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Crowd-solving cycling and recommendations from the BMW Guggenheim Lab

1. The BMW Guggenheim Lab

The BMW Guggenheim Lab is the result of the collaboration between the Solomon R. Guggenheim Foundation and the BMW Group. The Lab is a six-year project traveling to nine cities around the world that will conclude in late 2016.

The Lab is a combination think tank, public forum, and community centre with the aim to raise awareness of important urban challenges, including cycling, and yield sustainable benefits for cities around the world.

In the simplest terms, it is often described as being like a conference but rather than just attending and listening participants can get involved and participate with everything. Attendees discuss and they debate; they talk and they listen; they make, do, experiment and they can be involved in pilot projects. Furthermore the Lab is for anyone regardless of their previous knowledge and experience in urban issues.

Maria Nicanor one of the Guggenheim Curators says "If we can achieve meaningful conversations, if people can come to the Lab, and other urban projects, learn something new, take an idea out of it, do some experimenting in their own city or neighbourhood and later apply it to anything in their lives that is success. In the end it's about starting a conversation and talking about cities"

Through its live programs and online presence, the BMW Guggenheim Lab engages with individuals at a personal level, encouraging them to be agents of change. Ultimately, the BMW Guggenheim Lab strives to generate ideas and potential solutions for cities of the future.

The cities for the first cycle of the BMW Guggenheim Lab are New York, Berlin and Mumbai. The theme of the first cycle is Confronting Comfort. Cities for additional cycles will be announced. Each city in each cycle will have a BMW Guggenheim Lab Team, consisting of four people, who together with Guggenheim curators develop the programming for that city. Each cycle also has a distinct Advisory Committee. Each cycle will end with an exhibition at the Guggenheim Museum in New York.

1.1 The 'Confront Comfort' theme

The world is highly globalized and urbanize. Yet complex urban landscapes that are increasingly intertwined in transitional and informational networks continue to be based on rigid systems of urban planning, architecture and infrastructure. These systems have fostered an expanding homogeneity that puts at risk the relationship of cities and urban areas with the specific conditions of their immediate context and their own past. More important, the systems put at risk the relationship urban dwellers – as citizens and individuals – have with their environments, affecting their sense of ownership and awareness of the surrounding space, and the sense that it should be changeable and improvable.

The monotony of these static landscapes is only alleviated by relentless systems of consumerist comfort that block interaction with the surrounding environment. The comfort derived from these solutions – which range from communication commodities to fancy gadgets, to privacy and security devices, to comfort food and other ways to appease the body – diverts the mind from the repetitive processes of everyday life in cities that feel impossible for change.

Maximizing comfort has not only fostered the ability to cope with sometimes gruelling urban conditions, but it has also become a measure of individual wealth, success and status, especially the case with car-ownership in many societies. Unfortunately, the irrepressible human aspiration to find ease often leads in unsustainable directions, for example it is often easier to jump in the car. How can social individuals find a balance between notions of modern comfort and the urgent need for environ-

mentally responsible and empowering solutions? Would the creative solutions that achieved such equilibrium change the idea of comfort as it is now understood? What response would the newfound ease, attained through responsible and restrained means, evoke?

1.2 The BMW Guggenheim Lab Berlin Team

Nominated by the BMW Guggenheim Lab Advisory Committee, the Berlin Lab Team was a multidisciplinary group of four international experts, evolving talents and professionals from the creative, academic and urban planning fields who complement each other's distinctive skills and knowledge and bring the BMW Guggenheim Lab to life. The team drew inspiration from their individual experiences coming from dramatically different urban situations –Honduras, Italy, Berlin and Brisbane, respectively. Additionally the Lab Team collaborated with local organisations, curators, neighbourhood residents and experts from many fields to create a multifaceted program that interrogated the Lab's overarching theme of Confronting Comfort in Berlin. The BMW Guggenheim Lab Berlin Team comprised of José Gómez-Márquez, Carlo Ratti, Corinne Rose and Rachel Smith. Rachel Smith was nominated by Enrique Penalosa the former Mayor of Bogota and international urbanist and selected by the advisory committee and curators of The Solomon R. Guggenheim Foundation in New York.

2. 'Dynamic Connections'

Rachel's theme for public programs and 'out in the city' projects was 'Dynamic Connections'; making cities and urban places with people and dynamically connecting people and places through dynamic transportation and community connections.

2.1 Dynamic Connections public program themes

The Dynamic Connections programs had eight key, and overlapping, topic areas:

Cycling: We asked how can cities be 'cycling cities' and how can we make the bicycle a normal and viable mode of travel for all ages and genders.

Space for everyone: Cities, streets and public spaces should be for everyone. We challenged how streets and public spaces should address the needs of everyone; children, an aging population, people with disabilities, pedestrians and cyclists. We hosted a day of tactical and temporary urbanism, transforming car parking spaces into spaces for people

Plug-In, Park-Up: We challenged the future of car parking in cities with the imminent rise of electric cars, debated whether the rise of e-mobility will ease or create congestion and discussed the move towards 'access' rather than the 'ownership' of transportation. We experimented with how electric and solar powered bicycles can help change our cities and provoked debate about our own personal travel behaviour.

City Transformation: In a fast-paced daylong Marathon of Transformation we shared success stories, obstacles encountered and current processes for transforming cities with an array of bottom-up, top-down and self-organizing projects from around the world. We used "City Conversations" to empower people

to design changes in their cities immediately, soon and in the future

Transformation Champions: We turned our gaze to the community catalysts and 'people's champions' who have made city and social transformation possible. We celebrated agents of change and local heroes

Dare to Share: We challenged and questioned the future of sharing, borrowing, bartering, shopping, freight and economics in cities of the future in light of the rapid rise in technology. We experimented with sharing and swapping of 'resources', time, skills and knowledge to involve people in courageous acts of collaboration. For example car sharing, bike sharing and sharing cargo bikes

Talking Tourism: We debated the saying "Tourism can warm your home or burn down your house" by exploring the positive effects and risks of tourism and discussed the future of tourism in Berlin and cities around the world? We discovered how to effectively communicate and positively promote sustainable and resilient tourism. For example cycle tours.

Reverse Garbage Infrastructure: We challenged waste because it never really goes 'away' and we need to re-use the commodities that we dispose of in our cities. We investigated how to create and build civic infrastructure out of household waste and prototyped with trash salvaged from Berlin. For example recycling and reusing bicycles.

2.2 Dynamic Connections public programs recommendations

2.2.1 Let's create a 'Infrastructure Revolution'

Let's create highways for bicycles. The rise in 'access to' rather than 'ownership of' private vehicles and our ability to swap some car trips for trips by public transit, bicycle and e-bike will free up more space in our cities to accommodate sustainable modes of travel.

The Los Angeles Department of Transport said "for the bicycle to catch on we need a revolution in our infrastructure". In Manhattan and in Sydney road space has been reprioritized and protected bike lanes have been built. As a result, the numbers of people riding bicycles has increased.

Let's create what people want:

- Bicycle infrastructure completely separated from parked and moving cars
- Bike lanes that are safe enough for children to use to cycle to and from school
- Community projects such as cycle training and bike rides for beginner cyclists

2.2.2 Let's 'ignite the fuse' for change

- Let's inspire 'I can do this' attitudes. 'Can do' attitudes create opportunities for temporary initiatives which have immediate effects as well as ideas for legacy urban transformations. For change to happen you just need one, or the first, person to ignite the fuse for change.
- An 'Igniter of the fuse for change' is Jay Cousins. Jay created the first Maker Fayre on the streets of Berlin in less than 24 hours and now it's an annual event.
- Let's show people what already exists and empower and

inspire them to create their own projects specific to where and how they live.

- Let's stop just copying things we've seen elsewhere.
- Let's develop projects that reflect our own cultural and city identity.
- Most of all, let's stop fearing failure.

2.2.3 Let's communicate with positive messages

- Let's release our 'Trojan Mice'.
- Trojan Mice are small, well focused changes, introduced in an inconspicuous way. They're small enough to be understood and owned by everyone concerned. We can all take a 'scary idea' into our networks and problem-solve with people we know and trust because that's how to influence change.
- A 'Trojan Mouse' is Peter Fraser, owner of award-winning fish & chip shop Harbour Lights in Falmouth (UK). Peter is passionate about preserving and conversing Cod supplies. He sent 'Cod on Holiday' for one week to persuade his customers to try other fish species rather than always eating Cod.
- Let's tackle difficult issues like congestion, waste and obesity in a fun, positive, encouraging and inspirational way. Let's be passionate, personal – tell stories not facts - and humanistic.
- Let's avoid confusing people with mixed messages. Let's stop telling people what to do and to stop making people feel guilty.

2.2.4 Let's experiment with tactical and temporary urbanism

- Let's create opportunities to experiment.
- We can't all redesign the main street of a city but we can all transform a car parking space.
- We experimented in the streets of Berlin. We 'rented' car parking spaces for a day and transformed them into a pop-up cafe, ice-carving kitchen, bedroom, dance floor, beach and a place to play giant board games. People felt they 'owned their street' and car drivers used alternative routes.
- Let's rethink the way we use our streets and public places. We can use temporary projects and experiments as a platform to change our cities.
- Let's remember temporary really is just temporary and not forever. Let's just have a go.

2.2.5 Let's connect our streets and communities to enable sharing

- Let's try sharing.
- The desire to share resources, time, skills, information, knowledge and household 'stuff' was a common theme at the Lab in Berlin and New York.
- "We don't all need to own a power drill, we all just want a hole in our wall" Rachel Botsman
- Let's start small. For example a 'book swapping shelf' in an apartment block can be started in a couple of hours and without any financial costs.
- Some say we need to make sharing 'normal' and to eradicate the stigma of using other people's 'junk'. Others say we need to change our community behaviours and learn how to share because we just won't have time to 'learn' when we are in the midst of a social, economic or environmental crisis.
- Let's have a go and try.

2.2.6 Let's confront our waste comfort for innovative infrastructure

- Let's use our waste.
- Some countries are 'comfortable' with their waste and 'throw away' society attitudes whilst others are working hard to reuse, recycle and to eliminate materials such as plastic from their supply chains.
- David de Rothschild built his Plastiki boat using used plastic drinks bottles, Vertec build road bridges with waste plastic and in Kuranda, Australia benches in public places are made from old plastic milk bottles.
- Let's communicate, collaborate and innovate in order to eliminate, eradicate and reuse our waste.
- Let's think about how to use our waste. Let's consider the waste materials at our landfill sites as building materials when we plan, design and build large and small-scale urban infrastructure projects.
- Let's innovate with waste.

3. Dynamic Connections 'Out in the city' project

In 2011 Rachel led a bicycle route options analysis in Australia for a public sector client. The client thought the number of options would be limited and Rachel agreed that the topography, traffic volumes and visibility at intersections were not perceived as the most amenable for cycling, especially for less-confident bicycle riders. The AECOM team, fearless, enthusiastic, and novice bicycle riders, set out on bikes and cycled every street in the study area. The team colour-coded each street based on our cycling experience and using five assessment criteria and discovered that there many more options than everyone had first anticipated. The client was thrilled with AECOM's tactical experimentation but unfortunately the 'paper' colour coded map had limited usage. When the opportunity arose to produce an "Out in the City" project in Berlin for the BMW Guggenheim Lab Rachel leapt at the opportunity to experiment with bicycle maps. The Dynamic Connections Map is a world-first experiment to crowd-source and crowd-solve cycling using an interactive map based in the city of Berlin. While traditional mapping efforts show the here and the now and what type of bicycle infrastructure is located on given roads, the Dynamic Connections Map allows confident, regular and potential bicycle riders to assess the current Berlin biking network, to rate streets on how cycle friendly they are and, as a result of data processing, the potential future cycle network is recommended.

The Dynamic Connections Map allows anyone and everyone to rate/score different Berlin streets on how acceptable and safe they are for cycling by answering, in less than three minutes, five simple questions. Firstly, and to ensure the survey is completed by a wide-cross-section of the community, participants are asked what type of bicyclist they are. The survey has four types of bicycle rider: confident cyclists who are highly experienced riding on the road with the traffic and who seek out the fastest and most direct route; regular bicycle riders who choose to cycle on dedicated bike paths or bike tracks; 'potential' bicycle riders who are interested in cycling but who are concerned about safety and traffic volumes; and people who don't cycle and who are not currently interested in riding a bicycle. Participants are asked to select a road or street by clicking on the Google-based map provided. The following two questions ask the respondent if they think the traffic volumes, vehicle

speeds, number of parked cars, visibility at intersections and topography on the selected road/street are 'bicycle friendly' and if the road/street selected provides good access to a large number of destinations, for example, schools and workplace. The final two questions ask participants if they feel safe, neutral or stressed when cycling through intersections and when riding a bike on the selected street. The information collected is processed using an algorithm that designates each street to be either bicycle-friendly (green) or -unfriendly (red). Participants, planners, policy makers and people simply interested in cycling alike can filter the data to meet their own personal needs, for example streets with safe intersections.

Rachel is excited about this because people, everyone and anyone - not just engineers, are auditing existing bike networks and they're auditing existing streets that don't have facilities, and they're creating a map as a community, of which streets are safe and which aren't. And as Christine McLaren the BMW Guggenheim Lab blogger wrote said in her blog "Perhaps their most glaring shortcoming of all bike maps is that they also fail to recognize that even if the "official" routes are the best option (which they often aren't), every now and then we need to leave the official network of cycling infrastructure in order to get to the places we need to go. We don't just need information about bike routes. We need information about every route".

Rachel created the Dynamic Connections Map as part of the BMW Guggenheim Lab in collaboration with John Schimmel an Adjunct Professor at NYU and designer and developer of technology for people with disabilities and Dave Dawson a graphic and digital designer. Dynamic Connections is currently only available in Berlin.

www.dynamicconnections.de/
www.facebook.com/DynamicConnectionsBikeMap?ref=hl
www.bmwguggenheimlab.org/berlin-lab-city-projects/237

Rachel Smith at the international conference »Building the City Anew« on June 21 in Hamburg.