

Managing Disruptions: Understanding Shipper Routing Guide Performance

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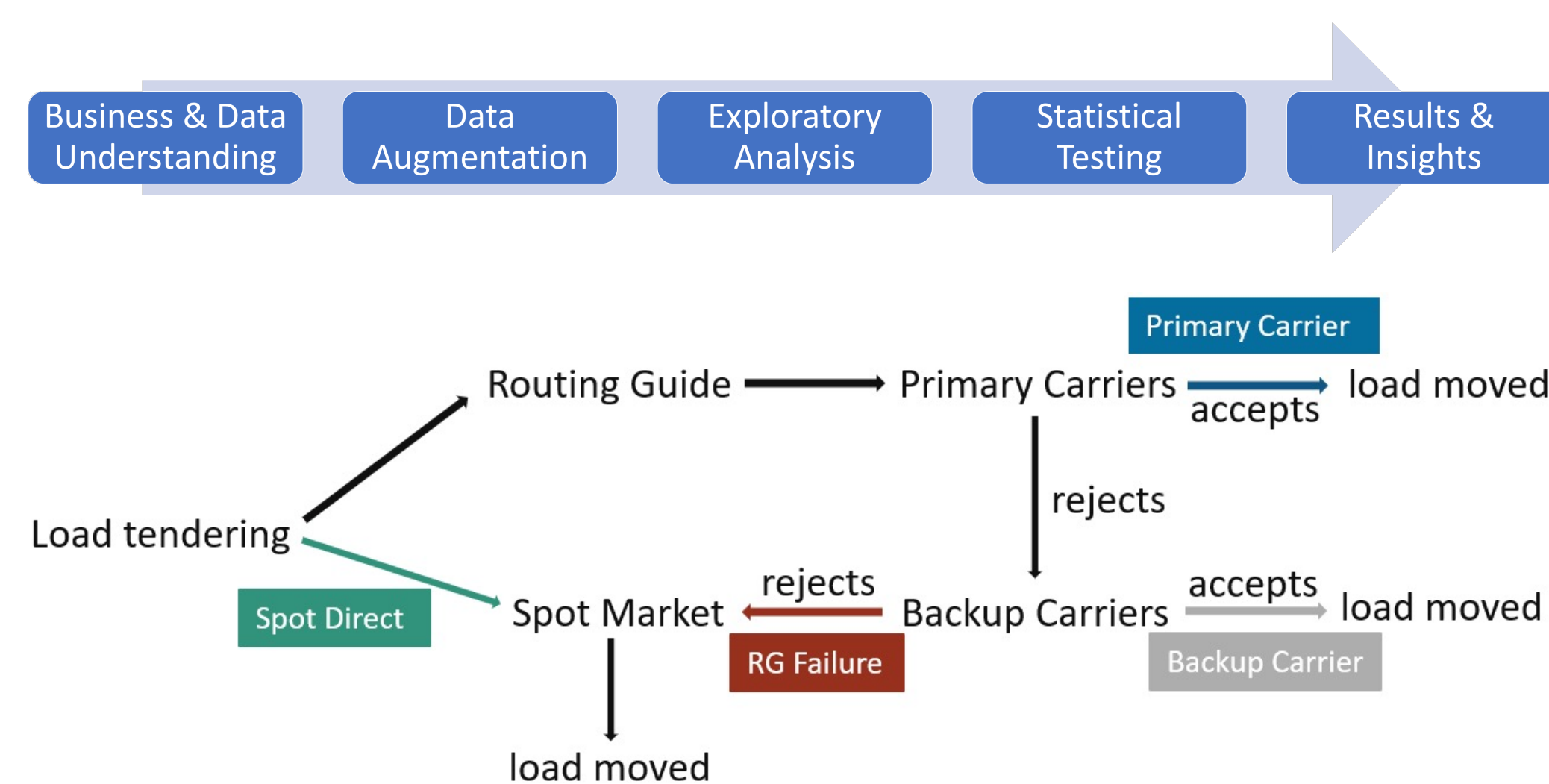
Motivation / Background

1. Trucking has often been referred to as the “lifeblood” of the US economy. In 2020, 84% of all shipments within DAT's shipper consortium moved under contract rates³.
2. Do routing guides insulate shippers from the volatility experienced by the spot market during disruptive events?

Key Question / Hypothesis

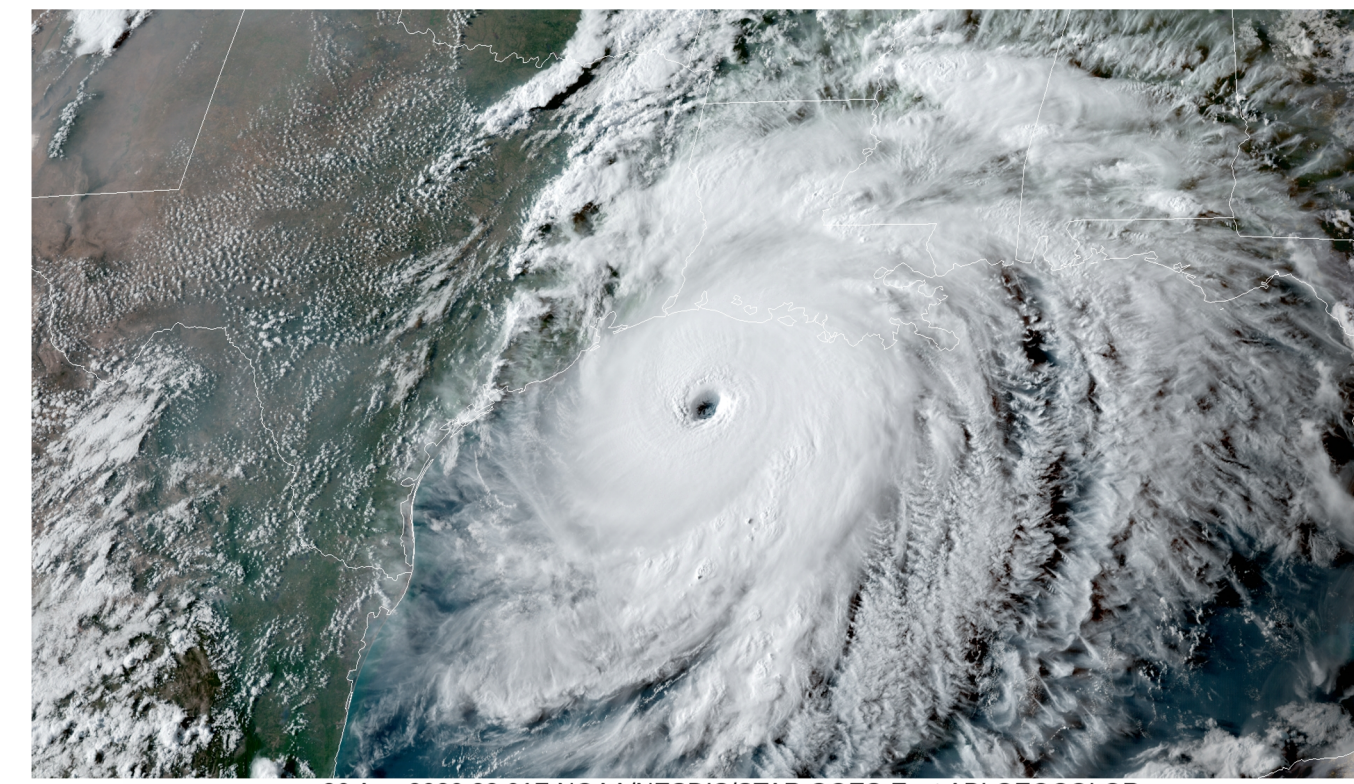
1. To what extent do disruptions in the US truckload market cause shippers' routing guides to underperform in undersupplied and oversupplied markets?
2. How does routing guide depth relate to other performance metrics like linehaul cost per mile, average weekly volume, and cadence?

Methodology



Relevant Literature

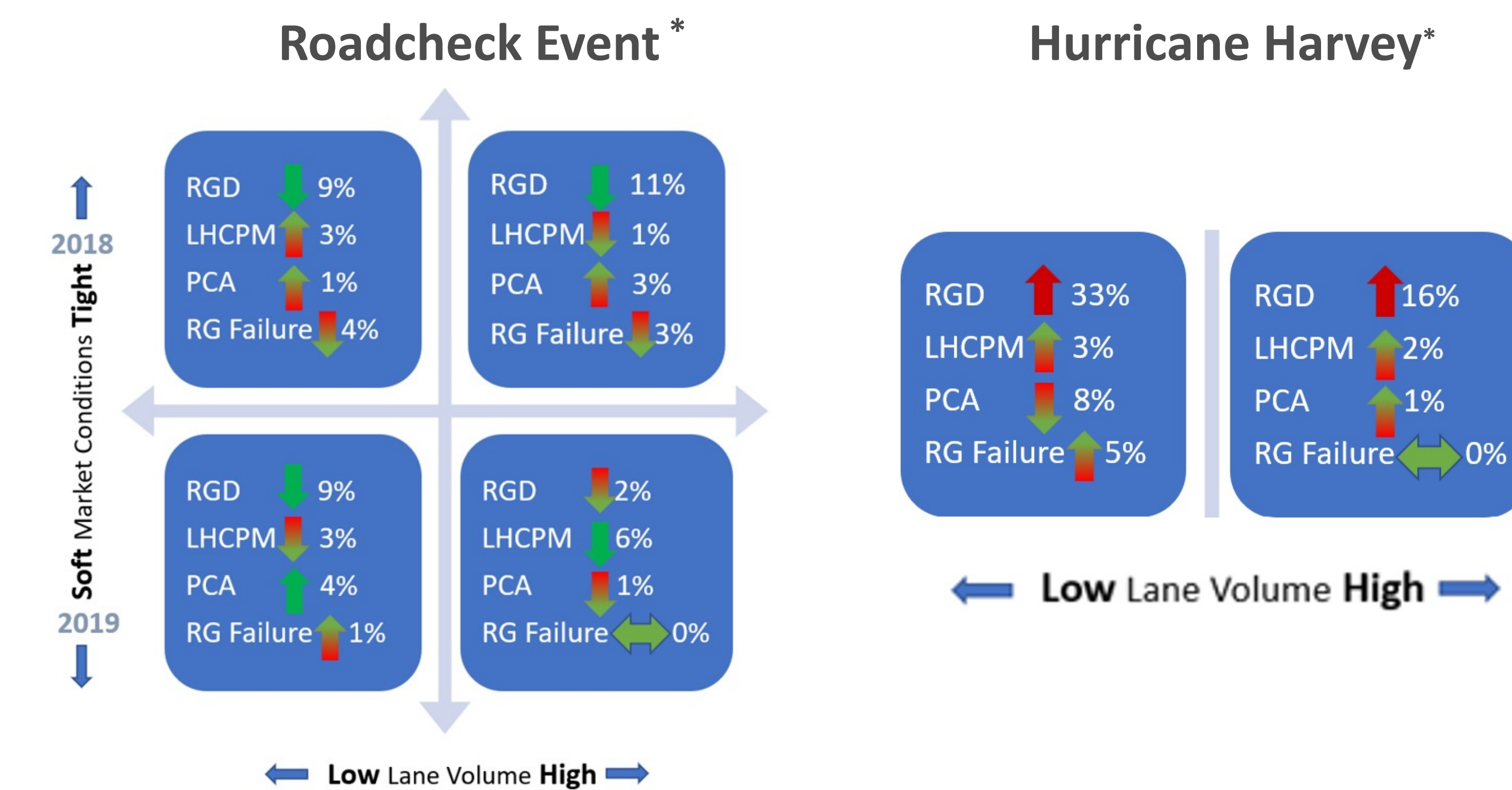
1. Acocella, A., Caplice, C., & Sheffi, Y. (2020). Elephants or goldfish?: An empirical analysis of carrier reciprocity in dynamic freight markets. MIT Web Domain. <https://dspace.mit.edu/handle/1721.1/133077>
2. Aemireddy, N., & Yuan, X. (2019). Root Cause Analysis and Impact of Unplanned Procurement on Truckload Transportation Costs. <https://dspace.mit.edu/handle/1721.1/121317>
3. Caplice, C. (2021). Reducing uncertainty in freight transportation procurement. Journal Supply Chain Management, Logistics and Procurement Vol. (4), No. 1 <https://www.henrystewartpublications.com/jscm/forthcoming>



Extreme weather, national holidays, DOT Roadcheck and other events impact how shippers procure their transportation needs.

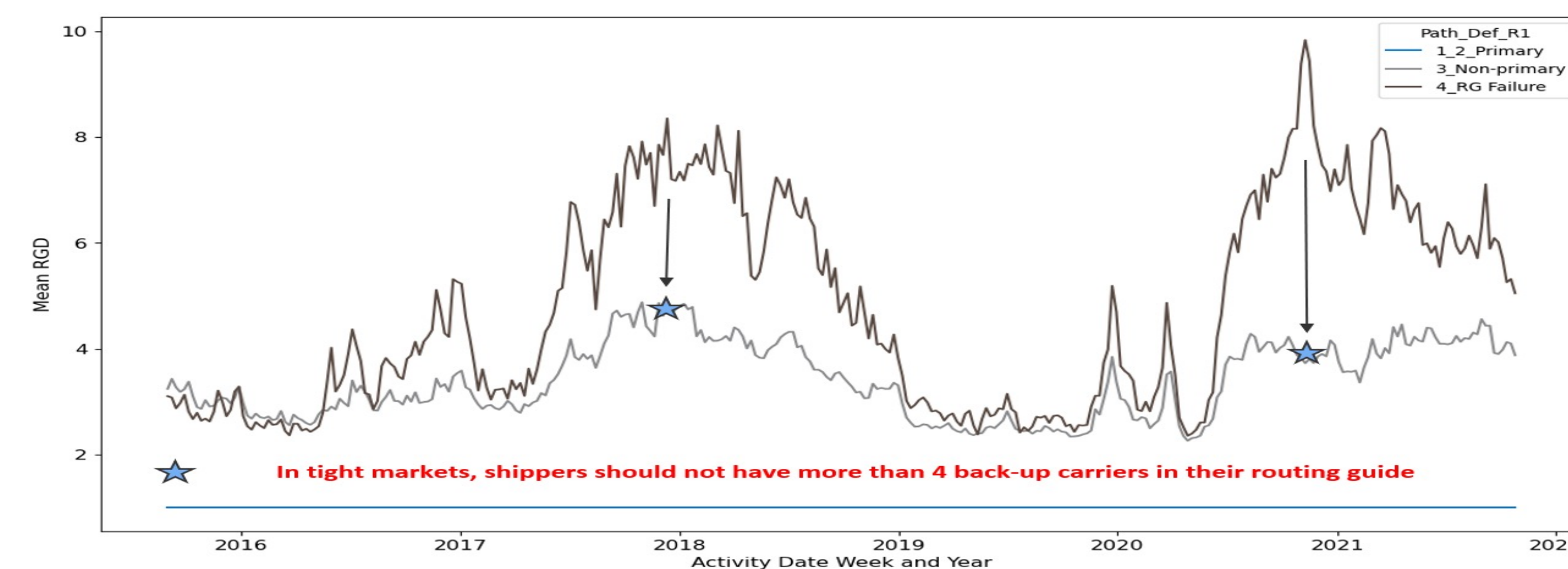


Results



RGD: Route Guide Depth | LHCPM: Linehaul cost per mile
PCA: Primary carrier acceptance | RG: Routing guide failure

*Changes are reported relative to a 6-mon. benchmark period preceding each event.

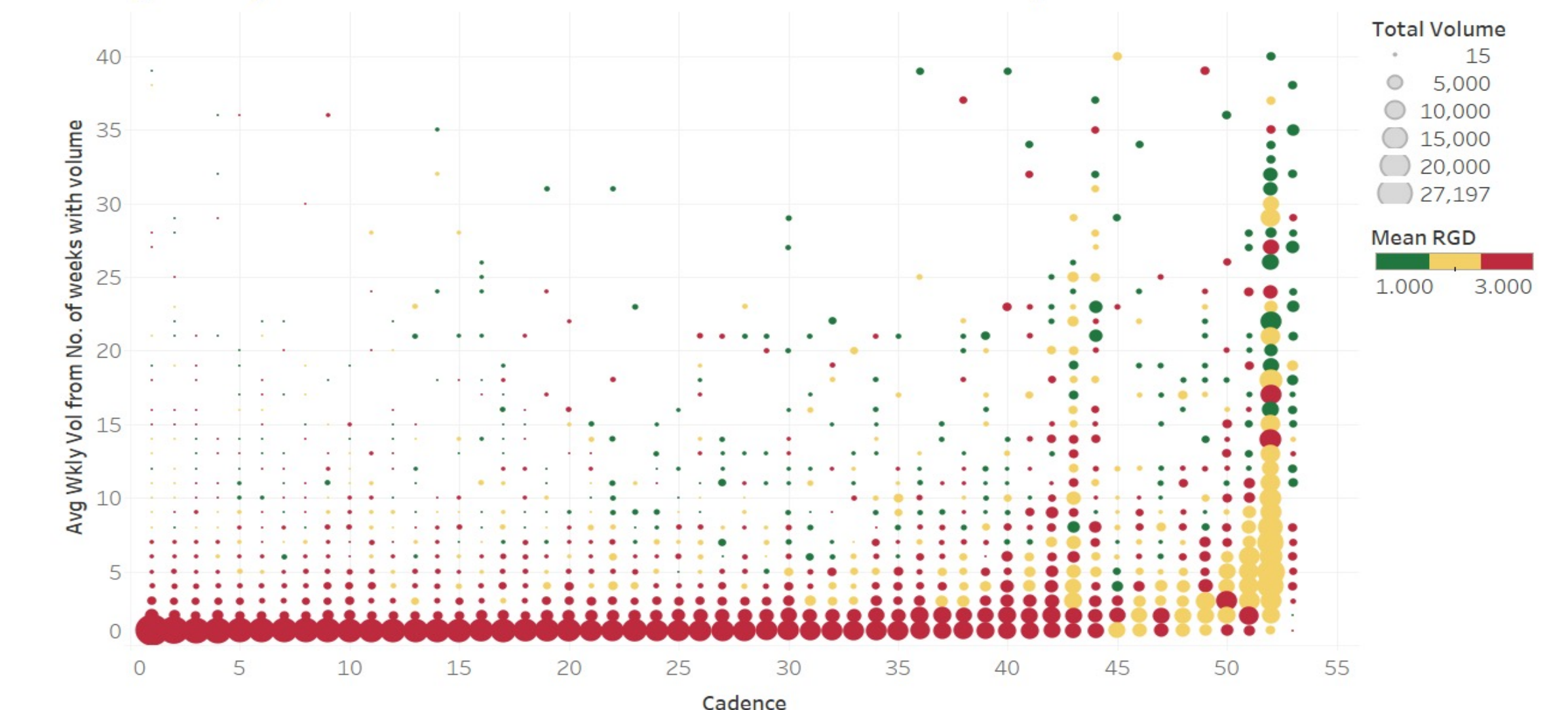


Sponsoring Organizations;

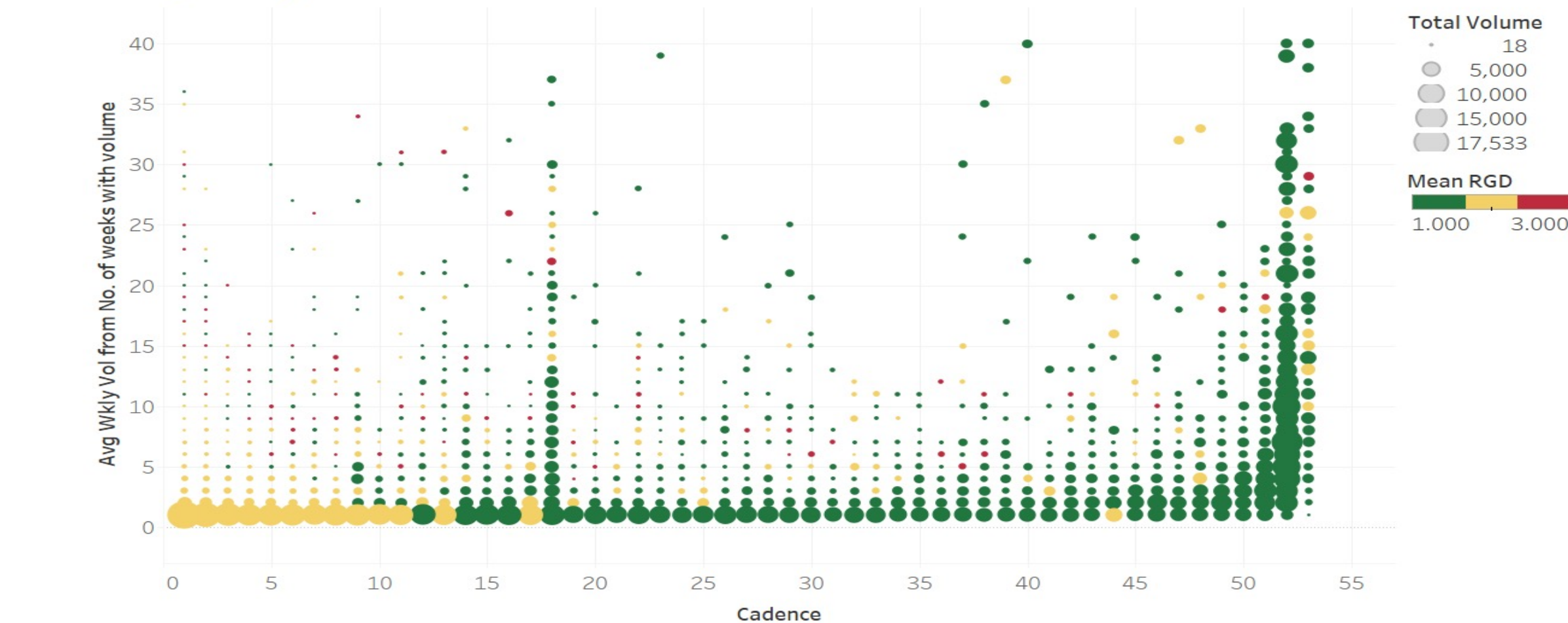
C.H. Robinson and TMC, a Division of C.H. Robinson

Recommendation & future scope

Average weekly volume from No. of weeks with volume vs Cadence for tight markets



Average weekly volume from No. of weeks with volume vs Cadence for soft markets



Key Insights

1. Routing guide resiliency changes with freight market conditions
2. Routing guides performance is worse during unplanned events vs. planned events
3. Routing guide depth is a function of weekly volume and cadence

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