



# Exeter Comingled and Kerbside Recycling Services Comparison

Report for Exeter City Council

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# Exeter Waste and Recycling Services Review

Report for Exeter City Council

## Contents

- 1 Summary ..... 1
- 2 Purpose ..... 2
- 3 Changing Habits after Covid 19 Pandemic ..... 3
- 4 Recycling Schemes for Comparison..... 4
- 5. Impact on Materials Reclamation Facility ..... 9
- 6. Deposit Return Scheme..... 11
- 7. Scheme Mobilisation..... 11
- 8. Comparison Tables..... 13
- 9 Recommendations..... 17

# 1 Summary

## 1.1 The Comingled and Kerbside Sort Comparison

- 1.1.1 The aim of this report is to provide a comparison review of the Exeter City Council Waste and Recycling Services and previously proposed kerbside sort scheme.
- 1.1.2 Exeter was once the leading Authority in the South West for recycling performance. However over recent years other council's recycling performances have improved, leaving Exeter needing to implement improvements in order to achieve its previous aspirations as a leader in the industry and a centre of excellence.
- 1.1.3 To achieve this aim, there is a need to increase recycling levels and improve the quality of recycling materials collected.
- 1.1.4 A large area for improvement is the need to introduce residential glass and food waste collections which could increase the performance percentages by as much as 50% of residual waste collected.
- 1.1.5 This may require a change in the way recyclable materials are presented and collected; either as a kerbside sort system, where the resident sorts the materials in to separate fractions prior to presentation at the kerbside, or as an extension of the current fortnightly comingled recyclate collection including a separate glass collection along with a weekly food waste collection service.
- 1.1.6 The first question to ask is "What are we trying to achieve?"
- The aim is to achieve the most cost effective and easiest to use recycling and waste collection system which meets the needs of the resident.
  - By introducing a Kerbside Sort system with the collection of 5 different types of materials, are we looking to introduce a different system to increase the quality of the collected materials with the provision of a Waste Transfer Station; in which case, will the householder throw the remaining recyclate no longer wanted in to the refuse bin. Giving a new meaning to the Waste Hierarchy "*Reduce, Reuse Recycle and if its not wanted throw it in the bin!!!*"
  - Or are we looking to highlight the importance of the comingled collection system as the preferred scheme for Exeter City, continuing the collection of all materials

presented for recycling, in which case, the Authority needs to recognise the importance of investment in the Materials Recycling Facility or give consideration to potential partnering opportunities in order to maintain the provision of a future proof operation.

- 1.1.7 To establish the best and most appropriate scheme, a comparison of methods is presented.

## 2 Purpose

### 2.1 Background for Comparisons

- 2.1.1 In order to ensure the we introduce the best collection method for Exeter, it is wise to undertake a trial comparison looking at the advantages and disadvantages of each scheme.
- 2.1.2 The ambition to become a recycling centre of excellence and improve waste collection services means there is a need to review how waste is collected. Currently approximately 10% of the recyclate received at the materials reclamation facility is sent on to the energy from waste facility as contamination.
- 2.1.3 Where neighbouring Authorities have seen an increase in percentages recycled, Exeter City has seen a fall. This is likely due to several factors, one of these being the collection of food waste in neighbouring council's which has yet to be introduced in Exeter. It is anticipated the introduction will increase Exeter CC recycling percentage in to the region of 50-60%.
- 2.1.4 Therefore in order to maximise the recyclate percentages, it is necessary to focus on improving the waste collection system and to respond to legislative requirements whilst ensuring the streets are kept cleaner by ensuring rubbish spillage is kept to a minimum.
- 2.1.5 The aim is to increase recycling rates by adopting the easiest and best method for residents separate out waste and recycling materials whilst ensuring a reduction in the number of injuries experienced by waste and recycling collection staff.

### 3 Changing Habits after Covid 19 Pandemic

- 3.1.1 Since the presentation of the 2018 Kerbside Collection report, the nation has experienced the COVID 19 viral pandemic which has resulted in three national lockdowns and several tier restrictions.
- 3.1.2 This has seen changes to the way residents were shopping with greater use of internet shopping such as Amazon; who has seen a ten fold increase in their shopping activity.
- 3.1.3 Increases in plastic, glass and cardboard waste has been experienced throughout the county, which has also caused difficulties with waste recycling volumes.
- 3.1.4 Neighbouring Devon authorities have recently notified their residents that they cannot receive large amounts of cardboard, requiring it to be taken to a Materials Recycling Centre which seems to defeat the object of a Kerbside Sort scheme.
- 3.1.5 This is not purely due to the size of the containers which could become easily over full, but also due to the compartments within the vehicle becoming full with large volumes of plastics with no weights and large amounts of card.
- 3.1.6 As noted earlier a kerbside vehicle consists of a number of recycle compartments in to which different recycle fractions are deposited.
- 3.1.7 This works well until one of the compartments becomes full at which time the vehicle must leave the collection round and return to the recycling depot to unload the materials.
- 3.1.8 The dilemma is that once a compartment is full the vehicle returns to the depot with only one full compartment which is both unproductive, time consuming and inefficient.
- 3.1.9 Anecdotal evidence indicates that neighbouring Devon Authorities have reported occasions where collection rounds are still working later into the evening or on occasion do not complete the recycling rounds due to the excess of waste materials for collection.

3.1.10 This in turn has resulted in dissatisfaction from their residents who have made complaints to councillors and demonstrated their dissatisfaction on social media.

3.1.11 Couple that to the increase in plastic waste; which is high in volume and low in weight and the refusal to accept large volumes of card, draws in to question the viability of a kerbside sort scheme for Exeter City.

## **4 Recycling Schemes for Comparison**

4.1.1 The two methods for comparison are:

1. The current comingled recycle collection including separated glass collected fortnightly with a weekly food waste collection providing 12 recycle fractions.
2. The previously proposed weekly kerbside sort collection service consisting of 5 recycle fractions including paper and card, cans, plastics, glass and food waste.

4.1.2 The comparison shall include the capital, revenue and income for each method so that there is a clear comparison across the two options.

### **4.2 Method 1 – Comingled Collections**

4.2.1 The comingled collection is the current style of recycle collection which has proven to be successfully delivered for the past several years.

4.2.2 If the Authority was to choose to continue with the comingled services, the addition of food and glass collections to the current recycling service would be relatively easy to implement and more importantly, more user friendly for Exeter's residents.

4.2.3 In order to meet the legislative requirements for the collection of glass and food waste at the kerbside, this method proposes to be the least disruptive to the Exeter residents.

4.2.4 By maintaining the current fortnightly comingled recycle collection service, glass cullet can be included on a fortnightly collection with the introduction of a 70/30 RCV or open back/pod two compartment refuse collection vehicle; which has a glass pod housed at the rear of the cab, enabling the comingled recycling and separate glass to be collected on the same vehicle.

- 4.2.5 A separate food waste collection service would be introduced on a weekly collection round to meet the 2023 statutory requirements for food waste recycling.
- 4.2.6 Drawing from examples of other Council's with similar collection services, we would use small separate food waste collection vehicles which are readily available and common throughout the industry.
- 4.2.7 These vehicles can collect up to 1600+ properties per day; the equivalent of two recycling rounds, requiring a driver and one loader for each crew collecting as a weekly food waste service.
- 4.2.8 This can easily be introduced mirroring the comingled recycling collection rounds on a weekly basis with a productivity pass rate of two recycling collection rounds of up to 1600 properties.



*Example of food waste vehicle - service recently launched for Bracknell Forest*

- 4.2.9 To accommodate the addition of a glass collection on a fortnightly service, this would be incorporated in the comingled collection rounds utilising a two compartment bodied collection vehicle (70/30 or open back/pod RCV).
- 4.2.10 Using standard narrow bodied 6x4 twin compartment refuse collection vehicles and 7.5tonne single compartment collection vehicles, this service can be

implemented with minimal requirement for specialist equipment. The lead times for these vehicles is between 3-6 months.

4.2.11 The comingled collection rounds would consist of approximately 800 properties per day on a fortnightly collection basis which would include dry recycle and glass collections. This is quite common within the waste industry and is successfully operated in other council areas.

4.2.12 The comingled scheme enables the Authority to collect all recyclable materials and present them to the Materials Reclamation Facility (MRF) for sorting into the various recycle fractions; meaning that the Council can maximise the potential waste materials recycled including the following 12 fractions:

- Food Waste
- Glass
- News and Pams
- OCC 90/10 Grade Card
- Cartons
- Aluminium Cans
- Steel Cans
- HDPE Bottles
- PET Bottles
- "JAZ" Coloured Bottles
- Pots and Tubs
- "JAZ" Coloured Film

4.2.13 However, the operation of an in-house MRF has become increasingly expensive and operationally challenging in recent years, especially with a lack of capital investment. The Council is now at something of a crossroads, with the continued operation of comingled recycling being dependent on access to a MRF. For the comingled service to be a success, the provision of an up to date materials reclamation facility is required which; based on the current MRF facility, will need an investment estimated at least £3.6m (firm prices were unavailable at time of writing) to increase to productivity of the facility to 10/12 tonnes per hour of materials throughput to meet the EA 72hr requirement.

### **4.3 Method 2 – Kerbside Sort Scheme**

- 4.3.1 The kerbside sort collection method was previously proposed and presented to Council in 2018 but the implementation of the scheme was delayed due to the current virus pandemic.
- 4.3.2 At the time of the formulation of the original proposal, a trial Romaquip Kerbsider collection vehicle was obtained, but apart from driving the vehicle around the city, no actual trial was undertaken.
- 4.3.3 Therefore, there appears to be no clear data to indicate whether the scheme would work successfully within the city, what impact the scheme would have on traffic movements and what potential risks there might be encountered during the collection process.
- 4.3.4 Opting for the Kerbside sort scheme, it must be established what effects the type and size of the vehicle will have on the traffic flows throughout the city.
- 4.3.5 The time taken for each kerbside sort vehicle to complete each collection round, taking into account the increased time it takes for the vehicle to traverse along the highway.
- 4.3.6 Manufacturers suggest the time to travel along a normal residential road is estimated to be at least 3 times longer than a normal refuse collection vehicle and with a wider working footprint (approx. 12 ft to 16 ft width) is likely to cause greater disruption to passing and oncoming traffic, along with potential dangers for collection operatives who may be expected to work in areas of oncoming traffic when loading from the side of the vehicle.
- 4.3.7 As they are specialist vehicles made to order, the lead time for the construction and delivery of Kerbside Sort vehicles is around 6-9 months. It is unlikely that the vehicles will be delivered all at the same time, therefore careful, timely planning and preparation is required to ensure delivery is made on time to meet the publicity and mobilisation dates.
- 4.3.8 Further to this, as the kerbsider vehicles are specialist and made to order, this might pose real problems when vehicles experience breakdowns and periods off the road as replacements are unlikely to be readily available from hire companies.
- 4.3.9 Operation of the kerbside sort vehicle comes with limitations:

- In areas of tight access, loading from the side of the vehicle is limited to one side only
- The time taken to traverse along a road whilst making a kerbside sort collection; according to manufacturers, is estimated to be at least three times longer than a normal collection process.
- The working footprint of a kerbside sort vehicle is between 3.4m to 4.5m (12ft to 16ft) wide making it an issue with passing and oncoming traffic and the impact that may bring in traffic movements and congestion.
- The structure of a kerbside sort vehicle is made up of a number of smaller compartments into which the different recyclate fractions are placed. However once just ONE of the compartments becomes full, the vehicle must return to the depot, with the other compartments less than full, to empty the compartments before returning to restart the collection round, making it time consuming, unproductive and inefficient.
- The storage of materials ready for collection at the property is in small box containers. This places limits on the amount of each materials which can be stored for recycling, meaning that either excess recyclate is deposited into another container, or is thrown away with the general waste which in turn negates the benefit of a recycling scheme all together.
- The number of different fractions for collection would be reduced to 5 consisting of:
  - Food
  - Glass
  - Paper/small card
  - Cans
  - Plastic

## 5. Impact on Materials Reclamation Facility

- 5.1 In support of the Kerbside sort scheme the materials reclamation facility would need to be reconfigured in to a waste transfer station, where the collected recyclate would be delivered in to separate storage bays ready for onward transporting to reprocessors.
- 5.2 A recent report by WYG suggested it is the Authority's preference for the reconfiguration of the MRF to a WTS to accommodate the change in collection service from a comingled to a kerbside sort, with separate glass collections and food waste collections to also include a comingled mechanical sorting process for non-domestic waste.
- 5.3 The service change would rely on households to sort their waste into the separate containers provided prior to collection.
- 5.4 The intention would be for all the pre-sorted dry recyclates, including food waste, to be transported to the depot at Exton road for processing and baling before being sold on the market and stored in purpose built storage areas within the depot.
- 5.5 However the report also points out that there would be a retention of a co-mingled sorting operation for commercial waste but neglects to mention the that there will be some comingled domestic recyclate which would also need to be sorted and processed at the site.
- 5.6 Therefore, the proposed reconfiguration is not in strictest terms a proper Waste Transfer Station, as there would still be a requirement for mechanical materials sorting at the facility.
- 5.7 Card and paper would need to be sorted in order that they can be baled separately and it is also proposed that plastics and cans would go through a pre-sorting area where contaminants such as film would be removed.
- 5.8 The remaining material would continue along the conveyor belt through a screen to remove fine material, after which the waste would pass under an overhead magnet to remove ferrous metals and an Eddy Current System to remove any non-ferrous metals.
- 5.9 Once the waste streams have been separated and / or baled, they would be transferred to designated storage bays within the WTS building or bays within a

new proposed covered storage area adjacent to the entrance of the transfer station building.

5.10 Taking on board the above proposed waste transfer station materials sorting process, there is still a reliance on mechanical material sorting on the same terms as the current Materials Recycling Facility, but without the capability and flexibility to separate the recyclate in to greater fractions.

5.11 If the Authority choose the Kerbside sort system, the reconfiguration of the MRF would see a reduction in the number operatives required to populate the facility.

5.12 Assuming the WTS requires 10 full time operatives plus the manager, this would mean there would be a requirement to reduce the number of staff required by 12 personnel.

5.13 A redeployment and redundancy process would need to be undertaken to identify those staff members who could redeploy to another position and those who would no longer be required.

5.14 Many of those persons who may be affected may be aged, female, and of ethnic minority; whose first language is not English and whilst a previous report suggested that there would be alternative employment for those staff affected; working as collection operatives on the Kerbside sort rounds, as many of those affected may be of an older persuasion, they may be unlikely to maintain the levels of productivity required to perform those collection duties and would likely experience greater risk of injury.

5.15 Many cannot speak fluent English, so may be a greater risk on a collection round to themselves and others, which would mean that if an accident occurred, the Authority could be complicit and considered negligent if they were shown to be aware of the danger should an accident or injury occur.

5.16 Therefore, there is a risk that any displaced operative may not be able to undertake alternative employment and may feel that they have been forced out of their job.

5.17 This could also result in adverse publicity for the Authority who may be seen as not considering the equality and diversity issues of this section of their loyal workforce.

## 6. Deposit Return Scheme

- 6.1 With the introduction of the proposed Deposit Return Scheme (DRS) which the Government is keen to implement, this may have an effect on the collection of recyclate and particularly glass.
- 6.2 In a recent Webinar, Mr Hayward-Higham SUEZ Director explained that they anticipate an approximate 50% reduction in glass once DRS is implemented.
- 6.3 It has been suggested that roughly 1.3 million tonnes of glass should come out through the DRS system and that the DRS may also remove the majority of aluminium, glass and plastic beverage containers out of the kerbside collections system. MRFs will also begin to see more of other packaging materials; such as pots, tubs and trays, not normally collected through kerbside collections.
- 6.4 Therefore the Authority needs to consider the potential impact DRS may have on the collection scheme along with the choice and acquisition of vehicles which could quickly become obsolete once the DRS scheme becomes established. In addition, the Authority may consider the continuation of the current glass bring bank scheme.

## 7. Scheme Mobilisation

- 7.1 Once the Authority has chosen the type of recycling scheme, it is imperative that it is mobilised successfully in order to achieve the high levels of public participation required.
- 7.2 It must be ensured that high levels of publicity and promotions are maintained for several weeks both prior to and after the implementation of the chosen scheme, with dedicated promotions in different areas based on performance data received.
- 7.3 This would then enable the introduction of a three weekly residual waste collection service to be implemented offering operation savings and additional recycling incentives.
- 7.4 As this requires significant changes to the current fortnightly collection frequency, good planning and promotion with residents **MUST** be implemented in order to ensure the new residual waste collection operation is successfully mobilised.

- 7.5 With a reduction in the residual waste collection service to three weekly, this will encourage the residents of Exeter to consider their waste disposal habits and realise the value of the weekly food waste collections and fortnightly dry recycling services.
- 7.6 There may be a view that the best approach is to introduce the chosen service option trialling all the components of that proposal together; food, glass and 3 weekly waste collection etc. With this approach we must suggest caution; This could place the Authority at risk if something goes wrong which could have a knock-on effect to all parts of the service.
- 7.7 Implementing each element separately enables the authority to collect data, monitor the service changes and modify the operation before implementing the next stage of the scheme with a continuous improvement procedure.
- 7.8 Introducing food waste collections as the first stage will enable the Authority to quickly mobilise the new weekly service and generate immediate income from the Devon County Council shared savings scheme.
- 7.9 The potential to implement a separate food waste service on a planned roll out schedule, will enable the Council to achieve a city wide service on a weekly basis and since the introduction of the Devon County Council shared savings, will give the Authority an opportunity to benefit from a share of the disposal savings from the County.
- 7.10 Based on information supplied, it is estimated that each Exeter property produces an average of 83kg of food waste per year which could generate a share of the savings in excess of £60 per tonne. Assuming 50,000 participating properties, this could result in a total food waste tonnage of over 4,150 tonnes, generating a potential saving in the region of £249,000 per annum.
- 7.11 The scheme is on a 10 year term which has been running already for the past 4 years, but as the Exeter Authority has not been part of the scheme; as a food waste scheme is not in place, this has meant that the Authority has already lost a potential opportunity for approximately £1 million as a savings share.
- 7.12 Each food waste collection round; which could be introduced relatively quickly, would have a collection value in excess of £35,500 and the sooner the service is implemented, the greater the share of savings can be achieved with a potential of at least a quarter of a million pounds per annum.

## 8. Comparison Tables

### 8.1 Comparisons – Expenditure and Income

#### 8.1.1 Tables of Expenditure and Income

FORTNIGHTLY COMINGLED COLLECTIONS PLUS WEEKLY FOOD WASTE SERVICE		WEEKLY KERBSIDE COLLECTION INCLUDING FOOD & GLASS	
CAPITAL COST	COST/INCOME	CAPITAL COST	COST/INCOME
• 50,000 x Food Waste Containers @ £2.81 per 23ltr caddy and £0.90 per 5ltr caddy	<b>£185,500</b>	• 50,000 x Trolley Boxes @ £36.00 per unit	<b>£1,800,000</b>
• 50,000 x Glass Containers @ £3.00 per 40ltr box	<b>£150,000</b>	• 50,000 x Food Waste Containers @ £2.81 for 23ltr caddy and £0.90 for 5ltr caddy	<b>£185,500</b>
• MRF Upgrade Investment (estimate)	<b>£3,600,000</b>	• Waste Transfer Stn. Investment (WTS) – Eunomia Report figure.	<b>£902,000</b>
• Fire Suppression (est)	<b>£569,000</b>	• Fire Suppression (est)	<b>£569,000</b>
		• Batch Processing (est)	<b>£600,000</b>
• Delivery of Food and Glass Containers – 4 wks driver + Loader = £8072 and 3.5t van = £1,442	<b>£9,514</b>	• Trolley Box Delivery @ £201,000 + Food Waste Caddy @ £4757	<b>£205,757</b>
<b>TOTAL</b>	<b>£4,514,014.00</b>	<b>TOTAL</b>	<b>£4,262,257.00</b>

#### 8.1.2 Revenue Comparison Table

CURRENT SERVICE EXCL. FOOD AND GLASS REVENUE COST	UPDATED COMINGLED SERVICE WITH FOOD AND GLASS REVENUE COST	KERBSIDE SORT SCHEME REVENUE COST
• 6 x Open Back RCV inc. spare <b>£278,034</b>	• 8 x Twin Pack 70/30 RCV inc. 1 Spare <b>£416,000</b>	• 16 x Romaquip 12t Kerbsider Vehicles inc. 1 Spare <b>£608,000</b>
• 1 x Glass Bring Site Vehicle <b>£34,645</b>	• 8 x 7.5t Food Waste Vehicles inc. 1 Spare <b>£240,000</b>	• 2 x Romaquip 7.5t Kerbsider Vehicles <b>£76,000</b>
• 1 x Narrow Access RCV <b>£35,000</b>	• 1 x Narrow Access RCV <b>£35,000</b>	• 2 x 3.5t Vans inc. 1 Spare <b>£12,000</b>
		• 1 x Narrow Access RCV <b>£35,000</b>
• 6 x Collection Drivers <b>£170,520</b>	• 15 x Collection Drivers <b>£426,300</b>	• 19 x Collection Drivers <b>£539,980</b>
• 10 x Collection Operatives <b>£240,600</b>	• 22 x Collection Operatives <b>£529,320</b>	• 36 x Collection Operatives <b>£866,160</b>
• 24 x MRF Staff inc. Mgr <b>£606,910</b>	• 24 x MRF Staff inc. Mgr <b>£606,910</b>	• 11 x WTS Staff inc. Mgr <b>£311,420</b>
	• Pool Staff @ 20% <b>£312,506</b>	• Pool Staff @ 20% <b>£343,512</b>
<b>TOTAL</b> <b>£1,365,709.00</b>	<b>TOTAL</b> <b>£2,566,036.00</b>	<b>TOTAL</b> <b>£2,792,072.00</b>

### 8.1.3 Income Comparison Table

COMINGLED		INCOME	KERBSIDE SORT		INCOME
• Recyclate Income (est Based on current output)		<b>£406,950</b>	• Recyclate Income (est based on current output)		<b>£370,575</b>
• Food Waste DCC Share Scheme @ 50k props (est)		<b>£280,000</b>	• Food Waste DCC Share Scheme @ 50k props (est)		<b>£280,000</b>
<b>TOTAL</b>		<b>£686,950.00</b>	<b>TOTAL</b>		<b>£650,575.00</b>

## 8.2 Service Comparison Table – Comingled and Kerbside Sort Schemes

8.2.1 Officers from Exeter City Council were asked to independently score the criteria's within the comparison table to establish the importance of each criteria on a basis of 0-10 with 0 = poor and 10 = best.

Each score was totalled together and divided by the number of participants in order to establish the average scores for each criteria.

CRITERIA	CO-MINGLED		KERBSIDE SORT	
	Detail	Score	Detail	Score
<b>Manual Handling</b>	Wheeled bins and standard rear loading using bin lifts reduces manual lifting, twisting and carrying	8	Separate boxes for recycled materials and differing loading heights and small letter box style openings means increased lifting, twisting and repetitive manual handling actions. A trolley box system will reduce dragging boxes but will NOT reduce lifting and associated injuries.	3.8
<b>Traffic Impact</b>	Loading to the rear of the vehicle using standard equipment minimises traffic disruption allowing vehicle to move quickly along the road. Smaller vehicle movements	7.8	Kerbside sort vehicles load from the side so working footprint is between 3.5m-4.5m (12-16ft) wide with an expected loading speed of at least 3 x slower causing traffic disruption for passing and oncoming vehicles. This is exacerbated when negotiating narrow roads or road in which parked vehicles are encountered	3.4
<b>Loading Space</b>	Loading into a compaction vehicle means that the whole void space is used ensuring maximum capacity and productivity is achieved. Best use of vehicle to achieve best productivity and achievable volumes.	8.8	Loading into several different compartments means that once a compartment is full the vehicle MUST return to the depot to be emptied. This means that the vehicle is less productive requiring increased vehicle movements back and forth to the depot and collection round	4

			with empty or part filled compartments.	
<b>Loader Safety</b>	Loading the vehicle from the rear ensures the operatives are protected from passing and oncoming traffic minimising traffic risks	7.4	Loading a kerbside sort vehicle means operatives are loading at the side of the vehicle and often competing with oncoming and passing traffic placing the operative at risk of an accident	3.6
<b>Vehicle Availability</b>	Standard refuse collection vehicles are readily available. Ease obtaining replacement vehicles due to accident or breakdown	8.8	Specialist vehicles not readily available (at least 3 month delay). Vehicles difficult to obtain if experiencing accident, breakdown or off road due to maintenance	3.4
<b>Vehicle Types and numbers</b>	8 x standard refuse collection vehicles and 8 x 7.5t single compartment food waste vehicles. 30% less vehicles than Kerbside sort. Lower cost when converting to electric or hydrogen power.	8	Provision of specialist vehicles: 16 x Romaquip 12t Kerbsider Vehicles, 2 x Romaquip 7.5t kerbsider vehicles, 2 x 3.5t vans 1 x narrow access RCV. Increased vehicle numbers with associated operating costs, increased vehicle movements and impact on the local infrastructure.	3.4
<b>Residents Participation</b>	Quicker and easier to implement. Residents happier to participate as no major changes to current system. Improvement to current service with weekly food waste collection.	8.4	Changes to the current method of recyclate collection and frequency. Residents to sort materials in to different boxes. Limited capacity for materials to be recycled. If more materials than capacity in the boxes, materials must be taken to the recycling centre (potential for excess to be deposited in the residual waste bins.	4.2
<b>Material Types</b>	No limit to the number of recyclate fractions which can be collected. Limit only restricted by the capability of the materials reclamation facility (currently 12 fractions). No limits to the amount or size of materials which can be collected.	8.4	Number of recyclate fractions is limited to the number of collection vehicle compartments (5 – paper/card, cans, plastics, glass and food) Materials are source separated potential improved quality.	4.6
<b>Container Types and Numbers</b>	Existing Standard 240ltr wheeled bins, purchase of 50,000 food waste caddies and bins £185k. Using current wheeled bins means no wasted bins or additional costs of replacement.	8.4	50,000 Trolley boxes £1.8m, 50,000 food waste caddies and bins £185k along with cost of delivery. Additional cost for purchase of new bin system and the collection and disposal of current wheeled bins as scrap	3.4
<b>Collection Frequencies</b>	Continued fortnightly comingled recyclate	7.2	Increasing collection frequencies from fortnightly to weekly	6.4

	collections and weekly food waste. Maintaining current system and keeping traffic movements to a minimum. Potential for introduction of 3 weekly residual collections. Food waste rounds to mirror comingled collection rounds.		collection for all recyclable materials Potential for introduction of 3 weekly residual collections. New collection rounds required to implement new kerbside scheme	
<b>Facility Investment Costs</b>	£3m Investment required to bring facility up to date to achieve 10-12tonne per hour pass through + £250k fire suppression	5.4	£902k-£1.2m investment to repurpose the MRF to provide a waste transfer station with smaller MRF batch facility £250k fire suppression	7
<b>Recyclate Quality</b>	Comingled collections have the potential to increase contamination of loads as everything is all tipped into one compartment in the RCV	4.8	Separated materials at the kerbside reduce the potential for contamination and may increase quality	7.2
<b>Impact on Recycling Rates</b>	As comingled is less of a change there is some concern that this will have less of an impact on recycling rates	5.8	Kerbside sort is a more complicated collection system for residents. This has been shown to impact on participation levels and so limits the impact on recycling rates	6.2
<b>Impact on Staff</b>	There will be a small increase in collection staff numbers to achieve a weekly food waste collection service. As a comingled service there will be very little or no impact on existing staff within the MRF. However depending on the type of new automated equipment there will be a reduction in MRF staff numbers which may be adjusted through redeployment	7.6	As a kerbside sort service there will be a significant impact on existing staff within the MRF. Staff numbers will be reduced as the MRF will be reconfigured as a waste transfer station. There will be an opportunity to redeploy some members of MRF staff but many would not have the ability to undertake the work due to age, health and physical capability	5.2
<b>Authority Reputation relating to Staff Employment</b>	With minimal threat to the existing staff numbers, relationships with the unions and the Authority's reputation as a good employer will be maintained	7.2	Significant changes to staffing numbers within the MRF, changes to their duties and potential effects on health and safety. There will be a need for detailed negotiations with staff representatives, potential staffing redundancies with an impact on the Authority's reputation with potential criticisms as ageist, sexist and racist	5.4
	<b>Total Score</b>	<b>112</b>	<b>Total Score</b>	<b>71.2</b>

## 9 Recommendations

- 9.1 It is important to understand that both systems are good systems for the collection of recyclable materials. But a scheme which works well in one area doesn't necessarily work in another.
- 9.2 It is therefore important for the Authority to properly consider the effects and outcomes of each scheme in order to choose the best service for the city.
- 9.3 As an option for consideration, the Authority might feel that rather than adopting a trial, that the Council decide to introduce food collections to everyone now using the smaller food waste vehicles. The containers used would be the same whether the Council decides later to choose the kerbside or comingled service.
- 9.4 There would be no disruption to the current comingled service or a change in collection vehicle types and as it is an extra service being provided on a weekly collection basis for residents, it would also be seen as a good news story for the public.
- 9.5 In doing so, the Authority would be half way towards meeting the expansion requirements, increasing the percentage performance at minimal cost or disruption and benefit from the Devon Shared Savings Scheme.
- 9.6 The addition of a fortnightly glass collection could then be easily included, dependent upon the type of collection scheme chosen by the Authority and subject to the availability of the collection vehicles or specialist Kerbside Sort vehicles when they become available.
- 9.7 Therefore Recommendations:
- 1. The Authority digests the information within this report and consider the scoring results within the comparison tables to assist with the decision.**
  - 2. Recognise the lead times of the required vehicles and ensure the mobilisation is properly planned to coincide with the vehicle delivery and proposed scheme start up.**
  - 3. Ensure adequate publicity and promotion is provided in order to properly inform residents of the new scheme and engender their support.**

- 4. Adequately fund MRF/WTS facility depending on scheme choice, to ensure future proofing**
- 5. When mobilising the new scheme, ensure a detailed mobilisation plan is formulated and agreed. A mobilisation team should be formed with action plans for each member of the team giving key stone dates for each task to be completed. Introduce each element of the scheme separately. This will minimise risk to the authority and ensure officer time is focused on the new element to ensure successful implementation before introducing further changes. Introduce each element with a new mobilisation plan.**

9.8