Design Quarterly 129: Skyways

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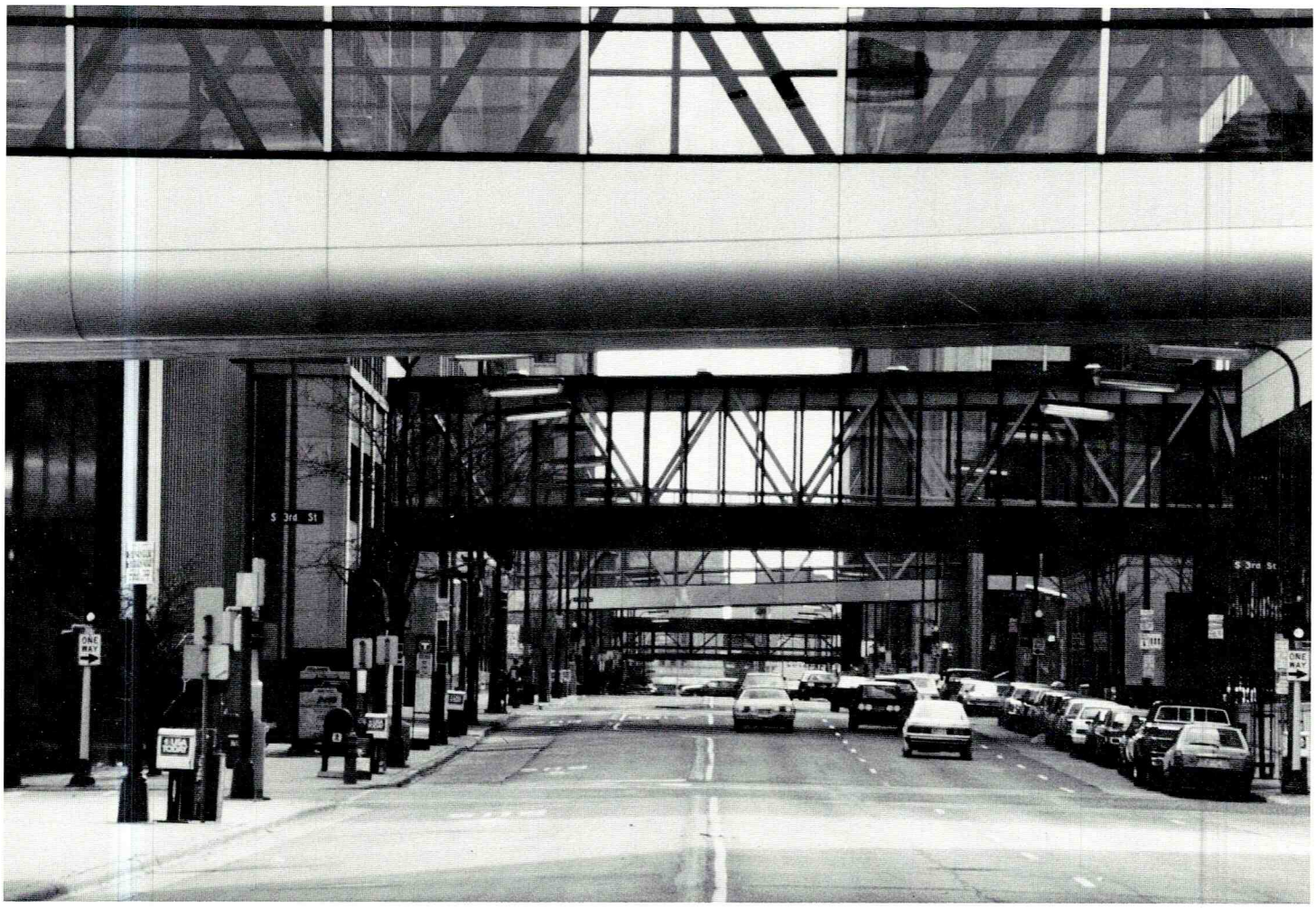
front cover: Atlanta, Georgia, 1985
back cover: Skyway crossing 2nd Avenue at Washington Avenue, Minneapolis, 1985
title page: Skyways crossing 2nd Avenue at 3rd Street, Minneapolis, 1985
1 Crowds gathered for parade watching on the Nicollet Mall and in the skyway above, Minneapolis, 1985

Design Quarterly 129: Skyways



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Editor's Notes

Skyways is based on a two-day conference devoted to the design and use of skyways, streets and tunnels in American cities. Held at Walker Art Center and the University of Minnesota in April 1985, it included presentations by a number of distinguished architects, planners, sociologists, geographers and critics of the urban scene, who discussed numerous issues related to pedestrian systems, with particular attention to the existing systems of St. Paul, Minneapolis, Dallas, Houston, Des Moines, Cincinnati, Charlotte, North Carolina and Calgary, Alberta.

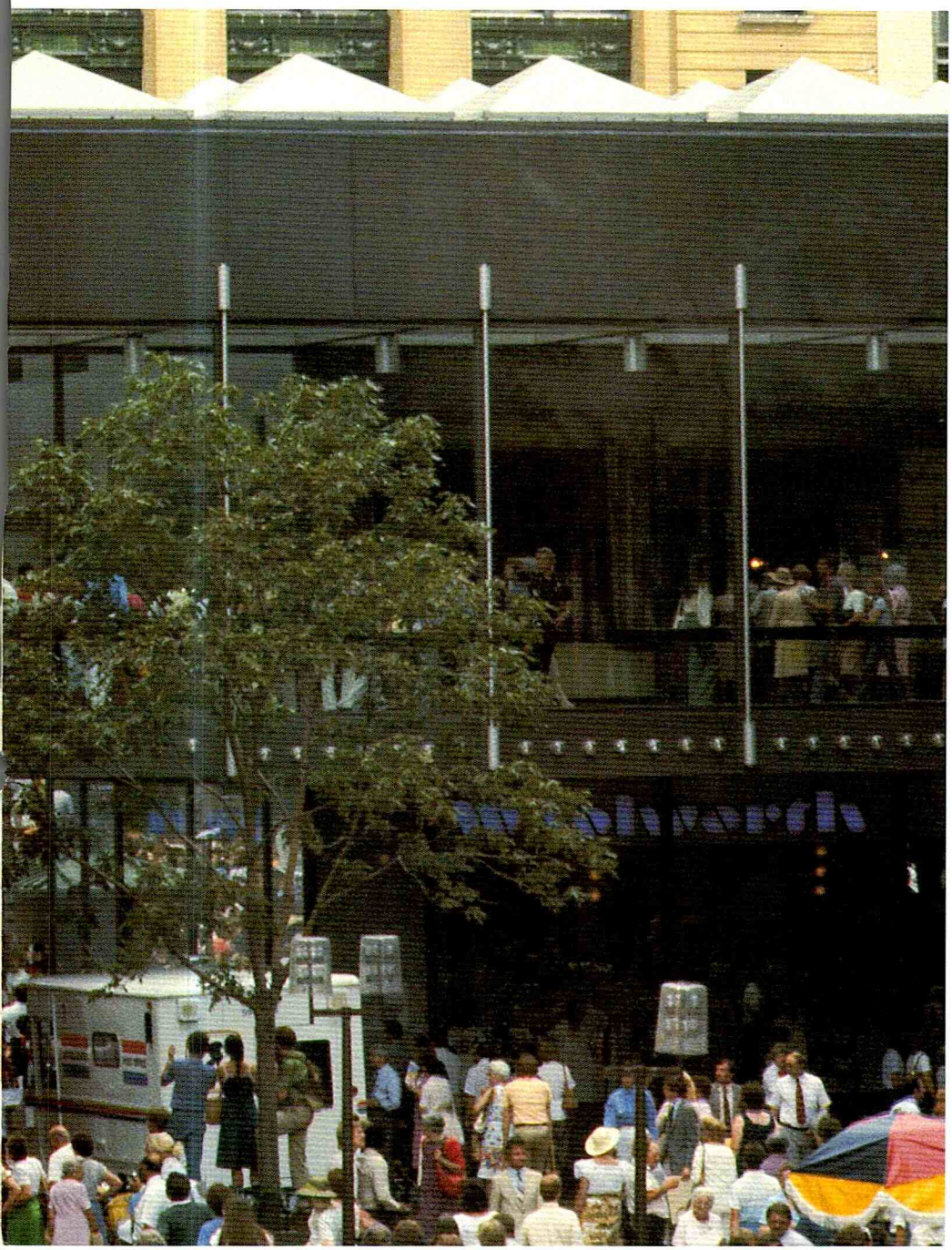
The conference was inspired by a long-term study of skyways by Bernard Jacob and Carol Morphew, published as *Skyway Typology/ Minneapolis,* by the AIA in 1984. Their research brought to our attention the enormous impact these systems have exerted on the fabric of our cities. In the more than twenty years since the inception of the Minneapolis and St. Paul skyway systems they have expanded until we now have, in effect, second-story cities. Consequently, this new multilevel street system has both created and resolved many of our urban communication needs.

In Minneapolis, climate controlled, privately-built passageways connect privately-held buildings, although these passages and buildings are, to various degrees, public places. In St. Paul, the bridges are built primarily with public funds and they connect, for the most part, privately-held buildings, thus raising profound questions of responsibility that persist between the private and public realms:

- Who should determine the location of these bridges?
- Who should pay for their construction and maintenance?
- Who should control their hours of operation?
- Who should control their design?

These primary political-social questions suggest related issues:

- Do off-grade pedestrian ways radically affect on-grade street life?
- How is the overall design of these bridges determined?



Design Quarterly 129: Skyways

How do the interior corridors that connect the system relate to the bridges?
Should the bridges provide access to and from the street?

These and numerous other questions are analyzed in this issue. Jaquelin Robertson introduces the skyway topic with an astute discussion of the generic city. He emphasizes that we must have a clear vision of what we want our urban areas to be before we can provide a useful framework for a multilevel pedestrian system.

Colin Rowe provides a historical overview of pedestrian networks, citing significant examples from Venice, Florence and New York. He suggests various ways in which bridges might enhance contemporary urban architecture—ways that are analogous to the great designs of the past.

Sam Bass Warner, Jr. and Galen Cranz approach the topic of pedestrian systems from the political-social standpoint. Warner discusses a number of legal issues relative to public access and free expression; Cranz makes comparisons between pedestrian movement through the skyway systems and the parks in our cities.

David Dillon, using Dallas and Houston as cases in point, discusses the economics of multilevel systems: how they are funded and how location on and off such systems has affected the success or failure of businesses in communities with off-street pedestrian systems in place.

Bernard Jacob raises the issue of architecture and second-level bridges: how these bridges cross streets; how they enter old and new buildings; how they join interior pedestrian corridors; how they impinge on street vistas; how they relate to existing urban form.

A number of workshops were held at the conference and we have included excerpts from those discussions here. Finally, students in the University of Minnesota's School of Architecture were asked to comment, by means of design proposals, on the existing Twin Cities' skyway systems. One example of these visionary proposals suggests what the future might hold.

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2 Loring Park, looking south to the residential district on the rim of downtown Minneapolis, 1985 **3** Aerial view from the city's center, looking north toward the Mississippi River, Minneapolis, 1985

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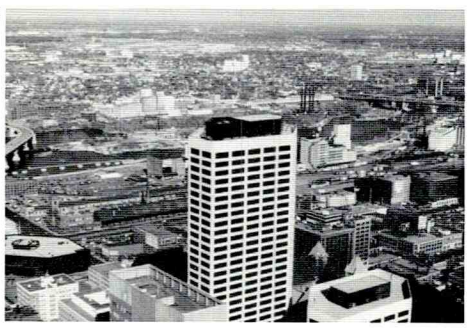


Private Space in the Public Realm
Jaquelin Robertson

Cities do not happen, they are achieved. They are the result of tremendous commitment, passion and sacrifice over time. Most important, they require an uplifting vision of what the city must be and a commitment to that vision by its citizens. The issue of skyways, or of any building project, should be secondary to this vision. Otherwise, we will achieve merely a depressing series of buildings and connecting bridges, with nothing but commercial value. It will have no city value.

The bases of such a vision in Minneapolis are, in my view, threefold: the grid, the parks and the river. One can start with no stronger structural format. This order had implied, until after World War II, a generic building type that was foursquare, generally solid stone, brick, timber, or metal, and set blandly on Calvinistic lots.

Since the war, the order has been compromised. Minneapolis, like every other city, has gone "boutiquing." The new buildings are quite light and much more unsure of themselves. They turn all the time, beginning a rash of "diagonalysis." The order of the grid is impossible to read from the air or from the skyline. These buildings are turning not because they are on important sites, but because the designers are nervous; if they don't display, they will not get attention. These are not very impressive buildings, but they are no worse than those in other cities.

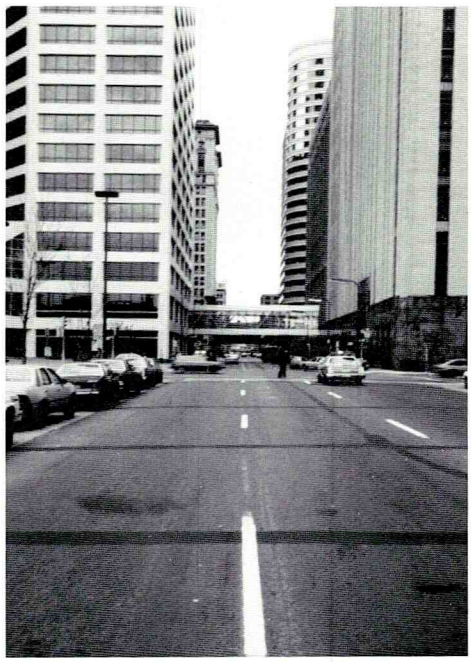
Lacking a vision, Minneapolis has overlooked the opportunity to build a great northern city. Climate, one of the reasons given to justify skyways, is tremendously exciting. It can be very grim; it can be marvelously rich, too. It affects materials, light, and the way in which we think about sidewalks.

Ironically, for a city with skybridges, Minneapolis has missed all the joy of bridges. Bridges are among the most spectacular artifacts of man. Their engineering is daring; the design detail is amazingly sophisticated. They have always served double or even triple use. They have been places of great celebration and festivity. The imagery of Adam's bridge in Bath or the London Bridge is quite different from these trusses in Minneapolis that are strung out between buildings. The structures here do not look like bridges. They look as if the buildings were pulled apart and a piece of the corridor system was exposed, plumbing and all.

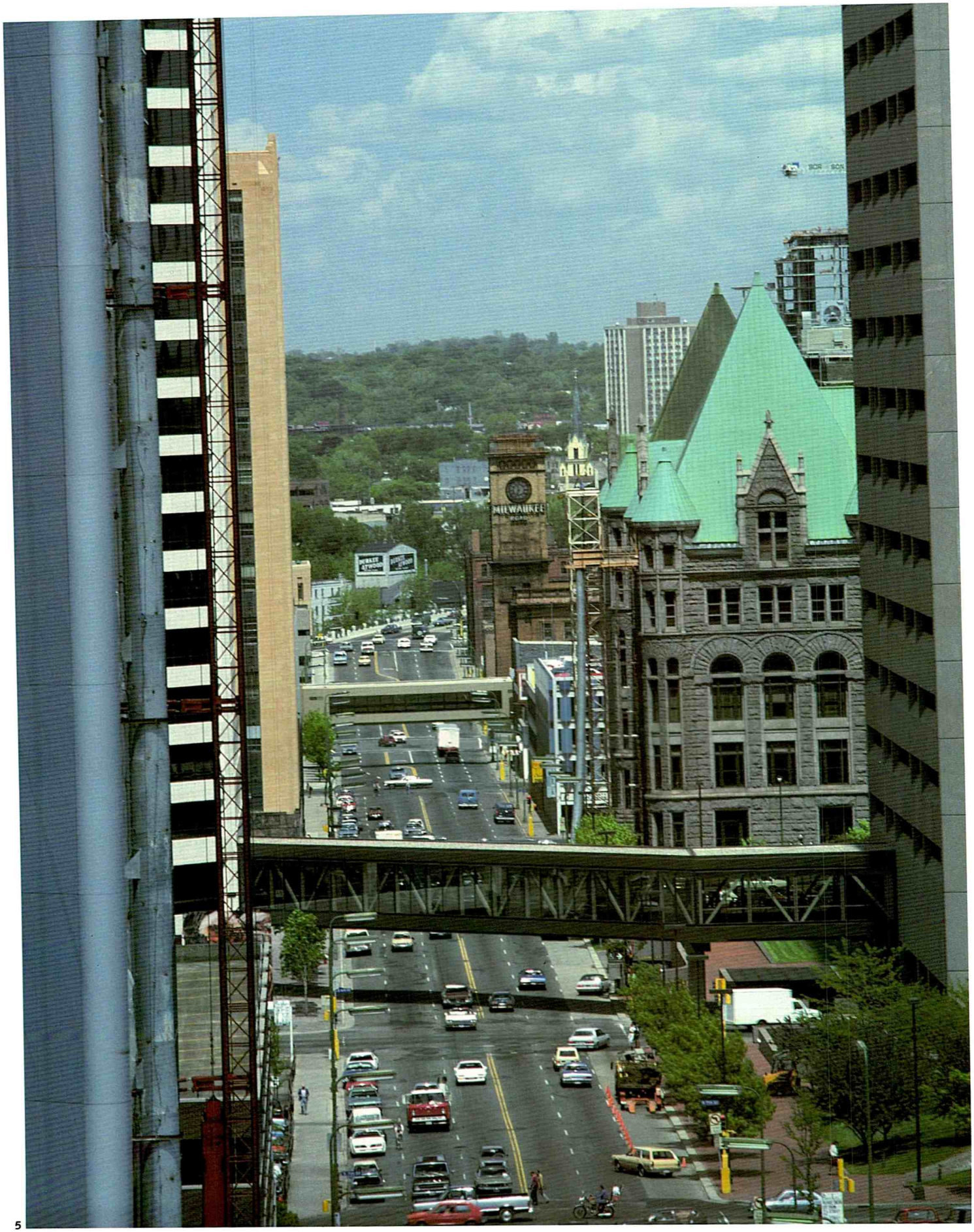
I believe there is one level in the city. It is grade: where people walk, where trees grow and where one has the best chance of solving almost all design problems. With few exceptions, one assumes a tremendous burden in traditional design terms when taking on a second-level scheme. By traditional, I mean tested, not stylistic.

To insert a bridge system into a city is a major transplant. Most patients reject artificial systems of this sort, or they live under synthetic, hospital conditions for a long time.

The weakness of this city, and of most other cities as well, does not develop because you do or do not have bridges, malls or skyways. Weakness develops because cities do not know what they should be. They lack a vision. A plan that is waiting to be evolved is merely a set of "blobograms" in which all of the various data are not equally related.This is design "data." You must look at individual designs just as you look at transportation statistics. You must examine the total physical implications of the kind of insertion or surgery that comes with skyways.



4 5th Street, looking west, Minneapolis, 1985



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A bridge system changes everything: access, service, the ways in which people will use retail or office entrances and the way in which people will entertain. We should understand the change as a major system of public works, just as we understand great parks, parkways, esplanades and monuments to be. If not seen in this way, we will miss the historical implications and we will make a mistake.

What are the implications of public works in the city? The purpose of all planning, design and development is to produce an American urbanism, one that is practical, elegant and just. It should produce a city that is an accurate reflection of values, priorities and aspirations. The city must be a forum or model of public virtue, as Aristotle said, it must be a cultural work of art.

The problem in pluralism is to balance individual and communal rights. A republic requires not only political agreements, such as bills of rights and constitutions. A pluralistic society should have a similar set of agreed-upon criteria in planning and design, which will outline the just, elegant and practical city.

Without this, the citizenry has little vision of the city against which to evaluate a choice. Consider, for example, bond referendums. The issues are never explained, either by or to politicians in terms that the layman can understand. Rarely is the layman helped by newspaper coverage, however extensive. There is little study of historical precedent and an over-reliance on technical advice. As a result, ad-hoc solutions become a major problem of city design.

Furthermore, planners and designers do not investigate urban growth, history or market trends in any rigorous way. For example, most cities in the United States have a projected population growth rate that will vary slightly. With some exceptions, we can absorb the growth rates for almost every city in the ten to fifteen blocks of the existing central business district, in ten-story buildings. Tomorrow morning, we could change, for the good, the urban structure of every city by reducing the zoning for growth by half. There is no reason, save greed, to build a fifty-story building outside of New York or Chicago; certainly no reason based on market demand or utilities can be justified.

Unless the strategy for planning a city encompasses such issues as growth and history, decisions about bridges, tunnels or anything else will be like playing Russian roulette. I am dumbfounded by people who make major zoning changes in cities without any understanding of what those changes imply. The only criterion by which projects can be judged in such a setting is short-term commercial return. That's not enough.

Blind decisions will continue to create a dreadful, hopelessly inefficient sprawl. They will further the privatization of space, of which the Minneapolis skyway system is one example. The notion of the public realm in the American city has all but vanished. The moment that we abandon the street for an enclosed, controlled, second level, we have furthered that privatization and have removed the citizen farther from his city.

Minneapolis must subordinate the issue of pedestrian systems to a vision of what the city should be. Look carefully at the grid, the river and the parks as starting points.

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5 Minneapolis's Richardsonian City Hall has escaped the intrusion of the skyway system, but is surrounded by it, as neighboring buildings are linked to the central business district. **6-7** This prominent skyway that bridges the Nicollet Mall is here seen from the inside (above) and the outside, Minneapolis, 1985.

I Stood in Venice on the Bridge of Sighs

Colin Rowe

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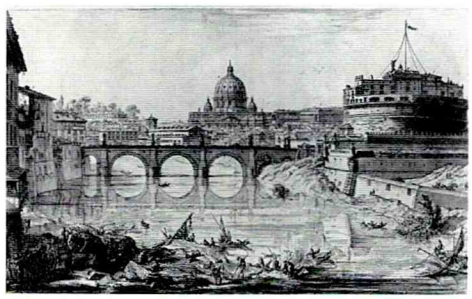

8 Giovanni Battista Piranesi
Veduta del Ponte e Castello Sant'Angelo
(View of the Bridge of Sant'Angelo Castle), Rome
second state (of six) etching, 1754
9 *Ponte dei Sospiri* (Bridge of Sighs),
Venice

Examining a newspaper image of a section of the Minneapolis skyway, I was strongly reminded of the opening of the fourth canto of Byron's *Childe Harold:* "I Stood in Venice on the Bridge of Sighs/A palace and a prison on each hand;/" I proceeded to fabricate a parallel: In Minneapolis I scampered across a section of the local skyway, the ladies lingerie section of a department store behind me and an upper level foyer of the Amfac Hotel in front. And, of course, I concluded that the two experiences could never be strictly comparable.

Byron on the Bridge of Sighs is in the position of the cultivated nineteenth-century tourist for whom Karl Baedeker was to write his many guidebooks. Whereas the hypothetical version of myself was much more in the position of one of those mid-twentieth-century tourists to whom the guides of Fielding have proved so useful.

I am proposing here not only the affiliation of Baedeker to Fielding, but also a decline in the sense of value represented by the two men. While Baedeker assumes the primacy of culture and prefers to inform his readers about churches, palaces and museums, Fielding's interests are wide apart. To "culture" Fielding prefers "consumption." Accordingly, his purpose is to tell his readers about eating, drinking and shopping: what to order at Harry's Bar or Alfredo's, or where to buy Gucci, Valentino and Armani.

I am assuming, in other words, the superiority of Baedeker's city and the Bridge of Sighs to Fielding's places and the Minneapolis imagery of the local skyway. My apprehensions are general, but based on experience. In Cincinnati's skyway, I found myself dreadfully disoriented and the streets below painfully degraded. In Charlotte, North Carolina, the small, upstairs "bourgeois boutiquesville" appeared to be simply an added agent of ethnic discrimination. The blacks were on the streets and the whites were in the skyway.

Can there be an intrinsic objection to climate-controlled, upstairs environments or to bridges over streets? Or is the question a matter of how well, or how poorly, these multilevel maneuvers are effected? Let us survey the quality of skyway precedents.

The first reasons for upper level communication leaping over streets must have been secret and political rather than public and climatic. In the fifteenth century, a judicious prince was advised to build a convenient bridge which, if necessary, would lead him to a place of refuge. While private passages for princes seem distant from the skyway context, we might still pause to reflect on the concepts of escape and refuge.

One of the earliest of these elevated passages was that leading from the Vatican to the Castello Sant'Angelo. It was over this structure, unprotected from rain or sun, that Pope Clement VII scurried, in May 1527, in order to save himself from the strange international army that was about to sack the city.

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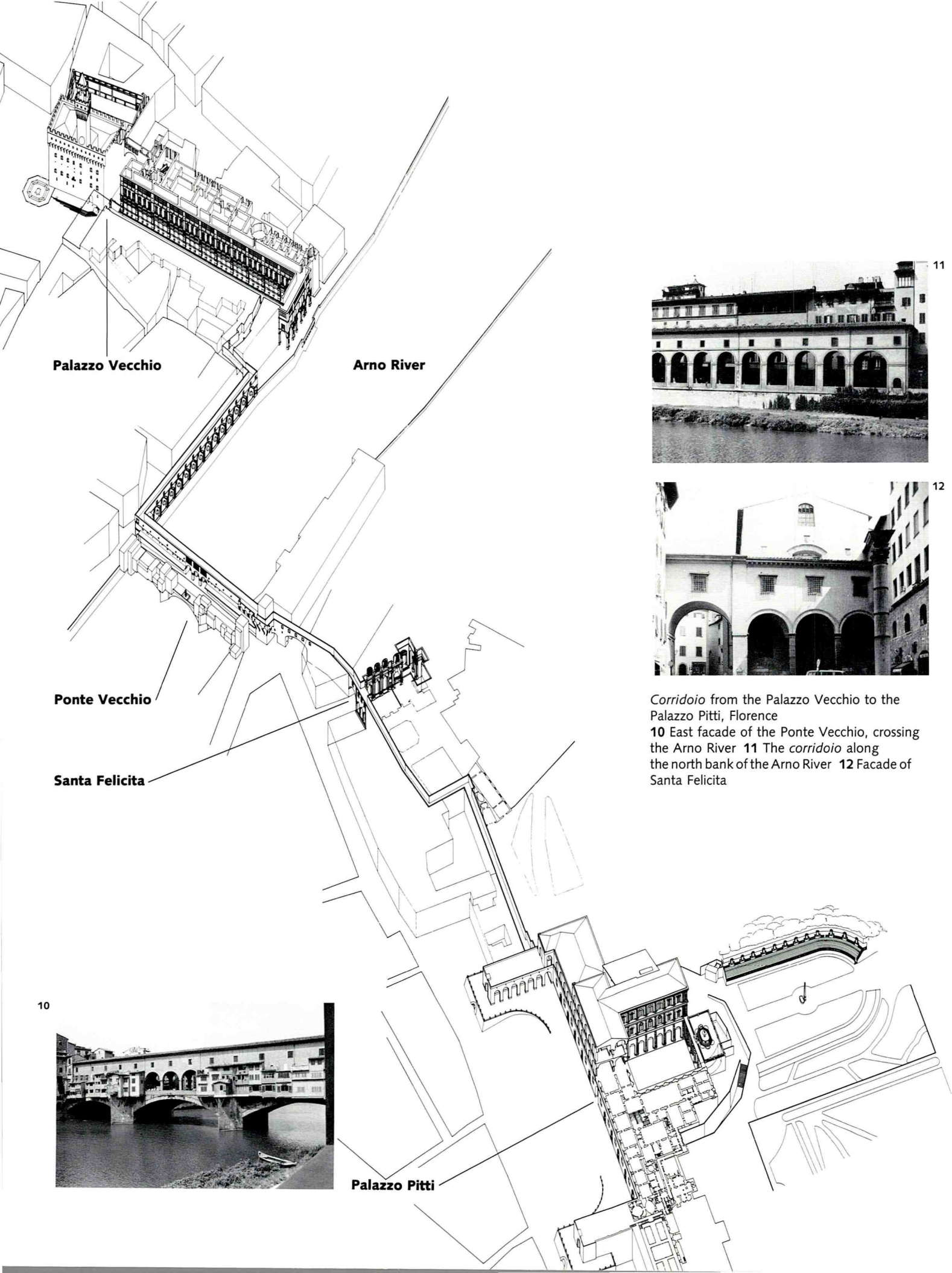

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Corridoio from the Palazzo Vecchio to the Palazzo Pitti, Florence
10 East facade of the Ponte Vecchio, crossing the Arno River **11** The *corridoio* along the north bank of the Arno River **12** Facade of Santa Felicita

About thirty years later, Cosimo de Medici, first Grand Duke of Tuscany, felt the need for an equivalent *corridoio,* in this case, from the Palazzo Vecchio to the Palazzo Pitti. Cosimo's passage is the most famous of all these private bridges. Beginning at Palazzo Vecchio, it forms the upper level of an arcade along the river, traverses the Ponte Vecchio, penetrates a number of houses, becomes the facade of the church of Santa Felicita, and finally terminates at Palazzo Pitti, from where further escape to the Fortezza del Belvedere was always available.

Cosimo's Corridoio Vasariano always dissimulates its own presence, however. We must note that these early skyways are, primarily, advertisements of subterfuge. Secrecy and privacy are their controlling ideas. They lead from specific points of origin to specific points of destination, barring all other points of entrance or exit.

The skyway theme envisages not only elevated, but also multilevel circulation. For these precedents, we must descend from the princely skyway to what might have been the city that, in the 1490s, existed in the mind of Leonardo da Vinci. In his last years in Milan, Leonardo was preoccupied with a city of great complexity: canals, subterranean service streets and upper level *strade nobile.* All this may be represented by a model in the Museo della Scienza e della Tecnica in Milan. The vision is an entirely arbitrary grouping of "Leonardoesque" propositions. Still, it may represent a state of mind which was not to be recovered, in any important way, until the present century.

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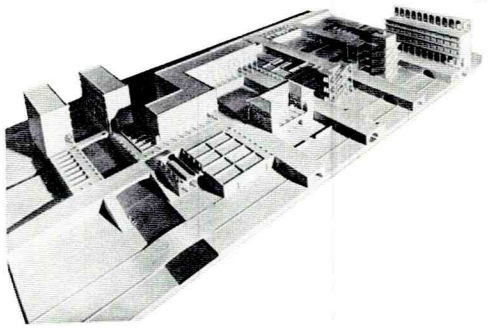


13 Contemporary model of an idealized city as it was envisioned by Leonardo da Vinci, circa 1490, Museo della Scienza e della Tecnica, Milan

Certainly, Robert Adam's Adelphi, circa 1770, might be considered a premonition of what was to come; it was just the Piranesian performance that Adam wished and Leonardo might have understood. The lower level was rough and servile, and above, in the world of the *signore,* a slightly febrile elegance prevailed. Communications between levels were not many and the social segregations were extreme.

In New York, 1903-1913, long-standing fragmentary suggestions were accumulated into an heroic synthesis: Warren & Wetmore's Grand Central Station. Although no longer sufficiently appreciated, the impact of this immense undertaking does live, I think, in the pages of Scott Fitzgerald and also in the excitement of Le Corbusier.

A shift of the terminus from 34th to 42nd Street, a deck over the New York Central tracks from 96th Street south, and the creation of a major residential avenue were all part of the comprehensive operation, unmatched in London, Paris or elsewhere. The project was the complement to the big ships in the docks that signified the Atlantic; equally, it was the monumental response to the tribute of an entire continent.

Arriving on one of the great trains (The Twentieth Century Limited, perhaps), plunging underground at 96th Street, and surfacing to enter the great concourse—a hall, perhaps from the Baths of Caracalla (nothing less being worthy of New York's mission)—one then had the choice of a taxi or hotel. If a hotel were desired, without having to leave this crypto-city one could look to the Biltmore, the Roosevelt and the Commodore. Although the Station has long since languished, the city progression it celebrated lingers.

Meanwhile, one should notice how demure is the outside of Grand Central. Somewhat like an enlarged version of one of Sanmicheli's gates at Verona, reworked by a Frenchman of conservative taste, and disclosing none of the intricacy of section and organization that lies behind, it nonetheless became a cult object to the futurists in Milan. Simultaneously an exhibition of aggressive American dynamism and enfeebled American reticence, the Station became the object of futurist ambition to strip the classical and American decorum and turn it inside out.

Without doubt, many of our current afflictions descend from this ambitious 1910 paradigm. If one chooses to go to Montreal and negotiate the crypts of Place Bonaventure, just possibly one may find a similar message. But while at Grand Central the message is mostly condensed and laconic, at Montreal one's clues are indecipherable and dissipated. In the winter, subterranean Montreal provides relief from shocking cold; but, otherwise, it deprives the streets above of animation.

Clearly, a crypto-city must be created only in a very special situation. At Grand Central, quite dramatically, it was justified. Grand Central is the beau ideal of Leonardo's crypto-city. It related to great entrance and great exit; without these, with what are we left? Simply, I think, we are left with a crazy labyrinth.

A famous New York fantasy of 1908, called *King's Views of New York,* shows the same preoccupation with multilevel circulation as Grand Central. The bottom level is a street with an elevated railroad running along it and miscellaneous low-level bridges. Above the street is a high-level bridge with a train running across it. Then, infinitely elevated, there is a variety of curved approaches (railroads or primitive autostrade). And, finally, not so far above, but in the sky, a frightening, disorderly collection of peculiar old airplanes is flying around.

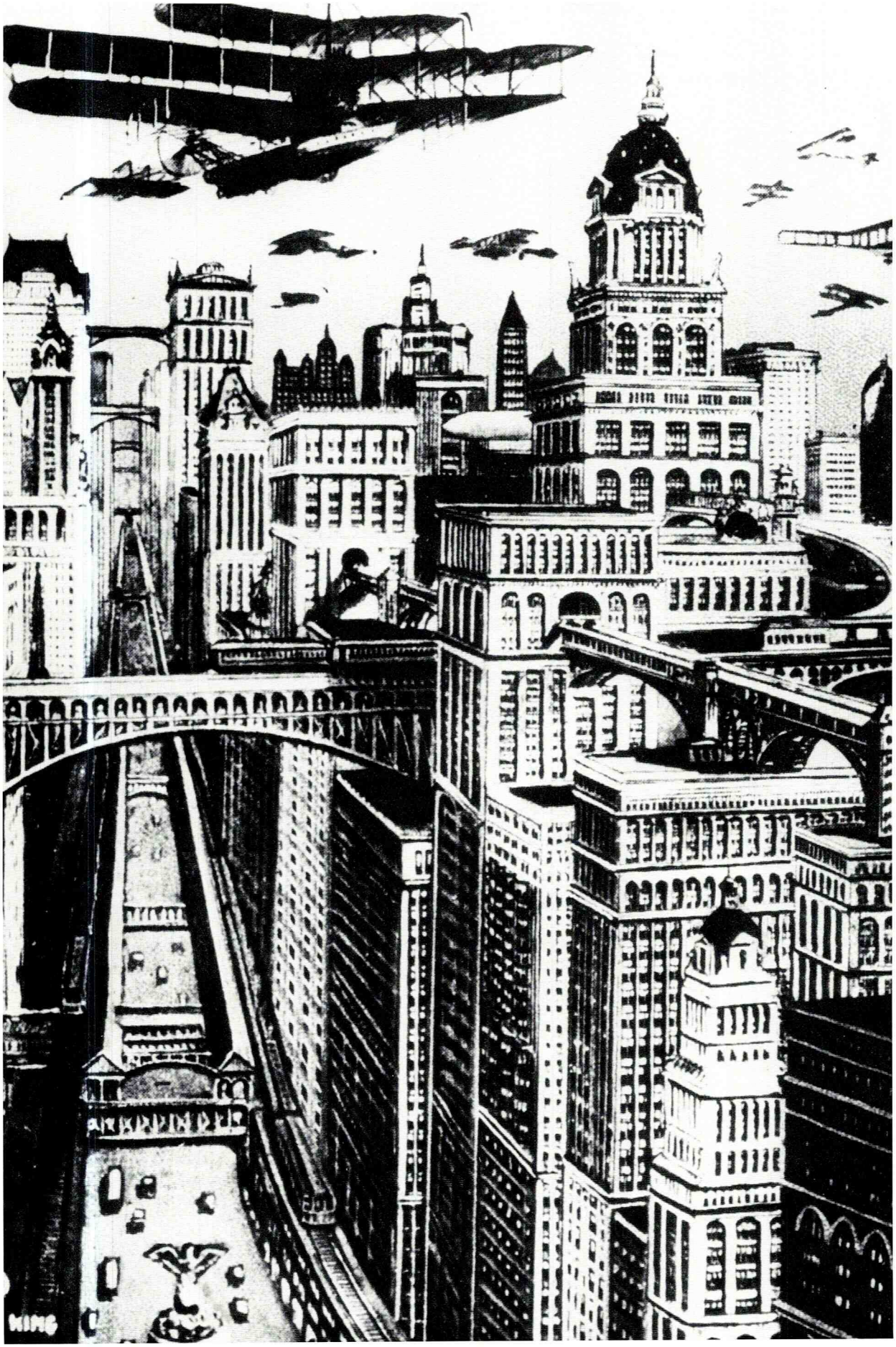
A document of this order must have been God's gift to Milan, where the excited futurists felt themselves to be on "the promontory of the centuries," on the cutting edge of history. To the futurist imagination, the cosmopolis offered something far better than Grand Central. The vision of the city of Sant' Elia in 1914 by Mario Chiattone may be regarded as an organized reply. A city of towers, rather abruptly penetrated by what appear to be railroad viaducts, Chiattone's project presents the received myths of New York, but crisscrossed with ideas from Vienna. The infrastructure is from the world of Jules Verne, and the superstructure is from the repertory of late Hapsburg Jugendstil.

Looking at the protracted tubes that carry the railroads, one might feel compelled to conclude that the origins of the Minneapolis skyway are in such futurist manifesto pieces as this. But we must learn to approach the topic of bridges, which are something more than tubes. Bridges are likely to become the preferred connective tissue in a relatively closed aggregation of spaces such as downtown Minneapolis.

A bridge has two primary exposures: the entrance for the people and vehicles crossing it, and the entry surface for the people and vehicles penetrating beneath it. Both these movements should be appropriately celebrated. The traffic above should not degrade the traffic below; but, likewise, the traffic above must be alerted that a crossing and a bridge are imminent. Consequently, a bridge can be only a highly analyzed structure. Below, however modified, a bridge presents some version of triumphal arch; and above, it behaves as a distinctly articulated gallery, as an Aristotelian distribution with a beginning, middle and end.

Palladio's proposal for a bridge at the Rialto may illustrate the argument. Undoubtedly, had it been built as originally presented, this bridge would have been an unmitigated catastrophe; but this is scarcely an issue. Palladio was presenting a

14 Moses King
The Towering Skyscrapers, 1908
illustration from *King's Views of New York*



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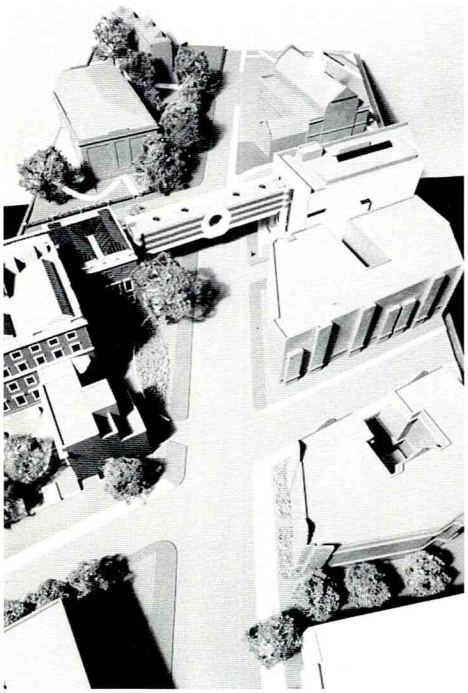


15 James Stirling
Model of the site of the Arthur M. Sackler Museum and a proposed connecting bridge to the Fogg Museum, Harvard University, Cambridge, Massachusetts, 1981
16 James Stirling
Drawings of the elevation (top) and section of the proposed bridge over Broadway that might contain a gallery space, a function appropriate to the link between two Harvard University museums, 1981

theory of the bridge, presumably true for all times and places and almost certainly to be modified in execution. It is a *theoretical* bridge conceding ceremonious passage to both pedestrians and gondolas. By detaching itself from the more random, immediate physical environment the bridge further advertises the proposition that, in addition to being a transition between places, a bridge may be considered *a place in itself.*

Great bridges such as the Ponte Vecchio in Florence, Old London Bridge, the Pont Neuf in Paris, and the covered bridges of New England and upstate New York have always been places in themselves. To the inventory, there may now be added the connection in Cambridge, Massachusetts, proposed by James Stirling, between Harvard's Fogg Museum and his own extension to it. Although controversial, I would like to see this bridge built, among other reasons, as a possible model for Minneapolis. Unlike the abstract tubes of the existing Minneapolis skyway system, the Fogg Museum bridge is a crossing equipped with character and personality. It is conceived as an articulated gallery with a particular room in the middle, the room with the circular windows, from which the street becomes dramatically visible. But also, and even more important for Minneapolis, this bridge distinguishes itself as an independent structural and spatial performance, actively disengaged from the buildings at either end.

The Minneapolis skyways rely all too exclusively on the deployment of glazed *tubes as transition.* By now, in selected locations, Minneapolis should envisage the alternative strategy of the relatively opaque *bridge as place.* Vierendeel trusses, of course, will suffice—on most occasions—but their universal, utilitarian proliferation can only engender a movement without apparent destination, likely to defy the capacity of both the memory and the mind.

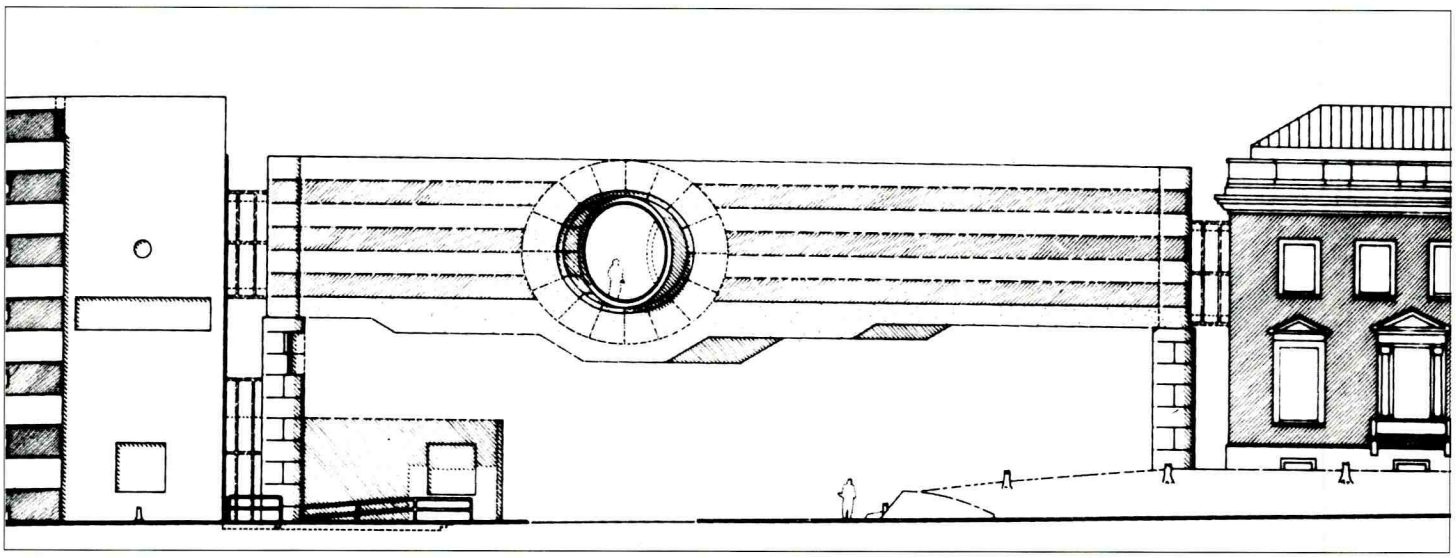
A number of elaborate and highly specific bridges might be seen as a corollary and counterpoint to the prevailing system. As such, one could conceive them acting as spatial magnets, in an otherwise somewhat labyrinthine confusion. As centers of convergence, they might indicate those approaches to the skyway that are now scarcely visible, and incidentally, they would surely present an exceptional air-rights proposition to the city. For the elaborated bridge could contain an enormous number of facilities, and its volume might be sustained for several floor levels. Indeed, one might even envision such a bridge acting as a major skyway plaza above a four point intersection below!

Elliot Willensky
Our cities are an open book. But putting a pen to paper no more results in literature than planning buildings, street grids, or movement systems results in civic art.

Our city schemes reflect the values of our society. Looking around Minneapolis, and at most of our cities, what do we see? We read only laissez-faire capitalism. Sometimes, a coherence of values—business and architectural—may create a poem, for our time or for its time. In Lower Manhattan, for example, the skyscraper pinnacles were once a coherent statement of business, social and architectural values. Now they are contained in a great wall, lacking all eloquence.

The definition of architecture is the meaningful making of volume, spaces and connections for human use. When I look at the volumes and spaces in Minneapolis, and try to read the skyways, I find these concerns largely absent. I see the human use, but I don't see the meaning.

My most serious concern with the skyway system is that we are toying with a second city. The skyway system is a second city as a way to avoid the problems of the first city, the city that we and our predecessors made. We made it, we used it, we enjoyed it and we tore it down as a matter of economic, political and social policy. We have now raised the ante about twenty-two feet six inches, plus or minus, to another level of the cityscape plane. We have left many of the problems on the ground level



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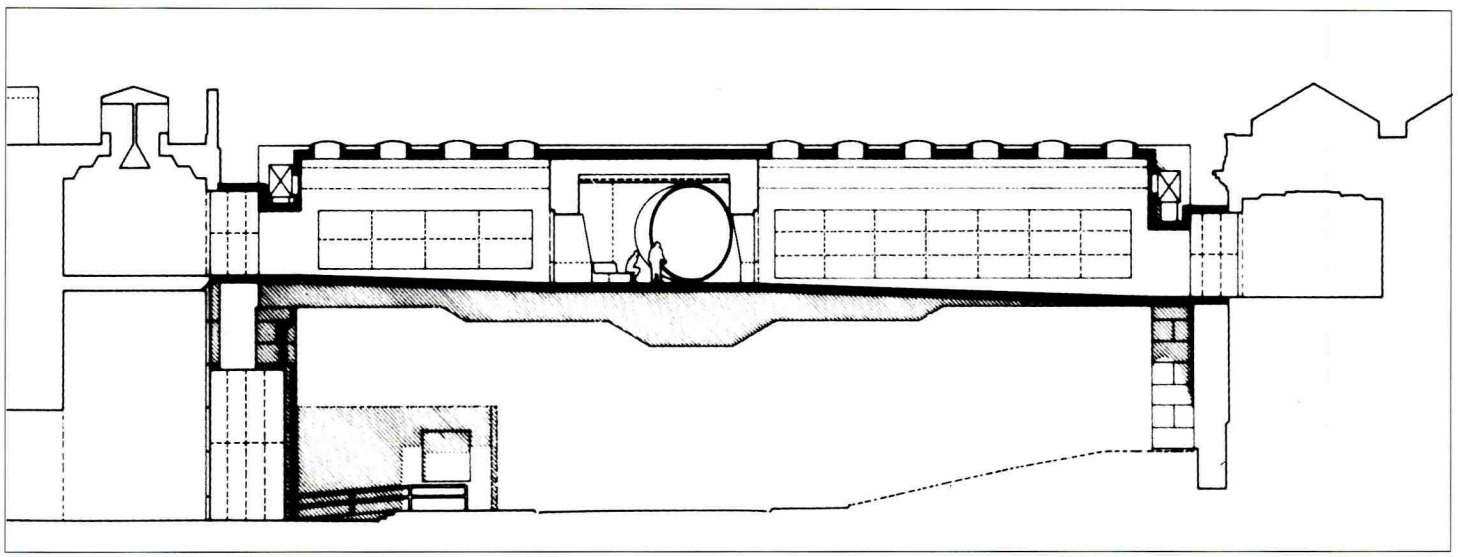

unresolved and have created new ones. It's fresh, fashionable and a bit kitschy. One day the skyway will no longer be kitschy, it will be something else.

The basic issues for my definition of architecture are gateway and orientation. How does one enter and leave, how does one ascend and descend, how does one determine where he is in this network, this set of tubes or spaghetti?

I look for the issues not only on the street level; they are not the problems of the car and the pedestrian. They are basic issues about how people organize their lives, how they are helped to organize their lives, and how they are able to find out where they are, both in space and in value.

It is difficult to find out where I am within a Muzak of visual contrasts and static on the second level, in these little valleys that go everywhere. This Muzak is even worse than the Muzak of the grid, from which at least I may detach myself. I can turn off that Muzak. I can turn off other things in the city that I do not like. I can rapidly walk past the parking lot, but I cannot walk rapidly past eighty-one banks, nine Orange Juliuses, and all the other things that have now been pushed together.

If every city decides, in the next ten years, to build the same meaningless systems, not only will we question where we are in Minneapolis; we will question whether or not we are even *in* Minneapolis or in Dallas, Detroit or Des Moines.

The Liberal City

Sam Bass Warner, Jr.

A liberal city is, above all, a place where strangers come together to share experiences, to trade and exchange. The essential urban value of such a city is not community; it is not enclosure, closeness and shelter. Left to themselves, such forces will destroy a city. The essential urban values are the qualities of openness. A city depends for its creativity and health upon peaceful coexistence, toleration and pluralism. Without these values to guide all others, a city cannot function as a gathering place, a market, a theater, a cathedral or a democracy.

There is much interest these days in streets and squares, a revival of old European criteria for urban design. I view such historicism with alarm, but I welcome its attention to communication among people. However, we should not narrow the scope of our analysis to pedestrian life. The foremost issue is not the street life of the downtown; it is the vitality of the metropolis, of which the downtown is but a small part.

Consider the major elements of the American metropolis: the suburbs, the shopping malls, the industrial parks, the highway commercial strips, the college campuses, the old neighborhoods, the vacant lots and the downtowns. What new activities might take place in each?

Would the suburban subdivision be a good place for an artist or for a new software business? Would the industrial park be a place for a parade or performance art? If you made shoes by hand, could you afford to rent a store downtown or in the malls? Could you sell gingerbread on the sidewalk downtown without a license? Can you leaflet against acid rain in the shopping malls?

This list of questions stresses the inescapable connections between land, buildings and space and the openness and creativity of a city. To make a city grow, free citizenship and an evenhanded commercial law are not enough. There must be liberal spaces as well as liberal city governors.

Right now if you want to start a business, demonstrate an invention, give a show, or start a political campaign, if you want to do something novel or begin in a small way, you must locate in the leftover places within the metropolis. These are the failing commercial streets, the old neighborhoods, the vacant lots and the downtown fringes which have not yet been cleared for parking lots or rebuilt to townhouses or office towers.

Because of its preference for large uniform commercial, industrial and residential spaces, the new American metropolis is in danger of choking on its own specialization. Many public spaces, streets and street edges are overwhelmed by automobile traffic; other areas such as shopping malls, office towers, and even highway strips and industrial parks are too organized for particular activities. Elsewhere, the vast forests and meadows of metropolitan housing are economically, legally and socially too restricted to promote the very social and economic activities that make for the renewal of a city.

The downtown skyway is one example within a pervasive pattern of over specialization and private control of space. Because of its crowds of commuters, its large stores and offices, and its public visibility, the downtown dramatizes the tensions between specialization and variety, between the forces of closure and the forces of peaceful coexistence.

The law that governs metropolitan land today is now a major force against urban toleration and pluralism. Two legal doctrines demonstrate how a legitimate desire for the specialization of space has overstepped its bounds. They affect the outer parts of the metropolis, but only because they grew out of cases which were brought before the courts. The controversies that gave birth to these doctrines could

just as well have concerned downtown apartment-house zoning or skyway civil liberties.

The first legal doctrine allows local communities to use zoning laws to segregate and exclude. From its beginning it has been used to keep out unpopular races and classes and undesirable development. The classic technique for exclusion has been to enact a set of building and zoning specifications that the undesirables will not be able to meet. For example, zoning laws may prohibit the construction of new multi-family structures or mobile homes as in the case of *Vickers v. Twp. Comm. of Gloucester Twp.*, 181 A.2d 129 (N.J., 1962). Another exclusionary zoning tactic is to impose certain minimum building standards that make building extremely expensive, *Aronson v. Town of Sharon,* 195 N.E. 2d 341 (Mass., 1946).

Zoning practices prevent the use and reuse of vacant land, empty buildings and declining neighborhoods in one inner-city lot after another. Much inner-city land and many buildings are held off the market by speculators who are hoping for a redevelopment bonanza. But equally frustrating are the many building regulations that make it impossible for low-rent users and low-income families to put vacant lots and old buildings back into service. Automobiles may not be repaired on some lots because of residential zoning; or shops cannot fill some first floors because the building is an apartment house.

The urban value of peaceful coexistence can be found in the Declaration of Independence, which states that ". . . all men are created equal. . . ." It finds restatement in the Fourteenth Amendment to the Constitution, which provides that no state shall ". . . deny to any person within its jurisdiction the equal protection of the laws. . . ." We might expect the federal courts to help maintain an open metropolis by calling forth these concepts, instead of allowing communities to enact segregationist zoning laws. After all segregationist zoning laws are not laws for the general welfare of the people; they are laws enacted to enforce a local and parochial concept of welfare.

Unfortunately, the United States Supreme Court has taken a narrow view of the egalitarian and pluralistic concepts expressed in the Declaration of Independence and the Fourteenth Amendment. The Supreme Court has established the rule that in all but the most extreme cases any zoning law will be permitted if it passes a very minimal test. The test requires only that the zoning law be rationally related to at least one permissible governmental objective. For example, the Court upheld a zoning law that prohibited more than two unmarried people from setting up a "housekeeping unit" in a house in the "single-family" zone, but which allowed an unlimited number of blood relatives to keep house together in the same zone. The Court found that the distinction in the law between cohabitants and blood and legal relatives was "rationally related" to the permissible state objective of providing "sanctuaries" for "family values, youth values, and for the blessings of quiet seclusion and clean air. . . ." *Village of Belle Terre v. Boraas,* 416 U.S. 1 (1974).

State courts have been more aggressive in ruling against segregationist zoning, using doctrines derived from their state constitutions to protect the rights of their residents. The New Jersey bench has been very forward in this regard, policing zoning in an effort to maintain equal access to land among its citizens, *Southern Burlington County NAACP v. Mount Laurel Twp.,* 336 A.2d 713 (N.J., 1975), and 456 A.2d 390 (N.J., 1983).

The courts in Minnesota have not protected Minnesotans from zoning abuses. In the case of *Almquist v. Town of Marshan*, 245 N.W. 2d 819 (Minn., 1976), the

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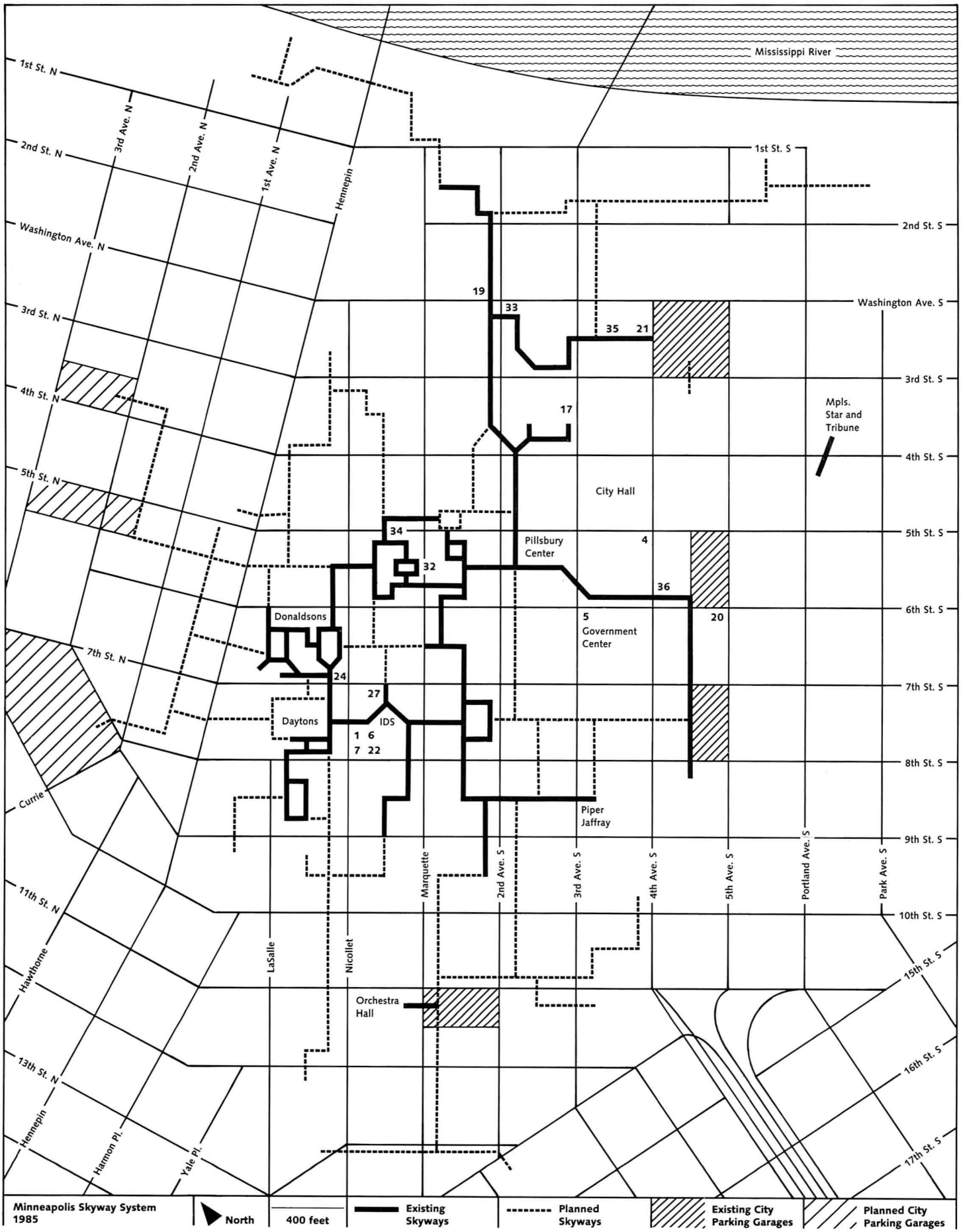
17 3rd Avenue looking north at the connection between Norwest Service Center and the Gateway Municipal Ramp, Minneapolis, 1985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Hawthorne
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Yale Pl.
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Marquette
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City Hall
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Piper Jaffray
Orchestra Hall
Minneapolis Skyway System 1985
North
400 feet
Existing Skyways
Planned Skyways
Existing City Parking Garages
Planned City Parking Garages

town of Marshan created a "public, open development, conservation, and reclamation" zone, which required ten-acre building lots on farmable land and five-acre lots on unfarmable land. The Minnesota Supreme Court upheld this lot size requirement, but in his dissent Justice Kelley perceived the threat to an open metropolis—he wrote that such zoning excluded those poor and middle-income citizens who might like to live in the Marshan countryside by making the lots prohibitively expensive.

A second legal doctrine allows the erosion of city dwellers' civil liberties when public space is owned privately. The governance of shopping malls and skyways directly confronts our need to maintain our civil liberties in the face of new building styles. Here the issue is not unwarranted community action, as in the zoning example, but the issue is private ownership and management of areas intentionally built and offered as public space.

The federal courts have concluded that when private parties own the land civil liberties are not protected by the concepts of the Fourteenth Amendment. At first the Supreme Court extended the protection of the Constitution to areas of private property if the owners of the land were assuming public roles or public functions, *Marsh v. Alabama,* 326 U.S. 501 (1946). This same public function reasoning was applied to owners of shopping malls in 1968 in the case of *Amalgamated Food Employees Union Local 590 v. Logan Valley Plaza, Inc.,* 391 U.S. 308. In *Logan Valley* the Court found First Amendment protection in a modern shopping mall in Altoona, Pennsylvania. The Court reasoned that the new mall was the functional equivalent of the old downtown business district, and that it should therefore be treated as a public space.

Such a commonsense outlook was discarded, however, a few years later when private-property-oriented conservative justices took over the United States Supreme Court. In 1975 the justices decided that because the North DeKalb Shopping Center in suburban Atlanta, Georgia, was owned by private individuals, the free speech of union picketers had no federal protection there, *Hudgens v. National Labor Relations Board,* 424 U.S. 507 (1975).

A few years after this startling reversal in the *Hudgens* decision, the Supreme Court announced that the freedom of speech on private property could be protected under doctrines derived from state constitutions, *PruneYard Shopping Center v. Robbins,* 447 U.S. 74 (1980). Since the *PruneYard* decision four states have joined California in interpreting their state constitutions to protect the freedom of speech on private property which is in some way dedicated to public use. These state courts have recognized the necessity to adjust old definitions in order to maintain the central value of a liberal city. The courts have identified shopping malls, corporate office parks, and campuses of private universities as new public places in the American metropolis and they have endeavored to maintain them as the open and essential communications nodes which they in fact are.

Legal precedents for segregationist zoning and for the restriction of civil liberties now demand legal and legislative reform, lest they be allowed to stand as the principles that will govern our central cities. If the law is left untouched, the rebuilding of downtowns of interconnected apartment, office and retail towers will quickly become huge metropolitan liabilities. Rather than serving as open markets and liberal assemblies, they will become a nest of closed, expensive and exclusive cells. As such, they will not function as metropolitan centers of creativity, but as protectionist enclaves of uniformity and conformity.

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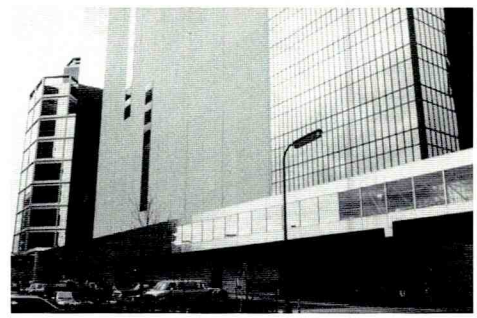

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18 Street map of Minneapolis's downtown district indicating the locations of second-story skyways, 1985 (numbers correspond to figure numbers, locating the Minneapolis skyways shown in this issue) **19-20** The most recently constructed skyways are not simply connectors, but are corridors that move through the city, next to and beneath buildings, in the manner, if not the style, of the Florentine *corridoio* shown on page 10. **21** 4th Avenue looking southwest to the skyway connecting Norwest Service Center and the Gateway Municipal Ramp, Minneapolis, 1985

21

Judith A. Martin

In the Twin Cities, skyways have become such a familiar feature that we rarely consider their origins or the intentions of those who initially promoted their use. They obviously connect buildings, but beyond that, why skyways?

The 1959 Central Minneapolis Plan suggested malls, skyways and arcades as ways to promote downtown activities. It also suggested widened sidewalks and the creation of a Nicollet Mall. This collage of improvements, the planners thought, would provide comfort and circulation and would entice office workers and suburbanites into the downtown shops.

Climate control was not mentioned. That motivation is a peculiarly contemporary rationalization primarily for the skyway system. The real focus of the early plan was on communication and improved circulation.

In the schemes of the 1960s, skyways were seen as the key to the future economic well-being of downtown. The business community and city officials were eager to connect office workers with parking ramps and to provide easy access for people driving into the downtown area. People could park their cars in a safe, secure place and move easily into offices and shops. The city began to plan for peripheral parking ramps, which presently are being built. To this day, the perception of the skyways as a transportation aid has persisted.

By 1985, the expectations for skyways were moving in more elaborate directions. Extended skyways would transport people into and out of downtown, from parking ramps as well as from housing on the edges of downtown.

What real function are the skyways to serve? Given that the system in Minneapolis is private, how far may we reasonably extend it? Designers are protesting the extension of the skyways out of the core area, advancing to the riverfront. Our original notion was that skyways connect buildings. We now have skyways that reach under buildings; they aren't connectors, but just move across the landscape.

The skyway extensions have altered how downtown looks from the street level. Nicollet Mall, the salvation of Minneapolis in the 1960s, was a pleasant, undulating pedestrian way, forbidden to cars. With widened sidewalks, it was an appealing place to meander when the temperature wasn't twenty below. You were able to look up and down Nicollet Mall. Today, two skyways cross the mall; a third one is being built, in connection with City Center. Placing these bridges overhead will radically change the Mall. The ability to gaze down a street, even an ordinary downtown street, is an important means of orienting ourselves. Increasingly, the skyway connections across the downtown streets are hindering us in this process. They also destroy street level views of buildings.

These obstructions are disturbing. I would not suggest that we remove all the skyways, yet I am increasingly uncomfortable with the look of the city as they proliferate.

The Sociology of Public Space
Galen Cranz

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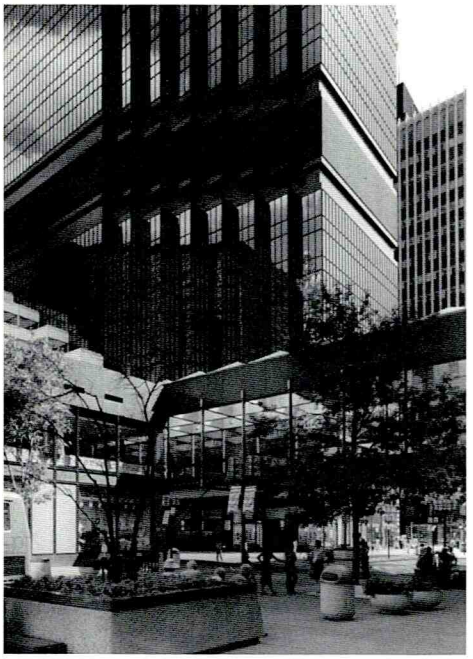


22 The IDS Center, designed by Philip Johnson and John Burgee (1974), seen from the Nicollet Mall with a skyway connection to Dayton's department store.

We may compare discussions about skyways to the ongoing debates about the social purposes of a range of public spaces, including parks, open city lots and enclosed lobbies. Four distinct attitudes may be identified in the history of public space; traces of each may still be found today.

The nineteenth century had two images of how to deal with a city's public spaces. The amusement park celebrated the city; the pleasure grounds provided an antidote to it. The large pleasure ground, a quiet, soft, unexotic landscape was designed to counteract a city's evils. The amusement park, in contrast, celebrated everything about a city.

Criticisms have emerged about the skyway system that are reminiscent of this historical debate. Do we need antidotes to our cities? Some say the skyway is too clean; it turns its back on the city. Others like the skyway because it protects them from a social mix and dirt and chaos.

A new idea emerged between 1900 and 1930, during the age of reform. The city could no longer be ignored, it was thought, but could be restructured along the principles of rational industrial production. Symmetrical axial organization was introduced, and there was no longer any effort to screen out the surrounding cityscape. The playground, for example, was simply blacktopped or surfaced with hard sand, and surrounding buildings were accepted as they were. Order was imperative; it was imposed on the city as well as on recreational or leisure life. Supervision became absolutely essential. Children were instructed in how to exercise and play, and social dancing became respectable if chaperoned.

After the age of reform, the planners no longer claimed to try to use public space to reform cities. They nevertheless had a vision. The city was something like a machine. The planner's job was simply to ensure that all the parts functioned smoothly and to provide the services with which he was charged.

The vision of the city as a machine may be linked to another criticism of the skyway. Some believe it will become a part of a huge inhuman megastructure.

Some critics' primary concern is that the skyways be well-designed objects, that they intersect properly with the connecting buildings. The city as an art object.

Few critics are concerned about skyways as a way to appreciate the city, as places from which to observe the flow of activity. Is the sheer motion of other people celebrated as an aesthetic experience? That celebration is what I think is called for as the next evolution in our thinking about cities. Skyways could be a significant step toward that goal.

David Cooperman

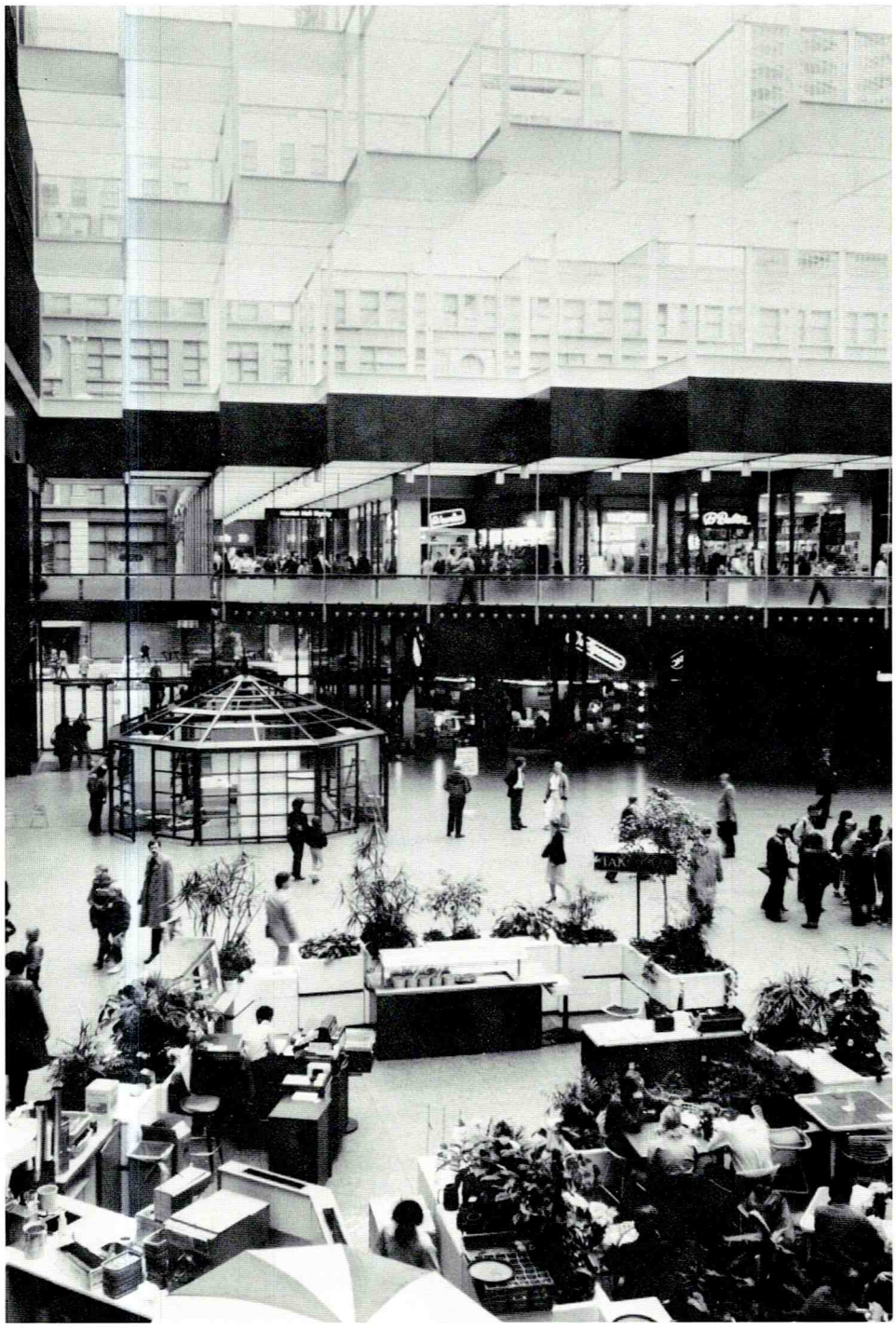
Originally, the skyway was imagined to be the solution to the congested pedestrian street. The current large-scale development of skyways in cities of widely varying size, congestion and climate suggests, instead, multiple intentions, overlapping functions and complex effects.

What may appear to be a simple enclosed bridge turns out to be an urban phenomenon that has a major effect on patterns of commercial development. The economics of skyways are partially a competitive capitalist response to suburban malls. Similarly, a system of skyways might have consequences unexpressed by such simple purposes as convenience. Among other things, certain social dynamics develop along with these structures.

Skyways are commonly designed as if all users were individuals walking directly from one place to another. In fact, users may be pairs, families, groups, friends, or coworkers, some with stable destinations, others with multiple schedules, some moving quickly, others ambling, some bent on eating, most talking, some looking for a place to sit and others gawking. The user intent on an interoffice errand between buildings can easily be diverted by merchandise in a skyway shop, which suddenly reminds him of a half-forgotten birthday gift.

Certainly, we should not exclude other social action from this image of a skyway habitat. Shoplifters, wanderers, drifters, gangs and conceivably even an old-fashioned pickpocket are found in the system.

When skyways become scenes for all these users moving at different rates of speed, the result is a most complex social map, a habitat with some features of street life and some characteristics all its own, produced by the effects of physical design and social action. Understanding the dynamics of such a habitat could be helpful in conceiving a more realistic model of skyway systems, one that would increase the accuracy of the expectations of skyway social life.



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23 The IDS Crystal Court is the hub of the second-story skyway system that connects the major central blocks of Minneapolis. **24** During inclement weather conditions skyways are heavily trafficked by users with a multitude of purposes.

Old London Bridge, for example, cannot and should not be a sentimentalized ideal for skyways. It was the only crossing over the Thames from Roman times until 1750 and was planned integrally with houses, shops, chapels and taverns. The social life of London Bridge, in short, was related to the singularity of the thoroughfare, to its central position in the structure of London's wards and parishes.

In both Minneapolis and St. Paul, skyways strongly affect the flow patterns of traffic and the social interaction of users. The variety of users and the general ambience are determined by the character of three basic elements: the adjoining offices, department stores and apartments; the corridors and skyway shops; and the central spaces, nodes or hubs.

Several features of the St. Paul system decidedly influence activity. In addition to the parklike ambience of Town Square, unlike Minneapolis, there are scattered resting places, benches, chairs and tables near fast-food shops that actually encourage socializing. Secondly, the shops near or on the hubs are designed with fully open sides, much as those in some suburban malls. Thirdly, high-culture styles of consumption appear immediately accessible to walkers at several points, resulting in a visual, social class mix in the St. Paul system much more than in the Minneapolis system.

Note, for example, that the main dining space at the Radisson Plaza Hotel of St. Paul—where the tables are laid with lavender linen and good silver—is only a step off the main skyway leading toward Town Square. There, too, a fine public art exhibition occupies a long corridor. Contrast this visual experience with an "art gallery" in the Minneapolis system, which is usually filled with kitsch paintings of tigers against velvet backgrounds.

The feeling of personal security is one social consequence to be considered in skyways. A poorly designed system causes congestion and density and encourages a certain feeling of personal insecurity, disorientation and wariness

toward strangers. In general, a sense of security in urban areas is related, among other things, to feelings of emotional satisfaction with one's immediate environment or to a knowledge of distinguishing characteristics of urban strangers. When simple aims are frustrated in a discordant social context, feelings of insecurity will arise. A missed luncheon meeting from unanticipated congestion, a wrong turn in the skyway's crossroads due to ambiguous signs, or a bottleneck at a closed door all defeat a sense of control over one's environment.

While regular police forces of both cities are assigned to downtown duties that include calls from the skyways, private security is very visible in both skyway systems. People with walkie-talkies, patches on shoulders, belts and epaulets provide a distinct sense of psychological comfort.

There is no doubt that skyways are here to stay and that they will become an integral part of our cities. Without them, suburban development most probably would be much stronger than it is, and the downtown would be much weaker. Still, with all its apparent value, the skyway concept retains some questions.

Is our goal simply to construct corridors between buildings, or is it desirable to consider the system's wider affects on downtown? How can skyway systems be designed so as to enhance social aspects? Is that even desirable?

It is customary for urban critics and historians to lament the decline of urban vitality since World War II, at least. Presumably, medieval London was an exceptionally vital city compared to which contemporary London is a sterile desert. I don't believe this. Implicit in such judgments is a sentimental idealization. We should not overlook the possibility of providing some new measures of liveliness, if they can be accomplished through one kind of skyway design rather than another.

[Professor Cooperman's conclusions about the Minneapolis and St. Paul skyways were based on systematic observation of pedestrians in both cities over a two-month period at randomly selected times of day.]

Dallas: A Case Study in Skyway Economics

David Dillon

The economics of skyways and tunnels is a swamp of misinformation or non-information. That's rather alarming, because the developers in Dallas and Houston—the cities I know best—seem to deal at the level of gut feeling. There is a general impression among developers that skyways and tunnels are good for business; but when trying to quantify this impression, it is difficult to find real numbers.

Skyway and tunnel systems are self-proving and self-fulfilling. Once we build a system, we create the pressure to expand it. We begin to find it difficult to step back, look at that system again, and ask, "Is this really what we want? Is this the best location for a bridge? Do we really need another tunnel?"

Dallas, for example, like Houston and Minneapolis, has various plans for the future development of its skyway and tunnel system. Usually these plans indicate where there will be bridge connections, or in Dallas, tunnel and bridge connections. Developers buy land, anticipating they may make a connection somewhere five or ten years from now. When the advisability of a part of the plan is questioned, the developers typically protest; they charge that we are changing the rules in the middle of the game. The arguments about urban design, urban form, aesthetics, imagery and vision of the city take a back seat to this economic argument.

The godlike nature of systems plans can create problems. The city of Dallas, for instance, has slowly rediscovered a few older buildings downtown that are jewels. One of these is the Majestic Theatre, an old 1920s movie theater that has been renovated and has become a cornerstone for the revitalization of downtown and a haven for the performing arts. Recently, a proposal surfaced to build a skybridge directly in front of the newly renovated Majestic Theatre, interrupting the view of its ornate facade. This is no mistake. The developer told me that it is on the plan. He was given permission to build the bridge three years ago. [Since the conference this bridge has, in fact, been constructed.]

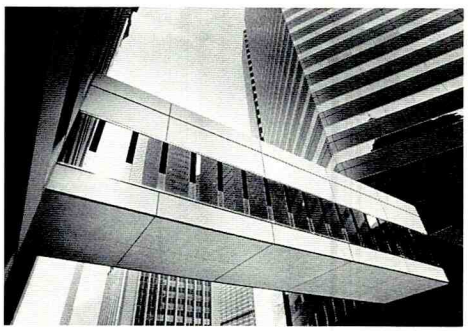
The more alarming example is a proposal—how serious I do not know—to run a skybridge into the vault of Edward Larrabee Barnes's Dallas Museum of Art. Why? Because the plan allows it. The city did not anticipate having the barrel vault there. [In this case, the proposal has been killed.] But, once again this two-year-old museum, a signature building in Dallas, may be under threat. Either it will be linked by a skybridge to an office complex, or its sculpture garden, one of the best public spaces in the city, will be enlarged to connect to a private development.

It's hard to read the Dallas enclosed pedestrian system in terms of economics, because all the pieces are not in place. But the argument persists that we should connect all the pieces and advance the system.

The Dallas skyway and tunnel system began in the early 1960s. Like many cities, Dallas found that through-traffic was congesting the downtown and crowding out local traffic. Two solutions were offered. One was to build a network of ringroads to take the through-traffic around the core of the city. The second was to build a grade-separated pedestrian system to take the load off the local streets.

The system began as part of the Main Place Project. This was to be a four-building complex, containing three office towers, a four-hundred room hotel and a large pavilion. It was to be the Rockefeller Center of the Southwest. After the fact, Dallas, like other cities, has been using weather to justify its skyways and underground tunnels. The real impetus was to connect four buildings in a mega-project.

Only one part of this project was ever built. The developer died and the project died with him. A couple of blocks connected by underground concourses remained. The project was close to being a disaster, initially. At this point, the issue of critical



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25 Skybridge at One Dallas Centre, 1984

mass arose: there is not enough connected, we don't have enough buildings and we don't have enough retail. These arguments were only partly true. The fact is the project also had a dreary sunken plaza that no one used then and no one uses now.

In thinking about the economics of skyway and tunnel systems, we have to examine three elements. One is the way in which the whole system is funded. The second is the return for developers who are on the system. And the third is the difference, if any, between retailing located on and off the system. Again, these are questions to which there are no hard answers. But there are plenty of speculative numbers.

The Dallas funding formula is a standard one-third, one-third, one-third. The city pays one-third of the cost of building over or under a city street, and the adjoining developers pay the other two-thirds.

This formula results, in 1984 dollars, in roughly $125,000 per bridge. This is the city's cost; so the actual cost of a bridge is three times that, $350,000 to 400,000. For a tunnel, the city pays from $200,000 to 400,000; in some cases, it pays much more. So, the cost of tunnels vis-à-vis bridges is dramatically different. Given a choice between building above grade or below grade, most developers would choose to build above grade. It is cheaper, and it avoids relocating utilities.

Since the mid-1960s, Dallas has spent approximately thirteen million dollars on its off-grade pedestrian system, and plans to spend more. The city does not pay the maintenance or security costs of the system.

What about the developers, whose buildings are on this system? In Dallas and in Houston—Houston has only tunnels, no skybridges, to speak of—developers say you can't build a building without being on the system. Period. In Houston, the premium for being on the system is estimated to be between $2.25 and $4 per square foot. Dallas developers place the premium at between fifty cents and a dollar per square foot. Some say $1.25. No one is willing to bet his life on these numbers; yet these are the premiums that one can see on the leases.

Developers also say that buildings that are on the system lease faster than those buildings that are not. Therefore, the carrying costs on interim-financing loans, for new buildings and construction, tend to be considerably less when you subtract two or three months from the time until the building is leased. If you have a $100 million loan at $2 million per month, you may save a good deal of money.

Houston today has approximately thirty-five million square feet of unoccupied office space. The construction situation is flat. Nevertheless, the buildings that are leasing are all on the system. Buildings that are not on the system are not leasing at all. The reason is obvious. If you have a buyer's market and can choose from any building in downtown Houston, would you choose one out on the fringe, connected to nothing, or would you choose one closer in that is also on the system?

The most successful new building in Dallas, however, is not on the system. It is the LTV Center, which was eighty percent leased in about six months. The building has two important advantages: it is next to the museum in the proposed arts district, and it is very well designed.

Leasing, then, is only one element among many in the skyway equation. We have to think about other kinds of amenities and other things that might happen, unrelated to the system.

What do the retailers and the merchants say who are scrambling to have access to these projects? To evaluate the tunnel system in downtown Houston, I surveyed a dozen establishments that had both a street-level and a tunnel location.

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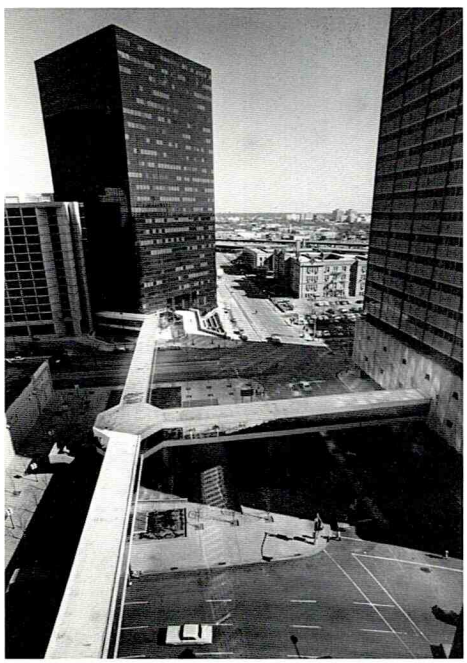

26 Skybridge linking the Plaza of the Americas with Southland Life, Dallas, 1984

Most people said that the differential, the premium, is about twenty percent; tunnel locations do twenty percent better, in dollars and in total volume. On the other hand, a good street location and a good tunnel location do about the same. But for sites away from those prime locations, secondary locations either on the street or in the tunnel system, the differential is about twenty percent.

In Dallas, the situation is less clear. I surveyed people who had a similar type of club on a skyway-connected building and another one underground, or another one in a building that was connected by an underground system. They said paying the premium was worth ten to fifteen percent more business to them. Although lower than that of Houston, a differential still exists.

There is another way to think about the economics of skyway systems. Economics are directly related to pedestrian flow, the number of bodies walking past a particular location at a given time. In Minneapolis, for example, about four thousand people

27 View from the IDS Center, looking north, reveals at least five skyways connecting commercial buildings in the "compact core" of Minneapolis, 1985.

John Burg

The major planning concept for downtown Minneapolis—a compact core—evolves from the city's climate and size. Size is limiting: Minneapolis will never be a Chicago or a New York. As a result we have concentrated the vitality that we have, focused activity, and created a strong center of mixed use in our core area.

The idea of a compact downtown core depends on coordinating the pedestrian, transit and vehicular transportation systems. Downtown employees park their cars in peripheral parking facilities as soon as they enter the core, using the skyways and street-level walkways to reach their destinations. Reducing automobile traffic liberates space inside downtown for short-term parking needs, such as those of shoppers and concert goers.

Skyways have worked well in Minneapolis, in part, because the Nicollet Mall was developed before the skyway system. This strong, traditional retail street matured prior to a competing alternative, ensuring a dual system. Pedestrian activity on an inside and outside system responds to the area's drastic seasonal changes.

Skyways play positive transportation and economic roles in Minneapolis and as a result have received strong political support. Over thirty bridges and three miles of second-story corridor have been constructed. Political issues have focused on details resulting from the system's diverse ownership and management.

Minneapolis has a privately built and managed skyway system. The owners of connecting blocks negotiate the design and financing of each new segment. The city participates in skyway financing only when a skyway directly connects to a public building, such as a municipal parking facility. From the city's point of view, this financial arrangement is very attractive, leaving the city free of capital and operating costs of building and maintaining the system.

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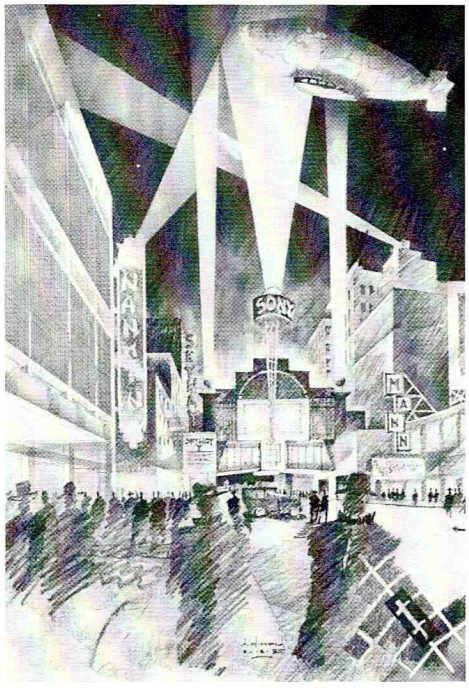

28 David Dimond
Skybridge as a Building, 1985
graphite on paper

Students in the School of Architecture, University of Minnesota, participated in the skyway conference with a two-week sketch project in which they produced a number of exceptionally inventive approaches to the issue of second-story bridges.

This particular example illustrates a skyway designed to identify a city district (in this case an entertainment district), containing a large viewing screen for video projections that would be visible from the street level, creating an outdoor "room."

move through the IDS Center during peak hours. There is clearly money to be made by retailers who are on that main route and on that second level in downtown Minneapolis. But three blocks away, in either direction, no more than eight hundred or a thousand will pass. So expanding a system, linking other parts of a city as a way of improving the system, may not make economic sense.

Does a second-level system kill the street? It depends on the city. In this respect, Minneapolis has been a misleading model for many cities. Few cities have an IDS Center that can become a kind of municipal living room, in which four thousand people or more per hour are moving. That volume can easily support two levels. Parallel with the early development of the skyway system came the development of Nicollet Mall, a distinctive street with strong commitment from its users. Most cities also long ago lost their anchor stores downtown. They all fled to the suburbs. Minneapolis was able to keep Donaldsons and Dayton's downtown.

What is the effect of the pedestrian system on street life in Dallas or in Houston? In Houston, no one is on the street, period. There is no street life in Houston at all; it is all underground. There are 175,000 people who work in downtown Houston in about thirty-eight to forty million square feet of office space. From eleven to one o'clock, particularly in bad weather, you will find most of those people in the tunnel system.

Dallas is a different matter. Dallas historically lost most of its retail in the 1950s and early 1960s before the skyway system was built. Therefore, the skyway and tunnel system cannot be accused of killing retail in Dallas. However, the presence of the system is making it more difficult to bring street-level retail back. The developers who are willing to take a chance on retail in Dallas want a place where they can tie into the existing pedestrian system. There is a vast new underground concourse system with restaurants and shops, all of which can be viewed from the street through a glass canopy; but you have to walk into an office building to descend into it.

The difficulty in Dallas and Houston has been to encourage those responsible for development to think in new terms, beyond the simple goal of connecting to what already exists. We need to look at different ways of locating "events" along the system. Ultimately, systems must connect places. Sometimes these will be retail centers, sometimes these will be public spaces like the IDS Center. We have been unsuccessful in developing these varied events because, in part, we think about the system only in the narrow sense. I suspect there is the same tendency in Minneapolis. We do not yet know how to think beyond that, to see skyways as part of a larger network.

Private operation of the system, however, sometimes conflicts with open public use. The coordination of hours of operation is a continuous challenge. Physically, the system connects, but the system becomes compromised on evenings and weekends with a variety of closing hours. For instance, consider people who own condominiums on the skyway system and go out for dinner on a winter evening. Ready to come home they might find the temperature outside below zero, and the door to their skyway locked.

These kinds of conflicts are continuously being addressed through public/private cooperative efforts. Political issues—extending hours and maintaining street activity—result from the skyway system's success.

Architectural Form in the Urban Setting

Bernard Jacob

The more violence we see, psychologists report, the more we become desensitized to it. There is a particular kind of violence to which we, in the Twin Cities, have become immune. It is an architectural violence: a violence perpetrated upon our buildings, our architecture, our streets and our vistas. In a generation's time, we have become accustomed to it; we are less and less offended by it.

This architectural violence has become legitimized because it is commercially successful. Skyways, however successful, are the most recent offenders to our city's monuments, and their proliferation has prompted us to take stock.

Let us first consider some of history's earliest architectural monuments to rulers, gods and conquerors—the obelisks, pyramids and temples. They all reach for the heavens. Sigfried Giedion, the great oracle of the modern movement, spoke of the supremacy of the vertical. It is, he states, "the most obvious symbol pointing from earth to heaven—from earthly existence to the abode of the gods. . ." The slender stone needle, "the supreme manifestation of the vertical," was transported and replicated. The obelisk became the perfect skyscraper, commemorating a victory, a president or an entrepreneur "reaching for the abode of the gods."

In a sense, all of our skyscrapers, from the earliest Chicago examples to the most recent ones, are memorials, great vertical commemorations of a specific enterprise. We have our own in the Twin Cities, and they are just as proud, earnest and determined as their forerunners.

These monuments provide definition and focus in the hearts of our cities, and we define ourselves through them.

In most American cities, a geometric net holds the buildings apart and in place. It is this street grid that separates the public from the private domain and that organizes pedestrian and vehicular circulation.

The skyway systems in Minneapolis and St. Paul were not prompted by the desire to separate vehicular from pedestrian traffic. They were, rather, a reaction to the area's bitter winters. Nevertheless, the skyways are themselves powerful grids, and they have significantly affected the street level, as well as the architecture of each city.

There are important differences between the Minneapolis and St. Paul skyway systems; one is in their funding. In St. Paul, nearly all the bridges are publicly funded, whereas in Minneapolis, most of the bridges are privately funded. Consequently, in St. Paul all the bridges look nearly alike as their prototype was developed by the city, and they are meant to be seen as a single concept. In Minneapolis each bridge has a unique design as they are designed by individuals under private auspices, though they function in the public realm.

A prototype bridge crosses nearly every street in downtown St. Paul. The bridge design, although simple and handsome, does not suggest a crossing, a leap from building to building. The bridges are rather like buildings inserted between existing buildings. Downtown St. Paul appears as one immense, labyrinthine building at the second story, a building that is occasionally disguised to match the buildings above and below it. This flat, large building creates a second building base, a platform on which numerous activities are interconnected.

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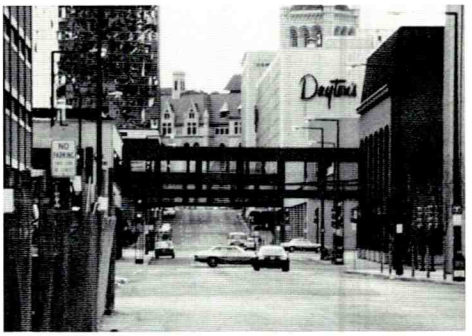

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29-31 Three views of the St. Paul skyway system with its standard bridge design shown in its relationship to old and new structures in the city's central and Lowertown districts, 1985

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Douglas Foster
St. Paul's early skyway system elements, including bridges, corridors, escalators, stairs and graphics, were financed by the public. In recent years, there has been a public/private sharing of the costs. Why does the St. Paul system have so much public involvement in contrast to its twin city, Minneapolis? Perhaps government was more involved historically in the rebuilding of St. Paul's downtown. It is a smaller city than Minneapolis, somewhat more conservative, and perhaps, in the past, with less vitality in its downtown. Today, there is a unified, energetic public/private thrust toward revitalization.

We have developed an ambitious framework for downtown development, of which the skyway system is one part. The goal is to link major redevelopment areas in downtown St. Paul at both the ground and skyway levels. At the ground level, we are in the process of planning and building a network of pedestrian spaces—the key element of which is a major mall that will connect the east and west ends of downtown. Overlaying the ground-level system is our skyway system consisting of bridges, building corridors, node points and vertical transportation facilities. At the center of the two interrelated systems, we are rebuilding the retail heart of downtown that will include department stores, the Minnesota World Trade Center, shops and offices—a new regional shopping center.

At the beginning of the skyway program, various bridge designs were analyzed. Should they be all glass or opaque? What type of structural system should be used and how much identity should each bridge have? We finally decided to develop a neutral bridge design that would appear as a "background" structure. A neutral expression would allow the architecture at either side of the street to manifest itself. All bridges would be of the same design, which,

What I have just described is a megastructure: a large structural grid that is capable of fulfilling many urban needs. In a megastructure, specific uses are subordinated to a larger, encompassing design. Good illustrations of this are the shopping centers, of which we have stellar examples ringing the metropolitan area. Other examples are John Portman's hotel complexes or Rockefeller Center. More recent prototypes are the multi-use complexes, in almost every American city, which contain parking, retail, office and residential sections.

A mutation of this approach was recently completed in the heart of downtown Minneapolis: City Center. A massive, horizontal structure gives rise to the Amfac Hotel, the Multifoods Tower and a parking ramp. The skyway bridges reach out to the adjacent blocks. In a sense, the base crosses the streets. This base, or platform, supports a diversity of functions.

The commitment to the base or megastructure concept, however, was halfhearted in this instance. In the architectural monument, there is a need for specific identity. To achieve this both the hotel and the Multifoods Tower wanted to be expressed all the way to the street. In City Center, the specific buildings are simply parts of a large homogenized complex. These particular identities could have been expressed in the base itself, without involving the entire building mass. We are not afraid of doing the opposite: of penetrating (and damaging) our building bases throughout the city, satisfied that the building above—on the skyline—remain untouched. We recognize that our monuments should be distinguishable on the skyline and should project identity and diversity. But we are indifferent to the way in which these same skyline monuments are compromised at the street level, for the pedestrian. The street level of the building, as in the megastructure and the shopping center, has no importance. The city's monuments are relevant only on the skyline.

Thus our ultimate architectural challenge may well be the reconciliation of this double standard. Jean-Paul Sartre wrote, after a visit to America, ". . . Detroit and Minneapolis, Knoxville and Memphis were born temporary and have stayed that way. They will never, of course, take to the road again on the back of a truck. But they remain at the melting point: They have never reached an internal temperature of solidification. . . ." It is time to solidify our cities.

The Twin Cities are young, and for that reason alone, they are impressionable and malleable. They need all our love and care if they are to prove the skeptical Frenchman wrong.

36

32-36 In contrast to the singular design of St. Paul's bridges, the forms of the second-story system in Minneapolis are as diverse as those of the buildings it connects.

with newly designed traffic signals, streetlights and trees, would provide a unified street environment. Ideally, we would like to have had the sense of a public skyway not only on the bridges but within the buildings themselves. However, we could not impose this unified skyway expression through private buildings. Alternatively we placed public graphics throughout and used the same terrazzo on the bridges and in building "node" areas. Passing through the skyway system, one is aware of a public sequence.

For a number of years we have followed a policy of building our standard skyway bridge with minor modifications. However, recently, a developer has challenged the standard design insisting that it be changed to reflect his particular new development in downtown. This has become a long and involved debate over the issue of uniformity versus individuality in skyway bridge design. The issue has not been resolved, but there will probably be some sort of compromise between the city's standard design and the developer's desire for uniqueness. The degree to which this affects the city's skyway design standards will be seen in the years ahead.

Pedestrian Systems

The conference on skyways, tunnels and streets was held at Walker Art Center and the University of Minnesota in April 1985.

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