

**1. What is the primary goal of collaborative urban transportation as discussed in the article by Cleophas et al.?**

- A. To increase vehicle ownership in urban areas
- B. To reduce negative externalities like congestion and emissions
- C. To expand suburban delivery hubs

**Correct Answer: B**

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**2. In the context of collaborative transportation, what distinguishes vertical collaboration from horizontal collaboration?**

- A. Vertical collaboration occurs between cities, horizontal within a city
- B. Vertical collaboration involves different tiers; horizontal involves same-tier partners sharing resources
- C. Horizontal collaboration involves rail transport; vertical involves road transport

**Correct Answer: B**

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**3. What is one major challenge in implementing Urban Consolidation Centers (UCCs) as part of vertical collaboration?**

- A. Lack of electric vehicle manufacturers
- B. High cost of diesel
- C. Synchronizing goods and establishing infrastructure among multiple shippers

**Correct Answer: C**

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**4. Which planning levels are considered when analyzing collaborative transportation?**

- A. Financial, managerial, and technical
- B. Strategic, tactical, and operational
- C. Urban, suburban, and rural

**Correct Answer: B**

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**5. What role can customers play in vertical collaboration for last-mile delivery?**

- A. Designing delivery algorithms
- B. Operating their own delivery networks
- C. Picking up parcels from dedicated stations or lockers

**Correct Answer: C**

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**6. What is the main sustainability dimension most frequently considered in collaborative freight transportation research?**

- A. Social
- B. Environmental
- C. Economic

**Correct Answer: C**

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**7. According to the paper by Aloui et al., which aspect of sustainability is most underrepresented in current collaborative transport models?**

- A. Environmental impact from routing
- B. Social sustainability
- C. Economic optimization techniques

**Correct Answer: B**

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**8. What is a key environmental benefit of horizontal collaboration in freight distribution?**

- A. Reduction in the number of product returns
- B. Increased employment in logistics sectors
- C. Decrease in CO<sub>2</sub> emissions through optimized routing and consolidation

**Correct Answer: C**

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**9. What challenge does the social sustainability dimension present in collaborative transport modeling?**

- A. It cannot be combined with routing decisions
- B. It is difficult to quantify and model with optimization methods
- C. It leads to higher transport costs and longer routes

**Correct Answer: B**

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**10. How can horizontal collaboration help in achieving decarbonization goals in freight transport, according to the study?**

- A. By outsourcing transportation to non-local carriers
- B. Through load consolidation and reduced empty vehicle movements
- C. By increasing the number of delivery vehicles to enhance flexibility

**Correct Answer: B**