

Transportation Service Provider Collaboration Problem: Potential Benefits and Solution Approaches

SEMINAR SESSION INFORMATION

DATE: Wednesday, Nov. 30

TIME: 12:15pm

LOCATION: Durham 260

PROVIDED: Pizza and Soda

SPEAKER INFORMATION

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MEMBERSHIP INFORMATION

Fees are as follows and include all weekly seminars (22+) & workshops.

FIRST MEETING: FREE

MEETING: \$5

SEMESTER: \$25

YEAR: \$40

Truck-based freight transportation continues to play a vital role in the delivery of goods in the United States by carrying nearly 70% of all freight tonnage. Despite its size and importance, the truck industry continues to struggle with transporting freight in an efficient, timely, and sustainable manner. One potential solution to alleviate many of the current truck industry problems is for transportation service providers (TSP) to collaborate by sharing resources, facilities, and freight volume. This research introduces the Transportation Service Provider Collaboration Problem (TSP-CP) to demonstrate the benefits of using optimal freight routing and consolidation decisions for collaborating TSP. In this research, the TSP-CP is modeled as a variant of the pick-up and delivery problem modified to capture the complexities required to facilitate TSP collaboration. Additionally, two heuristics are introduced to provide solutions to the TSP-CP for industry problem instances. Finally, the benefits achieved and insights gained through examining collaboration between TSP in the industry problem instances are highlighted.