

1st Project Objective :

To bring reliability in Freight rate Projections

Freight Market

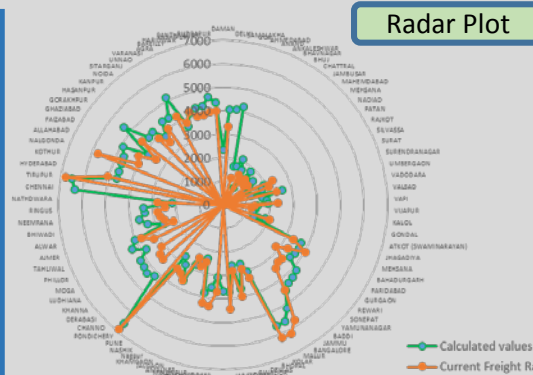
Parameters for Assessment :

- Truck Operators survey
- Determining truck Operating economics
- Inputs for benchmarking tool

Benchmarker Tool Deployment

From	Destination	Distance	To & Fro	Diesel consumed amount (in ltr)	Fuel Expenses	Tyre Expenses	Toll expenses - Current (in Rs)	Fuel + Tyre + Toll expenses
Naroda	Naroda to Agra	242	484	60.50	3696.55	695.5796222	0	4392.13
Naroda	ALMER	423	846	105.75	6462.33	1223.5381	2381	10003.84
Naroda	Naroda to Aligarh	376	752	42.75	2612.03	484.4127	0	3096.44
Naroda	Naroda to Bahawalpur	685	1370	171.00	1047.00	201.7640000	1780	1424.76
Naroda	Naroda to Bikaner	303	606	45.75	2792.33	525.1230000	724	4042.36
Naroda	Naroda to Bhopal	425	850	102.25	6332.98	1246.8726000	2901	10545.42
Naroda	Jhansi/THAC	368	736	102.00	11792.20	2221.4295000	2612	15044.52
Naroda	Naroda to Baddi	258	516	64.50	3945.85	748.2582600	3388	5702.21

Calculated V/S Actual Freight



Radar Plot

Results



- Precise estimation of truck freight rates using the benchmarker
- Radar plot for capturing deviations instantly

2nd Project Objective :

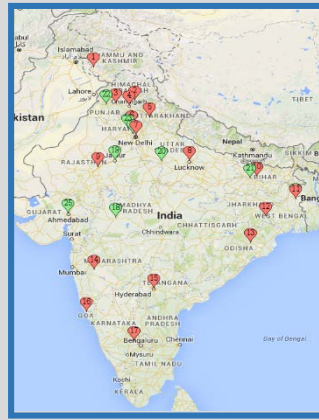
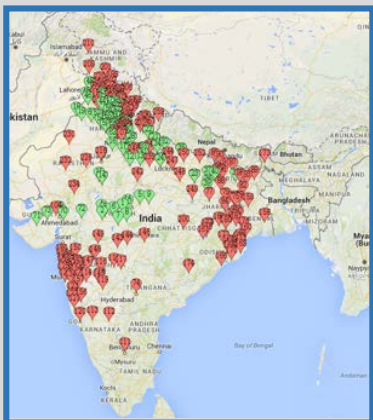
To design a “Least Delivered Cost” network model for Flour Transportation

Existing Network

Redesigned Network

Advanced Excel Modelling

Result



Possible Plant Locations	Demand Locations																
	Rajouri	shimla	Ludhial	Chandi	Haridw	Panipal	North East	D/Lucknow	Ajmer	Banbir	Berhan	Jamshe	Angul	Shirur	Hydera	Mapusa	Tumal
Rajouri	100000	1747.2	1587.4	1785	2299.6	2209.5	2593.179	100000	3139.7	100000	100000	100000	100000	100000	100000	100000	100000
shimla	1747.242	100000	944.91	747.23	1122.2	1189.1	1529.217	2505.969	2433.3	100000	100000	100000	100000	100000	100000	100000	100000
Ludhiana	1587.357	944.91	100000	837.35	1404.2	1186.2	1572.822	2715.273	2296	100000	100000	100000	100000	100000	100000	100000	100000
Chandigarh	1785.033	747.23	837.35	100000	1133.9	1043.7	1407.123	2473.592	2258.9	100000	100000	100000	100000	100000	100000	100000	100000
Haridwar	2299.572	1122.2	1404.2	1133.9	100000	1107.7	1216.168	1958.546	2319.9	100000	100000	100000	100000	100000	100000	100000	100000
Panipat	2209.455	1189.1	1186.2	1043.7	1107.7	100000	953.631	2151.315	1843.2	100000	100000	100000	100000	100000	100000	100000	100000
North East Delhi	2593.179	1529.2	1572.8	1407.1	1218.2	953.63	100000	1822.824	1692	100000	100000	100000	100000	100000	100000	100000	100000
Lucknow	100000	2506	2715.3	2474	1956.5	2151.3	1822.824	100000	2540.9	2447.8	100000	3171.7	100000	100000	100000	100000	100000
Ajmer	3139.695	2433.3	2256	2258.9	2319.9	1843.2	1692.009	2540.853	100000	100000	100000	100000	100000	100000	100000	100000	100000
Banbira	100000	100000	100000	100000	100000	100000	100000	2447.829	100000	100000	1689.1	1706.5	2314.1	100000	100000	100000	100000
Berhampore	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	1689.1	1456.5	1927.5	100000	100000	100000	100000
Jamshapur	100000	100000	100000	100000	100000	100000	100000	100000	3171.672	100000	1706.5	1456.5	1188.2	100000	100000	100000	100000
Angul	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	2314.1	1827.5	1188.2	100000	100000	100000	100000
Shirur	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000
Hyderabad	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	2183.3	1834.5
Mapusa	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	2183.3
Tumakuru	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	2131
Indore	100000	100000	100000	100000	100000	100000	3218.2	2898.414	2860.623	2192	100000	100000	100000	100000	100000	100000	1997.2
Jaipur	3104.811	2247.2	2142.6	2087.4	2037.9	1628.1	1389.681	2160.036	950.72	100000	100000	100000	100000	100000	100000	100000	100000
Atawah	3340.278	2189.1	2337.4	2122.2	1680.4	1738.5	1378.053	1052.469	2072.8	2953.3	100000	100000	100000	100000	100000	100000	100000
Patna	100000	100000	100000	100000	100000	100000	100000	2299.572	100000	100000	732.7	1814.1	1718.2	2308.3	100000	100000	100000
Moga	1578.636	1229.8	951.89	1104.8	1645.5	1302.5	1671.65	2083.879	2142.6	100000	100000	100000	100000	100000	100000	100000	100000
Gohana	2334.456	1334.4	1314.1	1186.2	1197.8	712.35	843.165	2087.361	1712.4	100000	100000	100000	100000	100000	100000	100000	100000
rahini	2517.597	1471.1	1497.2	1343.2	1206.5	878.05	648.396	1904.22	1683.3	100000	100000	100000	100000	100000	100000	100000	100000
Ahmedabad	100000	100000	100000	100000	100000	100000	3474	3276.324	100000	2203.6	100000	100000	100000	100000	100000	2319.9	100000
Murshidabad	100000	100000	100000	100000	100000	100000	100000	100000	100000	100000	1654.2	619.33	1479.8	1955.3	100000	100000	100000

- This approach helped to locate new plant locations based on current demand scenario
- Potential reduction of USD 0.1 million in total supply chain costs
- Creation of a dynamic optimization model for future network changes

Pre Clustering

Post Clustering

To find out the possible Production facilities while minimizing Total delivered cost