

for variability in weather patterns, enhancing the reliability of solar energy systems [2]. Winlin and P. Chandrasekhar (2023) extend this concept by integrating IoT with AI for real-time energy predictions, thereby improving decision-making processes in energy management [1].

While the potential of AI in solar energy is undeniable, challenges remain. For instance, the deployment of AI models requires substantial computational resources and high-quality datasets. Hasan and Theyazn (2023) discuss these limitations, advocating for collaborative efforts between researchers and industry stakeholders to overcome technical and economic barriers [3].

Artificial intelligence has proven to be a game-changer in enhancing the energy efficiency of solar plants. By enabling predictive maintenance, optimizing energy outputs, improving forecasting accuracy, and facilitating real-time energy management, AI contributes significantly to the sustainability and reliability of solar energy systems. However, to fully realize its potential, ongoing research and collaboration are essential to address existing challenges. The reviewed studies provide valuable insights into the transformative role of AI, paving the way for a greener and more efficient energy future.

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THE TRANSPORT CORRIDOR FRAMEWORK: PRINCIPLES AND APPLICATIONS IN TRANSPORTATION PLANNING

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Corridors represent a versatile spatial organizing concept employed across diverse domains, including economics, conservation, agriculture, and

transportation. The concept encompasses multiple interpretations and applications, making it difficult to encapsulate in a single definition [1,2]. This conceptual flexibility allows corridors to function as frameworks for organizing flows, connectivity, and development across diverse contexts and scales while maintaining certain core organizational principles.

Transport corridors constitute a specific application of the corridor concept focused on mobility and connectivity. The conceptual foundation of transport corridors originated with early definitions that characterized them as linear systems of urban places connected by surface transport media [3] and evolved to encompass more complex relationships between infrastructure, development, and urbanization. Contemporary understandings characterize transport corridors as bundles of infrastructure linking urban areas through multimodal connections for passenger and freight transport [4], serving dual functions: improving transport efficiency and generating broader economic development through connectivity [5]. This evolution shows how the concept has developed from simple linear connections to more integrated frameworks addressing multiple transportation planning objectives.

Transport corridors operate across multiple spatial scales while maintaining their core conceptual elements. On national and international scales, corridors connect major urban centers and economic regions, supporting the movement of passengers and freight across significant distances [5]. Within metropolitan regions, various transport modes constitute corridors. Bus Rapid Transit corridors and metro lines function as urban transit corridors, providing mass transportation along designated routes that connect city centers with surrounding areas [6–8]. Cycle highways also function as corridors, spanning municipalities to create continuous routes connecting residential areas with urban centers [9]. These diverse applications demonstrate how the corridor concept adapts to different transport contexts while maintaining consistent organizational principles.

Several defining characteristics appear consistently in transport corridors regardless of their specific implementation. These include linearity in spatial configuration, connectivity between nodes, infrastructure bundling along shared rights-of-way, multimodal integration of transport systems, and influence on development patterns beyond mere infrastructure provision [3,4]. These elements constitute a conceptual framework that helps explain the function and organization of diverse transport corridor applications across contexts. By identifying these shared principles, planners and policymakers can better understand how transport systems operate as corridors despite variations in mode, scale, or specific design characteristics.

Beyond physical infrastructure, the transport corridor concept offers strategic utility by providing frameworks that facilitate the implementation of continuous transport systems across complex governance landscapes. Transport corridors serve as organizational frameworks where multiple stakeholders, interests, and policy areas intersect and require coordination [4], creating structures for managing complex projects across jurisdictional boundaries. This strategic function proves particularly valuable when addressing cross-jurisdictional

challenges. Cycle highways demonstrate this utility, as they often cross through multiple municipalities with varying political agendas, requiring cooperation and sometimes compromise to realize continuous routes [9]. The corridor concept provides a framework for organizing this coordination and implementation across boundaries.

The transport corridor concept may offer valuable organizing principles for emerging transportation technologies, including micromobility. As cities develop infrastructure for new mobility options, established corridor principles could inform network designs that accommodate changing transportation needs. Just as traditional transport corridors connect urban centers at various scales, similar organizing principles might help structure networks for emerging mobility systems within sustainable urban frameworks. This potential application illustrates the enduring relevance of transport corridor concept as transportation continues to evolve.

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