ARGYLL AND BUTE COUNCIL | **ENVIRONMENT, DEVELOPMENT AND INFRASTRUCTURE COMMITTEE**

ROADS AND INFRASTRUCTURE SERVICES | **21 MARCH 2024**

ROUTE OPTIMISATION UPDATE

1.0 INTRODUCTION

1.1 The Council has invested in a Route Optimisation system which will enable existing cyclic activities (bin collection, grass cutting, winter gritting etc) to be tested for efficiency and, where possible, remodel routes to be more efficient and effective. The system will enable modeling for potentially different service delivery policy options providing a range of options much quicker than conventional 'manual' modelling processes. At an operational level the system will provide works supervisors the flexibility to change routing in the event of vehicle breakdowns, road closures etc. The system is scheduled to be rolled out in August 2024 following ongoing system building and testing. The purpose of this report is to provide Members with an update on the development of the Route Optimisation project following the report to this Committee in June 2023.

2.0 RECOMMENDATIONS

2.1 It is recommended that Members of the Environment, Development and Infrastructure Committee:-

- Consider and note the progress with the Route Optimisation project;
- Agree to a seminar being arranged for all Members following the summer recess to demonstrate the functionality and opportunities available through the system.
- Note that a further update report will be brought back to the December 2024 Environment, Development and Infrastructure Committee meeting.

3.0 DETAIL

Background

3.1 The Council has appointed Webaspx through a competitive procurement process. Webaspx are a leading Route Optimisation company who provide specialist software solutions in routing vehicles and individuals carrying out cyclic activities including waste management and general municipal activity.

3.2 Route Optimisation provides a system which enables routing of cyclic activity to be efficiently and effectively delivered. The Webaspx system the Council has invested in, provides various capabilities, including, but not limited, to the following modules:

- **Route Optimisation** - enables new/alternative routes (bin collections and other cyclic activity) to be designed more efficiently whilst ensuring deliverability to reduce the risk of service disruption. This will enable existing collection routes to be tested for efficiency with the opportunity for replacement routes cutting down travel, costs and carbon emissions. Different scenarios for collection frequencies will be much easier and faster to model. This is expected to be hugely beneficial for the Biodegradable Municipal Landfill Ban, improvements to recycling percentages etc. Whilst the initial focus will be on modelling refuse collection routes the system is ideally suited for other activities such as winter maintenance, street sweeping etc which are intended to be subsequently modelled.

- **Digital Depot** – replaces paper and spreadsheet routes with cloud based data and automated workflows.

- **In-cab** – replaces paper route cards with touch screen tablets providing the crew and driver with the information they need to work both safely and efficiently. The in-cab technology also provides information to and from the back office which will bring customer service benefits in terms of being able to provide up-to-date information to our citizens. The system will also enable vehicles to be re-routed at an operational level to accommodate vehicle breakdowns, road closures etc.

- **Commercial waste** - gives the ability to plan and operate commercial waste services efficiently whilst also enabling customer accounts to be managed allowing contracts to be easily updated and invoices issued.

3.3 Bin collection is being progressed as the first activity to be modelled. In doing so the system will be populated with all address points and collection locations allowing much of this data to be used for modelling of other activities. Bin collections also have the potential to offer a significant efficiency, this has been confirmed from feedback from other Councils and the system supplier.

Progress

3.4 The implementation of the Route Optimisation system is progressing well with existing routes, all 48,000 households, civic amenity sites and tipping points loaded into the system. Initial training has been carried out with staff. The ongoing work (tactical modelling) tests the model which includes data cleansing and adding data such as the location and pick up frequencies for the Civic Amenity sites etc.

3.5 In line with good practice for contract management, regular meetings are in

place between Webaspx and the Council's Project Team. The project is being progressed in phases. The first phase was setting up the Easy Route software, creating the detailed digital model of our road network, our domestic bin collection, disposal operation is well advanced being reported as phase one. Thereafter there will be a second phase to set up and utilise the in-cab or digital depot technology with a forecast go live date of August 2024 following trials and systems testing.

3.6 The table below provides Members with an updated outline works programme to that presented to Environment, Development and Infrastructure Committee in June 2023. Please note that some stages of the project have changed due to adding commercial addresses and civic amenity sites in addition to the residential properties. Any changes to dates/timescales have been noted in the table, although, the overall completion date remains unchanged:

Route optimisation Phase One – Easy Route software			
Title	**Description**	**Date**	**Status**
Inception			
Inception meeting	Agree requirements/ constraints/ deadlines	March 2023	Complete
Data			
Roads	OS data on road network	April 2023	Complete
Properties	UPRN information on all 48,000 households	April 2023	Complete
Routes	Uploading existing bin route information	April 2023	Complete
Resources	Information on vehicles to cross reference with route and property data	April 2023	Complete
Performance	Weighbridge information from the different off-takers	April 2023	Complete
Merging data	Cleansing and formatting various data sets	May 2023	Ongoing at the time of writing
Model development and review			
Initial build	Webaspx build software installation of EasyRoute	May 2023	Complete, domestic properties have been input and this element of the project is

			complete. Commercial properties are scheduled to be input by end of March 2024
Training	ABC staff training	June 2023	Complete, initial training is complete and additional training will be carried out as required.
Model as-is routes	Create calibrated models of current collections across all areas	Revised completion April 2024 Originally scheduled for June 2023	On track for revised date, this is currently ongoing and involving area teams, ensuring employee buy in. Additional familiarisation and roll out of the system's functionality.
Review as-is routes	Ensure As-Is models reflect current collections	Revised completion April 2024 Originally scheduled for July 2023	On track for revised date, this is currently ongoing and involving area teams, ensuring employee buy in.
Tactical modelling	Model routes and other options against different scenarios	Revised completion April 2024 Originally scheduled for August 2023	On track for revised date, this is the next stage. The tactical modelling will take place on completion of all waste routes being uploaded into the system (including commercial and civic amenity sites – this being in addition to residential properties).
Review tactical modelling	Review remodeled routes	May 2024	On track

Operational modelling	Create fully implementable model(s) for each scenario	June 2024	On track
Operational review	Review and revise possible new designs	August 2024	On track
Decision gateway			
Operational Review	Determine next steps and lead in to Phase Two including other services to be modeled	October 2024	On track

4.0 CONCLUSION

4.1 The new Route Optimisation system is a powerful tool and, once rolled out, will provide opportunities to model different options, with this firstly being used for the bin collection routes followed by a wider range of cyclic activities.

4.2 The initial data upload, review and cleansing stage is very much an iterative process that requires a reasonable resource commitment from the Council, particularly given the different waste models used across the area.

5.0 IMPLICATIONS

5.1 Policy – There are no direct policy implications arising from this report.

5.2 Financial – This project is funded from previous funding allocated by the Council. Future revenue costs are expected to be self-funding from efficiencies.

5.3 Legal – None known.

5.4 HR – None known.

5.5 Fairer Scotland Duty:

5.5.1 Equalities - protected characteristics – Works from this project will be accompanied by a socio and economic impact assessment.

5.5.2 Socio-economic Duty – None arising from this report.

5.5.3 Islands – This project will look at both the mainland and islands and there is not deemed to be any adverse impact to island communities from this work.

5.6 Climate Change – There is potential to reduce the mileage covered by some vehicles, which would help to work towards reducing the Council's carbon footprint. It is anticipated this will result in CO2 savings however this will not be fully known until the system is implemented.

5.7 Risk – None arising from this report.

5.8 Customer Service – the Route Optimisation system is expected to bring customer service benefits in terms of being able to provide up-to-date information to our service users

5.9 The Rights of the Child (UNCRC) – None arising from this report.

Executive Director with responsibility for Roads and Infrastructure Services: Kirsty Flanagan

Policy Lead for Roads and Transport: Councillor Andrew Kain and **Policy Lead for Environment and Climate** Councillor Ross Moreland

March 2024

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