

Duthie Park: A Cycling Audit

Produced by Aberdeen Cycle Forum

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Contents

1. Purpose
2. Introduction
3. Background – About Duthie Park
4. Location
5. Visitors to the park and means of travel
6. Access and egress; connection to other routes
7. Cycling in the park
8. Connection to cycle routes and the wider city
9. Deeside Way
10. Riverside Drive
11. Cycle parking
12. Conclusions
13. Recommendations

Appendix 1. Car parking

Purpose

1. The purpose of this short report is to consider the appeal of Duthie Park as a cycling destination. In particular we consider connectivity, accessibility, cycle infrastructure, and what improvements could be made.

Introduction

2. This report has been produced by Aberdeen Cycle Forum. ACF is a campaigning organisation which seeks to promote all types of cycling. It was established in 2003 and our aims, as stated in our constitution are:

- A) To encourage cycling and to promote the benefits of cycling to the individual and the wider community
- B) To advocate for a safer cycling environment and improved cycle facilities in Aberdeen.
- C) To campaign for cycling to be an integral part of planning and transport strategies and practice, in order to provide the widest possible access to cycling as a healthy and efficient means of travel for work and leisure.

About Duthie Park –

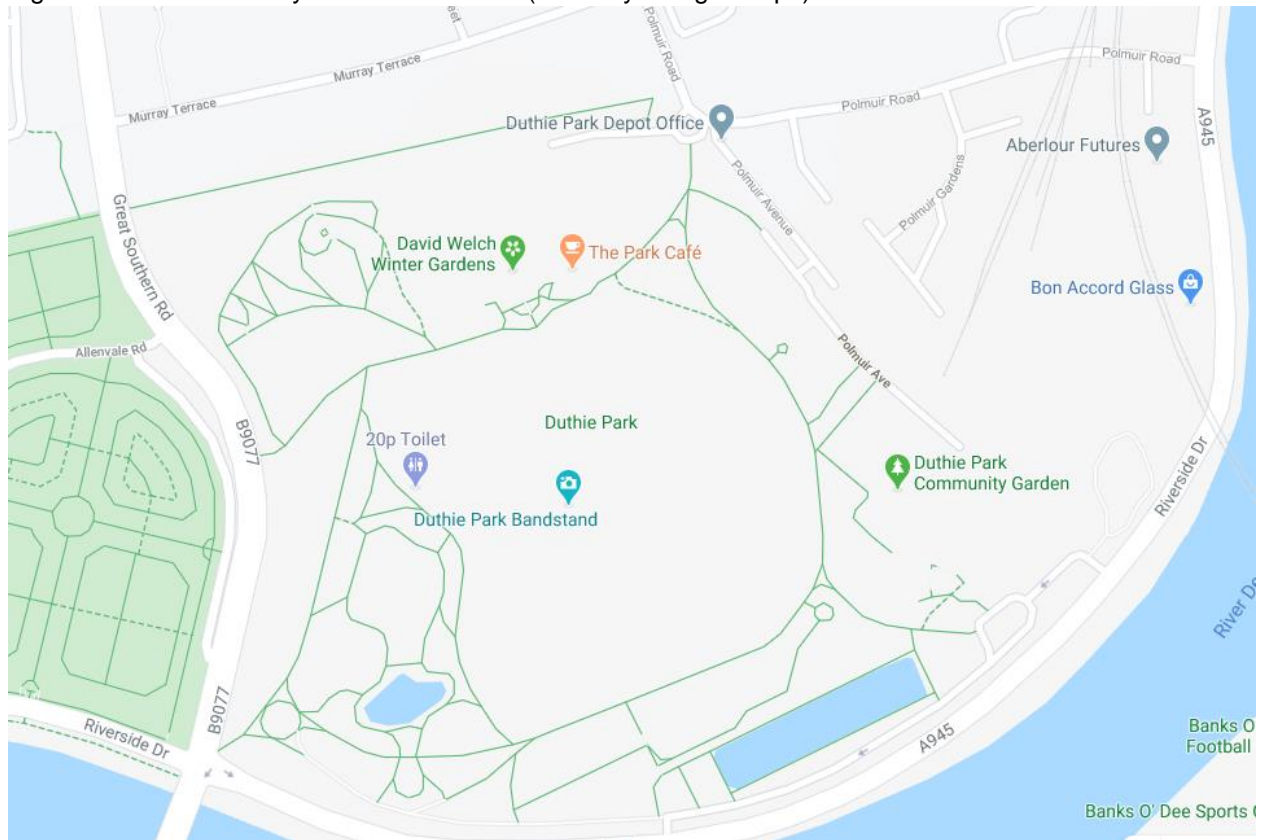
3. Duthie Park is one of Aberdeen's main attractions in terms of open green spaces and attracts many tens of thousands of visitors each year, both city residents and tourists. Within the park there are several key attractions including the Winter Gardens and café, as well as play areas, and a large open area of grass which is used for many forms of recreation. The Park has a network of paths including an orbital path which is wide and well surfaced and so popular with walkers, joggers, cyclists.

The Park was subject to a major refurbishment in 2010 funded by the Heritage Lottery Fund. During this, some changes were made to the car parking provision.

Location

4. Duthie Park is located in the south side of Aberdeen (Fig 1) , bounded by Great Southern Road (B9077) on its west side, and Riverside Drive (A945) to the south, with the River Dee adjacent. To the north the Park is bounded by the Deeside Way (part of the National Cycle Network, route 195) – a shared use walking and cycling route – which begins at a point behind the car park and continues west-ward more or less continuously as far as Ballater.

Figure 1: location and layout of Duthie Park (courtesy Google Maps)



Visitors to the park and means of travel

5. At the time of the redevelopment of the Park, we understand there was a conscious decision not to increase the amount of car parking, with the aim of encouraging visitors to arrive either by active travel (on foot or by bike) or use public transport. At busy times it is obvious that there is still excess demand for car parking, and this has undesirable consequences. Drivers may circle car parking areas awaiting a space becoming available, may park outwith designated bays, or may even park on the grass (Fig 10). The number of car parking spaces available, and photographs illustrating the excess demand and undesirable consequences are detailed in Appendix 1.

Cycle visitors to the Park can be expected to fall into one of 3 broad categories:

- Visitors to the park who happen to arrive by bike (main purpose of journey is a visit to the park, rather than cycling per se)
- Visitors to the park who are arriving primarily to cycle there, taking advantage of the safe, traffic-free environment, particularly valuable for children, learners, or other less confident cyclists.

- Cyclists who transit through the park as a means of connecting with other traffic-free routes (particularly the Deeside Way and the Riverside Drive shared-use path (SUP) or George VI Bridge SUP connecting to the 'Shell' path and beyond.

We have no data on numbers of cyclists using the park, nor on the break-down between these 3 broad categories. However as there is significant overlap in the needs of cyclists in each category, this is not critical.

Data from the automated counter on the Deeside Way shows in the region of 1,000 cyclists per day (week-day traffic) with peaks of 100 – 150 per hour during peak commuter hours. We don't have data for what proportion of those then continue south through the park but we would estimate it is a significant proportion – probably at least half.

Access and egress

6. There are 5 points of entrance and/or exit to the Park, as follows:
 - i) Main gate, north side (from Polmuir Road). This is mainly a pedestrian access, with vehicular access being allowed for authorised vehicles only. The car parking adjacent also needs to be considered in terms of its impact on cyclist and pedestrian movements.
 - ii) Main entrance, south, from Riverside Drive (Fig 6) This is a one-way entrance point for vehicular traffic, with a side gate accessible by pedestrians. The layout is confusing for cyclists and unclear if they are expected to behave as 'pedestrians' or 'vehicles'.
 - iii) Main exit, south, onto Riverside Drive. This is a one-way exit point for vehicular traffic. Although there is a side-gate for pedestrians, this appears to be little used, probably because there is no made-up pavement on the north side of Riverside Drive at this point, and no easy or safe crossing to the SUP on the south side. Again there is no specific provision for cyclists.
 - iv) Gateway, south-west. This gateway faces onto the roundabout at the foot of Great Southern Road, at its junction with Riverside Drive and the George VI Bridge. It is primarily a pedestrian entrance with controlled access by permitted vehicles only during special events for example. As the main gates are usually closed, pedestrians and cyclists use two side-gates. The restricted width, restricted visibility resulting from the large stone gate pillars, and the presence of railings or barriers outside the gate make this a relatively congested spot with potential for conflict between pedestrians and cyclists although relatively low volumes mean this does not appear to be as issue most of the time.
 - v) Gateway, west. This gateway opens onto Great Southern Road. This is most likely point of arrival for those arriving by public transport, with a bus stop close by (other bus routes are available e.g using Polmuir Rd/Murray Terrace). The stop on the south-bound carriageway is convenient, however accessing the stop on the north-bound carriageway opposite means crossing a dual-carriageway without any controlled crossing. The central reservation is narrow and does not provide a safe refuge, and has no dropped kerb to accommodate for example wheelchairs or push-chairs. For cyclists, this gateway is of limited use as the pavement here is not designated as a shared-use and therefore should not be used by cyclists, although anecdotally it is used by some in preference to cycling on the busy dual-carriageway.

Figure 2: lack of safe crossing for pedestrians to the north-bound bus stop. Pedestrians wishing to access the bus stop on the north-bound carriageway without making a potentially hazardous crossing would be better to exit via the south-west gateway and make use of the Toucan crossing nearby, although this may be indirect and counter-intuitive.



Cycling in the park

7. The cycling environment within the park itself is generally very good. The majority of paths are several metres wide, are well surfaced and either flat or with gentle gradients. The width of the paths means that even when the park is busy, there is ample room for everyone and we are not aware of conflicts between pedestrians and cyclists. There is no delineation of a cycle route nor is any priority indicated where paths form junctions. We would not expect that these are justified and generally cyclists and pedestrians appear to mix well, although occasional conflicts cannot be totally ruled out. The greatest potential for conflict is likely to be in the busiest areas, particularly in front of the café and winter gardens, or close to the main gates where movements are concentrated. The congestion and potential for cycle/pedestrian conflict in front of the winter gardens at busy times is not helped by the location of numerous large ornamental stones, which may also present an additional hazard in the dark.

Further consideration of whether park environments may benefit from marking paths to indicate priority, or even segregation can be found in this 2016 report:

https://www.royalparks.org.uk/data/assets/pdf_file/0005/87197/Walking-and-Cycling-Technical-Design-Guidance-2016.pdf

Figure 3: wide, well surfaced paths make attractive places to cycle especially for families



Commuter cyclists are possibly more likely to be travelling at speed, compared with casual cyclists and this might give rise to more conflict with pedestrians although the main commute times are less likely to overlap with other peak visitor times.

Less-able cyclists

Given that it provides many wide and well surfaced paths, and a traffic-free environment the Park has great potential to be used by less able cyclists and adaptive cycles. An adapted bike suitable for use by a wheel-chair user is based at the Winter Gardens (although we have no information on who operates it or what level of use it receives).

The main failings identified elsewhere in relation to the park's access points are likely to be felt even more acutely by less-able cyclists, with obstacles such as the sharp turns in the access ramp from the Deeside Way being unappealing for adaptive bikes.

Cycle Hire

Should Aberdeen City Council proceed with its intention to implement a universal city-wide bike hire scheme, Duthie Park should be an obvious location for a docking station.

Connectivity to cycle routes, and the wider city

8. It should be noted that Aberdeen does not currently have any comprehensive network of cycle routes. In many places on road advisory cycle lanes are marked, but these are generally not favoured as they provide no protection from vehicles. They do not meet what is generally recognised as being the accepted standard of cycle infrastructure: which is that it should be capable of being used safely by an unaccompanied 12 year old. Such cycle routes as do currently exist are very limited in scope and do not inter-connect. For the vast majority of journeys, a significant proportion will be on roads shared with traffic. This is an obvious disincentive for families or less-confident cyclists. Polmuir Road, to the north of Duthie Park, is an example of a direct route connecting the park with other parts of the city where cycling is currently unappealing for many.

The park location means that it does have the potential to connect well to some adjacent routes. This is important both for visitors to the park, but also those who use it as a means of connecting other traffic-free routes. Notably, commuting cyclists using the Deeside Way and then continuing towards Altens via the park, George VI Bridge and the 'Shell' path thereafter. For cyclists heading east there is the potential to connect onto the Riverside Drive SUP, although the most obvious and direct means to do so, via the main *entrance* (south) is not helped by the current poor layout and unhelpful one-way flow designed to accommodate vehicular traffic.

Deeside Way

9. The layout of the ramp onto the Deeside Way from the car park, and access to and from the main gate is poor. The ramp itself involves negotiating two 90 degree bends, with a further two bends at the foot of the ramp in the car park itself (Fig 4). Although most experienced cyclists will tackle these bends relatively easily, less confident cyclists may not, and the bends exacerbate the potential for conflict with pedestrians. At the foot of the ramp, where the route joins the car park, the marked parking bays leave a gap of just over 2 metres between where a car may be positioned and a low stone wall. This is a very poor layout which invites conflict between pedestrians, cyclists and motor vehicles.

Figure 4: foot of ramp connection with the Deeside Way



Having exited the Deeside Way en route to the park a cyclist must now pass through a narrow bottle-neck (Fig 12) between the inner and outer car parking areas. There is no pavement at this point although a yellow line (now quite worn) has been painted indicating where pedestrians are expected to walk. There is no specific provision for cyclists, and as with the south entrance, cyclists may be unclear as to whether they are supposed to behave as pedestrians or vehicles. Although confident adult cyclists may be comfortable joining the flow of traffic, it must also be remembered that many of the users of the Deeside Way are families with children. The current layout and expectation that cyclists here have to mix with traffic here is far from ideal.

As parking capacity is limited, and time restricted, this leads to a greater number of vehicle movements through the bottle-neck than would otherwise be the case. At busy times, vehicles can be observed entering the inner car park in the hope of finding a space only to find it full and then having to leave again immediately. Excess demand for parking also leads to cars being parked outwith marked spaces which may adversely affect visibility and create additional hazards. Cars have even been seen occasionally parking on the yellow-painted strip intended for pedestrians, thus making the bottle-neck significantly worse.

In the outer car park, again there is some painted provision indicating where pedestrians should walk, but the lack of provision for cyclists continues and they need to be alert to sudden and random vehicle movements as drivers manoeuvre in and out of the spaces available.

A further oddity in the layout of access from the north gate and car park is the creation of an apparently temporary vehicular entry point, immediately east of the Winter Gardens (Fig 13). The purpose of this is unclear. It has not been properly surfaced for vehicle use which may indicate it is intended to be temporary, but on the other hand it has now been present for a number of years. Use of Heras (i.e. temporary security) fence is intended to prevent pedestrian access here, but there is an obvious desire line and casual observation of visitor behaviour shows that they are bypassing the Heras fence rather than using the main north entrance point. The vehicular entry point here also now appears to be routinely used for parking by members of the public. This represents a loss of amenity to the park itself, is untidy and also defeats the apparent wish to limit the availability of parking in order to encourage use of public transport and active travel. As the entrance to this unofficial parking or access area is more or less directly opposite the access ramp from the Deeside Way, the additional vehicle movements are likely to exacerbate the potential for pedestrian/cycle/vehicle conflicts at this point. We understand that the intention is to form this temporary access into a service road for the café in due course.

There is an obvious opportunity here to formalise a pedestrian and cycle entrance from the car park to the park at this location thus reducing the number of people being forced through the bottle-neck.

Figure 5: desire line bypasses the Heras fence, perfect location for a new formalised pedestrian and cycle path?



Connection to Riverside Drive shared-use path

10. For cyclists whose destinations are west or south, via George VI Bridge, then the sensible exit point is the SW gate. From here it is possible to cross Riverside Drive by means of a Toucan controlled crossing. Similarly, anyone wishing to continue their

journey westward on Riverside Drive SUP alongside the river, can first cross Great Southern Rd via a Toucan, but thereafter have no safe or controlled means of crossing Riverside Drive. This is an incredible omission given the volume of traffic using this junction and the difficulty of crossing particularly at peak times.

For cyclists travelling east, the obvious exit point is at the south *entrance* where the current one-way layout for traffic is unhelpful to say the least. Cyclists travelling from the Riverside SUP towards the park can use a Toucan crossing (although confusingly also labelled with 'Cyclists Dismount' signage) but then have to negotiate a confusing and unhelpful layout around the gateway. Pedestrians are apparently expected to cross the flow of traffic either outside, or just inside the gate at a point where a driver's vision may well be obstructed by the large stone pillars. Cyclists are possibly expected to either re-join the traffic, or behave as pedestrians and push their bikes on the pavement which skirts the car park to access the Park itself (the pavement being narrower than the accepted norm for a shared use facility). The suitability of this layout for children or families is very dubious. Cyclists wanting to use this gateway to *exit* the park would currently be required to dismount and walk along the pavement. However given the inconvenience of doing so, it is likely many will risk cycling against the flow of traffic.

Figure 6: south vehicular *entrance* is not well designed for cyclists, or pedestrians (pavement on right side of image ceases at this point, so pedestrians then mix with traffic, or must cross to pavement on left side of image)



Cycle Parking

11. Opportunities for formal cycle parking within the Park are limited to just two locations. Two 'Sheffield' bike-stands (i.e. max capacity 4 bikes) outside the café, near the Winter

Gardens, and five (max capacity 10 bikes) beside the larger play area, close to the south car parking area¹.

Figure 7a, 7b: parking for only 4 bikes at the Winter Gardens & café, up to 10 bikes at the south play area.



¹ During the summer of 2020, a further bike rack was installed near the Winter Gardens, possibly as part of the *Spaces for People* temporary measures in reaction to Covid-19. This provides a notional additional 10 spaces, although poor siting (too close to the railings behind, see *Cycling by Design* fig 8.1, p113) mean that it may not be used to capacity. It is not known whether the rack is liable to be removed when other *Spaces for People* measures come to an end.

For a park which has so much potential appeal for visitors by bike, the amount of cycling parking provided is clearly inadequate. This is evident on almost any visit to the park when cycles will be seen leaning against trees, bins, railings, or benches. This is inconvenient for the cyclist, with a risk of damage both to the bike and the object in question, and an increased risk of theft if the bike cannot be secured properly. At busy times during summer months, it is not unusual to see 10 – 15 bikes at any one time improperly 'parked' in the vicinity of the winter gardens.

There is an obvious demand for increased cycle parking to be provided in the vicinity of the café and Winter Gardens. Ironically, additional stands were present but were removed at the time of the café refurbishment and we understand there are no current plans to replace them.

There would also seem to be justification for cycle parking to be provided at other locations throughout the park, such as by the north play-park, by the pond, and perhaps at other locations dispersed across the park.

Figure 8a, 8b, 8c: bikes left where there is no proper parking provision can cause an obstruction, are easily damaged and may not be secure against theft.





Conclusion

12. Duthie Park has great potential to be used as a safe traffic-free environment for cyclists. The wide, well surfaced and largely level paths are very attractive to casual users and particularly less confident cyclists such as children or learners.

The park also provides a useful link to other traffic-free cycle routes particularly the Deeside Way and Riverside Drive.

The Park is currently let down by poor layout at the various points of access and egress, with no obvious thought having been given to the passage of cyclists.

The Park is also let down by a severe lack of cycle parking where visitors might safely and securely leave their bikes while enjoying the park's other attractions.

Recommendations

13. Based on our observations of the park and its uses for cycling we make the following recommendations for improvements

- i) **New cycle parking facilities should be provided. We would suggest parking capacity of at least 20 be created close to the Winter Gardens and café. There is also obvious demand for bike parking at the north play park area, and parking could also be beneficial at other points dispersed throughout the park. Design guidance is available within 'Cycling by Design':**
https://www.transport.gov.scot/media/14173/cycling_by_design_2010_rev_1_june_2011.pdf
- ii) **The layout of the north car park and gateway is currently poor and could be improved to provide more priority for pedestrians over vehicles, and clearer indication of how cyclists are expected to behave.**

- iii) The temporary or informal access/ parking off the north inner car park is something of an aberration which defaces the park. However, this would be an ideal location to provide a pedestrian and cycle path giving direct access to the park, to avoid visitors arriving via the Deeside Way from having to transit through the bottle-neck and outer car park to use the main gate.**
- iv) A contra-flow for cyclists wishing to exit the park via what is currently the south-east entrance point should be provided.**

Although beyond the environs of the park itself, the following improvements would also be welcomed by cyclists and pedestrians using the park.

- v) A safe and controlled (e.g. Toucan) crossing over Riverside Drive west of George VI Bridge**
- vi) A controlled crossing or at least a central refuge for pedestrians on Great Southern Road opposite the park's West entrance.**

Footnotes:

Written by Gavin Clark with assistance from Rachel Martin and Francesco Sani.

Photographs taken various dates 2019. Figure 1 credit Google Maps. None of the images of cycle parking were staged.

Published 1st August 2020.

Amendment December 2020, para 11, additional cycle parking provided near Winter Gardens.

Car parking provision

This report is primarily about *cycle* use of the park, and car parking may not be considered directly relevant. However it is included here;

1. To illustrate the contrast between provision made for cars versus that for cycles.
2. Because vehicle movements in both car parks can create a hazard for pedestrians and cyclists.
3. Vehicle priority at the south (east) entrance makes this dangerous and inconvenient for cyclists to use.
4. Excess demand for car parking is having an adverse effect on the amenity of the park for all users.
5. Encouraging more visitors to the park to use active travel should reduce demand for car parking and thus reduce the impacts from vehicles, such as 2, 3 and 4 above.

South car park (access from Riverside Drive)

104 spaces

5 'blue badge'

North car park; outer (access from Polmuir Rd)

5 spaces

5 'blue badge'

2 EV

North car park; inner

21 spaces

6 unmarked but seemingly permitted (against hedge)

Rogue parking on temporary access – variable

Grand total 148 (not including rogue parking)

By contrast, the Park currently provides a total of only 7 bike stands, i.e. capacity for **14 bikes**

Figure 9: South car park



Figure 10: Excess demand leads to unauthorised parking on the grass



Figure 11: North car park (inner)



Figure 12: North car park (outer) and showing bottle-neck to inner car park (centre of image)



Figure 13: Temporary (?) access road east of Winter Gardens

