일반연구보고서 2024-12

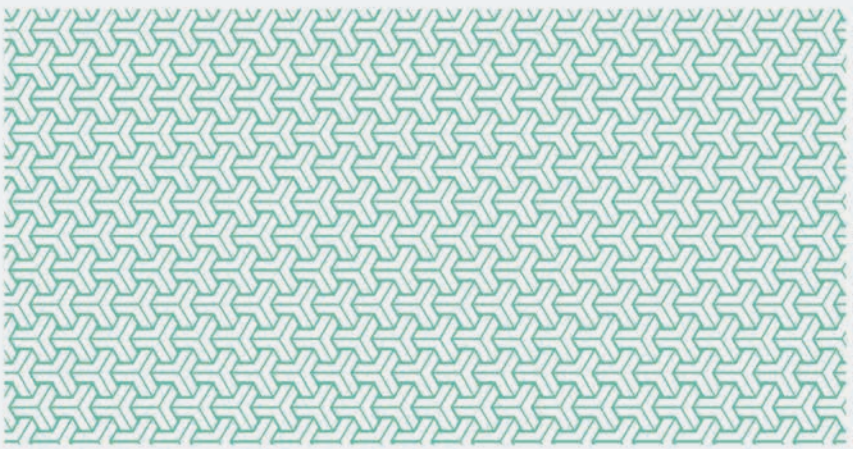
데이터 기반 보행정책 활성화를 위한 공공 데이터 현황과 개선과제

How to Facilitate the Data-driven Pedestrian Policy

남궁지희 Namgung, Jihee
최가윤 Choi, Gayoon
채정은 Chae, Jeongeun
강수연 Gang, Suyeon

How to Facilitate the Data-driven Pedestrian Policy

Summary



Namgung, Jihee
Choi, Gayoon
Chae, Jeongeun
Gang, Suyeon

1. Introduction

The importance of data in the public sector has been steadily increasing. Particularly in policy areas, data serve as a means to accurately understand and systematically manage goals and objectives, and they define the perceptual framework for stakeholders involved in policy, mediating communication and interaction. Therefore, in order to design effective policies and properly evaluate their impact, it is crucial to ensure high-quality data for each policy area, which requires proactive and continuous investment.

Beyond the question of who produces and possesses data and how, there is a need to establish management and operational systems for effective access and use, and to create conditions in which data-based value creation, exchange, and innovation can easily occur. This requires a systematic understanding of the various entities participating in the entire process from data production to end-use, along with the overall ecosystem in which they interact.

In the practical field of 'pedestrian policy', the importance of basic data for efficient and systematic promotion of related policies has also been recognized, and institutional measures have been prepared to activate data-based administration. While the availability of that can be used directly or indirectly is becoming more abundant, diverse, and complex, there are still many blind spots where relevant data are missing or insufficient from the perspectives of pedestrian environment, behavior, and safety. Compared to the scale of data investment and the pace of technological development in related fields, the foundation of walking-related data is still small and inadequate. In particular, by examining the flow of essential information and blind spots for each major stage of policy implementation, such as diagnosis and performance evaluation, a systematic plan for infrastructure, focusing on public and basic data, should be prepared.

This study aims to diagnose the current status of public data being used in the process of promoting pedestrian policy from the perspective of 'activating data-based administration' and to propose institutional and policy improvement measures. The expected effects are: 1) Enhancing the priority and equity of policy interest and investment in walking in related fields such as safety, roads, transportation, urban planning, space, and environment by supplementing information gaps and blind spots regarding pedestrians, pedestrian behavior, and walking environments; 2) Enhancing the rationality

and effectiveness of policies by activating evidence-based decision-making in the field of walking policy promotion by establishing a high-quality basic data base and creating a virtuous cycle ecosystem that can manage and utilize it in an integrated manner; and 3) Activating communication, cooperation, and interaction between policy promoting entities by organically linking various surveys, statistics, plans, and business means and strengthening the openness, transparency, accessibility, and usability of public data.

This study consists of 5 chapters, starting with a review of policy trends and current issues related to data activation(Chapter 2), a diagnosis of the current state of data provision and blind spots in pedestrian policy (Chapter 3), and a case analysis of public sector data platforms (Chapter 4), and conclusions and policy proposals (Chapter 5).

2. Policy Trends and Current Issues

Chapter 2 conducts a literature review and institutional analysis of prior research, studies and policy documents from major institutions, and relevant laws and regulations to derive key issues and an analytical framework for data activation. This chapter first examines: 1) stage-by-stage considerations and constraints for data activation through a review of data-related policy trends, major laws and regulations, and key concepts; 2) the importance of data in pedestrian (walking) policy and means of securing it; and then 3) classifies pedestrian policy data into four categories (accident safety, walking environment, pedestrian behavior, and policy projects) based on its characteristics.

In discussions on activating data-based administration and digital platform government, the perception of the government's role is changing beyond first-dimensional changes such as the computerization of existing administrative tasks and the opening of public data. It is necessary to understand the overall improvement of efficiency in policy tasks, communication and cooperation among various stakeholders, the creation of new added value and a virtuous cycle, integrated platforms that can adjust conflicts and interests, and the ecosystem surrounding them.

To this end, this chapter reviews the promotion strategies for data activation presented in related laws, plans, and guidelines, as well as critical literature on the constraints of data activation. As a result, it was found that the following are

important considerations for activating public data: 1) securing data validity and quality; 2) diagnosing data blind spots from the user's perspective; 3) establishing a support system that activates user participation and collaboration; and 4) securing capabilities and resources for maintenance sustainability. Accordingly, by synthesizing related policies and legal and institutional contents, considerations for data activation are presented in the following three stages: ① creation and construction, ② provision and utilization, and ③ connection and cooperation.

3. A Diagnosis of Data Provision and Blind Spots in Pedestrian Policy

Chapter 3 examines the institutional means for securing pedestrian policy data and reviews the actual operation and utilization of these means, along with the results of a data-related perception survey. It also examines how the data necessary for promoting national and local pedestrian policies are actually provided in terms of content and format for each of the four categories (accident safety, walking environment, pedestrian behavior, and policy projects) and diagnoses blind spots from policy and practical perspectives. It summarizes directions and tasks to supplement inadequate areas and constraints, focusing on essential and key data.

While the data available for establishing and implementing policies for pedestrians is significantly improving both quantitatively and qualitatively, closer examination reveals blind spots and constraints by sector and issue. This chapter examined how data is secured and provided for each of the four categories, classifying the data into cases where it must be directly generated (surveys, collection, processing, etc.) through data acquisition methods of the Pedestrian Safety Act and related laws, cases where it can be used by receiving open data and provided data built by other institutions or means, and cases where it can be understood by linking and combining data from two or more institutions, sources, or formats.

The analysis reveals the following implications for the provision and utilization of pedestrian policy data: First, among the basic data related to pedestrian policy, there are many cases where related information is not generated or constructed at all. Except for the Pedestrian Safety Index, basic data that can

comprehensively manage and compare the current status at the national level is not provided, and there are no consistent standards for essential items, essential areas, or essential survey subjects and scope that must be investigated periodically.

Second, it is necessary to pay attention to the gap between institutional means and reality in the stage of actually conducting surveys and constructing data. Although the regulations mandate the surveys themselves, there is generally a lack of consideration for the scope, content, and 'substance' of the results, which reduces the usability of the survey results, and there is a perception that the basic data necessary for policy establishment is actually insufficient.

Third, data produced in the process of implementing policies is not being smoothly disclosed and utilized. Because the disclosure status, scope, and format are all different, even if disclosed, data from different institutions, regions, and topics are not compatible with each other. 'Standard' data or lists are operated in a rigid and fragmented structure.

4. A Cast Study on Data Platforms in Public Sector

Chapter 4 examines selected cases of data construction for policy support in the public sector. These cases are broadly categorized into three types (information delivery, practical support, and convergence/integration) according to the relationships and roles of related entities. For each type, implications are drawn, focusing on the 'activation strategies' corresponding to their respective policy objectives.

The following common trends emerge across the various cases: ① Each individual platform is continuously expanding data quality, provision scope, and types, aiming for the accumulation of related demand and network activation effects by linking and integrating related data. ② For the diagnosis of current status and the establishment of improvement measures at the local level, spatial information-based regional and spatial convergence analysis is essential. For each data type, the format of the entity that serves as the basic unit of analysis, such as buildings, streets (sections), parcels, pixels, and areas, is defined, which becomes the foundation for combining various attribute information. ③ For platform sustainability, while securing institutional grounds, personnel, and budget is important in terms of operation, demand-based information provision and periodic updates are essential.

5. Conclusions

Chapter 5 synthesizes the preceding reviews and analyses to propose institutional and policy improvement measures for activating data-based pedestrian policies. It presents the problems of the current system and construction status and their main improvement tasks in terms of 1) data creation and construction, 2) provision and utilization, and 3) connection and cooperation.

With the acceleration of policy transition to data-based administration and digital platform government, the advancement of safety management policies, the strengthening of the status of pedestrian policies, and the diversification of related work promotion systems, the importance of data-based decision-making and the platforms and ecosystems that support it is gradually increasing in pedestrian policies. Therefore, beyond the one-way structure of information and service provision, demand-tailored information provision and interaction and cooperation among related entities are essential. To maximize the autonomy, diversity, and innovativeness of the private sector, the role required of the public sector is to present institutional grounds and standards for data-based expansion and to establish the construction and operation base of data platforms.

Despite the fact that various institutional means such as related surveys, plans, indicators, statistics, and evaluations have been prepared and considerable costs are being spent, the openness, accessibility, and compatibility of related data are very low. This is because there are no means to systematically grasp the current status of pedestrian spaces and behaviors, which are the basis for establishing pedestrian policies. While supplementing institutional grounds and means centering on securing core data, it is necessary to establish a virtuous cycle system so that the results of related work can be utilized organically and efficiently.

Keywords

Pedestrian policy, Data-driven Policy, Public Open Data, Data Ecosystem, Data Governance