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Master Thesis Theme A, FS 2019, DARCH, ETH Zurich
Studio Brandlhuber + Studio Emerson

WHEN THE VIRTUAL BECOMES REAL, WHO WILL DESIGN & BUILD OUR CITIES?

INDEX

In 2017, two of the world's biggest tech companies – Amazon and Alphabet – spent a total of $39.2 billion on Research and Design (R&D)[1], more than any other company worldwide and twenty-times the annual budget of ETH Zürich. But rather than researching new digital services, these companies invested in an even more profitable and safe market: Real Estate.

With their acquired user data, Amazon, Alphabet, and Apple, design new "public" spaces: squares, campuses, parks, and masterplans, pretending to be democtratic[2]. Through public-private-partnerships, these corporations have adopted the responsibility of the state in the design of public space.

In the context of public-private-partnerships, we are forced to take apart old ideas of public space if today's new urban masterplans are being bought, designed, and directed by private players.

In a moment where (tech)-companies are building our envirnoment through user-data and algorithms, the question becomes: who architects and why? And how can we, as architects, engage with these new agents in order to keep an active role in designing this new architecture, between infrastructure, systems and buildings?

1
https://www.recode.et/2018/4/9/17204004/amazon-research-development-rd

2
"In her recent book Algorithms of Oppression, Safiya Umoja Noble challenges the idea that search engines like Google offer an equal playing field for all forms of ideas, identities, and activities. Data discrimination is a real social problem.

Noble argues that the combination of private interests in promoting certain sites, along with the monopoly status of a relatively small number of Internet search engines, leads to a biased set of search algorithms that privilege whiteness and discriminate against people of color, specifically women of color- and contributes to our understanding of how racism is created, maintained, and disseminated in the 21st century."

Source: https://18.re-publica.com/en/session/algorithms-oppression

ALPHABET INC.[3]

In 2015, Google restructured itself into a multinational conglomerate called Alphabet. Today, Alphabet is the parent company of many subsidiaries from different industries, ranging from internet services to infrastructure. This move let Google to strengthen its internet services as an independent company, making space for other startups in different industries, like the new urban think tank — Sidewalk Labs.

Merging tech infrastructure with urban planning, Sidewalk Labs was created under Alphabet as an "urban innovation organization," headed by Dan Doctoroff, the former mayor of economic development in New York city and former CEO of Bloomberg L.P. Their mission is to "improve urban infrastructure through technological solutions," tackling issues such as "cost of living, efficient transportation, and energy usage."[4]

Sidewalk Labs Toronto

In October 2017, Sidewalk Labs announced their future plans to develop Quayside, a 4.9 hectare site in Toronto's East Bayfront neighborhood. Sidewalk Labs was given the project after a competition organized by the municipal organization, Waterfront Toronto. The proposal imagined a neighborhood "from the internet up," – a smart city, comprised of 5 layers: the digital layer, buildings, mobility, the public realm, and infrastructure.[5]

NEW AGENTS

With the global value of all real estate measuring $217 trillion (3 times the global GDP)[6], private corporations have started to invest in real estate as a means of economic profit, regardless of their profession. This has led companies like Google, Amazon, and Microsoft, all of whom specialized in immaterial, online services, to take on urban projects as a way of investing in real estate.

Under the pressure of capitalism, we have come to acknowledge these new agents and forces in the making of our built environment. Today, the biggest factor in changing urban landscapes is not an increase in public funding, but is instead the introduction of Amazon headquarters, Facebook campuses, or Google neighborhoods. In this sense, private players have taken over public space, such as infrastructure, as a means of economic investment, shifting the responsibility away from the state.

These new private agents have come into power by involving themselves in our everyday lives, giving into the desires of us — the consumers that were formerly called citizens.

The Architect's Agency under Sidewalk Labs

As part of their press release for Sidewalk Toronto, Sidewalk Labs released the projected planning phases along with the associated agents for each phase. In March 2017, the planning process begins with Waterfront Toronto (public) and the Innovation and Funding Partner (private). Then, in July 2017, a third partner is added for Infrastructure. Lastly, in a box titled "future process," the Real Estate Development Team is introduced, encompassing "developers, architects, planners, contracters, etc."[7]

3
Alphabet website: https://abc.xyz

4
"Googe Sidewalk Labs Seeks to Improve City Life," ArchDaily, https://www.archdaily.com/771696/google-alphabet-sidewalk-labs-seek-to-improve-city-life.

5
Sidewalk Labs original RFP Proposal, https://sidewalktoronto.ca/documents/.

6
Savills Real Estate Report, https://www.savills.com/impacts/economic-trends/8-things-you-need-to-know-about-the-value-of-global-real-estate.html.

7
Sidewalk Labs original RFP Proposal, https://sidewalktoronto.ca/documents/.

With this new model of development, Sidewalk Labs shifts the role of the architect to the last phase of design, first optimizing a functional and economic urban framework, and then bringing the architect in afterwards to realize the predetermined plans. Here, the funding partner becomes the primary designer, determining all major components from the infrastructure, programmatic makeup, technology, and finally to the choice of architect.

CITY AS BIG DATA
The Economy of Future Urbanism[8]

The city of Songdo, one hour's drive southwest from Seoul, is the most complete example of a smart-city built from scratch. Occupying one third of the Incheon Free Economic Zone, Songdo was planned and financed by the major network infrastructure provider, Cisco Systems, together with Gale Real Estate – two private American-based companies.[9]

Planned as a hyper responsive environment of invisible computing, Songdo is saturated with sensors, interfaces, and fiber-optic cables. The city is a programmed organism, constantly receiving and outputting real-time data on humans, transportation, and buildings. While marketed to future residents as an optimized place for living, the city's true function is instead a ubiquitous laboratory and mine for valuable data.

Like Songdo, Sidewalk Toronto is planned as a completely wired city, delivering live feedback data on everything from trash collection, to air pollution. Initially Sidewalk Labs hired Ann Cavoukian, the former privacy commissioner of Ontario, as their advisor on data privacy. In 2018, Cavoukian resigned from Sidewalk Labs when the company eliminated deidentification protocols, which removes a name associated with its data immediately on collection.[10]

PRODUCTIVE LIVING
24/7

With the changing market, freelance lifestyles have become the new normal. People work from laptops, in home offices, in their beds. Although usually applauded as newfound freedom, this lifestyle continues production cycles well after work-hours, essentially creating a never-ending work day.

What started as the romantic ideal of the repurposed industrial artist loft, is today being rebranded by Sidewalk Labs as a typology "for ongoing and frequent interior changes around a strong skeletal structure...accommodating a radical mix of uses (such as residential, retail, making, office, hospitality, and parking) that can respond quickly to market demand." This method is meant to shift user needs "on a months or years long term," which also maximizes the rent and occupation of the buildings for developers.

Capitalizing on the role of artist-as-maker, the Loft typology is for "new start-ups, makers, satellite restaurateurs, and more traditional businesses looking for temporary meeting space." The flexible work space lets these users "experiment with new product lines without the overhang of a massive capital expense, creating a much more dynamic retail environment."[11] Rather than separating work and life, living becomes full-time work, optimized by the "flexible" Lofts of Sidewalk Labs.

8
see also Christian von Borries: A conversation with Arno Brandlhuber and Olaf Grawert, page 34

9
Orit Halpern, Prologue, Beautiful Data (Durham: Duke University Press), 2015.

10
"Privacy expert resigns from Sidewalk Labs avidosry role," Youtube, https://www.youtube.com/watch?v=dh_ObYYsFCg&t=135s&pb-jreload=10.

11
Sidewalk Labs original RFP Proposal, https://sidewalktoronto.ca/documents/.

POPS
Privately Owned Public Space

How many things are still public today? In contrast to the 1960s, where governments were still funding building projects, today public enterprises are unable to compete with the real estate giants and foreign tech companies who dominate global cities. Public organizations are therefore forced to partner with private benefactors to afford real estate costs, which often comes with sacrificing elements of public interest.

Public-Private-Partnerships (PPPs) have been invaluable in places like New York and Chicago where, following the 1970s tax cuts, the government was unable to maintain construction of public space. In place of government funding, corporations like Ford and IBM partnered with these cities to build parks, plazas, libraries, and museum. Privately Owned Public Spaces (POPs) came to define some of the most visible gathering spaces in the American city.

Today, POPs make up the majority of public spaces, funded largely by tech giants such as Apple, Microsoft, and Google. In 2016, the Senior Vice President of Apple's Retail department, Angela Ahrendts, announced a new concept for the company's already successful retail stores. Instead of being only spaces for shopping, Apple Stores would become community gathering spaces or "town squares."[12]

Although the plazas outside Apple stores look public (there's no door to pass through, no private key card to enter), Apple retains the rights to govern the space, which means private security, opaque modes of surveillance, and plaza designs made explicitly for consumption.

12
"Stores are Not Town Squares," Fast Company, https://www.fastcompany.com/90139799/stores-are-not-town-squares.

The Task

Students will treat the Sidewalk Labs Toronto brief[13] as their planning basis, to design a typology. This typology shall react on two specifics of the Sidewalk Labs brief:
1. it shall address the relation to the five urban layers at the core of the proposal (p. 24), and 2. it shall carry the idea of sustainablity in scale, material and programm as desribed in “the loft” section in the brief (p. 25).

For Sidewalk Labs, the single part of a building[14] is a small representation and part of both the buildings[15] and the urban fabric[16]. Thus, the final design and proposal can be at the scale of a detail or building, and should imply a broader logic about a new global architecture. Between infrastructure, systems and buildings.

Following the logic of contemporary urban development, the site is located within the Toronto waterfront and spans three different types of ownership: 1. City of Toronto (Public), 2. Google Sidewalk Labs (PPP), and 3. Individual Landowners (Private).

By that, Theme A refocuses the thesis on new conditions outside academia that will become the new normal for the architectural profession, demanding us to take a position between homogeneity and private ownership.

13
https://sidewalktoronto.ca/documents/.

14
(scale 1:50–1:2)

15
(scale 1:500–1:100)

16
(scale 1:5000–1:1000)

METHODOLOGY
The Quaternio

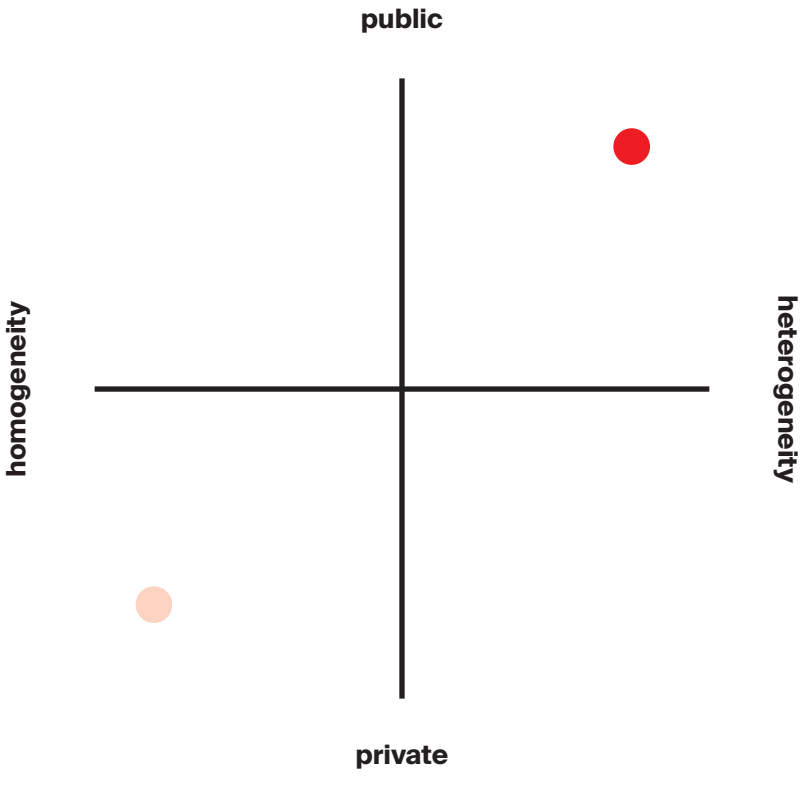
As cities have become increasingly driven by capital, corporations have dominated the market as the primary designers of daily consumption (both goods and spaces). Monopolizing our web presence, our data infrastructure, and now physical environments, these giants eliminate competition and diversity, thereby producing a cultural and physical landscape of prolific homogeneity.

In this system, architects are often reduced to mere service providers that are meant to build the homogenous spaces of corporate enterprises. Our goal is then to resist this flattening of space for consumption, to move away from the homogenous and towards the heterogenous.

In a homogeneous environment, specificity is removed, along with uniqueness of a certain place. Homogenous spaces can function anywhere. They try to eliminate tension and complexity in favor of easy use. Producing products and spaces that can be sold to any willing consumer, homogeneity only strengthens global capitalism.

The movement from homogeneity or heterogeneity, or from global to local, is neither productive nor plausible without the recognition of these opposites – phenomena that need the other to exist, yet are simultaneously opposite.

Therefore, the methodology that will structure, and provide perspective for, the topic A thesis will draw from C.G. Jung and Wolfgang Pauli's quaternio theory, which, using the graphic element of a cross, positions two pairs of complementary terms against each other. Using the given quaternio, homogeneity – heterogeneity / global – local, students will position their own projects within these concepts arguing for an alternative and more complex model of architectural practice.



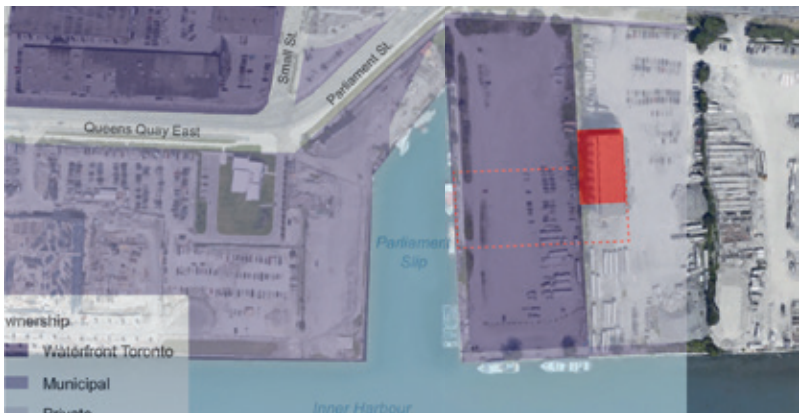
THE SITE
In the Age of Global Development

In contrast to classical Master Theses, an on-site-visit will not be possible. Still, it is important to understand this case as one example of contemporary global development and can therefore be understood and researched through different means, from online research to visiting similar sites of urban development.

1

SIDEWALK LABS TORONTO WATERFRONT
Parliament Slip

The Sidewalk Labs development spans a total area of 4.9 hectares in Quayside, Toronto. The Theme A site is located on the Parliament Slip within this larger development. It´s confined by three different ownership conditions: public, private and public-private. It further includes the southern half of the existing Victory Soya Mills Silo, that shall be developed by Sidewalk Labs but still belongs to the City of Toronto.



2

3

1
Google images showing the site in relationship to Downtown Toronto and the Victory Mills Silo.

2
Aerial view of the Thesis Site with overlayed ownership diagram

3
Aerial view of surrounding Toronto region, showing the location of the thesis site within the larger deveopment of Sidewalk Labs, and its connection to downtown Toronto.

Source: http://www.maps.google.com and https://sidewalktoronto.ca/documents/.

REPRESENTATION
From Basics, Onward

In addition to the basics of architectural representation (plans, sections, elevations, models) , students are encouraged to select their prefered medium and format, ranging from photographs, videos, performances, publications, or protests.

DELIVERABLES

Each project should be both readable and understandable in different scales and speeds, from a one-liner (3 sec.), to an argument (30 sec.), to full length presentation (30 min.).

Urban Site Plan, 1:1000
Plan illustrating the site's relationship to the larger urban fabric

Local Site Plan, 1:500
Plan illustrating the position of intervention(s) on site

Design, 1:200 – 1:100
Full description of the typology, in response to the brief

Intervention, 1:50 – 1:2
Selected key room(s), intervention(s), or detail(s)

Models, 1:1000 – 1:1
Students are encouraged to make physical models appropriate to their proposal, ranging from urban scale to detail mockups

Diagrammatic Isometric
Diagram illustrating the connection between the five layers and systems outlined in the brief

Quaternio
Students should locate their proposal on the given quaternio (homogeneity/heterogeneity — private/public)

Design an Argument, 30 sec.
Students must develop a clear argument around the topics of public space, privacy, owernship, and technology. The medium should be chosen by the student, and can range from a written statement to audio or video files.

Compress the Argument, 3 sec.
Students should develop a means of representation that simply communicates the primary idea behind the project.

ACCOMPANYING COURSES

As the Sidewalk Labs proposal does not differentiate between urbanism, architecture, and the technical detail, the accompanying courses reflect this process of design that transcends scale and methodology.

CONSTRUCTION
Daniel Mettler and Daniel Studer

Daniel Mettler: mettler@arch.ethz.ch
Daniel Studer: studer@arch.ethz.ch

LANDSCAPE ARCHITECTURE
Prof. Christophe Girot and Prof. Günter Vogt

Andreas Klein: andreas.klein@arch.ethz.ch
Ben Gital: gital@arch.ethz.ch

COMPUTER AIDED ARCHITECTURAL DESIGN (CAAD)
Prof. Ludger Hovestadt

Marlo Guala: guala@arch.ethz.ch

ARCHITECTURE AND TERRITORIAL PLANNING
Prof. Milica Topalovic

Hans Hortig: hortig@arch.ethz.ch

DATES
Semester Overview

Presentation
MO, 18.2.2019, 9:00
HIL E4, ETH Hönggerberg

Topic Introduction
WE, 20.2.2019, 10:00
HIL H40.9 / Foyer
With inputs from Prof. Deane Simpson (Institute for Architecture Urbanism and Landscape, KADK, DK) and Prof. Arno Brandlhuber

Theme Selection
FRI, 22.2.2019, 11:00
Communication of the theme selection (A,B,C) to the administration diploma professorship, and chairs of the faculty

Interim Reviews
The interim reciews take place according to the respective master professorship

Submission
TH, 9.5.2019, 18:30
HIL Building, ETH Hönggerberg

Exhibition
10.5.2019 - 31.5.2019
HIL Building, ETH Hönggerberg
Levels D and E

Celebration
31.5.2019, 18:00
HIL Building, ETH Hönggerberg
Levels D and E

The Brief

source for all documents: https://sidewalktoronto.ca/documents/

I. Overview of the Opportunity

Waterfront Toronto is seeking a unique partner, one with invention ingrained in its culture, which can transform conventional business practices and help to establish a benchmark climate positive approach that will lead the world in city building practices.

Toronto stands at a crossroads. As a modern, connected and diverse global city, it is an increasingly attractive destination for investors, global talent and tourists. Its real estate market is among the most attractive and durable in North America. Its economy is robust, with financial services, information and communications technology, and film, television and digital production fueling continued growth. Newcomers are increasingly choosing to live and work in the booming downtown core, and, as the downtown experiences continued growth, its post-industrial waterfront is transforming into a compelling destination with vibrant public and cultural spaces, best-in-class technology infrastructure, and a range of high-quality housing options and commercial opportunities.

Even with its dynamism, Toronto faces chalenges that are familiar to other cities, such as:

- How do we build a more sustainable city in the face of climate change?
- How do we create places to live for people of all ages, abilities and incomes?
- How do we create jobs and prosperity, and support innovative new businesses?

Toronto's eastern waterfront, with more than 300 hectares (750 acres) of land subject to future revitalization (see **Figure 1**), presents a unique opportunity for governments, private enterprise, technology providers, investors and academic institutions to collaborate on these critical challenges and create a new global benchmark for sustainable, inclusive and accessible urban development. Our long-term aspiration for this vast area is to create vibrant, connected, climate-positive, resilient and prosperous communities.

The Toronto Waterfront Revitalization Corporation ("Waterfront Toronto") is seeking an Innovation and Funding Partner ("the Partner") that shares our aspirations and will help create and fund a globally-significant community that will showcase advanced technologies, building materials, sustainable practices and innovative business models that demonstrate pragmatic solutions toward climate positive urban development. The opportunity in this Request for Proposal ("RFP") is the Quayside Development (the Project), an approximate 4.9-hectare (12-acre) development site situated along Toronto's eastern waterfront (see **Figure 1**) and within walking distance of the vibrant central business district. Comprising sites owned primarily by Waterfront Toronto and the City of Toronto, as well as a privately-held pacel, the Project offers approximately 3.3 million square feet of development potential.

The Project is the pilot for which Waterfront Toronto and the Partner will establish a clear vision and action plan for creating a vibrant, climate-positive and prosperous community – one that will serve as a national and global model to encourage market transformation towards climate-positive city building. Waterfront Toronto considers that by achieving key objectives for the Project it may be beneficial to advance the solutions, processes and partnerships proven successful through the Project to subsequent developments on the eastern waterfront, as those lands become available to Waterfront Toronto (as per the established protocols with the City of Toronto). As the directing agency of the waterfront lands, Waterfront Toronto, therefore, reserves the right to do so. The extent to and the manner in which such successful solutions, processes and partnerships are carried forward into subsequent developments of the eastern waterfront could be affected by future applicable procurement policies and additional requirements of the City of Toronto or other funding authorities.

Please see **Appendix A** for additional background information on the flood protection work needed in order to unlock the development potential of the eastern waterfront and on the plans for other areas within the waterfront.

The Partner will work directly with Waterfront Toronto in the conceptualization, business planning and implementation stages of the Project (see

Figure 1. Quayside and the Eastern Waterfront

Section VII Partner Scope and Deliverables). This includes identifying and defining the necessary technologies, infrastructure, strategies, measurable outcomes and downstream partners that will ensure the Project's success.

When complete, the Project is envisioned as a highly sustainable mixed-use, mixed-income neighbourhood, providing a range of housing types and amenities as well as addressing the need for mobility and accessibility. It will offer inclusive, high-quality living for people of all income levels and all stages of life. The Project will also afford a significant opportunity to generate prosperity by continuing to build the emerging economic clusters on the waterfront, including employers and job creators in the urban innovation and broader technology sectors. As part of a vibrant waterfront, the Project also has potential to accommodate diverse retail, commercial and institutional development, which may include academic and cultural centres.

Waterfront Toronto has an established track record for raising the bar on sustainability, inclusivity, urban design and innovation, and for developing precedent-setting, dynamic, mixed-use neighbourhoods with strong connections to adjacent communities. Our accomplishments include:

- 2.5 million square feet of development (completed or planned)
- Over 1,400 market residential units built, an additional 1,200 under construction
- 500 affordable housing units built, an additional 80 under construction
- 500-bed George Brown College student residence
- First large scale integrated market residential /affordable rental building in Toronto
- Privately-funded, fibre optic gigabit network across the waterfront
- 36.4 hectares (90 acres) of parks and public spaces
- First new streetcar line in Toronto in 16 years
- 28 km of critical municipal infrastructure
- Economic Impact - approximately $3.9 billion in economic output to the Canadian economy
- $10 billion+ of total market development value on and around the waterfront
- The waterfront is now part of Toronto's brand – a premier destination attracting visitors, investment and talent

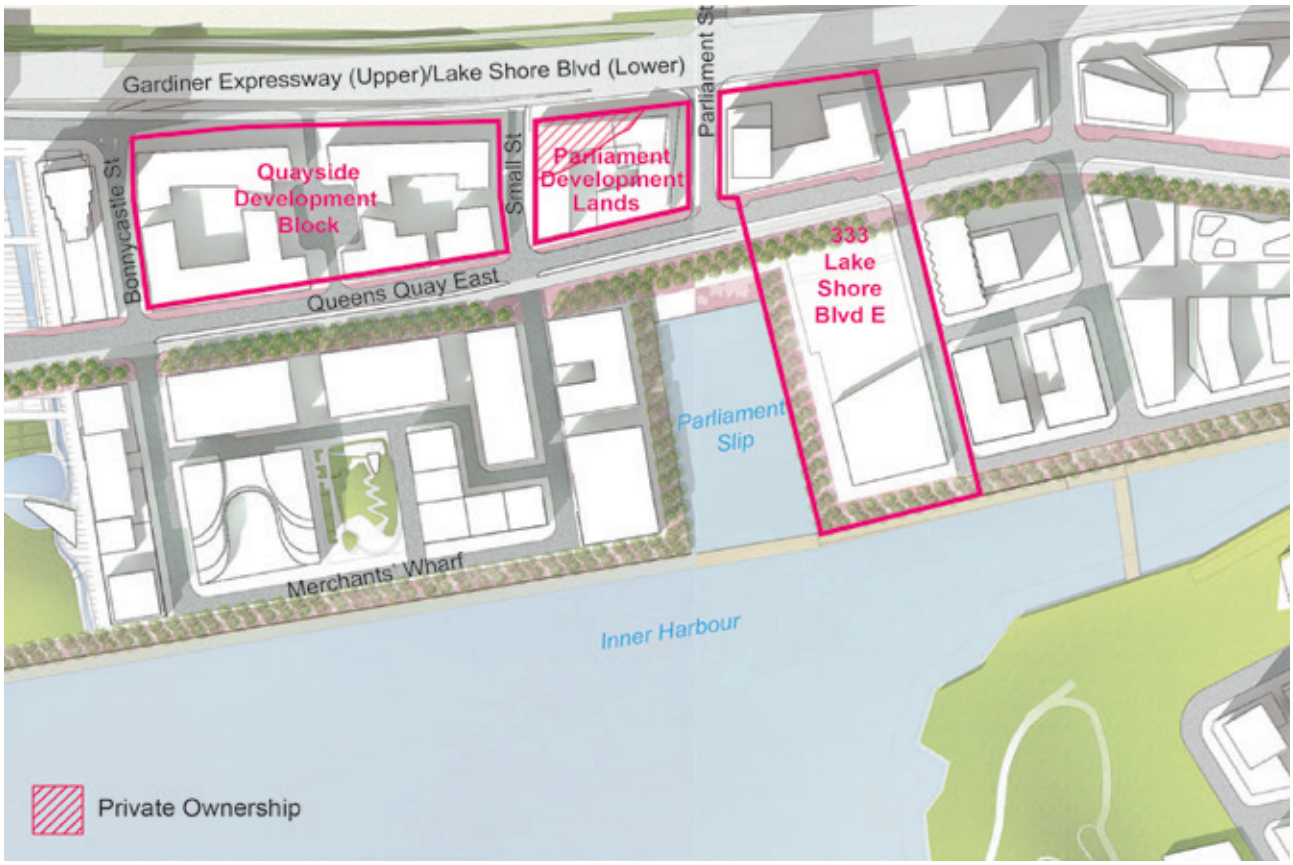


Figure 4. Development Blocks

VI. The Subject Lands and Their Context

As depicted in **Figure 4**, the Project area is comprised of three primary sites located along Queens Quay East: the Quayside Development Lands, the Parliament Development Lands and 333 Lakeshore Boulevard East. Basic information regarding each site is provided below. More specific details for each site, including zoning permissions, are available in the Electronic Data Room.

The provision of light rail transit ("LRT") in a dedicated right-of-way, as part of a revitalized Queens Quay, has been approved through a Class Environmental Assessment (available in the Electronic Data Room) and will ultimately connect the eastern waterfront to the downtown core. Waterfront Toronto is actively pursuing funding options to extend the LRT along Queens Quay East, including private sector contributions and a phased implementation plan that could include interim bus rapid transit (BRT).

Quayside Development Block (Quayside) (1.8 hectares/4.5 acres)

The Quayside Development Block includes all the land between Bonnycastle Street and Small Street, and Lake Shore Boulevard East and Queens Quay East. These lands are owned by Waterfront Toronto and currently house three low-rise industrial buildings as well as ancillary parking. It is intended that the future developers will be responsible for removing existing structures, as part of the redevelopment plans.

The by-law in effect for The Quayside Development Block restricts the built form and is not prescriptive with regard to allowable gross floor area. However, a built form analysis results in an estimated mixed-use gross floor area of approximately 1.75 million square feet.

Toronto: A Dynamic City Stepping Ahead

TO LIVE IN TORONTO TODAY IS TO EXPECT CHANGE. The city is in the midst of a transformation that is not only intensifying its urban centre but linking it to an entire region spanning the shores of Lake Ontario. As its neighbourhoods become denser and towers grow taller, Toronto is straining against its aging infrastructure and the traditionally sluggish pace of urban change.

But the conditions are right for Toronto to overcome these challenges and gain wide recognition as the great global hub that its heavily immigrant population already knows it to be. A metamorphosis is underway, and it is palpable throughout the city. New people with new talents are bringing new ideas. New energy is being channeled into change.

Any local will tell you that the next decade is pivotal. The best ending to this story is not Toronto becoming the next New York or San Francisco. It is Toronto becoming a better version of what it has always strived to be: a city that works—for everyone.

The pressures pushing against this ideal of inclusive growth are mounting, but so, too, is an appreciation for what makes the city special. People are rediscovering its waterfront and ravines—the twin topographies that shape the city. They are pushing for a pedestrian realm that encourages social cohesion and a transit system that does not require life with a car. They are celebrating the city's excellent public schools and libraries and institutes of higher education as a key driver of upward mobility. And they are clamoring for a city style that is dense and energized, mixed and messy, civil yet inspiring.

Toronto is a city of neighbourhoods, and if it hopes to meet its growth challenges—with several million people expected to join the metro area in the next 25 years—it will need new ones that meet these aspirations. That means turning to the Eastern Waterfront as the city's next great neighbourhood frontier.

New communities will need to emerge along the water. These communities will need to be forward-looking, incorporating the best traditional urban forms with the latest planning designs and digital technology. Fortunately these communities will not have to look far for inspiration. They can borrow from the street-level variety of Leslieville and Riverdale, the sustainability and vibrancy of the Canary District, the mixed-housing and public space of St. Lawrence Market.

The waterfront has all the assets to achieve its goals.

What it needs now is a jump start.

Rediscovering the Waterfront

NOW SOMETHING DIFFERENT IS HAPPENING.

Waterfront Toronto has spearheaded this revitalization. In 1999, waterfront revival was deemed a matter of national importance, and all three levels of government came together to create Waterfront Toronto to lead this important mission. Since then, the Central Waterfront has taken shape and Downtown Toronto has recovered its lakefront as a public amenity—the city's welcoming "front porch." Now that progress is extending eastward.

The Eastern Waterfront is at another scale from Central Waterfront development; it is a district of some 300 hectares comparable in size to Toronto's entire downtown. Transforming the Eastern Waterfront will complete a long historical arc, as the city's lakeshore was shaped first by the desire for public access, then for 150 years by the imperatives of industry and shipping, and now back again to people.

Toronto's lakefront, with all of its contradictions and conflicts, is a powerful opportunity for new and innovative thinking. Already the Distillery District has become an all-season magnet, drawing Torontonians to its pedestrianized, brick-paved streets. Next door, the Canary District is a handsome showcase for a new, playful, and inviting urbanism. The waterfront is lighting up and the energy surrounding it will soon overcome the barriers that historically contributed to its neglect.

In time, the Eastern Waterfront will be Toronto's newest neighbourhood—or, more likely, a diverse set of neighbourhoods with their own unique personalities—and home to tens of thousands of Torontonians. The most exciting thing Toronto can do is to build more of what makes so many of its neighbourhoods beloved, and to give a modern, ambitious, and generous form to the elements that make the city a success.

Located adjacent to the Redpath Sugar Factory, Sugar Beach Park and its iconic umbrellas welcome visitors to East Bayfront.

Credit: Mark Wickens

View from Simcoe Wavedeck, as cyclists pass along the Martin Goodman Trail

Sidewalk Labs: Where the Physical Place Meets a New Approach

SIDEWALK LABS WAS FORMED TO HELP FAST-GROWING CITIES meet the very challenges that Toronto is facing today. Its mission is to take the great principles of urban planning—the same ones Toronto has outlined in its growth plan for the core, such as affordability, inclusivity, and sustainability—and accelerate them into the digital age.

Over the past 200 years, the greatest leaps forward in urban life have occurred at the intersection of new technology and the physical environment. The steam engine, electricity, and the automobile all transformed how people live in cities today. These advances were not without their drawbacks, of course, but they fundamentally changed the capabilities of cities.

The world is on the cusp of a fourth revolution in urban technology every bit as powerful as the previous ones, driven by ubiquitous connectivity, machine learning, and new advances in design and digital fabrication. But as Toronto knows, cities do not have time to wait for transportation to become cleaner and more convenient, for housing prices to decline, for job opportunities to grow. The pace of urban change is too slow.

To overcome this challenge, Sidewalk started with a question: What could today's cities look like if they were built from scratch in the internet age? What emerged from this thought experiment was not a series of answers: there are no simple solutions to the problems of urban growth. Instead it is a new approach that sees cities as platforms for urban innovation that create the conditions for people to build, test, and refine new ideas that can improve quality of life.

Building new neighbourhoods from the internet up is a remarkable opportunity to embed emerging digital capabilities into core infrastructure from the start. Physical spaces like buildings, streets, and parks can be designed for the opportunities that technology present, rather than forced to retrofit new advances very slowly and at great cost. By merging the physical and the digital into a neighbourhood's foundation, people are empowered with the tools to adapt to future problems no one can anticipate.

Such a place quickly becomes a living laboratory for urban innovation. Given the speed of technological change, cities will only meet their growth challenges if they support innovation not right now but 10, 20, and 50 years ahead. To do so requires designing for radical flexibility, enabling the best ideas to be refined in real time and creating a cycle of ongoing improvement driven by the feedback of residents and the energy of entrepreneurs, rather than prescribed by planners and designers.

Of course, the objective is not to showcase technology for its own sake. Instead, it is to enable what is best about cities—direct human interaction—without imposing the barriers that prevent people from connecting and limit their access to the city's many resources. Technology can help create complete communities that are highly interactive and accessible to all, freeing residents from the constraints imposed by the heavy infrastructure and spatial hierarchies of the last century.

In that sense, Sidewalk's mission is not to create a city of the future at all. It is to create the future of cities.

The Eastern Waterfront is the ideal location to demonstrate the power of forward-thinking urban design and technological innovation.

Innovation at the Physical and Digital Layers

AT THE HEART OF SIDEWALK'S APPROACH to building a neighbourhood from the internet up is viewing it as a platform that integrates the physical environment with digital technology, creating the core conditions for urban innovation.

Traditionally, the physical components of a city have been fixed into place from the start, constraining new development as they become outdated and costly to upgrade. A growing city must have built-in flexibility to support ongoing innovation, and the ability to adjust as technology, market cycles, and urban lifestyles move in new directions.

Sidewalk envisions a physical layer that is far more adaptable and open to change than what is found in cities today. The four key components to this layer—flexible buildings, people-first streets, an adaptable public realm, and open utility infrastructure—are explored in greater detail in this section.

Threaded through all these components is the platform's digital layer—a new and transformative element. Distributed throughout the neighbourhood via sensors and other connected technology, the digital layer provides an unprecedented degree of insight into the physical environment. And with heightened ability to measure the neighbourhood comes better ways to manage it.

This capacity to evolve in response to new thinking will help Toronto meet the unforeseen challenges of the future.

PHYSICAL LAYER

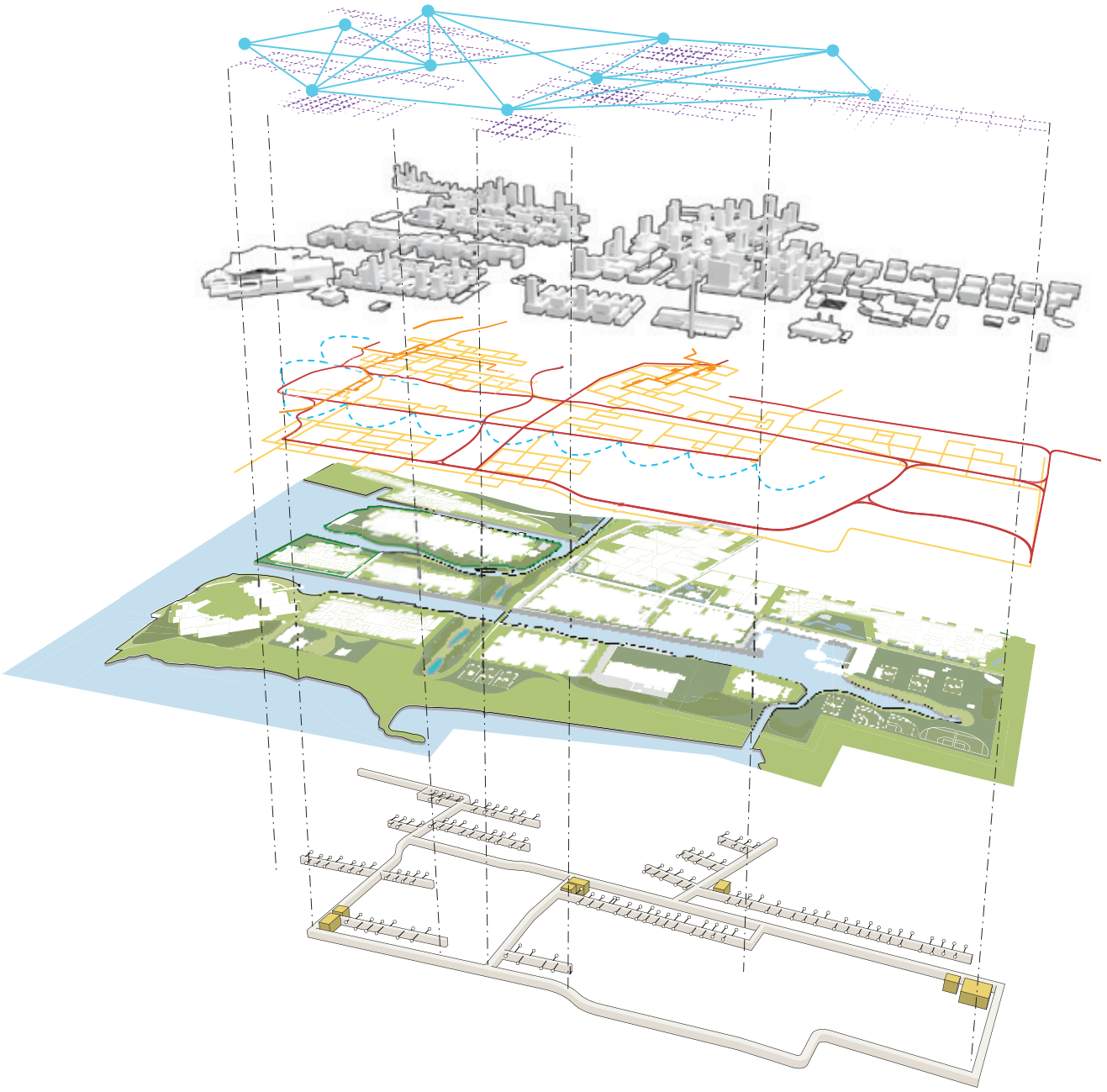
Digital Layer

Buildings

Mobility

Public Realm

Infrastructure



Building Typologies

CITIES, THEIR ECONOMIES, AND THEIR DEMOGRAPHICS change over time, often in unpredictable ways. Building usages should change with them. The cast-iron buildings that line the streets of New York's SoHo today, for example, were once manufacturing sites housing massive machinery. Despite New York's decline as an industrial hub, these buildings have maintained their relevance—re-inventing themselves as light manufacturing spaces, small offices, live-work studios, and apartments. This multiuse life cycle is made possible by the buildings' strong skeletal structure—their "good bones"—allowing them to accommodate and anticipate changing use over time.

Quayside will be no different. Whereas today buildings tend to be designed for single use, Quayside structures will be designed upfront to accommodate a radical mix of uses and anticipate changing preferences. Optimized for optionality, spaces will be equipped with the core infrastructure to adapt to the evolving demands of Torontonians. A parking structure built for conventional vehicles today will be able to adapt over time to become a marketplace, makerspace, creative office, or residential lofts, as conventional cars become less prevalent and self-driving cars more popular.

The overarching goal is to allow neighbourhoods along the water to evolve to match changing user needs—a model that can wholly redefine urban experiences by maintaining dynamic neighbourhoods.

Loft

Buildings today are usually designed for a singular purpose. However changing user needs and shifting economic conditions often demand change. This exposes a problematic mismatch: buildings are designed to last far longer than their users' needs remain constant.

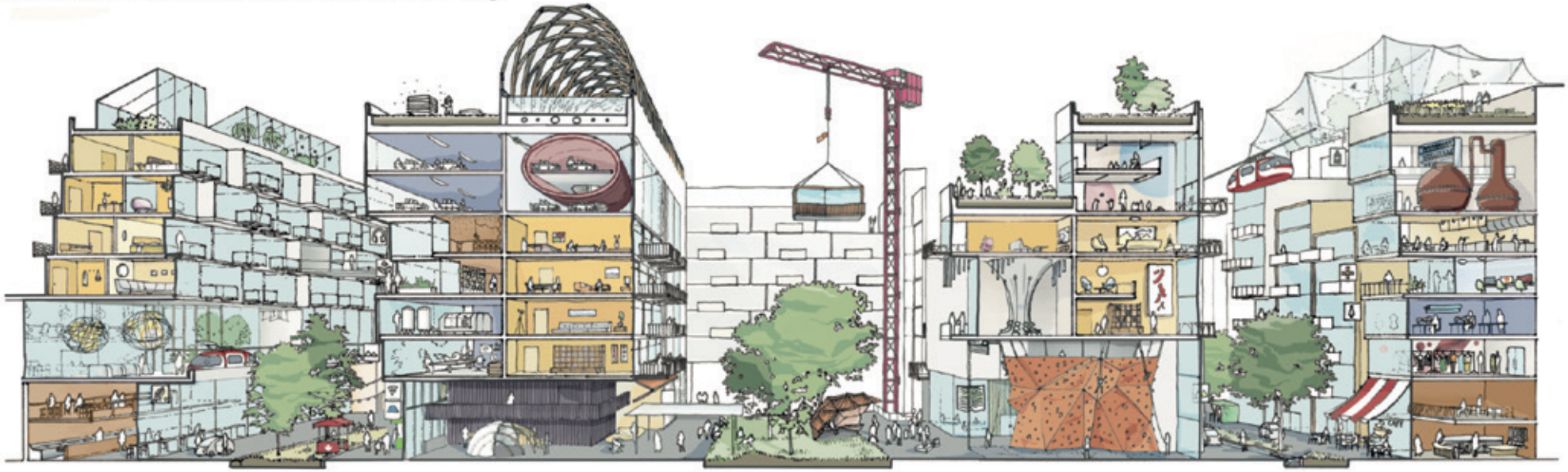
While modular construction is one means of injecting flexibility into urban areas, a second strategy is to design buildings with an adaptable shell and versatile core structure that can be more easily flexed for different uses. This idea is the basis for Sidewalk's Loft concept.

Loft improves upon traditional loft buildings by planning explicitly for ongoing and frequent interior changes around a strong skeletal structure. Its structure will remain flexible over the course of its lifecycle, accommodating a radical mix of uses (such as residential, retail, making, office, hospitality, and parking) that can respond quickly to market demand.

While the Loft concept is primarily geared toward renovations and retrofits to accommodate shifting user needs on a months- or years-long time frame, Sidewalk believes a retail-oriented variation of this notion could allow spaces to change almost daily. Sidewalk calls this derivative Next-Gen Bazaar. By outfitting space typically reserved for temporary retail uses—like farmers markets and shopping stalls—with the more sustainable core infrastructure developed for Loft, the waterfront can create greater diversity in the types of pop-up establishments that will appear for a limited time in different neighbourhoods. This will better serve the varied needs of new start-ups, makers, satellite restaurateurs, and more traditional businesses looking for temporary meeting or public engagement space. More specifically, it would allow them to experiment with new offerings and product lines without the overhang of a massive capital expense, creating a much more dynamic retail environment.

Sidewalk will prototype both the core Loft and Next-Gen Bazaar concepts in Quayside. The Loft pilot will likely contain parking space that could easily transition to other uses once shared mobility reduces private car use and parking needs. The Next-Gen Bazaar pilot will blend public and private space to allow retailers and new businesses to set up shop in Toronto's newest neighbourhood without upfront capital risk.

A Flexible Loft for the Future City



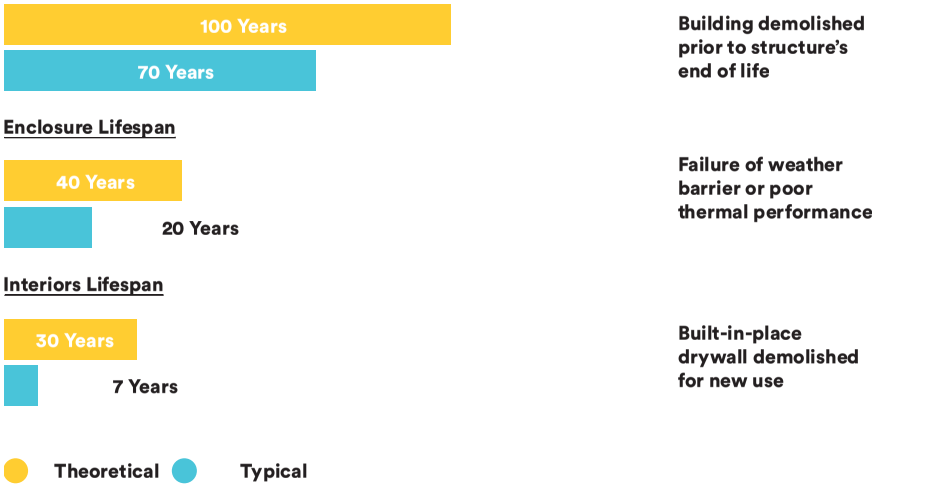
The Loft structure is designed with a strong skeleton and a flexible interior to accommodate changing building and market needs, enabling radical mixed-use development to occur more quickly and at lower cost than it does today.

Typical Buildings

Built only for one use

Today, all building systems have functional lifespans far beyond their desired lifespans, resulting in waste and inflexibility.

As illustrated below, building components made available by current construction methods are used for only a fraction of their potential material lifespan.

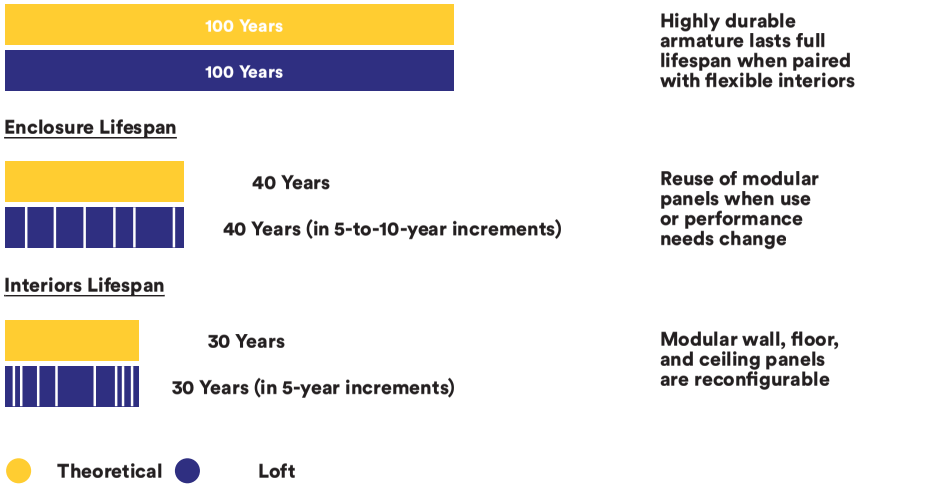


Loft

Built for the ages

Loft addresses this mismatch in use and lifespan by focusing on a robust building exterior, taking advantage of the extremely long lifespan of major building components.

Then, by making the interiors highly flexible with standardized dimensions and interconnections, Loft facilitates easy and ongoing adjustment so that even an old building will meet its users' needs perfectly and with minimal waste.



Between Old and New: Embracing Heritage

NEW DEVELOPMENT OFTEN BENEFITS FROM EMBRACING HISTORY. Sprinkled throughout the Eastern Waterfront are the grain silos and smokestacks that testify to the waterfront's industrial legacy, with the Victory Soya Mills Silo in the middle of the Quayside neighbourhood a prime example. The treatment of this authentic piece of Quayside's history should be highlighted, not hidden, and its towering structure should be celebrated.

Concrete silo structures have vexed cities and developers all around the world, but new design capabilities are increasingly enabling cost effective reinventions. In Cape Town, South Africa, construction of a contemporary art museum within the V&A Grain Silo is underway.

The silo can be an organizing component of the public realm within Quayside, and its location establishes it as a powerful visual gateway as visitors travel east on Queens Quay. Its central location within Quayside may also position it to play a pivotal role as a node in a mobility network connecting the Eastern Waterfront and the city.

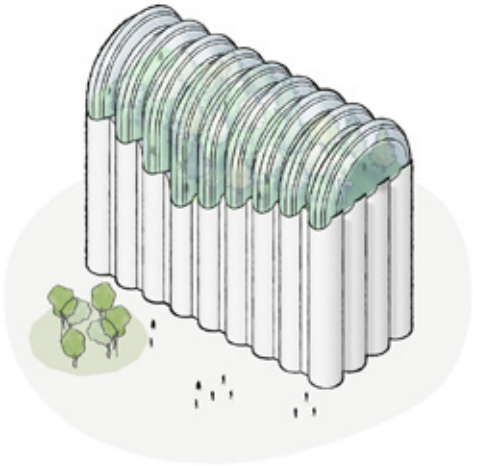
The silo structure could ultimately become the symbol that instantly comes to mind when people think of Toronto's urban innovation district in the Eastern Waterfront—a counterintuitive coda for a structure that was built 60 years before the iPhone was invented.

As development scales across the Eastern Waterfront, the Hearn, Cherry Street Bridge, and the Fire Hall on Commissioner Street present similar distinctive opportunities to be repurposed.

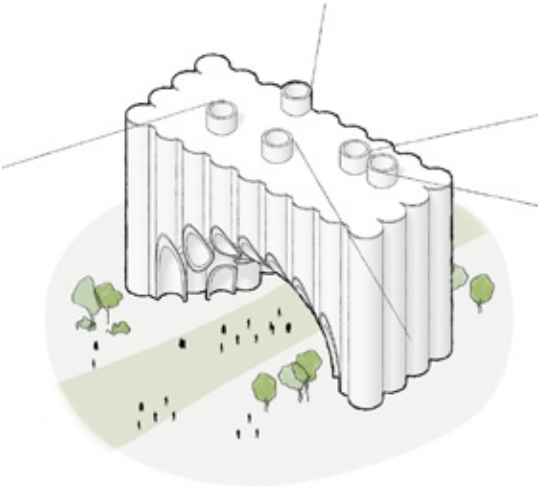
The historic grain silo at the V&A Waterfront in Cape Town, South Africa is being converted into the new home of the Zeitz MOCAA permanent contemporary art collection.

Credit: Navigator

MUSEUM

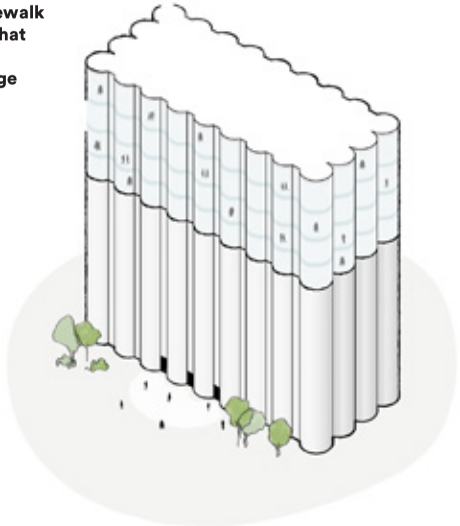


URBAN FARM



TRANSIT HUB

Victory Soya Mills Silo, an icon of Quayside's industrial past, may well become a symbol of its future. The team at Sidewalk explored a series of ideas that would simultaneously pay homage to the site's heritage while creating a beacon for its innovative future.



HOTEL

TECH INCUBATOR

GARDEN

4. Partnership and Investment

Develop a new partnership model that ensures a solid financial foundation, manages financial risk and secures revenue that funds future phases of waterfront revitalization.

IV. Team

In setting objectives for this Project, two global firms (which, together with Waterfront Toronto and its other consultants, comprise the "Team") were engaged through a competitive process to support

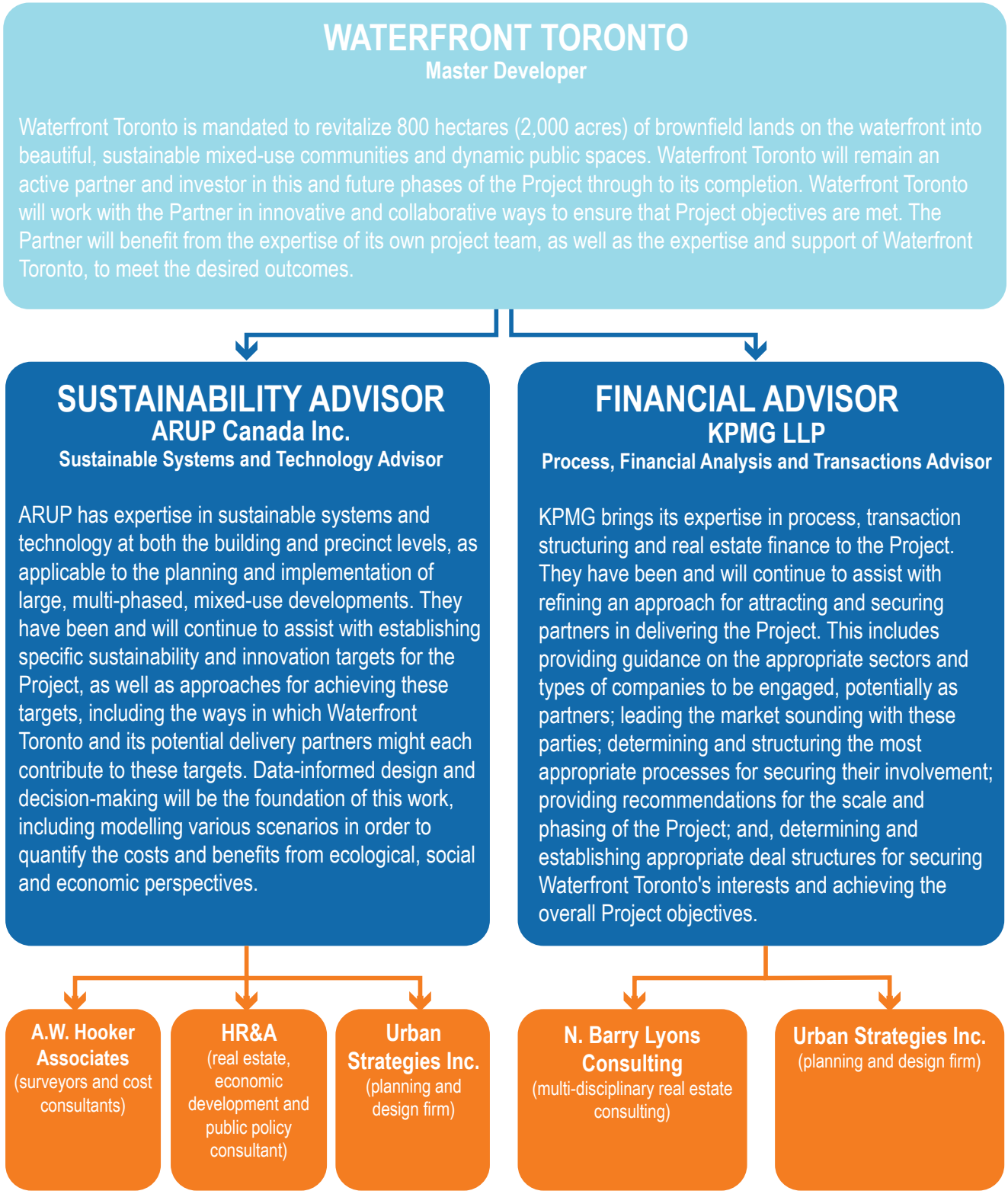


Figure 2. Team Composition

Waterfront Toronto and the Innovation and Funding Partner throughout the Project. These firms are not permitted to be included as members of bid teams since they are already engaged. Once the Partner has been selected, the scope of effort of each of these firms will be reviewed and adjusted accordingly.

In the event that Waterfront Toronto and the Partner identify areas where expertise is required to augment the Team, a joint procurement effort will be undertaken to secure the necessary resources.

V. Future RFPs

Through this RFP, Waterfront Toronto is seeking a world-leading urban innovation and funding partner to help create and fund a globally significant community that will showcase advanced technologies, building materials, sustainable practices and innovative business models and that achieves the objectives summarized in Section III. This Partner could be an individual organization, or in the form of a joint venture, consortium, or other legal arrangement ("Joint Venture or Consortium"). At this stage in the process we are not seeking traditional real estate developers for the vertical development opportunities.

As illustrated in **Figure 3**, this is the first in a series of RFPs for the Project, the next steps of which we envision to include Waterfront Toronto and the Partner, jointly:

1. Undertaking broad market engagement to secure infrastructure design and delivery partners for critical infrastructure elements. This may include working with multiple sectors and industries who are involved with various aspects of designing and delivering sustainable communities; including technology and systems firms, utilities, transit authorities, lenders, materials suppliers, constructors, and others who are active in the infrastructure development process; followed by,
2. Engaging innovative real estate development teams with the vision, capacity, and commitment to deliver a distinctive and ambitious, mixed-use community that is consistent with Waterfront Toronto's high design and performance standards, and aligned with the vision and objectives of the Project.

For solution areas where the Partner has technologies or methodologies that could benefit the Project, a review process will be enacted wherein Waterfront Toronto can be assured of the degree of innovation and the cost-competitive nature of the Partner's proposed solutions prior to the initiation of additional downstream procurement processes.

The partnering structures and governance will be clarified at each stage as the Project progresses and as new participants are added to the delivery ecosystem.

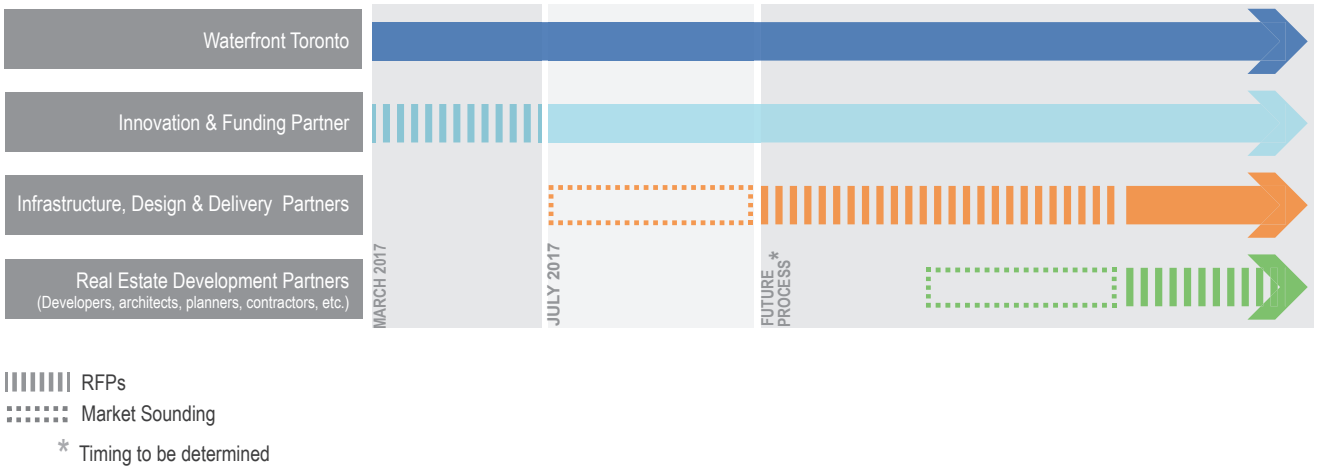
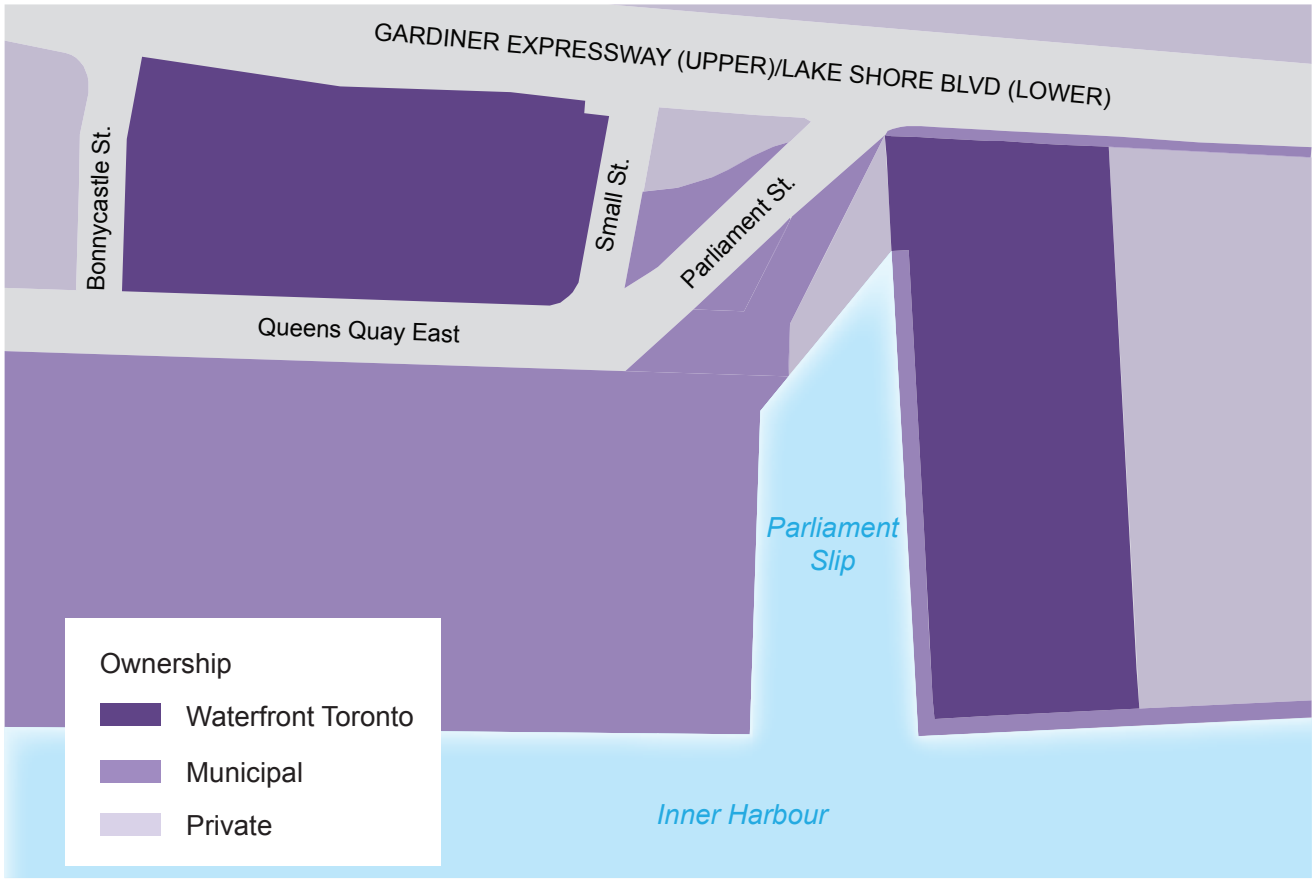


Figure 3. Phases of RFPs



source for all documents: https://sidewalktoronto.ca/documents/

Figure 5. The Subject Lands - Current Configuration

Parliament Development Lands (0.6 hectares/1.5 acres)

Figure 5 shows the current configuration of the subject lands and the condition of the road network in this area. Currently, Parliament Street connects with Queens Quay East by running diagonally across the future Parliament Development Lands. The Parliament Development Lands will be created by the future realignment of Parliament Street south of Lake Shore Boulevard East and the extension of Queens Quay East across the north end of the Parliament slip (see **Figure 4**).

Waterfront Toronto has begun the planning and design for the realigned Parliament Street and the extension of Queens Quay East. This work will ultimately provide municipal services and utility infrastructure for the Parliament Development Lands and 333 Lake Shore Boulevard East.

These development lands comprise a number of land parcels, most of which are owned by the City of Toronto or Toronto Port Lands Company (TPLC), a City agency, with the exception of 307 Lake Shore Boulevard East which is privately owned and houses a two-storey office building. The maximum mixed-use gross floor area permitted by the draft by-law for the publicly-owned lands is 425,000 square feet and for the privately-owned lands is 82,800 square feet. As a merged development site, the maximum mixed-use gross floor area permitted by the draft by-law is 574,000 square feet. City staff have been consulted regarding the inclusion of the lands owned by the City and TPLC in this RFP. In the future, when development partners are being sought for the vertical development, the disposition of the publicly-ownded lands will require City Council approval.

333 Lake Shore Boulevard East (2.4 hectares/6.0 acres)

This vacant lot is owned by Waterfront Toronto and is currently used for parking. The draft by-law for 333 Lake Shore Boulevard East restricts the maximum mixed-use gross floor area to approximately 930,000 square feet.

The Texts

All Cover Images: Default background for Google's Pixel 3 phone. source: www.wallpapercave.com

CHRISTIAN VON BORRIES
In Conversation with Arno Brandlhuber and Olaf Grawert

OG: Lass uns vielleicht mit einem lokalen Fall beginnen und dann den Bogen auf globaler Ebene spannen. Zunächst bleiben wir in Deutschland, in Baden-Württemberg, dort wurdest du von der Kulturregion Stuttgart zu einer Kooperation mit lokalen Technologieunternehmen eingeladen und es kam zu einer Zusammenarbeit mit der Zukunftsabteilung Daimler Group. Warum baut einer der größten Autobauer der Welt auf die Expertise eines Künstlers und was versuchen sie aus deinem Artistic-Research über die Zukunft zu lernen?

CvB: Als Video-Künstler und Aktivist wurde ich von der Kulturregion Stuttgart, einer Unterabteilung der Wirtschaftsregion, angefragt. Kultur und Wirtschaft sind in dieser Region quasi eins – die hidden champions, wie Trumpf aber vor allem Bosch und Daimler dominieren und prägen diesen Raum.

Eine Firma erbittet also meine Expertise, den Blick von außen, eine andere Sicht auf unsere Umwelt, im Wissen, dass sich mit dem Wandel der Automobilindustrie, auch die Region ändern wird. Das Selbstverständnis dessen, was sie herstellen, von was sie geprägt und dominiert sind, ändert sich fundamental. Man könnte meinen: klar, die Autos der Zukunft werden nicht mehr aus Blech sein, das macht die Blechschneidemaschine von Trumpf obsolet, genauso wie das Elektroauto den Verbrennungsmotor überflüssig machen wird. Das ist uns allen klar, auch dass heute die Expertise für Schlüsseltechnologien im Automobilbereich in Japan, Südkorea und China liegt und nicht mehr in Deutschland.

Das ist jedoch gar nicht der Punkt. Was ich in meiner Zusammenarbeit mit der Zukunftsabteilung von Daimler beobachten konnte, ist ein Wechsel der Vorstellungsorientierung: weg vom Autohersteller, hin zum Entwickler und Anbieter von Mobilitätskonzepten. Dieses Umdenken ist laut Daimler-Chef Zetsche entscheidend im Rennen um die Gestaltungshoheit von Mobilität, die das Unternehmen natürlich gewinnen will. Wenn ein Unternehmen wie Daimler über Mobilität spricht, spricht es automatisch auch über den öffentlichen Raum und dessen Gestaltungshoheit.

An diesem Punkt verschwimmen privatwirtschaftliche und öffentliche Interessen und das ist es, was mich als Künstler interessiert: das Verhältnis von Gesellschaft- zu Konzerninteressen – von Gemeinwohl- zu Gewinnabsichten. Wenn Stuttgarts Bürgermeister Kuhn im Rahmen einer Smart City Konferenz hin und her laviert zwischen, auf der einen Seite wollen wir den innerstädtischen Verkehr reduzieren, auf der anderen Seite sind die Arbeitsplätze für die Region wichtiger als „irgendwelche“ Mobilitätskonzepte, wird in diesem Moment das Scheitern der staatlichen Regulierungsmacht deutlich.

Nachdem Vortrag des regierenden Bürgermeisters folgte der Head of Daimler Financial Services, der größten Unternehmenssparte, der Miet- und Leasingbranche, mit seiner Vision von Arbeit und Mobilität für das Stuttgart der Zukunft – von der App über das Automobil bis zum Service selbst – alles aus einer Hand. Das Bild zur Vision ist besonders interessant, denn obwohl sie nicht wissen was sie bauen werden, ist die Zukunftsabteilung damit beschäftigt,

Renderings von Verkehrsknotenpunkten in Stuttgart zu machen, über denen Autos fliegen und Menschen auf Grünstreifen herumspazieren. Das visionäre Potential dieser Bilder beschränkt sich auf die Darstellung zweier Männer, die einen Kinderwagen schieben – sie denken, das ist eine wunderbare Zukunft, in Wirklichkeit sieht es aber aus wie Metropolis in Farbe. Diese Vorstellung einer alten Zukunft stelle ich in Frage, im Gespräch und in meinen Videoarbeiten, die sehr assoziativ sind. Es interessiert mich nicht fernsehtaugliche Recherche und Analyse zu betreiben. Daten statt Steuern.

OG: Im Filmgenre gibt es den Begriff der Ton-Bild-Schere, der das Auseinanderfallen von Bild und Erzählung beschreibt. Ähnlich verhält es sich mit der Erzählung von neuen Mobilitätskonzepten zu den von dir erwähnten Darstellungen. Gleichzeitig handelt und argumentiert Daimler natürlich als Unternehmen. In wie weit ist die zukünftige Stadt, die Smart City, eine rein unternehmerische und ökonomische?

CvB: Im Kern ist das relativ nahe an den Beobachtungen, die Orit Halpern in ihrem Buch The Smartness Mandate sammelt. Was ist das Versprechen dieser corporate smart cities und was hat es mit dieser Form von „Smartness“ auf sich? Das Smartness-Idiom betrifft viele Bereiche des täglichen Lebens – nicht nur die Art und Weise wie wir beginnen Städte neu zu denken – und basiert auf den Daten unseres öffentlichen Handelns. An diesem Punkt setzt Orit Halpern an, wenn sie von Daten als neuer Währung spricht, die Steuern ersetzen werden. Legen wir dieses Modell auf die Stadt um, wird die Benutzung der Stadt durch uns, durch die Bevölkerung, datafiziert. Unsere bisherige Freiheit sich im Stadtraum mehr oder weniger unbeobachtet zu bewegen, wird durch eine neue Form der Öffentlichkeit ersetzt, die in der Vernetzung unserer Geräte, Applikationen und Nutzungen gründet. Das reicht vom fitness tracker und der smart watch, über RFID chips in Kleidung und Geräten, bis hin zu neuronalen Prozessoren an denen geforscht wird. Das klingt nach Science-Fiction, ist aber Realität. Egal wie, die Öffentlichkeit trägt zur Generierung von Daten und Profilen bei, was zum Teil die Smart City ausmacht und unter dem Begriff Big Data zusammengefasst wird. und die Voraussetzung für künstliche Intelligenz bildet.

AB: Gleichzeitig beschränkt sich die Vorstellung von Daimler auf die mechanische Welt. Man ersetzt den Arbeiter, ob Mechaniker oder Mauerer und der Backstein wird nicht mehr per Hand, sondern mit dem Roboterarm platziert. Das hat aber gar nichts mit der Behauptung zu tun, Mobilität neu denken zu wollen, sondern beweist, dass der Übergang in eine andere Form noch undenkbar scheint. Etwas Ähnliches können wir gerade bei unseren Städten beobachten, denn was bisher mechanisch gedacht war, Material, Zirkulation, und so weiter – die Elemente unseres Habitats – verändert sich. Dein Künstlergespräch am Garage Museum in Moskau trug den Titel Algorithms of a Smart City and the disappearance of the architect. Bleiben wir beim ersten Teil des Titels: was bedeutet dieser Wechsel von der mechanischen in die digital-algorithmische Logik, für die Stadt und welche Rolle spielt Big Data?

CvB: Zwei Aspekte sind hier besonders wichtig: wer sammelt die Daten und wer wertet sie aus? Man könnte sagen, da ist die Gesellschaft vertreten durch den Staat. De facto sind es

aber, mit der Ausnahme von China, private Unternehmen. Wir alle hinterlassen Spuren in der Stadt: bei der Benutzung von öffentlichen Verkehrsmitteln, dem Einkauf im Supermarkt und dergleichen aufgezeichnet von Überwachungskameras. Bis dato stehen meine Handlungen jedoch in keinem direkten Zusammenhang zueinander. Was ich im Supermarkt kaufe oder wie viele Zigaretten ich rauche bleibt unbeobachtet. Im Gegensatz zu unserem virtuellen Verhalten, das zu personalisierter Werbung führt – ein Umstand dessen wir uns weitestgehend bewusst sind und den wir akzeptieren zu scheinen. In den USA und in China gibt es eine deutliche Tendenz, reale Handlungen zu vernetzen und in Bezug zu setzen. Die entscheidende Frage lautet: wer hat welche Interessen in der Auswertung dieser Daten des alltäglichen und öffentlichen Lebens?

Wenn das zum Beispiel eine gesetzliche Krankenversicherung ist, würde ich im besten Fall von guten Motiven ausgehen. Wenn es die Steuerbehörde ist, könnte man von einer Form der Gerechtigkeit sprechen. Bei privaten Konzernen ist die Motivation und Agenda weit weniger klar wobei der Schluss, dass es sich um Profitinteressen handelt, naheliegt. Hier würde ich auch den Wechsel von der mechanischen in die virtuelle Welt verorten.
Am Beispiel selbstfahrender Autos sehen wir, dass die Unternehmen, die nicht selbst Autos bauen, sondern die Software herstellen, klar im Vorteil sind. Google ist neben chinesischen Entwicklern weltweit führend in dieser Technologie, auch ohne selbst Fahrzeuge zu bauen. Diese Leistung wird ausgelagert, das heißt es gibt eine klare Trennung zwischen Software und Hardware, wobei der entscheidende Mehrwert klar in der Implementierung des Betriebssystems liegt, also bei Google und nicht beim Autobauer.

OG: Es geht um die Ökonomisierung der Stadt durch Auswertung und Analyse des Nutzerverhaltens. Beispielsweise verwendet der erfolgreichste Investmentfonds der USA als Grundlage für seine Prognosen, die Parkplatzüberwachung der amerikanischen Supermarktkette Walmart. Automarke, Größe, Parkdauer, Frequenz geben Aufschluss über die Wirtschafts- bzw. Kaufkraft und die Entwicklungsperspektive einer Nachbarschaft und dienen zur Validierung der Vertrauenswürdigkeit eines Finanzprodukts. Gleichzeitig ist es eines der größten und günstigsten Datensets.

AB: Es geht um die Frage der Sinngebung – wo passiert der qualitative Übergang? Die Daten sind vorhanden, einfach verfügbar und in gewisser Weise austauschbar. Niemand hat sich bewusst für die Verwendung der Daten durch dritte Parteien entschieden, als vor 20 Jahren Kameras auf den Parkplätzen installiert wurden. Erst zunehmend selbstlernende Analysesoftware hat wie in diesem Beispiel deutlich wird die Ebene der Daten freigelegt. Was passiert, wenn diese großen Datensätze, seien es zufällige, von Google generierte oder im Fall Chinas, staatliche, auf die die alte analoge Stadt und Stadtplanung treffen?

CvB: Das Beispiel vom Parkplatz zeigt die gelungene Vernetzung von Daten. Gleichzeitig kann man daran festmachen, dass nicht die Softwareentwickler, sondern die Datenanalysten entscheidend sind. Ein Datenanalyst ist kein Programmierer, sondern eine Person, die in der Lage ist, durch Datenmuster Zusammenhänge im Verhalten von Personen und Objekten herzustellen.
Nehme ich das Auto, das Fahrrad oder gehe ich zu Fuß? Verlasse

ich das Haus überhaupt? Mit wem spreche ich im Bus? Man könnte jetzt positiv sagen, die bisherige Stadt wurde an den Bewohner*innen vorbeigeplant. Die Verantwortung wurde zentralisiert, zum Beispiel wo wie viele Sozialwohnungen gebaut oder an Private verkauft werden. Die Stadt der Zukunft beruht eventuell auf dem Datensatz der Bevölkerung deren Input unterschiedlichster Art, in die Art und Weise, wie die Stadt der Zukunft aussehen wird, miteinfließt.

Gleichzeitig verschiebt sich unsere Rolle vom Bürger zum User, um den Begriff zu bemühen und wir sind nicht mehr Teil einer Gesellschaft, sondern einer „Community", einer homogenen Blase. Dass diese Ökonomisierung der Umwelt durch private Unternehmen im Westen nicht als Bedrohung wahrgenommen wird, zeigt das Beispiel der Toronto Waterfront zeigt das ganz deutlich. Dort entwickelt Sidewalk Labs, ein Tochterunternehmen von Alphabet und Schwesterunternehmen von Google, einen ganzen Stadtteil. Wir müssen uns fragen, wie sich die Interessen von Alphabet, abgesehen von Konzern- und Profitinteressen, von einer ideal gedachten Stadtverwaltung unterscheiden.

Daten als Macht

OG: Lass uns bei dem Beispiel Toronto Waterfront bleiben. PPP-Modelle sind auf dem Vormarsch, immer mehr Infrastruktur und Stadtbauprojekte werden in public-private-partnerships gedacht und umgesetzt. In Deutschland gibt es ein ähnliches Werkzeug, städtebauliche Verträge, was bedeuten diese Allianzen der gewählten Vertretungen mit privaten Unternehmen für die Stadt? Den Rückzug des Staates, wie wir ihn kennen?

CvB: Das ist eine sehr interessante Frage. Es wäre zu einfach zu sagen, weil es Google ist, ist es per se schlecht. Wir sind uns der Chancen und des Nutzens des Service bewusst. Google erleichtert zweifellos unser aller Leben – das ist ein Fakt – und jetzt baut Google einen ganzen Stadtteil von Toronto. Der Schritt aus der digitalen in die analoge Welt ist absolut logisch. Das erste Indiz waren die physischen Präsenzen der großen Technologieunternehmen auf dem World Economic Forum 2018 in Davos. Ich reise jedes Jahr als Beobachter in die Schweiz und zum ersten Mal hatten Google, Facebook und Palantir – darüber möchte ich später noch etwas sagen – eigene Gebäude in bester innerstädtischer Lage gebaut/bezogen. Das klingt erstmal nicht weiter ungewöhnlich doch, wenn man das Forum kennt, weiß man welcher Ausdruck von Macht ein mehrstöckiges Gebäude zwischen dem Kirchner Museum und dem Hotel von Donald Trump und Angela Merkel darstellt.

Die Unternehmen reihten sich neben die Nationalstaaten, mit dem Unterschied, dass der Zutritt zu ihren Repräsentanzen beschränkt war. Wer zu ihnen „nach Hause" wollte, brauchte eine Einladung.
So ein Moment wird im Westen kaum wahrgenommen oder kommentiert. Genauso wenig, dass der CEO von Sidewalk Labs, Dan Doctoroff, ganz explizit ein wirtschaftliches Interesse an Stadt formuliert. Nicht als Anlagewert, sondern als Datenpool. Wer die Daten hat, hat die Macht und wer die Macht hat, hat das Sagen – wie wir funktionieren, handeln uns bewegen – das kommt in der analogen Welt an und das ist der Moment, in dem wir uns gerade befinden. Wenn wir das jetzt mit China vergleichen und den Unterschied studieren, ist das natürlich höchst interessant.

Denn dieser moralische und auch politisch gedachte Unterschied zwischen Privatunternehmen und Staat, der existiert dort nicht. In einem zentralistischen Staat wie China fällt das zusammen. Die großen Internetunternehmen sind zwar privatgeführt und an der US Börse gehandelt, doch befinden sie sich immer mehrheitlich in staatlicher Hand. Was zu einem Informations- und Datenmonopol des Staates und Regimes führt. Dieser hat seinen Anteil am Entwicklungsstand neuer Technologien, Algorithmen und KI. Außerdem ist die Angst der Bevölkerung, soweit ich das von meinen zahlreichen Aufenthalten und Gesprächen beurteilen kann, wesentlich kleiner. Dort herrscht weniger die Angst vor dem Big Brother, als die Hoffnung auf eine Form der Objektivierung dessen, wie ein Staat, ansonsten vielleicht willkürlich, eigenmächtig aber auch korrupt handelt.

AI is Communist

AB: Peter Thiel, Gründer von Paypal und Palantir, sagt: crypto ist libertarian und AI ist communist. Du bringst das Zitat in deinem Film, was meint er damit?

CvB: Dazu muss man wissen, dass Peter Thiel libertär ist und er sich gegen China als zentralistischen Staat und für crypto als dezentrales System ausspricht. Für ihn ist der Gedanke einer zentralen Intelligenz per se autoritär und deshalb communist. Damit wäre eine AI basierte und gesteuerte Smart City, wie sie auch Google denkt, eine Form von autoritärer Staat. Gleichzeitig zeigen sich Aspekte eines neuen kalten Krieges, nicht zuletzt um Ressourcen, denn beide Technologien verschlingen Unmengen an Energie was direkte Auswirkungen auf die betroffenen Staaten hat. China steuert als einziges Land dagegen, was den libertären Kräften ein Dorn im Auge ist.

Für Peter Thiel geht es aber auch um eine Idee von physischer Gesellschaft. Wenn sie von crypto sprechen beziehen sie sich immer auch auf Milton Friedman, den Ökonomen und Ronald Reagan Vertrauen und seine marktlibertären Ansätze die jegliche staatliche Kontrolle aufheben wollen. Der Staat wird degradiert und dient lediglich noch zum Schutz des Privateigentums — nicht das der Mob kommt und dir dein Eigentum wegnimmt. In ihrer Logik ist der nächste Schritt, sich auf schwimmende Inseln außerhalb nationalen Hoheitsgebietes zurückzuziehen, das nennt sich dann seasteading - der Inbegriff einer libertären Gesellschaft, wobei jegliche Variation von Gesellschaftssystem mögliche ist. Das könnte ein sozialistischer Staat sein, es könnte auch ein autoritärer Staat sein.

OG: Algorithmen sind ja nicht Gott-gegeben – dahinter stehen Menschen die ihre eigenen Motivationen, Vorurteile und Agenden verfolgen. James Bridle schreibt in seinem Buch New Dark Age: Technology and the End of the Future unter anderem über die Einflusssphäre der Entwickler und Analysten. Safiya Noble wirft in ihrem Buch Algorithms of Oppression die Frage der Agency der Coder und Codes auf.

AB: Wendy Chun führt den Begriff der Homophilie ein, um den Facebook Algorithmus zu erklären. Dieser folgt der Logik des Unternehmens und versucht Menschen in möglichst homogene Gruppen einzuteilen, weil diese leichter zu adressieren sind. Ist die Smart City per se homogen?

CvB: Machine Learning beruht auf Statistik. Statistik von Nutzerdaten, von bestehenden Räumen, Situationen, Umfeldern. Statistik bedeutet in der Marktlogik jedoch auch, dass der größte Haufen immer größer wird und werden muss. Und das ist natürlich ein riesen Problem in der Entwicklung von künstlicher Intelligenz durch Machine Learning. Minderheiten werden marginalisiert, was eine Gefahr ist, genau wie die fehlende accountability – Rechenschaftspflicht. Wir wissen nicht wie AI funktioniert. Wir können nicht intervenieren oder widersprechen, was weiter zur Homogenisierung des Einzelnen und der Gesellschaft beiträgt.

Um auf die Frage zurückzukommen, ob die Smart City wie Facebook per se homogen ist, muss man fragen wie Facebook den Staat und die Stadt denken und verstehen würde. Das ist alles höchst spekulativ, vielleicht schauen wir auf die physischen Räume die Facebook bis dato für sich erdacht hat und welcher Logik diese folgen. Frank Gehrys Entwurf für die Firmenzentrale von Facebook ist deshalb so interessant, weil das Unternehmen zwar auf den bekanntesten Trademarkarchitekten setzt, nicht jedoch auf sein Markenzeichen, seine ikonische Architektursprache. Völlig untypisch im Sinne Gehrys, aber ganz im Sinne von Facebook – eher so wie Mark Zuckerburg angezogen ist – nach dem Prinzip Normcore. Entstanden ist eine Architektur, die etwas antizipiert, nämlich scheinbare architektonische Unbestimmtheit versus City-Marketing Bilbao. Genau wie die Ikea-Lampe und das H&M Shirt geht es um den kleinsten gemeinsame Nenner auf den man sich einigen kann, der global funktioniert und reproduziert werden kann.

Einen ähnlichen Grad der Unbestimmtheit sehen wir bei Toronto Waterfront. Es war eine bewusste Entscheidung für den Standort Toronto und gegen die USA. Etwas zwischen dem europäischen Regulativ und den privat-kapitalistisch geführten Vereinigten Staaten. Ein Hybrid-Standort der als Testfeld gedacht werden kann, global funktioniert und gleichzeitig einen hohen Grad an Mitbestimmung antizipiert, was natürlich wichtig ist. In Toronto ist eine andere Form der Datengenerierung als in den USA möglich – eine freiwillige, pro-aktive und beidseitige. Das führt im ersten Schritt zu Architekturen die, ähnlich der IKEA Lampe, niemanden stören und vorstellungsoffen für alle sind.

AB: Wenn wir davon ausgehen, dass die Bilder von Architekturen in diesem Fall nur dazu dienen eine Resonanzen zu erzeugen, die als Daten in die Stadtplanung einfließen, wird Architektur zum Instrument, bei gleichzeitigem Verlust ihrer sozialen Funktionen. Es geht nicht darum ein Bild, eine Skizze einzunehmen. Das hieße aber auch, dass Architektur, wie wir sie bisher denken, nur noch eine Resonanzfunktion hat, nicht aber mehr eine Planungs- oder soziale Funktion.

CvB: Genau! Architektur wird im ersten Schritt zum Instrument der Statistik und gibt Aufschluss über das Nutzerverhalten. Ganz anders als die Renderings von Daimler sehen die Bilder von Sidewalk Labs wie Kinderzeichnungen aus. Sie wollen der Entscheidung des Nutzers nicht vorgreifen, ob ein Auto über der Kreuzung fliegt oder wer den Kinderwagen schiebt. Die Rolle des Architekten gibt es in diesem Szenario nicht mehr, beziehungsweise beschränkt sich ihre Einflusssphäre auf die Gestaltung einzelner Punkte im Stadtraum, die vom Algorithmus vorbestimmt sind.

User und Provider

OG: Neben Orit Halpern beziehst du dich in deinen Vorträgen auch auf Keller Easterling mit der wir ebenfalls gesprochen haben. Ihr stimmt in der Aussage überein, dass es zu einer Marginalisierung gewisser unerwünschter Bevölkerungsgruppen kommt, in der Regel der Arbeiter. In deinem Film zeigst du Bilder des Louvre Abu Dhabi in dem Arbeiter fast unsichtbar stehen und warten, damit assoziierst du eine Trennung in dienende und nutzende Schicht. Wie siehst du den Zusammenhang?

CvB: Ich sammle ja schon seit Jahren Aufnahmen von putzenden Menschen – die sozusagen sinnlos putzen. Wir alle nutzen Car Sharing Services, aber niemand weiß, wer die Autos putzt, tankt oder wartet. Es muss auch die Arbeiter geben, die man nicht sehen sollte, die das Elektroauto aufladen, putzen, den Reifen wechseln und kommen, wenn deine Smartwatch nicht funktioniert oder dein Chip kaputt ist. Auf Dauer wird dieses Klassensystem und die neoliberale Politik die dahintersteht nicht bestehen können. Wir haben in der westlichen Welt gut 70 Jahre Frieden, das ist die Ausnahme. In einer ohnehin ungewissen Zeit, an dem Punkt, an dem Gesellschaften auseinanderfallen – hier die Reichen, dort die Armen – kommen diese neuen Formen und Ideen von Lebenswelten hinzu.

Die Frage ist wie Unternehmen und Start-Ups, auf die heute stattfindende Verdrängung der Mittelschicht aus den Innenstadtbereichen reagieren. Google, Amazon oder Beidu haben keinen Vorteil davon, wenn ihnen die Käuferschicht davonbricht. Sie wollen Geld verdienen und man kann davon ausgehen, dass sie Ghettobildung jedweder Art verhindern werden. Die Frage ist, wie kann ein Algorithmus dem entgegenwirken?

Big Data als öffentlicher Raum

AB: Sidewalk Labs verwendet eine selbst entwickelte open-source Software namens „Doppelganger“ zur Simulation und Planung ganzer Städte, die Kommunen und Stadtplanern zur Verfügung gestellt wird. Im Gegenzug erhalten sie geprüfte Daten zurück, die zur Verifizierung ihrer eigens generierten auf Echtzeit-Daten basierten, algorithmischen Prognosen dienen. Was bedeutet dieses Vordringen von Big Data für uns, als Bürger*innen und die Stadt, im speziellen den öffentliche Raum?

CvB: Big Data als öffentlicher Raum, das ist natürlich eine entscheidende Frage. Bis vor gar nicht allzu langer Zeit lebten wir in der Vorstellung der öffentliche Raum gehöre allen. Den Zwischenschritt markierten Räume in den Metropolen des Kapitals, von New York bis Shenzhen. Dort standen vor dem Apple Store Bertoia Stühle um Springbrunnen und wenn man sich hinsaß und eine Zigarette anzündete, kam der private Sicherheitsdienst und erklärte einem, dass Rauchen auf dem Apple Square verboten sei. Das war und ist eine Form von Öffentlichkeit, in bester Lage, die mit unserer Vorstellung davon jedoch wenig gemein hat. Randgruppen haben keinerlei Anspruch auf diesen Raum. Obdachlose werden sofort verscheucht.
In Berlin gibt es das jetzt auch. Ich war bei der Eröffnung des Mercedes-Benz-Platzes, vor der O2-Arena, jetzt die Mercedes-Benz-Arena. Eröffnet wurde der Platz von Ramona Pop, Wirtschaftssenatorin der Stadt Berlin mit den Worten: „Das ist

ein typisches Berliner Quartier, wie wir es uns wünschen.“ An der Straße standen Polizisten, die auf meine Nachfrage bestätigten, was mir ohnehin klar war. Kein Zutritt für die Beamten auf das Gelände, da es sich um einen privaten Raum handelt und Sicherheit privat gedacht und geregelt wird.

Dieser Zwischenschritt von öffentlich zu scheinbar-öffentlich ist insofern wichtig, als dass das unbemerkte Ankommen diese Form von Raum und dessen Akzeptanz den Übergang für Big Data als öffentlicher Raum markiert. Das ist ein schwieriger Gedankengang, weil Daten etwas Nicht-physisches und Raum etwas Physisches ist. Aber in der Vorstellung generiert der öffentliche Raum diese Daten.

Die Fußballweltmeisterschaft in Russland ist ein gutes Beispiel. Dort wurde flächendeckend eine Gesichtserkennungssoftware namens Findface verwendet, mit einer Erkennungsrate von 97%. Alle, die zur Fußballweltmeisterschaft kamen, hatten RFID-Chips in ihren Besucherpässen, die man auch außerhalb der Stadien tragen musste. Das klingt wieder nach alter Technologie, antizipiert jedoch schon eine Zukunft, in der wir mit Chips Grenzen überschreiten können, nicht mehr in der Schlange stehen müssen, im Supermarkt zahlen können – sprich, reibungs- und grenzenlos leben werden. Den Kritikern der Technologie entgegnete man mit dem Sicherheits-Argument, dem Abgleich mit Daten bekannter Hooligans. Ähnlich argumentiert China gegenüber Kritikern des Sozialpunkte-Kontos. Dort ist Big Data schon der öffentliche Raum und Teil der Lebensrealität. Wer sich unangemessen verhält darf den Schnellzug nicht benutzen. Argumentiert wird immer mit Randgruppen, die man überführen will. Dies sind Beispiele anhand derer ersichtlich wird, wie Daten öffentlichen Raum beeinflussen.

AB: Keller Easterling spricht in ihrem Buch von Extrastatecraft – Kräfte die sie in Verbindung mit der physischen Welt bringt. Deinem Beispiel zu folge, gibt es keine Nationalstaaten in Europa, die mit der Übermacht globaler Tech-Unternehmen konkurrieren könnten.

CvB: Genau, die ähnlich groß wären oder über ähnliche Mittel verfügen. Deswegen habe ich auch einen Film über Apple in China gemacht. Rückblickend war das ein altmodischer Gedanke: Apple ist Hardware versus China als Hardware. Heute würde ich natürlich sagen China ist Software versus die Tendenzen und Entwicklungen von Sidewalk Labs. Wir müssen darüber nachdenken, die Technologieunternehmen die wir mit Staaten vergleichen, mit supra-staatlichen Strukturen zu belegen und zu kontrollieren. China ist die Ausnahme, weil der Staat zentral, also top-down organisiert ist. Das ist politisch gesehen nicht die Regel, technologisch gibt es jedoch eine klare Tendenz in diese Richtung. Unsere Technologien haben diese Tendenz eingeschrieben. Jetzt könnte man fragen, was ist die Funktion des Architekten in China? Wenn wir zurück kommen zu Sidewalk Labs, wissen wir nicht genau was die Rolle des Architekten dort ist. Sie stellen keine Architekten ein, zumindest nicht per Definition. Diese Funktion würde wahrscheinlich ausgelagert und vergeben werden.

Gesellschaft und ihre Architektur als Algorithmus

OG: Die Stellenbeschreibungen auf der Website von Sidewalk Labs geben einen Einblick in die Rollenbilder des Unternehmens.

Es geht um Software, es geht um ein ganzheitliches Verständnis, es geht um Leistungsziele, es geht darum zu verstehen, was man mit den Daten machen kann. Und findest du keinen passenden Job auf der Website von SidewalkLabs, dann „schau doch bei unserem Schwesterunternehmen vorbei“: Cord, steigert die Mobilität in der Stadt; Cityblog, bringt Gesundheit und Technologie zusammen; Intersection, vernetzt die digitale mit der physischen Welt; und so weiter.

AB: Der CEO von Sidewalk Labs, Dan Doctoroff, war in seiner Rolle als Deputy Major in New York für die Implementierung von LinkNYC verantwortlich. Die LinkNYC Kioske ersetzten alle Telefonzellen und bieten freies Wifi in ganz New York. LinkNYC gehört ebenfalls mehrheitlich der Alphabet (Gruppe), weshalb es scharfe Kritik aus der Zivilbevölkerung gab. Wie kann man angesichts dieser überbordenden Wirtschaftsmacht überhaupt noch in einen Dialog auf Augenhöhe treten?

CvB: Wenn man die Vielschichtigkeit des Unternehmens und dessen Tragweite verstehen will, müsste man eine zweite Linie einziehen und fragen, was sind die bisherigen Entsprechungen und gesellschaftlichen Funktionen, zu den Technologien und Angeboten die Alphabet macht? Das wäre der öffentliche Nahverkehr, ein öffentliches Krankenhaus, eine öffentliche Krankenkasse. Im Projekt Toronto Waterfront werden diese staatlichen Funktionen durch private Unternehmen ersetzt. Jetzt könnte man sagen, ja klar Privatisierung, kennen wir doch. Darum geht es den Unternehmen aber nicht. Es geht ihnen um den vollumfänglichen Zugang zu unseren Lebensräumen und um die subkutane Steuerung unseres Verhaltens.

Man muss das Geschäftsmodell verstehen. In der Vorstellung von Google sind alle städtischen und staatlichen Funktionen scheinbar kostenlos, wie eine Suchanfrage. Die privatisierte Leistung ist lediglich das Werkzeug um, wie auch schon bei der Suchanfrage, Daten als Gegenleistung zu erhalten.

Also ist die Frage, wo der Architekt eintreten kann, vielleicht zu kurzgefasst. Vielleicht muss man eher fragen, wo ist die Gesellschaft? Was man nicht kann und das habe ich aus meiner Arbeit mit Programmieren und Entwicklern gelernt, ist unabhängig vom System zu agieren. Das heißt, zu glauben man könnte unabhängig von Alphabet, Amazon und Co. etwas an der Situation ändern. Genau das Gegenteil ist der Fall, man muss ihre Werkzeuge benutzen und sich überlegen, was könnten wir damit machen und was könnte unsere Funktion sein. Ihr seid doch Architekten, die Software steht euch zur Verfügung, benutzt sie und schaut was dabei rauskommt und was das für euch bedeutet. Ich glaube das ist die einzige Möglichkeit. Damit ist man embedded und es gibt wahrscheinlich gar keine Alternative. Aber es erweitert im besten Fall den Horizont dessen, was wir uns vorstellen können.

Ganz positiv gesagt, vielleicht ist Toronto Waterfront letztendlich die Architektur, die den Pritzkerpreis gewinnt, weil sich kein Architekt jemals hätte vorstellen können, was dabei rauskommt. Vielleicht gibt uns Big Data eine Vorstellung von Gesellschaft, auf die wir selbst nie gekommen wären, auf die Google selbst nicht gekommen wäre. Denn nachvollziehen was AI generiert können letztendlich weder Google, Tencent oder Baidu — wir aber schon, wenn wir mit dem Resultat konfrontiert werden.

PROLOGUE__Speculating on Sense

This book is about the historical construction of vision and cognition in the second half of the twentieth century. It posits that our forms of attention, observation, and truth are situated, contingent, and contested and that the ways we are trained, and train ourselves, to observe, document, record, and analyze the world are deeply historical in character. The narrative traces the impact of cybernetics and the communication sciences after World War II on the social and human sciences, design, arts, and urban planning. It documents a radical shift in attitudes to recording and displaying information that produced new forms of observation, rationality, and economy based on the management and analysis of data; what I label a "communicative objectivity." Furthermore, the book argues that historical changes in how we manage and train perception and define reason and intelligence are also transformations in governmentality. My intent is to denaturalize and historically situate assumptions about the value of data, our regular obsession with "visualization," and our almost overwhelming belief that we are in the midst of a digital-media-driven "crisis" of attention that can only be responded to through recourse to intensifying media consumption.

To begin to interrogate this past and its attendant stakes, I would like to offer an example in the present. I want to open with the largest private real estate development on earth.[1] One hour's drive southwest from Seoul, the new city of Songdo is being built from scratch on land reclaimed from the ocean (fig. P.1).[2] It is a masterpiece of engineering, literally emerging from a previously nonexistent territory. Beneath this newly grafted land lies a massive infrastructure of conduits containing fiber optic cables. Three feet wide, these tunnels are far larger than in most western European and American cities. They are largely empty spaces waiting, in theory, to provide some of the highest bandwidth on earth. To the eye of a New Yorker this is a strange landscape of inhuman proportions. Nowhere in the United States are there construction sites even approximating this size.

Part of the newly established Incheon Free Economic Zone (IFEZ), Songdo is one of three developments—the other two go by the labels "logistics" and

FIG. P.1__Frontier architecture. Songdo, Incheon Free Economic Zone, South Korea. Image: author, July 4, 2012.

"finance/leisure"—to be rolled out as the latest testing grounds for the future of human habitation.[3] It is perhaps telling that this free trade zone is built on an extension of the same beaches that marked the successful American invasion of Korea during the war in 1950; where one invasion occurred in the name of containment, now airports and free trade zones rise in the name of global integration. The Incheon Free Economic Zone and its commodity cities are interfaces and conduits into networks linked to other territories.[4] Conceived as a zone integrating finance, airport and logistics, high technology, and lifestyle by the South Korean government in the midst of the Asian currency crisis, the area is being developed in collaboration with Gale, a Boston-based real estate development company, and Cisco Systems, a major network infrastructure provider based in San Jose, California, now seeking to enter management consulting and telepresence service provision.[5] These cities made to hold hundreds of thousands, even millions, of people are sold for export by engineers and consultants. Marketed as machines for the perfect management and logistical organization of populations, services, and resources with little

regard for the specific locale, these products are the latest obsession in urban planning.[6] They are massive commodities.

Songdo is a special class of such spatial products. The city's major distinguishing feature is that it is designed to provide ubiquitous physical computing infrastructure. Marketed as a "smart" city, it is sold as the next frontier in computing—an entire territory whose sole mandate is to produce interactive data fields that, like the natural resources of another era, will be mined for wealth and produce the infrastructure for a new way of life. Cisco's strategic planners envision the world as interface, an entire sensory environment where human actions and reactions, from eye movements to body movements, can be traced, tracked, and responded to in the name of consumer satisfaction and work efficiency (whatever these terms may denote, and they are always ill defined and malleable, as are, perhaps not incidentally, "intelligence" or "smartness").[7] Every wall, room, and space is a conduit to a meeting, a building, a lab, or a hospital in another place. The developers thus envision an interface-filled life, where the currency of the realm is human attention at its very nervous, maybe even molecular, level. (Engineers speak candidly of transforming the laws of South Korea to allow the construction of medical grade networks to allow genetic and other data to flow from labs in the home to medical sites in order to facilitate the proliferation of home-health care services.) Accompanying the provision of computing infrastructure, the South Korean government also offers tax incentives to global high-tech and biotechnology companies to build research and development facilities that leverage the data structures and bandwidth of the location. Samsung's biotech division has already relocated, along with POSCO, a major steel refining conglomerate, IBM/KYOBO e-book storage and web sales, Cisco's urban management division, and numerous other companies.[8]

As some of the city's more enthusiastic proponents write, "as far as playing God. . . . New Songdo is the most ambitious instant city since Brasília 50 years ago. . . . It has been hailed since conception as the experimental prototype city of tomorrow. A green city, it was LEED-certified from the get-go, designed to emit a third of the greenhouse gases of a typical metropolis its size. . . . And it's supposed to be a 'smart city' studded with chips talking to one another." The article goes on to address the role of Cisco in the project and their plans to "wire every square inch with synapses."[9] The developers, financiers, and media boosters of this city argue for a speculative space ahead of its time that operates at the synaptic level of its inhabitants, linking the management of life at a global and ecological level to the very modulation of nerves.

FIG. P.2__**Bandwidth = Life.** Image of control room in Songdo, monitoring environmental data, traffic movement, security cameras, and emergency response systems. Image: author, September 1, 2013. As the marketers explain: "life in the Incheon Free Economic Zone is peaceful and abundant with parks and broad fields of green covering more than 30 percent of the city. There is a new city waste incinerating facility, a treated sewage recycling system and other systems, which work beyond eyeshot." Incheon Free Economic Zone marketing materials, July 2012.

The government and the corporations developing this space hope to create value around this systemic (human, machine, and even environmental) attentive capacity. They speak of "monetizing" bandwidth, implying that terms like "information" and "communication" can be seamlessly translated into rates of bits transmitted[10] and into the amount of attentive, even synaptic, time consumers dedicate to unspecified applications in business, medicine, and education.[11] This is a landscape where bandwidth and sustainability are fantasized as organizing life through a proliferation of interfaces to the point of ubiquity (fig. P.2). What constitutes "intelligence" and "smartness" is now linked to the sensorial capacity for feedback between the users and the environment: bandwidth and life inextricably correlated for both profit and survival.

Songdo arguably demonstrates a historical change in how we apply ideas of cognition, intelligence, feedback, and communication into our built environments, economies, and politics. It is a city that is fantasized as being about reorganizing bodies, down to the synaptic level, and reorienting them into global data clouds or populations with other similarly reorganized nervous systems globally.[12] These populations are not directly linked back to individual bodies but are agglomerations of nervous stimulation; compartmentalized units of an individual's attentive, even nervous, energy and credit.[13] Furthermore, it is imagined as a self-regulating organism, using crowdsourcing and sensory

data to administer the city and limit (in theory) the necessity for human, or governmental, intervention. Songdo's speculators who are banking on the big data sets to be collated from such spaces no longer deal with consumers as individual subjects but rather as recombinable units of attention, behavior, and credit. This form of political economy is often labeled "biopolitics" for making life its object and subject of concern, and it produces a range of new forms of administration, management, and productivity.[14]

The fantasy of managing life itself by bandwidth, and the often unquestioned assumption that data presents stability, wealth, and sensorial pleasure is not solely the privy of real estate speculators. Today "big data" is regularly touted as the solution to economic, social, political, and ecological problems; a new resource to extract in a world increasingly understood as resource constrained.[15]

This ubiquitous data that is so valuable, even without a set referent or value, is also often explicitly labeled "beautiful." In the pamphlets of technology corporations touting the virtues of a "smart" planet and in prominent textbooks in computer science and blogs by computer research groups, stories abound about "elegant data solutions." These narratives come with labels such as "Beautiful Data" and "Beautiful Evidence." Opening with the premise that the web today is above all about the collection of personal data, many data visualization sites and textbooks urge the designers, engineers, and programmers of our future to address the important aesthetic component of making this data useful, which is to say, "beautiful." But data is not always beautiful. It must be crafted and mined to make it valuable and beautiful.[16] Despite the seeming naturalness of data and its virtues, therefore, there is nothing automatic, obvious, or predetermined about our embrace of data as wealth. There is, in fact, an aesthetic crafting to this knowledge, a performance necessary to produce value.

These discourses of data, beauty, and "smartness" should, therefore, present us with numerous critical historical questions of gravity, such as: how did space become sentient and smart? How did knowledge come to be about data analysis, perhaps even in real time, not discovery? How did data become "beautiful"? How did sustainability and environment come to replace structure, class, and politics in the discourses of urban planning, corporate marketing, and governmental policy? To summarize, how did perception, understood as a capacity to consume bandwidth, come to reorganize life itself?

There is much at stake in these questions. In tying the management of the future of life so tightly to computation and digital media, Songdo is a particular instantiation of how emerging infrastructures of knowledge and per-

FIG. P.3__**Visible**: demonstration control room, Tomorrow City, Songdo. Image: author, July 4, 2012. **Ubiquitous**: "smart" ubiquitous home prototype; the table and the walls are all projection-responsive interfaces, along with sensors for environmental control and telemedicine, at SK Telcom "U" (for ubiquitous) products showroom, Seoul. Image: author, July 3, 2012. **Smart**: "smart" pole, with sensors installed for movement detection, Internet wi-fi hotspot, surveillance cameras and sensors linked to police, fire, and hospital for emergencies, and "smart" LED screens. The poles play music to passersby, provide direct-to-consumer advertising, and enhance, according to →

ception are involved in the reformulation of population and in the transformation, if not disappearance, of space and territory. But these cities are also massive prototypes, not-yet-realized instantiations of futures that may or may not come to pass. Part of rethinking these futures is renegotiating their past.

The philosopher and cultural critic Walter Benjamin was among the most prominent thinkers to realize that a history of perception can transform the future. "Architecture," he once wrote, in his essay on art in the age of mechanical reproduction, "has always represented the prototype of a work of art the reception of which is consummated by a collectivity in a state of distraction. The laws of its reception are most instructive."[17] For Benjamin architecture was the spatial key to a temporal problem—how to denaturalize the present and thus reimagine the future? The laws of reception stipulated by Benjamin, however, can no longer be received, as they hide inside protocols, storage banks, and algorithms. The terms "attention" and "distraction" are inadequate to describe a sensorium now understood as infinitely extendable.

I have opened, therefore, with this example that is seemingly distant from any history of cybernetics, visuality, or reason because it demonstrates the complexity and urgency of interrogating this present and its biopolitical rationalities. But Songdo is a disposable architecture, whose material manifestations are banal and constantly mutating. The city is not a space full of top

the designers, “Emotional Happiness.” Image: Nerea Calvillo, July 2, 2012, Digital Media City, South Korea. **Cute**: bunnies in the petting zoo in the “central park.” Songdo possesses some curious, almost farcical, features. There is, for example, a small zoo with large rabbits for children in the middle of a park that planners argue is based on “Central Park” in New York. This curious set of elements, somewhat touching, almost cute, also idiosyncratic and darkly humorous, are the interfaces to our present. Image: author, July 4, 2012.

architectural names and monumental features. What it is full of is screens and interfaces. Apartments come replete with surfaces that allow users to engage with building management systems and import telemedical and other data. The urban landscape is full of LED screens, and vast control rooms monitor the cities’ activities, even though human intervention is rarely necessary (fig. P.3). Big data and visualization are key concerns to planners and engineers attempting to use the data generated from these systems for better planning and for sale. As Keller Easterling notes, digital capitalism is sneaky, contagious, and often costumed in its material manifestations (see fig. P.3).[18] To begin contemplating what it even means to see or to think in such a space, where every interface is only a conduit into ongoing interactions, demands placing a history of design, planning, and aesthetics alongside a history of knowledge, communication, and science. This book will do so by tracing the historical relationship between cybernetics, vision, knowledge, and power, culminating in contemporary concerns with biopolitics. It will draw a map beginning with early cybernetic ideas developed at MIT in the late 1940s in the work of mathematician Norbert Wiener concerning vision, perception, and representation. I will trace the influence of these ideas on American designers and urban planners who reformulated design education and practice in the 1950s. The book then turns to the cybernetic impact on social and human sciences, particularly

psychology, political science, and organizational management. The narrative vacillates between on the one hand examining attitudes to visualization, measurement, and cognition in the communication and human sciences and on the other hand examining attitudes to vision and attention in design practice. A central focus of this narrative is to demonstrate how ideas about human sense perception are intimately linked to a transformation in the definition of intelligence and rationality; and that it is precisely this merger between vision and the reformulation of reason that underpins contemporary biopolitics. My interest is in giving equal weight to both the histories of art and design and the histories of science and technology, in order to examine how each coproduces the other, and to offer an account of how aesthetic *and* epistemological discourses combine to reformulate power and population simultaneously. This is a history of our contemporary infrastructures of sense and knowledge.

*The Public Sphere: An Encyclopedia Article (1964)**

by Jürgen Habermas

1. *The Concept.* By "the public sphere" we mean first of all a realm of our social life in which something approaching public opinion can be formed. Access is guaranteed to all citizens. A portion of the public sphere comes into being in every conversation in which private individuals assemble to form a public body.[1] They then behave neither like business or professional people transacting private affairs, nor like members of a constitutional order subject to the legal constraints of a state bureaucracy. Citizens behave as a public body when they confer in an unrestricted fashion—that is, with the guarantee of freedom of assembly and association and the freedom to express and publish their opinions—about matters of general interest. In a large public body this kind of communication requires specific means for transmitting information and influencing those who receive it. Today newspapers and magazines, radio and television are the media of the public sphere. We speak of the political public sphere in contrast, for instance, to the literary one, when public discussion deals with objects connected to the activity of the state. Although state authority is so to speak the executor of the political public sphere, it is not a part of it.[2] To be sure, state authority is usually considered "public" authority, but it derives its task of caring for the well-being of all citizens primarily from this aspect of the public sphere. Only when the exercise of political control is effectively subordinated to the democratic demand that information be accessible to the public, does the political public sphere win an institutionalized influence over the government through the instrument of law-making bodies. The expression "public opinion" refers to the tasks of criticism and control which a public body of citizens informally—and, in periodic elections, formally as well—practices *vis-à-vis* the ruling structure organized in the form of a state. Regulations demanding that certain proceedings be public (*Publizitätsvor-*

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1. Habermas' concept of the public sphere is not to be equated with that of "the public," i.e. of the individuals who assemble. His concept is directed instead at the institution, which to be sure only assumes concrete form through the participation of people. It cannot, however, be characterized simply as a crowd. (This and the following notes by Peter Hohendahl.)

2. The state and the public sphere do not overlap, as one might suppose from casual language use. Rather they confront one another as opponents. Habermas designates that sphere as public which antiquity understood to be private, i.e. the sphere of non-governmental opinion making.

schriften), for example those providing for open court hearings, are also related to this function of public opinion. The public sphere as a sphere which mediates between society and state, in which the public organizes itself as the bearer or public opinion, accords with the principle of the public sphere[3]—that principle of public information which once had to be fought for against the arcane policies of monarchies and which since that time has made possible the democratic control of state activities.

It is no coincidence that these concepts of the public sphere and public opinion arose for the first time only in the eighteenth century. They acquire their specific meaning from a concrete historical situation. It was at that time that the distinction of "opinion" from "opinion publique" and "public opinion" came about. Though mere opinions (cultural assumptions, normative attitudes, collective prejudices and values) seem to persist unchanged in their natural form as a kind of sediment of history, public opinion can by definition only come into existence when a reasoning public is presupposed. Public discussions about the exercise of political power which are both critical in intent and institutionally guaranteed have not always existed—they grew out of a specific phase of bourgeois society and could enter into the order of the bourgeois constitutional state only as a result of a particular constellation of interests.

2. *History*. There is no indication European society of the high middle ages possessed a public sphere as a unique realm distinct from the private sphere. Nevertheless, it was not coincidental that during that period symbols of sovereignty, for instance the princely seal, were deemed "public." At that time there existed a public representation of power. The status of the feudal lord, at whatever level of the feudal pyramid, was oblivious to the categories "public" and "private," but the holder of the position represented it publicly: he showed himself, presented himself as the embodiment of an ever present "higher" power. The concept of this representation has been maintained up to the most recent constitutional history. Regardless of the degree to which it has loosed itself from the old base, the authority of political power today still demands a representation at the highest level by a head of state. Such elements, however, derive from a pre-bourgeois social

3. The principle of the public sphere could still be distinguished from an institution which is demonstrable in social history. Habermas thus would mean a model of norms and modes of behavior by means of which the very functioning of public opinion can be guaranteed for the first time. These norms and modes of behavior include: a) general accessibility, b) elimination of all privileges and c) discovery of general norms and rational legitimations.

structure. Representation in the sense of a bourgeois public sphere,[4] for instance the representation of the nation or of particular mandates, has nothing to do with the medieval representative public sphere—a public sphere directly linked to the concrete existence of a ruler. As long as the prince and the estates of the realm still "are" the land, instead of merely functioning as deputies for it, they are able to "re-present"; they represent their power "before" the people, instead of for the people.

The feudal authorities (church, princes and nobility), to which the representative public sphere was first linked, disintegrated during a long process of polarization. By the end of the eighteenth century they had broken apart into private elements on the one hand, and into public on the other. The position of the church changed with the reformation: the link to divine authority which the church represented, that is, religion, became a private matter. So-called religious freedom came to insure what was historically the first area of private autonomy. The church itself continued its existence as one public and legal body among others. The corresponding polarization within princely authority was visibly manifested in the separation of the public budget from the private household expenses of a ruler. The institutions of public authority, along with the bureaucracy and the military, and in part also with the legal institutions, asserted their independence from the privatized sphere of the princely court. Finally, the feudal estates were transformed as well: the nobility became the organs of public authority, parliament and the legal institutions; while those occupied in trades and professions, insofar as they had already established urban corporations and territorial organizations, developed into a sphere of bourgeois society which would stand apart from the state as a genuine area of private autonomy.

The representative public sphere yielded to that new sphere of "public authority" which came into being with national and territorial states. Continuous state activity (permanent administration, standing army) now corresponded to the permanence of the relationships which with the stock exchange and the press had developed within the exchange of commodities and information. Public authority consolidated into a concrete opposition for those who were merly subject to it and who at first found only a negative definition of themselves within it. These were the "private individuals" who were excluded from public authority because they held no office. "Public"

4. The expression "represent" is used in a very specific sense in the following section, namely to "present oneself." The important thing to understand is that the medieval public sphere, if it even deserves this designation, is tied to the *personal*. The feudal lord and estates create the public sphere by means of their very presence.

no longer referred to the "representative" court of a prince endowed with authority, but rather to an institution regulated according to competence, to an apparatus endowed with a monopoly on the legal exertion of authority. Private individuals subsumed in the state at whom public authority was directed now made up the public body.

Society, now a private realm occupying a position in opposition to the state, stood on the one hand as if in clear contrast to the state. On the other hand, that society had become a concern of public interest to the degree that the reproduction of life in the wake of the developing market economy had grown beyond the bounds of private domestic authority. *The bourgeois public sphere* could be understood as the sphere of private individuals assembled into a public body, which almost immediately laid claim to the officially regulated "intellectual newspapers" for use against the public authority itself. In those newspapers, and in moralistic and critical journals, they debated that public authority on the general rules of social intercourse in their fundamentally privatized yet publically relevant sphere of labor and commodity exchange.

3. *The Liberal Model of the Public Sphere.* The medium of this debate—public discussion—was unique and without historical precedent. Hitherto the estates had negotiated agreements with their princes, settling their claims to power from case to case. This development took a different course in England, where the parliament limited royal power, than it did on the continent, where the monarchies mediatized the estates. The third estate then broke with this form of power arrangement since it could no longer establish itself as a ruling group. A division of power by means of the delineation of the rights of the nobility was no longer possible within an exchange economy—private authority over capitalist property is, after all, unpolitical. Bourgeois individuals are private individuals. As such, they do not "rule." Their claims to power *vis-à-vis* public authority were thus directed not against the concentration of power, which was to be "shared." Instead, their ideas infiltrated the very principle on which the existing power is based. To the principle of the existing power, the bourgeois public opposed the principle of supervision—that very principle which demands that proceedings be made public (*Publizität*). The principle of supervision is thus a means of transforming the nature of power, not merely one basis of legitimation exchanged for another.

In the first modern constitutions the catalogues of fundamental rights were a perfect image of the liberal model of the public sphere: they guaranteed the society as a sphere of private autonomy and the restriction of

public authority to a few functions. Between these two spheres, the constitutions further insured the existence of a realm of private individuals assembled into a public body who as citizens transmit the needs of bourgeois society to the state, in order, ideally, to transform political into "rational" authority within the medium of this public sphere. The general interest, which was the measure of such a rationality, was then guaranteed, according to the presuppositions of a society of free commodity exchange, when the activities of private individuals in the marketplace were freed from social compulsion and from political pressure in the public sphere.

At the same time, daily political newspapers assumed an important role. In the second half of the eighteenth century literary journalism created serious competition for the earlier news sheets which were mere compilations of notices. Karl Bücher characterized this great development as follows: "Newspapers changed from mere institutions for the publication of news into bearers and leaders of public opinion—weapons of party politics. This transformed the newspaper business. A new element emerged between the gathering and the publication of news: the editorial staff. But for the newspaper publisher it meant that he changed from a vendor of recent news to a dealer in public opinion." The publishers insured the newspapers a commercial basis, yet without commercializing them as such. The press remained an institution of the public itself, effective in the manner of a mediator and intensifier of public discussion, no longer a mere organ for the spreading of news but not yet the medium of a consumer culture.

This type of journalism can be observed above all during periods of revolution when newspapers of the smallest political groups and organizations spring up, for instance in Paris in 1789. Even in the Paris of 1848 every half-way eminent politician organized his club, every other his journal: 450 clubs and over 200 journals were established there between February and May alone. Until the permanent legalization of a politically functional public sphere, the appearance of a political newspaper meant joining the struggle for freedom and public opinion, and thus for the public sphere as a principle. Only with the establishment of the bourgeois constitutional state was the intellectual press relieved of the pressure of its convictions. Since then it has been able to abandon its polemical position and take advantage of the earning possibilities of a commercial undertaking. In England, France, and the United States the transformation from a journalism of conviction to one of commerce began in the 1830s at approximately the same time. In the transition from the literary journalism of private individuals to the public services of the mass media the public sphere was transformed by the influx of private interests, which received special prominence in the mass media.

4. *The Public Sphere in the Social Welfare State Mass Democracy.* Although the liberal model of the public sphere is still instructive today with respect to the normative claim that information be accessible to the public,[5] it cannot be applied to the actual conditions of an industrially advanced mass democracy organized in the form of the social welfare state. In part the liberal model had always included ideological components, but it is also in part true that the social pre-conditions, to which the ideological elements could at one time at least be linked, had been fundamentally transformed. The very forms in which the public sphere manifested itself, to which supporters of the liberal model could appeal for evidence, began to change with the Chartist movement in England and the February revolution in France. Because of the diffusion of press and propaganda, the public body expanded beyond the bounds of the bourgeoisie. The public body lost not only its social exclusivity; it lost in addition the coherence created by bourgeois social institutions and a relatively high standard of education. Conflicts hitherto restricted to the private sphere now intrude into the public sphere. Group needs which can expect no satisfaction from a self-regulating market now tend towards a regulation by the state. The public sphere, which must now mediate these demands, becomes a field for the competition of interests, competitions which assume the form of violent conflict. Laws which obviously have come about under the "pressure of the street" can scarcely still be understood as arising from the consensus of private individuals engaged in public discussion. They correspond in a more or less unconcealed manner to the compromise of conflicting private interests. Social organizations which deal with the state act in the political public sphere, whether through the agency of political parties or directly in connection with the public administration. With the interweaving of the public and private realm, not only do the political authorities assume certain functions in the sphere of commodity exchange and social labor, but conversely social powers now assume political functions. This leads to a kind of "refeudalization" of the public sphere. Large organizations strive for political compromises with the state and with each other, excluding the public sphere whenever possible. But at the same time the large organizations must assure themselves of at least plebiscitary support from the mass of the population through an apparent display of openness (*demonstrative Publizität*).[6]

5. Here it should be understood that Habermas considers the principle behind the bourgeois public sphere as indispensable, but not its historical form.

6. One must distinguish between Habermas' concept of "making proceedings public"

The political public sphere of the social welfare state is characterized by a peculiar weakening of its critical functions. At one time the process of making proceedings public (*Publizität*) was intended to subject persons or affairs to public reason, and to make political decisions subject to appeal before the court of public opinion. But often enough today the process of making public simply serves the arcane policies of special interests; in the form of "publicity" it wins public prestige for people or affairs, thus making them worthy of acclamation in a climate of non-public opinion. The very words "public relations work" (*Oeffentlichkeitsarbeit*) betray the fact that a public sphere must first be arduously constructed case by case, a public sphere which earlier grew out of the social structure. Even the central relationship of the public, the parties and the parliament is affected by this change in function.

Yet this trend towards the weakening of the public sphere as a principle is opposed by the extension of fundamental rights in the social welfare state. The demand that information be accessible to the public is extended from organs of the state to all organizations dealing with the state. To the degree that this is realized, a public body of organized private individuals would take the place of the now-defunct public body of private individuals who relate individually to each other. Only these organized individuals could participate effectively in the process of public communication; only they could use the channels of the public sphere which exist within parties and associations and the process of making proceedings public (*Publizität*) which was established to facilitate the dealings of organizations with the state. Political compromises would have to be legitimized through this process of public communication. The idea of the public sphere, preserved in the social welfare state mass democracy, an idea which calls for a rationalization of power through the medium of public discussion among private individuals, threatens to disintegrate with the structural transformation of the public sphere itself. It could only be realized today, on an altered basis, as a rational reorganization of social and political power under the mutual control of rival organizations committed to the public sphere in their internal structure as well as in their relations with the state and each other.

Translated by Sara Lennox and Frank Lennox

(*Publizität*) and the "public sphere" (*Oeffentlichkeit*). The term *Publizität* describes the degree of public effect generated by a public act. Thus a situation can arise in which the form of public opinion making is maintained, while the substance of the public sphere has long ago been undermined.

4 Bamboozled? Access, Ownership, and the IBM Atrium

> At dusk . . . the snow glistened on the slanted glass panes of the saw-toothed roof above the towering bamboo trees in the new IBM Garden Plaza. . . . Sheltered and comfortable within, one could observe the cold, gleaming streets and the moving lights of traffic without—a nineteenth-century winter garden revived in modern form.
>
> —*Paula Deitz, "Design Notebook,"* New York Times, *March 3, 1983*

> Why I was foolish enough to believe that a real estate developer and a commercial gallery would act in a selfless, altruistic manner for the people of New York City is beyond me.
>
> —*Member of Community Board Five*

The final three chapters examine three of New York's nearly 530 POPS: the former IBM Atrium, Sony Plaza, and the public spaces of Trump Tower (Figure 4.1). POPS are developed under the Plaza Bonus Zoning Ordinance. First enacted in 1961, and revised in 1975 and 1999, the ordinance allows developers to construct additional building floors if they provide a POPS inside or next to their building. Each POPS is governed by an individual contract between the building owner and the city. The contracts state the size and attributes of the POPS and how many additional floors the owner is allowed to build as a result. The building and the public space are legally privately owned, but the owner gives up the right to exclude members of the public. The Department of City Planning must review any changes that a POPS owner proposes to make to the spaces. If a building changes hands, the new owner is bound by the original contract. POPS, as physical spaces and legal entities, are the result of complex relationships between local government agencies, private corporations, and the public.

POPS have received greater attention in the last five years, in part due to a book titled *Privately Owned Public Space: The New York City Experience,* written by Jerold Kayden, the New York City Department of City Planning,

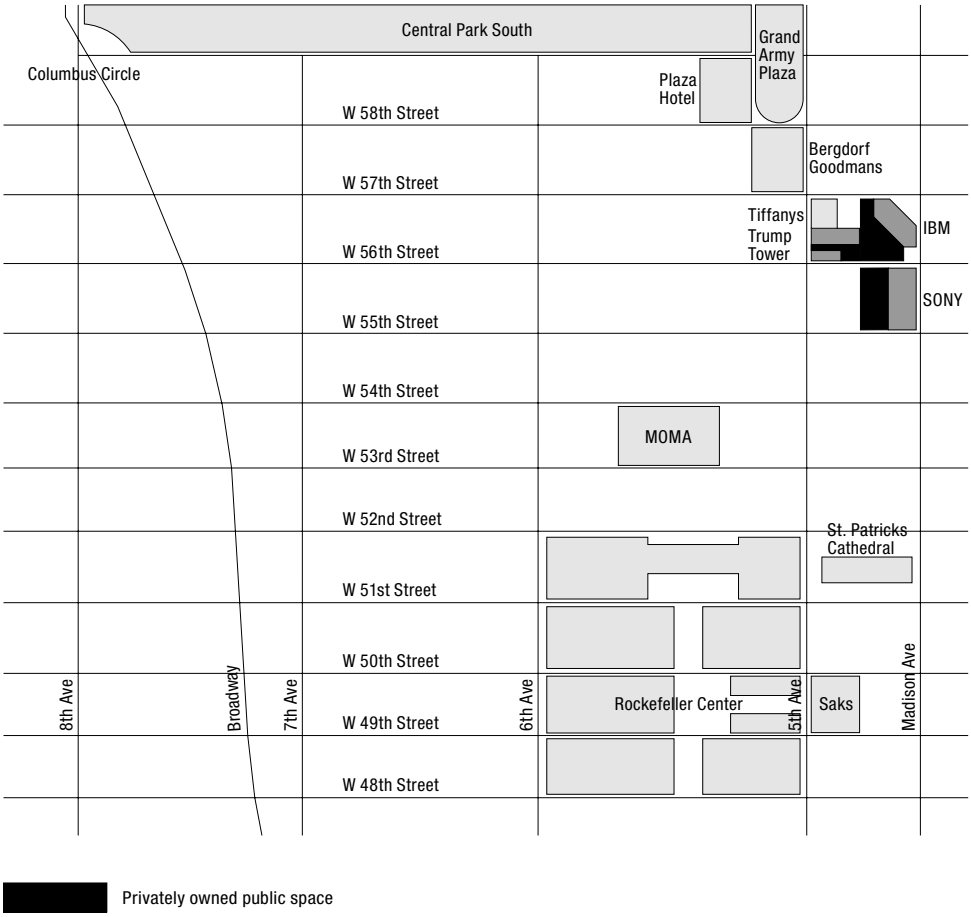

Figure 4.1. Location map for Privately Owned Public Spaces. Drafted by Vincent deBritto.

and the Municipal Art Society of New York. The book is a part of a larger project to document POPS contracts and to establish exactly what "kind" of public space each developer was meant to provide—down to the number of tables and chairs, opening hours, garbage receptacles, etc. This was no small task. The team found POPS that had been converted into parking areas, subsumed completely by private retail uses, or simply locked. As a result of their work, more POPS have been brought into compliance. The authors argued that the Department of City Planning lacks funding to ensure that all POPS are in constant compliance.

The next three chapters show that problems with the POPS program run deeper than building owners not living up to their contracts. Even POPS that are in full compliance—those that are the best the program has to offer—reveal fundamental problems with the POPS program. Such problems are inherent in the very idea of a "privately owned public space" and to failures of New York's program in particular. At the POPS program's core is the

assumption that corporations can provide what local governments are no longer funded to do: in this case, building and managing publicly funded public spaces. As Kayden notes, members of the public are "de facto third-party beneficiaries." They gain the right to enter and use this private property, but "endure whatever extra congestion and loss of light and air that may result from the grant of extra floor area or other regulatory concessions."[1] But the problems with POPS as public spaces go beyond trade-offs for light and air. This chapter, for example, discusses the controversy over proposed changes to the IBM Atrium. The IBM case shows that POPS contracts—which were developed to protect public interests—instead severely limit the possibility for these spaces to ever be dynamically public. Ties between POPS and public spheres that might develop around them are institutionally precluded. The POPS program frames the public as people with physical access but no political access.

When IBM consolidated its office holdings in the early 1990s, it sold the office tower, and by default the atrium, to real estate mogul Edward Minskoff. In 1994 Minskoff proposed to transform the atrium into an art exhibition space. This proposal prompted one of the biggest controversies over a privately owned public space in New York. Opposition to changing the atrium was strong because the atrium was, by many accounts, one of the most beautiful public spaces in New York.

The atrium first opened to the public in 1983 and consistently received glowing reviews from architecture critics, arts organizations, and visitors. It was called "exuberant," "elegant," an "oasis," and "a tree-filled conservatory and public living room rolled into one."[2] Architect Edward Larrabee Barnes designed the IBM Building, and landscape architects Robert Zion and Harold Breen collaborated with Barnes on the design of the atrium. Their scheme for the atrium was quite simple: a greenhouse-like structure with eleven stands of bamboo reaching up to the sixty-five-foot-tall ceilings, with tables and movable chairs below (Figure 4.2). A 1991 article, "Strolling Hidden Nooks in Manhattan's Canyons," described the atrium as part of a "Northwest Passage through the skyscraper wilderness." The article proposed an itinerary through "cloisters away from the city's unrelenting throb." The itinerary began at the atrium: "Start elegantly at IBM's glass-canopied public thoroughfare . . . stroll through a lush public garden of bamboo and pink flowers where idlers read newspapers and drink coffee in a scene evocative of Europe."[3] Bamboo has an intense, almost lime-green color. One can imagine the contrast of this color against the wet, dark-black streets and the

red and green of the traffic lights, headlights, and brake lights outside, and how quiet the space was in contrast to the din of Manhattan rush hour. The Municipal Art Society[4] declared that the IBM Atrium was "universally lauded as the finest bonused indoor public space in New York City and most successful melding of social and aesthetic amenities ever produced by incentive zoning."[5]

While the IBM Atrium may be the most successful result of the POPS program, ironically its design and its most outstanding qualities had nothing to do with the program. The atrium fulfilled almost all of the planning department's new regulations for POPS. It had movable chairs, a food kiosk, entrances at street level, and clear views in and out of the space. However, these are only a few aspects of what made the space "magical." Nowhere in the contract with IBM did the planning department specify that there should be a grove of bamboo trees that canopied the space. Nor did it require that the atrium be made almost entirely of glass, so that in the evening, visitors could look up at the lights in nearby office buildings. This is not to say that the design was accidental. IBM chose one of the most respected architectural and landscape architectural firms to design the atrium. Edward Larrabee Barnes designed the atrium in collaboration with the landscape architecture firm of Zion and Breen. Zion and Breen are perhaps best known for Paley Park, regarded as the best small park in Manhattan, and widely imitated.[6]

The atrium was unique in the city, and perhaps in the country, because of its twelve stands of towering bright green bamboo. The removal of even a few of the stands of bamboo would therefore destroy the unique tranquility of the space. Opponents to Minskoff's plans to transform the atrium into an art exhibition space argued that he was bringing a corporate venture into a public space. In the end, a compromise was struck. Only three of eleven stands of bamboo would be removed, and more seating would be added. But the impact on the atrium was substantial. What was once a thick grove became a few stands. The light entering the atrium, no longer filtered by layers of leaves, gave the space a washed-out gray look, or, as one commentator noted, "[o]n a recent spring day, with the outdoors brisk and the sky bright blue, a visitor to the sculpture garden was greeted instead with a pale wintry environment, as if Snow White had just bitten into the Queen's bad apple."[7] Instead of providing a sense of intimacy, greenness, and enclosure, the new atrium was stark and exposed (Figure 4.3).

Minskoff's renovation went ahead without a public hearing. Even though the proposed changes

Figure 4.2. Original IBM Atrium, 1992. Courtesy of Dianne Harris.

Figure 4.3. Atrium after renovation, 2001.

would completely alter the atrium, according to the legal structure of the POPS program and decisions made by the Department of City Planning, there was no way for people who used the atrium to block Minskoff's proposal. For this reason, the atrium stopped being a dynamically public space before the bamboo came down. It was never public because, from its inception, decisions over how it would be managed over time were out of the hands of the public. Access is a matter of ongoing input into processes of change and maintenance. Put differently, physical access is of course crucial to public spaces being public. But equally important is access to and agency within the processes that govern public spaces.

The IBM Atrium was a wonderfully designed public space. The story of the atrium reveals the insufficiency of the legal structure of the POPS program to protect well-designed spaces. However, the story also shows that the program has almost no legal provisions for ongoing participation of those outside government and business in the processes that change these sites. Arguably, the atrium would never have been changed if the decision-making process were set up to address public concerns as strongly as it protects private concerns.

This chapter relies on archival materials, including letters of complaint to the Department of City Planning, articles in local newspapers, correspondence between the building owner and the Department of City Planning,

and planning department reports to explore these issues. These documents, and, interestingly, the process of gaining access to them, show that public involvement in POPS is institutionally absent. The legal structure governing the ongoing management of these spaces prevents those people who use the spaces from knowing about and having a say in physical and programmatic changes to those spaces.

The Original Contract and the Original Design

Architectural critic Herbert Muschamp said, "With its tall, airy bamboo stalks set off by walls of charcoal granite, the atrium of the IBM Building . . . resembles a cross between a public park and a corporate lobby." Muschamp's description of the former IBM Atrium as a cross between a park and a lobby referred to more than the atrium's appearance. POPS are the material result of a legal agreement between the city and private building owners. While the IBM Atrium does not contain all the functions of a corporate lobby (its switchboard and elevator area are separated from the atrium by a glass wall), the lobby is attached to the building physically, legally, and economically. Its hybrid appearance, part corporate and part public, bespeaks the complex contract that generated its form and function. The contract between IBM and the city was individually negotiated prior to the building's construction and according to standards set out in the Plaza Bonus Zoning Ordinance. In return for constructing and maintaining the atrium and a plaza in front of the building,[8] IBM was able to build an additional 147,600 square feet of office space.[9] The exact value of this bonus is difficult to determine. A 1982 *New York Times* article noted that rents in prime locations such as midtown and the financial district ran between $30 to $40 per square foot, per year. The square footage in this case could have meant an extra $5,166,000 in annual rental revenues for IBM.

But a comparison of what is actually called for in the contract between IBM and the Department of City Planning under the POPS program shows that to a great degree the success of the initial atrium design had little to do with legal leverage and everything to do with thoughtful design. This thoughtfulness was not just about the inclusion of the bamboo grove. It also related to large-scale design decisions about the relationships between the private spaces of the corporate tower and the public spaces of the atrium.

IBM hired two excellent designers to develop the public spaces. As a result, the atrium's configuration, from the large to the small scale, worked

as a public space in ways that most other POPS developed at the same time and according to the same standards did not. Muschamp hit on one of these points when he described it as a park and a lobby, but he didn't note the ways the corporate and the public spaces are fairly separate. At the scale of the entire building, there is a clearer distinction between the private spaces of the corporate tower and the public spaces of the atrium. The atrium is not embedded deep within a private building—as is the case, for example, at the Citicorp Building a few blocks away.

The distinction between the atrium and the office tower is clearly distinguishable by passersby at ground level. The building's footprint is complicated. It is not a simple slab. It does not fill its lot. Nor is it pulled back from the sidewalk evenly. It can be seen as two buildings: an office tower and a greenhouse (Figure 4.4). The two nest against each other as more or less triangular portions of the same square. Tips of each triangle are cut off to create entrance plazas. What is interesting about the public spaces, particularly the atrium,

Figure 4.4. Exterior of atrium, 2001.

is the degree to which they stand on their own. The atrium is clearly attached to the office tower, but only along one wall. The southern wall faces onto the sidewalk of Fifty-sixth Street. The southwestern wall is an interior wall with a connection to the public spaces of Trump Tower. The northeastern wall is a clear glass wall with doors through to the lobby of the office tower. And the eastern wall, the shortest of the walls, is glass, and leads out into the public plaza on Madison Avenue. The roof to the atrium is also glass, reinforcing the feeling that it is almost its own structure. The IBM Atrium's tranquility, at least the auditory tranquility, comes from being physically separated from the sidewalk and street by glass walls. These transparent walls serve to privilege the atrium's proximity and relationship to the outside over and against its relationship to the indoor lobby on the other side of the atrium (Figure 4.5).

Again, this independence was not a requirement of the contract with the Department of City Planning. The separation of atrium and office tower at the IBM building is very different from interior public spaces in adjacent midtown high rises. For example, Trump Tower completely envelops the public spaces within the building. Some have argued they are almost indistinguishable as public spaces at all. The Sony Atrium, visible from IBM across Fifty-sixth Street, borders office and retail spaces along two of its four walls—and these are the longest two. The atrium at Citicorp is not only embedded inside the building but is sunken below street level. Because of its visual openness to the street and the sky and the clear distinction between office tower and atrium greenhouse, the IBM Atrium has a much stronger sense of being a freely accessible space.

Zion and Breen consulted William H. Whyte on the design of the atrium. Whyte was the public-space guru of Manhattan, the author of revisions to the POPS program in 1975, and a relentless activist for more and better public spaces. His influence on the design of the atrium is clear. The atrium seemed to be the physical manifestation of Whyte's public space ideals as published in his *The Social Life of Small Urban Spaces*. The atrium is clearly visible to and from the street on the sides bordering East Fifty-ninth Street and Madison Avenue. Glass walls rise four stories to the atrium ceiling, which is topped with serrated trusses.[10] When it was first constructed, eleven stands of bamboo divided the atrium into smaller spaces and filtered the light as it fell to the granite floor. Giant concrete dishes of flowers were changed seasonally and added color to the otherwise gray and green space, which included a food kiosk, at-grade entrances, clear visibility between the inside and outside, and movable chairs.

The most memorable feature of the original atrium was the grove of bamboo. No other public space in Manhattan had such a garden. The bamboo helped divide the 10,000-square-foot atrium into smaller seating areas. It muffled noises that would have otherwise echoed off the granite and glass. Eventually, the bamboo became home to birds that fed off crumbs left by noontime lunchers. The birds' twittering and rustling was audible because the space was protected from the noise of the streets outside. William Whyte was fond of the space, and returned periodically to observe how people were using it. One thing Whyte noticed during these observations was that people would move atrium chairs (the tables were fixed at this time) to sit at the base of the bamboo trees. This behavior supported the findings of his earlier studies that showed how people preferred seating that had something behind it: a wall, a tree, etc. The bamboo

Figure 4.5. Plan view of atrium within building. Drafted by Vincent deBritto. Courtesy of New York Department of City Planning.

grove also served to separate the seating area of the atrium from the walkway area. The walkway provided an interior connection between Fifty-sixth and Fifty-seventh streets. The seating area was visible from the walkway, but it was clearly a distinct area. It didn't become apparent exactly how well loved the atrium and its lush grove of bamboo were until proposals were made by a new building owner to alter the space's design.

New Owner, New Agenda

Privately owned public spaces remain public even when a building is sold to a new owner. New owners are able to change an existing public space as long as the changes do not come in conflict with the original contract. The early years of IBM's ownership of the building coincided with a peak in IBM revenues. In 1984, earnings were $6.6 billion. Not surprisingly, IBM's sale of the building about ten years later to a New York City real estate company coincided with one of its biggest revenue downturns. During the five years prior to the sale, IBM had cut thousands of jobs, and in 1991 it reported a net loss of $2.8 billion. Developer Edward Minskoff, in a joint venture with Odyssey Partners investment group, purchased 590 Madison Avenue from IBM in 1994 for $200 million. In 1995, during a dip in the office rental market, Minskoff was still able to rent space in the building for about $45 per square foot, per year. The year before, rent had been closer to $50 per square foot.

When the building changed hands, the atrium was almost exactly as it had been initially built, despite some reports that IBM had not been maintaining the space at as high a level as it once had.[11] One year after purchasing the building from IBM, Edward Minskoff applied to the Department of City Planning to make alterations to the atrium so that he could install a rotating exhibition of contemporary sculpture. Minskoff would manage the exhibitions jointly with PaceWildenstein, a commercial art gallery. Minskoff proposed removing almost all the bamboo, changing the movable chairs and tables to benches, and hiring security guards to protect the artwork. Minskoff's application for changes to the atrium set off a controversy that involved the art community, realtors, designers, and commercial galleries. Despite the controversy's high public profile, it highlighted the fragility of government-guaranteed public space.

When Minskoff's plans were released in early 1995, the eight-month battle over the future of the atrium began. Not surprisingly, two camps

emerged: those in favor of the sculpture garden and those against destroying the bamboo grove.[12] The first group—let's call them the pro-art group—lobbied the Department of City Planning with letters detailing the benefits of having works of art in public places. All the letters in the planning-department file that favored the original Minskoff proposal were from people who were in one way or another tied either to nonprofit or for-profit art groups. Minskoff was himself a noted art collector. In November 1996 at an auction at Christie's, Minskoff sold for $772,500 a silk-screen painting by Robert Rauschenberg titled *Shortstop*. The painting was estimated to be worth between $800,000 and $1.2 million.

The fact that a major real estate developer was also involved in collecting and selling fine art, and therefore wanted to show it in his building, is not all that shocking. Nor is the fact that the pro-art letters were from people in the art business. What is interesting is the way in which Minskoff and the pro-art camp argued that the renovation of the atrium was actually in the public's interest. A very short letter from Ivan C. Karp of OK Harris, one of the oldest commercial art galleries in SoHo, called the existing atrium "rather stark" and cited the "paucity of public evidence of the vast resources of fine art in this city."[13]

Diana D. Brooks, then president and chief executive officer of Sotheby's, wrote: "this project would be a unique opportunity to heighten cultural awareness through the public display of art work. Additionally, the creation of a sculpture garden in the IBM Atrium takes on added significance due to the diminishing federal support of the arts and the lack of funding available for any project of the same scale. It would be a shame to deny so many New Yorkers an occasion to enrich their lives through aesthetic appreciation. The appeal of New York City depends in great part on the richness and availability of the visual arts to the general public."[14] Brooks's quote asserts that the lives of the people who use the space would be unconditionally enriched by the display of art. She implies that there is a dearth of art on display in New York City. She also implies that the public's awareness of culture needs to be heightened. It is hard to accept the recommendations of the director of Sotheby's as representative of "so many New Yorkers," and I don't think this was her intention. The assumption embedded in her words is that, as a cultural leader, the art world needs to provide culture for the consumption of the masses. She also argued that because the federal government has cut funding for the arts, public space programs should help take up the slack.

Those against the initial proposal included William Whyte, who was consulted by the Planning Committee in the course of their review of Minskoff's plan. In the Planning Committee report, Whyte called Minskoff's plan "retrogressive" because of the removal of the bamboo and also because of the removal of amenities like the food kiosk and the change from movable to fixed seating. The committee report also stated that the proposed space was not a sculpture garden but a sculpture gallery. They argued that the difference between the two was in the gallery's "total subjugation of the space's verdant and inviting qualities"[15] in order to make room for large-scale sculpture.

The Parks Council also argued that none of the bamboo should be removed. In a letter sent to the City Planning Commission prior to their final vote on the proposal, the Parks Council argued that "the original special permit issued by the City Planning Commission described the space as an 'enclosed sky-lit landscaped park.' In other words, from its inception this was intended to provide an interior garden respite in midtown . . . the unusual qualities of the bamboo plants have come to be uniquely identified with the atrium over the years."[16] They suggested that all the bamboo be retained and that artwork be added to the existing configuration. They noted that "keeping all the trees may mean that certain very large sculptures could not be exhibited, but this seems a small price to pay for holding on to one of the success stories of the bonus plaza program."[17]

A statement from the Municipal Art Society (MAS) on September 14, 1995, came to the same conclusion and added some additional items for consideration. It noted that during the review process regarding the atrium, Minskoff had argued that the presence of sculpture would increase public use of the space. MAS argued that while this might be the case, there were other factors that needed to be addressed. They noted that the atrium was too hot in the summer because IBM wasn't running the air conditioning, that there were no services other than the food kiosk to draw people to the space, and that the western corridor was temporarily closed because of the construction of Niketown. "Each of these conditions contributes to a temporary decline in visitors," they concluded, "not the design which indeed has enjoyed many years of success and heavy usage."[18]

As a result of the review process, Minskoff came back to the Department of City Planning with an alternate proposal. The new proposal removed three of the eleven bamboo stands and retained most of the original movable seating. The proposal was approved, and the sculpture garden opened

December 14, 1995. Marc Glimcher of PaceWildenstein Gallery remarked that the sculpture garden was "great public relations in the long-term sense. Many of these works have been sitting in warehouses, so it's wonderful that the public has the chance to enjoy them. It's also important to stress the education component here. Educating the public is the very foundation of the art market."[19] This quotation must have confirmed the fears of members of Community Board Five and others who cautioned against allowing a commercial art gallery to use a public atrium to display artwork. In order to try to prevent PaceWildenstein from benefiting directly from their involvement, the city made a stipulation that none of the artwork shown in the atrium could be for sale at the time of exhibition. Also, the city told Minskoff that he had to set up a committee that would decide curatorial matters, and that not all the exhibitions could be organized by PaceWildenstein or include artists that PaceWildenstein represented.

Statements from the planning department emphasized that the outcome of the process of review was, in the end, positive. City Planning Commissioner James B. Rose said, "This is a very good thing for the city. . . . Only three trees came down, and there's more seating than there was before." This sentiment was not, however, widely held. In "Requiem for an Atrium," Ken Smith of the Project for Public Spaces said, "The once powerful ambient effect of the bamboo garden is now gone, as is most of the magic the space once had. The altered atrium, even with the addition of colorful sculpture, is a pathetic alternative to the original, and a sad loss of public space in New York City."[20] The bamboo that is left does not give the sense of being a grove. The seating areas bleed into one another. The sense of being in an intimate canopied place is lost. The summer sunlight that was once filtered now gives the atrium a kind of gray pallor. One has less a feeling of enclosure and more a feeling of exposure. In short, the most beloved POPS—lauded by design critics, journalists, the Department of City Planning, public-space scholars, and the people who used it everyday—was transformed into something that none of them had asked for and in a way that completely destroyed its initial qualities. How was this possible?

The destruction of the atrium was possible because of the legal structure of the POPS program. The review process that allowed Minskoff to make the changes is still in place today. According to the POPS legal structure, owners may make changes to bonus spaces. There are two basic categories of changes, each with a different review process. "Major" changes require a Uniform Land Use Review Procedure (ULURP).[21] The process ends with a

review by the City Planning Commission, and may also involve a review by the City Council. It does not specifically call for a public hearing but does involve elected officials who, theoretically, could be voted out in the next election if their constituents disagree with their actions. "Minor" changes need to be reviewed only by the City Planning Commission. The City Planning Commission may act in consultation with the local community board,[22] but it is not required by law. Community boards in New York City represent not only the residents of that community but also the businesses and tourists.

City Planning Commission staff members have confirmed that the difference between a major and minor change is not laid out in the zoning code. Rather, major versus minor is thought to be "intuitive and obvious." Those exact words were used in an interview with a planning department staff member. The example the staff member gave was that if the overall square footage of the space doesn't change, it is not a major renovation. In cases in which the difference between major and minor is not intuitive, Department of City Planning counsel is consulted.[23] The controversy over the renovation at IBM and the final compromise reached between Minskoff and the planning department show how even minor changes can have major effects.

Why does a public program to provide public spaces pay little or no attention to the idea of public involvement in decision making? First, when the code was initially written in 1961, it was not to provide new public spaces. Rather, the initial policy's sole stated purpose was to bring more light and air into the city. The policy was altered in 1975, but only to require amenities like seating, food concessions, and on-grade connections to the street. Second, while these alterations to the policy regarding amenities were carefully spelled out, and indeed spelled out on signs in each space and on the Department of City Planning Web site, there is little or no information in the current policy regarding who has the ability to dictate or enforce rules for conduct in the spaces or to conduct or block alterations to the space that fall outside what is spelled out in the contract. In other words, the bonus program as it is legally written and therefore enforced by the Department of City Planning focuses on providing a specific set of physical amenities. The assumption is that if these amenities are provided, the resulting spaces are public spaces. The policy does not detail who has the ability to control physical access to a space or who has access to decision-making processes. As de facto third parties in the contract, members of the public are legally guaranteed, for example, a certain amount of seating, the presence or absence of a food kiosk, and specific opening hours.

However, building owners are not all in compliance regarding the provision of required amenities. Contract enforcement has proved to be difficult. Owners limit opening hours, do not provide the correct amount of seating, and allow cafés and other private businesses to encroach on atriums and plazas. The authors of *Privately Owned Public Space* argue that the main problem with the program is the lack of enforcement of contracts. Their prescription for better enforcement, seen in light of the IBM controversy, also indicates a fundamental problem with the entire basis of New York's program: the authors argue that if the public took more of a proprietary interest in POPS, they would take an interest in helping the Department of City Planning hold owners to their contracts. The authors assert:

> [a]n effective enforcement program consists of five elements: up to date documentation, broad public knowledge, periodic inspections, meaningful remedies, and promotion of public use. . . . With quick and easy access to such information—what policy makers sometimes refer to as transparency—the public can know what is expected of an owner and serve as supplemental "eyes and ears" to a more formal inspection protocol.[24]

The authors go on to argue that the key to members of the public developing an active proprietary interest is encouraging greater public use of a space. Referring to the ideas of William H. Whyte, the authors maintain that "use begets more use" and if a space is of "sufficient quality to make people want to use it in the first place . . . people will take a proprietary interest and help safeguard its continuing provision according to the applicable legal mandates." Further, the role of the city and interested private nonprofit groups is to "facilitate the use of public space, by describing them, as in this book, and by adopting a curatorial mentality." In order to increase public use, the authors encourage events such as "[r]oving art exhibits and traveling concert series." Such events would then "enable the public to conceive of these spaces as part of a larger system offering great value to the life of the City."[25] They presume that when the public develops this kind of proprietary interest they will be moved to check up on the provision of amenities and the opening hours listed on the plaques, and to report any discrepancies to the Department of City Planning. The authors conclude: "it is up to institutions of government, the private not-for-profit world, and the private sector as well as members of the public, to assure that this physical space is provided in its most alluring form."[26]

But how can the public feel proprietary about a space they do not collectively own and that is governed by processes to which they have little or no access? It is quite easy to see why the building owner's interests are significantly stronger than those of the public. To Minskoff, the atrium is part of his private property. Whether or not Minskoff is able to turn a profit depends on the perception of the building as formed in the minds of perspective clients. The appearance of the public space is directly related to the image of the building. One could argue that the presence of a rotating exhibit of works of art presents a more salable image than, for example, three stands of bamboo and a lot of loiterers. While it may seem a bit of a stretch to say that Minskoff's decision to exhibit art was mercenary because it would train members of the public to be art lovers and therefore bolster the price of his own collection, Minskoff did recognize that the presence of art enhances the perceived value of a building. The benefits to PaceWildenstein as the co-organizers of the exhibitions was also indirect but sizable. While it could not sell any of the artwork that was on display in the atrium, its corporate profile and the profile of its artists were raised through the exhibitions and exhibition press coverage.[27]

After the Bamboo

The month before the atrium reopened, Minskoff violated the provisions of the special permit by closing the atrium from November 3 to 7, 1995. In a letter reminding Minskoff of his contractual obligations, Nicholas Fish, then chair of Community Board Five, added that "[s]ince Community Board Five strongly supported your application to modify the public space, I feel it is my duty now to express my grave concern."[28] Minsksoff claimed that the closures were necessary to the installation of the artwork. He also admitted that he held a private event in the space during this time. Unauthorized closures are nothing unusual in the scheme of the POPS program. What is unusual about the post-renovation conflict over the IBM Atrium is the level of disappointment expressed by those involved in the decision-making process. Even those people who had a voice in the negotiations over the space expressed disappointment in the process and its results. Minskoff not only violated opening hours, but also failed to comply with provisions for the management of the sculpture display.

For example, part of the agreement was that there would be an advisory committee that would "help to ensure the broadest possible participation of

major 20th Century sculptors."[29] This was in part to prevent Minskoff and PaceWildenstein from exhibiting only the work of PaceWildenstein clients. The advisory board was described in a resolution dated March 9, 1995:

> An advisory council, with Community Board Five as a member, will be established to ensure both the broadest possible participation of major Twentieth Century sculptors in rotating exhibitions and the inclusion of artists represented by and in a diverse group of galleries and museums. This council is not intended to serve in either a controlling curatorial or bureaucratic manner.[30]

Between 1995 and 1999, the advisory board met only once, or at least Community Board Five was involved in only one meeting. In a 1996 memo, one member of the advisory committee who was also a member of Community Board Five stated that she felt "duped" by Minskoff and PaceWildenstein:

> I believe that it [the Sculpture Garden at 590 Madison Avenue] is both a disappointment and a sham. You cannot imagine how it saddens me to say this, as I feel so duped, and like I misled the Board. The biggest fear, addressed very clearly in the Board's resolution, was that the space would be perceived as a commercial extension of PaceWildenstein Galleries. Not only is this the perception, but it is, in fact, close to the truth.[31]

The writer pointed out that the only show to run between June 1996 and November 1996 was Alexander Calder, who is represented by PaceWildenstein. She also noted that the opening show was dominated by PaceWildenstein-represented artists, that a sign for the exhibition had PaceWildenstein's name on it, that PaceWildenstein had not returned calls regarding the scheduling of advisory committee meetings, that in 1996 the advisory committee had met only once, and, finally, that none of the outreach or educational programs discussed during advisory board meetings had been developed.

> Why I was foolish enough to believe that a real estate developer and a commercial gallery would act in a selfless, altruistic manner for the people of New York City is beyond me. . . . Unless we can change the current situation, I would recommend that we take action against any and all future approvals regarding PaceWildenstein, as represented by Marc Glimcher, and 590 Madison, as represented by Edward J. Minskoff.[32]

This letter indicates that many of the concerns raised in the review process regarding conflict of interest between the building owner and the management of the public space were well-founded. Minskoff did use the sculpture garden as an excuse to close the atrium to the public. Minskoff and PaceWildenstein did use the sculpture garden to promote artists that PaceWildenstein represented. Minskoff did disregard aspects of his contract, and responded only after repeated attempts at contact were followed by threats. Some concerns were raised by Community Board Five, others by the Municipal Art Society. These groups were part of the review process only because the Department of City Planning decided to invite them to review Minskoff's proposal. Because the planning department categorized the renovation of the atrium as a minor modification, they could have come to a decision with no input from outside reviewers. Only the City Planning Commission was required to be part of the review.

The problem with categorizing renovations as *major* or *minor* when there is no definition to work by is that the decision of what requires review and what doesn't can be arbitrarily assigned by the City Planning Commission on a case-by-case basis. All the control over what can and can't be changed in a POPS falls in their hands. They may, of course, decide to include some kind of review process, but they are not required to do so. What is most shocking about this lack of clear definition and the way this can be used to prevent public input is that it is anything but a bureaucratic oversight. While it is difficult to say that the law was originally intentionally vague so as to give this latitude to the City Planning Commission, it is possible to argue that the law is being kept vague for that reason.

Just two years prior to the controversy over the IBM Atrium, a similar controversy erupted across the street at the AT&T Building. In 1992 the Sony Corporation took over the former AT&T Building, and proposed to enclose what was an exterior space as an interior atrium. This change was even more drastic than the change at the IBM Atrium, and it was considered minor. Richard Schaffer, former chair of the City Planning Commission, received complaints about the commission's handling of the review process. Ruth Messinger, former president of the borough of Manhattan, argued that "the community should not have to depend on an applicant's goodwill to obtain meaningful input into a project modification." She stated, "the absence of clear criteria establishing thresholds for the distinction between major and minor modifications" is "unacceptable" because it "allows the City Planning Commission and the Department of City Planning to make

arbitrary determinations which are likely to allow significant changes to escape appropriate public and administrative review."[33] Michael Presser, chairman of Community Board Five, raised the same concerns. Community Board Five unanimously passed a resolution in the summer of 1992 calling for the City Planning Commission to "act promptly to establish firm guidelines and thresholds for review of modifications to previously approved special permits in order to eliminate the appearance of arbitrariness and favoritism and to guarantee a fair review."[34]

In light of these serious concerns that were shared by the borough president, the chief elected official of the entire borough of Manhattan, and every member of Community Board Five, the response from Schaffer, the chair of the City Planning Commission, is astonishing. He simply explained the legal structure surrounding modifications to POPS as the structure stands. He states that modifications to POPS are subject to a Uniform Land Use Review Procedure "unless they require new waivers, authorizations or special permits under additional sections of the Zoning Resolution, or propose additional waivers or authorizations under the same sections but beyond the scope of those originally granted." He said that this legal structure works because it "allow(s) modifications to proceed by the most reasonable method possible, consistent with the nature of the changes requested." He argued that "imposing elaborate procedures" would in many cases be "wasteful of administrative resources." He further argued that the best approach is for the City Planning Commission and Department of City Planning to set up "additional procedures" on a case-by-case basis when proposed changes "involve more than routine details of design or function."[35]

The process Schaffer describes is exactly the process that both Community Board Five and the borough president criticized as being too open to arbitrary decisions. Schaffer did not address the concerns over or even acknowledge the possibility of such serious problems. Nor did he address the fact that changes might be made to a POPS that require no new special permit but that significantly change the quality of that space. Schaffer's description of public processes as "additional procedures" that may be "wasteful of administrative resources" indicates a belief that efficient bureaucracy is more important than opening the review process to broader scrutiny. His response also indicates a very particular stance to the legal foundations of the POPS program. He describes the law as it stands, and does not engage in a discussion of how it might be changed to reflect the real concerns of members of the public and their elected representatives.

The controversy over the atrium highlights specific issues around the "publicness" of New York's POPS not because of who is allowed to use them or for what purpose, but because of who is allowed to make decisions about how the spaces are changed over time. The POPS program itself must be changed to include not only public access to the physical spaces but also public access to the decision-making processes. Why does the Department of City Planning seem to see itself more as a mediator between "the public" and "the building owner" rather than as part of the public itself, advocating for public interests? This revision of the review process must also ask whether review by elected officials is even sufficient. David McGregor, architect and former director of planning for Manhattan for the New York City Planning Commission, argued that "[s]ince these are public spaces, the public ought to have a say about them. Then if we don't like what our elected and appointed public officials do, we can throw the bums out the next time."[36] But should waiting for the next election and casting a vote against someone you think made a bad decision be the level of possible public involvement in these processes? Or should the changes to the POPS program include bureaucratic processes for direct rather than representational involvement? And do the public officials who would be involved in making decisions about the space really represent the public of that space? Many people who use the atrium every day are office workers taking a break. They most likely live outside Manhattan. Others may be visiting New York from other states or countries. The POPS program went through a major rewriting process in 1975 in order to increase the requirements of building owners to provide more and better physical amenities in exchange for the financial incentives they receive. There is no reason why the program cannot be rewritten again to ensure that changes to the spaces are open to public and not quasi-public review.

However, even if this important link between POPS and the public spheres that govern them is mended, there are other fundamental problems with the program's policy and the specific spaces it has created that also prevent them from being dynamic public spaces. These problems arise because of the clash of values brought to these spaces by private developers, the planning department, and the people who claim them. The next two chapters examine spaces adjacent to IBM: Sony Plaza and Trump Tower. Whereas at IBM, changes in the plaza's design revealed underlying problems with the POPS decision-making processes—problems that preclude these spaces from having active public spheres—design at Sony and Trump acts upon the public itself.