



Cmdr. Chris Hadfield's photo of Berlin in 2013. The former East-West border is visible in the city's lighting.  
Cmdr. Chris Hadfield, Canadian Space Agency, 2013

# Urban Lightprints: All but Static

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One of the ways in which Canadian astronaut Chris Hadfield shared his experience aboard the International Space Station in 2013 was by posting photos he took of cities at night on Twitter and Facebook. These were reposted countless times—and not surprisingly so. Only recently made possible by increasingly sensitive camera technology, the detailed images offer a whole new perspective on the places we live, thus shaping our perceptions of urban nights. In the photos, our cities become visible through their lights; they are intuitively familiar, and we can navigate them like maps. Urban centres, airports and harbours glow brightly, street networks appear as luminous webs, and bright shorelines contrast with dark bodies of water.

However, despite their familiarity, we actually know surprisingly little about the urban lightscapes we see—about the elements of which they are composed, who is in control of which lights, and whether they change throughout the night. These questions are worthwhile exploring for at least two reasons. For one, gaining insights into the patterns of urban lighting allows us a better understanding of the rhythms of urban nights, and urban life more generally. For another, if we take seriously that lighting up the night can have detrimental side-effects, and wish to confront the challenge of developing sustainable lighting policies, we will need to better understand how we currently use lighting in order to identify how we might want to use lighting.

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To explore these questions, we have adopted a perspective which complements the bird's-eye view of urban lightscapes, zooming into them by means of a growing collection of time-lapse videos of Berlin. With its multiple centres, diverse built forms and varied lighting patterns (see Hadfield's photo), Berlin offers rich ground for case studies that allow for comparisons between various parts of the city. Each video documents one weeknight in early summer at a different location. Beginning before dusk and ending after dawn, one photo is taken every 30 seconds, resulting in a total of over 1,000 images per video. Taken from a fixed, elevated position and furnished with time stamps, these documentations make it possible to analyze the given lighting situation and observe what happens with individual light sources as night sets in, progresses, and fades into day.

All four of our case studies—Alexanderplatz, Potsdamer Platz, Hackescher Markt, and Warschauer Straße—are centrally located, mixed-use urban areas, as well as hot-spots of both daytime and night-time activity. At night, they are all important nodes of public transport and destinations in their own right (see map by Schmidt on page 228), albeit in somewhat different ways: Alexanderplatz and Potsdamer Platz feature numerous restaurants and large entertainment venues; Hackescher Markt and Warschauer Straße are popular starting points for exploring Spandauer Vorstadt and Friedrichshain, two of Berlin's nightlife destinations.

When reviewing the videos, some things quickly become clear: Each place has its



(Top and Bottom)  
Potsdamer Platz during  
the night of Tuesday,  
July 1, 2014 at 23:00 and 03:00  
hrs.  
Philipp Elgert and Franziska  
Ottrembka – FilouBerlin,  
Fachgebiet Stadt- und  
Regionalökonomie –  
TU Berlin

characteristic local lightscape composed of a large variety of elements of illumination, which may be distinguished on the basis of whether they are public and private, their purpose, and the media and lighting technologies they employ. These lightscares are not static at all—they change significantly throughout the night. The intensity of change is, however, markedly different from one place to the next, and would appear to be aligned closely with the type and scale of the areas’ urban and architectural form. The most dynamic lightscares are those at Alexanderplatz and Potsdamer Platz, two of Berlin’s central landmarks featuring large-scale structures of different periods and styles. As the central showpiece of the former East Berlin, Alexanderplatz, with its TV tower, is dominated by major stand-alone buildings and wide-open spaces. In ruins after World War II, Potsdamer Platz remained barren and split by the Berlin Wall until it was completely redeveloped around the turn of the millennium. Densely built-up and featuring glitzy high-rise architecture, it became the poster-child for the reunified city. Significantly less change is visible in the local lightscares of Warschauer Straße and, especially, Hackescher Markt, both of which are characterized by the five- and six-storey side-by-side buildings typical of large portions of the city, which were planned and built in the late nineteenth and early twentieth centuries.

A further analysis focusing on different uses of lighting across the case studies reveals differences in temporal profiles between them. For example, infrastructural lighting—street lights and the illumination of public transport stations—stays on throughout the night in all cases. Architectural illumination and lit advertisements, on the other hand, often go out in the middle of the night; while some remain off for the rest of the night, others relight in the early morning. There are, however, significant exceptions. The dome of the IMAX cinema at Potsdamer Platz, the windows of a design store at Hackescher Markt, and the LED display mounted atop the underground station at Warschauer Straße

NIGHT: DOSSIER  
remain brightly lit all night.

This diversity in terms of temporal patterns also cuts across the categories of public and private lighting. Different types of public lighting operate on different schedules—the lights associated with public transport infrastructure tend to be switched on earlier and kept on longer into the morning hours than street lights, while the illumination of the TV tower at Alexanderplatz, one of Berlin’s main landmarks, is reduced and even switched off for part of the night. What holds true for public lighting is even more so the case with private lighting: there are no general rules that apply.

Overall, it becomes evident that the how, when, and why of our illuminated nights is not at all clear-cut, and that urban lightscares are far from static or homogenous. Rather, the way cities appear at night—including what ends up in the spotlight and what remains in the shadows at a given point in time—is an amalgamation of logics and decisions by many individual actors. Lightscares resemble nightly mosaics, composed of many different elements, and no two are alike. Just as places have their individual “time-prints”<sup>1</sup> marked by people’s comings and goings, and by opening and closing hours (see the article by Khan and Preiser on page 233), they also have their individual “lightprints” that evolve over the course of the night. We are only just beginning to understand the logics of each, and the relations between the two. While much work remains to be done, we would argue that it is certainly worth doing, insofar as it can open up perspectives enabling us to devise more sustainable pathways along which we might better shape our nights in terms of time and light.

The time lapse videos are available under a CC licence:  
[vimeo.com/channels/citynightlapse](https://vimeo.com/channels/citynightlapse).

NOTES  
1 Michael Young,  
*The Metronomic Society:  
Natural Rhythms and Human  
Timetables* (Cambridge, MA:  
Harvard University Press, 1988).



(Top and Bottom)  
Hackescher Markt during the  
night of Tuesday, June 24, 2014  
at 23:00 and 03:00 hrs.  
Philipp Elgert and Franziska  
Ottrembka – FilouBerlin,  
Fachgebiet Stadt- und  
Regionalökonomie –  
TU Berlin