

Report

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University/College Name :

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Experiment No. 4

October 30, 2021, 7:55 pm

Trip Distribution : Growth Factor Distribution Model Uniform Growth Factor Method

Input Values :

Origin-Destination Matrix For Base Year						
Zone	1	2	3	4	5	Origin Totals
1	10	15	20	5	0	50
2	5	2	32	12	32	83
3	2	3	3	14	20	42
4	1	5	1	4	5	16
5	0	4	3	5	5	17
Destination Totals	18	29	59	40	62	

Growth Factor = 1.3



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Uniform Growth Rate Matrix For Future Year						
Zone	1	2	3	4	5	Origin Totals
1	13	20	26	7	0	66
2	7	3	42	16	42	110
3	3	4	4	18	26	55
4	1	7	1	5	7	21
5	0	5	4	7	7	23
Destination Totals	24	39	77	53	82	



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5	0	5	4	7	7	23
Destination Totals	24	39	77	53	82	



Experiment No. 4

October 30, 2021, 7:57 pm

Trip Distribution : Growth Factor Distribution Model
Singly Constrained Growth Factor Method

Input Values :

Origin-Destination Matrix For Base Year						
Zone	1	2	3	4	5	Origin Totals
1	10	15	20	5	0	50
2	5	2	32	12	32	83
3	2	3	3	14	20	42
4	1	5	1	4	5	16
5	0	4	3	5	5	17
Destination Totals	18	29	59	40	62	

Origin Totals For Future Year					
Zone	1	2	3	4	5



	150	120	75	45	120
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Growth Factor Calculations

Zone	Future year Origin total	Base year Origin total	Growth Factor For Each Originating Zone
1	150	50	3
2	120	83	1.446
3	75	42	1.786
4	45	16	2.813
5	120	17	7.059

Singly Constrained Growth Factor Matrix For Future Year

Zone	1	2	3	4	5	Origins Total Base year	Origins Total Future year
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1	30	45	60	15	0	150	150
2	7	3	46	17	46	119	120
3	4	5	5	25	36	75	75
4	3	14	3	11	14	45	45
5	0	28	21	35	35	119	120
Destination Totals Base year	44	95	135	103	131		



Experiment No. 4

October 30, 2021, 7:55 pm

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2	5	2	32	12	32	83
3	2	3	3	14	20	42
4	1	5	1	4	5	16
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Zone	1	2	3	4	5	Origin Totals
1	13	20	26	7	0	66
2	7	3	42	16	42	110
3	3	4	4	18	26	55
4	1	7	1	5	7	21
5	0	5	4	7	7	23
Destination Totals	24	39	77	53	82	



Experiment No. 4

October 30, 2021, 7:59 pm

Trip Distribution : Growth Factor Distribution Model
Singly Constrained Growth Factor Method

Input Values :

Origin-Destination Matrix For Base Year						
Zone	1	2	3	4	5	Origin Totals
1	10	15	20	5	0	50
2	5	2	32	12	32	83
3	2	3	3	14	20	42
4	1	5	1	4	5	16
5	0	4	3	5	5	17
Destination Totals	18	29	59	40	62	

Destination Totals For Future Year					
Zone	1	2	3	4	5



	48	75	48	150	189
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Growth Factor Calculations

Zone	Future year Destination total	Base year Destination total	Growth Factor For Each Originating Zone
1	48	18	2.667
2	75	29	2.586
3	48	59	0.814
4	150	40	3.75
5	189	62	3.048

Singly Constrained Growth Factor Matrix For Future Year						
Zone	1	2	3	4	5	Origins Total Base year
1	27	39	16	19	0	101



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2	13	5	26	45	98	187
3	5	8	2	53	61	129
4	3	13	1	15	15	47
5	0	10	2	19	15	46
Destinations Total Base year	48	75	47	151	189	
Destinations Total Future year	48	75	48	150	189	



Experiment No. 4

October 30, 2021, 7:57 pm

Trip Distribution : Growth Factor Distribution Model
Singly Constrained Growth Factor Method

Input Values :

Origin-Destination Matrix For Base Year						
Zone	1	2	3	4	5	Origin Totals
1	10	15	20	5	0	50
2	5	2	32	12	32	83
3	2	3	3	14	20	42
4	1	5	1	4	5	16
5	0	4	3	5	5	17
Destination Totals	18	29	59	40	62	

Origin Totals For Future Year					
Zone	1	2	3	4	5



	150	120	75	45	120
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Growth Factor Calculations

Zone	Future year Origin total	Base year Origin total	Growth Factor For Each Originating Zone
1	150	50	3
2	120	83	1.446
3	75	42	1.786
4	45	16	2.813
5	120	17	7.059

Singly Constrained Growth Factor Matrix For Future Year

Zone	1	2	3	4	5	Origins Total Base year	Origins Total Future year
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1	30	45	60	15	0	150	150
2	7	3	46	17	46	119	120
3	4	5	5	25	36	75	75
4	3	14	3	11	14	45	45
5	0	28	21	35	35	119	120
Destination Totals Base year	44	95	135	103	131		



Experiment No. 4

October 30, 2021, 8:07 pm

Trip Distribution : Growth Factor Distribution Model
Fratar Growth Factor Method

Input Values :

Origin-Destination Matrix For Base Year						
Zone	1	2	3	4	5	Origin Totals
1	10	15	20	5	0	50
2	5	2	32	12	32	83
3	2	3	3	14	20	42
4	1	5	1	4	5	16
5	0	4	3	5	5	17
Destination Totals	18	29	59	40	62	

Origin Totals For Future Year					
Zone	1	2	3	4	5



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	150	120	75	45	120
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Destination Totals For Future Year					
Zone	1	2	3	4	5
	48	75	48	150	189

Selected Accuracy : Individual Cell

Entered Accuracy Level (i.e., percentage of error): 3 %

Iteration # 1

Fratar Growth Factor Matrix For Future Year							
Zone	1	2	3	4	5	Origins Total Base year	Origins Total Future year
1	30	45	60	15	0	150	150
2	7.229	2.892	46.265	17.349	46.265	120	120
3	3.571	5.357	5.357	25	35.714	75	75
4	2.813	14.063	2.813	11.25	14.063	45	45



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5	0	28.235	21.176	35.294	35.294	120	120
Destinations Total Base year	43.613	95.547	135.611	103.894	131.336		
Destination Total Future year	48	75	48	150	189		

Fratar Growth Factor Matrix For Future Year							
Zone	1	2	3	4	5	Origin Totals Base Year	Origins Total Future year
1	33.018	35.323	21.237	21.657	0	111.235	150
2	7.956	2.27	16.376	25.049	66.578	118.228	120
3	3.931	4.205	1.896	36.095	51.395	97.522	75
4	3.095	11.038	0.995	16.243	20.237	51.609	45
5	0	22.164	7.495	50.957	50.79	131.406	120
Destination Total Base year	48	75	48	150	189		
Destination Total Future year	48	75	48	150	189		



Iteration # 2

Fratar Growth Factor Matrix For Future Year							
Zone	1	2	3	4	5	Origins Total Base year	Origins Total Future year
1	44.595	47.297	28.378	29.73	0	150	150
2	8.136	2.034	16.271	25.424	68.136	120	120
3	3.093	3.093	1.546	27.835	39.433	75	75
4	2.647	9.706	0.882	14.118	17.647	45	45
5	0	20.153	6.412	46.718	46.718	120	120
Destinations Total Base year	58.47	82.283	53.491	143.824	171.933		
Destination Total Future year	48	75	48	150	189		

Fratar Growth Factor Matrix For Future Year							
Zone	1	2	3	4	5	Origin Totals Base Year	Origins Total Future year
1	36.609	43.111	25.465	31.006	0	136.192	150
2	6.679	1.854	14.601	26.516	74.899	124.548	120



3	2.539	2.819	1.388	29.03	43.347	79.123	75
4	2.173	8.847	0.792	14.724	19.399	45.934	45
5	0	18.369	5.754	48.724	51.355	124.202	120
Destination Total Base year	48	75	48	150	189		
Destination Total Future year	48	75	48	150	189		

Final Result

Fratar Growth Factor Matrix For Future Year							
Zone	1	2	3	4	5	Origin Totals Base Year	Origins Total Future year
1	36.957	46.739	27.174	39.13	0	150	150



2	4.762	1.905	12.381	25.714	75.238	120	120
3	1.875	2.813	0.938	27.188	42.188	75	75
4	1.957	7.826	0.978	14.674	19.565	45	45
5	0	15.484	4.839	47.419	52.258	120	120
Destination Total Base year	45.55	74.766	46.309	154.125	189.249		
Destination Total Future year	48	75	48	150	189		

Fratar Growth Factor Matrix For Future Year							
Zone	1	2	3	4	5	Origin Totals Base Year	Origins Total Future year
1	30.339	42.602	24.385	40.811	0	138.137	150
2	3.909	1.736	11.11	26.819	82.707	126.281	120
3	1.539	2.564	0.841	28.355	46.375	79.674	75
4	1.606	7.133	0.878	15.304	21.507	46.429	45
5	0	14.113	4.342	49.456	57.445	125.357	120
Destination Total Base year	37.393	68.149	41.556	160.744	208.035		



Destination Total Future year	48	75	48	150	189
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No. of Iteration taken to reach final result : 4



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Zone	1	2	3	4	5	Origins Total Base year	Origins Total Future year
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