



Network on Infrastructural Regionalism



**RSA RESEARCH NETWORK ON INFRASTRUCTURAL REGIONALISM (NOIR)**

WORKSHOP EVENT REPORT

# INFRASTRUCTURAL TIMES

EXPLORING THE TEMPORALITIES OF URBAN AND REGIONAL INFRASTRUCTURE

14 – 18 June 2021

**RSA** Regional Studies  
Association

*A leading & impactful community*



The  
University  
Of  
Sheffield.



## About NOIR

The Regional Studies Association Research Network on Infrastructural Regionalism (NOIR) is a network of scholars engaging in research at the intersection of infrastructure and regional studies. Infrastructural regionalism focuses on those infrastructures that have relevance beyond the local. Analyzing regions through infrastructure provides a novel perspective on the regional question as investment and disinvestment in infrastructure reveals vital discursive and material elements that produce, structure, and modify metropolitan regions worldwide. The development of infrastructural assets – ranging from transport and telecommunications to energy and sanitation – as part of regional policies raises fundamental questions about how the funding, governance, and spatiality of such infrastructure can promote urban, economic, and ecological sustainability at the regional scale.

By placing the region at the center of the 'infrastructural turn', NOIR brings infrastructure to the forefront of innovative, interdisciplinary, and multi-scalar research on metropolitan regions to determine how regions are constructed, territorialized, governed, and experienced. The Research Network offers multiple forums to debate the terrains of regional infrastructure, develop collaborative research projects, and facilitate meaningful dialogue between academics and practitioners. Network activities are generously supported by the Regional Studies Association (RSA) Research Networks funding scheme.

## Research Themes

Given the emerging interdisciplinary interests in infrastructure and the need for versatile comparative theoretical scholarship, NOIR focuses on four key themes:

**Interdisciplinary Perspectives on Regional Infrastructure:** How do we study, and thus produce knowledge of, infrastructure? NOIR draws together established and emerging regional scholars from a variety of disciplines to define the conceptual and empirical parameters of infrastructural regionalisms.

**Infrastructure and Regional Governance:** Regional affairs are negotiated and organized through diverse formal and informal mechanisms. NOIR critically assesses how infrastructure helps to produce regional governance structures by engaging scholars whose work addresses questions who is represented in infrastructure decision-making, how competing interests are mediated, and what complexities can undermine/empower regional partnerships.

**Seeing Like a Region:** Finding coherence within the 'fuzziness' of regional space requires alternative techniques of spatialization and political modalities. NOIR asks who can 'see regionally', what it means to 'see like a region', and how engaging with infrastructural issues shapes regional imaginaries.

**Infrastructure and Regional Lives:** The ability to produce and claim 'the region' is the product of a contested spatial politics; regional spaces are highly uneven, with infrastructures representing the filaments that link parts of the region together in often tenuous ways. NOIR explores regional infrastructure by assessing how they mediate global flows and everyday experiences.





## RSA RESEARCH NETWORK ON INFRASTRUCTURAL REGIONALISM (NOIR)

### WORKSHOP ON INFRASTRUCTURAL TIMES

This document reports on a series of virtual workshop sessions exploring the temporalities of urban and regional infrastructure, held from June 14 – 18, 2021. The international, interdisciplinary workshop was held as part of the Regional Studies Association's Regions in Recovery e-Festival, with generous funding support from the [Regional Studies Association](#) (RSA) through the NOIR Research Network Grant.

#### Workshop Scope and Goals

The RSA NOIR workshop on Infrastructural Times was designed to bring together new and original research that critically examines the role of time and temporality in how we study, produce knowledge of, and inform decision-making on urban and regional infrastructure. The past two decades have witnessed the emergence and maturation of an 'infrastructure turn' across a range of disciplines that belies the notion that urban infrastructure is a staid or neutral set of physical artefacts. Infrastructural systems are vital elements that make urban life possible in its myriad forms, yet they are produced and governed over variegated spatial frames and are experienced differently by diverse social groups, often in partial and fragmented ways. The uneven and contested nature of infrastructural spaces means they are always in a state of becoming, and as such, are built upon, and establish new, temporalities.

As an entry point into the discussion, NOIR produced a broad-ranging discussion paper that surveyed how the intersection of time and infrastructure had been analyzed in the current literature, and developed some initial provocations regarding how we might conceptualize the relationships between temporality and the infrastructural dimensions of cities and regions. Here, we proposed considering three core temporal modalities over which infrastructures unfold. First, urban-regional infrastructures can be approached through **periodizations** in which dominant approaches to material and governance technologies establish specific logics of design, construction, management, and utility – even as they blur at the edges, overlap, and vary depending upon the phenomena being analyzed. Second the notion of temporal **cycles** offers a lens to examine the overlayed and often contradictory timelines the urban-regional infrastructures engender and are shaped by, including political cycles, policy formation, environmental assessments, construction, and infrastructural lifespans themselves. Third, infrastructural spaces are animated through **rhythms**, that capture notions of monumental and mundane continuity and change evidence in seasonal transitions (the fluctuations of rainwater and snowmelt) to the daily pulses and flows of the 24-hour city. We intend these frames to serve as a conceptual point of inquiry into the formation of urban regional spaces and lives, and as a practical challenge for those making decisions about how infrastructures are regulated, maintained, governed, used, brought into being, and rendered obsolete.

Our collective goal at the workshop was to problematize infrastructure time as an empirical concern, conceptual framework, and methodological approach. Through fostering an explicitly interdisciplinary dialogue, the Infrastructural Times sessions promoted new scholarship that helps us to understand how the spatio-temporal dynamics of infrastructure shape cities, regions, and everyday life in new and generative ways.

The NOIR Infrastructural Times workshop is intended to result in three primary outcomes:

1. An accessible and **outward-facing workshop discussion paper**.
2. An **edited volume** to be published with a leading university press on the topic of *infrastructure time*.
3. A **research agenda** that will form the foundation of future external research grants on the topic of infrastructural governance and regional lives.

## Workshop Structure

The NOIR Workshop on Infrastructural Times was held as a series of six special sessions organized in conjunction with the [Regions in Recovery: Building Sustainable Futures Global e-Festival](#). First, a keynote session held on June 14 featured lectures from **Ayona Datta** (University College London) and **Olivier Coutard** (Ecole des Ponts Paris-Tech) and discussant commentary from **Rob Kitchin** (Maynooth University) that offered a series of vital provocations and established the key questions that shaped the conversation over the following days. The Keynote session was attended by a diverse and global audience of 55.

The main body of the workshop consisted of five two-hour research panels, which were held from June 14-18. Sessions featured a diverse set of graduate students, early career researchers, and established scholar from, and working on, a wide variety of national and regional contexts. To facilitate discussion, we requested authors to circulate draft papers among their fellow panelists prior to the conference.

Broadly, each of the five research sessions was organized into an open panel lasting between 75 and 90 minutes, with participants given 15 research presentations and time dedicated to audience Q&A. The remainder of the session was devoted to focused workshoping of presentation and draft papers, session offering the presenters an opportunity to engage each other's work in depth and detail. The goal of the latter portion of the session was for authors to develop their papers for collective publication in a less formal discussion. To this end, the workshop conveners moderated an open and rigorous debate on the methodological, disciplinary, and thematic approaches emergent within and between the session's contributions.

Attendees in the public section were able to pose questions to individual researchers and the panel as a whole, while using Zoom's chat function to engage in a robust dialogue among the broader audience. For each of the research sessions, one of the workshop organizers served as a rapporteur, capturing the key observations raised in the discussion. The public panels were recorded with the permission of the panels and made available on the RSA's Regions in Recovery [YouTube channel](#) (until 31 August, 2021) in order to ensure broad dissemination to a wide audience of researchers.

Thanks to generous support from the RSA we are able to cover the registration fee for presenters.



Workshopping papers with the contributors to Research Panel 2: Practices



Plenary Session

**INFRASTRUCTURAL TIMES KEYNOTE PANEL**

June 14, 2021 | 13:00-15:00 BST / 8:00-10:00 EST | 55 Attendees

Watch the panel [here](#).

Keynote 1

**Prof. AYONA DATTA**

University College London

**Distant-times: Future Pasts and the Information Infrastructures of Subaltern Urbanization**

Keynote 2

**Prof. OLIVIER COUTARD**

Ecole des Ponts Paris-Tech - LATTIS

**Controlling Urban-Regional Futures through Infrastructure?**

Discussant

**Prof. ROB KITCHIN**

Maynooth University

**Ayona Datta** presented a provocative exploration of urban temporalities at the intersection of post-colonial and smart urbanism in the Indian city of Shimla. In the face of proposed smart city interventions mobilizing a linear and singular understanding of time, Ayona's keynote revealed a complex interweaving of colonial, subaltern, and ecological temporalities. These are predicated upon deep historical legacies that shape informal urbanization processes rapidly developing on the margins of the city – the ahistorical imaginaries of the smart city belie how urban futures are sown in the distant past as well as the present. Ayona mobilized the conceptual framing of 'distant time' as a lens of address questions of power and inclusion that enables us to think through long histories of land, environment, and technology. *Distant time* unfurls through the temporal entanglements between the linear spread of technological progress, the cyclical time of ecological precarity, and the slow delayed time of social justice. This, Ayona argued, produces multiple, conflicting time images of the future. A world of speed and smartness in the elite spaces at the top of the mountainside in Shimla can only be realized through the generation of waiting, slowness, and raced time at the bottom of the hill, where marginalized communities literally and figuratively build the subaltern city on the ruins of empire.

In Shimla, smart city imaginaries look to overrun the incremental temporalities of subaltern urbanism, making them subservient to the aesthetic pleasure of visual consumption (with hillside views valued over lived space of Shimla's informal communities). Subaltern subjects therefore are compelled to conform to the modern synchronicity of clock time, even as all clocks still need to listen to the cyclical rhythm of nature and the hills. Cyclical and seasonal times, and their impact on/interaction with building activities construct an incremental infrastructural time come to bound the persistence of 'bare life' in spatialized acts of survival along the city's hillslope. Places designated as 'slums' are left suspended in slow time. Infrastructure time on the urban margins stand still, even as the houses slide down the hill. The slum exists only in its potential to be removed. The city's fate is sealed by the temporality of the empire that constrains subaltern life and delegitimizes subaltern residents through attempts to delegitimize their lived experience and erase their past. Distant-time is consequently a political apparatus of control and power; the maintenance of distance that keeps subaltern subjects in wasted time, where they must also cope with the



cyclical and attritional nature of ecological time and disasters (like earthquakes and landslides). Yet among these colonial and colonizing urbanization projects, smart city officials accustomed to the Euclidian space-times of urbanism on the Indian plains have struggled to apply smart city technologies to the 'contoured time' of urbanity on Shimla's hillside. Subaltern subjects themselves refuse to accept the infrastructure time established by the state even as 'infrastructures of delay' withhold urbanization of informal settlements on the city's hillslopes. Ayona concluded that this helps challenge the ahistorical fantasies of the smart city and directs us towards a political project that must be grounded in ecological stability, land rights, and a right to distant urban futures.

**Olivier Coutard** presented a detailed exploration of how infrastructure relates to our social futures, both individual and collective. Based in Olivier's work on large infrastructure technical systems in Europe, his keynote centered questions of the potential and limitations of infrastructural time through a systematic critique of infrastructure-based futuring. Instructive, Olivier's talk began by identifying three registers of infrastructural temporality: (1) lifetimes and lifecycles of infrastructure; (2) the times of social life, which are strongly associated in infrastructure; and (3) regimes of historicity which articulate collective pasts, presents, and futures for infrastructure change. These registers are simultaneously at play with any infrastructure across multiple dimensions that evolve according to specific temporalities: the morphological/material; the function/service layer, the regulatory arena; the operating system, and the territoriality of the system. And each layer invokes distinct tensions between the reproduction of everyday practices and the disruptions to established rhythms. Against this background, infrastructure fundamentally serves as a means of spatial and temporal control – over distance, resources, imaginaries, and practices. So the question becomes, how do infrastructure assert control over our social futures?

Most of our imagined collective futures, Oliver contended, seem to rely on infrastructure futures, as do our notions of social transformations. Infrastructure-based futuring gives us a means to consider new political economy/ecology of infrastructures, although it does not always acknowledge its limitations; whether in (dreams of) decentered energy futures and metabolic autonomy (that run aground on rocks of special interest groups amongst other issues), or smart city narratives of dematerialized and optimized digital performance (which overlook inherent material and governance costs). Importantly, and in contrast to much rhetoric, Olivier noted that social practices change slowly and often in unanticipated ways, so the relations between infrastructure and everyday life is complex – an intersection that raises important questions about the cultural dimensions of a shift from 'ready-to-wear', one-size-fits-all infrastructural environments to more individually tailored ones. Imaginaries are vital in this context. Indeed, the Anthropocene has brought the future back into question – but in dark terms as a form 'catastrophic presentism' that structures our perception of time and the end of the world. Infrastructure-based futuring Olivier therefore argued, will not facilitate emancipation from the alienation that characterizes our postmodern times, nor will it lead to a new regime of historicity appropriate to our present age. On the contrary it points to an undesirable future that reproduces many traditional spatial and temporal fixes and forms of domination. But the future remains radically open! There is cause for hope to be found in the (slow, uneven) transformation of social practices, the failure of extractive forms of infrastructure financing, and the emergence of counter narratives offering alternative futures. Olivier concluded his keynote is a spirit of optimism by laying out a research agenda for how we might think about and study the future (opposed to more easily observable phenomena and pasts) through a range of novel and engaging methods: studying communities of anticipation in order to realize open and inclusive futures; exploring else-times beyond the networked city and in other parts of the world; working with thought experiments drawing on philosophy, literature, and science fiction; and playfully mobilizing speculative design, serious games, real utopias to interpolate projects of radical social transformation.

In his commentary, **Rob Kitchin** stressed what he saw as a useful heuristic dichotomy in Ayona's paper between the smart city and the post-colonial city (between network and lived time, speed and delay, the past as a resource and a hindrance, legitimate and illegitimate temporalities, fast and slow urbanism...) while recognizing the

importance of her analysis' emphasizing the complex social, political, and ecological entanglements emerging around Shimla's past and future. In comparing the two keynotes, Rob drew a distinction between Ayona's engagement with a collective set of infrastructures and Olivier focus on particular infrastructural systems. Addressing Olivier's talk, Rob then posed a series of provocation and questions to help stimulate our conversation: is the temporal a factor in, or an artefact of, urban infrastructure? Is infrastructure deterministic in shaping the future of the urban? Importantly, he asked us to consider where the explanatory side of things sits in relation to the temporal, the urban, and infrastructure, and concluded by encouraging further reflection on what methods and approaches do/should we be using to do work on infrastructural times.


### Distant-time


Separation between smart city speed, incrementality of subaltern urbanisation and the cyclical time of ecological precarity.


"An infrastructure project is a device for stretching forward the passage of time. It is an apparatus for the creation of a delay" (Mitchell 2020)


"classical ethnographic questions about each image of the future that we encounter in their coexistence: What is it, when is it? Where, and for whom does it work? Whose future is it, and whose does it exclude?" (Pels, 2015)

**What time is the future city?**  
**When is it to be found?**










## The times of infrastructures

---

- Three registers of temporality
  - ▣ The lifetimes and lifecycles of infrastructures (per se)
  - ▣ The times of social life
  - ▣ Regimes of historicity (Hartog)
- The social significance of infrastructures
- Infrastructures as means of control
- Controlling the future through infrastructure?



Ayona Datta and Olivier Coutard deliver their NOIR Infrastructural Times keynote lectures





Research Panel I

## **(MIS)ALIGNMENTS**

14 June, 2021 15:00-17:00 BST / 10:00-12:00 EST | 20 Attendees

Our first session explored the convergence and divergence of differing temporal modalities. Questions of time and temporality have tended to appear more implicitly than spatial dynamics in critical infrastructure studies, and often in more self-evident and linear terms. Yet a multitude of disparate times permeate the city; from the rationalization of modern clock time to the fragmented, personal experience of lived time. This session's papers explored the contextual, and multifaceted nature of infrastructure time, opening opportunities to rethink the politics and process of urban transformation.

**TIM MOSS** (Humboldt University of Berlin)

### **Usable Infrastructure Pasts: Mobilizing History for Urban Technology Futures**

Tim Moss built a bridge between historical and contemporary perspectives on urban infrastructure, drawing on scholarship within the fields of science and technology studies, history of technology and human geography for inspiration and Berlin's turbulent twentieth-century history for illustration. Using examples from his recent book, *Remaking Berlin. A History of the City through Infrastructure, 1920-2020*, Tim made the case for rethinking sociotechnical trajectories beyond ideal types and formative periods to capture the messy ways in which urban infrastructure can unfold in practice by involves turning infrastructure history into a 'usable past'. He forwarded six dimensions of usable infrastructure pasts: legacies, analogies, non-linear trajectories, palimpsests, hidden/ignored pasts, past futures, illustrating how historians could, on this basis, engage more effectively and critically with transitions agendas.

**PETER EKMAN** (University of California-Berkeley)

### **"This Fluid Situation": Sequencing the Cybernetic Highway at Ciudad Guayana, Venezuela, 1961 to 1966**

Peter Ekman's presentation offered a detail discussion of the planning temporalities employed by TVA, a group of planners and social scientists from the Harvard-MIT Joint Center for Urban Studies, when building a mid-sized industrial city from scratch in mid-twentieth century Venezuela. Rather than compose an old-style "model town" the Joint Center sought to document the planning process itself, necessarily elapsing over time, and abstract its lessons for application to American cities and their futures. They also fundamentally reconceived urban and regional fabric in terms of mobility, rhythm, process, and flow. The transnational circuits of the Center's own making offered Cold War urbanists in Venezuela and elsewhere a way to link the felt temporality of everyday life with the presumed temporality of stepwise state "modernization" itself. Peter's analysis therefore unpacked the transnational debates that constellated around this infrastructure still animate attempts to theorize the place of regional planning as a fundamentally future-making proposition.

**KATREEN BOUSTANI** (University of Indiana-Bloomington)

**HAMID EKBIA** (University of Indiana-Bloomington)

### **Infrastructures as Conjunctures: From Silk Roads to BRI**

Boustani and Ekbia analytically mobilized the Braudel's notion of "conjuncture" to Palestinian and Saudi Arabian IT networks, Mediterranean seaports, and Digital Free Trading Zones in Malaysia to examine the interplay between

various infrastructural rhythms composing the BRI, as well as attitudes and ideologies that shape and drive them. Applying a novel temporal reading enabled the presenters to read China's One Belt One Road program as a multiple, dynamic, and disjointed initiative, that emerges as a single, coherent project across space-time only as it is collectively imagined as such. Moreover, adjusting our temporal imaginary to the *longueue duree* discloses potential connections between current infrastructural geopolitics and the routes of ancient land and maritime Silk Roads. Katreen and Hamid concluded by arguing that while the BRI is intended to play a harmonizing role among new global infrastructural rhythms, it is just as likely to trigger discordant movements regionally and beyond.

**JOCHEN MONSTADT** (Utrecht University)

### **Rethinking Urban Infrastructural Change Through Temporal Mismatches and Alignment**

Jochen Monstadt concluded the session through a conceptual intervention that engaged with infrastructural temporalities from two perspectives: (1) the diachronic temporalities of infrastructures and the ways they shape contemporary processes of urban and infrastructural change; and (2) the heterogeneous rhythms of infrastructures that help to frame and support ongoing urban processes in some form of navigable order. Jochen's paper generatively examined how periods of infrastructural change, crisis, and failure reveal various mismatches, dissonance, or asynchronisms among those rhythms that are otherwise invisible or neglected but are crucial for the broader understanding of urban change. He concluded by arguing that temporal ordering and reordering processes by infrastructures not merely reflect, but also enable, constrain, and preconfigure contemporary and future urbanism.



## Research Panel 2

### PRACTICES

15 June, 2021 12:00-14:00 BST / 07:00-09:00 EST | 21 Attendees

The second NOIR panel examined the production and experience of infrastructural time as a lived practice, invoking the complex, contested, and overlapping temporalities through which urban and regional infrastructures are social constructed from the ground up. In foregrounding the social, affective, and political dimensions of infrastructural life in a state of becoming, our panelists disrupt monistic readings of socio-technical systems by disclosing the co-presence of heterogeneous infrastructural regimes and epistemologies which are profoundly important to those who both produce and live them.

**SAMANTHA BIGLIERI** (Ryerson University)

**ROGER KEIL** (York University)

#### **Examining the Spatial-Temporal Imaginaries of Suburban Landscapes of Care**

Biglieri and Keil mobilized a discussion on the temporality of infrastructure for the problematic of health and disease in relation to urbanization, especially peripheral, or extended urbanization. Through presenting a 'suburban landscape of care' through the chronic condition of dementia among immigrants and the pandemic response to the emerging infectious disease in Toronto's suburbs, Sam and Roger unpacked colliding understandings of temporality. Chronic conditions like dementia are usually seen as static and afflicted patients as deteriorating, while the (emerging) infectious disease response (through vaccination) is cast as dynamic and in terms of responses to it, hopeful, especially since widespread vaccination took hold early in 2021. Importantly, they suggested working with the notion of *desynchronization* as a conceptual lens to analyze temporal experiences of case that are inscribed deeply into the space-times of suburban landscapes.

**ANDREA PROTSCHKY** (Technical University of Darmstadt)

#### **The Annihilation of Time by Precarious Access: Time Aspects of Unhoused Persons' Infrastructure Practices**

Andrea Protschky's paper discussed the temporalities of unhoused persons' infrastructure practices. Andrea's research revealed how unhoused persons' infrastructure practices are strongly determined by time aspects like opening hours of aid institutions or shops, day and night or different seasons. Based on participative observations and interviews with unhoused persons and employees in the help system, Her work illuminated material and social infrastructures conditioned by waiting, strict time schedules, time intensive procedures, the relation between time and income and seasonality, and concluded by considering how these insights on infrastructure practices may inform and expand our general understanding of the relationship between infrastructures and time.

**AMELIA THORPE** (University of New South Wales)

#### **The Annihilation of Time by Precarious Access: Time Aspects of Unhoused Persons' Infrastructure Practices**

Amelia Thorpe foregrounded the temporal tensions emerging at the intersection of formal modalities of urban governance and the liminal intervention of DIY transportation infrastructure, including placing items like plastic cones, soft-hit posts, bollards, paint and plungers directly onto public streets. Mobilizing a socio-legal conceptual framework, Amelia examined the many rules and practices through which urban space is structured, understanding legality as plural and socially constructed, and rights as contingent, contextual and performative in space and over

time. In the face of slow-moving governmental time, she suggested guerrilla urbanist interventions provide a space to rethink – and sometimes effectively rework – the temporalities of urban governance.

**ABDOUMALIQ SIMONE** (University of Sheffield)

#### **Extending Urban Technicities for Extended Urban Regions**

AdbouMaliq Simone's presentation took in the disjunct spatio-temporaities unfurling at the intersection of 'project time' and 'lived time' in the extended urban region of Eastern Jakarta. Simone's account explored how and why discrete components of new built environments "circulate" through each other across various data bases, spreadsheets, future-scenario plans, and securitization tiers, and the extent to which we can understand them as 'working' or realizing a state of 'completeness'. Permeating his study was a sense that things will work according to the plan, even as obsolescence is built into the social and material arrangements being planned and put into practice. Here, collapsing the illusion on seamless time exposes the realities of the 'partiality' of temporal life and with this a subaltern alternative to conceiving – and living – urban infrastructural time within and outside of modern abstract clock time.

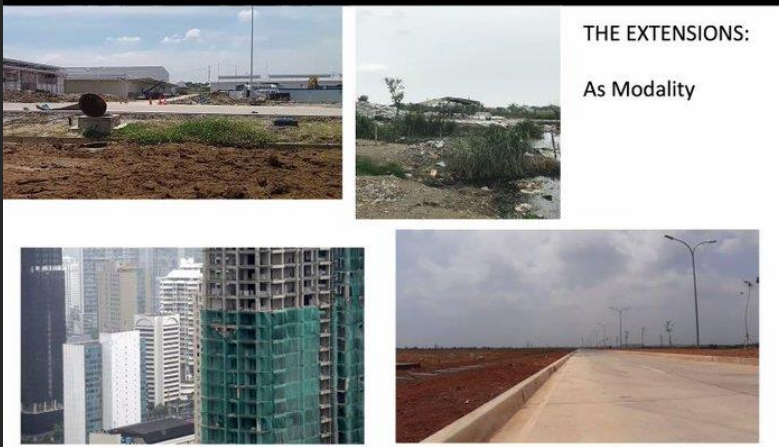
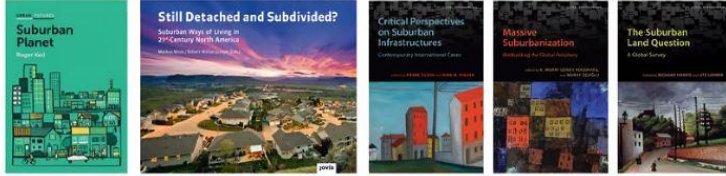
**PUSHPA ARABINDOO** (University College London)

#### **Spectral Infrastructures: Encountering Delays in Chennai**

Pushpa Arabindoo utilized the unfinished 19km long elevated expressway stretching between Chennai Port and Maduravoya as a material infrastructure to unpack a sense of present futures that can perhaps explain why, despite several false starts and numerous stops, unfinished infrastructures are not failures, but rather perpetually in 'in-making'. Grappling with the 'seduction of linear time' faced by planner, Pushpa complicated simplified temporal narrative by overlaying them with multiple layers of temporalities coalescing through the (irr)rationalities of planners, politicians, builders, potential users, and opponents. Significantly, her paper developed a discursive analysis through the lens of delay, engaging with temporality as an affective mode extending beyond the more commonly invoked notion of waiting. y engaging with the notion of 'slow time', she suggested the motif of delay becomes a viable label for a pervasive atmosphere of expecting something to happen. It is this temporal mooring that provides a sense of optimism and endurance to the project and ties back to understanding Chennai as a spectral city marked by a continued presence and promise of (fantasy) making.

# Suburban 'phantasmagoria'

© Biglieri & Kall, 2021



THE EXTENSIONS:

As Modality



Samantha Biglieri, AbdouMaliq Simone, and Pushpa Arabindoo present their papers in Research Panel 2: Practices



### Research Panel 3

### **(IM)MOBILITIES**

16 June, 2021 15:00-17:00 BST / 10:00-12:00 EST | 14 Attendees

Infrastructure's imagined and lived realities often juxtapose often highly uneven and inequitable modes of mobility. The problematic of (im)obility poses intriguing questions for our thinking about infrastructure time, from the allure of speed as a form of political power to the emancipatory potential to be found in banal moments of waiting. The third NOIR session picked up on many of these themes with papers exploring the movement (or not) of people, policies, commodities, and infrastructural imaginaries. Watch the panel [here](#).

**JESSICA DICARLO** (University of Colorado-Boulder)

#### **Life on the Tracks: Suspension, Waiting, and Intersecting Temporalities of Infrastructure**

Jessica DiCarlo used the case of the Laos-China Railway to show how the swift construction of a megaproject that is meant to speed up if not annihilate space and time, does just the opposite for those directly in its path. Her detailed ethnographic research – at the intersection of anthropology and geography – revealed how local perspectives are shaped by long periods of waiting if not liminality, uncertainty around land, knowledge that past projects did not materialize, and feelings that participation and redress are not possible. These experiences of contextualized through connections between current states of suspension and past experiences of infrastructure-led displacement. Advancing an understanding of infrastructure as multi-temporal process therefore attunes us to how experiences of waiting for infrastructure are at once an experience of the present as well as layered with the past.

**JULIE CIDELL** (University of Illinois Urbana-Champaign)

#### **The Sedimented Flows of the Illinois Waterway and the Space of the Corridor**

Julie Cidell's paper productively sought to rethink how we understand corridors as infrastructural spaces in four dimensions. By considering the case of the Illinois Waterway, Julie unpacked this regional(izing) infrastructure as a socionatural hybrid of river and canal that has influenced global flows of people and goods, cemented settler control over the North American interior, enabled rapid metropolitan expansion, and also destroyed local ecosystems. Her attention to foregrounding the spatio-temporality of infrastructural corridors asserted the need to consider the how different flows are layered on top of each other over time to reinforce infrastructural spaces as sites of production, distribution, ecological services, and cultural meaning-making that profoundly shape regional landscapes and livelihoods.

**JOHN STEHLIN** (University of North-Carolina at Greensboro)

#### **“Just-In-Time” Infrastructure: Temporalities of the Platform Turn in Mobility Infrastructure**

John Stehlin argued that smartphone-based digital transportation platforms function as “just-in-time” infrastructure that challenge established spatial and temporal modalities of ‘fixed’ transport infrastructure. John used examples from in-depth ethnography and GIS analysis of public bicycle sharing systems in Austin, Texas to show how such platform mobilities are temporally and spatially fluid, and the scales of activity they produce are emergent properties of how they are performed by users. The network effects of these infrastructures are shaped by the interaction of everyday practices, platform architectures, and socio-spatial inequalities in ways that pose significant questions for urban policy-makers and the future of (micro-)mobility in the city.





## Research Panel 4

### FLWS

17 June, 2021 15:00-17:00 BST / 10:00-12:00 EST | 24 Attendees

The papers in the fourth Infrastructural Times panel addressed the intersecting social, technological, and ecological flows shaping, and marshalled by, urban infrastructural systems. Advances in ICT and the real-time flow of information have reconfigured how time is signified and made real through logics of ‘connected asynchronicity’ – captured in the emerge of a postmodern ‘network time’ alongside modern clock time. Yet, the persistence of natural temporalities (from the diurnal swings of day and night, to the weather, and seasonal change) continue to present and layer counter rhythms that affect which activities are necessary for individuals to survive and for societies to function in a variety of spatial and temporal contexts. Watch the panel [here](#).

**SIMON MARVIN** (University of Sheffield)

#### **Engineering the Urban Climate: Outdoor Cooling as a Spatial-Thermal fix**

Simon Marvin explored the implications of the growing outdoor cooling sector, which is now offering solutions as advances in microclimatic expertise, digital weather monitoring, and novel cooling systems reflect the growing importance of urban thermal management. These socio-technical systems reflect a new logic of ‘engineering’ the urban climate, to produce technically mediated ‘perfect weather’ all-year-round. Simon’s presentation disclosed a number of important temporal analytics, including daily social rhythms, policy and technology mobilities, the histories of technologies, and relation of immediate technical ‘fixes’ to the future – notably in the context of the Anthropocene.

**FIONA MCDERMOTT** (Trinity College Dublin)

#### **Waste of Time? From Rigorous Routines to New Temporal Frameworks in Smart Waste Infrastructures**

In her paper, Fiona McDermott provided both a genealogy of waste management practices, highlighting the significant role of regular temporal structures within waste operations, and described how contemporary Internet of Things (IoT) waste management systems forefront real-time information, ultimately reconfiguring labour practices. Drawing from ethnographic fieldwork with several waste management departments and city agencies in New York and Dublin, Fiona argued that the introduction of IoT represents a fundamental change to the operations of public waste systems, from those of set temporal routines and consistent manned labor to labor practices tethered to real-time updates.

**NATHAN OLMSTEAD** (University of Toronto)

#### **Digital Currents: Originary Technicity and the Myth of the Real-Time City**

Nathan Olmstead’s intervention offered a deep ontological and epistemological exploration of the relationship between infrastructure, focusing on the smart city, and theories of time. Building on Jacques Derrida’s theory of originary technicity, Nathan deconstructed the metaphysics of the real-time city, highlighting the dangers inherent in overlooking the more complicated temporalities of digital development. His argument forwarded that digital infrastructure is shaped by complex and localized intersections of past, present, and future, and suggested the we consider notions of spectrality as a temporal framework more accommodating to the co-constitutive relationship between digital infrastructure and the spatiotemporal webbing in which it unfolds.

**MAURICIO ESTRADA** (University of Bonn)

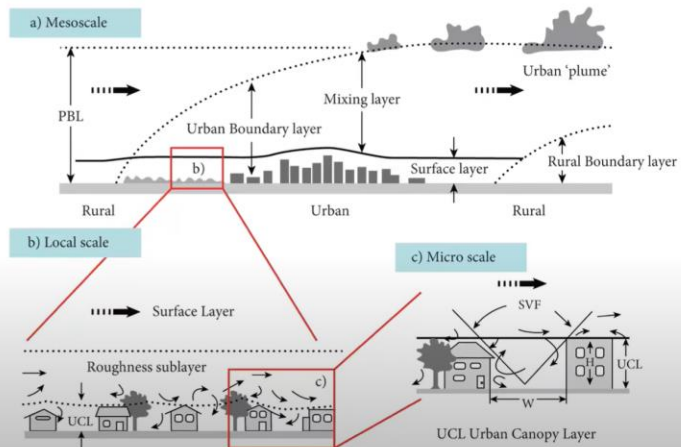
### Seasonal Patterns of Change in the Urban Metabolism of Alexandria, Egypt

Mauricio Estrada's study deployed an urban metabolism lens to analyze seasonal urban changes resulting from the interplay between ecological and socio-economic systems, and their reflection in cities' material flows. Through a multifaceted case study of Alexandria, Egypt, Mauricio contrasted the rhythmic impacts of seasonal transition on the city and their impact on the water, energy, and solid waste infrastructural systems and the inflexibility caused by planning approaches that often fail to account for such temporal shifts. His results showed a permanently low capacity in the city's infrastructure to supply utilities, which summer makes more visible.

## 2. Urbanisation of Weather Modification

- Interventions that produce a change in the **composition, intensities and dynamics** of the atmosphere over a specified area and time period to maintain a 'safe operating space' during disruptive / chronic weather events.

- Thermal atmospheric/terrestrial engineering.
- Modulated zones 'disconnect' from the atmospheric commons.



Simon Marvin explores urban infrastructural interventions to address rising global temperatures in the Anthropocene



## Research Panel 5

### FIXES

16 June, 2021 12:00-14:00 BST / 07:00-09:00 EST | 39 Attendees

The closing panel of the Infrastructural Times workshop assessed the global shift towards infrastructure-led development as an 'infrastructural fix' to capitalism's contradictions. The notion of 'fix', as Harvey amongst others, famously noted capture the dual meaning of fixing capital in space and time and resolving (temporally at least) capitalism's crisis tendencies. Our panelists investigated emergent modalities of governance and management for increasingly financialized urban infrastructure systems – helping to deepen our understanding of their myriad roles in securing the conditions for renewed accumulation and expressing novel forms of geopolitical power. Watch the panel [here](#).

**MICHELE ACUTO** (University of Melbourne)

#### **Disrupting the Tempo of Global Urban Governance? Or, Off the Cities Circuit in a Time of Crisis**

Michele Acuto focused our attention on the urban governance dynamics and city networks that are contributing to the global shift towards infrastructure-led development. Michele suggested the expansion of a world of city diplomacy piloted a tempo of interactions and an operating logic for what has become known as 'global urban governance' that is steeply rooted in particular rhythms and platforms. His analysis raised important questions regarding formal and informal modalities of urban governance and planning and the tempo of urban governance in, and beyond, the COVID-19 pandemic.

**ANDY JONAS** (University of Hull)

#### **Global Infrastructures as Spatio-Temporal Fixes: The Role of Fictitious Capital in Constructing Future City-Regional Spaces and Imaginaries**

Andy Jonas's presentation considered the role of global infrastructure finance in shaping city-regional spatio-temporal fixes. Andy argued the challenge of funding and financing future demands for infrastructure (e.g. commuter rail, road, water, sewerage, energy, broadband, etc.) across expanding city-regions is fueling the construction of a host of new spaces of governance and attendant spatial imaginaries. To the extent that such emergent spaces and imaginaries remain fluid and contestable, so also is the temporal stability and coherence of such arrangements in the medium-to-long term. In these circumstances, he posited, the achievement of a 'territorial structured coherence' around the city-region often depends as much upon the construction of a negotiated temporal imaginary as it is premised upon a short-term spatial fix that seeks to defend value locked up in infrastructural assets in situ.

**DALIA WAHDAN** (American University of Cairo)

**TAMER ELSHAYAL** (Harvard University)

#### **Dissonant Times: The Land-Infrastructure-Finance Nexus in Egypt**

In their paper, Wahdan and ElShayal analyzed the speed(s) at which state-led megaprojects of infrastructure are disrupting the urban fabric of the Greater Cairo Region (GCR). Through a multi-level case study, they demonstrated how Egyptian state agencies have embarked on a gargantuan scheme to reconfigure the economic geography of its national space, including plans to move the Capital to a new desert city, a network of national highways, new cities, seaports, dry ports, as well as logistical and special economic zones. These developments require leveraging assets through diverse forms of debt financing and establish a land-infrastructure-finance nexus that calls for more nuanced and critical engagements with the spatio-temporal dynamics of urbanization than is

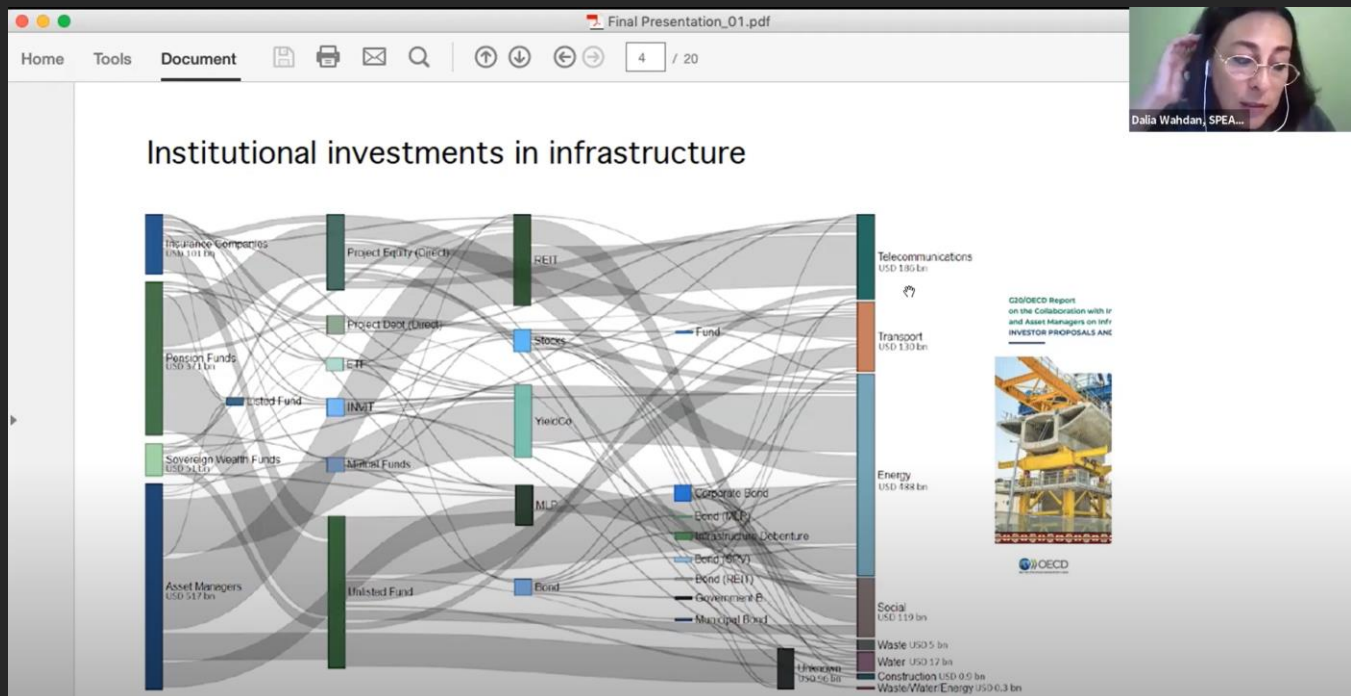
currently on offer about the Global South. Dalia and Tamer's study offered a rigorous conceptual and empirical study that highlights the variegated speeds and temporalities of development while contributing to debates on regionalizing the infrastructure turn through the 'return' of state-led projects in the Global South.

**SETH SCHINDLER** (University of Manchester)

**MIGUEL KANAI** (University of Sheffield)

### Future-Proofing Profits: The Risk Management Practices of Infrastructure-Led Development

Schindler and Kanai concluded the final NOIR research panel by examining how a set of global actors have mobilized, sometimes coalescing and other times competing, to consolidate a new regime of infrastructure-led development. This regime's objective is to integrate frontiers of resource extraction and agribusiness with core markets and dedicated nodes of value addition (e.g. Special Economic Zones) via standardized logistics networks such as ports and railways. Seth and Miguel argued that the imperative to 'get the territory right' and address a supposed 'infrastructure gap' purportedly necessitates significant investment in inter-city, regional and transnational infrastructure. Many of these infrastructure projects are unprecedented in scale and scope, so in an attempt to attract 'patient' private capital (i.e. institutional investors), they suggest project proponents are establishing novel institutions whose purpose is to reduce economic, political and environmental risks. Seth and Miguel fittingly concluding by speculating about the nature of the spaces that this global project will produce and offering a provocation towards a necessary research agenda to critically examine such spatio-temporal infrastructure development processes.



Dalia Wahdan draws out the temporality of infrastructural investment in Cairo



Infrastructural Times

## WORKSHOP OUTCOMES AND NEXT STEPS

### Supporting NOIR's Research Agenda

The RSA NOIR workshop on Infrastructural Times served to situate questions of time at the center of the 'infrastructure turn', including drawing attention to how both urban and regional spaces are temporally experienced and produced. Aligning with NOIR's research themes and the Network's objectives, conversations held over the week of sessions convened and inspired an interdisciplinary dialogue that brought together diverse and divergent ways to think about and analyze the temporal dimensions of infrastructural systems; from policy and politics to anthropology and philosophy. As with NOIR's previous workshop on water governance, the need to pivot to a virtual format opened space to include contributions from a range of researchers from graduate students to established leaders in the field and from multiple countries and time zones – something that would have been less feasible with an in-person meeting. While the virtual format of the session did limit opportunities for extended dialogue and discussion, presenters participated in multiple sessions, thus facilitating consistent engagement from presenters and attendees across the workshop and the chance to continue exploring underlying conceptual and disciplinary questions. In addition, focusing on questions of time and temporality shone a novel light on NOIR's interest in 'seeing like a region', thus unpacking some of the implication of 'when' regional space becomes visible, who has the ability to act and be patient, and shape imaginaries that direct us to the future (and what those possible futures may be). This also speaks to NOIR's investigations into the impact of infrastructure on regional lives – notably by considering the juxtaposition of more formalized modalities of planned 'project time' and top-down regional visioning with the multiplicity of qualitatively distinct forms of everyday 'lived time'.

### Next Steps

Moving forward, NOIR's leadership team will continue working with workshop contributors to develop a proposal for an edited interdisciplinary volume on Infrastructure Time. The proposal will be submitted by the end of August 2021. Draft chapters will be due by early 2022 for internal peer review. Following this and editorial feedback, a draft manuscript is intended to be completed for submission to the selected publisher by summer 2022.

## **NOIR Workshop Organizers**

### **JEAN-PAUL ADDIE** [Urban Studies Institute, Georgia State University](#)

Jean-Paul is a critical urban geographer working on regional governance, urban political economy, and socio-spatial theory, with a specific focus on the politics of infrastructure. He is currently researching the political construction of regions and the temporality of infrastructure.

### **MICHAEL GLASS** [Urban Studies Program, University of Pittsburgh](#)

Michael is an urbanist working at the intersection of geography and planning. His research examines regional planning and governance, the role of stakeholder visions in shaping city identities, growth, and development, and the consequences of infrastructure (dis)investment for regional equity.

### **JEN NELLES** [Management School, University of Sheffield](#)

Jen is a researcher, professor, and consultant specializing in metropolitan governance and regional economic development. Her research analyzes how governments and organizations come together to develop, build, manage, and evaluate infrastructure under of fragmented and multilevel authority.