

# URBAN TRANSPORTATION PLANNING

(Video Course under NPTEL)

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## Questions for Self Evaluation

### MODULE 5: TRIP DISTRIBUTION ANALYSIS

1. Derive from first principle, the Gravity Model of trip distribution.
2. Explain with the aid of a sketch, the BPR method of calibration of Gravity Model. Also, explain how this method of calibration is expected to yield relatively better results.
3. Give the formulations of the Doubly Constrained Gravity Model and explain the procedure of calibration of the model.
4. Prepare the horizon year trip distribution matrix using the given base year matrix of trip distribution. Use Fratar's Growth-Factor method and do two iterations.

i \ j	1	2	3	4	$\sum$ Horizon year
1	-	20	30	50	200
2	20	-	40	40	300
3	30	40	-	30	150
4	50	40	30	-	120
$\sum$ Horizon year	200	300	150	120	

5. List the limitations of growth-factor methods of trip distribution. Also, give specific situations, wherein these methods can be advantageously made use of.