

# xLAB

SUMMER PROGRAM

## 2018 REPORT

### ABOUT

In partnership with Shinken-chiku-sha, the University of Tokyo, and Miraikan National Museum of Emerging Science and Innovation, xLAB established the three-year xLAB Summer Program sequence.

The xLAB Summer Program is a cross-disciplinary platform for architectural education that brings together students and experts from a diverse set of background including technology, science, fashion, policy, and business. From July 27 - August 10, 2018, 18 students from 15 universities, 10 faculty members, and over 30 industry experts from around the world were invited to Tokyo to participate in a flexible, non-hierarchical laboratory.

The program consists of studios, lectures, discussions, and reviews where participants address contemporary architecture and urban design challenges through experimental exchanges, testing of ideas, and sharing of knowledge. Each year a new programmatic theme offers a research topic surrounding Tokyo as a city with the event of the upcoming 2020 Olympics: Community (2017), Mobility (2018), and Diversity (2019). In addition, the program extends its impact to a larger audience with a public symposium, lecture series, exhibitions, and reviews.

### THEME - REIMAGINING TOKYO'S MOBILITY

The 2018 xLAB Summer Program focused on the future Tokyo's Mobility. Considering "time" as the medium, the theme of "mobility" will address new advancement in technologies that change the way we move, including: self-driving cars, the sharing economy, movement in information space, and mobility without physical movement. Through a range of events, the Summer Program discussed how these advancement have diversified the concept of "mobility" and their impact on cities and design methods. Tokyo, a representative city of the 20th century, is at the forefront of various problems faced by many cities making it an optimal test site to consider the future of mobility.

### PARTICIPATING UNIVERSITIES

Angewandte, Vienna  
Architectural Association  
Confluence School, Lyon  
IE School, Madrid  
Keio University  
National Chiao-Tung University  
Singapore Design Tech  
Tohoku University

Tokyo Institute of Technology  
Tongji University  
UCLA  
University of Hong Kong  
University of Tokyo  
Waseda University  
Yokohama University

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### IN COLLABORATION WITH



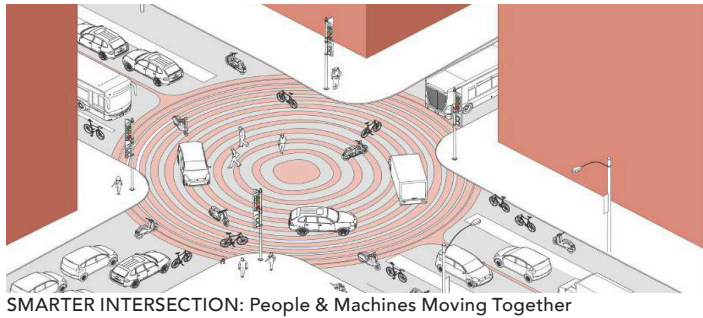
# STUDIO

Under the guidance of interdisciplinary faculty, the studio developed new mobility strategies for Tokyo. Each studio consisted of nine students along with one primary instructor, one secondary instructor, and a technologist. Over the two-week period, instructors and students jointly develop ideas as a single research team.

## TOKYO SCRAMBLE CITY GREG LYNN / KAZ YONEDA STUDIO

<b>People</b>	<b>Bicycle</b>	<b>Scooter</b>	<b>Car</b>	<b>Shuttle</b>	<b>Train</b>
Speed: 3 k/h	Speed: 15 k/h	Speed: 30 k/h	Speed: 60 k/h	Speed: 60 k/h	Speed: 120 k/h
Terrain: Roads, Sidewalks	Terrain: Roads, Sidewalks	Terrain: Roads	Terrain: Roads	Terrain: Roads	Terrain: Railway
Passenger: 1	Passenger: 1	Passenger: 1-2	Passenger: 1-4	Passenger: 45	Passenger: -

Existing Transportation Options



Micro-mobility GITA at Kashiwa-no-ha Transit Stop

Today, people prefer a "20 min lifestyle" that includes live, work, and play; however, only 4.5% of Tokyo's citizens enjoy this amenity. Compared to the global average of 35 min, Japan has an average commute of 58 min per day with an average commute distance of 25.8 km. While humans have an affinity for light and air, 85.2% of commuting in Tokyo is by train. Many of these trips are less than 1.5 km. Smaller, smarter vehicles are an alternative.

Existing transportation options range from the person walking at 3km/h to the train traveling railways at 120km/h. In between, exist a range of surface transportation alternatives to improve overall quality of life. To establish a smaller, smarter mobility in regime in Tokyo, mobility can be atomizing using the small-ness of bikes and board with the smart-ness of autonomous technology. Combining autonomous driving intelligence with lightweight vehicles mobilizes people and goods on streets and sidewalks.

This 1+1+1 studio format consisted of one shared mobility concept, one mobility technology focus, and one final presentation using student proposals to demonstrate new mobilities possibilities for Tokyo.

## LEISURE MOBILITY CITY ANDREW WITT / TOSHIKI HIRANO STUDIO

P1 Parent Drone - Large energy efficient drone for long range transport of smaller units			P2 Heavy Drone - Freight and personal transport		
Min: 700kg	Payload: 10000kg	Speed: 120km/h	Range: 6h	Quantity: 1	Min: 180kg
					Payload: 245kg
					Speed: 70 km/h (Proposed)
					Range: 40'
					Quantity: 18

Catalog of Existing and Proposed Mobility



Proposed Increased Spectator Activity at Tokyo Marathon



Studio Session at KOIL

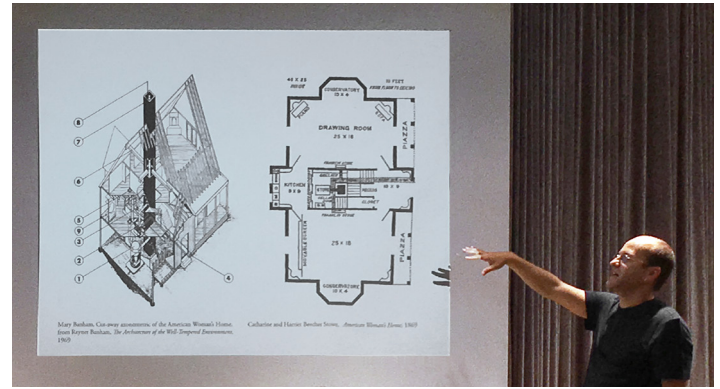
Hibiya area is heavily trafficked on a daily basis by both pedestrian and rail travel. Emergent aerial mobility technologies can improve the experience of movement through the city, while enhancing the culture and identity of Hibiya. Currently, Hibiya Park hosts festivals year-round and the adjacent Imperial Palace is one of the most popular running routes in Tokyo. Temporary infrastructure and aerial logistics networks can create new ways to experience Hibiya.

As a future city for leisure mobility, Hibiya would employ a network of different scale drones, pedestrian infrastructure, and the event infrastructure with floating platforms enabled by balloons. These strategies would enhance existing everyday and event leisure experiences, while providing temporary and flexible mobility infrastructure that create new opportunities for mobility entertainment activities.

# SEMINARS

Seven guests gave lectures over the course of three days to students and invited guests.

Seminar speakers are international experts from variety of fields, including management, public policy, technology, and history. Following each lecture, participants engaged in a question-and-answer session to stimulate dialogue on the various themes discussed throughout the program. The seminars are important to add new perspectives to the design studio projects.



**MICHAEL OSMAN**  
Associate Professor, UCLA - Architecture + Urban Design



**ERIC BACZUK**  
R&D Designer, Google



**GEORGE ABE**  
Lecturer, UCLA - Anderson School of Management



**FUMIHIKO NAKAMURA**  
Director, Yokohama National Univ - Transportation and Urban Engineering Lab



**TAK UMEZAWA**  
Partner, A.T. Kearney Global Consumer Products



**EMILY WARREN**  
Senior Director of Policy and Public Affairs, Lime



**RYOSUKE SHIBASAKI**  
Professor, Univ. of Tokyo - Dept. of Socio-Cultural and Socio-Physical Environmental Studies

## FACULTY LECTURE



### **GREG LYNN / ANDREW WITT / HITOSHI ABE**

On August 4th, Primary Studio Instructors, Greg Lynn and Andrew Witt, gave lectures on their work as it pertained to the Summer Program theme of Mobility. Hitoshi Abe led a discussion after the two lectures.

## FACULTY ROUNDTABLE



### **LAURENCE KEEFE / KAZ YONEDA / TOSHIKI HIRANO**

On August 7, Secondary Studio Instructors Kaz Yoneda and Toshiki Hirano, presented their recent work. Laurence Keefe, professional skateboarder living in Tokyo, also gave a lecture and joined the following conversation on Tokyo's mobility.

## MID-REVIEW



Today, people prefer a "20 minute lifestyle" that include live, work, and play; however, only 4.5% of Tokyo's citizens enjoy this amenity. Compared to the global average of 35 min, Japan has an average commute time of 58 min per day with an average commute distance of 25.8 km. Humans are terrestrial and love the light and air. 85.2% of commuting in Tokyo is by train. Many of these trips are less than 1.5 km. Smaller, smarter vehicles are an alternative. Existing transportation options range from the person walking at 3km/h to the train traveling railways at 120km/h. In between, exist a range of surface transportation alternatives to improve overall quality of life.

### **REVIEWERS**

Hitoshi Abe                      Ryosuke Shibasaki  
Atsushi Deguchi                Yuichiro Takeuchi

## FINAL REVIEW



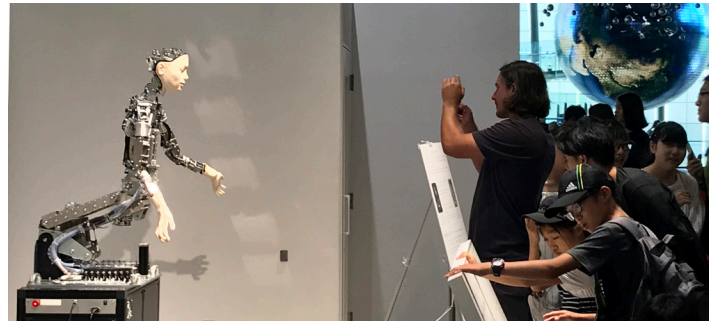
Today, people prefer a "20 minute lifestyle" that include live, work, and play; however, only 4.5% of Tokyo's citizens enjoy this amenity. Compared to the global average of 35 min, Japan has an average commute time of 58 min per day with an average commute distance of 25.8 km. Humans are terrestrial and love the light and air. 85.2% of commuting in Tokyo is by train. Many of these trips are less than 1.5 km. Smaller, smarter vehicles are an alternative.

### **REVIEWERS**

Hitoshi Abe                      Kengo Kuma                      Brett Steele  
Manabu Chiba                    Tatsuya Matsui                    Yuichiro Takeuchi  
Takuya Fuji                        Hiroto Miyake                      C. David Tseng  
Sohei Imamura                    Shinobu Nakanishi                Tak Umezawa  
Hiroto Kobayashi                Ryosuke Shibasaki

# xLAB x MIRAikan: SYMPOSIUM AND EXHIBITIONS

The symposium and exhibitions were collaboration between the Miraikan National Museum of Emerging Science and Innovation and xLAB Summer Program. The symposium acted as a temporary platform for exchanging international opinions on the future of mobility in cities. 30 international experts from various fields gathered to exchange ideas. The event started with a participant walk-through of Miraikan's permanent exhibition and research facilities. Via three prepared panels, the "Reimagining Tokyo's Mobility Symposium: Big Table" created a place where many experts could gather together to form a more informal exchange of ideas within the formal occasion of a symposium.



Miraikan Permanent Exhibition

## **ALTERNATIVE MOBILITY PANEL:**

GREG LYNN, Piaggio Fast Forward  
ERIC BACZUK, Google  
FUMIHIKO NAKAMURA, Yokohama Univ.  
KOJI TOYOSHIMA, Toyota

## **COMPUTATIONAL MOBILITY PANEL:**

RYOSUKE SHIBASAKI, Univ. of Tokyo  
MASAAKI MOCHIMARU, Human Info Research Institute  
EMILY WARREN, Lime  
ANDREW WITT, Certain Measures

## **NON-PHYSICAL MOBILITY PANEL:**

KOUTA MINAMIZAWA, Keio Univ. - Media Design  
MASASHI KAWASHIMA, Niantic, Inc.  
OLGA KISSELEVA, Artist  
KUNIHICO MORINAGA, Anrealage Fashion



Symposium Panelist Presentation

## **BIG TABLE PARTICIPANTS**

Kengo Kuma	George Abe	Yuichiro Takeuchi
Atsushi Deguchi	Michael Osman	Jorg Noennig
Hitoshi AbeToshiki	Manabu Chiba	Cihangir Istek
Hirano	Tatsuya Matsui	Brendan Barrett
Kaz Yoneda	Yasuaki Onoda	Yukiko Shikata
Tak Umezawa	Keisuke Toyoda	Mahoro Uchida



Symposium Table Exchange



"Reimagining Tokyo's Mobility Symposium: Big Table"

# xLAB TEAM

## DIRECTORS

### HITOSHI ABE

*Professor, UCLA - Dept. of Architecture and Urban  
Principal, Atelier Hitoshi Abe*

### KENGO KUMA

*Professor, Univ. of Tokyo - Dept. of Architecture  
Principal, Kengo Kuma & Associates*

### ATSUSHI DEGUCHI

*Professor, Univ. of Tokyo - Dept. of Socio-cultural Environmental Studies  
President, Urban Design Center Kashiwa-no-ha*

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### SHINOBU NAKANISHI

*Executive Director, Miraikan National Museum  
of Emerging Science and Innovation*

### PAUL NAKAZAWA

*Principal, Nakazawa Consultants  
Associate Professor, Harvard Univ - Graduate School of Design*

## STAFF

### YUICHI HIRAI

*Editorial Staff, Shinken-chiku-sha*

### SOYOKA TSUJI

*Editorial Staff, Shinken-chiku-sha*

### JEANNETTE MUNDY

*Program Coordinator, xLAB - UCLA*

## SPECIAL THANKS TO

YUTAKA SHIKATA

MAYUKO MAEDA

KAORI NISHIBAYASHI

MASARU MURAI

NORIKO SHIMOKAWA

ARIEL LISOGORSKY

# xLAB

xLAB is an international think tank initiative that examines architecture's elastic boundaries and considers new possibilities through interdisciplinary collaboration in the study of the future built environment.

xlab.aud.ucla.edu  
xlab@aud.ucla.edu  
IG: x\_l\_a\_b