

Call for Abstracts

Urban Circulations

One-day virtual conference on June 23, 2022



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Accessible and functional urban sanitation, unimpeded mobility, steady electrical power provision, and permanent internet connection are desired standards today in most settings worldwide. They require unceasing streams of matter, energy, people, and information circulating in socio-technical networks or arrangements we call *infrastructures*. At the same time, issues such as the current pandemic and climate change are challenging the modernist ideal of continuous flows, their acceleration, intensification, and ubiquitous connectivity. They remind us of the risks of our dependency on undisturbed provision as well as of malign or transgressive, i.e. unwanted circulations.

But **what is *circulation*?** Since the 19th century, the term has been applied in a wide range of disciplines such as medicine, chemistry, economics, and engineering. With respect to technical networks, it describes internal movement, along with *flow, traffic, exchange, and transformation*. Yet, circulation is still undertheorized. Broadly, we may understand *circulation* as interconnected, multidirectional movement within possibly heterogenous and evolving socio-technical and ecological systems. It is thus the aim of this conference to **elaborate on understandings of circulation in and between cities mediated by infrastructures**.

Infrastructural research has traditionally addressed **questions of maintaining circulation and preventing disruption**. This includes criticality assessments of flows, preparedness and prevention strategies, and the provision of backup systems. Given the growing connectivity between different flows of goods or people, disruptions of circulation in one infrastructure may increase the risk of failure in others – which has also been referred to as *cascading failure*. It has become clear that we may never fully prevent infrastructure disruptions. Guided by the notion of *resilience*, the focus of infrastructural research has shifted from robustness toward the fast recovery of circulation and learning from failures.

Globalization is now **increasing the extent, intensity, and velocity of circulations** of people, commodities, capital and identities. This process is strongly linked to an expanding free market economy, which has often been thought of in terms of circulation of capital, accelerating social interactions, and furthering the *compression of space and time* by technologies of mobility and communication. Although circulation within infrastructures may intensify global interconnections, it **also creates boundaries and excludes or disadvantages** those unwilling or unable to participate. Against the background of those global interconnections, **research on the circulation of goods** has examined issues like territorial organization and institutional arrangements, storing as part of circulatory rhythms, and the spread of malicious codes via information technology. With respect to personal mobility, **travel for work, tourism, and migration** have become topics of research, politics, and activism. Meanwhile, cities face major challenges such as regulating traffic, water and energy supply and their disruptions as well as environmental effects.

Through globally interconnected infrastructures, cities now draw resources from and deposit waste in distant hinterlands. With industrialization, the *social metabolism* – the physio-geochemical exchange of matter between humans and their environment – was modified through technical solutions like urban sewer systems and motor ways that fostered the transition to consumer society. Alongside economic growth, **circulation capacities have been expanding and causing devastating environmental effects**, e.g. from waste accumulation and greenhouse gas emissions. Urban political ecologists, among others, critically point out the **reproduction of social and environmental injustice through the *urban metabolism***. Such inequalities cannot be analyzed through technical infrastructures alone, since social power relations become more evident through investigating practices and the role of human bodies. From the debate on environmental justice and the Anthropocene, calls have intensified for a fair and sustainable distribution of natural resources, the creation of circular economies, relocalizing metabolisms, and the energy transition.

Clearly, circulations are objects of contestation, negotiation, and planning. They have ambiguous implications and their interpretation depends strongly on socio-economic position and political views. Working with concepts of circulation thus raises important questions we wish to address in the conference. Contributions may focus on, but are not limited to:

- **Conceptual approaches:** *Circulation* implies the idea of cyclical flows, yet intra- and inter-urban circulations are hardly closed but are in exchange with other systems. Matter and energy are transformed en route and losses occur during transport. What are the potentials and limitations of *circulation* to explain these complex movements and are biological analogies adequate for their conceptualization? How can we empirically observe and assess hidden and entangled circulations?
- **Continuity and interruption:** Different kinds of infrastructures enable and regulate circulation in specific ways. How do loads, goods, or people feature in particular kinds of circulation? How do circulatory rhythms interact and how are they aligned? What is the role of pauses, waiting, and storing? How can societies and infrastructures be protected from the risks of involuntary interruption accompanying circulations, such as disconnection, overload, and breakdown? What do such interruptions reveal about infrastructure and underlying socio-political systems?
- **Society and ecology:** Infrastructures are used to distribute natural resources and mostly run on non-renewables. They are closely linked to natural systems and adversely affect them. Moreover, connection to infrastructures and the distribution of resources is socially unequal. How do infrastructures contribute to or mediate social and environmental problems and how can they serve as a key for solutions? How do users and non-users deal with unreliable, tenuous, or inaccessible circulation? Are there perspectives for inclusive circulation and participatory infrastructure planning?

The conference will be held online on **June 23, 2022**. We invite contributions in English or German for presentations of approximately 15 minutes. Please send us an **abstract of max. 300 words by March 2, 2022** to circulationconference@kritis.tu-darmstadt.de. We will confirm participation by **March 15, 2022**. There are no conference fees.

If the pandemic situation permits, we hope to invite speakers to meet in Darmstadt for academic exchange and a get-together in the evening after the conference. Details will follow.

If you have further questions, please do not hesitate to contact us.

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About KRITIS

KRITIS is an interdisciplinary research training group funded by the German Research Foundation 2016–2025. It is dedicated to the study of Critical Infrastructures in cities. Ten Professors and 20 PhD-students from civil engineering, history, computer science, philosophy, political science, sociology, and spatial planning currently investigate topics such as construction, transformation, functional crises, protection, temporality, and spatiality of Critical Infrastructures.