

FAREHAM

BOROUGH COUNCIL

Report to Streetscene Scrutiny Panel

Date 28 January 2021

Report of: Head of Streetscene

Subject: KERBSIDE GLASS COLLECTION STUDY

SUMMARY

The members of the Panel are invited to scrutinise the report which outlines the results of study considering a kerbside glass collection service in Fareham.

RECOMMENDATION

It is recommended that the Panel scrutinises the information as set out in this report.

INTRODUCTION

1. In Fareham, glass makes up 5.5% of material placed in household residual waste bin. 1,067 tonnes or approximately 35% of household glass waste is not being recycled. If all this glass was sent for recycling it has the potential to improve Fareham's recycling rate by approximately 2%.
2. Fareham currently relies on bring banks to collect household glass for recycling while other local authorities in Hampshire, including Fareham's neighbouring authorities Eastleigh and Winchester, provide kerbside glass collections.
3. Kerbside glass collections provide a convenient service to residents which also increases the amount of glass diverted from the residual waste stream reducing the tonnages of waste sent to the Energy Recovery Facility (ERF).
4. This report provides a summary of two options, with estimated costs, for introducing a kerbside glass collection in Fareham.

BACKGROUND

5. The UK currently recycles around 50% of container glass, however this figure is small compared to other European countries. Glass bottles and jars are some of the most valuable recyclable materials as they are 100% recyclable and can be endlessly reprocessed with no loss of quality.
6. As part of wider cost saving measures, Hampshire County Council (HCC) have announced that they will remove glass banks from their Household Waste and Recycling Centres (HWRC) from April 2021.
7. Last year 348 tonnes of glass were received at Segensworth HWRC. The decision by HCC will make disposing of glass more inconvenient for some residents as they won't be able to recycle their glass when they visit the HWRC.
8. The proposed changes to arrangements for the collection of recyclables at the kerbside, as set out in the government's Resources and Waste Strategy, will impact on glass recycling in the future. The strategy outlines a core set of materials that waste collection authorities will have to collect at the kerbside and glass is listed as one of these materials.
9. The strategy also contains proposals for the introduction of a Deposit Return Scheme (DRS). The DRS offers a financial incentive for people to recycle by adding a small deposit to the price of a beverage when purchased which is then refunded to the consumer when they return the bottle. This would encourage people to recycle their glass bottles via the DRS scheme rather than using glass banks or a kerbside collection. Modelling undertaken suggests that this could reduce the capture of glass at the kerbside by up to 50%.

10. In conjunction with the Resources & Waste Strategy, Hampshire County Council are currently investigating the possibility of building a twin stream Materials Recovery Facility (MRF). Twin stream recycling collections involve collecting fibres (paper and card) separately to containers (plastics, metals and glass). If twin stream collections were introduced it would remove the need for a separate glass collection.
11. The future of recycling in Fareham will depend on both central government guidelines and the level of infrastructure that can be provided by Hampshire County Council. However, these proposals are still under review and are unlikely to be finalised until 2021/22.

CURRENT GLASS COLLECTIONS

12. Currently Fareham collects glass from bring banks located at 35 locations across the Borough. The frequency that bring banks are emptied depends on their location and can range from three times a week to fortnightly.
13. Glass is also collected from 25 blocks of flats and sheltered accommodation sites. They have communal glass bins which are collected at varying frequencies similarly to bring bank sites.
14. Collections are operated by one crew, made up of one driver, one loader and a designated top loading glass collection vehicle. The annual cost of providing these collections is £139,400.
15. For the financial year 2019/20, Fareham collected 1,869 tonnes of glass for recycling. This generated an income of £28,600 for the Council. The net cost of current glass collections is therefore, £110,800.
16. The Council currently receives recycling credits from Hampshire County Council to account for glass diverted from the residual waste stream. In 2019/20 this generated an income of £84,846. Due to Hampshire's cost saving measures, from April 2021 the Council will no longer receive these credits.

GLASS COLLECTIONS IN HAMPSHIRE

17. Glass is collected at the kerbside across eight local authorities in Hampshire. Four of these authorities collect once a month and the other four collect fortnightly. Fareham is among five Hampshire authorities that do not provide kerbside glass collection.
18. Under the current arrangement, Hampshire County Council distributes income generated from the sale of glass between waste collection authorities based on the tonnage they deliver to the Veolia facility.

19. Fareham receives the second lowest income from the sale of glass in Hampshire (£28,600 in 2019/20). The average annual income allocated to authorities in Hampshire, that provide a kerbside glass collection, is £55,127. This is higher than the £31,702 average for authorities that rely on bring banks. There is no significant difference between the average incomes of authorities that provide monthly or fortnightly kerbside collections.
20. The Waste Composition Analysis study conducted by Project Integra, illustrates the impact that glass collections have on the composition of residual waste. On average glass makes up 5.9% of waste placed in residual bins amongst Hampshire authorities that rely on glass bring banks. The average amongst authorities that provide fortnightly glass collections is 3.1% and for those that provide monthly collections is 2.9%.

FORTNIGHTLY GLASS COLLECTIONS

21. Within Hampshire, Hart, Basingstoke and Deane, Rushmoor and Southampton Councils all provide fortnightly kerbside glass collections.
22. The most common method of collection among these authorities is to collect glass simultaneously to dry mixed recycling. Split back Refuse Collection Vehicle (RCV) with two separate compartments with a 65/35 split are used to make collections. The smaller side is used for glass collections and the larger side for dry mixed recycling.
23. Glass is emptied from 40Ltr crates that residents present at the kerbside into a 240L slave bin which is kept on the back of the RCV. Hart and Basingstoke also allow residents to purchase 140L bins to store their glass which are loaded onto the same vehicle. In most properties with communal bins, glass bins are also provided.
24. All the Councils continue to collect glass from bring banks but from a reduced number of sites.
25. Although the Councils have not recorded an exact participation rate for their glass collection scheme, Hart, Basingstoke and Rushmoor Councils estimate it is between 30-40%.

MONTHLY GLASS COLLECTIONS

26. Within Hampshire, Winchester, East Hampshire, New Forest and Eastleigh Councils operate monthly kerbside glass collections.
27. Glass is collected in a very similar way to fortnightly collections with residents presenting 40Ltr crates at the kerbside for collection. These are then emptied into a 240Ltr bin which empties into a standard single bodied RCV.
28. The Councils continue to collect from bring banks but from a reduced number of sites.

FORTNIGHTLY KERBSIDE MODEL

29. The estimated cost of a fortnightly kerbside glass collection in Fareham has been modelled on the assumption that collections would cover all 51,362 households in the Borough. Storage boxes with 40 litre capacity would be issued to all residents.
30. Collections would be made using dedicated RCVs. Three would be required to service the whole Borough fortnightly. Glass would be loaded into 240Ltr bin attached to the bin lifts and then tipped into the vehicle periodically.
31. Residents would also be given the option to purchase a 140Ltr bin in which to store their glass. This would give residents additional capacity should they need it and would make loading large quantities of glass easier for crews.
32. Three crews would be needed to run the service across the Borough, made up of three drivers and six loaders as well as an additional Fitter in the Transport Repair Unit to service and maintain the vehicles.
33. The estimated cost of a kerbside collection, assuming the removal of several glass bring banks, is estimated at £397,956 per year. The cost of glass collection would therefore increase by £287,156 a year.
34. This cost does not include initial start-up expenses. Three Rotopress RCVs (£540,000) would be required as well as glass collection containers for every household, (£260,000).
35. The income generated from the sale of glass would be likely to increase to £50,444 based on the income of Fareham's benchmarking authorities who provide kerbside collections.
36. A summary of the cost implications is contained in Appendix A.

MONTHLY KERBSIDE MODEL

37. Monthly kerbside glass collections would be operated almost identically to fortnightly collections. Residents would have a 40Ltr box in which to store their glass and present monthly for collection. Two dedicated RCVs would be used to carry out collections by loading glass into a 240Ltr bin attached to the vehicle. There would likely be increased demand for 140Ltr glass bins if collections were monthly rather than fortnightly.
38. Two crews would be required to run the service across the Borough, made up of two drivers and four loaders. An additional Fitter would be required in the Transport Repair Unit.

39. The estimated cost of a monthly kerbside collection, assuming the removal of several glass bring banks, is estimated at £260,223 per year. The cost of glass collections would therefore increase by £149,423 a year.
40. The start-up costs are slightly lower for monthly collections as only two Rota Press RCVs (£360,000) would be required as well as glass collection containers for every household, (£260,000).
41. The income generated from the sale of glass would be likely to increase to £50,444, based on the income of Fareham's benchmarking authorities that provide a kerbside collection.
42. A summary of the cost implications is contained in Appendix A.

FORTNIGHTLY OR MONTHLY COLLECTIONS

43. Fortnightly collections provide a more convenient service to residents as glass would only have to be stored for two weeks instead of up to a month. Additionally, the weight of glass that residents and loaders would have to lift would be less. This would improve the safety and efficiency of the service for both residents and operatives.
44. The overall cost of fortnightly collections (£397,956) is significantly higher than the cost of providing monthly collections (£260,223).
45. The tonnages of glass collected by other Hampshire authorities does not appear to be affected by the frequency of kerbside collections. The average annual tonnage of glass collected amongst authorities that provide fortnightly kerbside glass collections is 3,561 and amongst authorities that provide monthly collections it is 3,649.
46. The average amount of glass in the residual waste stream is slightly less amongst authorities that provide a monthly glass collection, 2.9% compared to 3.1% for those who provide fortnightly collections.
47. Therefore, the performance of kerbside glass collections appears to be slightly better among authorities that provide monthly rather than fortnightly collections.
48. Both the monthly and fortnightly kerbside glass collection would increase carbon emissions and therefore increase the Councils carbon footprint although the impact would be less for monthly collection.

VEHICLES

49. There are various vehicle options to consider when designing a glass collection service. These include, standard RCVs, top-loading RCVs and Rotopress RCVs.

50. Standard RCVs can be purchased new for £170,000. When fitted with reinforced floors they can be used to collect glass. However, due to the compacting mechanisms of standard RCVS the payload is reduced to approximately 5 tonnes compared to the usual 11 tonnes.
51. Used RCVs could be considered, these can be purchased for approximately £80,000, however there is no certainty that second hand RCVs would be available as supply is unreliable under normal circumstances and especially so as a result of the Covid-19 pandemic.
52. Top loading RCVs are currently used to collect glass and could be used to operate kerbside collections. However, the current vehicles are very old and unreliable. While the top loading mechanism gives the vehicles a relatively high pay load of approximately nine tonnes, there are health and safety issues to consider. As glass bins are raised so high when lifted into these vehicles usually glass collection crews fence off the loading area when emptying glass bring banks however this would not be practical when operating a kerbside collection service.
53. Rotopress RCVs have cylindrical bodies with a rotating mechanism inside which constantly moves the contents of the vehicle backwards This gives them a high payload of 11 tonnes even when collecting glass. They can be purchased for £180,000.
54. The higher payload of Rotopress RCVs would make them the most efficient vehicle for glass collections as crews would have to make fewer trips to the glass tipping point before the vehicles reach capacity. This would help to reduce the carbon emissions.
55. The Rotopress vehicles have been trialled in Fareham collecting glass from bring bank sites. The trials were successful however the rotating mechanism of the vehicles means that the glass inside becomes powdery. During the trial this glass was accepted by the Veolia glass tipping facility however an investigation would be required to ensure that the facility would accept all Fareham's glass recycling in this form.
56. The noise levels of all the vehicles would need to be investigated further as glass collections would be operating close to residents' homes.

CONCLUSION

57. The introduction of kerbside glass collection would most likely increase the amount of glass Fareham would send for recycling and increase the income it receives for the sale of glass. It would provide a more convenient service for residents and has the potential to improve Fareham's recycling rate by up to 2%.
58. However, the cost of delivering a kerbside service is significantly higher than the current collection from bring banks. If a monthly kerbside collection was introduced the cost of glass collections would increase by £149,423 a year with start-up costs of up to £630,000.
59. Both the monthly and fortnightly kerbside glass collection would increase carbon emissions and therefore increase the Council's carbon footprint.
60. While the income from the sale of glass would increase (estimated £50,444) this would not offset the increase to the cost of service.
61. Glass recycling is likely to change significantly as a result of the government's Resources and Waste Strategy and changes to the recycling infrastructure provided by Hampshire County Council.

Appendices:

Appendix A - Cost Breakdown of Glass Collection Options

Appendix B – Comparison of Fareham's service compared to other Hampshire Authorities.

Background Papers:

None

Reference Papers:

None

Enquiries: For further information please contact Mark Bowler (Ext. 4420)

Appendix A

Cost of Glass Options

Breakdown Collection

	Current Bring Bank Collection			Fortnightly Kerbside Glass Collections			Monthly Kerbside Glass Collections		
Revenue									
Costs									
Drivers	x1	£33,000		x3	£99,000		x2	£66,000	
Loaders	x1	£26,500		x6	£159,400		x4	£106,000	
Fitter	x1	£38,400		x1	£38,400		x1	£38,400	
Overtime		£4,000			£12,000			£8,000	
Agency		£5,000	<i>£100,600</i>		£30,000	<i>£319,700</i>		£20,000	<i>£213,133</i>
TRU		£17,500			£56,500			£36,667	
Fuel Costs		£10,000			£43,500			£29,000	
Equipment		£5,000			£10,000			£6,600	
Total Expenditure		£139,400			£448,400			£310,667	
Income		£28,600			£50,444			£50,444	
Outcome		£110,800			£397,956			£260,223	

Appendix B

Comparison of Fareham's Service Compared to other Hampshire Authorities

	Fareham	Fortnightly Collections	Monthly Collections	Other authorities with no kerbside glass collection
Average Annual Tonnage	1,869	3,561	3,649	2,119
Average % glass in residual waste stream	5.5	3.1	2.9	5.9