

CEE123 Transportation Systems III: Planning & Forecasting

Quiz 2.

Travel Forecasting

Trip Generation

Trip Distribution

S'26 QUIZ 2
Solutions

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CEE 123 Quiz Master A Framework for Travel Forecasting

1. Question 130-01 (1 point)

What is a primary **input** when **developing** a travel forecasting model?:

- a. Estimated transport system demand and performance data
- b. A locally preferred transportation system alternative
- c. A validated travel forecasting model
- d. **None of the above**

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2. Question 130-04 (1 point)

What is the primary **output** when **applying** a travel forecasting model?

- a. **Estimated transport system demand and performance results**
- b. A locally preferred transportation system alternative
- c. A validated travel forecasting model
- d. None of the above

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3. Question 132-21 (1 point)

What network link type is best described as:

"abstractly connecting TAZs to the network, represented with high capacities and low speeds"

- a. **Centroid connector**
- b. Local roads
- c. Collectors
- d. Arterials

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CEE 123 Quiz Master Travel Behavior & Trip Characteristics

4. Question 135-03 (1 point)

A person leaves work and stops at a grocery store on the way home. The trip from work to the store is a:

- a. home-based work (HBW) trip
- b. home-based other (HBO) trip
- c. **non-home-based (NHB) trip**
- d. none of the above

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CEE 123 Quiz Master FSM: Trip Generation

5. Question 141-10 (1 point)

For the HBW production model below, what is the best estimate of HB Work trip productions (P_i) for a TAZ with zero households (H_i) and 100 employees (E_i) ?

$$P_i = 20 + 2.1 H_i + 0.2 E_i$$

- a. 40 HBW productions
- b. 20 HBW productions
- c. **0 HBW productions**
- d. None of the above

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CEE 123 Quiz Master A Framework for Travel Forecasting

6. Question 130-15 (1 point)

What is model calibration ?

- a. Transferring a model from a different time or place
- b. **Computation, testing, and refinement of model parameters**
- c. Empirical verification of model performance
- d. Projecting future conditions using a base model

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CEE 123 Quiz Master FSM: Trip Distribution

7. Question 142-02 (1 point)

Which of the following variables are **not** included in the conventional gravity model for trip distribution?

- a. Ps and As
- b. F Factors
- c. K Factors
- d. **V/C Ratios**

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8. Question 132-14 (1 point)

A network element that has productions and attractions but no population or employment is most likely:

- a. A Traffic Analysis Zone
- b. A Centroid Connector
- c. **An External Station**
- d. A network link

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CEE 123 Quiz Master FSM: Trip Distribution

9. Question 142-08 (1 point)

Which of the following is a travel time impedance function used in gravity models?

- a. $f(t_{ij}) = \sum_a x_a t_a(x_a)$
- b. $f(t_{ij}) = t^0 [1 + \alpha (x_a/c_a)^\beta]$
- c. **$f(t_{ij}) = \exp(-\mu t_{ij})$**
- d. $f(t_{ij}) = \sum_{od} \sum_k f_k^{od} \delta_{ak}^{od}$

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CEE 123 Quiz Master A Framework for Travel Forecasting

10. Question 135-09 (1 point)

For the trip table shown below, which partition represents through trips?

- a. Partition **A**
- b. Partition **D**
- c. Partition **I**
- d. **Partitions F and H**

T_{ij}	Internal Zones (TAZs)	External Stations	P_i
Internal Zones (TAZs)	A	B	E
External Stations	C	D	F
A_j	G	H	I

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CEE 123 Quiz Master FSM: Trip Generation

11. Question 141-20 (1 point)

What specific trip generation models did you need to calibrate for Miasma Beach?

- a. **HBW productions and attraction models**
- b. HBO productions and attraction models
- c. NHB productions and attraction models
- d. All of the above

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