

WASTE COLLECTION MODELLING WITH PTV ROUTE OPTIMISER

Transportation Research Group (TRG)

The Transportation Research Group (TRG) is a multi-disciplinary group within the School of Civil Engineering and the Environment at the University of Southampton. Established in 1967, TRG is involved in research and consultancy in all aspects of traffic and transport and has considerable expertise in modelling waste collection rounds.

Expertise

TRG has undertaken fundamental research into the requirements for the modelling of waste collection rounds accurately. Studies have been undertaken for the Department for Transport, research programmes (EPSRC-funded Green Logistics project). These studies have involved detailed modelling of collection rounds using a variety of data including housing stock characteristics, waste types, waste collection vehicle fleets, treatment sites and additional data supplied by waste collection managers.

Model Used

TRG uses PTV Route Optimiser CL vehicle routing and scheduling model. This is a well-established model that includes street level mapping data which is needed for the fine details of waste collection routes. TRG and PTV Group have a close working relationship and have been working together for over a decade.

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Long-term

“We have been using the system for more than 13 years. We have full confidence in the capabilities of PTV Route Optimiser CL”



Estimated Savings

Waste collection savings depend very much on existing round structures, their scope for improvement and on the changes that are proposed. Estimated savings from previous studies ran by TRG using Route Optimiser CL have included:

- ▶ £35,750 per annum for the rescheduling of rounds in Southampton
- ▶ £65,000 per annum where some collection in Southampton were services by a depot in Eastleigh
- ▶ 15% in time and 8% in distance savings were made respectfully through the introduction of alternate weekly collection of recyclable waste and residual waste in north Hampshire
- ▶ £36,800 per annum by allowing trade waste and domestic collections to be undertaken by a common fleet of vehicles in Winchester