



Experiment No. 3

December 30, 2020, 4:00 am

Singly Constrained Gravity Model (Origin)

Input Values :

Base Year Origin-Destination Cost Matrix							
Zone	1	2	3	4	5	6	7
1	0	10	15	15	20	25	32
2	10	0	7	5	10	15	22
3	15	7	0	8	14	16	26
4	15	5	8	0	6	10	18
5	20	10	14	6	0	16	12
6	25	15	16	10	16	0	12
7	32	22	26	18	12	12	0

Future Year Origins Total							
Zone	1	2	3	4	5	6	7



	22000	11500	17500	14500	26500	17500	11500
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Future Year Destinations Total							
Zone	1	2	3	4	5	6	7
	6475	40900	8125	31150	10900	13150	10300

Selected Impedence Functions : Power Function [$F_{ij} = C_{ij}^B$]

B value = -2

Calculations :

Impedance Matrix Calculations (F_{ij})							
Zone	1	2	3	4	5	6	7
1	INF	0.01	0.0044	0.0044	0.0025	0.0016	0.001



2	0.01	INF	0.0204	0.04	0.01	0.0044	0.0021
3	0.0044	0.0204	INF	0.0156	0.0051	0.0039	0.0015
4	0.0044	0.04	0.0156	INF	0.0278	0.01	0.0031
5	0.0025	0.01	0.0051	0.0278	INF	0.0039	0.0069
6	0.0016	0.0044	0.0039	0.01	0.0039	INF	0.0069
7	0.001	0.0021	0.0015	0.0031	0.0069	0.0069	INF

Dij*Fij								
Zone	1	2	3	4	5	6	7	Sum Dij*Fij
1	INF	409	36.1111	138.4444	27.25	21.04	10.0586	INF
2	64.75	INF	165.8163	1246	109	58.4444	21.281	INF
3	28.7778	834.6939	INF	486.7188	55.6122	51.3672	15.2367	INF
4	28.7778	1636	126.9531	INF	302.7778	131.5	31.7901	INF
5	16.1875	409	41.4541	865.2778	INF	51.3672	71.5278	INF



6	10.36	181.7778	31.7383	311.5	42.5781	INF	71.5278	INF
7	6.3232	84.5041	12.0192	96.142	75.6944	91.3194	INF	INF

Interaction Probabilities (P_{ij})							
Zone	1	2	3	4	5	6	7
1	NAN	0	0	0	0	0	0
2	0	NAN	0	0	0	0	0
3	0	0	NAN	0	0	0	0
4	0	0	0	NAN	0	0	0
5	0	0	0	0	NAN	0	0
6	0	0	0	0	0	NAN	0
7	0	0	0	0	0	0	NAN



Final Result

Origin Destination Matrix Tij									
Zone	1	2	3	4	5	6	7	Sum Dj*Fij	Future year Origins Total
1	NAN	0	0	0	0	0	0	NAN	22000
2	0	NAN	0	0	0	0	0	NAN	11500
3	0	0	NAN	0	0	0	0	NAN	17500
4	0	0	0	NAN	0	0	0	NAN	14500
5	0	0	0	0	NAN	0	0	NAN	26500
6	0	0	0	0	0	NAN	0	NAN	17500
7	0	0	0	0	0	0	NAN	NAN	11500