

CEE123/223

Transportation Systems III: Planning & Forecasting

Quiz 1. SOLUTIONS

Transportation Planning Process

Transportation Systems Analysis

Demand, Performance, Equilibration

Link Performance Functions

Minimum Paths

CEE123 Quiz 1

Transport Problems

1. Question 100-01 (1 point)

Transportation problems:

- a. are gaps between desired and observed measures of transportation system performance
- b. impact both transportation and other metropolitan systems and need to be mitigated
- c. are usually prioritized based on an area's overall vision, values, goals, and objectives
- d. **All of the above**

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Transportation Planning Process

2. Question 110-04 (1 point)

Travel Forecasting occurs as part of which step in the Transportation Planning Process?

- a. Generation of Alternative Solutions
- b. Engineering Design and Project Programming
- c. **Analysis of Alternative Solutions**
- d. Implementation and Monitoring

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Transportation Planning Process

3. Question 110-07 (1 point)

Which agencies holds primary responsibility for regional transportation planning?

- a. City Departments of Public Works
- b. County Transportation Authorities
- c. **Metropolitan Planning Organizations**
- d. State Departments of Transportation

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Transportation Systems Analysis

4. Question 120-01 (1 point)

Which of the following sequences reflects the correct top to bottom hierarchy of **T**ransportation **S**ystems **A**nalysis (TSA), the **T**ransportation **P**lanning **P**rocess (TPP), and the **F**our **S**tep **M**odel (FSM)?

- a. TSA > FSM > TPP
- b. TSA > TPP > FSM
- c. **TPP > TSA > FSM**
- d. TPP > FSM > TSA

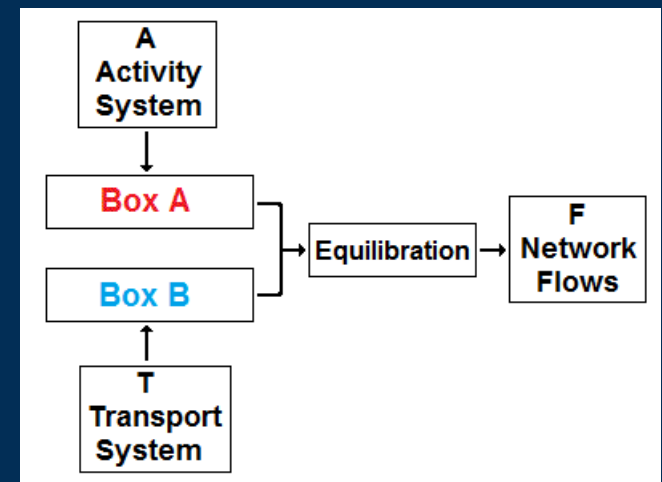
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Transportation Systems Analysis

5. Question 120-09 (1 point)

Which response correctly labels the boxes in the figure ?

- a. **Box A** is volume and **Box B** is level-of-service
- b. **Box A** is level of service and **Box B** is volume
- c. **Box A** is Demand Function and **Box B** is Performance
- d. **Box A** is Performance and **Box B** is Demand Function



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Transportation Systems Analysis

6. Question 121-01 (1 point)

Which statement best describes travel demand?

- a. The traffic volume on a specific link at a specific time
- b. A network's equilibrated volume and level-of-service
- c. **A general relationship representing volume as a function of level-of-service and activity system attributes**
- d. None of the above

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Transportation Systems Analysis

7. Question 122-03 (1 point)

Performance functions relate Level-of-Service to:

- a. Characteristics of the Activity System **A**
- b. **Characteristics of the Transportation System T**
- c. Travel budget constraints
- d. All of the above

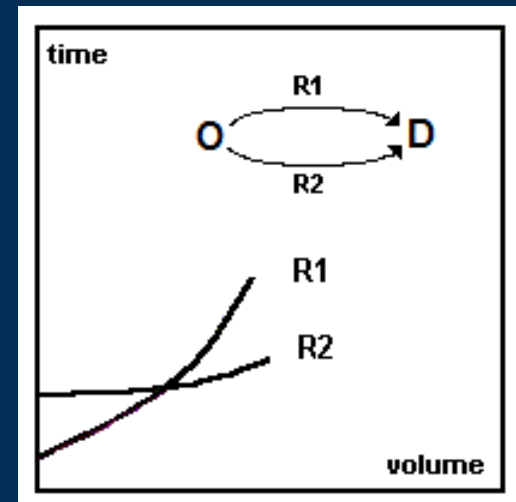
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Transportation Systems Analysis

8. Question 124-04 (1 point)

When combining two links in parallel:

- a. the volume on each link is always half the OD volume
- b. The OD travel time is the sum of link times
- c. **The combined performance function is the sum of the individual link functions over the volume axis**
- d. All of the above



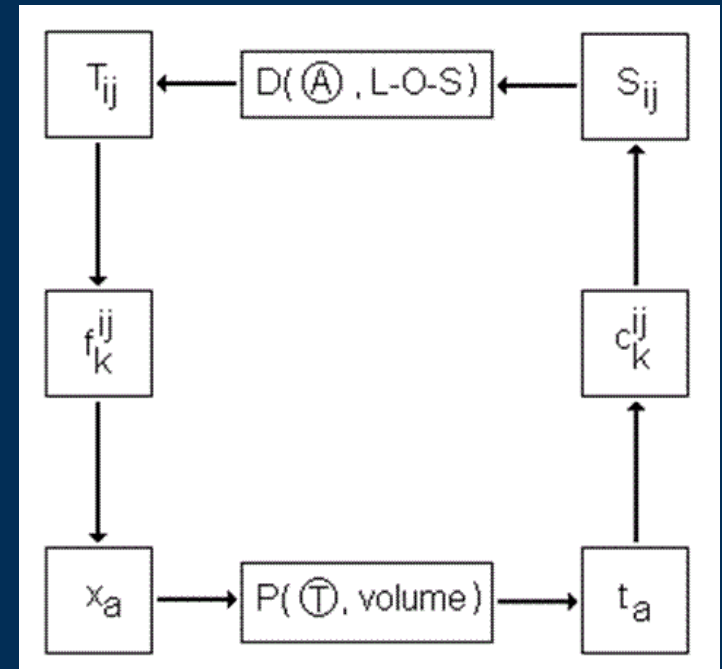
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Transportation Systems Analysis

9. Question 125-01 (1 point)

In Manheim's transportation system equilibration (below), where does path finding occur?

- a. **On the right-hand side**
- b. In the top level
- c. On the left-hand side
- d. In the bottom level



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TSA: Paths

10. Question 128-03 (1 point)

Summing travel times or other link characteristics along a designated path is known as:

- a. Coding
- b. Loading
- c. **Skimming**
- d. Cutting

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A Framework for Travel Forecasting

11. Question 130-31 (1 point)

Who developed TransCAD and what version are we using?

- a. Citilabs, Version 5
- b. Citilabs, Version 8
- c. Caliper, Version 5
- d. **Caliper, Version 8**