

Night-time design

Pilot installation in Getsemaní
Cartagena, Colombia

ARUP

Partners

Despacio—Despacio, a local consulting firm, partnered with Arup to conduct social research fieldwork for the project.

Configuring Light—Part of the London School of Economics, Configuring Light developed the social research strategy for the project and worked with Despacio and Arup to channel fieldwork findings into stakeholder consultations and workshops.

iGuzzini—An Italian luminaire manufacturer, iGuzzini worked closely with Arup on both custom luminaire design and the implementation of the pilot installation.

Jorge Tadeo Lozano University—Headquartered in Cartagena, Jorge Tadeo Lozano University's UTadeo Urban Design program provided local academic and logistical support for the project.

Citelum—Citelum provided electrical installation services.

Credits

All photographs except as noted ©Dr. Don Slater, Configuring Light Program, LSE. All drawings and sketches ©Arup.



Introduction

Light has the power to change the way we perceive a place—to make it safer, more attractive, and more inviting. This is particularly true in “gentrifying” neighborhoods where people from dramatically different walks of life converge.

The cultural and socio-economic diversity of emerging neighborhoods can make them exciting creative hubs, but revitalization efforts can sometimes be hampered by lingering concerns over safety, especially at night. In cases like this, well-designed public lighting is crucial to promoting a sense of connection and well-being.

In 2013, Arup Lighting’s Urbanist Core Group launched a study in Getsemaní, a historic neighborhood in Cartagena, Colombia just south of the famed Old City, to help highlight the important role night-time lighting can play in urban revitalization. An UNESCO “world-heritage” site, Getsemaní has gone through many incarnations throughout its history,

but in recent decades it became synonymous with drugs and crime. In the early 2000s, as Colombia’s fortunes improved, Getsemaní started undergoing a rebirth. Arup’s Everyday Night-time Design Research Project sought to use urban planning best practices in lighting, sociology, and mobility to enhance growth and connection in Getsemaní. The end result of the study was a pilot installation that demonstrates how lighting can help transform public perception of an emerging neighborhood, while still respecting the area’s unique history and character.

The success of the Getsemaní pilot installation illustrates why lighting is becoming an increasingly important consideration for urban renewal experts, and gaining more attention from municipalities and developers of urban projects.

The following brochure offers an overview of the three-phase study.



Pilot site, before



Pilot site, after



Research highlights

The Everyday Night-time Design Research Project kicked off with a wandering tour of Getsemaní that enabled the research team to put aside preconceived ideas and get an authentic feel for the district. The team found that the neighborhood's charm comes from its thriving street life, Spanish Colonial architecture, brilliantly-colored impasto wall paint, and vibrant "improvised art," like murals, and graffiti. The observations made on this tour helped inform the project's three key themes:

Doors and doorways

Many of Getsemaní's streets are lined with fluorescent-lit, open doorways with wrought iron gates that throw distinctive shadows. These doorways provide portals between public and private life, allowing residents and passersby to casually observe and interact with one another. Doorways are also social hubs, with neighbors commonly gathering in front of their homes to relax and chat.

"Lighting design helps make a social space more legible to users, highlighting architectural features, pathways or landmarks and gathering spaces so that the space is more readable and usable. Lighting designers need to understand how different users in fact read the social space, their map or image of that space."

The Handbook for Social Research Design, Joanna Entwistle, Don Slater and Mona Sloane

Social hotspots

The team identified three types of social hotspots: (1) the main squares (Trinidad and Pozo), (2) side streets with restaurants and/or food stalls offering extra light, and (3) The Media Luna bar scene and adjacent commercial streets. The lighting in all three is mainly the organic byproduct of people's activities rather than planned.

Atmosphere and informality

Getsemaní's atmosphere is energetic, edgy and informal. A diverse group of people rubs shoulders in this historically working-class neighborhood.

The three study streets (Callejón Angosto, Calle Tripitay Media, Avenida Pedregal) and the main square (Plaza Trinidad) were chosen for a pre-pilot study because they embodied these themes and captured distinct urban situations that repeat themselves throughout the district.



Community outreach and social research

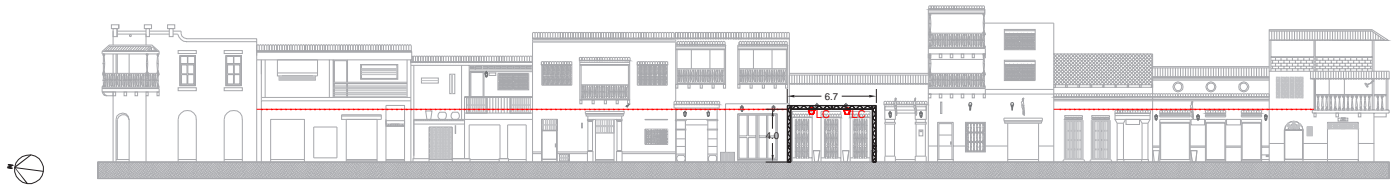
Getsemani's recent renaissance has been driven primarily by residents, with assistance from local cultural organizations. To ensure that the team's design recommendations successfully responded to the community's unique needs and priorities, the study included a rigorous, two-year stakeholder engagement process. This process was designed to actively encourage cooperation between an inclusive group of stakeholders, ranging from local residents, artists, and business owners to cultural organizations and government agencies.

Throughout this process, the team worked in concert with community members and other key stakeholders to identify culturally and aesthetically-appropriate interventions to enhance community connection and provide a healthier,

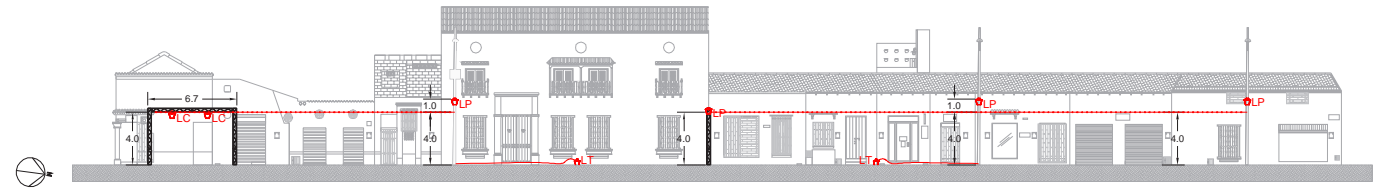
more welcoming and inspiring environment. Community engagement activities comprised social research interviews, night-time existing lighting conditions community review, and a series of outreach workshops. The workshops helped identify key stakeholders and government contacts, uncover local's mental maps, and chart usage patterns within the district—particularly in areas that experienced heavy traffic or were underutilized at night.

After synthesizing research findings, the team devised an initial approach to reimagining Getsemani nights. A variety of community and government representatives were then invited to a workshop that presented the team's vision and solicited feedback that was used to make further refinements.

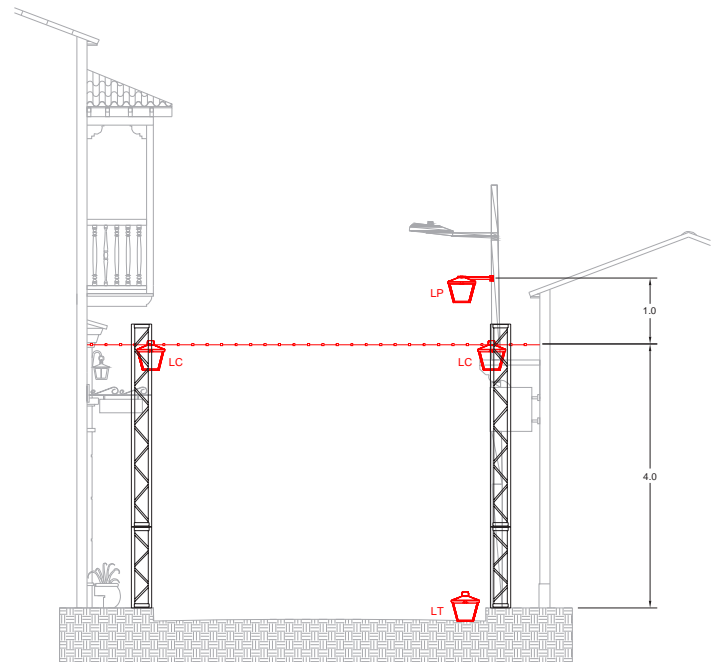
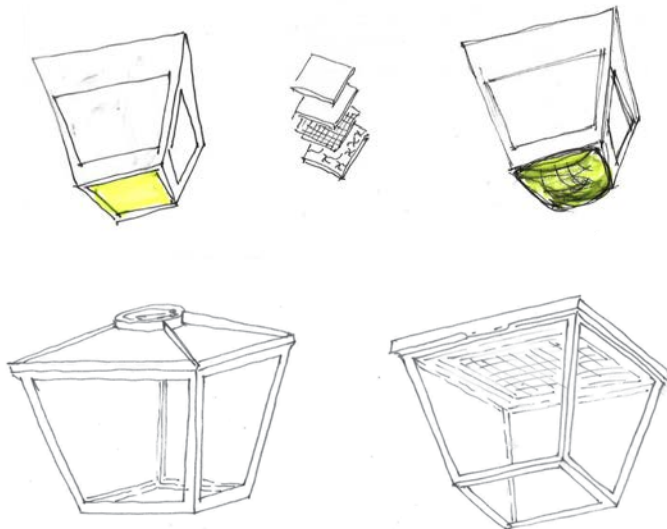




3 Calle Tripita y Media - Elevación de la Iluminación - Orientación Este / Lighting Elevation - Facing East
1:500



4 Calle Tripita y Media - Elevación de la Iluminación - Orientación Oeste / Lighting Elevation - Facing West
1:500



5 Calle Tripita y Media - Sección / Section
1:100

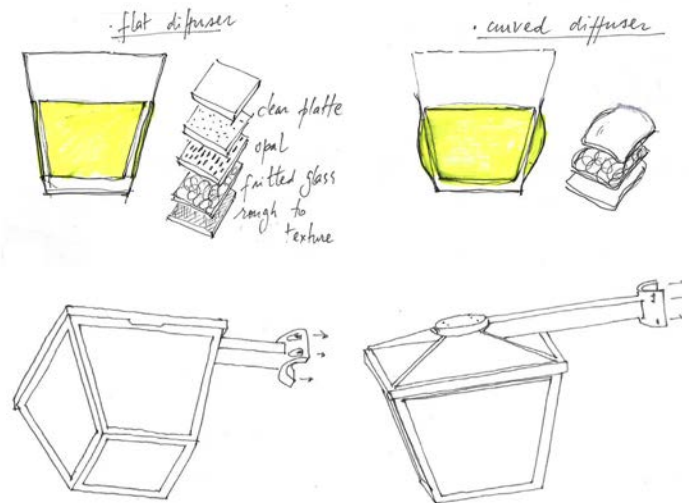
Universal lantern

To encourage a sense of project ownership and collaboration, the team led a workshop that invited stakeholders to play a hands-on role in creating an operational lantern “sketch.” This sketch was then used by Arup and iGuzzini to inform the design of a “universal lantern”—a modern interpretation of a classic design that reflects both Getsemeni’s historic character and its continuing cultural evolution.

Inspired by classic street lanterns, the lantern design uses state-of-the-art luminaire technology and is highly flexible. The lantern utilizes replaceable optic components and accessories, and is powered by off-grid solar panels, making it both easy to maintain and cost-effective.



Fabricated from a modular kit of parts, the universal lantern meets public space illumination standards while also offering the opportunity for site-specific customization, or what Arup has dubbed “localization.” The lantern’s pre-made aluminum mainframe establishes its shape grammar, but the customizable covers and filters at the sides can be flat, three-dimensional, geometric, organically-shaped, or colored to meet individual need. Manufactured in small, medium, and large sizes, the lantern can be easily scaled for varied applications on streets, sidewalks, public spaces, or in doorways. It is also designed to accommodate future upgrades, such as timers, telemetrical control, and dimmer controls.





Pilot install

Based on the team's social research and stakeholder feedback, it was determined that Getsamení would benefit most from a scheme that utilized repeated smaller-scale, highly integrated lighting gestures. The universal lantern can be mounted easily onto walls, providing enhanced street and sidewalk illumination without requiring the addition of extensive infrastructure.

The pilot installation, which took place in the summer of 2016, was accomplished using pipes and simple wood/metal frames that allowed street lanterns and additional catenary lighting to be deployed without touching existing building facades. In addition to mounting lanterns on walls, some fixtures were placed on the floor, reinforcing the character of certain "social hotspots" along the street.

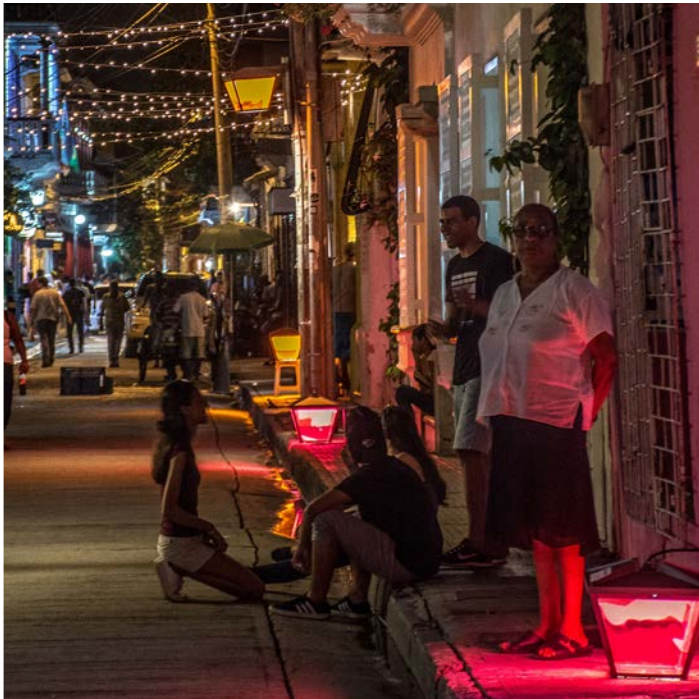
The final design scheme responded to several of the key issues identified by representatives and public stakeholders. It utilized forms intrinsic to Getsemaní while:

- Creating markers that enhanced legibility for pedestrian experiences
- Providing a lighting system capable of accommodating directed lighting, traffic signals, etc.
- Designating certain areas as special gathering "hot spots"
- Marking specific areas as safe for children

The goal of the Getsemaní study was to produce a pilot that provided appropriate location-specific night-time solutions but was also universal enough to be used as the basis for future urban night-time guidelines, policy change, and methodologies.







The realization of the 2016 Getsemaní Pilot Installation

Extract of interview with Dr. Don Slater of Configuring
Light Program, London School of Economics

Social Researcher for Everyday Night-time Design
Research Project

**On how the team's social research strategy and
findings informed the design:**

“Getsemaní turned out to be a striking case of a widespread phenomenon—the rapid gentrification and commercialization of a previously marginalized neighborhood in close proximity to a city center. But field research makes it clear how different this dynamic is in different places. [Each place presents] very local issues...that designers and planners need to know about and respond to.

[Our Team] did extensive analysis of photographs to understand the relationship between lighting and social interaction...Because the images were rich, and the interviews were very unstructured, people could get away from the usual and obvious light issues (safety and security). This gave us a social map of [Getsemaní]—the kinds of people, how they used various spaces, and what issues the area posed for them...The social knowledge found its way into the design through dialogue, interaction, and creative response from the designers.

When I look at photos of the pilot installation, I can literally see how [the social research] translated, into design terms, precisely the kind of conviviality and social dynamism that was most valued by all the stakeholders we engaged with. It provided design, but in tune with the night life that people already lived. The clearest indication was that the lighting was popular. [Locals] immediately recognized the lighting as embodying what made a successful street for them: the right levels of light, meaningful color, lively ambience, respect for darkness, historical reference. The placement of the lanterns was in keeping with the normal “rhythm” or distribution of social gatherings up and down the streets of Getsemaní, and therefore supported the way in which people generally “read” these streets. Lighting their street meant that it was noticed, was politically legible, that people actually cared about their street enough to materially attend to it. This was a very powerful kind of visibility.”



We shape a better world

Arup is the creative force at the heart of many of the world's most prominent projects in the built environment and across industry. We offer a broad range of professional services that combine to make a real difference to our clients and communities.

We are a truly global firm. From 85 offices in 35 countries, our 14,000 planners, designers, engineers, and consultants deliver innovative projects across the world with creativity and passion.

Founded in 1946 with an enduring set of values, our unique trust ownership fosters a distinctive culture and an intellectual independence that encourages collaboration. This is reflected in everything we do, allowing us to develop meaningful ideas, help shape agendas, and deliver results that frequently surpass our clients' expectations.

The people at Arup are driven to find a better way and deliver better solutions for our clients.