KEY POINTS

• New cities require innovative and well-defined transport systems to shape their layouts. This brief provides recommendations for the Xiong’an New Area in the People’s Republic of China.

• New cities with a comprehensive and well-integrated transport network can foster links with nearby cities, enhance regional connectivity, and provide users with a smooth travel experience across different modes.

• Developing user-oriented mobility services leverages modern technology and data for a responsive transport system.

• A next-generation transport network depends on a wide ecosystem of technologies on the street and in vehicles, with a network operator connected to the vehicle and road technologies.

• Mobility innovations and disruptive technologies require a nontraditional institutional setup and skills within transport agencies.

• Technology-driven strategies and measures to reduce emissions and encourage green transport usage are important for new cities.


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BACKGROUND

In April 2017, the establishment of the Xiong’an New Area (hereinafter Xiong’an) in the People’s Republic of China (PRC) was announced. Xiong’an covers three counties in Hebei Province, 150 kilometers southwest of Beijing, capital of the PRC. It is expected to accommodate many of Beijing’s noncapital functions and a relocated population by the middle of this century. In April 2018, the Master Plan for Xiong’an (2018–2035) was approved. It establishes the overall development goals for the New Area. By 2035, Xiong’an will develop into a green, intelligent, and livable city with relatively strong competitiveness and harmonious human–environment interaction.

The Xiong’an is located at the center of the triangular area formed by Beijing, Tianjin, and Shijiazhuang. With the current and planned high-speed railway lines and expressway network, it will only take 30 minutes to travel there from Beijing and Tianjin, and 60 minutes from Shijiazhuang, thus forming a “1-hour living circle.” A well-defined transport system is key to shaping the physical layout of Xiong’an. It will be the answer to multiple policy objectives identified in the master plan framework, including a 90% green transport mode share and 80% public transit share of vehicular transport (90/80 goal).
This brief presents the recommendations prepared under a technical assistance project of the Asian Development Bank (ADB), which provided technical support toward strengthening the design of an integrated, sustainable, and innovative transport plan for Xiong’an. This brief also presents recommendations for the institutional framework and organizational structure of Xiong’an and relevant entities in the process of creating an enabling environment for the establishment of Xiong’an as a core component of the Beijing–Tianjin–Hebei cluster and as a technologically advanced new district.

**METHODOLOGY**

The project included stakeholder engagement and expert consultations, which resulted in the identification of five key priority areas that served as the basis for the policy recommendation framework for Xiong’an (Figure 1). The priority areas include (i) regional connectivity and integrated infrastructure; (ii) user-oriented mobility services; (iii) next-generation transportation innovations; (iv) green transport and a low-carbon city; and (v) policies, institutions, and capacity development.

Under the project framework, there was a comprehensive benchmarking review to gather global best-practice experience in initiating and fostering the development of the key priority areas. A list of transport policies and mobility interventions related to the project framework were identified based on the prior successful experience of 15 cities worldwide. The interventions were presented to the stakeholders and ranked according to a scoring system that considered whether an intervention could be readily integrated into the current Xiong’an plans and had the potential for implementation in the New Area. Based on the feedback from stakeholders, a short list of 12 policy interventions were identified: (i) integrated corridor management (ICM); (ii) multimodal interchange; (iii) seamless access to airport; (iv) travel demand management (TDM); (v) mobility on demand (MOD), flexible transit, and Mobility-as-a-Service (MaaS); (vi) urban transportation management; (vii) cooperative intelligent transport system (C-ITS) and vehicle-to-everything applications; (viii) autonomous transport policy and guidelines; (ix) car-lite development; (x) clean energy vehicles; (xi) low-emission zones (LEZs); and (xii) green transport incentives. Seven cities that together cover the most shortlisted interventions were selected for a detailed review of the policies, institutions, and capacity development. Lastly, the project framework was populated by interventions, which were reevaluated and tailored to suit Xiong’an’s conditions under the respective priority areas, forming a comprehensive set of policy recommendations for Xiong’an.

**A. Regional Connectivity and Integrated Infrastructure**

Xiong’an lies at the center of the Beijing–Tianjin–Hebei City Cluster and forms a “1-hour living circle,” with its current and planned high-speed railway lines and expressway network. Xiong’an Station serves as a gateway hub for the New Area, as it marks the convergence of three high-speed intercity railway lines, including the Beijing–Hong Kong High-Speed Railway, Beijing–Xiong’an Intercity Railway, and the Tianjin–Xiong’an Intercity Railway. One of the core functions of Xiong’an is to act as a catalyst for regional connectivity and integrated infrastructure.

**Figure 1: Project Framework**

![Figure 1: Project Framework](Source: ADB. 2022. *Policy Study on Integrated Transport Development in Xiong’an New Area from an International Perspective*. Final Consultant’s report. Manila (TA9648-PRC).)

A comprehensive and well-connected transport network to support regional integration

User-oriented transport planning leverages modern technology and data to design a responsive transport system based on mobility needs, preferences, and behavior

Integrating various complementary elements linked to physical and digital infrastructure to drive efficiencies and the overall sustainable transport mobility

Cities worldwide are moving toward green mobility development to lower carbon emissions to mitigate climate change risks and reduce noise and air pollution

The organizational structure and institutional framework define responsibilities and support collaboration
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the integration of Beijing, Tianjin, and Hebei Province. With the anticipated high travel demand in those areas, Xiong’an needs to have a comprehensive and well-connected transport network to enhance regional connectivity and provide a highly integrated travel experience for the users of different modes. The provision of regional connectivity should also align with Xiong’an’s green mobility vision, which focuses on reducing car dependence and promoting the use of public transport and other means of green mobility.

Deliver seamless interchange services at multimodal mobility hubs. Xiong’an Station, together with the Xiong’an City Exchange Center and other planned or future mobility hubs in the New Area, offer a great opportunity to deliver seamless mobility services that will connect the Beijing–Tianjin–Hebei region and anchor the well-designed and convenient integration of the transport modes. The integration of different modes will rely on the coordination and cooperation of the stakeholders in terms of providing direct interchange by removing barriers between modes, such as ticketing gates and security checks. This will entail the early coordination of multiple stakeholders, such as high-speed rail operators, local subway operators, bus operators, and developers and operators of the mobility hubs. The seamless interchange can be complemented by enhanced station design, using uniform signages and way-finding systems across the hub, and ensuring visibility and easy access to services. The provision of additional amenities, such as ride-sharing, bicycle parking areas, and commercial facilities and services, can also enhance the visitor experience.

Introduce hierarchical planning of mobility hubs. A hierarchical structure of mobility hubs could be established to coordinate the functions of different existing and planned mobility hubs in Xiong’an, based on the respective scales and locations of the stations. The largest-scale mobility hubs, designated as “Gateway Hubs” (including Xiong’an Station), would facilitate seamless connections between the transit services of Xiong’an and those of other regions. Moving down the hierarchy, Regional Hubs, such as the Xiong’an City Exchange Center, would accommodate the traffic from the emerging first- and second-tier growth centers. The smallest-scale mobility hubs, designated as Neighborhood Hubs, would serve as community transit centers. The differentiated levels of mobility hubs would allow for a more accurate provision of station amenities, in which Gateway Hubs would be equipped with a full range of interchange and connection services, while the smaller-scale Neighborhood Hubs would focus on facilitating last-mile connections.

Finance mobility hubs with phased investments. Financing for mobility hubs could be sourced through various mechanisms, including naming rights for major hubs and phased development. A phased investment approach, such as that adopted by Toronto’s Big Move program, could ensure the financial viability of each hub. The first phase could be funded from tax revenues to enable the quick implementation of services. The construction of the large-scale components of the stations could be financed through long-term debt from the second phase of investment. After a station goes into operation, the funding of the last phase, to cover any remaining operations or construction work, could be sourced from revenues generated by services and systems that are already in use.

Extend planning coverage of each mobility hub beyond its footprint. A successful mobility hub serves as a center for its surrounding area, with major commercial and employment facilities sited in its vicinity. To fuel the growth of the surrounding facilities, the planning and development scope of the multimodal mobility hubs should be extended beyond the hub area itself to include the surrounding area (Figure 2). Enabling policies could include introducing population density targets in the area and incentivizing the relocation of offices and residences to the vicinity. Aligning with Xiong’an’s green mobility vision, active transport and public transport performance targets could be imposed on areas surrounding a mobility hub, such as green transport mode sharing, service levels of public transport, and vehicle occupancy rates.

Planning for the zones in the immediate vicinity of a hub should focus on walking accessibility and public transport connectivity, while the planning for zones farther away should focus on providing priority transit facilities to ensure integrated public transport access.

Manage travel demand with pricing mechanisms. TDM provides a set of alternatives designed to discourage low-occupancy vehicles and encourage the use of public transit and active modes of transportation. TDM measures, such as congestion-charging schemes and parking-price mechanisms, are recommended as financial disincentives against private car usage. Xiong’an’s congestion-charging scheme could leverage its planned digital tools to gain flexibility, such as a combination of area-based and travel distance-based road-charging schemes enabled by comprehensive systems that monitor traffic speed and volume on major roads. Concurrent with the congestion-charging scheme, a parking-price mechanism could be implemented to encourage green mobility, with measures such as exponential parking price increases, elimination of long-term parking discounts, commercial parking tax levies, limitations on parking slots, and the exclusion of parking privileges from property sales and rental agreements. To ensure the effectiveness of the interventions, these TDM measures need to be reviewed and evaluated continuously, along with changes in traffic patterns and technological developments.

Gauge the use of private vehicles in regional travel. With the expected high demand for intercity travel between Xiong’an and the Beijing–Tianjin–Hebei area, a set of well-planned regional TDM measures will be required to limit the use of single-occupancy vehicles and to avoid car-centric city development. Apart from charging and pricing schemes, Xiong’an could promote public transit for the strong regional traffic to and from Beijing, Tianjin, and parts of Hebei Province. Public transit usage could be encouraged by the introduction of regional transit passes, late-night public transport services, and benefits for both local and regional commuters.
Active management of regional linkages with integrated corridor management measures. Taking advantage of the Beijing–Tianjin–Hebei transport integration, Xiong’an’s external transport network could adopt ICM programs to support the management and operation of the linkages with high-speed and urban railways as the base, supplemented by a comprehensive expressway network. ICM programs focus on managing all transport assets along a corridor across geographical limits, such as city or provincial boundaries where owners and operators of various transport assets work together to manage recurrent or incidental traffic issues. For Xiong’an, an ICM project working group would need to be established in collaboration with the relevant transport, planning and construction, and information and communications technology representatives from Beijing, Tianjin, and Shijiazhuang, to ensure the integrated management of transport assets and the exchange of data across all transport assets along the corridors. The ICM systems would be software-intensive and require advanced system integration and well-established data exchange protocols. Xiong’an could incorporate a decision support system into its ICM strategies to enhance corridor management with real-time detection, processing of anomalies in the network, and automated decision-making and information dissemination based on agreed-on business rules. To monitor the operation of ICM programs, Xiong’an will need to set up a comprehensive mechanism to continuously quantify performance.

The overall performance-evaluation mechanism should be based on corridor-level performance metrics (e.g., trip travel times, number of accidents along the corridor) instead of metrics from an isolated facility or corridor segment.

Enhance airport connections for passengers, staff, and freight. Xiong’an is connected to Beijing Daxing International Airport through a high-speed railway, and there is great potential for achieving truly seamless ground access when complemented by appropriate connection services and infrastructure. For passenger and staff access, Xiong’an could explore the opportunities for providing direct public transit and in-town check-in services at locations selected according to population and demographic analyses. Public transit services could be made more competitive than private or hired vehicles through a series of measures, such as bundling rail or public transport tickets with airline bookings; offering public transport discounts to airport staff; and offering more frequent service, with extended hours of operation. To enhance the financial viability of the airport access infrastructure, Xiong’an could make use of the landside transportation access fee (levied on private vehicles, taxis, and ride-hailing vehicles) to invest in a seamless public transportation connection. This approach will have to be reconciled with the need to levy airport expressway fees, which are usually part of a program to fund the construction and operation of roadway facilities. For example, the program could be piloted after the expiration of existing airport expressway tolls (e.g., 30 years).
B. Developing User-Oriented Mobility Services

User-oriented transport services feature door-to-door convenience, seamless and integrated multimodal travel, and ease of payment for all modes. These services leverage data and modern technology to offer a responsive transport system based on the mobility needs, preferences, and behavior of users. Globally, on-demand and flexible transit services have emerged in various forms, including bus service and point-to-point shared car rides. Maas brings together mobility service providers across various modes and integrates their data, services, pricing schemes, and revenues to offer customized travel packages.

Leverage Xiong’an’s high-quality infrastructure to accelerate Mobility-as-a-Service development. The success of Maas programs will entail significant prerequisites, including adequate transport coverage, digital infrastructure, data requirements, and regulatory frameworks. Leveraging Xiong’an’s planned next-generation communications network, Internet-of-Things applications, and high-value technological industries, the New Area has a large market potential for integrating Maas into a sustainable intelligent transport system (ITS), with a wide range of transport options. Xiong’an may capitalize on the opportunity to set up policies and technical standards for launching on-demand, flexible bus service, which may later be expanded into full Maas service deployment. Enabling policies would include establishing a clear institutional setup to facilitate collaboration among agencies of the Government of the PRC and expediting service integration by introducing data standardization and interoperability requirements for different transport modes regarding timetables, routes, fares, and ticketing. Policies on consumer protection coverage and liability for different modes on a multimodal journey would also be key to ensuring consumer confidence in, and public support for, the rollout of Maas.

Encourage private entities to enter the Mobility-as-a-Service value chain. Synergized effort between the government and private entities will be essential for integrating the wide range of high-functioning transport modes in Xiong’an to provide seamless multimodal travel. Multimodal Maas will differ from traditional transport services due to the additional components in its value chain—the Maas service integrator and Maas service provider—in addition to the mobility service provider and user in the traditional value chain. To allow for private involvement in the Maas value chain, the government could cofinance the start-up costs of on-demand flexible transport services, and provide support for pilot projects. A public transport agency could also collaborate with private shared-mobility service providers to consolidate services and overcome integration challenges across different modes and service offerings. The collaboration between the public and private sectors could be enabled through well-established legal contracts (e.g., service contracts) to ensure that the government will be able to effect the necessary changes in the market to maintain the public value of the mobility services.

C. Embracing Next-Generation Transportation Innovations

The next-generation transport network will depend on a wide ecosystem of technologies, including technology on the street (i.e., ITS), technology in vehicles (i.e., C-ITS), and a network operator connected to the vehicle and road technologies through ITS or C-ITS and connected and autonomous driving. The key enablers supporting these innovations include technology, data, standards, security, information and intelligence, and policy in relation to users, vehicles, and the physical and digital infrastructure of the whole ecosystem (Figure 3).

Aligning with Xiong’an’s vision of a sustainable ITS, three aspects of transportation innovations have been recommended: urban transportation management, C-ITS, and autonomous transport. Using ITS as the basis, urban transportation management links individuals, vehicles, and the network operators together. This is being undertaken across a wide breadth of technologies, including the use of mobile apps sharing real-time passenger information, the sharing of information between infrastructure and vehicles, and improvements in signal timing efficiencies and road safety. Building on top of ITS applications, C-ITS applications facilitate communication among vehicles, infrastructure, and other road users to increase the safety of future automated vehicles and enable their full integration into the overall transport system. C-ITS is expected to assist drivers in making decisions and adapting to traffic situations, thus improving road traffic, traffic efficiency, and the comfort of driving. The applications of ITS and C-ITS will both synergize with the development of automated driving technologies in Xiong’an. To support autonomous driving, the PRC has prioritized the development of infrastructure and of a fifth-generation (5G) network, and has enacted technical standards for telematics and specifications for highways. In the context of Xiong’an, the Jing-Xiong Expressway is expected to be equipped with designated lanes for autonomous vehicles; and different forms of autonomous transport are being piloted in the New Area, including robotaxis, autonomous shuttles, and automatic delivery robots. As a new city, Xiong’an has great potential for spearheading the deployment of autonomous vehicles and for implementing transport innovations to cope with the changes of tomorrow.
Guide urban transportation management and system development according to Xiong’an’s green mobility vision. Xiong’an’s commitment to green transport envisions a significant reduction in transportation emissions through an emphasis on green mobility elements, such as walking, biking, and low-emission vehicles. This will necessitate the incorporation of these elements into the urban transport management system to readily monitor, enhance, and thereby promote the use of these green transport modes. The success of these modes could be assessed by using a range of indicators such as the air quality of walkways or cycling facilities, ease of crossing streets, and level of comfort. The quantified travel experience could be integrated into urban transportation management to enable real-time and historic monitoring of the healthiness and safety of the streets and, in turn, inform network management strategies, aligning them with Xiong’an’s green mobility vision.

Use a system-based approach to ensure seamless connections between different modes of transport. With the wide range of transport modes available in Xiong’an, it is important to consider transportation as a system and to understand the interfaces between different transport modes. At the design and operations level, the system-based approach allows the overall outcomes—in terms of safety, sustainability, and efficiency—to be achieved in a coordinated way. A “systems” diagram will need to be developed to capture how services and technologies can be linked to each other. Standards and technical specifications will also be required to underpin the various elements within the system. Modular development and cross-system integration, both key enablers of an efficient urban transportation management system, will have to be facilitated by a well-designed technical architecture.
Build technologies around cooperative intelligent transport system use cases. In the short term, the two main types of telecommunications technologies, dedicated short-range communications and cellular-based 5G options, are expected to coexist in C-ITS applications. Differentiated by the safety criticality and timeliness of the service required, a dedicated short-range communications solution can be deployed at safety-critical locations for low-latency emergency services, and can be complemented by a 5G network delivering services that are not safety critical or time dependent. To allow for coordinated applications of different technologies, Xiong'an will need to formulate a clear vision for its C-ITS investment and establish priorities across different transport modes (i.e., public, private, freight) to serve as a basis for building the technologies required to enable C-ITS and vehicle-to-everything applications.

Enhance transparency and safety in data sharing and governance. In the world of vehicle-to-vehicle and vehicle-to-infrastructure communications, data will be exchanged between different organizations. This communication will occur over several channels, via private sector bodies. The environment in which private bodies share their information should be safe and transparent. To enable this, Xiong’an will need to define the role of the data arbiter and establish a data governance framework, to protect the necessary transparency of the movement of data between the various bodies involved in C-ITS. Data aggregation should also be emphasized to capture data that is already available from the government, so as to identify and mitigate data gaps. Citizens could also be encouraged to access and share relevant data.

Develop a policy road map for the transition to autonomous vehicles. A detailed road map for the safe and efficient integration of vehicles with partial or full automation capability into the overall transport network will be required. This road map should determine—in the context of Xiong’an’s vision—where, when, and how autonomous vehicles are to be used in the New Area. Xiong’an will need to identify suitable areas for the use of autonomous modes of transport, as well as the levels of autonomy to be considered, so as to establish the role of autonomous vehicles in the future movement of people and goods. The government could engage with the market to help define the services to be provided by autonomous vehicles in the short to medium term, while providing data to support the services.

Ensure that the infrastructure is ready for autonomous vehicle deployment. Xiong’an will need to ensure that the existing technologies and physical infrastructure can adequately support autonomous vehicle deployment. In the near future, autonomous vehicles will be sharing road space with nonautomated vehicles. The operational design domain for autonomous vehicles in Xiong’an will first have to be established and then fully defined to ensure safe interactions between automated and nonautomated vehicles, and to enable the further design and preparation of the relevant technologies and infrastructure. Linking to different levels of autonamation, physical elements such as signage and road markings, pickup and drop-off curbs, and allocated spaces for idling autonomous vehicles will need to be considered and accommodated. To ensure a smooth rollout of autonomous vehicles, Xiong’an could utilize the operational readiness approach for testing and trials to build the public’s confidence in autonomous vehicles. This approach would also serve as a mechanism for following up on any issues through continuous improvement programs following deployment.

D. Pathway toward Green Transport and Low-Carbon Cities

Many cities internationally are moving toward green mobility through such measures as the adoption of low-emission vehicle or zero-emission vehicle (ZEV) technologies and efforts to reduce car use. The PRC has been a market leader in creating an industry and accelerating demand for new energy vehicles. Xiong’an hopes to achieve an ambitious target of 90% green transport and 80% public transport shares by 2035, echoing national efforts to pursue green policies in transport and to reach carbon neutrality by 2060. The move to green transport and low-carbon city development will require new thinking, as well as new supporting infrastructure, to generate innovative policies to support the uptake.

Undertake car-lite development efforts to reduce car dependence. Xiong’an has the potential to proactively implement car-lite programs, since the whole area is still under development. Necessary interventions, such as the removal of minimum parking requirements in new developments and the repurposing of parking spaces, could be introduced at the very start to avoid public opposition. Xiong’an could adopt car-lite measures ranging from short-term car-free days to permanent car-free spaces, implemented at the avenue, neighborhood, district, or city level. To complement the car-lite development goals, Xiong’an will need to provide adequate public transportation services and infrastructure to ease the movement of citizens. This could be combined with the introduction of demand-responsive public transport services, first- and last-mile enhancements supported by walking and cycling initiatives, and the creation of an urban landscape that features simple street blocks and large green spaces to encourage the use of active transport.
Accelerate the uptake of clean energy vehicles. Xiong’an could leverage the PRC’s leading global position in electric vehicle uptake to realize the mass adoption of ZEVs in the New Area. In addition to the national purchase incentives for private electric vehicles already in place, Xiong’an could further boost the use of clean energy vehicles by requiring a minimum adoption share of ZEVs in its high-potential market segments, including government, airports, public transport, logistics, and the tourism sector. Green zones allowing only ZEVs could be established in Xiong’an to raise awareness and encourage the use of ZEVs, with the intention of expanding these zones later on. Considering the long-term development of clean energy vehicles, Xiong’an should investigate the feasibility of adopting hydrogen-powered vehicles, considering its capacity to produce or procure zero-carbon hydrogen. Pilot projects on zero-emission autonomous vehicles should be conducted to provide a fuller understanding of the design considerations and impacts on design and logistics, to future-proof Xiong’an’s infrastructure.

Strategically develop charging infrastructure in conjunction with car-lite incentives. To facilitate the development of charging infrastructure, Xiong’an could enter into a government-guaranteed multistakeholder agreement integrating vehicle adoption with charging infrastructure development. However, the development of charging infrastructure will need to be balanced with Xiong’an’s car-lite measures. The deployment of charging facilities must be enough to support ZEV uptake, while not undermining measures aimed at limiting vehicle growth, such as congestion-charging zones.

Reduce transport-related air pollution with low-emission zones. Low-emission zones (LEZs) typically restrict access to polluting vehicles and impose charges on vehicles that fail to meet emission standards, with specific standards for each vehicle type. Xiong’an provides an opportunity for the master planning of routes that could support an LEZ, potentially incorporating congestion-charging schemes, which would be especially ideal in high-density areas of the city. A prerequisite for establishing LEZs is the maintenance of the convenience, efficiency, and responsiveness of the public transport services supporting the zone. A cost–benefit analysis could be undertaken to strategically calibrate the implementation details, including area coverage, vehicle types to be included, phases of implementation, emissions criteria, and the impact on small and medium-sized businesses within the LEZ. Informed by the analysis, LEZ access points, information signs, and other field-proven elements could be identified for adoption if they are appropriate for the local context of Xiong’an.

Implement green transport incentives using a structured approach. Avoid–Shift–Improve is a globally recognized framework for sustainable mobility. Incentives could be introduced across the three concepts that define this framework. “Avoid” strategies are designed to reduce travel, thereby enhancing the efficiency of the transport network. “Shift” strategies aim to improve trip efficiency within the transport network by motivating a shift to more sustainable transport modes. “Improve” strategies focus on enhancing vehicle efficiency by cleaner technologies. Using the Avoid–Shift–Improve framework, Xiong’an could reduce the need for travel by funding mixed-use developments, offering incentives for job development near mobility hubs, and by providing social housing to prevent the displacement of low-income families due to the New Area development. A shift from private or hired vehicles to public transport is a major aspect of Xiong’an’s green mobility vision. Incentives supporting the shift could include various subsidy programs for transit use, such as subsidized transit fares during off-peak hours, regional passes, late-night service, and emergency rides, together with a series of TDM incentives and car-free programs. Lastly, Xiong’an could support the improvement of vehicle efficiency by using a range of purchase incentives and tax rebates for clean energy vehicles (thus subsidizing the development of ZEV infrastructure, such as charging facilities) or by providing grants to boost the development of clean mobility innovations.

E. Policies, Institutions, and Capacity Development
The policies will focus on enhancing the horizontal and spatial integration of the current institutional structure, and on fostering innovative collaborations that will help improve Xiong’an’s effectiveness in implementing and operationalizing the proposed interventions. This section outlines five recommendations for the Ministry of Transport (MOT), Hebei Province, and Xiong’an to consider, to strengthen regional connectivity and lower institutional barriers to innovation.

1. Introduce a Beijing–Tianjin–Hebei interregional transport body. This body would be responsible for preparing and coordinating regional transport activity, and for monitoring the implementation of regional transportation plans and projects (Figure 4). This body would cover Beijing, Tianjin, and Hebei Province, with supervisory authority over the municipal and provincial governments for plan implementation. This body should also manage regional travel data and forecasting. Its membership could include the established leadership committee that oversees the Beijing–Tianjin–Hebei integrated transportation network. This would free up time for the leaders of the body to make decisions regarding major directions and particular issues. This dedicated body would also enable front-end projects, such as Xiong’an to present their needs directly to the relevant management bodies.

This body should be managed by the MOT, which is responsible for interprovincial transport services, infrastructure development, and other interprovincial functions (including ICM, regional, and TDM programs, among others). It is proposed that the body also include leaders from the Xiong’an Management Committee, and from the public transport authorities in Beijing, Tianjin, and Hebei.
This body could provide a blueprint for the synchronization of transport services in Beijing, Tianjin, and Hebei Province. Supervision by the MOT would enhance the spatial integration of transport-related institutions.

2. Establish a “Transport Innovation Division” at various levels of government. Innovation must be emphasized in both cultural and organizational domains. To allow it to flourish, all stakeholders must believe that they have a part to play alongside the others, and that there is a clear process for moving from “idea” to “impact.” The division could exist in different forms at various levels. At the MOT and Hebei Province Department of Transport, for example, it could be a unit within the existing organization.

In Xiong’an, the Bureau of Reform and Development oversees digital infrastructure development and industry engagement, so it is naturally the leading agency for innovation. It is recommended that a separate innovation unit be established within Xiong’an’s Bureau of Planning and Construction, with other transport-operating entities to be defined after the New Area is in operation. The innovation unit would work with the Bureau of Reform and Development (Figure 5). Its main responsibility would be to manage the research and testing of new technologies and business models, and to ensure that the innovations align with Xiong’an’s vision and objectives. A separate set of performance indicators should be established for this new unit, given its focus on the future.

A key part of the idea-to-impact process is the utilization of an innovation management system. This will enable the gating, review, and feedback process to be developed effectively. An innovation management system can also serve as a guiding framework for all types of companies and other organizations that want to strengthen their innovation capabilities.

Innovation Management—Innovation Management System—Guidance, published by the International Organization for Standardization (ISO), provides advice regarding the establishment, implementation, maintenance, and continual improvement of an innovation management system, and is intended for use by all established organizations.
It is also recommended that Xiong’an establish an “Integrated Mobility Control Center,” which would focus on walking, cycling, public transit, and other green modes. The proposed center would connect and coordinate traffic-management operations across government departments, mobility modes, and geographic areas. The center would also integrate the collection and management of information relevant to mobility control, including static and dynamic traffic data, infrastructure status, and city environmental conditions. In contrast to traditional mobility-control centers, which focus on vehicular traffic and congestion remediation, the center should incorporate control measures for green mobility modes based on a set of key performance indicators (KPIs) developed for this purpose. Examples of KPIs that could be adopted to monitor public transport performance include travel time reliability, waiting times, and comparisons between scheduled and operated kilometers. For walking and cycling, the KPIs could include the level of use of cycling facilities, total and average distances cycled or walked per day, and the share of cycling or walking trips (combined with public transport) of all modes. These KPIs will help gauge Xiong’an’s performance in supporting these green mobility modes.
SUMMARY

The development of policy recommendations must consider the extensive planning effort that has already been dedicated to Xiong’an and its vision of an integrated, sustainable, and innovative transport system. Existing initiatives in Xiong’an—such as “car-free zone” implementation, controlled parking provisions, and vehicle purchase and use policies—have been studied with the aim of intensifying their impact. The TDM interventions recommended in this brief would complement these existing policies with tangible measures to encourage a greater use of public transport and reduce parking dependency and parking-space supply. Other regional connectivity-enhancement initiatives—such as planning and operational strategies for multimodal interchange hubs, integrated corridor management (ICM), and seamless airport access—are all tailored to fit the development context of the existing infrastructure, including Xiong’an Station, Xiong’an City Exchange Center, and the connection to Beijing Daxing International Airport. The recommended green-transport and low-carbon city policy interventions—including car-lite development, clean energy vehicles, LEZs, and green transport initiatives—are designed to directly support Xiong’an’s ambitious target of attaining 90% green transport and 80% public transport shares by 2035. This brief recognizes Xiong’an’s unique potential for developing new mobility services, given its status as a completely new area with minimal existing barriers. The transport innovations already occurring in Xiong’an—such as 5G smart public buses and a pilot application of a real-time accident-detection system, along with the Beijing–Dezhou Expressway—could synergize with the other user-oriented mobility services and next-generation transportation innovations recommended in this study.

Close collaboration is imperative among leading agencies and bodies governing transport system development in Xiong’an. To enable structured and efficient policy formulation, the recommended actions for creating an institutional and regulatory framework for Xiong’an are summarized below:

(i) Introduce an interregional transport entity based on the government’s strategy for the Jing–Jin–Ji (Beijing–Tianjin–Hebei) region.
(ii) Establish a Transport Innovation Division at various levels of government.
(iii) Develop organizational capacity, considering the skill requirements needed for emerging mobility elements, and covering the technical, policy, and advisory areas.
(iv) Implement collaborative models for public–private innovation.
(v) Establish an Integrated Mobility Control Center to focus on walking, cycling, public transit, and other green modes.

This brief serves as knowledge support for the integrated, sustainable, and innovative transport plan for Xiong’an. The global best practice case studies presented under each intervention, as well as the institutional framework, provide a reference point for Xiong’an in terms of implementation and lessons learned from the experience. When Xiong’an formulates policies and measures to develop its integrated transport system, this brief will provide decision-makers with information and technical assistance from an international perspective.