Improving Streets Infrastructure to Advance Mobility and Promote Social Equity in Boston, MA

As part of Bloomberg Philanthropies' What Works Cities initiative, the GPL provided pro-bono technical assistance to help Boston strategically plan its portfolio of street and sidewalk construction contracts in order to improve the public right-of-way across the city.[1]

The Challenge: Boston, like many cities across the country, wanted to provide more equitable and reliable transportation options to its residents and visitors. In 2017 the city rolled out *'Go Boston 2030,'* a comprehensive, 15-year transportation plan. The goals of the plan were to expand access to key travel modes, improve roadway safety, and enhance the reliability of the City's transportation network. The City hoped that with the new plan, residents and visitors would "be able to access all parts of Boston safely and reliably," increasing economic opportunities.[2] After two years of research and community engagement, the City identified dozens of strategic projects to improve public transportation networks. With so many potential projects to invest in, Boston needed to make decisions about which were highest priority. Historically, the City had made many of these decisions based on resident requests, an approach that tended to over-represent the needs of certain neighborhoods. Instead, Boston wanted to use this opportunity to sequence transportation improvement projects in a way that aligned with broader city-wide goals, such as advancing mobility and promoting social equity.

The Project: Boston's Streets Cabinet aimed to invest in street and sidewalk construction in a manner that best reflected community priorities. As part of this, project partners:

1. **Aligned upcoming transportation projects with the City's strategic goals, including to increase neighborhood walkability and reduce the wealth gap**
   '*Imagine Boston 2030*,' Boston's first city-wide plan in 50 years, identified a set of strategic goals for all City departments to work in concert to achieve. For example, the plan expressed a desire to "increase the share of Bostonians who walk, bike, or take transit to work" by

[1] Public right-of-way refers to pieces of land used for transportation purposes, including streets, highways, public footpaths or sidewalks, bike paths, etc.
[2] "Go Boston 2030," Boston.gov, February 24, 2017, https://www.boston.gov/departments/transportation/go-boston-2030.

2030. While there are a variety of factors that might lead an individual to shift transit modes, the Streets Cabinet can affect the attractiveness of these modes by strategically investing in high-traffic sidewalks or bike lanes. The Streets Cabinet can also accelerate progress by explicitly calling attention to the City's high-level strategic objectives in its sidewalk and roadway contracts and giving vendors the incentive to meet these goals. Greater upfront information in the City's contracts can in turn reduce uncertainty for vendors and lead to lower costs.

The table below demonstrates three examples of city-wide goals and the corresponding considerations that the Streets Cabinet might use to elevate the City's goal when selecting or structuring upcoming projects.

Mapping city-wide goals to Streets Cabinet priorities

City-wide Goal	Considerations for Streets Cabinet Projects	Projects to Prioritize
Increase neighborhood walkability	Neighborhood walkability is defined using the Walk Score methodology. The Walk Score of a neighborhood is a function of population and amenity density, block length, and accessibility of amenities by foot. The degree to which amenities are accessible by foot is at least partially affected by sidewalk quality, continuity, and accessibility – all of which fall under the purview of the Streets Cabinet.	Projects that advance mobility
Increase the share of Bostonians who walk, bike, or take transit to work	A variety of factors might lead an individual to shift his or her mode of transit away from single-occupant vehicles. The Streets Cabinet is able to affect a range of "pull factors" that improve the attractiveness or affordability of alternative modes of transportation, primarily through the construction and redesign of pedestrian/vehicle right-of-way,[3] and convenient placement of car-/bike-share services.[4]	Projects that advance mobility Projects that link key transportation networks
Reduce the wealth gap	Although it is hard to quantify the direct impact of the Streets Cabinet's work on reducing income inequality, there is almost certainly a connection. Investments in the public right-of-way translate into improved property values,[5,6] and pave the way for neighborhood growth. By ensuring that work is equitably or favorably allocated to more low-income communities, the Streets Cabinet can tip the balance of investment and create more favorable conditions for the growth of wealth in historically underserved areas.	Projects that promote social equity

[3] Aziz, HM Abdul, et al. "Exploring the impact of walk–bike infrastructure, safety perception, and built-environment on active transportation mode choice: a random parameter model using New York City commuter data." *Transportation* (2017): 1-23.
[4] Dill, Jennifer, and Theresa Carr. "Bicycle commuting and facilities in major US cities: if you build them, commuters will use them." *Transportation Research Record: Journal of the Transportation Research Board* 1828 (2003): 116-123.
[5] Mathur, Shishir. "Impact of transportation and other jurisdictional-level infrastructure and services on housing prices." *Journal of Urban Planning and Development* 134.1 (2008): 32-41.
[6] Adair, Alastair, et al. "House prices and accessibility: The testing of relationships within the Belfast urban area." *Housing studies* 15.5 (2000): 699-716.

2. **Developed a sequencing tool to prioritize upcoming public transportation projects based on customizable strategic criteria (including advancing mobility, promoting social equity, and improving public safety)**
   With support from the GPL, the Streets Cabinet developed a project analysis web tool that enables prioritization based on customizable criteria and aids in project sequencing. The dynamic tool allows users to compare projects on key characteristics, such as asset quality, neighborhood demographics, traffic levels, and safety concerns. Most crucially, it allows users to effectively determine when and where work should be done, and what exactly it should entail. For example, the Streets Cabinet may wish to resurface only those roads that meet some level of disrepair. The tool allows the Cabinet to first filter out all work locations that do not meet this standard, and then overlay a variety of strategic criteria, such as "advances mobility," "promotes social equity," or "improves public safety". In this hypothetical scenario, the Streets Cabinet would prioritize key transportation-network-connecting roads in a state of disrepair, in at-risk communities using the tool.

   The sequencing tool also helps to standardize data and improve information flow across city departments. Long-standing silos within the Streets Cabinet – which oversees the Public Works and Transportation Departments – prevented the flow of information across capital programs. This problem was exacerbated by the fact that each program owner relied on different systems, formats, and standards, making data-sharing cumbersome. By making data accessible in a common framework, the Streets Cabinet was able to develop a more complete understanding of its streets, sidewalks, and other assets. This in turn enabled the Streets Cabinet to pinpoint its highest value investments and lessen its reliance on citizen requests for service delivery, which tend to over-represent the needs of certain neighborhoods.

The Results: Through their efforts to improve Boston's public transportation networks, project partners have:

1. **Prioritized $70 million in spending to improve streets, sidewalks, and other public right-of-way assets across Boston**
   The Streets Cabinet used the project selection and sequencing tool to set and refine its capital plan, prioritizing $70 million worth of work in the first year the tool was used. Strategically investing to improve the public-right-of way in a manner that aligns with community priorities will enable the City to provide a more safe, reliable, and accessible transportation network to residents and visitors.

2. **Established a longer-term strategy for more effectively prioritizing upcoming public transportation projects**
   By establishing mechanisms for aligning transportation goals to wider, city-wide objectives and creating a new project sequencing tool, the City of Boston is better equipped to improve the results of public transportation projects going forward. To maximize the sequencing tool's potential, the Streets Cabinet hired a consultant to maintain, enhance, and refresh the tool with updated data on a regular basis over the longer-term.

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