



interchange Audit Report

Linking cycling with public transport



Edinburgh Waverley



The Interchange Audits

Sustrans Scotland is interested in improving the links between cycling and public transport. They therefore commissioned Transform Scotland to develop a toolkit which could be used by local groups, individuals or transport operators themselves to assess their railway stations, bus stations, and ferry terminals to identify where improvements for cyclists could be made. As part of this commission, Transform Scotland has also used the toolkit to conduct a series of audits across Scotland. These audits spanned a wide range of stations and ports, from Mallaig's rural railway station at the end of the West Highland Line, to Aberdeen's rail, bus, and ferry hub, and Buchanan Bus Station in the centre of Glasgow, Scotland's largest city. The results provide us with a clear indication of key issues that should be addressed to make it easier to combine cycling with public transport journeys.

Edinburgh Waverley Audit Report

This report presents the findings of the audit conducted at Edinburgh Waverley railway station. As this is a large and complex station, its findings are presented separately from other railway stations audited for this project. Findings for Fort William, Inverness, Perth, and Stirling railway stations can be found in the ScotRail Stations Audit Report. And findings for Aberdeen, Mallaig, and Oban railway stations can be found in the Sustainable Transport Hubs Audit Report.

www.transformscotland.org.uk/interchange

Acknowledgements

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About the authors

Head of Research: Jolin Warren

Jolin has been a transport researcher at Transform Scotland for eight years and is currently Head of Research. He has in-depth knowledge of the sustainable transport sector in Scotland, together with extensive experience in leading research projects to provide evidence for transport investment, evaluate performance and advise on best practice. Jolin's recent work includes: ground-breaking research to calculate the economic benefits that would result from increasing in cycling rates; an analysis of the business benefits of rail travel between Scotland and London; an audit of cyclist facilities at transport interchanges across the country; a report on what leading European cities did to reach high levels of active travel and lessons Scotland could learn; and a feasibility study of improvements to the public transport network in the West Highlands. Jolin has also led research projects for organisations including the National Trust for Scotland and Scottish Environment LINK, helping them to collect and analyse data to improve their environmental performance.

Research Officer: Susan Warren

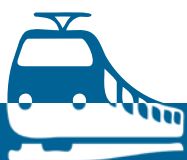
Susan has worked on a number of projects for Transform Scotland over the past decade. Her particular areas of expertise range from consultation and community engagement, through to climate change, public policy, and carbon foot-printing. Susan served as Transform Scotland's Company Secretary for two years and was a committee member for Friends of the Earth Edinburgh for several years. Susan has also worked for Scottish Environment LINK as their Campaigns Coordinator where she managed the Everyone campaign. Through public engagement, this campaign highlighted the issue of climate change at national and European elections. She currently serves on the committee of The Society for the Protection of Ancient Buildings in Scotland. Susan has degrees in Natural Resource Management (BSc) and Environmental Sustainability (MSc).

Additional research Eloise Cotton

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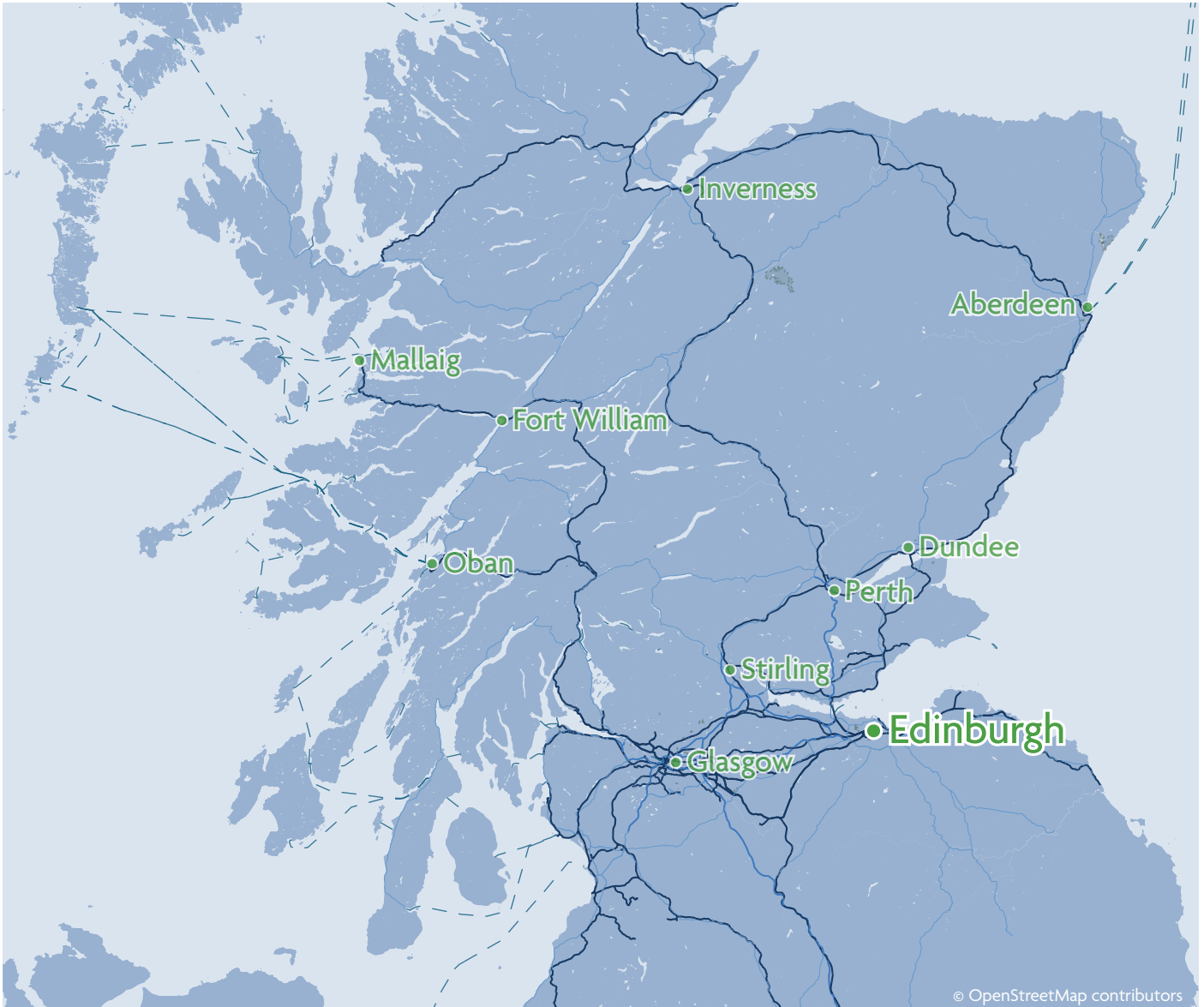
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This report contains
audit findings for:

Edinburgh Waverley
Railway Station

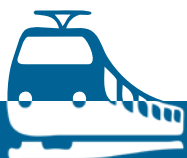


Also available as part of this project:

- Sustainable Transport Hubs
Audit Report
Aberdeen, Mallaig, Oban
- ScotRail Stations Audit Report
Fort William, Inverness, Perth, Stirling
- Bus Stations Audit Report
Dundee, Edinburgh, Glasgow,
Inverness, Perth, Stirling

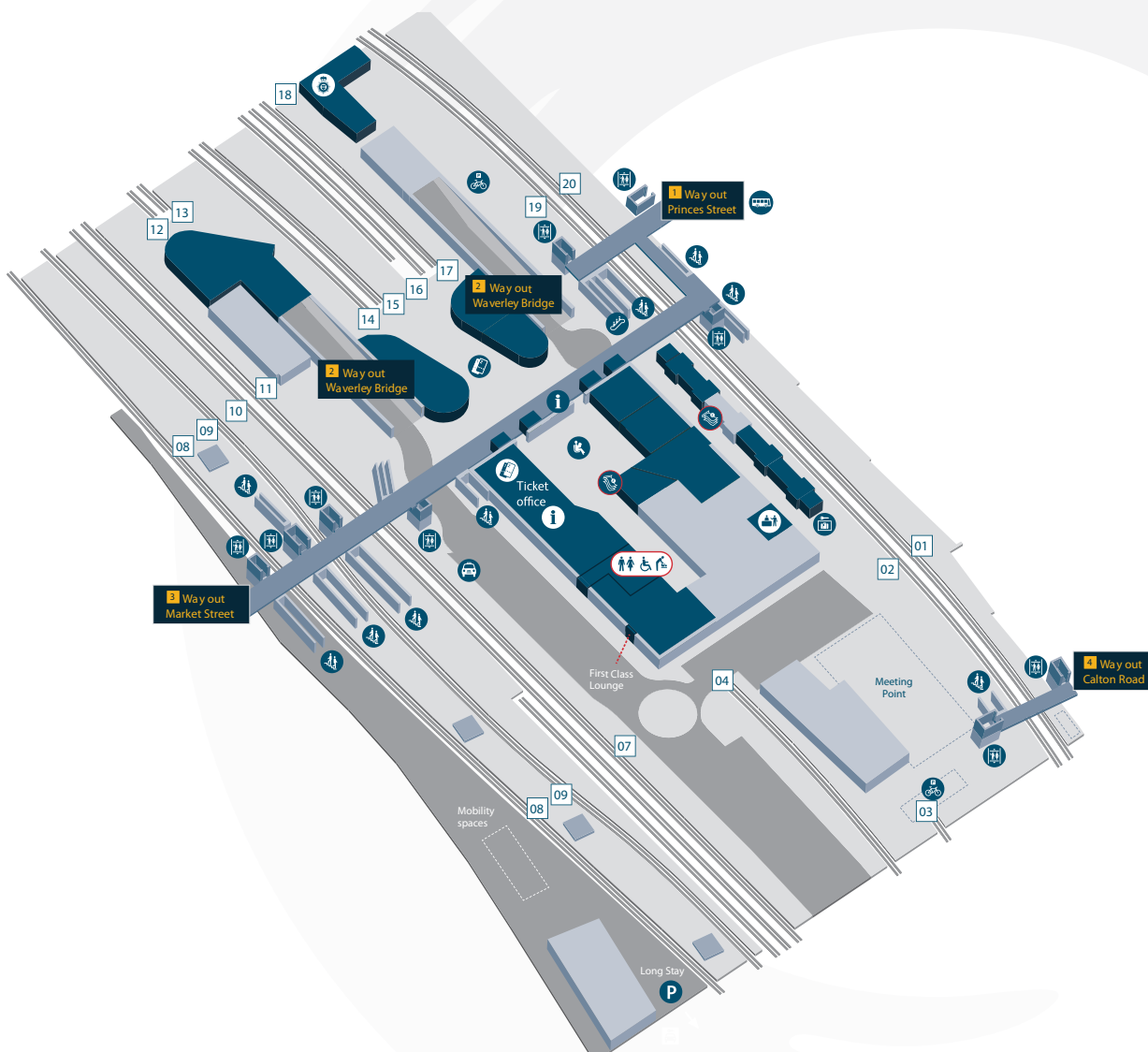
- Summary Report
- Audit Toolkit

All reports are available at
transformscotland.org.uk/interchange



overview of edinburgh waverley station

Edinburgh Waverley is the main railway station in Edinburgh, and one of the busiest stations in the UK. It is an interchange between trains serving England and Scotland as well as having numerous cross-border through services. The station provides access to many long-distance, regional, and local routes.



Map courtesy of Network Rail

Number of passengers

Used by 20 million passengers in 2012/13

Station manager

Network Rail

Number of entrances/exits

6

Number of platforms

18

Services

Intercity (Scotland and UK), regional, local, sleeper (to London); dozens of trains per hour, a mix of originating/terminating and through services

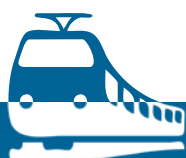
Local authority area

City of Edinburgh Council

Location

In the centre of the city, a dense urban area; including the suburbs the city has a population of 491,360

References: Mid-2010 Populations Estimates for Settlements and Localities in Scotland (General Records Office Scotland); Estimates of Station Usage 2012/13



Audit Summary

Key Issues Found



Edinburgh Waverley is a large and busy station with several disparate entrances. As such signage is particularly important, and its accuracy and consistency needs to be improved. It is recognised that at the time of the audit Waverley was coming towards the end of a major refurbishment which included reconfiguring the station layout and installing new lifts and escalators. A number of the signage issues may therefore be temporary and due to be rectified as the refurbishment is completed. It is also important to note that not all of the signage issues are within the purview of Network Rail (the station managers). Significant improvements to the signage on approach and when entering through the New Street car park are needed, and these need to be addressed by the City of Edinburgh Council and APCOA, respectively. Coordination between these organisations and Network Rail would provide the best result to ensure a fluid experience for cyclists. They should be directed to the most appropriate entrances and then clearly shown how to get to where they need to be inside the station.

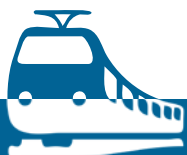
There are 150 cycle parking spaces provided within the station (under cover); however given their high level of use, this should be increased by at least 50%. [This is in line with the standard advice in ATOC's *Cycle-Rail Toolkit* that 50% more cycle parking be provided than current demand.] Additionally, a minority of the cycle parking was not well spaced or secured. All of the cycle parking was provided near Platform 3 and the east end of Platform 2 – quite a long way away from the vast majority of services and activity in the station (though see the section below for future plans which would improve the parking situation). Some years ago, cycle parking was provided on Platform 11 and this was very convenient for cyclists. Consideration should be given to again making similar provision closer to the main activity in the station.

Although Waverley has several entrances, cycling was either banned or there was no suitable area to stop and dismount. This was particularly notable at the Princes Street and Market Street entrances – two main entrances on busy roads. Cyclists had the option of riding onto a pavement full of pedestrians or stopping in the middle of a congested road. This is another example where coordination between Network Rail and the Council would be of huge benefit.

Once inside, it was fairly easy to use Waverley with a bicycle as there were wide ticket gates provided and most facilities were accessible by bicycle (including the ticket office and some catering outlets). However, in common with most stations audited for this project, there was no short-term parking provided for those facilities that couldn't be accessed with a bicycle. Also worth noting is that Waverley is a station which requires the use of a footbridge to access several of its platforms. While lifts were provided in all cases, most were quite small and this could lead to congestion when multiple cyclists or people with luggage need to use them. This could be significantly ameliorated by installing wheel wells on all stairways, allowing cyclists to avoid using the lifts.

Developments Following the Interchange Audit

As Edinburgh Waverley was still in the midst of a major refurbishment when the audit took place, it is worth noting some developments that have taken place since our visit. However, it should be noted that we have not returned and conducted another audit – these are developments that we have been notified of or observed during casual visits. There have been several positive changes since our audit of Waverley Station. Interior signage has been improved and updated with permanent and higher quality signs (though without a full audit it is not possible to say if all issues noted in this report have been



addressed). Wheel wells have also been installed at the Calton Road entrance. Furthermore dual-level cycle parking has recently been installed next to Platform 19, which is much more central to the main part of the station than the previous cycle parking. The cycle parking near Platform 3 has seen the addition of a bicycle service station which includes tools and a pump available for free use. This is complemented by a bi-weekly 'Bike Lov-in' mini bicycle service by Grease Monkey Cycles which runs from 4pm–7pm. These sessions also offer cyclists advice on all things cycle related, from daily and routine maintenance and service care, through to cycling equipment and workshops.



Unfortunately these improvements have been rather overshadowed by the sudden closure to cyclists of the north ramp off Waverley Bridge. This has raised a significant amount of anger and ill-will amongst local cyclists, spearheaded by the local cycling organisation Spokes who have called the incident “appalling” and now refer to the station as ‘Fortress Waverley’. Network Rail had designated the carriageway of this ramp as the only cycle route into the station. This was confusing for a number of reasons detailed within this report and coincided with banning bicycles from the south ramp (which had previously been used by cyclists). As cyclists were finally adjusting to this change, on 2 June 2014 Network Rail closed the station to all vehicles including bicycles with no warning. So now cyclists are forced to squeeze onto the very narrow pavements on the ramps, while the carriageways are sitting empty and barricaded. There is insufficient width on the pavement for pedestrians with luggage to pass each other, let alone cyclists walking a bicycle. The ramps are the only entrances that allow cyclists to enter without queuing for lifts. This is after the ramps were rebuilt as part of the station refurbishment, and so an opportunity to widen the pavements or create a cycle lane were passed up.

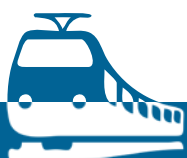
Future Plans

The station managers are keen to host a cycle hub at Waverley and are in discussion with potential partners for this initiative. They are also considering the introduction of short-term parking spaces for bicycles, which would be a very welcome addition as this would likely be the first instance of such a facility in Scottish stations and ports. In terms of other organisations with responsibility around Waverley, the City of Edinburgh Council is currently redeveloping Market Street with traffic calming measures, which should provide a better stop and dismount area for cyclists using the Market Street entrance. And APCOA, who manage the station car park, have been tasked with improving the signage for the cycle racks in the New Street car park.

Conclusions

Waverley is a complex station, and the recent refurbishment has seen the installation of many lifts, improving access for cyclists. However, wheel wells should also have been installed on the stairways to reduce congestion around the small lifts, and hopefully they can be retrofitted. Signage needs to be improved both within the station and on its approach, and some of this work has now taken place. The existing cycle parking is well used, and a significant increase is needed, which is currently planned. There are also other recent developments and future plans which are making important improvements for cyclists using Waverley – some of which are unique in Scotland. The one unfortunate development is the recent bicycle ban on the Waverley Bridge ramps into the station. This has made access to the station worse for cyclists and overshadowed many of the positive changes that have been made.

The following sections list the details that were recorded during the audit process. The most common or important details were used to produce the *Audit Summary* section above. The raw data is also available as a separate spreadsheet.





Signage

Approach/Exterior

This section of the audit considered whether signage was adequate for a cyclist approaching the station. The following issues were found:

Waverley Bridge

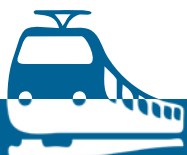
- ▶ There were no cycling or pedestrian signs for Waverley Station when approaching Waverley Bridge along Princes Street from the west. Given that the northern ramp off Waverley Bridge was the main cycle entrance and that the right turn off Princes Street involves being in the right lane of a heavily trafficked road and crossing tram tracks, plenty of warning is required with clear and visible signage.
- ▶ The northern ramp off Waverley Bridge had a dedicated cycle route sign, but it was not highly visible from the road and so was potentially dangerous, given the traffic levels on the bridge. There was only signage for those approaching from the north, so those coming from the south would not have a clear indication of where to enter, other than that they could not use the southern ramp. The ink on the north facing sign had run due to rain which made it difficult to read. (Note: this has now all changed, please see the above Audit Summary for an update on this entrance.)
- ▶ The southern ramp off Waverley Bridge had the main railway station sign but was not an entrance cyclists were allowed to use. This was not ideal given that the level of traffic on Waverley Bridge required a cyclist to be very focused – having the main sign as a non-cyclist entrance was confusing.

Princes Street/Waverley Steps

- ▶ The signage for the Princes Street/Waverley Steps entrance was missing or inconsistent on the approaches from North Bridge, Princes Street, and South St David Street (Saint Andrew Square). At one location on Princes Street there was a sign indicating a pedestrian entrance but it was pointing in the wrong direction.

Market Street, Calton Road, and New Street

- ▶ There was no indication that an entrance for bicycles was available on the approaches to the Calton Road or Market Street entrances.
- ▶ There was no indication of what cycling facilities were available for the Calton Road or Market Street entrances.
- ▶ There was no indication of the cycle parking or access through the New Street Car Park.



Entrance

This section of the audit considered the signage that was visible immediately upon entering the station. The following issues were found:

Waverley Bridge

- ▶ There was no 'cyclist dismount' or 'no cycling in station' sign at the bottom of the northern ramp off Waverley Bridge, which was the main cycle entrance.

Princes Street/Waverley Steps

- ▶ At the Princes Street/Waverley Steps entrance, there was a sign for the lifts, but nothing specific aimed at cyclists indicating whether they needed to dismount on the approach to the lifts or when arriving at the footbridge.
- ▶ There were no cycle parking signs when getting out of the lift from the Princes Street/Waverley Steps entrance, so it was not clear where a cyclist should go from this point.

Market Street

- ▶ There was no clear indication as to whether cycling was prohibited in the station when entering from Market Street.

Calton Road

- ▶ Neither of the Calton Road entrances indicated that they were an appropriate entry point for cyclists, or that a lift was available. (Although there was an 'Accessible' sign at the pedestrian drop-off area.)

New Street Car Park

- ▶ Upon entering the New Street Car Park, there was a cycle parking sign at the entrance, but then no indication of how cyclists should enter. This was a problem given that a cyclist would struggle to go through the car entrance gates and so this leaves the (clearly marked) pedestrian entrance and pathway, which gave no indication as to whether it was a shared space for bicycles. Finally, even if a cyclist were to use this entrance, it was then not clear where to go after entering.

Route to Parking and Platforms

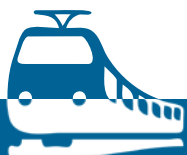
This section of the audit looked at whether the routes from the entrance to the cycle parking or platforms was clearly and consistently signed for cyclists. The following issues were found:

From Princes Street/Waverley Steps

- ▶ On the northern end of the footbridge (at the base of the Princes Street lifts and Waverley Steps), there was no sign for the lift to get down to the main concourse from this entrance. There were signs for lifts to Platforms 1, 8, 9, 10, and 20 (implying that there were no lifts for the concourse and other platforms).

From Market Street

- ▶ On the footbridge at the base of the steps, there was no indication that cycle parking was available or how one would get there.
- ▶ There was no sign indicating that cycling was not allowed in the station on the footbridge.
- ▶ When exiting the lift from the south end of the footbridge (near Platform 11), there was no sign to indicate how to get to the concourse or the availability of cycle parking.



From Calton Road

- ▶ When entering from Calton Road, the first indication that cycling was not allowed in the station was on exit from the lift at Platform 2.
- ▶ When exiting the Platform 2 lift from the Calton Road footbridge, there was no signage indicating where to go for cycle parking.

New Street Car Park

- ▶ There were a lack of signs to the underground bicycle parking in New Street Car Park (which provides 32 spaces).
- ▶ There were no signs notifying cyclists of the lift in the New Street Car Park to get to the level for station access. There was, however, a ramp should a cyclist decide to get back on their bike after entering the car park.

Main Concourse

- ▶ The only indication of the location of the cycle parking in the main concourse was a sign (featuring very small text) hanging from the roof above the pasty shop.
- ▶ At the ticket barrier to Platforms 12–18, there was a bicycle sign on the wide gates on the northern end, but not on the wide gates on the southern end.

On Platforms

This section of the audit looked at whether the platforms were well signed for both departing and arriving cyclists. The following issues were found:

- ▶ The platforms lacked signs informing a cyclist where to stand in order to be near a carriage or guard's van that would hold their bicycle. This would be particularly important on long trains such as the East Coast and Virgin Trains to London where cycle carriage was provided in the guard's van at one end of the train.
- ▶ On Platform 8e, the lift sign was difficult to see.
- ▶ Platform 11 did not have a sign indicating where to exit.
- ▶ The lift sign on Platform 20 was hidden and difficult to see. It might be worthwhile to paint a 'LIFT' sign on the platform with directional arrows.

Cycle Parking

Entrance

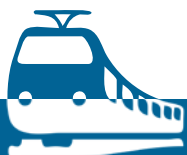
This section considered whether suitable cycle parking was provided at the station entrances. The following issue was found:

- ▶ The Calton Road passenger drop off entrance did not have any cycle parking but there was plenty of space where it could be provided.

In Station

This section considered whether suitable cycle parking was provided inside the station. The following issues were found:

- ▶ Platform 11 could potentially have cycle parking, as it appeared to have the space for this.
- ▶ Near Platform 2 there was a two level cycle rack with 37 spaces. However, on the day the audit, only two spaces were empty. This would suggest that more cycle parking should be provided as soon as possible.



- ▶ Near Platform 3 there was another two level cycle rack with 20 spaces. However only one space was free and so more should be provided.
- ▶ Near Platform 3 were some Sheffield stands, however more should be provided as only two spaces were free.
- ▶ The Sheffield stands near Platform 3 were too close together, varying from 35cm–45cm apart. At this width, there is not enough space for bicycles to be secured to both sides of the stand.
- ▶ The Sheffield stands near Platform 3 were not bolted down.
- ▶ None of the cycle parking was located conveniently for people accessing it from the front of the station.
- ▶ A rail for left locks should be provided next to each group of cycle parking racks, which prevents large locks being left on the stands themselves.



Suitable Routes

Entrance

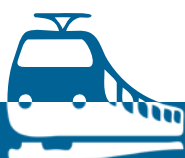
This section of the audit considered whether there was a clear and unobstructed path through the entrances for people arriving with a bicycle. The following issues were found:

Waverley Bridge

- ▶ There was concern that the cycle lane on the northern ramp entrance off Waverley Bridge was too narrow in places. [NB: Please see the Developments Following the Interchange Audit section above as the situation here has changed significantly.]
In one part of the route, there was only 97cm through which to navigate and in another it was only 120cm wide. Government and cycling organisations recommend cycle lane width to be ideally 200cm with a minimum of 150cm. The metal bollards next to the gate were very high and quite close together and so some handlebars may only just fit through.
- ▶ Due to the bollards on the Waverley Bridge northern ramp entrance, there was potential for a bottleneck at peak times.

Princes Street/Waverley Steps

- ▶ There was no safe stopping point for cyclists outside the Waverley Steps entrance, which had high levels of traffic and parked vehicles.



Market Street

- ▶ Outside the Market Street entrance, there was no area to pull out of traffic, stop, and dismount safely.
- ▶ During busy times, the bollards at the Market Street entrance made entering the station tricky with the large number of pedestrians entering and exiting, some with significant amounts of luggage.

Calton Road

- ▶ The passenger drop off entrance off Calton Road included a drop kerb, but it was in the middle of the area where car passengers were dropped off. It was unclear if cyclists are meant to ride up it.
- ▶ The lift for the Calton Road passenger drop off had a tight turn to get out, as the doors were perpendicular to each other.

New Street Car Park

- ▶ Although the entrance to New Street Car Park had a sign for cycle parking, there was a barrier which it was not possible for a cyclist to get around. The cyclist was then stuck in the middle of the roadway and had to dismount and walk over to the pedestrian entrance.

Route to Parking and Platforms

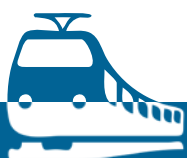
This section of the audit looked at whether the routes from the entrances to the cycle parking or platforms were clear, unobstructed, and easy to manoeuvre for cyclists. Once in the main concourse, there was plenty of space and it was easy to manoeuvre a bicycle. However, the following issues were found on the route to the main concourse or side platforms:

General

- ▶ The lift from the footbridge to Platforms 1 & 20 was quite small for a bike, measuring 145cm x 150cm.
- ▶ The lift from the footbridge down to Platform 10 was very small (147cm x 90cm) and had a narrow door (80cm), so a cyclist could not easily share the lift with people with luggage or another cyclist. This lift did at least have doors opposite each other so that it was not necessary to back out or turn the bike around when exiting.
- ▶ None of the stairs in the station had wheel wells; although every stair had an accompanying lift. It is often quicker for a cyclist to use a wheel well, especially when multiple cyclists are travelling together or a long distance train arrives and many passengers with lots of luggage disembark. Wheel wells would also mitigate the problems of the small lifts at the northern end of the footbridge and for Platform 10.

New Street Car Park

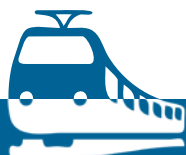
- ▶ The New Street Car Park lift was only large enough for one bike, measuring 160cm x 160cm. However, once at ground level there were assisted doors for leaving the covered parking area to go outside to parking or the station.
- ▶ The pedestrian pathway to the station entrance, through the outside level of New Street Car Park, had sections of raised pavement which did not have drop kerbs. Due to the obstructed car park entrance and unclear signage, it was likely that a cyclist would be using the pedestrian pathway.



Facilities

This section of the audit considered how easy it was to use the station facilities. The results were as follows:

- ▶ It was not possible to enter *Boots* with a bicycle. Staff suggested bicycles could be locked to the benches or railing outside the shop. It was possible to enter WH Smith with bicycle. The food, information, and currency kiosks in the station could easily be accessed with a bicycle.
- ▶ A bicycle could be taken into the main ticket offices (in the old booking hall) and leant against the wall.
- ▶ It was not possible to take bikes into the toilets, but they could be left inside the barrier which had an attendant and CCTV present.
- ▶ The shops in the old booking hall could not be accessed with a bicycle and there was no temporary parking nearby.
- ▶ All station cash points were easily accessible with a bicycle.
- ▶ The shops and station reception parallel with Platform 2 were not accessible with a bicycle and there was no temporary parking nearby.
- ▶ It was easy to take a bicycle into the ScotRail ticket office on Platform 14 to collect timetables or buy tickets.





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About Transform Scotland

Transform Scotland campaigns for a society where everyone can have their travel needs met within the limits of a transport system that is environmentally sustainable, socially inclusive and economically responsible.



We are the only organisation in Scotland making the case for sustainable transport across all modes. We have a membership of over 60 organisations across Scotland, including public transport operators, local authorities and sustainable transport voluntary organisations. Transform Scotland is a registered charity, politically independent, science-based and strictly not-for-profit.

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