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**Laetitia Wolff is a design creative strategist, curator, and author, self-described as a cultural engineer. Her work focuses on creating projects that generate new discourses, practices, and experiences around sustainable design as a tool for change and positive social impact.**

**In late 2018, she relocated in the south of France where she grew up, after more than 20 years spent in New York. She currently works as a design impact strategy + innovation consultant to guide organizations and municipal governments in ecological transition.**

**She recently created The Be-Lab, an experimental action-research space within BESIGN, The Sustainable Design School, to focus on the value of design research for regeneration.**

**She teaches user-research and community-based seminars, and lead partnership courses at BESIGN School, as well as impact strategy seminars at her alma mater, Sciences-Po Paris, the Institute of Political Sciences.**

**While heading the strategic initiatives at AIGA in New York (2013-2018) the professional association for design, she helped build the organization's civic engagement via webcasts, exhibits, task forces, new work methods, and special projects. She directed several social innovation, community-centered and creative placemaking projects, including Design/Relief, and Identity Design Action: East New York to name a few.**

**From 2011-2013 she headed the nonprofit startup desigNYC as its first executive director, matching hundreds of nonprofits to design services, following her 2010 launch of expoTENTial, an urban intervention platform that investigated design's strategies to address pressing environmental issues in the city.**

**For the Saint-Etienne International Design Biennale, an institution she's been collaborating with for the past 20 years, she has co-**

curated a number of large exhibitions including “EmpathiCITY, Making our City Together” with the UNESCO Creative Cities network, as well as produced and moderated a number of international conferences and workshops – the last one in 2022 was “Fix, Flux+ Flow” on sustainable urban mobility.

She was the editor-in-chief of *Graphis* magazine and several Annuals (2000-2004) and *Surface* magazine (2005-2008), where she oversaw the design direction of its special projects. Wolff is the author of the award-winning monograph on French graphic design master *Massin* (Phaidon) and of the seminal *Real Photo Postcards* (Princeton Architectural Press) on vernacular photography.

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# **The Ricochet Project**

## **Cleanliness in the city of Nice**

### **A design case study**

#### **Laetitia Wolff**

**A partnership project developed at Besign, The Sustainable Design School, in partnership with Métropole de Nice, France**

#### **ABSTRACT**

#### **Challenge**

**Sadly, it's a universal and global waste management challenge: 1 million cigarette butts a day - by far the most common waste found on the ground in the city of Nice - regardless of the type of public spaces studied.**

**The question we asked ourselves was: How might we as designers encourage smokers to respect implicit rules of cleanliness of the city of Nice.**

#### **Solution**

**The Ricochet project, developed in partnership with the city of Nice, consists of a set of three complementary solutions: a revised, improved trash can, a new trash-totem, and an original signage/communications campaign. Based on in-depth research in behavioral design, the solution attempts to respond to smokers' complex relation to public space, level of addiction, and overall urban context.**

## Impact

**This partnership project not only opened the city of Nice sanitation department and elected officials to design methods, it also resulted in the hiring of a student intern who continued her master thesis on the very topic. The city of Nice has filed a patent to protect the Trash-totem design; their contracted manufacturer is currently developing a prototype of the revised trash can solution, and started to test it in pilot locations.**

## Keywords :

**#waste management #sustainable cities #cleanliness #sanitation #behavioral design #sustainable innovation #social innovation #public space #human-centered design #user research #civic design #incivilities**

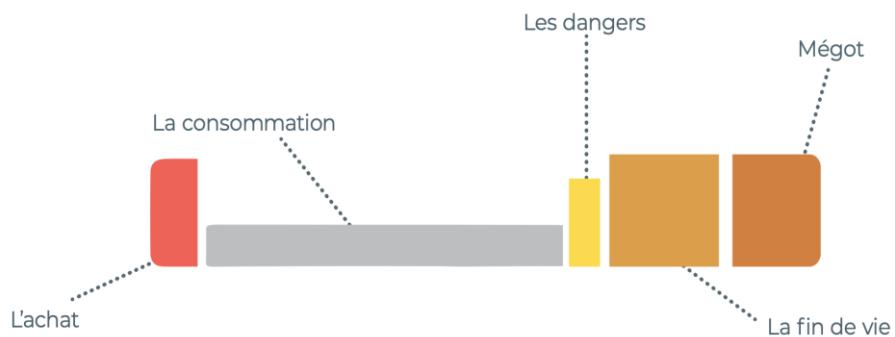
**This design case study, written a year after the project was presented to partners, was written by Laetitia Wolff, as the partnership coach (Semester 1, Winter-Spring 2021-2022) and Design Impact instructor. It also quotes part of the report prepared, originally in French for the city of Nice, by project partner Philippe Courpron of EuroConsulting. An illustrated version of this document was designed by Holly Bartley, alumni of Besign School under Laetitia Wolff's art direction, and downloadable at [wwwthebelab.org](http://wwwthebelab.org).**

**Special thanks to Maurille Larivière, Director of Besign, The Sustainable Design SchoolGrant Lindscott, then Director of pedagogy, Besign, The Sustainable Design School ; Saurabh Bedarkar, Lab manager, Besign, The Sustainable Design School;**

**Claire Denizart, Marianne Giraudon, Tom Macquard, 5th year students; Laurent Calatayud, then Directeur de la Propreté, Ville de NiceMathieu Vierne, Chef de service Ressources et Prévention de la Direction de la Propreté, now director of the Propreté service; Pierre-Paul Léonelli, elected official at the city of Nice and at Région Sud; Christophe Junac, Directeur de l’Innovation et de la Ville Intelligente, Ville de Nice; Christian Gasquez, Directeur développement des nouveaux usages, Ville de Nice; Pierre-Paul Léonelli, elected official at the city of Nice and at Région Sud; Claudia Montero et Philippe Courpron, Eurogroup Consulting; Isabelle Demangeon, UGAP.**

**NB: *Design for Social Innovation, Case Studies from Around the World*, a book edited by Mariana Amatullo, Bryan Boyer, Jennifer May, Andrew Shea (Routledge, 2022) who are respected colleagues of the professor and case study writer Laetitia Wolff was a major inspiration to structure the writing of this case study.**

## La vie d'une cigarette



**Figure 1: Besign student illustration showing the long and complex life of cigarette butt waste**

## I / INITIATIVE OVERVIEW

### **Title : Ricochet, cleanliness in the city of Nice, France 2021-2022**

#### **Project timeline**

- **Understanding of the perimeter, challenges and related difficulties (13 oct. 2021 – 18 nov. 2021)**
- **Elaboration of 3 scenarios of possible solutions (19 nov. 2021 – 14 jan. 2022)**
- **Design of the selected solution (17 jan. 2022 - 9 feb 2022)**
- **Students present final restitution to partners on Feb 10, 2022**
- **Claire Denizart's internship, summer 2022 at the Service Propreté Ville de Nice, under the supervision of Laurent Calatayud**
- **Claire Denizart's Diploma project developed around the issue of waste sorting selection and the role of garbage collectors, in collaboration with Ville de Nice Service Propreté (Sept. 2022- April 2023)**
- **First prototypes of revised garbage cans built by manufacturer Sineu-Graf and installed in Nice - Winter 2023-24**

**Design team: Besign School Students: Claire Denizart, Marianne Giraudon, Holly Bartley, Tom Maquard, Arpine Saakian, Justine Biasi, Emma Weber, Romain Desrez, Marine Dhalluin, Ombeline Gonin, Henri Borde, Samantha Bufnoir, Elizabeth Nazarova, Leonor Cassini, Ines Vanhoenacker.**

**Led by Laetitia Wolff, professor/coach and design impact +strategy consultant**

**Partner project challenge : « How might we encourage users to respect the cleanliness of the city of Nice ? »**

## **II / DESIGN CHALLENGE & NEED ASSESSMENT**

**Statistics provided by the City of Nice's Sanitation department show that cigarette butts are by far the most common waste found on the ground, 1 million a day regardless of the type of public spaces studied (residential hills above Nice, middle-class neighborhoods, social housing projects, or tourist areas, etc.). Cigarette butts have several complex characteristics:**

- **very polluting (plastic, toxic substances),**
- **small, therefore wrongly perceived as less harmful,**
- **malodorous, which entices smokers to get rid of it faster,**
- **a waste produced several times a day for regular smokers.**

Based on these statistics we revised our needs statement:

**“How might we encourage smokers to respect implicit rules of the cleanliness of the city of Nice?”**

## **III / PROCESS AND METHODOLOGY**

**The research method and community engagement strategy started with the following tasks, i.e., a mix of secondary research (data analysis, studies, behavioral design, etc) as well as primary research (mostly immersion in the field, photo reportage, observation, and shadowing of the sanitation workers in situ):**

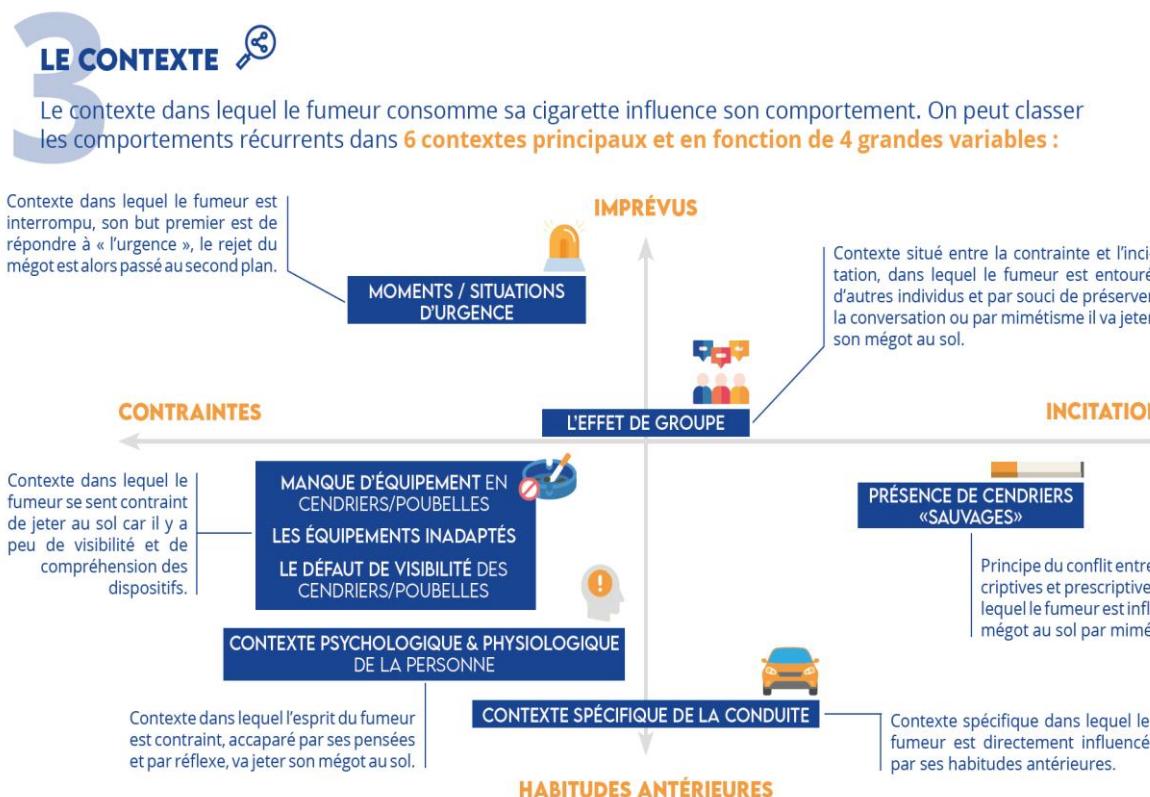
- we hierarchized the impact of different kinds of street wastes, and the various waste management tactics used to this day by the city
- we consulted quantitative stats and evidence-based data gathered over the years by the Sanitation department
- we attended immersion sessions with the Sanitation dept. professional teams, shadowing workers in trucks, by foot, including site visits of waste facilities, and training sessions held in primary school to teach about waste
- we studied "Smokers and the Management of their Cigarette Butts in Outdoor Spaces," a key consumers [report by Opinion Way](#) published in 2019. These behavioral patterns are typically determined by three main factors: addiction, place, and context.
- we conducted qualitative sessions of in-situ observations and interviews of smokers and nonsmokers
- we studied usage of existing ashtray cum garbage cans currently available on the streets of Nice
- we researched behavioral design science and the study of smokers' behavior

## **Insights from behavioral design study**

**Our target audience included both smokers and non-smokers who were considered, observed, studied, and interviewed. In parallel, our approach was also largely based on the observation of sanitation workers in action.**



**Figure2 : Visit of Besign students and teacher team at partner city of Nice sanitation department**



**Figure3: Behavioral design analysis of the smoker in urban contexts**

## Goals

**Students decided to orient their work in two directions :**

- **Devices that allow the gathering of cigarette butts, and**
- **Ways in which to improve the information provided to smokers about these devices.**

**The existing ashtray-cum-garbage proved to not be visible enough and often misused. Students focus on improving solutions by:**

- designing a new device system and dedicated zones, more inviting to smokers
- redesigning the top of the existing ashtray cum garbage can
- informing smokers of the closest ashtray options available on the streets

## IV / DELIVERABLES / SOLUTIONS

**The design output used a diverse array of complementary design media, essentially physical (street furniture) and spatial (signage, public space communications).**

**The solutions proposed were purposely anchored in deep values and cultural references:**



**Vernacular**



**Playful**



**Evolutive**



**Inclusive**



**Pedagogical**

**Following the research phase, largely inspired by behavioral design practices, the Ricochet project deliverables consisted of a set of 3 complementary elements : a revised, improved trash can, a new trash-totem, and a signage/communications surface treatment.**

## **Technical descriptions**

### **ASHTRAY-GARBAGE CAN**

**The edges of the existing garbage cover and more generally the unused surfaces serve as scraping area to smokers, which thus damage them faster. To remediate this situation, it was necessary to reduce the overall size of surfaces. Secondly, smokers don't understand the object; instead of using the orifice conceived to throw cigarettes (in the actual shape of a cigarette), they think the holes in the grill (of identical diameter to a cigarette), are meant to throw butts, when they're meant to function as a scraping area. Butts are therefore abandoned on the grill, instead of being captured in a close container, and often the wind blows them away on the sidewalk.**

**The solution proposes to better define zones of extinction for the cigarettes to facilitate the user's global understanding of the device; it also integrates a slightly slanted grill that securely captures butts. The diameter of the garbage cover was reduced to better fit the periphery of the can cylinder. The garbage hole was also increased to receive more voluminous waste.**

**The ashtray space was reduced to encourage smokers to crush their cigarettes on the slanted grid, modified as an inclined funnel covered with ridges. The ridges promote the extinction of the cigarette butt. The slope automatically brings the cigarette butt into the hole. The ashtray hole in the center of the bin is large enough to throw a cigarette butt in, but relatively small to prevent other waste from being thrown in.**

**The signage arrow indicates in a simple and clear way the direction which must be given to the cigarette butt.**

**All of these visual, usage-based, and material elements help facilitate the understanding of the device and the act of throwing a cigarette butt.**

**This concept was designed with two different forms of grids. A grid in the shape of a cone (option n°2) and another made up of three grids of different inclinations (option n°1). These shapes optimize the collection of cigarette butts left on the grid.**



**Figure4 : Renderings of the new garbage cum ashtray, side view and bird's eye view and in context of the streets of Nice**

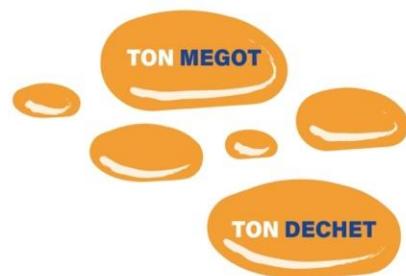
## TOTEM

The second proposal aims to limit the dispersal of cigarette butts by bringing smokers together in the same place: the “smoking area.” The goal is to induce positive behavior by mimicry in smokers: if the smoking area is clean and without cigarette butts on the ground, then future smokers will be encouraged to properly dispose of their cigarette butts. The area revolves around a large ashtray in the form of a totem. It is thus visible to all.

The totem ashtray offers numerous receptacles for extinguishing cigarettes (grid), scraping butts (holes) and collecting them (funnel, container). The totem is surrounded by seats in the form of pebbles, available in several sizes and promoting the gathering of users in the smoking area, open, inclusive, and welcoming. Finally, signage on and around the totem would make the smoking area all the more visible and easier to use.



TON MEGOT  
TON GESTE  
TON DÉCHET  
TON DÉGAT  
TON DEVOIR  
TON LITTORAL  
TA VILLE  
TA RESPONSABILITÉ



**Figures5 : (left) prototype of the ashtray totem, (right) communication information on the ground**

## SIGNAGE CAMPAIGN

The signage system on the ground aimed to guide users towards the totem and the dedicated smoking area, supported by short and striking messages, in the form of pebbles drawn on the ground. These would respond to each other by echoing the principle of ricochet. This path makes it possible to intrigue, educate and empower smokers in the management of their waste through organic and iconic forms (the pebbles), symbolizing the waterfront and the Promenade, and thus conveying a strong vernacular identity.



**Figures 6: (left) directional communication on the ground; (right) rendering of smokers zone**

## V / OUTCOME / IMPACT

**Primary categories of impact, in order of importance (show 17 ODD)**

environmental (Preservation of nature, respect life on land and water!)

social(Health&Wellness)

[ x ] cultural (Education, responsible consumption, sustainable cities, community engagement)

[ x ] economic



**Figure 7: United Nations Sustainable Development Goals relevant to our project**

**SDG 3 Good Health and well-being:** mentions that the World Health Organization's Framework Convention on Tobacco Control (FCTC) "helps countries strengthen their laws or adopt new tobacco control legislation."

**SDG 11 Sustainable Cities and Communities:** By 2030, target 11.6 aims to "reduce the environmental impact of cities, including by paying special attention to air quality and municipal and other waste management."

Also, by 2030, the target 11.7 encourages city governments to "provide universal access to safe, inclusive and accessible, green and public spaces."

**SDG 12 Responsible Consumption and production:** By 2020, i.e. 3 years ago, the target 12.4 recommended to "achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with international frameworks, and significantly reduce their release to air, water

and soil in order to minimize their adverse impacts on human health and the environment.”

**SDG14 Life below water : 17 Million metric tons of plastic entered the ocean in 2021, and are projected to double or triple by 2040, and cigarette butts are included in this plastic content. By 2025, the goal is to prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities. An indicator used is the index of plastic debris density in the ocean.**

Despite a global consciousness of the problem of cigarette butt pollution, and its consideration in the highest instances, as a health hazard and taken along other forms of air/soil/water pollution, every city of the world continues to fight against the plague of cigarette butts on the ground (SDG15, Life on Land is also concerned). Nice is unfortunately no exception to the rule.

### **Methods of evaluation used in this project**

Since 2021, the city of Nice's Sanitation department has attempted to tackle their problem of cigarette butt pollution through a technical and quantitative approach, with the characterization of waste on the ground (using national standards such as the Objective Indicators of Cleanliness), including regular counts, analysis of density and the waste's geo-localization. Encouraged by European standards of organizations they belong to, such as the Association of Cities for the Urban Cleanliness ([AVPU](#)), they've adopted a proactive and almost mathematical observation of the phenomenon.

In contrast, our approach attempted to propose a more qualitative, human-centered approach, which started from the observation of the social behavior of the smoker, the problem of addiction, our relation to public space, rather than focus on the final product of the cigarette waste itself.



**Figure 8. Cité du design International team = women activists**

**NB: To evaluate our project impact, we decided here to reuse some of the qualitative evaluation criteria suggested in *Design for Social Innovation, Case Studies from Around the World*, a book edited by Mariana Amatullo, Bryan Boyer, Jennifer May, Andrew Shea (Routledge, 2022) who are respected colleagues of the professor and case study writer Laetitia Wolff.**

## QUALITATIVE EVALUATION

We gathered feedback from various stakeholders via informal debrief interviews, including technical municipal services that manage the problem of cigarette butt waste, as well as the city's innovation department. We also reached out to elected officials who were instrumental in making this partnership financing happen.

**In January and February 2023, twice we interviewed Laurent Calatayud, Directeur de la Propreté Ville de Nice chez Métropole Nice Côte d'Azur,to touch base with him on the development and implementation of the project. We also spoke to Christophe Junac, Directeur de l'Innovation et de la Ville Intelligente chez Métropole Nice Côte d'Azur, who financed the partnership, as well as Christian Gasquez, Head of new usages, also at the Département Innovation et Smart City, Métropole Nice Côte d'Azur.**

**To evaluate our impact, we chose various criteria, applied according to the stakeholders we engaged...**

**Criteria 1: Adoption by the organization and/or other organizations**

**Design prototyping and implementation, a systemic change**  
The city of Nice had invited Sineu-Graf, the Alsace-based industrial manufacturer of trash can solutions and urban furniture, currently under contract with the Métropole de Nice, to the final oral presentation by students back in February 2022. They attended on their own money and appreciated the solution so much they immediately offered to build the prototypes. Since then, they've been asked by the City of Nice to create 2 prototypes of the revised trash can, based on the students' revised specs.

**The Sanitation department director followed Besign school's recommendation to adopt a rapid prototyping approach to install the proposed new product on select pilot locations, identified as "trouble shooting locations," where cigarette butts have been particularly numerous (for e.g. the commercial Avenue Jean Médecin in central Nice). Once one of the 2 prototypes is validated**

a small batch (approx. 50 garbage cans) will be produced and enable the city to test and quickly observe results. The challenge for the city remains, before anything else, efficacy: can a new “specialized” piece of furniture fight against a particular type of waste as ubiquitous as cigarette butts?

However, for the totem element of the Ricochet project, the city favored their traditional process, that is to further develop an RFP (Request for Proposal). Public market regulations in France impose the publication of such RFP opportunities to several companies to prevent favoritism.

The city explored relying on the expertise of a contracted designer who would oversee the entirety of Nice's public furniture. His goal is to provide a global view of all street structures, including benches, chairs, lights, garbage cans, to create coherence, art direction, and cost-effectiveness while respecting the vernacular identity of Nice.

To fully implement the new Totem solution, proposed by Besign students, the city has to follow a few more steps in the near future:

A) Given that the totem needs to be produced within the constraints of public markets, the city has to consider a cheaper material than metal (the recommended steel is too expensive these days). This input will directly influence the future Call for project specs. document (cahier descharges).

b) The city has to create a whole new public market for this new piece to exist, aside the existing trash cans contract already in place with Sineu-Graf.

**c )The city has recently filed a patent for the Totem. A good sign for Besign.**



**Figure 9: Group photo of students and partners, at the final restitution, Feb. 2022**

## **Criteria 2: Assessment of change to internal organizational practices**

**Leadership, Human resources, professional practices.**

**For a new product to be launched and a campaign to take root within a complex, silo-ed, bureaucratic administration such as the city of Nice, it was important for Laurent Calatayud and Mathieu Vierne to gain buy-in from various key stakeholders, including, among others :**

### **INTERNAL STAKEHOLDERS**

**For the HR department of the Sanitation department, it was an eye-opener to the power and creativity a design point of view can bring to solve complex problems that have been addressed in very traditional ways. For the city of Nice, it was an opportunity to gain**

**leadership on the topic of waste management, therefore activating its membership to the European consortium of clean cities (AVPU, Association des Villes pour la Propreté Urbaine) with original approaches and pioneering practices.**

**"As part of the study on trash cans, Besign School students came to share the daily life of sanitation workers by shadowing them in their cleaning missions. This immersion was particularly well received by the agents who felt listened to and valued. This approach is quite relevant to facilitate the adoption of the new cleanliness furniture and accessories by the agents." says Mathieu Vierne, director of resources and prevention at the Sanitation Department.**

**Sanitation workers can better understand the relevance of characterizing waste, the environmental challenges at play in cleaning street waste, and their role in it. The buy-in of the sanitation workers to this day remains critical especially given the fact that their profession is too often underrated. Adopting new devices and processes, using different communication tactics, is no easy task. Early this year, The Nice Department of Sanitation earned the first Grand Prix 2022 of the National Trophies awarded by the AVPU, for a video clip honoring the role played by sanitation workers. This department was then celebrated internally for its remarkable and innovative actions and strategies, making cleanliness one of the essential steps to environmental protection.**

**Additionally, the diploma project of Claire Denizart continues to engage the sanitation workers in a collective reflection, seeking to develop co-created solutions, not only to improve their working conditions, their understanding of their mission, but also allow them to sort the waste collected on the street in order to give it a**

second life and by the same means give more meaning to their role. This last element led her to design a new street cleaning trolley, with innovative accessories. “The immersive [approach Besign students used] is currently being pursued by Claire DENIZART as part of her diploma project, which she is leading within the Sanitation Department,” Vierne noted.

A year after our project, it might still be too early to undertake such reflections on the topic of implementation and practice change. Revisiting the adoption level, and evaluating the implementation of the new solution on the ground should ideally happen again, once the new prototypes are being deployed on the streets of Nice (an operation scheduled for Winter-Spring 2023). Then an additional, more detailed evaluation can follow as an annex to this document.

## **EXTERNAL STAKEHOLDERS**

We can assume that the wide-ranging involvement and cooperation of entities – Sanitation, Innovation, and representation by elected officials as well as external partners – generated a wider conscience and appreciation of design in administrations typically not familiar with design.

The partnership with EuroConsulting Group, which was instrumental in managing this city partnership project with Besign School, encouraged a cross-agency work relation, introduced new project management skills (such as project reporting), and de-dramatized the endorsement of design as a complementary discipline to municipal strategy.

Calatayud also convinced his superiors and colleagues of the relevance of a behavioral design approach, for instance Luc Favier,

**General Administration Director, in charge of public space quality.** Indeed, in March 2022 he presented the student project in the presence of the heads of sanitation workers. Favier, positively impressed with such a human-centered design approach was instrumental in connecting Calatayud to the recently hired city-wide designer and celebrated the service's coordinated efforts to contribute to the region's environmental protection.

**The City's innovation department was instrumental in establishing the contract with Besign, and helped identify the waste management challenge of the Sanitation department as a topic for design innovation. Other services of the city could potentially benefit from such partnership.**

**From a professional practice standpoint, the project allowed a shift in perception of design as a discipline that provides a valued holistic approach.** "The added value of this design research centered on the analysis of needs, the in-depth understanding of behaviors and uses made it possible to outline the sociology of smokers, which is at the heart of the problem of cigarette butt pollution. The technical services of cities do not yet have the natural reflex of these approaches, nor the habit of using design. But my positive takeaway of this partnership experience with Besign School is that it demonstrated that the pollution problem could be addressed not by the usual consulting firm study, but by design!" comments Christophe JUNAC.

**For the territory at large and its elected officials, such as Pierre-Paul Léonelli, Deputy Mayor of Nice, in charge of cleanliness, collection and the fight against incivilities, the complexity of the issues at play required the input of innovation practices and**

**sustainable design strategy rather than just technician and technological approaches.**

**"Starting from a seemingly mundane subject matter (i.e. cigarette butts on public roads) Design students were able to not only find heaps of ideas, show interest and even feel concerned about the subject, but also proposed a fine reflection and exhaustive analysis of the problem. In the end, they designed objects that can guide our fellow citizens in adopting more civic behaviors. Engaging this youth – so naturally conscious of the climate issues - reinforces my idea that we should submit other subjects to them to improve user behavior, and put design expertise at the service of other important public service challenges," Said Pierre-Paul LEONELLI, Deputy Mayor of Nice, Delegate for Cleanliness, Waste Management, Parks and Gardens, Vice-President of the Metropole, Regional Councilor for the Region "Le Sud.**

**The final public restitution held at the school in February 2022 also included influential VIP guests such as elected official Patricia Demas, the Alpes-Maritimes Senator, passionate about environmental issues and the role of students in shaping innovation.**

**Criteria 3: Collaborating with youth, students, in a learn by doing environment**

**Feedback from partners and students :**

**"I admit the student team did more in 6 months than we had been able to achieve in 6 years!," joked Laurent Calatayud, director of the Sanitation department of the city of Nice the day of the**

**students' final presentation in February 2022. A year later, when interviewed, Calatayud added : "We really needed an outsider look into our daily reality, in order to gain a different point of view on our problem."**

**"It was a great undertaking ! I'm always pleasantly surprised by the work of Besign students, because their training is so centered on uses and people, and not technological solutions, as we are often used to doing, " added Christian Gasquez who has collaborated with the school in recent years.**

### **Added value of a real-world partnership for students**

**Most students were motivated by the opportunity to work on real-world, meaningful challenges, in their own city, and be able to be in touch with very engaged, knowledgeable, and passionate professional partners. Following her experience in this partnership project, Claire Denizart, a 4<sup>th</sup> year student designer leader in the project, was recruited to conduct her summer internship at the Sanitation department (Service de la Propreté).**

**Over the summer 2022, she worked closely with partners Laurent Calatayud and Matthieu Vierne, mostly on citizen engagement tactics, waste sensitization and eco behavior. Subsequently, Denizart embarked on a longer-term collaboration with the Sanitation department to focus her diploma project on waste sorting strategy and city cleanliness as her research topic and site study. She has initiated a new model of partnership-based diploma project at the school. She recently published her diploma thesis, entitled "Exponentielle," focused on the topic of waste selection, transformation and management, and is currently developing her**

**design diploma project on design solutions that further enables sanitation workers (due April 2023).**

**"Waste management is a fascinating, complex and complicated subject, for which there is no single solution. It's a systemic problem, and without sociology and the added value of behavioral design we cannot settle it," says Claire Denizart, Besign School 5<sup>th</sup> year student.**

### **For Besign School**

**This partnership consolidated an existing and established relation with the City of Nice/Métropole de Nice; it diversified the services the school has collaborated with, following earlier partnerships with the departments of Police, Urbanism, Port prior to this project. It connected the school to a larger ecosystem of public service administrations, such as UGAP, a key agency that provides contracted innovation tools, contracts, and processes to local governments.**

**"This project is a proof of concept that design has its place to serve public service. Admittedly public services are not the easiest thing to change and a big challenge still lies in demonstrating that, contrary to popular belief, design is not an aesthetic practice, but a social practice, conveying meaning and values, which aims to solve major issue of the 21st century." says Marianne Giraudon, 5th year student at Besign.**

## Theory of Change summary

<p><b>Conditions to be changed and assumptions:</b> cigarette butts are the most thrown away waste on the ground and unfortunately the phenomenon of incivilities has increased in Nice and elsewhere.</p>	<p><b>Output:</b> a redesign of the existing trash can, plus a new typology of design system that includes a public ashtray totem and a signage/communication campaign to support it</p>
<p><b>Proposed interventions (activities and resources deployed):</b> behavioral design study and demonstration of its value, drawing insights to improve consumers' existing choices; user-centered and workers observations and interviews; to nourish a design solution that would be based on a human-centered approach.</p> <p><b>Objectives:</b> encourage smokers to respect rules of cleanliness of the city of Nice.</p>	<p><b>Outcome (changes in competences, behavior, practice):</b> a sustainable design approach introduced in public municipal services; the realization that change should happen first by involving the workers responsible for the city's cleanliness; and new methods of sensitizing the general public.</p> <p><b>Desired impact (change in conditions):</b> a test installation would allow stakeholders to measure the impact of the solution, both qualitatively in terms of behavioral patterns, and quantitatively in terms of butts counted on the ground and around the new devices deployed.</p>



**Figure: garbage-cum-ashtray, and version of the totem designed by Besign student, implemented in pilot zones of the city of Nice, 2025**

## Conclusion

**Design at the service of public innovation, societal challenges, and changing practices in municipal services is what this project demonstrates. It also shows design's ability of sense making of everyday life's complexity.**

**Such experiential “learn by doing” project make Besign students more aware of ways to solve seemingly intractable issues, and debunk interrelated myths such as public health, urban space management, and the protection of our land.**

**When using research techniques and methods such as deep listening, observation, immersion, shadowing, coupled with an understanding of behavioral science, designers are enabled to**

**develop empathy for the user's problem, and propose truly innovative solutions, that are grounded in a deep understanding of who and what's at stake. "This long-term project is a great example of using design to navigate the complexities of the real-world environment. Driven by applied design research together with the posture of creative confidence,' adds Grant Lindscott, director of pedagogy at Besign.**

**As Besign gets ready to celebrate its 10th anniversary, such partnership signals the importance to anchor itself even more within a territory that is so meaningful to its community of students, teachers and administrators, working along its local partners, be it public or private. The role the school can play in facilitating innovation by doing has only started. – Laetitia Wolff**