

9 Miles, 4 Students, 1 Town: The Lincoln Way Corridor Project

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In the spring of 2006 I directed an interdisciplinary urban design studio course with 4 upper-level design students addressing options for the redevelopment and intensification of a 9 mile street corridor running through the middle of Ames, IA, home of Iowa State University. The studio began with two key questions that served to frame the subsequent investigation:

1. *What is the role of the street in the urbanism of the 21st Century?*
2. *To what extent can a primary city street serve to shape and define the identity of a community,*

from the scale of the neighborhood to that of the city as a whole?

In the end the studio did not arrive at conclusive answers to these questions so much as explore them, ultimately raising even more questions. In this sense it should be understood that the student work was not the most important outcome of the studio, nor the main topic of this paper, but rather as a vehicle to investigate issues that permeate contemporary urban design; in particular, the possible roles of street design in the transformation of a community.

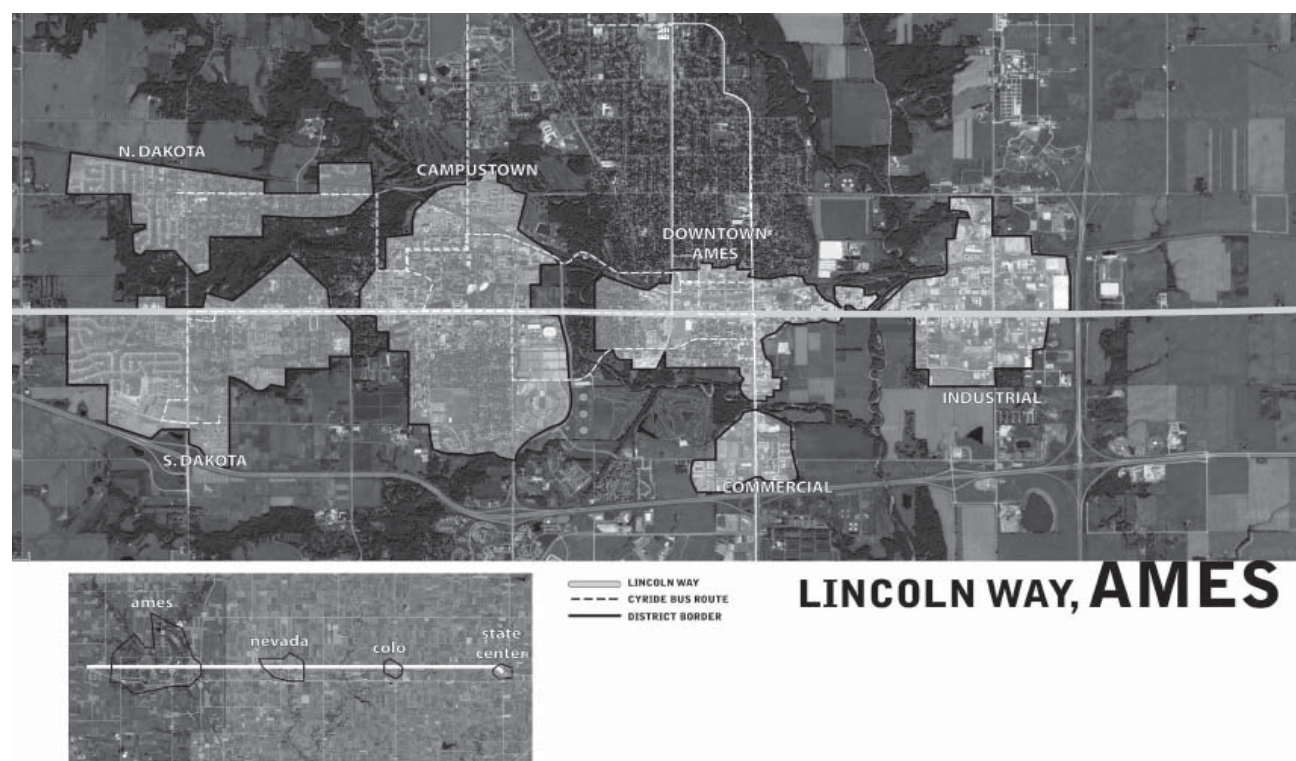


Figure 1. Student Work

WHAT IS A STREET?

It seems futile to deny these things. The motor vehicle is a remarkable invention, so desirable that it has wound itself inextricably into a large part of our affairs. There cannot be any going back on it.¹

There is a wealth of literature that has been written on the topic of 'the street' and street design over the last fifty years. Dominant in the writings of transportation planners and engineers has been the assertion that the primary role of the street is to maximize the safety and efficiency of vehicular traffic flow, providing access where necessary to sites and buildings. Accommodations of auto-mobility have been the primary focus for these disciplines through the development of standard practices. The street is considered here in terms of providing connectivity and access as part of a larger, hierarchical network of automotive transportation, linking origins and destinations for efficient vehicular movement.

In contrast to this 'modernist', engineering perspective, writers as diverse as Jane Jacobs, Donald Appleyard, and Stanford Anderson have defined the street in terms of a social/environmental ecology.² Streets, in this alternative perspective, are understood to provide places for diverse forms of social and commercial exchange, or in other words, public spaces, accommodating the diverse activities of pedestrians as much as cars. From Rudofsky's *Streets for People*³ to the *Character of the New Urbanism*,⁴ the emphasis on the pedestrian experience has dominated much of the literature from the urban design disciplines over the last thirty years, in contrast to that of mainstream transportation planning and engineering. There have been some notable exceptions. Appleyard, Lynch, and Myer's *View from the Road*,⁵ as well as Venturi, Scott Brown, and Izenour's *Learning from Las Vegas*,⁶ both focus primarily on the view from behind the windshield, grappling with the impact of the automobile on the experience of the modern city. Nevertheless, the predominant emphasis on the pedestrian experience in much of urban design literature over the past 40 years can be understood as an attempt to counter the almost exclusive focus on auto-mobility among the transportation disciplines during the same time period.

The emphasis of one mode of transportation to the exclusion of others has been perhaps the most significant limitation of much of the existing literature on streets. The question nonetheless remains – what role should the street play today? What relationships, if any, should be encouraged between the different users, and modes of transport, on the street? Should the street serve to separate and isolate different modes of movement according to type, speed, volume, etc., or can it serve to integrate the different movement systems of a community and thereby clarify the larger urban circulation pattern? Should it serve to divide and separate neighborhoods and districts into distinct enclaves, or can it serve as a connector to inter-link neighborhoods?

These questions raise the issue of definitions: how should we define "street." Whereas the word "road"⁷ refers principally to the material entity and space of movement, the term street⁸ adds to the spatial/material order of the road that which lies adjacent, and the people that inhabit this larger domain. The street is a complex social and material construct that defines and structures the relationships between the public domain of road surface, sidewalks, etc. (i.e., the right-of-way), and the private domain of adjacent properties.

The second major issue framing the project concerned the extent to which a street, in particular a main arterial corridor, could define the identity and character of a community, from the scale of a neighborhood to that of the city as a whole. Given the scope of the project - the 9-mile corridor of Lincoln Way in Ames, extending from the eastern to western city limits - we were interested in the potential of street / urban design at this large scale to clarify and intensify both the identity and use of the street itself, as well as its relationships to the rest of the city of Ames. But what would be the larger impact of such a proposition? Could a large-scale infrastructural development serve to refocus the community and stem the current trend in Ames, as elsewhere, of increasing auto-dependency and peripheral, ex-urban sprawl?

AMES, IOWA

The city of Ames, Iowa is a modest size community of approximately 50,000 people, a large

number of which are students at Iowa State University. Located roughly in the middle of the state, the town had its beginning in the 19th Century as a speculative development along the Chicago and Northwestern railway. The town was established in proximity to Iowa State College, one of the first land-grant agricultural colleges in the US, and what would later become Iowa State University. The town site was separated from the College by a small river and flood plain, making passage from one side to the other difficult, particularly in the wet seasons. At first the only linkage between town and college was an east-west farm road know as the Boone Road, connecting Ames with nearby towns to the east and west. This road was later supplemented by the construction of a trolley running from Main Street on the east side of the river to a depot adjacent to the college on the other side.

With the development of the automobile and its enthusiastic adoption in the early 20th Century, the Boone Rd. was to become incorporated into the Lincoln Highway, the first attempt to create a coast-to-coast, if only partially paved, automobile route. The Lincoln Highway was not a new road, but a patchwork of existing roads linked together by signage and road markers so as to create a cross-country route for early auto enthusiasts. It

was soon replaced, however, by the construction of a paved cross-country highway system, and the Boone Rd., renamed Lincoln Way in the 1920's, would be integrated in this system as a part of US Highway 30.

From its earliest days as a farm road, to the emergence of the automobile and its integration in the national highway system, Lincoln Way has always served as a primary means of moving east-west across the community of Ames and beyond through central Iowa. Located on the south side of the train tracks, it has served not only to connect the settlement of Ames with the College, and later University, but also the town with its neighbors to the east and west, extending as part of the highway system to the coasts. In this capacity as a vehicular corridor, it has always been distinguished from Main Street, the traditional commercial street of Ames running parallel to Lincoln Way just to the north of the tracks.

Main Street was in its early history a predominantly pedestrian commercial environment, served by trams and trolleys for connections to the rest of town and the College. Most of the commercial activity in Ames was originally located here. In contrast, Lincoln Way was at first largely a country road, fronted by farms and residential properties. It



Figure 2. Boone Road, 1914 (Ames Public Library Farwell T. Brown Photographic Archive)



Urban / Street Design Tools

Figure 3. Sources

With the rapid increase of automobile use after WI, Lincoln Way emerged as a primary vehicular route and part of the National Highway system. Land use along the corridor began to change in response to the increase in automobile traffic after WWII, particularly in the downtown area closest to Main Street. A typical mix of commercial operations serving the automobile and its passengers gradually replaced the houses along the street; at first gas stations and motels, and later drive-up restaurants and banks, and other forms of strip retail.

Today it remains, at least in parts, one of the most heavily traveled routes in Ames, connecting the eastern and western halves of town, with a mix of strip commercial and residential districts fronting it. Increasing traffic volumes have benefited the commercial land uses along the corridor, but have had a more detrimental effect on residential properties fronting the street. Residential land values have declined in relation to the increase of traffic volume, speed, and noise along the corridor. As a consequence, much of the housing fronting Lincoln Way has been converted into rental property serving the more transient population of university students and low-income families.

With the relocation of US Highway 30 south of the city in the early 80's, commercial growth in the city has shifted from Lincoln Way to the newly enlarged arterials connecting with the new limited access Highway to the south, and Interstate 35 to the east of town. Ninety-five percent of all new commercial construction in the last 15 years has gravitated to these highways and the large arterial streets that connect to them. So too has much of the new multi-tenant student housing constructed

by developers. This trend continues today with the proposal to build a new "lifestyle center" (i.e. an outdoor mall) east of I-35, located several miles from Main Street and existing residential neighborhoods. New development continues to find open (agricultural) land adjacent to large roads on the perimeter of the city.

METHODS

The project began with an examination of methods of urban design. Architecture and Landscape Architecture students at Iowa State University receive limited exposure to urban design theory in their undergraduate course work. We began the project therefore with a review of familiar writings on streets and urban morphology, extracting analytical and graphic 'tools' that could be applied to the analysis of a street corridor. We studied a number of existing street models, from the medieval Las Ramblas in Barcelona to Wilshire Blvd. In Los Angeles, employing these new tools for the purposes of analysis.

From this initial foundation the students moved on to an analysis of the Lincoln Way corridor in Ames, putting these graphic tools to work on the documentation of the street and its surroundings. The tools the students chose to use were quite conventional – figure/ground plan, land use plan, topographic section, street section, photographs, etc. To overcome the static limitations inherent in these representations the students also undertook studies of historical or dynamic conditions along the corridor, considering such factors as traffic speeds relative to modes of transportation, land use and lot dimension change over time, street typology, and the pattern of node development.

Time, manpower, and the scale of the corridor, were a constant logistical challenge for the students working on the project. The major limitation of their analysis, however, was its limited benefit in understanding what was successful and working well in the corridor, and what was problematic. Issues of retail sales, land values, traffic flow, accident rates, etc., were overlooked. The students, consequently, had to also rely on their personal experience and familiarity with Lincoln Way, as part of their day-to-day environment, as well as the contributions of diverse guest critics, to address these issues.

ALTERNATIVE FUTURES FOR LINCOLN WAY

We are now in a position to define this problem of design precisely: it is to contrive the efficient distribution, or accessibility, of large numbers of vehicles to large numbers of buildings, and to do it in such a way that a satisfactory standard of environment is achieved. ...Quite obviously it is a most difficult task. An inherent difficulty is that the two components of the problem – accessibility and environment – tend to be in conflict.⁹

Design followed analysis with a set of demonstration proposals, three alternative futures that could be imagined for the Lincoln Way corridor. The students identified three models to be examined: the small town “Main Street” model, the urban “Boulevard” model, and the garden city / suburban “Parkway” model. These were developed into three propositions for the future of the corridor.

The “Main Street” model reconceived the corridor as a highway with a series of concentrated Main Street “towns” located at points along its length, separated by bands of green space. Each “town” would have a concentration of medium density commercial at its core along the corridor, which would be pedestrian accessible from adjacent residential neighborhoods. Traffic speed would be reduced as it approached the core to allow for pedestrian crossing, but speeds would increase as one moved towards and beyond the edge of “town.” Moderate traffic volume, on-street parking, zero-lot line commercial development, and a gradation in density from open land (or park land) to low density residential to medium density commercial in the center, and back, would be characteristic of this proposal, modeled after the many small highway communities located throughout the state of Iowa.

The urban “Boulevard” model drew upon the lessons of some of the precedents studied earlier, in particular the 19th century boulevards of Paris, Barcelona, and Vienna. The proposal was to transform Lincoln Way into a boulevard combining multiple modes of transportation with higher density residential, commercial, and mixed-use development along the corridor. The urban model emphasized the pedestrian experience, while accommodating automobile movement and public transit. It also assumed a mixing of land uses, with commercial and retail space typically at grade level, with residential above or behind this. Traffic volumes of motorists as well as pedestrians are assumed to be high, with the boulevard structure mediating their relationship.

The last model, the suburban “Parkway”, was in some respects the most radical (anti-urban) if also the most familiar of the three alternative futures, based on the prioritization of the automobile as the exclusive mode of transportation in the city. In this model the curvilinear patterns of high-speed auto-mobility are transposed onto the corridor, drawing on the lessons of the 1960’s Buchanan Report *Traffic in Towns*, and the contemporary researches of MVRDV, with buildings spaced far apart or grouped into slower speed enclaves. The experience of the driver is paramount, while other modes of movement are relegated to the enclaves, recreational zones, or simply ignored. Land uses are segregated by space and speed in distinct clusters, and parking is extensive.

The three proposals for alternative futures for the Lincoln Way Corridor are all based on existing models visible in familiar places. All of them assume some use of existing transportation technologies, and familiar building typologies. Nonetheless they reveal fundamentally different possibilities for this street, with very different urban textures. The “main street” model proposes a variation of transportation speeds, building density, and land uses along the corridor, following a repeating pattern of towns along the highway. The “boulevard” model suggests a more consistent fabric in terms of building density and traffic speeds, with a diversity of transportation modes supported. The “parkway” model, on the other hand, proposes a single mode of transportation and a low density of buildings clustered in enclaves based on differential speeds and segregated by land use.

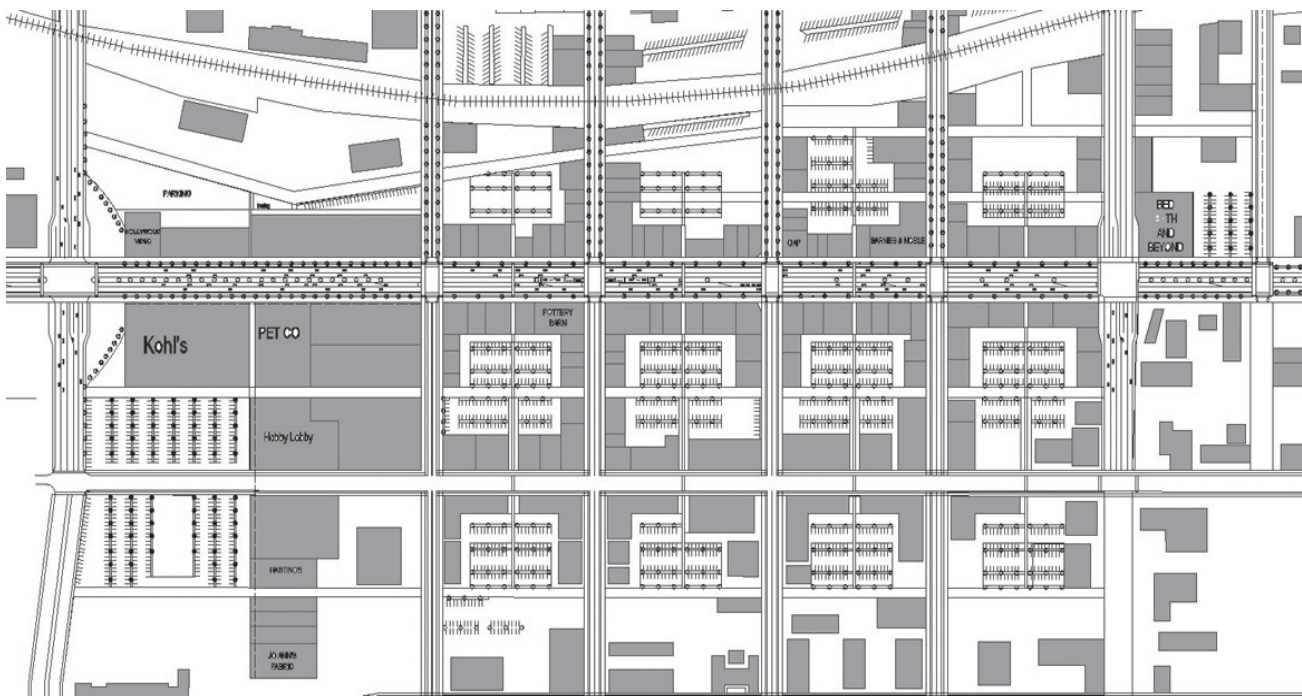


Figure 4. Student Work (A. Feliciano)

Before proceeding to the final stage of the project and consolidating their ideas for the corridor, a number of questions emerged about the alternative models that had been developed. In the first place, did these different models offer an “ideal” state for the Lincoln Way corridor, that once established would remain stable and unchanging? Or do they provide a structure that can be used as a framework for change, as new transportation technologies emerge, land use needs change, and population density changes? In their dependence on the automobile, the first and last of the alternative models would be more restrictive to change, whereas the “boulevard” model appears capable of accommodating diverse modes of transportation and is thus more adaptable.

Another question that emerged at this point concerned the relationships between public space, private space, and transportation space as articulated in the three models. The “parkway” model, with its emphasis on auto-mobility, serves to keep these domains largely separate, even distant, from one another. The “main street” model, similarly, separates these different domains with clear edges, but proximity puts them into close relationship. The boundaries are less clear, however, in the “boule-

vard” model, as transportation space and public space can overlap to some extent in this approach, as can commercial space and the public space of the sidewalk. Lastly, the students were asked to consider what impact their proposals could have on the rest of Ames. This remained an open question as the project moved onto its final phase, the development of a consolidated street design proposal for the full length of the corridor.

HIGHWAY TO BOULEVARD

Following several days of negotiation, with the three alternatives and hybrid options in front of them, the students reached an independent consensus to propose a street design that could accommodate multiple modes of transportation and higher density, diverse land uses in what was essentially a “boulevard” approach. Focusing on the integration of the automobile, public transit, bicycle and pedestrian modes of movement within the Right-of-Way, they established a typical street section to serve as a design framework for the overall proposal. The corridor was then divided up into four districts – the downtown “Business District,” “Riverside” Neighborhood, “Campustown,” and the “West End.”

Each district was subsequently designed by one of the students as a variation of the boulevard diagram, tailored to the specific district's needs. In the Business District, for example, the introduction of the boulevard design framework with multiple modes of transportation suggested the opportunity for intensification of commercial activity and an attempt to bridge the railway and connect to the Main Street district. (Fig. 4) This overall intensification of the district, with expanded retail opportunities afforded by the enhanced transportation infrastructure, was immediately recognized as a provocative alternative to the development of the new mall on the eastern outskirts of town. Likewise, with enhanced public transportation as well as bike routes, intensified (higher density) residential was proposed for the Riverside residential district, an alternative to the gradual decay of existing single-family residential properties that were converted to rental as a consequence of the traffic volume and noise from Lincoln Way in its current configuration. This intensification would also offer alternative residential opportuni-

ties for students and others, for whom the bulk of multi-unit residential properties exist on the periphery of town.

Similar conclusions were reached in the other districts as well. The provision of the infrastructure of transportation diversity offers new opportunities for development along the corridor, with resonating effects on adjacent districts. (Fig. 5) The opportunities uncovered in these proposals, moreover, offer significant alternatives to existing patterns of peripheral 'green-field' development in both the commercial and residential markets. The re-concentration of development along Lincoln Way would thus have a significant impact on the day-to-day patterns of the majority of Ames residents, for whom Lincoln Way would become a destination more so than simply an east-west corridor.

OBSERVATIONS FROM A YEAR REMOVED

... we are satisfied that there is nothing fantastic about the design itself. It illustrates vividly the



Figure 5. Student Work (R., Seeberger)

point we have previously made that the awkward truth is that the motor vehicle is really demanding a new urban form.¹⁰

A number of observations can be made at the conclusion of this project. In the first place, it is evident that street design, modes of transportation, and adjacent land use, are interconnected variables in the making, or re-making, of an urban transportation corridor. In a context where streets are designed and built first and foremost to maximize the safety and efficiency of auto-mobility, adjacent land uses will suffer, particularly as traffic speed and volume increase, unless they are designed to fully accommodate and serve the automobile. The "strip" is the classic example of this condition of auto-homogeneity, and it is the dominant commercial street type in the city of Ames, as in most of the country, to the continuous detriment of traditional Main Street retail areas.

On the other hand, streets designed to accommodate and support a combination of different modes and speeds of mobility (from walking and jogging to cycling, driving, bus and light rail) appear to be able to support a more diverse set of land uses, and even a mix of land uses. This is the lesson of the European boulevard, one that is increasingly being explored in new street designs on both sides of the Atlantic. Making this connection between street design, modes of transport, and land use thus offers us an alternative way of thinking about land use planning and zoning, one that focuses on street form as much as on adjacent land uses and their formal / spatial definition. One can make the case, consequently, that different types of streets support different land uses; some street types will support multiple land uses, such as the boulevard model explored in this project, others only one type of land use, such as a residential street or restricted-access freeway.

To the extent that the design of streets, as both infrastructure and public space, can influence land use, it is clearly possible that investment in the enhancement of those streets central to the life of a community could serve to refocus development energies from the agricultural periphery back to the heart of a town. To have this capacity, street design cannot be thought of simply in terms of surface materials, or street-scaping, but more so in terms of infrastructural enhancement through a combination of material and spatial de-

sign with transportation planning and engineering. This is the arena of local government, which needs to take the lead in setting the agenda for where growth and development occurs through a combination of transportation planning and infrastructural design.

LAST WORD

The street is a contested zone in the 21st Century for different visions of the city as much as for different modes of mobility. Considered as a social and material work of infrastructure, a street like Lincoln Way has the potential to integrate different parts of the city, different neighborhoods and different social groups, creating public space for social interaction. As a work of best-practices transportation engineering, however, it also has the potential to divide the city into enclaves, diminish residential land values, and limit transportation choices. Street design at the scale of a town like Ames, Iowa offers a community the opportunity to address such issues as mobility, public space, land use, growth, transportation infrastructure, and community development. That is to say, street design at the urban scale has the potential to (re)shape the form and experience of a city, for better or worse.

It is clear, consequently, that effective street design requires a combination of spatial and material design practices with transportation planning and engineering, and even social activism, something my four students and I could at best only approximate, despite the many helpful contributions of city planning officials, DOT staff, and diverse College of Design faculty, and local residents to the project. And yet there remains this potential of street design, understood in a fully integrated manner, to shape or re-shape our communities, to impact where, and what kind of development occurs, and the range of our transportation choices. These are critical considerations with direct impact on the quality of life and sustainability of a community like Ames. As such these are considerations that belong not to academia alone, but need to be entertained at the most public levels. There lies the real challenge.

Thanks are owed to Alejandra Feliciano (B.Arch '07), Ryan Seeberger (B.LArch '06), Yuki Shimada (B.Arch '06), and Jason Victora (B.LArch '06),

whose hard work and curious minds were the basis for the projects discussed in the paper.

ENDNOTES

1. Colin Buchanan et al, *Traffic in Towns: A Study of the Long Term Problems of Traffic in Urban Areas* (London: Her Majesty's Stationary Office, 1963)
2. See Jane Jacobs, *The Death and Life of Great American Cities* (New York: Random House, 1961); Donald Appleyard, with M. Sue Gerson and Mark Lintell, *Livable Streets*. (Berkeley: University of California Press, 1981); and Stanford Anderson (Ed.), *On Streets*, (Cambridge, MA: MIT Press, 1978).
3. Bernard Rudofsky, *Streets for People: A Primer for Americans*, (New York: Doubleday & Company, 1969).
4. Michael Leccese and Kathleen McCormick (Ed.s), *The Charter of New Urbanism*, (New York: McGraw-Hill, 2000).
5. Donald Appleyard, Kevin. Lynch, and John R. Myer, *The View from the Road*, (Cambridge, MA: MIT Press, 1964).
6. Robert Venturi, Steve Izenour, and Denise Scott Brown, *Learning from Las Vegas: The Forgotten Symbolism of Architectural Form*, (Cambridge, MA: MIT Press, 1972).
7. "an ordinary line of communication used by persons passing between different places; any way, path, or material course" (OED)
8. "a road in a town or village running between two lines of houses; a thoroughfare with abutting houses" (OED)
9. Buchanan et al, *Traffic in Towns* (1963), p. 40.
10. Ibid, p. 142.