Environment & Ecology · GS - III

“Sustainable infrastructure development requires a balance between economic growth and environmental conservation.” Discuss in the context of highway development in India.

EXAM YEAR	PAPER	SUBJECT
DAILY PRACTICE 16/10/2026	GS - III	Environment & Ecology

MARKS	WORD LIMIT
10	~150 words

Answer Hint

Sustainable development, highway infrastructure, tree conservation, route realignment, NHAI, Environmental Impact Assessment, biodiversity protection, ecological fragmentation, compensatory afforestation, mitigation measures, green infrastructure.

Model Answer

1. Introduction

Infrastructure development is essential for economic growth, connectivity and employment generation. However, highway projects may cause deforestation, habitat fragmentation and biodiversity loss. The revised Zirakpur bypass alignment, reportedly designed to save around 1,900 trees, illustrates the potential of environmentally sensitive planning.

2. Balancing Development and Conservation

A. Ecological Protection: Route realignment can minimise tree felling, preserve green cover and reduce habitat disturbance.

B. Sustainable Planning: Environmental Impact Assessment (EIA) helps identify ecological risks and formulate mitigation measures before project implementation.

C. Economic Benefits: Efficient highway networks improve connectivity, reduce congestion and facilitate trade and regional development.

3. Challenges

Land acquisition, construction costs, fragmented habitats and weak environmental compliance can undermine sustainability. Compensatory plantation alone may not immediately replace the ecological benefits of mature trees.

4. Way Forward

Authorities should prioritise avoidance of ecological damage, scientific route selection, wildlife crossings, native-species plantation and transparent environmental monitoring.

5. Conclusion

India must adopt an infrastructure model that integrates environmental safeguards at the planning stage, ensuring that economic progress does not come at disproportionate ecological cost.