

**Building Big:
Spanning Urban Infrastructure**

by

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I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

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Abstract

This thesis addresses the issue of urban fracture caused by transport infrastructure, through the design of a tenable, multi-program building with robust structural spans, as well as opportunities for the transient modification or enhancement of its spaces.

The site of this exploration is a critical junction in Toronto, where Dufferin Street crosses over the Gardiner Expressway and CNR (Canadian National Railway) corridor. It is the only location in the city where the transport combination of rail and automotive can be described as being “trenched” together. Exhibition Place (south adjacent) and Liberty Village (north adjacent) are among the most contentious areas in the city in terms of their architectural and urban character. The former carries the weight of a rich history in showcase and innovation. The latter is poised to undergo extensive redevelopment in-line with creativity-focused urban policy.

The design for this thesis reacts to the enormity of the fracture, which bisects the city from its waterfront, by embracing a need for large span with the spirit of an inhabitable bridge and elevated promenade. Evolving from mid to late twentieth century discussions about megastructure, this thesis examines the notion of ‘building big’ today.

It will also examine local patterns of public-private-partnership, posit about the influence that large-scale civic, commercial, and ludic inspired facilities might have on urban communities, and explore scale-determined tectonic and construction logics.

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Introduction

Architects are well-practiced in achieving a comfortable balance that allows us to interact resourcefully with our man-made environments. However, when that predisposed comfort is confronted by immensity, something more than a neutral state of living is attained, which can be a double-edged sword. On one hand, time spent among mountains, or in an airplane at a height when the curvature of the earth can be seen, will offer a catharsis of sorts -- an opportunity to breathe and live out of body. On the other hand, navigating through a multi-level shopping complex on the eve of a gift-giving holiday will perturb anyone's wandering conscious.

The challenges of reconciling large transport infrastructure with natural city growth have resulted in a tug of war match between low-density, regionally demarcated, car-centric suburbia, and higher-density, urban live-work-play enmeshments. The battered fields of war in this case are the over saturated machinic thoroughways and adjacent brownfield sites that urgently need rehabilitation and redesign. What cannot be understated, is the disorienting effect that a six-lane, four-track aggregate can have on an exposed city dweller. Ergo, this thesis will attempt to resolve, architecturally, one of Toronto's like-described situations that perturbs, fractures, and bottlenecks urban living.

The proposed site of an intervention is the junction where Dufferin Street crosses over the Gardiner Expressway and CNR corridor. It is the only location in the City of Toronto where the transport combination of rail and automotive can be described as being trenched together (*Fig. 1*). This particular location represents the convergence of three locales: Liberty Village, Exhibition Place, and Parkdale. This thesis will chronicle the latent potential of the first two, forefronting them as generative entities.

Furthermore, this thesis will lay claim that measurably large urban fractures, in order to nullify their affect at the pedestrian scale, must be countered by architectural intervention of near equal grandeur. For that reason, this thesis will examine our understanding of 'bigness' in architecture. This includes relevant megastructural discourse, the failures of which have been well documented; material unrestraint and contextual insubordination. A tempered, context-derivative design approach will be employed to not only safeguard from self-indulgence, but to framework an opportunity for the rational and equitable growth of the context for which the design is a part.

The desired effect of this thesis is a cooperatively manufactured and enduring prosperity for both Liberty Village and Exhibition Place, through an investment in large architecture bordering on public infrastructure. This invites several questions: one, what are the key socio-cultural, economic, and to a lesser degree political ingredients in either context that are critical for the enduring success of an architectural intervention; two, what are the planning initiatives and larger urban mandates currently driving development in these areas; three, which architectural typology or hybrid typology is best suited to conjoin severely disconnected urban fabrics; and lastly, what standard of architecture does the City of Toronto want?



Fig. 1. View looking east along Gardiner Expy. from Lake Shore Blvd. West bridge near Dunn Ave, near peak hour commute

Why do we build big?

Metaphysical >

I began the introduction of this thesis with a passage on the scalar relationship between humans and the larger objects we might experience in the world. I used one example to describe the sort of catharsis one can experience when able to observe the size of something large during an atypical encounter, usually aided by distance. I used another example to illustrate how immersion within a large environment, particularly amongst droves of other people, can oppress and dominate one's conscious. My conclusion about this is that humans want to feel bigger than their bodily container, to enter and stay within the domain of existence tied to their conscious. The idea of the collective conscious is where architecture can help to achieve this all-encompassing mandate.

The *Tower of Babel* (Fig. 2) signified the means to climb Homer's golden chain, to ascend above Aristotelian biology to the highest order of man¹. This hints at just how penetrating and prevalent the notion of an 'elevated existence' has been. The following section will not be a metaphysical discourse, nor can the phenomenon of building big be at all explained solely through a sacred lens. I do think, however, an illusion like this can be a valuable preface to modern philosophies on the matter.

Utility and Functional Stacking >

The *McMaster University Health Sciences Centre*, is an example of a utilitarian architecture that achieved a necessary largeness in order to synthesize forty-nine medical departments within a container that could evolve with an ever changing profession, all while supporting a regional healthcare network as an educational node that supplies specialized medical services (Fig. 3)².

1. Arthur Koestler, *The Sleepwalkers: A History of Man's Changing Vision of the Universe* (London: Penguin Books, 1964) 97.
2. Eberhard H. Zeidler, *Healing the hospital: McMaster Health Science Centre: its conception and evolution* (Toronto, Zeidler Partnership, 1974) 24.

Notes:

(left) The Tower of Babel, an origin myth (of language), describes when the human race is unified following the Great Flood. As a linguistically united race, humans agree to build a tower to heaven. God, observing this construction, confounds their speech and scatters them around the world.

(left) Homer's golden chain is derived from alchemical thinking; the material transformation of compounds into pure forms. The chain metaphor ascribes purity to the divine heavens, and secular mutability to the earthly realm. Thus a scale is created, to be used in conjunction with any narrative of a human subservience to higher orders.



Fig. 2. *The Tower of Babel* - Pieter Bruegel the Elder, 1563

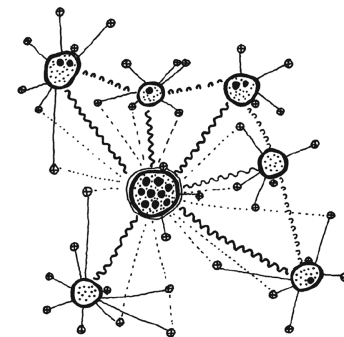


Fig. 3. *McMaster at the centre of a regional healthcare network*

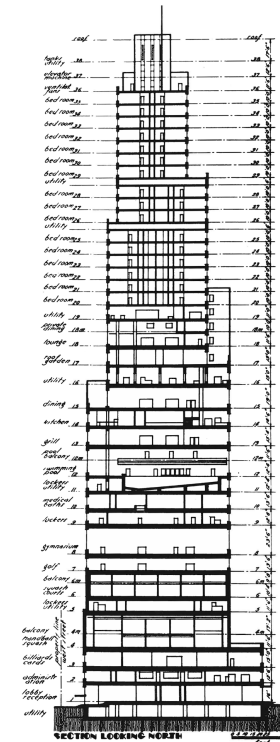


Fig. 4. A section drawing with program notation for the *Downtown Athletic Club*, Manhattan, NY



Fig. 5. *Habitat* by Moshe Safdie for Expo 67, under construction in Montreal, QC

In his manifesto for New York, Rem Koolhaas touches on a comparable notion: that of social compression. He uses the *Downtown Athletic Club* (Fig. 4) to describe the skyscraper typology as the materialization of a new 'culture of congestion'. Advancements in material/construction science, including the invention of the elevator, have allowed us to superimpose "separate installments of complex intrigue", forming a composite of worldly bubbles³. This has helped to form contemporary conversation about urban density and ideal forms for live-work-play dynamacy.

Showcase and Exhibition >

Large architecture has always been a means for countries, cities, and private enterprises to market themselves as having a strong cultural, creative, and economic presence at the global scale. Although height might be the most boastful dimension of architecture, it is certainly not the only dimension. A significant large project for Canada has been *Habitat* (Fig. 5) by Moshe Safdie for Expo 67 in Montreal; a community housing project which sought to enmesh suburban benefits like gardens, privacy, and fresh air, with the economics and density of the modern apartment building⁴.

Monumentality >

Nearer to the middle of the modern architectural period, Sigfried Giedion et al.⁵ wrote about monumentality. Their 'nine points', presented in the context of Giedion's larger narrative on the interrelationship of architecture and society reads like a reactionary piece in a couple of different ways. First, it reads as a social reaction to the wartime period and divisive statesmanship, and second, it reads as a cultural reaction to the overwhelming acceptance of new technologies, materials, and methods for building.

3. Rem Koolhaas, *Delirious new York: a retroactive manifesto for Manhattan* (New York: Oxford University Press, 1978) 127-133.
4. Matthew Fox, "At home in Habitat," *Toronto Star*, January 4, 1977, J1.
5. Sigfried Giedion, Josep L. Sert, and Fernand Léger "Nine Points on Monumentality, 1943", in *Architecture: you and me; the diary of a development* (Cambridge, Mass.: Harvard University Press, 1958) 48-51.

Their most transcendent points include:

- Monuments are symbols for the ideals, aims, and actions of humanity
- They are meant to outlive the period that originated them
- They are expressions of humanities highest cultural needs
- They express the feeling and thinking of the collective force (the people)
- They are only possible during unifying periods
- They must use modern materials and new techniques
- They must serve more than functional fulfillment
- They must be the result of integrative work

An argument that this thesis seeks to make, inspired by the notions above, is that the current trends in both Exhibition Place and Liberty Village (in terms of urban vision emerging from significant histories, as well as governance structures), the scale of the urban chasm created by transport infrastructure, as well as overall architectonic trends in the larger context of Toronto, all point towards not only the viability of a substantially large architectural intervention, but also the appropriateness of one.

The Four Sublimes >

Bent Flyvbjerg is a Danish economist who has mused about the rationale of mega projects. He has detailed what he calls the 'four sublimes', each of which eludes to a 'rapture' felt by those involved with the conception, development, completion, and ongoing legacy of mega projects⁶. For the sake of this thesis, it is assumed that the principle of these sublimes translates from the 'mega' scale to the 'substantially large' scale.

The first sublime is the *technological sublime*, which is the *rapture felt by engineers and technologists when they are able to push the boundaries of their technology*. This thesis would achieve technological sublimity through its

6. Bent Flyvbjerg, "What You Should Know about Megaprojects and Why: An Overview," *Project Management Journal*, vol. 45, no. 2 (2014), 6-7.

Notes:

see 6 - (p.6) While Flyvbjerg credits K.T. Frick with introducing the term 'technological sublime' to discourse on mega projects, he added the subsequent three to complete the series

(right) The Board of Governors for Exhibition Place will be referenced throughout this thesis. Please be aware that, for ease of reading, subsequent mentions may refer to this entity simply as 'the Board'.

see 8 - Barry Bergdoll has ascribed the title of inventor to Marcel Breuer when it comes to the concept of 'heavy lightness'. Also known as architectural transfiguration, heavy lightness is the resulting effect of a juxtaposition of mass with minimal/optimal structural forms.



Fig. 6. Alcuin Library at St John's University which achieves a 'heavy lightness' using concrete - Marcel Breuer, Collegeville, MN

emphatic use of steel, whether it be custom casting or common-profile, to achieve spans upwards of ninety-three metres and an overall design language that relies on tensile strength.

The second sublime is the *political sublime*, which is the *rapture felt by politicians who get to build monuments to themselves and their causes*. A good example of this is the case of Georges Pompidou, who, following public protest in Paris, supplied critical momentum for the conception of Beaubourg (later named the Centre Pompidou)⁷.

The third sublime is the *economical sublime*, which is the *rapture felt by business people and trade unions who make money off of large projects*. I will argue that the recent success of large-scale P3 development projects in Exhibition Place, in combination with the Exhibition Place Board of Governor's (*see note left*) inclined likening to long-term risk-averse tenancies, might serve as the template for a cross-district partnership. The redundancy here is that the prerequisite for any design that proposes to have a footing on both publicly and privately owned land is in fact some form of P3 arrangement. Moreover, I will show that Liberty Village appears primed for a post-gentrification boom, and that the City is looking to invest in capacity-building infrastructure.

Lastly, the fourth sublime is the *aesthetic sublime*, which is the *rapture felt by people who appreciate and use good, iconically beautiful design*. This thesis would achieve aesthetic sublimity in two ways: formally through sculptured exterior ceilings and delicately stilted massings that achieve a 'heavy lightness' (*see note left*) akin to Marcel Breuer's *Alcuin Library*⁸ (Fig. 6); and two, through diversity of experience, whether it be passive or active leisure, public gathering, the consumption of skyline/waterfront views, or the faint purr of a vehicular undercurrent.

7. Nathan Silver, *The making of Beaubourg: A building biography of the Centre Pompidou, Paris* (Cambridge, Mass.: MIT Press, 1994).

8. Barry Bergdoll, "Marcel Breuer and the Invention of Heavy Lightness," *Places*, June 2018, <https://placesjournal.org/article/marcel-breuer-and-the-invention-of-heavy-lightness/>.

Site Analysis



Site Analysis

Relatively speaking, Toronto is an infant city, currently shedding a skin of low density housing and expired industry in favour of medium, large, and super-large condominium structures. With the inaugural implementation of the *Great Western Railway* for travel between Toronto and Windsor, which now constitutes a significant portion of the GO Transit and VIA Rail networks, inland Toronto was severed from its waterfront. The mid twentieth-century construction of the Gardiner Expressway only amplified this chasm. Enclaves which were at one time perimeter city districts and relied on the railway to support blue collar industry, now contain highly contested and valuable space (Fig. 7).

Liberty Village is one such enclave that saw significant industry emigrate to the suburbs post World War II. Abandoned factories and warehouse buildings offered large and inexpensive studio space for craftsmen and artists who could not afford to have their own shops. Developers predicted a surge in the demand for local land and bought these properties for little money. A first wave of gentrification in the nineties brought an influx of more financially solvent five to six-person start-up companies, which inevitably paved the way for the transformation of Liberty Village into a hot spot for new media and IT⁹. Fast forwarding to the present -- although the central artery for the district, is by guideline standards clean and attractive, the district's southern edge is lined with informal car parks, unkempt buffer foliage, storage facilities, and towering billboards (Fig. 8 to Fig. 11, right).

South of the Gardiner Expressway is another story altogether. Exhibition Place has served as Toronto's ground zero for cultural innovation, showcase, sporting, and entertainment since the late 1800's. The grounds are currently undergoing a third wave of revitalization, characterized by the City's trust in their subsidiary Board of Governors for Exhibition Place. The Board's

9. Thorben Wieditz, "Liberty Village: The Makeover of Toronto's King and Dufferin Area," *University of Toronto, Centre for Urban and Community Studies, Research Bulletin*, no. 32 (2007).

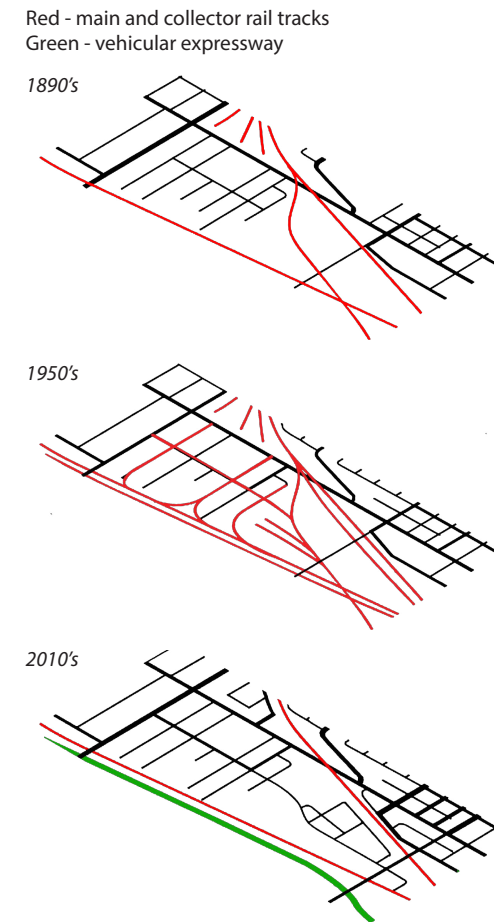


Fig. 7. Liberty Village railway and expressway evolution

Images right:

Fig. 8. View looking NE at unkempt berm from Dufferin Bridge

Fig. 9. Berm-adjacent car park between Fraser Ave. and Jefferson Ave.

Fig. 10. View looking SE from vacant car park

Fig. 11. Abrupt termination of pedestrian experience at Dufferin Bridge, on approach from north



Fig. 8.

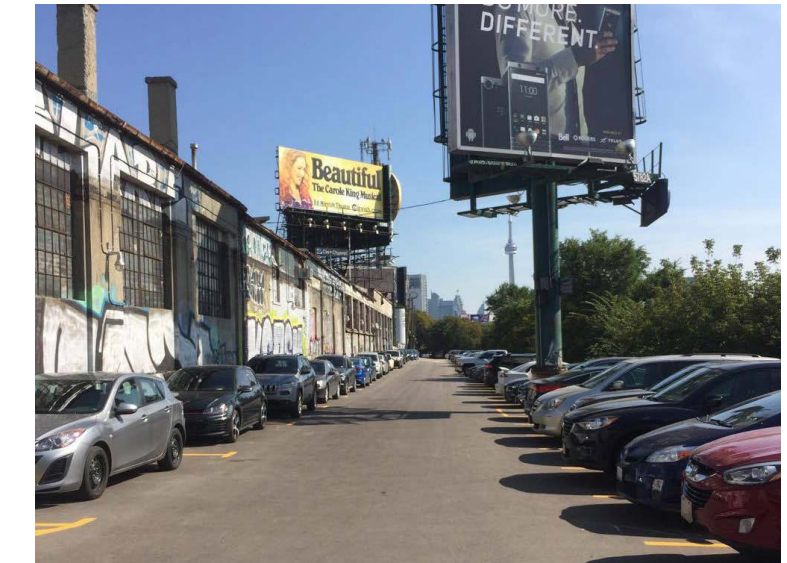


Fig. 9

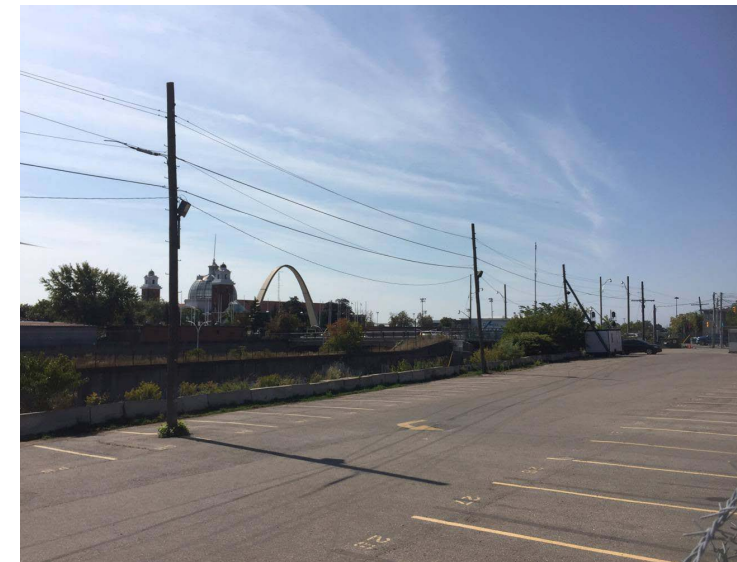


Fig. 10



Fig. 11

prerogative has been to seek out and enter into, upon legislated approval, low-risk and potentially high-reward land/building-use arrangements with the private sector. Two projects that have characterized the last two decades of AEC activity on the grounds include the construction and subsequent multi-phase renovation of *BMO Field* on the site of the former *Exhibition Stadium*, as well as the construction of *Hotel X* nearer to the *Stanley Barracks* and the southeast corner. Both are behemoths. Any quarrels with the former may have been softened by the recent success of the professional soccer team it helped bring to an internationally diverse city. The latter, however, some regard as the inevitable result when a 'desperate mid-sized city sells their soul to a carpetbagger peddling a megaproject'¹⁰.

Notes:

The dotted white line denotes the extents that will be shown on subsequent context diagrams. The red dot indicates the precise location of the design intervention of this thesis.



Fig. 12. Context (city), noting project location and scope of analysis

10. Shawn Micallef, "Hotel X is the canker of the CNE: Micallef," *Toronto Star*, September 11, 2016, <https://www.thestar.com/news/gta/2016/09/11/hotel-x-is-the-canker-of-the-cne-micallef.html>.



Fig. 13. Context, geographies of focus

Of the three distinct urban fabrics form a vertices where Dufferin Street crosses over the Gardiner/CNR transport corridor, the following sections will focus on just two of them: Liberty Village and Exhibition Place. With respect to the former, the majority of ensuing discourse concerns, the Liberty Village Business Improvement Area, which is noted with a green stroke. Parkdale and Ontario place have been consciously omitted from this examination (as spotlight areas) for the reason that they both currently reside in a quasi-limbo state of development. They will be referenced appropriately and with reason.



Building height gradient: darker is taller

The three distinct urban fabrics form a vertices where Dufferin Street crosses over the Gardiner/CNR transport corridor. Liberty Village contains low to mid-rise adaptive-reuse and factory typologies, Exhibition Place contains a mixture of modified pre-war Beaux Arts courtyard buildings, sports stadiums, and super-large business/convention complexes, and Parkdale contains Victorian age semi-detached homes and a few modern apartment buildings.

Fig. 14. Context, figure-ground with building height gradient

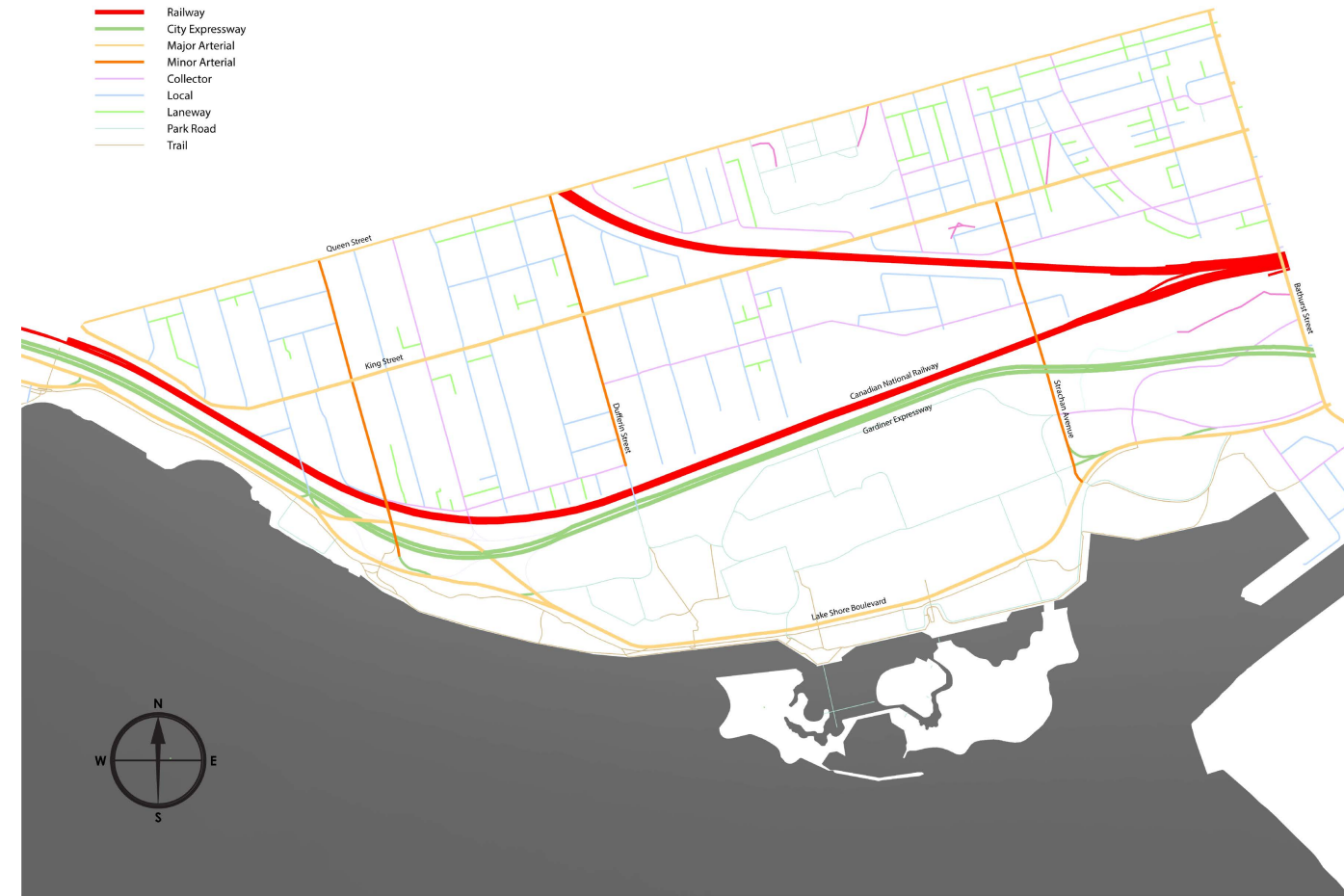
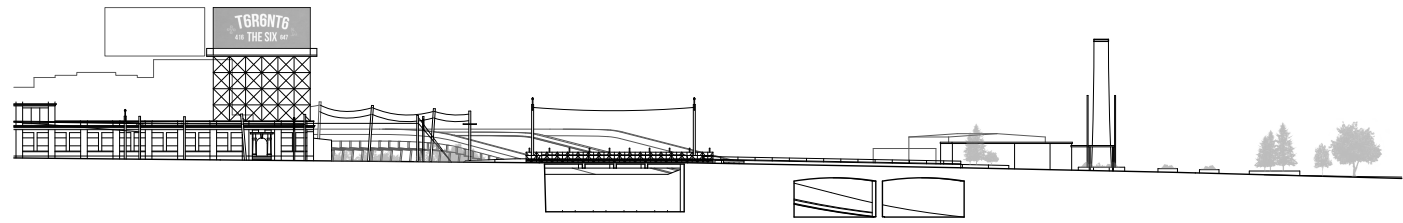


Fig. 15. Context, arterial hierarchy as per 2018 municipal classification

Dufferin Street continues south over the transport corridor as a two-lane road. Despite this physical continuation, its designation as a minor artery is downgraded to a local road at this junction, which reflects the poor condition of an outdated bridge, the bottlenecking of four vehicular lanes into two, and the termination of TTC streetcar service. Moreover, the local roads south of Liberty Village's main collector street currently terminate in dead end conditions, which yields peak-hour congestion and defers all but locally employed actors from engaging these urban pockets.



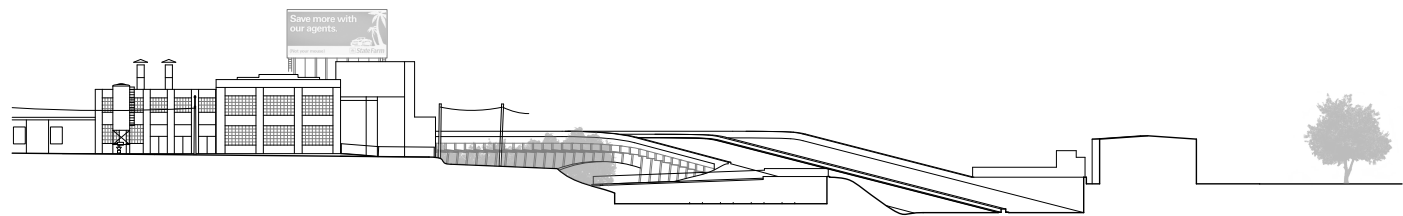
Dufferin Street is characterized by...

noise; an outdated, low-capacity industrial overpass; vacant, non-designated, character contributing heritage structures (173 Dufferin and the Dufferin Arch); ad hoc billboard advertising; unorganized service cabling; underwhelming park space and urban planting; and tremendous potential as an E-W viewpoint.

Fig. 16. Partial cross-section, Dufferin Street

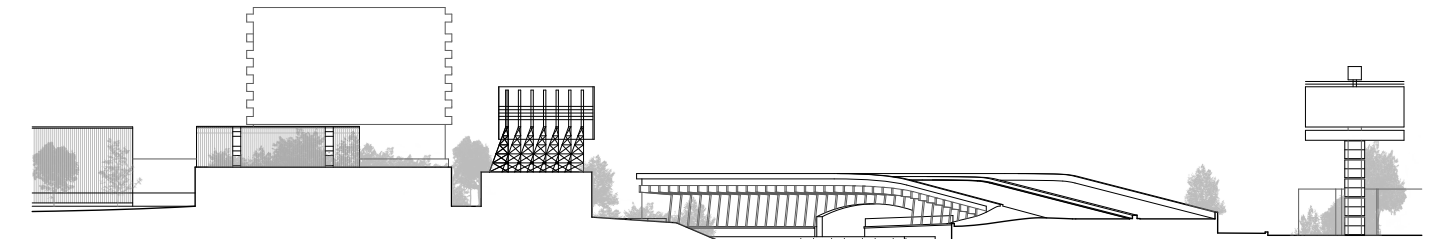


Fig. 17. Partial cross-section, Fraser Avenue



Mowat Avenue (and south) is characterized by...

noise; a recently completed adaptive reuse project (2 Fraser) with maintained grain silo; ad hoc billboard advertising; consistently vacant car parks; unkempt buffer foliage -- and south -- a trenched transport combo; low-cost shed structures servicing the CNE; mature trees; and underutilized park space (Centennial Park).



Pardee Avenue (and south) is characterized by...

noise; street termination at decayed industrial structure; ad hoc billboard advertising; a multi-level storage facility; a berm-adjacent car park at capacity during the work week; informal urban flora -- and south -- a partially elevated Gardiner Expressway; platform extents for Exhibition GO Station; and a consistently vacant parking lot with a towering billboard.

Fig. 18. Partial cross-section, Pardee Avenue

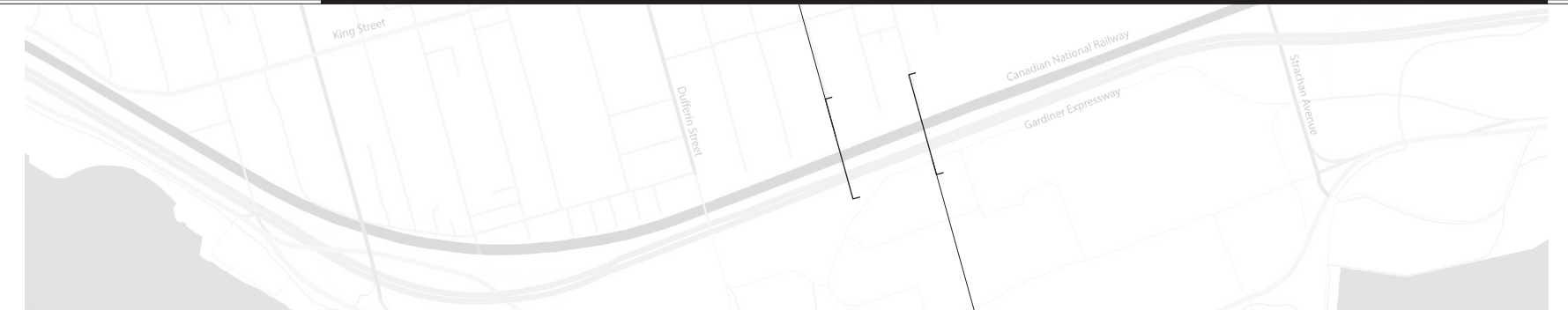
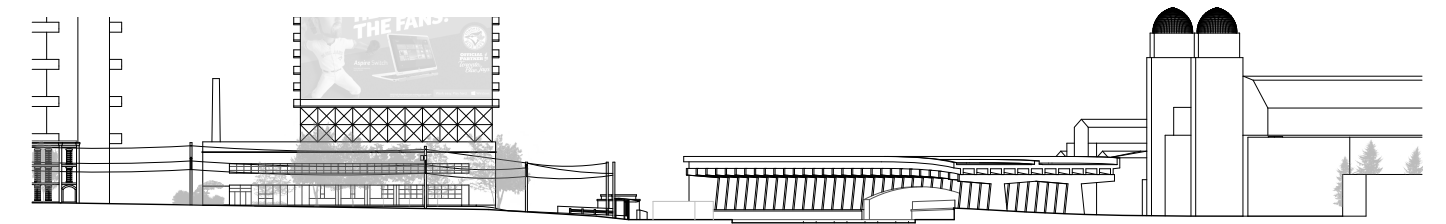


Fig. 19. Partial cross-section, Atlantic Avenue

Atlantic Avenue (and south) is characterized by...

noise; street access to Exhibition GO Station; ad hoc billboard advertising; low-rise commercial buildings; private and public car parks; formal street flora -- and south -- an elevated Gardiner Expressway; Exhibition GO Station; under-expressway municipal storage; and Exhibition Place Buildings (Food Building and the Horse Palace).



Liberty Village



Liberty Village: The Creative Village within the Creative City

Framing the geography >

Liberty Village is commonly referred to as the entirety of land contained by Dufferin Street (west), King Street (north), Strachan Avenue (east), and the CNR transport corridor (south). The use of the name Liberty Village might refer to a number of modest geographical variations, reductions, or enlargements of this 'baseline boundary'. Readers of this thesis should refer to the context plan (Fig. 13) on page 12, denoting each variation and its chosen designation, so that all subsequent explanation can be understood as a collage of successive framings. This thesis will focus proportionally more on the southwest quadrant of Liberty Village.

An overview of recent history >

In 1998, the seven municipalities of Metropolitan Toronto amalgamated to form the new City of Toronto, resulting in the reorganization of the City Council and the creation of its new Culture Division. This division would go on to provide a new focus and image for Toronto as the Creative City¹¹. The initial *Workprint* (Fig. 20) for this transformation noted that the top priority for residents was a high quality of life.

In January of 2001, a portion of west Liberty Village became one of forty-eight designated BIA's (Business Improvement Areas) in Toronto, and the first non-retail BIA in North America¹². The LVBIA promptly became the main channel for businesses in the area to collectively push and finance an agenda. Leadership immediately began to peddle a brand for the community under the slogan "championing and nurturing a creative and vibrant community", the essence of which had arisen out of developer attitudes circa 1999 about the types of tenants they were seeking to attract; IT and new

11. City of Toronto Culture Division, "The Creative City: A Workprint," (2001).

12. John Paul Catungal, Deborah Leslie, and Yvonne Hii, "Geographies of Displacement in the Creative City: The Case of Liberty Village, Toronto," *Urban Studies*, vol. 46, no. 5/6 (2009), 1101, <http://www.jstor.org/stable/43198016>.

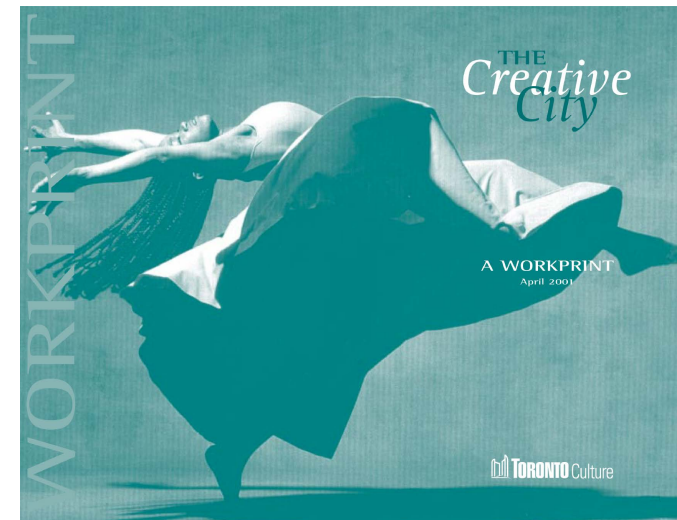


Fig. 20. 'Workprint' for the Creative City - City of Toronto Culture Division, 2001

Notes:

see 13 - When the government decided to de-monopolize local telecommunications services in 1999, developers were able to offer fast Internet connections to prospective tenants, which attracted IT and new media companies.

see 16 - The creative class includes a super-creative core; engineers, university professors, poets, novelists, artists, entertainers, actors, designers, and architects, as well as the thought leadership; non-fiction writers, editors, cultural figures, think-tank researchers, analysts, and other opinion-makers. Outside of these core-member types, the creative class consists of creative professionals working in high-tech sectors, financial services, the legal and healthcare professions, and business management.

media companies¹³. This fell in line with Toronto's first Culture Plan (2003), which was born out of a growing understanding among economists about the importance of arts, culture, heritage, and overall quality of life to an expanding economy¹⁴.

A 2009 study by Catungal et al.¹⁵, which examined Liberty Village as a 'geography of displacement', corroborates the belief that the initial movement of creative industry into the LVBIA was not a planned process. The creative industry consists of the creative class, people who are concerned with 'creating new meaningful forms' of knowledge¹⁶ -- which differs immensely from the non-commercial independent artistry class that relied on organizations like *Artscape* to subsidize their live-work arrangements¹⁷. What appears to have taken place in Liberty Village is right out of the gentrification playbook. If at all idiosyncratic, it is because the 'creative' tag does more than most labels to obscure typical socio-economic favouritism. Not to mention that the designation 'Liberty Village' implies a sort of free-spirited liberal existence, when in fact the recent hype surrounding the district is far more centred on real estate development, property values, and corporate co-mingling¹⁸.

Buying time with private painkillers >

The aforementioned study by Catungal et al. highlights two imaginations of the LVBIA: one, as a distinct neighbourhood or campus set apart from Toronto's central business district; and two, as a securitised neighbourhood. This section will focus on the latter.

In order to subdue anxiety felt by new firms to the area about their proximity to the perceived cesspit of criminal activity that is Parkdale (of course this is an overstatement), the LVBIA chose to allocate a large portion of their operating budget to crime prevention through environmental design (CPTED)

13. Thorben Wieditz, "Liberty Village: The Makeover of Toronto's King and Dufferin Area," *University of Toronto, Centre for Urban and Community Studies, Research Bulletin*, no. 32 (2007).

14. City of Toronto Culture Division, "Culture Plan for the Creative City" (2003).

15. Catungal, Leslie, and Hii, "Geographies of Displacement," 1095-114.

16. Richard Florida, "The Rise of the Creative Class," *The Washington Monthly*, May 2002, 18.

17. Tim Jones, "Artscape: Re: Artscape Liberty Village Closing," *Artscape*, November 28, 2012, <https://www.artscape.ca/2012/11/28/after-21-years-artscape-liberty-village-closes/>.

18. Catungal, Leslie, and Hii, "Geographies of Displacement," 1111.

principles. This included contracting a private patrol service to monitor burnt out streets, vandalism, and general unruliness¹⁹. A 2006 assessment conducted by the City of Toronto (Fig. 21) on the LVBIA highlighted that the Toronto Zoning Bylaw, on the basis of exception 298, did not permit retail or service shops in the LVBIA²⁰. Consequently, the area remains fairly quiet outside of normal working hours. I use the present tense ‘remain’ to describe this lack of off-hour street life because the current Liberty Village Master Plan suggests that community actors still consider this to be an issue. One might immediately point to Jane Jacobs’ philosophy that a diversity of uses is required to achieve a consistency of use, and that a consistency in use contributes eyes to the street, ergo safer streets²¹.

A reason for this zoning circumstance is that the LVBIA was previously designated as an Employment Area on the City’s *Land Use Plan*, and although this designation does typically provide for a diversity of uses, (this is now my speculation) the site’s predominant manufacturing typology, which faces the uphill challenge of serving adopted programs, is unable to accommodate smaller-scale leisure-based retail barring major architectural investment into street infrastructure, façade/ground-floor rework, and heritage preservation (Fig. 24).

The same City of Toronto assessment that highlighted this circumstance provided a recommendation that the Zoning Bylaw be changed to allow for retail and service shops of a controlled size, but the wording of this recommendation indicated that the process to do so would take considerable time (i.e. the City wanted urban design guidelines submitted alongside any zoning amendment application). IBI set the tone for this with a massive re-zoning application and guideline contribution as part of their King-Liberty neighbourhood renewal project²². To date, nothing of such magnitude has occurred within the boundaries of the LVBIA, and until a window for substantial development opens up, the LVBIA seemed poised to continue to pump an urban painkiller by the name of ‘CPTED’, so to speak, into the district’s arteries.

19. Catungal, Leslie, and Hii, “Geographies of Displacement,” 1107.

20. City of Toronto, Community Planning for Toronto and East York District, “Liberty Village Area Study,” Staff Report, May 30, 2006.

21. Jane Jacobs, *The Life and Death of Great American Cities* (New York: Random House, 1961).

22. IBI Group, “King Liberty Village”, Urban Design Guidelines (2005).

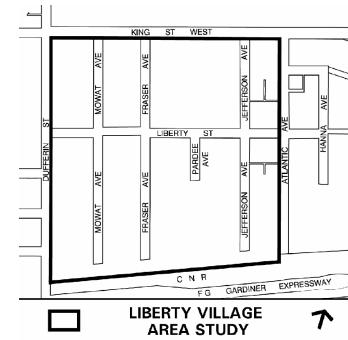


Fig. 21. Liberty Village 2006 Area Study by City of Toronto, extents



Fig. 22. CPTED in action: pedestrian-scaled lighting, neighbourhood signage/branding, and light post graffiti before removal



Fig. 23. Car-dominated Mowat Avenue with the Carpet Factory (left) during working hours



Fig. 24. The Carpet Factory, at grade architectural condition, during non-working hours

Liberty Village going forward >

This final subsection on Liberty Village will look at the *Master Plan*²³ commissioned by the LVBIA, which was developed in 2013 and revised in 2016 by the *Planning Partnership*, a consortium of landscape architects, planners, and urban designers. Curiously, no architects are listed as having contributed knowledge to this framework. Consultation with key actors affiliated with the LVBIA suggested that the following are a priority:

- 1) First, a need for improved transportation access, routing, and capacity. Participants noted that the King Streetcar is consistently overcrowded, and that Toronto's bike share program was noticeably absent from the area (although a quick search on Google Maps suggests the latter has been resolved). Business owners also suggested that congestion and a lack of parking were negatively affecting their businesses.

The Master Plan dictates that parking lots should be phased out, and that new developments should accommodate integrated above or below-grade parking facilities. Further to this point, a Municipal Class Environmental Assessment has been conducted for a proposed new street, *Liberty New Street*, adjacent to the southern edge of the district (Fig. 25). A modest change to the architectural fabric at the end of Pardee Avenue, in combination with this new street, would eliminate all dead end scenarios and associated congestion²⁴.

- 2) Second, a need for increased activity outside of normal working hours. In the previous section, I detailed how the Zoning Bylaw, on the basis of exception 298, does not permit retail or service shops in the LVBIA. Seemingly unsatisfied, participants suggested that more retail activity, a cinema, increased use of Lampport Stadium, and more public spaces, are all virtuous possibilities.

23. The Planning Partnership, "Liberty Village Master Plan: Liberty Village Business Improvement Area; 2016 Revision," Liberty Village BIA (2016).

24. City of Toronto, Planning and Growth Management Committee, "Liberty Village New Street Environmental Assessment" (2016).

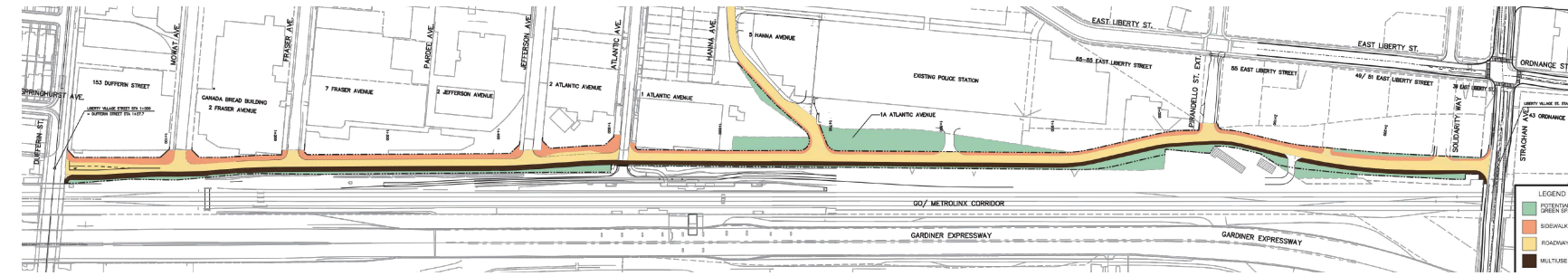


Fig. 25. Liberty New Street plan per Municipal Class Environmental Assessment



Fig. 26. Context, TTC and Metrolinx routing

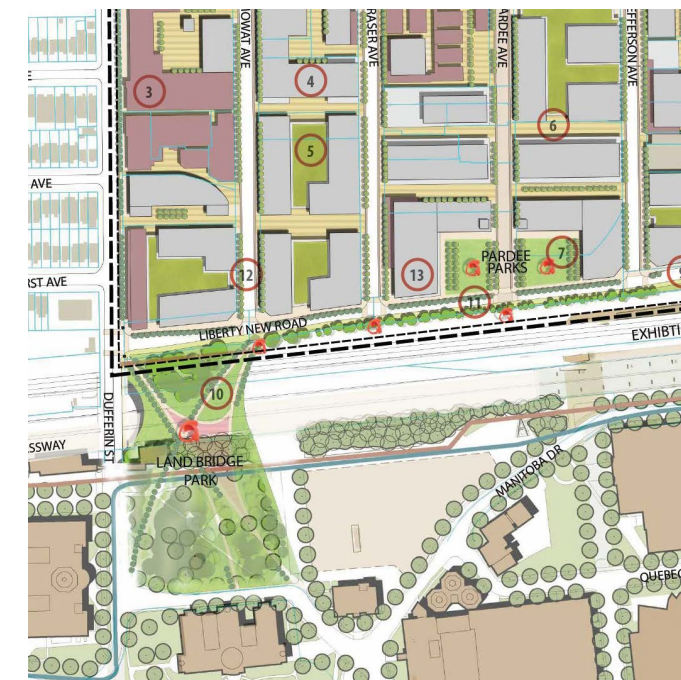


Fig. 27. Liberty Village Masterplan, southwest quadrant

These remarks emphasize that a concerted effort towards publicizing the area, as opposed to further mobilizing CPTED strategies, is the preferred direction. The current LVBIA membership benefits package²⁵ advertises streetscape and beautification projects, a public mural/art program, and a free graffiti removal service, none of which seems to acknowledge the public's desire for urban development that resonates.

- 3) Third, a need for improved infrastructure. This means amplifying the function of current infrastructure (i.e. Lampport Stadium), upgrading utilities to accommodate future densification, and the aforementioned addition of a berm-adjacent street.

Focusing on the southwest quadrant of the LVBIA (Fig. 27), precisely where I have proposed a large-scale spanning architecture, the *Master Plan* has also recognized the embodied potential of the site where both vehicular and rail transport modes are entrenched. Hi-level concept development suggests that a land bridge at this juncture "would serve as a prominent gateway" and "would strengthen connections to Exhibition Place and the waterfront".

25. Liberty Village BIA, "LVBIA Member's Package 2018," Liberty Village BIA (2018).

Exhibition Place



Exhibition Place

The development phases of Exhibition Place >

The spirit that Exhibition Place currently exudes began to emerge in 1879 when the grounds hosted the inaugural Industrial Exhibition²⁶. Toronto's own version of a *Crystal Palace* was built in advance of the event roughly where the *Horticulture Building* stands today (Fig. 28). The ground floor was dedicated to musical instruments, gas fittings, saddlery, hardware, chinaware, billiard tables, and more²⁷. In 1904, the name of the annual fair was changed to the *Canadian National Exhibition* (CNE). Toronto's *Crystal Palace* stood for twenty-seven years, eventually succumbing to fire on Thanksgiving Day in 1906. This was a fate that most like-designed buildings of the time experienced. Enter G.W. Gouinlock, who would, from 1905 until 1912, help to construct fourteen Beaux Arts style buildings on the site, five of which remain on the western portion of the grounds. The *Press Building* (1905), the *Horticulture Building* (1907), the *Music Building* (1907), the *Government Building* (1912), and the *Firehall/Police Station* (1912)²⁸ contribute heritage and character to an otherwise modern palette (Fig. 29).

The second phase of development for Exhibition Place began in 1920. In light of a new mandate and stature for the CNE as a showcase of industrial and manufacturing marvel, the CNE Plans Committee contracted the architectural firm of Chapman and Oxley to develop the *CNE Fifty-Year Plan* (Fig. 30). This plan is responsible for determining the current boundaries of the site by expanding the grounds east to Strachan Avenue, west to Dunn Avenue, and south by way of reclaimed landfill. The plan imagined a grand promenade beginning from this newly acquired eastern edge and ending at an encircled court nearer to the centre of the grounds. Part of this plan was realized in 1927 when construction began on the now famous *Prince's Gates*. The plan further imagined that immediately upon entering through the gates,

26. Jamie Bradburn, "Historicist: An Exhibition in Crystal," *Torontoist*, August 23, 2008, https://torontoist.com/2008/08/historicist_an_exhibition_in_crystal/.

27. Exhibition Place, "Facts & Figures: Exhibition Place," Exhibition Place, <https://www.explace.on.ca/about/history/facts-figures-exhibition-place>.

28. Ibid.

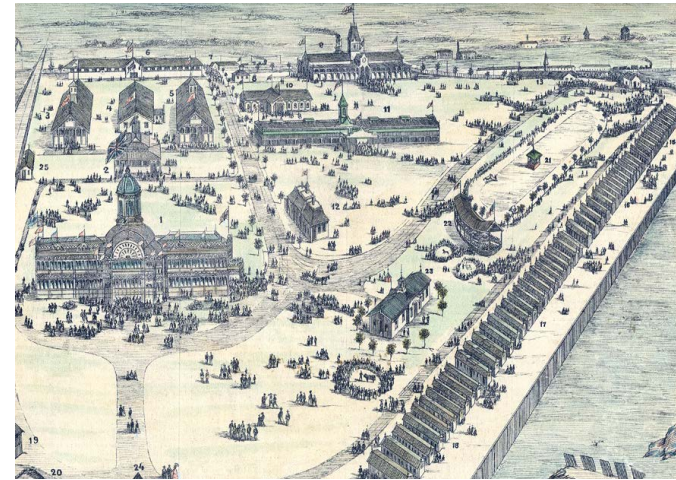


Fig. 28. Exhibition Place grounds circa 1879 with *Crystal Palace* bottom left

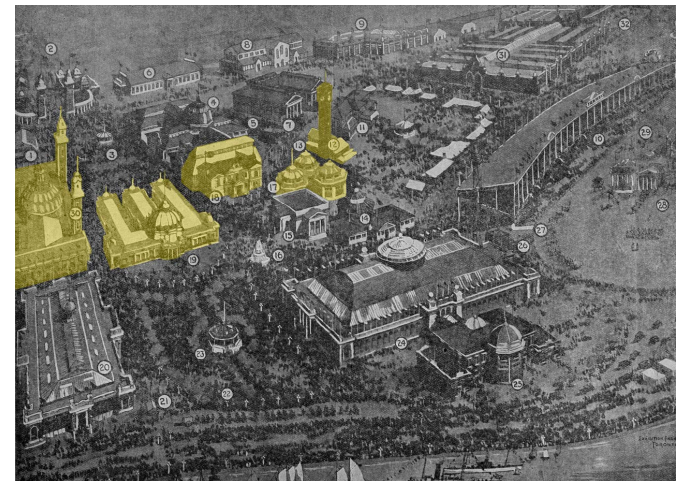


Fig. 29. Exhibition Place grounds circa 1917 with still existing buildings highlighted

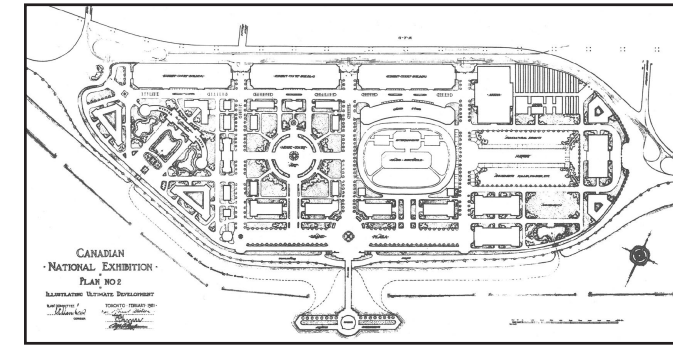


Fig. 30. CNE 50-year Plan by Chapman and Oxley

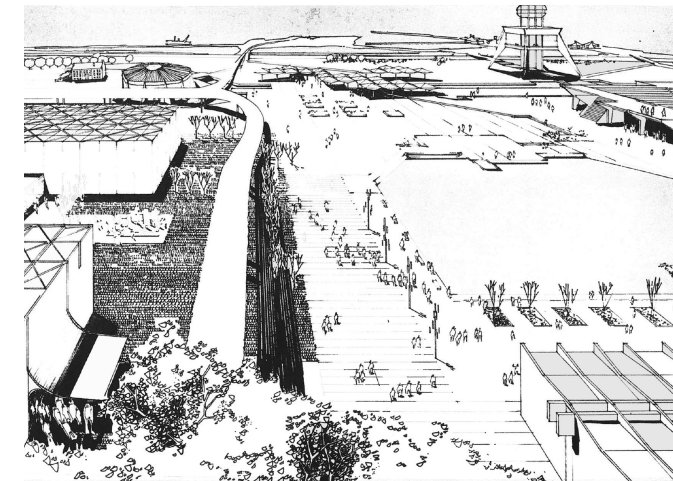


Fig. 31. Sketch of the 'Great Central Place', 1971 plan for Exhibition Place

visitors would be flanked on either side by two massively scaled buildings²⁹. Although the buildings initially designed to accomplish this have been either substantially renovated or demolished and replaced, the essence of this design goal persists. I want to pause for a moment to recognize the presence of the notion of massively scaled buildings. A section still to come in this thesis will touch on why we are compelled as humans to build large things, and specifically why Exhibition Place has always been positioned to satisfy this propensity.

The third phase of development for Exhibition Place is historically its least successful. In 1971, precisely fifty-years following the conception of the *CNE Fifty-Year Plan*, the Metro Planning and Parks Departments (MPD and PD) were not happy with the state of the fairgrounds. They viewed many of the elder structures as functionally obsolete, particularly when compared with what was happening south of Lake Shore Boulevard. At this time, the geodesic sphere and stilted boxes born out of *Expo 67* were beginning to rise at Ontario Place³⁰. In a reactionary fashion, the MPD and PD subsequently prepared a set of documents entitled the *Proposals for the Rehabilitation of Exhibition Park* (Fig. 31). They included such ideas as moving the midway off site, reorganizing the grounds into three distinctly themed areas (winter fair, trade, and sports) surrounding the "Great Central Place", demolishing fourteen pre-WWII buildings as well as *Exhibition Stadium*, and adding an elevated mini-rail system connecting all elements of the site³¹. Metro Council adopted the proposal after successfully arguing for the retention of Exhibition Stadium as well as the midway. But in 1974 the plan lost all momentum when Metro Council decided to double-down on their decision to retain Exhibition Stadium by choosing to expand it for use by a new major league baseball team³².

29. Mark Osbaldeston, *Unbuilt Toronto: A History of the City that Might Have Been* (Toronto: Dundurn Press, 2008) 200.

30. Ibid, 203.

31. Ibid, 203-4.

32. Ibid, 206.

Development by committee >

The fourth and current phase of development for Exhibition Place began in 1983 -- not with a master plan, futuristic rendering, or grand vision for the grounds, but rather an investment into organization and structure. The Board of Governors for Exhibition Place was established under the *Municipality of Metropolitan Toronto Act*, and was continued as a board of the City under subsection 407(1) of the *City of Toronto Act* (2006). The Board is a corporation currently with nine members appointed by City Council, including the Mayor Designate, four Members of Council, and four public members³³. The Board was thirteen members prior to the *CNE Association* (CNEA) becoming an independent operation in 2013³⁴. The following will attempt to summarize key information about Exhibition Place tenancies, planning initiatives, and key events from this Board-led development period.

In 1993 the Board made the decision to award a lease for the spaces of the *Arts, Crafts, and Hobbies Building* (formerly the *Government Building*) to *Medieval Times Dinner and Tournament*. Evidently a good impression was made, because this program for the building has endured now for twenty-five years, including a twenty-year lease renewal effective January 2001³⁵. It is possible that the early and total success of *Medieval Times'* tenancy stirred an appetite amongst Board members to further explore privatized, risk-averse revenue streams to help revive their other idle Beaux Arts structures.

The origin story of Exhibition Place's largest building (in terms of footprint), the *Energare Centre* (Fig. 32), starts with the Board conducting future-use studies in order to fill the gap that would be left when the Blue Jays and Argonauts moved from *Exhibition Stadium* to the nearly constructed *Skydome*³⁶. Although a trade centre made sense, Federal funding was required in conjunction with private and municipal investment to realize the vision. The project became feasible when \$244 Million became available through the



Fig. 32. The Enercare Centre, formerly the National Trade Centre

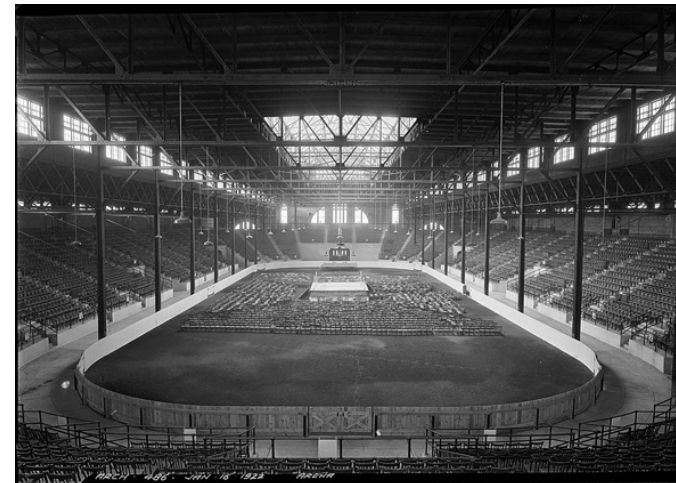


Fig. 33. The Coliseum, circa 1922



Fig. 34. The (Ricoch) Coliseum, circa 2017

Canada Infrastructure Works Program. However, what had been planned as a public-private partnership became a solely public venture when confusion arose about whether or not the project would be both a trade complex and convention centre, or just the former³⁸. Long-time Toronto City Councillor Joe Pantalone, who sat on the board of the *National Trade Centre* during its conception, has stated that "infrastructure at the scale of a trade centre, based on a requirement for it to fulfill a truly original and competitive role with regions across the world, simply puts such a project out of the reach of the private sector"³⁹. This yields two conclusions: one, architecture at the scale of infrastructure is a means to stay economically competitive in the global marketplace; and two, function at this scale, among other variables, will impact the nature of a building's procurement strategy.

Back to the point about privatized, risk-averse tenancies. It was announced in 2003 that the *Coliseum* (Fig. 33) at Exhibition Place would be renovated for use by an American Hockey League (AHL) team, a decision that was made without commitment from the Toronto Maple Leafs' parent company Maple Leafs Sport and Entertainment Limited (MSLEL) that their affiliate team in Newfoundland would ever occupy the space. The deal was structured three-ways between the City (who retained ownership), the leasing entity (on the condition of a forty-nine year tenancy), and the renovation corporation⁴⁰. In the most predictable of fashions, MSLEL relocated their AHL affiliate in 2004 from Newfoundland to *Ricoch Coliseum* (Fig. 34), so it was called at the time, on the condition of a twenty-year sub-lease. This likely contributed to setting the stage for increased relations between Exhibition Place and MSLEL, whose ultimate investment into the grounds came in the form of BMO Field.

The *Coliseum*, among other cases, is beginning to show exactly how common practice it is for the Board of Governors of Exhibition Place to sell longer-term usage rights to their otherwise underutilized premises. This includes their pre-war and modern structures, as well as their on-site billboards and wind

33. Exhibition Place, "Members and structure," Exhibition Place, <https://www.explace.on.ca/about/board-of-governors/members-and-structure>.

34. News Staff, "CNE to split from City of Toronto," *680 News*, January 27, 2012, <https://www.680news.com/2012/01/27/cne-to-split-from-city-of-toronto/>.

35. Diane Young, "Subject: Long-Term Tenant Leases - Exhibition Place," June 15, 2015.

36. Tim Chorney and Jay Innes, *On the Money Trail: Investigating How Government Decisions are Made*, edited by C. Hajek and E. LeReverend (Toronto: Breakout Educational Network in association with Dundurn Press, 2003) 203-4.

37. Tim Chorney and Jay Innes, *On the Money Trail*, 203-4.

38. *Ibid*, 206-7.

39. *Ibid*, 207.

40. Diane Young, "Subject: Expansion of MSLEL Office Space in Ricoch Coliseum," June 26, 2013.

turbine⁴¹. The common sense here is that Exhibition Place retains ownership of all assets, while privately owned businesses provide the expertise and resources necessary to keep their operations profitable -- all while maintaining a good state of repair, if not enhancing the architectural quality of their leased premises. The Board is able to not only reinvest or accrue property income, but it receives (by way of its public denomination) a portion of the business tax levied onto each of its tenants. In each iteration of their bi-annual strategic plan dating back to 2012, the Board has boasted fiscal independence. Both financially and physically, Exhibition Place could identify as a self-sustaining island or geography.

The subtlety involved with making this model work from even a cultural and social perspective, is that each constituent tenant must refrain from duplicating service to the public and their more idiosyncratic patronage. In order to avoid such toe-stepping, each tenant lease contains an explicit and thorough 'prohibited uses' clause. Most accounts suggest that the Board has achieved a synergy of uses and a good rapport with surrounding community regarding the nature of these uses. Only in the case of *Muzik Nightclub* occupying the **Horticulture Building** has there been notable opposition.

The early Gouinlock Beaux Arts structure has been hoarded off on all sides using cheap construction-grade panel fencing in order to contain evening patrons and justify exclusivity (Fig. 35). In an effort to gain the trust of both the public and the Board following a fatal incident of gun violence in August 2015, *Muzik Nightclub* was rebranded into *The Grand Bizarre Supper Club*, an environment that promotes food before drink, and musical ambiance at one third of the volume⁴². The building's original architecture remains veiled, the war for the historically significant Greek God sculptures trapped within the premises wages on⁴³, and the tenant has upheld their refusal to converse publicly with the street and adjacent green space.



Fig. 35. Public-to-private barrier surrounding the Horticulture Building

41. Diane Young, "Subject: Long-Term Tenant Leases – Exhibition Place," June 15, 2015.
42. Lisa Xing, "Are nightclubs 'passe'? The owner of Muzik thinks so as dance spot rebrands as supper club," *CBC*, December 14, 2018, <https://www.cbc.ca/news/canada/toronto/muzik-nightclub-grand-bizarre-1.4944792>.
43. Michael Smee, "Greek god sculptures by renowned artist may soon be back on display at Exhibition Place," *CBC*, October 30, 2019, <https://www.cbc.ca/news/canada/toronto/greek-god-sculptures-by-renowned-artist-may-soon-be-back-on-display-at-exhibition-place-1.5336162>.

Bigger, better (?), and 'sporty...er' >

For the most part, a sport or entertainment-related venue has always acted as the centroid for Exhibition Place. Multiple iterations of stadia have existed near to or precisely where *BMO Field* stands today. Grandstand One was destroyed by fire alongside the *Crystal Palace* in 1906. Grandstand Two suffered a similar fate in 1946. Grandstand Three was born in 1948 and graduated to stadium status when an additional set of bleachers was installed in order to accommodate the *Toronto Argonauts*. *Exhibition Stadium* underwent further renovations in 1975 to accommodate for the *Toronto Blue Jays* in 1977⁴⁴. *Exhibition Stadium*, which had earned the banner of 'Mistake by the Lake'⁴⁵ for its failure to mitigate weather related disturbances (largely a reason for why the *Skydome* was built), was demolished in 1999. The centroid of Exhibition Place remained a parking lot for the next seven years.

Hindsight would suggest that the odds of a construction like *BMO Field* happening were extremely high. First, the particular location within the site had a rich history of entertaining large occupancies through sport, music, and other theatrical forms (see above). Second, Toronto was at the time, and still is, an increasingly diverse city that probably should have accommodated a professional soccer club earlier than they did. Third, Exhibition Place and MLSEL were already in the midst of establishing a business relationship, with the latter committing their minor league hockey operations to the *Coliseum Building* in 2004.

An agreement was reached in 2005 for a stadium to be procured as a P3 project. Consistent with the Board's philosophy, the City would retain ownership, while MLSEL would retain management and naming rights (later selling them to BMO for ten-years, hence the name)⁴⁶. The original *BMO Field* project was completed in 2007 (Fig. 36). A two-phase renovation to provide additional seating and a canopy began in 2014 and was completed

44. John Robinson, *Once Upon a Century: 100 Year History of the 'EX'* (Toronto: J.H. Robinson Publishing Ltd., 1978).
45. Janice Bradbeer, "Once Upon a City: Mistake by the Lake's troubled place in Toronto history," *Toronto Star*, March 31, 2016, <https://www.thestar.com/yourtoronto/once-upon-a-city-archives/2016/03/31/once-upon-a-city-mistake-by-the-lakes-troubled-place-in-toronto-history.html>.
46. CBC Sports, "Toronto city council approves soccer stadium deal," *CBC*, October 27, 2005, <https://www.cbc.ca/sports/toronto-city-council-approves-soccer-stadium-deal-1.536727>.

in 2016 (Fig. 37). It was generally expected that these enhancements would help to attract future international sporting events⁴⁷. The structure has received mixed reviews in terms of its architectural character. On one hand, the AEC community has endowed high praise onto its design, engineering, management, and fabrication teams through numerous industry awards. On the other hand, a quick review of TFC fan pages and the like would suggest that some members of the public view *BMO Field's* overall aesthetic as something of a kit of parts, to which I ask -- is this a bad thing?

The court of public opinion's ultimate take on BMO Field will ride with the success or lack of success of the soccer club it hosts. Nor will it ever receive the brunt of public detest when its uglier, barbaric younger brother sits diagonally across the CNE festival plaza.

Hotel X had long been yearned for by the Board, seemingly since the *National Trade Centre* was built in the nineties, as a means to up the usage of its trade and convention amenities. The board issued a request for proposals in 2007, and in 2008 awarded the rights to the project to a group of New York-based investors⁴⁸. This group promptly looked to Korea to acquire financing⁴⁹, unlike *BMO Field* which found life from within the Canadian economy. The terms of the arrangement were outlined as a forty-nine-year lease with a tenant option on two subsequent lease-renewal opportunities, each for a length of twenty-five years. By that logic, *Hotel X* might be more appropriately labeled as Hotel 'C' (as in the Roman numeral for one-hundred). But perhaps the 'X' stands for the grade that the public has endowed upon the structure for its architectural merit. Originally schemed as the 'Hotel in the Garden'⁵⁰, *Hotel X* stands as a neo-brutalist shell for luxury accommodation (Fig. 38). Urban Toronto's dedicated project forum reads like a slam-piece, in which contributors have

47. Kurt Larson, "MLSE plans to spend big bucks to upgrade BMO Field," *Toronto Sun*, March 16, 2014, <https://torontosun.com/2014/03/16/mlse-plans-to-spend-big-bucks-to-upgrade-bmo-field/wcm/77a34ef7-eb07-453d-88bf-0bccbd7f0f0f>.
 48. City of Toronto Business Development Committee, "Subject: Exhibition Place Hotel Development Plan and Agreement to Lease," October 2, 2009.
 49. Library Hotel Collection, "NYC Investors Make CAD\$330 Million Investment in Toronto's Hotel Market; Secure CAD\$165 Million Loan from Korean Lender," *PR Newswire*, October 22, 2018, <https://www.prnewswire.com/news-releases/nyc-investors-make-cad330-million-investment-in-torontos-hotel-market-secure-cad165-million-loan-from-korean-lender-300735240.html>.
 50. Urban Toronto, "Hotel X (was Hotel in the Garden)," *Urban Toronto*, <https://urbantoronto.ca/database/projects/hotel-x-was-hotel-garden>.



Fig. 36. BMO Field complete after phase one construction



Fig. 37. BMO Field phase two canopy and seating construction, ongoing

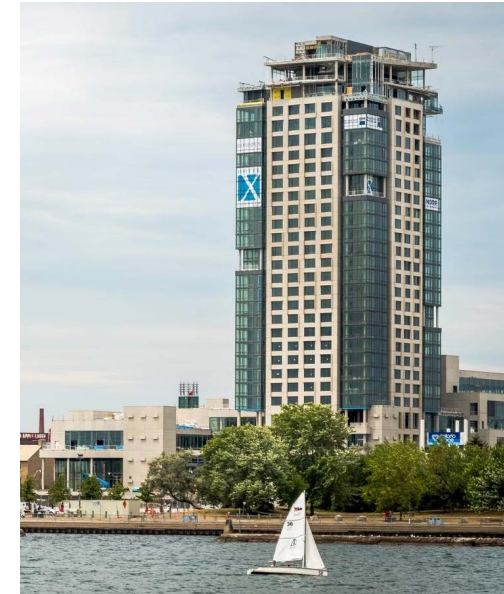


Fig. 38. Hotel X construction nearing completion

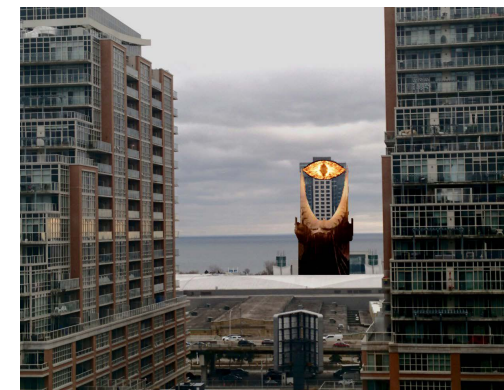


Fig. 39. Hotel X parody, photo manipulation

taken issue primarily with its exterior façade, but also with its half-willed strategy to conserve the archaeological history of the *Stanley Barracks*.

Although *BMO Field* and *Hotel X* have been received differently by the public, they both contribute an important insight to this thesis. That being the way about which the business development strategies of the Board of Governors for Exhibition Place are currently driving the evolution of the grounds. Using such insights, one might conclude that if a near-future project were to be proposed for the grounds and subsequently procured, it would likely need to satisfy the P3 framework and mesh with the site-use canon which has been cemented in property/building-use contract literature.

Exhibition Place going forward >

Starting with the *2010 Structure Plan* -- this plan consolidates three things: one, the *1998 Concept and Development Plan*, which guided the development of underutilized buildings on the site; two, the *2004 (updated) Concept and Development Plan*, which introduced environmental goals to the site's mandate; and three, the *2009-2012 Strategic Plan*, which arose out of the Board's first official planning exercise of the new millennium⁵¹.

The following are noted as primary ambitions⁵²:

- A curated festival plaza on the land framed between *BMO Field*, *Hotel X*, and Lake Shore Boulevard
- An extension of Dufferin Street south to Lake Shore Boulevard (the 2004 plan anticipates this as a pedestrian right-of-way)
- A continuation of the Harbourfront LRT line westward from its current loop to an eventual connection with the Queensway LRT line

51. Diane Young, "Subject: 2010 Structure Plan," February 25, 2010.
 52. Board of Governors for Exhibition Place, "2010 Structure Plan," 2010.

Secondary ambitions noted in this plan include⁵³:

- An enhancement of the historic Dufferin Gateway to ensure appropriate space and amenity
- Establish new entrances to Exhibition Place
- Pursue opportunities to integrate transit with new development

Urban Strategies Inc. et al. were contracted in 2011 to further develop the idea of a festival plaza. They have since contributed a comprehensive study recommending intervention and providing cost estimates⁵⁴. Subsequent strategic plans have been prepared for the years 2014 through to 2016, and for the years 2017 through to 2019. Each preaches business development in-line with diverse, non-conflicting site uses, as well as a sustained commitment to the environment, safety and security, recognition and public understanding (site legacy), organization and staffing, and financial surpluses. A pocket of language explicitly recognizing Liberty Village as an opportunity and obligation grew from the second strategic plan to the third^{55&56}.

The Board, as recently as October 2019, conducted a public meeting regarding the draft vision and guiding principles of an impending master plan for the whole of Exhibition Place.

53. Board of Governors for Exhibition Place, "2010 Structure Plan," 2010.

54. Urban Strategies Inc., Philips Farevaag Smallemberg, and Arup, "Festival Plaza Site at Exhibition Place, Toronto Master Plan," 2011.

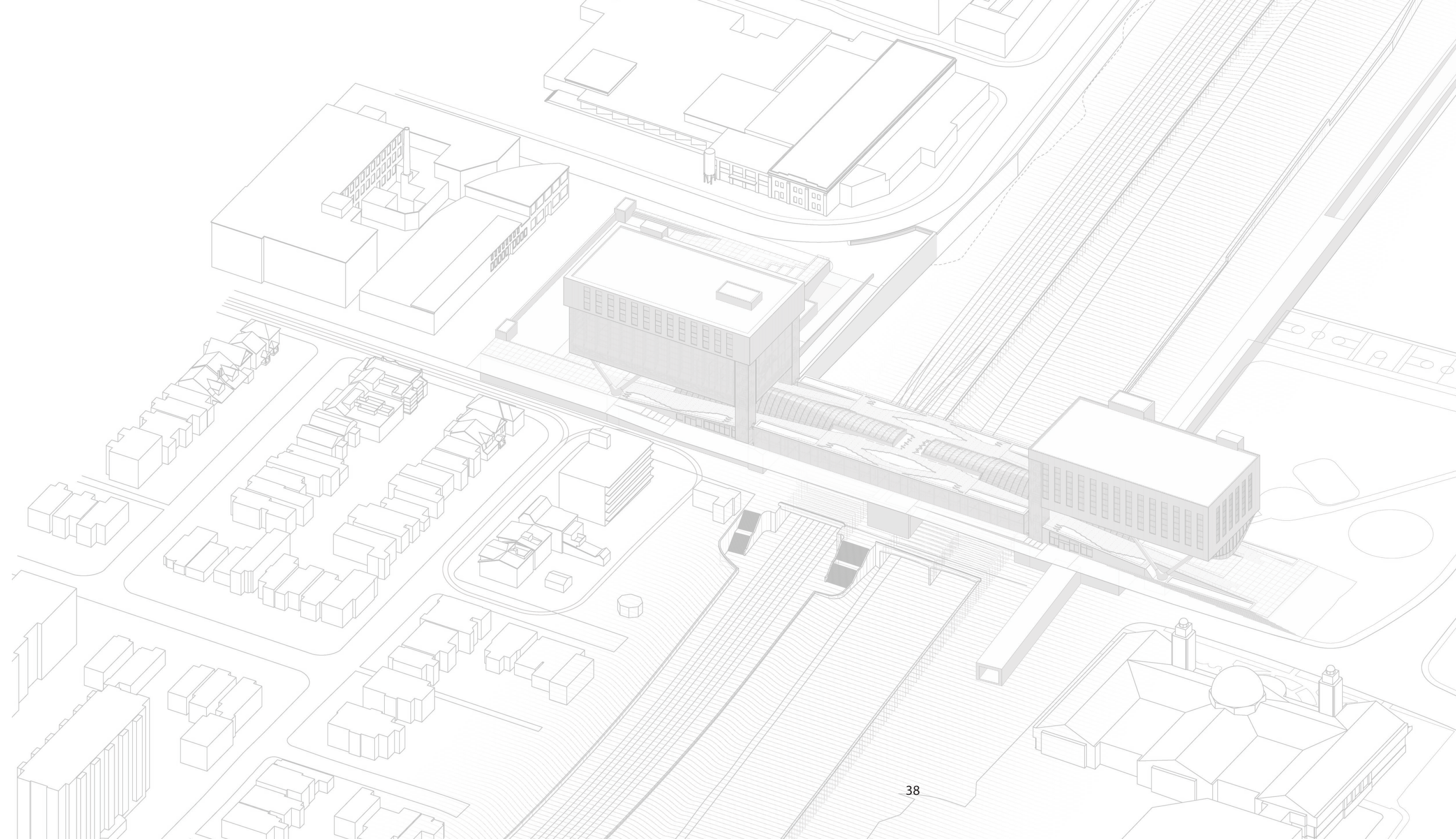
55. Board of Governors for Exhibition Place, "Exhibition Place Strategic Plan 2014-2016," 2014.

56. Board of Governors for Exhibition Place, "Exhibition Place Strategic Plan 2017-2019," 2017.



Fig. 40. Festival Plaza artistic rendering

Concept and Design



Concept and Design

This section hopes to accomplish four things: one, spotlight the modern origins of borrowed concept; two, underline the distinction between megastructure and large architecture; three, identify architectonic precedents; and four, convey design resolution across scales. At the scale of infrastructure, the design seeks to address urban policy, local/city-wide developmental trends, and regional planning schemes. Fig. 41 depicts the intervention amongst a collage of urban articulations. They include a massing scheme informed by the *Liberty Village Master Plan*, the proposed *Liberty New Street*, in-progress new build and adaptive reuse projects, a pedestrian extension of Dufferin Street southward to Lake Ontario, and an extension of the Harbourfront LRT line westward.

At the scale of a building, the design seeks to achieve 'bigness' through formal arrangements, hierarchies, and juxtapositions, as well as novel programmatic configurations and a speculation about a first-wave of tenancies. At the scale of its tectonics, the design seeks to clarify an intelligibility about construction/site logistics, material assemblages, and structural integrity. Each of these is expanded upon in the following pages.

Megastructural influence >

The idea of building big in architecture became an axis for important cultural and sociological discourses following the disintegration of the *CIAM* along with any remaining faith in the modernist city. The megastructure was an attractive notion because it proposed to solve a series of contentious dualisms; design versus spontaneity, the large and the small, and the permanent and the transient⁵⁷. Nearer to its conclusion, Colin Rowe echoed a common sentiment about the movement: generally, megastructural conceptions fell too far in the direction of the rational, prophetic, and

57. Reyner Banham, *Megastructure: Urban Futures of the Recent Past* (London: Thames and Hudson, 1976) 10.

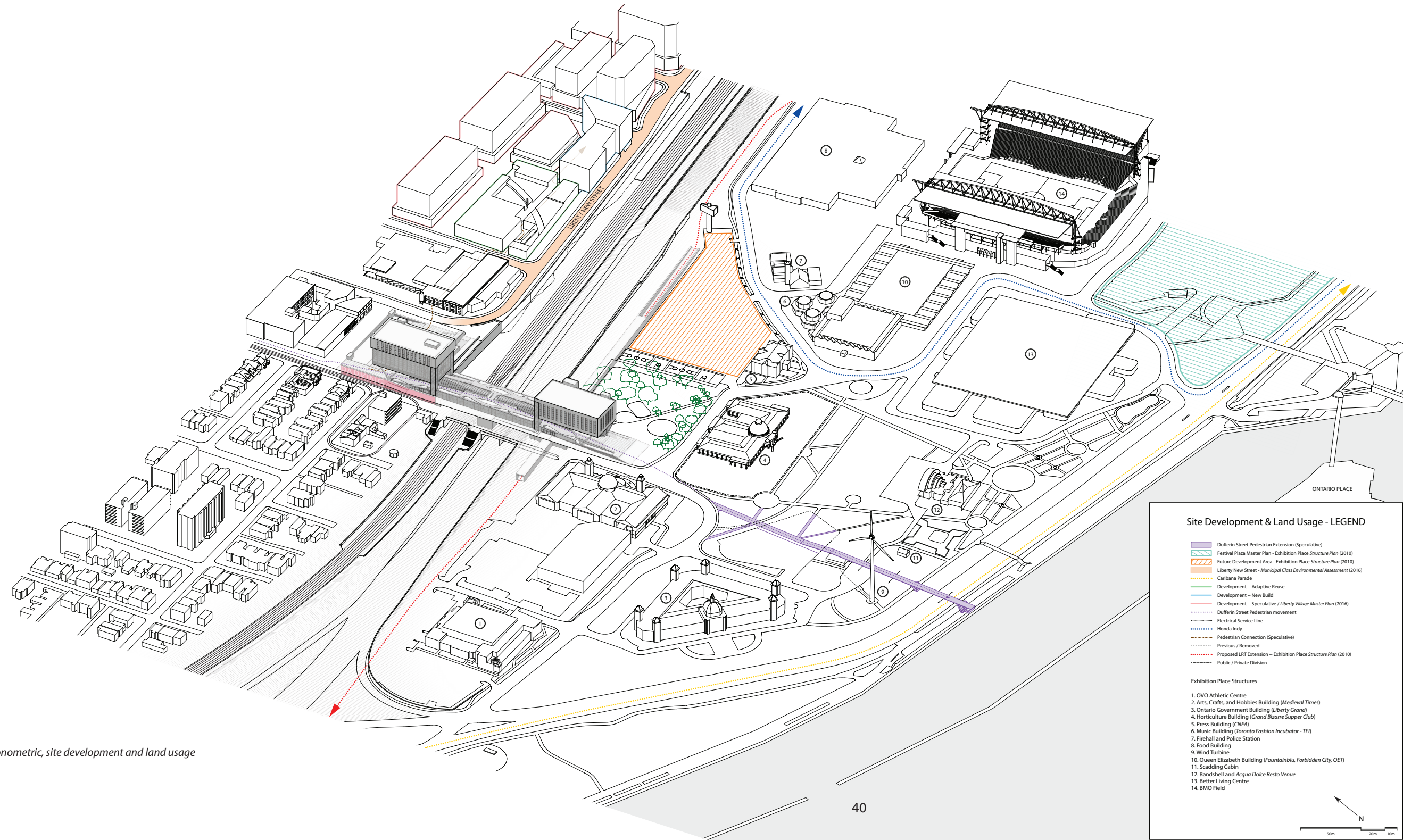


Fig. 41. SW Axonometric, site development and land usage

anticipatory, as opposed to the relative, memorable, and retrospective. Yona Friedman's *Ville Spatiale*, Constant Nieuwenhuys' *New Babylon*, or any of Archigram's intelligent cities, all embodied a manic optimism about material science and hysterically over stipulated their utopian model⁵⁸. Cedric Price's *Fun Palace* was as an outlier, set apart from its contemporaries for demonstrating sensibilities about construction, and overall design humility. Whereas *New Babylon* rejected all essential rationalities⁵⁹, the *Fun Palace* was born from the 'blue collar' theatrical philosophy that professional backstage assistance is necessary in order to achieve participatory pleasures out front⁶⁰. Just like that, the all-important distinction has been made.

Very few would identify the *Fun Palace* as a megastructure. Fumihiko Maki may have put it best -- megastructures were obsessed with the social system they proposed to house, and less so with architectural form⁶¹. Focus on architectural form and architectonics, as well as a commitment to contextually defined social, cultural, and economic systems, are all reasons why this thesis sits firmly within the domain of substantially large architecture and not that of the megastructure. Price's *Fun Palace* was deliberately mentioned to help illustrate this point, but also to bridge these two domains and transition our discourse into prospective real-world materializations of megastructural concept. Two megastructural concepts are present in this thesis.

The first is that of a temporal dichotomy between the permanent frame and transient sub-environments. Kenzo Tange catalyzed Metabolist thinking in the early sixties with the 'tree and its leaves' analogy, which we see clearly in his plan for *Tokyo Bay*⁶². Consistent with Tange's metaphor, this thesis seeks to evoke the spirit of Florence's *Ponte Vecchio* (Fig. 42) along with the contemporary resolution of Hawkins and Brown's *The Gantry at Here East* project in London featuring the *Trampery*⁶³ (Fig. 43). Toronto's equivalent to London's *Trampery* is the *Centre for Social Innovation*, a social enterprise dedicated to making an impact by supporting co-working, community,

58. Colin Rowe, *Collage City*, (Cambridge, Mass.: MIT Press, 1978) 38.

59. Simon Sadler, *The Situationist City* (Cambridge, Mass.: MIT Press, 1998) 134.

60. Reyner Banham, *Megastructure: Urban Futures*, 88.

61. Fumihiko Maki, *Nurturing Dreams: Collected Essays on Architecture and the City*, edited by Mark Mulligan (Cambridge, Mass.: MIT Press, 2008) 40.

62. Reyner Banham, *Megastructure: Urban Futures*, 52-3.

63. Hawkins/Brown Architects LLP, "The Gantry at Here East," *Hawkins/Brown*, <https://www.hawkinsbrown.com/projects/the-gantry-at-here-east>.

Images right:

Fig. 44. *New Babylon* - Constant Nieuwenhuys, 1959-74

Fig. 45. *Ville Spatiale* - Yona Friedman, 1964

Fig. 46. *Plug-in City* - Peter Cook of Archigram, 1964

Fig. 47. *The Fun Palace* - Cedric Price, 1961

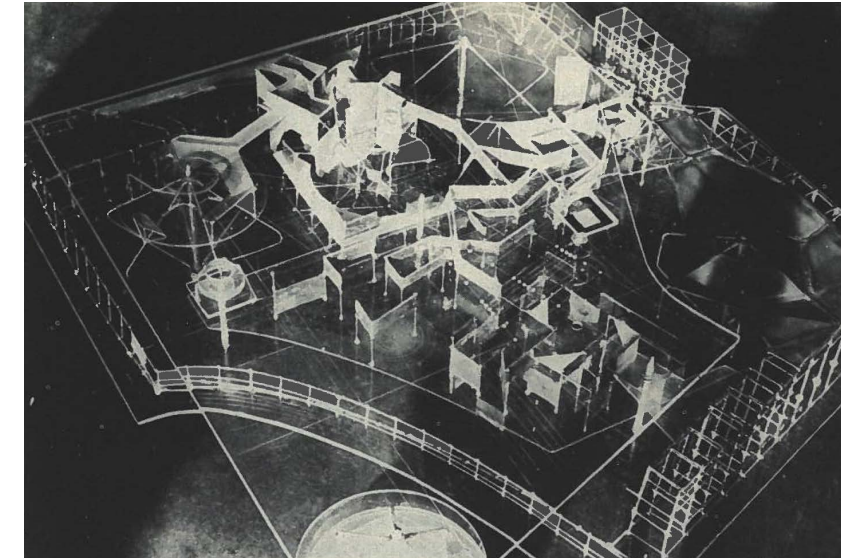


Fig. 44.

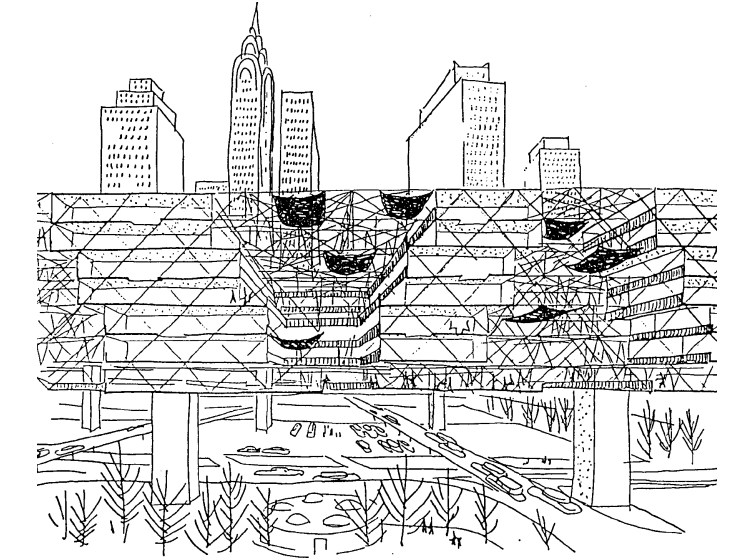


Fig. 45.



Fig. 42. *Ponte Vecchio*, Florence, Italy

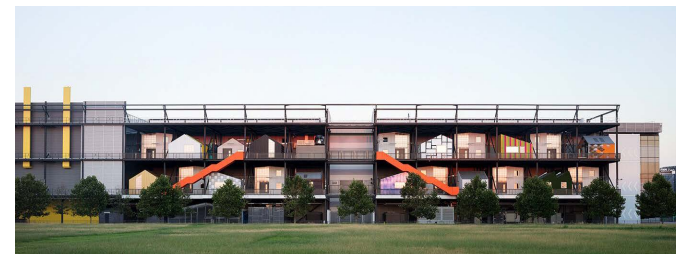


Fig. 43. *The Gantry at Here East* - Hawkins/Brown Architects, 2018_1

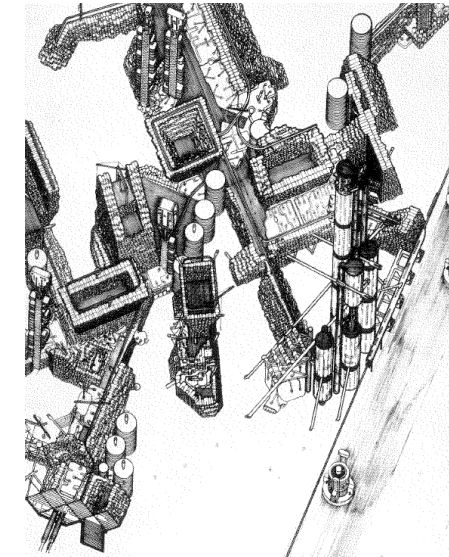


Fig. 46.

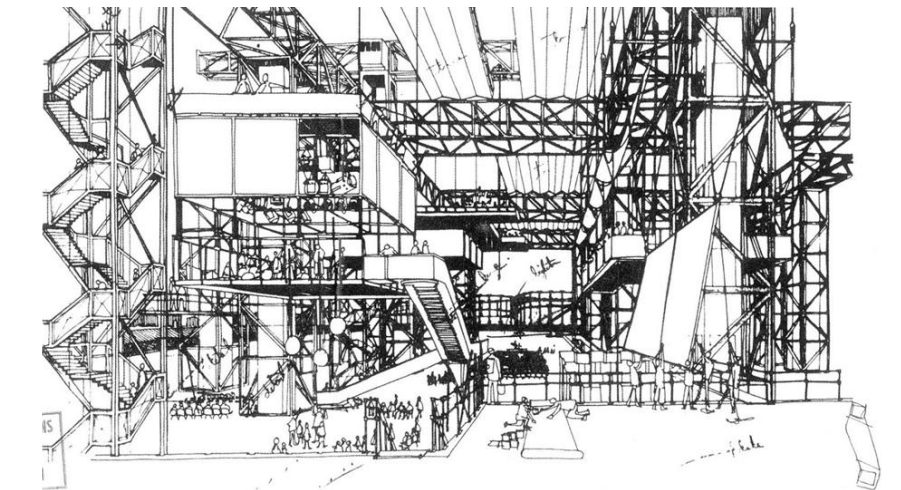


Fig. 47.

and collaboration⁶⁴. The target recipients for this type of support are less affluent creative types, young entrepreneurs, and not-for-profit community organizations that rely upon lower-cost working spaces. My appetite for an inhabitable bridge peaked when it became apparent that an inexpensive and light-weight modular construction, housed within a larger frame, could offer this much needed amenity. Flexibility is inherent to this dichotomy and its architectural form promises more than the mono-function of a pedestrian foot-bridge.

The second concept is that of fun and flexibility, or 'the building as a toy'. The most recent realization of the 'Fun House-ian' ideal is the *Shed* in Manhattan by Diller Scofidio + Renfro. Arguably the most significant cultural addition to the city in decades, the *Shed* employs an open infrastructure which is permanently flexible for an unknowable future and responsive to variability in scale, media, technology, and the evolving needs of artists⁶⁵. This thesis does not aspire to be Toronto's 'Shed-equivalent', however, it does want to build on the notion of a curatable architecture. In this thesis, each second truss within the arrays that define the clear-span volumes of both stilted boxes is designed with hollow, uncapped vertical compression members that allow for cylindrical columns to descend through and lock into place. These adaptable columns acting in tension, serve to make available the possibility of adding additional floor space or manipulating the interior character of the baseline volumes. The tenant for each space would ultimately make arrangements with a 'building curator' about configuring their space to a requested specification.

Program and concept articulation >

The four aforementioned megastructures on page 42, according to Reyner Banham, each constitutes a thread in a sub-era of the modern megastructural movement that was characterized by 'fun and flexibility'. *New Babylon* proposed to serve a society that had abolished work and glorified ludic

64. Centre for Social Innovation, "Centre for Social Innovation," <https://socialinnovation.org/>.
65. Diller Scofidio + Renfro, "The Shed," *Diller Scofidio + Renfro*, <https://dsrny.com/project/the-shed>.

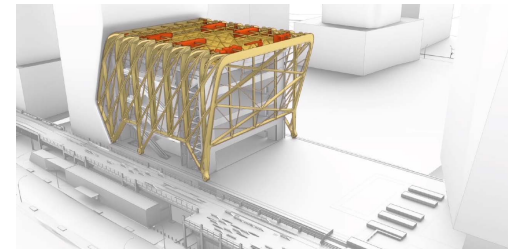


Fig. 48. *The Shed*, animation screen capture A

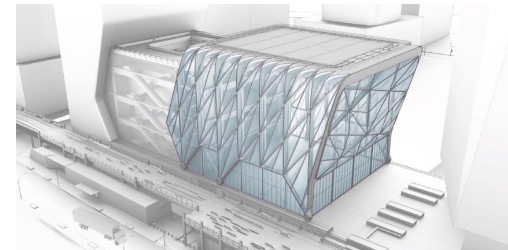


Fig. 49. *The Shed*, animation screen capture B

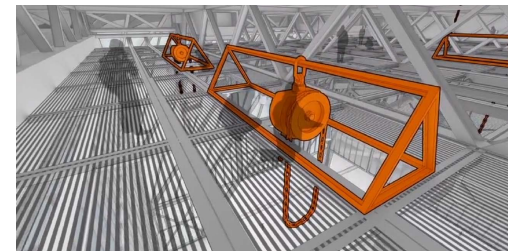


Fig. 50. *The Shed*, animation screen capture C



Fig. 51. *The Shed*, animation screen capture D

and leisure instincts. Along similar lines, *La Ville Spatiale* sought to elevate the occupant above the builder or architect⁶⁶. The *Plug-in City* was one of Archigram's many contributions that examined unit-to-frame dynamacy, among other ideas like nomadacy and urban sentience, literally, at the scale of the city. The *Fun Palace* sought to employ the theatrical philosophy that prescribed a necessary backstage presence in order to facilitate a participatory architecture out front⁶⁷.

Hindsight suggests that each of these projects was attempting to make a statement about indeterminate post WWII live-work circumstance. Generally, the pursuit was liberation, against strengthening current of industrial capitalism. We know that capitalism, by virtue of global markets and the rise of communication and information technologies, has become an overwhelming cultural force. This begs the question:

In today's socio-politico-economic landscape, how might leisure and flexibility materialize?

Note, that in preceding sections of this thesis, a rigorous examination of context has been conducted. This has been done so that any architectural speculation remains tempered by an understanding of trends in urban policy, micro-economics, and cultural history -- which is a direct reaction to the well-recognized failure of megastructural thinking in the past.

The building is proposed as a bi-functional, layered bridge, that connects a public plaza to the north with an existing public park and new LRT station to the south. The bridge's top level features an elevated quasi-landscaped promenade (akin to the *Highline* in Manhattan) that provides exquisite views to the city and the waterfront. The interior component of the bridge offers sheltered passage over the transport corridor and between 'attractor functions'. This street-like passage is lined with inexpensive studio/making/

66. Schneider, Tatjana, and Jeremy Till, "Yona Friedman," *Spatial Agency*, <https://www.spatialagency.net/database/groupe.detudes.darchitecture>.
67. Reyner Banham, *Megastructure: Urban Futures*.

employment/co-working spaces at the scale of single-storey houses; inexpensive because these secondary structures are lightweight modular assemblies offering bare-minimum amenity in conjunction with service connections through a raised floor plenum. Moreover, this is a bridge above a busy transport corridor, and cannot guarantee an absolute reduction of noise, vibration, and other urban deterrents.

The north plaza consists of a shallow water/ice feature, east-west pedestrian passage in line with an urban circulation strategy employed in the 2 Fraser adaptive reuse project (Fig. 52), and food/leisure based public amenity. An elevated continuation of the plaza provides viewing down onto the main plaza and an unobstructed area for pop-up markets/festivals, public art display, and other assembly uses.

The north building consists of a composite hovering mass; a largely opaque mass stacked atop a largely transparent mass. The top mass contains two levels of commercial space to support the ongoing transformation of Liberty Village into a hub for creative industry, which is both a sensible urban contribution as well as a predictable (and relatively low-risk) means to generate property revenue. The lower mass contains a large north-facing clear-span volume with adjacent ancillary spaces compressed around the circulation core. It is expected that throughout the lifespan of the building, such a space would host many tenants.

For the purpose of this thesis, and without going so far as to propose a concept-altering commercial outfit, I have illustrated that an initial tenant for this space might be an entity similar to *Pursuit OCR* (Toronto), the *Monkey Vault* (Toronto), or *Iron Sports* (Houston). Each of these elevates the traditional fitness model (i.e. equipment within a space) to a point of infusion between environment and activity. The ludic qualities of obstacle course racing, parkour, and the like, indulge an aspect of living that survives primarily

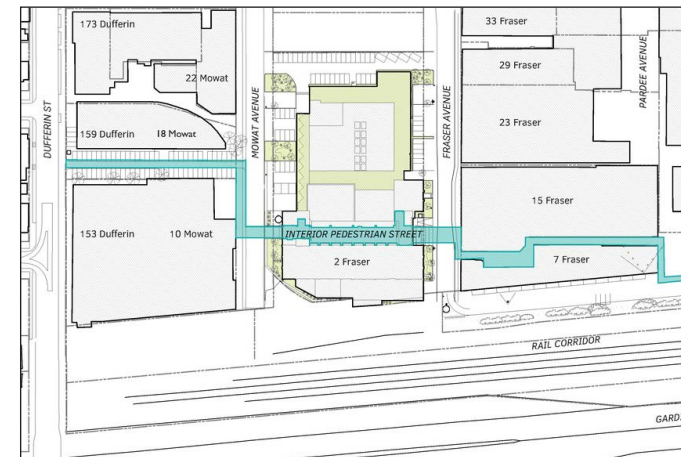


Fig. 52. 2 Fraser Ave. pedestrian-focused urban strategy

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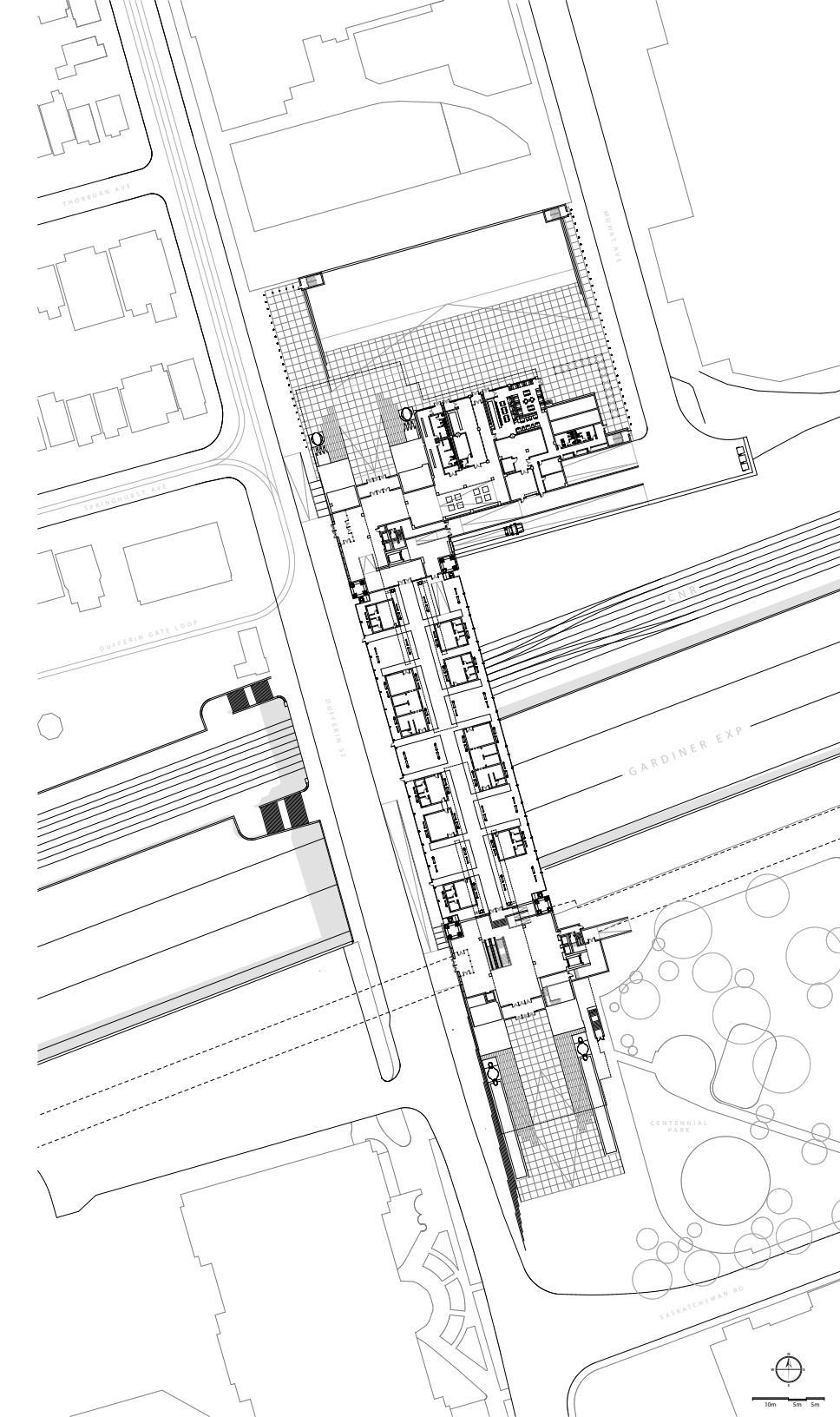


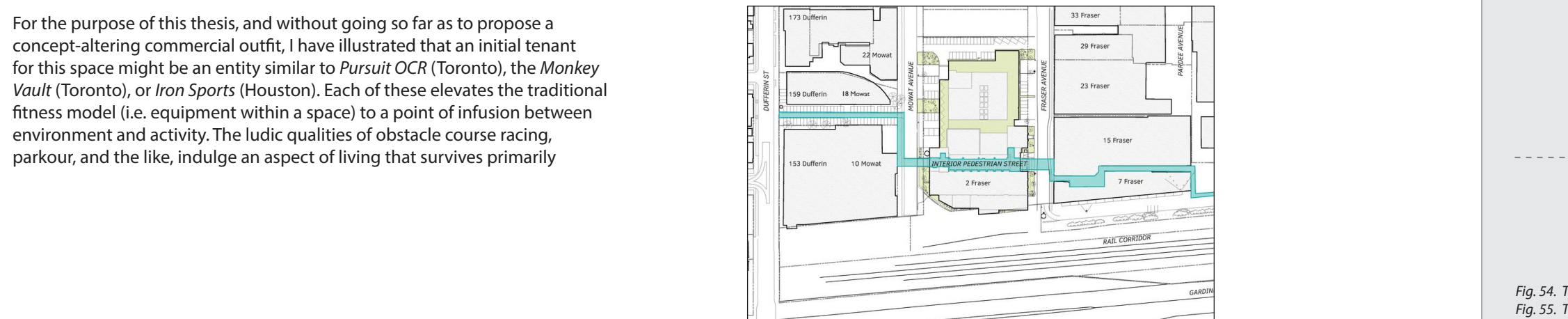
Fig. 53. Level G plan

employment/co-working spaces at the scale of single-storey houses; inexpensive because these secondary structures are lightweight modular assemblies offering bare-minimum amenity in conjunction with service connections through a raised floor plenum. Moreover, this is a bridge above a busy transport corridor, and cannot guarantee an absolute reduction of noise, vibration, and other urban deterrents.

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Program legend (visual and text):

Commercial space for creative industries:
Units from 2000 ft² to 2150 ft²

Fig. 54. The Monkey Vault, Toronto
 Fig. 55. The 'warped wall' at Iron Sports, Houston
 Fig. 56. Neon-lit obstacle room at Pursuit OCR, Toronto
 Fig. 57. Nathan Phillips Square, Toronto

& North Entrance

Parking and Mechanical

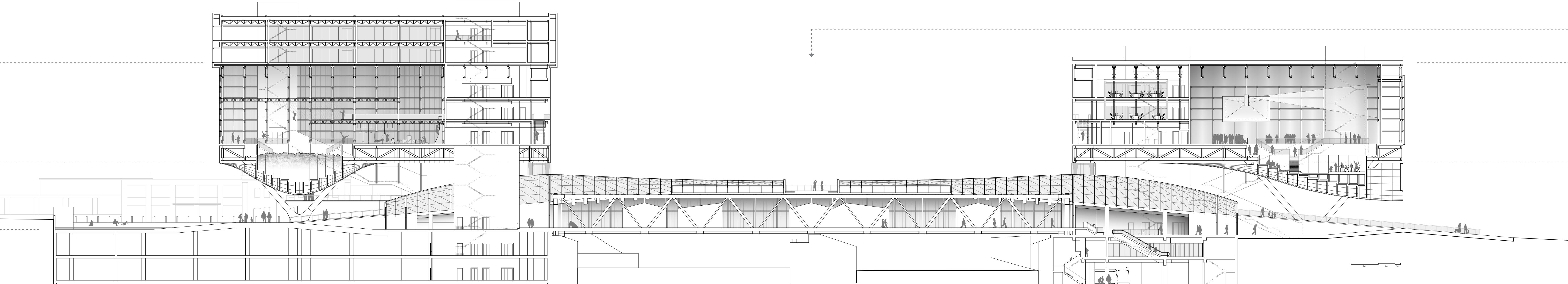
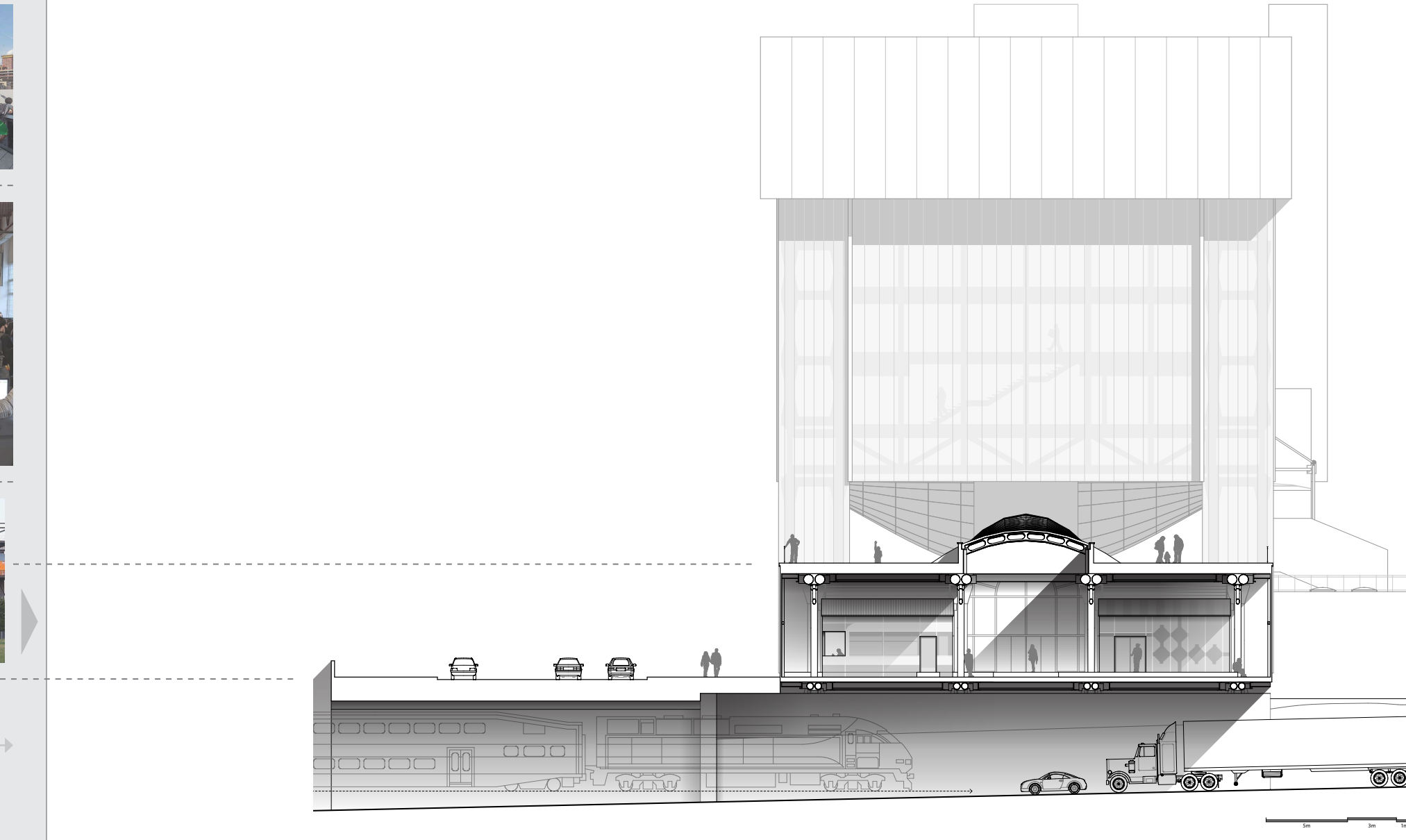


Fig. 59. The Highline, Manhattan_1
 Fig. 60. The Highline, Manhattan_2
 Fig. 61. The Gaming Stadium competition room
 Fig. 62. The Gaming Stadium training room
 Fig. 63. The Gantry at Here East - Hawkins|Brown Architects, 2018_2

South Entrance

Light Rail Transit

Gardiner Expy. / CNR



on fortunate accidents of unintended urban use. It is my observation that Toronto can be an anxious city, whose occupants might benefit from new means to outlet, interact, and be leisurely, outside of bars and restaurants.

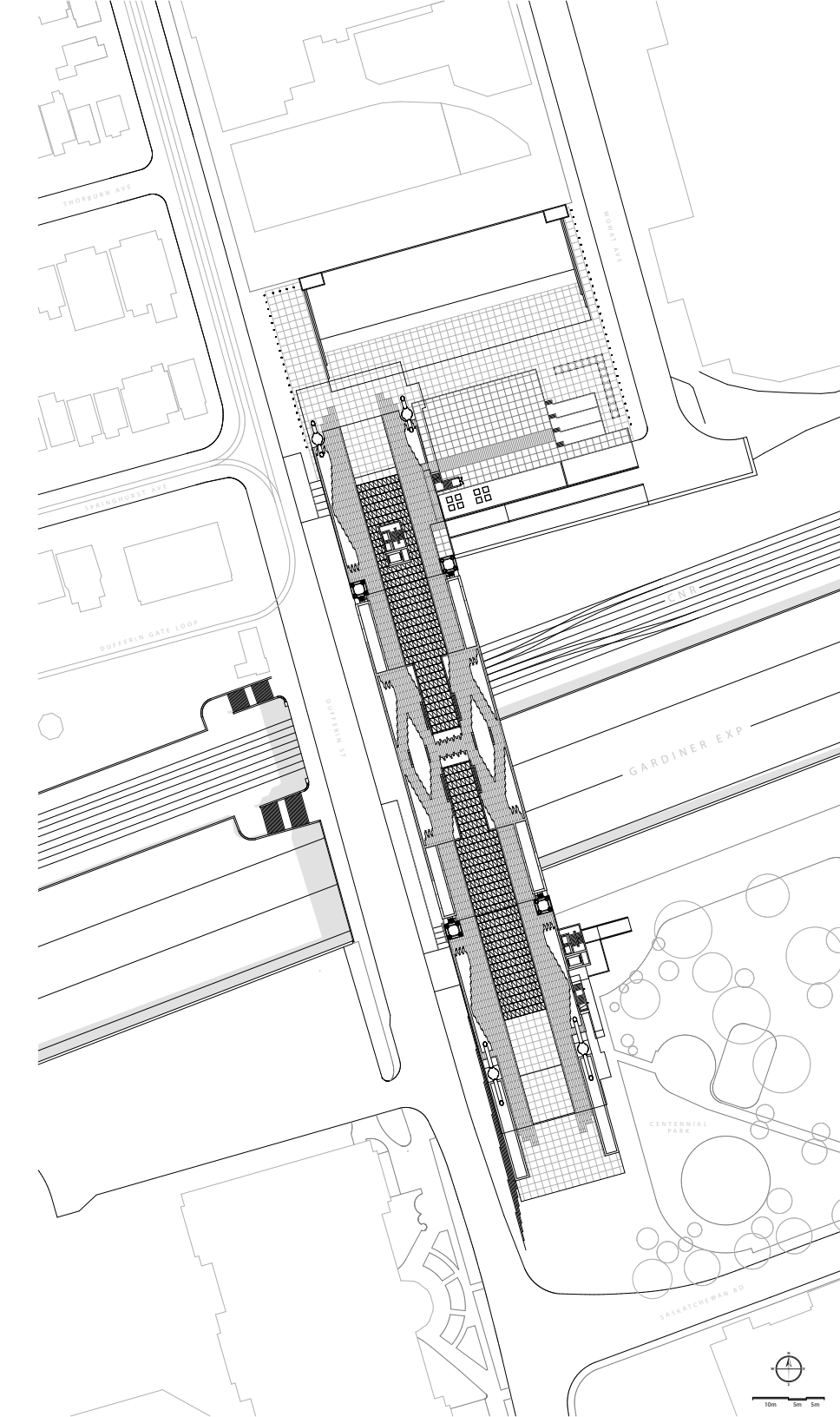
The south building consists of one hovering mass above the pre-existing Centennial Park and a proposed below-grade LRT station. Consistent with the lower mass of the north building, it is expected that such a space could host many tenants over the course of the building's life. I have illustrated that an initial tenant might be an E-sports entity similar to *The Gaming Stadium* (Richmond, BC). Professional gaming is slowly earning the same credibility as more 'traditional' professional sports leagues. Large sport-centric corporations, similar in character to MLSEL, have coupled with gaming institutions around the globe to bring organized representation (teams) to their cities. Note that MLSEL has now conducted two-decades of successful business in partnership with Exhibition Place. Might this be their next partnership opportunity?

The Gaming Stadium has achieved early success on the back of a tiered membership model (after school, weekends, four-day, monthly, tournament, etc.) and a seemingly endless diversity of viewing/participatory opportunities⁶⁸. It would be a new, and unique addition to the functional ecology of Exhibition Place, contributing year-round activity in-line with the Board's site-usage mandate. Such would constitute an investment in the local sporting/cultural economy by a local entity, the value of which is evident between the contrasting cases of *BMO Field* and *Hotel X*.

68. The Gaming Stadium, "The Gaming Stadium," <https://www.thegamingstadium.com/>.

FOLDOUT

Fig. 65. Level 2 plan



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68. The Gaming Stadium, "The Gaming Stadium," <https://www.thegamingstadium.com/>.

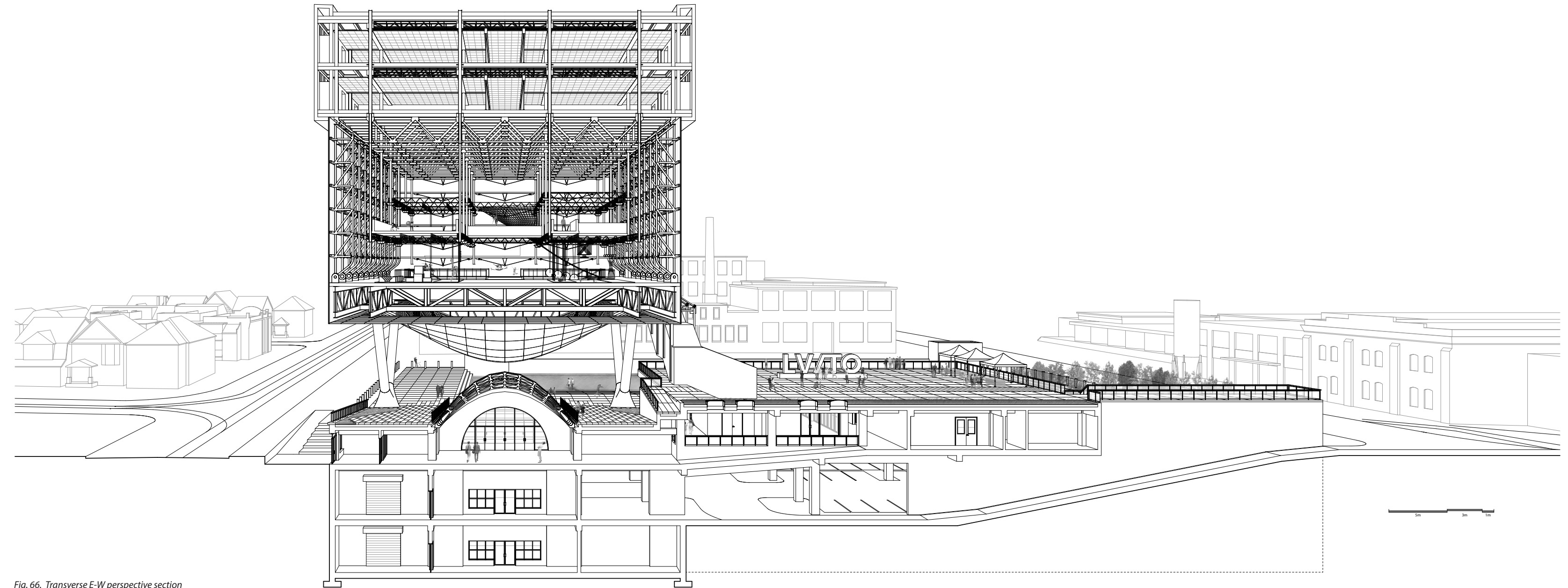


Fig. 66. Transverse E-W perspective section

Large architectonics >

The question of a large architectural build demanded at least preliminary answers to the question of tectonics and construction logistics. Time and energy was put towards resolving two situations that require structural span: "truss-A" (Fig. 69), repeated four times, which helps to achieve the span over the transport corridor; and "truss-B" (Fig. 74 on page 52), repeated twenty-eight times, that helps to achieve the clear-span volumes for the primary spaces of both the north and south stilted masses.

For truss-A and truss-B, the material answer was undoubtedly steel. Development of these components invited questions about the logistics of off-site fabrication, delivery to site, on-site assembly, fabrication and form (i.e. custom casting versus common-profile extrusion), structural integrity, and efficiency of installation. Answers to these questions were guided by local precedent, historically significant precedent, and site-determined rationales. The goal for truss-A was to satisfy five conditions: one, support static/dynamic/weather-related loading from both top and bottom chord assemblies; two, span approximately 93m with an opportunity for load transfer in the middle; three, obtain an overall interior depth of approximately 6m to allow for modular lightweight constructions within each clear span; four, be able to disassemble into pieces that can be transferred to the site by an oversized flatbed truck and assembled using standard machinery; and five, utilize minimum-weld end connections in order to compress installation time. The latter condition is critical when considering that a temporary suspension of transport operations, rail and vehicular, would be a required in order to hoist something of this scale over otherwise sleepless thoroughways.

The *Centre Pompidou* became a guide for satisfying these conditions. Each of the centre's interior trusses is a double chord truss, an articulation that provides strength at a minimized depth. In similar fashion, Truss-A is proposed as a double chord truss with circular section-profiles. The precise reason for this, however, is to obtain a minimized chord depth instead of a minimized overall truss depth. A minimized chord depth provides for an optimization of clearance in two areas; one, clearance between track level and the underside of the entire truss assembly; and two, clearance relating to interior depth (i.e. between chords). This application is most evident in Fig. 66 on page 49 (foldout). Consistent with *Pompidou*, truss-A employs cast steel nodal connections (Fig. 67) and a cast steel 'slip-on' end connection (Fig. 68).

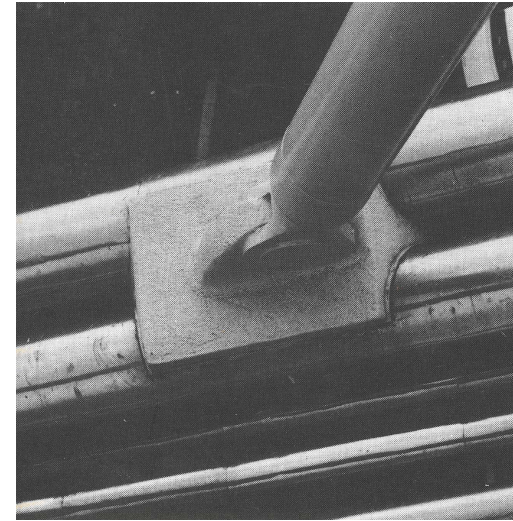


Fig. 67. Pompidou, node casting at truss chord (double)

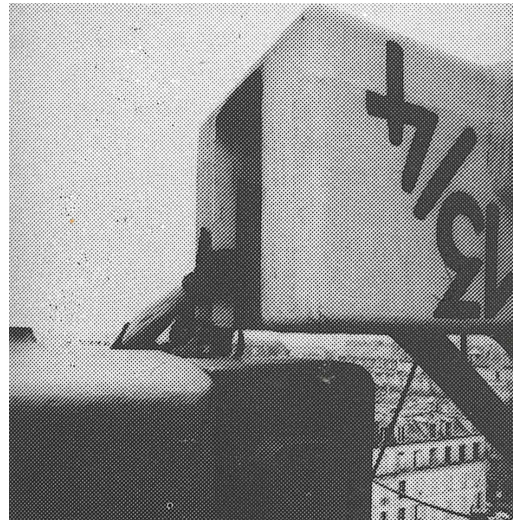


Fig. 68. Pompidou, truss-gerberette 'slip-on' connection

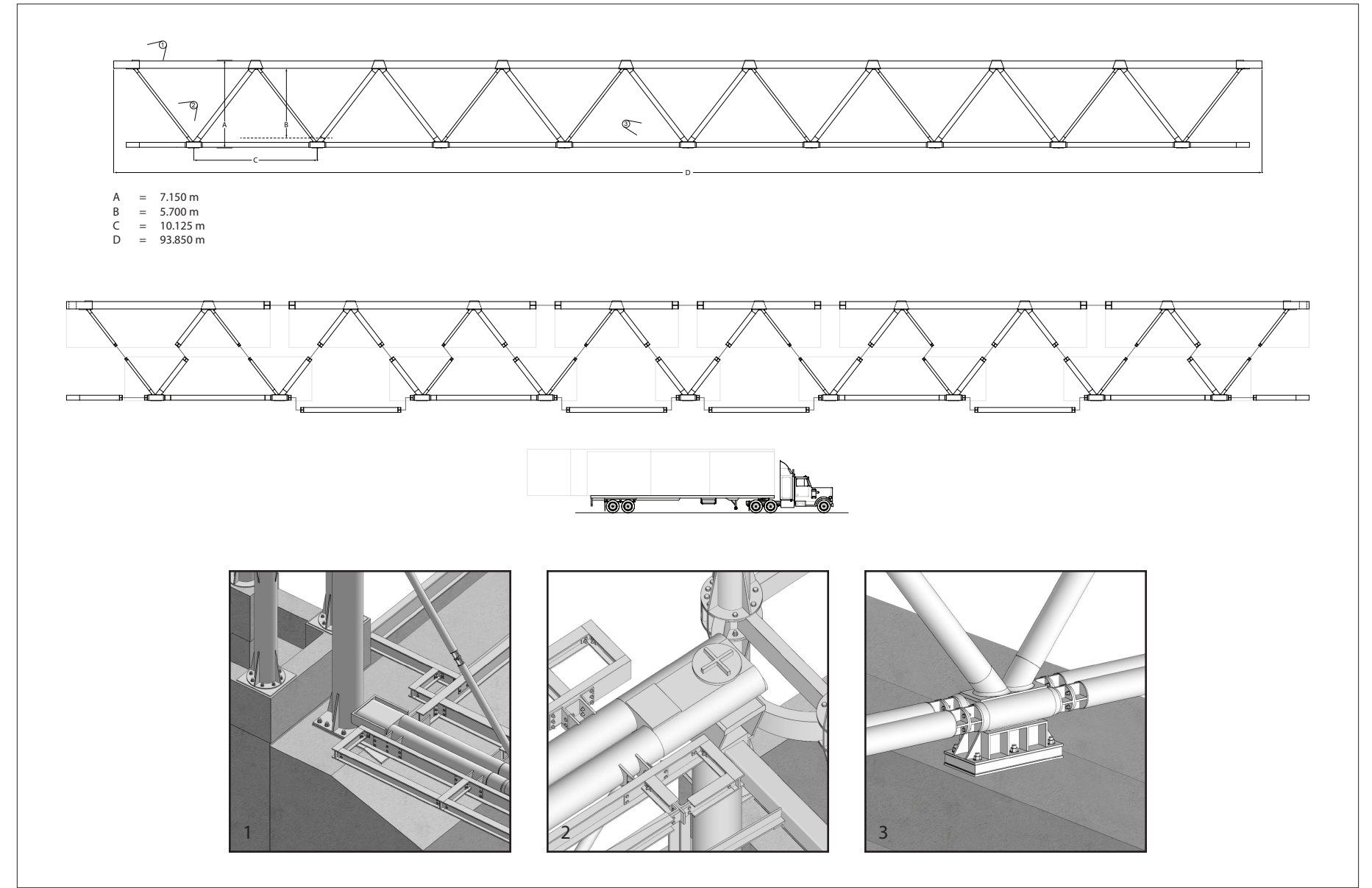


Fig. 69. Truss-A, technical sheet with splicing strategy and detail callouts

For the most part, truss-B (Fig. 74, next page) is not dissimilar from truss-A. It employs the same double chord principle, albeit for minimized truss depth (same as *Pompidou*), as well as cast steel nodal connections. Unlike truss-A, every second instance of truss-B incorporates hollow, uncapped vertical compression members that allow for cylindrical columns to descend through and lock into place. This is of course in-line with the notion of a curatable architecture inspired by the *Fun Palace*, and recently realized with the *Shed*.

The technical sheet for either truss demonstrates the way in which the assemblies could be spliced and arranged on a standard size flat-bed transport truck. Furthermore, an eight-frame sequence beginning on page 53 shows how truss-A could be assembled on site and installed using a system of three truck cranes and one single-beam rubber-tired gantry crane. Trusses aside, two other structural features must be highlighted. Both transfer load from elevated assemblies to foundational elements. The first feature is the service shaft column assembly at each transport-adjacent corner (Fig. 71). There are four instances of this assembly, which consists of four cylindrical HSS columns and perimeter bracing to produce a square, 3m by 3m shaft that can be used to route services from below or at-grade mechanical rooms to elevated systems (and vice versa). This concept was employed at *McMaster Hospital* (Fig. 70) as a means to feed oversized interstitial mechanical floors as part of the building's larger flexibility and future-proofing scheme⁶⁹.

The second feature is the substantially large V-node castings at grade (Fig. 72). There are four instances of this assembly, each supporting two tubular steel profiles. To ensure that this overall assembly has the utmost stiffness, the hollow core casting and tubular members would be infilled with concrete. Steel casting at this scale is not unfamiliar to the AEC industry in Toronto. CAST CONNEX developed and fabricated an eight-way nodal connection (Fig. 73) in conjunction with design and engineering teams for the *Queen Richmond Centre West*⁷⁰.

69. Eberhard H. Zeidler, *Healing the hospital*, 117-120.

70. CAST CONNEX, "Queen Richmond Centre West," <https://www.castconnex.com/projects/queen-richmond-centre-west>.

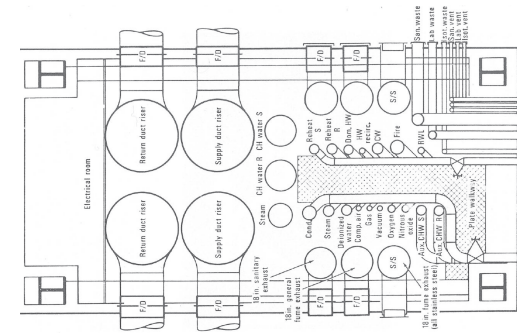


Fig. 70. McMaster Hospital service shaft layout

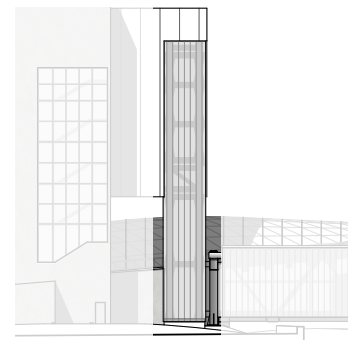


Fig. 71. Service-shaft column at corner

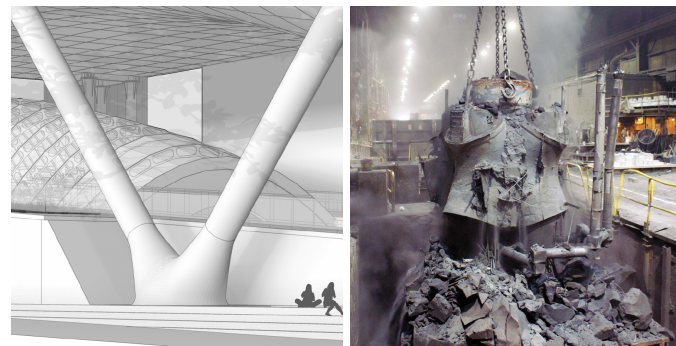


Fig. 72. V-node steel casting at grade



Fig. 73. Queen Richmond Centre West, node casting by CAST CONNEX

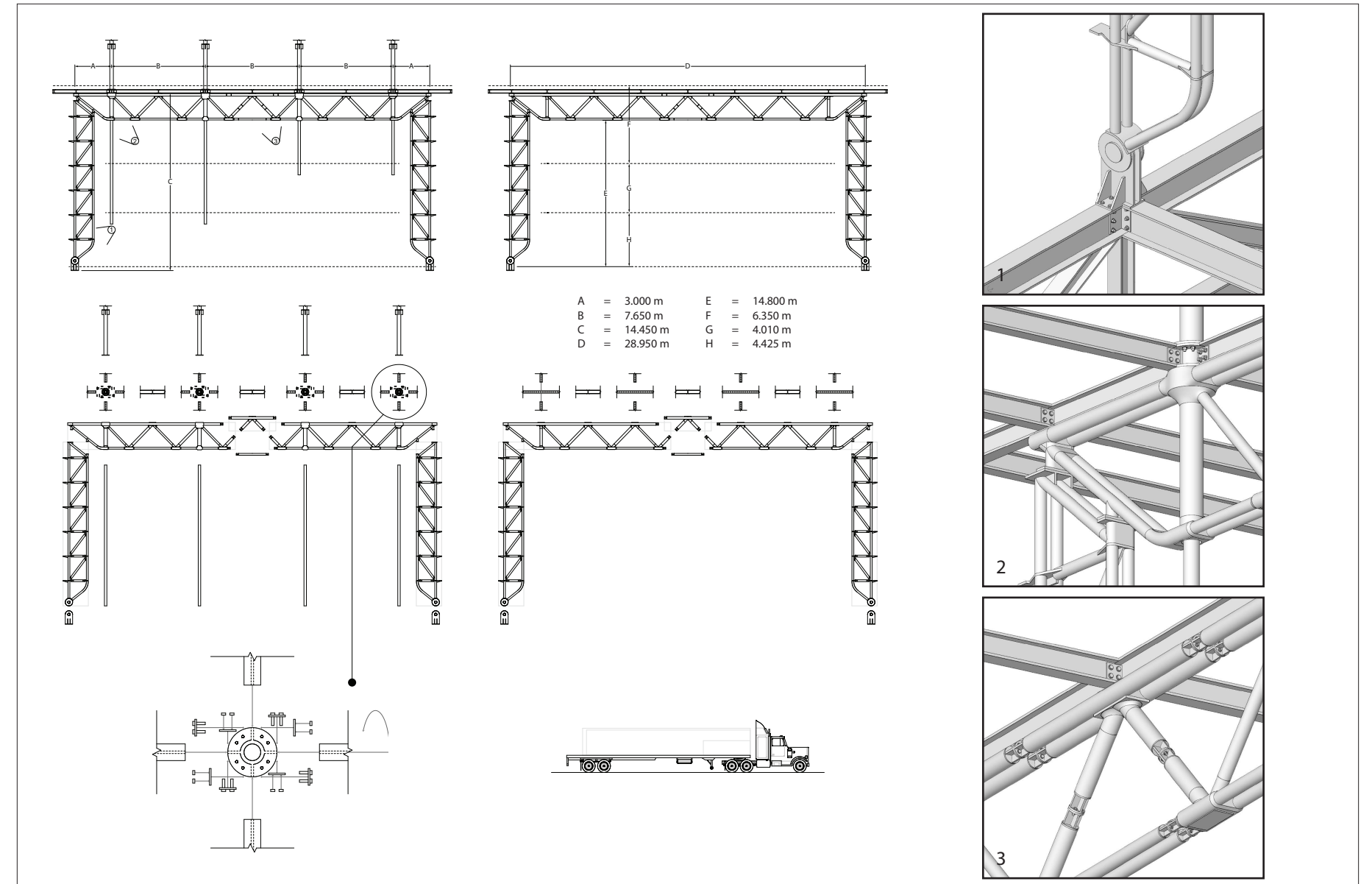


Fig. 74. Truss-B & Truss-B', technical sheet with splicing strategy and detail callouts

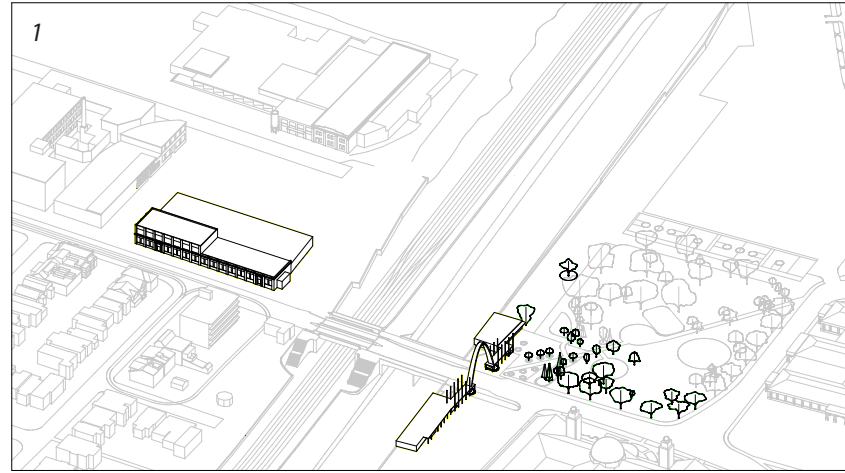


Fig. 75. Logistics animation_ Frame 1

153 Dufferin (character contributing) and Dufferin Gate arch (listed heritage) are removed; 31 trees are relocated; the site is prepared for excavation.

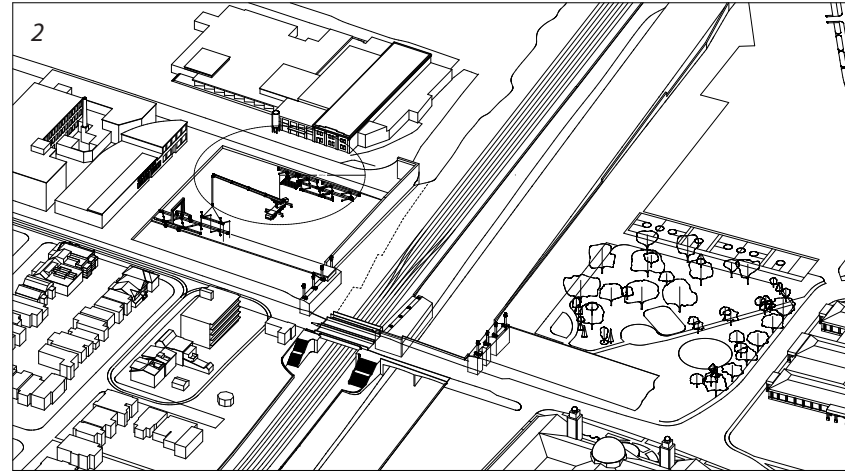


Fig. 76. Logistics animation_ Frame 2

Shallow excavation and grading are complete; concrete foundations and pedestal/cradle connections are installed; crane truck and mobile gantry assemble truss pieces on 'runway'.

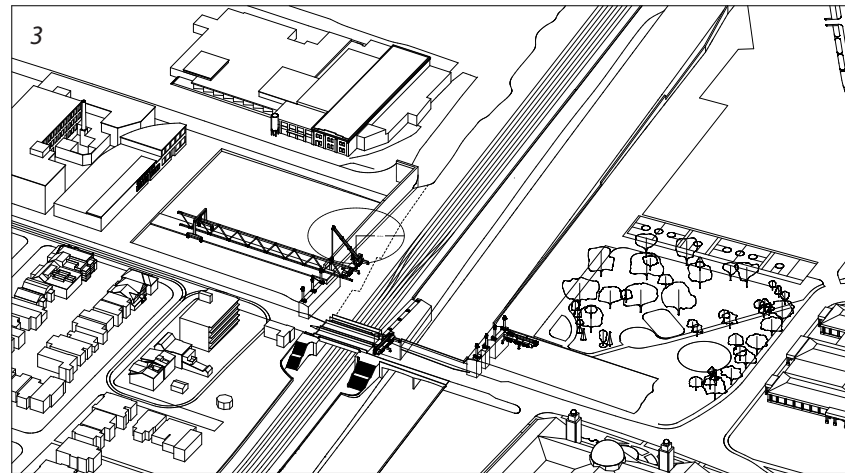


Fig. 77. Logistics animation_ Frame 3

Truss is rotated, lifted, and moved into its first position, not yet above the transport corridor; crane (track, activates cxn), mobile gantry on 'runway' (activates cxn).

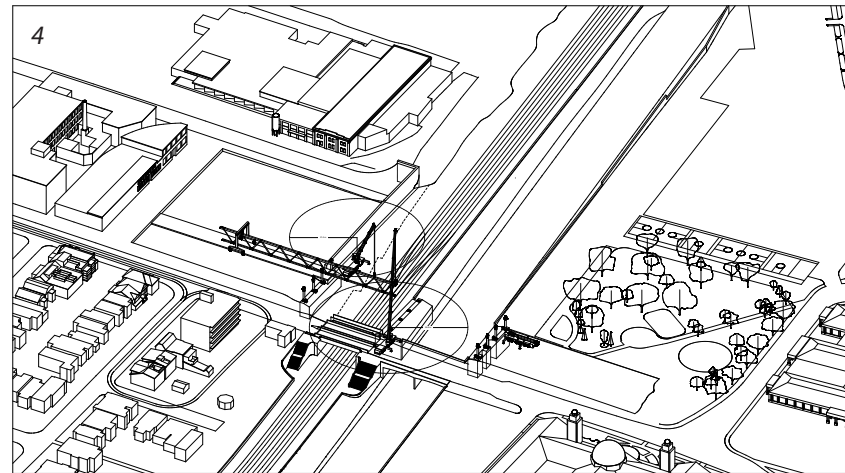


Fig. 78. Logistics animation_ Frame 4

Truss is moved into its second position, partially over CNR rail; crane (track), crane (bridge), activates cxn), mobile gantry on 'runway'.

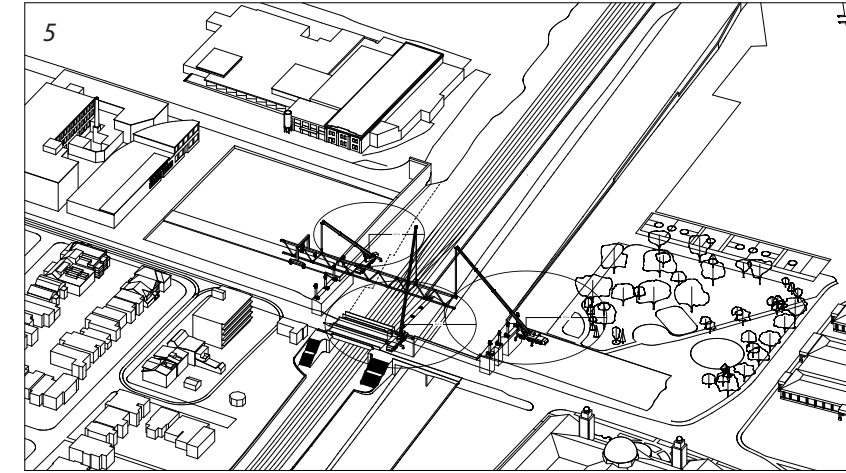


Fig. 79. Logistics animation_ Frame 5

Truss is moved into its third position, partially over Expy.; crane (track, relocates cxn), crane (bridge, relocates cxn), crane (park, activates cxn), mobile gantry on 'runway'.

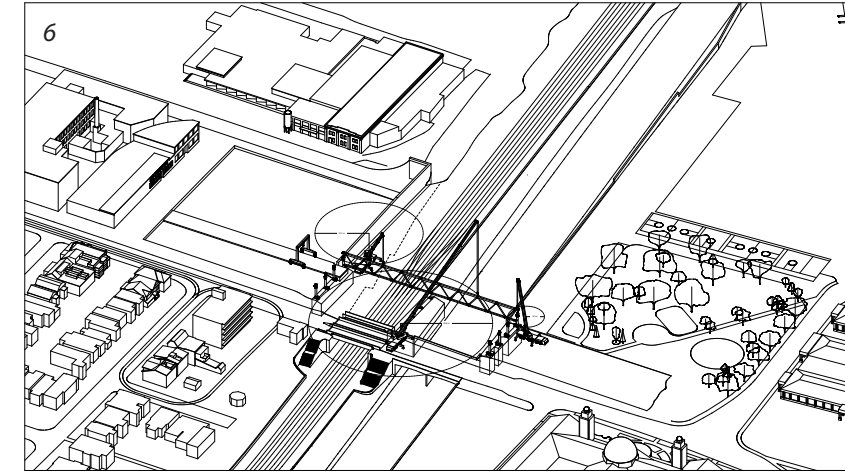


Fig. 80. Logistics animation_ Frame 6

Truss is moved into its fourth position, completely over Expy.; crane (track), crane (bridge), crane (park), mobile gantry on 'runway' (deactivates cxn).

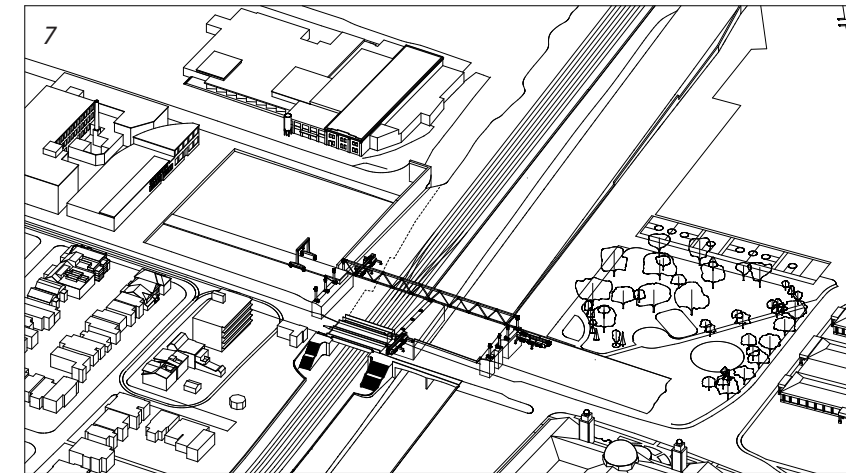


Fig. 81. Logistics animation_ Frame 7

Truss is placed onto/into pedestal/cradle connection; all cranes (deactivate cxn).

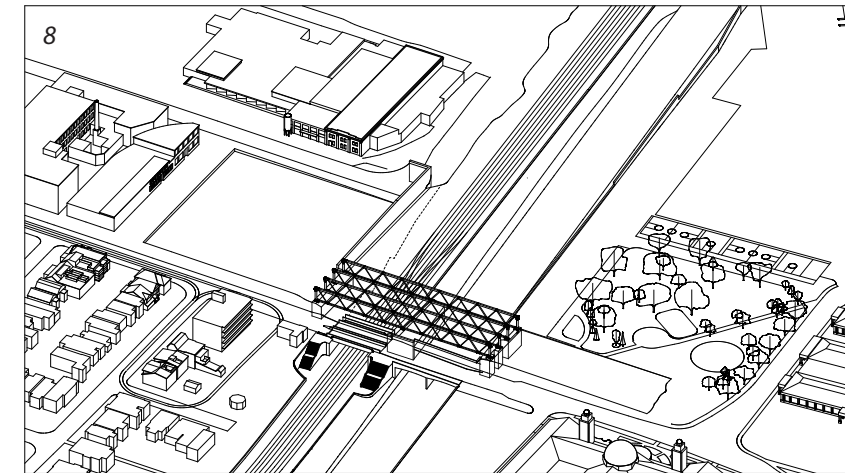


Fig. 82. Logistics animation_ Frame 8

Steps one through seven repeated three additional times.

Conclusion

As a self-pronounced Torontonian, I have traveled under, over, and around the site of this thesis on countless occasions -- by car, train, and bus. For some time now, I have believed this site to be the appropriate location for a large architectural intervention. I felt gratified to see this embodied potential recognized in the most recent *Master Plan* for Liberty Village. In more ways than one, this thesis has an intimate connection with context, for it is both its inspiration and guide.

The notion of a large architectural intervention directed my research towards 'the megastructure', and without a sufficient understanding of concept and criticism, I identified my first goal: to design a megastructure that would repair the urban fracture caused by transport infrastructure. Exhibition Place, more-so than Liberty Village, seemed to channel a grandeur through its history that would align nicely with an undertaking at this scale. As I investigated megastructural concept, I too became a critic, holding contempt for concepts that demonstrated an unrestrained faith in technology and refusal to converse with contextual dynamics.

My goal evolved: design an expressive, quasi-feasible, tempered megastructure that would interact constructively with PEST (political, economic, social, and technological) trends in the chosen context. I then dropped the word megastructure in favour of 'large architecture', because the former seemed charged with the expectation of visionary schema. This, of course, would have been a contradiction. No longer a megastructure, this was going to be a large architecture that pursued 'bigness' through formal juxtapositions, structural span, and new programmatic configurations that would eclipse the mono-function pedestrian bridge typology.

Fig. 83. (Top page of foldout) Exterior rendering looking NE, depicting the southern mass achieving a 'heavy lightness' through the juxtaposition of a substantial volume and parametric ceiling articulation with minimalistic steel structure

FOLDOUT



Conclusion

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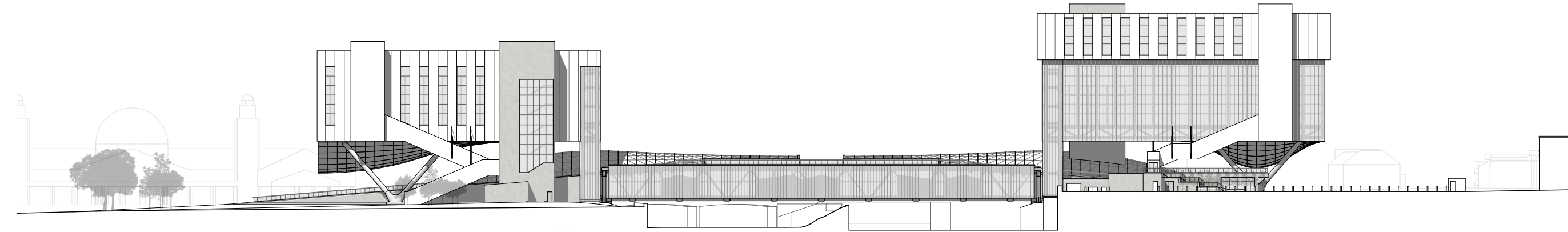


Fig. 84. East elevation

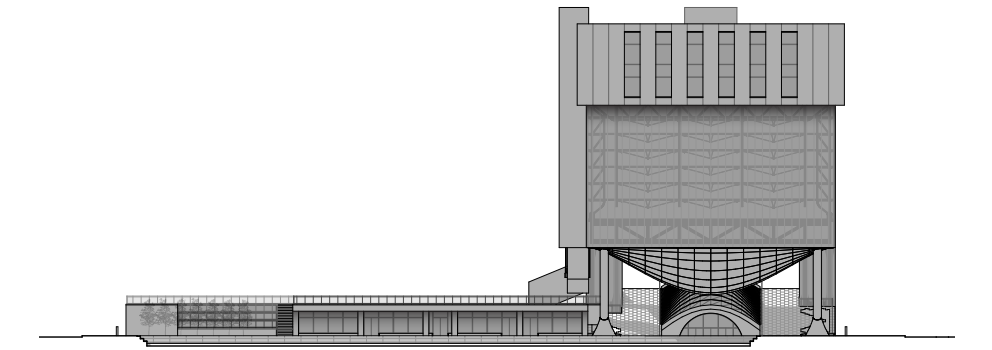


Fig. 85. North elevation

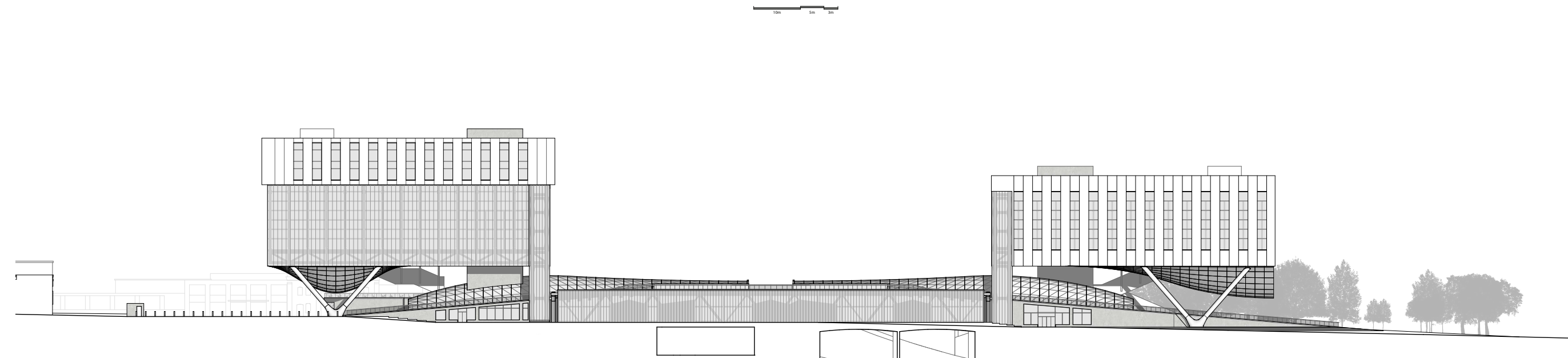


Fig. 86. West elevation

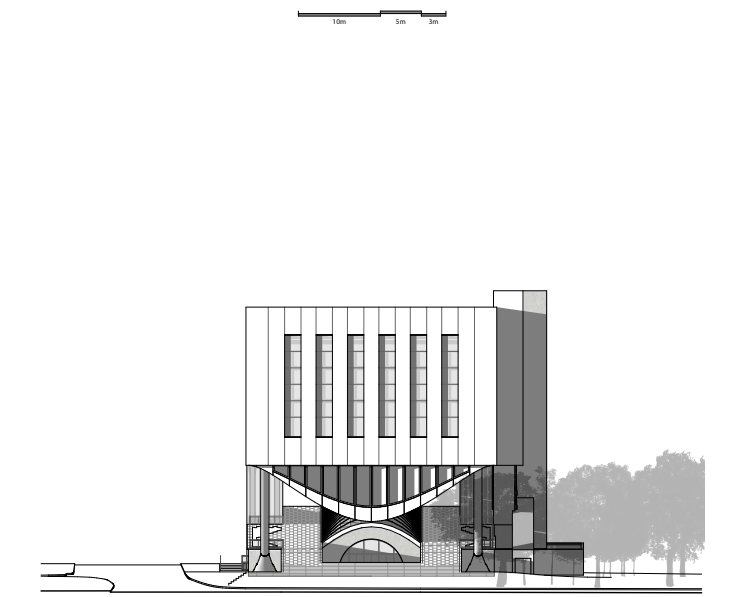


Fig. 87. South elevation

Fig. 83. (Top page of foldout) Exterior rendering looking NE: depicting the southern mass achieving a 'heavy lightness' through the juxtaposition of a substantial volume and parametric ceiling articulation with minimalistic steel structure

A brief evaluation might go as follows:

The design has achieved a 'heavy lightness', akin to that which has been composed by Marcel Breuer. It is by way of such a realization that a touch of sublimity is achieved. The juxtaposition responsible for this seems to be a formal translation of a common distinction; public versus private. With respect to the character and integrity of the urban realm, this design has not attempted to disguise any allegiance to, or contempt for the role of either. Rather, it boasts strongly that both are necessary, and that this is true across all scales.

Extending this evaluation into the realm of aesthetics, formal articulations become a critical dimension of a building's larger reading. The reductive interpretation; a bridge with a 'magnetic' component at either end, is visually corroborated by distinctly separate beacons. An argument against this degree of separation favours circulation as an experience -- the common example being *Centre Pompidou*, which forces the circulating occupant into a conversation with the plaza below. The design consciously neglects the area-consuming rise of an escalator in favour of a centrally compressed elevator bay. However, in exchange for limiting a portion of experience to the inside of a metallic box, the design is bountiful with at-grade access to its quasi-landscaped promenade.

The horizontal elongation of vertical movement would be a unifying measure that could help to achieve a sense of composite form without eliminating critical distinction. Moreover, an argument can be made for greater conversation between the exterior and interior spaces of the bi-level bridge. How might the experience of the design be enhanced if the 'parametric dance' being performed by ceiling bulges and a ballooning skylight were to penetrate and become a feature of the design's interstitial underbelly?



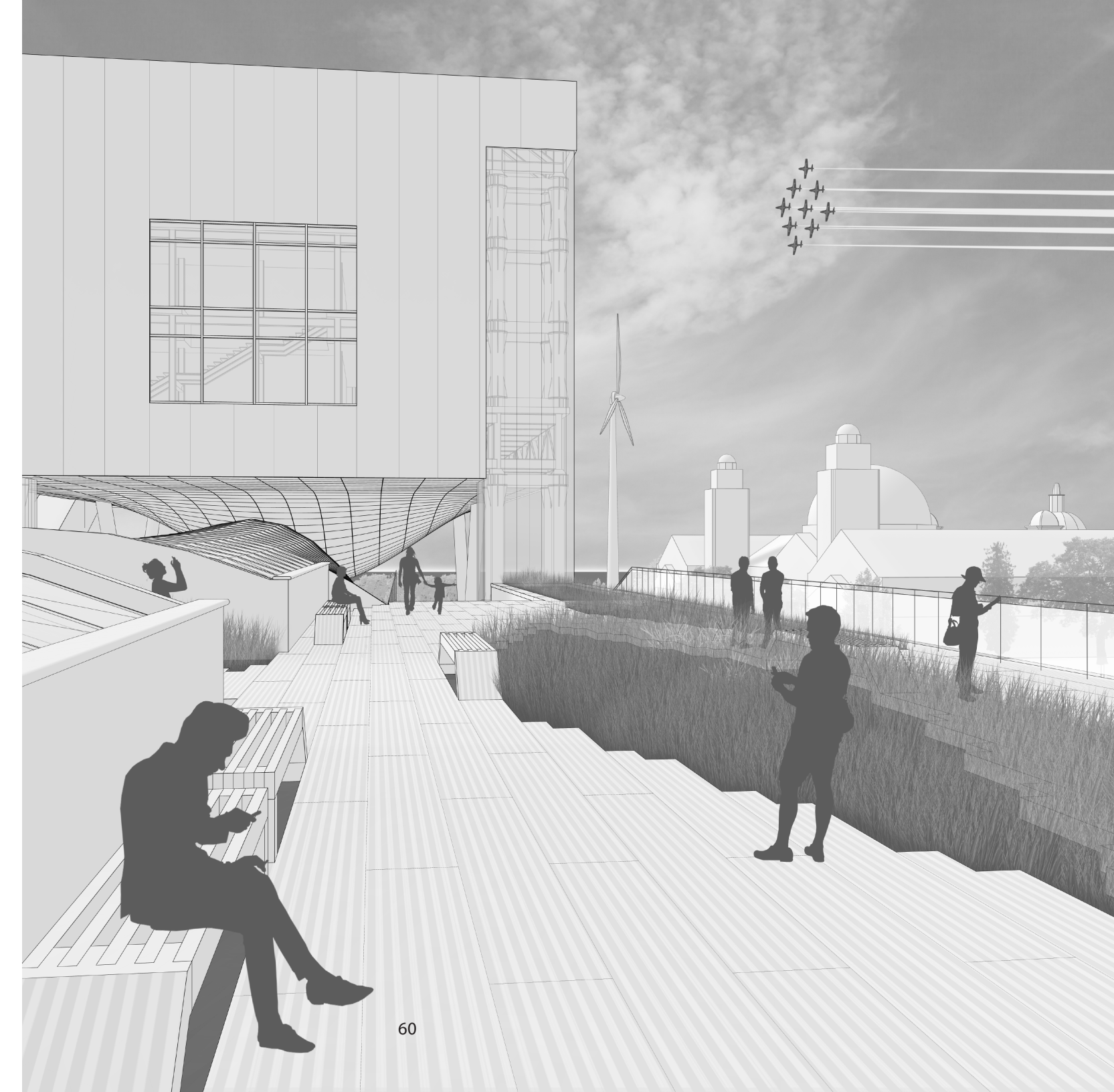
Fig. 88. Interior rendering, within bridge, looking S: depicting the interior passage between anchor functions, raised floor plenum, clear-spans populated by modular lightweight (studio, making, and coworking) constructions, and parametric skylight feature above

This high-level narrative of this thesis suggests that the paradigmatic framework for a large architecture that is seeking the fusion of two or more urban ecologies, is one that finds its roots in a reconciliation of site history and urban policy, with regional schemes and the business interests of actors with influence. There is certainly merit to any apparent conservatism that one might assign to the execution of design intent -- that which relates to the idea that this design could be budgeted and built. Not to mention apparent consideration for making the idea of the design graspable and comparable with current forms of regional investment. Within its locale, this thesis has identified a frequency of P3 procurement, and made conclusions out of each instance in order to generate a vision not only of formal quality, but of stakeholder interaction.

More to this point, the design has acknowledged large architecture as a process, the materialization of an idea through a network of catalyzing agents. This is perhaps an echo of Giedion et al.'s most significant points on monumentality: monuments rely upon the collective force (the people), unifying times, and integrative work. Is it not fitting that both Liberty Village and Exhibition Place find themselves only a few years apart with regard to the launching of master plan initiatives(?) -- especially when the former seems primed for a once in a generation construction boom. Not to mention the impending rebirth of Ontario Place, however that might occur. It would appear that opportunity is knocking on the door.

This design thesis, perhaps unconventional, has attempted to straddle a fine line: large, but not out of touch; tempered, yet non-conforming; constructible, yet expressive. Some might call this a pessimistic approach, which would reflect the virtuous demand that one would hope all architects of our world carry into their work. Its rebuttal -- a substitution of the word pessimism in favour of emphatically: lucid, judicious, or sober.

Fig. 89. Exterior rendering, on top of bridge, looking S: depicting the elevated promenade that offers open-air seating, pockets of landscaping, and exquisite E-W-S views of the city's skylines and waterfront



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