the Park as a place that people can come for relaxation, recreation or to visit the various institutions within it – all whilst being sensitive to the heritage, character, archaeology, architecture, biodiversity, wildlife and landscape of the Park.

Walking and Cycling

The prioritisation of walking and cycling within the Park, a key theme running through both the Movement Principles and the Study Objectives, not only helps to realise the health benefits associated with both, but also ensures that uptake of these active travel modes becomes a key contributor in reducing the reliance on the private car to access the Park, helping to make it a calmer, safer place in which to relax, play sport, work and visit amenities.

The proposed walking network, illustrated in Figure 2, builds upon the already comprehensive walking infrastructure within the Park by upgrading approximately 7.2km of existing routes, particularly to the western end of the Park to allow for access for all. The proposed walking network also ensures that key desire lines through the Park, as well as to destinations within the Park, are enhanced through the provision of appropriately located crossing points, incorporating design features sympathetic to the historic and environmental context of the Park.

The proposed cycling network, illustrated in Figure 3, proposes an additional 14km of dedicated cycle routes, as well as upgrading, to the standard set out in the NTA's *National Cycle Manual* where appropriate, of the 17km of existing routes within the Park. The proposed cycling network aligns with existing and planned routes external to the Park within the *Greater Dublin Area Cycle Network Plan* and ensures that the following key considerations are accounted for:

- Recreational users of the Park including connections from the main gates to leisure/tourism trip attractors and attractive routes and loops for leisure use; and
- Provision of direct, high-quality connections between the main gates to cater for cycling to destinations both within and outside the Park.

The Plan also identifies key nodes such as the Park gates and internal roundabouts for upgrade to prioritise walking and cycling and enhance safety for these modes of travel. As previously stated, all upgrades should be cognisant of the sensitive context of the Park.

Access and Roads

The proposed strategy for access and roads, illustrated in Figure 4, achieves the Study Objective of significantly reducing vehicular traffic volumes in the Park (whilst maintaining access for walking and cycling) through the following interventions:

- Cul-de-sac on North Road east of Ratra House and west of Spa Road;
- Cul-de-sacs on Upper Glen Road past Cara Cheshire Home and at the car park on Upper Glen Road;
- Cabra Gate converted to bus-only access;
- Ashtown Gate converted to entry only; and
- Cul-de-sac on Knockmaroon Road, north of Knockmaroon Gate.

The proposed strategy will result in approximately 3km of the Park's internal roads being traffic free, with traffic volumes reduced on approximately 13.5km of roads. The removal of through traffic on the side roads of the Park as a result of these interventions leads to a calmer, safer environment in these conservation and biodiverse rich locations, making them a haven for walking, cycling, relaxation and passive recreation.

To support the introduction of an efficient public transport service in the Park, the Strategy proposes that Cabra Gate is converted to a bus-only gate, removing potential conflicts with vehicular traffic making difficult turning movements at this location and enhancing safety for pedestrians and cyclists.

Whilst traffic movements remain possible on Chesterfield Avenue, preserving private car access to amenities and car parks for those that require it, particularly those with reduced mobility or those visiting the Park from outside the Greater Dublin Area, through traffic volumes are reduced as a result of other measures making Chesterfield Avenue a less desirable route for through traffic including the reallocation of some road space to cycle lanes and the introduction of crossing points as part of the walking and cycling strategies.

The Strategy also recommends the commencement of a study to investigate the introduction of parking controls and the changing of bylaws to facilitate the management of cars through and within the Phoenix Park. It is agreed that a 30kph speed limit should be introduced for the entire Phoenix Park to improve public safety and amenity for users.

Public Transport

Public transport is identified as playing a key role in achieving many of the Objectives of the Study.

Whilst walking and cycling provides an attractive sustainable mode of travel for those who live locally to the Park, public transport provision extends the catchment area of sustainable travel to and from the Park to a much wider catchment area.

Public transport access to the Park is also a powerful tool in ensuring accessibility and inclusion for all, whether that be from a local perspective for people who do not have access to a car or who cannot walk or cycle to the Park, or from a wider catchment area, through connections to strategic public transport services.

The Study proposes the introduction of a bus route, as illustrated in Figure 5, aligned with the ongoing Dublin BusConnects bus network redesign. This would serve key amenities in the Park such as Dublin Zoo and the Phoenix Park Visitor Centre, as well as providing an attractive public transport service for people wanting to access the Park for sport and recreation, reducing the reliance on private car travel and creating the context for further longer term interventions that would continue to build towards the Study Objectives.

External to the Park, and outlined in further detail in Section 4 of this report, the service would run on an orbital route connecting to local areas of high demand, as well as integrating with other bus services, Luas and Rail connections at Broombridge and Heuston Stations further expanding its connectivity potential.

To ensure the efficient progression of the bus service, supporting traffic management and bus priority measures will be designed and introduced during the implementation of the service. As with upgrades to the walking and cycle networks, any new infrastructure will be designed to take into account the historic and environmental context of the Park and its sensitive landscape character.

The following four maps illustrate the various strands of the preferred Strategy:

- Proposed Walking Network;
- Proposed Cycling Strategy;
- Proposed Access and Roads Network; and
- Proposed Bus Route.

Figure 2: Proposed Walking Network

Figure 3: Proposed Cycling Network

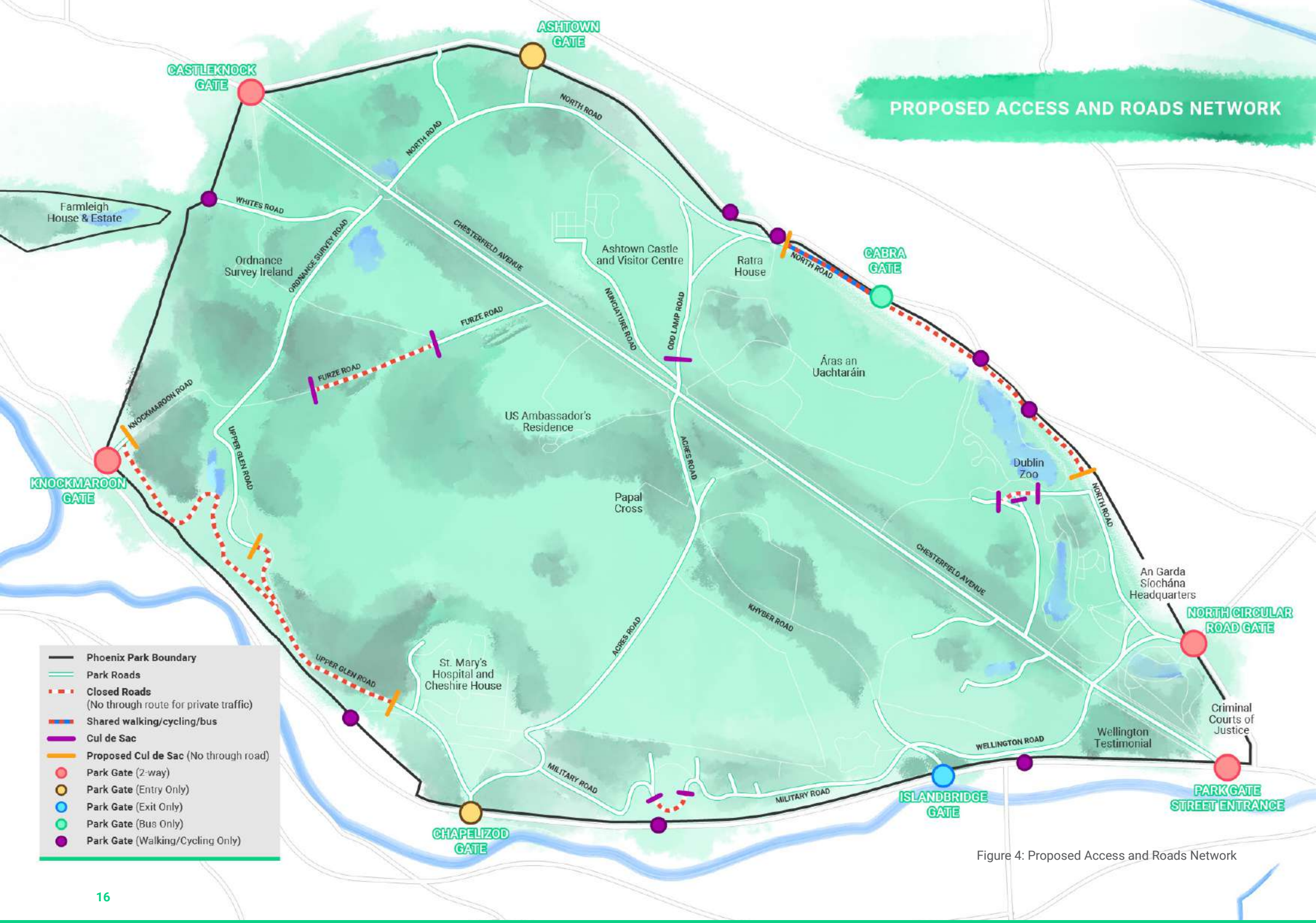


Figure 4: Proposed Access and Roads Network

Figure 5: Proposed Bus Route

Implementation of the Strategy

Phasing

As recommended by the Transport and Mobility Working Group, it is proposed that the Strategy is implemented in a phased approach to ensure that walking, cycle and public transport proposals are implemented and embedded in advance of changes to vehicular access arrangements.

The proposed phases, their key interventions and the rationale behind their implementation are illustrated in Table 7, whilst the impacts of the key interventions in phases 1, 2 and 3 on traffic volumes are illustrated in Figure 6, Figure 7 and Figure 8 respectively.

It is recommended by the Transport and Mobility Working Group that the cul-de-sacs on North Road and Upper Glen Road be temporarily installed in Q2 2021 in conjunction with the commencement of a rolling data collection and monitoring programme. The analysis of this data will allow for robust measurement of their effectiveness and allow for refinement, if required, prior to the advancement of Phases 2 and 3.

With regards to the public transport service, again it is proposed that an interim bus service is introduced in the short term, in advance of the full service in Phase 2, linking the Park to both Broombridge and Heuston Stations. Usage of the service will be included in the data collection programme. The implementation of this service will require further assessment of traffic delay and traffic management measures.

This Study recommends that parking controls and traffic management controls are introduced by the Park. Specific measures are to be defined by further investigations in the short-term with a view to implementation in conjunction with the Phase 2 measures. There is a long-established relationship between the availability of car parking and provision of sustainable transport options, and their impact on travel behaviours.

The Strategy proposes that the benefits these interventions will bring to the Park – coupled with the implementation of the walking and cycling strategies and the implementation of external initiatives such as the BusConnects Dublin bus network redesign – will create the context for the proposed interventions at Knockmaroon Road and Ashtown Gate to follow as longer term strategies.

Strategy Review and Update

It is recommended that the Strategy is reviewed and updated after 5 years which will enable further initiatives to be identified, subject to wider impact assessments at that time.

These initiatives would be identified and assessed in the context of the effectiveness of those implemented in Phases 1 and 2 measured by ongoing data collection and monitoring, as well as the commencement of external initiatives such as BusConnects Dublin bus network redesign. All future proposals should aim to further build towards the achievement of the key Study Objectives such as reduction of through traffic and prioritisation of sustainable transport modes accessing the Park.

Table 7 Proposed Implementation Phases of Emerging Preferred Option

Phase	Key Interventions per Phase	Key Outcomes per Phase
1 **(0-2 years)**	Implement Walking and Cycling Strategies in line with agreed set of Design Principles. Implement 9-month pilot study in Q2, 2021 of cul-de-sacs on North Road and Upper Glen Road with simultaneous data collection and monitoring programme. Implement interim bus service as a pilot study linking the Park to Heuston and Broombridge Stations. Introduction of 30kph speed limit; Undertake Parking Strategy and review of bylaws.	▪ Prioritises walking and cycling and encourages their uptake. ▪ Introduces public transport access to the Park. ▪ Both initiatives contribute to reduction in the reliance on private car to access the Park. ▪ All Gates remain open as per current operations. ▪ Chesterfield Avenue still facilitates through traffic, but traffic volumes are reduced as a result of reallocation of some road space to cycle lanes and the introduction of sympathetically designed crossing points. ▪ Chesterfield Avenue still provides access to all amenities within the Park from both main Gates. ▪ Pilot studies for the cul-de-sacs and the interim bus services allow these interventions to be monitored as to their effectiveness, and subsequently refined based on analysis of the data collected.
2 **(1-3 Years)**	Full implementation of cul-de-sacs North Road east of Ratra House and west of Spa Road and Glen Road past Cara Cheshire Home and at the car park on Upper Glen Road. Cabra Gate converted to bus-only gate. Introduce bus service and associated traffic management / bus priority measures. Implementation of the recommendations of the Parking Strategy.	▪ No through traffic on the side roads of the Park means the Park becomes a haven for walking, cycling and passive recreation in these areas. ▪ Chesterfield Avenue still facilitates through traffic, but traffic volumes are reduced as a result of reallocation of some road space to cycle lanes and the introduction of sympathetically designed crossing points. ▪ Chesterfield Avenue still provides access to all amenities within the Park from both Gates. ▪ The removal of through traffic on North Road creates the reduced traffic context for the efficient progression of the bus service in this area and increased space for walking and cycling. ▪ The introduction of the bus service provides an additional alternative mode of sustainable travel to, from and through the Park – further reducing the reliance on the private car to access the Park and reducing the traffic volumes through the Park. ▪ Implementation of Parking Strategy recommendations reduces parking demand and traffic volumes at key attractions such as Visitor Centre and Zoo and promotes switch to sustainable mode of travel.
3 **(3-7 Years)**	Ashtown Gate converted to entry only. Cul-de-sac on Knockmaroon Road. Undertake review and update of the Transport and Mobility Strategy.	▪ Monitoring of effectiveness of measures introduced in Phases 1 and 2 against the Study's Objectives will allow for consideration of longer term initiatives such as the conversion of Ashtown Gate to entry only and the introduction of a cul-de-sac on Knockmaroon Road. ▪ A review and update of the Transport and Mobility Strategy after 5 years will enable further initiatives to be identified and tested in the context of the effectiveness of those implemented in Phases 1 and 2, as well as the commencement of external initiatives such as Dublin BusConnects bus network redesign, to further build towards achievement of key Study Objectives such as the reduction of through traffic and prioritisation of sustainable transport modes accessing the Park.

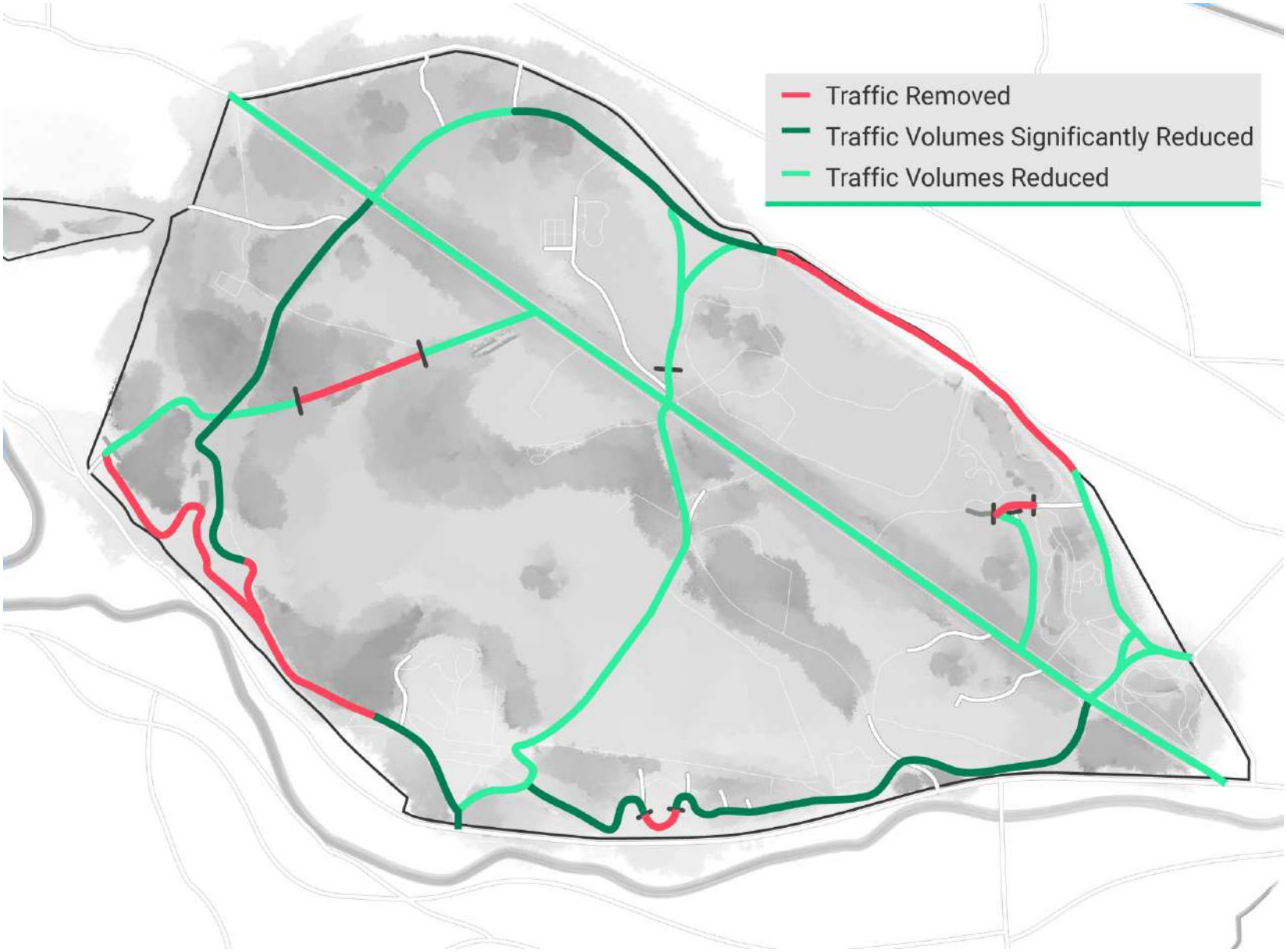


Figure 6 Impacts of Emerging Preferred Option on Traffic Volumes – Phase 1

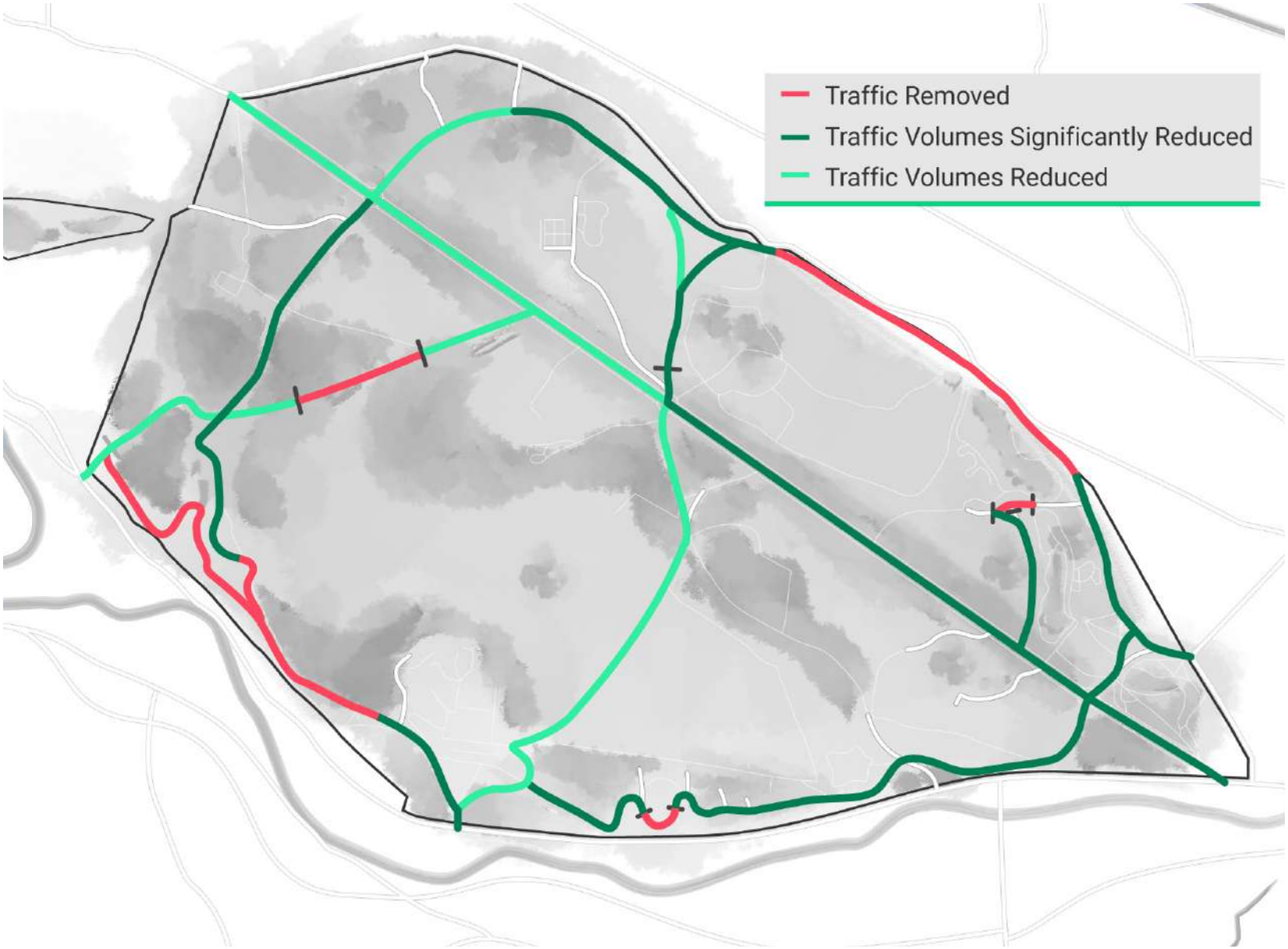


Figure 7 Impacts of Emerging Preferred Option on Traffic Volumes – Phase 2

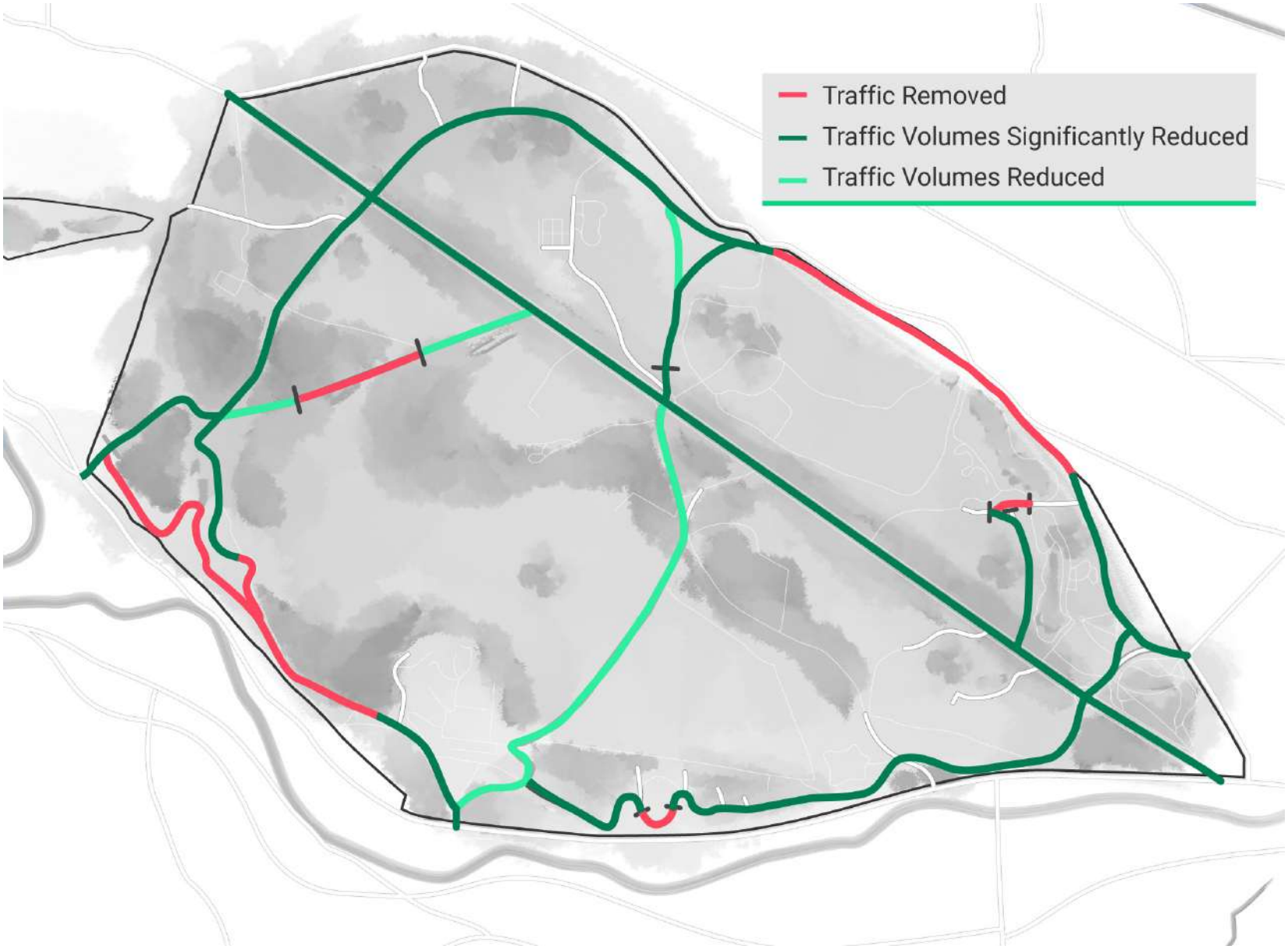


Figure 8 Impacts of Emerging Preferred Option on Traffic Volumes – Phase 3

Introduction

The long-term vision is to protect and conserve the historic landscape character of The Phoenix Park and its archaeological, architectural and natural heritage whilst facilitating visitor access, education and interpretation, facilitating the sustainable use of the Park's resources for recreation and other appropriate activities, encouraging research and maintaining its sense of peace and tranquillity.

The Phoenix Park Conservation Management Plan 2011

Background

The National Transport Authority (NTA), in association with the Office of Public Works (OPW), Dublin City Council (DCC) and Fingal County Council (FCC), commissioned Jacobs to complete a Transport and Mobility Options Study of the Phoenix Park. A Steering Group and Working Group comprising members from the four organisations was established to guide the development of the Study in a collaborative manner.

The Study presents a coherent framework to help shape and inform a vision for how visitors will access, experience and move within the Phoenix Park while protecting its character and biodiversity, and enhancing the overall visitor experience.

Key Drivers of the Study

At a time when the value of our urban green spaces is ever more keenly felt and appreciated, it is imperative that we are proactive in their management. The Phoenix Park, often referred to as the 'green lung' of Dublin City, provides an oasis within the hustle and bustle of the City.

Research undertaken by the Economic and Social Research Institute (ERSI) found that two trips a week to a park has significant health benefits. The environmental values of parks, such as the Phoenix Park are immense and increasingly significant in our urbanized world. They provide ecosystem services, protect and conserve unique species and as climate change takes hold, parks grow in value by protecting carbon. Trees reduce air pollution by intercepting airborne particulates and absorbing gaseous pollutants. The Park also plays a vital role in reducing storm water runoff.

During the first three decades of the 21st century, the world's population is predicted to rise from 2.9 billion to 5 billion. This has the potential to negatively impact Ireland's Phoenix Park through excessive demands on scarce resources and infrastructure. What we must seek to do is manage this unique resource to meet the public's needs while recognizing the need to care for this finite resource sensitively through sustainable resilient management and conservation practices including multimodal transport options. The Phoenix Park is a vital part of our local, national and international heritage, encompassing more facets of our culture and social history than any other art form.

The Study comes at a critical point and presents an opportunity to make changes to benefit the Phoenix Park and its users now and into the future, to make it a more attractive place for all users, from locals accessing it for sports and leisure to visitors coming to enjoy attractions such as Dublin Zoo.

Cities across the globe are beginning to realise the myriad of benefits associated with getting more people out walking and cycling, such as improved health and well-being, improved air quality and benefits to the local economy to mention but a few.

Ever-growing visitor numbers to the Park coupled with increasing volumes of vehicular through-traffic and congestion presents significant challenges in managing access for all in a sustainable manner.

It is envisaged that through the implementation of this Study, the Park will become a calmer, safer place to walk, cycle, rest and play, as well as unlock much needed capacity to accommodate demand from visitors from a wider strategic catchment area who may still require access to the Park by car.

The emerging preferred option will help to reposition the Phoenix Park as an important resource for the citizens of Dublin and further afield while seeking to

reduce through traffic over time. This multi-modal sustainable transport option will significantly improve pedestrian and cycling safety, provide sustainable transport options for those accessing its visitor attractions and amenities. The piloting of elements of the emerging preferred option will provide valuable data for the implementation phase and allow the public to familiarize themselves with the option over a number of months.

Study Methodology

The methodology for this Study follows the Area Based Transport Assessment (ABTA) process, which has been developed by both the NTA and Transport Infrastructure Ireland (TII) and ensures that movement and accessibility of all forms, across all modes of travel, is considered in the development of areas at a local level.

The methodology is outlined as follows:

- Baseline Assessment;
- Establish Context;
- Options Identification and Assessment;
- Refinement of Proposals; and
- Finalisation of the Plan.

Report Structure

The Report follows a similar structure to that of the overall methodology process. It is comprised of the following chapters:

- Baseline Assessment;
- Context;
- Options Development;
- Option Optimisation and Refinement; and
- Preferred Strategy.

Baseline Assessment

The Park is a complex place comprising many components that serve a variety of functions. It is used by large numbers of people and is also a heavily trafficked route between the centre of the city and outlying suburbs. In recent decades, the growth of Dublin has significantly altered the position and use of The Phoenix Park and affected its role and potential. Moreover, growing environmental challenges represent both an opportunity and a threat.

The Phoenix Park Conservation Management Plan 2011

Overview

This chapter sets out the Baseline Assessment Stage. The purpose of this initial stage is to establish the existing conditions of the Phoenix Park, regarding its existing spatial characteristics, the existing transport network and travel patterns associated with the Park.

Having a robust understanding of these ensures that the Study delivers an optimal solution to best cater for the needs of all users of the Park.

Study Area

Background

The Phoenix Park is located at the western edge of Dublin City Centre, just north of the River Liffey. It was originally established as a Royal Deer Park in the 17th Century, and was designated as a National Historic Park in 1986 to recognise the Park's listing by I.C.O.M.O.S, an international organisation dedicated to heritage conservation. It is one of the largest designed landscapes in any European city extending to over 700ha.

The Phoenix Park is an historic natural and cultural landscape of significant importance. Its historic continuity, together with its vast scale, urban setting, rich biodiversity and tranquillity, are all attributes that define its character. The listing by Dublin City Council of major infrastructural components of the Phoenix Park further reinforces its importance thus recognising the contribution made by such notable designers as Decimus Burton (park lodges, gates, roads, landscape) and Richard Turner (maker of a number of the Parks' gates and light standards). The management and development of the Park is undertaken in accordance with the spirit of both the Venice and Florence Charters which set out criteria for the conservation of historic parks and gardens, and is under the care of the OPW.

Today, the Phoenix Park is a complex place comprising many components that serves a variety of functions, providing a setting for a range of activities, attractions and annual events. Its blend of open green space, sporting and recreational facilities coupled with its heritage features and public institutions make it incredibly unique.

According to the 2016 Central Statistics Office (CSO), there are over 2,800 employed within the Phoenix Park. Key destinations include:

- Áras an Uachtaráin;
- U.S. Ambassador's Residence;
- Dublin Zoo;
- The Phoenix Park Visitor Centre;
- An Garda Síochána Headquarters;
- 27 dedicated sports grounds (Gaelic football, camogie, hurling, soccer, cricket, polo);
- St. Mary's Hospital;
- The Magazine Fort;
- Cara Cheshire House;
- The Fifteen Acres; and
- Ordnance Survey Ireland.

Land Use Zoning

The Phoenix Park lies within Dublin City Council's administrative area, with its western boundary lying adjacent to that of Fingal County Council.

Under the *Dublin City Development Plan 2016-2022*, the Park is zoned Z9, the objective of which is "to preserve, provide and improve recreational amenity and open space and green networks".

The entire area of the Phoenix Park is identified by the Plan as a Conservation Area, along with land to the south of the River Liffey. In addition, the Park is a Zone of Archaeological Interest.

Recreation, Sports and Tourism

The Phoenix Park provides a wide range of both active and passive recreational pursuits, which coupled with its historic character and wildlife habitats make it an outstanding visitor experience.

Due to its vast scale and its proximity to Dublin City Centre, over 2,500 sporting and recreational events take place annually in the Park. These include international and national running and cycling events and community sports days. In addition, many large charity events are also held annually in the Park for charities such as Pieta House and Simon Community. The Phoenix Park is also considered a major entertainment venue home to a wide variety of annual festivals and concerts throughout the year.

In 2018, for example: 225,000 people attended Wild Lights at Dublin Zoo over 50 days; 180,000 people attended Ed Sheeran concerts over 3 nights; and 120,000 people attended the annual Bloom festival over the June Bank Holiday weekend. Between 30 to 40 Road Closure Orders are signed by the Commissioner for Public Works in Ireland each year in order to facilitate these events.

Furthermore, the Phoenix Park plays a significant role in Dublin's tourism economy and is a huge attraction for both domestic and overseas visitors. During 2019, approximately 1.77 million people visited the Phoenix Park Visitor Centre Complex along with a wide range of attractions such as Ashtown Castle, Áras an Uachtaráin, Grangegorman Military Cemetery and the Magazine Fort.

Nature and Biodiversity

The Phoenix Park, being the largest urban park in Dublin, is recognised as a 'green lung' for Dublin City. The Park is an important biodiversity resource for the greater Dublin area and includes 24 different habitats, over 550 wild fallow deer, over 220 hectares of woodlands and trees, 380 hectares of unique urban grasslands and supports 50% of all mammal species found in Ireland and about 35% of bird species.

The Victorian Kitchen Walled Garden showcases horticultural fruit and vegetable growing and the Kitchen Gardens at Áras an Uachtaráin have organic status since 2011.

The Park's historical Gas Lighting System supports biodiversity with the added benefit of limiting light pollution.

Existing Transport Network

This section provides an overview of the Phoenix Park's existing transport network. It is supported by the subsequent sections which detail the Park's travel demand and movement patterns.

Access

The Phoenix Park is enclosed by an 11km perimeter wall, along which there are eight vehicular and pedestrian entrances, and a further six pedestrian-only entrances as illustrated by Figure 9. This Figure also. details the vehicular movement facilitated at each gate, i.e. exit only, entrance only, both exit and entrance.

The primary entrances to the Park are considered the Parkgate Street Entrance to the south-east and the Castleknock Gate to the north-west, which flank Chesterfield Avenue. These Gates are both open to the public 24 hours a day. The side gates to the Park are open to the public daily from approximately 07:00 until 22:45. They are closed at night to minimise the impact of the deer herd on the surrounding areas.

In response to the Government's Covid-19 restrictions and guidelines, a suite of mobility measures were introduced in the Phoenix Park earlier this year (2020). This included the restriction of vehicular traffic through the closure of all side gates, except for Castleknock Gate and the Park Gate Street Entrance.

The pedestrian and cycling facilities at some entrances are poor in terms of pavement width and quality, lack of dropped kerbs and tactile paving, and potential conflict with vehicular traffic, as presented in Table 8. Some of the entrances are geometrically constrained, such as the Cabra Gate, which results in increased risk of conflict between vehicles and vulnerable road users.

There is no public transport access within the Park itself at present, although a number of bus stops are located in proximity to the perimeter gates.

Table 8 The Phoenix Park Gates. Source: Google Streetview, September 2019

Access Points to the Phoenix Park	
	
Pedestrian access provided on one side at the Islandbridge Gate. Quite narrow. No tactile paving present on external footpath and poor quality dropped kerb.	The entrance at Castleknock Gate is dominated by car traffic and, given that it is one of the primary entrances to the Park, has relatively poor provision for pedestrians and cyclists due to narrow footpaths and no dedicated cycle facilities.
	
The configuration of some gates is geometrically constrained. The pedestrian environment around the Cabra Gate is poor with narrow footpaths and a lack of pedestrian crossings in the immediate vicinity.	Pedestrian and cycle facilities around the Chapelizod Gate are poor, with extensive rutting and cracking on pavement and poor quality tactile paving and dropped kerbing.

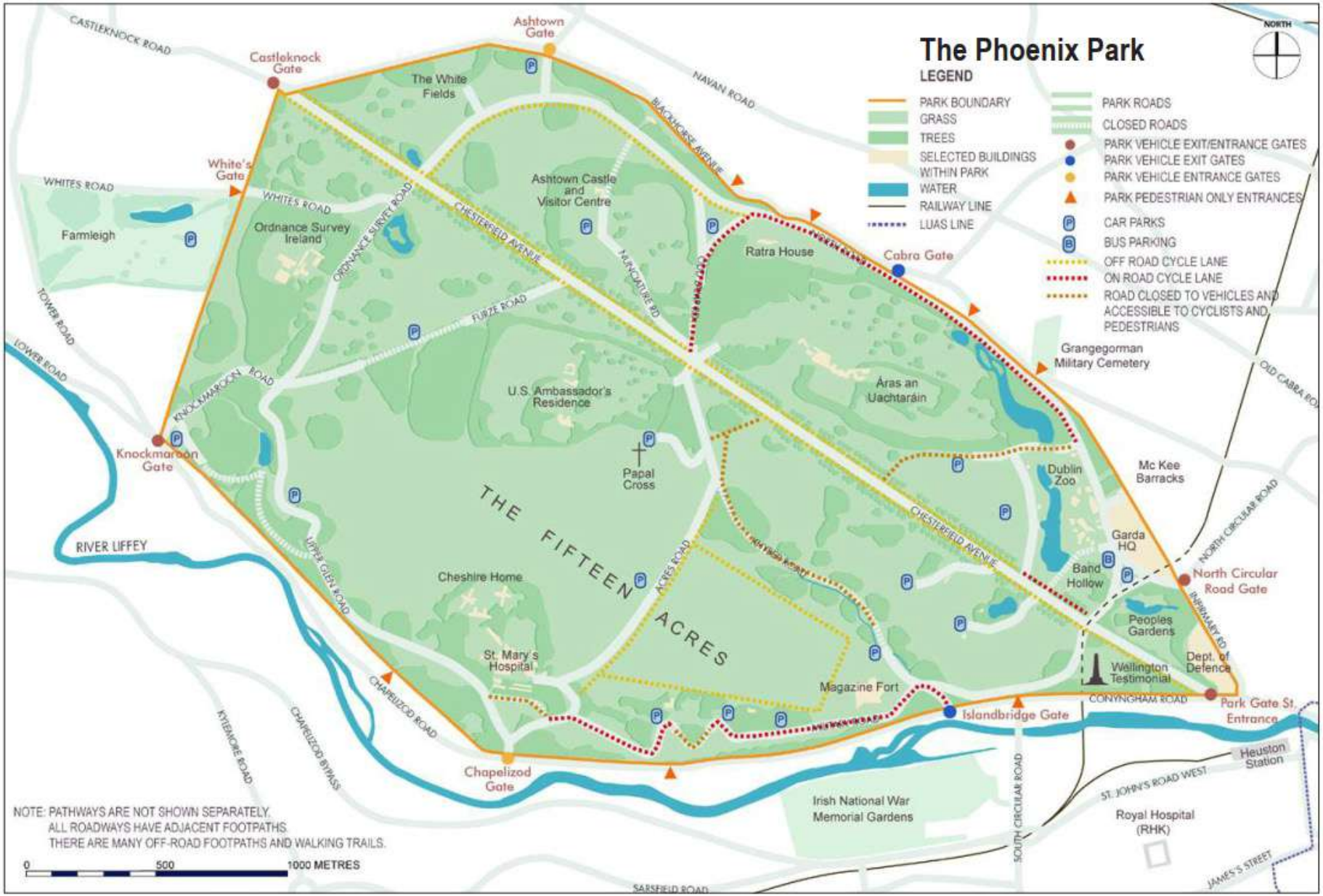


Figure 9 The Phoenix Park Access. Source: The Phoenix Park Conservation Management Plan 2011

Road Network

The Phoenix Park occupies a strategic position within the Greater Dublin Area (GDA), located between the City Centre and the outer suburbs which continue to experience significant expansion and development. The Park also sits between the heavily trafficked radial National road corridors, the N3/R147 and N4/R148. The positioning of the Park in relation to these and the parallel alignment of Chesterfield Avenue results in the Park being used as a through-route between the City Centre and outer areas. Moreover, the routes through the Park afford good forward visibility and no signal controlled junctions, thereby serving as an attractive alternative.

Furthermore, the Park is located in proximity to the M50 Motorway – one of the busiest Motorways in Ireland – which provides an outer orbital function around Dublin City. However due to significant congestion on the M50, the Park may provide an alternative rat-run via the side gates for this north-south orbital movement.

The primary purpose of the Park's internal road network is to facilitate access for visitors and staff of the Park itself, as laid out in the *Phoenix Park Conservation Management Plan 2011*. However, it is also fulfilling a strategic traffic function within Dublin City. This is not considered appropriate if it threatens the Park's amenity value, biodiversity and overall landscape character. The existing demand on the road network is detailed in later sections.

The following sub-sections present the road network relevant to the Study Area.

National Road Network

The National road network provides the basis for Dublin's wider national-level and inter-regional connectivity. There are a number of Motorway and National roads in proximity to the Park including:

M50 (Motorway): Orbital route circling Dublin City and suburbs. The road forms part of European route E01. Several radial routes connect to the M50 that connect with Dublin City and the wider country such as the M1, M2, M11, N4 and N2.

N4 (National Primary): Connects Dublin to Sligo town, and the wider region of the northwest of Ireland. At the M50, it continues as a radial route into the City Centre as the Regional R148.

N3 (National Primary): Connects Dublin to Cavan and the border with County Fermanagh. At the M50, it continues as a radial route into the City Centre as the Regional R147.

Regional Road Network

The Study Area's Regional road network comprises mainly of radial routes connecting the City Centre to the National road network and wider environs, including:

R806: Runs along the northern perimeter of the Park, connecting Blanchardstown and Dublin City Centre via Castleknock.

R147: Runs parallel to the R101, north of the Park. It connects Phibsborough to its junction with the M50. It then follows the route of a former section of the N3 between Clonee and Kells.

R109: Runs to the south of the Park starting at Kylemore Road via Chapelizod connecting to the City Centre.

R101: Forms part of the North Circular Road, an important thoroughfare to the north of Dublin, forming an orbital boundary between the inner City Centre and outer suburbs. It runs from the south-west of the Park.

Internal Road Network

The Phoenix Park has over 25km of roadways (approximately 3km of which are closed to vehicular through-traffic) which provide access to the Park's key destinations and car parks. Due to the context and sensitive setting of the Phoenix Park as a National Historic Park, there are minimal road markings and hard infrastructure present. The primary purpose of the internal road network of the Phoenix Park is to facilitate access for visitors and staff of the Park.

Chesterfield Avenue

Chesterfield Avenue is the primary thoroughfare and main access route through the Phoenix Park, measuring approximately 4km from Parkgate Street Entrance to Castleknock Gate. It is a wide, straight route with few junctions and no active frontage. It has a speed limit of 50kph. There are three roundabouts located along its length, providing access to the side roads. The Avenue is of particular historical importance as one of the major features of the Park's landscape character.

Wide off-road footpaths and cycle tracks are present along the full length of Chesterfield Avenue with a grass verge as a buffer between them and the carriageway.

There is a lack of defined pedestrian crossing facilities and no priority for pedestrians or cyclists at local junctions which, during periods of high vehicular traffic routing through the Park, make it difficult to cross the carriageway safely. This causes severance and acts as a barrier to

movement between the northern and southern parts of the Park, particularly for vulnerable road users.

In response to the government's Covid-19 public health restrictions and guidelines, space for pedestrians and cyclists has increased by 33% adjacent to the main spine of the Park on Chesterfield Avenue. Over 7km of new cycle lanes were introduced in this area taking over the hard shoulder of the road to ensure social distancing could be maintained by walkers and cyclists alike.

This space was previously occupied by a large volume of long-stay commuter parking which had a negative impact on visitors and the visual amenity, whilst bringing little benefit to the Park itself. A benefit of this cycle lane is that commuter car parking has virtually been eliminated due in part to this new on-road cycle lane.

North Road

The North Road is an east-west route, running inside the northern boundary of the Park. It is a long, mostly straight route with a number of speed ramps in place to calm traffic speeds. Narrow paved pedestrian paths are present along the length of the route.

A significant volume of illegal parking is regularly observed on North Road on the southern end of the route around the entrance to Dublin Zoo and An Garda Síochána HQ.

Glen Road/Military Road

The Glen Road and Military Road run in an east-west direction, along the southern boundary of the Park. They form a link between the Knockmaroon Gate and the Chapelizod Gate.

The Upper Glen Road provides the connection from the Knockmaroon Gate to the Chapelizod Gate. It is quite narrow with a winding alignment, and minimal road markings and signage. Lower Glen Road has been closed in recent years to traffic in order to improve safety and facilities for recreational users through the Furry Glen.

Filtered permeability is provided for pedestrians and cyclists between Military Road and Wellington Road, with bollards in place to restrict vehicular through traffic.

Acres Road

Acres Road runs north-south through the southern half of the Park linking the Chapelizod Gate with Chesterfield Avenue, and providing access to St. Mary's Hospital. It is a long, mostly straight route with narrow paved pedestrian paths along its length. The pavement condition of the road carriageway is poor in places with extensive rutting and alligator cracking.

Other routes include:

Wellington Road: Connects Military Road and Islandbridge Gate toward Chesterfield Avenue, along the southern perimeter.

Knockmaroon Road: Connects Knockmaroon Gate to Furze Road and Ordnance Survey Road. Footpath on one side, as well as some parking provision along the road.

Ordnance Survey Road: Connects Knockmaroon Road to Chesterfield Avenue.

Furze Road: Only partially open to vehicular traffic, no through-movement permitted.

Nunciature Road: Provides access to Ashtown Castle and Visitor Centre only. No through-route to North Road.

Odd Lamp Road: Generally closed to vehicular traffic. It is sometimes opened during Park events to facilitate diversions.

Walking Network

The Phoenix Park provides a vast network of pedestrian trails; 27km of designated surfaced footpaths as well as trails through wooded and grassland areas. These are used extensively by visitors to the Park for recreational and amenity purposes. Figure 10 illustrates some of the key walking routes throughout the Park.

Due to the context and sensitive setting of the Phoenix Park, there are minimal road markings and hard infrastructure present. As a result of this however, some of the walking network is not accessible by all ages and abilities due to the lack of tactile paving, dropped kerbs, pedestrian crossings and potential conflict areas with cyclists. There is a good level of seating along most routes providing spaces for rest, which supports the overall walkability of the Phoenix Park.

It is also likely that some areas of the Park give rise to poor perceptions of safety due to isolation and lack of passive surveillance, particularly when dark.

This point was raised by a number of employees of the Phoenix Park during the Employee Travel Survey carried out in 2009.

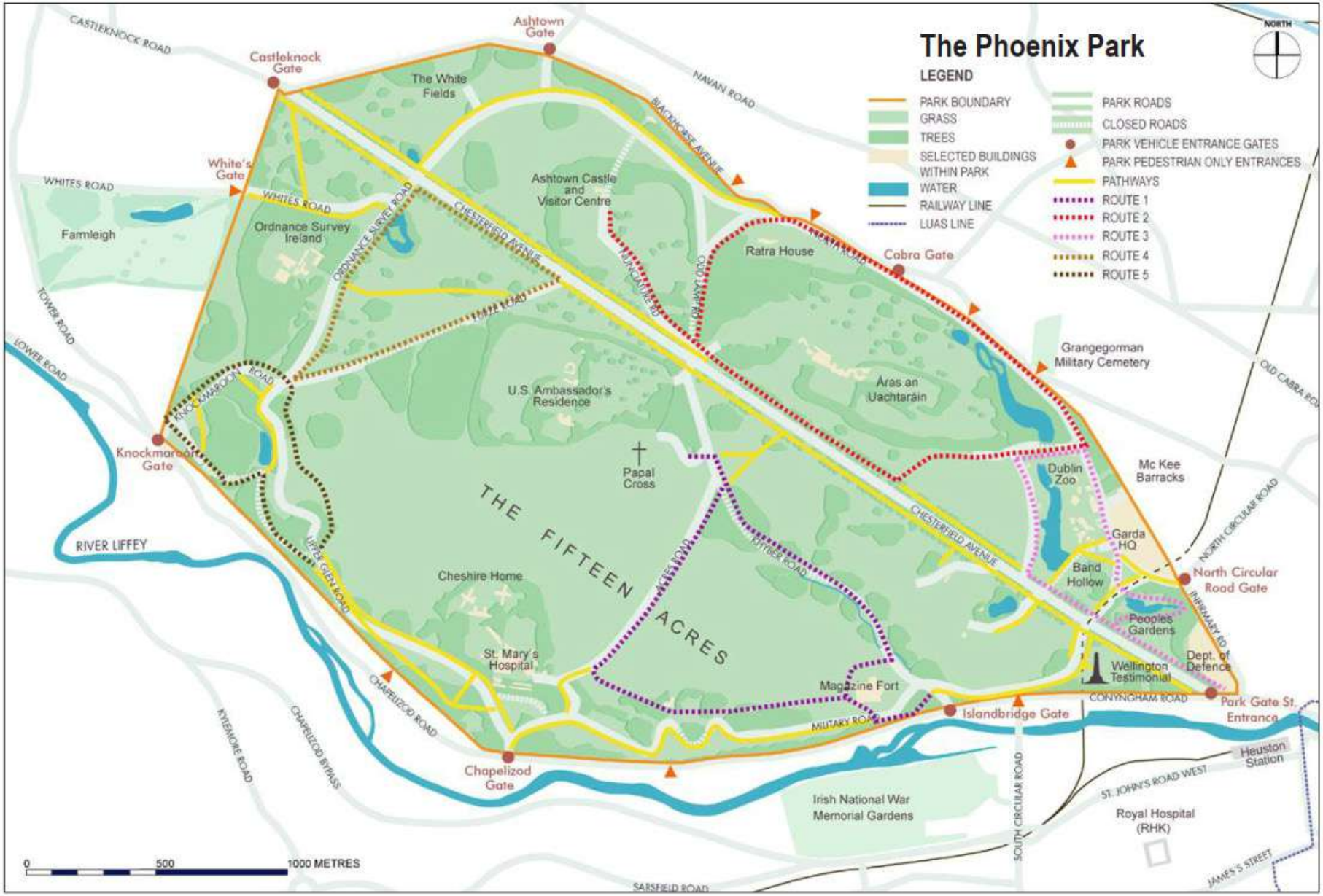


Figure 10 Walking Routes in the Phoenix Park. Source: Phoenix Park Conservation Management Plan, p.76, OPW.

Cycling Network

Phoenix Park Cycle Facilities

There are approximately 17kms of dedicated cycle facilities in the Phoenix Park. These trails and paths complement a range of closed and semi-closed roads with low traffic volumes, which are ideal for both utility and recreational cycling as shown in Figure 10. Figure 11 illustrates how the Park is connected to the proposed *GDA Cycle Network Plan*.

Most recently, in response to the government's Covid-19 restrictions and guidelines, a temporary on-road cycle lane was installed along the length of Chesterfield Avenue. This provides a direct route through the Park for both visitors and commuters.

Phoenix Park Bikes

A bike hire facility, Phoenix Park Bikes, was introduced in 2007 and is located just inside the Park Gate Street Entrance, enabling visitors to explore the vast scale of the Park by bike.

Dublin Bikes

The Just Eat Dublin bikes is a public bike share scheme serving Dublin City Centre with stations distributed throughout to enable easy access and optimal use. The Scheme can be accessed using the Transport for Ireland (TfI) Leap travel cards. The closest docking station is situated 300m from the Park Gate Street Entrance.

Bleeper Bikes

BleeperBike is Ireland's first dockless bike sharing scheme. In operation since 2016, BleeperBikes are available throughout Dublin City and Fingal at public cycle parking locations. The dockless nature of these bikes make Dublin more accessible and can be used for commuting to work or school, for sightseeing, for recreation and so on. The zone within which BleeperBikes operates as far north as Swords, as far south as Dalkey and as far west as Blanchardstown.

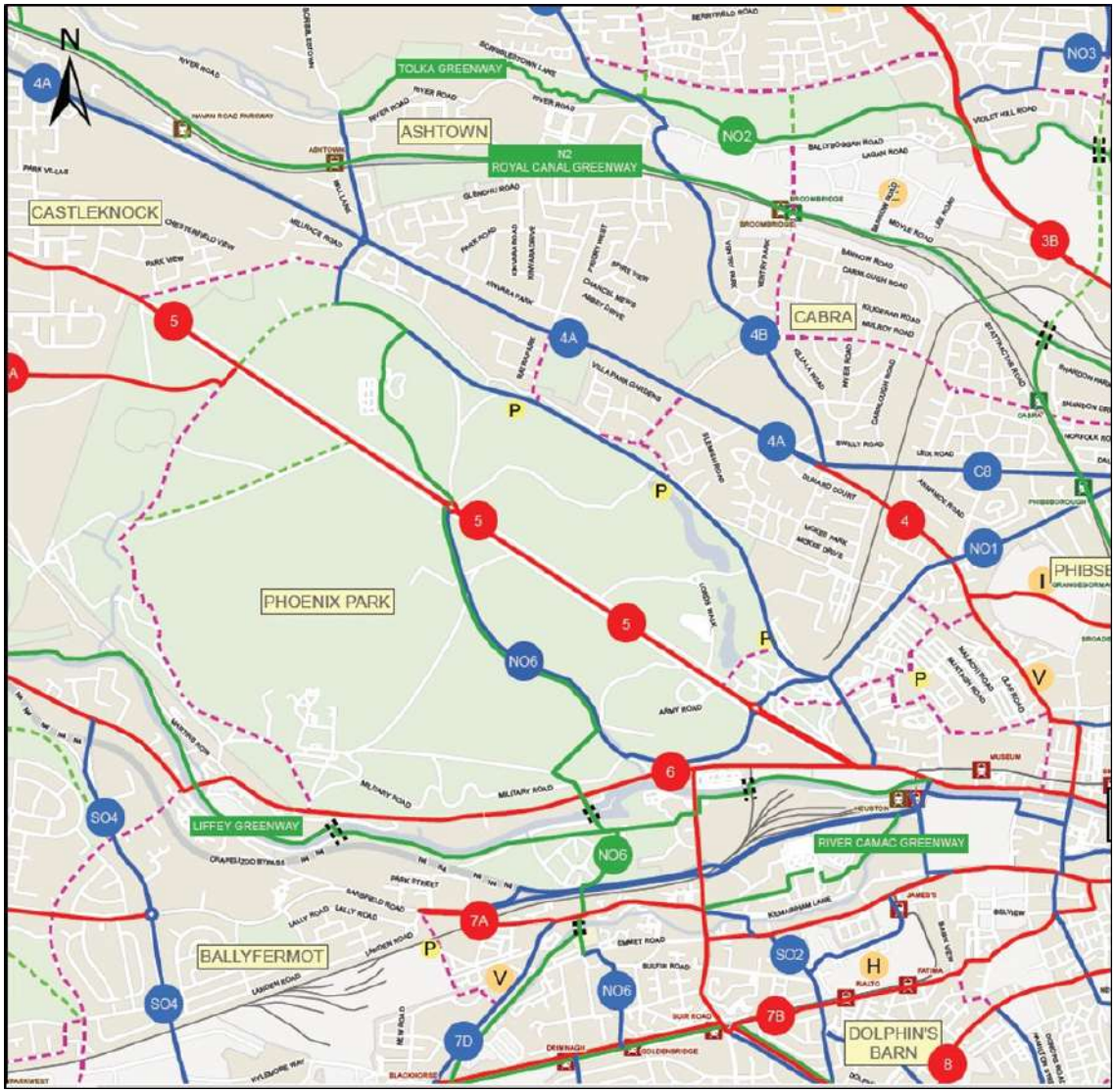


Figure 11 Greater Dublin Area Cycle Network Plan.

Bus Network

At present, there are no bus services that serve the Phoenix Park internally. However, there are several that serve the immediate surrounding perimeter along the R109, R101 and R806.

The Greater Dublin Area is served by an extensive bus network with many more routes serving the surrounding areas of the Park. Figure 12 and Figure 13 illustrate the complete network and how they integrate with the rail networks and Park and Ride facilities.

Due to the vast scale of the Park, the lack of a public transport service in the Park itself greatly reduces its accessibility for sustainable travel.

In 2008, a Phoenix Park Shuttle Bus Service was established to provide an alternative option for people wishing to access the Park. It formed a circular route, serving key destinations within the Park. Following a review of its use, however, the pilot project was terminated in 2009.

Rail Network

Heuston Station

Heuston Station is a major transport hub in Dublin and is one of Ireland's primary train stations, linking Dublin City with the south, south-west and west of the country. Regional and local bus services and Dublin's Light Rail Transit (LRT) system, the LUAS, also serve the Station, including the no. 747 which is a high-frequency bus service that connects Heuston Station to Dublin International Airport.

The Station is located to the south-east of the Phoenix Park, approximately 600m from Park Gate Street Entrance. However, the legibility and wayfinding between Heuston Station and the Park is poor, and could be improved.

Many InterCity rail services operate from Heuston Station. These services connect Dublin to major towns and cities across Ireland, such as:

- Cork;
- Portlaoise;
- Galway;
- Limerick;
- Tralee; and
- Sligo.

Ashtown Station

Ashtown Station is located 600m north from the Ashtown Gate and is served by the Dublin – Longford Commuter Service. Commuter rail services provide for longer distance travel to suburban communities in the Greater Dublin Area and surrounding counties.

This service serves the following stations:

- Grand Canal Dock;
- Pearse;
- Tara Street;
- Connolly;
- Ashtown;
- Castleknock;
- Mullingar; and
- Clonsilla.

Light Rail Transit (Luas) Services

The Luas is Dublin City's Light Rail Transit (LRT) system. The network comprises of two lines; Green and Red. The Luas Red line serves Heuston Station, while the Luas Green line serves Broombridge Station, located 2km north of the Cabra Gate.

There are a number of Park and Ride facilities located along the Luas Red Line at Red Cow (750 spaces) and Tallaght (593 spaces) stations, as well as the Luas Green Line at Balally (600 spaces), Stillorgan (350 spaces), and Sandyford (100 spaces) stations enabling interchange and better connectivity with a wider catchment via sustainable modes.

The Phoenix Park Tunnel Service

The Phoenix Park Tunnel is a railway tunnel that runs underneath the Park for approximately 700m, beginning at the Liffey Railway Bridge near Heuston Station, and re-emerging close to the junction of the Cabra Road and Navan Road.

The Service operates a regular service from Monday to Friday, and runs from Newbridge, Co. Kildare to Grand Canal Dock via a number of stations including Adamstown, Connolly, Tara Street and Pearse.

This presents a potential opportunity for a station to connect with the underground rail line in the future.

Parking Facilities

The Park currently provides the following parking facilities:

- Car parking: 1,350;
- Blue-badge spaces: 27;
- Bus/Coach: 14; and
- Bicycle stands: 66.

All car parking facilities are currently free of charge. Existing car parking facilities for users of the Park are compromised by increased commuter parking, i.e. people working in Dublin City Centre or surrounding areas.

Illegal car parking is also observed on a continuous basis throughout the Park, as well in the immediate surrounding areas.

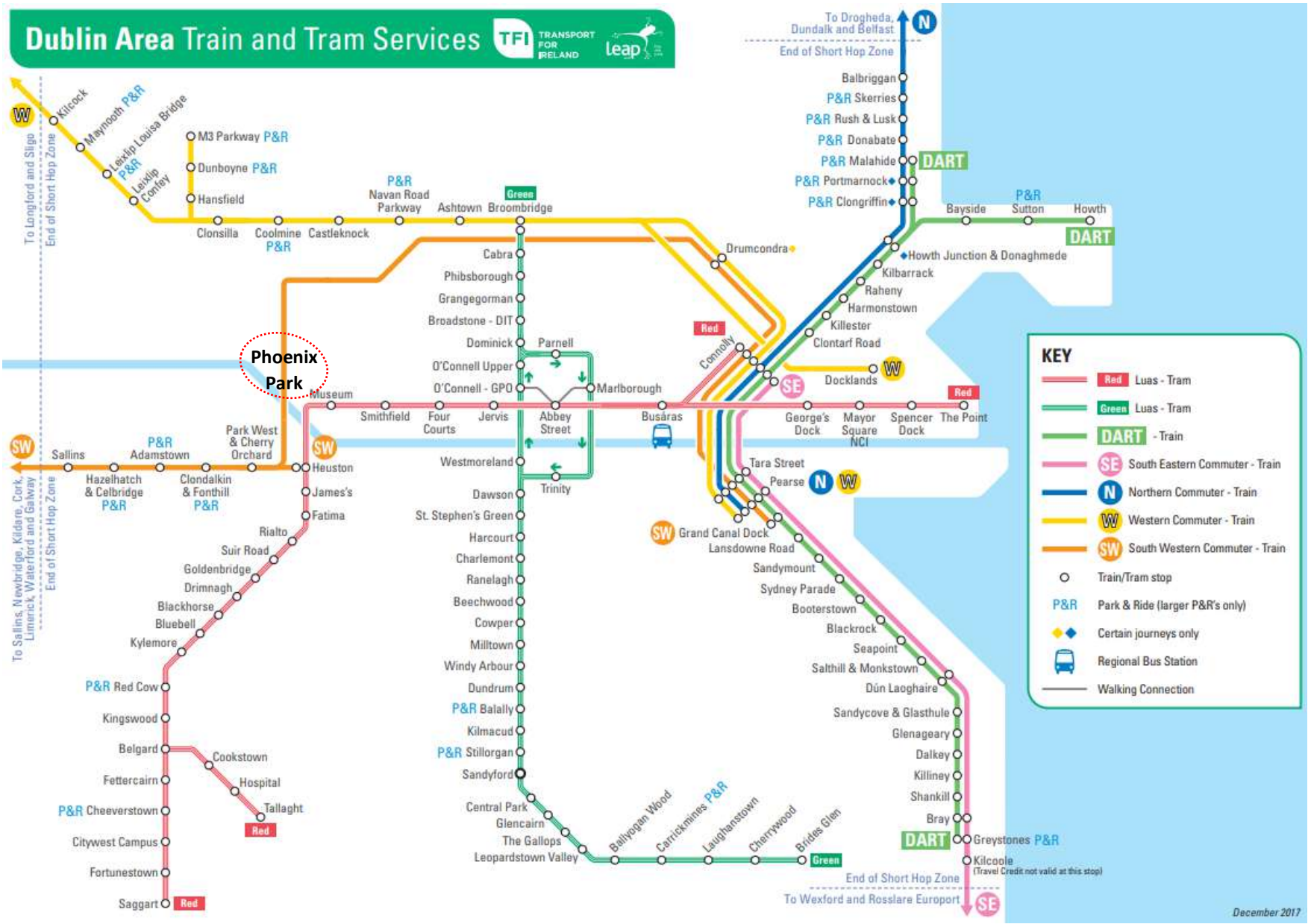


Figure 12 Dublin Area Train and Tram Services. Source: Transport for Ireland.

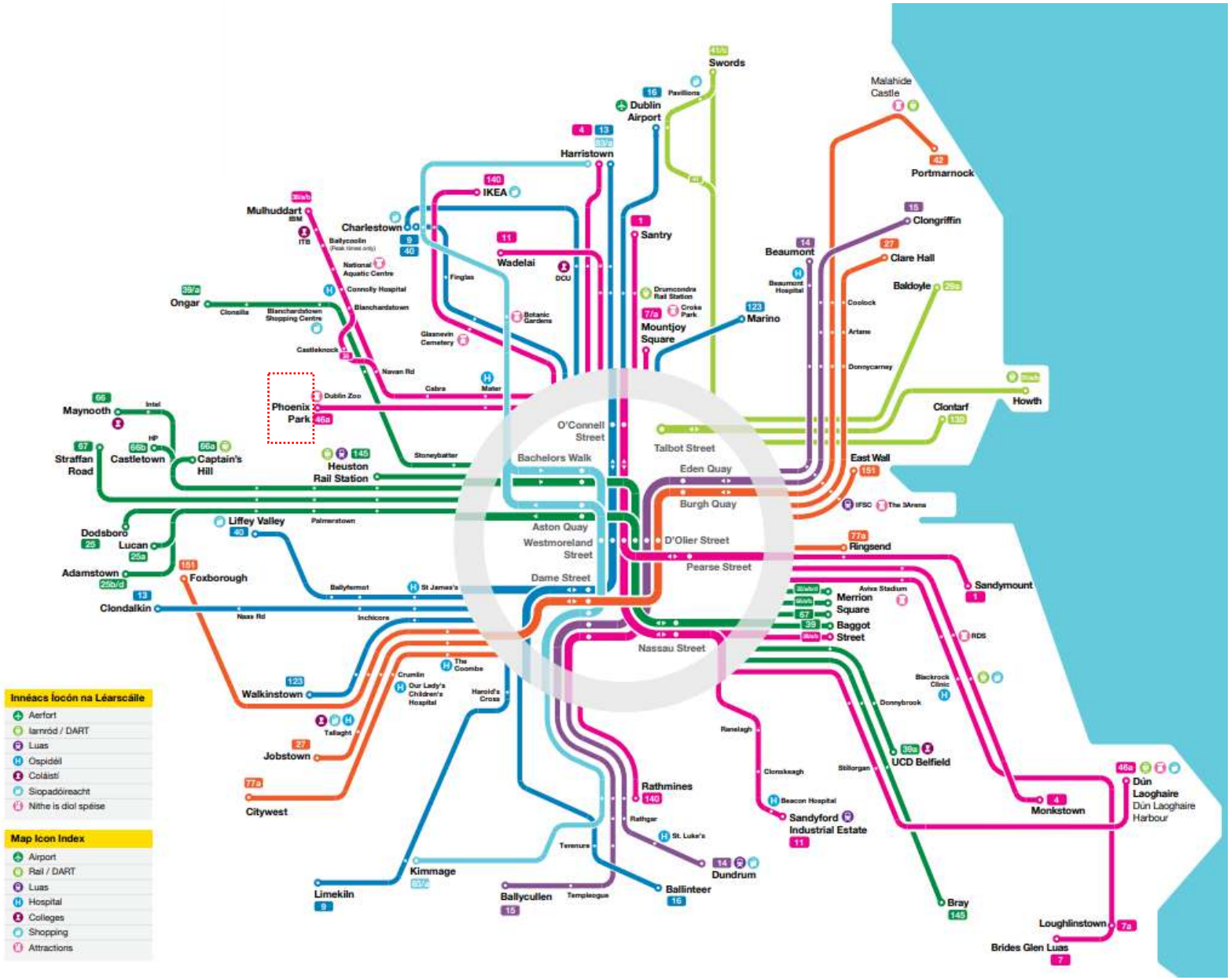


Figure 13 Dublin Bus Network. Source: Dublin Bus.

Understanding Movement in the Park

An assessment was carried out to ascertain the travel demand and patterns related to the Park; how people access it, when and for what purpose. A number of data sources were drawn upon for this work, including:

- 2016 Census Data;
- NTA Eastern Regional Model;
- Automated Traffic Counts carried out in August and September 2020;
- Canal Cordon Counts - Cordon Site 18; and
- Visitor Counts from the Phoenix Park and Dublin Zoo.

Existing Transport Demand Analysis

The following section presents the baseline transport demand characteristics for the Phoenix Park as both an origin and as a destination, based on the above data sources.

Origin Demand

24-Hour Mode Share

In total, there are approximately 4,760 trips originating from within the Phoenix Park over a 24-hour period during a typical weekday.

The mode share for the 24-hour origin demand is illustrated in Figure 14. It shows a dominant car mode share of 56%. Public transport accounts for a significant proportion of the remaining mode share at 19%, followed by walking at 18% and cycling, which has a low mode share of 6%.

This indicates that although the Phoenix Park is not served internally by a public transport service, people are travelling from the Park by another mode (e.g. walking, cycling, car) to a public transport stop/station.

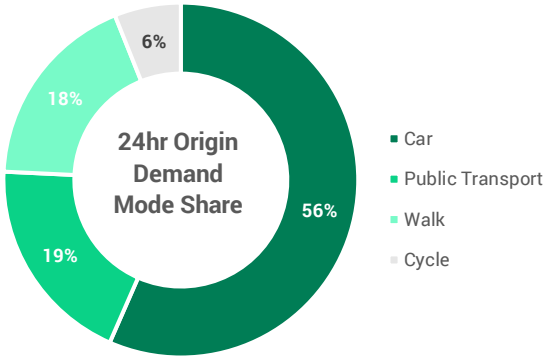


Figure 14 24hr Origin Demand Mode Share

Origin Demand by Mode and Time Period

A breakdown of origin demand by time period and mode is shown in Figure 15. It shows the most significant number of trips originating from the Phoenix Park is during the PM Peak Period (16:00-19:00) where there are approximately 2,280 trips in total. The remaining four time periods generate between 560 and 715 total trips each. Trips by car account for the highest number of trips across all time periods when compared to walking, cycling and public transport.

The percentage breakdown of the origin demand mode share between the five modelled periods is shown in Figure 16. The AM Peak and AM Inter Peak have the highest sustainable mode share of all time periods, accounting for 53% and 52%, respectively. The remaining time periods, PM Inter Peak, PM Peak and Off Peak, all have a car mode share of almost 60%.

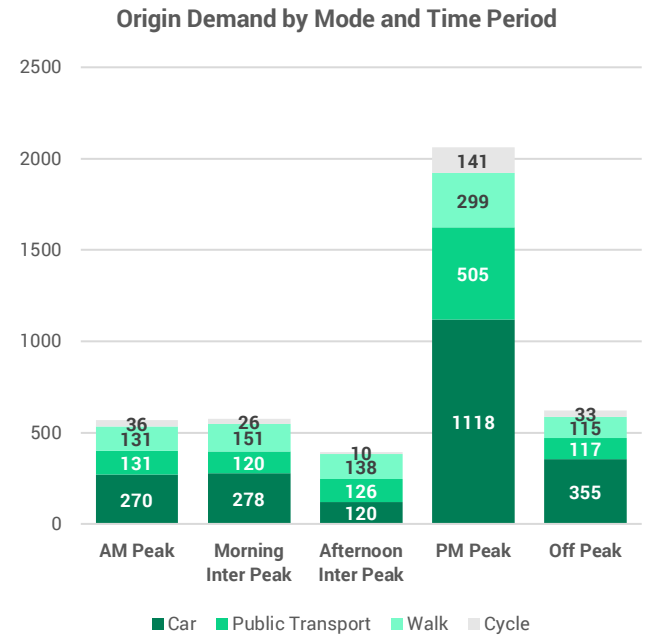


Figure 15 Origin Demand by Mode and Time Period.

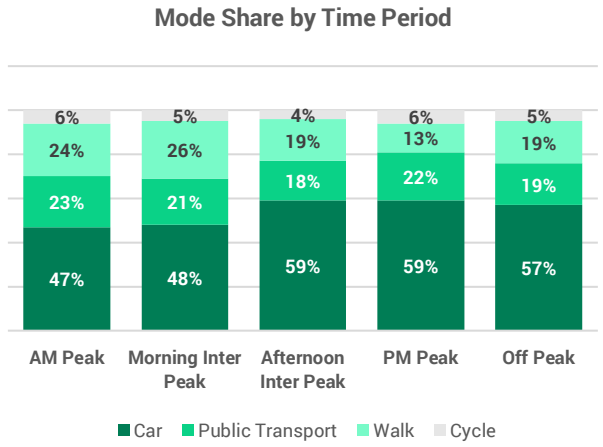


Figure 16 Origin Demand Mode Share by Time Period.

Origin Demand Trip Purpose

A breakdown of the origin demand by trip purpose is presented in Figure 17. It highlights the following purposes:

- Commute;
- Education;
- Employers Business (any work-related travel other than commute);
- Retired (e.g. trips by people that are not part of the labour force); and
- Other.

Figure 18 shows a breakdown of trip purpose by time period.

These Figures highlight the following:

- Most significant trip purpose originating from the Phoenix Park is 'Commute' related travel, accounting for approximately 55% of trips;
- Majority of 'Commute' related travel from the Phoenix Park occurs during the PM Peak Period, accounting for over 80% of trips;
- 'Commute' related travel has a 24hr car mode share of 70%;
- The second largest trip purpose generator is 'Other' which accounts for nearly 33% of all trips throughout the day;
- 57% of 'Other' trips are by sustainable modes, with walking accounting for nearly 30%;
- 'Emp Business', 'Retired' and 'Education' account for a low percentage of trips from the Phoenix Park during an average weekday; and
- Of the 79 'Education' related trips from the Park, nearly 80% are by sustainable modes.

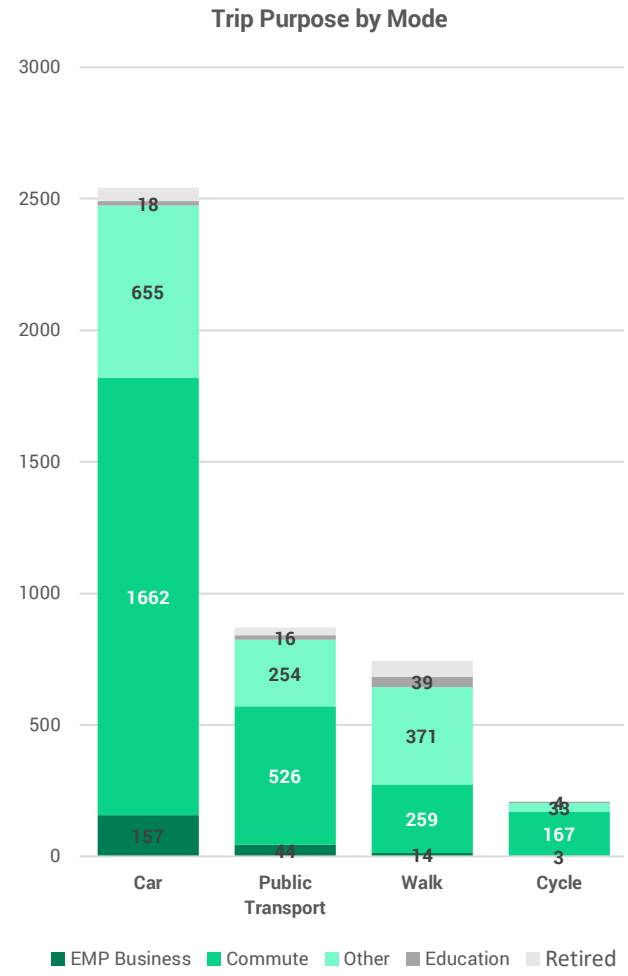


Figure 17 Origin Demand Trip Purpose by Mode.

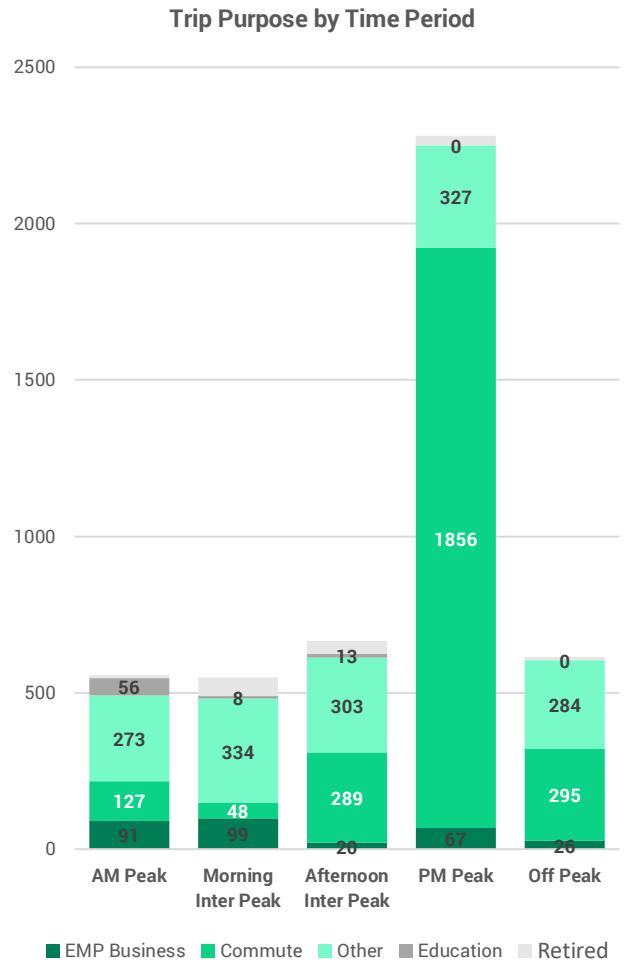


Figure 18 Origin Demand Trip Purpose by Time Period.

Destination Demand

24-Hour Mode Share

In total, there are approximately 4,440 trips with a destination in the Phoenix Park over a 24-hour period during a typical weekday. The mode share for the 24-hour demand is illustrated by Figure 19. Similar to the origin demand, it shows a dominant car mode share of 58%. Public transport and walking account for a significant proportion of the remaining mode share with 19% and 17% respectively, followed lastly by cycling, which has a low mode share of 5%.

This indicates that despite the fact that the Phoenix Park does not have a public transport service serving the Park internally, people are travelling to the Park by public transport to external stops and completing their journey into the Park by another mode.

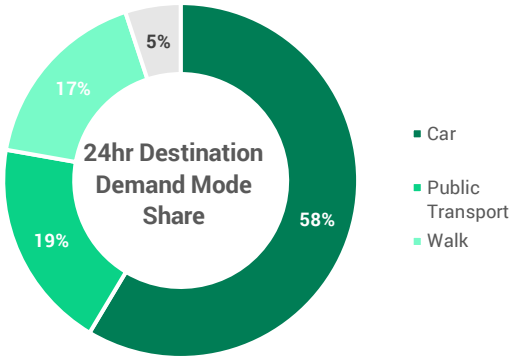


Figure 19 Destination Demand 24hr Mode Share.

Mode Share by Time Period

Figure 20 shows a breakdown of destination demand by time period and mode. It illustrates that the most significant number of trips with a destination in the Phoenix Park is during the AM Peak Period (07:00-10:00) where there are approximately 2,480 trips in total. The remaining four time periods generate between 400 and 600 total trips each. Trips by car account for the majority of trips across all time periods when compared to walking, cycling and public transport.

A breakdown of mode share by time period is shown in Figure 21. Car mode share has the highest percentage across all periods when compared to walking, cycling and public transport individually. The AM Peak Period and the Off Peak Period have the highest car mode share at 64% and 60%, respectively.

Approximately 50% of trips travelling to the Phoenix Park during the interim time periods are by car.

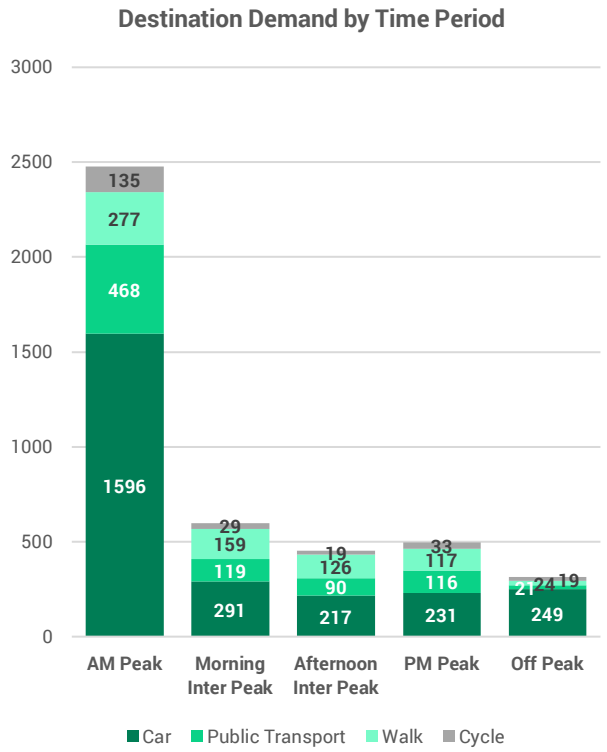


Figure 20 Destination Demand by Time Period.

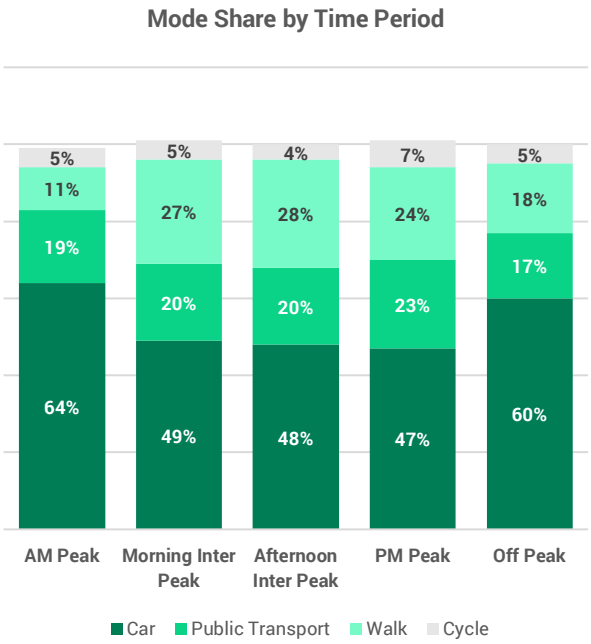


Figure 21 Destination Demand Mode Share by Time Period.

Destination Demand Trip Purpose

A breakdown of the trip purpose of the destination demand by time period is presented in Figure 22. It highlights the following purposes:

- Commute;
- Education;
- Employers Business (any work-related travel other than commute);
- Retired (e.g. trips by people that are not part of the labour force); and
- Other (e.g. leisure, retail).

Figure 23 shows a breakdown of trip purpose by mode.

These Figures highlight the following:

- The most significant trip purpose for demand to the Phoenix Park 'Commute' related travel, accounting for approximately 60% of trips;
- The majority of 'Commute' related travel to the Park occurs during the AM Peak Period, accounting for over 85% of trips during this period;
- 'Commute' related travel to the Park has a 24hr car mode share of 64%;
- The second largest trip purpose generator is 'Other' which accounts for 50% of all trips throughout the day, resulting in approximately 300 trips during each time period;
- 'Other' trips have a mode share split of 50:50 between car and sustainable modes;
- 'Emp Business', 'Retired' and 'Education' account for a low percentage of trips with a destination in the Phoenix Park during an average weekday; and
- Of the 79 'Education' related trips going to the Phoenix Park, nearly 80% are by sustainable modes.

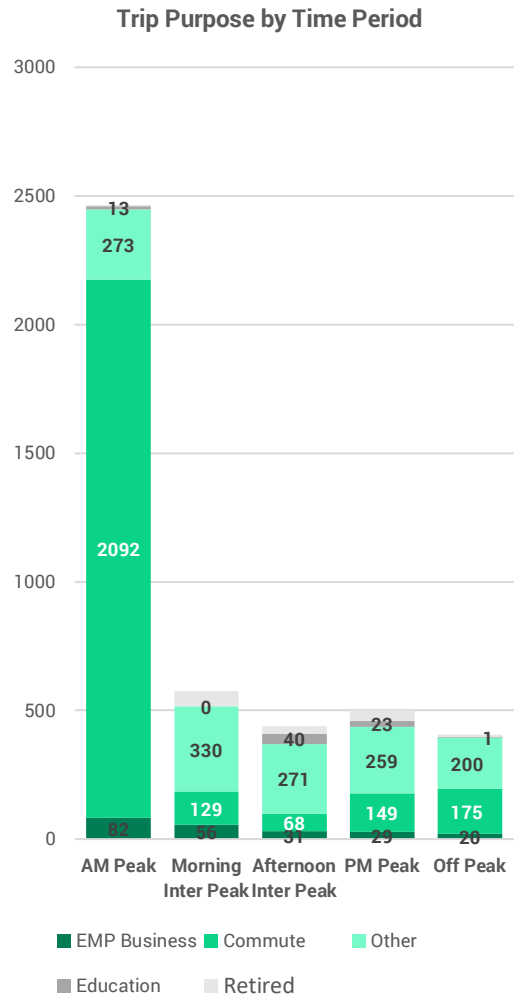


Figure 22 Destination Demand Trip Purpose by Time Period.

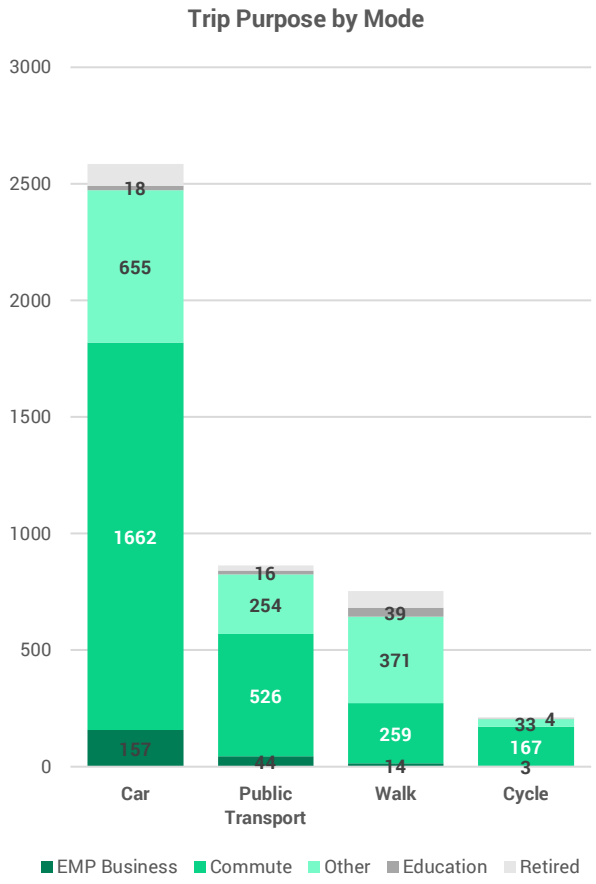


Figure 23 Destination Demand Trip Purpose by Mode.

Canal Cordon Mode Share

Figure 24 presents the mode share trend of trips crossing the Canal Cordon between 2006 and 2018. It illustrates that there has been a gradual increase in the number of trips by sustainable modes and a decrease in those by cars, HGVs and other modes.

The Phoenix Park is located along the boundary of the Canal Cordon at site 17, 18 and 19, however it is noted that the sustainable mode share of trips to and from the Phoenix Park is much lower than that travelling past the Canal Cordon.

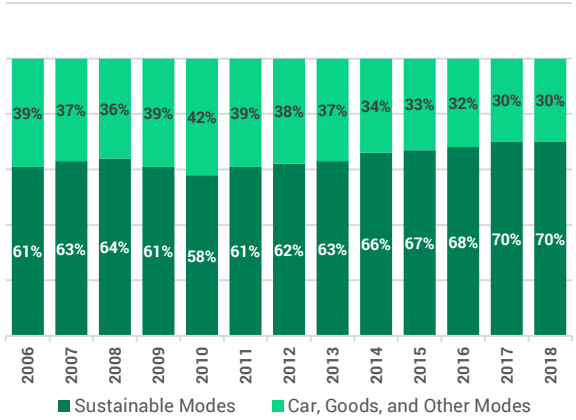


Figure 24 Canal Cordon Mode Share.

Sectoral Analysis

In order to better understand the origin and destination demand to and from the Phoenix Park, a sectoral analysis was undertaken. Sectors were defined based on existing Greater Dublin Area corridors from the *Greater Dublin Area Transport Strategy 2016-2035*.

These corridors are primarily used to describe radially-based trips, which represents the most dominant trip pattern within the Greater Dublin Area. Phoenix Park is situated within B1 (Corridor B and Segment 1).

Figure 25 presents the eight corridors and breakdown of Corridor B into segments, which are discussed further below.

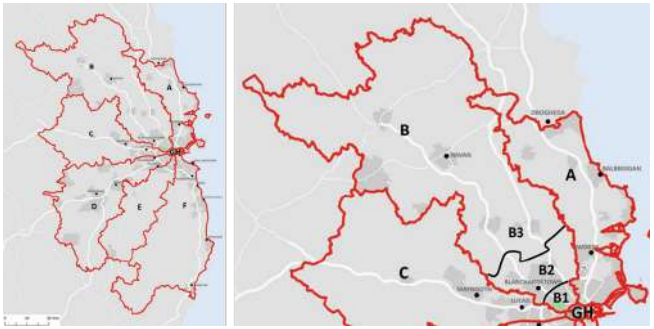


Figure 25 GDA Corridors and Segments. Source: GDA Transport Strategy, p.37, NTA.

These corridors, illustrated in Figure 25, are as follows:

- **Corridor A:** Drogheda – Swords – Airport – North Inner City – to Dublin City Centre;
- **Corridor B:** Navan – Dunboyne – Blanchardstown – to Dublin City Centre;
- **Corridor C:** Maynooth – Leixlip – Lucan – to Dublin City Centre;
- **Corridor D:** Newbridge – Naas – Clondalkin – North Tallaght – to Dublin City Centre;
- **Corridor E:** N81 Settlements – South Tallaght – to Dublin City Centre;
- **Corridor F:** Arklow – Greystones – Cherrywood – Dundrum – Dún Laoghaire – to Dublin City Centre;
- **Corridor G:** Dublin City Centre; and
- **Corridor H:** Dublin Docklands

To analyse orbital trips and to establish a greater understanding of the origin and destination of trips relating to each corridor, corridors were further subdivided into segments, as follows:

- **Segment 1**: Between the City Centre and M50;
- **Segment 2:** Between the M50 and boundary of the Metropolitan Area, as defined in the Regional Planning Guidelines for the Greater Dublin Area; and
- **Segment 3**: Between the boundary of the Metropolitan Area and that of the GDA.

The following Figures show the distribution of demand to and from the Phoenix Park over a 24hr period (Figure 26 and Figure 27), as well as during the AM (Figure 28 and Figure 29) and PM (Figure 30 and Figure 31) peak periods. The data is extrapolated from the ERM 2016 base year model.

The results from the sector to sector analysis are summarised below:

- The highest demand to the Phoenix Park during the AM Peak is from B1 and B2, generating over 200 trips each. This aligns with the demand from the Phoenix Park during the PM Peak, however at a lower number of trips of 50 or less. This area contains the Phoenix Park and its immediate surrounding areas including Castleknock and Cabra, and Blanchardstown;
- There is low demand from the Phoenix Park during the AM peak, at less than 50 trips from each segment. This is likely due to the low number of residences located within the Phoenix Park;
- There is low demand to the Phoenix Park during the PM peak, at less than 50 trips from each segment; and
- Over a 24hr period, demand originating from the Phoenix Park or with the Park as a destination is mostly concentrated in Corridors B, C, D, A1 and the City Centre, with B1 experiencing the most with over 1,000 trips.

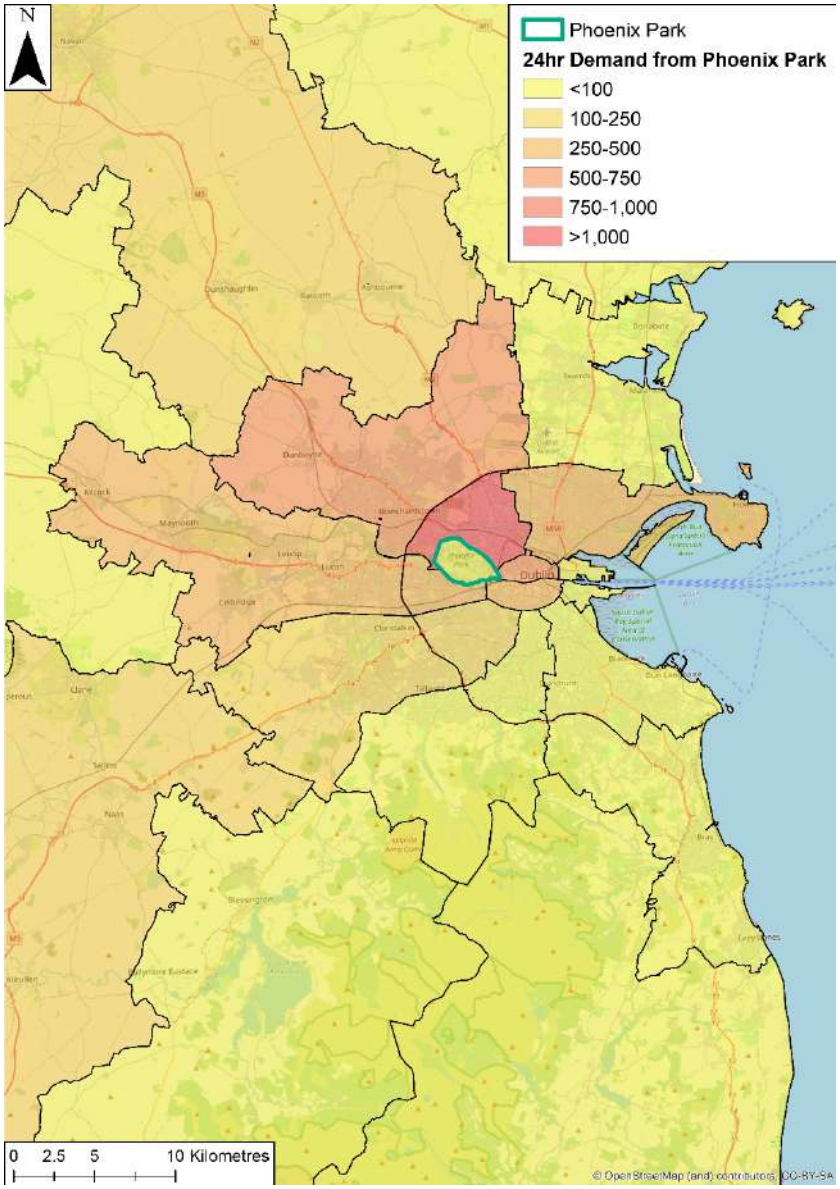


Figure 26 24hr Demand from the Phoenix Park.

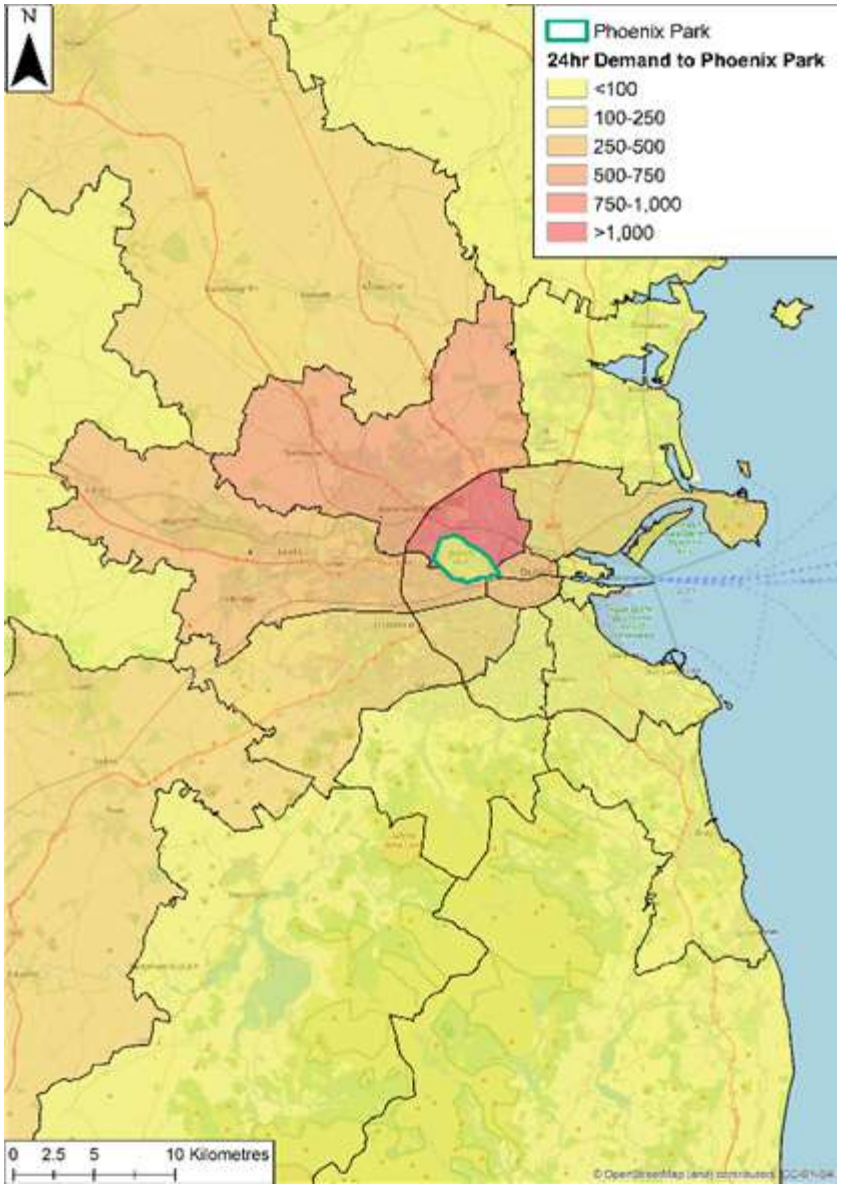


Figure 27 24hr Demand to the Phoenix Park.

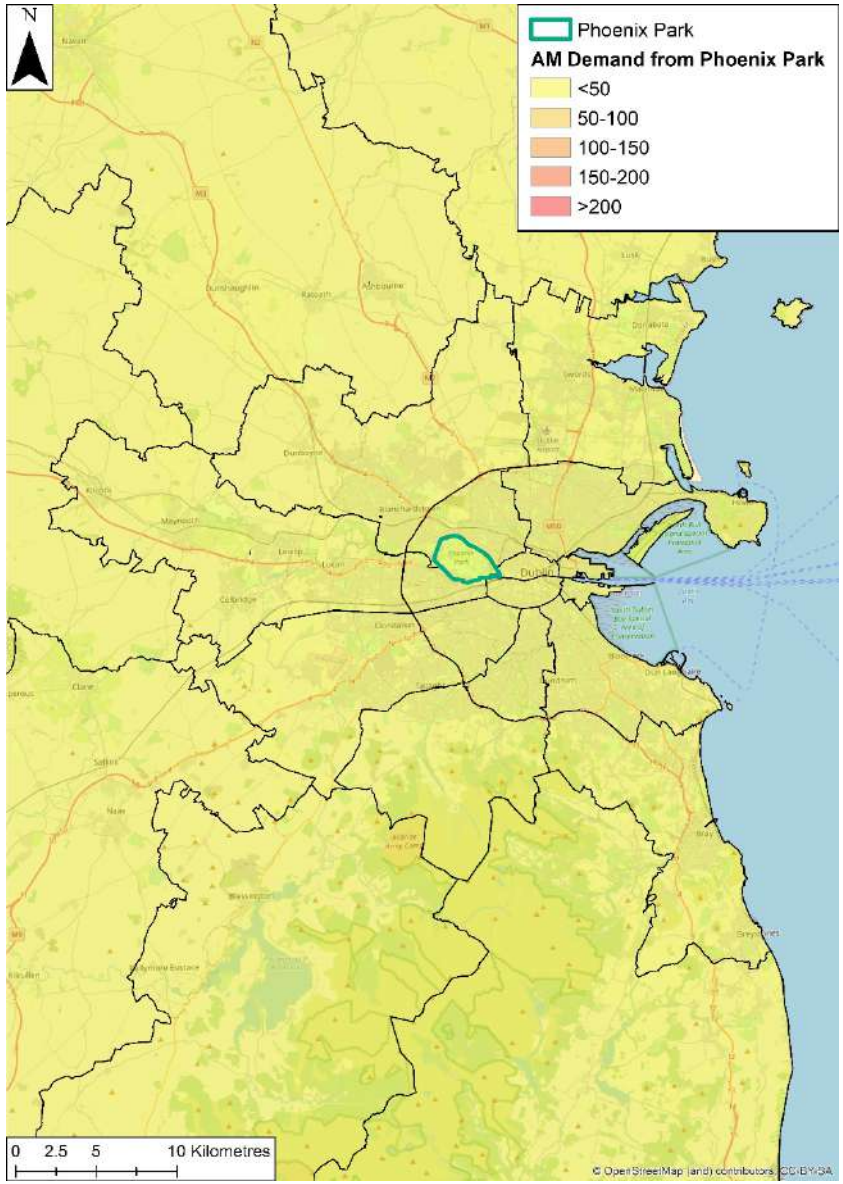


Figure 28 AM Demand from the Phoenix Park.

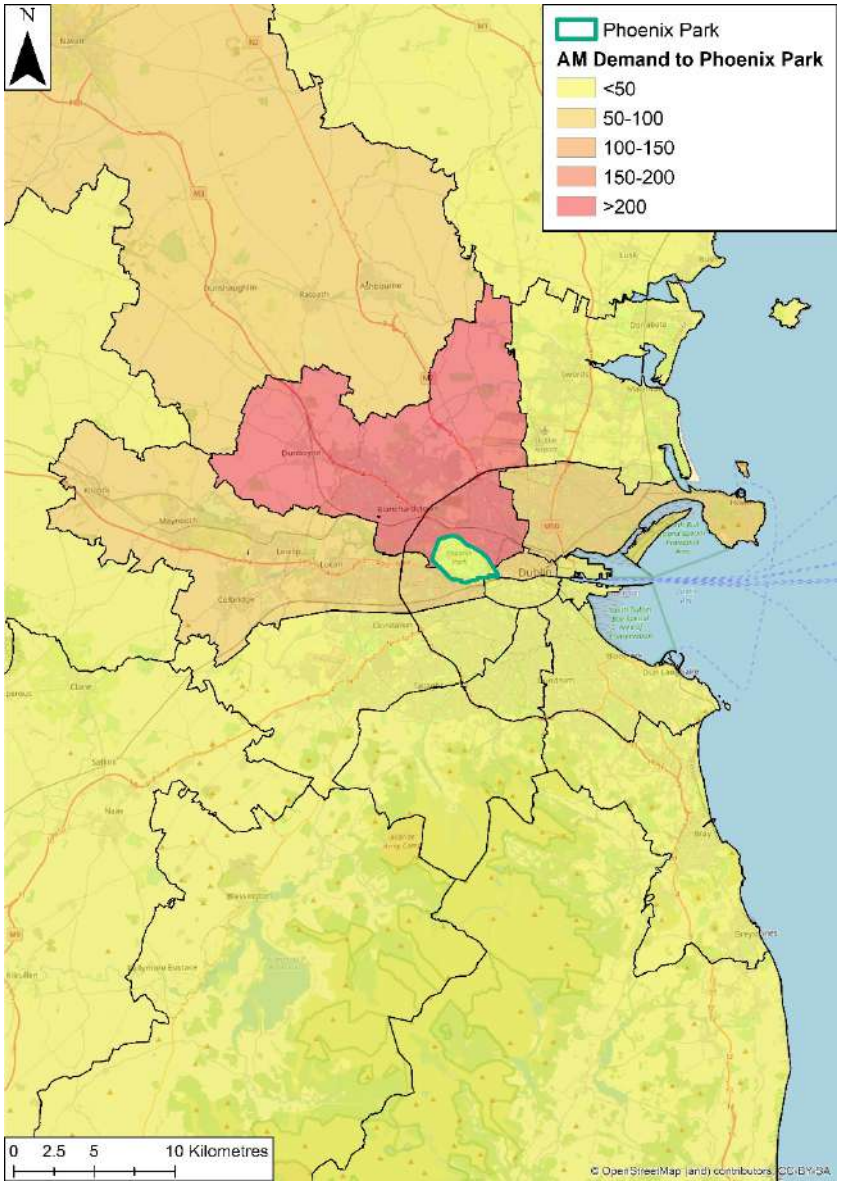


Figure 29 AM Demand to the Phoenix Park.

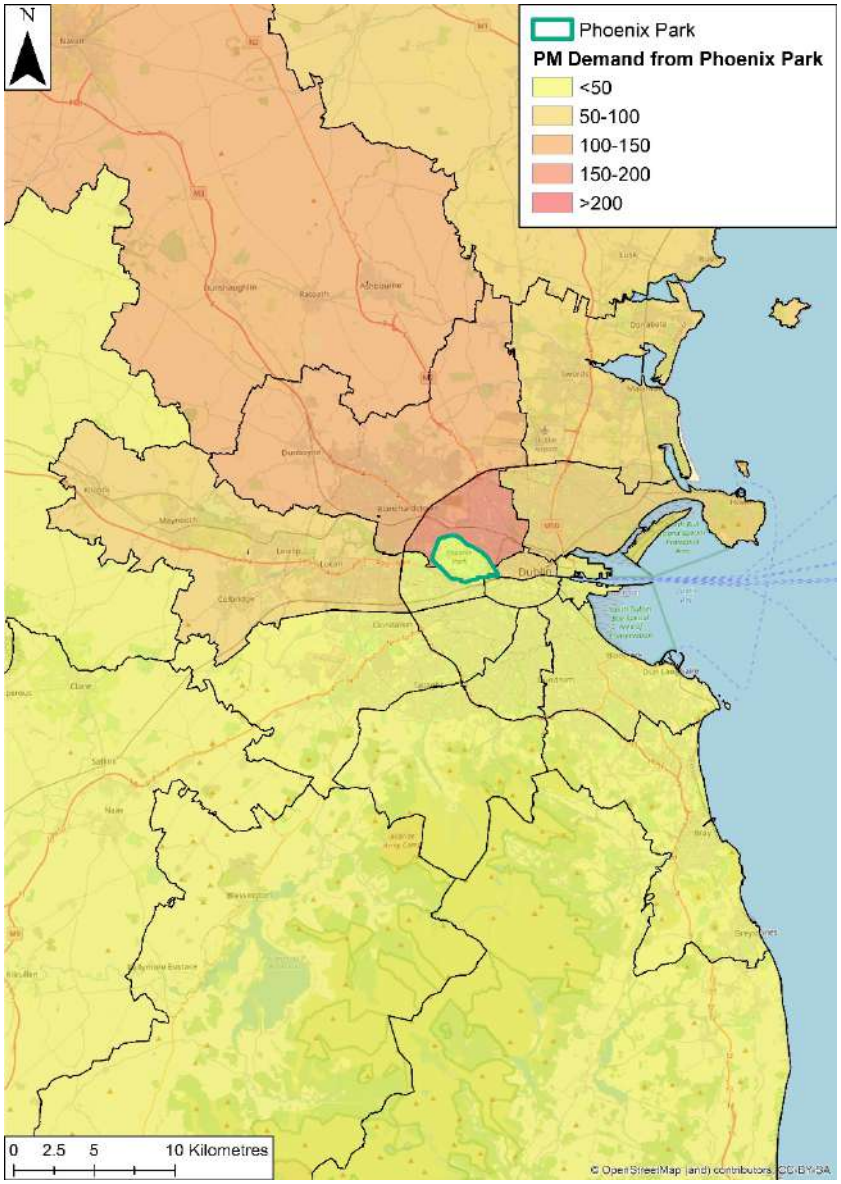


Figure 30 PM Demand from the Phoenix Park.

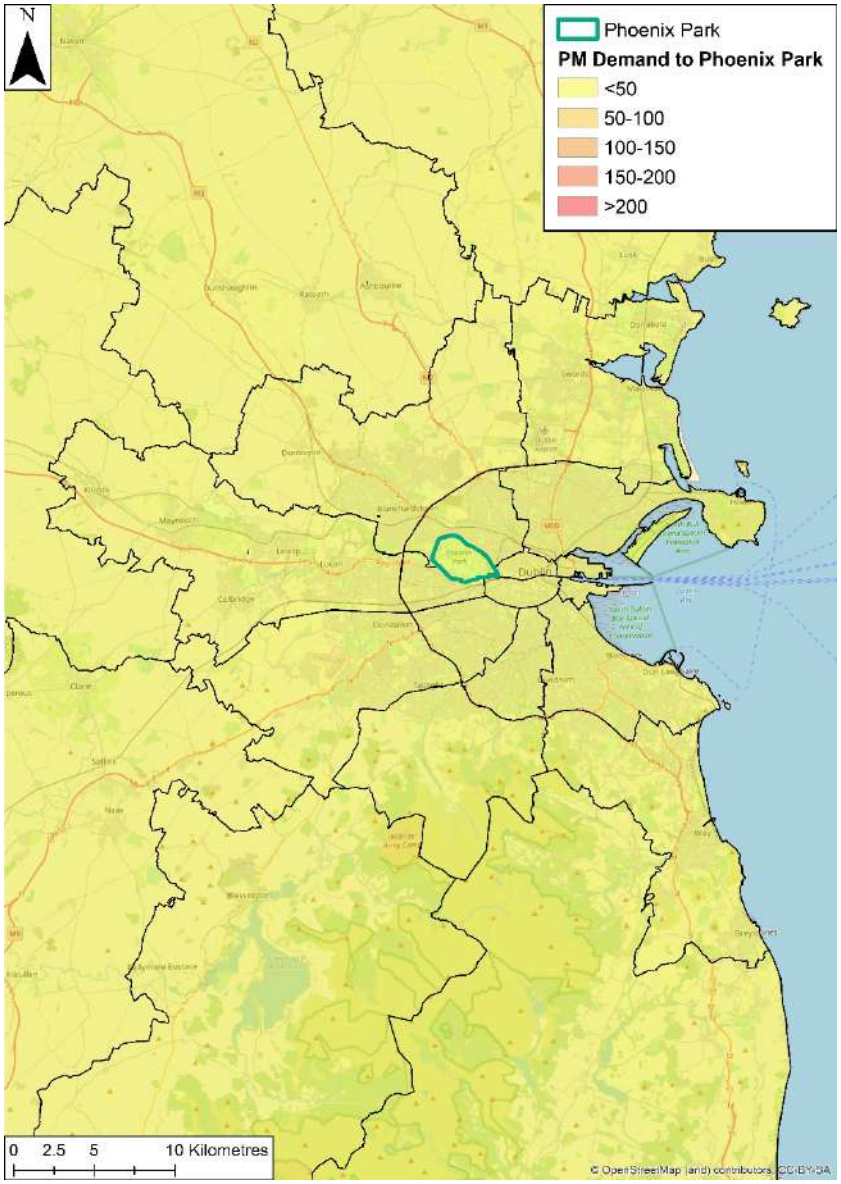


Figure 31 PM Demand to the Phoenix Park.

Link Flow Analysis

A link flow analysis was undertaken using the ERM 2016 base year scenario. Volumes of pedestrians, cyclists, public transport users and vehicles on the network were extracted for the AM and PM Peak.

Figure 32 and Figure 33 show the number of people walking, and Figure 34 and Figure 35 represent the number of pedestrians walking to public transport during both AM and PM Peaks.

Figure 36 and Figure 37 shows the number of cyclists during the AM and PM Peaks, respectively.

The volume of users of the public transport network is presented in Figure 38 and Figure 39.

Lastly, Figure 40 and Figure 41 show the traffic volumes for the road network during the AM and PM Peaks respectively.

Key take-aways are summarised below:

- It is important to note that due to the strategic nature of the model, link flows for walking and cycling are not always accurately represented at this scale. However, it does give an indication of pedestrian desire lines;
- Highest pedestrian volumes during both the AM and PM peak can be seen between Knockmaroon Road, Ordnance Survey Road and Ashtown Gate;
- The most prominent desire line for cyclists is Chesterfield Avenue; in an easterly direction toward the City Centre during the AM peak and in a westerly direction during the PM peak;
- There are a number of pedestrians accessing the Park from public transport stops outside the Park;
- Highest traffic volumes during both the AM and PM peak are observed along Chesterfield Avenue, and along North Road.

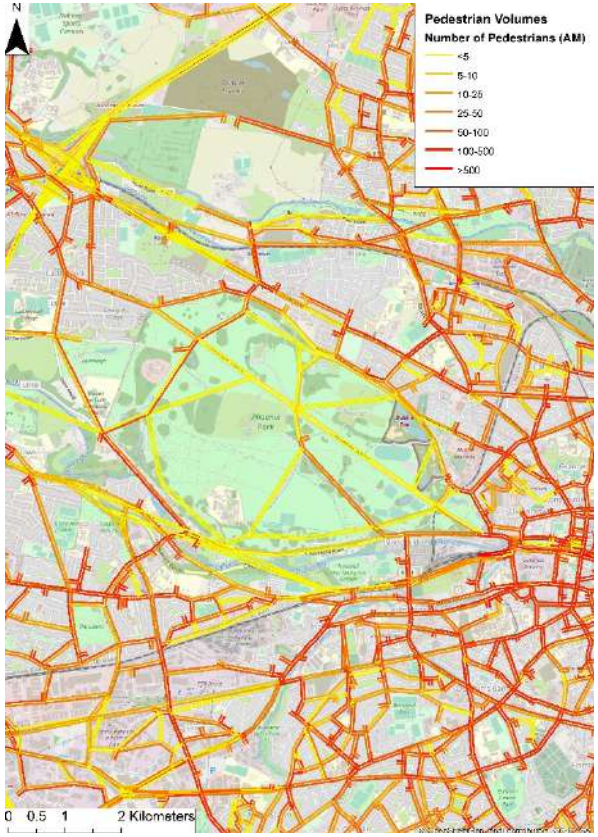


Figure 32 AM Peak Number of Pedestrians. Source: 2016 ERM.

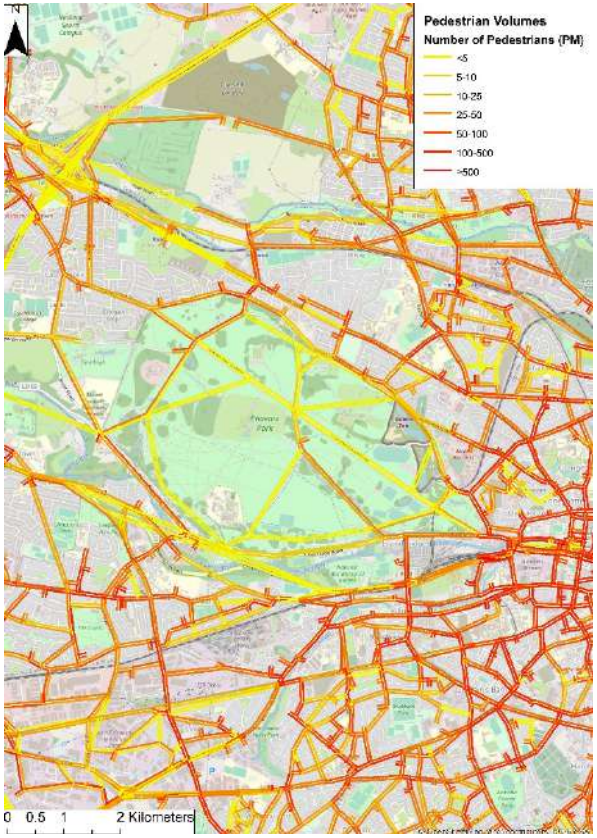


Figure 33 PM Peak Number of Pedestrians. Source: 2016 ERM.

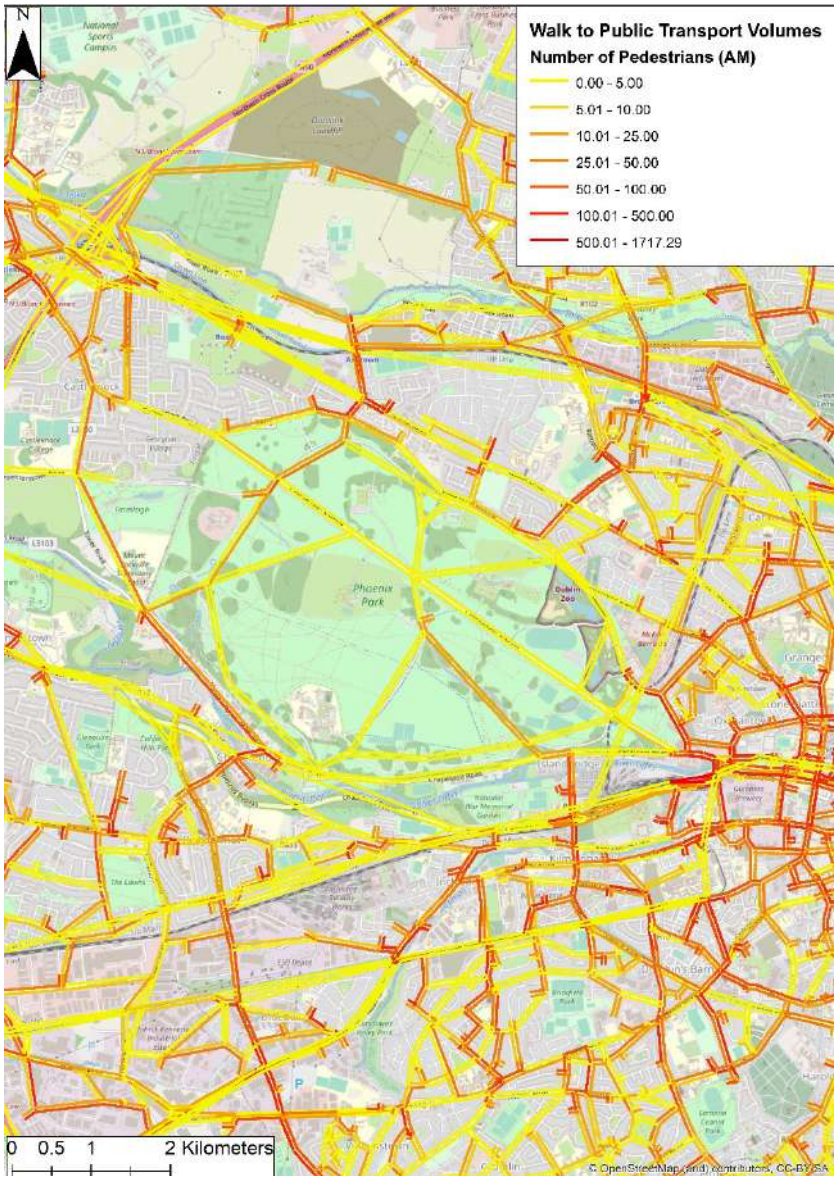


Figure 34 AM Peak Number of Pedestrians Walking to PT. Source: 2016 ERM.

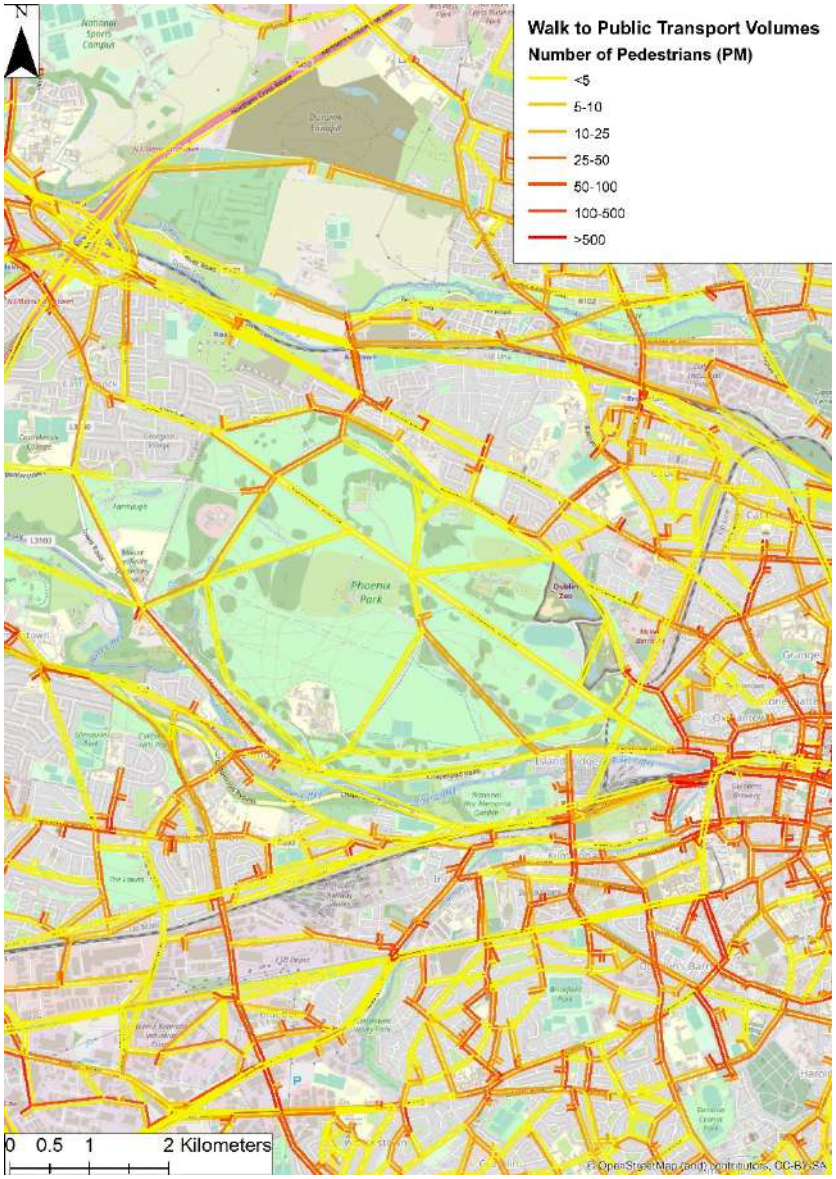


Figure 35 PM Peak Number of Pedestrians Walking to PT. Source: 2016 ERM.

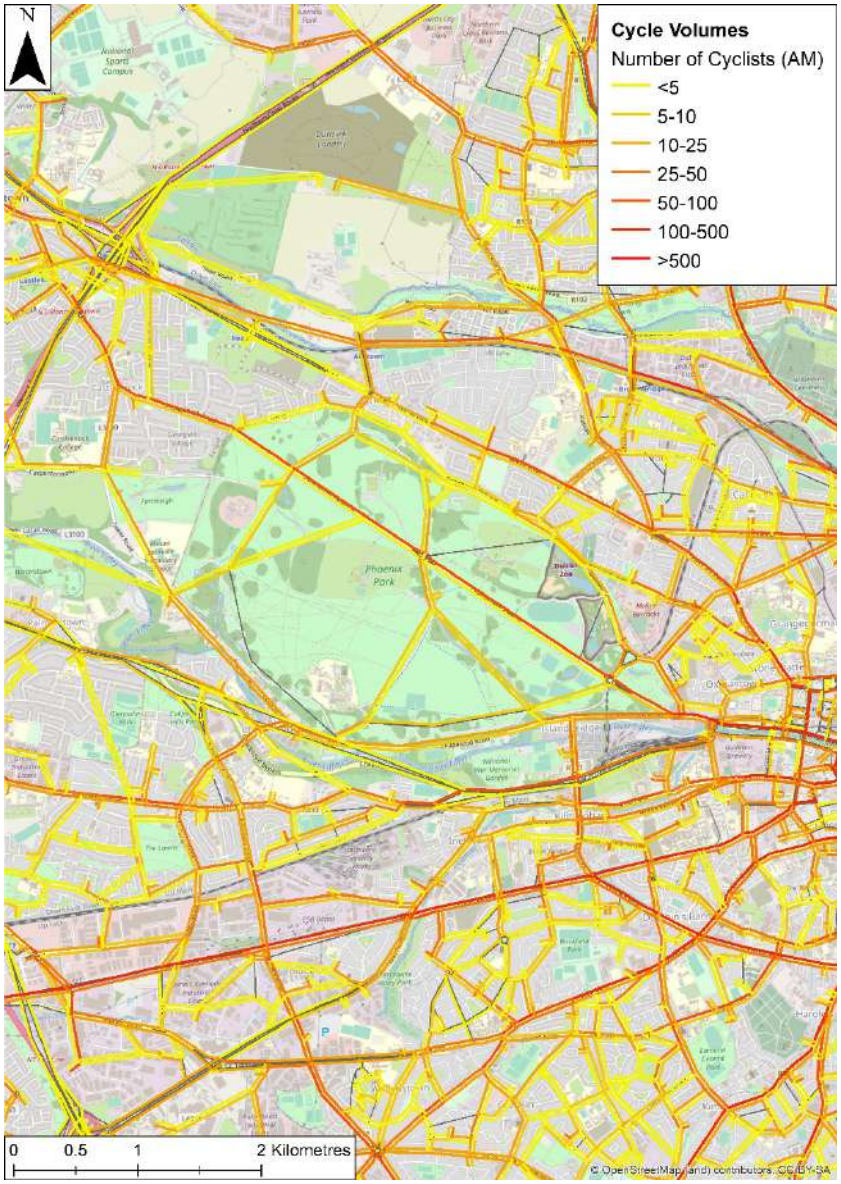


Figure 36 AM Peak Number of Cyclists. Source: 2016 ERM.

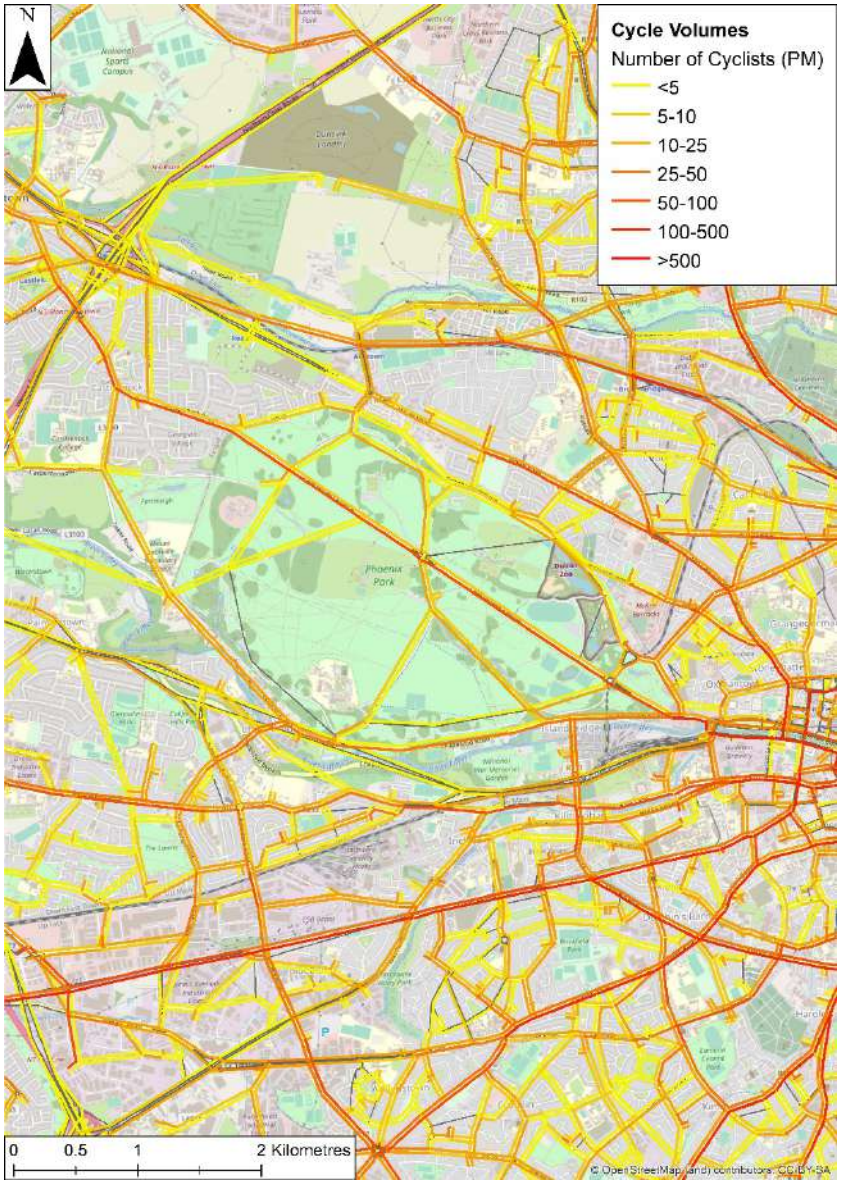


Figure 37 PM Peak Number of Cyclists. Source: 2016 ERM.

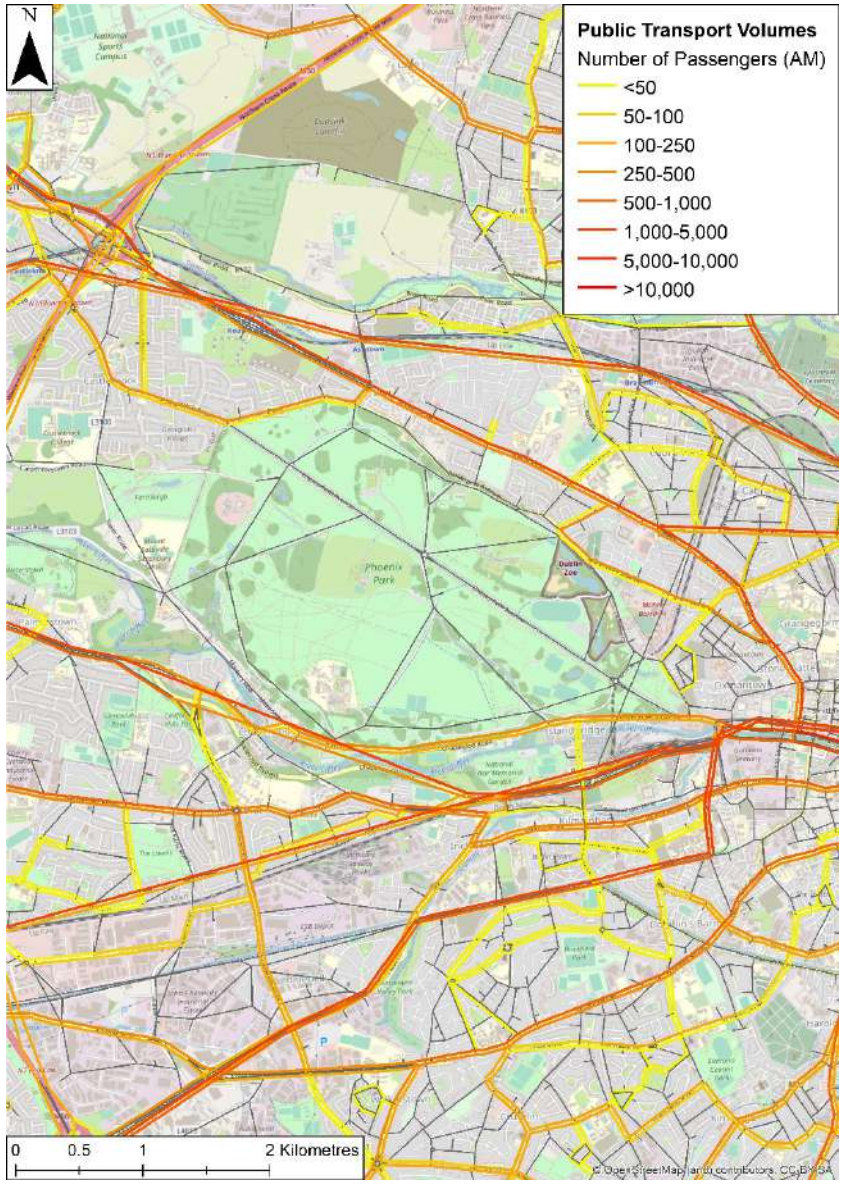


Figure 38 AM Peak Public Transport Passenger Volumes. Source: 2016 ERM.

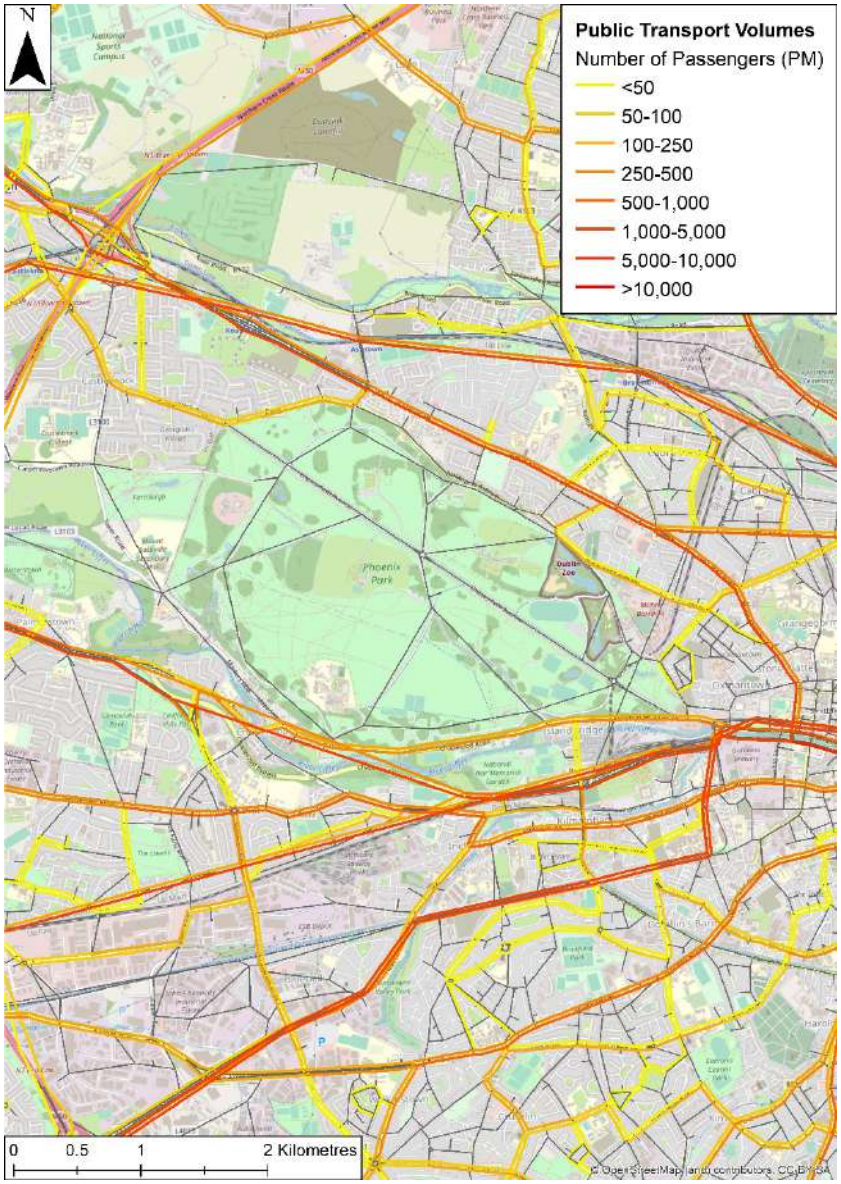


Figure 39 PM Peak Public Transport Passenger Volumes. Source: 2016 ERM.

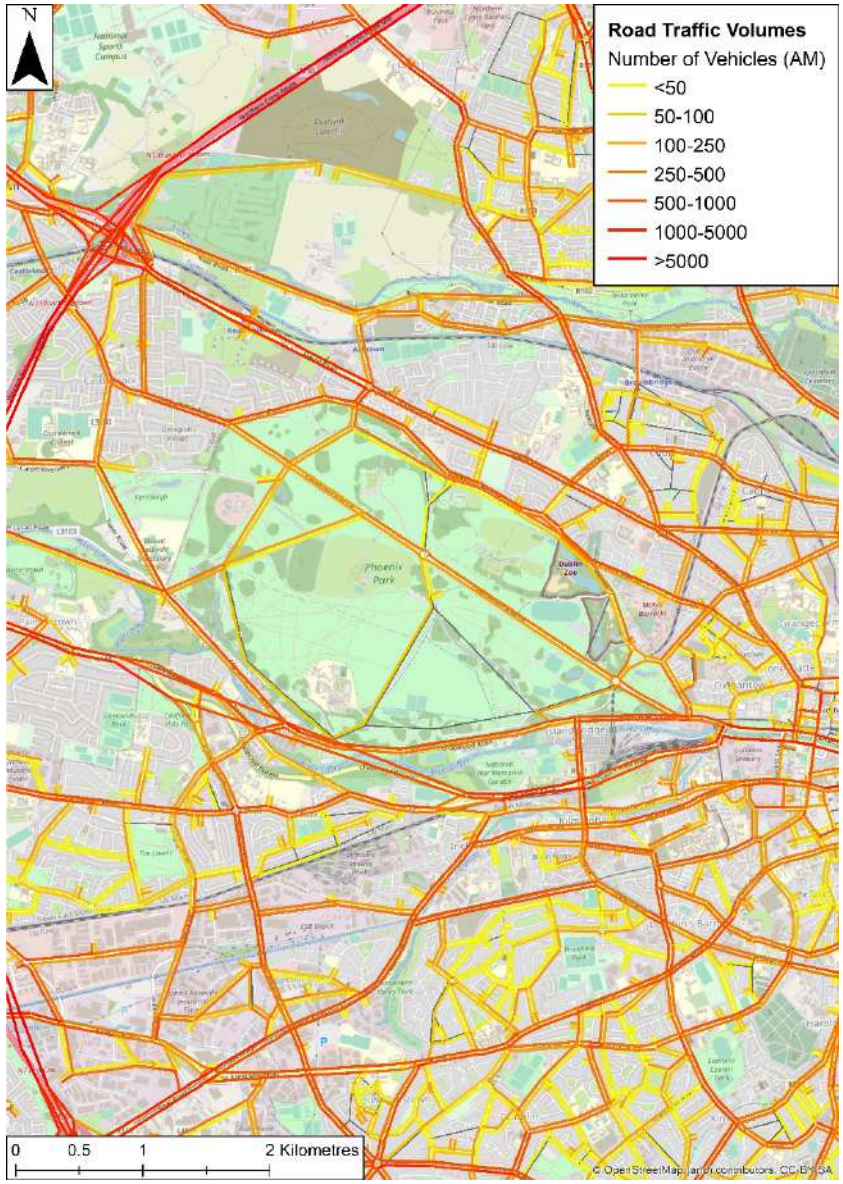


Figure 40 AM Peak Traffic Volumes. Source: 2016 ERM.

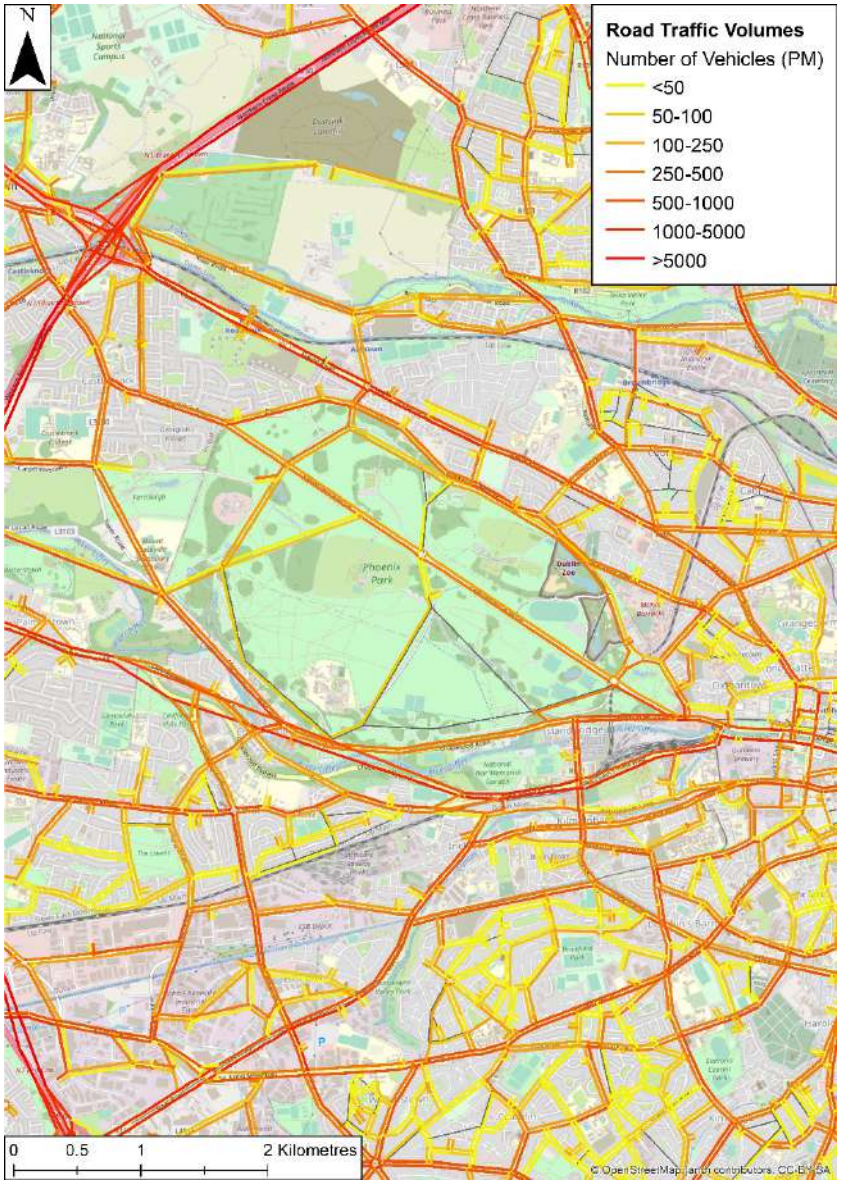


Figure 41 PM Peak Traffic Volumes. Source: 2016 ERM.

Phoenix Park Gate Screenline 2016

The following section presents a screen line of the following gates of the Phoenix Park:

- Parkgate Street Entrance;
- North Circular Road;
- Cabra;
- Ashtown;
- Castleknock;
- Knockmaroon;
- Chapelizod (entry-only); and
- Islandbridge (exit-only).

Figure 42 presents a breakdown of trips in and out of each gate during the AM peak hour, 08:00-09:00. It is further broken down by mode, showing how many pedestrians, cyclists and vehicles are travelling through each gate.

It highlights the following:

- North Circular Road, Ashtown and Castleknock Gates cater for 66% of inbound trips;
- North Circular Road Gate caters for the majority of pedestrians travelling inbound, followed by Ashtown Gate; and
- Cabra Gate is the least used, catering for 5% of outbound trips.

Figure 43 presents a similar screen line of these gates during the PM peak hour, 17:00-18:00. It highlights the following:

- Parkgate Street Entrance caters for the majority of inbound trips;
- Castleknock, Ashtown and North Circular Road Gates cater for the majority of outbound trips; and
- Knockmaroon and Chapelizod (entry-only) Gates are the least used compared to the other gates during the PM peak.

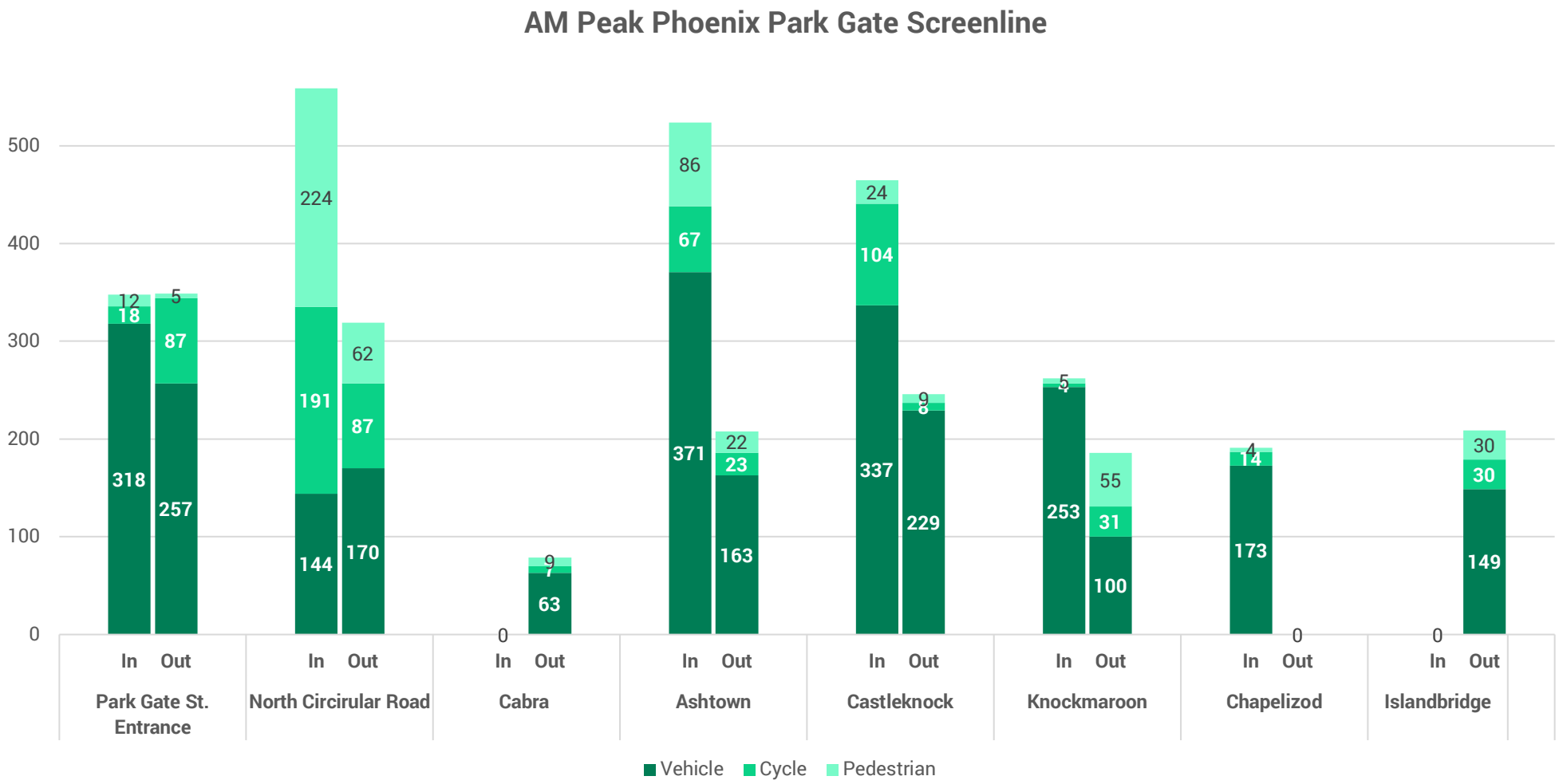


Figure 42 2016 ERM AM Peak Hour (08:00-09:00) Gate Screenline.

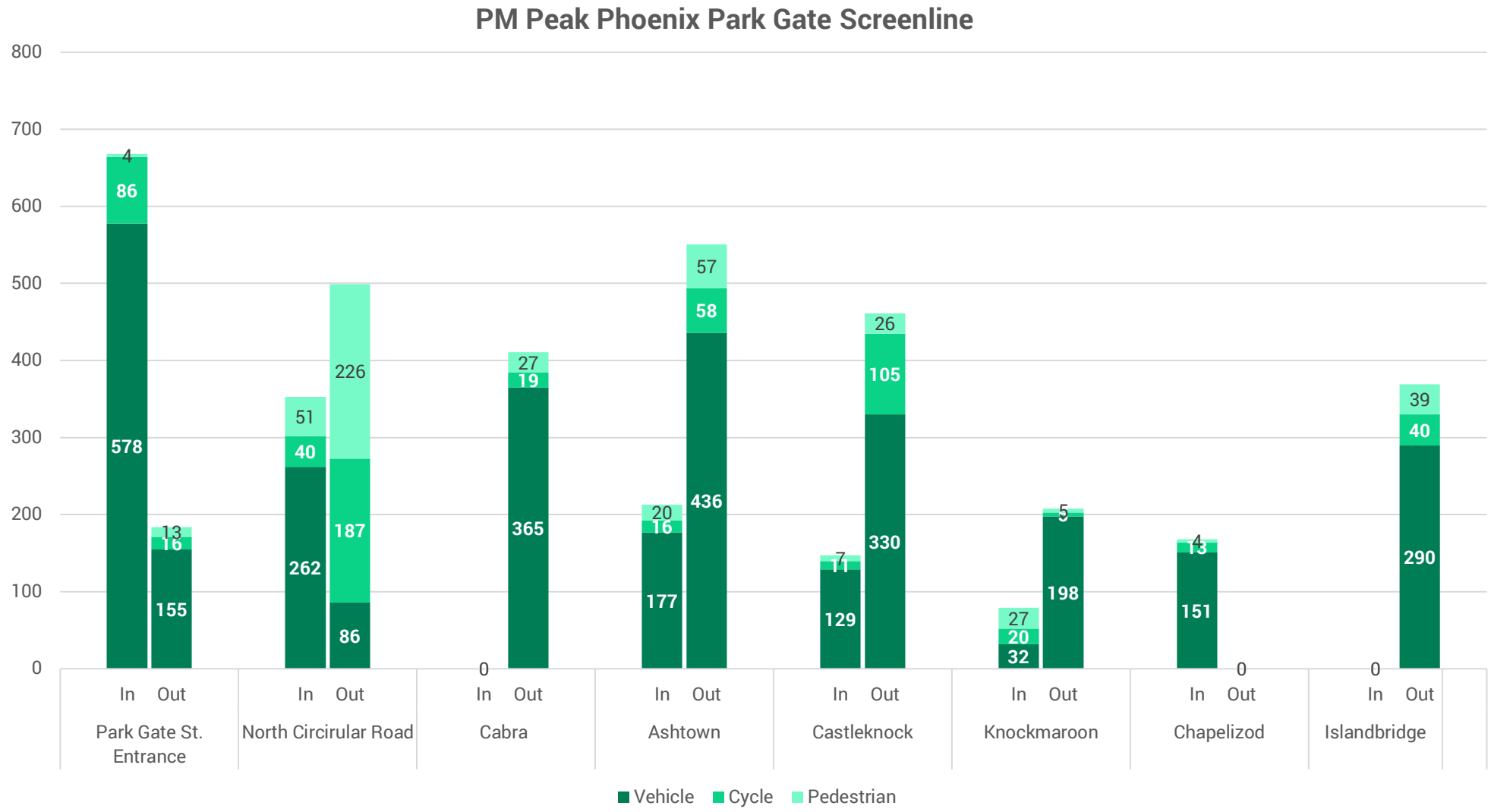


Figure 43 2016 ERM PM Peak Hour (17:00-18:00) Gate Screenline.

Vehicular Through Traffic

Vehicular through traffic has been highlighted in numerous past studies as a key issue which has a negative impact on the amenity and biodiversity of the Phoenix Park.

These are trips that enter the Park but do not have a destination within the Park itself. Based on the 2016 ERM, through-traffic is calculated by determining the total number of trips entering and exiting, and then removing those with an origin or destination within the Park. Table 9 presents that 76% of vehicular traffic entering the Park during the AM Peak and 64% of traffic during the PM Peak does not have a destination within the Park and is solely using it as a through-route.

Table 9 Percentage of vehicular through-traffic in the Phoenix Park. Source: 2016 ERM.

2016	Total Vehicles In	% Through Traffic
AM Peak (08:00-09:00)	1,600	76%
PM Peak (17:00-18:00)	850	64%

This highlights that the Phoenix Park caters for a large volume of vehicular traffic which is merely passing through, and that the Phoenix Park's internal road network is overproviding for general traffic.

ERM Calibration

Figure 44 presents a calibration exercise of travel patterns output by the ERM to those observed by the Canal Cordon Counts at Site 18 – Chesterfield Avenue at the Parkgate Str. Entrance. It presents a comparison between 2016 flows for both data sets.

The graph exhibits a good correlation between the two sources. As previously stated, due to the strategic nature of the model, link flows for walking and cycling are not always accurately represented by the ERM outputs. This is demonstrated by the difference between cyclist and pedestrian counts during the AM peak in particular.

It is important to note that the Canal Cordon Count was only carried out over two days in November 2016, whereas the ERM is representative of the average for the whole of 2016.

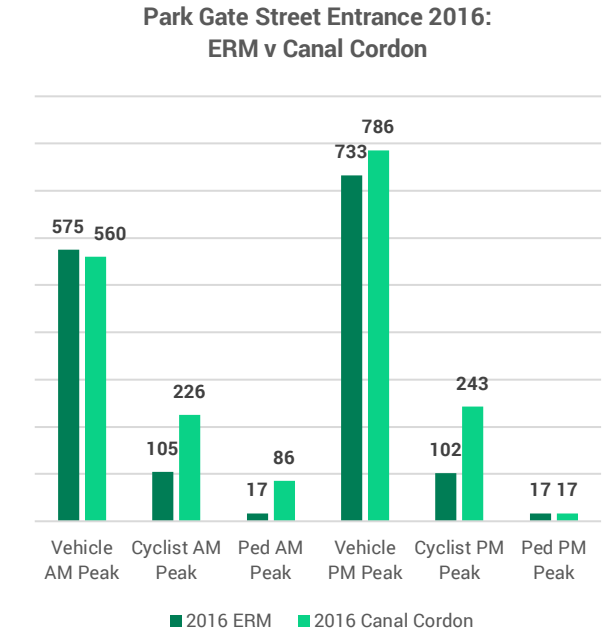


Figure 44 Calibration of ERM v Canal Cordon 2016

Weekend Travel Patterns

As previously detailed, the NTA's ERM represents an average weekday. However, in the context of the Phoenix Park, it is also important to understand weekend travel patterns due to the number of tourist attractions and recreational destinations that generate trips during the weekend and off-peak time periods, such as Dublin Zoo or the large number of sports facilities.

In order to understand the characteristics of demand to and from the Phoenix Park throughout the entire week, ATC data collected during August and September 2020 has been reviewed in relation to weekend travel patterns. Figure 45 illustrates that the total weekday flows are only slightly higher than those of the weekend.

In addition, visitor numbers collected at Dublin Zoo were also analysed. Figure 46 demonstrates that there is a much greater proportion of visitor trips at the weekend, compared to on weekdays.

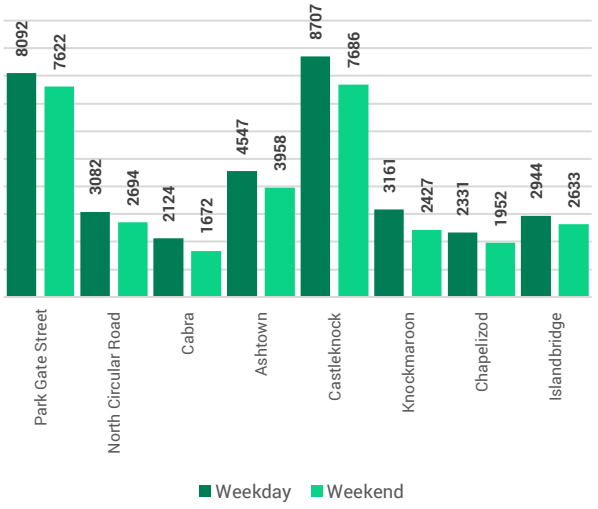


Figure 45 Weekday v Weekend Travel Patterns. Source: ATC Data 2020.

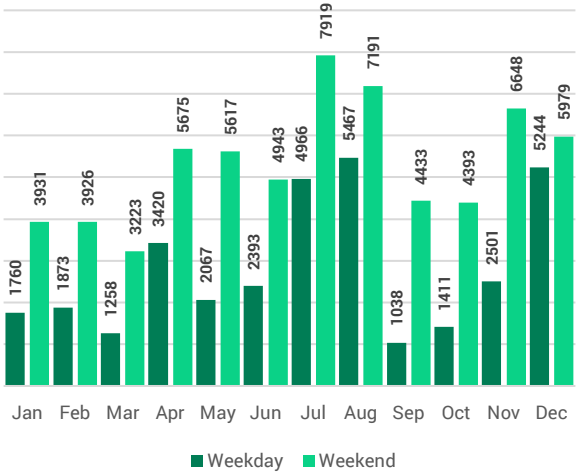


Figure 46 Average daily visitor numbers to Dublin Zoo on a weekday (Mon-Fri) versus weekend (Sat and Sun).

Phoenix Park Visitor Centre Trends

The following section highlights some trends in relation to the Phoenix Park. It draws on data collected by the OPW in 2018 and 2019 at six collection points, in the vicinity of the Visitor Centre and Ashtown Gate including:

- Ashtown Back Gate (Ped);
- Wall Garden (Ped);
- Playground (Ped);
- Ashtown Pergola (Ped);
- Pedestrian Entrance to Ashtown; and
- Vehicular Entrance to Ashtown.

Figure 47 presents total numbers logged at each point throughout 2018, compared to 2019. It can be seen that there was an increase of activity at all points in 2019, except for at the vehicular entrance to Ashtown where there was a slight decrease.

Figure 48 presents the monthly trends at the Pedestrian Entrance to Ashtown during 2018, 2019 and 2020. It is important to note that the 2020 data is incomplete at the time of this report (November 2020), and is also not representative of normal conditions due to Government restrictions in response to the Covid-19 pandemic.

These restrictions have had an enormous impact on international, national and local travel, which is reflected in the 2020 figures presented, particularly in the first half of the year when restrictions were most stringent.

Nonetheless, a significant increase in activity from previous years can be seen during June, July and August 2020 despite restrictions on international tourism and nation-wide travel. It also shows an increase in activity between 2018 and 2019 nearly every month at this location.

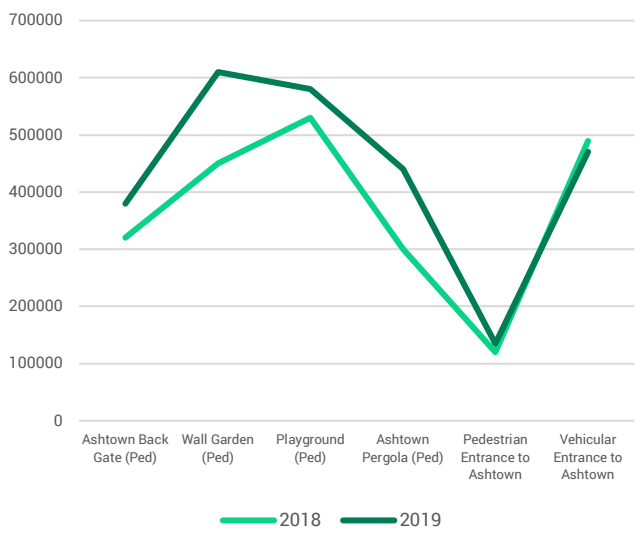


Figure 47 The Phoenix Park Visitor Centre Numbers for 2018 and 2019.

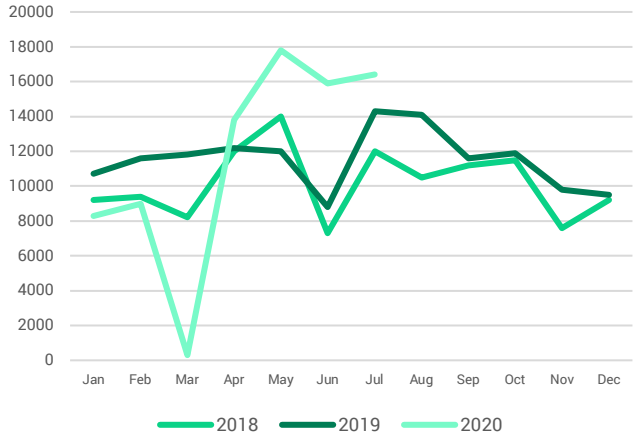


Figure 48 Monthly Pedestrian counts at Ashtown Back Gate.

Baseline Assessment Summary

The Baseline Assessment demonstrated the following:

- Range of travel patterns associated with the Park due to its multi-faceted functions (i.e. employment, sports facilities, attractions);
- Weekend demand is significant with greater proportion of visitor numbers than weekdays;
- Growing visitor numbers to the Park based on the data provided for Dublin Zoo and the Phoenix Park Visitor Centre;
- The vast majority of trips to the Park are made by car, however the number of people walking and cycling to and through the Park is increasing and has spiked recently due to the impacts of COVID-19 on travel and transport behaviours;
- Most prominent desire line for cyclists during peak periods is Chesterfield Avenue;
- Good level of pedestrians accessing the Park from public transport stops outside the Park;
- The highest demand for trips to the Park within the GDA originates from areas such as the City Centre, Blanchardstown, Lucan and Finglas, however the strategic importance of the Park means that it has a countrywide catchment as well as being a major international tourist destination; and
- The ERM indicates that 76% of vehicles entering the Phoenix Park during the AM Peak have no destination within the Park. This indicates that while the primary purpose of the Phoenix Park's internal network is to facilitate access for visitors and staff of the Park itself, it is also fulfilling a strategic function within the GDA.

The following presents a high-level summary of some of the strengths and challenges of the Phoenix Park's transport network.

Strengths

- Many high-quality existing and planned public transport services (i.e. heavy rail, Luas and BusConnects Dublin) adjacent to the Park.
- Extensive existing network of dedicated paths and trails for pedestrians and cyclists to explore the Park and reach key attractions.
- Filtered permeability on some internal roads limits vehicular through-traffic and affords more space to pedestrians and cyclists.
- The Phoenix Park Bike Hire greatly enhances the accessibility of the Park internally.

Challenges

- Caters for a large volume of vehicular through-traffic/rat-running which poses a threat to the Park's user experience, character and its rich biodiversity.
- High levels of illegal parking observed within and on the perimeter of the Park.
- Poor provision for pedestrians and cyclists around the Park's gates.
- Due to the historic nature of the Park's landscape, some of the network is not fully accessible for people of all ages and abilities.
- Lack of a public transport service in the Park itself, due to its vast scale, greatly reduces its accessibility for sustainable travel.
- Connectivity and legibility to the existing public transport services external to the Park is poor in some instances.
- Low provision of cycle parking.

This assessment highlights that there are growing numbers of people using the Park – both as a destination and as a vehicular through-route. Sustainable solutions need to be considered to accommodate growth and protect the Park's landscape character and rich biodiversity, and enhance its amenity value and visitor experience.

This Study guides the decision-making in relation to mobility and access in the Phoenix Park and will set out a phased approach for proposals and supporting measures to address these challenges.

Context

The long-term vision is to protect and conserve the historic landscape character of The Phoenix Park and its archaeological, architectural and natural heritage whilst facilitating visitor access, education and interpretation, facilitating the sustainable use of the Park's resources for recreation and other appropriate activities, encouraging research and maintaining its sense of peace and tranquillity.

The Phoenix Park Conservation Management Plan 2011

Overview

This chapter presents the work undertaken during the Context Stage. Context building is critical in setting out the context upon which the Study is based, and ensuring that it is relevant to and cognisant of the specific context of the Phoenix Park.

It comprised: a review of existing relevant policy and transport proposals; analysis of feedback from previous consultations and surveys; research of good practice case studies; and definition of Study Principles and Objectives.

Legislation, Policy and Guidance Context

A comprehensive review of existing international, national, regional and local level legislation, policy, guidance and studies was undertaken to ensure the Study's alignment with these.

International and European Policy

UN Sustainable Development Goals
EU Habitats Directive/EU Birds Directive
ICOMOS Charters and Conventions

National Level Legislation, Policy and Guidance

- Phoenix Park Act 1925
- National Planning Framework 2040
- National Development Plan 2018-2027
- National Monuments Act 1930-2004
- Wildlife Act 1976 (as amended by Wildlife amendment Act 2000)
- Disability Act 2005
- Smarter Travel: Towards a Sustainable Transport Future 2009-2020
- Climate Action Plan 2019: To Tackle Climate Breakdown
- National Cycle Policy Framework
- Planning Policy Statement 2015
- National Policy Framework for Alternative Fuels Infrastructure for Transport 2017-2030
- Building on Recovery: Infrastructure and Capital Investment 2016–2020
- National Landscape Strategy for Ireland 2015-2025
- National Biodiversity Action Plan 2017-2021
- Ready, Steady, Play: National Play Strategy Guidelines 2000
- All-Ireland Pollinator Plan 2015-2020
- Design Manual for Urban Roads and Streets 2019
- Permeability: A Best Practice Guide
- National Cycle Manual
- Traffic Management Guidelines
- Achieving Effective Workplace Travel Plans: Guidance for Local Authorities
- Healthy Ireland Framework 2019-2025
- Healthy Ireland's National Physical Activity Plan
- Area Based Transport Assessment Guidance

Regional Level

Regional Spatial and Economic Strategy for the Eastern and Midland Region 2019-2031
Greater Dublin Area Transport Strategy 2016-2035
Greater Dublin Area Cycle Network Plan

Local Level

- The Phoenix Park Conservation Management Plan 2011
- Dublin City Development Plan 2016-2022
- Fingal Development Plan 2017-2023
- Condition Report on Road Network within the Phoenix Park 2017
- Executive Summary: The Phoenix Park Visitor Experience Strategic Review
- Destination Dublin: A Collective Strategy for Tourism Growth to 2020
- Phoenix Park Transportation Study 2006
- Draft Phoenix Park Visitor Experience Strategic Review
- Assessment of Pedestrian and Cycle Facilities on Chesterfield Avenue 2018
- Kilmainham-Inchicore Development Strategy Baseline Report September 2020
- Dublin City Parks Strategy 2017-2022
- Dublin City Biodiversity Action Plan 2015-2020
- Dublin City Sports and Wellbeing Strategy 2017-2020

International and European Policy

United Nations: Sustainable Development Goals

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States including Ireland in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future.

At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call to action by all countries. The Phoenix Park Transport and Mobility Options Study will contribute to achieving the following SGDs:

- **SGD 3 Good Health and Well-Being:** Ensure healthy lives and promote well-being for all at all ages;
- **SDG 8 Decent Work and Economic Growth:** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all;
- **SDG 9 Industry, Innovation and Infrastructure:** Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation;
- **SDG 11 Sustainable Cities and Communities:** Make cities and human settlements inclusive, safe, resilient and sustainable;
- **SDG 13 Climate Action:** Take urgent action to combat climate change and its impacts; and

Source: United Nations

- **SDG 15 Life on Land:** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and biodiversity loss.

There is significant alignment between the UN SDGs and the National Planning Framework's National Strategic Outcomes.

EU Habitats Directive

The *EU Directive on the Conservation of Habitats, Flora and Fauna* (92/43/EEC), commonly known as the Habitats Directive, was adopted in 1992, came into force in 1994 and was transposed into Irish law in 1997.

The primary aim of the Habitats Directive is to contribute to the conservation of biodiversity by requiring Ireland to take measures to maintain or restore natural habitats and wild species identified within the Annexes of the Directive.

Phoenix Park is of great significance nationally in terms of its rich biodiversity, with 50% of all mammal species found in Ireland occurring within the Park and over 35% of all bird species. There are twenty-four different habitats and 6 different types of woodland. Almost all the semi-natural grassland in Dublin is found in the Phoenix Park.

Charters and Conventions

In addition to the above legislation, there are international charters and conventions which are of relevance to the cultural heritage of the Phoenix Park. Although these do not have any legal effect, it is considered good conservation practice to have regard to the principles contained within them. International conservation designations that are of relevance to the Phoenix Park include:

- UNESCO Recommendation concerning safeguarding of the Beauty and Character of Landscape and Sites;
- 1985 Convention for the Protection of the Architectural Heritage of Europe;
- ICOMOS Charters and Conventions, of which the following are the most pertinent:
  - The Athens Charter for the Restoration of Historic Monuments;
  - The Venice Charter;
  - Convention Concerning the Protection of the World Cultural and Natural Heritage;
  - The Burra Charter;
  - The Florence Charter for Historic Gardens; and
  - The Valetta Convention for the Protection and Management of the Archaeological Heritage.

National Legislation

Phoenix Park Act 1925

The *Phoenix Park Act of 1925* is an Act to make provision for continuing the maintenance and regulation of the Phoenix Park as a public park, and the preservation of order therein, and for other purposes connected therewith.

Under this Act, the management of the Park is vested in the Commissioners of Public Works. The Act imposes a general duty that the Commissioners

shall maintain the Park as a public park for the general purpose of the recreation and enjoyment of the public.

National Monument Acts 1930-2004

The entirety of the Phoenix Park is protected under the *National Monuments Acts*. The Phoenix Park was included in the Record of Monuments and Places (RMP) of County Dublin in the *National Monuments Amendment Act* of 1994. The entire Park, up to and including the boundary walls, is included in the RMP under the umbrella term Archaeological Complex. Individual archaeological monuments and sites in the Park such as the cemetery mound, star-shaped fort, etc. are identified as elements within the archaeological complex.

The inclusion of the Park within the RMP has important implications for its protection and conservation. Under the *National Monuments Acts*, the Minister of Culture, Heritage & Gaeltacht must be given at least 2 months' notice in writing of all proposed development within the Phoenix Park regardless of whether or not the development is considered exempted development under planning legislation, or is subject to the provisions of either Part 9 of the Planning and Development Regulations 2001 or any other legislation.

Wildlife Act 1976 (as amended in 2000)

The *Wildlife Act 1976* is the principal national legislation providing for the protection of wildlife and the control of some activities that may adversely affect wildlife.

The aims of the *Wildlife Act 1976*, are to provide for the protection and conservation of wild fauna and flora, to conserve a representative sample of important ecosystems, to provide for the development and protection of game resources and to regulate their exploitation, and to provide the services necessary to accomplish such aims.

Some key objectives of the *Wildlife (Amendment) Act 2000* are to:

- Provide a mechanism to give statutory protection to NHAs;
- Improve some existing measures, and introduce new ones, to enhance the conservation of wildlife species and their habitats;
- Strengthen the provisions relating to the cutting of hedgerows during the critical bird-nesting period and include a requirement that hedgerows may only be cut during that period by public bodies, including local authorities, for reasons of public health or safety; and
- Give specific statutory recognition to the Minister's responsibilities in regard to promoting the conservation of biological diversity.

Disability Act

The *Disability Act 2005* places a statutory obligation on public service providers to support access to services and facilities for people with disabilities. Under the Act, people with disabilities are entitled to:

- Have their health and educational needs assessed;
- Have individual service statements drawn up, setting out what services they should get;
- Access independent complaints and appeals procedures; and
- Access public buildings and public service employment.

National Policy

National Planning Framework 2040

The *National Planning Framework 2040* (NPF) is the Government's high-level strategic framework that sets out the long-term plan for shaping the future growth and development of Ireland up to 2040. The NPF is underpinned by a series of principles, National Strategic Outcomes, including:

- NSO 1 Compact Growth;
- NSO 2 Enhanced Regional Accessibility;
- NSO 4 Sustainable Mobility;
- NSO 7 Enhanced Amenity and Heritage; and
- NSO 8 Transition to a Low Carbon and Climate Resilient Society.

These principles are translated by supporting policies and actions at sectoral, regional and local level. Measures to enhance and better link the existing network of green spaces, including the Phoenix Park, other parks, Dublin Bay and the canals, was identified as Key Future Growth Enabler for Dublin.

National Development Plan 2018-2027

The *National Development Plan 2018-2027* (NDP) is a companion document to the NPF and is set to drive Ireland's long term economic, environmental and social progress. The NDP is fully integrated with the approach to Ireland's spatial planning in the NPF and sets out a framework for public capital investment of almost €116m, ensuring a coherent and unified plan for the country.

Under NSO 4: Sustainable Mobility, BusConnects Dublin is identified as a Strategic Investment Priority, with €2.4b of Exchequer funding allocated for delivery of the BusConnects Programme over the period 2018-2027. BusConnects Dublin is a major public transport project and will deliver a transformational redesign of the bus system in Dublin, including bus priority measures, integrated ticketing, segregated cycling facilities, public realm improvements and so on.

The delivery of BusConnects will enable a modal shift toward sustainable transport in the Greater Dublin Area which will bring significant benefits to the Phoenix Park.

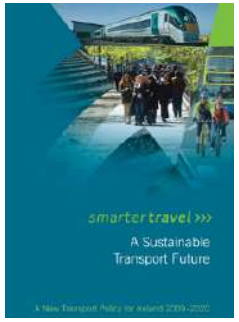
Under NSO 7: Enhanced Amenity and Heritage, the Phoenix Park Investment Plan has been identified as a Strategic Investment Priority up to 2027. NSO 7 complements the other NSOs in that it recognises that high-quality infrastructure is critical for a vibrant heritage and culture sector. Investment in culture, heritage and sports can play a very important role in improving amenities and the attractiveness and liveability of places, as well as reinforce the impact of investment in sustainable public transport networks.

Planning Policy Statement 2015

Planning legislation in Ireland seeks to ensure, in the interests of the common good, the proper planning and sustainable development of urban and rural areas. The *Planning Policy Statement 2015* sets out 10 principles which should be used as a strategic guide to "ensure the right development takes place in the right locations and at the right time in providing the social, economic and physical infrastructure necessary to meet the needs of our people in a way that protects the many qualities of our natural and built environment". These 10 principles are as follows:

- Planning must be plan-led and evidence-based;
- Planning must proactively drive and support sustainable development;
- Planning is creating communities and further developing existing communities in a sustainable manner;
- Planning must support the transition to a low carbon future;
- Planning must ensure that development facilitates and encourages greater use of public transport as well as making walking and cycling more attractive for people;
- Planning will encourage the most efficient and effective use of previously developed (brownfield) land;
- Planning will enhance the sense of place;
- Planning will conserve and enhance the rich qualities of natural and cultural heritage;
- Planning will support the protection and enhancement of environmental quality; and
- Planning will be conducted in a manner that affords a high level of confidence.

Smarter Travel



Smarter Travel recognises the vital importance of continued investment in transport to ensure an efficient economy and continued social development.

It also acknowledges that continued growth and dependency on the private car is not sustainable due to its contribution to climate change, congestion, poor air quality and increasingly sedentary lifestyles.

The Plan's main objective is to promote a significant modal shift in favour of public transport, walking and cycling up to 2020, setting a key target to reduce work-related commuting by car from a current modal share of 65% to 45%.

Key goals of *Smarter Travel* include:

- Improve quality of life and accessibility to transport for all with an emphasis on those with reduced mobility and/or who may experience social isolation;
- Improve economic competitiveness by maximising the efficiency of the transport system and alleviating congestion;
- Minimise the negative impacts of transport on the environment by reducing emissions; and
- Reduce overall travel demand and commuting distances travelled by the private car.

Long-stay commuter parking and high levels of vehicular through-traffic during peak periods have been identified as issues for the Phoenix Park.

By implementing measures aligned with *Smarter Travel*, the Phoenix Park Transport and Mobility Options Study can work towards a wider national goal, as well as improving the sustainable transport mode share and amenity value of the Park

Climate Action Plan

The *Climate Action Plan: To Tackle Climate Breakdown* was published by the Government in June 2019. The Plan identifies how Ireland will achieve its 2030 targets for reduction in carbon emissions and a pathway towards achieving a net zero emissions by 2050. The *Climate Action Plan 2019* sets a target reduction of 45-50% in Ireland's transport emissions by 2030. The projected increase in population and economic activity and the resulting increased travel demand from the movement of people and goods will further intensify Dublin's current decarbonisation challenge. In 2017, transport accounted for a significant proportion of Ireland's greenhouse gas emissions – approximately 20%.

Emissions not only negatively impact climate change and our natural environment, but also public health. Air pollution emitted from transport contributes to poor local air quality, in the form of increased micro-particulates, which have been linked to higher risks of poor health. The *Climate Action Plan 2019* states that these issues cannot be ignored and only provide further propulsion to address the challenges in the transport sector.

Some of the key actions outlined by the Plan to achieve this are the electrification of transport, Compact Growth and the expansion of walking, cycling and public transport networks to promote modal shift.

National Biodiversity Action Plan

The *National Biodiversity Action Plan 2017-2021*, published by the Department of Culture, Heritage and the Gaeltacht sets out a vision that "biodiversity and ecosystems in Ireland are conserved and restored, delivering benefits essential for all sectors of society and that Ireland contributes to efforts to halt the loss of biodiversity and the degradation of ecosystems in the EU and globally". The Phoenix Park is of significant national importance to biodiversity.

The Plan sets out the following objectives:

- Mainstream biodiversity into decision-making across all sectors;
- Strengthen the knowledge base for conservation, management and sustainable use of biodiversity;
- Increase awareness and appreciation of biodiversity and ecosystem services;
- Conserve and restore biodiversity and ecosystem services in the wider countryside;
- Expand and improve management of protected areas and species; and
- Strengthen international governance for biodiversity and ecosystems services.

National Cycle Policy Framework

Ireland's first *National Cycle Policy Framework 2009-2020's* vision is that all cities, towns, villages and rural areas will be bicycle friendly. The overarching mission of the Framework is to create a strong national cycling culture to align with *Smarter Travel's* objective that 10% of all trips will be by bike by 2020.

The Framework sets out a comprehensive package of interventions – both 'hard' (planning and infrastructure) and 'soft' (communication and education) – to make cycling a convenient and safe option for everyone. The approach recommended is a hierarchy of measures, including:

- Reducing volumes of through-traffic, especially HGVs, in urban centres and in the vicinity of schools and colleges;
- Calming traffic/ enforcing low traffic speeds in urban areas; and
- Making junctions safe for cyclists and removing multi-lane one-way street systems.

Some objectives relevant to our Study include:

- Support the planning and design of urban centres to support cyclists and pedestrians;
- Improve integration between cycling and public transport to enable multi-modal travel;
- Provide secure parking for bikes; and
- Evaluate and monitor the implementation of measures.

Ready, Steady, Play

The *Ready, Steady, Play: National Play Strategy Guidelines 2000* is about creating better play opportunities for children. Its overall objective is to plan for an increase in public play facilities and thereby improve the quality of life of children living in Ireland. The Policy is an example of how the Government recognises the importance of play and is making a commitment to ensure that play is facilitated for all children. The Policy outlines a number of underpinning principles:

- Child-Centred: in planning a child-friendly environment and play facilities, the best interests of the child will be a primary consideration;
- Family-Orientated: publicly-funded play policies and facilities will be established in a manner which supports and empowers families within the community;
- Equitable: all children to have equality of access and participation in play;
- Inclusive: the diversity of children's experiences, cultures, lifestyles and levels of ability must be recognised in the design and implementation of play policies and facilities;
- Action-Orientated: the planning and construction of public play policies and facilities must be clearly focused on achieving specified results to agreed standards; and
- Integrated: play policies and facilities should be delivered in a co-ordinated manner through integrated needs-analysis and policy planning.

Building on Recovery: Infrastructure and Capital Investment 2016–2020

Building on Recovery: Infrastructure and Capital Investment 2016-2020, published by the Department of Public Expenditure and Reform in 2016, presents the Government's new €42 billion framework for infrastructure investment in Ireland over the period 2016 to 2021.

The Exchequer transport capital allocation is largely framed by the recommendations and priorities set out in the *Strategic Investment Framework for Land Transport* (superseded by the *Planning Land Use and Transport Outlook 2040* in 2018). These priorities are threefold:

- Maintain and renew the strategically important elements of existing land transport system;
- Address urban congestion; and
- Improve the efficiency and safety of existing transport networks.

Under the Plan, €100 million is being committed to smarter travel and carbon reduction measures, including Greenways, to ensure that the transport sector makes a major contribution to climate change mitigation targets.

National Guidance

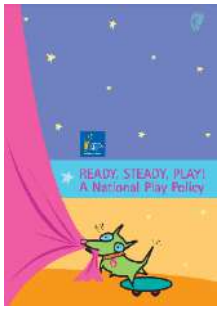
Area Based Transport Assessment Guidance Notes

Area Based Transport Assessment Guidance (ABTA) *Note* were produced by Transport Infrastructure Ireland (TII) and the National Transport Authority (NTA) in 2018. The Guidance Notes outline an overview of the key stages of the process to develop an ABTA. An ABTA is intended to establish and give expression at the local level, to integrated land use and transport planning policies, at the national and regional levels.

The Phoenix Park Transport and Mobility Options Study is being developed in line with this Guidance Note. The ABTA will take the sensitive context of the Phoenix Park as a National Historic Park and as a major visitor destination into account at every stage of the process. The Context Stage is key to establishing this.

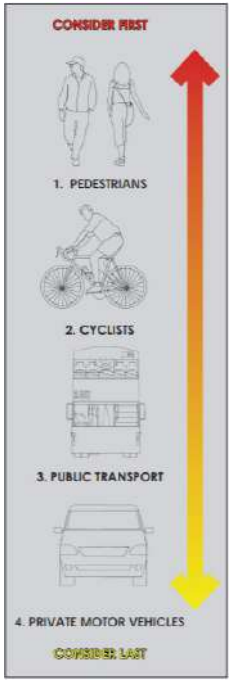
Design Manual for Urban Roads and Streets

The *Design Manual for Urban Roads and Streets* (DMURS), updated by the Department of Transport, Tourism and Sport in 2019, promotes a holistic approach to the design of urban roads and streets focused on balancing the needs of all.



The principles, approaches and standards set out in the Manual apply to the design of all urban roads and streets, except motorways and, certain urban roads and streets with the written consent of sanctioning authorities. It is acknowledged that the Phoenix Park is a National Historic Park and thus DMURS guidance is not always applicable. However, the overarching principles and concepts are relevant in providing access to the Park.

The Manual is underpinned by a holistic design-led approach, predicated on a collaborative and consultative design process. There is specific recognition of the importance to create secure and connected places that work for all, characterised by creating streets as attractive places where high priority is afforded to pedestrians and cyclists while balancing the need for appropriate vehicular access and movement.



To achieve a more place-based and integrated approach to design, the following four core principles are promoted within the Manual:

- **Connected Networks:** Integrated street networks which promote higher levels of permeability and

legibility with emphasis on more sustainable forms of transport;
- **Multi-Functional Streets:** Multi-functional, place-based streets that balance the needs of all users within a self-regulating environment;
- **Pedestrian Focus:** Quality of the street is measured by the quality of the environment user hierarchy; and
- **Multi-Disciplinary Approach:** Greater communication and co-operation between design professionals.

All-Ireland Pollinator Plan 2015-2020

Pollinators play a key role in our ecosystems. In taking action to protect them, we start a chain reaction that has positive benefits for the general health of our environment.

The *All-Ireland Pollinator Plan 2015-2020* is a call to action to collectively take steps to reverse pollinator losses and help restore populations to healthy levels in recognition of this key role. The Plan aims to build a solid foundation to bring about a landscape where pollinators can flourish.

Healthy Ireland's National Physical Activity Plan

The *National Physical Activity Plan* was developed to increase population levels of physical activity. There is strong evidence to support the benefits of physical activity to our health and wellbeing.

Increased levels of physical activity can be supported and integrated into daily life by designing the built environment and transport networks in a manner that prioritises walking and cycling. The Phoenix Park is a well-loved destination for amenity and recreational activities, and its popularity is continuing to grow. It provides ample opportunity for people to walk, cycle, and play freely in the heart of the City.

By continuing to improve the accessibility of the Park and the quality of its pedestrian and cycle infrastructure, this will align with Healthy Ireland's ethos and its aim to increase physical activity in Ireland.

National Cycle Manual

The *National Cycle Manual*, developed by the NTA in 2012, presents the current best practice and advice in providing cycling facilities in urban and suburban environments. It promotes safe environments for cyclists, and all other road users, by integrating the design requirements of cyclists into the design for urban areas more generally.

It underlines the importance of integrating high-quality cycle infrastructure in the planning and designing of new developments at all levels of the network including the strategic level, the route planning level and at design level. It provides technical information on the design of junctions, roundabouts, crossings, bus stops and so on to ensure the optimum balance between the various modes and road functions is reached.

Permeability: A Best Practice Guide

The *Permeability: A Best Practice Guide* produced by the NTA in 2015, sets out guidance on how best to facilitate demand for walking and cycling in existing built-up areas.

The concept of permeability describes the extent to which an urban area permits ease of movement by walking or cycling when accessing homes, shops, schools, local services, places of work and public transport stops and stations. Characteristics of a permeable environ are as follows:

- Interconnected pedestrian and cycle street network;
- Absence of high walls and fences segregating housing areas and local/district centres;
- Absence of cul-de-sacs for pedestrians and cyclists; and
- Secure, well-lit, overlooked pedestrian and cycle links between housing areas and between housing and local/district centres.

Achieving Effective Workplace Travel Plans: Guidance for Local Authorities

Achieving Effective Workplace Travel Plans Guidance for Local Authorities aims to assist local authorities to fully integrate the principles and practice of Workplace Travel Plans into both the development plan and the development management processes.

A Workplace Travel Plan is an effective instrument to promote and support sustainable travel patterns to work at a site-specific level. It consists of a package of actions and measures to promote more sustainable and cost-effective travel habits among employees, clients and visitors.

International experience has also shown that a methodical and planned approach to targeting commuting and visitor patterns at an organisational level, can pay major dividends in terms of promoting sustainable travel.

The implementation of a Workplace Travel Plan by each employer in the Phoenix Park would help enable a modal shift toward sustainable modes and reduce dependency on the private car for commuter travel, thereby having a positive impact on the Park's air quality and amenity value.

Regional Policy

Regional Spatial and Economic Strategy for the Eastern and Midland Region 2019-2031

The *Regional Spatial and Economic Strategy for the Eastern and Midland Region* (RSES) was published by the Eastern and Midland Regional Assembly in 2019. The RSES translates the objectives of the NPF at a regional level and provides a link between the NPF and local plans and policy relating to the Phoenix Park.

It covers counties Longford, Westmeath, Offaly, Louth, Meath, Kildare, Wicklow, Laois and Dublin, with Dublin City being the main settlement in the region. This region is the economic engine of the State.

The Phoenix Park is identified as a Strategic Natural, Cultural and Green Infrastructure Asset to Dublin's vibrancy.

The RSES Regional Policy Objective (RPO) 5.7 sets out to support the promotion and development of greenway infrastructure and facilities in the Dublin metropolitan area and to support expansion and connections between key strategic cycle routes and greenways, including the River Liffey Greenway, a Strategy Greenway, proposed to route from Dublin Port along the Liffey Quays to Leixlip, with cross connections through the Phoenix Park linking the Royal Canal to the Grand Canal.

Greater Dublin Area Transport Strategy 2016-2035

The *Greater Dublin Area Transport Strategy 2016-2035* provides a framework for the planning and delivery of transport infrastructure and services in the Greater Dublin Area (GDA) up to 2035.

It provides a transport planning policy around which other agencies involved in land use planning, environmental protection, and delivery of other infrastructure such as housing, water and power, can align their investment priorities.

The GDA's transport infrastructure and services must be planned for and invested in on the basis of the following:

- Assumed sustained economic growth;
- Substantial population growth;
- Full employment;
- That no one is excluded from society, by virtue of the design and layout of transport infrastructure and services or by the cost of public transport use; and
- That the environment in the GDA is protected and enhanced.

The Strategy sets out high-level proposals for the walking, cycling, public transport and road networks, as well as parking management measures and other supporting measures for the entire GDA. The Phoenix Park is located within Corridor B (Navan - Dunboyne – Blanchardstown - Dublin City Centre) of the Strategy.

Greater Dublin Area Cycle Network Plan

The delivery of the *Greater Dublin Area Cycle Network Plan* is identified as a Key Future Growth Enabler for Dublin by the NPF 2040.

The Phoenix Park is included as part of some of the proposed routes including:

- **Strategic Cycle Route Network:** Radial Route 5: Docklands to the North West Sector along the Liffey Quays to Heuston Station, and then through the Phoenix Park to Castleknock and Blanchardstown;
- **Orbital Route in Dublin North West:** Route NO6: From Ashtown on the River Tolka and Royal Canal Greenways southward to the Grand Canal Greenway via Ashtown Road, Phoenix Park and a new bridge over the River Liffey to the War Memorial Park in Kilmainham; and
- **Greenway Route Network:** River Liffey Way: High-quality segregated cycle route along the river corridor from Dublin Port in the east to the Phoenix Park and Heuston Station in the west and onward to Chapelizod village. Cross-connections are proposed at Islandbridge to the adjoining Phoenix Park and Royal Canal way to the north and to the Grand Canal way to the south via the Route NO6, so as to enable loop recreational cycle routes within the City.

Local Policy and Guidance

The Phoenix Park Conservation Management Plan

The Phoenix Park Conservation Management Plan 2011 is an overarching document for the conservation and protection of the Park. The Plan sets out comprehensive parameters for any future development in the Park.

Its overall vision is "*to protect and conserve the historic landscape character of The Phoenix Park and its archaeological, architectural and natural heritage whilst facilitating visitor access, education and interpretation, facilitating the sustainable use of the Park's resources for recreation and other appropriate activities, encouraging research and maintaining its sense of peace and tranquillity".*

The Plan sets out 13 strategic objectives to guide the conservation and management of the Phoenix Park for the 21st century:

- To protect and conserve the historic landscape character of The Phoenix Park.
- To protect the historic setting and conserve the archaeological and architectural heritage of The Phoenix Park.
- To conserve The Phoenix Park's natural plant and animal species along with their habitats while improving biodiversity.
- To preserve the peace and tranquillity of The Phoenix Park.
- To promote an increased understanding and acceptance of the landscape, architectural, cultural, archaeological and biodiversity importance of The Phoenix Park, its extent and significance.
- To seek appropriate international and national designation status and to seek the enforcement of existing legislative controls.
- To facilitate an appropriate mix of recreational use and public appreciation that maximises visitor enjoyment and protects the landscape and infrastructure of The Phoenix Park.
- To manage the levels of traffic within The Phoenix Park and reduce through traffic.
- To facilitate public access and sustainable use of The Phoenix Park's resources.
- To respect the established patterns of recreational use in The Phoenix Park.
- To facilitate the use of The Phoenix Park as an educational and research resource and to promote appropriate interpretation.
- To liaise and consult with interested and relevant parties and organizations in the achievement of the above objectives.
- To secure the necessary resources to implement these policies and actions.

Specific objectives relating to access and movement include the following:

- **SO 9.1** To reduce the environmental impact of traffic travelling through The Phoenix Park;
- **SO 9.2** To improve access to the Park for recreational use, taking into account the requirements of connectivity between different areas within the Park, the relationship between the Park and the surrounding catchment, and general movement through the Park for non-car users;
- **SO 9.3** To manage parking provision within the Park, primarily to serve those intending to use the Phoenix Park, and not to be compromised by commuters or other non-Park users; and
- **SO 9.4** To improve safety for all Park users.

The following were identified by the Plan as actions to be undertaken:

- Action 9.1 Develop a universal access and mobility policy for the Park which would enable areas to be identified and monitored. It would also help to define ultimate capacity levels for particular areas, where in the future, due to continued visitor growth, it may be necessary to restrict access at particular times.
- Action 9.2 Consider restricting unnecessary traffic from the Park, but in so doing to take account of the function of certain vehicular routes, as well as addressing the impact on surrounding areas. Restriction of unnecessary and or through traffic at the weekends and off-peak hours will also be implemented.
- Action 9.3 Seek legislation to facilitate the active enforcement of regulations in respect of speeding, unauthorised parking and the implementation of the rules of the road.
- Action 9.4 Review the Transportation Study recommendations on a regular basis, and monitor the effect of implemented recommendations.
- Action 9.5 Develop coordinated management tools, such as a Geographic Information System (GIS), to support ongoing maintenance and inform strategic management decisions in relation to transportation and overall Park management.
- Action 9.6 Limit through traffic at weekends and off-peak hours to facilitate increased recreational use.

- Action 9.7 Monitor visitor numbers and profiles to provide a basis for access and mobility policy and general long term planning, and out of this, develop a range of visitor aids, such as maps, leaflets and e-information to improve access and knowledge of the Park.
- Action 9.8 Complete a full circuit of cycle trails and footpaths to allow families and young people in particular to cycle and walk safely throughout the Park. Provide appropriate bicycle parking at key locations.
- Action 9.9 Develop a policy on substantially reducing the parking of vehicles by commuter and other nonpark users within the Park through the consideration of various actions such as paid parking or clamping.
- Action 9.11 Actively discourage off-road parking on footpaths, verges, open areas and plantations and encourage the use of particular routes for recreational activity, walking and cycling.
- Action 9.12 Introduce more stringent implementation of the regulations in relation to commercial vehicles.

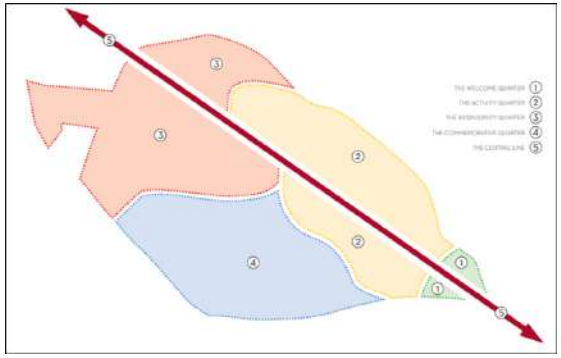
Executive Summary: The Phoenix Park Visitor Experience Strategic Review

In 2018, the OPW, in association with Fáilte Ireland, commissioned the development of *The Phoenix Park Visitor Experience Strategic Review*. There were three objectives of the Review: to review the future 'tourism' development potential of the Park; to prepare a development plan for the Phoenix Park Visitor Centre; and for the Magazine Fort.

The *Executive Summary of the Visitor Experience Strategic Review* identifies 5 zones/character areas:

- The Welcome Quarter;
- The Activity Quarter;
- The Biodiversity Quarter;
- The Commemorative Quarter; and
- The Central Line.

The zones/character areas were informed by existing natural and physical features, and the different visitor experience offerings. The Strategic Review identified opportunities for improvement within each character area.



The Strategic Review also recognised that improving and enhancing connectivity between the Park and the City will serve to underpin the proposed new strategies. As such, it included a proposal for a new bus route between the Phoenix Park Visitor Centre and Ashtown Castle, and Heuston Station, routing along the North Road. It also highlighted the opportunity potential for a train station within this Park along the route of the Phoenix Park Tunnel Service.

The Review sets out 29 recommendations and actions. Of those most relevant to mobility and access to/within the Park, include:

- **Action 1:** The Phoenix Park to Dublin Bay: The East-West Axis;
- **Action 2:** The Phoenix Park and Hinterland: Three Strategic Routes;
- **Action 3:** The Green Link;
- **Action 4:** Waterways Ireland; and
- **Action 5:** Connecting with the City.

Phoenix Park Transportation Study 2006

In 2006, the *Phoenix Park Transportation Study* was carried out in response to the growing pressures on the Park's integrity as a result of intensifying residential development in the surrounding communities, and due to increasing traffic volumes in the Greater Dublin Area.

That Study highlighted the issue of commuter parking within the Park, and recommended that employers within the Park engage in a process of demand management.

That Study estimated that between 60% and 90% of vehicles parked in certain sections of the Park belong to commuter drivers, who remain parked for over 8 hours daily on weekdays (though legally), taking advantage of the Park's free parking, and thereafter proceeding to workplaces on foot either in Dublin City Centre or within the Phoenix Park.

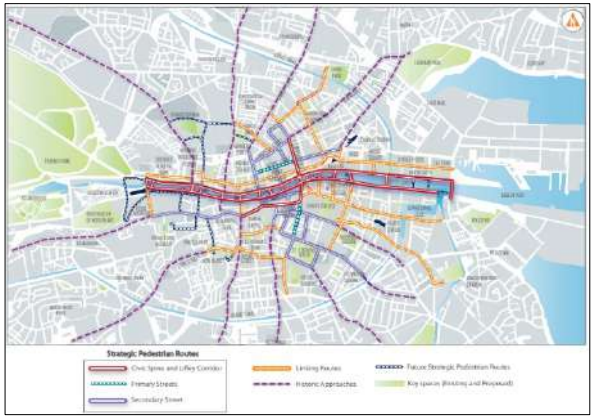
Some of the proposals put forward include:

- Rationalise vehicular traffic movement from the Ashtown and Cabra Gates, and the Islandbridge and Chapelizod Gates to form a one-way in/out system (completed for Islandbridge and Chapelizod Gates);
- Enhance the environment for pedestrians and cyclists along Chesterfield Avenue by providing crossing points, improved footpaths and segregated cycle paths;
- Adoption of a 30kph zone along Chesterfield Avenue between the Park Gate St. Entrance and the Lord's Walk, and Lord's Walk;
- Closure of Military Road to through vehicular traffic, while maintaining vehicular access to Magazine Fort (completed);
- Implement a charging structure for parking (illegal parking controls with sticker notices on cars as permitted within the *Phoenix Park Act* has been implemented);
- Consideration of a Phoenix Park Shuttle Service or the re-routing of no.37 through Chesterfield Avenue (shuttle bus service was introduced within the Phoenix Park in 2008, however due to under-usage, it was terminated in 2009); and
- A suite of supporting measures such as Mobility Management Plans for employers, improved wayfinding and information signage; and an annual transport management meeting between organisations within the Park (partially implemented).

Dublin City Development Plan 2016-2022

The *Dublin City Development Plan 20016-2022* places a land-use zoning objective on the Park as Zone Z9, "to preserve, provide and improve recreational amenity and open space and green networks". It also designates the entire Phoenix Park as a Conservation Area.

The Phoenix Park is also referenced within the Plan in Section 10.5.3 which states as Objective GIO14: "to protect and conserve the historic landscape of the Phoenix Park and its archaeological, architectural and natural heritage whilst facilitating visitor access, education and interpretation, facilitating the sustainable use of the park's resources for recreation and other appropriate activities, encouraging research and maintaining its sense of peace and tranquillity".



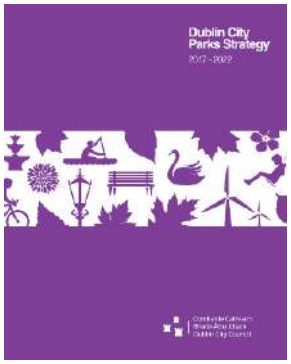
Fingal Development Plan 2017-2023

The Phoenix Park's western boundary lies adjacent to the administrative area of Fingal County Council.

The *Fingal Development Plan 2017-2023* sets out the Council's proposed policies and objectives for the development of the County over the Plan period. The Plan seeks to develop and improve, in a sustainable manner, the social, economic, environmental and cultural assets of the County. It sets out the following relevant objectives:

- **Objective Castleknock 3:** Promote sympathetic cycle integration between Castleknock and both Blanchardstown Village and the Phoenix Park;
- **Objective MT04:** Encourage the development of car-free neighbourhoods, creating a much better quality public realm with green infrastructure;
- **Objective MT13**: Promote walking and cycling by developing a network of direct, comfortable, convenient and safe cycle routes and footpaths, particularly in urban areas;
- **Objective MT14**: The Council will work in collaboration to implement the *Greater Dublin Area Cycle Network Plan*; and
- **Objective MT15**: Investigate and avail of the opportunities provided by new Metro North and any other public transport infrastructure to provide new cycle and pedestrian links including crossings of the M50 which currently represents a major barrier to active modes.

Dublin City Parks Strategy 2017-2022



The *Dublin City Parks Strategy 2017-2022* provides an overarching framework for the development and management of the City's parks and landscape. Parks form just over 17% of the land area of Dublin City, that is some 2020ha of the 11,761ha available. Flagship parks form the bulk of the provision due to the extensive size of the Phoenix Park, Bull Island and St. Anne's Park.

The strategic vision for Dublin's city parks and landscapes is to provide for a greener Dublin, both through enhancing its visual quality and providing environmental services for the city.

Condition Report on Road Network within the Phoenix Park

An assessment of the internal road network and the condition of the road infrastructure was carried out in 2017. Based on visual inspections of the Park, the Report concluded that the majority of the road network is showing signs of considerable deterioration. It considered that this was in part due to harsh cold and wet winters of recent years, as well as to the significant growth in vehicular traffic and axle loadings using the road network.

With the exception of some roads which have been recently re-laid or entirely resurfaced, the road network is currently a patchwork of repairs, undulations, puddles and potholes with much of the road surfaces greatly deteriorated and cracked.

The Report set out an estimate of costs and put forward recommendations to improve the condition of the internal road network.

Assessment of Pedestrian and Cycle Facilities on Chesterfield Avenue

An assessment of pedestrian and cycle facilities on Chesterfield Avenue was carried out in 2018 on behalf of the OPW. It reviewed the facilities in terms of junction treatment, signage, accidents and constraints. Based on a thorough analysis of the information gathered during this review, six initial concept options were proposed to alleviate some of the issues identified. It reviewed these based on a number of criteria such as directness, safety and comfort, balance of road user provisions, legibility and costing. It also referenced international best practice examples such as Hyde Park, London.

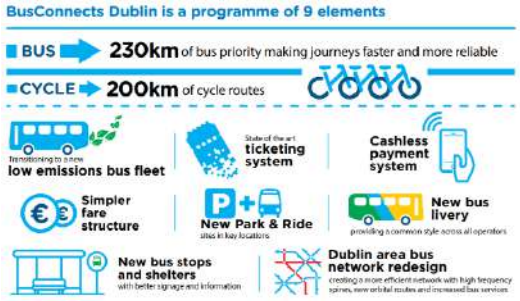
Existing Transport Proposals

The following section outlines existing transport proposals that are being progressed, and relevant to setting the context of the Study.

BusConnects Dublin

BusConnects Dublin is a major public transport project and will deliver a transformational redesign of the bus system in Dublin. It will comprise a network of 'next generation' bus corridors on the busiest routes with segregated cycling facilities and a complete redesign of the bus network.

Under Project Ireland 2040's National Strategic Outcome 4: Sustainable Mobility, BusConnects Dublin is identified as a Strategic Investment Priority, with €2.4b of Exchequer funding allocated for its delivery of the BusConnects Programme over the period 2018-2027.



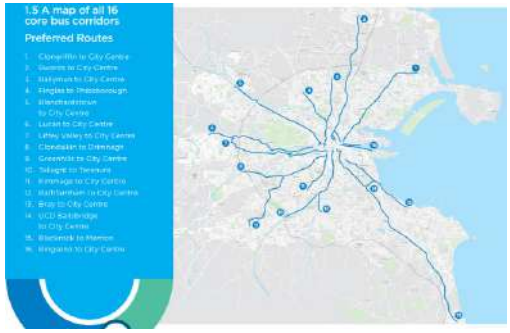
Core Bus Corridors

The planning and design of the BusConnects Dublin network is currently underway. The third round of public consultation was launched in November 2020 on the 16 core bus corridors. The Core Bus Corridor Projects will see the roll-out of 230km of continuous bus priority and 200km of cycle routes.

In the context of the Phoenix Park Transport and Mobility Options Study, Core Bus Corridors (CBC) 5 and 6 in particular will greatly support the efforts to reduce vehicular through-traffic in the Park and enable a modal shift toward sustainable transport. These CBCs are Blanchardstown to City Centre (5) and Lucan to City Centre (6).

The Blanchardstown to City Centre CBC commences on the north side of the South Blanchardstown Road junction with the N3, and routes by Blanchardstown Shopping Centre onto the N3 Navan Road as far as the junction with the Old Cabra Road. From here the CBC is routed along Old Cabra Road, Prussia Street and Manor Street to the junction with North Brunswick Street, followed by Blackhall Place as far as the junction with Ellis Quay and Arran Quay, to the North Quays.

Priority for buses will be provided along the entire route, consisting primarily of dedicated bus lanes in both directions, with alternative measures proposed at particularly constrained locations.



The Lucan to City Centre CBC commences at Junction 3 on the N4 and it is routed via the N4 as far as Junction 7 (M50), and via the R148 along the Chapelizod Bypass, Con Colbert Road and St John's Road West as far as Frank Sherwin Bridge, where it will join the prevailing traffic management regime on the South Quays.

Priority for buses will be provided along the entire route, consisting primarily of dedicated bus lanes in both directions, with alternative measures proposed at particularly constrained locations. Cycle facilities will also be provided along the length of the corridor.

New Dublin Area Bus Network

The current bus network has many overlapping routes where the bus services are not evenly spaced and there is little integration between bus services and other modes of transport. The New Dublin Area Bus Network will be a more reliable and more efficient service that will take more people, to more places, more often. The implementation of the new network will take place on a phased basis starting in 2021.

The revised bus network for the Cabra Area, which is most relevant to those directly serving the Phoenix Park's surrounding area, is illustrated below. The N2 orbital route connects Clontarf Road Station to Heuston Station and is proposed to route along Blackhorse Avenue to the north of the Park, by the Cabra Gate. This route will interchange with the Luas and commuter rail line at Broombridge.

Commemorative Bridge, Irish National War Memorial Gardens

Dublin City Council proposed a variation (no.28) to its *Dublin City Development Plan 2016-2022* to amend objective MT031 to include for a pedestrian and cycle bridge over the River Liffey. This motion was passed by Dublin City Councillors in September 2020.

The bridge is being proposed to link the Irish National War Memorial Gardens in Islandbridge with Cunningham Road, as depicted below. The Irish National War Memorial Gardens are located on the south bank of the River Liffey at Islandbridge, which is situated approximately 6km west of Dublin City Centre. The Phoenix Park runs along the opposing, north bank of the River.

The gardens are of international and national significance as a Lutyens-designed monument. Strategically located at a point where the Liffey is calmed by the Islandbridge Weir, the bridge will link with the Phoenix Park and Gardens via a greenway linking two sides of the river, while creating a formal entrance to the Memorial.

The bridge will extend from a temple in the Memorial Gardens to land on the north bank of the River Liffey between Islandbridge weir and UCD Boat Club. It will connect two significant historic parklands, as well as a number of cultural institutions such as Kilmainham Gaol, Royal Hospital Kilmainham and a number of local neighbourhoods.

The new proposed bridge will also serve as a green biodiversity corridor linking both sides of the River Liffey, and with existing and proposed cycle routes.

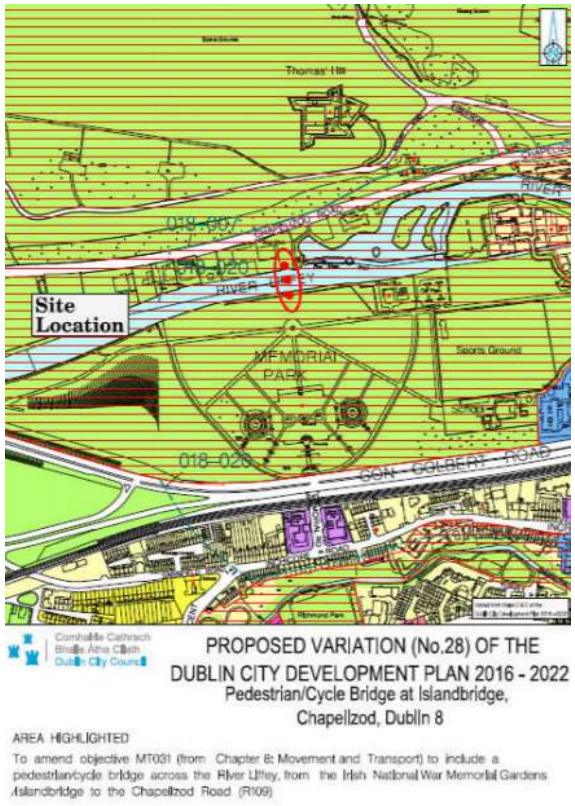


Figure 49 Proposed Location of Commemorative Bridge at the Irish National War Memorial Gardens. Source: Dublin City Council.

2020 Chesterfield Avenue Cycle Lane

Not for generations has Ireland been faced with a health threat as serious as Covid-19 and the daily life of every single person has been changed including those who utilised the resources of the Phoenix Park. The Phoenix Park provides numerous opportunities for green exercise, while connecting with nature thus improving the mental health and wellbeing of all citizens who utilise its wonderful amenities.

Space for pedestrians and cyclists has increased by 33% adjacent to the main spine of the Park on Chesterfield Avenue. Over 7kms of new cycle lanes were introduced in this area taking over the hard shoulder of the road to ensure social distancing can be maintained by walkers and cyclists alike.

A considerable number of family groups and commuter cyclists utilised these new cycle lanes. Commuter car parking has virtually been eliminated due in part to the new cycle lane and the later opening time of the carpark to 10am.

Most recently, however, in response to the government's Covid-19 restrictions and guidelines, a temporary on-road segregated cycle lane was installed along the length of Chesterfield Avenue. This provides a direct cycle route through the Park for both visitors and commuters. It is recommended that this temporary measure is progressed as a permanent installation and detailed design is due to be carried out in the short-term. It is therefore important that this Study takes cognisance of this when considering options for cycling.

Understanding Park Visitors' Views

A number of surveys and consultations have been carried out among visitors and local residents in recent years in relation to both the Phoenix Park specifically and Dublin City more generally.

These include:

- Your Dublin, Your Voice: Build Back Better Survey (DCC, 2020);
- Draft Phoenix Park Visitor Experience Strategic Review (OPW, 2019);
- Behaviour and Attitude Survey (OPW, 2017); and
- Phoenix Park Employee Travel Survey Analysis (OPW, 2009).

Your Dublin, Your Voice: Build Back Better Survey 200

DCC carried out an online Survey in August 2020 to understand the effect that COVID-19 restrictions are having and are expected to have on the lives of Dubliners, and had 951 respondents. It also asked residents to consider what kind of Dublin they would like to see emerge from the pandemic.

Some key findings relating to travel patterns pre-, during and post-Covid-19 restrictions:

- 41% of respondents see themselves working mostly from home in the medium to long-term, with 16% returning to the office entirely;
- 8.9km was the average commuting distance to work, school and college pre-Covid-19, with 22% travelling less than 3km and 76% with a distance of 10km or less;
- The number of people planning on using public transport once restrictions are lifted compared to pre-Covid-19, drops significantly from 32% to 20%;
- The number of people planning on commuting by car once restrictions are lifted remains at 20%;
- The number of people planning on commuting by bike is envisaged to increase from 19% to 24%;
- The top 5 things which would encourage people to walk or cycle more were found to be: improved cycle lane network in the City (59%); less traffic on the roads (46%); increased/safe cycle parking (36%); more pedestrianised areas (35%); and improved and wider footpaths (35%); and
- 56% of people are shopping locally more often, whereas 48% are shopping online more often.

The Survey also asked residents to consider what kind of Dublin they would like to see emerge from the pandemic. Some of the key findings relevant to the Study include:

- 67% of people want to see the retention throughout the City of the temporary cycle lanes/wider footpaths/walking corridors set up during the Covid-19 restrictions;
- 35% of people would like to see increased support and incentives to walk or cycle into work or to meetings;
- 63% of people feel that investing in green infrastructure is most important for our recovery;
- 63% of people think investing in public transport is most important for our recovery; and
- 52% and 43% of people felt that improving cycles lanes and pedestrian infrastructure, respectively, is most important for our recovery.

Draft Phoenix Park Visitor Experience Strategic Review – Analysis of Submissions

The *Draft Phoenix Park Strategic Review of Visitor Experience* was put on public display at the Phoenix Park Visitor Centre in March 2019 and the public were invited to offer feedback on its contents during a 10-week public consultation period.

1,546 observations were submitted to the consultation, plus an additional 4,500 individuals signed a petition. These submissions were received from a wide range of stakeholders from individuals, residents' associations, political parties and public representatives, to public bodies and semi-state agencies bounding a variety of issues.

The *Draft Phoenix Park Visitor Experience Strategic Review: Analysis of Submissions Received* was prepared subsequent to the public consultation period and includes both an analysis and a summary of submissions received.

A high proportion of submissions expressed a desire for the Park to be left untouched and for the essential character of the Park to be preserved. Many submissions emphasised the importance of the Park as a green space, a haven for biodiversity.

Some observations argued that the proposals in the draft Review would result in over-development and commercialisation of the Park. With circa 10 million people using or visiting the Park each year, OPW must consider how it meets the needs, or not, of the ever-increasing user numbers in the Park. OPW committed to be particularly cognisant of the public's desire to see green space maintained and for new enhancements to be limited and in-keeping with the existing character of the Park.

Various submissions in relation to car usage in the Park were received. However, conflicting ideas were received in relation to car access, car parking and car usage throughout the Park. While some supported the reduction of car usage in the Park, some submissions suggested that commuter routes need to be maintained and more dedicated car parks should be provided to facilitate those who travel distances to visit the Park. A core recommendation of the draft Review is that OPW should commission a mobility study to consider inter-relating issues to do with sustainable transport, traffic management, pedestrian and cycle mobility and mixed-mobility options.

While 19 different topics were raised in the observations received, these were grouped into 5 general themes as follows:

- Conservation and Built Heritage 65%;
- Transport and Mobility 49%;
- Visitor Facilities 37%;
- Biodiversity and Climate Change 19%; and
- Consultation Process 11%.

Conservation and Built Heritage:

- The Park should be left in its existing conditions and its character/identity maintained as is;
- Generally, against overdevelopment, loss of greenspace and commercialisation of the Park;
- Support for Magazine Fort proposal and associated suitable facilities;
- Support for pedestrian/cyclist connection with south bank of the Liffey; and
- The Strategic Review should have more consideration of the people of Ireland/ users, instead of occasional visitor/ tourist for purposes of 'tourist product' and profit.

Transport and Mobility:

- Generally, against the closure of Chesterfield Avenue and any reduction on car usage which would impact commuters in particular;
- Support sustainable transport proposals including public transport, electric shuttles, or improved access to train line or extension of Luas line;
- Welcome the improvement of pedestrian and cyclist facilities generally (surface, additional paths, crossings, increased management for safety, additional Dublin bike stations and rental locations);
- Support the reduction of the Park as vehicular route (slowing down, partial closure of access, increased traffic management, enforcement of speeds); and
- Against any additional parking (e.g. Bloom permanent car park).

Relevant Priority Actions were proposed in response to the feedback including:

Commission a Transport and Mobility Study, which would explore the connectivity potential external to the Park in tandem with appropriate sustainable transport/mobility options within.

- Review vehicular usage, cycling provision, pedestrian connectivity and parking provision;
- Consider a traffic calming strategy along with public transport links; and
- Review the Dublin Canal Greenway Inner Loop and other tourism initiatives.

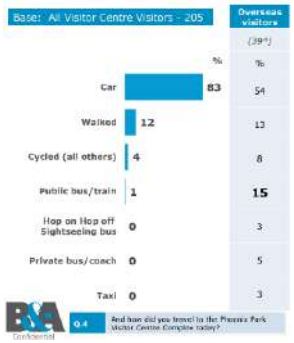
Develop plans for the Phoenix Park Visitor Centre Complex.

Plan for sustainable bus, car and cycle provision that is contained within the site. Explore the option of the provision of underground parking at this location. Should this be economically unviable, all parking must be extensively screened so as not to detract from the amenities of the area.

Advance the planning application for the proposed Commemoration Bridge.

Plan for a bridge at the Irish National War Memorial Gardens as a pedestrian/ cycle green route to other cultural institutions such as Kilmainham Gaol, Royal Hospital Kilmainham and as a green biodiversity corridor linking both sides of the River Liffey.

Behaviour and Attitude Survey 2017



Research of visitors to the Phoenix Park was carried out in 2017 to understand the profile of visitors as well as their satisfaction levels with the Park's amenities and overall experience. It also sought recommendations for improvements and feedback. A sample of 400 visitors were surveyed.

The findings concluded that the visitor satisfaction with the Park was exceptionally high (scored 9.15 average with 45% giving a 10/10). However, issues relating to accessibility, wayfinding and walkability were highlighted including the majority of users being poorly informed of the various attractions within the Park, toilets at the visitor centre are restricted during large events as they cannot cope with high usage and Universal access facilities need to be significantly upgraded throughout.

The Survey also found that the majority of visitors to the Phoenix Park Visitor Centre arrive by car and spend approximately an hour and a half there.

Employee Travel Survey Analysis 2009

In 2009, a Travel Survey was undertaken among employees of seven key sites located within the boundaries of the Phoenix Park. 25% of the Park's employee count completed the survey, however the participation rate within each organisation varied significantly, e.g. 14% of An Garda Síochána HQ and 92% of Dublin Zoo. The key findings of the Phoenix Park Employee Travel Survey were as follows:

Commute Patterns:

- 78% of all employees surveyed travel into the Phoenix Park via car.
- It considered that the higher figures within the Park are due to a lack of parking regulations, a lack of a convenient and direct public transport routes stopping close to the employer sites. Of all drivers, 81% of them stated that they always or usually park within their organisation's private car park.
- 20% of drivers park elsewhere within the Park or in surrounding residential neighbourhoods.
- After the car, the next most popular travel mode, at 7%, was walking, followed by public buses at 6%.

Openness to Travel Alternatives:

- Majority of staff who currently drive responded that they have a number of alternatives available to them, indicating a potential for change – with public buses being the most popular perceived alternative, followed by car-pooling, cycling, and the train.
- Nearly two-thirds (64%) of all staff would be in support of company policies favouring sustainable transportation.

Residence Patterns:

While Phoenix Park employee residences are widely dispersed across the Greater Dublin Area, the most densely-populated clustering was found to be in Blanchardstown, Leixlip, Lucan, as well as both immediately north and immediately south of the Park along the N3 (Navan Road) and N4 (Lucan Road) corridors.

Business Travel:

- 33% of staff who drive into the Phoenix Park never use their car for business trips.
- 35% use their cars every day, and the remaining 31% use their cars on occasion.
- Most popular destination for business trips, at 38%, was within Dublin City Centre.

The *Phoenix Park Employee Travel Survey Analysis* report proposed a number of recommendations based on the survey findings including (but not limited to):

- Lobby to initiate a bus route into the Park;
- Lobby to ensure that well-lit bus shelters are erected at all existing bus stops;
- Limit parking on the Park's internal road network to 5 or 6 hours maximum in order to facilitate free legitimate use whilst simultaneously discouraging all-day parking by commuters;
- Distribute car parking permits based on criteria such as employee's residential proximity to public transport or their workplace, workplace responsibilities, family duties and physical ability;
- Consider Workplace Parking Levy;
- Minimise the number of reserved workplace parking spaces within the private car parks to ensure that the existing supply of car parking is being used as efficiently as possible.
- Increased bike parking facilities;

- Two thirds of drivers stated that they take their car to work because of business trips – 38% of which are to the City Centre. Business travel

policies or incentives should be implemented to encourage staff to take public transport, and/or businesses should acquire 'company fleet vehicles' for business travel; and
- Encourage working from home, compressed work-weeks, and flexible work hours where practical.

Summary

To summarise, all of the analyses from these surveys show overwhelming support in favour for more sustainable transport provision, better quality cycle facilities, enhanced pedestrian infrastructure, reduced congestion and more vibrant and liveable places in both the Phoenix Park and the wider area of Dublin City.

In developing the overarching Principles and Objectives, as well as the ultimate Preferred Strategy, it is important that these are done in the context of this feedback to ensure the Park continues to serve the needs and aspirations of those who use it.

Case Studies

A number of case studies were explored to provide a benchmark and evidence base for the development of the Phoenix Park Transport and Mobility Options. These case studies included:

- The Royal Parks, London;
- Stanley Park, Vancouver; and
- Centennial Park, Sydney.

The Royal Parks, London

Overview

The Royal Parks is the charity entrusted to manage eight of London's Royal Parks including Hyde Park, Kensington Gardens, St James's Park, The Green Park, The Regent's Park, Greenwich Park, Richmond Park, and Bushy Park.

Similar to the Phoenix Park, the Royal Parks are not only important historic landscapes but also play a vital role in the living, breathing fabric of London. These green spaces provide valuable habitats for biodiversity in the heart of an urban environment:

The Royal Parks play a significant role in tourism and the wider London economy, with over 77 million visits per annum. Research shows that visitor numbers to the parks are increasing and that those who visit are staying longer.

Existing Challenges

The Royal Parks experience some similar challenges to that faced by the Phoenix Park, including:

- Growing numbers of visitors;
- Parking issues;
- Increased popularity of cycling; and
- Decreasing air quality.

Access and Mobility in The Royal Parks

In June 2020, the Royal Parks developed a Movement Strategy and Implementation Plan. They set out the following Movement Principles:

We will protect and conserve our parks' special qualities.

Any changes or developments that affect the way visitors move within our parks should protect and enhance the heritage, character, biodiversity, wildlife and listed landscapes of the parks and must result in no net loss of trees or green space.

Our parks are places that people visit for relaxation and recreation.

To make that possible, we will prioritise walking within our parks wherever we can and ensure our parks are accessible for all people including families and those with limited mobility.

We will encourage the use of more sustainable ways to access and travel through our parks.

We will encourage visitors to use active and sustainable modes of transport as their first choice for park visits whenever they can.

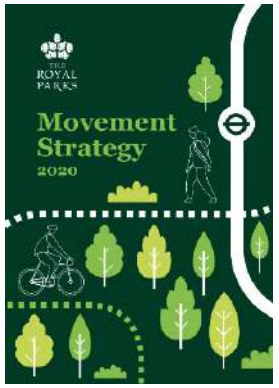
Our park roads are not intended to be primarily commuter through routes for motor vehicles.

Park roads are primarily for the use of park visitors coming to the parks, not for commuters travelling through the parks. Over time, we will discourage the through-movement of motor vehicles within our parks.

We will achieve more by delivering key projects through collaboration and partnership.

The transport and movement decisions of our visitors do not begin and end at our park boundaries. We will collaborate with key partners on projects both within and outside the parks, to achieve the best possible outcomes for the benefit of our visitors.

We will make evidence-based decisions.



To make appropriate decisions concerning movement, we will use available and relevant evidence and data. We will monitor and report outcomes against objectives and embed continuous improvement into our approach.

We will be proactive in our approach to future transport challenges and opportunities.

The transport world is changing rapidly. We will ensure that we are prepared for these changes and opportunities, so that we can anticipate and respond to change in an informed, considered and prompt way that aligns with our purpose.

An Implementation Plan based on these principles was set out including a series of trial project to be implemented over the next year. During these trials, visitor surveys will be carried out as well as evaluation of external implications of the trials.

4 key trial projects that are currently being undertaken across the Parks to achieve these Movement Principles are illustrated overleaf.

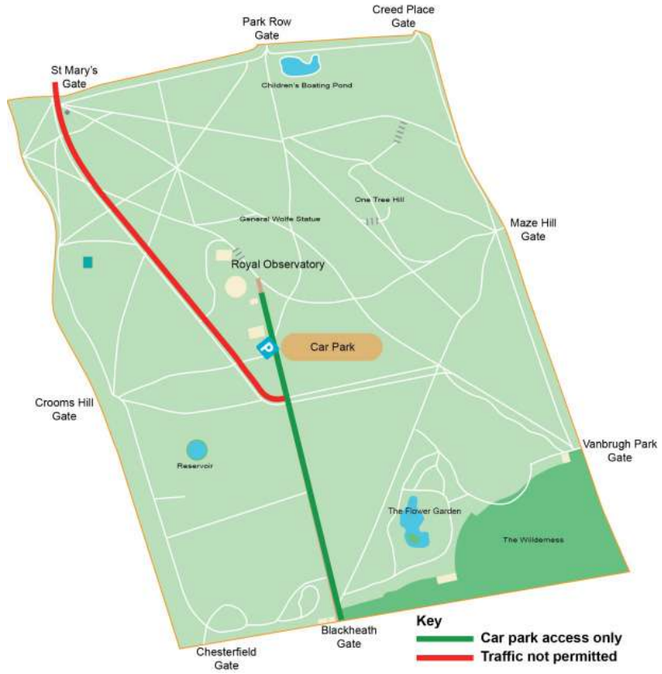
Key Movement Principles

Key principles employed in The Royal Parks Movement Strategy include:

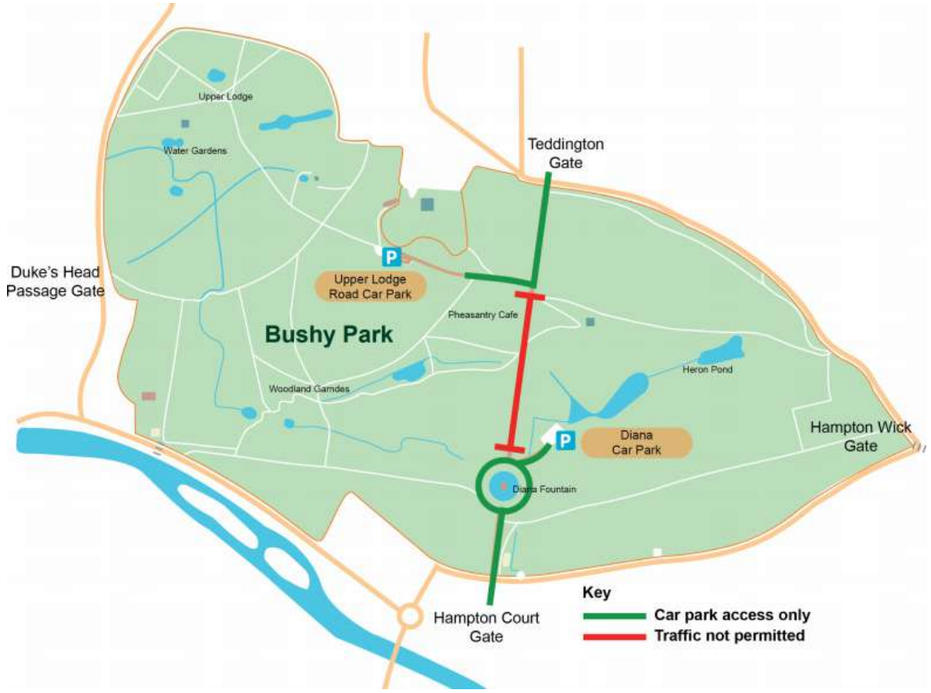
- Enhancing pedestrian and cycling facilities;
- Limiting of through-traffic by closing certain roads to vehicular access;
- Defining vehicular access routes to car parks; and
- Creation of 'quiet zones' in certain areas of the Park during the day, during which time there is no vehicular access.

The Royal Parks Movement Strategies

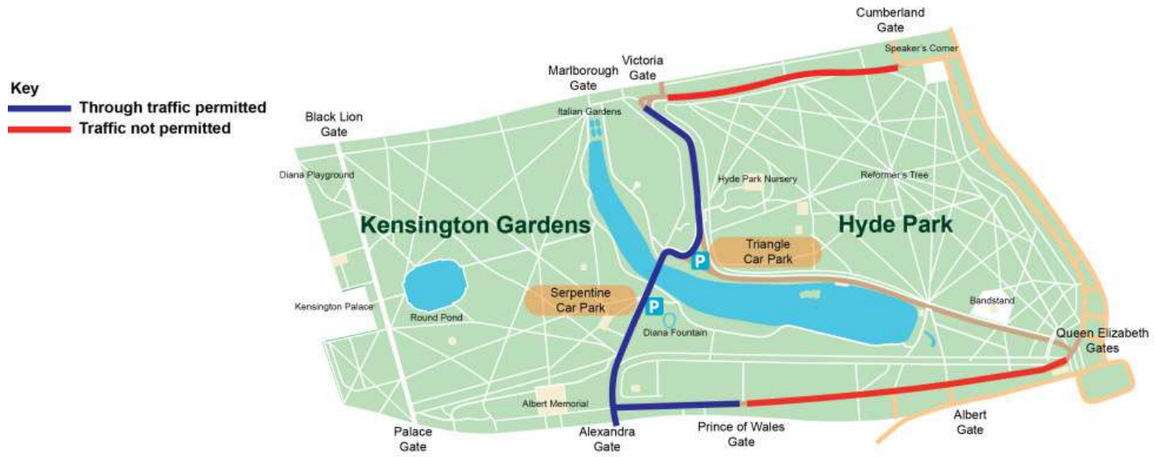
Richmond Park



Greenwich Park



Bushy Park



Hyde Park and Kensington Gardens

Stanley Park, Vancouver

Overview

Stanley Park is one of the great urban parks of the world, spanning 400 hectares of west coast rainforest, manicured lawns, lush gardens, sports fields, quiet trails, the Seawall, stunning views, beautiful beaches and a host of cultural attractions.

Stanley Park is located right next to Vancouver City Centre, and is easily accessible by foot, bike, bus and car.

Existing Challenges

Similar to the Phoenix Park, Stanley Park is currently facing the following challenges:

- High vehicular speeds;
- Park being used as a rat-run to avoid congestion on the other route across the Burrard Inlet; and
- Growing visitor numbers to Stanley Park.

Access and Mobility in Stanley Park

Walking

Significant improvements have been made to pedestrian facilities within the Park in recent years. This includes the designation of some of the internal trails as Universal Access only, where vehicles and cyclists are not permitted in order to allow vulnerable pedestrians to enjoy the space safely without risk of conflict.

The Seawall, which circumnavigates the perimeter of Stanley Park, is a huge attraction and is used extensively by pedestrians and cyclists, for both recreational and utility travel purposes.

Cycling

In recent years, significant improvements have been made to the cycle network in Stanley Park. Most recently, one lane of the carriageway along Stanley Park Drive has been reallocated to cyclists.

Bus

Stanley Park is served by one bus service which stops within the Park itself and connects it with Vancouver City Centre. These buses are equipped with bike racks. In recent months, the Park board of management has requested that the public transport operator provide an additional bus route that circles the perimeter of the Park; however, the operator has deemed it infeasible at present on financial grounds.

Vehicle Access

There are two main roads within the Park: Stanley Park Drive which operates a one-way system around the perimeter in a counter-clockwise direction; and the Stanley Park Causeway which cuts through the Park to access the Lions Gate Bridge connecting Vancouver City to North Vancouver. The Causeway is used as a major commuter route and has only one vehicular exit within the Park. There are other smaller routes internally within Stanley Park with several of these closed to vehicular traffic.

As with other cities across the world, Vancouver has implemented mobility measures in response to Covid-19 restrictions. Figure 50 illustrates the temporary measures that are currently in place and are actively being progressed as being permanently implemented.

Vehicular access to Lions Gate Bridge to the north has been temporarily closed to curtail the use of the Park as a through-route. The removal of private vehicular traffic from the Stanley Park Causeway and Lions Gate Bridge by 2030 is a long-standing agreement by Vancouver City. However, it is predicated on the development of an alternative inlet crossing to North Vancouver.

Car Parking

Provision of car parking has been significantly reduced throughout the Park during the Covid-19 temporary measures. Pay parking is in effect in most areas of the Park, at either hourly or all-day rates.

Figure 50 Temporary Traffic Management Plan for Stanley Park

Key Movement Principles

Key principles employed in Stanley Park include:

- Curtailing through-traffic by closing vehicular access to Stanley Park Drive on a temporary basis, and some internal roads;
- Reallocating road space to sustainable travel;
- Provision of a bus route that serves the Park internally; and
- Enhancing pedestrian and cycling facilities.

Centennial Park, Sydney

Overview

Centennial Parklands is one of the world's leading public parklands, located in Sydney, Australia, comprising of three open public parks. The Centennial Parklands share many similarities with the Phoenix Park including its common nickname as 'the lungs' of the City, as well as encompassing some of the most historically and socially significant urban spaces in Australia.

The Centennial Park is bordered primarily by residential areas, and serviced by a number of bus stops outside of the Park boundary. There is one train station within 800m of the Park entrance.

The Parklands have over 10km of live internal roads and interconnecting public roads. The speed limit inside the Park is 30kph, with the exception of shared zones which have a speed limit of 10kph.

The Park also has a 3.8km orbital cycle lane within the Park boundary.

Existing Challenges

The Centennial Park experiences similar challenges to that faced by the Phoenix Park, including:

- Car congestion;
- Parking issues;
- Rapid population growth in the region and increasing densities in the surrounding areas;
- Continued growth in visitors to the Park; and
- High vehicular speeds.

Access and Mobility in Centennial Park

In 2013, a *Centennial Park Masterplan 2040* was developed to address these challenges that were beginning to impact on the Park. The Masterplan considered a number of different aspects to do with the Centennial Park, including transport, access and parking as illustrated in Figure 51.

Figure 51 Centennial Park Traffic, Access and Circulation. Source: Centennial Park Masterplan 2040, p.25, 2013.

Some of the key objectives of the Masterplan relevant to our Study include:

- Improvements beyond the Park boundary - to pedestrian, cyclist and public transport access to the Park;
- High-quality, high-capacity transport services to increase the number of visitors accessing the Park by public transport;
- Improved wayfinding and legibility of clearly defined routes from the pedestrian path;
- Review gate opening and closing hours to reduce 'rat-running' through the Park;
- Implement timed parking (a maximum of 3 hours) to reduce the number of people who park within Centennial Park and commute to the City, making things fairer for visitors;
- Provide a drop-off zone on the inside of Grand Drive near the new crossing for visitors using the enhanced southwest corner, in order to reduce pressure on parking;
- Closure of the Darley road slip lane to provide safer crossing for pedestrians; and
- Improve access to parking within the Inner Park and reduce the need for vehicles to continuously circulate around Grand Drive.

Key Movement Principles

Key principles employed in Centennial Park include:

- Improve accessibility to Centennial Park by sustainable transport;
- Review the opening times of access gates to vehicular traffic; and
- Implement parking management measures to limit inappropriate use of the Park, i.e. for long-stay commuter parking.

Commonly Applied Principles

Each of these Parks share similarities with the Phoenix Park in terms of their significance and scale within their respective cities. They also share similar challenges in relation to growing visitor numbers, as well as issues around access and parking management.

There are several common principles employed by each of the parks' movement strategies, including:

- ✓ Prioritise improving accessibility to and within the Park for sustainable modes (i.e. walking, cycling and public transport);
- ✓ Restricted movement of vehicular through traffic within the Park;
- ✓ Parking management measures; and
- ✓ Supporting measures, i.e. wayfinding, improved public realm.

Context Summary

This chapter concludes that there is an unequivocal trend in promoting sustainable travel, i.e. walking, cycling and public transport. This is affirmed by various user feedback studies for both the Park itself and the wider Dublin area, as well as international case studies, and transport planning policies. These demonstrate that the provision and promotion of sustainable modes of travel, as well as efforts to reduce private car dependency, are increasingly being recognised by the public as important drivers in the enhancement of visitor experience, health and wellbeing and public safety. It reflects the global step-change toward creating more liveable places and tackling the climate crisis.

This chapter has also outlined, through the consideration of a number of pertinent case studies, that this approach is not unique to this Study and has been adopted at a number of comparable high profile locations around the world, based on the appreciation of the outcomes that can be achieved through interventions that promote sustainable modes of travel, whilst also appreciating that there will still be a role for private cars as a mode of accessing the Park.

It is in this context then that the Study Principles and Objectives were developed in collaboration with the Phoenix Park Transport and Mobility Options Steering Group to ensure an objectives-led approach is employed, fully aligned with overarching policy and coupled with evidence derived from the Baseline Assessment, when developing and appraising all emerging options for the Park, which was then undertaken in Stage 3 of this Study. This Stage is detailed in the following chapter.

Options Development

The Phoenix Park has an extensive network of roads and is heavily used by commuting traffic. An important objective is to reduce the environmental impact of traffic, including if necessary, the restriction of unnecessary traffic from the Park. Access and car parking for recreational use will be improved, based on the establishment of appropriate capacities, whilst the existing network of paths and cycle tracks will be enhanced and linked to similar networks outside of the Park.

The Phoenix Park Conservation Management Plan 2011

Introduction

The purpose of this Stage was to establish the initial identification and assessment of options for the Phoenix Park.

A key outcome of this Stage was to develop and assess a number of options for different modes of travel to and from the Park in the context of both the overarching Movement Goal and Objectives of the Study, as well as the findings from the Baseline Assessment and the Context stages.

Principles and Objectives

This section presents the Principles and Objectives that were developed collaboratively by the Phoenix Park Transport and Mobility Options Steering Group. The Objectives have been developed to specifically align with the Movement Principles and ensure that the key sensitivities, aspirations and context of the Park are protected and enhanced through the development of this Study. It is important to ensure that these principles and objectives are embedded in any future decisions relating to the Park's mobility management.

These Movement Principles and Objectives, and how they align with each other is presented overleaf.

Further to these Sustainable Transport Objectives, mobility options and identification of the Preferred Emerging Option were also assessed against other criteria that are considered pertinent to the Phoenix Park. These include:

- Impact on the quality of visitor experience;
- Impact on events held within the Park;
- Ease of access to attractions in the Park;
- Opportunities to experience passive recreation, nature and tranquility;
- Protection of designed landscape and the Park's rich biodiversity; and
- Public safety and universal access for all.

Steering Group Movement Principles	Mobility Study Sustainable Objectives	Alignment with the Movement Principle
We will protect and conserve the Biodiversity and historic landscape fabric of the Phoenix Park We must be sensitive to the heritage, character, archaeology, architecture, biodiversity, wildlife and landscapes of the Park with no net loss of trees or green spaces.	Provide access for all to institutions, visitor attractions and amenities within the park.	
The Park is for People The Park is a place that people come for relaxation, recreations or to visit the various institutions within it. We will prioritise walking and cycling.	Facilitate walking and cycling within and through the Phoenix Park linking to external networks and desirable linkages with appropriate infrastructure.	
We will encourage the use of more sustainable ways to access the Park How visitors arrive at the Park plays a significant role in how they experience it. We will promote and encourage visitors to use active and sustainable modes of transport for park visits, wherever they can.	Reduce the impact of vehicles on Phoenix Park and surrounding areas while contributing to improving the amenity of the park.	
We will liaise and consult with interested and relevant parties and organisations in the achievement of these principles The impact of the transport and movement decisions of our visitors does not end at the Park boundary. We will liaise and consult with key partners both within and external to the Park, to achieve the best possible outcomes for all.	Provide improved alternatives to the private car for access to the Phoenix Park from a wider metropolitan, regional and national catchment while acknowledging that private cars have a role in accessing the Park.	
We will seek to reduce commuter through traffic Park roads are primarily for the use of Park visitors and those working within the Park. We need to manage the levels of traffic within the Park. The roads should not be for commuters merely passing through. Over time, we should discourage the through movement of vehicles within the Park.	Improve sustainable transport mode share for all employers located within the park.	
We will make evidence based decisions To assist the decision-making process we will use all relevant evidence and data where available. The future of transport is changing quickly and we must keep abreast of the new technology available so as to improve the visitor expectations in line with our vision and strategic objectives enshrined in the Phoenix Park Conservation Management Plan.	Prioritise sustainable transport modes in accessing Phoenix Park.	

Appraisal Framework

The Appraisal Framework builds on the Steering Group Movement Principles and the Mobility Sustainable Objectives as outlined above to ensure that the options are assessed in line with the overarching parameters for the Study, ensuring that each option is appraised in line with both defined transport planning principles.

The table below illustrates how the agreed Mobility Study Sustainable Objectives that have been agreed with the Steering Group align with the Movement Principles, ensuring that achievement of the Study's Objectives will succeed in achieving the overarching Movement Goals.

Proposed Framework for Appraisal

The process for assessment of options is guided by the *Common Appraisal Framework (CAF) for Transport Projects and Programmes*, March 2016 published by the Department of Transport, Tourism and Sport (DTTAS), which require projects to be appraised under the general themes of:

- Economy;
- Safety;
- Integration;
- Environment;
- Accessibility and Social Inclusion; and
- Physical Activity.

When developing specific criteria under these themes, it is important that the assessment of mobility options and identification of the eventual preferred strategy is undertaken against both appropriate transport and mobility criteria, but also criteria which are relevant to the specific and sensitive requirements of the Phoenix Park itself, such as opportunities to experience events, recreation, nature and tranquillity, as well as protection of landscapes and biodiversity.

It is important therefore that all specific criteria identified under the themes above can be aligned with the Study Objectives (and ultimately the overarching Movement Principles), ensuring the specific needs of the Park and its users are considered when assessing options.

Assessment Criteria and Alignment with Movement Principles and Objectives

Table 10 presents the assessment criteria that will be employed to assess the options, and how these criteria align with the Study's Movement Principles and Objectives which have been numbered to ease interpretation.

Table 10 Options Assessment Criteria and Alignment with Movement Principles and Objectives.

Theme	Assessment Criteria	Alignment with Principles	Alignment with Objectives
Environment	The historic setting of the Phoenix Park including its archaeological, architectural and sensitive landscapes are enhanced through these measures.	1	2,3,4,6
	Minimise the impact on surrounding residential areas and road network.	3,5,6	3
	Reduce traffic volumes in the Phoenix Park resulting in a reduction of associated environmental impacts e.g. noise and air pollutants.	1,3,4	2,3,4,5,6
	The biodiversity, ecosystem services and habitats of the Park are not negatively impacted by these measures.	1,3,4,6	3
	Any proposals to be sustainable and resilient to climate change impacts.	1,5,6	3
	The preserved views, vistas and protected structures within historic landscape setting of the Phoenix Park is not negatively impacted.	1,3,4,5,6	2,3,4,6
	No net loss of trees or green areas as a result of proposed interventions.	1,3,4,5,6	3,4,5,6
Accessibility and Social Inclusion	Enhance access to the Phoenix Park institutions, key attractions and amenities providing for pedestrians, cyclists and other sustainable modes of transport.	2,3,45,6	1,2,4,5,6
	Improve quality of visitor experience through reduced traffic volumes.	1,2,3,4,5,6	2,3,4,5
	Facilitate attendance at events at the Phoenix Park through the provision of sustainable modes of travel to access the Park.	2,3,4,5	1,2,4,6
Safety	Improved safety for cyclists and pedestrians using the Park.	2,3,4,5,6	2,4,5,6
	Reduced traffic volumes will Improve safety for the public and deer herd within the Park.	1,3,4,5,6	3
	Ensure gate closure at night to minimise impacts of the deer and vehicles.	1,3,4,5,6	3
	Prioritise sustainable transport modes in accessing the Phoenix Park.	1,2,3,4	2,4,5,6
Physical Activity	Enhance opportunities to experience recreation and tranquility within the Phoenix Park.	1,2,3,4,5,6	1,2,3
	Facilitate walking and cycling within and through the Phoenix Park.	1,2,3,4,5,6	1,2,4,6
	The proposals have minimal impact on events traditional to the phoenix park including on road running and cycling events and other third party large events such as Bloom and concerts.	2,3,4,5	1,3,
Economy	Provide sustainable travel options for accessing visitor attractions, key institutions and the amenities of the Phoenix Park.	1,2,3,4,5,6	1,2,4,5,6
	Provide improved alternatives to private car for access to the Phoenix Park from a wider metropolitan, regional and national catchment.	1,2,3,4,5,6	1,2,3,4,5,6
	Improve sustainable transport mode share for employers located within the Phoenix Park.	3,5,6	5
Integration	Facilitate walking and cycling within and through the Phoenix Park linking to existing and proposed public transport services.	1,2,3,4,5,6	2,4
	Enable National, Regional and Local policy outcomes to be realized.	1,2,3,4,5,6	1,2,3,4,5,6

Option Identification

Walking and Cycling

The strive for reducing the negative impacts associated with growing traffic volumes and the protection of diverse environmental ecosystems, such as those within Phoenix Park, is dramatically increasing the centrality of walking and cycling, particularly thanks to the association with physical activity and wellbeing, the value of both as agile modes of transport and their ability to emphasise the idea of a multisensory, interactive and social experience.

Cities around the world are beginning to realise that by getting more people walking and cycling, in tandem with reducing the number of cars, they will experience a number of areas of benefits, including:

- **Social Benefits** such as health and wellbeing, safety, placemaking, social cohesion and equality;
- **Economic benefits** including city attractiveness, the local economy, urban regeneration and cost savings;
- **Environmental benefits** such as virtuous cycles, ecosystem services, liveability and transport efficiency; and
- **Political benefits** associated with leadership, urban governance, and sustainable development.

In the specific context of the Phoenix Park, the promotion and facilitation of walking and cycling is a key factor in reducing the reliance on private car use to access the Park, making it a calmer, safer place to walk, cycle, relax and play sport in, as well as unlocking much needed capacity to accommodate demand from visitors from a wider strategic catchment area who may still require car access to the Park.

Walking

The existing network consist mainly of a combination of dedicated footpaths, off road paths and sections of road offering shared walking and cycling in the absence of vehicles (no through road).

In considering the proposed walking network for the Park, key Study Objectives considered included:

Objective 1: Provide access for all to institutions, visitor attractions and amenities within the Park;

Objective 2: Facilitate walking and cycling within and through Phoenix Park linking to external networks and desirable linkages with appropriate infrastructure;

Objective 5: Improve sustainable transport mode share for all employers located within the Park; and

Objective 6: Prioritise sustainable transport modes in accessing the Phoenix Park

The key considerations identified for the walking network within the Park are as follows:

- Ensuring connectivity that provides access for all between the access gates and the various institutions, visitor attractions and amenities, as well as through the Park;
- Ensuring adequate crossing points, especially on Chesterfield Avenue;
- Ensure walking links from existing car parks to Chesterfield Avenue;

Whilst the existing walking infrastructure is good within the Park, there are opportunities for upgrading some existing routes, particularly to the western end of the Park to allow for universal access, as well as opportunities for improved access and crossing points.

These proposed enhancements are outlined in Figure 52 with the resulting overall proposed walking network outlined in Figure 53.

It is recommended that, where appropriate, all footpaths should be upgraded to a minimum of 2m to ensure comfort for users of the path.

Figure 52 Proposed Enhancements to the Walking Network. Source: Google Maps, 2020.

Figure 53 Proposed Walking Network for the Phoenix Park. Source: Google Maps, 2020.

Cycling

As with walking, when considering the proposed walking network for the Park, key Study objectives to consider include the following:

- **Objective 1:** Provide access for all to institutions, visitor attractions and amenities within the Park;
- **Objective 2:** Facilitate walking and cycling within and through the Phoenix Park linking to external networks and desirable linkages with appropriate infrastructure;
- **Objective 5:** Improve sustainable transport mode share for all employers located within the Park; and
- **Objective 6:** Prioritise sustainable transport modes in accessing the Phoenix Park.

The key considerations identified for the cycling network within the Park are as follows:

- Recreational users of the Park including connections from the main gates to leisure/tourist trip attractors and attractive routes for leisure use, including loops; and
- Provision of direct, high-quality connections required between the main gates to cater for cycling commuters both to and through the Park.

When considering opportunities for the proposed cycling network, it was considered important to formalise the current temporary cycle lane on Chesterfield Avenue to cater for the provision of direct, high-quality connections through the Park. This would be complemented by additional cycle lane infrastructure on the side roads which would cater for secondary access to commuter destinations within the Park, but also leisure cycling loops and access to amenities. The areas of proposed new cycle lane provision are illustrated in Figure 54 and Figure 55.

It is recommended that any additional cycle routes, as well as upgrades to existing cycle routes should be to the standard set out in the NTA's *National Cycle Manual,* where appropriate.

Figure 54 Proposed Additional Cycle Routes. Source: Google Maps, 2020.

Figure 55 Overall Proposed Cycling Network. Source: Google Maps, 2020.

Road Options

A number of options had already been identified for assessment by the Working Group and were provided upon commencement of this Study.

A number of additional options were identified then as part of the Study, which built on elements of the original options, with further considering of the accommodation of any potential role for public transport and opportunities for enhanced active travel within the Park.

10 options have been proposed in total. The following sections outline each option in more detail.

Option 1: Existing Situation

Gates	Roads
All gates open 7am-11pm.	Current through roads open.

Observations

- People are familiar with the current arrangements;
- Does not impact on commuter nor commercial traffic;
- Unrestricted access to all institutions, attractions and amenities for visitors and staff;
- Vehicles have priority;
- Not pedestrian or cycle friendly;
- Occasionally impacts vehicular users of the Park when they are competing with commuter traffic;
- Detrimental impact on biodiversity, recreation, and tranquillity due to high volumes of cars;
- Negative impact on road infrastructure and the protected infrastructure at Park entrances;
- Leads to long-stay commuter parking;
- Difficult to regulate commercial traffic; and
- Some conflicts with events, including recreational festivals and concerts.

Option 2

Gates	Roads
Option 2A Side Gates closed 24/7 **Option 2B** Side Gates closed Mon-Fri **Option 2C** Side Gates closed Sat/Sun	Current through roads open.

Observations

- Improved amenities for passive and active recreational users of the Park;
- Improved safety for walking and cycling, both utility and recreational;
- The Park is a haven for biodiversity, recreation and tranquillity;
- Vehicular traffic predominately on Chesterfield Avenue;
- Impacts commuter cross traffic, i.e. Ashtown/Knockmaroon/ Islandbridge/Chapelizod entrances (2A and 2B);
- Side roads are traffic-light. Only vehicles accessing places of work are on side roads (2A and 2B);
- Less environmental impacts from vehicles;
- Potential to increase the cycle and pedestrian infrastructure;
- Facilitates recreational events;
- Easier to manage commercial traffic;
- Less impact on protected structures and Park infrastructure;
- Impacted commuters travelling through the Park;
- Longer commuter route for those working in the Park; and
- Inconvenience for those accessing the Park as they have to orientate to the two open gates at Castleknock and Parkgate Street Entrance.

Option 3

Gates	Roads
Phase 1 All gates open from 7am to 11pm. **Phase 2** Ashtown / Cabra Gates one-way. **Phase 3** Knockmaroon Gate closed.	**Phase 1** Maintain Chesterfield Avenue as through route. Cul-de-sac North Road east of Ratra House and west of Spa Road. Cul-de-sac Glen Road past Cara Cheshire Home and at car park on Upper Glen Road. Introduce Pedestrian crossing points on Chesterfield Avenue. **Phase 2** Ashtown Gate entry only. Cabra Gate exit only. **Phase 3** Close Knockmaroon Gate.

Observations

- Positive impact for biodiversity, recreational users and tranquillity etc due to reduction of vehicles on side roads, i.e. North Road and Upper Glen Road;
- Commuters have access to the Park as a through route as all gates open;
- Access maintained for all institutions at St Mary's Hospital, Cara Cheshire Home, An Garda Síochána HQ and Dublin Zoo, and Ratra House that are close to Phase 1;
- With the cul-de-sacing of the Upper Glen Road, this Biodiversity Rich area will no longer through route. Significant environmental and biodiversity benefit;
- Biodiversity and tranquillity are improved throughout the Park;
- North Road and Upper Glen Road will be more favourable for active modes;
- All traffic coming in Chapelizod Gate will have to access the Park via Acres Road and Chesterfield Ave (access maintained for Cara House and St. Mary's Hospital);
- Some inconvenience to commuters entering Ashtown Gate as they will be diverted onto Chesterfield Avenue;
- New pedestrian crossing points will slow traffic on Chesterfield Avenue;
- Improved protection of protected infrastructure at Ashtown and Cabra Gates;
- In time Knockmaroon gate should be closed and this will eliminate cross commuter traffic from M50 toll charge evasion; and
- Quick scheme to implement as a pilot or full scheme.

Option 4

Gates	Roads
Option 4A Side Gates closed 11pm to 10am (open 10am – 11pm). **Option 4B** Side Gates closed 6pm to 10am (open 10am – 6pm). **Option 4C** Side Gates closed 10am to 7am (open 7am – 10am).	Current through roads open.

Observations

Option 4A

- City commuters facilitated on Chesterfield Ave in the AM and PM;
- North/South commuters displaced in AM. Return journey facilitated;
- Access for recreational visitors travelling by car facilitated in the PM;
- City bound commuters facilitated on Chesterfield Avenue;
- Internal staff have difficulty accessing their place of work in the AM;
- Benefits to Biodiversity, recreation and tranquillity in the AM; and
- Easy to implement this option.

Option 4B

- City commuters facilitated on Chesterfield Ave in the AM and PM;
- North/South commuters displaced in am and after 6pm;
- Access for recreational visitors travelling by car not facilitated in the evenings as have to use the two open gates;
- Benefits to cyclists and pedestrians from 6pm to 10am as less vehicles on the roads;
- Chesterfield Ave traffic heavy and side roads traffic light;
- Significant benefits for biodiversity, recreation and tranquillity;
- Inconvenience to commuters; and
- Inconvenience to Park users and access to visitor attractions.

Option 4C

- Significant benefits for biodiversity, recreation and tranquillity;
- Negative impact on institutions, visitor attractions for their visitors and staff;
- Commuters facilitated in the am only;
- Less vehicular traffic in the Park;
- Benefits to cyclists and pedestrians from 10am each day;
- Inconvenience to commuters after 10am; and
- Internal staff have difficulty accessing their place of work after 10am.

Option 5

Gates	Roads
All gates open but Ashtown (entry) / Cabra (exit) gates one-way.	Current through roads open.

Observations

- Ashtown Gate entry only and Cabra Gate exit only;
- Less commuter traffic across the Park;
- Help to protect the protected gate structures;
- Some inconvenience to commuters at both gates; and
- Some benefits to pedestrians and cyclists in the environs of these gates.

Option 6

Gates	Roads
All gates open from 7am to 11pm	Cul-de-sac on Chesterfield Ave at the Phoenix Park column on Castleknock site.

Observations

- Reduction of commuter traffic on Chesterfield Avenue;
- Improves the historic setting of Chesterfield Avenue;
- Improves pedestrian and cycling opportunities and safety on Chesterfield Avenue;
- Majority of traffic displaced onto side roads;
- Commuter spend longer travelling around the Park and negative environmental impacts;
- Pedestrian and cycling negatively impacted on side roads;
- Biodiversity, recreation and tranquillity negatively impacted throughout the Park; and
- Vehicular access to public institutions, visitor attractions and other facilities will be inconvenienced.

Option 7A

Gates	Roads
All gates open from 7am to 11pm	Cul-de-sac on Chesterfield Avenue at Phoenix Park Column on Castleknock side One-way ring road around the Park i.e. Wellington Road / Military Road / Glen Road / Upper Glen Road / OS Road / Mountjoy Road / Back Road / North Road / Fountain Road.

Observations

- Reduction of commuter traffic on Chesterfield Avenue;
- Improves the historic setting of Chesterfield Avenue;
- Improves pedestrian and cycling opportunities and safety on Chesterfield Avenue;
- Majority of traffic displaced onto side roads;
- Commuters spending longer travelling times in the Park, increased pollutants and noise in sensitive conservation areas of the Park;
- Biodiversity, recreation and tranquillity negatively impacted throughout the Park;
- Access to public institutions, visitor attractions and so on will be significantly inconvenienced;
- Potential to introduce on road cycle lane on new ring road;
- Clarity for vehicular users through one-way system;
- Open current cul-de-sac road to through traffic (Military Road);
- Commercial traffic forced onto substandard road infrastructure; and
- Significant costs with introduction of one way and cycle lanes.

Option 7B

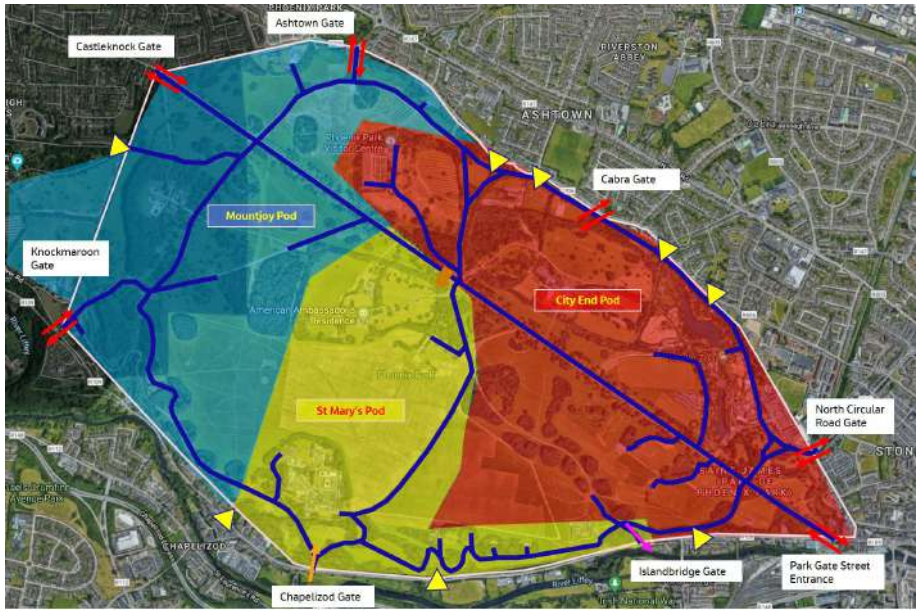
Gates	Roads
All gates open from 7am to 11pm	Keep Chesterfield Avenue open to through traffic One-way ring road around the Park i.e. Wellington Road > Military Road > Glen Road > Upper Glen Road > OS Road > Mountjoy Road > Back Road > North Road > Fountain Road.

Observations

- Two options of travel either on Chesterfield Avenue or on ring road;
- Favours Castleknock/Parkgate traffic;
- All accessing from side gates will have to travel in a clockwise fashion;
- Potential to introduce on-road cycle lane on new ring road around Park;
- Clarity for vehicular users through one-way system;
- Open current cul-de-sac road to through traffic (Military Road);
- Possible longer travelling time in Park to get to where you want to go in Park;
- Commuters spending longer travelling times in the Park, increased pollutants and noise in sensitive conservation areas of the Park;
- Inconvenience for access to institutions and visitor attractions;
- Possible commercial traffic on substandard road infrastructure; and
- Significant costs with introduction of one way and cycle lanes.

Option 8

Gates	Roads
All gates open from 7am to 11pm	Cul-de-sac on Chesterfield Avenue at Phoenix Park Column on Castleknock side and a 'Pod' system of dedicated access: **Pod 1 – City End Pod** Access via North Circular Road, Parkgate, Islandbridge and Cabra Gates to: Garda Headquarters; Dublin Zoo; Áras an Uachtaráin; Magazine Fort; Playing Fields; Polo Grounds; and Phoenix Park Visitor Centre. **Pod 2 – St. Mary's Pod** Access via Chapelizod and Islandbridge Gates (opening cul-de-sac on Military Road) to: Cara Cheshire Home; St Mary's Hospital; U.S. Ambassador's Residence; and Papal Cross. **Pod 3 – Mountjoy Pod** Access via Castleknock, Ashtown and Knockmaroon Gates to: Ordnance Survey Ireland; Knockmaroon Nature Study Area; and Farmleigh.

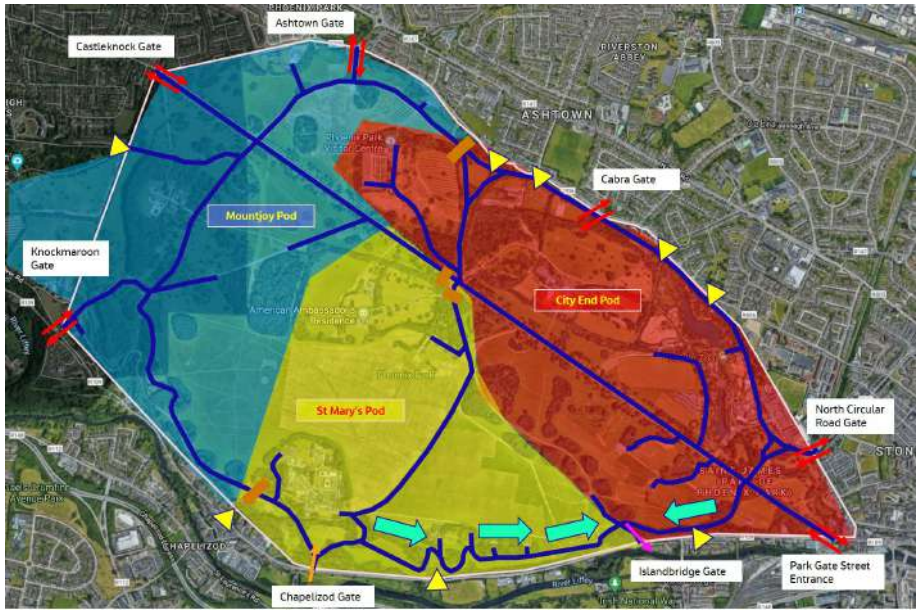


Observations

- Cycling and pedestrians can move freely throughout the Park;
- No vehicular movement between pods;
- Less through traffic;
- Reduced impacts on biodiversity, recreation and tranquillity;
- Visitor will have to access the Park through appropriate gate in advance of visit- problematic;
- Increased traffic on roads external to the Park;
- Designated parking not equally available in all pods;
- No commuters route into Dublin City;
- Access to public institutions and major visitor attractions restricted; and
- Infrastructure costs associated with this measure.

Option 9

Gates	Roads
All gates open from 7am to 11pm	As per Option 8 but including: Cul-de-sacs on North Road and Glen Road as per Option 3 Phase 1; and Cul-de-sac at northern end of Acres Road. **Pod 1 – City End Pod** Same as Option 8 but without access to Magazine Fort and the Playing Fields. **Pod 2 – St. Mary's Pod** Same as Option 8 plus access to Magazine Fort and the Playing Fields; and Military Road converted to one way towards Islandbridge Gate. **Pod 3 – Mountjoy Pod** Same as Option 8.



Observations

- Cycling and pedestrians can move freely throughout the Park;
- No vehicular movement between pods;
- Less through traffic;
- Reduced impacts on biodiversity, recreation and tranquillity of the Park;
- Visitor will have to access the Park through appropriate gate in advance of visit;
- Increased traffic on roads external to the Park;
- Designated parking not equally available in all pods;
- No commuter route into Dublin City through the Park;
- Vehicular access to public institutions and major visitor attractions restricted;
- Offers opportunities for public transport provision on North Road and Chesterfield Avenue whilst stopping through traffic on these roads; and
- Through traffic still possible between Ashtown / Castleknock / Knockmaroon Gates and Cabra / North Circular Road / Park Gate Street Gates.

Option 10

Gates	Roads
All gates open from 7am to 11pm.	As per Option 8 but including: ▪ Cul-de-sac on North Road and Upper Glen Road as per Option 3 Phase 1; ▪ Ashtown Gate entry only. Cabra Gate exit only as per Option 3 Phase 2; ▪ Close Knockmaroon Gate as per Option 3 Phase 3; and ▪ Cul-de-sac at northern end of Acres Road. ▪ **Pod 1 – City End Pod** Same as Option 8 but without access to Magazine Fort and the Playing Fields. **Pod 2 – St Mary's Pod** Same as Option 8 plus access to Magazine Fort and the Playing Fields; and Military Road converted to one way towards Islandbridge Gate. **Pod 3 – Mountjoy Pod** Same as Option 8.

Observations

- Cycling and pedestrians can move freely throughout the Park;
- No vehicular movement between pods;
- Less through traffic;
- Reduced impacts on biodiversity, recreation and tranquillity;
- Visitor will have to access the Park through appropriate gate in advance of visit;
- Increased traffic on roads external to the Park;
- Designated parking not equally available in all pods;
- No commuter route into Dublin City through the Park;
- Vehicular access to public institutions and major visitor attractions restricted;
- Offers opportunities for public transport provision on North Road and Chesterfield Avenue whilst stopping through traffic on these roads; and
- Through traffic opportunities reduced or unattractive through reconfiguration of Ashtown, Knockmaroon and Cabra Gates.

Road Options Assessment

A summary of the proposed road options and the results of the options assessment are illustrated in Table 12 and Table 13, respectively.

Each of the options identified were assessed relative to each other under each of the Assessment Criteria using the rating system outlined in Table 11.

Table 11 Assessment Rating Table

Colour	Relative Performance
●	Very Good
●	Good
●	Neutral
●	Poor
●	Very Poor

Each Option was given a score against the relevant Assessment Criteria, with an aggregate score then awarded under each Theme to enable the Emerging Preferred Option to be identified.

Table 12 Summary of Proposed Road Options.

Option	Gates	Roads
1 (Existing Situation)	All Gates open 7am-11pm	Current through roads open.
2	2A – Side Gates closed 24/7 2B – Side Gates closed Mon-Fri 2C – Side Gates closed Sat/Sun	Current through roads open.
3	**Phase 1** All Gates open 7am-11pm **Phase 2** Ashtown / Cabra Gates one-way **Phase 3** Knockmaroon Gate closed	**Phase 1** Maintain Chesterfield Avenue as through route. Cul-de-sac on North Road east of Ratra House and west of Spa Road. Cul-de-sac on Glen Road past Cara Cheshire Home and at car park on Upper Glen Road. Introduce Pedestrian crossing points on Chesterfield Ave. **Phase 2** Ashtown Gate entry only. Cabra Gate exit only. **Phase 3** Close Knockmaroon Gate.
4	4A – Side Gates closed 11pm-10am 4B – Side Gates closed 6pm-10am 4C – Side Gates closed 10am-7am	Current through roads open.
5	All Gates open 7am-11pm Ashtown Gate entry only Cabra Gate exit only	Current through roads open.
6	All Gates open 7am-11pm	Cul-de-sac on Chesterfield Avenue at the Phoenix Park Column on Castleknock side.
7	All Gates open 7am-11pm	One-way ring road around the Park, i.e. Wellington Road / Military Road / Glen Road / Upper Glen Road / OS Road / Mountjoy Road / Back Road / North Road / Fountain Road. **7A** – Ring road plus cul-de-sac on Chesterfield Avenue at the Phoenix Park Column on Castleknock side. **7B** - Ring road with Chesterfield Avenue remaining open to through traffic.
8	All Gates open 7am-11pm	Cul-de-sac on Chesterfield Avenue at Phoenix Park Column on Castleknock side and a 'Pod' system of dedicated access: **Pod 1 – City End Pod** Access via North Circular Road, Parkgate, Islandbridge and Cabra Gates to: Garda Headquarters; Dublin Zoo; Áras an Uachtaráin;

Option	Gates	Roads
		Magazine Fort; Playing Fields; Polo Grounds; and Phoenix Park Visitor Centre. **Pod 2 – St. Mary's Pod** Access via Chapelizod and Islandbridge Gates (opening cul-de-sac on Military Road) to: Cara Cheshire Home; St. Mary's Hospital; U.S. Ambassador's Residence; and Papal Cross. **Pod 3 – Mountjoy Pod** Access via Castleknock, Ashtown and Knockmaroon Gates to: Ordnance Survey Ireland; Knockmaroon Nature Study Area; and Farmleigh.
9	All Gates open 7am-11pm	As per Option 8 but including: Cul-de-sacs on North Road and Glen Road as per Option 3 Phase 1; and Cul-de-sac at northern end of Acres Road. **Pod 1 – City End Pod** Same as Option 8 but without access to Magazine Fort and the Playing Fields. **Pod 2 – St. Mary's Pod** Same as Option 8 plus access to Magazine Fort and the Playing Fields. Military Road converted to one way towards Islandbridge Gate. **Pod 3 – Mountjoy Pod** Same as Option 8.
10	All Gates open 7am-11pm	As per Option 8 but including: Cul-de-sacs on North Road, Glen Road as per Option 3 Phase 1; Ashtown Gate entry only. Cabra Gate exit only as per Option 3 Phase 2; Close Knockmaroon Gate as per Option 3 Phase 3; and Cul-de-sac at northern end of Acres Road. **Pod 1 – City End Pod** Same as Option 8 but without access to Magazine Fort and the Playing Fields. **Pod 2 – St. Mary's Pod** Same as Option 8 plus access to Magazine Fort and the Playing Fields. Military Road converted to one way towards Islandbridge Gate. **Pod 3 – Mountjoy Pod** Same as Option 8.

Table 13 Road Options MCA Scoring

Theme	Assessment Criteria	Option 1	Option 2A	Option 2B	Option 2C	Option 3	Option 4A	Option 4B	Option 4C	Option 5	Option 6	Option 7A	Option 7B	Option 8	Option 9	Option 10
Environment	The historic setting of the Phoenix Park including its archaeological, architectural and sensitive landscapes are enhanced through these measures.															
	Minimise the impact on surrounding residential areas and road network.															
	Reduce traffic volumes in the Phoenix Park resulting in a reduction of associated environmental impacts e.g. noise, air, pollutants.															
	The biodiversity, ecosystem services and habitats of the Park are not negatively impacted by these measures.															
	Any proposals to be sustainable and resilient to climate change impacts.															
	The preserved views, vistas and protected structures within historic landscape setting of the Phoenix Park is not negatively impacted.															
	No net loss of trees or green areas as a result of proposed interventions.															
Aggregate Score																
Accessibility and Social Inclusion	Enhance access to Phoenix Park institutions, key attractions and amenities providing for pedestrians, cyclists and other sustainable modes of transport.															
	Improve quality of visitor experience through reduced traffic volumes.															
	Facilitate attendance at events at the Phoenix Park through the provision of sustainable modes of travel to access the Park.															
Aggregate Score																
Safety	Improved safety for cyclists and pedestrian users of the Park.															
	Reduced traffic volumes will Improve safety for the public and deer herd within the Park.															
	Ensure gate closure at night to minimise impacts of the deer and vehicles.															
	Prioritise sustainable transport modes in accessing the Phoenix Park.															
Aggregate Score																
Physical Activity	Enhance opportunities to experience recreation and tranquility within the Phoenix Park.															
	Facilitate walking and cycling within and through the Phoenix Park.															
	The proposals have minimal impact on events traditional to the Phoenix Park including on road running and cycling events and other third party large events such as Bloom and concerts.															
Aggregate Score																
Economy	Provide sustainable travel options for accessing visitor attractions, key institutions and the amenities of the Phoenix Park.															
	Provide improved alternatives to the private car for access to the Phoenix Park from a wider metropolitan, regional and national catchment.															
	Improve sustainable transport mode share for employers located within the Phoenix Park.															
Aggregate Score																
Integration	Facilitate walking and cycling within and through the Phoenix Park linking to existing and proposed public transport services.															
	Enable National, Regional and Local policy outcomes to be realized.															
Aggregate Score																

Summary of Road Options MCA Scoring

Reviewing the comparative assessment for the different options, Options 3, 5, 9 and 10 are considered to be the best performing options. A summary of the aggregate scores for each of these Options is illustrated in Table 14.

Table 14 MCA Aggregate Scores

Theme	Access and Roads Option			
	3	5	9	10
Environment				
Accessibility and Social Inclusion				
Safety				
Physical Activity				
Economy				
Integration				

Environment

Under the Environment theme, whilst Options 9 and 10 were considered to provide significant benefits within the Park due to the removal of through traffic on both the side roads and Chesterfield Avenue, the potential for resulting impacts on the surrounding residential areas and road network of this displaced traffic was considered a negative.

Option 3 provided significant environmental benefits on the side roads and the retention of Chesterfield Avenue as a through route and an access road to amenities within the Park meant that the potential impacts in surrounding residential areas and road network of displaced traffic is much lower than in Options 9 and 10.

Option 5 was considered neutral under environment as the reconfiguration of Ashtown and Cabra Gates in this scenario has the potential to reduce traffic volumes in the vicinity of these gates, there was minimal positive environmental impacts elsewhere in the Park.

Accessibility and Social Inclusion

In terms of accessibility and social inclusion Options 3, 9 and 10 scored well in terms of improving the quality of the visitor experience through reduced traffic volumes, with Option 5 scoring neutral for the same reasons as those discussed under the Environment theme. The Pod system under Options 9 and 10, coupled with the closure of Chesterfield Avenue would mean some level of inconvenience for Park visitors and therefore they scored lower under these criteria, whilst the retention of Chesterfield Avenue in Option 3 retains the flexibility of access to all amenities within the Park from both the main Gates.

Safety

Both Options 3 and 10 provide significant safety enhancements on the side roads through the reduction of traffic in these locations. Whilst the interventions on the side roads in Option 9 are not as extensive, it still scores well with the interventions proposed. As with other themes, whilst Option 5 scores well for safety enhancements around where the interventions in this option are proposed, these are limited in the entire context of the Park when compared to the other options.

Physical Activity

Options 3, 9 and 10 provide excellent benefits for enhancing opportunities to experience recreation in a more relaxed and calmer environment due to the significant reductions in traffic volumes in these options. As before, within Option 5, these benefits are limited to the areas where the interventions are targeted, namely on North Road in the vicinity of Ashtown and Cabra Gates.

Economy

All Options score well under the Economy theme as they do not restrict or jeopardise the provision of key criteria such as improved alternatives to private car and the opportunity to improve sustainable travel mode share for employers through the implementation of the walking, cycling and public transport strategies.

Integration

Again, Options 3, 9 and 10 scored will under this theme as they all integrate with the walking, cycling and public transport strategies. As with other themes, under Option 5, these benefits are limited to the areas where the interventions are targeted, namely on North Road in the vicinity of Ashtown and Cabra Gates.

Summary

Reviewing the comparative assessment of the different options, Options 3 and 10 are considered to be the best performing options, although their individual scores are stronger in differing aspects of the assessment criteria. Whilst option 10 effectively eliminates the vast majority of through traffic in the Park, the impacts of this on traffic volumes and subsequent environmental impacts on surrounding neighbourhoods would be considered to be significant and would have to be subject to further impact assessment outside the scope of this Study.

The closure of Chesterfield Avenue in Option 10 also presents issues with the facilitation of events at the Park. Option 3 performs well in a number of similar categories to Option 10 as it is effective in the reduction of through traffic on the side roads such as North Road, Upper Glen Road and Knockmaroon Road, and the accompanying environmental benefits in these areas but the retention of Chesterfield Avenue as a through route retains the flexibility of this route, within the context of this study, to cater for elements of through traffic demand in a centralised location away from the biodiverse rich side roads whilst limiting the impacts of redistributed traffic on surrounding neighbourhoods.

In this context, it is therefore considered that Option 3 provides the most balanced option to take forward as the emerging preferred option for the following key reasons:

- Significant reductions in traffic volumes on the side roads of the Park (i.e. North Road and Upper Glen Road), protecting and enhancing the Park's areas of rich conservation and biodiversity and making them a haven for walking, cycling, relaxation and recreation;
- Maintaining access on Chesterfield Avenue from both main Gates enables those who need to use a car to access amenities within the Park to continue to do so, ensuring access for all and limiting the impacts of dispersed traffic on surrounding residential neighbourhoods and roads; and
- Integration with the proposed walking, cycling and public transport strategies to further prioritise and facilitate sustainable transport modes in accessing the Park.

Public Transport

Demand Analysis

The Baseline Assessment identified that the Phoenix Park caters for a wide range of trip purposes, including commuter trips to the various employment locations within the Park, visitor trips to the major attractions within the Park such as the Phoenix Park Visitor Centre and Dublin Zoo, and trips associated with events and recreational activities.

The Baseline Assessment also highlighted that these trips originate both locally and from a wider strategic catchment reinforcing the Phoenix Park's importance as a historic landscape of international significance and one of the largest designed landscapes in any European city.

Demand analysis taken from the 2016 ERM model shows that over a 24 hour period on a typical weekday, demand to and from the Park was mostly concentrated along the following Greater Dublin Area (GDA) corridors:

- **Corridor A**: North Inner City – Dublin City Centre;
- **Corridor B**: Navan – Dunboyne – Blanchardstown – Dublin City Centre;
- **Corridor C**: Maynooth – Leixlip – Lucan – Dublin City Centre;
- **Corridor D**: Newbridge – Naas – Clondalkin – North Tallaght – Dublin City Centre; and
- **Corridor G**: Dublin City Centre.

The 24 hour demand analysis taken from the ERM model is illustrated in Figure 56 for trips to the Park and Figure 57 for trips from the Park. It is important to note that whilst the demand extracted from the ERM model represents a typical weekday, the Baseline Assessment outlined the importance of considering the weekend also in terms of the demand that the Park generates on these days.

The Baseline Assessment articulates this by considering indicators such as visitor numbers to Dublin Zoo and a comparison of daily averages for both weekdays and weekends from 2020 ATC.

Nonetheless, the demand distribution taken from the ERM model is considered to provide a good indication of the distribution of where demand is coming from and going to which could potentially be served by public transport. It is also important to consider the role of more strategic public transport services and connections to these to cater for a much wider strategic demand that may potentially use public transport to access the Park.

In this context, a number of options have been identified for bus routes with the potential to perform a role in accommodating demand to and from the Park in a sustainable way, as well as providing an alternative for through traffic in the Park. These options have been outlined in Table 15.

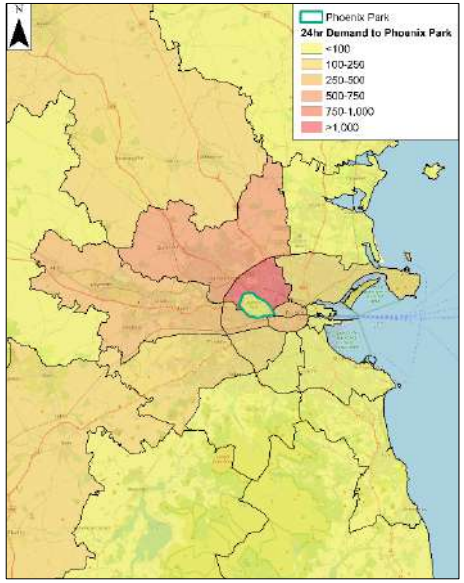


Figure 56 24 Hour Weekday Demand to the Phoenix Park and GDA Corridors

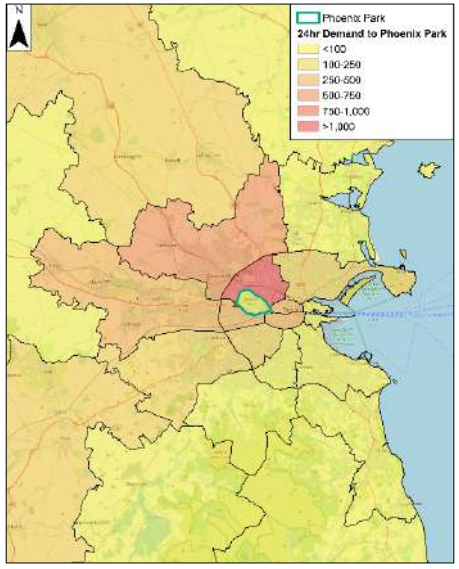
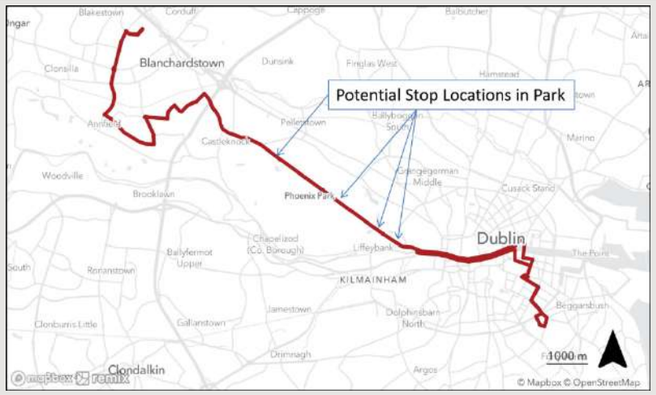
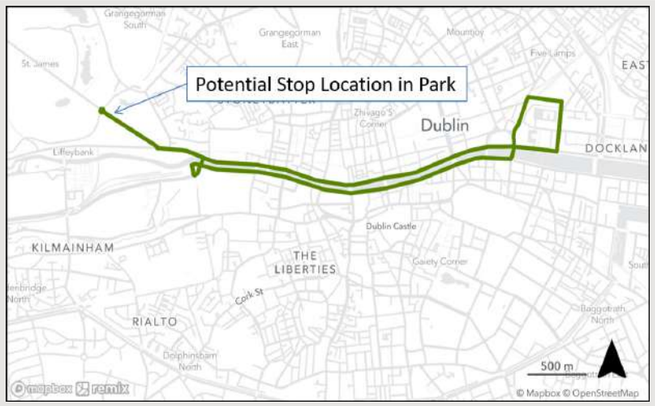


Figure 57 24 Hour Weekday Demand from the Phoenix Park and GDA Corridors

Table 15 Public Transport Options

Option	Proposed Route	Key Components
1		**External** Connects high demand corridor of Blanchardstown / Castleknock to the Park. Connects City Centre and Docklands demand to the Park. Connects the Park with strategic public transport hubs (e.g. Heuston Station). **Internal** Provides direct route along Chesterfield Avenue between Castleknock Gate and Parkgate St. Entrance with potential stops serving key trip attractions.
2		**External** Connects North City Demand between City Centre and M50 to the Park. Connects the Park with strategic public transport hubs (e.g. Heuston Station and Broombridge Station). **Internal** Provides direct route along Chesterfield Avenue between Parkgate St. Entrance and the Phoenix Park Column, as well as on North Road to Cabra Gate with potential stops serving key trip attractions.
3		**External** Connects City Centre and Docklands Demand to the Park. Connects the Park with strategic public transport hubs (e.g. Heuston Station). **Internal** Provides direct route along Chesterfield Avenue between Parkgate St. Entrance and Wellington Road, with potential stops serving key trip attractions.

Internal Routing

For each of the options we have considered how each option would potentially serve the key destinations in the Park.

500m walking isochrones from potential stops for options 1, 2 and 3 are outlined in Figure 58, Figure 59 and Figure 60, respectively.

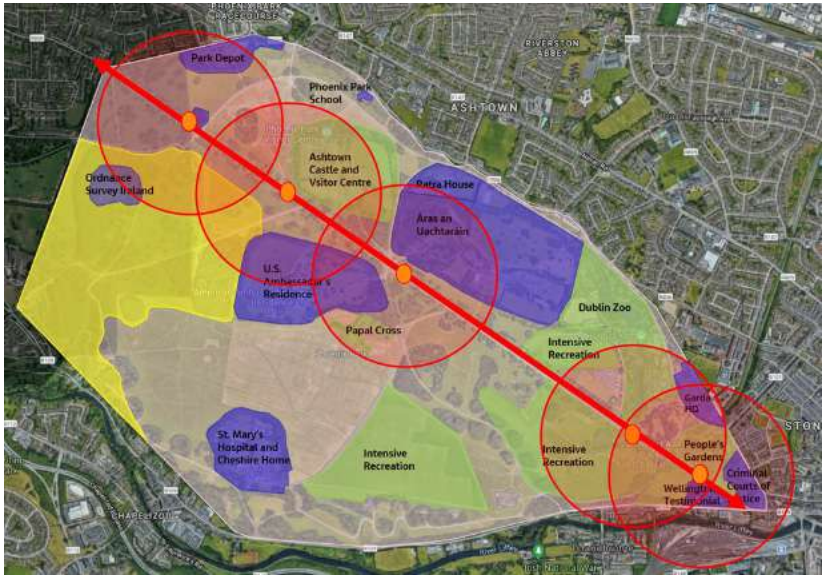


Figure 58 Public Transport Option 1 Internal Catchment Area.

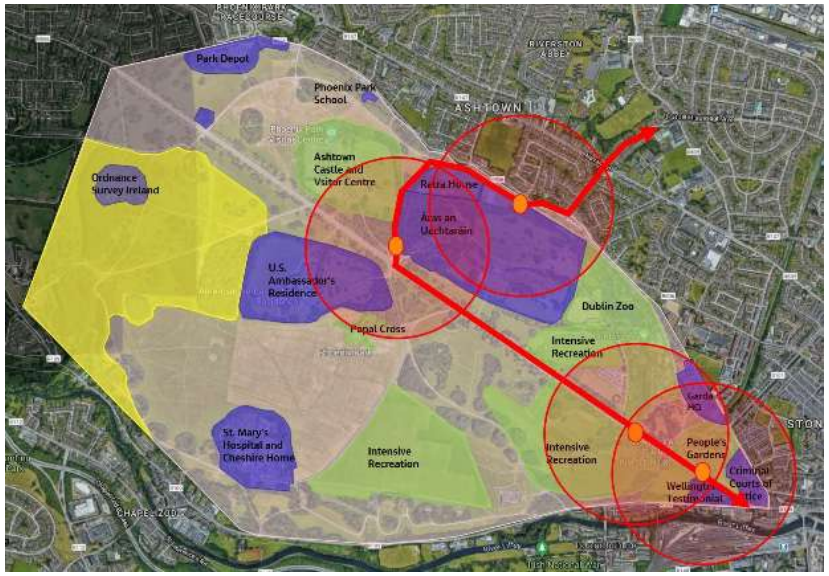


Figure 59 Public Transport Option 2 Internal Catchment Area.

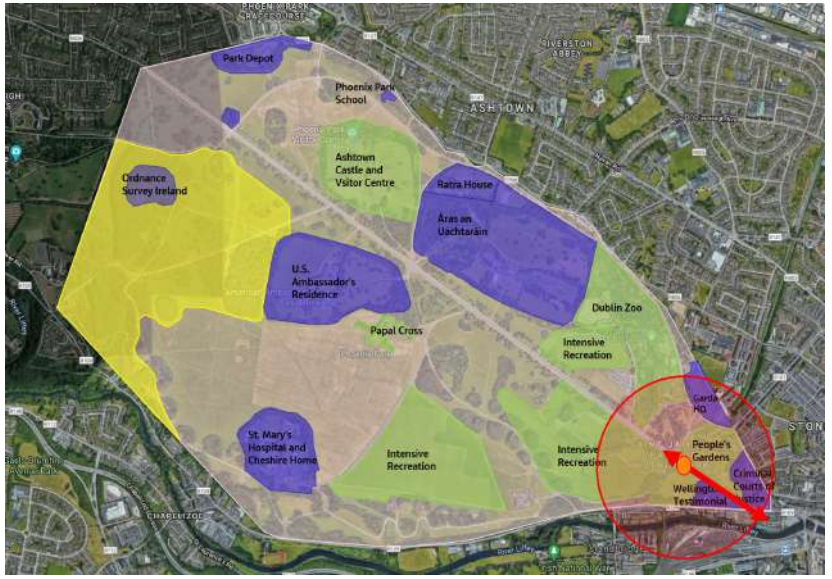


Figure 60 Public Transport Option 3 Internal Catchment Area..

Public Transport Options Assessment

The results of the public transport options assessment are illustrated in Table 16.

Table 16 Public Transport Options MCA Scoring

Theme	Assessment Criteria	Option 1	Option 2	Option 3
Environment	The historic setting of the Phoenix Park including its archaeological, architectural and sensitive landscapes are enhanced through these measures.			
	Minimise the impact on surrounding residential areas and road network.			
	Reduce traffic volumes in the Phoenix Park resulting in a reduction of associated environmental impacts e.g. noise and air pollutants.			
	The biodiversity, ecosystems and habitats of the Park are not negatively impacted by these measures.			
	Any proposals to be sustainable and resilient to climate change impacts.			
	The preserved views, vistas and protected structures within historic landscape setting of the Phoenix Park are not negatively impacted.			
	No net loss of trees or green areas as a result of proposed interventions.			
Aggregate Score				
Accessibility and Social Inclusion	Enhance access to the Phoenix Park institutions, key attractions and amenities, providing for pedestrians, cyclists and other sustainable modes of transport.			
	Improve quality of visitor experience through reduced vehicular traffic volumes.			
	Facilitate attendance at events at the Phoenix Park through the provision of sustainable modes of travel to access the Park.			
Aggregate Score				
Safety	Improved safety for cyclists and pedestrian users of the Park.			
	Reduced traffic volumes will Improve safety for the public and deer herd within the Park.			
	Ensure gate closure at night to minimise impacts of the deer and vehicles.			
	Prioritise sustainable transport modes in accessing the Phoenix Park.			
Aggregate Score				
Physical Activity	Enhance opportunities to experience recreation and tranquility within the Phoenix Park.			
	Facilitate walking and cycling within and through the Phoenix Park.			
	The proposals have minimal impact on events traditional to the phoenix park including on road running and cycling events and other third party large events such as Bloom and concerts.			
Aggregate Score				
Economy	Provide sustainable travel options for accessing visitor attractions, key institutions and the amenities of the Phoenix Park.			
	Provide improved alternatives to private car for access to the Phoenix Park from a wider metropolitan, regional and national catchment.			
	Improve sustainable transport mode share for employers located within the Phoenix Park.			
Aggregate Score				
Integration	Facilitate walking and cycling within and through the Phoenix Park linking to existing and proposed public transport services.			
	Enable National, Regional and Local policy outcomes to be realised.			
Aggregate Score				

Summary of Public Transport Options MCA Scoring

It can be seen from the MCA scoring that all options perform relatively well against the assessment criteria in that they all provide an enhanced sustainable travel offering to and from the Park in comparison with the existing situation. Whilst Option 1 provides an arterial service linking high demand areas such as Castleknock, Blanchardstown and the City Centre with the Park, recreational events are a major feature of the section of Chesterfield Avenue between the Phoenix Roundabout and the Mountjoy Roundabout and thus a continuous dedicated bus service could not be provided along this route.

Option 2 also links the Park with high demand areas such as the City Centre North and its routing along Odd Lamp Road and sections of North Road enable potential stops to serve areas of high visitor numbers such as the Phoenix Park Visitor Centre and Dublin Zoo more effectively.

Option 2 also presents no conflicts with any recreational events undertaken on Chesterfield Avenue between the Phoenix Roundabout and the Mountjoy Roundabout. Whilst all options provided an effective interchange point at Heuston Station to connect to strategic public transport services, Option 2 also has the potential to interchange with Luas services at Broombridge Station to provide enhance connectivity to the Park via sustainable transport, including areas to the west of Phoenix Park that would be served by Option 1. Option 3, whilst providing a connection to Heuston Station and the City Centre, is limited in terms of serving local residential demand to the Park and provides less coverage of the Park, in terms of public transport access, than either of the other 2 options.

Based on these conclusions, it is determined that Option 2 be considered the preferred public transport option for the purposes of this study.

Options Development Summary

This chapter has outlined a number of options to be considered for the Study of the Phoenix Park.

Walking and cycling enhancements have been identified to ensure key criteria are met and help achieve the objectives of the Study that ensure walking and cycling are facilitated fully as an attractive, sustainable and environmentally friendly way of accessing the Park.

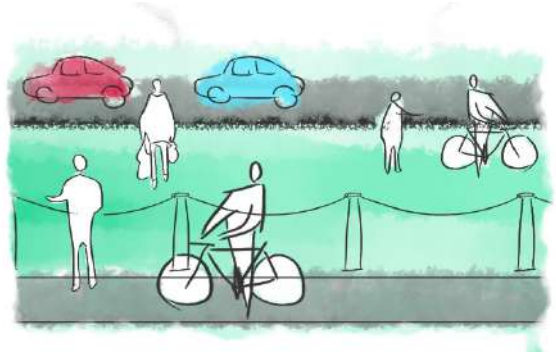
With regards to the road options, Option 3 provides the most balanced option with regards to reducing the amount of through traffic in the Park, protecting and enhancing the Park's areas of rich conservation and biodiversity through focusing this reduction on the side roads of the Park such as North Road, Upper Glen Road and Knockmaroon Road, whilst limiting the potential for increased traffic volumes in the surrounding residential neighbourhoods by retaining through traffic access on Chesterfield Avenue. Maintaining access on Chesterfield Avenue from both main Gates under Option 3 also enables those that need to use a car to access amenities within the Park may continue to do so, ensuring access for all is retained.

With regards to public transport, it can be seen that based on the areas with the highest demand for travel to the Park, there are a number of options for services which could divert into the Park. Whilst all options assessed do provide obvious benefits in terms of providing an enhanced sustainable option for accessing the Park, and reducing the amount of private cars travelling through the Park, Option 2 was considered to provide the most benefits in terms of accessing the key amenities in the Park which exhibit high demands during both weekdays and weekends.

Whilst all options provided an effective interchange point at Heuston Station to connect to strategic public transport services, Option 2 also has the potential to interchange with Luas services to provide enhance connectivity to the Park via sustainable transport.

It is noted that each of the modes of travel considered in this report have been assessed in isolation of each other, whereas in reality the most effective mobility solution for the Park involves the integration of each mode of travel to form a multi-modal strategy.

Therefore, the next step in this Study process was to undertake a workshop with the Working Group to refine and optimise the emerging preferred strategy to take forward a final strategy for the Park. This stage of the Study is outlined in the following chapter, Options Refinement.



Options Refinement

Overview

The purpose of this chapter is to build on the findings of the Options Assessment Stage and its recommendations for an Emerging Preferred Strategy.

This chapter will outline the refinement process to ensure that the Emerging Preferred Options for all modes of travel to the Park are integrated together to form a coherent multi-modal Mobility Strategy which aligns with the Study Objectives and the Working Group Movement Goals, as well as consideration of any phased approach to ensure that any elements of the overall plan that can be commenced in the short term are done so in the context of the overall strategy and do not prejudice its ultimate implementation.

Options Assessment Review

Options Assessment Process

The identification and assessment of options was outlined in the Options Assessment chapter which identified a number of potential interventions for walking, cycling, access and roads, and public transport.

Where appropriate, all options were assessed against an agreed set of assessment criteria, which were developed to be fully aligned to both the Phoenix Park Working Group's Movement Principles and the Study Objectives.

This process ensured that any options selected and taken forward as an Emerging Preferred Strategy had demonstrated, through the assessment process, that they aligned not just with current policy direction for sustainable transport and mobility, but also the key considerations which are relevant to the specific and sensitive requirements of the Phoenix Park itself.

These include reduction in traffic volumes to enhance opportunities to experience recreation, nature and tranquillity, and protection of landscapes and biodiversity.

Emerging Preferred Strategy

Walking and Cycling

In the specific context of the Phoenix Park, the promotion and facilitation of walking and cycling is a key factor in reducing the reliance on private car use to access the Park, making it a calmer, safer place to walk, cycle, relax and play sport in, as well as unlocking much needed capacity to accommodate visitor demand from a wider strategic catchment area who may still require car access to the Park.

Walking Network

The proposed walking network, outlined in Figure 61, builds on the already comprehensive walking infrastructure within the Park by upgrading some existing routes, particularly to the western end of the Park to allow for universal access, as well as identifying opportunities for improvements to walking and cycling access for all into, out of and within the Park and at key nodes such as the Park gates and the roundabouts on Chesterfield Avenue.

The proposed walking network also ensures that key desire lines through the Park, as well as to destinations within the Park, are enhanced through the provision of appropriately located crossing facilities. It is also recommended that, where appropriate, all footpaths should be upgraded to a minimum width of 2m.

Figure 61 Proposed Walking Network

Cycling Network

The proposed cycling network, outlined in Figure 62, builds on the existing cycling routes provided within the Park and includes a number of additional formalised routes to ensure that the following key considerations are accounted for:

- Provision of direct, high-quality connections between the main gates to cater for cycling to destinations both within and outside the Park; and
- Recreational users of the Park including connections from the main gates to leisure/tourist trip attractors and attractive routes for leisure use, including loops.

When considering opportunities for the proposed cycling network, it was important to formalise the current temporary cycle lane on Chesterfield Avenue to cater for the provision of direct, high-quality connections through the Park.

This would be complemented by additional cycle lane infrastructure on the side roads which would cater for secondary access to commuter destinations within the Park, but also leisure cycling loops and access to amenities.

It is recommended that a reduced speed limit of 30kph is introduced on all roads in the Park to improve public safety and that any additional cycle routes, as well as upgrades to existing cycle routes should be to the standards set out in the NTA's *National Cycle Manual* where appropriate.

Figure 62 Proposed Cycling Network

Access and Roads

The Emerging Preferred Option for access and roads following the Options Assessment exercise was Option 3, illustrated in Figure 63.

The key elements of Option 3 are as follows:

- Maintain Chesterfield Avenue as through route;
- Cul-de-sac North Road at junction with Odd Lamp Road triangle;
- Cul-de-sac Glen Road past Cara Cheshire Home and at the car park on the Upper Glen Road;
- Convert Ashtown Gate to entry only and convert Cabra Gate to exist only to reduce the impacts of traffic volumes on these protected gates; and
- Close Knockmaroon Gate to traffic to eliminate through commuter traffic from M50 toll charge evasion.

The Options Assessment exercise identified that Option 3 provided the most balanced option with regards to reducing the amount of through traffic in the Park, protecting and enhancing the Park's areas of rich conservation and biodiversity through focusing this reduction on the side roads of the Park such as North Road, Upper Glen Road and Knockmaroon Road, whilst limiting the potential for increased traffic volumes in the surrounding residential neighbourhoods by retaining through traffic access on Chesterfield Avenue.

Maintaining access on Chesterfield Avenue from both of the Main Gates under Option 3 also enables those that need to use a car to access amenities within the Park may continue to do so, ensuring access for all is retained.

Figure 63 Roads Option 3

Public Transport

With regards to public transport, whilst all options assessed did provide obvious benefits in terms of providing an enhanced sustainable option for accessing the Park, and in turn reducing the amount of private cars travelling through the Park, Bus Option 2, with its potential external and internal (including 500m walk isochrones from potential stops) route alignment illustrated in Figure 64 and Figure 65 respectively, was considered to provide the most benefits in terms of accessing the key amenities in the Park which exhibit high demands during both weekdays and weekends.

Whilst all options provided an effective interchange point at Heuston Station and to strategic public transport services, Bus Option 2 also has the potential to interchange with Luas services at Broombridge Station to provide enhanced connectivity to the Park via sustainable transport.

Figure 64 Public Transport Option 2 Potential External Route

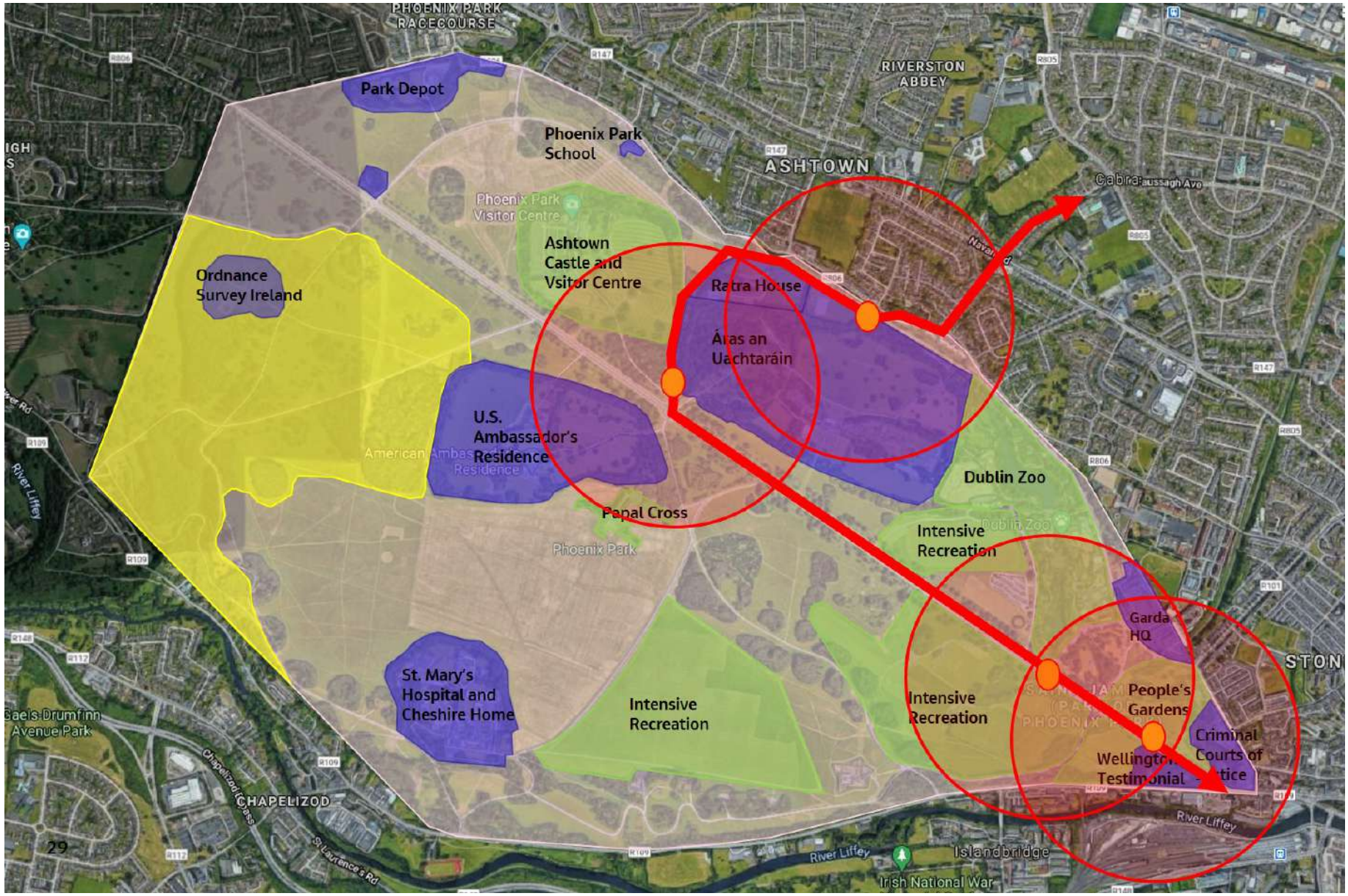


Figure 65 Public Transport Option 2 Internal Catchment Area including 500m Isochrones

Option Refinement

Option Refinement Workshop

An option refinement workshop was held with the Transport and Mobility Working Group on Tuesday 1st December 2020 to confirm the preferred options for each of the modes of travel considered, as well as considering what refinements were required to allow each of the options to integrate with each other to form a coherent, multi-modal strategy for the Park which remains aligned with the Working Group's Movement Principles and the Study's Objectives.

The refinements are outlined in the following sections.

Walking and Cycling

It was agreed that the walking and cycling strategies presented the opportunity to begin implementation of the Plan in the short term and begin the process of prioritising walking and cycling which in turn would help to reduce the reliance on private car volumes in the Park.

As mentioned previously in this note, it is recommended that, where appropriate, all footways should be of a minimum of 2m width and cycle routes (both new and upgraded) should be to the standard set out in the National Cycle Manual where appropriate.

It is also recommended that any proposed infrastructure, such as cycle lanes, pedestrian/cycle crossing points should incorporate a design which ensures that the character and landscape of the Park are preserved.

With regards to cycling routes, it was considered important that the proposed cycle network aligns with the wider plans for cycling external to the Park. The *GDA Cycle Network Plan* routes are illustrated in Figure 66.

It is noted that the Park Gates are protected structures and that any cycling interventions should be compatible with this designation.

Figure 66 GDA Cycle Network Plan Routes

It is noted that the proposed cycling network provides a good correlation with the GDA cycle network both in terms of proposed access improvements at Gates and alignment with the GDA Primary, Secondary, Feeder and Greenway routes.

The additional routes proposed within the Park, in conjunction with those outlined in the GDA Cycle Network Plan, ensure that there are excellent cycling facilities for those who wish to travel to trip attractors within the Park, those who wish to cycle within the Park for recreational purposes, and those who wish to cycle through the Park to onward destinations.

Access and Roads

When discussing the refinement of Option 3 the working group noted that a better option to closing Knockmaroon Gate would be to introduce a cul-de-sac on Knockmaroon Road just north of the Gate which would allow cars to continue to access the parking area at the Gate and access the Park via walking and cycling. It was also considered that this intervention may not be able to be implemented in the same timescales as the cul-de-sacs on North Road and Upper Glen Road due to its reliance on external projects and therefore the Preferred Strategy would be to implement Option 3 on a phased basis.

In addition, the proposed public transport service outlined in Figure 65 envisages buses travelling in and out of the Cabra Gate. Given the current protections in place at this gate and the restricted capacity for two-way traffic movements, it is proposed that this Gate is converted to a bus only gate which provides an enhanced level of bus priority at this location, as well as enhancing walking and cycling safety by removing a number of difficult turning movements that general traffic experiences at this Gate. This is supported by the reduced vehicular traffic volumes currently using Cara Gate.

It was agreed that a 30kph speed limit should be introduced for the entire Phoenix Park to improve public safety.

It was also agreed that the Strategy should recommend the commencement of a study to investigate the introduction of parking controls and the changing of bylaws to facilitate the better management of cars through and within the Phoenix Park.

The revised Option 3 layout with the changes proposed at Knockmaroon Road and Cabra Gate is illustrated in Figure 67.

Figure 67 Refined Roads Option 3 (Knockmaroon Gate open and Cul-de-sac on Knockmaroon Road)

Public Transport

Bus Option 2, as outlined previously in this Chapter, was identified as the preferred option during the Option Assessment process. During the refinement workshop a number of considerations were discussed to ensure that the service runs as efficiently as possible and remains aligned with the Study Objective of prioritising sustainable transport modes in accessing the Park. It is noted that the Cabra Gate is a protected structure and an important architectural feature within the Phoenix Park and accordingly any interventions must not negatively impact the setting or designation of this protected structure. It is noted that any interventions at junctions and roads must be compatible with the historic setting of the Park and have minimal visual impact on the surroundings. These measures include:

- Realignment of the modern interventions at the Cabra Gate entrance and possible requirement for restrictions on car access at this gate;
- Provision of bus priority measures around the Phoenix Park monument and on Odd Lamp Road at the Visitor Centre to ensure efficient progression of the bus service;
- Traffic control measures to ensure that the Heuston Station bound bus does not get delayed at Park Gate Entrance; and
- Provision of bus stops at Dublin Zoo and Phoenix Park Visitor Centre which are sympathetic to the historic setting of the Park.

As with the proposed pedestrian crossing points, it was agreed that any new infrastructure in the Park related to public transport would have to be sensitively designed and take into account the historical / environmental context of the Park.

Interim Bus Service

It was discussed at the Options Refinement workshop that the implementation of the proposed public transport service may be linked with the rollout of the Dublin BusConnects bus network redesign. If the proposed BusConnects orbital service is not implemented in 2021, an interim service could be provided which could operate between Broombridge and Heuston Station, providing onward connections at each location to other bus services, Luas and Rail connections. The route alignment of this interim service is illustrated in Figure 68.

Figure 68 Public Transport Interim Service

The Preferred Strategy

The Preferred Strategy has been developed to ensure that it aligns with the Study Objectives and in turn the Transport and Mobility Working Group's Movement Principles. The Strategy aims to significantly reduce through traffic volumes in the Park whilst maintaining access for all, prioritise sustainable modes of travel to, from and through the Park and in turn enhance the Park as a place that people can come for relaxation, recreation or to visit the various institutions within it whilst being sensitive to the heritage, character, archaeology, architecture, biodiversity, wildlife and landscapes of the Park.

Walking and Cycling

The prioritisation of walking and cycling within the Park, a key theme running through both the Movement Principles and the Study Objectives, not only helps to realise the health benefits associated with both, but also ensures that uptake of these active travel modes becomes a key contributor in reducing the reliance of private car use to access the Park, helping to make it a calmer, safer place in which to relax, play sport, work and visit amenities.

The proposed walking network, illustrated in Figure 69, builds upon the already comprehensive walking infrastructure within the Park by upgrading approximately 7.2km of existing routes, particularly to the western end of the Park to allow for access for all. The proposed walking network also ensures that key desire lines through the Park, as well as to destinations within the Park, are enhanced through the provision of appropriately located crossing points, incorporating design features sympathetic to the historic and environmental context of the Park.

The proposed cycling network, illustrated in Figure 70, proposes an additional 14km of dedicated cycle routes, as well as upgrading, to the standard set out in the National Cycle Manual where appropriate, of the 17km of existing routes within the Park. The proposed cycling network aligns with existing and planned routes external to the Park and ensures that the following key considerations are accounted for:

- Recreational users of the Park including connections from the main gates to leisure/tourism trip attractors and attractive routes and loops for leisure use; and
- Provision of direct, high quality connections between the main gates to cater for cycling to destinations both within and outside the Park.

The Plan also identifies key nodes such as the Park gates and internal roundabouts for upgrade to prioritise walking and cycling and enhance safety for these modes of travel.

Access and Roads

The proposed strategy for access and roads, illustrated in Figure 71, achieves the Study Objective of significantly reducing traffic volumes in the Park (whilst maintaining access for walking and cycling) through the following interventions:

- Cul-de-sac on North Road east of Ratra House and west of Spa Road;
- Cul-de-sacs on Upper Glen Road past Cara Cheshire Home and at the car park on Upper Glen Road;
- Cabra Gate converted to bus only;
- Ashtown Gate converted to entry only; and
- Cul-de-sac on Knockmaroon Road, north of Knockmaroon Gate Car Park.

The proposed strategy will result in approximately 3km of the Park's internal roads being traffic free, with traffic volumes reduced on approximately 13.5km of roads. The removal of through traffic on the side roads of the Park as a result of these interventions leads to a calmer, safer environment in these biodiverse and conservation rich locations, making them a haven for walking, cycling, relaxation and passive recreation.

To support the introduction of an efficient public transport service in the Park, the Strategy proposes that Cabra Gate is converted to a Bus Only gate, removing potential conflicts with traffic making difficult turning movements at this location and enhancing safety for pedestrians and cyclists.

Whilst traffic movements remain possible on Chesterfield Avenue, preserving private car access to amenities and car parks for those that require it, particularly those visiting the Park from outside the Greater Dublin Area, through traffic volumes are reduced as a result of the reallocation of some road space to cycle lanes and the introduction of crossing points as part of the walking and cycling strategy, making Chesterfield Avenue a less desirable route for through traffic. The retention of Chesterfield Avenue as a through route also limits the impacts of dispersed traffic on surrounding residential neighbourhoods and roads.

The Strategy also recommends a 30kph speed limit be introduced for the entire Phoenix Park to improve public safety and the commencement of a study to investigate the introduction of parking controls and the changing of bylaws to facilitate the management of cars through and within the Phoenix Park.

Public Transport

Public transport is identified as playing a key role in achieving many of the Objectives of the Study.

Whilst walking and cycling can provide an attractive sustainable mode of travel for those who live local to the Park, public transport provision extends the catchment area of sustainable travel to and from the Park to a much wider area. Public transport access to the Park is also a powerful tool in ensuring accessibility and inclusion for all, whether that be from a local perspective for people who do not have access to a car or who cannot walk or cycle to the Park, or from a wider catchment area, through connections to strategic public transport services.

The Study proposes the introduction of a bus route, as illustrated in Figure 72, aligned with the ongoing Dublin BusConnects bus network redesign which would serve key amenities in the park such as Dublin Zoo and the Phoenix Park Visitor Centre, as well as providing an attractive public transport service for people wanting to access the Park for sport and recreation, reducing the reliance on private car travel and creating the context for further longer term interventions that would continue to build towards the Study Objectives.

External to the Park, and outlined in further detail in Section 4 of this report, the service would run on an orbital route connecting to local areas of high demand, as well as other bus services, Luas and Rail connections at Broombridge and Heuston Stations.

To ensure the efficient progression of the bus service, supporting traffic management and bus priority measures will be designed and introduced during the implementation of the service with any new infrastructure again designed to take into account the historic and environmental context of the Park.

Figure 69: Proposed Walking Network

Figure 70: Proposed Cycling Network

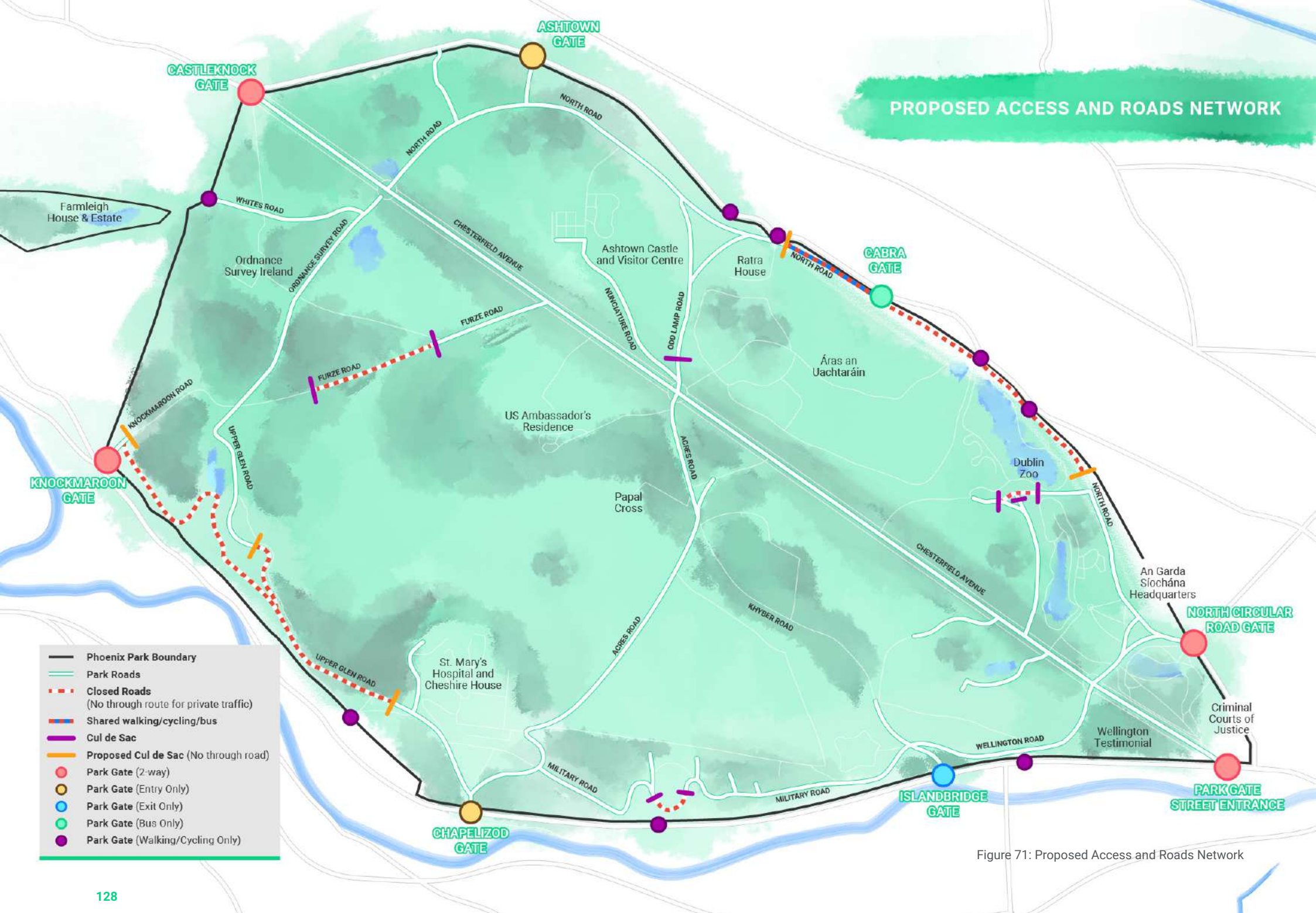


Figure 71: Proposed Access and Roads Network

Figure 72: Proposed Bus Route

Implementation of the Strategy

Phasing

As recommended by the Transport and Mobility Working Group, it is proposed that the Strategy is implemented in a phased approach to ensure that more easily implemented short term measures can be commenced as soon as possible whilst still being fully aligned with the overall Strategy.

The proposed phases, their key interventions and the rationale behind their implementation are illustrated in Table 17, whilst the impacts of the key interventions in phases 1, 2 and 3 on traffic volumes are illustrated in Figure 73, Figure 74 and Figure 75 respectively.

It is recommended by the Transport and Mobility Working Group that the cul-de-sacs on North Road and Upper Glen Road be temporarily installed in Q2 2021 in conjunction with the commencement of a rolling data collection and monitoring programme. The analysis of this data will allow for measurement of their effectiveness and allow for refinement, if required, prior to the advancement of Phases 2 and 3.

With regards to the public transport service, again it is proposed that an interim bus service is introduced in the short term, in advance of the full service in Phase 2, linking the Park to both Broombridge and Heuston Stations with usage of the service included in the data collection programme. This will require an assessment of traffic delay and traffic management measures.

It is also recommended that the study to investigate the introduction of parking controls and the changing of bylaws to facilitate the management of cars through and within the Phoenix Park is undertaken in the short term to ensure that any recommendations from it are implemented in conjunction with the Phase 2 measures.

The Strategy proposes that the benefits these interventions will bring to the Park, coupled with the implementation of the walking and cycling strategies and the implementation of external initiatives such as the Dublin BusConnects bus network redesign, will create the context for the proposed interventions at Knockmaroon Road and Ashtown Gate to follow as longer term strategies.

Strategy Review and Update

It is also recommended that the Strategy is reviewed and updated after 5 years which will enable further initiatives to be identified and subject to wider impact assessment at that time.

These initiatives would be identified and assessed in the context of the effectiveness of those implemented in Phases 1 and 2, ongoing data collection and monitoring, as well as the commencement of external initiatives such as Dublin BusConnects bus network redesign, to further build towards achievement of key Study Objectives such as reduction of through traffic and prioritisation of sustainable transport modes accessing the Park.

Table 17 Proposed Implementation Phases of Emerging Preferred Option

Phase	Key Interventions per Phase	Key Outcomes per Phase
1 **(0-2 years)**	Implement Walking and Cycling Strategies in line with agreed set of Design Principles. Implement 9-month pilot study in Q2, 2021 of cul-de-sacs on North Road and Upper Glen Road with simultaneous data collection and monitoring programme. Implement interim bus service as a pilot study linking the Park to Heuston and Broombridge Stations. Introduction of 30kph speed limit; Undertake Parking Strategy and review of bylaws.	▪ Prioritises walking and cycling and encourages their uptake. ▪ Introduces public transport access to the Park. ▪ Both initiatives contribute to reduction in the reliance on private car to access the Park. ▪ All Gates remain open as per current operations. ▪ Chesterfield Avenue still facilitates through traffic, but traffic volumes are reduced as a result of reallocation of some road space to cycle lanes and the introduction of sympathetically designed crossing points. ▪ Chesterfield Avenue still provides access to all amenities within the Park from both main Gates. ▪ Pilot studies for the cul-de-sacs and the interim bus services allow these interventions to be monitored as to their effectiveness, and subsequently refined based on analysis of the data collected.
2 **(1-3 Years)**	Full implementation of cul-de-sacs North Road east of Ratra House and west of Spa Road and Glen Road past Cara Cheshire Home and at the car park on Upper Glen Road. Cabra Gate converted to bus-only gate. Introduce bus service and associated traffic management / bus priority measures. Implementation of the recommendations of the Parking Strategy.	▪ No through traffic on the side roads of the Park means the Park becomes a haven for walking, cycling and passive recreation in these areas. ▪ Chesterfield Avenue still facilitates through traffic, but traffic volumes are reduced as a result of reallocation of some road space to cycle lanes and the introduction of sympathetically designed crossing points. ▪ Chesterfield Avenue still provides access to all amenities within the Park from both Gates. ▪ The removal of through traffic on North Road creates the reduced traffic context for the efficient progression of the bus service in this area and increased space for walking and cycling. ▪ The introduction of the bus service provides an additional alternative mode of sustainable travel to, from and through the Park – further reducing the reliance on the private car to access the Park and reducing the traffic volumes through the Park. ▪ Implementation of Parking Strategy recommendations reduces parking demand and traffic volumes at key attractions such as Visitor Centre and Zoo and promotes switch to sustainable mode of travel.
3 **(3-7 Years)**	Ashtown Gate converted to entry only. Cul-de-sac on Knockmaroon Road. Undertake review and update of the Transport and Mobility Strategy.	▪ Monitoring of effectiveness of measures introduced in Phases 1 and 2 against the Study's Objectives will allow for consideration of longer term initiatives such as the conversion of Ashtown Gate to entry only and the introduction of a cul-de-sac on Knockmaroon Road. ▪ A review and update of the Transport and Mobility Strategy after 5 years will enable further initiatives to be identified and tested in the context of the effectiveness of those implemented in Phases 1 and 2, as well as the commencement of external initiatives such as Dublin BusConnects bus network redesign, to further build towards achievement of key Study Objectives such as the reduction of through traffic and prioritisation of sustainable transport modes accessing the Park.

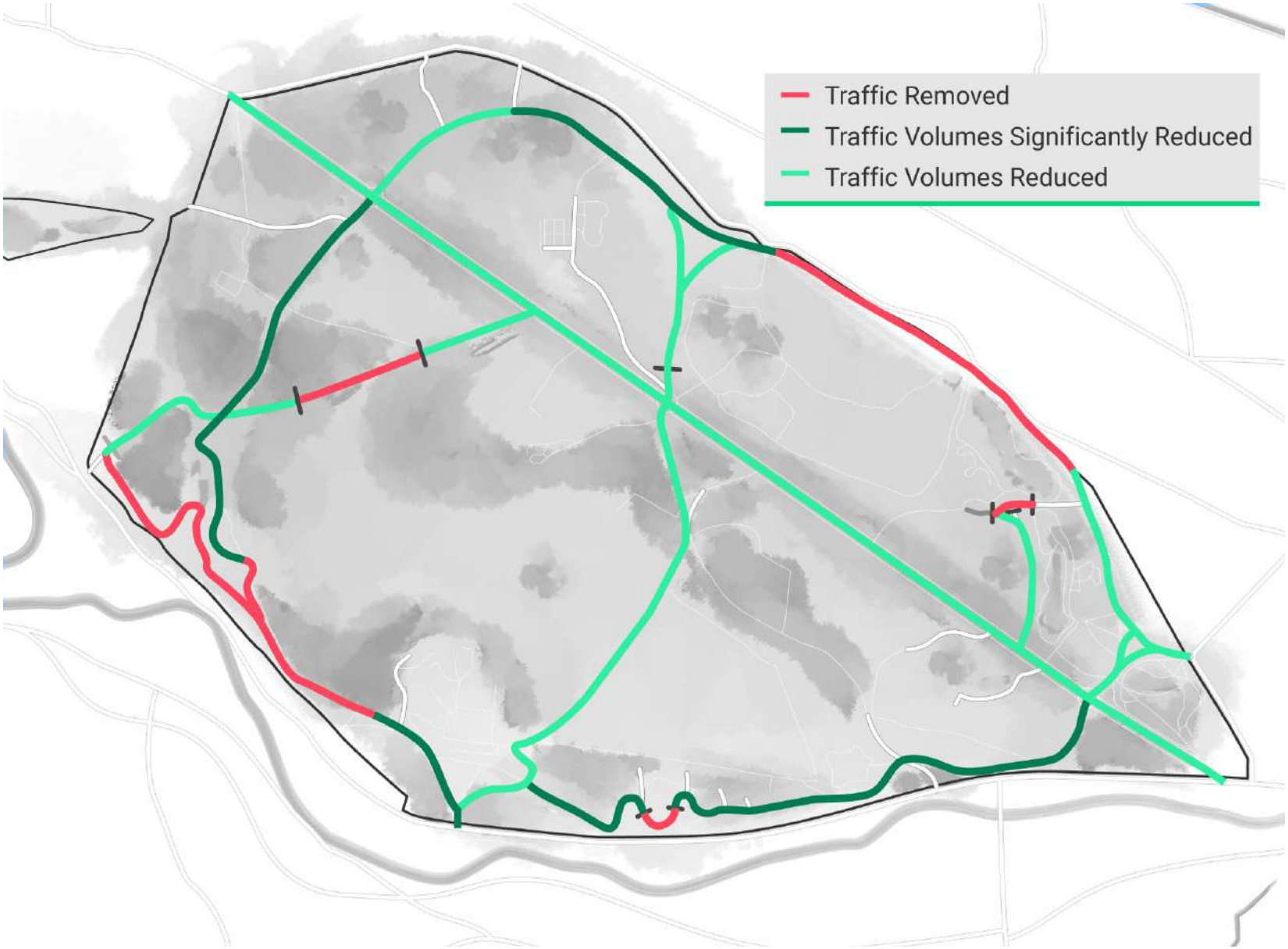


Figure 73 Impacts of Emerging Preferred Option on Traffic Volumes – Phase 1

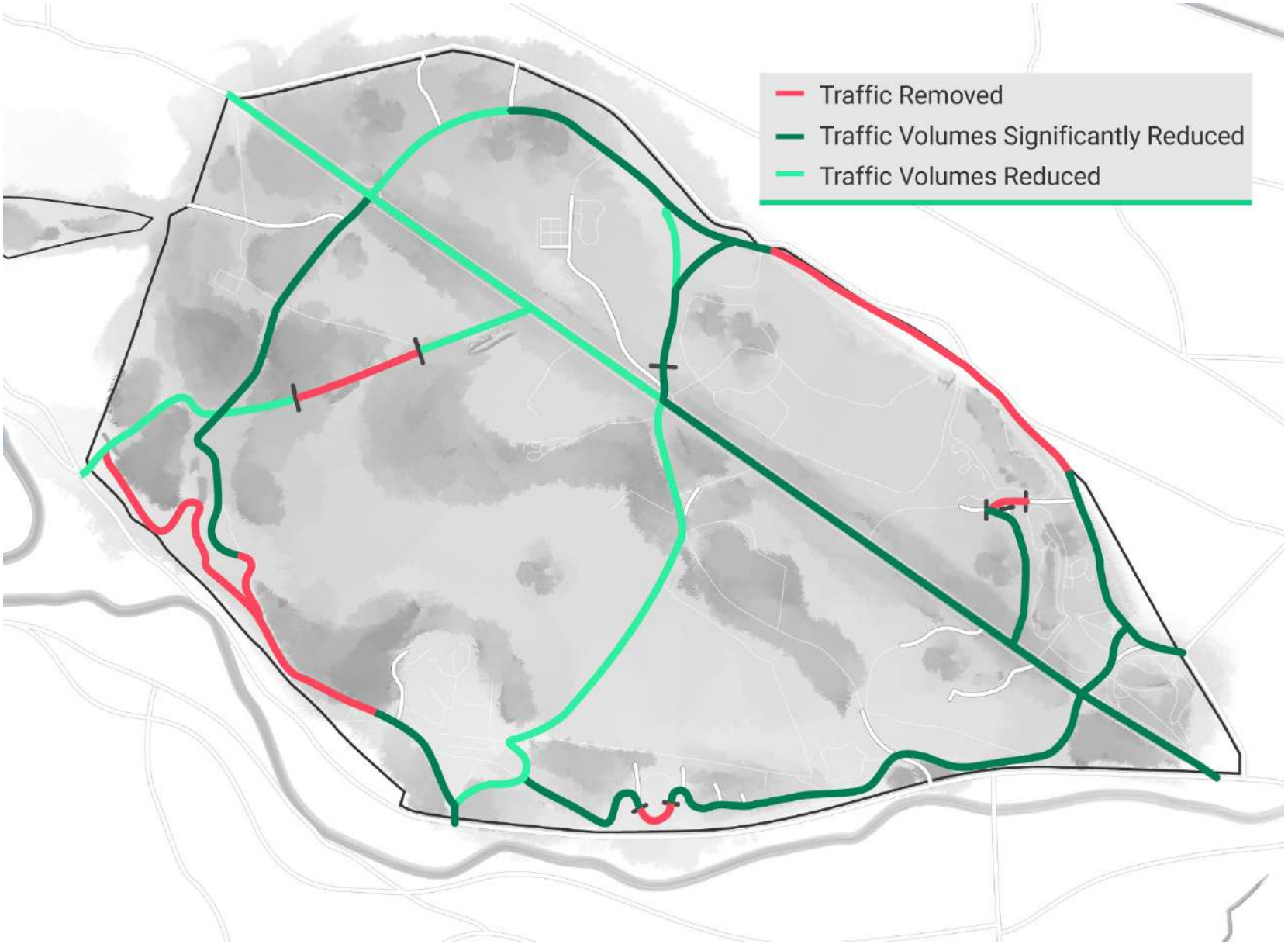


Figure 74 Impacts of Emerging Preferred Option on Traffic Volumes – Phase 2

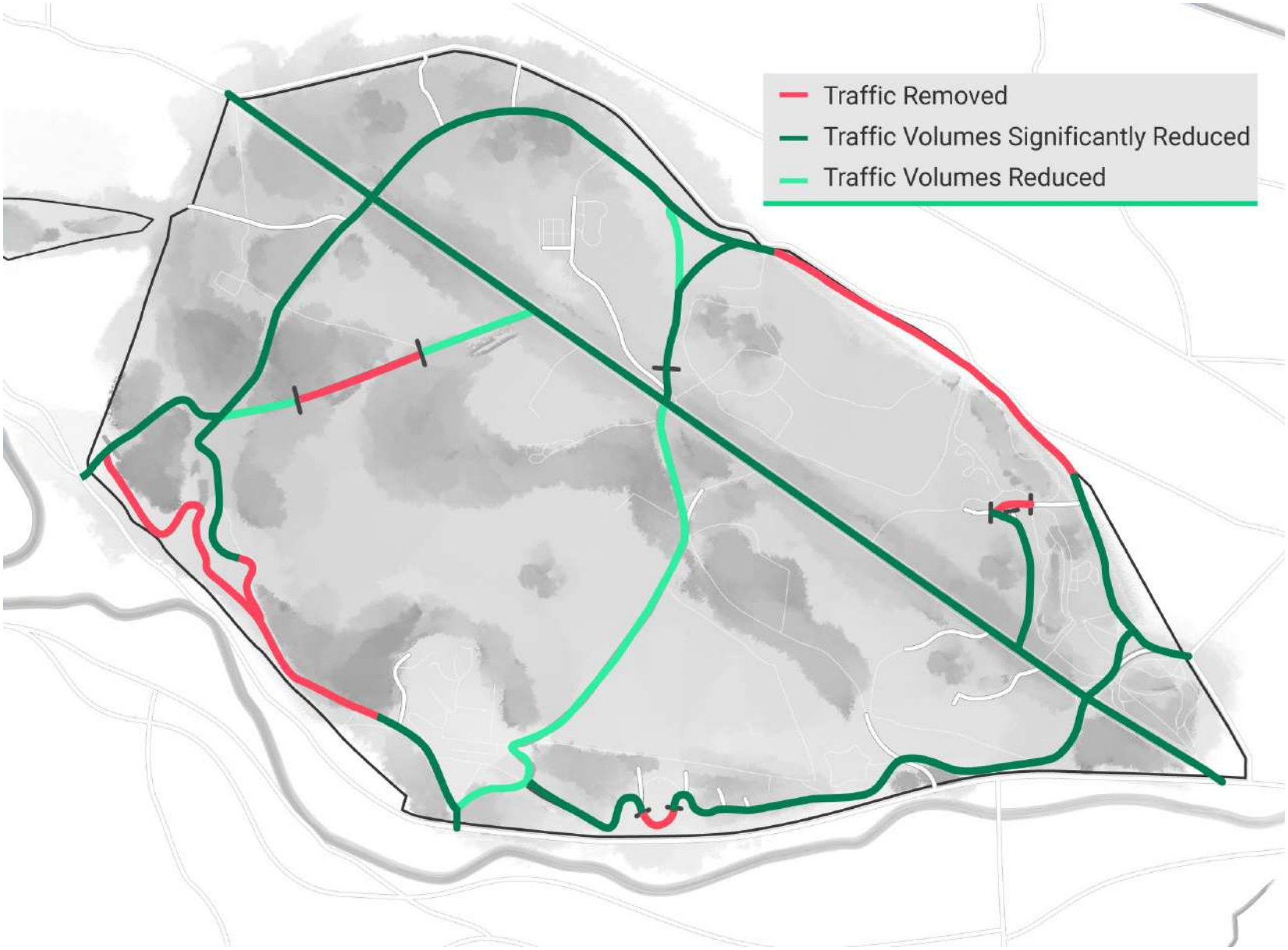


Figure 75 Impacts of Emerging Preferred Option on Traffic Volumes – Phase 3