



Hani Zbib

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OPTIMIZING CURBSIDE WASTE COLLECTION SYSTEMS

Abstract: The increasing amount of solid waste generated by an increasing population has made the area of municipal solid waste management an area of focus in many countries over the past few decades. There is a general agreement about the need to move from relatively polluting waste treatment options such as landfills and incineration, towards more sustainable reverse logistics approaches such as the recycling of non-renewable resources in order to salvage some value out of these waste materials. As part of a large project on "Transportation issues related to waste management", and in collaboration with six different counties in Denmark, this talk focuses on curbside collection systems where different waste and recyclables need to be collected from the households.

I will firstly give an overview about the project, present the different curbside collection systems considered, and underline the real-life large-scale arc routing problems that can be used to model such systems. Secondly, I will survey the solution approaches developed thus far for these arc routing problems of a large-scale nature, and concentrate on one solution approach developed to solve them. Finally, I will present a comparison of the different curbside collection systems from a transportation perspective, in order to show the relative costs of recycling-based collection systems as opposed to the traditional systems with landfills and incineration, and determine the best recycling-based system.

Note: Hani Zbib is a PhD Student at the Cluster for Operations Research and Logistics at Aarhus University in Denmark, under the supervision of Professor Sanne Wøhlk. His PhD focuses on the study of waste collection systems, and the study of large-scale routing problems that can model real-life applications such as waste collection. Hani Zbib is doing a PhD internship at CIRRELT, under the supervision of Professors Jean-François Cordeau and Gilbert Laporte.

MERCREDI / WEDNESDAY

18 avril / April 18th, 2018
10h30

Salle / Room 5441
Pavillon André-Aisenstadt
Université de Montréal

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Organisateur / Organizer
Gilbert Laporte



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