AN ARCHITECTURAL REDEVELOPMENT OF UNION STATION, TORONTO

by
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Dedication

To my parents, for their constant help and support throughout my university education.

Contents

List of Illustrations

Except as noted, all drawings and photographs are by the author.

Abstract

How can the existing Union Station, a gateway and transit centre for the city of Toronto, be altered to recognize the routes of traveler and pedestrian and the potential for new waterfront development to the south of the station?

The site for this project is the existing Union Station in Toronto, Ontario. It is an old building that has served as a landmark for Toronto for the past century. Union Station currently houses VIA Rail, GO Transit, Union subway station, shops and offices. Because of changing spatial and programmatic requirements over the last eighty years, the different programs at Union Station do not connect well together. The station suffers from poor circulation, poor quality of space, and poor transition between spaces. Also, the train tracks that service Union Station have created a barrier to the Toronto waterfront. In recent years the city has expressed an interest in renovating the station as part of a larger waterfront redevelopment scheme which is associated with Toronto's 2008 Olympic bid.

This thesis proposes to renovate and add to Union Station in a way that integrates it into the urban fabric so that it serves as a bridge to the waterfront rather than a barrier. It also attempts to clarify traveler and pedestrian routes through the station and places of connection between different routes.

Acknowledgements

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Introduction

How can the existing Union Station, a gateway and transit centre for the city of Toronto, be altered to recognize the routes of traveler and pedestrian and the potential for new waterfront development to the south of the station?

History and Place of Train Stations in the Urban Fabric

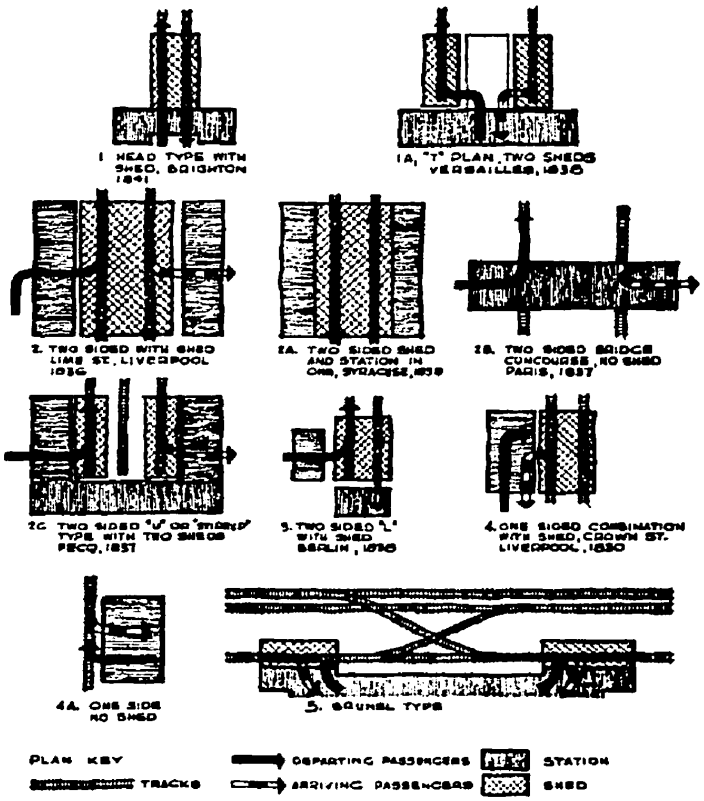


Fig. 1. Early types of station plan, by Cesar Daly

Since train stations were first introduced as a building type in the 1830's, architects and engineers have been trying to find ways of dealing with station houses, train sheds, train tracks and the disruption they introduce into the city. Train stations are necessary for the life of the city but also cause huge ruptures in the urban fabric. Today, train stations, especially existing ones with tracks already in the downtown core, are invaluable to large cities as public transit cores, and as centres for transcontinental transportation that bring passengers into the city core.

> Cesar Daly, editor of the Revue Generale de l'Architecture, made the first attempt in 1846 to reduce to order the proliferating chaos of station types. He claimed there were only four, if stations were classified according to the arrangements for entering and leaving them: (1) head type, arrival and departure in a single building across the end of the tracks; (2) two-sided or twin type, with arrival and departure handled on opposite sides of the tracks; (3) "L" type, with arrival at the end of the tracks and departure at one side or

vice versa; (4) one-sided combination type, with arrival and departure on one side of the tracks. (Meeks 1978, 30)

The one-sided combination type of station, also known as a "through" station, was the

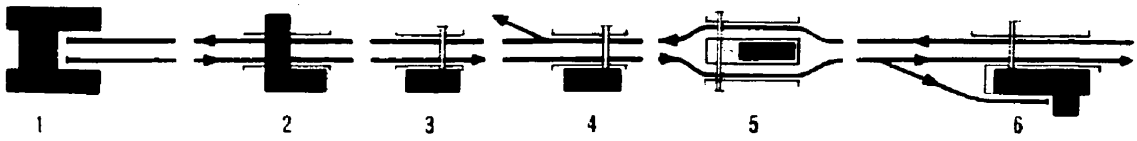
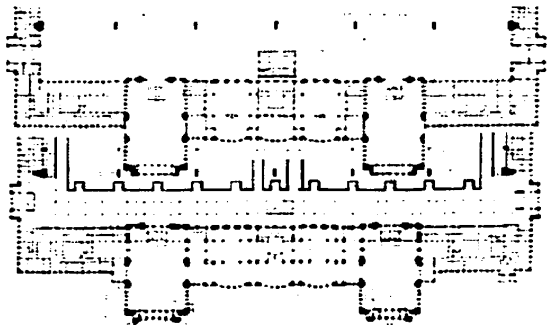


Fig. 2. Types of train stations



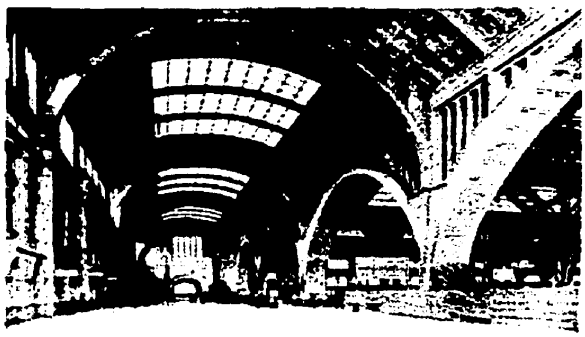


Fig. 3, 4, 5. Hauptbahnhof, Leipzig (1907-15): an example of circulation within a head station

first station type and was used everywhere. The advantage of this type of station is the more efficient circulation of trains. The disadvantage is getting travelers to the right track for their train. They have to be taken either over or under the tracks and may have to travel far both horizontally and vertically. The "head" type of station (also known as a "stub-end" station) became the most popular type in the late nineteenth century due to the relative ease of circulation to the tracks. In this type the tracks are perpendicular to the back of the station and the traveler does not have to cross over any tracks to get to the proper train. In *Travelers' Architecture*, Harry Holland introduces two other station types of interest. The first is a "route station spanning tracks" and the second is a "route station on island platform" (Holland 1971, 85). In the

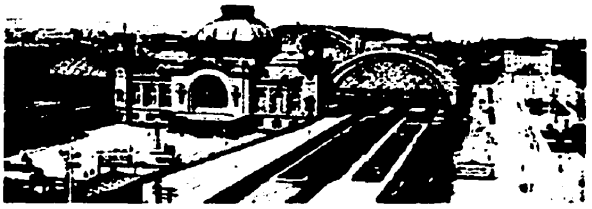


Fig. 6. Hauptbahnhof, Dresden (1892-98): an example of an island station

route station spanning tracks, the station house actually spans over the tracks and may have access from either one or both sides. In the route station on island platform, the station house is on an isolated platform with tracks to either side. To get to the station house, the traveler must either bridge over or go under the tracks in some manner.

Louis Sullivan, in a criticism of Illinois Central Station in Chicago by Bradford Gilbert, in which the waiting room is placed on the second floor over the tracks, writes,

> My son, here is the place - perhaps a unique spot on earth - holy in iniquity, where, to go in you go out, and to go out you go in; where to go up you go down, and to go down you go up. All in all it seems to me the choicest fruit yet culled from that broad branch of the tree of knowledge, known as the public-be-damned style. (quoted in Meeks 1978, 108)

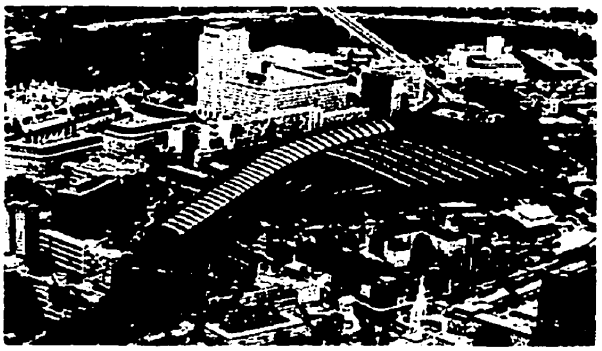


Fig. 7. Waterloo Station, London (1994): showing the disruption train tracks can cause in the urban fabric.

The problem of crossing the railway tracks has plagued railway station architects. How does one take passengers and pedestrians across the tracks? Stub-end stations are easily accessible for passengers but still cause an urban circulation problem. In through track stations, where the tracks are at ground level, passengers must be taken either over or under the tracks and then back up or down in order to re-emerge at the proper track. There is also an urban circulation problem in getting people and cars over or under tracks. Train tracks create ruptures in the city fabric.

Some stations planned with foresight solve the potential barrier of train tracks to the life

Fig. 8. Tracks at Grand Central Station, New York (1912).

Fig. 9. Grand Central Terminal, New York (1981).

of the city by placing the tracks below or above ground. This type of station involves only one vertical change for travelers and solves the urban circulation problem. A good example is Grand Central Station in New York. The tracks were placed underground due to a pollution and noise problem within the city back in a time when steam engines were still being used. At first the tracks were left exposed as pits, with a network of roads running above them. Then, as New York densified with more and more intensity, air rights over the tracks began to be sold off and quickly the whole track system was covered over with skyscrapers and the urban rupture caused by the tracks was repaired (Nevins 1982, 105).

Brian Edwards, in *The Modern Station*, cites three types of suburban stations, although these could also be applied to urban stations. He writes:

> Three types of suburban station frequently occur: first, the bridge station, where the private function of the railway station and the public territory of a road bridge are combined; second, the square station, where a public space combines as peripheral buildings railway activities with civic ones; and third, the island station, where railway functions exist as an isolated structure separate from the neighborhood it serves. The main advantage of the first is that of maintaining urban continuity, of the second that of creating a civic realm, of the third that of making a landmark. (Edwards 1997, 37)

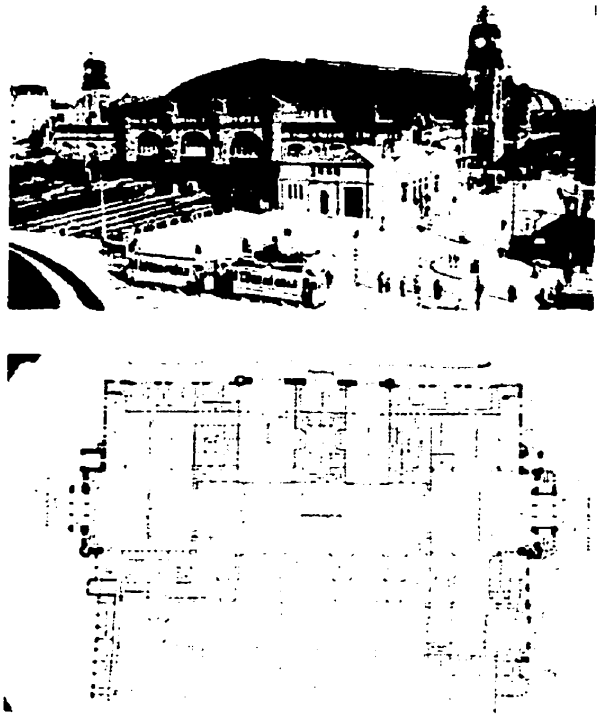


Fig. 10, 11. Hauptbahnhof, Hamburg (1903-06): bridging over the tracks in an interesting way

All stations are either bridges, civic gathering places or isolated landmarks. Of course, these qualities are not mutually exclusive but rather are present in all stations to different degrees. Bridge stations knit together the rupture caused by the train tracks. The station house itself can repair the rupture on the street. The act of bridging the train tracks as an urban strategy is accomplished either through actual bridges or through the station house or a part of the station house straddling or ending against the tracks. Victorians saw the station house as a screen for the train shed and what goes on at the tracks. They thought it was necessary to protect the genteel public from the sometimes noisy and smelly tracks and train shed. The station house was usually designed by an architect and the train shed by an engineer and they were usually built at different times.

Fig. 12. Slependen Station, Oslo (1993), by Arne Henrikson

The second type of station Edwards refers to is the square station. The square station also bridges but in a programmatic way. In this type of station functions generally knit together with other city functions in an attempt to stitch the station more effectively into the urban environment. This is done most often with retail or commercial functions that, instead of being introverted and looking into the station house, are extroverted and become a part of the urban street (Edwards 1997, 39). This could also be accomplished by an alternative program that is

integrated into the station proper. This type of urban strategy is an attempt to create a station that is not just for travelers (which would create an isolated area of the city and could kill street life) but is also for the general public to use and enjoy as an important civic part of the city.

The third type of station is the island station. This type is a landmark building which functions only as a station and is very concerned with its own form and the type of face it puts forth to the city. It attempts to be a city landmark and its urban strategy is that of a landmark building.

Fig. 13. Aerial photo of Union Station

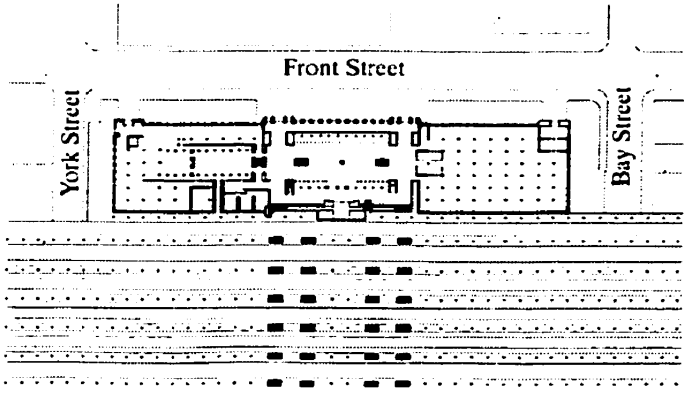


Fig. 14. Union Station: existing ground floor plan

Union Station and its Place in the Urban Environment of Toronto

Of Edward's three types of train stations, Union Station could be classified as the third, an island station or landmark building. Union Station was built at the beginning of the 20th century. The design was finalized in 1913 and the building was officially opened for use in 1927. It is one of the only large-scale through stations on the continent.

The site is bound by Bay Street to the east, York Street to the west and Front Street to the north. This whole block, save two buildings, was burnt to the ground in the Great

Fig. 15. View of east wing of Union Station from Front Street

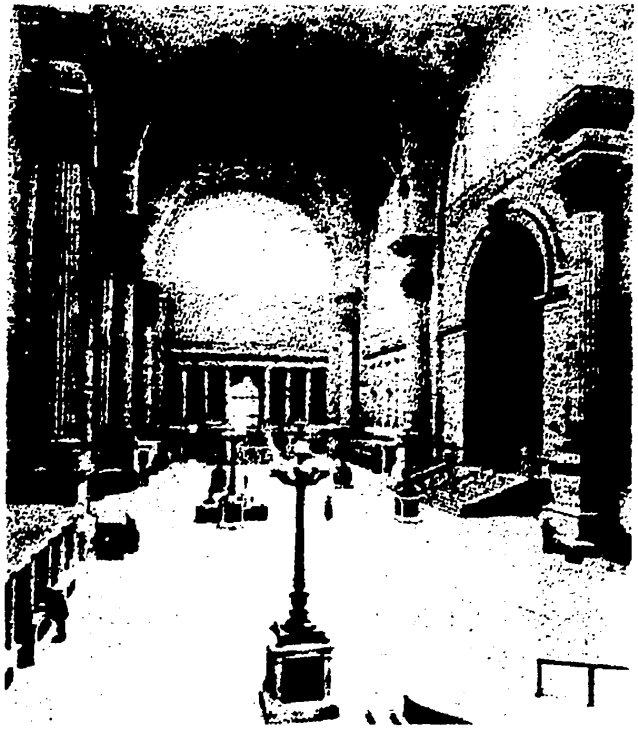


Fig. 16. Ticket Hall, Pennsylvania Station, New York (1906-10).

Fire of 1904. The city, in need of a new railway station, expropriated the lot for the new station. In this station Canada's two major railway companies, the Canadian Pacific Railway Company (CP) and the Grand Trunk Railway (later to become the Canadian National Railway Company or CN) would share a common station house and facilities (thus "Union Station").

The station house was to be built as a monumental building, a symbol of Toronto's growing prominence. Richardson describes it as a symbol of Toronto's "blessed sense of civic excess" (1972, 70). Richardson also writes that such an "ambitious undertaking was typical of the time and supported by public sentiment" (70). It was built in the last great age of railway stations, before they lost importance next to the growing popularity of airplanes and cars. Union Station was of the same generation and style as Penn Station and Grand Central Station in New York and Union Station in Washington.

The architects Ross and MacDonald of Montreal and Hugh G. Jones, the CPR architect, in association with John M. Lyle of Toronto, created a huge new building (750 feet long) strongly influenced by Roman building form, particularly the Roman baths. In order to accommodate enough room for the tracks part of Lake Ontario had to be filled in between

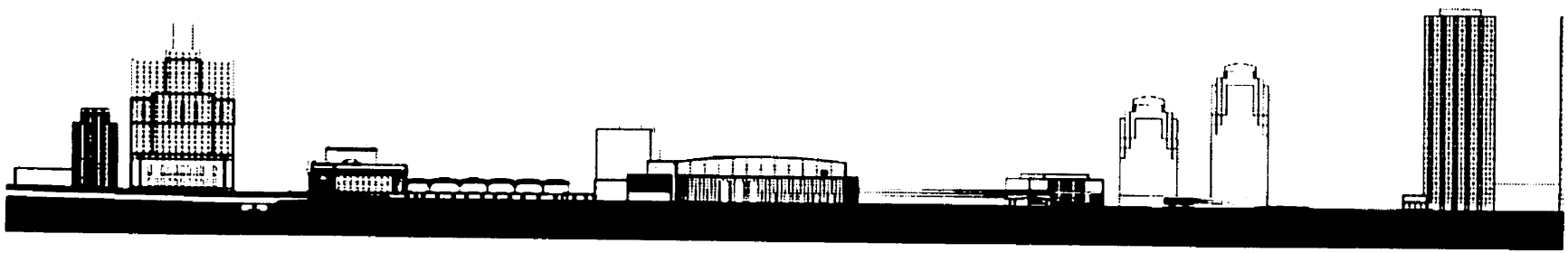


Fig. 17. York Street - existing section

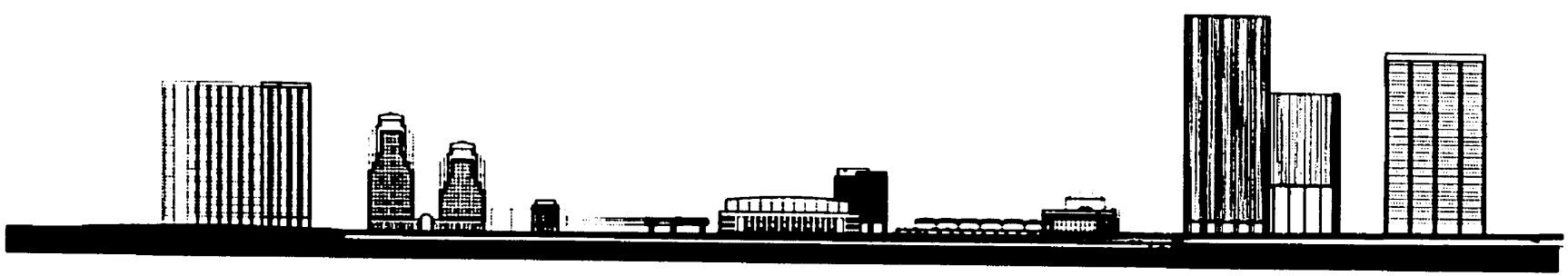


Fig. 18. Bay Street - existing section

Church and Cherry Streets. Due to this infill, the city's natural slope down to the water-front ends at Front Street. To this day, from the end of the train sheds down to the water-front is all a relatively level surface.

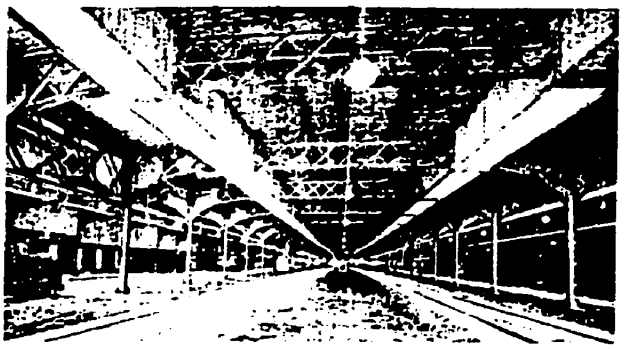


Fig. 19. Interior of Union Station train shed (1929-30).

It was decided to build a viaduct that would accommodate a train concourse 1200 feet in length, 250 feet wide and 17 feet high with 13 tracks (McMann 33). Disappointingly, the builders of Union Station decided against building a great train shed. This was a common decision at this time. Single-span train sheds had proven to be too expensive and too difficult to maintain. In 1904 Lincoln Bush patented the Bush train shed:

> Each shed unit covers two lines of track and half of a platform on each side, in one low reinforced concrete span. The vault is only 16 feet above the rails, but the perishable steel is protected by concrete and copper, and the fumes escape through slots a few inches above the top of the smoke stacks on each track, whence it is discharged harmlessly above the roof ... Such a shed was cheaper to build and more economical to maintain, and gave nearly as much protection as the colossal ones. (Meeks 1978, 122)

Fig. 20. Approach to Union Station train sheds

Ten of the tracks at Union Station were covered by this new shed. When inside the train shed at Union Station it is almost impossible to develop an awareness of the entirety of the space that one is in. This is due to both darkness and the simple fact that the train shed is so low that the trains themselves obstruct any view across the whole panorama.

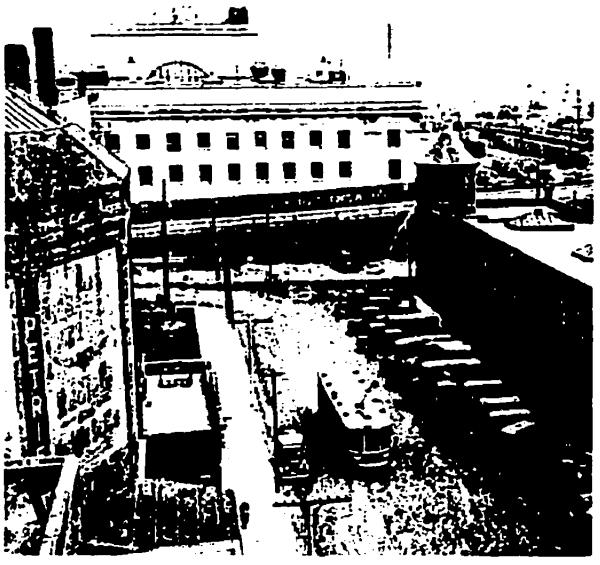


Fig. 21. View of the temporary York Street bridge (1925-29).

The viaduct at Union Station has caused many problems. Together with the Gardiner Expressway, it has succeeded in cutting off pedestrian traffic to the waterfront. When the viaduct was built subways (underneath the viaduct) were also built to connect Front Street to the waterfront area. Subways were built at Jarvis, Sherbourne, Parliament, Cherry, Yonge, Bay and York Streets. The only road which actually bridged over the viaduct instead of tunneling underneath was Spadina Avenue. An interesting side note is that a temporary bridge was built to cross over the tracks at York Street before the viaduct was built. The bridge was a wooden structure that was built in 1925 and closed in 1929.

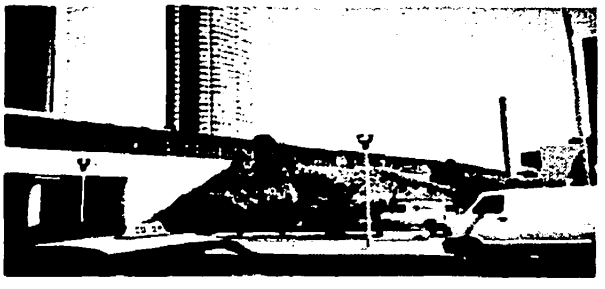


Fig. 22. South entry to York Street underpass

The current York Street subway is the longest underground passageway at 700 feet. Both Bay and York Streets slope down from Front Street to the beginning of the viaduct. Pedestrians are taken down one storey, along with 4 lanes of traffic. They then travel under the full length of the viaduct in a dimly lit subterranean space with nothing to look at except cars. When they emerge at the other side they are at ground level again (there is a level change from the front of Union Station to the back) and are ejected into a world of parking lots and vast super-highways. It is an intimidating and unfriendly journey for the pedestrian and has succeeded in limiting waterfront usage and development to a trickle of what it could be.

Because Union Station is a through station, passengers must cross the train tracks to get to the right track for their particular train. Union Station deals with this problem by

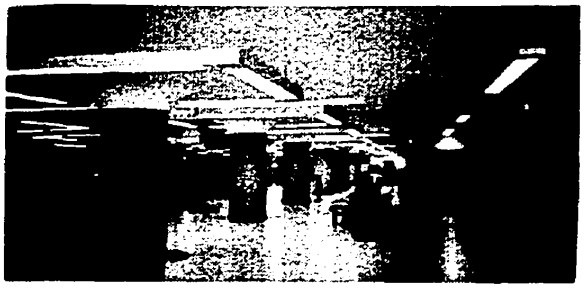


Fig. 23. VIA Departures Hall at Union Station

taking passengers underneath the tracks and then back up again at the proper track. VIA Rail has a departures waiting hall that one descends to from the ticket hall. Passengers form long queues in this waiting hall and, when their train arrives, climb the staircase corresponding to the track for their train. The departures hall is not an ideal waiting space. There is no daylight in this room and the traveler has very little awareness of the trains and train shed into which he or she is about to arise. The ceiling in this space is also surprisingly low; most likely the space has been compressed in order to minimize the amount of vertical circulation for the passenger.

The Modern Station and The Ancient Bath

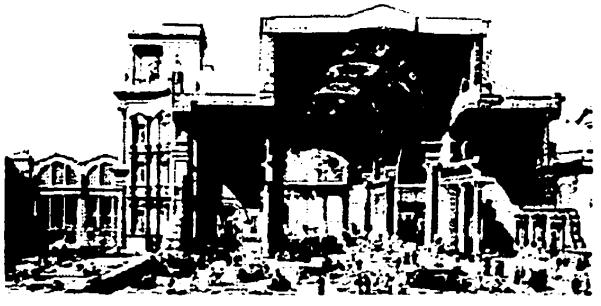


Fig. 24. Thermae of Diocletian, restored perspective.

The modern transit terminal is a place where many things come together. It is a conglomeration of many types of program, travel, speeds of travel and people. In much the same way, the modern transit terminal could be compared to the ancient Roman bathhouses.

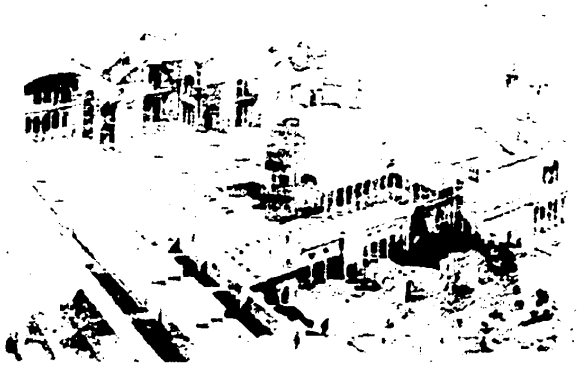


Fig. 25. Thermae of Caracalla, restored perspective

The Roman bath houses were places where people from all walks of society came together in a social setting. *In Baths and Bathing in Classical Antiquity*, Yegul writes that the bath houses "occupied large areas, sometimes several city blocks ... Their architecture appears not to have been hampered by budget considerations" (1992, 43), and that the baths had an important associa-

tion "with shops, shopping centers, and public colonnades ... Many of the imperial bath complexes of Rome, as well as those in the provinces, had rows of shops on one or more street frontages ... The great public baths, with their generously laid-out colonnades and arcades and their active clientele, created ideal conditions for setting up permanent shops or simple stalls, and pointed the way for the great markets and bazaars of medieval cities" (Yegul 1992, 46). There was an interesting relationship between public, civic, and semi-public space, open to all.

> Three sources of income for baths were not subsidized by the state or the municipality: entrance fees; profit from sales in the baths; and rental of shops, apartments, and other property owned by and often annexed to the baths. The entrance fees were not a significant source of revenue. Even the humblest patrons could dole out a paltry one quarter of an *as*... as the price of a bath. (Yegel 1992, 45)

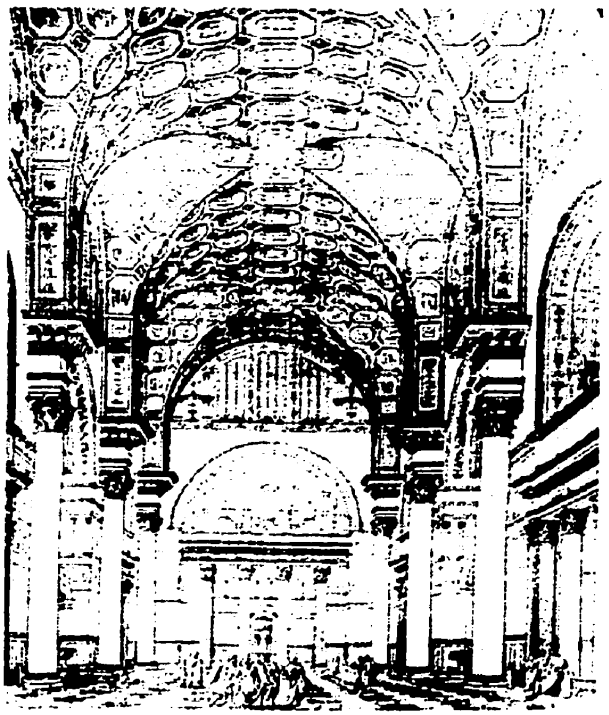


Fig. 26. Thermae of Caracalla, restored perspective of frigidarium.

Transit centres in North America charge fees but are not self-sufficient and depend on government aid in the same way as the Roman baths. Public transit charges fees that are affordable by everyone - all walks of life. Although transit terminals have private and semi-private elements such as retail, office space, and paid areas for commuters, they still cover immense areas and become significant civic spaces and landmarks. They are places for gathering, socializing, multiplicity of function, and many hierarchical levels.

Most train stations built in the 19th century were modeled after Roman baths. There were often huge, arched halls for buying tickets. The Great Hall and subsequent spaces

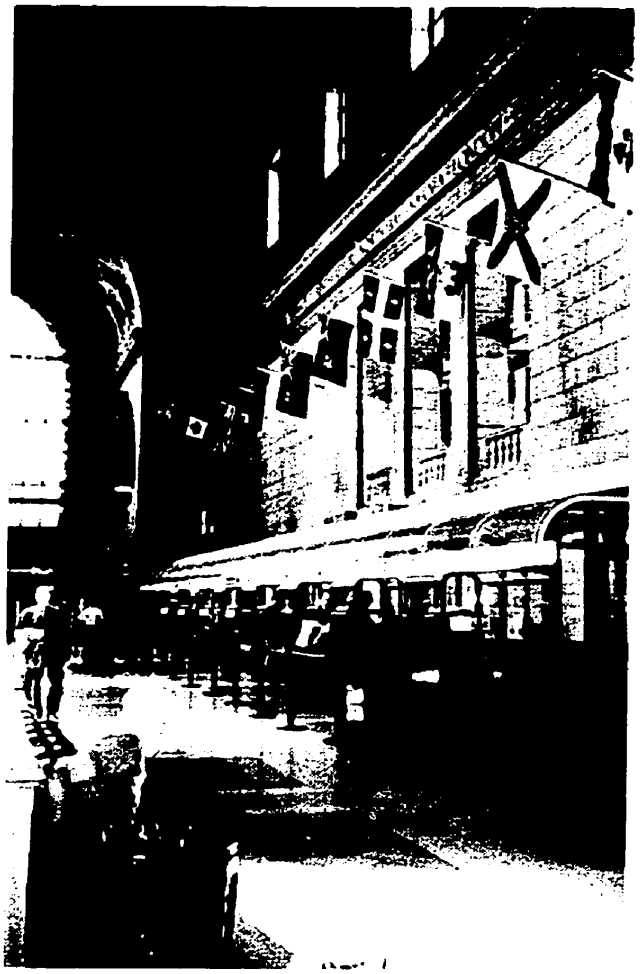


Fig. 27. Great Hall at Union Station

to and from the Great Hall often have a hierarchical arrangement very similar to Roman baths. The Great Hall in Union Station is "250 feet long, 84 feet wide, with four-story arched windows at either end. It has a distinctively designed arched ceiling of vitrified Gustavino tile, 88 feet high" ("Union Station," 2000).

The most interesting lesson from Roman bath houses that could still be applied to modern terminals is that the Romans built huge, excessive civic spaces which were landmarks and monuments but also functioned as city squares, retail space, public and semi-public space, and attracted all types of people. The Roman baths are interesting in the way they break down in scale and function into smaller parts, and how the smaller parts and functions add up to a coherent, unified whole. In this way the notions of the bridge station, the square station and the island station could be combined.

Spatial Sequences

In "Structure and Sequence of Spaces," Luigi Moretti writes,

> The great spaces of architecture arise with Rome and are the magnificence of it. United with superhuman vaults, and with walls of incredible strength, instinctively breathing the indestructible military works that ruled them, they express the conscious power of a community ... The sequences of volumes in the basilica, and especially in the Thermae of Titus, Agrippa, Diocletian and Caracalla, must have reached unsurpassed effects by the variety of their components and the routes possible through them. (1974, 126)

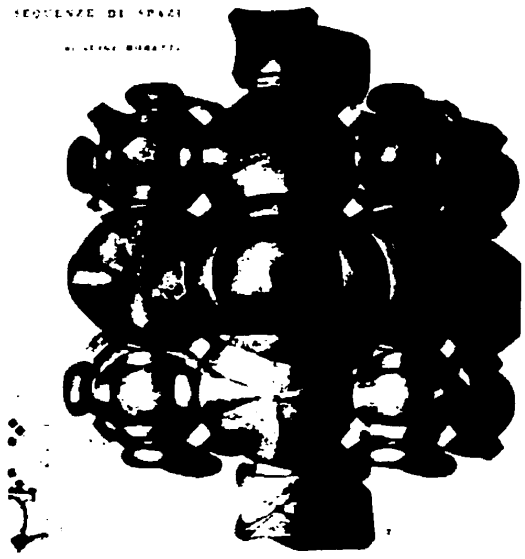


Fig. 28. Spatial sequence model by Luigi Moretti

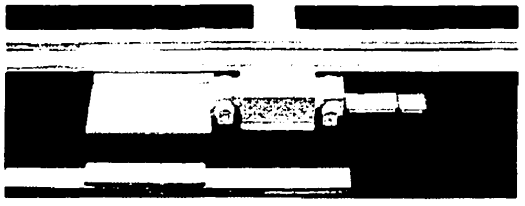


Fig. 29. Union Station:
spatial sequence model of existing station

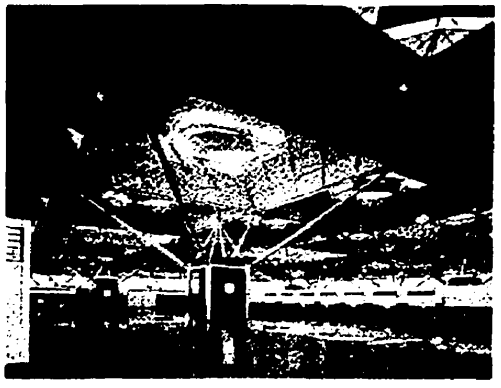


Fig. 30. Stansted Airport, London (1990):
modern terminals are usually vast, open spaces

Moretti devised a way of criticizing buildings through analyzing their spatial sequences. He believed that spatial sequences were very important to previous ages but have been lost in the modern age. "It seems that we moderns have forgotten the laws of the sequences of internal volumes. We shall have to conquer space as a lively, sensible element, and not by faithful extrapolation of graphic symbols" (1974, 138). Moretti analyzes spatial sequences by modeling the negative spaces or voids of a building: "the internal volumes have a concrete presence on their own account, independently of the figure and corposity of the material embracing them, as though they were formed of a rarified substance lacking in energy but most sensitive to its reception" (123-124). He believes that truly great buildings have a build-up of anticipation from space to space. Each space becomes more and more awe-inspiring than the last until the final space erupts into the most spectacular space of all.

This attention to spatial sequence was brought into many Victorian train stations but seems to have been lost in the modern age, in which architects favor vast, glazed spaces which one sees in entirety immediately on entering the building. In these spaces there is no build-up of anticipation by subsidiary spaces. In Victorian stations, the traveler was taken through a series of waiting rooms (usually one for men and one for women), the great ticket hall, and a cross transept, and then emerged into the most spectacular space of all - the great train shed.

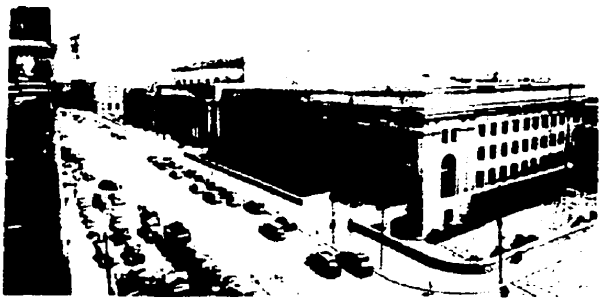


Fig. 31. Union Station

Union Station - The Building

Union Station is roughly 167 feet by 752 feet. It has a formal facade on Front Street which is set back 13 meters from the street. There is a "moat" around the building that is actually one level below ground, with bridges across to all entries. The moat is a sunken road originally used for cars and taxis to drive through and pick up passengers but now is only for loading, pedestrian circulation between the subway and GO Transit, and a car rental space. Around Union Station are mostly skyscrapers, big, boxy buildings, and large streets with a lot of traffic. It is mostly a business district. Significant buildings around the station are Royal Bank Plaza, Royal York Hotel, BCE Place, Citibank Tower, Air Canada Centre, TD Bank, Hummingbird Centre for the Arts, CN Tower and the SkyDome. Union Station is situated at the end of the dense area of downtown Toronto. To the south, beyond the train tracks, there is an undeveloped space with mostly parking lots and large overpasses, including the Gardiner Expressway.

Fig. 32. Great Hall, Union Station

The station was designed in the Beaux-Arts tradition and has a very axial design. The Great Hall in the center of the building, where commuters buy their train tickets, is the central point of the design.

Fig. 33. GO Transit concourse

Fig. 34. GO Transit concourse

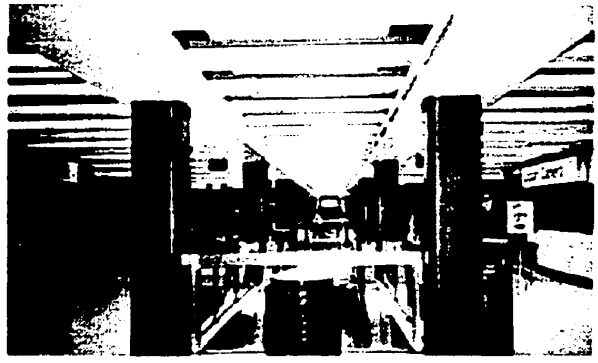


Fig. 35. Union subway station concourse

Fig. 36. Union subway station platform

The east wing of the building used to be a post office and is now inhabited by the Bank of Nova Scotia. GO Transit is underneath the east wing.

GO Transit, which began in 1967, is an inter-city train service for the people of Toronto that goes between Union Station and the outer regions of Toronto. It is generally used by professionals traveling to work from outside the city. Most of the GO Concourse arrivals and departures are underneath the east wing of the building but there are a few scattered at other points in the building. The Union Station subway terminal is underneath Front Street to the north of the east wing of the building. It is connected to GO Concourse through the moat area in the front of the station below ground level. The subway is used mostly by young professionals, youths, students, and the elderly.

GO Transit uses tracks 1-5 and 12-13 at Union Station, and VIA Rail, the transcontinental rail service, uses tracks 6-11. The subway station is not in the actual building but most subway traffic goes through Union Station due to its connection with GO Transit and the Toronto underground PATH system. Union Station also has a retail and

Fig. 37. Metal canopy covering moat between Union subway station and GO Transit

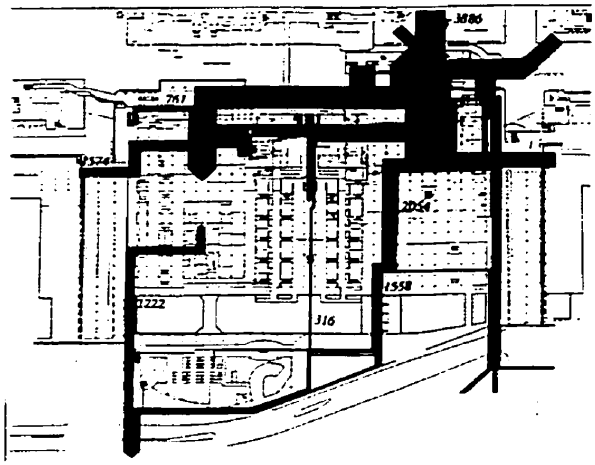


Fig. 38. GO Transit circulation study: evening peak flow

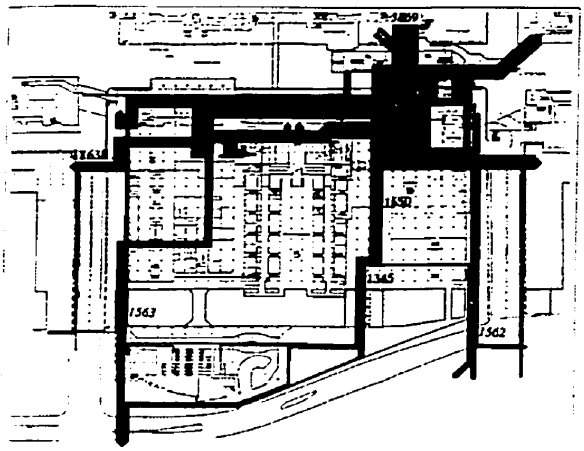


Fig. 39. GO Transit circulation study: morning peak flow

leisure element accommodating both commuters and the nearby Toronto business community with open seating areas, restaurants and pubs.

The station's circulation problems began with GO Transit and the Union subway station. Before GO Transit moved into Union Station, the east concourse had been used by arriving VIA passengers, arrivals being separated from departures. After GO Transit, severe accessibility problems began to emerge in the station, even though the station itself encompasses a vast amount of space (much of it unused). Because GO Transit is one level below ground and to the east of the Great Hall in the center of the building, in order to get to GO Concourse, commuters have to go through the Great Hall in the center of the building and descend, or else take the alternative route through the subway concourse underneath Front Street and enter GO Concourse through the basement. Neither route is ideal. In recent years, with GO Transit and the TTC both expanding, there is severe commuter and pedestrian traffic congestion. Besides this, neither the Union subway station nor GO Concourse has any daylight. The moat between them could be a source of daylight but is covered over with an unattractive metal canopy and completely paved in asphalt. When one enters Union Station from the

subway route, one does not sense that one is entering a different building, and especially not a building as distinctive as Union Station.

In recent years the City of Toronto has taken a very keen interest in Union Station due to recent plans, such as Robert Fung's "TorontoWaterfront Revitalization Task Force," to develop the Toronto waterfront associated with Toronto's Olympic bid for 2008. On June 7, 2000 the City of Toronto bought Union Station from its previous owner, Toronto Terminal Railway Company (a subsidiary of Canadian National Railways and Canadian Pacific Limited). The City of Toronto is currently accepting proposals for renovating the transit terminal. Plans include expanding GO Transit facilities (which would increase its capacity from 35 million to 50 million passengers a year), renovating VIA Rail (which intends to double the 10,000 passengers it carries each day), and expanding the Union subway station. Also, 200,000 square feet of space will be available for retail and commercial ("Union Station," 2000). A focus will be to relieve circulation problems and bottlenecks such as the one from the subway concourse into GO Transit. Another possibility that has been raised is introducing a high speed rail link between Union Station and the Pearson Airport. If this link is put into effect Union Station will be reintroduced to its old glory as the most important transit hub and civic centre of the city.

Design Strategies

Urban Strategy

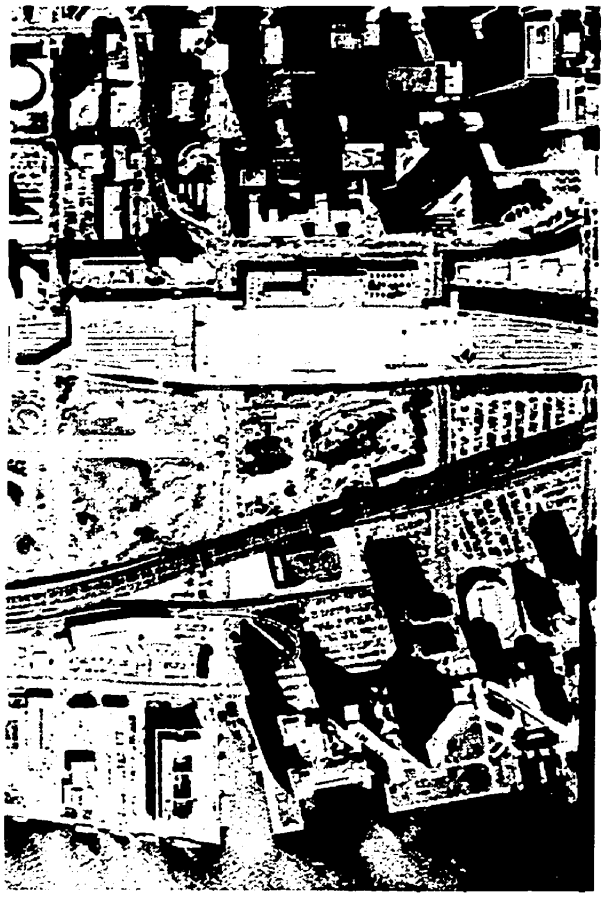


Fig. 40. Aerial photo of existing development around Union Station

Fig. 41. Projected 20-year development around Union Station

This thesis explores the possibilities of adding to and renovating Union Station and the implications to the city of Toronto. Additions that span over Bay Street and York Street will be added to the existing Front Street station house. A new facade will be added to the south side of the building to act as a second entry to the transit station. The strategy is to change what is now a one-sided station, whose one side in effect signifies the end of the downtown core, to a two-sided station that pulls both pedestrians and travelers over the tracks and leads them to the waterfront. The new south side of the station will welcome travelers from Air Canada Centre and the future Toronto waterfront development. It will also act as a catalyst to promote waterfront development.

Bridging the tracks is being explored as an alternative to tunneling under the tracks (the current situation at Union Station). It is believed that a new addition to Union Station which would span the tracks would create more continuity from the north side of the tracks to the south. The station house itself, in effect, will begin to repair the rupture in the city caused by the tracks.

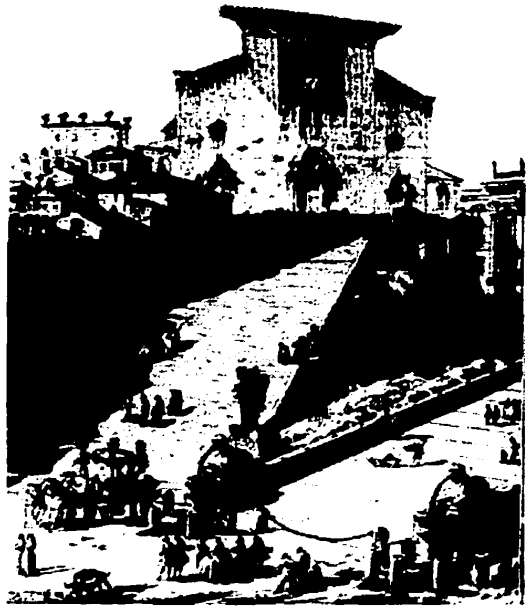


Fig. 42. Staircase as civic space: Santa Maria in Aracoeli, Rome (1384).

Instead of the current situation of descending then rising, pedestrians and travelers will rise to a bridge over the train tracks and then descend either to the track on which their train arrives or to the far side of the train tracks to continue their journey to the waterfront. It is believed that pedestrians will find this a better situation due to pedestrian separation from vehicular traffic, which will continue to go through the Bay and York Street subways. There will also be a greater awareness for both pedestrians and travelers of the trains and train tracks over which they are crossing. The bridges over the train tracks will be purely pedestrian.

Fig. 43. Bridge as civic space: *Joust of the Mariners between Pont Notre-Dame and Pont au Change*, by Raguent.

Vertical circulation to the bridges will be through both stairways and escalators. Escalators will be for convenience in the fast pace of both GO Transit and the subway, while stairways will provide a more leisurely stroll on a slow-paced journey to the waterfront. Stairways will be treated as important public gathering and social places.

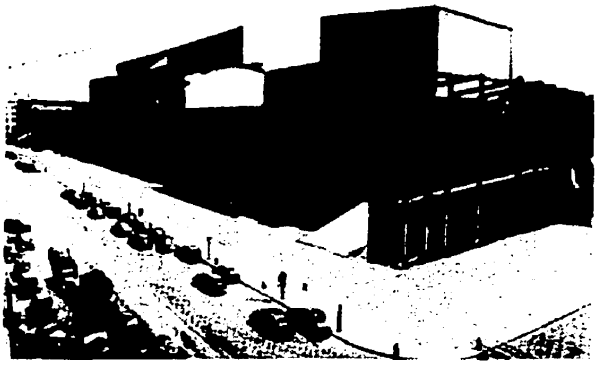


Fig. 44. Front Street entry to proposed pedestrian bridge, Union Station

The bridges over the rail tracks will be perceived in two different ways: first, as pedestrian bridges that are monumental in themselves due to structure, journey and views to both the trains below and the train sheds; second, as continuations of the streets from which they stem (Bay Street and York Street) and the station itself. As a continuation of the streets, the bridges will need to incorporate daylight and things of interest on a smaller scale. As a continuation of the existing station, the bridges will need to incorporate speed, views to the trains and tracks, waiting areas and retail.

Fig. 45. Train sheds at Stazione Centrale, Milan (1913-30).

The existing train sheds at Union Station will be torn down and new train sheds will be built that offer travelers a panorama of the space into which they are traveling.

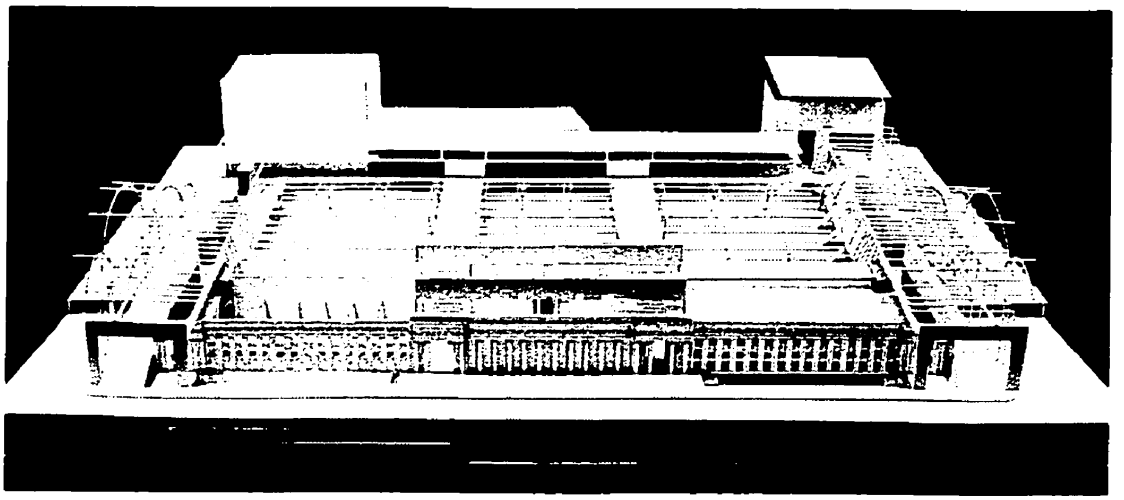
Building Strategy

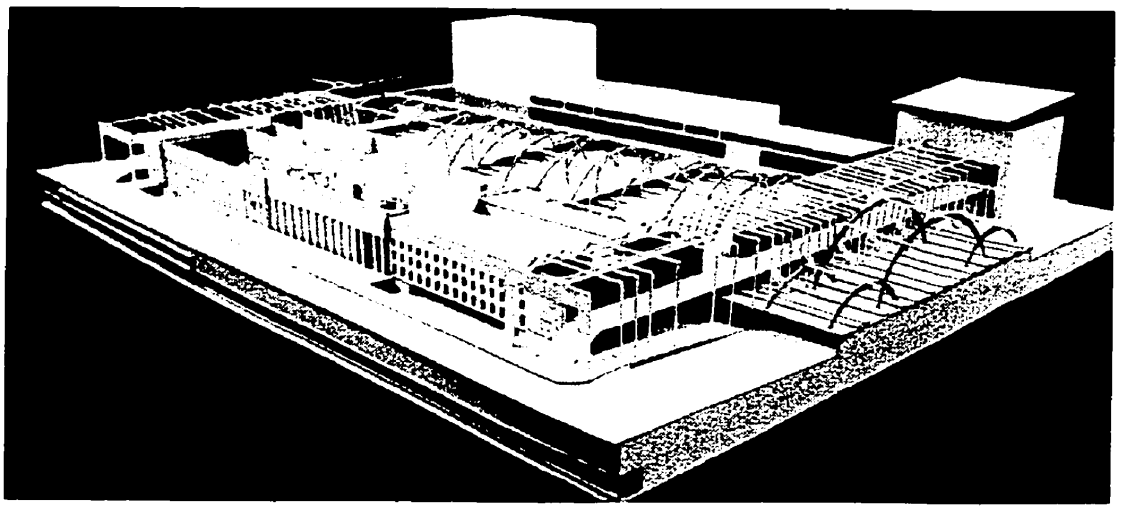
This thesis explores spatial sequences in order to renovate the more traditional Roman form of the existing building. An analysis of the negative spaces or voids of Union Station shows that the original Great Hall and subsidiary rooms have an interesting spatial design. However, the more recent spaces that have been developed within the building, such as GO Transit and the Union subway station, are long and flat, and lack any tension or anticipation from one space to the next.

The design strategy is to move GO Transit to the main floor of Union Station, taking up residence in the east concourse, and another GO Concourse will be introduced into the

west wing of the building.

Besides the two new GO Concourses and the existing VIA ticket hall on the main floor of Union Station, which are primarily spaces that run parallel to the existing traffic and building, four new perpendicular circulation routes will be cut through the building to take travelers quickly into the building, up escalators and over the tracks. Passengers who already have tickets will be able to bypass the ticket concourses. Once they are over the tracks, the passengers can either descend to the train or cross over the tracks and descend into the south addition.





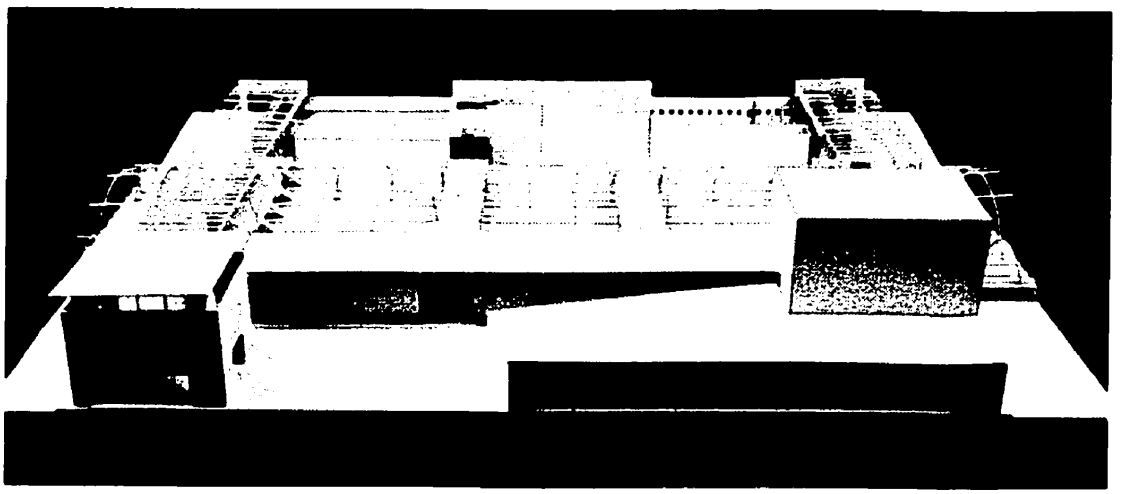


Fig. 46, 47, 48. Union Station: Model of proposed development

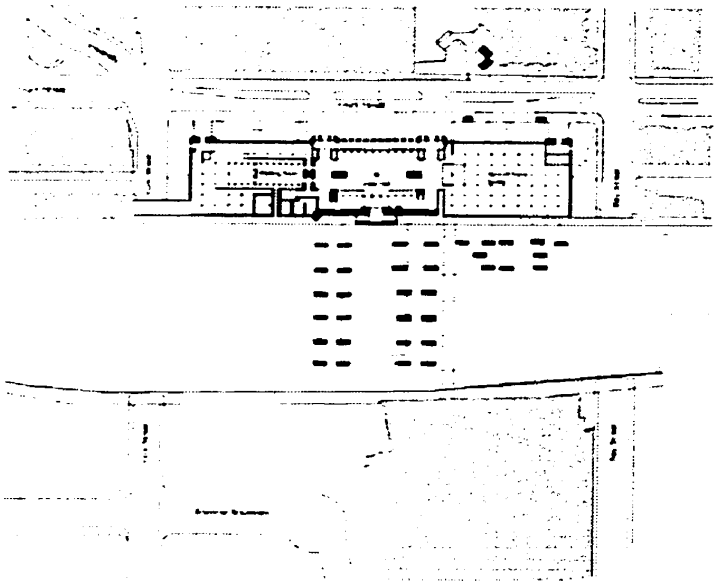


Fig. 49. Union Station: Plan of existing ground level

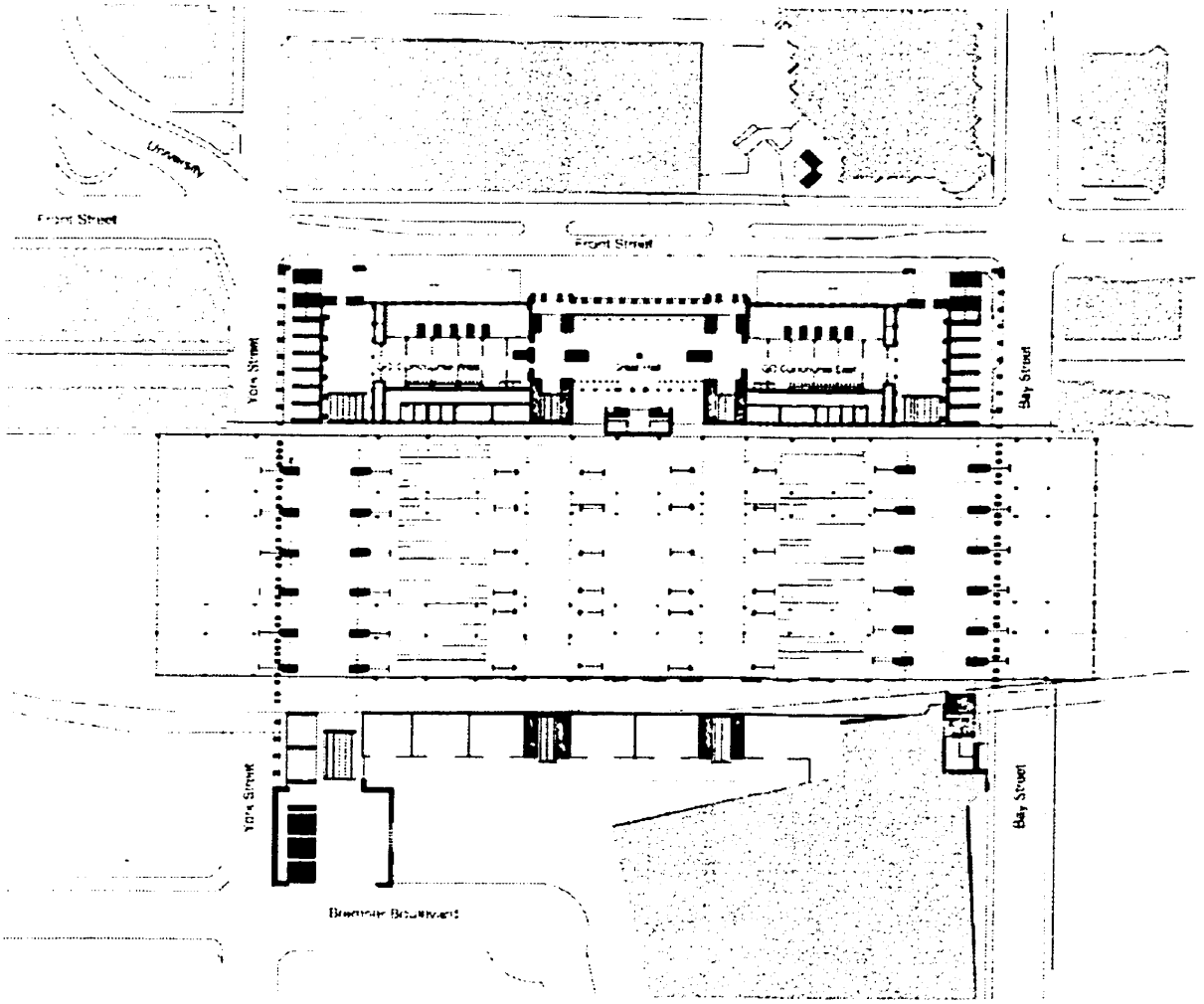


Fig. 50. Union Station: Plan of proposed ground level

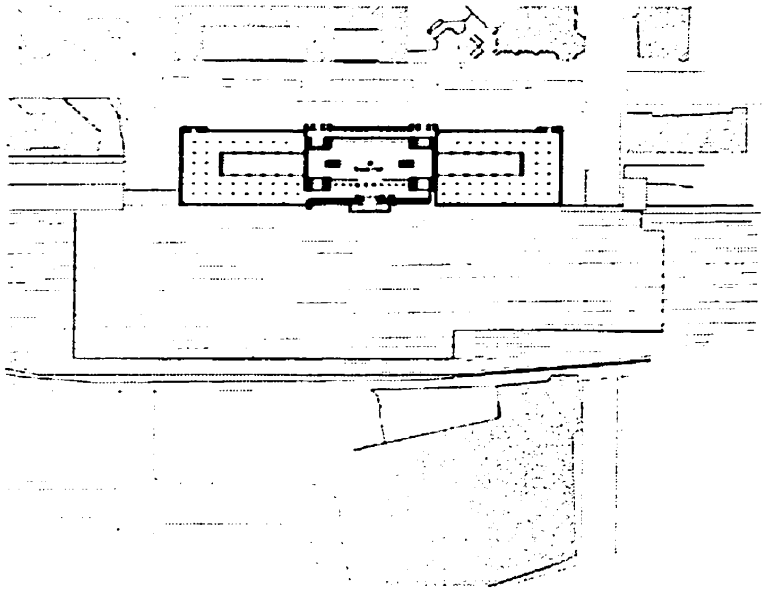


Fig. 51. Union Station: Plan of existing upper level

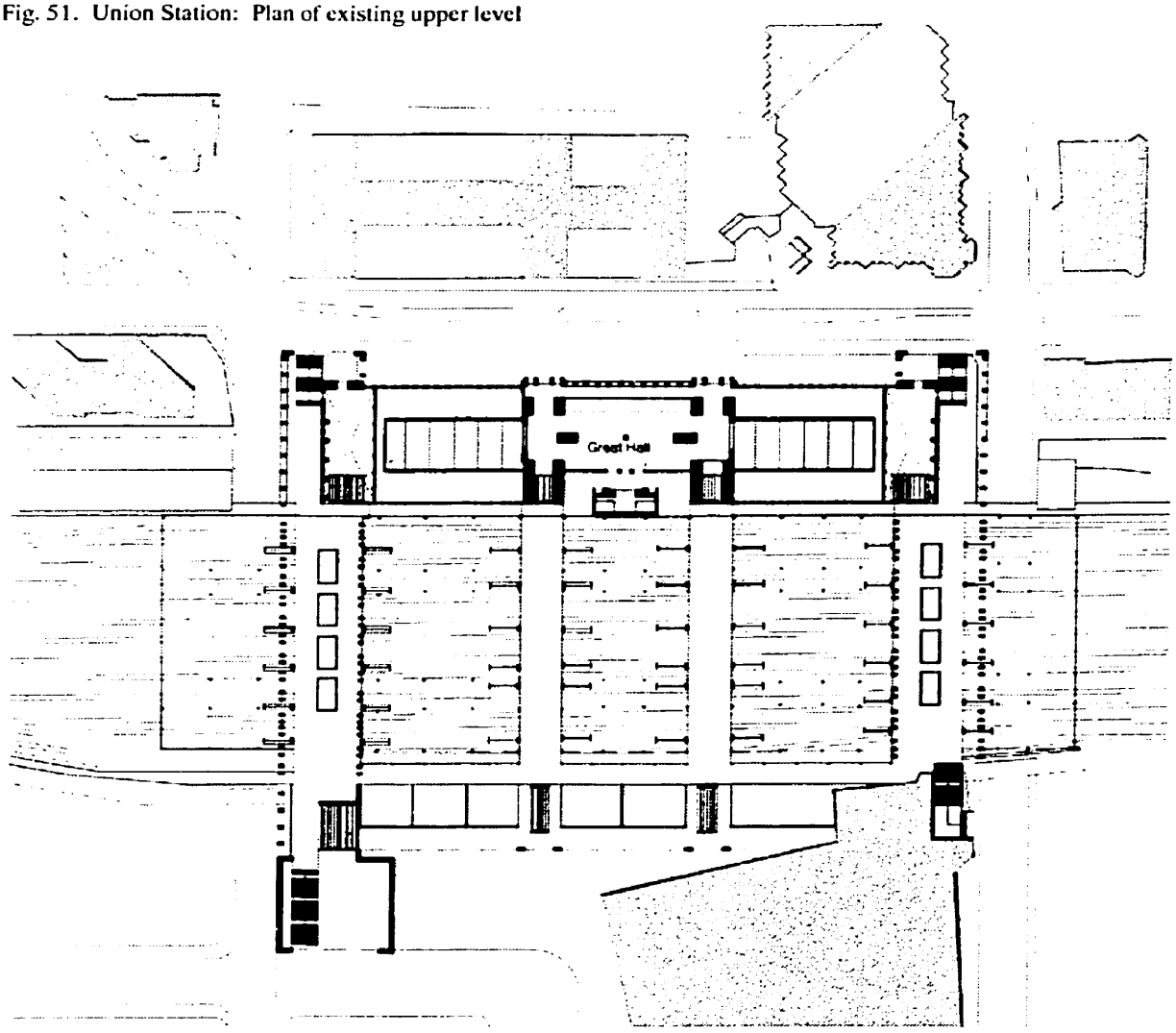


Fig. 52. Union Station: Plan of proposed upper level

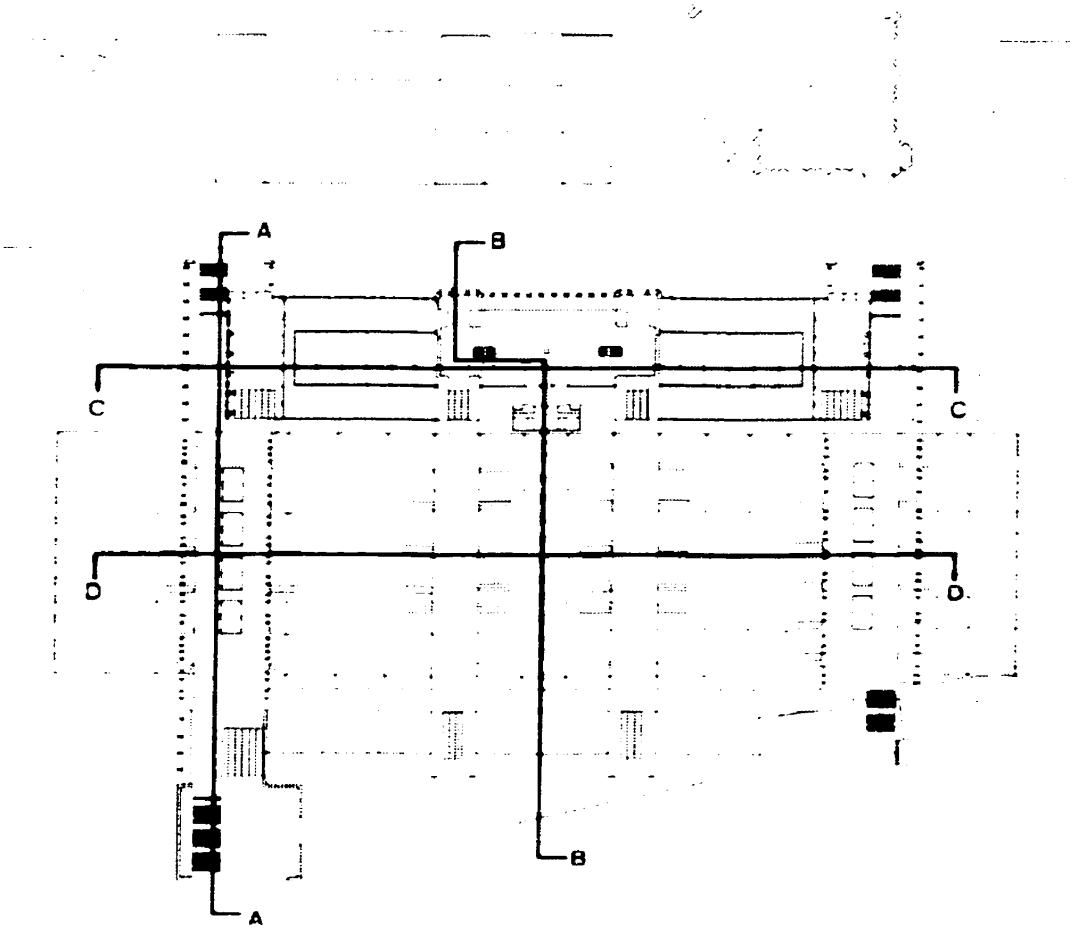


Fig. 53. Union Station: Key plan

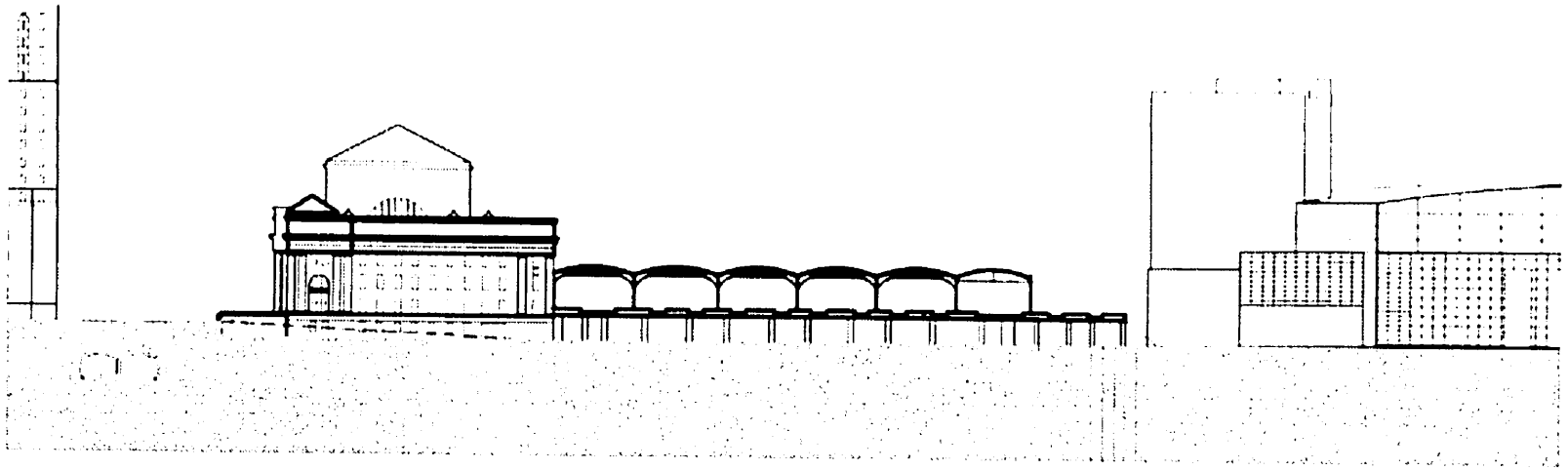


Fig. 54. Union Station: Section A, existing

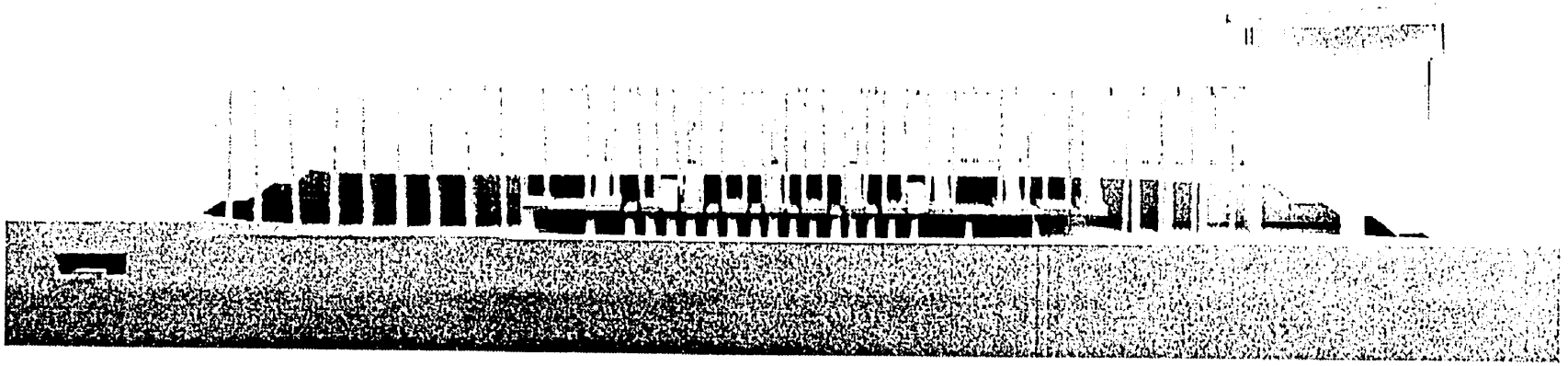


Fig. 55. Union Station: Section A, proposed

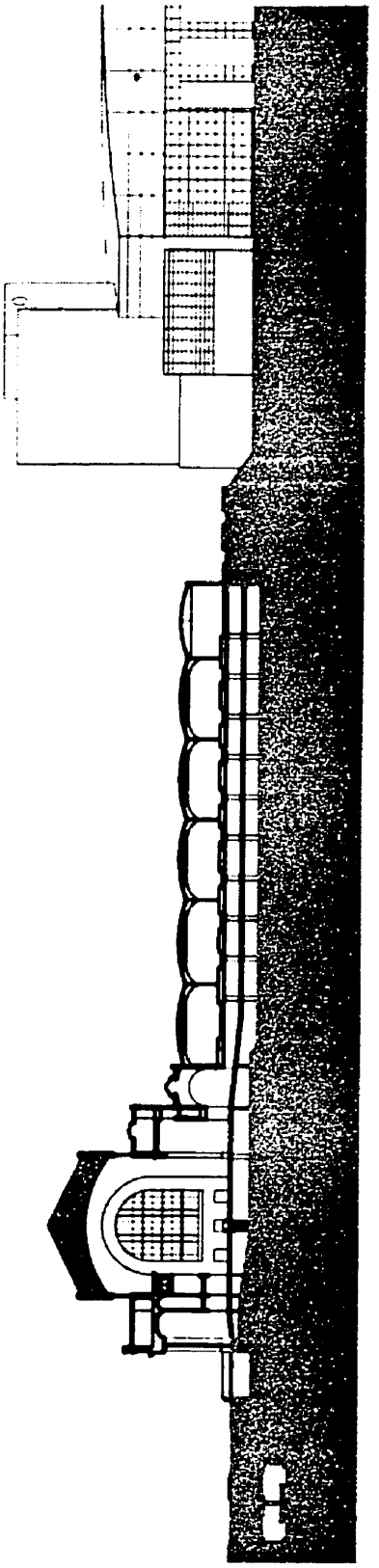


Fig. 56. Union Station: Section B, existing

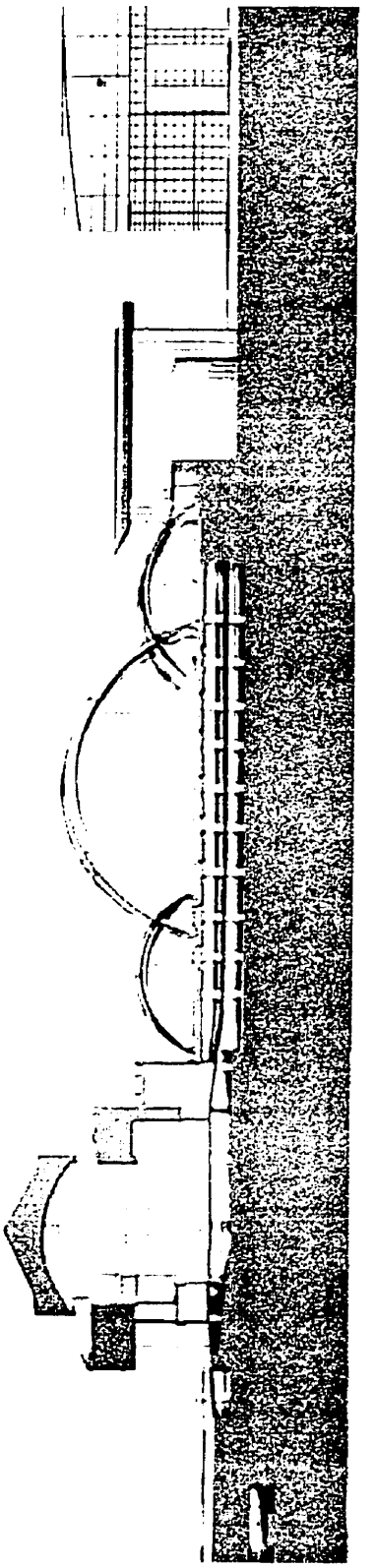


Fig. 57. Union Station: Section B, proposed

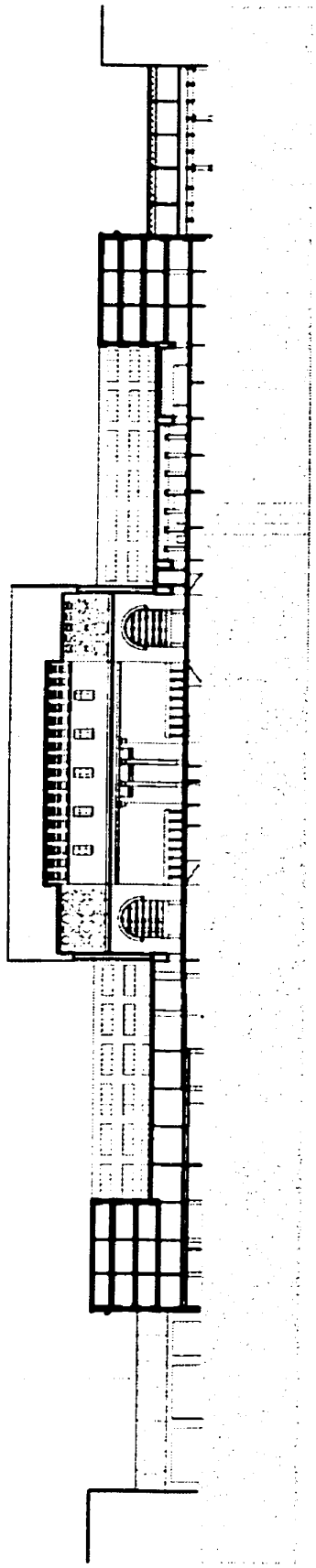


Fig. 58. Union Station: Section C, existing

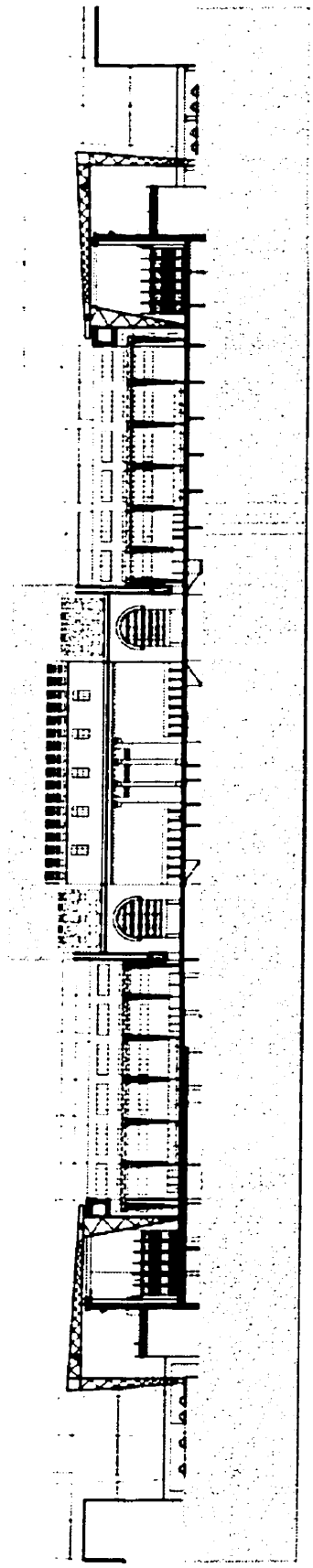


Fig. 59. Union Station: Section C, proposed

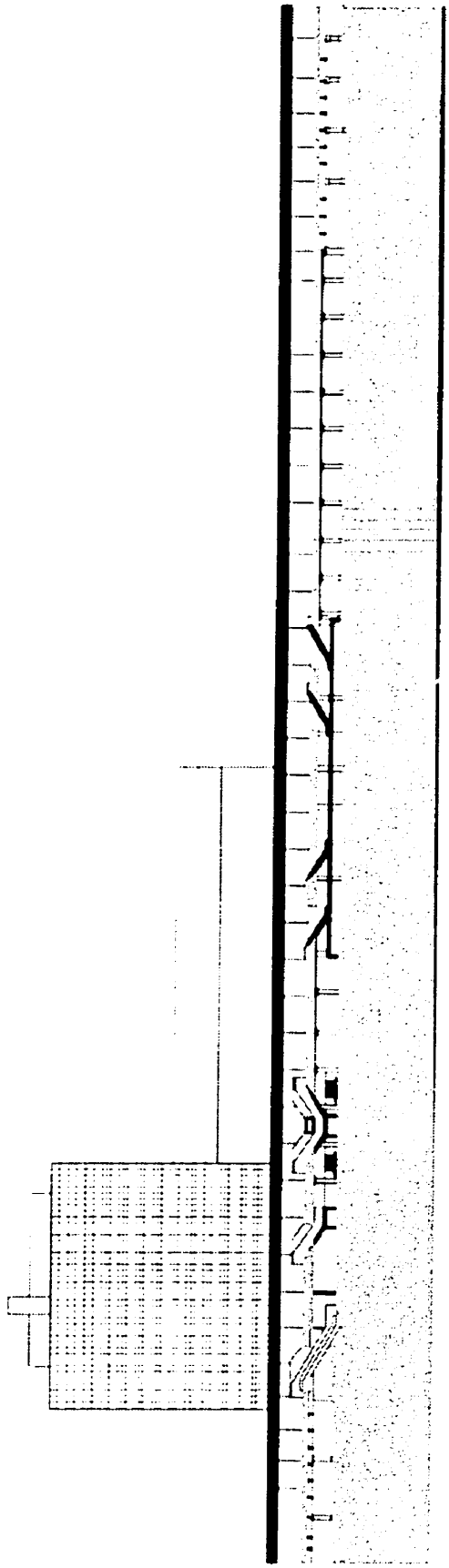


Fig. 60. Union Station: Section D, existing

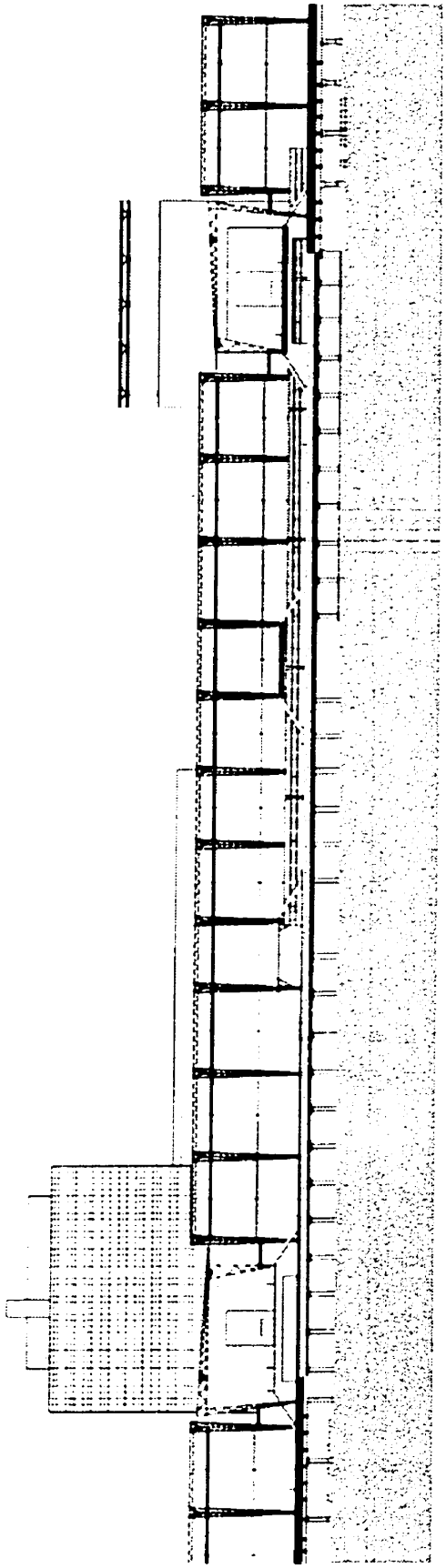


Fig. 61. Union Station: Section D, proposed

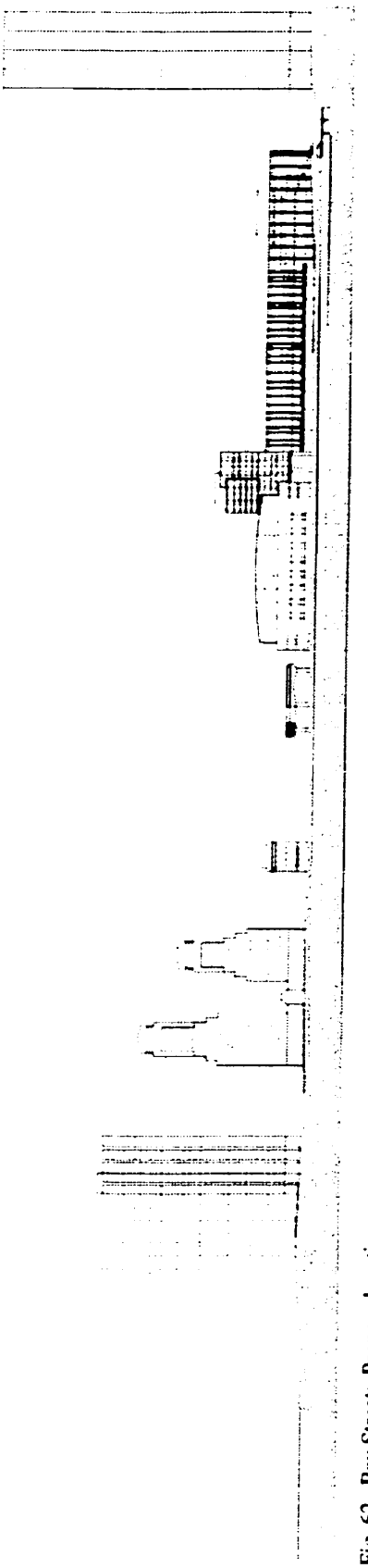


Fig. 62. Bay Street: Proposed section

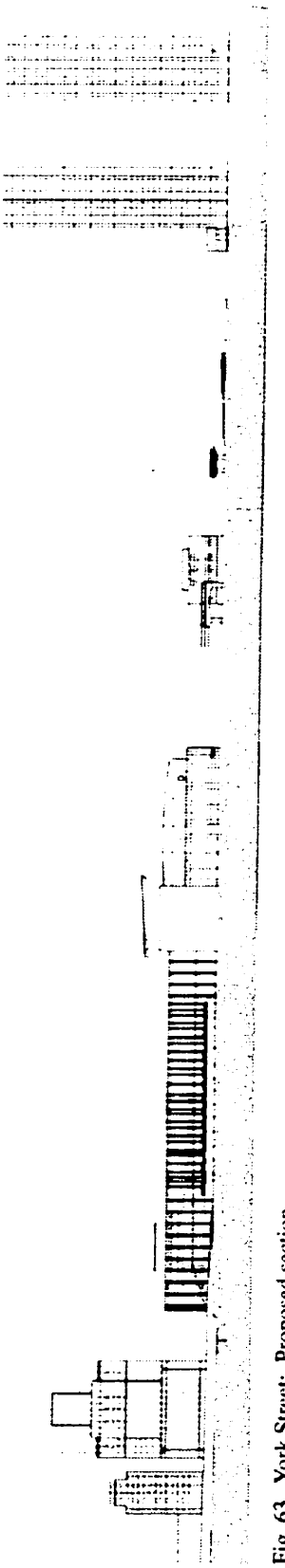


Fig. 63. York Street: Proposed section

Summary

How can the existing Union Station, a gateway and transit centre for the city of Toronto, be altered to recognize the routes of traveler and pedestrian and the potential for new waterfront development to the south of the station?

This thesis attempted to solve the urban rupture caused by train tracks by using the train station itself to bridge the tracks. It is believed that the act of bridging the train tracks has the power to stitch together this rupture in the city. It is also believed that this precept could be applicable to any building situated adjacent to train tracks, not just to train stations. Further study could be done on building beside train tracks and how this type of building deals with the tracks.

In dealing with train stations, this thesis has consistently had to deal with level changes which are unavoidable in getting pedestrians and travelers over tracks. This thesis has taken the stance that raising the level (by taking people over the tracks rather than under) allows greater opportunity for views and civic and pedestrian spaces. It is also a safer, less car-polluted route for pedestrians than going underground. This thesis has assumed that level changes do not have to be a negative thing. Stairs and escalators are seen as means to enhance architectural experiences, rather than as obstacles to be overcome in a modern, lazy world.

In summary, this thesis has taken the stance that in order to recognize the routes of traveler and pedestrian and to enhance the potential for waterfront development to the south of the station, Union Station must take an active role in the Toronto environment and not just remain as a distinguished monument to the past. Union Station must become more of a civic space by becoming more permeable and by expanding across the tracks. It must cater to the modern lifestyle by becoming more modern itself, while still respecting its historic roots.

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