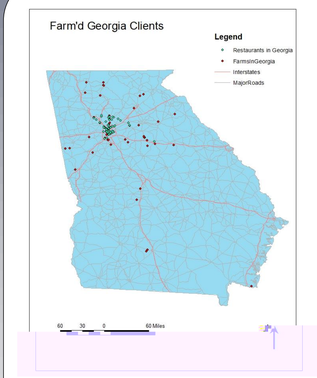
Hyperconnected Logistics for

Introduction

In a technology driven era, start-ups have gained more momentum in the marketplace, particularly user-based platforms. As startups develop, their logistics systems grow in complexity. Here we introduce several components that make up a hyperconnected logistics system for Farm-to-Table (F2T) platforms. In the examples seen in this poster we use the use case of Farm'd, a North American based start-up. Such platforms induce logistics that must consider both the downstream side of markets, such as urban agglomerations with restaurants, institutions, and households demanding fresh and local food, and their upstream side consisting of farms producing and selling fresh and local food.

Logistics

Sample Route with 3 drivers
Total Distance: 677 miles
Total Time: 1167 min
Late Deliveries: 30%



Farm'd restaurant and farm locations (Left). Ring

Using ArcGIS we were able to find locations which could be suitable for Hub placement. ArcGIS allowed us to shrink the candidate pool from 148 restaurants and 48 farms to 13 restaurants and 6 farms seen below.

Further Study

The optimization briefly discussed in this project is performed using principles of the physical internet, dynamic programming and traveling salesman heuristics. We hope to extend the initial routing optimization code to include hub placement to test for feasibility and success. We also hope to integrate this code with ArcGIS visualization to better show our results.