REALLOCATING ROAD SPACE TO PLACE ON GEORGIA AVENUE: 
A SYSTEMATIC APPROACH FOR THE ATTRITION TACTICIAN 
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A capstone thesis paper submitted to the Faculty Director of the Urban & Regional Planning Program at Georgetown University’s School of Continuing Studies in fulfillment of the requirements for Masters of Professional Studies in Urban & Regional Planning. 

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ABSTRACT

This research uses a case study to examine how the anachronistic norms for governing public space obfuscate the opportunity cost of maintaining current standards of automobility. For many years, the District of Columbia has recognized the need to improve public realm amenities, multimodal transportation, and the retail environment on the mixed-use corridor and key arterial Georgia Avenue NW. However, the city has not succeeded in actualizing its vision of the Avenue as a multimodal destination. The findings problematize the conventions for classifying streets, measuring performance, enforcing standards, and engaging stakeholders that hamper progress towards applying best practices and achieving stated policy aims. In response, this paper proposes recommendations for how to operationalize a more equitable, transparent, and holistic approach to the allocation of public space.

KEYWORDS

City of Places, People-First Streets, Streets as Places, Public Space, Road Space Reallocation, Urban Arterial, Context-Sensitive Solutions, Complete Streets, Sustainable Transportation, Washington, DC, Georgia Avenue

RESEARCH QUESTIONS

1. What is the relationship between the allocation of public space on Georgia Avenue NW and the users and activities that are prioritized on the street?
2. How are the competing demands for public space weighed in the planning process?
3. How might planners operationalize a more equitable, transparent, and holistic approach to allocating public space?
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INTRODUCTION

“Attrition of automobiles operates by making conditions less convenient for cars… If properly carried out—as one aspect of stimulating diversity and intensifying city use—attrition would decrease the need for cars simultaneously with decreasing convenience for cars, much as, in reverse, erosion increases need for cars simultaneously with increasing convenience for cars… However, a strategy of attrition of automobiles cannot be arbitrary or negative. Nor is such a policy capable of giving dramatic results suddenly. Although its cumulative effects should be revolutionary, like any strategy aimed at keeping things working it has to be engaged in as a form of evolution… Consider, for example, the problem of accommodating the sidewalk uses, from outdoor store displays to children’s play, that people attempt in popular streets. These need broad sidewalks. In addition, double rows of trees might be splendid on some sidewalks. An attrition tactician would look for sidewalks getting heavy or various use, and would seek to widen and enhance them as a gain for city life. Automatically, this would narrow the vehicular roadbed…

Finally, city eroders always approach the problems to be solved in position fashion. There is some talk, mostly on rarefied and abstract levels, about using highways for the side purpose of slum clearance. But in real life, nobody either promotes or supports highways with the negative purpose of getting rid of something else. Increased, or supposedly increased, convenience, speed or access are the purposes. Attrition, too, must operate in positive terms, as a means of supplying positive, easily understood and desired improvements, appealing to various specific and tangible city interests. This is desirable not because such an approach is a superior persuasive and political device (although it is), but because the objects should be the tangible and positive objects of increasing, in specific places, city diversity, vitality and workability.”
We live in an unprecedented time. Climate disruption, a global health crisis, an economic recession, and social inequities are ravaging cities at home and abroad. Requisite to confronting these urgent challenges is the deliberate management of public resources, including urban land and finances, in a manner that promotes healthy, inclusive, and sustainable communities. Good local governance, then, demands a bold commitment to inverting the anachronistic norms for provisioning public space that typically subordinate all other city uses to vehicle mobility. There is nowhere in the public space network in which reordering these priorities is more critical and ambitious than on urban arterials. What if, instead of being treated as a bridge between places, the locational value of arterials were leveraged as an instrument for urban resilience? What if arterials were bustling multimodal corridors and sanctuaries of urban life?

Figure 1: Georgia Avenue During Open Streets Event

Source: Paul Lagoy

Georgia Avenue NW is the perfect street to showcase this paradigm shift. As a principal arterial located in Washington, DC, a city that has often been a laboratory for urban innovation, the corridor is regionally significant within the transportation network, connecting major activity centers and transit hubs. Georgia Avenue is also home to small businesses, institutions of various kinds, and mixed-use development. For three years, I have lived within a half-mile of the Avenue. In this time, I have sampled the bars and restaurants, shopped the grocery stores, pharmacies, and bodegas, taken the 79 bus home, contributed to arts programming at Walter Reed Army Medical Center, run into neighbors, and watched as vacant properties sprouted into apartments, bagel shops, and beer gardens. And yet, for all that Georgia Avenue offers already, its formal designation as a great street by the city remains aspirational.

Allan Jacobs, author of *Great Streets*, wrote that great streets are defined by their magic: “sorcery and charm, imagination and inspiration […] may be the most critical ingredients.”

While this may be a subjective notion, Georgia Avenue is decidedly missing these. With six lanes of traffic, narrow and obstructed sidewalks, an absence of bicycle facilities, vacant and deteriorating properties, sparsely animated frontages, abundant surface parking, and limited green infrastructure, the Avenues fails to inspire the spontaneous outings, window-shopping, and people-watching it so aspires to. Rather, through-users are prioritized over residents and visitors, driving over transit and active modes, and private convenience over sustainability, health, economic prosperity, equity, and quality of life. Never before has the District of Columbia relinquished four travel lanes and two of private vehicle storage in the service of reordering those

priorities. However, actualizing the vision of Georgia Avenue as a great street requires cultivating a lively street life, improving mobility, access, and safety, incentivizing efficient land uses, and driving customers to local retail.

Figure 2: Pedestrians Crossing Georgia Avenue NW

I want to situate this paper on public space management within a broader discussion on urban policy by first conceding the limitations. This research does not address the full regulatory or social milieu of Georgia Avenue. However, I acknowledge that municipal planning practitioners are working within, and in many ways, on the margins of, a regulatory superstructure. Regardless, reallocating public space is not a panacea for the urgent social, fiscal, and environmental challenges that manifest on the street. Still, the scale of the challenge cities face
underscores the importance of effecting systemic change, confronting facially neutral policies that inadvertently exacerbate inequities and climate disruption, and ensuring planners are deliberately exploiting their expertise in allocating space on city streets.

In the ensuing decades since Jacobs professed her strategy, the attrition tactician—one who improves urban street life while reducing auto-dependency—has not been sufficiently effective to fundamentally reorder the priorities of public space allocation in American cities. We cannot afford to contest the old principles on each and every street. Thus, I do not seek to prescribe a solution for Georgia Avenue. The challenge I engage in this paper is how to effectively govern the use of public space, using the Avenue as a case study. To that end, my purpose is not to deconstruct the planning history, reasoning, conventions, nor constraints that preceded contemporary planners. Instead, I explore methods of changing minds, standards, and outcomes.

This project would not be possible without the direction and wisdom of my capstone advisor, Ronald Hartman, the preparation and mentorship of Uwe Brandes and the rest of the faculty, the continued support of my family and friends, and the generosity of many planners and professionals that gave interviews for this project, including Veronica Davis, Jamie Henson, Theodore Van Houten, Harriet Tregoning, Starsha Valentine, and Christopher Zimmerman. I dedicate this project to the residents of Rock Creek East, with the wish that, if it does not already, one day Georgia Avenue NW brings each and every resident a sense of safety, belonging, and pride in their community.
LITERATURE REVIEW

This paper is situated within a broader discourse on how cities approach transportation planning. Researcher and thought leader Peter Jones observed a set of paradigm shifts, or sequential stages, that characterize the evolving professional practice of transportation planning, noting:

“Each [stage] poses its own research questions and lines of enquiry, involves different academic disciplines and frames the policy debate in a different way. Each places its demands on data collection and analysis, with different requirements for modelling and evaluation.”

The three stages are (1) car-oriented, (2) person trip-based, and (3) activity-oriented or place-based. The first is singularly focused on vehicle mobility and throughput and managing congestion. The second, referred to as the “sustainable mobility city” policy approach, facilitates a shift to more efficient, sustainable transportation. And finally, the third treats streets as places in their own right, systematically integrating transportation, land use, and placemaking considerations cohesively in thought, policy, and practice.


Regine Gerike et al., Urban Corridor Road Design: Guides, Objectives and Performance Indicators (Multimodal Optimisation of Roadspace in Europe, 2018), 13-14.

The subsequent research that has adopted or been integrated into this organizational framework describes the relationship between the stage and outcomes. The European Commission has played a particularly central role in elevating this discussion, and by extension, the discourse on streets as places. The 2004 Commission-funded project Arterial Streets towards Sustainability (ARTISTS) produced a publication that proposed a two-dimensional system of functional street classification, equally valuing place and link within the network. Whereas link status is a familiar concept of valuating streets according to their locational significance within the transportation network, place status is a similarly subjective valuation of each street section based on its character, activities, and public realm amenities. Combined, these indicators reflect “the relative significance of any particular street section both as a link and as a place, relative to the whole street system.” Later adopted into the framework of stages, and applied in London, this classification system became the best practice for stage three cities.

More recent European Commission research includes the Multimodal Optimization of Roadspace in Europe (MORE) and Congestion Reduction in Europe: Advancing Transport Efficiency (CREATE) projects. A 2018 MORE report provided a systemic overview of the


9. Ibid.


relationship among street classification systems, indicators, and street design, as well as guidance for the “planning, design, management, and operation of street space on major urban corridors.” Meanwhile, CREATE has produced several case studies to identify the challenges and opportunities of transitioning through the stages of urban mobility, as well as the conditions that trigger attitudinal and policy changes.

This Europe-focused discourse has yet to have much crossover with North American research and practice. Evidently, the ARTISTS, MORE, and CREATE reports all have a clear interest in European cities, which may in part explain this disconnect. However, Jones also explains that the resulting guidance offers more promise for older, walking cities that had the stage one perspective imposed on them after their development, rather than newer cities, which suggests that many American cities do not meet the necessary conditions to transition from stage one to stage two and three cities. Perhaps as a result, European Commission-funded research has not yet been wholly integrated into the American urban planning discourse.

North American policymakers, practitioners, and advocates are involved in a related albeit distinct discussion of urban mobility. Although the organizational framework has not been widely utilized in the American discourse, if at all, the scope nonetheless appears to be growing over time in a manner consistent with the sequential stages. The Complete Streets and Vision

13. Peter Jones, “The evolution of urban transport policy from car-based to people-based cities: is this development path universally applicable?” (14th World Conference on Transport Research, Shanghai, 2016), 15.

Jones, Urban Mobility: Preparing for the Future, Learning from the Past, 30-36.
Zero movements are responsible for much of the advocacy and resulting policy changes related to prioritizing multimodal transportation, with a particular emphasis on pedestrian safety. In concert with those efforts, the Federal Highway Administration (FHWA), professional organizations, including the National Association of City Transportation Officials (NACTO), and independent researchers, have established best practices and street typologies to guide the management and design of streets to better serve all users.14

There is also momentum for a ‘streets as places’ philosophy, driven by the Project for Public Spaces and associated thought leaders, which is beginning to take hold in the mainstream


planning discourse, too.\textsuperscript{15} For instance, NACTO recently published guidance on “how to measure the success of urban streets to include access, safety and mobility for all users, environmental quality, economic benefit, public health and overall quality of life.”\textsuperscript{16} Meanwhile, a recent 2016 report by the Urban Land Institute looks at urban arterials through a health lens, creating a bridge between land use, transportation, and social outcomes.\textsuperscript{17} And finally, the FWHA has promulgated an approach called Context Sensitive Solutions, intended to create compatibility between transportation planning projects, land use, and other community needs.\textsuperscript{18} Despite the progress, the prevailing best practices do not advance systematic, city-scale methods of implementation comparable to those recommended by the European Commission reports.


Eve Critton and Jeb Polstein, \textit{Destination Station: Transforming Bus Stops Through Community Outreach} (New York: Project for Public Spaces, 2019).


RESEARCH METHODOLOGY

The methodological approach to this research involves primary and secondary research. To situate my research in context, I performed an extensive review of the literature and best practices. My case study of Georgia Avenue involved a review of the past planning efforts, expert interviews with members of the local planning and business community, some of whom were associated with past efforts, and a brief review of the local regulatory environment. Meanwhile, my primary research on Georgia Avenue consisted of geospatial analysis using location-based services data from StreetLight. StreetLight is a big data service that collects high volumes of “anonymized location records from smart phones and navigation devices.” Using an algorithm, the service assembles points into trip patterns to determine variables such as route, mode, length, origin, and destination. After the data are aggregated and normalized, the end user can measure, analyze, and visualize trip behavior. Using its various analytic tools, I collected data on the activity of vehicles with origins, destinations, and passing through the study area and associated planning area. For most outputs, I then downloaded, processed, and performed further quantitative analysis on the data. Together, these methods established a basis upon which to perform further analysis and develop recommendations.

20. Ibid.
21. Ibid.
THE AVENUE

“Roads that facilitate efficient travel from point A to point B are essential for the national economy, our mobility, and modern life. Highways are necessary for moving people and goods more quickly. But the streets of our towns and cities—especially Main Streets—need to be more multifunctional to accommodate a greater variety of activities and users. Within the whole network of streets, Main Street serves the unique function of a public place perhaps more than any other street type. It is a place for people to linger, to socialize, to experience; a place where people can connect and be exposed to each other; a place where public culture, community, and civic pride is developed and celebrated; and a place that connects the shop, home, classroom, and workplace.”

Spine of the City

Takeaway: Despite being a principal arterial, the empirical evidence demonstrates that Georgia Avenue is more often used as a place in its own right than a bridge between Silver Spring and downtown. However, the dispersion of community assets and attractions makes it difficult to reach a critical mass of concentrated activity in any given node.

Figure 3: Georgia Avenue NW Looking South Towards the Georgia Avenue - Petworth Station

Source: WAMU

Georgia Avenue is not just any street in Washington. Once known as Seventh Street Turnpike, the Avenue was built in 1818 to extend 7th Street beyond the original city boundary to provide a
connection to Rockville, Maryland. It “carried Civil War soldiers to battle and President Lincoln to his summer home,” and served “farmers who supplied the city.” Eventually, the Turnpike became US 29 and the commercial anchor for the single-family residential neighborhoods of Ward 4, including Takoma Park, Shepherd Park, Brightwood, Petworth, and Park View. For the purposes of planning, the city refers to these neighborhoods as Rock Creek East, and its boundaries on Georgia Avenue compose this paper’s study area (Figure 4). Whereas the National Mall and downtown core are the heart of the Nation’s Capital, where workers, diplomats, and visitors congregate, Georgia Avenue is the spine of the District. The 7th Street-Georgia Avenue corridor connects diverse neighborhoods with rich histories, institutions, historic sites, and locally owned businesses to one another and downtown.


Figure 4: Rock Creek East Planning Area Map

Source: District of Columbia Office of Planning.
As a principal arterial, it is expected that Georgia Avenue will “typically serve major activity centers and serve longer trip lengths” than minor arterials, collectors, and local roads, and function as one of “the primary commuter routes.” Indeed, as a north-south artery, the corridor connects downtown Washington, DC to Silver Spring and beyond. Just past Eastern Avenue, the northeastern boundary of the District, the Avenue cuts through the heart of Silver Spring. There, Georgia Avenue becomes MD 97, a state highway that intersects with the Capital Beltway and the Intercounty Connector before eventually reaching the Pennsylvania border. Meanwhile, Interstate 29 becomes Colesville Road, bending northeasterly to reach Columbia, MD and the Baltimore region. These major routes that connect the region merge just north of the District border and funnel into Georgia Avenue NW (Figure 4). The corridor is also designated by the city as a truck route and an event and emergency evacuation route, as well as part of WMATA’s Metrobus Priority Corridor Network. However, notwithstanding its prime location within the network, the empirical evidence suggests that the assessment of the Avenue’s functionality as a principal arterial is somewhat fallacious.


Contrary to what might be expected, the results of the geospatial analysis I performed with StreetLight indicate that Georgia Avenue facilitates relatively few trips between Silver Spring and downtown. In fact, there are six times more vehicle trips that start and/or end along the study area than pass through from end-to-end without stopping (Figure 6). The Avenue also

27. As the author, I would like to provide the reader with a more nuanced view into the terminology used by the StreetLight data platform. The following language that is presented in quotation has been taken verbatim from the StreetLight website and user guidelines:
appears to facilitate traffic more locally than what might be expected, as demonstrated by the map showing where trips that are originating and passing through the corridor end up (Figure 7). Although the catchment area spreads across the region, trip destinations are nonetheless clustered around the corridor. Of trips traveling farther beyond the corridor, the results reveal that a substantial number of trips continue north onto US 29, while others cut across east west for only brief segments of the corridor.

Figure 6: Distribution of Trip Types on Georgia Avenue NW

Author. Data source: StreetLight.

For the purposes of this study, “vehicle trips” is used to indicate that the mode selection within StreetLight was “All Vehicles,” and the output selected was “StreetLight Volume.” Trip data is collected with “smartphone apps that use opt-in location-based services,” and uses StreetLight’s “proprietary data processing engine, Route Science®, [which] algorithmically transforms trillions of location data points over time into contextualized, aggregated, and normalized travel patterns.” The “StreetLight Volume [output] is derived using AADT (a vehicular count). The combination of “All Vehicles” and StreetLight Volume will represent an estimated number of vehicles (not devices and not people) interacting with your zones of analysis. These results are similar to laying a loop counter on the road, meaning that the metrics represent the number of cars, trucks, and buses on the roads. These results do not include bicycles or trains because trips represent vehicles when using this output type.”

The period referred to as “COVID” includes data collected from March 15, 2020 to June 15, 2020.
Meanwhile, the study area itself, a 3.5-mile segment of the Avenue, is full of paradoxes, defying perspicious boundaries or characterization, even at the nodal and single-block scales. The corridor is home to a wide variety of land use types, intensities, and aesthetics, among which the quality of transition ranges, too. While some adjacencies are compatible, others are jarring and seemingly clash: single-family homes roll into small businesses; a pawn shop neighbors brand-new condos; a park adjoins a gas station and a Walmart; a strip mall abuts a school; the historic Walter Reed Army Medical Campus lies across from a Motel 6; and, on the adjacent corner to a Yes! Organic Market is a fenced-in, grassy car lot, only four blocks from the Georgia Avenue - Petworth Metro station (Figure 8). A 2008 planning effort aptly introduced it like so:

“While Georgia Avenue is home to a variety of community resources and assets, it suffers from limited private investment, a concentration of undesirable commercial uses, and no clear focal point of activity along the corridor. Consequently, there are few
opportunities for residents of the surrounding stable neighborhoods to shop, dine, and be entertained in safe and walkable distances from their homes.”

Figure 8: Car Lot on Georgia Avenue NW and Taylor Street NW

Author.

Despite the investment that has since occurred on the Avenue, these challenges persist. Although demand for access to the corridor is evidently higher than mobility through it, the physical

dispersion of its assets makes it difficult to reach a critical mass of concentrated activity in any given node.

**Collateral of the Current Allocation**

*Takeaway:* The allocation of street space on Georgia Avenue is designed for vehicle traffic at peak times and subordinates the mobility, accessibility, and safety of all those walking, rolling, biking, and riding transit along the corridor.

Figure 9: Cross-Section of Georgia Avenue between Decatur St NW and Delafield Pl NW

Although the dimensions vary from block to block, the allocation of street space on Georgia Avenue consistently reflects the notion that its chief role within the public space network is facilitating regional commuting trips (Figure 9). However, by being chartered for vehicle traffic at peak times, the Avenue is underutilized the rest of the time. This distribution comes at the expense of many valuable city uses, activities, and policy aims, including, but not limited to, more spatially efficient, sustainable transportation modes and vibrant street life. The six lanes of vehicle traffic and storage give disproportionately greater weight to through-users, specifically
drivers, at the expense of the mobility, safety, and accessibility of all those walking, rolling, biking, and riding transit along the corridor.

Figure 10: Bus Stop Conditions on Georgia Avenue NW

The allocation of street space has a considerable impact on the efficiency and reliability of transit service and comes at the expense of the tens of thousands of daily transit riders along the corridor experiencing slow bus speeds and overcrowding. The allocation of street space has a considerable impact on the efficiency and reliability of transit service and comes at the expense of the tens of thousands of daily transit riders along the corridor experiencing slow bus speeds and overcrowding.\textsuperscript{29} One study of the Georgia Avenue-7\textsuperscript{th} Street transit route involved a sensitivity test to determine the impact of frequency and speed on

\textsuperscript{29} Stephanie Dock et al., “District Mobility Project.” (District Department of Transportation report, Washington, DC, 2017), 13-16.
ridership. Results demonstrated that, north of U Street NW, a streetcar running in mixed traffic would generate 20-25% more ridership if frequency was increased from every 10 minutes to every 5 minutes.\textsuperscript{30} Additionally, for every 5-minute reduction in one-way travel time, ridership would increase 11%.\textsuperscript{31} If transit were given greater priority along Georgia Avenue, buses speeds would increase further, thereby attracting greater ridership (Figure 11). In the long-term, increased ridership could justify new routes, more frequent service, expanded coverage area, longer operating hours, lower fares, and improved special mobility options.\textsuperscript{32} The allocation of street space, then, has an important bearing on the competitiveness of transit with driving.


\textsuperscript{31} Ibid.

Likewise, the current allocation discourages active transportation by relegating walking, rolling, and biking to relatively narrow sidewalks or else competing with vehicles in the road. There is no bicycle infrastructure on the corridor, station access at the Georgia Avenue - Petworth Metro station, nor any parallel north-south bike routes within a quarter mile on either side of the study area. This creates a danger for cyclists that could be mitigated by treating the street with protected bicycle lanes, thereby reducing the likelihood of being struck by a vehicle. Since the perception of safety is the highest correlate of cycling, and bicycle-vehicle conflicts are inversely correlated with the number of cyclists, physical interventions that reduce lethal
conflicts with vehicles will likely attract new riders who are “interested but concerned.”

Building protected bike lanes on the Avenue, then, would have compounding benefits for multimodal mobility, access, safety, and ridership.

Figure 12: Georgia Avenue NW and Shepherd Road NW


Small businesses are also collateral damage with this allocation of public space because of their limited space to operate. With shallow setbacks and narrow sidewalks, local retailers can neither display their products outside nor provide outdoor seating at restaurants. The consequence for Georgia Avenue’s retailers is especially acute because the corridor is characterized by lots of small businesses on small lots, with very small footprints; the problem is compounded by social distancing measures associated with COVID-19. Past planning efforts found that there was pent-up demand in Rock Creek East for local retail, and this would appear to still be the case. However, despite the significant reduction in vehicle trips along the corridor during COVID, especially regional trips, streateries are not allowed on Georgia Avenue. Businesses are already closing, and they are likely to continue closing due to the lasting effects of the pandemic. Reallocating space could save small businesses and catalyze revitalization, increasing public revenue at the same time.

36. Ibid.
Figure 13: Local Business Node on Georgia Avenue NW

Author.
**Car-Oriented: The Symbiosis of Street and Land Uses**

*Takeaway:* Sustainable transportation and active uses are positively correlated, such that reallocating street space may attract street life, generate support for local businesses, and catalyze improvements to adjacent land uses. By contrast, ongoing redevelopment without interventions on the street will exacerbate auto-dependency and associated externalities.

Figure 14: Sidewalk Conditions on Georgia Avenue NW

Author.

The physical constraints thus imposed on sustainable transportation and small businesses have compounding negative effects by thwarting efforts to attract compact, urban development and vibrant street life. On many segments, the sidewalks and bus bays are narrow and out of compliance with local policies, while wider segments lack definition due to driveways or transparency due to inactive frontages (Figure 10, Figure 14). In places where the sidewalks are particularly narrow, there is hardly space to walk leisurely, which is the first condition for a great street, let alone socialize, exercise, people watch, or engage in impromptu civic activities.  

Meanwhile, the frequent interruptions driveways impose on the sidewalk dissolve the boundary

between the road, pedestrian realm, and private space.\textsuperscript{38} Many segments, including those characterized by the blank walls of auto-oriented businesses, fail to provide “a sense of what is behind whatever it is that defines the street” or “qualities that engage the eye.”\textsuperscript{39} The symbiosis of the car-oriented street allocation and car-oriented land uses preclude any vibrant street life from flourishing.

Conversely, encouraging walking, rolling, and biking could improve the viability of local-serving businesses along the corridor. Studies demonstrate that active transportation infrastructure attracts real estate investment and creates support for local retail.\textsuperscript{40} In fact, despite some opposition from merchants going into it, many reported having their best day ever when the city closed Georgia Avenue to vehicle traffic for Open Streets on a Saturday in October 2019.\textsuperscript{41} More generally, local businesses along corridors treated with protected bike lanes tend to experience drastic increases in retail sales after implementation because, compared to vehicles, shoppers who arrive on bicycle make smaller trips more frequently, spending less per trip but more per month.\textsuperscript{42} Adapting parking facilities for cycling also increases the parking capacity for patrons significantly, since each automobile parking space accommodates ten bicycle parking

\begin{thebibliography}{99}
\bibitem{38} Ibid., 277.
\bibitem{39} Ibid., 281-282, 285.
\bibitem{40} Rachel MacCleery, Ed McMahon, and Matthew Norris, \textit{Active Transportation and Real Estate: The Next Frontier} (Washington, DC: Urban Land Institute, 2016), 4-7.
\bibitem{41} Harriet Tregoning, interview by author, August 4, 2020.
\bibitem{42} Michael Andersen and Mary Lauran Hall, \textit{Protected Bike Lanes Mean Business: How 21st Century Transportation Networks Help New Urban Economies Boom} (PeopleForBikes and Alliance for Biking & Walking, 2014), 19.
\end{thebibliography}

Todd Litman, \textit{Generated Traffic and Induced Travel Implications for Transport Planning}” (Victoria, BC: Victoria Transport Policy Institute, 2020).
spaces. Thus, active transportation infrastructure would help sustain local retail and enhance the public realm.

Meanwhile, redeveloping underutilized parcels without sufficient investments in transit and more efficient modes will exacerbate auto-dependency and its negative externalities, including further deterioration of transit service (Figure 15). This risk is acute on Georgia Avenue, where the 66-acre Walter Reed Army Medical Center campus abutting the corridor is being redeveloped into “3.1 million square feet of mixed-use development.” Meanwhile, two census tracts along the corridor are designated Opportunity Zones, intended to further catalyze redevelopment. Reallocating street space should be considered a preventative measure for managing the increase in travel demand on the Avenue.

44. “About.” *The Parks at Historic Walter Reed*, theparksdc.com/about/#overview.
Source: National Association of City Transportation Officials.

Fortunately, investing in transit and place infrastructure can incentivize more efficient land uses that, in turn, generate street life. Proximity to high quality transit service and a walkable environment offers accessibility and cost-savings for individuals, making it a boon to firms looking to attract talent and customers. The investments, then, increase commercial land values, expanding the market for local business establishments and encouraging turnover from auto-oriented uses, such as gas stations, autobody shops, car washes, and drive-thrus, to more compact, urban development. As destinations become clustered together, everyday trips become
shorter, such that many vehicle and transit trips can be replaced by multimodal transportation, including walking, cycling, and other micro-mobility modes.

The Public Cost of Private Convenience

Takeaway: The current allocation not only undermines public health, economic, and sustainability efforts but exacerbates underlying inequities. Compromising automobility for transit and walkability would benefit everyone, including drivers.

Figure 16: The Uses, People, and Values Subordinated to Private Convenience with Current Allocation

By squandering street life and buoying auto-dependency, the current allocation not only undermines public health, economic, and sustainability efforts but exacerbates underlying inequities. By proportionally weighing the needs of drivers more heavily than those of pedestrians, cyclists, and transit riders, it disadvantages car-less and car-lite households, the elderly, children, and those who are poor, transit-dependent, and/or experiencing mobility challenges. Practically speaking, the diminished transit service, accessibility, and quality of life...
along Georgia Avenue has a disparate impact on African American and Latinx populations, worsening spatial mismatch and forcing residents to choose between increased mobility and access and the major financial burden of vehicle ownership. The latter requires investment in depreciating good rather than appreciating asset, like equity in a house.\textsuperscript{46} In addition to undermining social, economic, and racial inclusion, this allocation jeopardizes the physical and mental well-being of its residents with unsafe conditions, higher emissions, and reduced access to social events, amenities, and health services.

Figure 17: Person Throughput by Mode (per 10-foot lane)

Source: National Association of City Transportation Officials.

\textsuperscript{46} Harriet Tregoning, interview by author, August 4, 2020.
Although marginalized communities stand to lose the most from this allocation, the negative externalities of auto-dependency diminish quality of life for everyone, including drivers. By contrast, efficient, reliable transit and walkable urban places would confer benefits in the form of economic development, congestion reduction, road safety, and environmental health, which all would enjoy. In the meantime, the current distribution of public space is a spatially inefficient, unsustainable, and inequitable allocation of public land and finances (Figure 17). As a result, the Avenue struggles to fulfill its function as an inclusive neighborhood main street, compromising on its contribution to the prosperity and resilience of Rock Creek East, Washington, DC, and the region at-large.

The Disconnect between Policy and Action

*Takeaway:* Although planning policies and efforts have been dedicated to addressing the challenges thus noted, no meaningful streetscape changes have been implemented.

Figure 18: Plans, Policies, and Standards Related to Public Space Allocation of Study Area

**Rock Creek East, Neighborhood**

**Georgian Avenue**

- [unpublished] North-South Corridor Planning Study (2013-2014)
- WMATA Priority Corridor Network Plan – Georgia Avenue (2006)
- Upper Georgia Avenue Great Streets Redevelopment Plan (2008)
- Georgia Avenue – Petworth Metro Station Area and Corridor Plan (2004)

Author.

The observations thus far about Georgia Avenue are consistent with the city’s diagnosis, based on past planning efforts. Among the various plans with a bearing on public space allocation on the corridor, a few policies and observations stand out (Figure 18). In 2008, Upper Georgia Avenue Great Streets Redevelopment Plan noted that:

“Well Great Streets are safe, pedestrian-friendly corridors that provide residents and visitors with high quality public space for transportation, community interaction, and shopping. Portions of Upper Georgia Avenue are characterized by inadequate streetscape amenities...
and an aesthetic quality that is not in keeping with the stable, attractive residential areas on the east and west.\(^{48}\)

The Comprehensive Plan echoes these calls for more efficient land uses, improved streetscapes, and multimodal access on the Avenue, and includes a broader policy of “transform[ing] key arterials into multi-modal corridors that incorporate and balance a variety of mode choices.”\(^{49}\)

However, despite the recognition of these challenges, the city has not implemented any meaningful changes along the corridor in the last twenty years. In fact, it would appear that the Upper Georgia Avenue Great Streets Redevelopment Plan didn’t have the reallocation of vehicle space as an option at all.\(^{50}\) Later, none of the six alternative street designs proposed for the abandoned streetcar plan on Georgia Avenue included protected bike infrastructure or widened sidewalks, except for bulb outs at intersections.\(^{51}\) A few common defenses of the status quo are that arterials should carry most through-traffic to keep neighborhood streets clear, not every street needs to serve every mode in a grid system, and congestion is not severe enough to warrant changes.\(^{52}\) These defenses discount the opportunity cost for placemaking and the malleability of

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50. District Department of Transportation Infrastructure Project Management Administration, “Middle Georgia Avenue/Petworth Great Streets Improvements, Design Status Report,” (Washington, DC, March 10, 2009).


travel behavior. In fact, vehicle trip volume fell 38% along the corridor in response to the pandemic, but research demonstrates that major reductions in overall vehicle trips would be possible even under ordinary circumstances.\textsuperscript{53}

\textsuperscript{53} Data source: StreetLight.
**Shaping Travel Behavior**

*Takeaway:* If the right mitigation techniques are in place, eliminating vehicle routes can trigger changes to travel behavior, including shifts to more efficient modes, rather than dispersing traffic to alternative routes. The transit infrastructure and trip behavior along Georgia Avenue make it a good candidate for modal shift.

Figure 19: A Sustainability-Focused Design Alternative for Georgia Avenue NW

Traffic evaporation, or the reduction in the overall volume of vehicle trips, can occur when vehicle routes are eliminated.\(^5\) For instance, a time-series traffic analysis performed before and after

\[\text{\footnotesize 54. Aud Tennøy et al., “Experiences with capacity reductions on urban main roads – rethinking allocation of urban road capacity?”} \text{\footnotesize Transportation Research Procedia Volume 19 (2016): 4–17.}\]
after New York City instituted a ban on cars on 14th Street in Manhattan showed little measurable difference in congestion on adjacent streets.  

Anthony Downs offers an explanation for this phenomenon, which he refers to as the principle of triple divergence. Triple divergence is the converse of induced demand, whereby, as road capacity increases, so too does demand. Simply put, reduced convenience incentivizes people to switch routes, go at a different time, or use a different mode, thereby increasing spatial efficiency (Figure 17). People may also consolidate their trips. With the right mitigation techniques in place, like on 14th Street in New York, spatial divergence can be managed.

Georgia Avenue is a good candidate for modal shift away from vehicles to transit, even for regional commuter trips. As the bridge between downtown and Silver Spring, Georgia Avenue is surrounded by not only key destinations but regionally significant transportation hubs. Silver Spring is situated along the Red Line, the soon-to-be Purple Line, the Brunswick Line of the MARC train, several commuter bus lines to the Columbia area, Metrobus lines and Montgomery County’s new bus rapid transit line known as FLASH. Metrorail stations in Montgomery


57. Ibid.

County and Prince Georgia’s County already operate like commuter rail, with large catchment areas for park-and-ride customers and low parking utilization.\textsuperscript{59} Barring interruptions by COVID-19, reduced automobility and increased transit access to and along Georgia Avenue would be likely to trigger modal shift from low-occupancy vehicles to transit.

Modal shift could also occur for local trips. Over 25\% of all vehicle trips that start, end, or pass through the corridor are within the 7.4 square mile area of Rock Creek East.\textsuperscript{60} Thus, if the environment were more hospitable to walking, rolling, and biking, many of the vehicle trips within Rock Creek East could be replaced by active transportation. Retrofitting the street would have little effect on a significant portion of the remaining vehicle trips. Although half of trips along the corridor have neither an origin nor destination in Rock Creek East, many of these trips simply cut-through east-west, especially along Missouri Avenue NW, while others just use the Avenue for short segments. To manage spatial divergence, public space allocation could be paired with better transportation demand management policies, improved station access, and more efficient, reliable service on the 70/79 bus route.

\hspace{1cm}

\begin{flushright}

\textsuperscript{60} Data source: StreetLight.
\end{flushright}
GOOD GOVERNANCE TO GREAT STREETS

“For many decades, traffic engineers and transport planners have viewed roads as being primarily for the movement of motor vehicles [(stage one approach)]. A shift to sustainable mobility policies [(stage two approach)] puts greater emphasis on person rather than vehicle movement, but still views urban streets as first and foremost for movement.

As a consequence, busier urban streets have been engineered to maximize [Link] over Place…, resulting in a very ‘un-level playing field’, and unattractive street environments. Current applications of appraisal methods can make it difficult to redress this imbalance…

Conventional appraisal methods start from this very imbalanced situation, and require any proposals to improve Place [status] to show that the benefits more than compensate for any losses to [Link]. Current conditions (or a ‘do minimum’) form the basis for justifying change. As the valuation of Place benefits is in its infancy, this can be a very high hurdle to jump.

A more appropriate means of appraising schemes under a Place [(stage three)] policy perspective would be to start with the intended balance between [Link] and Place and the appropriate design standard for that street type… Appraisal might now be more focused on the most cost-effective way of delivering the intended outcome.”

**Becoming a “City of Places”**

*Takeaway:* The District has anachronistic norms for governing public space that compromise its prosperity and resilience, including how it classifies streets, measures performance, enforces standards, and engages stakeholders. That said, it is uniquely well-positioned to transition to a “city of places,” if it adopts measures to limit car use.

Figure 20: A Place-Based Design Alternative for Georgia Avenue NW

Author.

Reallocating space while managing divergence simultaneously reduces convenience for vehicles and auto-dependency, thereby satisfying the attrition tactician’s purpose. This is necessary for transitioning through the stages of urban mobility. Jones argues that three factors determine whether a city can transition from stage one: land use patterns, comparable door-to-door speeds for various modes, and strict limits on car use, noting that the third is only “politically feasible
and behaviorally effective” once the prior two are met.\textsuperscript{62} As an older walking city with a robust public transit network, the District may be a fitting candidate to become the first American “city of places.” In fact, Jones notes that DC experienced the greatest decline in vehicle mode share of any American city between 2000 and 2009, indicating its positive trajectory.\textsuperscript{63} By creating physical limits on car use, the reallocation of public space would further advance the city through the stages of urban mobility. The challenge, then, remains good governance.

\vspace{1cm}

\textsuperscript{62} Jones, “The evolution of urban transport policy from car-based to people-based cities,” 15.

Table 1: Summary of Findings

<table>
<thead>
<tr>
<th>Impediments</th>
<th>Street classification</th>
<th>Data, standards, &amp; metrics</th>
<th>Enforcement mechanisms</th>
<th>Stakeholder engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The Avenue fallacy of being indispensable regional commuter route</strong></td>
<td>Prioritizes vehicle flow; conflicts with sidewalk standards; place unaccounted for</td>
<td>Few metrics indicating multimodal, place-based performance</td>
<td>Limited scope of alternatives presented; opportunity cost not quantified</td>
<td>Limited opportunity for engagement or stewardship</td>
</tr>
<tr>
<td><strong>Governance anachronistic norms for governing public space</strong></td>
<td>Standards &amp; approach arbitrarily segregated based on street use; views streets as links only</td>
<td>Narrow scope; insufficient collection; sporadic &amp; decentralized publication</td>
<td>Few mechanisms available &amp; DCEPA vulnerable to status quo bias</td>
<td>Acquiescence to anticipated political opposition</td>
</tr>
<tr>
<td><strong>Impact</strong></td>
<td><strong>The Avenue inefficient, inequitable allocation</strong></td>
<td>Little empirical evidence of how street is used</td>
<td>Disconnect between policy &amp; action</td>
<td>Limited apparent support for change</td>
</tr>
<tr>
<td><strong>Governance perpetuation of auto-dependency &amp; its externalities</strong></td>
<td>Obfuscates tradeoffs &amp; precludes reconciliation of conflicting priorities</td>
<td>Opaque &amp; uninformed decision-making</td>
<td>Limited accountability to stated aims</td>
<td>Limited political will &amp; civic capacity</td>
</tr>
</tbody>
</table>

Author.
1. Classification System

*Takeaway:* The system for governing public space arbitrarily segregates street uses and activities into separate planning processes, thereby obfuscating tradeoffs and upholding the status quo.

Figure 21: Dominant Policy Perspectives and Associated Measures of Success, and Road/Street Classification Systems

<table>
<thead>
<tr>
<th>Policy Perspectives</th>
<th><em>Car-Oriented City</em></th>
<th><em>Sustainable Mobility City</em></th>
<th><em>City of Places</em></th>
</tr>
</thead>
</table>
| Criteria and Measures of Success | - Average network speeds  
- Day-to-day variability  
- Vehicle congestion  
- Car parking availability  
- Road traffic accidents  
- Noise  
- Air pollution | - PT frequency and reliability  
- Access to bus stops and stations  
- Safety and security  
- Seamless travel  
- PT modal split  
- Walking/cycling modal shares  
- Door-to-door travel times by mode | - Time use in transport modes  
- Intensity of street activities  
- Time spent in local area  
- Quality public realm  
- Health of the population  
- Social interaction  
- Social equity and inclusion  
- Community severance |

| Street and Road Classification Systems | *Vehicle-based functional road classification system* | *Expanded functional classification systems* | ‘Movement’ and ‘Place’ functional street and road classification system |

Source: Multimodal Optimization of Roadspace in Europe.

The existing system of public space planning, management, and operations still falls short, in many ways, of being worthy of consideration as a stage two, sustainable city, let alone a stage three, “city of places.” Consistent with federal requirements and the FHWA guidelines, DC uses
a vehicle-based classification system. Meanwhile, standards for sidewalks are based on adjacent land uses. The binary approach to land use and transportation planning creates arbitrary boundaries on the scope of planning processes, conflicting priorities that obfuscate the inherent tradeoffs, and precludes any meaningful discussion of balancing modes, city uses, and activities. The system also discounts the significance of locational value for more efficient modes, including transit, sidewalk, and bicycle networks. Without even a complementary process to account for street functions beyond vehicle traffic, this system is befitting of a stage one, car-oriented city.

2. Data, Standards, and Metrics

Takeaway: The lack of sufficient and accessible multimodal and place-based data hinders reasoned decision-making and potential support for reallocating space.

The process of data collection, administration, analysis, and dissemination is similarly anachronistic, and has a significant bearing on the impact analysis and feasibility of reallocating space on streets. First, data collection is often insufficient and permeated by vehicle bias. For instance, while collecting vehicular traffic data is considered a must-do, bicycle and pedestrian count data is treated as a nice-to-do. Sporadic and decentralized publication, then, further limits its accessibility. If published, the data on the impact of Open Streets, as well as analyses of other types of street closures and slow streets for COVID-19, could bolster support for reallocating space. In the meantime, support is compromised by the lack of reliable, local data to inform reasoned decision-making.


3. Enforcement Mechanisms

Takeaway: Few enforcement mechanisms exist to ensure plans are implemented and comply with stated policy aims. For those that advance to the environmental review process, evaluation still suffers from status quo bias, which compromises its effectiveness as an accountability measure.

The District is also lacking in effective enforcement mechanisms to keep it accountable to its stated policy aims. Certainly, the city may default on a plan before reaching the environmental review stage, but for those that survive, the District of Columbia Environmental Policy Act of 1989 (DCEPA) is designed to ensure that actions taken by the municipality are compliant with the Comprehensive Plan, zoning regulations, and environmental standards. However, as demonstrated, urban policies can be contradictory, alternatives can be artificially limited by status quo bias, and facially neutral policies can have disparate impacts. Thus, the review process should be sufficiently rigorous to lay bare the tradeoffs among the alternatives presented.

The process, however, does not capture these tradeoffs. Consider, for instance, the matrix in the final draft of the Environmental Assessment (EA) for the Anacostia Streetcar Extension that compares the proposed alternatives with the no-build alternative (Figure 22). Rather than using objective metrics and standards to connect up to stated policy aims, the tradeoffs are narrowly assessed against current conditions, which are considered neutral. The tradeoffs fail to meaningfully recognize the benefits of the streetcar, such as increased person-carrying capacity,


DCEPA (DC Law 8-36) is the local equivalent to the National Environmental Policy Act (NEPA). The policy requires the District of Columbia to perform assessments of how major government actions impact the environment.

67. “Anacostia Streetcar Extension Environmental Assessment and Section 106 and 4(f) Evaluations” (Draft by the District Department of Transportation, Washington, DC, 2014), 3
reduction in vehicle trips, miles traveled, and emissions, and how many car-less and car-lite households will gain access to jobs and services. Meanwhile, the build alternatives are said to have “no impact” on energy uses and climate change, even though the stated purpose of the proposed action is to expand sustainable transportation options.\textsuperscript{68} Despite the broad scope of resource categories provided, there was no recognition of effects on network connectivity, property values, housing affordability, or small businesses, even in the detailed view.\textsuperscript{69} Moreover, the traffic impact comparing forecasted 2020 and 2040 vehicle LOS and delay conditions account for forecasted population growth but not the effect of mode-switching and more efficient land uses.\textsuperscript{70} And finally, the report does not provide an equivalent forecast of transit reliability, nor meaningfully quantify the compounding effects of increased ridership. In short, the environmental review is mired with biases.

\textsuperscript{68} DDOT, Anacostia Streetcar Extension Environmental Assessment, ES-3, 63.  
\textsuperscript{69} DDOT, Anacostia Streetcar Extension Environmental Assessment, 62-63.  
\textsuperscript{70} DDOT, Anacostia Streetcar Extension Environmental Assessment, 35-37.
Figure 22: Environmental Impact Study Tradeoff Matrix

Source: District Department of Transportation.

4. Stakeholder Engagement

Takeaway: Political opposition is inevitable, but community support must be cultivated.

Aside from updating the classification system, data collection and administration process, and enforcement mechanisms, there is another necessary ingredient for effective governance of public space. Returning to Allan Jacobs’ conclusory words in his seminal book:

“There is magic on great streets, and presumably in their making. It is more than putting all of the required qualities on a street, and it is more than having a few or many of the physical,
desirable things that contribute to them. Sorcery and charm, imagination and inspiration are involved, and may be the most critical ingredients. But not without social purpose.”

Not only must the streets inspire, but so too must the transportation planning process itself. Among the cited reasons for not more directly addressing road space reallocation in the Great Streets Redevelopment Plan and along the Avenue more generally are a lack of interest from constituents to do it, lack of participation in the process by non-vehicle owners, the anticipation of vocal opponents, and concern from local retailers. However, political opposition is inevitable; community support must be cultivated. Certainly, the attrition tactician needs better tools, but making great streets requires more effective community engagement to infuse the process with magic and social purpose.

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Empowering the Attrition Tactician

Takeaway: Addressing the outlined governance issues should help empower the attrition tactician with the tools to manage or transcend remaining obstacles, such as political volatility and limited funding, thus creating great streets and catalyzing transformative change.

Figure 23: Relationship Between Planning Process and Outcomes

Author.

With the right tools and political will, Washington, DC can create great streets. I concede that there will remain obstacles, including political fragmentation, operational silos, poor management and accountability, limited funding, and the personal biases of professionals (Figure 23). However, effective conventions, standards, and community engagement should help manage and transcend these obstacles. The relationship among these variables predicts whether plans sustain political support and funding through operational challenges, implementation, and elections, or get deflated by poor publicity and political volatility. Whereas disempowered planners and communities may acquiesce to an outspoken minority opposition, an empowered attrition tactician builds civic capacity and catalyzes transformative change. Good governance of
public space, then, will not only help create great streets but better our cities and their institutions. Progress begets progress.
RECOMMENDATIONS

The recommendations that follow are designed to guide Washington, DC’s transition to a “city of places.” Since the challenges on Georgia Avenue are an outcome of systematic governance issues, the primary recommendation for the Avenue is to apply the new, recommended framework for good governance to future planning efforts. Indeed, elements of this framework will be most effective at scale, while others could be performed without applying structural changes first. Thus, my comments for the Avenue are supplementary, and therefore brief and exploratory, rather than prescriptive. The goal of these recommendations is to operationalize a more equitable, transparent, and holistic approach to allocating public space.

Table 2: Summary of Recommendations

<table>
<thead>
<tr>
<th>Street classification</th>
<th>Data, standards, and metrics</th>
<th>Enforcement mechanisms</th>
<th>Stakeholder engagement</th>
</tr>
</thead>
</table>
| **The Avenue**        | Classify, valuate street according to new system | 1. Test different interventions at various days, times, & segments 2. Publish pilot project data, e.g. Open Streets | 1. Place priorities: economic prosperity, health, & intensity of use, vibrancy 2. Link priorities: efficiency, reliability, & social equity | Engage public in process of:  
- Classifying place  
- Establishing priority indicators  
- Designing alternatives  
- Evaluating success of pilots |
| **Governance**        | Replace the vehicle-based classification system with a two-dimensional “link” & “place” system | 1. Create public space catalogue with cross-sections, allowable uses, performance metrics, & geospatial data. 2. Expand scope & quality of data while consolidating efforts 3. Adopt entrepreneurial & scientific approach | 1. Public space: codify rigorous new standards of evaluation for DCEPA. 2. Private space: - assess zoning changes for place status impact - exchange zoning relief for contribution to placemaking fund | Integrate public discourse on classification, private land uses, & policy aims to encourage alignment & inform subsequent efforts |

Author.
1. **Street Classification**

*Takeaway:* Replace the vehicle-based classification system with a two-dimensional “link” and “place” system.

The first is to adopt a “city of places,” two-dimensional classification system to replace, or at least complement, the vehicle-based functional classification system. By juxtaposing place and link, communities must confront the tradeoffs when classifying or modifying streetscapes. The system also decouples vehicle flow from link status and adjacent land uses from place status, such that each segment requires context-specific analysis. The output is a multimodal, multi-scalar, and multi-dimensional blueprint of the public space network that provides guardrails for communities weighing competing priorities and prospective solutions in the planning process.

2. **Data, Standards, and Metrics**

*Takeaways:*
- Create a public space catalogue as a central repository for cross-sections, allowable uses, performance metrics, and geospatial data.
- Expand scope and quality of public space data while consolidating efforts.
- Institutionalize entrepreneurial and scientific approach to public space planning.

In congruence with the new classification system, there ought to be a standardized inventory of how streets actually operate. At its most basic, the public space catalogue would describe precise street allocation and allowable public uses, such as small business operation, vehicle storage, and green infrastructure, at the segment-level and generalize at higher levels of

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73. The Public Realm Design Manual explains that, at the time of publication in 2019, the District was in the process of publishing Designated Street Distribution Cards, which states the width of streets, roadways, sidewalks, and parking by segment, on the District’s geospatial database, DC Atlas. This project appears to still be underway. DC Atlas includes other important geospatial data related to transportation, too, but in neither its form nor function does it operate like the public space zoning map I propose.
geography. The map would also indicate planned changes and non-conforming elements, such as sidewalks that do not meet the minimum width required in commercial zones. This first step adds dimension to streets by visually representing them as polygons rather than lines, reinforcing the concept of streets as places, rather than simply links.74

The catalogue would also be a central repository for geo-spatial data on local public space. This requires expanding data collection efforts to attain more frequent and reliable data, improving coordination among agencies, and establishing an ongoing process for combining and synthesizing data.75 At the smallest level of geography, the end-user could view pop-ups detailing a segment’s performance by indicator, much like a zoning map shows parcel-level data, while disclosing variations in geographic level of analysis.76 At higher levels of geography, the catalogue should aggregate segment-level data and enable filters by street use, functional status, indicators or associated metrics (Figure 24). By keeping a record of the system as an integrated whole, planners can more effectively identify trends, test theories, and measure impacts. Building and maintaining this catalogue would improve transparency, accountability, collaboration, and public engagement in the planning process.


75. To maximize efficiency, consolidate duplicative collection and analysis efforts by primary and secondary sources, combining datasets from municipal agencies, MWCOR, WMATA, ESRI, non-profits, the American Community Survey, and location-based services.

76. The catalogue would blend place and link indicators, using polygons to describe activity zones on the street, rather than lines and dots, maintaining building shapes but generalizing land use by segment-level activity density.
Finally, to understand how streets actually operate, planners must also cultivate a culture of entrepreneurial problem-solving by adopting a policy of performing data-driven pilot projects as an end in themselves. Given the principle of triple divergence, streets need not operate the same way 24/7. Planners must institutionalize temporary streetscape changes, Open Streets events, and leverage short-term road closures to collect data on primary and secondary impacts, including mobility, retail sales, and public support, and publish the data. A nimbler and more scientific approach would empower planners to present a broader scope of options, enable policymakers and communities to make more informed decisions, and perhaps change the political calculus.
3. **Enforcement Mechanisms**

*Takeaways:*

- Public space: codify rigorous new standards of evaluation for government-led and funded actions subject to environmental review.
- Private space: assess zoning amendments and variances based on consistency with place status. Exchange density bonus and parking relief for contribution to placemaking fund.

If the classification systematizes priorities, and the public space maps catalogue activities and performance, policy measures, then, would operationalize the reconciliation of operations and priorities. By modifying the regulatory framework for government action and private development, the District could further improve the likelihood of actualizing streetscapes that reflect best practices and broader policy aims.

The first method involves modifying how municipal regulations guide the review of major government actions, including those that are subject to DCEPA, thereby expanding the scope of analysis applied. I propose codifying new standards of evaluation for government-led and funded actions that account for the relative importance of streets as places versus links in a transportation network. The new guidance would require that each alternative (including the no-build alternative) follow the same format of the proposed public space catalogue, either documenting or estimating the outcomes, and providing full disclosure about the assumptions. The assessment, then, would have to disclose how the allocation of use would change, if at all, depending on the time of day and day type for each alternative. The assessment would also compare how the recommended alternative would impact the public space network at the segment, corridor, planning area, and city level. And finally, it would include a statement justifying that the recommended alternative maximizes the opportunity to elevate place and link status in a manner that conforms with the classification, policy aims, and best practices. The added requirements would create a more rigorous standard of evaluation and accountability.
<table>
<thead>
<tr>
<th><strong>Indicator</strong></th>
<th><strong>Place</strong></th>
<th><strong>Link</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Allocation, activities</td>
<td>Aerial schematics demarcating pedestrian, bicycle/micro-mobility, parking, transit, travel, usable green space, green infrastructure (rain gardens, trees, etc.), commercial (e.g. vending, outdoor display, dining), and activity/flex zones and amenities</td>
<td>Cross-sections, modes accommodated</td>
</tr>
<tr>
<td>Accessibility</td>
<td>Capital Bikeshare stations, bike parking availability</td>
<td>Pedestrian friendliness, bicycle level of stress, system coverage area, commute mode split</td>
</tr>
<tr>
<td>Comfort</td>
<td>Weather protection (tree canopy, presence of awnings), lighting, noise level, air quality, street furniture, building heights and setbacks, tree canopy</td>
<td>Type of separation between motorized and non-motorized movement, interruptions to sidewalk (driveways)</td>
</tr>
<tr>
<td>Congestion</td>
<td>Pedestrian delay across the link</td>
<td>Travel time index, bus speed, bus overcrowding, bus ridership, commute mode split, commute time</td>
</tr>
<tr>
<td>Economic prosperity</td>
<td>Rent and sales, economic health</td>
<td>Pedestrian delay, bus speed, bus on-time performance, travel time reliability, travel time index</td>
</tr>
<tr>
<td>Efficiency</td>
<td>Mix of uses, activity density</td>
<td>Ratio of person-carrying capacity to person throughput</td>
</tr>
<tr>
<td>Health</td>
<td>Usable green space, pedestrian friendliness, sidewalk width, noise, air quality</td>
<td>Proximity to park space and health services, Walk Score</td>
</tr>
<tr>
<td>Intensity of use, vibrancy</td>
<td>Activity density, trips from/to/within a street, presence of people</td>
<td>Person throughput, cut-through trips, disaggregated multimodal volume data by mode, time of day, and day type</td>
</tr>
<tr>
<td>Reliability</td>
<td>Pedestrian delay across the link</td>
<td>Door-to-door travel times by mode, Bus on-time performance, commute mode split, travel time reliability, bus speed, bus overcrowding</td>
</tr>
<tr>
<td>Safety and security</td>
<td>Speed limit, vehicle speeds, personal safety (crime, harassment, profiling), lighting</td>
<td>Crash rate and severity, separation of traffic from people</td>
</tr>
<tr>
<td>Social equity</td>
<td>Economic and racial inclusion</td>
<td>Transportation costs, jobs accessible within 45 minutes by transit, non-motorized modes</td>
</tr>
<tr>
<td>Sustainability</td>
<td>Tree canopy, impervious surface ratio, green infrastructure, air quality</td>
<td>Emissions</td>
</tr>
</tbody>
</table>

Table by author. Certain indicators and associated metrics from District Mobility Report.
Similarly, zoning amendments, variances, and exceptions should be assessed for their impacts on the street prior to being passed or granted. The proposed rezoning or relief from zoning regulations must disclose the impacts to the place status at the segment level. Meanwhile, an amendment to the zoning regulations should be implemented to create a funding mechanism for reallocating street space. Similar to the Inclusionary Zoning (IZ) regulations in which developers of larger projects receive a density bonus for building affordable housing, the city can exchange a density bonus and exemption from parking minimums for payment into a fund to reallocate street space along that segment or corridor in a way that improves place status in a manner consistent with broader policy aims. This generates funding while expanding opportunities for the city to collocate density and investments in place management.

4. Stakeholder Engagement

*Takeaway:* Integrate public discourse on classification, private land uses, and policy aims to encourage alignment within the Comprehensive Plan and inform subsequent efforts.

Creating public spaces that better meet the needs of the public requires better stakeholder engagement. The first step is to initiate a process of classifying streets that involves interdisciplinary institutional stakeholders and input from the public, rather than being an opaque, technocratic exercise performed exclusively by transportation engineers. Public engagement in the classification process should be integrated into the Comprehensive Planning process so as to encourage broader involvement and alignment between classifications, private land uses, and policy aims. This serves as a foundation for specific planning projects, such as corridor studies and small area plans, which ought to include a discussion of priorities for public space, in which planners engage the public in a process of determining the goals, key indicators, and metrics of success prior to the design process. Finally, the public should play an active role in developing design alternatives to ensure greater stewardship.
The Avenue

Takeaway: Redesign the street to prioritize vibrancy, person throughput, and access for car-less and car-lite households, over vehicle flow.

Despite its historic character, mix of uses, activity density, high person throughput, and ratio of local trips to cut-through trips, the place status and the efficiency of Georgia Avenue as a link have been subordinated to vehicle flow in the planning process. These priorities should be reordered, such that elevating place status and providing access for car-less and car-lite households takes precedence over vehicle flow. While this need not necessarily exclude vehicle access entirely, my firm recommendation is to reduce vehicle convenience in favor of other uses and activities.

In the interest of optimizing its use, interventions should be tailored based on the day, time, and segment. For instance, segments with small businesses, including shops and restaurants, could be closed to vehicle traffic on weekends. Another possibility may be that segments with stops along the 79 bus route have limited vehicle access at peak times. Infrastructure changes ought to also take a multi-scalar approach, which may include some or all of the following interventions: expanding sidewalks, adding green infrastructure, creating exclusive transit lanes, building protected bike lanes, setting aside space for sidewalk cafes and street furniture, and installing mobility hubs, with collocated bicycle, scooter, and transit amenities. In so doing, Georgia Avenue can serve as a model for retrofitting arterials from conduits of vehicle flow to bustling corridors of transit, human-powered transportation, and street life.
CONCLUSION

Creating great streets is to create resilient cities. However, the systems within which urban planners operate today remains car-oriented, despite policy aims and best practices designed to shift the paradigm. This paper recommends the adoption of a better classification system, enforcement mechanisms, and stakeholder engagement practices to operationalize a more transparent, holistic, and equitable approach to planning public space. Within this new system, communities have more leverage to compromise vehicle throughput on arterials like Georgia Avenue in exchange for more dynamic places, bustling transit corridors, and walkable urban spaces. To further advance this work, potential next steps include (1) identifying the social forces and attitudes that mediate policy aims and practice, as well as beliefs and empirical evidence, (2) researching new approaches to quantifying street characteristics, (3) performing case studies of successful, transformative reallocations on major urban roads, and (4) comparing how various American cities govern public space. Meanwhile, the tools and strategies contained in this paper are intended to empower planners to effectuate better municipal governance of public space, in a manner in keeping with our highest ideals.
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