Developing a Common Narrative on Urban Accessibility:

Overview

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Throughout the world, people struggle to effectively, affordably, and safely reach destinations they value, such as workplaces, hospitals, homes, and shopping centers. Caught in a built environment that has long been planned and designed around "mobility"—where reducing congestion and boosting travel speeds are paramount—people are often disconnected from economic opportunity. Existing transportation options, for instance, may fail to conveniently connect people to jobs, while housing may be distant from other essential services. In turn, the lack of urban "accessibility" has made it difficult for cities to support equitable and sustainable development that ultimately helps people get where they need to go.

The Moving to Access (M2A) initiative represents a multidisciplinary effort aimed at informing and promoting a more accessible built environment across the developing and developed world. Although the idea of accessibility has gained greater traction among researchers over time—and new tools and performance measures have been created to quantify urban needs—its widespread adoption has proven challenging. However, by pioneering new research and establishing stronger networks among academics, practitioners, and other leaders, M2A aims to move the concept of urban accessibility from theory into practice.

Efforts to improve accessibility involve a wide range of policy areas and actors, making it difficult to clearly and consistently translate the merits of an accessibility approach to urban development. Instead, moving theory into practice will require a common understanding across three policy disciplines that traditionally make decisions in isolation: transportation, urban planning, and fiscal and financial affairs. Professionals in each of these three disciplines, whether when considering new transit expansions, developing new land use plans, or guiding new investments and pricing policies, need to have a better sense of how accessibility is interconnected.

Establishing where these disciplines agree, where they diverge, and what they can miss is a key first step to developing practical policies that will resonate with all policymakers.

To meet this objective, the M2A initiative commissioned three think pieces that discuss accessibility from these perspectives. The authors of each piece followed broad guidelines to better define the challenges and opportunities cities face when implementing an accessibility-focused approach, with an eye toward cross-cutting solutions. Each paper stands on its own, offering an intellectual tour of accessibility through its discipline:

• **"Developing a Common Narrative on Urban Accessibility: A Transportation Perspective,"** by Christo Venter

• **"Developing a Common Narrative on Urban Accessibility: An Urban Planning Perspective,"** by Gilles Duranton and Erick Guerra

• **"Developing a Common Narrative on Urban Accessibility: A Fiscal / Finance Perspective,"** by Shahid Yusuf

Venter, Duranton, Guerra, and Yusuf all offer a fresh take on accessibility, often drawing from experience in their disciplines to reveal areas of agreement. Critically, all the authors strongly agree that prioritizing accessibility is essential to achieving sustainable and equitable urban development. The authors also agree that policymakers and practitioners have, to date, paid little if any attention to accessibility.

Where the authors diverge, however, is in their view of the constraints holding back the widespread implementation of accessibility policies. In some cases, the constraints are the same but their emphasis is not; in other cases, the constraints are markedly different. Given their sectoral backgrounds and range of different national and urban contexts, this is not surprising.

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However, it speaks to the extensive challenge to create practical policies that unite these disciplines.

This overview categorizes the commonalities, differences, and gaps across the three pieces, and uses these findings to identify opportunities for future work to advance accessibility practice. We begin with the overall view of the authors on the central importance of a focus on accessibility and the lack of attention by policymakers and practitioners. The second section discusses the formidable challenges the authors agree are involved in moving the concept of accessibility from theory to practice. The third section highlights differing concerns among the authors, and the fourth identifies issues that will require more attention in subsequent work. Finally, the paper presents implications for future applied research and approaches to better engage with the various stakeholders.

Urban accessibility's central importance

Each of the authors sees urban accessibility—or the ability to connect households and firms to local opportunities—as an essential objective in urban and transport planning. Duranton and Guerra state that there is a critical need to place "accessibility at the center of our thinking" as it "links two primary urban consumption goods: land use and transportation" that account for an overwhelming percentage of household expenditures worldwide. Yusuf similarly argues that individuals' and firms' demand for access deeply influences the physical dimensions of urban areas, from commuting routes to locations of housing to environmental quality. Venter provides the transportation perspective that accessibility is "a more balanced, holistic concept focusing on the system as a whole," rather than individual transportation projects and their performance.

The authors also agree that cities seldom if ever focus on accessibility. As Yusuf states, "few cities consciously pursue access as an objective," in particular when making financing decisions or setting fiscal policies. Duranton and Guerra similarly say that "the politics of land use and transportation decisions rarely favor accessibility as an important policy outcome," and this oversight has consequences for efficiency and equity. And Venter finds that accessibility is "not yet embedded in the practice of transportation planning and engineering either as an analytical concept or as a practical tool."

Looking at all three papers in concert confirms the central tension at the core of the Moving to Access initiative: if theorists from various backgrounds agree that accessibility is the superior approach to transportation and urban planning, what is holding back practitioners from sharing this perspective and adopting related policies? If experts from three different disciplines all land on the same conclusion, it confirms the importance of applied research and cross-sectoral collaboration in addressing the barriers to adoption. It also underscores the importance of a better understanding of where each discipline believes the breakdown occurs. Simply put, are the constraints the same?

Common constraints to accessibility

When identifying the constraints to practical adoption of accessibility, the authors find areas of explicit agreement: definition and measurement, institutions and governance, and legacy issues. These underlying constraints help set priorities for establishing common ground and understanding across types of expertise. In addition, they represent a set of challenges as to what can be accomplished and how.

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Challenge of definition and measurement

It is hard to create and evaluate policies if there is confusion about the very definition of accessibility. Likewise, if policymakers struggle to define accessibility, instituting performance measures to better understand it will be difficult.

As Venter points out, defining accessibility requires understanding "access for what, for whom, and how." He says there "probably is no ideal accessibility measure" and in any case such a measure "is probably unachievable in practice." Duranton and Guerra similarly characterize accessibility as a "relative concept, not absolute," and contend that it depends on highly individualized needs and decisions. They illustrate this challenge by beginning with a simple model of urban accessibility and then adding in various elements of realism that illustrate how quickly complexity builds. As a result, there is no benchmark to help set a standard. Duranton and Guerra introduce the idea that a single, aggregate index of accessibility wouldn't necessarily communicate valuable information.

Regarding measurement, the challenges in modeling and estimating the behavior of firms and households are significant, both in developed and developing country cities. There is a lack of empirical evidence with regard to land use and transportation interactions. Venter discusses the challenges that impede the collection of evidence that could be used to answer major policy questions: data and software are not universally available; there is no clear method to monetize gains in accessibility; and it is difficult to measure how transportation pricing affects access. However, opportunities are clear—addressing these practical challenges will provide governments with the tools to begin designing new measures and integrating them with decision-making frameworks.

These measurement issues extend to the fiscal and finance professions, too, where Yusuf references how it is difficult to incorporate an analytical approach that does not include agreed-upon measurements. Thus, so long as transport and urban professionals struggle to find common ground on what accessibility looks like in practice, fiscal and financial professionals will struggle to incorporate accessibility into their decision-making models.

Challenge of institutions, governance, and the political economy

Duranton and Guerra conclude that the complexity of defining and measuring accessibility and the lack of empirical knowledge have led "many researchers, not to mention practitioners, to retreat into narrow areas of expertise." Transport professionals take land use as a given, and land use and housing specialists generally ignore transport aspects. Yusuf confirms the absence of accessibility goals in financing considerations. The result is a disconnected set of policies, regulations, and investments.

The situation is exacerbated by the lack of political enthusiasm for dealing with accessibility. "[C]ompared to other competing land use and transportation objectives, accessibility is abstract and hardly pressing," write Duranton and Guerra. Venter offers the particular case of the United Kingdom that, responding to a concern for social exclusion, established a national policy requiring accessibility plans for cities. However, when sluggish economic growth led to tighter budgets, enthusiasm for the effort waned in favor of the greater priority of traditional economic evaluations. Adding in the longstanding issue of "short-termism" of political leaders, the ability to bring attention and credible actions to accessibility issues hits a roadblock.

Finally, the potential for individual public and private stakeholders to pioneer new accessibility-focused approaches can be challenging due to limited cross-agency collaboration, highly fragmented political boundaries, and limited fiscal decentralization. Yusuf demonstrates this point by discussing how fiscal centralization can limit local governments' ability to

properly implement value capture policies. Successful value capture arrangements in places like Hong Kong and Tokyo—where major transit investments get funded through combined real estate development—are well-known across the world, but rigid governance structures limit the ability of other metropolitan areas to copy what works.

Challenge of legacy issues

All of the authors raise the difficulties of dealing with physical structures that generally can be changed only at the margin and over a long period of time. These are the legacy issues. Duranton and Guerra remind us that "the structure of current cities does not reflect current economic fundamentals—it reflects the economic fundamentals at the time they were developed and perhaps the expectations that people had then." Yusuf refers to the persistent, outward growth of polycentric cities complicating the application and effectiveness of new land use and transport policies and investments as compared with a simpler monocentric spatial model that serviced the less-mobile technologies of the day.

Moreover, all four authors discuss concerns around the embedded and continuing spatial mismatch between households and employment, service, and commercial destinations. Ineffective land regulations and mobility-oriented investment decisions often run contrary to efficient and equitable accessibility objectives. This creates a set of counterforces, with ambitions to reduce travel times (and improve accessibility) fighting against the "induced demand" created by high-speed transportation facilities and suburban real estate.

These constraints are significant and distinct—there will be no single solution set to satisfy them all. Yet they should not dissuade us from the importance of aiming to improve urban access; instead, they are a roadmap of the challenges ahead.

Divergent perspectives on accessibility

While the authors share a core objective and a specific set of constraints, their intellectual perspectives are not the same. One author may explore entire topic areas that the others do not. Or one author may emphasize the same topic differently than the others based on expertise and geographic experience. Our goal is not determining which is more important, but rather to ensure each discipline understands and respects issues raised by the others.

Those differing perspectives can be grouped under four categories: accessibility versus mobility, financing for accessibility, adjusting to country and urban growth contexts, and managing risk.

Accessibility versus mobility

Venter devotes considerable attention to the evolution of the transportation community's focus from mobility toward accessibility. Since accessibility's broad perspective incorporates both land use and transport interventions, he concludes that mobility, which deals only with transport, contributes to but is not sufficient for enhancing access. He illustrates the confusion within the transport sector, noting how accessibility "has been used descriptively in three ways, namely as a measure of the quality of mobility, of access to transport, and of access to opportunities."

Under "quality of mobility," for example, measures such as travel times and speeds, level of service, and congestion are often referred to as accessibility measures by transport professionals, but these gauges ignore land use elements. As Venter writes:

> The use of mobility indicators is deeply embedded within transportation engineering practice.…However, it is important that mobility indicators should be understood for what they are—limited measures of one component of the land use/transport system—and not as indicators of accessibility per se. It is likely that the definitional conflation of mobility and accessibility measures is a major factor hampering constructive engagement with the accessibility concept within the transport sector.

In terms of "access to transport," the concept of accessibility is applied in a very limited sense relating to the ease in which people can use the transportation system. Distance of a household to a metro or bus stop or adaptation of facilities for the handicapped are valid measures but do not answer the broader question of access to a range of employment, service, or commercial destinations.

While the other papers understandably do not discuss how much transportation professionals are wedded to mobility concepts, it is impossible to overstate the importance of changing the perspective of the transportation discipline. Major transportation decisions, from regional highway design to local sidewalk construction, all funnel through transportation departments—irrespective of whether the decisions also involve urban land or financial professionals. As long as the leading practitioners behind major transportation decisions pursue targets related to vehicle speeds, accessibility will likely have

difficulty gaining traction. "Mobility for All" is a very different concept than "Accessibility for All."

Financing for accessibility

There is growing evidence that fiscal and financing policies can have serious consequences for how well people can connect to opportunity. In addressing these issues, Yusuf proposes how urban form and economic health influence the relative costs of providing access and the fiscal and financing capacity to meet that demand.

Yusuf discusses the strengths and limitations of expanding public resources for supporting accessibility and the options for augmenting those resources by other means. He focuses on the wide variability among countries in terms of fiscal decentralization, which is a major determinant of local financing and funding capacity. Similarly, his work confirms the need to evaluate alternative funding and finance schemes from an accessibility perspective. How do public-private partnerships address the pricing and service needs of low-income households in determining private- versus public-sector obligations? Are there ways in which value capture can be applied without accelerating gentrification?

One important takeaway from the discussion of fiscal and financing issues is the need to begin with a clear understanding of the fiscal health of an urban area. Yusuf mentions how economic trajectories—the ability to grow tradable industries, create jobs, and add people—will impact the financing capacity and fiscal resources available to metro areas. Often funding discussions focus first on the financing of a specific project in isolation and ignore the fiscal implications. With a clear basis set forth on the fiscal situation up front, it is possible to establish a credible long-term strategy for funding of land use and urban transport plans. This underscores the importance of ensuring that finance and fiscal experts are involved from the onset in transportation and land use planning efforts.

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Adjusting to country and urban growth contexts

There is a recognition throughout all the papers that country and city context matters. Duranton and Guerra raise the important distinctions between developed and developing country cities in terms of the formality or informality of urban economies, housing, and even transport services.

Yusuf goes several steps further in identifying different city contexts beyond the dichotomy of developed versus developing country cities. He points to the differing nature and scale of large cities versus smaller urban areas and their ability to generate revenues. Moreover, there are cities that are in a growth mode with a highly vibrant private sector and others that are on a downward trajectory and are "hollowing out." Finally, there are cities that must serve a rapidly aging population, generally in developed countries, and those that must cater to a substantial number of younger inhabitants. All of these distinctions imply different accessibility needs, land use and transport demands, and capability to raise sufficient resources.

Similarly, all the authors touch on the different spatial growth patterns in global metro areas—but they don't agree on whether those patterns will converge. Duranton and Guerra carefully investigate how "the housing supply, congestion, and amenity provision" can all impact the distances between neighborhoods and the transportation choices individuals and firms make. They also demonstrate a belief that metro areas are unlikely to emphasize more compact development. Yet on the other end of the spectrum, Yusuf alludes to the importance of such compact development—even in polycentric metro areas—to address climate change and other long-run concerns. These two perspectives serve as a microcosm for different thinking around urban development patterns and continued questions around what those patterns may mean for future urban access.

Managing risk

Managing risk is an equally important concern, but another one not equally referenced across the three papers. The chief issue for planning and investment must be to adequately consider future uncertainties. Yusuf poses two "known unknowns" that are crucial to accessibility planning. The first is the advent of new technology, whether telecommunications that limit work commutes or the rapid adoption of autonomous automobiles. The second is the effect of climate change on cities that are most vulnerable to floods and other events. For these cities construction costs could soar while newly dispersed local populations could dramatically redefine access demands. There is no clear consensus around how those long-range plans may impact future access to economic opportunity.

Issues requiring greater emphasis

Although the three papers provide a comprehensive set of issues to be addressed through a focus on accessibility, two questions require further thought. Both touch all three disciplines, and the answers will be important components in implementing accessibility-focused policies

Who should pay?

Traditional discussions of fiscal policy and finance, as they relate to urban transportation, typically take a narrow focus on the funding and financing options for specific transport investments. Yet access is a regional concept—it is not defined by any specific projects, but rather by how all components of a regional transportation network work together to move people to opportunities. As such, how investments are paid for and how individuals pay to use the local network are key considerations.

Venter points to the limits of economic evaluation of transport investments, and many authors have argued for the use of alternative appraisals that take into

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consideration the distribution effects regarding who benefits. What appraisal can one use to select optimal investments? Can a focus on accessibility go beyond a subjective assessment? Recent efforts in Bogota, Colombia and Lima, Peru sought to assess the impact of investment on accessibility by area income levels, but the projects did not apply the appraisal to actual selection among alternatives.

Related to the appraisal methodology is the determination of who should pay for urban transport services: users, general taxpayers, or a combination of the two? Can subsidies or income transfers be designed to enhance the accessibility of lower-income households? How do we determine an "affordable" fare level? How should other urban objectives (e.g., a lower carbon target) be balanced against access goals (e.g., discounted car services for low-income households)? With a seemingly increasing spatial mismatch between low-income households and employment and services, the issue of affordability becomes even more critical in the discussions of equity of urban access.

Horizontal versus vertical governance challenges

Yusuf lays out the issue of defining the roles of national versus local governments (the vertical governance challenge) in the context of decentralization initiatives. Venter's United Kingdom example offers a similar lesson around how shifting national goals affect local project evaluation. What is equally if not more challenging is the collaboration between different agencies under the same local government or different municipal governments within the same metro area (the horizontal governance challenge).

There is growing acceptance that local governments must recognize the network economies of transport and have organized entities that manage or oversee

transport across municipalities. There is not, however, much appetite for joining finance instruments and tax authority to fund such investments and services. Nor is there much appetite for delegating land use control to other entities outside the municipality or for requiring transportation and budgeting departments to make land use decisions in concert with the urban land department. Without such a cross-municipal or metropolitan approach that includes funding and land use, there is a crucial governance gap in promoting accessibility.

Key directions for the future

For going forward, the three papers lay out an extensive agenda for bringing accessibility from theory to practice. Indeed, the constraints listed above and the diversity of city contexts may seem daunting, but the growing concern for inclusive urban growth, as recognized in the U.N. Sustainable Development Goals, the advent of technologies that facilitate a more detailed understanding and mapping of the demand for access, and the introduction of new fiscal and financing approaches, all underscore the importance and timeliness of a comprehensive effort on accessibility.

Taking into account the various constraints, it is important to set a realistic course. Duranton and Guerra emphasize the need to take a very practical problem-solving view, maintaining that "we want to shift the cursor, not swing the pendulum." They argue that the ability to change urban access is effective at the margins. Instead of searching for the holy grail of a holistic framework, one should identify specific problems and develop targeted solutions.

The following priorities thus take an issue-oriented approach by identifying key issues in urban access and identifying the critical gaps in terms of empirical research, measurement, and governance. These priorities are put forward to help set the work program

for the M2A, but it is not expected that M2A alone can pursue all of them. Just as importantly, they are intended to address questions that will help operationalize access within governance frameworks; the intent is to lead to practical action and feedback loops of what works and what doesn't. Among the critical areas to be addressed are the following:

Empirical research priorities

- Compile empirical evidence of the benefits of accessibility as they relate to economic growth and social outcomes, recognizing that positive results can galvanize interest in access-promoting policies. Does improving access for households actually lead to changes in economic outcomes, most notably through higher incomes? How can practitioners quantify the benefits of greater access to critical social services, such as medical care and education? How would an accessibility approach to transportation planning lead to different outcomes than a mobility approach?

- Measure the marginal utility of greater accessibility levels by demographic groups, most notably different income levels. Do higher-income households value overall access differently than lower-income households? How much is each income strata willing to pay, in aggregate and as a proportion of household income, for greater access? How does that willingness change according to different modes of transportation?

- Disentangle how accessibility impacts land values. How do access levels via different transportation modes—highway, mass transit, biking, walking—affect neighborhood land values differently, and is there a ceiling on their impact? How do other amenities impact those same land values?

- Consider the long-term implications related to accessibility created by significant technological innovation. How can cities prepare for the range of access implications based on the range of

technological impacts, most notably through autonomous vehicle growth, rooftop solar advancements, and further smartphone penetration? How can cities incorporate related policies into their long-term planning?

Measurement, modeling, methods, and data

- Develop clarity within the transport sector on the various definitions and measurements of accessibility, particularly among practitioners. Other research under the M2A has confirmed the confusion within the sector that needs resolution if non-transport professionals are to engage. What range of current measures are available to practitioners in specific places? What are the strengths and weaknesses of these measures relative to local economic, land use, and governance contexts? What data and software are required, and what are the costs to acquire both?

- Since most governments from the local to national level formally employ level of service measures to judge the vehicle traffic impacts of new transportation projects and real estate developments, determine the policy alternatives to switch to accessibility-focused measurements.

- Create evaluation frameworks to improve the selection and design of investment projects that align economic and financing decision making and incorporate accessibility. How can access become a major input into economic and financial evaluation of transportation and real estate projects by public and private investors? What data would be required that are not yet available? How can the data be adapted to different city contexts?

- Assess the potential for developing cross-city accessibility measures that will facilitate global city benchmarking.

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Policy approaches

- Document and evaluate innovative governance models that address vertical and horizontal constraints to an accessibility-focused transportation model. How do national governments balance the push for centralized decision making with the need for a metropolitan approach to transport and land use planning and financing? How can local governments better integrate departments' transportation-related decision making? What regional governance structures work best to promote collaboration among different municipalities?

- Explore and present analytical approaches that evaluate the impact of land use policies and regulations on accessibility. How can land use regulations and social housing practices avoid challenges associated with gentrification? How do current social housing policies either promote or exacerbate accessibility for their residents, and what are the models promoting access that could be replicated in other places? In particular, how do governments balance the ease of putting social housing in exurbs due to lower real estate values with the benefits of putting housing in more expensive locations closer to the urban core?

- Develop an analytical approach to assess funding options in terms of their relative positive or negative effect on accessibility. Are there frameworks that indicate the most efficient and equitable allocation of funding responsibilities in terms of national versus local taxpayers and users and related pricing, user charging, and taxation measures?

- Assess revenue-raising capabilities of value capture and public-private partnerships and what measures should be taken to ensure inclusive accessibility. Are there measures to avoid gentrification under value capture? How does a government allocate the responsibility for targeted service and subsidies under public-private partnerships?

- Explore how regional economic performance relates to accessibility. For cities facing decline, what options are available to ensure an adequate level of access? How should national governments balance responsibilities to support growing urban areas and declining ones?

- How can the advancement of access measures be used to judge the connection between political power and access-promoting policies? Put another way, do projects and programs that improve access tend to flow to neighborhoods where more politically connected households reside?

Conclusion

The authors of these three think pieces have illustrated how context matters in defining the issue of accessibility and advancing new approaches, but there continues to be broad disagreement on exactly how to move theory into practice. This challenge creates an enormous opportunity for applied research, anchored in specific places, to bridge these gaps with new quantitative findings, practical tools, and governance reforms. The observations in these three papers confirm the fact that producing impactful research will require enhanced cooperation between researchers and practitioners across the relevant sectors. It is clear that cities and countries cannot afford to remain prisoners in technical silos. Improving access demands cross-sectoral collaboration.

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About Moving to Access

The Moving to Access Initiative aims to inform and promote a more socially focused, access-first approach to urban transportation policy, planning, investment, and services. Facing a number of economic, demographic, fiscal, and environmental challenges, cities and metropolitan areas globally are looking to adopt new, actionable metrics to guide more purposeful initiatives to improve accessibility for people of all incomes. The Initiative looks to move beyond theory and accelerate the adoption of these innovative efforts, exploring new tools, techniques, and performance measures across the developing and developed world.

Together, the Brookings Metropolitan Policy Program and Global Economy and Development Program not only seek to advance an understanding of flexible governance frameworks and newly emerging funding and finance strategies, but also to foster the practical implementation of such practices and develop stronger collaborations among academics, policymakers, and practitioners worldwide. To learn more visit: https://www.brookings.edu/interactives/moving-to-access/

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