

**Asia Research Institute
Working Paper Series No. 223**

**A Walk in the Park:
Singapore's Green Corridor as a Homegrown Import**

David Strand

East Asian Studies Department, Dickinson College, USA

strand@dickinson.edu

July 2014



The **ARI Working Paper Series** is published electronically by the Asia Research Institute of the National University of Singapore.

© Copyright is held by the author or authors of each Working Paper.

ARI Working Papers cannot be republished, reprinted, or reproduced in any format without the permission of the paper's author or authors.

Note: The views expressed in each paper are those of the author or authors of the paper. They do not necessarily represent or reflect the views of the Asia Research Institute, its Editorial Committee or of the National University of Singapore.

Citations of this electronic publication should be made in the following manner: Author, "Title," ARI Working Paper, No. #, Date, www.nus.ari.edu.sg/pub/wps.htm. For instance, Smith, John, "Ethnic Relations in Singapore," ARI Working Paper, No. 1, June 2003, www.ari.nus.edu.sg/pub/wps.htm.

Asia Research Institute Editorial Committee

Michelle Miller – Chair

Maureen Hickey

Nausheen Anwar

Peter Marolt

Tamra Lysaght

Tharuka Maduwanthi Prematillak

Tim Bunnell

Valerie Yeo

Asia Research Institute

National University of Singapore

469A Tower Block #10-01,

Bukit Timah Road,

Singapore 259770

Tel: (65) 6516 3810

Fax: (65) 6779 1428

Website: www.ari.nus.edu.sg

Email: arisec@nus.edu.sg

The Asia Research Institute (ARI) was established as a university-level institute in July 2001 as one of the strategic initiatives of the National University of Singapore (NUS). The mission of the Institute is to provide a world-class focus and resource for research on the Asian region, located at one of its communications hubs. ARI engages the social sciences broadly defined, and especially interdisciplinary frontiers between and beyond disciplines. Through frequent provision of short-term research appointments it seeks to be a place of encounters between the region and the world. Within NUS it works particularly with the Faculty of Arts and Social Sciences, Business, Law and Design, to support conferences, lectures, and graduate study at the highest level.

A Walk in the Park: Singapore's Green Corridor as a Homegrown Import

In the summer of 2013, on a first visit to the Green Corridor, Singapore's new linear park open to the public since 2011, the semi-official access point I chose along Ghim Moh Road near the Buona Vista Mass Rapid Transit (MRT) stop was a bit hard to find. Thinking they might be park patrons, I followed a few people turning off the busy road down an unmarked alley in the direction of where a city map indicated the old right-of-way for the Keretapi Tanah Meleyu (KTM) rail line would be. The end of KTM rail traffic after more than century had made the park possible. Instead of entering the park, the group I was following climbed a pedestrian overpass and disappeared toward offices and apartments beyond. When asked about the Green Corridor's location, a man descending the stairs pointed below and said, "Yes, it's down there. And it is fantastic! You can walk south all the way to Chinatown or north to Woodlands. Or better still, get a bike and ride it." Sure enough, next to the overpass stairs was a lightly beaten path disappearing over a lip of grass. At the bottom lay a flat, grassy trench thirty meters wide.

Figure 1: The Green Corridor near Ghim Moh Road



The narrow, occasionally meandering pathway made by walkers and cyclists leads north past Bukit Timah Nature Reserve and on to the Woodlands near the Straits of Johor. One can also head south toward Chinatown and the city center, and Tanjong Pagar, the Art Deco and neo-classical-style railway terminus built in 1932 (Lai, 2013: 106-7) and now fenced off awaiting renovation and transformation into something other than a train station. Dense thickets line the way north and south. There is no rail track at Ghim Moh or any hint that a railway once ran other than the straight-line, tunneling green vista an engineer would have stared ahead at. There is a sign on the path itself that reappears now and then, decorated with brightly colored birds and butterflies welcoming visitors but offering no other information, not even the park's name: the Green Corridor to its many supporters among the public, the Rail Corridor to the government responsible for planning the park's development.

The path is roughly cut to keep foliage from invading, but not to the “putting-green” height that is standard in most of Singapore’s parks. (Comaroff, 2007: 56-7) One is reminded of a country or woodland path incongruously running adjacent to city streets and high-rise housing projects. Embankments and vegetation dial-down the traffic noise and trees screen away for a moment or longer Singapore’s intensely modern cityscape.

GREEN CORRIDOR AND HIGH LINE

Singaporeans and outside observers alike compare the Green Corridor to New York’s High Line Park, a repurposed elevated rail line in Manhattan that opened to the public in 2009. The enchantments of High Line include finding a park and a slice of nature conservancy where they are not supposed to be. There are walk-up and elevator apartments and offices in New York, but High Line was the first walk-up and elevator park. The Green Corridor transports one by contrast not up, but back, to a rural Singapore, or out to where the suburbs might be if room could be found for them. Farming was formally abolished decades ago on the grounds that the land was needed for housing, roads, and commercial and industrial uses. With a growing population Singapore could never be self-sufficient in food, so why allocate scarce space to growing vegetables? (Waller, 2001: 55)

The bucolic scenes found on the Green Corridor, and the jazzier atmosphere that envelops High Line, rely on a perceived tension between country and city that has long driven the creation of modern urban parks and green spaces. Parks are imagined to be compensatory green “islands in the sea of buildings” or the living “lungs” of the city. (Lachmund, 2013: 20-1) Joel Sternfeld, whose collection of photographs of the original, undeveloped industrial High Line ruin played an important role in the New York campaign to save the rail line and build the park, declared “if they save the High Line, they’ll save some of the virgin parts, so that people can have this kind of hallucinatory experience of nature in the city.” (Cataldi, 2011: 364)

In its October 2010 proposal to convert the rail lands into a linear park the NGO Nature Society (Singapore) was plainspoken and more aimed at keeping than creating something of value.

The Railway Land *is already* like a nature park; much of it is a mix of secondary forest growth, grasslands and small-scale fruit and vegetable farms. Open areas are interspersed with canals, streams and marshlands on both sides of the track. (*The Green Corridor: A Proposal*, 2010; *The Straits Times*, 2011, June 16, emphasis added)

Leong Kwok Peng, a Nature Society (Singapore) leader in the drive to create the park, said in July 2011, as the rail land officially opened to the public to walk and inspect: “There’s a fantastic countryside feel to it. It’s a rare piece of land, yet close to many residential areas.” (*The Straits Times*, 2011, July 2) A young park ranger, speaking in support of the park in 2012 with a touch of hyperbole, agreed: “Everywhere in Singapore is paved already. We should keep the heritage.” (*The Nation*, 2012)

Figure 2: Map of the Green Corridor



Courtesy of the Nature Society (Singapore)

Both High Line and the Green Corridor are victories for those who would like cities to be greener and more natural. In the case of the Green Corridor, the scale and dimensions of the victory remain contingent on future government policies supporting its development and expansion. At 26 km. to High Line's 1.6 (or more than 40 km. if one adds the still formally closed Jurong extension cutting to the west just south of Bukit Timah) the Green Corridor's great length and rail-gauge narrowness makes it vulnerable to breaks and encroachment. As a result, green thoughts about the new park and its prospects, even among advocates, are shaded with darker or grayer forebodings. One self-described "walker," in a city more attuned by climate and transport systems to air-conditioned riding, shared her hopes and misgivings in the second year of the Green Corridor's existence.

This was no bucolic countryside for wayfarers who detested the city. Apart from small pockets of farms in the northern area of Kranji, there was no countryside to retreat to in Singapore. Neither was this a carefully plotted tarmac path with manicured gardens and pleasant scenery for the casual weekend cyclist. This was something functional and political—a railway line connecting Malaysia and Singapore—that had metamorphosed into a green corridor, at turns splendid and ramshackle. (Mohan, 2013)

At the end of a long walk from the Bukit Timah Nature Reserve to the Woodlands and after surveying serried lines of high-rise public housing along the way, Vinita Ramani Mohan confessed: "The corridor felt like a strange conduit, or a wormhole, in that we could pass from one area to another that was wildly different and be left alone as we walked and meandered."

This stretch of the Green Corridor does offer an arresting mix of escape and entanglement. You walk through a sea of wild grasses that brush you as you pass. Birds dart and animals rustle. A glance to one side finds a well-appointed "park connector" running in close-order drill alongside the Sungei Kadut Canal, a paved alternative to the wilder and less kempt nature trail you are on. On the other side, traffic roars and construction bangs away along Upper Bukit Timah Road.

Figure 3: Northern Stretch of the Green Corridor



While a Singaporean cannot entirely escape the city on the Green Corridor, the “ramshackle” ruin can seem to stop or reverse time in a modern urban world where timesaving technology is thought to have “killed” distances short and long. The winning entry in a design competition for the park’s future development sponsored by the Singapore Urban Redevelopment Authority (URA) in 2011-12 offered this kind of reversal in a proposal for a wild tiger preserve visible from treetop walkways. (URA, *Journey of Possibilities*) The jury praised “the single big idea of gifting the rail Corridor back to the wild, and reconnecting modern Singapore with its primeval past, which evokes the hunter-gatherer in all of us... [and] also creates a bank of biodiversity in the jungle.” One returns to a 19th century when tigers still roamed the island while leaning into 21st century concerns about biodiversity and dreams of re-wilding the planet with “ecological history parks” like “Tiger’s Garden.” (Donlan, 2005)

The Green Corridor cannot restore Singapore’s lost countryside much less return the island to rainforest. Minister of State for National Development Tan Chuan-Jin, a supporter of the Green Corridor project, in his speech honoring competition winners, praised the “Tiger’s Garden” for its “spirit of boldness and element of surprise” but also noted that “it is unlikely that we will allow tigers to re-populate the forest in Singapore. “ (URA, 2012) Nonetheless, as Mohan insists, the Green Corridor, does allow her – and many others – to walk and think “against the tide of a manicured destiny.” Innovative green spaces invite magical thinking that leads to real-world results, ranging from modest biodiversity niche projects to preserve butterfly or bird “hotspots” on the Green Corridor to mammoth ventures to house nature in surreal ways like Singapore’s “Gardens by the Bay” with its air-conditioned greenhouses for flora from temperate climates designed to be cooled in part by mechanized steel and concrete “Supertrees” powered by solar panels and a biomass energy plant fueled by “horticultural residue...largely from urban street trees pruned in Singapore.” (Davey, 2011: 111)

High Line in New York has earned praise for imaginative urban park design and also provoked critical reactions. Despite the project’s large claims for preserving an industrial relic, strengthening and enriching adjacent neighborhoods, and rescuing the flora and fauna that live near, on or in it, critics believe the park has created more of a “staged-authenticity” than a genuine advance in community solidarity or closeness to nature. (Cataldi, 2011: 370) As a “pasture in the sky” stocked with carefully maintained “wild” grasses, security cameras, and “strenuous policing” to ensure “quality of life” for visitors, High Line may privilege safety and vicarious pleasures more than opportunities for sustained sociability, genuine encounters with nature, and active citizenship. (Cataldi, 2011: 368, 374) Does High Line represent the return of nature to the city or put on a show of doing so for the tourists and a new breed of cosmopolitan urban planners? Given intense land-use pressures in Singapore, why did the city-state’s government so readily agree that the rail lands be converted to a park less tidy or staged than the Singaporean norm?

NATURE OF AND FOR THE CITY

When nature is admitted to the calculus of urban policy-making, parks like the Green Corridor take their place as recognized components of a “biophilic” city in which emotional and aesthetic attachments to nature as well as “natural processes” like photosynthesis are factored in. (Newman, 2010: 155) The Green Corridor can be appreciated for the gross photosynthetic benefit of a green space larger than the total area of Singapore’s venerable Botanic Garden, and also for finer details like preserving and expanding community gardening, providing a new site for fitness runs and regular exercise, and protecting and enhancing bird and other wildlife habitats. “Green infrastructure” can also be multi-functional and polymorphic, as many of the design competition entries for the park suggest in their competing visions of loss and possibility: from the fanciful wild tiger preserve to a corridor of community farms, a venue for arts or food festivals and marathon

runs as well as spaces for ecological research, retirement villages, restaurants, arts projects, eco-sensitive transportation, a linear beach to replace the seaside ones gobbled up by development, a nature retreat, and somewhere to contemplate “the simplicity of life.” (URA, *Journey of Possibilities*) That said, imagining a park having both social and biophilic roles, being family-friendly and conserving wild life, raising property values and holding commercialization at bay, and engineering civility and providing outlets for civic action can be tall orders.

Fusing the gap between nature and the city can generate both common cause and conflict. Vacant lots and abandoned industrial sites that seem ripe for urban renewal may turn out to be less empty once the biodiversity of their plant and animal life is observed and recorded along with traces of human history. (Lachmund, 2013: 67) These gray-brown-green patches remind one “nature and urban life are not as distinct as human beings have long supposed.” (Nichols, 2011: xiii) New forms of ugliness as well as beauty, discord as well as harmony, arise. According to Timothy Luke, “Global ecological change is leading to the emergence of an ‘urbanatura’ that is a ‘more unpredictable, uninviting...hybrid of urbanism and nature.’” (Hodson and Marvin: 212) Human beings not only disturb nature but also may disturb the peace on nature’s behalf. The natural world finds allies among those who depend on nature for livelihood, recreation, or simple peace of mind. Thus armed, “nature (including human nature) [is] capable of fighting an extremely effective rearguard action” against plans and markets that ignore these hybrid constructions. (Waller, 2001: ix)

This tension became part of the initial struggle to save High Line because many officials, developers and residents saw the industrial relic as home to weeds, pests and vermin, as well as human behavior tarred with the same disapproving brush. Before the original cast iron structure could be preserved, New Yorkers who considered High Line a “rusty old pigeon nest” had to be convinced that it was instead an “iconic piece of architecture” that also conserved nature in and for the city. (David & Hammond, 2011: 43)

Critics of the still mostly CCTV-free Green Corridor worry about graffiti defacing highway overpasses that crisscross the park, water puddling, and debris accumulating. Unplanned oddities and anomalies may disturb even as they spark a desire for preservation. The far western portion of the Green Corridor’s Jurong extension, posted with rusting signage – “Whistle” in English and “Wisel” in Malay to cue vanished train engineers – and carpeted with morning glories – “railroad creepers” in common parlance – offers an urbanatura of expanding second-growth forest and endangered industrial relics alongside a still vibrant industrial Singapore of oil refineries, warehouses, and stacked and brightly colored shipping containers. Cities like Berlin have pioneered green space conversions of ramshackle sites like these in which “historical narratives found their visual complement in remaining artifacts such as water towers, railway tracks, or railway sheds.” (Lachmund, 2013: 171) Will Singapore follow suit?

Figure 4: English and Malay signs on the Jurong Extension

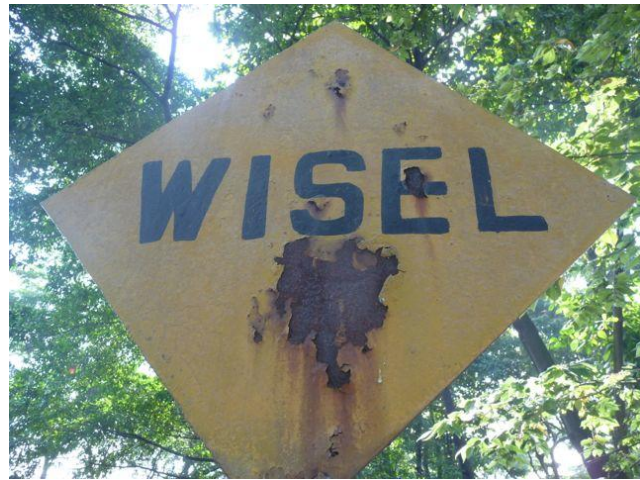
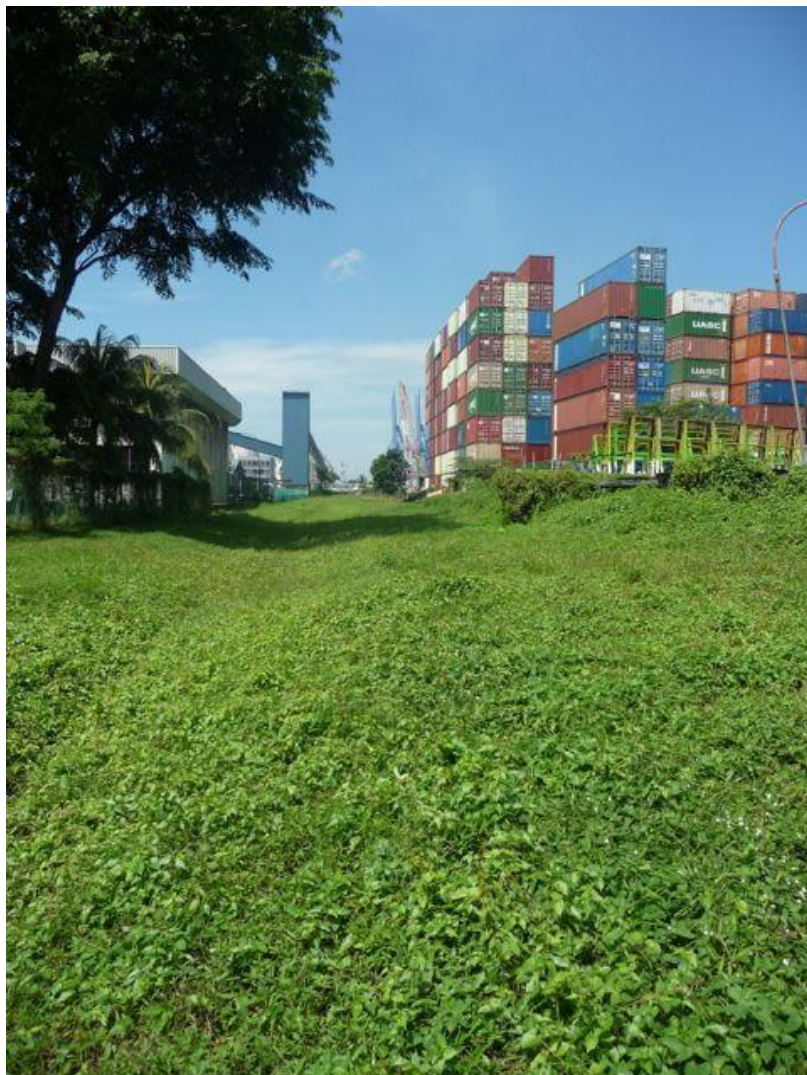


Figure 5: Rail Track Covered by Vegetation



Meanwhile, any scruffy area with standing water is a potential target for a landscape manicure and a dose of insecticide to ward off the scourge of Dengue fever. When one local resident complained in 2012 that farmer-gardeners in the Clementi section of the Jurong rail land were burning leaves and leaving puddles of water, the Singapore Land Authority (SLA) posted an order on the door of an outhouse the farmers had built near their plots instructing them to vacate in two weeks. (*The Straits Times*, 2012, March 10) After months of mediation the gardens were allowed to remain for a small monthly fee paid by farmers (although the fishponds, outhouse and a small religious shrine had to go and leaf burning was banned). The SLA received assurances “the users are prepared to abide by all public health and safety regulations.” (*The Straits Times*, 2013, March 3) The gardens, now consolidated in a single rectangular space, were saved along the aura of a remembered rural Singapore. A Sunday visit to the parcel of thirty well-tended vegetable patches found a dozen or more gardeners at work, and a row of official-looking signs explaining how to prevent mosquitos from breeding in garden plots.

Figure 6: Clementi Community Garden

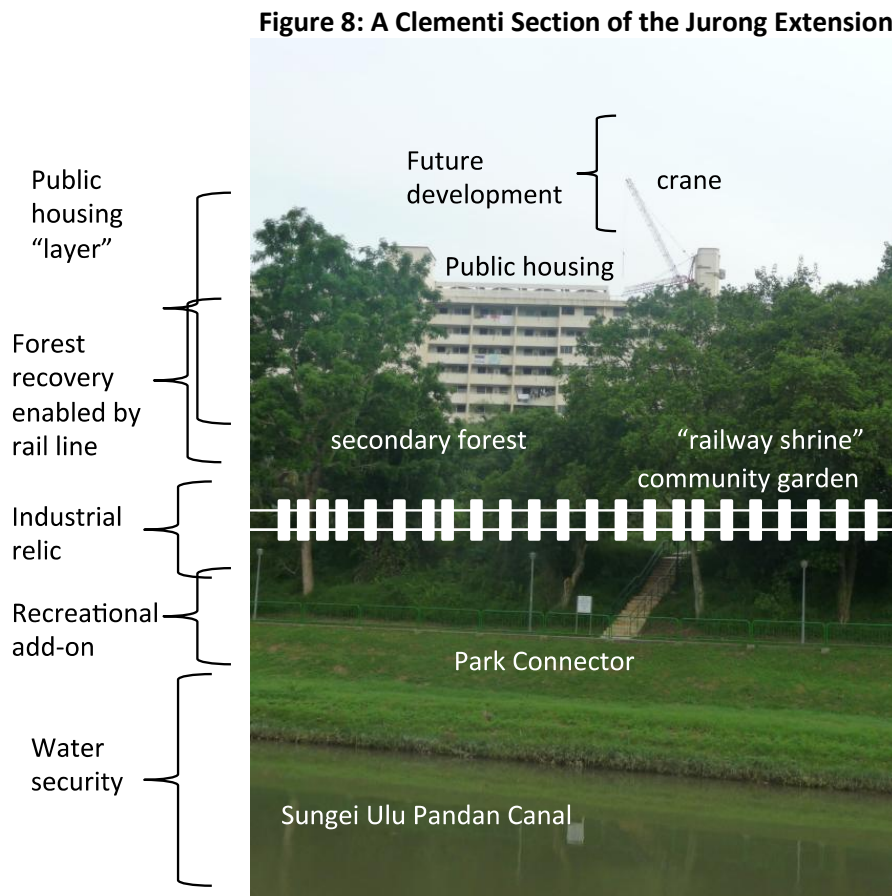


Between the gardens and adjacent housing estates a train-less section of the rail track remains, running east along the Sungei Ulu Pandan Canal and over a picturesque iron bridge badly in need of repair, and west in the other direction until the track, displaced by housing estates and paved park connectors, breaks up into sections and disappears for several kilometers only to reappear again. Immediately across the track from the Clementi community garden, fronting public housing flats are the remains of Pambatti Sittar Temple, built in the 1960s when the Jurong extension was laid. (Lai, 2013: 118-119) A tiled platform and carefully tended trees and other greenery survived the demolition of the unsanctioned temple in 2001. The sacred tree that inspired the original “railway shrine” wears a wrap of blue cloth. Shrines like this one, though unlicensed, represent ongoing religious traditions that also draw attention to the Tamil workers from India who built and helped staff the railway. (119-20)

Figure 7: Site of Former Pambatti Sittthar Temple

To smooth the transition from unofficial to official status and untidy to tidy appearance, a local development agency paid for improvements to the community garden, including running water that the Clementi farmers much appreciate. A new sidewalk leading from the housing estates across the railway track lit by solar-powered walkway lamps formally ties the garden to the housing complex. Steps lead down to the paved path of the park connector, and canal. A prominent sign by the stairs announces the farm's presence to walkers and joggers.

Viewed from the other side of the canal the terraced complexity of this segment of Singaporean urbanature descends in gray (brightened by the pastel and primary color accents ubiquitous now on public housing), green, and watery blue-green order: high-rise public housing silhouetted against the sky with construction cranes beyond signaling unending urban renewal, the strip of secondary woodland canopying the rail track, the sacred grove, solar lamps and the garden plots, the park connector, and the natural-banked canal. Residents and the curious climb up and down the stairs while joggers, walkers, cyclists, and anglers move back and forth alongside the canal. Once the bridges are repaired and the grass mowed hikers and cyclists can materialize a tier above. Wildlife, including birds and the occasional monitor lizard, are already entrenched along the track. Tree roots have been filling the spaces between railway sleepers to create a mutable, mixed media construction an artist, historian or passer-by can appreciate.



When the Singapore's Nature Society insisted the old KTM rail lands were "already like a nature park" even before they became one, that plea only made sense in the context of a broader understanding of an urban nature with an already existing, if sometimes hidden or unofficial, middle ground between a carefully landscaped Hong Lim Park downtown with its closely regulated "Speaker's Corner" and the wilder, though still managed, remnants of rain forest and mangrove swamps that dot and edge the island. An island-wide approach to greening Singapore or combatting Dengue fever did not mean that every patch or band of green space was the same or could or would be treated as if it were identical.

THE GREEN CORRIDOR AS HOMEGROWN IMPORT

The spur to the Green Corridor project was a land-swap and financial deal between Singapore and Malaysia in 2010-2011. The colonial-era railway corridor passed from Malaysian control to the Singaporean state in return for compensation, including development properties in Singapore. (*The Straits Times*, 2012, May 3; Lai, 2013: 99-100) By the end of the 20th century, automobile traffic and coach buses over causeways to Malaysia, air flights from Singapore to Kuala Lumpur and everywhere else, and truck and containership traffic had eclipsed travel and transport by rail. The rail line faded in economic and social importance even as the sliver of Malaysian-occupied territory in Singapore remained an irritant in relations between the two countries.

Negotiations between Malaysia and Singapore over the rail lands took more than two decades to complete. (*The New Straits Times* (Malaysia) 2010: 14; Henderson, 2011: 76; Yahya, 2011; Kassim, 2010) The center of the dispute was Malaysia's longstanding and active possession of a property that ran through the heart of Singapore. Personal diplomacy by Prime Ministers Lee Hisen Loong and

Najib Tun Razak played a role in achieving a sudden “psychological breakthrough” on May 24, 2010 in which Malaysia recognized Singaporean sovereign control of the railway lands and Singapore admitted Malaysia’s right to economic compensation for decades of material improvements to the railway system. (*The Nation*, 2010)

Legal stalemate freezing property in place can sometimes enable conservation efforts. While diplomats and lawyers wrangle, birds nest and migrate, forests mature, hikers and cyclists make trails, animal populations increase, plants extend their range, gardeners garden, the devout build and maintain religious shrines, and anyone concerned with environmental matters in or out of government begins to think about green uses for untouched, overgrown or obsolete places. The resulting hiatus also allowed a sea change in governmental and public attitudes toward parks to take hold among “development-weary Singaporeans.” (*The Nation*, 2012)

The Nature Society in the fall of 2010 formally proposed a green option for the space as an alternative to dividing the railway corridor into parcels for sale and lease. (*The New York Times*, 2012) A coalition of architects, bicyclists, birders, naturalists and other citizens urged, in the words of Nature Society vice-president Leong Kwok Peng, the land be treated as an urban “countryside” and a “backyard” to high-rise residents who might then enjoy the resulting “mix of wild vegetation and informal community gardening.” (*The Nation*, 2012) The plan for a linear park made explicit reference to both High Line in New York and Promenade Plantée in Paris. However, the quickness of Singapore’s appropriation of these international precedents – less than a year after High Line opened – is indicative of local forces at work as well.

The late-modern city is home to such homegrown imports, or what David Graham Shane calls “recombinant urbanism.” (Shane, 2005) Shane posits that dramatic transitions that appear to be ruptures – like a railway that is transformed into a park (the magic is in the hat or green space that remains not the rabbit or train that is pulled out) -- are actually often mutation-enriched evolutions that surprise as much with their local “path dependence” as with the more familiar narrative of “creative destruction” by invasive, outside forces. This is an old story in Singapore for plants, animals, and humans, and the institutions and built-environments humans have made while cohabiting with the island’s flora and fauna. In fact, ecologists have judged Singapore’s urban ecology in the new “nature regime” sense to be supportive of recombinant processes in the original, literal DNA understanding as well. Singapore’s longstanding commitment to high-rise public housing has produced a tropical model of “suburban” development that mixes vertical density “interspersed with managed greenspaces,” leaving room for an urban “recombinant ecology” of native and imported plant and animal species (if the genetic material can make its way across the green bridges and connectors like the Green Corridor). (Douglas, 2011: 270; Meurk, 2011)

If High Line is more staged than its pastoral and preserved industrial ruin image might suggest -- more security-conscious Mayor Rudolph Giuliani and impresario Walt Disney than Jane Jacobs on stilts -- Singapore as host to the Green Corridor has long been forthright in stressing social engineering, commercial interests, and “strenuous policing” in the service of quality of urban life. Acutely conscious of visible deficits in nature areas and cultural preservation, Singapore has been willing to stage authenticity if that is the only option. In a 1991 planning document the Urban Redevelopment Authority openly declared its “intention is to landscape a Singapore so entwined with tropical greenery that it *gives the illusion of having sprung out of a garden.*” (Waller, 2001: 60-1 emphasis added)

Throughout much of its modernization drive, Singapore has managed to remain green-looking, but courtesy a “constructed” nature composed of “specially designed parks, roadside trees and shrubs, road dividers, open spaces such as car parks, walls and pedestrian bridges covered with creepers.” (Briffett, 2004: 56) Architect Rem Koolhaas famously criticized this effort, including Lee Kwan Yew’s

1963 tree-planting garden city campaign, as a misconceived attempt “to clothe the republic in a green mantle.” (Koolhaas, 2000: 23) However, one can fairly distinguish between “natural formations” like the nature reserve at Bukit Timah with its “aboriginal plants...preserved in a natural environment” and “artificial formations” like “parks, gardens, plants in streets, courtyards and open spaces and green balconies and terraces.” (Wong & Chen, 2009: 37-8) With a more expansive “nature regime” perspective (Lachmund, 2013, 9), the real, mitigating effects for Singapore as a “tropical heat island” are clear since this “mantle” of vegetative cover can reduce noise, protect buildings from the effects of weather, provide psychic and other medical benefits by allowing urban residents to “access Mother Nature” in parks and gardens or on apartment balconies, and provide places for social interaction. (Wong & Chen, 2009, 73-76) While the original impulse for Singapore putting on the green may have been in part embarrassment at the naked utilitarianism of its massive high-rise and industrial constructions, the results made increasing environmental sense. “Greenery in high-rise is not an ornamental, marginal provision but a functional, integral component of high-rise living.” (Yuen, 2011b: 77) With 90% of Singaporeans living in high-rise apartments an environmental policy that did not have a set of greening policies tailored to such living conditions would be remiss. (Yuen, Wong, 2009)

Protection of nature and the environment has both benefited and suffered from a political agenda heavily weighted toward national security and economic survival. Security is a high priority for a small, resource-poor, densely populated island. Singapore’s original island-wide development model accordingly made a place for nature at its center by planning “two north-south corridors for urban development around a central freshwater catchment and nature preserve [with the] corridors...imagined as high spines of urban development consisting of a sequence of new towns.” (Rowe & Koetter, 1978: 79) Just as the modern, rationally ordered city was assumed to require separate industrial, commercial, residential and recreational areas, water as a privileged natural resource was also given a district or dedicated space. The forest reserve, needed for water security, was already connected to the coast by eleven natural waterways. A network of canals and drainage channels that required management and regular “de-silting” in cycle with the annual monsoon supplemented these rivers and streams. (Tan, 2006: 48) Nature and the environment were not left out; they were placed where they might do the most good for the national interests of Singapore as understood at the time and the least damage to economic development.

The system of natural and artificial waterways afforded ready opportunities for creating greenways or “park connectors” “palatable to pragmatic decision-makers” keen to build new parks but also concerned to protect new investment in the built environment from the dangers of flooding. (Tan, 2006: 48) In retrospect, this pragmatism opened a space into which deeper green values might later flow by treating water security and its supporting policies as vital to state and nation. There were unresolved problems associated with converting drainage systems into greenways since “empty for most of the year, the concrete lined channels seem lost and ugly, forming barriers, surmountable only by bridges, and dividing residents into defined sectors.” (Dreiseitl, 2010: 218) Cheaply fabricated greenways built on the drainage system also came with an unpleasant odor that is still evident at times to anyone who strolls along them.

Overlap between a dawning green conservation consciousness and a no-frills approach to park construction was both serendipitous and limiting. Drainage cum greenway development proved to be more expensive than originally planned if people were to actually visit these narrow, open spaces. The presence of people was essential if social value was to be added to an aesthetic vision of a green Singapore. In order to win the public over to the greenway idea and attract park users, the National Parks Board was obliged to provide conveniences like benches, fitness stations and trash bins. (Tan 55) More trees and vegetation needed to be planted and maintained. In adjusting the global concept of greenway development to Singapore, recognizing the importance of shade in a tropical climate

required investment beyond what a more natural, rustic and thereby cheaper approach might have prescribed. (Tan, 2006: 55)

The composite effect by the 1980s was a version of R.T.T. Forman's "network or matrix of patches and corridors" as macro-strategy for park development. (Tan, 2006: 47) This amounted in Singapore to a connect-the-green-dots with green lines scheme within the broader frame of the national political economy. As wealth grew, more money became available for "landscape planning improvements" and the possibility of new ventures in park building opened up. (Waller, 2001: 9) The vision was one in which park connectors, as "essentially nature trails with resting places, jogging and cycling tracks," would "connect all parks and nature areas to form a continuous corridor." (Yuen & Wong, 2005)

As Henry Chye Kiang and Low Boon Liang have suggested, the long-linked nature of Singapore's development from the colonial period onward has turned on this kind of "layering" or sedimentation of a series of planning concepts or logics of with environmentalism only the latest. (Kiang & Liang, 2009) These logics pull people and shape urban experience in many, sometimes conflicting directions. They also produced the intriguing juxtapositions and the terraced complexity of built and natural environments characteristic of Singapore's landscape. As Belinda Yuen argues, Singapore in the process began to shift from a "master plan" approach, "not well suited to dealing with the challenges of a dynamic urban setting" to the use of "concept plans" that relied more on consultation with those affected by central planning. (Yuen, 2011a: 206-7)

As matters of formal planning, the *Green and Blue Plan*, as part of the URA's island-wide 1991 *Revised Concept Plan for Singapore* absorbed specific biodiversity proposals made by groups like the Nature Society to expand the greenway matrix. (Briffett, 2004: 57) Water management functions were joined to an appeal to urban citizens looking, in theory, for a "backyard" slice of countryside to enjoy. To this basically social set of functions was then added biodiversity values. A 1993 *Singapore Green Plan – Action Programmes* was based on a Ministry of Environment brief written for the 1992 Earth Summit in Rio de Janeiro (Briffett, 2004: 57) The 1992 statement explained that Singapore's overall goal now was a "tapestry of green to make parks and nature sites more accessible to the public and to provide corridors for the movement of bird life."

Tapestries are made of threads and the word gestures at the commonplace metaphor of "urban fabric," a term used to represent patterns in urban settlement from lot size or street width and length to architectural styles or building height, as well as the social character of neighborhoods and, increasingly, their biodiversity. The detailed working out of weavings designed to include natural colorings and systems promised parks for Singapore more ambitious than glorified drainage ditches, flower gardens or "putting greens." Even before High Line was re-imagined as a linear park in New York, Singapore was edging toward new responses to the problem of too few parks and an endangered natural environment.

The Green Corridor's geographic centrality, island-spanning length, and country lane ambience are the park's most salient unifying features. Both High Line and Green Corridor as linear parks also can make the hidden (demimonde culture and art galleries in Chelsea or vegetable gardeners in Clementi) visible. Upon entering the Green Corridor, a walker or cyclist experiences the sudden disappearance of the city as the corridor dips into the earth or leads into a wooded area that obscures adjacent buildings and, then, a bit further along offers another glimpse of urban landscape. One passes the island's central nature reserve and catchment area – a touchstone of Singaporean conservation concerns -- as well as the city's ordinary and hyper-modern districts.

In these journeys, one hardly needs didactic panels to get the message of Singapore's environmental challenges, and the value of greenways in meeting them. Depending on one's stamina or imagination one can see or summon to mind the larger dimensions and intricate diversity of the city, not from a great height but courtesy the park's great length. The Green Corridor stimulates thinking about Singapore in its entirety and raises public questions not easily confined to government agencies or the state alone.

One feature that makes the Green Corridor a compelling reference point in the first decades of the 21st century is that it offers an opening for Singapore's nascent civil society and groups like the Nature Society which had been pushing in the direction of conservation for decades, often in the face of resistance by a pro-development state. As one participant-observer recalled, "Conservation was a dirty word in the late 1980s and early 1990s and lobbying the government was not without its attendant risks." (Wee & Hale, 2008: 42) Nonetheless and at that time, the government drew up "concept" plans for the further and deeper greening of Singapore. The Nature Society sponsored outings along the rail corridor as part of its nature-awareness and biodiversity mission in a parallel course of action, rather like the way green rail lands ran along in plain sight of paved park connectors.

On one of these outings, in February 1994, *Straits Times* reporter Lee Siew Hua accompanied nearly two dozen nature enthusiasts on walk along the still-operating track from Alexander Hospital north to the Buona Vista MRT station. Lee titled his article "I've Been Walking on the Railroad" in apparent homage to the 1982 essay of the same name by Peter Harnik, one of the founders of the American "Rails-to-Trails" movement. (*The Straits Times*, 1994; Harnik, 1983) In language anticipating later proposals for a Green Corridor, Lee depicted the rail lands, even with trains running on it, as a "hidden land," "the secret underside of Singapore," and a "green time capsule." One young member of the hiking group made the explicit connection to the "rails-to-trails" option and used the term "green corridor: "In the United States, the Amtrak railway has been turned into a series of green corridors. It can be done here." He also made the prescient argument that the best and most economical use for the rail lands was as a nature and recreation reserve since "these areas are narrow and won't have much [other] economic use." Well before supporters of High Line in Manhattan took a page from Harnik's rails-to-trails proposal, the possibility of converting a declining piece of industrial infrastructure into green space was being entertained in Singapore. As the 1994 walk leader Goh Si Guim added, "These places should be preserved, for their wild life as much as their cultural heritage. The track is one of the last relatively undisturbed pockets of life. Everything else has been upgraded and renewed."

Two decades later, Singaporeans appear evermore conscious of the value of society partnering with the state or even taking the lead on matters of public interest. The political atmosphere has changed and conservation is no longer a dirty word. In fact, sustainability, biodiversity and the word green followed by all manner of policies, activities and structures is part of what Maarten Hajer refers to as the "common vocabulary" of ecological modernization globally, shared by state and citizenry and public and private actors. (Hajer, 1997: 102) Singapore is no exception. In fact, the city-state's commitment to world city, and now "eco-city," status makes the language of sustainability unavoidable.

In a January 1, 2012 retrospective, *The Straits Times* cited success of the Green Corridor proposal as one reason "2011 was a significant year from civil activism. Advocates pushed passionately and were heard." (*The Straits Times*, 2012, January 1) Unlike in the past when the Nature Society or its members risked offending the state merely by voicing a concern, government officials welcomed the input. In June 2011 Minister Tan Chuan-Jin made the proposal seem like the normal way government did its business: "Local nature and heritage interest groups submitted their green corridor proposal to various ministries and government agencies last October [2010]; they suggested converting the

strip into a cycling and pedestrian trail, much like existing park connections.” (*The Straits Times*, 2011, June 16) Tan declared the proposal “fascinating.” In July he participated in a public walk of most of the 26 km south to north trail. (URA, 2011, July 15) For its part, the Nature Society had “undertaken a survey of the area’s plant and animal life” and identified “rare birds such as the Buff-bellied Owl” the new park would help protect. (*The Straits Times*, 2011, June 16)

Due diligence by civil society was rewarded with expedited and favorable treatment by the government. Government support for the Nature Society’s proposal through the summer of 2011 may also have been influenced by the ruling People’s Action Party’s setbacks in the May 2011 parliamentary elections in which quality of life issues like housing – though not the environment directly -- took center stage. (Tan, 2011: 29)

Favorable official reaction to the Green Corridor idea did not happen in the absence of other publicly stated options. One property developer “estimated that millions of square feet of buildings could be put up on the [former rail] land.” Citing past bulldozing of “swamp land” on the coast he asked, “What are the chances this piece of land on the city fringe would be preserved? It’s not even virgin jungle.” (*The Straits Times*, 2010, October 9) Other “property analysts” agreed that even if the proposal won approval it would “best last for a decade or two” since “The railway corridor will inevitably be developed, for there are sound reasons to incorporate the land into [existing] development plans.”

Shawn Lum, president of the Nature Society, countered these objections by arguing that “If we could have green strips along the railway land, we could be connecting existing green spots from Sungei Buloh Wetland Reserve in the north all the way almost to Mount Farber [in the south].” Lum noted that the Nature Society had in the past sponsored nature walks along the railway land and “had long regarded the railway land as a valuable stretch of greenery.” (*The Straits Times*, 2010, October 9) Conservationists and developers calculated costs and benefits with rival facts and alternative landscapes, including bird populations vs. square meters of apartment and office. They were both working within the familiar schematic points-and-lines framework promoted by the state and embedded in Singapore’s pattern of development.

As Lum pointed out, the new proposal for the Green Corridor originated in May 2010 immediately after Singaporean and Malaysian governments had come to agreement on the fate of the rail line. (Yong) The diplomatic agreement caught many observers by surprise to the point of “incredulity.” (Ali and Kassim) Having had its own vision of what to do with the rail lands in mind for years, the Nature Society and its leadership did not hesitate. A few days after announcement of the breakthrough, Nature Society vice-president Leong Kwok Peng wrote to *The Straits Times* advocating the rail lands be made in to a nature corridor. Leong asked readers to “Imagine an almost continuous stretch of natural forest, fruit orchard and greenery from Tanjong Pagar to Woodlands. Where else can one exercise uninterrupted by road crossings and enjoy nature simultaneously? Wouldn’t the railway line make a fabulous nature corridor and green expressway connecting northern and southern Singapore?” (*The Straits Times*, 2010, May 28) As one participant in the Green Corridor campaign recalled a year later, members of the Nature Society “immediately” began to rework their long-held idea of turning the rail lands into a green corridor for presentation to the government and the public. (*Fivefootway* 2011) A group of architects also offered their help in the effort.

From the fall of 2010 through the formal handover of the rail lands in the summer of 2011 support for the Green Corridor idea continued to grow. A “Green Corridor Facebook” social media campaign began and “more and more groups sprouted up to do their own thing.” (*Fivefootway* 2011) By 2011 the URA and the National Parks Board were “in talks” with the Nature Society and other groups about creating a linear park on the old KTM site. (*The Straits Times*, 2011, June 16) The URA claimed “a good working relationship” with the Nature Society.

Knowing the precise size of the area potentially freed up for conventional development, including multiplier factors related to housing and employment, was one kind of knowledge. Experiencing, observing and documenting the Corridor's bicycling, farming and biodiversity features, including birding and butterfly habitats, the location of fruit trees originally planted by railway workers, and the acreage of mature secondary forest tracts was another. That the latter had the strength to trump the former was a surprise on a par with the diplomatic breakthrough at the government-to-government level. It may well be that holding a green hand now has this kind of power because putting cards on the table faced with flora and fauna, vegetable gardens, cultural treasures and exercising citizens offers an ever more compelling narratives, even in Singapore where the narrative of economic development once routinely prevailed. The logic of ecological modernization, by assuming that "economic growth and the resolution of ecological problems can be reconciled," marginalizes both "purist" environmentalists and those who view environmental protection "pragmatically" as a burden on development. (Hajer, 1998: 248) "Eco-modernist principles" like nature conservancy in cities and policies like building linear parks from rail lines not only have wide "social resonance" but also offer "story-lines...that bring to life a new way of seeing, with new constraints and new opportunities." (Hajer, 1997: 262)

The layering of successive planning regimes in Singapore, alongside evolving and variable nature regimes, has not been a series of blank slates but more like a palimpsest of scrapings and inscribing in which old and new cohabit. Kiat W. Tan, from his office at the National Parks Board of Singapore located in the city's Botanic Garden and a short walk from remnants of the island's primeval rain forest, can without need of irony observe that "Skyscrapers spring up with the rapidity of growth associated with the rain forests of the region." (Tan, 2006: 46) This choice of words seems not so much recognition of the defeat of nature by skyscraper development as an acknowledgement that the fates of the built and natural environments are now intermingled and more widely recognized as such. The Green Corridor was an accident of diplomatic history, but one waiting to happen for two decades as conservationists assayed the rail lands potential as a linear park. The project is an expression of global connectivity more as a rationale for a local initiative than imposition of a foreign model. The Green Corridor is also the joint creation of state and civil society enabled by the language of eco-modernist principles that have begun to colonize mainstream planning even as they enable citizen initiatives.

ACKNOWLEDGEMENTS

I wish to acknowledge the generous financial support of the Asia Research Institute of the National University of Singapore as a visiting research fellow during the summer of 2013. I also benefitted from the intellectual stimulation and encouragement provided by ARI's Urbanism Studies Cluster and by a multi-year 'Asian Studies and the Environment' project, funded by the Henry Luce Foundation, at my home institution, Dickinson College. Photographs were taken by Ceceile Strand.

REFERENCES

- Briffett, C, Sodhi N, Yuen B, Kong L. (2004) Green Corridors and the Quality of Urban Life in Singapore. *Proceedings of the Fourth Annual Urban Wildlife Symposium*, 56-63. Tucson.
- Cataldi, M, Kelley K, Kuzmich H, Maier-Rothe J, Tang J. (2011) Residues of a Dream World. *Theory, Culture and Society* 28. 358-389.
- Comaroff, J (2007) Ghostly Topographies: Landscape and Biopower in Modern Singapore *Cultural Geographies* 14 (1), 56-73.
- Davey, M (November 2011) Gardens by the Bay: Ecologically Reflective Design *Architectural Design* 81 (6), 108-111.
- David, J, Hammond, R (2011) *High Line: The Inside Story of New York City's Park in the Sky*. FSG, New York.
- Donlan, J (2005) "Re-wilding North America." *Nature*, 436 August 18, 913-914.
- Douglas, I (2011) Suburban Mosaic of Houses, Roads, Gardens and Mature Trees,"in Douglas, D, Houck, M, Wang, R *The Routledge Handbook of Urban Ecology*, 264-273. Routledge, New York.
- Dreiseitl, H. (2010) New Waterscapes for Singapore. in Mostafavi, M, Doherty, G *Ecological Urbanism*, 218-221. Harvard Graduate School of Design and Lars Müller, Baden.
- Fivefootway (2011) Can You Tell Us More About the RCCG [Rail Corridor Consulting Group]? Interview with Jeremy Chan. November 21
http://archive.fivefootway.com/magazine/article/common_corridor (Accessed July 2013)
- Henderson, J (2011) Railways as Heritage Attractions: Singapore's Tanjong Pagar Station *Journal of Heritage Tourism* 6 (1), February, 73-79.
- Hajer, M (1998) Ecological Modernization as Cultural Politics. In Lash S, Szerszynski B, Wynne, B (eds) *Risk, Environment and Modernity: Towards a New Ecology*, 246-268. Sage Press, London.
- Hajer M (1997) *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process* Oxford University Press, New York.
- Harnik, Peter (1983) I've Been Walking on the Railroad *Environmental Action Magazine* 14, March, 24-27.
- Hodson, M, Marvin S Transcendent Eco-Cities or Urban Ecological Security. In Mostafavi, M, Doherty, G *Ecological Urbanism*, 208-217. Harvard Graduate School of Design and Lars Müller, Baden.
- Kiang, H, Liang, L. (2009) New Asian Public Space: Layered Singapore *Urban Design International* 14 (4), Winter, 231-246.
- Kassim, Y (2010) Railway land Swap: New Light on an Old Issue *RSIS Commentaries*, July 9.
- Koolhaas, R (2000) Singapore Songlines: Portrait of a Potemkin...or Thirty Years of Tabula Rasa in Miles, M, Hall, T, Borden, I (eds) *The City Cultures Reader*, 22-2. Routledge, New York.

- Lachmund, J (2013) *Greening Berlin: The Co-Production of Science, Politics and Urban Nature* MIT Press, Cambridge.
- Lai, C (2013) *Cords to Histories/历史的脐带 (Lishi de qishun)* 新加坡丰顺会馆 (Xinjiapo fengshun huiguan), Singapore.
- Meurk, C (2011) Recombinant Ecology of Urban Areas: Characterization, Context and Creativity in Douglas, D, Houck, Wang, R *The Routledge Handbook of Urban Ecology*, 198-220. Routledge, New York.
- Mohan, Vinita Ramani. (2013) "What We Talk About When We Talk About Walking Negotiating the liminal green spaces of a concrete jungle." 25 Mar <http://poskod.sg/Posts/2013/3/25/What-We-Talk-About-When-We-Talk-About-Walking> (accessed March 15, 2014)
- Newman, P (2010) Green Urbanism and Its Application to Singapore *Environment and Urbanization Asia* 1 (2), 149-170.
- Nichols, A (2011) *Beyond Romantic Ecocriticism: Toward Urbanatural Roosting* Palgrave Macmillan, London.
- Rowe, Co, Koetter, F (1978) *Collage City* MIT Press, Cambridge.
- Shane, D (2005) *Recombinant Urbanism: Conceptual Modeling in Architecture, Urban Design, and City Theory*. Wiley-Academy, Chichester.
- Tan, E (2011) Election Issues in Tan, K, Lee L (eds) *Voting in Change: Politics of Singapore's 2011 Election*, 27-47. Ethos Books, Singapore.
- Tan, K (2006) A Greenway Network for Singapore," *Landscape and Urban Planning* 76 (1-4) 45-66.
- The Green Corridor: A Proposal to Keep the Railway, Lands as a Continuous Green Corridor* (2010) The Nature Society, Singapore.
- The Nation* (Thailand) (2010) Tracks Laid to a New Era for Singapore-Malaysia Relations Mushahid Ali and Yang Razali Kassim. June 24.
- The Nation* (Thailand) (2012) Space to Call Our Own. Wang, Simin, March 4.
- The New Straits Times* (Malaysia) (2010) Urban Linear Parks Catalyse Developments Lim Lay Ying, July 9.
- The New York Times* (2012) As Singapore Loosens Its Grip, Residents Lose Fear to Challenge Authority Andrew Jacobs, June 17.
- The Straits Times* (1994) I've Been Walking on the Railroad. Lee Siew Hua, February 13.
- The Straits Times* (2010) Letter to the Forum. Leung, Kwok Peng, May 28.
- The Straits Times* Yong (2010) 'Nature Corridor' Proposal for Railway Land. Jeremy Au Yong, October 9.
- The Straits Times* (2011) Government Talks on 'Green Corridor': Minister on Possibilities for KTM Railway Land. Grace Chua, June 16.

- The Straits Times* (2011) Explore old rail tracks? You can during this month; SLA to do removal works in stages so public can experience green corridor. Jamie Ee Wen Wei, Jamie Ee Wen, July 2.
- The Straits Times* (2012) To Keep Rail Track as Green Corridor; 2011 was a Significant Year for Civil Activism. Advocates Pushed Passionately and Were Heard. What Do They Hope for in the New Year, Judith Tan and Feng Zengkun, January 1.
- The Straits Times* (2012) Group Told to Clear Out 'Farm' on State Land. Grace Chua, March 10.
- The Straits Times* (2012) 'Don't Rush Rail Corridor Development': Preserving Asset for All to Enjoy May Take Up to 10 Years: President Tan. Grace Chua, May 3.
- The Straits Times* (2013) New Community Farm Opens at Clementi Grace Chua, March 3.
- Urban Redevelopment Authority [URA] "Journey of Possibilities."
<http://www.ura.gov.sg/railcorridor/journeyofpossibilities/extraordinary.html>
 (Accessed March 13, 2014).
- URA "Journey of Possibilities." "Grow 26 Orchards"
<http://railcorridor.uservoice.com/forums/155921-ideas-competition/suggestions/2741973-grow-26-orchards-visit-my-webpage> (Accessed March 13, 2014)
- URA "Rail (2011) Corridor/Highlights." July 15
http://www.ura.gov.sg/railcorridor/highlights_archive.html (Accessed March 15, 2014)
- URA (2012) "Speech by Minister of State for National Development Tan Chuan-Jin at the launch of "Journey of Possibilities" exhibition and awards presentation on 30 Mar 2012."
<http://www.ura.gov.sg/uol/media-room/speeches/2012/mar/pr12-31a.aspx> (Accessed March 13, 2014)
- Waller, E (2001) *Landscape Planning in Singapore* Singapore University Press, Singapore.
- Wee, Y, Hale, R (2008) The Nature Society (Singapore) and the Struggle to Conserve Singapore's Nature Areas *Nature in Singapore* 1, 41-49.
- Wong, C (2012) The Developmental State in Ecological Modernization and the Politics of Environmental Framings: The Case of Singapore and Implications for East Asia." *Nature and Culture* 7 (1) Spring, 95-119.
- Wong, N, Chen, Y (2009) *Tropical Urban Heat Islands: Climate, Buildings and Greenery* Taylor and Francis, New York.
- Yahya, F (2011) Singapore in 2010: Rebounding from Economic Slump, Managing Tensions between a Global City and a Fledgling Nation State *Southeast Asian Affairs*, 255-270.
- Yuen, B (2011a) Singapore: Planning for More with Less in S Hamnett and D Forbes (eds) *Planning Asian Cities: Risks and Resilience*, 201-219 Routledge, New York.
- Yuen, B (2011b) Garden and Ecology in the Sky in Yuen, Yeh, A (eds) *High-Rise Living in Asian Cities*, 65-80. Springer, New York.
- Yuen, B, Wong N (2005) Resident Perceptions and Expectations of Rooftop Gardens in Singapore *Landscape and Urban Planning* 73 (4), December 15, 263-276.