Enhancing coastal flood risk management awareness
A case study in the Vietnamese Mekong delta

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Abstract

This research aims to enhance awareness among local authorities regarding the management of coastal flood risks in the Vietnamese Mekong Delta amidst climate change. A multi-agent simulation approach, implemented as a serious game, was employed to conduct a study involving the participation of local actors. The outcomes of our investigation underscore the adaptability of the participatory simulation model, LittoKONG, for the purpose of mitigating coastal flood risks in conjunction with local stakeholders in the Vietnamese Mekong Delta. This model was adapted from the generic LittoSIM model in the French context to the Vietnamese context. We based our scenarios on historical storm data in the delta to predict future coastal flooding events. Additionally, our simulations considered planning data, both historical and prospective, factoring in scenarios with and without levees or mangrove forests to prevent and lessen coastal flooding impacts. Moreover, the analysis of participants' actions and reactions during the workshops accentuated LittoKONG's role in balancing the involvement of risk management specialists and non-specialists in participatory simulation, thereby mitigating role asymmetry. The assessment of learning facilitated by LittoKONG revealed that cognitive learning, encompassing understanding the complex risk system and risk management strategies, received the most positive evaluations among the four categories, namely cognitive, relational, collaborative, and political learning. Local authorities underscored the imperative of coordinating diverse risk management strategies, with LittoKONG serving as a platform for a more profound comprehension of each stakeholder's role and the significance of collaboration. Nevertheless, optimal inter-district cooperation in LittoKONG has not been realized due to territorial specificities.

Keywords
participatory simulation, serious game, coastal flood risk, Mekong delta, Vietnam

How to cite
Tran Thi Huyen, "Enhancing coastal flood risk management awareness: a case study in the Vietnamese Mekong delta." In Ian Morley and Hendrik Tieben (eds.), *International Planning History Society Proceedings*, 20th IPHS Conference, "The (High Density) Metropolis and Region in Planning History," Hong Kong, 2 - 5 July, 2024, TU Delft Open, 2024.

DOI: 10.7480/iphs.2024.1.7674

INTRODUCTION

In June 1962, Hershey, Pennsylvania hosted the conference "Freeways in the Urban Setting." The gathering occurred only six years after the enactment of the 1956 Federal-Aid Highway Act, which laid the financial groundwork for the Interstate Highway System in the USA. Amidst mounting public discontent and a series of contentious debates around the construction of the System, the conference convened to deliberate on '(t)he location and design of urban freeway projects (as distinct from rural freeways in the open country) in such manner as best to serve present and future planned land use, aesthetic values, and traffic demands...'[1]

The Hershey conference marked a third chapter in a series of gatherings focused on the challenges posed by the Interstate Highway System, particularly in its critical intersections with urban areas. Preceded by the conferences in Hartford in 1957 and Sagamore in 1958[2], the new gathering focused on exploring direct courses of action and the fundamental aspects of implementing the System within urban contexts, which accounted for 45% of the overall cost[3] of the biggest public work project in American history. While the findings of the Hershey conference were not completely new, highlighting the systemic disregard of the Interstate Highway System for the urban environments and its misalignment with other federal, state, or local initiatives, the proceedings still serve as a testament to two fundamental realities. First, they reveal the impact of a specific institutional framework rooted in democratic principles, grappling with the challenges posed by rapidly evolving physical and social urban landscapes. Second, they note the state of both planning as a discipline and as an institutional apparatus, underscoring the need for concerted efforts to strengthen both aspects amidst the evolving urban milieu. This paper argues that the Hershey conference and its concise yet highly strategic proceedings deserve further consideration as representative of a turning point in the history of urban highways. It serves as a precise lens through which to understand the evolution of American cityscapes permeated by disciplinary, institutional, and political discussions and it clearly marks the beginning of a second phase in the history of urban highways one in which the established conjunctures operating in the city were critically reassessed.

A MUCH-NEEDED REVISION

In the tumultuous backdrop of the 1960s, a period marked by an unparalleled confluence of intellectual and societal upheaval, the events of June 23, 1959, represents a significant turning point in urban history. On this date, Resolution 45-59, enacted by the San Francisco Board of Supervisors,[4] emerged as a pivotal manifestation of the intellectual and popular sentiments within the city. This resolution officially opposed the construction of seven out of ten urban expressways delineated in the San Francisco Master Plan, thereby rejecting a federal allocation of $280 million designated for their development. Beyond its immediate and massive implications for the city of San Francisco, the measure was a tipping point in the implementation of the Interstate System within urban contexts, one that would reverberate across the country as the start of a new era. The historical significance of this event transcends mere opposition

to a particular piece of infrastructure; it also represents a decisive assertion of local autonomy and a critical examination of certain practices predominantly influenced by federal and state structures.

At its inception in the 1930s and during the initial phases of its implementation, the highway system program was lauded as a symbol of modernity and a beacon of a promising future for an emerging superpower, enjoying substantial public support.[5] However, beginning in the 1950s, concerns regarding its impact on urban areas began to crystallize around two primary issues. Firstly, the public started to critically analyse the highways' promised role in facilitating advancements in urban development, a narrative largely championed by public officials and stakeholders affiliated with the program. Secondly, close attention turned to the program's remarkable financial and institutional autonomy in its execution, especially as it often happened at the expense of other local, state, or federal initiatives impacting the built environment. By 1959, late in his second term as president, Eisenhower ostensibly alarmed by the growing opposition to the urban ramifications of the Interstate Highway Program,[6] and the evolving financial landscape that posed a potential threat to the program's continuity, convened a committee tasked with scrutinizing the system's shortcomings. Directed by the retired Major General and Special Assistant for Public Works Planning John S. Bragdon, the final report prepared by the committee made strong recommendations in relation to the financial situation of the program,[7] and emphasized the need to create an agency to coordinate interjurisdictional affairs linked to the execution of the System. In addition, the document recommended the elimination of 1700 miles (2735 km)[8] of urban highways, and the delay of the program[9] to allow for the development or urban plans in areas affected by expressways within its urban fabric.[10] The final report was submitted in January 1961, a few days prior to the inauguration of the new president, John F. Kennedy.[11] Despite the impracticality of implementing its recommendations at the outset of a new administration, the report served as tangible evidence of a project that required a thorough analysis of its objectives and operational methods as well as an official recognition of its deficiencies. Hershey undertakes the critical points of the current reality to establish the foundations of the gathering: the re-evaluation of the system, the necessity for intergovernmental and interdisciplinary collaboration, and the need to strengthen urban planning concepts.

OPTIMISTIC TIMES

The Hershey conference was convened in a moment of newfound optimism, given the sudden interest in the political arena and the apparent desire of President Kennedy to reform critical points of the 1956 bill and its implementation. On February 28th 1961,[12] in one of his first speeches to Congress,[13] Kennedy expressed the urgent need to modify the law while firmly assuring the strategic importance of continuing the construction of the system. Although a significant part of the speech was centred on a new plan to finance the highway, the fourth section of the text focused on the thorny issue or urban development and the need for coordination with other programs: 'A Federal Highway program of this scope cannot be isolated from other programs for social and civic improvement, particularly our

progress in urban renewal and planning.'[14] However, raising the issue as a national objective was just a well-intentioned jumpstart. The most difficult obstacle would be how to reconcile political leadership, a consolidated and powerful federal-state institutional structure, and professional expertise.

In this emerging landscape, seemingly propitious for cities, the conference acknowledged the conflict arising between the State Highway Departments' previously predominant role in Interstate System planning and development, and the new mandate for cooperation with other agencies and stakeholders. Echoing the environment of professional confrontation surrounding the System construction among engineers, architects, urbanists, and others, the proceedings reflect that 'among these groups were important differences in points of view and approach, and that these differences constitute a handicap to orderly progress in the urban communities' [15] later recommending 'The necessity for compromise among conflicting philosophies and design objectives often must be recognized in urban and freeway design.'[16] If at the time of its definitive inception in 1956 the highway program was seen fundamentally to be circumscribed to the expertise of engineering, by the dawn of the 1960s there was a shift in intention to re-cast the program to address a wider array of issues. The emergence of new urban dynamics had exacerbated social inequalities, spatial disparities, and economic challenges.[17] While not solely attributed to the system, its presence often amplified or exposed these issues, particularly as a consequence to its highly specific objectives in planning and financial status relative to other programs.

In addition to navigating the intricacies inherent in transitioning from a program of specific objectives, such as the Interstate, to the multifaceted nature of the envisioned and more comprehensive project such as the Interstate in the urban setting, there existed another layer of complexity: the institutional framework operating within the principles of federalism. As Eldridge Lovelace[18] expressed in his statement during the conference, '(t)he major difficulty with the freeways is the same as it is with other physical components of the urban area. It is simply that we have too many single-purpose agencies - federal, state, and local - operating in our cities... Each of these single-purpose agencies is charged with blindly and narrowly going down its own path to the achievement of its own limited objectives... We cannot and we are not ever going to bring about desirable urban areas so long as we follow this method of governmental organization.'[19] Federalism, predicated on a tripartite structure comprising the federal, state, and local levels, delineates administrative jurisdiction and resource allocation. Aligned with a specific democratic ethos, this model's challenge lies in its horizontal logic and the autonomy of programs emerging from each of those levels. In addition to disciplinary conflicts, there was a challenge concerning intergovernmental organization. In this context, Hershey 'was arranged to bring together representative leaders of these groups and professions[20] in an effort to work out guidelines for more effective participation by all of them in the design of urban freeways.'[21] In this melting pot of representational diversity and varied disciplinary expertise in conjunction with the particularities of the federal system,[22] it was unclear if it would be possible to establish a transversal mode of operation.

Fig. 1. Some of the conference attendees: Healy (Executive Director, American Municipalities Association), Appleyard (Department of City and Regional Planning, MIT), Lotzenheiser (Chief, Highway Standards and Design Division, U.S. Bureau or Public Roads), Barton (Barton-Aschman Associates)-P. Johnson (Highway Research Board), Duba (Commissioner, Department of Urban Renewal), Hayes (Assistant Commissioner for Programming Development, Urban Renewal Administration), Holmes (Director of Planning, U.S. Bureau of Public Roads), Mattson (President, Automotive Safety Foundation), Winter, Platt (Planning Research Engineer, Department of Highways and Traffic), Conway (Deputy Administrator, Housing and Home Finance Agency), Ranells (Acting Assistant for Planning and Finance, National Capital Transportation Agency), Wild (Deputy Secretary, Planning and Programming, Pennsylvania Department of Highways), Hoppenfeld (Urban Designer, National Capital Planning Commission), Smith (Satterlee & Smith), Robinson (Traffic Engineering Division, Automotive Safety Foundation), Owens (Urban Highway Engineer, Automotive Safety Foundation), A. E. Johnson (Executive Secretary, American Association of State Highway Officials), Gravelle (President, Institute of Traffic Engineers), Michaels (Research Psychologist, U.S. Bureau of Public Roads), Simonson (Chief of the Roadside Branch, Office of Engineering), Voorhees (Alan M. Voorhees & Associates), Rivard (Highway Planning Engineer), Baxter (Assistant State Highway Engineer, California Division of Highways), Harriss Executive Director, American Society of Landscape Architects), Zantzinger, Stelling (Landscape Architect), Lovelace (Partner, Harland Bartholomew & Associates), Gibbons (Public Relations, Automotive Safety Foundation), Rockwell (Director of Division of Public Services, American Institute of Architects), Scheick (Executive Director, American Institute of Architects), D.S. Johnson (Director of Planning and Design, Connecticut State Highway Department), Swanson (Regional Engineer, U.S. Bureau of Public Roads).

A frequently overlooked facet of the Hershey conference was a change of the language employed within its proceedings. Contrasted with the preceding conferences,[23] tailored and specific to the disciplines engaged in the gatherings, the 1962 assembly adopted a notably pragmatic and quite specific tone, probably in relation to the diversity of its attendees and to counteract the extreme complexity of the issue at hand in addition to make the document one accessible to all audiences.[24] This approach likely reflects an intent to enhance public participation and accessibility to information, which was, by no coincidence, one of the recurrent issues discussed in both, the political stage and society. The document issued is quite succinct but its brevity might have also proved effective. Divided into a 'background' to illustrate the current situation and two main sections—'findings' and 'recommendations'—it presents straightforward considerations that faithfully summarize the prevailing and optimistic environment.

THE SLIPPERY ISSUE OF PLANNING

The first recommendation of the conference touches upon a critical issue, the notion of planning, asserting that 'urban highways cannot be intelligently developed for the unplanned or the inadequately planned cities. The cities and their planning agencies must accept a positive

responsibility to accelerate basic city planning as a prerequisite to the development of a sound freeway system.'[25] The concept of positive responsibility arises from the prevalent characterisation of designers and planners as lacking tools and a proactive engagement. During those years, engineers and public officials frequently noted the lack of concrete proposals from the fields of planning and urban design in response to the System's detractors.[26] Even prior to the 1960s, Robert Moses was vocal about the apparent deficiencies among planning professionals. This sentiment was highlighted in an article titled "Mr. Moses Dissects the 'Long Haired Planners'".[27] The article embodies a stance that prioritizes pragmatism over theory, favours executive capacity over individual criticism, and emphasizes an institutional framework for achieving results — values that Moses deemed essential for navigating the complexities of urban development, which, according to him, planners lacked. Despite attempts to ignore or deny these accusations, an undeniable truth remained. Planning, both as a discipline and as a practice capable of functioning within the complex environment of the 1960s, was grappling with two primary issues: institutional professional legitimacy and a shortage of trained professionals.

Since the 1940s, planning had been in a process of dramatic transformation. Disciplinary fragmentation emerged from urban renewal policies, a variety of federal and state programs, racial and social tensions, an increasingly unequal society, and the advent of private investments and their own processes. The emergence of social planning, policy planning, financial planning and others shifted the profession's original, and main focus, of comprehensive land use study[28] to a variety of outlets and objectives. Short-term needs arising from the complexity of actors and events involved in city-making and the diversity of expertise often overrode the possibility of developing long- term comprehensive plans.[29] One of the central assertions of the conference, aligned with the emerging political agenda and social demands of the time, was the necessity for comprehensive planning as a catalyst to integrate the objectives of the Intestate program with those of cities. The background section of the document asserts that 'the concept that urban highway systems should be planned in conjunction with comprehensive community planning is now generally and widely accepted.'[30] Adding later in the recommendations that '(t)he democratic city need not be a formless one,'[31] reflecting on the need to integrate the diverse range of approaches operating at the time. The conference advocated for the activation of the planning profession while also calling attention to the city's form, at a time when decisions were primarily driven by the indisputable legitimacy of numbers, statistics, and financial projections.

While the solution to the problems posed by the highway system may seem clear on paper, what was less evident was how planners would navigate and, ideally, collaborate with the existing or proposed highway systems, whether urban or otherwise. The Interstate had behind a relatively simple albeit extremely efficient institutional structure established on various tiers. In general terms, the American Association of State Highway Officials (AASHO) constituted the professional body delineating the physical embodiment of highways and their intended performance through highly specific disciplinary knowledge, developed by working on highways since 1916.[32] At the state level, the highway departments delineated the routes and managed the financial and operative aspects of their implementation. At the federal level, the Bureau of Public Roads (BPR) established policies and oversaw the plans and expenditures of the

funds provided by the central government. In contrast, planners were still struggling to find an institutional organization as sophisticated and efficient as the one previously described. The political fragmentation and functional specialization of metropolitan areas required the creation of planning institutions capable of operating in such bureaucratic and disciplinary complexity.[33] In pursuit of this objective, various efforts were made, including a proposal for the establishment of a State Department of 'Urbiculture' by a California senator,[34] elevating certain existing programs to federal department status,[35] and the repeated proposal by Kennedy for the enactment of a Department of Urban Affairs[36] to name a few. However, none of these initiatives succeeded. Despite the evident need for planning and a specific recommendation by a federal advisory committee in 1961 to create institutions capable of addressing it, the responsibilities for such planning were typically assigned to ad hoc official commissions, councils, non-governmental voluntary associations, and consortia. [37] This resulted in a complex and confusing landscape, putting planning efforts at a clear disadvantage compared to the more streamlined and organized highway institutions.[38]

DISCIPLINARY VALIDITY AND PROFESSIONAL TRAINING

Additional to a certain institutional orphanhood, planners also struggled with the imperative to develop a comprehensive theoretical foundation and subsequent practical methodologies capable of effectively harmonizing the diverse and segmented focus of attention involved in city planning. Among these crucial domains were land use, social sciences, urban design, and landscape architecture, each charged with its own set of objectives and tools.[39] Professionals within these distinct fields typically operated within different institutions and varied in their level of engagement with the situation at hand. For example, land-use specialists, especially since the mid-1950s, often worked for state highway departments with limited capacity to influence projects beyond linking their field with already established traffic models. On the other hand, urban designers frequently undertook specific public or private commissions and conducted research in academic institutions, with the aim of exerting influence and potentially participating in discussions related to highways within urban contexts. Among the diverse range of disciplinary profiles of the conference attendees was Donald Appleyard, who, together with Kevin Lynch and John Myer was developing a methodology at the Massachusetts Institute of Technology (MIT) to relate the motorist's experience with an aesthetic dimension of driving.[40] Rather than rejecting the highway outright, they sought to re- evaluate its inherent conditions of motion, space, and view, imbuing them with a new purpose and thereby initiating an additional urban agenda within the established system. The influence of Appleyard during the conference is visible in the proceedings, which on more than one occasion refers to the "image" of the city and of the underestimated possibilities created by the expressway: 'Visual aspects of freeway location and design should be considered... Pleasing or significant views and panoramas often are possible for user of the freeway; a sequence of views, especially of outstanding landmarks, permits the individual to orient himself in the urban area' [41] Appleyard and his partners aimed to develop a theory and a methodology to introduce fresh perspectives and design methodologies proper of urban design into the traditionally insular

realm of engineering. Their efforts were representative of similar initiatives emerging from academia, private practice, and private institutions,[42] and were symptomatic of an intent to establish disciplinary validity.

The multiplicity of visions emerging from the design field and the segmentation of disciplinary focus and expertise also mirrored a deficiency in professionals distinctly trained in planning accordingly to the professional environment and expertise required at the time. The Hershey conference clearly reflected on this issue stating that '(T)he number of people who have the talent and experience to cope adequately with these problems is limited. Educational and in-service training problems are needed to develop the required personnel. The development of guides on urban planning and design for the various professions, universities, and highway departments in-service programs should be encouraged.'[43] The discourse surrounding the education of planners, including the curriculum content and its differentiation from architecture and engineering, has been a focal point of discussion since the early 1920s[44]. As part of this trend, Harvard University established the first City Planning program in 1928, followed by similar programs at other institutions such as in Cornell in 1935 and in Columbia in 1937. By 1957, a total of twenty-five programs had been established.[45]

However, the multiplication of programs to train planners, made evident the difficulties of such an endeavour due to the still slippery definition and scope of planning. Each school delineated a distinct curriculum; therefore, some schools centred their programs around large-scale planning, others focused on state and federal policies, while some concentrated on housing planning.[46] To make things even more complex, some schools were strongly linked to the school of architecture, while others to the school of engineering, in each case indisputably influencing the structure and perspective of the curriculum. In that context, the most interdisciplinary program was inaugurated in 1947 at the University of Chicago, named "Education and Research in Planning." It featured prominent professors such as Harvey Perloff, a strong advocate for a program independent from architecture schools and an active thinker of planning education.[47] Perloff later published the book *Education for Planning: City, State & Regional*,[48] outlining a multidisciplinary approach as an essential foundation for a comprehensive planning education. The program was cancelled in 1956, precisely coinciding with full funding for the Interstate Highway System and increasing political and public interest in comprehensive planning.

The multifaceted nature of planning, even from its training, contrasted sharply with the highly-specialized training of the engineers overseeing the system, exposing the uneven influence both disciplines had on the most significant transformation in urban history. In the following years, as the demand for planners grew, new university programs for planning education were established across the country. Additionally, private funding became increasingly available to support student scholarships, faculty research, and other academic activities, reflecting the rising importance of planning education. [49] Despite these educational advancements, the proliferation of planning graduates failed to match the swift pace of development and construction associated with the Interstate Highway System. The high demand for trained professionals pushed planning offices to enter the agency of a guild, accepting professionals of varied origins—architects, sociologists, economists, and others—with the hope that they

would acquire wisdom through practical lessons. [50] The contrast between the slow growth in planning professionals and the fast progress of the Interstate construction underscored the need for a more integrated approach as Hershey claimed. The problem at hand was institutional, professional but also political.

THE WORD AND ITS INTERPRETATIONS

On October 23rd, 1962, President Kennedy signed the law 87-866[51], known as the Federal-Aid Highway Act of 1962. The law stipulated that beginning in 1965, no project would be approved if it did not meet certain criteria. A pivotal requirement for securing Federal funding, colloquially termed the '3C Planning Process,' draws its abbreviation from the initials representing fundamental procedural principles. These include continuity, denoting a capacity for ongoing reassessment; cooperation, involving federal, state, and local agencies; and comprehensiveness, indicating the integration of ten quite specific planning elements within the process.[52] The legislation, ratified four months after Hershey, definitively recognized the Highway System as more than just an engineering solution for traffic and mobility. Instead, it acknowledged the project as a multifaceted endeavour, incorporating social, spatial, and economic variables into its objectives. This aim aligns with the findings at Hershey, which emphasized that highways 'will provide unprecedented opportunities to help shape and structure the urban community in a manner which meets the needs of the people whole live, work and travel in these areas.'[53] This coincidence is likely not coincidental, considering that the bill was already in the House by April, and it is feasible that its text and discussions were well known by at least some of the attendees. The conference was aligning its actions with governmental discussions, perhaps proactively considering the possibility of influencing the legislative measures that were expected to be introduced in the future.

The legislation aimed to foster intergovernmental cooperation between previously disconnected state and local agencies by encouraging collaboration across planning realms. Although the law was warmly received as the start of a new era, several issues undermined its original intentions. In response to the law's mandates, there ensued a frenzied pursuit of comprehensive transportation and land use planning. However, these endeavours were frequently overseen by established institutional frameworks, often affiliated with highway departments, rather than the envisioned interdisciplinary and intergovernmental bodies that were still in the process of formation. [54] Furthermore, the legislation neglected to specify its implications for highways approved in 1955. This omission unintentionally safeguarded them as pre-existing commitments, compelling planning agencies to accommodate them while assuming their rationale and location.[55] Moreover, the Act mandated a series of studies for projects proposed in 1965 but did not specify the responsible parties for conducting them. Consequently, many of these studies were carried out by ad hoc planning commissions, often initiated by the departments of highways rather than permanent agencies. These commissions tended to prioritize the departments' interests.[56] Also, although the law required location assistance to displaced families and businesses, as they did not take effect until 1965, many communities were left unprotected from the already established dynamics of the implementation of the

System.[57] The law, which was intended to produce a significant shift in events, was rendered less effective than intended, primarily due to the broad range of interpretations of its objectives[58] and the strong muscle of state highway engineering organizations.[59]

A TOTAL DESIGN QUESTION

In the last item of Hershey's findings, there was a call for a 'total design concept.'[60] Advocating for an integration of all aspects of design of highways[61] emphasized the idea that '(d)esign which is simple and natural'[62] would provide the long-sought solution to the harmonious and mutually beneficial coexistence of the highway and the city. There was, and likely still is, a persistent difficulty in defining design as either a tool capable of simultaneously meeting a wide range of divergent demands or as a measure of disciplinary proficiency and competence. In addition, the notion of "total" challenged the issue of time, and the ability of fixed plans to survive the perpetual transformation of the city. In this context, the notion of a "total design" unveiled itself simultaneously as a problem and as a solution. If the solution was a total design, despite the complexities described above, the problem was how diverse expertise— with a variety of institutional background and decision-making abilities in conjunction with the ever-entangled political and democratic institutions—could agree on what total design truly meant.

While the Hershey conference may be seen as the latest instalment in a series of gatherings, I argue that its true value extends beyond its recommendations. It rather serves as a panoramic lens facilitating the observation and interconnected understanding of the diverse and contingent disciplinary, institutional and political conditions surrounding urban highways and their complex nature. Viewed through this lens and against the backdrop of its time, the concept of total design may not be seen merely as a proposal but rather as a compelling question aimed at ushering in a new era in the relationship between the highway and the city. Hershey's legacy endures.

DISCLOSURE STATEMENT

No potential conflict of interest was reported by the author.

NOTES ON CONTRIBUTOR(S)

Romina Canna holds a Ph.D. in Urbanism from the Polytechnic University of Catalunya (UPC) in Spain. She received the UPC Extraordinary Doctoral Prize for her dissertation "Expressway Ends: Construction and Evolution of Urban Highways in the United States 1900-1967". She holds an Architecture degree from the National University of Rosario in Argentina. Prior to joining IE University, she has taught at the Illinois Institute of Technology in Chicago and at the Universidad Nacional de Rosario. She has also been Guest Professor at the Master in Advanced Architecture, Landscape, Urbanism, and Design in the Polytechnic University of Valencia (UPV) in Spain.

ENDNOTES

2. Automotive Safety Foundation, *Freeways in the Urban Setting: The Hershey Conference*, n.p.
3. Canna, "A Battle in Three Rounds," 369.

4. Automotive Safety Foundation, n.p.
5. The San Francisco Board of Supervisors was created in 1856 and it is the legislative branch of the city and county of San Francisco.
6. Ellis, "Professional Conflict Over Urban Form," 392.
7. It is widely agreed among historians that it is highly unlikely President Eisenhower was unaware of the specific locations of the Interstate Highway System and its extensions into urban areas. In 1955, the Office of the President and Congress received a report titled "General Location of National System of Interstate Highways Including All Additional Routes at Urban Areas," commonly known as the Yellow Book due to the color of its cover. This document was a collection of maps showing each city directly served by the system. Additionally, the Interregional Highway Report, prepared by the Bureau of Public Roads in 1944, also proposed the system's penetration into cities. Both documents were in the president's possession prior to the signing of the Federal-Aid Highway Act of 1956.
8. Mertz, "The Bragdon Committee."
9. DiMento and Ellis, *Changing Lanes*.
10. This suggestion echoes a proposal made by Lewis Mumford during the Hartford Conference in 1957, which advocated delaying the design and construction of the urban section of the system to allow for the development of urban plans for cities.
11. The argument, for a delay in the Interstate program, had already been discussed at the Hartford Conference of 1957, and particularly emphasized by Lewis Mumford in the conference closing remarks.
12. Mertz
13. Kennedy was invested president on January 20th, 1961.
14. Kennedy, "Special Message to the Congress on the Federal Highway Program."
15. Ibid
16. Automotive Safety Foundation, n.p.
17. Ibid
18. Netherton, "Intergovernmental Relations Under The Federal-Aid Highway Program," 29.
19. Eldridge Lovelace attended the conference representing the American Society of Landscape Architects. He was also a partner in Harland Bartholomew and Associates.
20. Lovelace, "Important Factors in the Location, Design and Amenities of Urban Freeways," 79.
21. Among the attendees, there were representatives of private firms such as Rogers, Taliaferro, Kostrisky and Lamb (RTKL), Harland Bartholomew & Associates, Alan M. Voorhees & Associates, Inc. and Satterlee & Smith; others representing professional associations such as the American Institute of Architects (AIA) and the Institute of Traffic Engineers and the American Society of Landscape Architects; the American Association of State Highway Officials (AASHO); academic institutions such as MIT; advocacy groups such as the Automotive Safety Foundation; and a wide range of federal, state and municipal agencies: federal such as Housing and Home Finance Agency (HHFA), the Bureau of Public Roads (BPR); state such as the Pennsylvania Department of Highways, the Connecticut State Highway Department, the California Division of Highways, and municipal such as the Chicago Department of Urban Renewal or the American Municipal Association (AMA) among others.
22. Automotive Safety Foundation, n.p.
23. Netherton, 31.
24. We are referring to the Hartford conference (1957) and the Sagamore conference (1958).
25. Also, to counteract the language used by its predecessors of Hartford and Sagamore, aimed to a more specific audience of experts and professionals.
26. Automotive Safety Foundation, n.p.
27. This was a point raised by Federal Highway Administrator Bertram Tallamy during the Hartford conference in 1957. In his speech, Tallamy called for active participation and the proposal of concrete projects to complement the Interstate initiative. However, Tallamy was not the only one emphasizing this issue; other forums of debate also highlighted the lack of concrete proposals.
28. Moses, "Long Haired Planners."
29. Boyer, *Dreaming the Rational City*, 274-279.
30. Ibid, 280.
31. Automotive Safety Foundation, n.p.
32. Automotive Safety Foundation, n.p.
33. Weingroff, "100th Anniversary - An Evolving Partnership."
34. Scott, *American City Planning Since 1890*, 580-581.
35. Ibid, 549.
36. Ibid, 559.
37. Blessing, "The Architect and the Planner," 87.

38. Scott, 558.
39. In his speech during the conference, Eldridge Lovelace , representing the American Society of Landscape Architects asserted "Until each urban area has a central design agency with authority over the design of all public and all private projects within the urban area, until we have this type of a planning agency, then we will continue to make a hash of our cities. As the school people put the schools where they want, as the highway people go from Point A to Point B in the most direct route, as the private builder pretty much does as he pleases, we will continue to have these difficulties. The original concept of a city plan commission was that such a commission would be such a central design agency." In "Important Factors in the Location, Design and Amenities of Urban Freeways," *Landscape Architecture Quarterly 53*, no. 1 (1962): 79.
40. Ellis
41. At that time, Appleyard, Lynch and Myer were working on the publication of the book The View from the Road, published in 1964.
42. Automotive Safety Foundation, n.p.
43. We could mention the studies developed by Louis Kahn for Philadelphia between 1953 and 1962, or, although much later, the work commissioned by the Ford Foundation to Paul Rudolph for the Lower Manhattan Expressway. Both, although from different times, represent efforts by the disciplines of architecture and urbanism to integrate with the highway project in the city.
44. Automotive Safety Foundation, n.p.
45. Scott, 265-269.
46. Scott 468-469.
47. Scott, 366
48. The planning programs at the University of Michigan and the Massachusetts Institute of Technology operated under their respective Departments of Architecture.
49. Perloff. *Education for Planning: City, State, & Regional.*
50. Scott, 636.
51. Scott, 542
52. H.R. 12135. Statute 76. Public Law 87-866, 2nd Session, 1962, https://www.govinfo.gov/app/details/STATUTE-76/STATUTE-76- Pg1145/summary
53. The elements were: Economic factors affecting development; population; land use, transport systems; including mass transit; movement patterns; terminals and transfer services; traffic control; zoning ordinances. regulations for the subdivision of land, and building codes; financial resources; and factors related to social and community values, such as the preservation of open spaces, parks and recreation areas, the preservation of sites and buildings of historical value; environmental factors; and aesthetic values.
54. Automotive Safety Foundation, n.p.
55. Scott, 585.
56. Schwartz, "Urban Freeways and the Interstate System," 217.
57. Morehouse, "The 1962 Highway Act: A Study in Artful Interpretation," 163.
58. Mohl, "The Interstates and the Cities: Highways, Housing, and the Freeway Revolt."
59. Rose, *Interstate. Express Highway Politics 1939-1989*, 96.
60. Kemp, "Aesthetes and Engineers The Occupational Ideology of Highway Design," 797.
61. "Freeways in the Urban Setting."
62. The document list nine items to consider for achieving a total design concept: a) Public transport but also the street as a conduit for vehicular and pedestrian transport, parking lots, and terminals. b) The necessary coordination of the expressway with existing, planned and future land use policies. c) The consideration of the visual aspects of the expressway from the point of view of the driver and the urban-dweller. d) Landscape design of the service spaces as a tool to mitigate sound and environmental pollution. e) The consideration of making design standards more flexible in order to take local conditions into consideration. f) The avoidance of using public spaces for the expressway system. f) The control of land use adjacent to the interchanges, in order to guarantee safety and the possibility of introducing uses and services. g) Automotive Safety Foundation, n.p.

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IMAGE SOURCES

Figure 1 Freeways in the Urban Setting, Conference Proceedings, Transportation Library, Northwestern University.