

Matters of Concern

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Once an architectural practice has divorced itself from the strictures of the normative service-to-client driven professional model, the question of motivation becomes paramount. An architectural practice may very well be alternative, making use of collaborative networks, leveraging institutional affiliations, and finding unusual funding mechanisms—but to what end? Believing that the time has come for a serious re-engagement on the part of architects with the critical forces that will shape our human future, we have defined three Matters of Concern that both motivate our practice and influence the methods by which we work: Future Ecologies, Situated Infrastructures, and Emerging Inhabitations.

Over the past two decades, key external factors have brought about a serious internal reconsideration of the roles of architects, the modes in which they operate within the world, the tools and techniques best suited to navigate these new conditions, and the nature of appropriate pedagogic tools and approaches that will cultivate the next generation of professionals capable of engaging the questions and challenges of their time.¹ Simultaneously, with near-universal access to information, widespread computational power, global communications infrastructures, complex collaborative file-sharing and distributed just-in-time production, the opportunities for an architectural practice that positions itself outside of the service-to-client model to not only survive but also produce important work have perhaps never been greater.

But now that we can all be alternative, so what? Alternative to what end? Without the need for clients, architects are free to choose their own work. But what then are the situations, subjects or problems that a practice pursues? Furthermore, how will the practice choose to organize itself and its work? What new collaborations, operational

practices, techniques and artifacts will be developed in pursuit of these questions and what will be the resultant affective role of architecture?

Matters of Concern

Theorist and critic of science Bruno Latour has recently proposed a methodology that we have found useful in guiding an operative, critical approach to practice. Latour proposes the notion of “matters of concern” in distinction to the more common scientific category of “matters of fact.” While matters of fact, in our reading of Latour, are developed without consideration of desire (moral, ethical, or other), matters of concern embrace and are centered in those desires. While matters of fact exist without context, in an attempt to uncover the indisputable, matters of concern gather context(s) into themselves, disputing both the possibility and the efficacy of indisputability. What results is an approach that is constructive, rather than deconstructive; one that assembles the subject as richly diverse, historically situated, infinitely complex and engaged with its own inherent contradictions and controversies, a “multifarious inquiry launched with the tools of anthropology, philosophy, metaphysics,

history, sociology to detect how many participants are gathered in a thing to make it exist and maintain existence.”²

In order to pursue architectural works that resonate beyond our discipline, our practice has developed three inter-connected matters of concern—Future Ecologies, Situated Infrastructures, and Emerging Inhabitations—to structure both the subjects on which and modes by which we operate. These engage with the critical forces that will shape our collective future, and seek to understand, envision, and project that future. Our role, as architects, becomes that of problem seekers, rather than problem solvers.

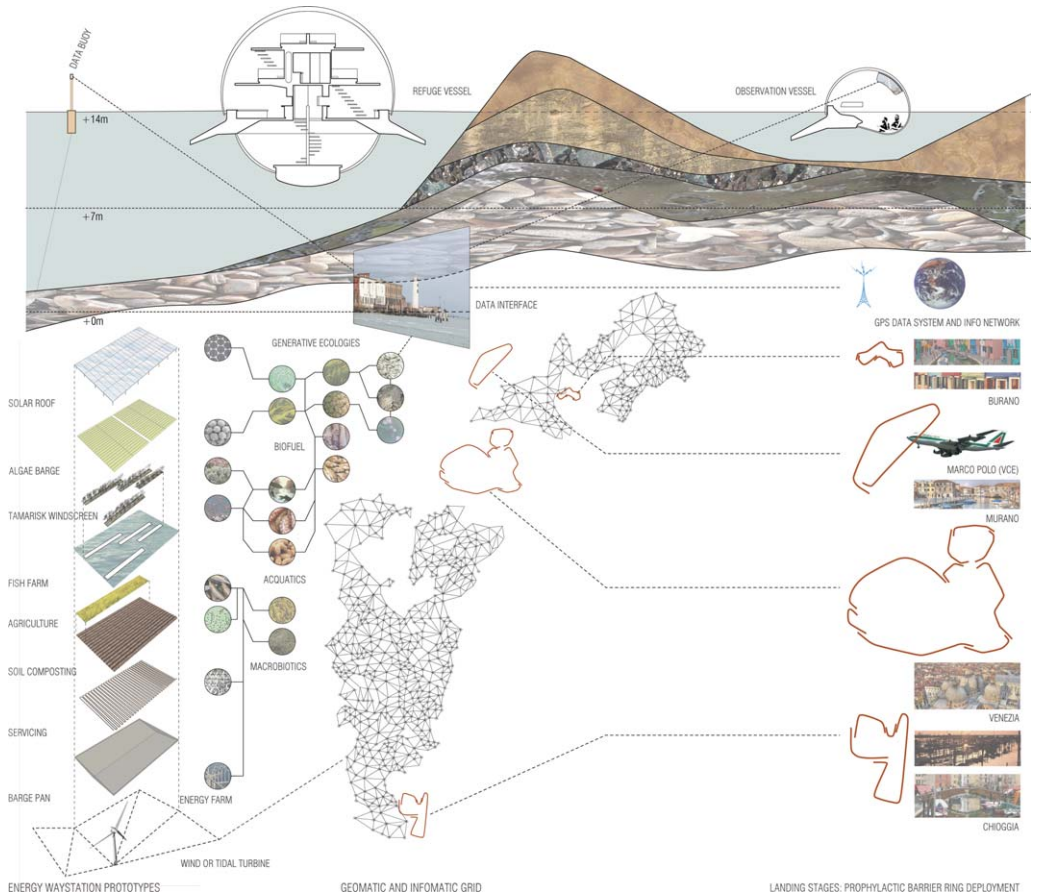
The work is always addressed in its performative role in relation to the multiple situations of its subject. Instead of starting with a problem to be solved, we begin with the contextual situation, using design as a way of exposing the conditions, forces, and potentials that might become activated within a proposition. Contexts are multiple and can include, as a form of *recherche concrète*, our own multiply networked relations to the mechanisms of architectural production; projects arise literally from the matters of concern and evolve through



1. Buoyant Aquacology, view towards the city of Venice. The city, now far below sea level, is surrounded by a prophylactic ring wall which is both a water barrier and a productive infrastructure. (Courtesy RVTR.)

academic, industrial, and government agency collaboration, finding new opportunities for exploration, research, and innovation.

2. Buoyant Aquacology, ecological and industrial network diagram for the reconfigured lagoon. (Courtesy RVTR.)



Future Ecologies

Future Ecologies mandates an increased global awareness of ecological networks and of the inherent participation of the built environment in ecological processes. The ecological context in which we operate goes beyond global warming to entire planetary destabilization—ecological, social, political—and the destruction, or at least massive disruption, of ecosystems. What possible futures attend these changes and how might design lever these conditions of flux as new opportunities for human engagement and occupation? Architects who engage in alternative practices should offer not only pragmatic solutions to our future but also “a dream of utopias.”³

Buoyant Aquacology, a vision of the interrelated urban, cultural, and ecological landscape of the Venice Lagoon situated in the future of rising water levels, seeks to envision what the role and possibility of large scale architectural, landscape, and cultural projects will be in that new reality.

The prospect of a permanently flooded Venetian lagoon under as much as fourteen meters of water (Figure 1) suggests the end to many existing ecologies (both natural and cultural) but also the



3. Post-Carbon Highway. The thickened line. (Courtesy RVTR.)

emergence of others. In this near-future context, a set of issues that includes the inevitable flooding of the entire lagoon, the consequent failure of the current tidal ecologies, an increased proliferation of algae blooms, and the desire for a new tourist industry are conflated to generate a matrix of interrelated agents and activities to be accommodated within the lagoon (Figure 2). In addition to facilitating a new tourism industry, the new waterscape will become a highly productive expanse, generating new intensive sources of both food and energy. A shifting matrix of floating energy barges will produce algae to be farmed for hydrogen energy production, as well as a food and mineral source, while processing sewage from the remaining urban concentrations in the lagoon and growing new soil, used to extend new landforms. The complex products of this agrifood will be processed in plants located within prophylactic barrier rings, infrastructural sea walls constructed to protect the most culturally significant of the current islands from flooding. Other barges will support hydroponic agriculture, fish hatcheries and solar collection cells. The role of architecture here is the orchestration of the operational and spatial distribution of these systems, the performative organization of a projected future situation to meet projected future need for food, energy, and commerce, as both context and substance of a simultaneously utopic and dystopic view of a flooded Venice.

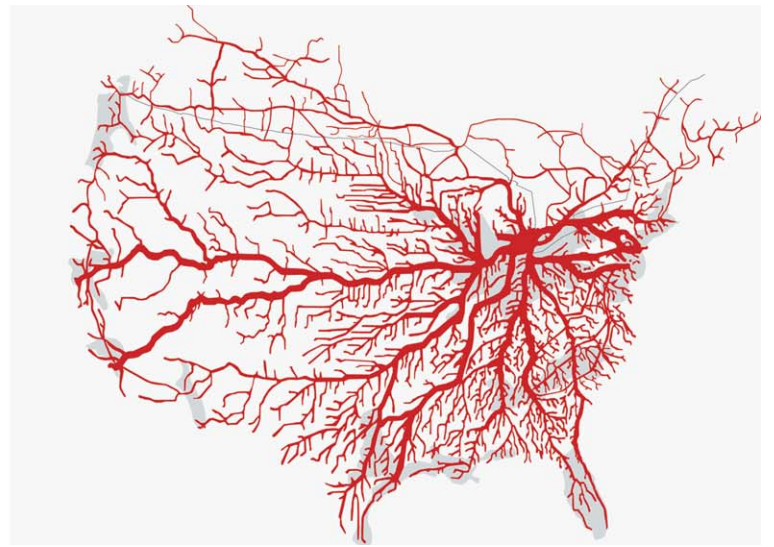
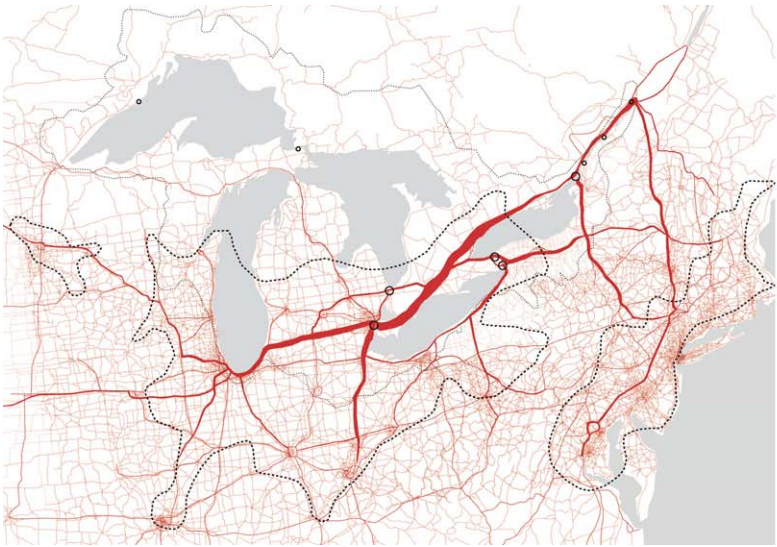
Situated Infrastructures

Situated Infrastructures explores large-scale systems and networks of the urbanized world. Positioned within the lineage of speculative, visionary urban proposals, this work investigates how existing infrastructural systems—designed for the 20th century, currently on the edge of maximum capacity and immanent collapse—might be modified and mobilized to address the needs of the 21st century and beyond. How might the specific characteristics of these systems that lie at the root of their contemporary failure be reconsidered in terms of their inherent potential for modification and enhancement?

The Post-Carbon Highway is a regional urban infrastructure design/research project that explores the likely possibility that the depletion of carbon-based fuels, rather than precipitating a decline in mobility and a corresponding demise of the automotive and transport industries, a collapse of global trade networks and perhaps even a return to small-scale recognizable and quantifiable city patterns, could become instrumental in conceiving more efficiently and intensely connected regional urbanities and infrastructures. The project synthesizes current research from a range of disciplines and existing data about changing populations, ecologies, technologies and economies within a speculative design project and visualizes the potential experience of mobility in a post-carbon world.⁴

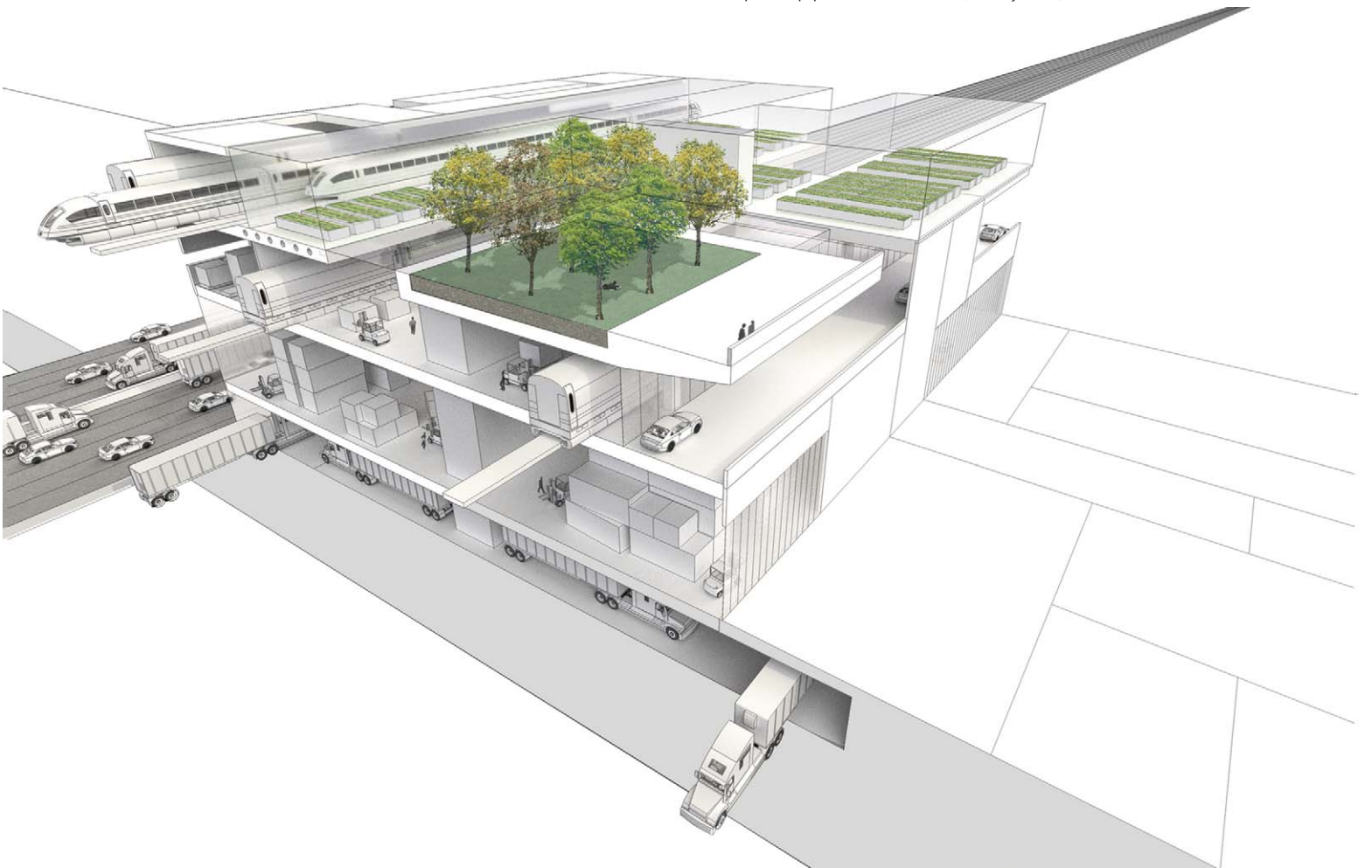
Mappings of highway freight traffic in North America and in the Great Lakes Megaregion disclose that, unlike the U.S. interstate system of highly networked roadways, Highway 401 exists as a single non-networked line cutting through southern Ontario (Figure 4). This characteristic is ultimately responsible for both the 401's current status as North America's most densely traveled highway,⁵ a key conduit for international trade, and connector for 40% of the Canadian population, as well as its imminent future of congestion and failure. Rather than proposing scenarios in which the line is developed into a mesh by adding secondary routes, we investigate instead what potentials exist in a single, intensive, highly linear system: what can a *line* do?

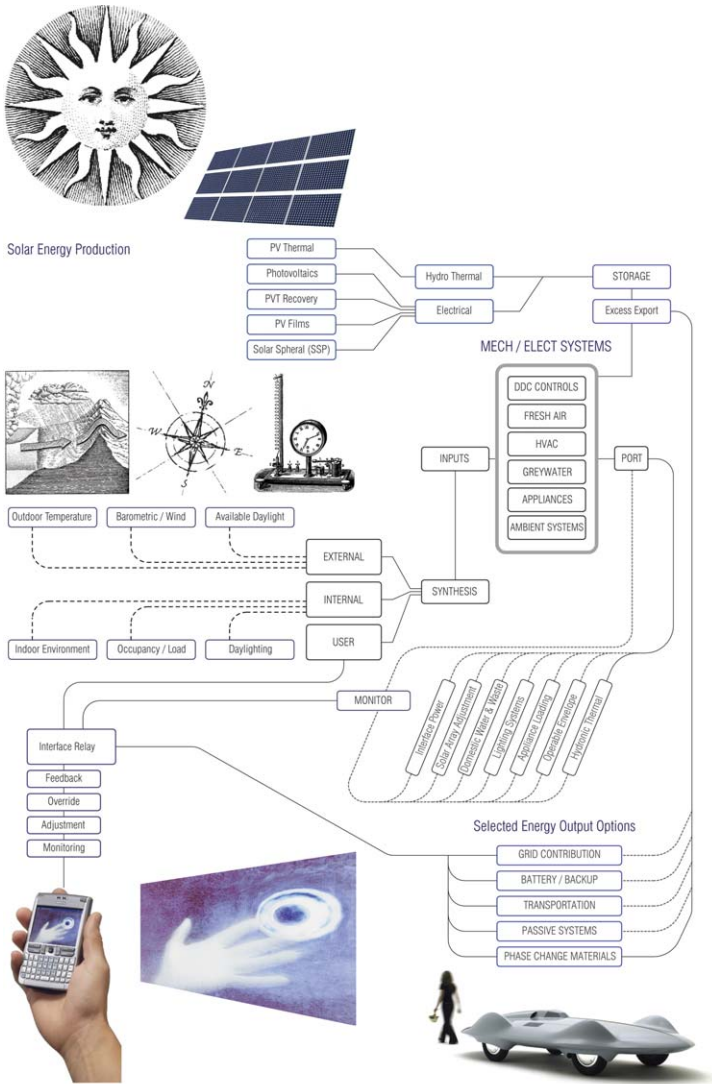
Architecture here looks to the capacity of the line as a strategic asset, proposing its cross-sectional densification to accommodate not simply increased traffic, but also the multiple modes of traffic types, velocities and energy sources in a highly mobile post-carbon future (Figure 3). The matrix of parallel, cooperative modes of mobility will include high-speed rail, dedicated freight and vehicle lanes configured in a "thick" system where transport types are stacked and separated to maximize temporal efficiency, safety, and accessibility—effectively increasing the bandwidth of the line. As a result, the line will also become a robust infrastructural backbone to foster the development of



4. Post-Carbon Highway. Maps showing highway freight traffic in the Great Lakes megaregion.
Sources: US Department of Transportation FHWA (2000 data) and Transport Canada. (Courtesy RVTR.)

5. Post-Carbon Highway. The multimodal transfer interchange will become the key node along the highway and the place where the highway and its travelers will be able to interface with its dependent population concentrations. (Courtesy RVTR.)





7. North House. Adaptive Living Interface system diagram. (Courtesy RVTR/Team North.)

Simon Fraser University's School of Interactive Arts and Technology, and Ryerson University. The project moves beyond energy efficiency to consider how the house fits into ecological cycles of production, consumption and waste, leveraging sustainable design for the provision of more: more diverse and interconnected natural, social, and economic networks; more energy-efficient building technologies with more resilience and adaptability; more opportunities for human health and vitality. The project seeks to make use of highly engineered, component-based manufacturing techniques linked to local economies to explore means by which a building design can be more responsive to the changing needs of its users, and to develop new reflexive and user-responsive building systems appropriate to cold environments.

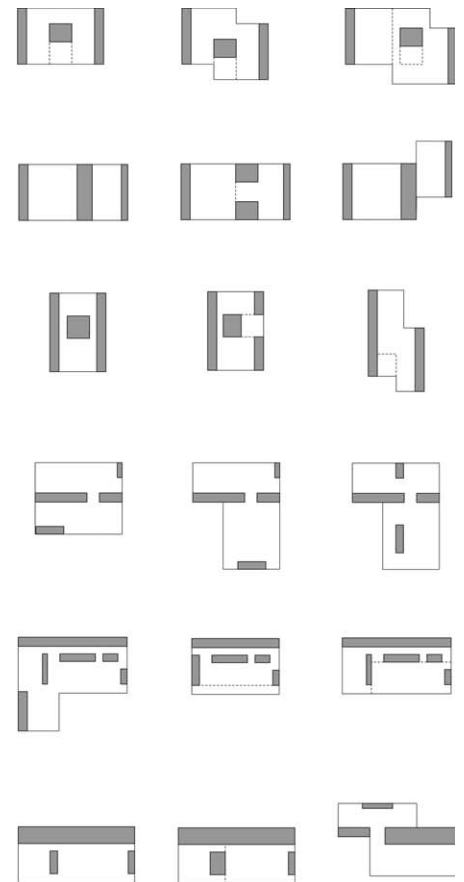
The team has developed a wood-framed glazing system that can be a net energy producer even at high latitudes with relatively scarce solar resources. When paired with active shading systems, this development radically changes the way we think about northern housing. The house no longer needs to be a highly insulated and internalized box with minimal openings, but can instead be opened up to the exterior landscape—a situation much more in keeping with the active lifestyles of many northern residents. In parallel with the development of advanced envelope components, an Adaptive Living Interface System (ALIS) will enable occupants to dynamically interact with a complex set of building technologies through haptic and digital media providing both feedback and control regarding performance and atmosphere

while empowering the occupant as an agent of behavioral change (Figures 7 and 8).

The "Latitude" housing system advances some of the principles of North House and develops energy efficient single-family dwellings fabricated from light-gauge steel using component-based manufacturing techniques. Latitude is not about designing a single house but about developing entire residential systems that include food, energy, waste recycling, employment, and regional economies and ecologies, all through the agency of re-considered housing (Figure 9). Proposed initially for a site in northern Russia, Latitude makes use of the glazing systems developed by the North House team to offer highly energy-efficient housing that is at the same time filled with natural light and intimately connected to the outdoors (Figure 10). This connection



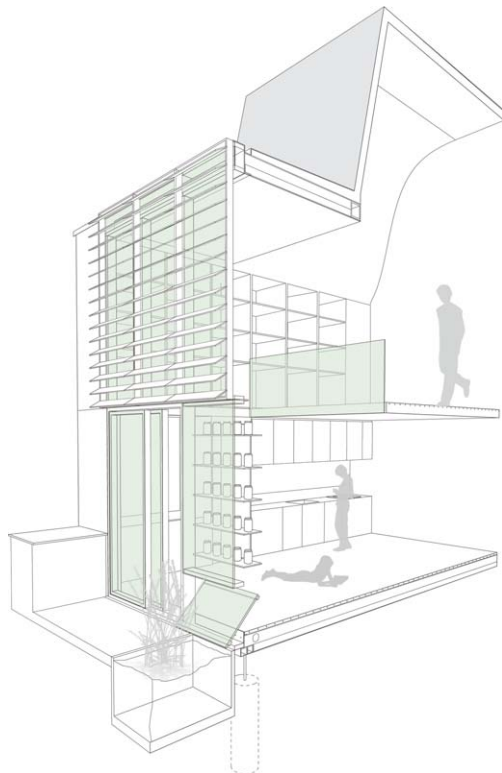
8. North House. Responsive envelope studies. (Courtesy RVTR/Team North.)

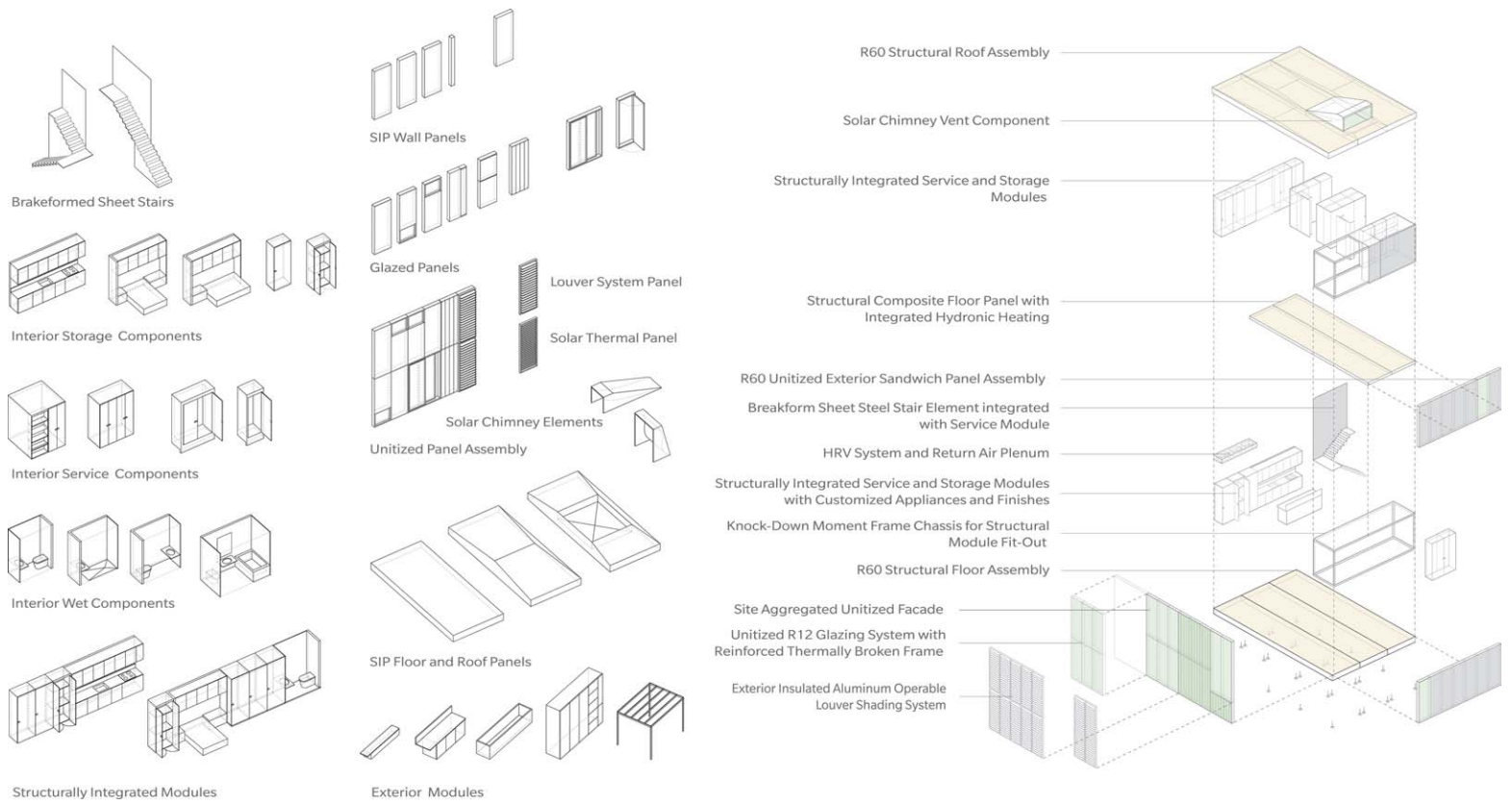


9. Latitude. The Complex Ecology Matrix allows us to consider and act on impacts among various ecologies and at a range of scales; typology matrix. (Courtesy RVTR.)

10. Latitude. Sectional perspective. (Courtesy RVTR.)

11. Latitude. Top: L-House; Bottom: Loft House, showing food production. (Courtesy RVTR.)





12. Latitude. Component assembly diagram. (Courtesy RVTR.)

13. Latitude. GreenHouse, in winter. (Courtesy RVTR.)



allows the inhabitants of the house to not only take advantage of the leisure opportunities afforded by northern living, but also to take part in the local tradition of independent food production, likely to become more important as the climate warms up and food transportation costs increase over the coming decades (Figure 11). The modular construction techniques used in Latitude will allow the buildings to change and adapt as technologies or user needs change; the buildings can easily grow in response to changing family structures, or have newer, even more efficient envelopes easily retrofitted in response to further increases in energy costs and available technologies (Figures 12 and 13).

Conclusions

These projects—Buoyant Aquacology, Post-Carbon Highway, and Latitude—are evidence of a devel-

oping operative practice in which matters of concern condition the critical analysis of a given situation through an understanding of its complex interrelated variables. Architecture operates within this matrix of relationships as an agent, an organizer and orchestrator of seemingly disparate components and activities. Discourse is critically broadened from a focus on the architectural object to consider the position and agency of architecture within its wider contexts.

Our ultimate desire is to mobilize the potential power of the university/practice relationship and leverage its productive exchanges for the benefit of both institutions and of society at large. As both architectural educators and practitioners, we believe that this broader engagement of architectural discourse is crucial as we—both as

a profession and as a species—head into very uncertain times. It is important to all of us that architecture make use of its ability to visualize not just future architectures, but future worlds.

Notes

1. See for example Winy Maas, "Architecture Is a Device," In *MVRDV: KM3—Excursions on Capacities* (Rotterdam: MVRDV and Barcelona: ACTAR, 2004).
2. Bruno Latour, "Why Has Critique Run Out of Steam? From Matters of Fact to Matters of Concern," in *Critical Inquiry* (Winter, 2004), p. 246.
3. Roemer van Toorn, "No More Dreams?" *Harvard Design Magazine*, no. 21 (Fall 2004/Winter 2005): 30.
4. For more on this project see John Knechtel, ed., *Fuel* (Cambridge: MIT Press, 2008).
5. Brian Gray, "GTA Economy Dinged by Every Crash on the 401," *The Toronto Sun*, April 10, 2008.
6. Ontario Ministry of Infrastructure Renewal, *Places to Grow: Growth Plan for the Greater Golden Horseshoe*. <http://www.placestogrow.ca>, 2006 (accessed February 24, 2008).