



# Projecting Demand and Costing a New Market

REFRIGERATED SHIPMENTS TO NORTHEAST US FROM  
MANUFACTURING FACILITY IN HALIFAX, NORTH CAROLINA

April 2024







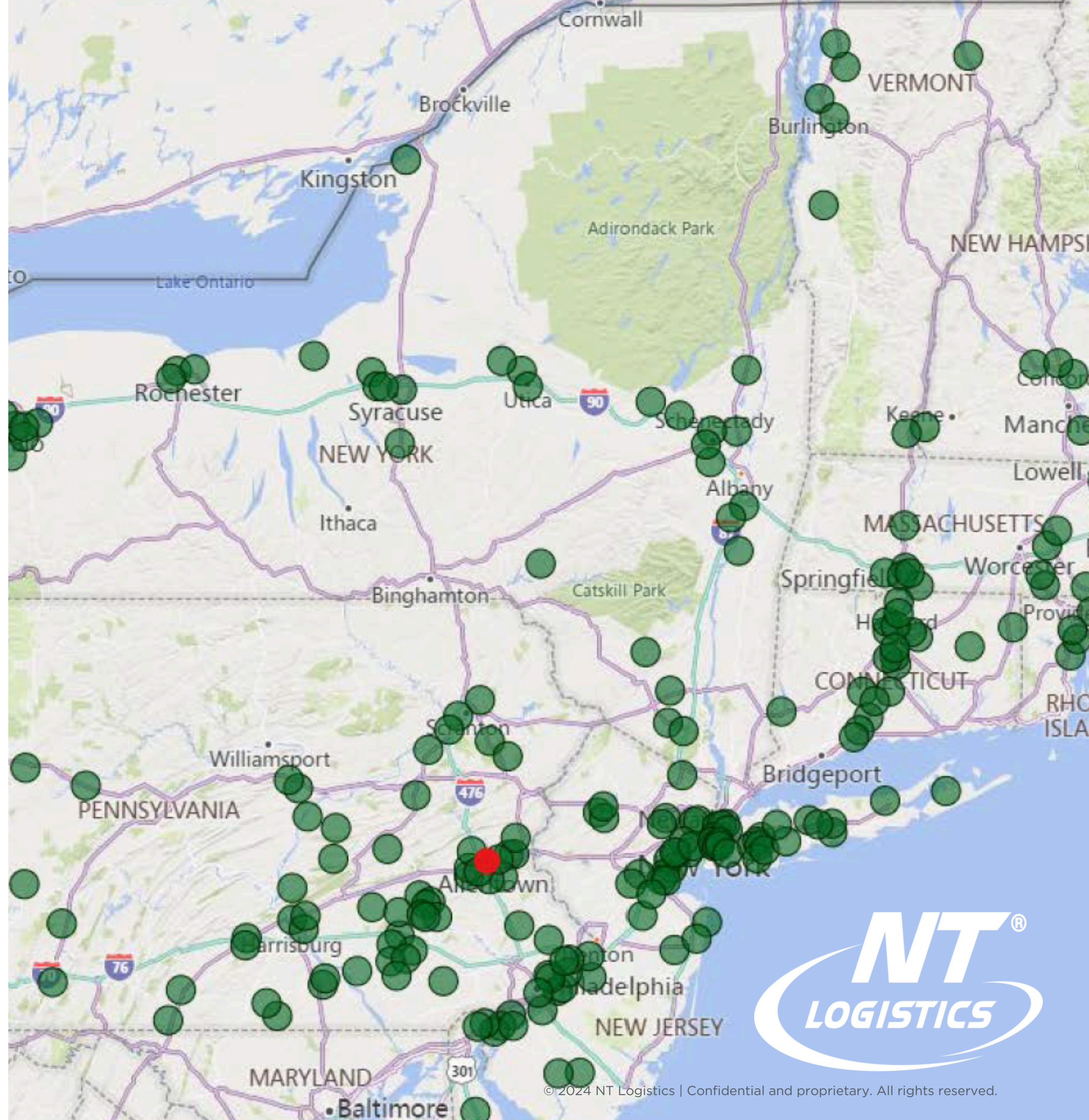
# Distribution Opportunity in the NE Region

We identified 700 unique locations in the Food Service/Grocery Retail Space that NT Logistics had serviced over the previous five years. We refined the list down to 260 likely locations within 10 states.



# Projection Location Demand

The map to the right reflects these locations (green circles) along with a prospective Regional Distribution Center location (red circle). We believe this to be representative of potential demand by location for modeling purposes.





# Modeling Demand

We modeled four different shipment sizes, (1,2,3 and 4 pallets at 1500#/pallet), coming from an origin in the NE (Geographic Centroid) that will serve as a Regional Distribution Center (RDC) to these locations. We selected Allentown, PA as it is central to the major population centers along the I-95 corridor and within 100 miles of New York City. We modeled this RDC as supplied from a facility in Halifax, NC, based on a week's worth of activity.

04

1 Pallet	Shipment Count	Pallet Count	Weight	Base	Fuel	Total Cost	Cost / Lb
RDS Supply	9	260	390,000	\$8,247	\$2,103	\$10,350	\$0.0265
LTL Outbound	260	260	390,000	\$84,697	\$27,950	\$112,647	\$0.2888
	<b>269</b>	<b>260</b>	<b>390,000</b>	<b>\$92,944</b>	<b>\$30,053</b>	<b>\$122,997</b>	<b>\$0.3154</b>

2 Pallets	Shipment Count	Pallet Count	Weight	Base	Fuel	Total Cost	Cost / Lb
RDS Supply	18	520	780,000	\$16,494	\$4,206	\$20,700	\$0.0265
LTL Outbound	260	520	780,000	\$107,763	\$35,562	\$143,425	\$0.1837
	<b>278</b>	<b>520</b>	<b>780,000</b>	<b>\$124,258</b>	<b>\$39,767</b>	<b>\$164,025</b>	<b>\$0.2103</b>

3 Pallets	Shipment Count	Pallet Count	Weight	Base	Fuel	Total Cost	Cost / Lb
RDS Supply	26	780	1,170,000	\$23,825	\$6,075	\$29,900	\$0.0256
LTL Outbound	260	780	1,170,000	\$84,697	\$53,343	\$214,987	\$0.1837
	<b>286</b>	<b>780</b>	<b>1,170,000</b>	<b>\$185,470</b>	<b>\$59,417</b>	<b>\$244,887</b>	<b>\$0.2093</b>

4 Pallets	Shipment Count	Pallet Count	Weight	Base	Fuel	Total Cost	Cost / Lb
RDS Supply	35	1040	1,560,000	\$32,073	\$8,177	\$40,250	\$0.0258
LTL Outbound	260	1040	1,560,000	\$194,133	\$64,064	\$258,197	\$0.1655
	<b>295</b>	<b>1040</b>	<b>1,560,000</b>	<b>\$226,206</b>	<b>\$72,241</b>	<b>\$298,447</b>	<b>\$0.1913</b>



# Cost with Modeled Demand

If each of the 260 locations receives x pallet(s) per week, the results are as follows. The cost to resupply from NC to PA would be approximately \$0.026/lb. The pallet-based model represents a cumulative summary of the 260 Food Service/Grocery Retail locations, each having a specific cost profile for pricing purposes.



## 1 Pallet Per Week

Total Landed Cost from  
RDC to Destination

**\$0.2888 / lb**

## 2 Pallets Per Week

Total Landed Cost from  
RDC to Destination

**\$0.1837 / lb**

## 3 Pallets Per Week

Total Landed Cost from  
RDC to Destination

**\$0.1837 / lb**

## 4 Pallets Per Week

Total Landed Cost from  
RDC to Destination

**\$0.1655 / lb**



# Population Derived Volume

Additionally, we created a blended model to factor in variable demand to the 260 destinations. Population demographics within a 50-mile radius of each destination were used as the basis for this approach. To avoid duplication of demand in neighboring zip codes, if a particular zip code's population was used more than once, that population was divided by the instances.

**This produced an Adjusted Population of roughly 57 million to be serviced by these 260 destinations.**

06



**Adjusted Population of roughly 57 million to be serviced by these 260 destinations.**



# Adjusted Population

The Adjusted Population, in conjunction with an estimated demand for our customer's product at .75lbs/person annually produced the following results.

## Annual Demand

42.7 million lbs of product

## Low / High

Low of 829 lbs, 1 pallet

High of 7.705lbs, 6 pallets modeled on a weekly basis



## Weekly Demand

822,000 lbs of product







# Cost with Demand Modeled at Population Centric Consumption

Includes resupply but not warehousing cost

Modeled Demand	Shipment Count	Pallet Count	Weight	Base	Fuel	Total Cost	Cost / Lb
RDS Supply	24	697	822.063	\$21,993	\$5,607	\$21,850	\$0.0266
LTL Outbound	260	697	822,063	\$141,880	\$46,821	\$188,701	\$0.2295
	<b>284</b>	<b>697</b>	<b>822,063</b>	<b>\$163,873</b>	<b>\$52,428</b>	<b>\$210,551</b>	<b>\$0.2561</b>