

The Critical Role of Trees Along Highways: Enhancing Health, Safety, and Accident Prevention



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How roadside trees improve
environment and road safety



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Presentation Overview

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- Environmental Benefits of Highway Trees
- Health Advantages Provided by Roadside Trees
- Safety Contributions of Trees Along Highways
- Prevention of Tragic Accidents Through Tree Management



Environmental Benefits of Highway Trees



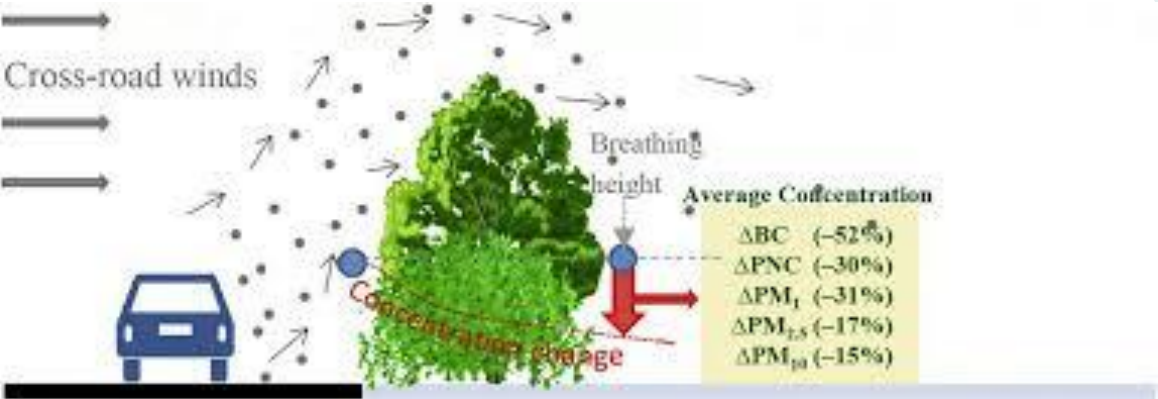
Improving air quality near roadways

Role of Highway Trees

Trees alongside highways absorb pollutants like carbon dioxide and particulate matter from vehicle emissions.

Healthier Environment

This natural filtration improves air quality for drivers and nearby residents, promoting healthier living conditions.



Reducing noise pollution for communities

Trees as Sound Barriers

Trees naturally absorb and block noise from traffic, reducing sound pollution in nearby residential areas.

Improved Quality of Life

Reducing traffic noise with green barriers enhances comfort and wellbeing for residents near highways.



NOISE POLLUTION EFFECTS:

- Permanent hearing loss
- High blood pressure
- Insomnia
- Labored breathing
- Stress
- Altered brain chemistry
- Increase in crime
- Permanent damage to the voice



Supporting biodiversity and local ecosystems

Habitats for Wildlife

Roadside trees create important habitats for birds, insects, and other wildlife in urban areas.

Biodiversity Support

These trees provide vital food sources that help sustain local biodiversity and ecological balance.



Health Advantages Provided by Roadside Trees



Physical and mental health benefits for travellers

Stress Reduction Through Nature

Greenery exposure lowers stress levels for travelers, promoting mental relaxation and reducing fatigue during journeys.

Enhanced Concentration and Comfort

Natural surroundings improve focus and comfort for drivers and passengers, supporting safer and more enjoyable travel.



Green tree-lined streets
reduce anxiety, making you feel more positive and calm, improving your attention and help with recovery from stressful situations

Mitigating urban heat through shade

Shade reduces temperature

Trees along highways create shade that lowers ambient temperatures and mitigates urban heat islands effectively.

Improved comfort

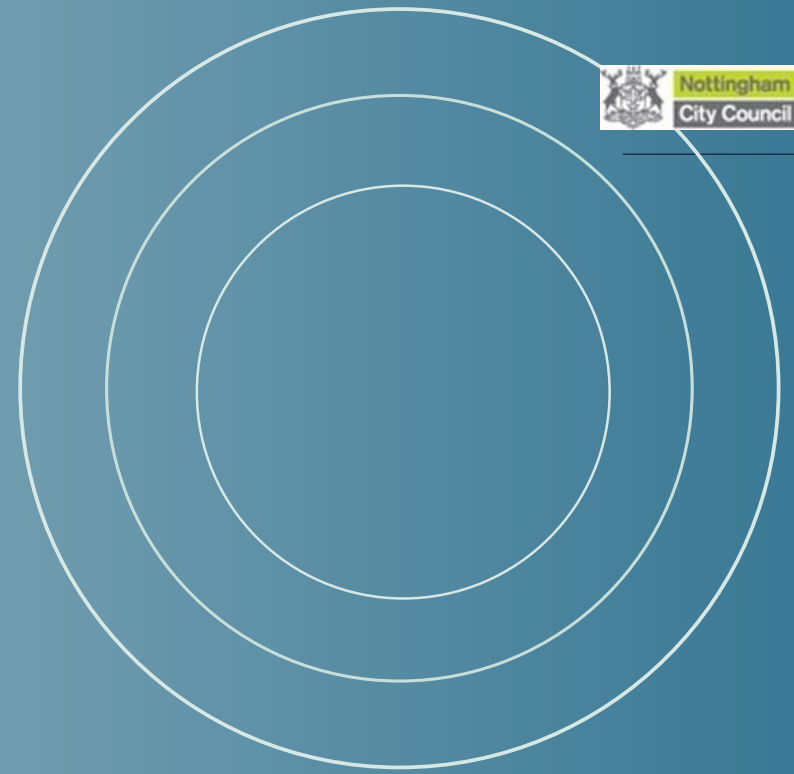
Shaded environments provide cooler and more comfortable spaces for pedestrians and drivers near roads.

Health risk reduction

Lower temperatures from tree shade reduce heat-related health risks for people exposed to urban roads.



Safety Contributions of Trees Along Highways



Reducing glare and improving road visibility

Tree Placement Benefits

Strategically placed trees reduce both sun and headlight glare, improving driver visibility.

Enhanced Driver Comfort

Reduced glare decreases driver discomfort during critical driving moments.



Providing visual cues for drivers

Buffering pedestrians and cyclists from traffic



Physical Separation



Roadside trees provide a tangible barrier that physically separates pedestrians and cyclists from vehicle lanes.



Psychological Safety



The presence of trees creates a comforting psychological buffer that enhances the perception of safety for non-motorised road users.

Natural Navigation Aids

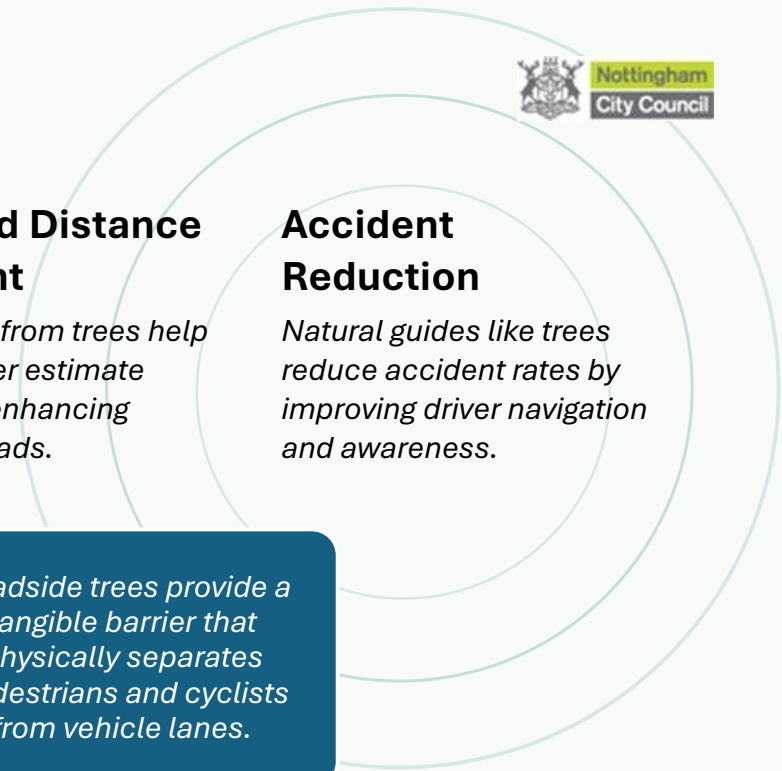
Trees provide natural visual markers that assist drivers in recognising road curves and distance.

Improved Distance Judgment

Visual cues from trees help drivers better estimate distances, enhancing safety on roads.

Accident Reduction

Natural guides like trees reduce accident rates by improving driver navigation and awareness.





London Road – From Grey to Green

Prevention of Tragic Accidents Through Tree Management



Proper placement and maintenance to maximize safety

Correct Tree Positioning

Placing trees away from road hazards maintains clear sightlines and reduces accident risks.



Regular Tree Maintenance

Routine trimming and care prevent overgrowth that could obstruct views and create hazards.



Role of trees in slowing vehicle speeds

Natural Speed Reduction

Tree lines provide visual cues that naturally encourage drivers to slow down without enforcement measures

Improved Road Safety

Slower vehicle speeds reduce accident severity and contribute to safer roads for all users.





Epicormic Growth

Minimizing risks from fallen branches or overgrown vegetation

Regular Inspection Importance

Routine inspections help identify hazardous branches and overgrown foliage before they pose risks to road users.

Pruning for Safety

Pruning removes dangerous branches and maintains clear visibility, reducing driver distractions and accidents.



Geotextile layers / Tree Pits Resin

Geotextile layers are often used within tree protection zones to separate and stabilize surface materials, helping spread loads while minimizing soil compaction and damage to roots.



Key Takeaways



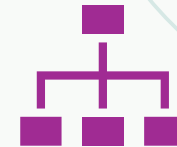
Trees are critical safety assets, not just environmental features



Design and placement can influence driver behaviour



Risk-based inspection regimes must be deliverable and defensible



Strong governance and contractor management are essential



Investment in infrastructure supports long-term sustainability

Conclusion

Environmental Quality

Trees along highways improve air quality and reduce pollution, benefiting the surrounding environment.

Health Benefits

Highway trees contribute to better health by providing cleaner air and reducing stress for road users.

Safety and Accident Prevention

Thoughtful planting of trees increases road safety by reducing glare and acting as barriers to prevent accidents.

Sustainable Management

Proper planting and management ensure long-term benefits of roadside trees for environment and people.