Introduction to the Special Issue on Innovation in Transportation-Enabled Urban Services, Part 1

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Rapid developments in city infrastructure and technologies are creating numerous opportunities and inspiring innovative and emerging urban services. Among these innovations, complex systems of urban transportation and logistics have embraced advances and have been reshaped significantly. They enable innovative new urban services, which are now booming and changing everyday life for urban residents.

This special issue of *Service Science* explores perspectives on innovation in transportation-enabled urban services. We hope that the special issue will enhance the understanding of the planning, operation, and management of such services. Contributions are expected to demonstrate rigorous model development, economic/econometric analysis, and decision-making tools based on optimization and/or data-driven approaches. Research in this special issue addresses the novel challenges and opportunities that arise in these transportation/logistics systems and relevant transportation-enabled urban services.

The articles in the special issue represent an exciting diversity in research settings, methodologies, and applications. The articles are composed into two parts. Part 1 of the special issue includes four papers. In what follows, we provide a brief description of the papers in Part 1. The introduction of papers in Part 2 is rendered to the journal issue scheduled for September 2023.

Yan et al. (2023) study an incentive mechanism for private parking-sharing programs in an imperfect information setting. They propose a matching-and-pricing mechanism for a driver's demand-reporting problem in parking-sharing programs in which owners share their private parking slots with other drivers. They generate a driver-slot matching solution and show that, under the assumption that drivers do not know with certainty whether other drivers will show up to compete for the parking slots, the mechanism proposed induces drivers

to truthfully report their private information about the travel plans and guarantees some desirable properties.

Schwamberger et al. (2023) study the dynamic customer contacting for e-fulfillment in times of crisis. Specifically, the outbreak of the coronavirus disease 2019 pandemic increased demand for online grocery orders for both click & collect (C&C) and attended home delivery (AHD) and outstripped delivery capacity by a wide margin. They investigate a new demand management concept of proactively contacting customers and develop a decision policy for the C&C fulfillment method to address the problem of when to contact customers. They also extend this approach to the AHD setting and propose a three-step procedure to solve this problem.

van der Gaast and Arslan (2023) explore the last-mile logistics operations of instant grocery delivery services. They introduce an instant delivery problem to replicate and examine two widely adopted strategies in the rapid delivery market: the personal shopper system (PSS) and the inventory owned delivery (IOD) system. They propose a tailored rolling horizon framework that utilizes column generation to browse updated delivery plans for arriving customer orders. Computational studies show that the PSS is a highly competitive strategy compared with IOD, particularly when dealing with small-sized customer orders.

Ke and Mo (2023) study a one-way car-sharing system with both station-based and free-floating service types, which apply the two types in different parts of the service area. They establish a mixed-integer linear-programming model to maximize the operator profit, considering both strategic decisions of service type and operational decisions of relocation and trip selection. They propose a heuristic algorithm to effectively solve the model. Computational results demonstrate that the

integrated system achieves a larger profit and higher demand fulfillment rate compared with the single station-based or free-floating system.

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