

Route RV1

Review of Usage and Service Planning
September 2018

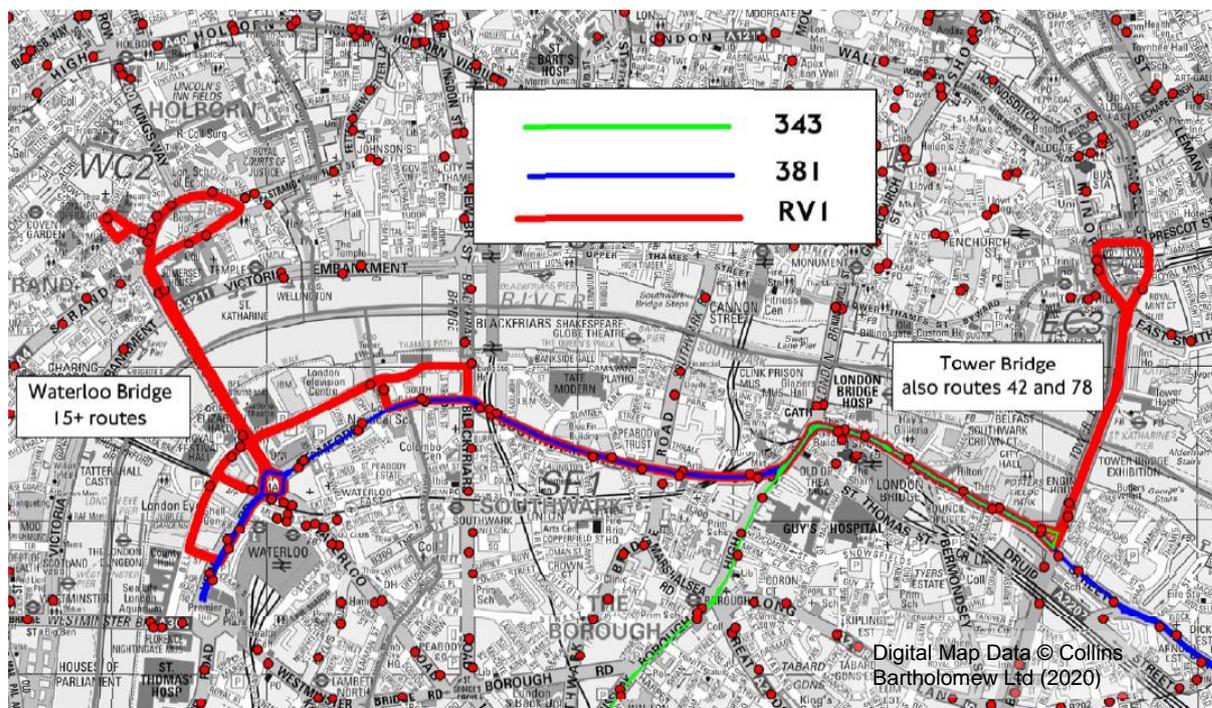
Route RV1 – Review of Usage and Planning

1. Introduction

1.1. Route RV1 runs between Covent Garden and Tower Gateway via Waterloo, South Bank, and Tower Bridge. Over the last few years usage has fallen. As a result, we reduced its frequency in February 2018, and committed to carrying out a review after six months of how usage had changed. In addition the route has been reviewed in detail as part of the wider study covering routes in inner London. This report covers the context of the route and the outcome of the reviews.

2. Background

- 2.1. Route RV1 (“Riverside 1”) was introduced in 2002 with initial funding from local employers groups, linking various destination on the South Bank with Covent Garden and the Tower, running every 10 minutes every day of the week.
- 2.2. The RV1 is paralleled between York Road, Waterloo and Tower Bridge by route 381 (City Hall – Peckham) which runs every 10 to 12 minutes, though the RV1 runs on Upper Ground between Waterloo and Blackfriars Road rather than Stamford Street which is a short walk away.
- 2.3. The 343 (City Hall – New Cross) parallels the RV1 between London and Tower Bridges. It runs every 8 to 10 minutes. Map 1 below shows the three routes in central London.



Map 1. Route RV1 and parallel routes 343 and 381.

- 2.4. Over Waterloo Bridge the RV1 is paralleled by 16 routes (during the peaks) with a combined peak frequency of over 120 buses per hour. On Tower Bridge there are two parallel routes, the 42 and 78, with a combined frequency of 12 buses per hour. Route 15 directly links Aldwych / Strand with the Tower of London / Tower Gateway – the two extremities of the RV1 – running via Fleet Street and St Paul’s.
- 2.5. In 2010 Hydrogen fuel cell vehicles were introduced on the RV1 with most journeys operated using these zero-emission single deck buses.
- 2.6. Usage of the route peaked in 2008 and has been generally falling since though with a brief recovery during 2013. Sections of the route have been subject to road works leading to diversions and delays, most notably for the rebuilding of London Bridge Station and associated works in the area which started in 2009 and have just been completed; these delays impacted on the ridership.
- 2.7. This decrease in usage became more pronounced in 2014 when traffic speeds started falling in central London, mainly due to roadworks. Following an initial review, the frequency of the service reduced on Saturday 10 February 2018 from every 10 minutes to every 20 minutes on all days of the week.
- 2.8. The long-term usage trend is shown in figure 1 which shows 4-week periodic boardings since shortly after the routes introduction in 2002. (4-week periods start on 1 April each year). Detailed analysis of trends is in section 4 below. The falls on the RV1 were to a greater degree than parallel routes.

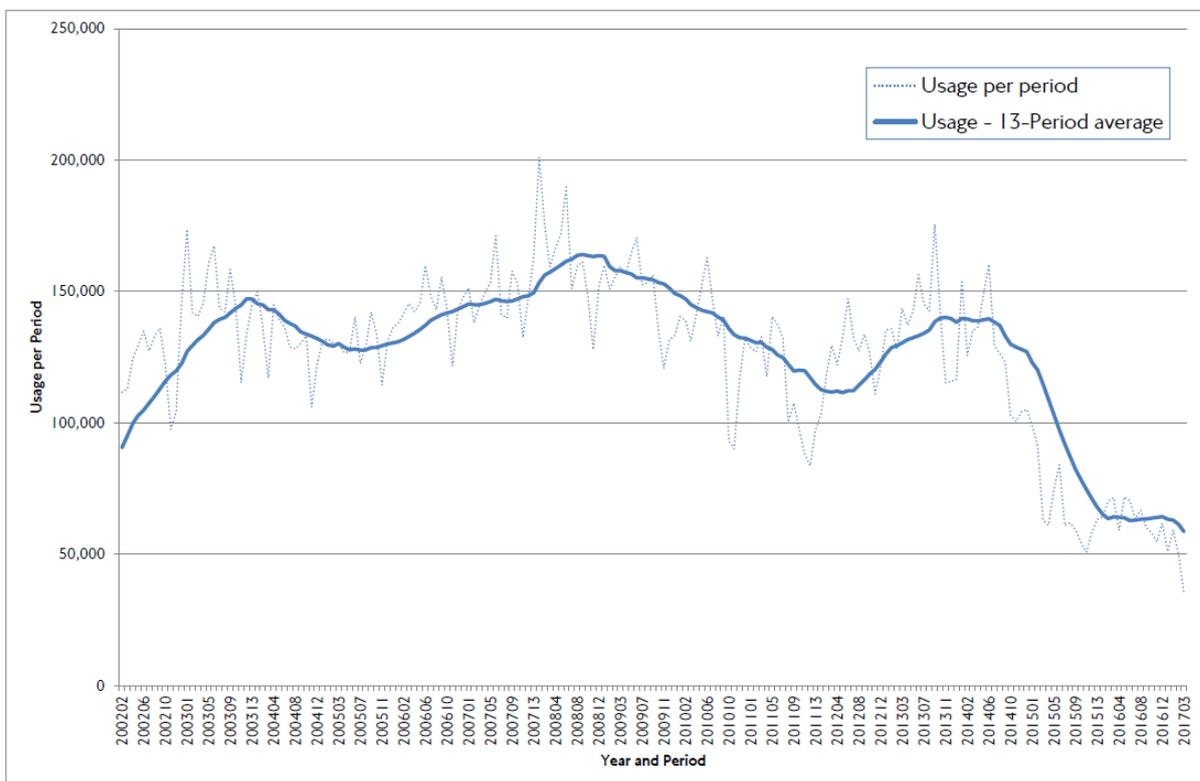


Figure 1 – RV1 long-term ridership trend by period (2002 to 2018)

3. Central London Bus Review

- 3.1. In inner London, changes in the way customers use the network and new rail capacity means that excess bus capacity can be removed without affecting customer journey times overall. Plans have been drawn up to remove this excess capacity and over-bussing by simplifying the network which will reduce inner London bus kilometres by 9 per cent, though it is planned to recycle this capacity to expand services in other areas to support growth and improve connectivity, in particular in outer London.
- 3.2. The inner London changes will further simplify the network, improving journey times and reducing bus congestion and emissions. As part of these changes a review of routes was undertaken in inner south east London along the roads leading to Blackfriars and London Bridges. This identified over bussing on the Blackfriars Road / Farringdon Road and Newington Causeway – Borough High Street corridors.
- 3.3. To address this, changes are proposed to routes 40, 45 and 388 to better match capacity to demand on these corridors. Also as part of this package frequencies would be increased on route 35 and an additional journey introduced on route 46 to maintain capacity where required. These changes are part of the consultation on inner London routes to be launched on 28 September 2018.
- 3.4. In addition, it is proposed that route 343 would be extended to Aldgate over Tower Bridge to maintain links between Elephant and Aldgate lost by diverting the 40.
- 3.5. Extending the 343 to Aldgate from City Hall would also duplicate many of the links provided by the eastern section of route RV1, and so the RV1 was also included in the inner London review. It was concluded that it would be worthwhile to withdraw the RV1 but to wait until this six month review of usage was carried out before confirming the proposal for consultation.
- 3.6. An equalities impact assessment is being carried out for the inner London changes, including for the RV1 withdrawal. The potential adverse impact on equality groups (based on interchange criteria) has been assessed as “low” as all journeys can still be made with a simple interchange.

4. Review of recent RV1 Usage

- 4.1. Figure 2 shows usage by week to the RV1 from 2 January 2016 to the most recent week where there is data available ending 10 August 2018. It has fallen from about 25,000 customer boardings per week in March 2016 to about 17,000 per week during the summer of 2017. The recorded usage during the 2017/18 financial year was 817,880 boardings.

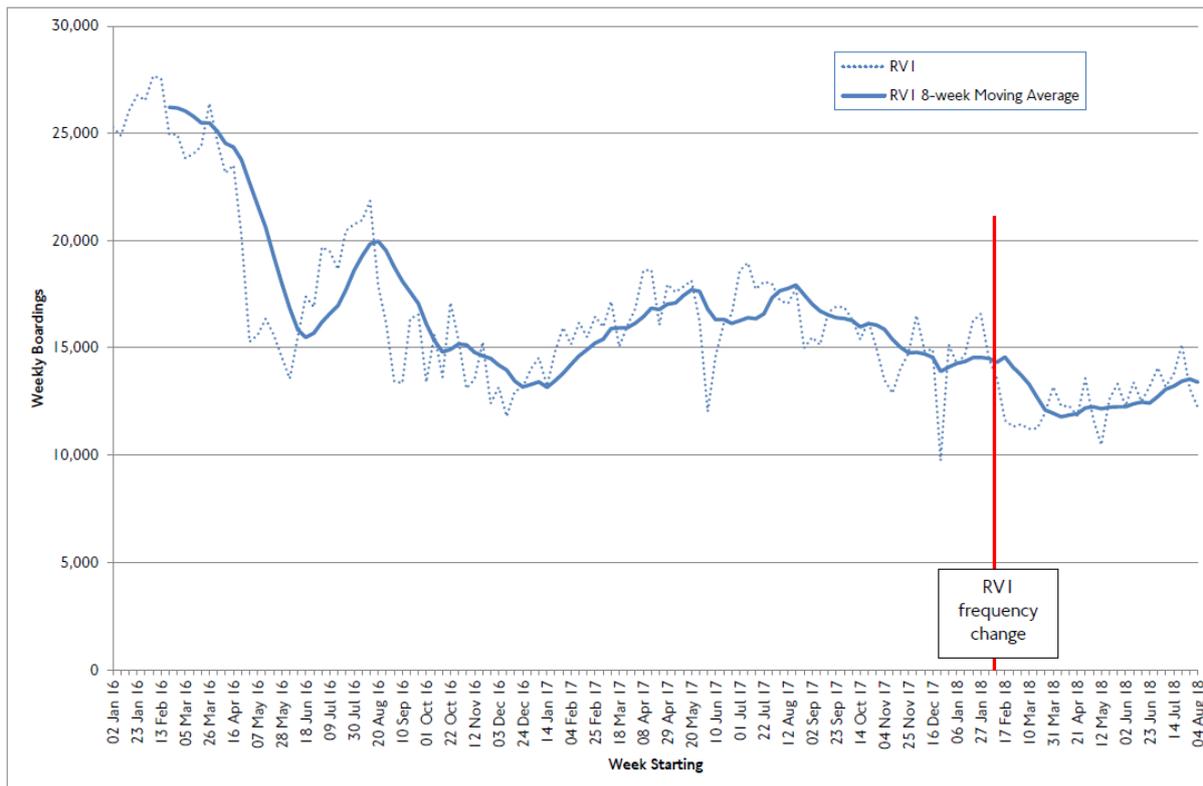


Figure 2– RV1 Weekly usage since January 2016.

- 4.2. Following the frequency reduction in February 2018 usage initially fell to about 11,000 per week and has stabilised to about 12,000 to 13,000 per week during summer 2018. This averages out on a daily basis at about 1,360 boardings on Sundays, 1,550 on Monday to Wednesdays, 1,640 on Thursdays and Saturdays, and peaking at 1,830 on Fridays.
- 4.3. The main concentrations of ridership on the RV1 are between Waterloo and City Hall with 58 per cent of passengers travelling between various stops on that stretch. The other main group is passengers between London Bridge and stops towards the Tower covering about 28 per cent of customers who use the route. About 7 per cent of users travel end to end or almost, that is between the Covent Garden / Aldwych and Tower Bridge / Tower Gateway areas, even though route 15 connects these locations and is much faster for these journeys.
- 4.4. Currently the busiest point on the route in the eastbound direction in the morning peak is on Tooley Street where there is an average load of about 15 customers per bus. Eastbound in the evening peak the busiest point is on Southwark Street by Southwark Bridge Road where there is an average load of about 20 customers per bus. This is in comparison to the capacity of the bus which is about 50 customers.
- 4.5. In the westbound direction the busiest point in the morning peak is on Southwark Street at the Hop Exchange with about 15 customers per bus. In the evening peak the busiest point is on Southwark Street by Blackfriars Road where there is an average load of about 35 passengers per bus.

- 4.6. Figure 3 shows year on year changes by 4 week period compared to the financial year before, up to period 4 2018 which ended on 20 July 2018. This shows that during the summer of 2017 usage on routes 343 and 381 was generally stable or had small growth, whilst usage on the RV1 continued to fall. All routes had a slight recovery in periods in autumn 2017.
- 4.7. Usage of the RV1 is now running at about 70 per cent of the previous year. The forecast for the change in usage following the frequency decrease was about 60 per cent of previous levels but it takes about a year for full effects to be realised, so the change is in line with forecast decrease in usage on the route.

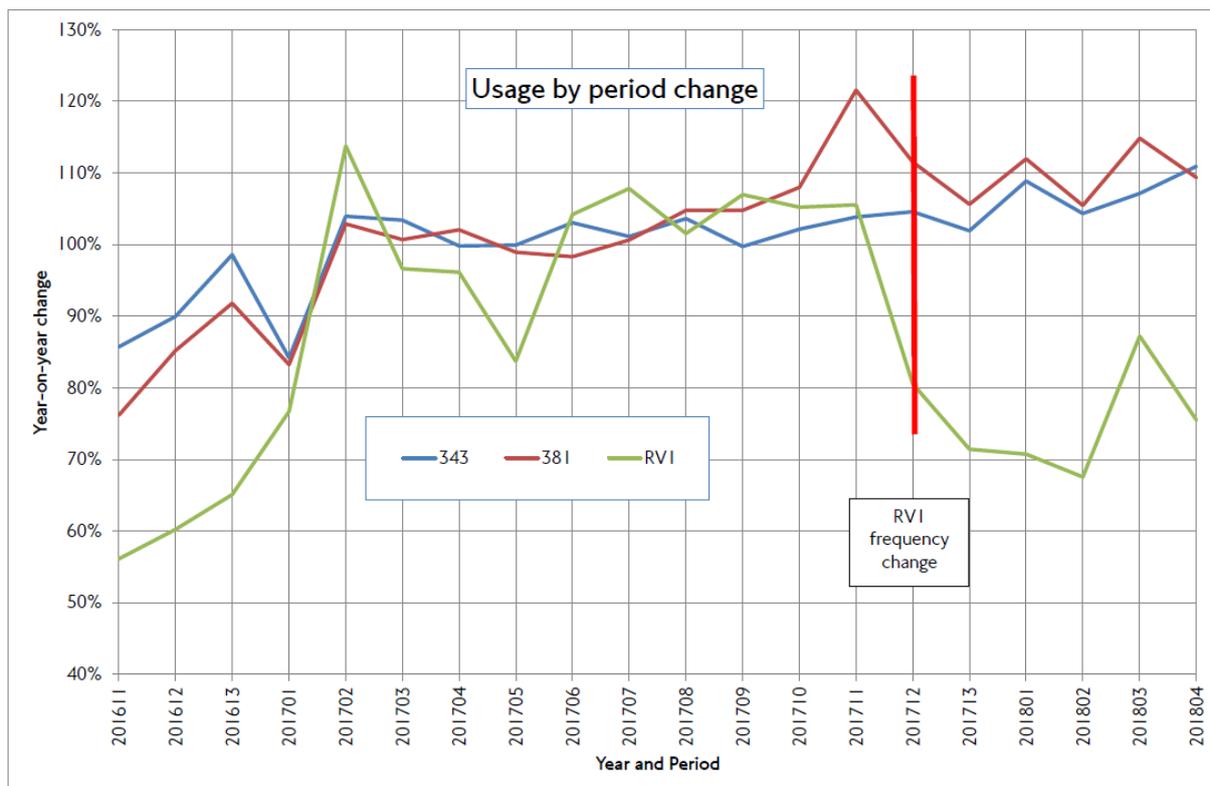


Figure 3 Year-on-year change by period for RV1 and parallel routes

5. Costs and Revenue

- 5.1. The total cost of operating the RV1 is about £3.3 million per year. Fares revenue is about £650,000 per year, meaning there is a subsidy of £2.6 million a year for the route, about £3.23 for each customer journey. The route has a cost recovery ratio (CRR) of 20 per cent; for reference the CRR of the network as a whole is about 74 per cent, and for route 381 is 63 per cent. There is a premium cost to operating the RV1, given the use of hydrogen buses, but even when that is taken into account, the cost recovery would still be as low as 24 per cent.

6. Reliability

- 6.1. The RV1 has operated reliably since the frequency reduction, achieving 85.6 per cent of buses on-time departures against its current minimum standard of 78 per cent on-time for the latest quarter (quarter 1 2018/19)

7. Service Planning

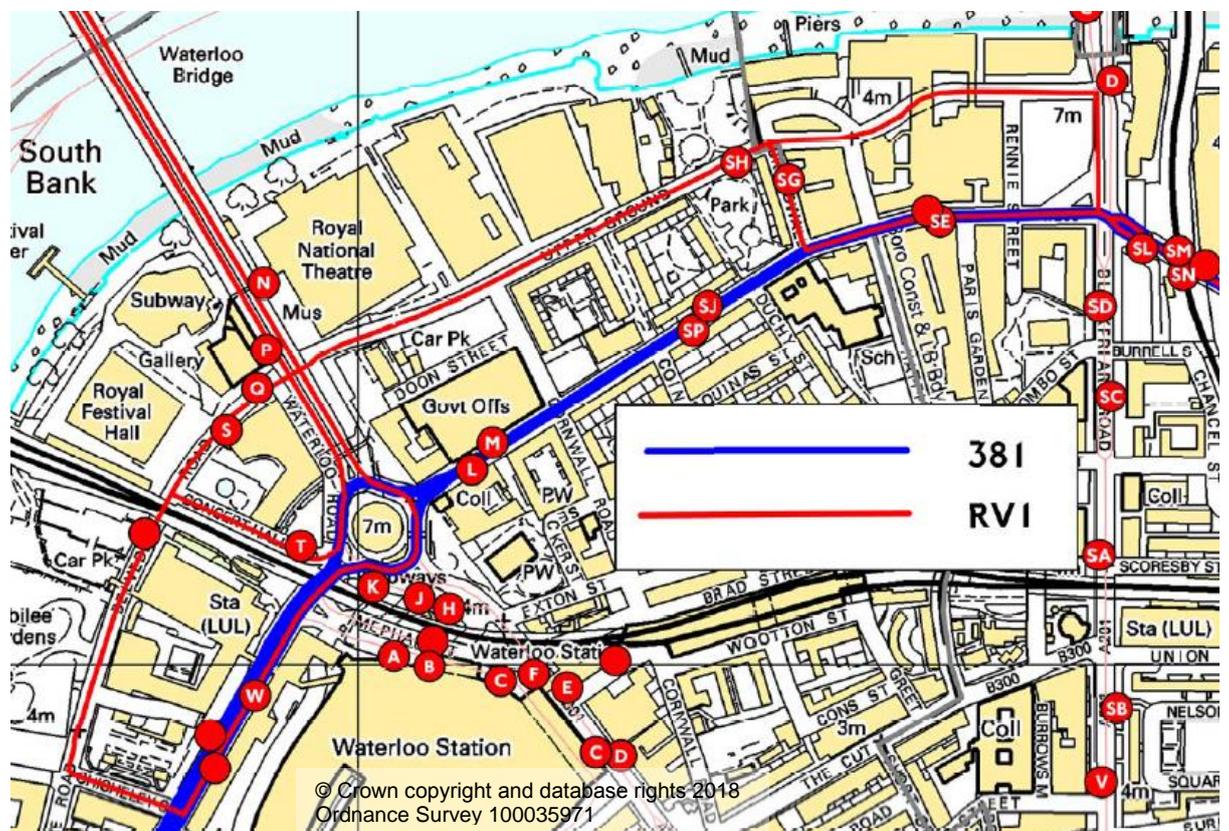
- 7.1. The review of Central London bus services recommends that given its relatively poor value for money, low use, and the coverage of other routes in the area it would be worthwhile to withdraw the RV1.
- 7.2. The business case for the withdrawal of the RV1 includes costs and benefits for all routes in the Blackfriars and London Bridges package. Overall the package would save £3.7m a year in operating costs. There is an estimated loss in revenue of about £1.6m per year, as it is anticipated that some passengers will be disinclined to travel due to the loss of some links. There would be loss of passenger benefits because of some increased journey times due to passengers needing to change buses and having two sets of waiting times. This has been monetised at an estimated £4.0 million per year.
- 7.3. This gives an overall saving of £2.1 million per year. The savings made from withdrawing the RV1 will enable resource to be spent on much needed schemes in outer London where there is growth.
- 7.4. The main direct journeys that would be broken by this withdrawal would be between the London Bridge Station / Tooley Street area and the Tower of London area. The proposal to extend route 343 (currently terminating at City Hall) northwards over Tower Bridge to Aldgate Bus Station would retain these. The 343 would also run north of the RV1's current terminal at Tower Gateway and so give new journey opportunities from the Tooley Street area. The 343 runs every 8 to 10 minutes compares to the RV1's 20 minute frequency.
- 7.5. As mentioned above there are currently three services which run parallel on significant stretches of the RV1 and a number of others on shorter sections. All these have sufficient capacity to take customers displaced from the RV1

8. Interchange and Accessibility

- 8.1. The withdrawal of the route will result in more passengers changing buses. The "Hopper" fare means that there will be no financial disadvantage, but it will affect accessibility of users from stops currently served. The three services which currently run parallel on significant stretches of the RV1 and a number of others on shorter sections will maintain many through links. In addition the Jubilee line provides another step-free option between Waterloo, Southwark and London Bridge.
- 8.2. Including the extension of the 343 to Aldgate Bus Station, withdrawing route RV1 would result in approximately 600 customers per day having to change

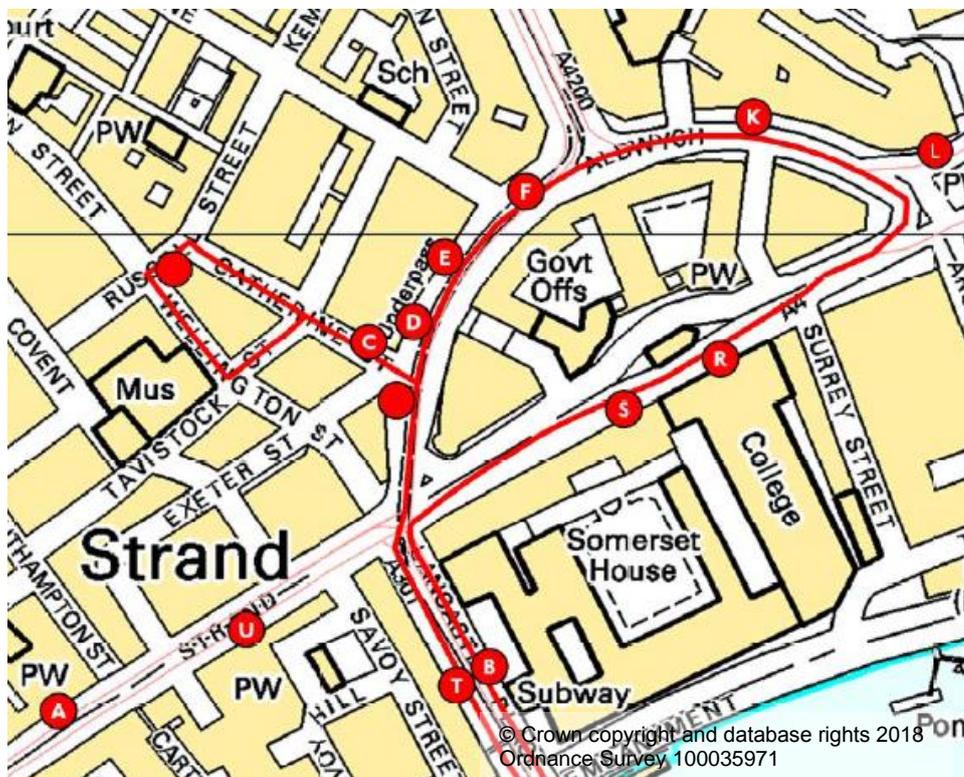
buses, about 40 per cent of the current usage of the route. This does not include approximately 330 trips which are within 400 metres of stops on the remaining bus network at Covent Garden, Upper Ground, Belvedere Road and Chicheley Street.

- 8.3. Customers between the Aldwych area and the South Bank would change buses in the Waterloo area by walking to and from stops on Stamford Street (route 381) and Waterloo Bridge or Waterloo Roundabout (the many routes on Waterloo Bridge). However this is the main place where interchange between buses is lengthier with walks of up to 400m (about five minutes). There is direct access from Waterloo Bridge to the South Bank itself but this is using steps, otherwise passengers would need to use ramped access or surface crossings around the IMAX roundabout using stops at the south, however even in this case the distance is below 400 metres.
- 8.4. The RV1 has a looped routing in the Waterloo area to get between Waterloo Bridge south side stops (N, P) and Royal Festival Hall stops (Q, S). Buses take up to seven minutes to travel between them, particularly eastbound, even though the stops are very close, albeit on different levels. Therefore there will be little impact to overall journey times by changing and making this interchange. Map 2 shows the RV1 routing and stops on the South Bank.
- 8.5. About 320 passengers a day now would need to change buses additionally here. The proposed scheme to peninsularise the IMAX roundabout will improve waking and crossing facilities in the area.



Map 2 – showing routes RV 1 and 381 in the Upper Ground and Stamford Street area

- 8.6. Customers between the South Bank and the Tower would change buses in the London Bridge area between routes 381 and 343. These would be at the same stop and would be straight forward between the two high frequency routes.
- 8.7. The only section of road where the RV1 runs exclusively are Belvedere Road and Upper Ground on the South Bank, and in Covent Garden where it serves stops in Russell Street (set down only) and Catherine Street (first and last stop). Map 2 above shows affected stops on the South Bank
- 8.8. On the South Bank all current stops served by the RV1 on are within three minutes' walk (200 metres) of stops on Stamford Street and York Road; see map 2 for location of stops. There is good permeability of the street pattern between Stamford Street and Upper Ground, and Belvedere Road and York Road with a number of walking routes including Coin Street, Cornwall Road and Concert Hall Approach.
- 8.9. Because of the configuration of the highway there is only one pair of stops on Upper Ground itself, near the Oxo Tower. On weekdays the stops by the Royal Festival Hall (Q and S) are used by about 60 customers boarding per day, those stops by the Oxo Tower (SH and SG) by about 30 customers boarding per day. Boardings are slightly higher on Saturdays at the Royal Festival Hall stop at about 140 per day. There is spare capacity on route 381 on Southwark Street and Stamford Street to accommodate passengers from route RV1.



Map 3 Stops for RV1 in the Covent Garden / Aldwych area

- 8.10. The stops in Covent Garden are a short 100 metres walk from northbound stops on Aldwych (D, E, and F), but a little further, about 350 metres from southbound stops on the Strand (S) or Lancaster Place (B). The latter includes crossing the road at the Strand / Lancaster Place junction. About 90 customers a day board at these stops going south and 150 alight going north so the main flow is less disadvantaged. See map 3 for locations of stops.

9. Conclusions

- 9.1. Customer usage on route RV1 has stabilised since the frequency reduction in February 2018, however it has not improved and is still running at historically low levels. The route has poor cost recovery and is largely paralleled by other services. It does provide some unique links within central London to and from the South Bank but numbers making these journeys are just a few hundreds per day. The proposed reshaping of the inner London bus network will further duplicate some of these links.

10. Recommendations

- 10.1. It is recommended that the RV1 is withdrawn.
- 10.2. Any changes would be subject to full public and stakeholder consultation. It is therefore recommended that the consultation for the RV1 change is included within the forthcoming consultation and engagement on central London bus service proposals. The main detrimental impact of the withdrawal of route RV1 will be on customers travelling between the Covent Garden / Aldwych and South Bank areas and these customers will be changing between stops in the Waterloo area. For some customers this could involve up to a five minute walk, including crossing roads, to change bus.
- 10.3. Due to the circuitous routing of the RV1, customers' overall journey times would not be adversely impacted. Other places where customers would now need to change would be between buses at the same stop.
- 10.4. If approved the RV1 would be withdrawn in 2019 in advance of its contract end date of March 2020.