

UBERization of Freight Procurement

Motivation / Background

Freight tender processes are complex, time consuming, and inefficient.

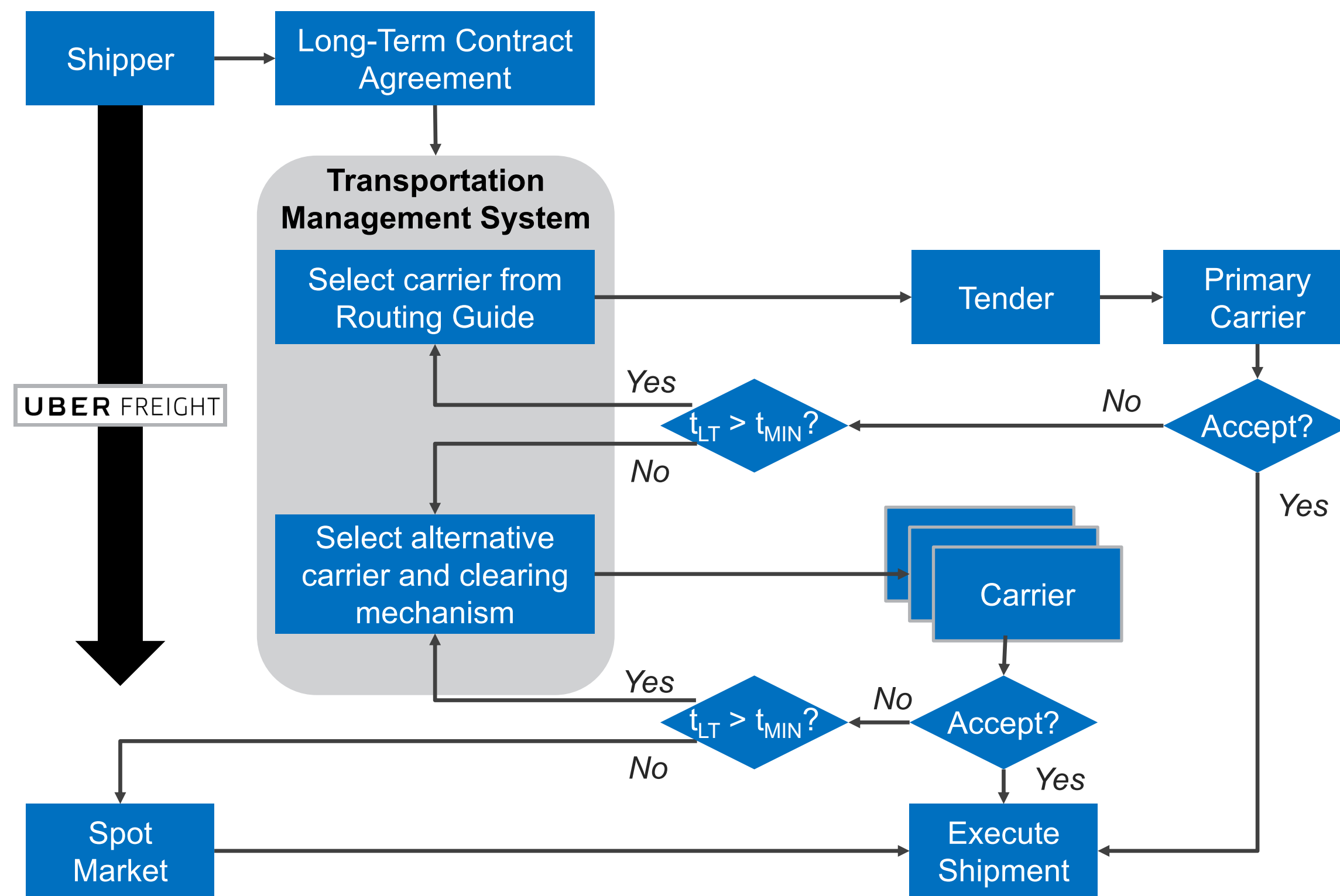
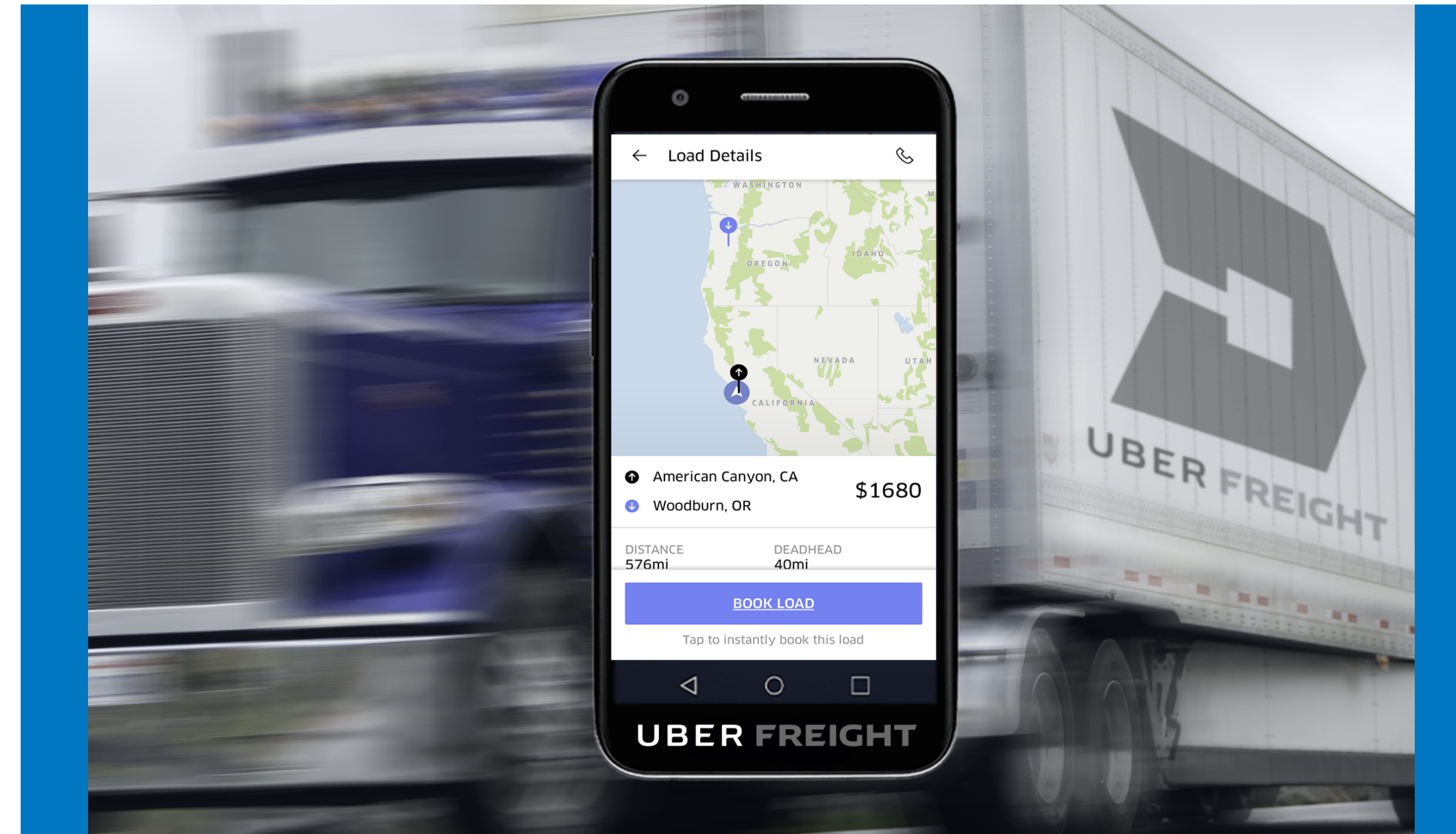


Figure 1 Carrier Selection with Automated Escalation



The Problem

Current freight market provides shippers limited visibility and certainty over carrier availability, desired shipment time, and expected price to pay. These inefficiencies increase procurement lead time and cost. In a more liquid market, shippers will benefit from procuring their freight directly from spot market.

Key Question / Hypothesis

1. What are shipper's decision factors in choosing long-term contract market vs. spot market?
2. Assuming we have more liquid transactions, how would shippers' procurement strategy and supply chain network change over time?

Relevant Literature

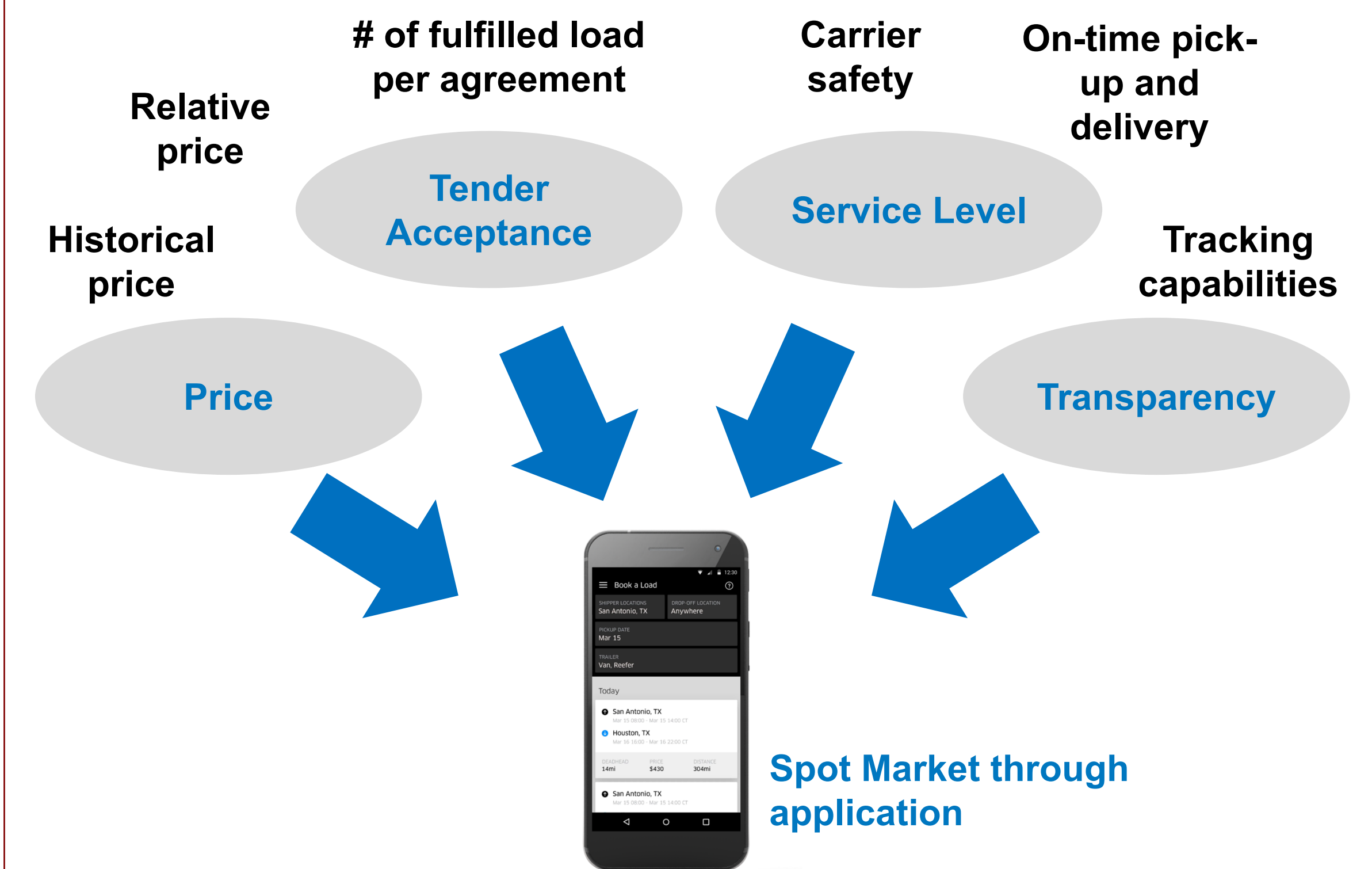
- Contract design and supply chain coordination in the electricity industry. *Fernando S. Oliveira, Carlos Ruiz, Antonio J. Conejo. 2013*
- Topics in contract pricing and spot markets. *Yi He, 2008*
- Business Dynamics: System Thinking and Modeling for A Complex World. *Sterman, 2000*

Methodology

- 1 Conduct high level research on freight transportation, contract and spot market
- 2 Identify key variables affecting shipper's procurement strategy
- 3 Develop reference mode for behavior of each variables identified
- 4 Develop causal loop diagram and identify future patterns
- 5 Test the behavior by simulating the model with different scenarios

Initial Results

What variables affecting shipper's procurement strategy?



Expected Contribution

- By developing a model that describes shipper's behavior during freight tender transactions, we aim to achieve a better understanding of
- The impact of rising technologies, especially in digital freight matching such Uber Freight, on shipper's procurement strategy
 - Possible product extension of existing technologies that would benefit shipper, carrier, and ultimately freight industry

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