Module 02 – Transportation Modeling

Exploratory Data Analysis

In this section, you should perform some data analysis on the data provided to you. Please format your findings in a visually pleasing way and please be sure to include these cuts:
- *The locations involved in the analysis (id -> name) and specify if they are a source or a destination*
- *A table of the average cost between source and destination (for the sake of this assignment, we are dealing with sugar-miles similar to the bushel-mile example from the textbook)*

Model Formulation

Write the formulation of the model into here prior to implementing it in your Excel model. Be explicit with the definition of the decision variables, objective function, and constraints

Model Optimized for Profit

Implement your formulation into Excel and be sure to make it neat. This section should include:
- *A screenshot of your optimized final model (formatted nicely, of course)*
- *A text explanation of what your model is recommending*

Model with Stipulation

*Please copy the tab of your original model before continuing with the next part to avoid messing up your original solution. What happens if you add an additional constraint to the model such that all demand **MUST** be met. Is the solution still feasible? If not, please explain why.*

Sum of Per	Column Labels							
Row Labels	D2d95387	D3d03c41	D4364665	D6c9864c	D6ca4f41	Dd599e8a	(blank)	Grand Total
S281ae17	5.609998631	4.549999515	4.480002594	3.300000508	3.959998242	8.360001548		30.26000104
Sb5c3a67	4.94999996	5.940001791	5.200001674	4.069999164	3.400000697	3.800000404		27.36000369
Sb7dc952	3.839998872	2.460001018	3.300000779	3.419998655	1.84999902	7.199998403		22.06999675
Scc1f4cf	3.900000917	2.73000042	4.680001088	2.200001057	4.200000255	7.309999116		25.02000285
(blank)								
Grand Total	18.29999838	15.68000274	17.66000613	12.98999938	13.40999821	26.66999947		104.7100043

	Nougat Nook	Mallow Melt M	Praline Park	Soda Pop Spri	Marzipan Met	Mochi Metrop	Sent	Capacity
Cherry Jubilee Junction	0	0	103	42	0	0	145	145
Frozen Fudge Fjords	70	0	0	0	0	97	167	167
Coconut Cream Cove	0	33	0	0	93	0	126	126
Candy Cane Canyon	6	62	0	50	0	0	118	118
Received	76	95	103	92	93	97	556	
Max to send	97	95	103	92	93	97	577	

location_id	location
Scc1f4cf	Candy Cane Canyon
Sb7dc952	Coconut Cream Cove
Sb5c3a67	Frozen Fudge Fjords
S281ae17	Cherry Jubilee Junction
Dd599e8a	Mochi Metropolis
D6ca4f41	Marzipan Metropolis
D6c9864c	Soda Pop Springs
D4364665	Praline Park
D3d03c41	Mallow Melt Mountains
D2d95387	Nougat Nook
sumpro	1871.030352

Sheets: Milly_Module02_Location_List | Sheet9 | Milly_Module02_Limits

We lack the capacity to fill demand. Locations such as Candy Cane Canyon, Coconut Cream Cove, Frozen Fudge Fjords, and Cherry Jubilee Junction are fully utilizing their capacity, while Mochi Metropolis has a recorded demand of 97 units but lacks a stated maximum capacity. Formula for the sum product, =SUMPRODUCT(B5:G8,B14:G17)