Innovation in Transportation to Improve Urban Mobility and Infrastructure

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Advances in information and communication technology have brought significant convenience to people's everyday lives, particularly in areas such as banking services and online shopping. Within the transportation sector, these innovations have also contributed to notable improvements in urban mobility and infrastructure, thereby enhancing the overall quality of life for citizens. This speech highlights three examples of such technological advancements in transportation sector. First, the use of traffic simulation has facilitated the conversion of traditional bus depots into multi-purpose complexes. By redesigning bus depot spaces, cities are able to make land use more efficient while simultaneously meeting growing transportation demands. Second, information and communication technology has proven valuable in developing countries by providing citizens with traffic information. Third, autonomous vehicles represent a transformative innovation in mobility. In Korea, autonomous vehicle services are currently being trialed in several regions, though many challenges remain before full deployment. Meanwhile, the United States and China have already implemented more advanced autonomous technologies, positioning themselves as global leaders in this field. Together, these examples demonstrate how the integration of new technologies into the transportation sector is shaping the future of urban mobility. By adopting such innovations, cities worldwide can pursue greater efficiency, connectivity, and sustainability in their infrastructure and transportation systems.

Experience:

1994-1998 BSc, Civil Engineering, Seoul National University

1998-2000 MSc, Civil Engineering, Seoul National University

2005-2008 MSc, Civil and Environmental Engineering, Georgia Institute of Technology

2008-2012 Ph.D., Civil and Environmental Engineering, Georgia Institute of Technology

2000-2005 Researcher, Yooshin Corporation

2005-2011 Graduate Research Assistant, Georgia Institute of Technology

2011-2013 Research Faculty, Georgia Institute of Technology

2013-Present Professor, Hanyang University ERICA Campus

2022-present, Construction Technology Deliberation Committee

2025-present, Business Development Advisory Committee, Seoul Metro

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2025-present, Executive Director, Korean Society of Transportation

2023-present, Seoul City Bus Policy Committee, Seoul City

2023-present, Public Investment Feasibility Review Committee, Gyeonggi-do

2022-present, Autonomous Vehicle Pilot Project Evaluation Committee

2021-present, Member, Seoul City Local Subsidy Management Committee

2021-2025, Government Performance Evaluation Committee, Gyeonggi-do

2024-2024, Seoul City Disadvantaged Mobility Index Evaluation Committee