Eating On and Beyond the Infinite Corridor

by

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ABSTRACT

Infinite Stops are part of a design strategy for MIT's Campus that aims to make eating well effortless and enticing. Approaches to improving wellbeing and community, in addition to reducing carbon emissions and resource use at MIT must account for the benefits of social, plant-based meals.

Foodscape research uses the tools of architecture, GIS, behavioural economics, and participatory planning to explore how the relationship between daily life and the built environment shapes eating habits. Mapping parties invited members of MIT to describe their typical meals and spaces that support their social ideals. Typically, people walk a maximum of 5 minutes from previous and preceding activities to obtain meals which are eaten in 18 minutes or less. Work related convenience, cost, and the opportunity to run into friends often dictates where, what and how people eat. Social meals are valued, and people travel further to find spaces that exhibit an attractive social atmosphere in its architecture, menu, music, and hospitality.

In combination with MIT's geographic isolation from food places, time constraints make the spatial and cultural setting of the Infinite Corridor a key ingredient to people's eating habits social opportunities. Infinite Stops are built structures that intervene on the corridor; punctuating its "corridic" setting with plant-based food linked with a variety of "staying" spaces. The Stops provide fast and slow meals which help connect and mediate the densely populated corridor space with the underutilised outdoor spaces. Infinite Stops presents a vision for MIT to leverage design—graphic, architectural and urban—to achieve its health, community and sustainability goals. Though they butt up against systemic socio-economic challenges, they hint at how over the course of a university program, teaching or staffing role, the occasional meal can create meaningful and positive behaviour change. The underlying approach and findings can empower planning departments to study their respective time-famished, work-driven foodscapes and find opportunities to support eating well across different mealtime needs.

Thesis supervisor: Christoph Reinhart
Title: Professor of Building Technology

CONTENTS

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Thank you, Christoph Reinhart, who has been a wonderful teacher, advisor and friend throughout my time at MIT.

FOREWORD

If my time at MIT and research of its member's eating habits have taught me anything, it is that readers of this thesis will be short on time. Just as the design strategy in this thesis provides fast and slow options, this manuscript also offers a fast and slow reading options. Each section begins with a simply worded piece of prose that summarise the motivations, context, design proposal and impacts of the project. Longer paragraphs follow these snapshots in the form of extensive footnotes; offering readers a deeper dive into the work.

INFINITE STOPS

"Daily, our eating turns nature into culture, transforming the body of the world into our bodies and minds."
- (Pollan 2006)

"Nourishing the institute"
- MIT Dining

Eating food is not only a daily necessity, but an opportunity to shape fundamental aspects of who we are and our collective future. MIT struggles to make the most of this opportunity, and sometimes fails to enable regular healthy eating habits. 1

All images created by author unless otherwise noted.

Figure 1

A deliberate effort to studying how menus, architecture, and public spaces at MIT influence people's interactions with and around food is required. Ideally, this should inform a campus environment where it is enticing and effortless to follow Michael Pollan's instructions to "Eat deliberately", "mostly plants","with other people whenever possible, and always with pleasure." 2

MIT's Office of Sustainability echoes Pollan's points in its goals to reduce meat consumption on campus, and to create "spaces that promote healthy food choices" and "social connections". There are three major challenges in this goal. Work driven culture at MIT leaves people time-

famished, which demands they have fast meals near to their workplaces. On-campus food places are open briefly, lack plant-based menus, and do not entice long social meals. Finally, from MIT's Infinite Corridor, it's tricky to access food places around Cambridge, few of which are affordable and plant-based. 3

Figure 2

Figure 3

Settling for this "faltering food culture" and leaving major barriers to eating well unattended is crazy.

The stakes are high. Food insecurity is a persistent issue, especially among students who will often skips meals.

Plant-based food can deliver benefits to the environment, animal welfare and resource use that animal-based foods cannot. At their most dramatic these differences are evident in the striking contrast between the carbon emissions of a typical American diet versus plant-based diets. Or in the United States carrying capacity of its food system. If it was organised to feed vegetarian diets, it could feed 800 million people, twice as many as if it was organised to feed the typical American diet.

Food should support community. One third of students feel isolated, and many stressed. Social interactions are potentially the most important factors of a joyful meal and a happy healthy life. Connecting to strangers through sharing and conversation, contrary to many people's predictions, generates positive

experiences. The world's oldest study on adult health has a clear message: "people who are more socially connected, to family, to friends, to community, are happier, physically healthier and they live longer…"

In general people are simply dissatisfied with campus food services—which themselves have not been given the tools to tackle these issues.

To help food services and to take advantage of the opportunities presented by food, MIT needs a more rigorous framework to identify the ways in which the spatial and cultural setting of its campus shapes eating habits.

This design strategy provides some of this framework. It explores a vision where MIT can support eating well by focusing on improving social connection between people while helping them shift toward plant-based diets. 4 *Figure 4*

Infinite Stops are new on-campus food places that help people eat well even when stressed. They are located along the busiest place on campus—the Infinite Corridor—in view, smell and hearing distance of most people's journey through MIT. They leverage the know-how and infrastructure of existing food services to tactfully move food in front of people, move people away from work and in front of one another. Across a workday, they offer rapid meals at their storefronts by the Infinite Corridor, and much slower meals just off the corridor. This strategy enables the fast-paced *Figure 5* *Figure 56,7,8*

meals MIT demands, and invites the slower, more social meals people desire. 5

Figure 9,10,11,12,13

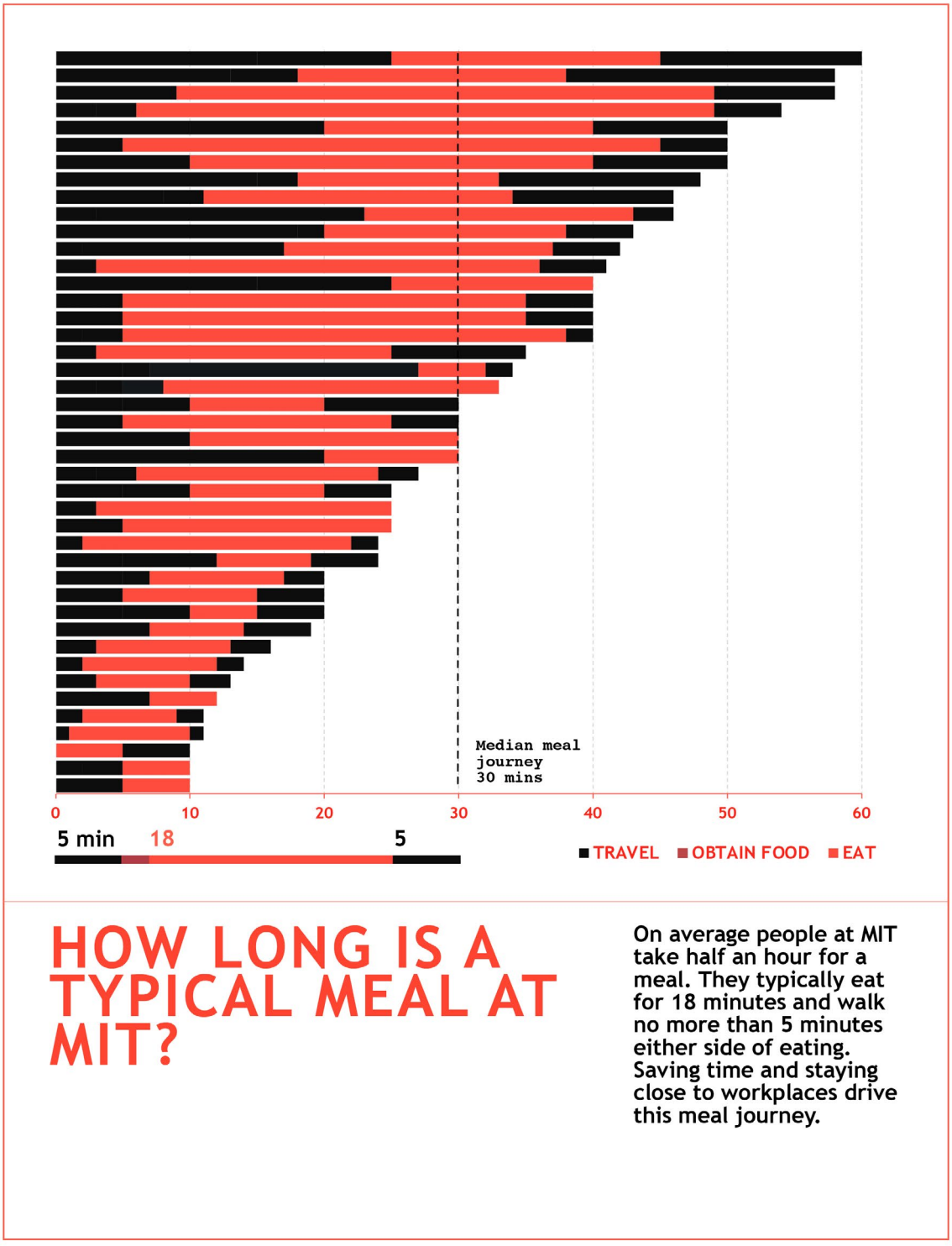


Figure 1 *Bar graph showing all the results form a prompt asking people to draw out their typical meal timeline. The median meal timeline is highlighted in the box.*

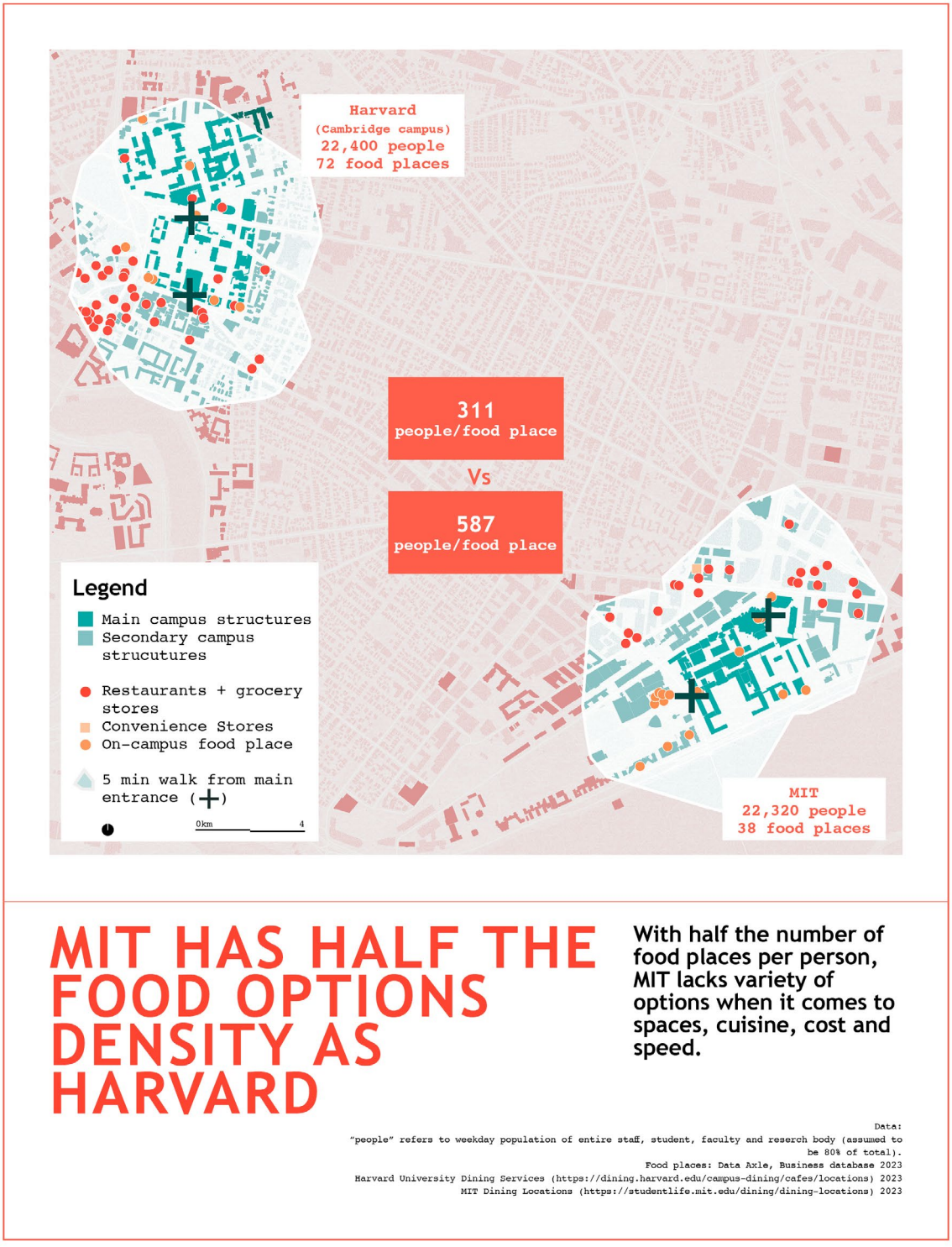
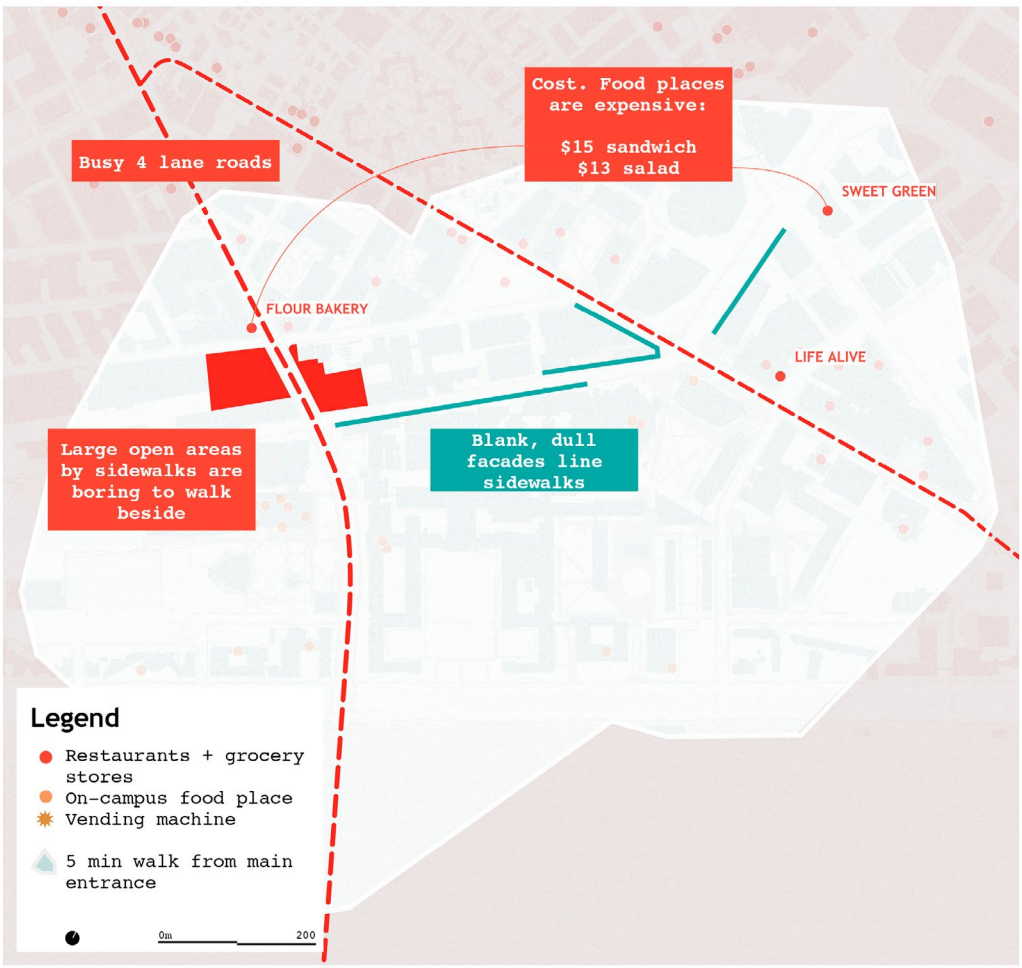


Figure 2 Map Showing the difference between the density of food places within five minute's walk of Harvard's campus versus MIT's.



WHAT BARRIERS ARE THERE TO GET FOOD OFF CAMPUS?

To reach off-campus food places must walk along sidewalks shared with four-lane traffic and blank facades. At the food places, they face expensive menus. A sandwich can cost $15 and a cup of orange juice $10.

Figure 3 *Map showing the few options that offer "plant-based menus" near MIT and the barriers that make it hard to reach them.*

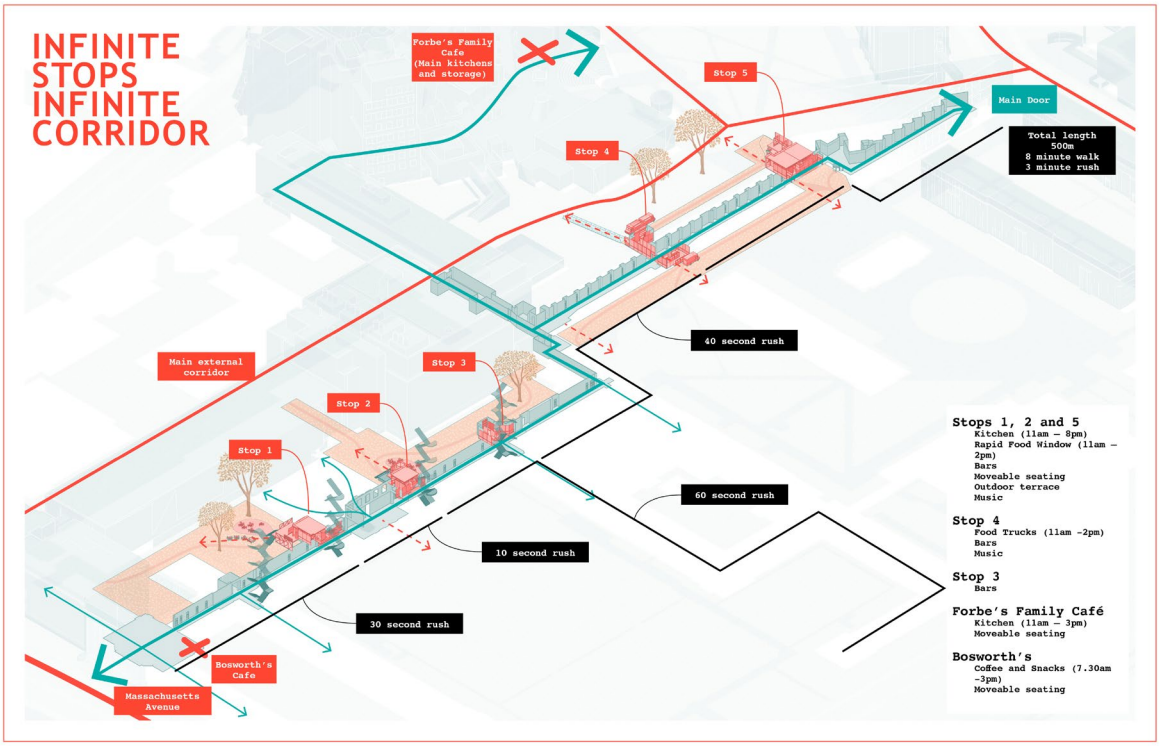


Figure 4 *Isometric showing Infinite Stops located along the length of the main stretch of the Infinite Corridor. Close-ups of the stops shown on the right-hand side. legend Enalarged below.*

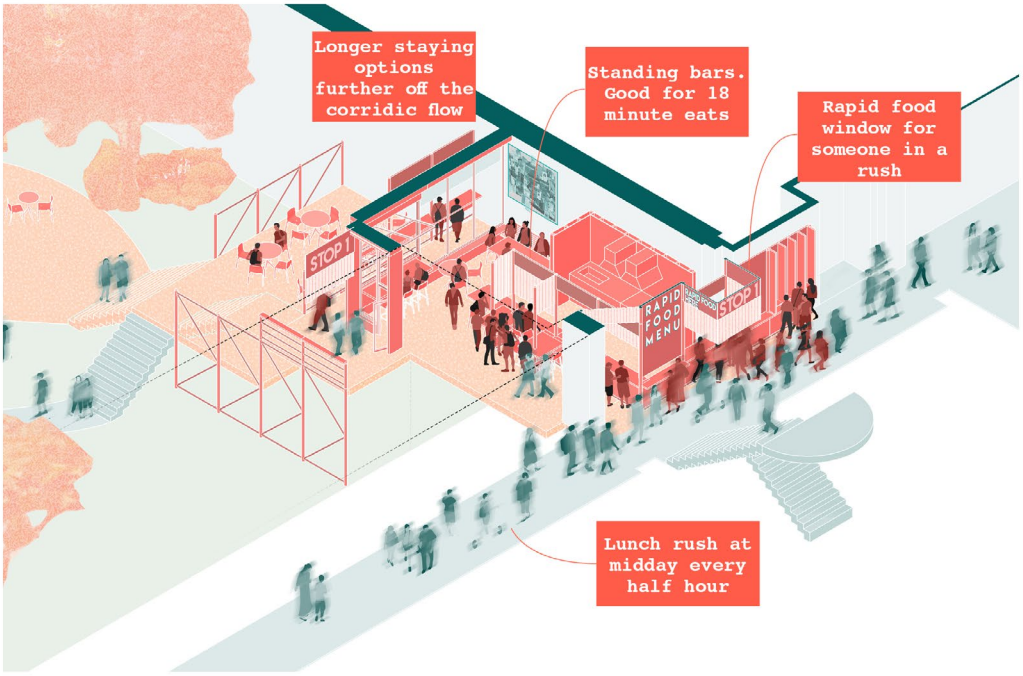
Stops 1, 2 and 5
- *Kitchen (11am – 8pm)*
- *Rapid Food Window (11am – 2pm)*
- *Bars*
- *Moveable seating*
- *Outdoor terrace*
- *Music*

Stop 4
- *Food Trucks (11am -2pm)*
- *Bars*
- *Music*

Stop 3
- *Bars*

Forbe's Family Café
- *Kitchen (11am – 3pm)*
- *Moveable seating*

Bosworth's
- *Coffee and Snacks (7.30am -3pm)*
- *Moveable seating*

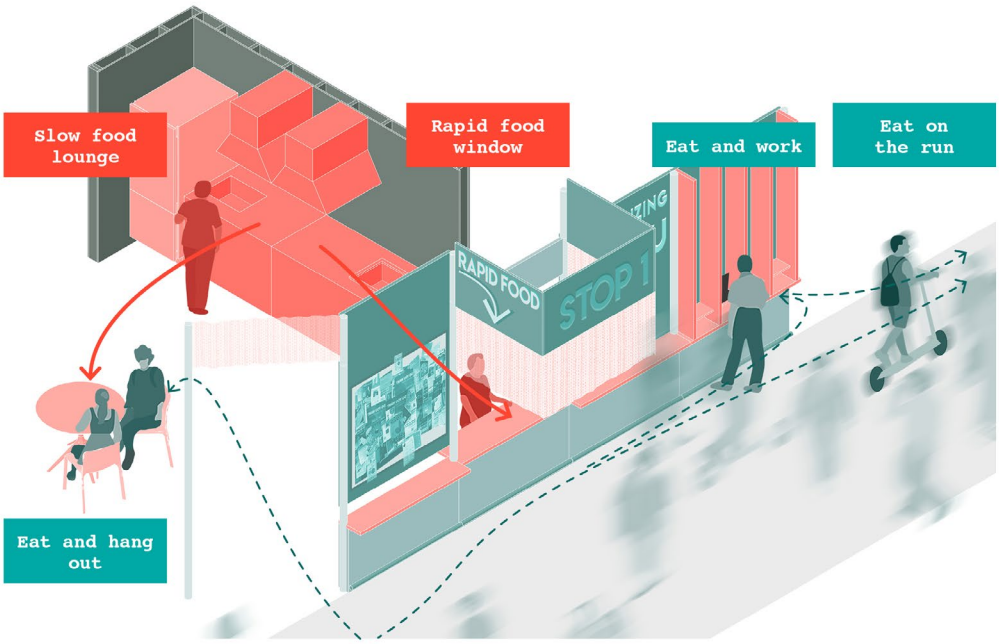


STOP 1

FAST AND LONG MEALS ON A FAST AND LONG CORRIDOR.

Stops 1, 2 and 5 have rapid food windows and a compact kitchen that is supported by the pantries and prep spaces at the Stata Center. They are located along the busiest place on campus—the Infinite Corridor—in view, smell and hearing distance of most people's journey through MIT.

Figure 5 *Isometric showing Infinite Stop 1 in use. This stop fits between buildings 3 and 10 on an unused terrace locked off from the Infinite Corridor.*



SCOOTERS, LEANS AND DINING TABLES.

Someone rushing, someone working and a group hanging out all use an Infinite Stop. On the corridor rapid food serves people rushing at the storefront. Off the corridor slower food is offered for people sitting and stopping.

Figure 6 *Three people eat in three different ways by using the the menu and staying options to suit their needs.*

SCREENS FOR VISUAL CONNECTION AND DISCRETION

Conversations reflect the level of connection to others. For large groups, it might be better to have a more open bar. With smaller pairs or individuals, the lowered screens provide some enclosure.

Figure 7 *Screens and blinds can be moved up and down to enable varying levels of visual connection between people around an Infinite Stop's bar space.*

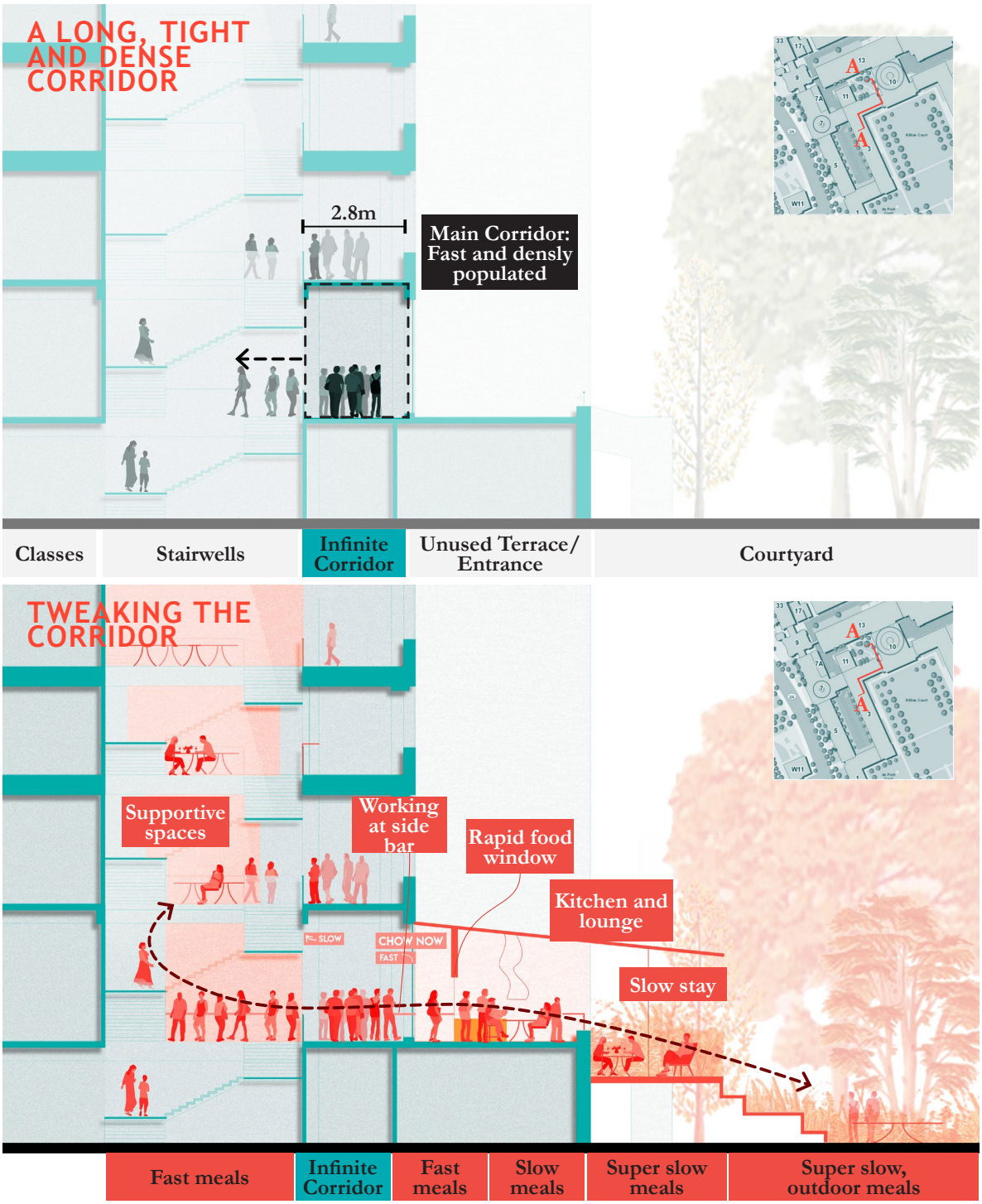


Figure 8 *Sections through an Infinite Stop. The top section shows the existing condition and the sharp contrast of density between the Infinite Corridor and the external spaces just beyond its envelope. The section below shows the Infinite Stop in use at lunch time.*

A MENU FOR EATING WELL, FAST AND SLOW

The Infinite Stop menu is designed around speed and sharing. The options support people to make decisions based on their time-constraints and interest in socialising.

Figure 9 *The Infinite Stop menu. The menu organises the food, all plant-based, around the speed it takes to prepare. The shared options are highlighted with a black star to prime people to eat in groups and socialise with others.*

Figure 10 *Stop 2 viewed from the corridor during an evening rush at 5.30pm.*

Figure 11 *A student eats a 747 at the working bar while replying to emails.*

Figure 12 *Oysters are enjoyed by a group at Stop 5.*

Figure 13 *The blinds are lowered for a more private lunch at Stop 5.*

BEYOND NUDGING: A FOODSCAPE APPROACH

Tristan Searight

"It's almost as though people in the fields of public health and urban planning and design speak different languages."
- (Gehl Institute 2018)

"Those who misunderstand the consequences of social interactions may not, in at least some contexts, be social enough for their own well-being."
- (Epley and Schroeder 2014)

Shifting eating habits begins with a new menu. A plant-based menu at easy to access places that work in tandem within enticing staying spaces can change what and how people eat.

Making plants the default is essential, people need more than a nudge to shift their habits. A nudge test with two of MIT's cafeterias, Forbes Café and 100 Market Street, demonstrates this. 6 *Figure 5s 14,15*

This test used behavioural nudges to shift people towards plant-based options at these cafeterias. Behavioural nudges alter the appearance of choices to predictably change behaviour without removing options. At the two cafeterias, informational nudge posters and labels were placed by food items in the

retail areas. These signs were designed to communicate the benefits of eating plants using vibrant simple messaging to nudge people to choose the plant-based options. *Figure 5s 16,17,18*

Data of the plant-based food sales was collected then analysed as a proportion of the animal-based food sales for main meal items. A baseline data collection was conducted for two weeks, followed two weeks when posters were in place.

The results show that trying to tell people to eat plant-based when they have been hardwired to do the opposite and must deal with MIT's "firehose" of information makes essentially no difference to sales. Interestingly, the total proportion of plant-based sales—about 12%—reflects their availability in the menus. *Figure 519*

New menus are needed to change what people eat. But MIT should go beyond menu options to generate food security and community. For this, we must zoom out to understand the relationship between life on the Infinite Corridor and the city of Cambridge. 7

A foodscape approach focuses on how the intersection of daily life, public space and food places inform eating habits. It requires engaging with people to unpack how they feel, think and act towards food in their neighbourhood. At MIT, eating habits were studied through conversations and tests with campus food services, mapping parties with students and

faculty, food place surveys, and observational activity studies at food locations. 8

Foodscape mapping parties invited member of MIT to share how their daily life shapes their meal habits and social ideals. Two maps were designed to prompt participants to describe and draw their typical meal journeys: their behaviours around traveling to, buying, cooking, and eating food.

Figure 520,21

Figure 5 22

The maps were designed with food places labelled within walking distance of MIT to help participants describe factors that are important to these typical meals, and annotate spaces that support joyful social experiences. 9

Figure 5s 23,24,25

One the most important drivers of eating habits is saving time and staying close to work. The typical meal is quick, people will walk for a maximum of five minutes and tend to eat in 18 minutes or less. Most people experience time-famine—the sense of having too many things to do and not enough time for them. Many people work while they eat. Observational studies of on-campus dining spaces showed the consistent overlap between work and eating at MIT.

Cost also defines eating habits. Combined with lack of options and the need to save time, cost presents a barrier to eating plant-based meals, and is a driver for people skipping them.

This cultural context is a major challenge for MIT given its geographical relationship to

food places. There are many food places in Cambridge—full-service restaurants, takeaways, grocery and convenient store, farmers markets and pharmacies. But compared with Harvard Yard, MIT has half the density of food places per capita within five minutes walk of the Infinite Corridor's main entrances.

Even within these couple dozen options there are additional barriers. Half of students remain on campus after 6pm, but after 3pm, most campus food places close. If someone is looking for a menu offering at least one plant-based main for every four, after 3pm, in this walking distance, they have only three options to choose from.

This assumes people will walk from their class, office or lab to the entrance, and then along sidewalks shared with four-lane traffic and blank facades. At these food places, they face expensive menus. A sandwich can cost $15 and a cup of orange juice $10.

Eating well at MIT is therefore, at the mercy of on-campus food places. It is their responsibility to offer rapid plant-based meals and set the scene for vibrant social activity throughout the working day.

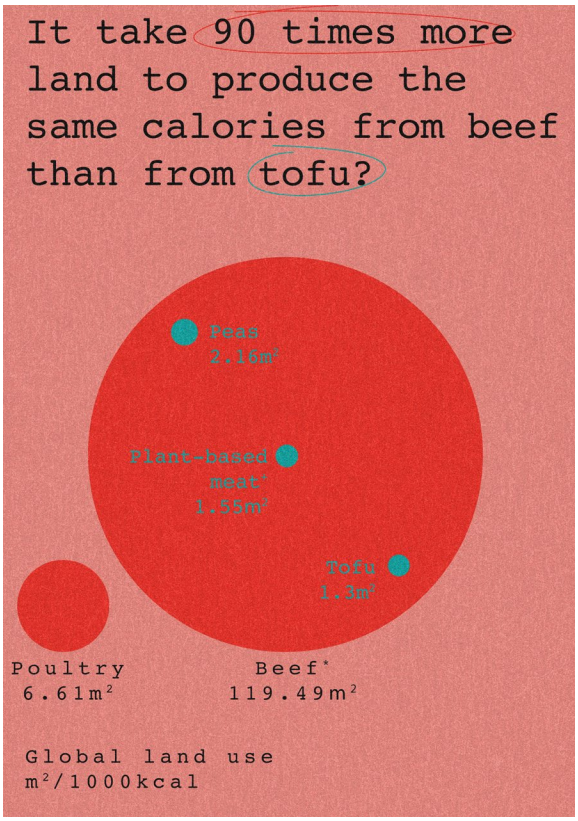


Figure 14 *Detail of an A1 size nudge poster designed to make the land use of animal-based foods salient.*

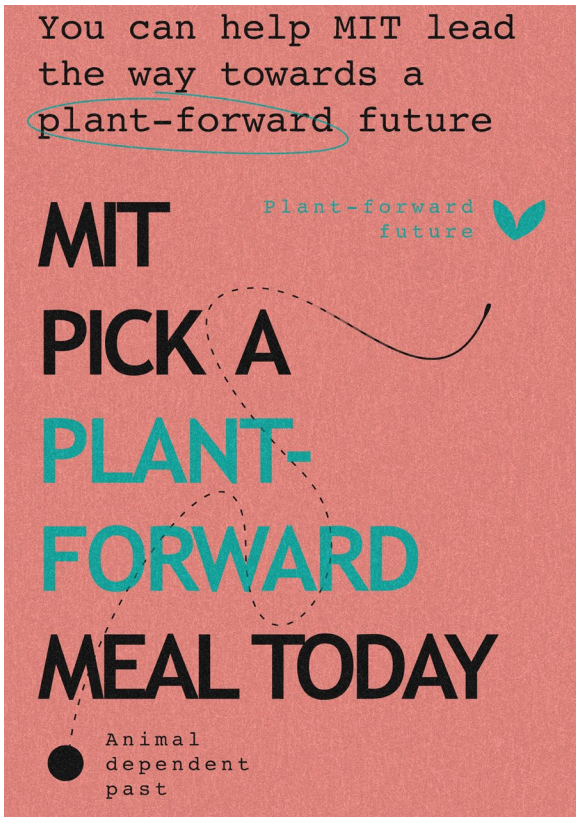


Figure 15 *Detail of an A1 size nudge poster designed to leverage a MIT's community efforts to create a better future.*

Figure 16 Detail of an A1 size nudge poster designed to leverage a MIT's community efforts to create a better future.

Figure 17 Photograph of nudge signage on screens at Forbes Café during test weeks.

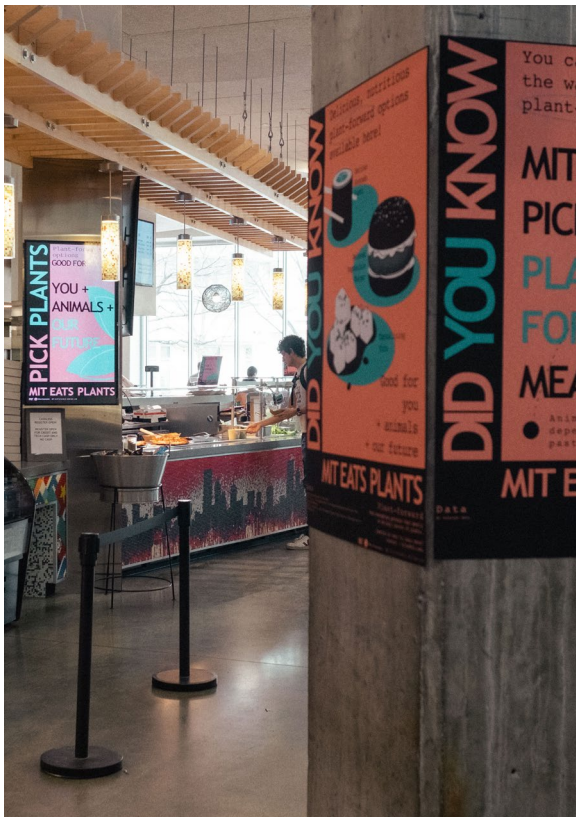


Figure 18 Photograph of nudge signage at the sushi shelf at Forbes Café during test weeks.

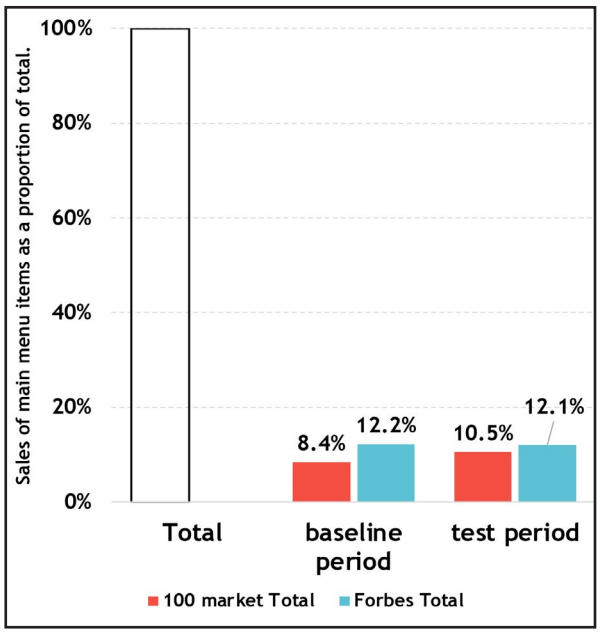


Figure 19 Table of results from the baseline sales and test sales of plant-based and animal-based mains at the two food outlets. The proportional difference between the two data collection periods shows the signs made little difference to sales as a proportion of total mains sales.

Figure 20 Photograph of a foodscape mapping party with members of the sustainable design lab. Participants draw on the maps according to the six prompts.

Figure 21 Photograph of a foodscape mapping party with members of the sustainable design lab. Participants draw on the maps according to the six prompts.

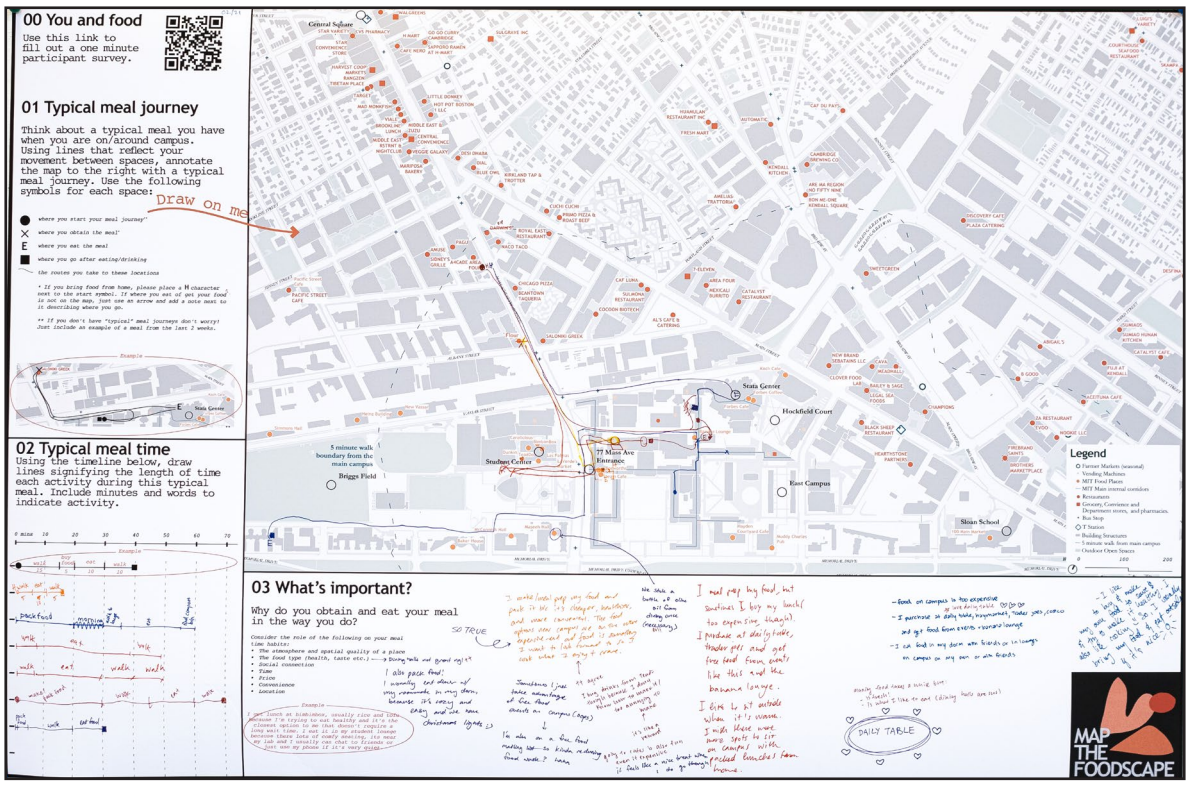


Figure 22 Photographs of the typical meal prompts map. two completed maps with participant input. Prompts read:

01 Typical meal journey. Think about a typical meal you have when you are on/around campus. Using lines that reflect your movement between spaces, annotate the map to the right with a typical meal journey. Use the following symbols for each space:

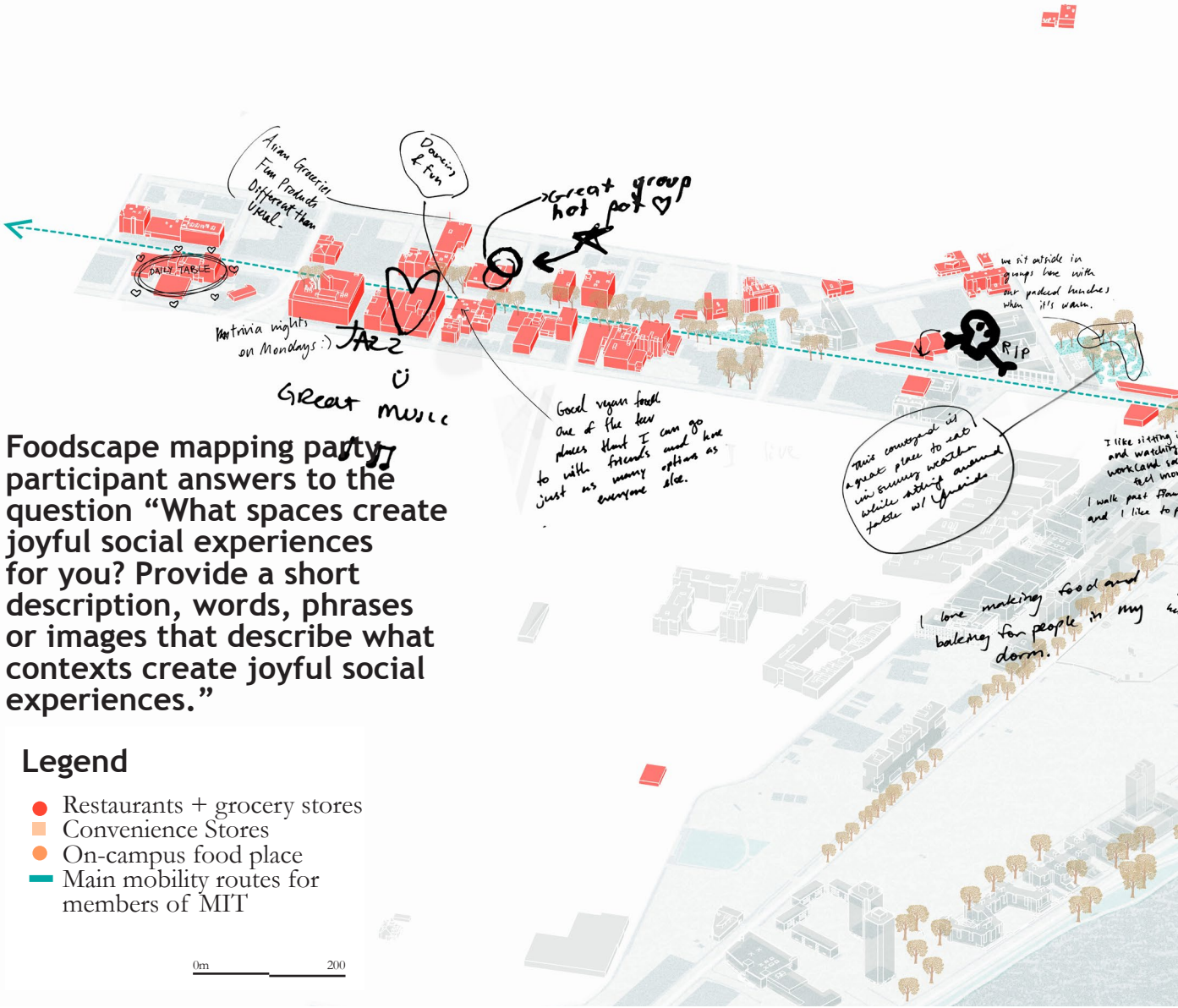
02 Typical meal time. Using the timeline below, draw lines signifying the length of time each activity during this typical meal. Include minutes and words to indicate activity.

03 What's important? Why do you obtain and eat your meal in the way you do?

Figure 23 (pages 36-37) Isometric showing a collection of responses to the social map from the foodscape mapping parties. (Figure 25 offers a transcription summarising the written responses).

Figure 24 (pages 37-38) Isometric showing the opportunity presented by the main stretch of the Infante Corridor given the surrounding foodscape and work pressure people at MIT face.

WHAT SPACES CREATE JOYFUL SOCIAL EXPERIENCES?



Foodscape mapping party participant answers to the question "What spaces create joyful social experiences for you? Provide a short description, words, phrases or images that describe what contexts create joyful social experiences."

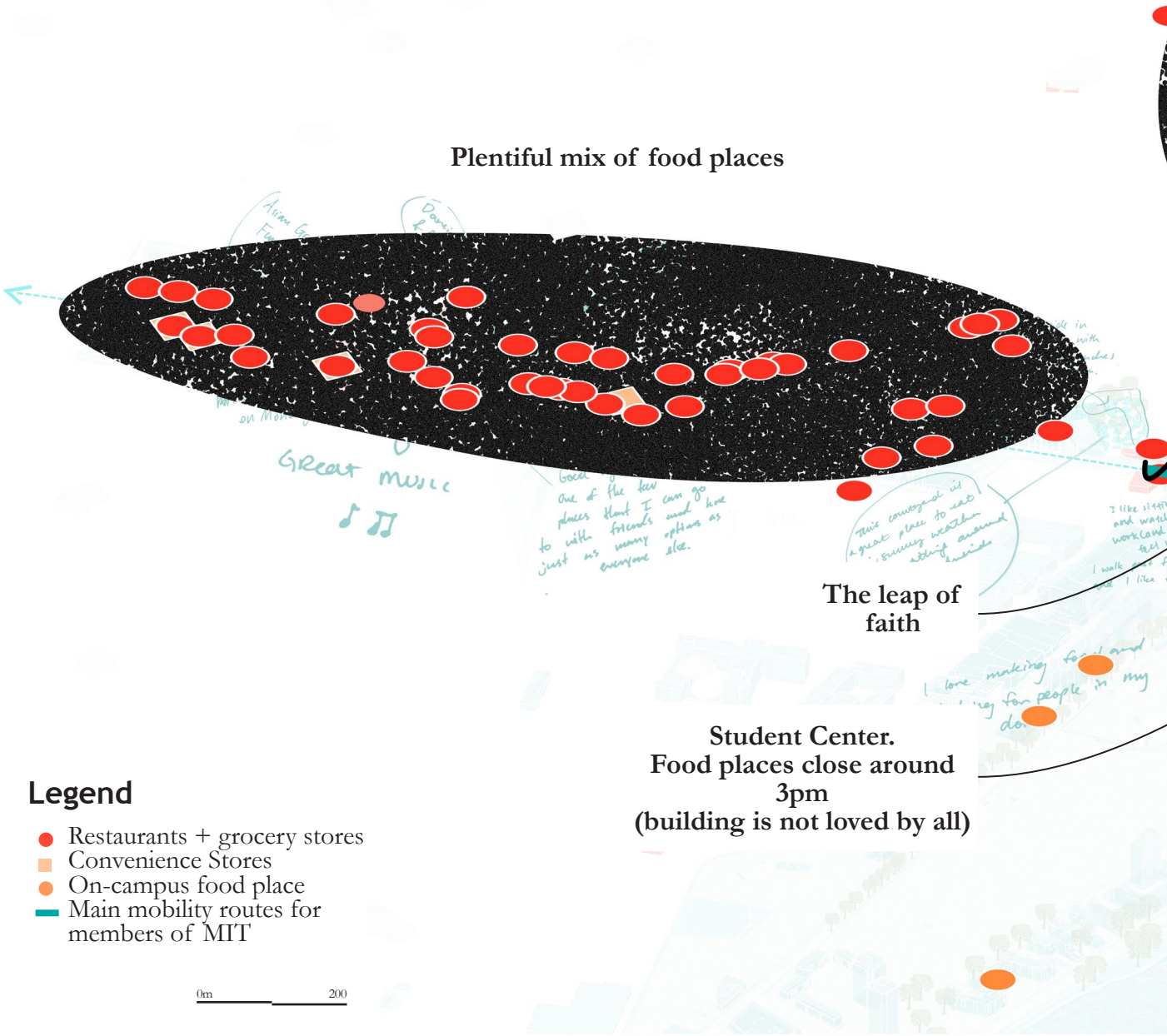
Legend

- Restaurants + grocery stores
- Convenience Stores
- On-campus food place
- Main mobility routes for members of MIT

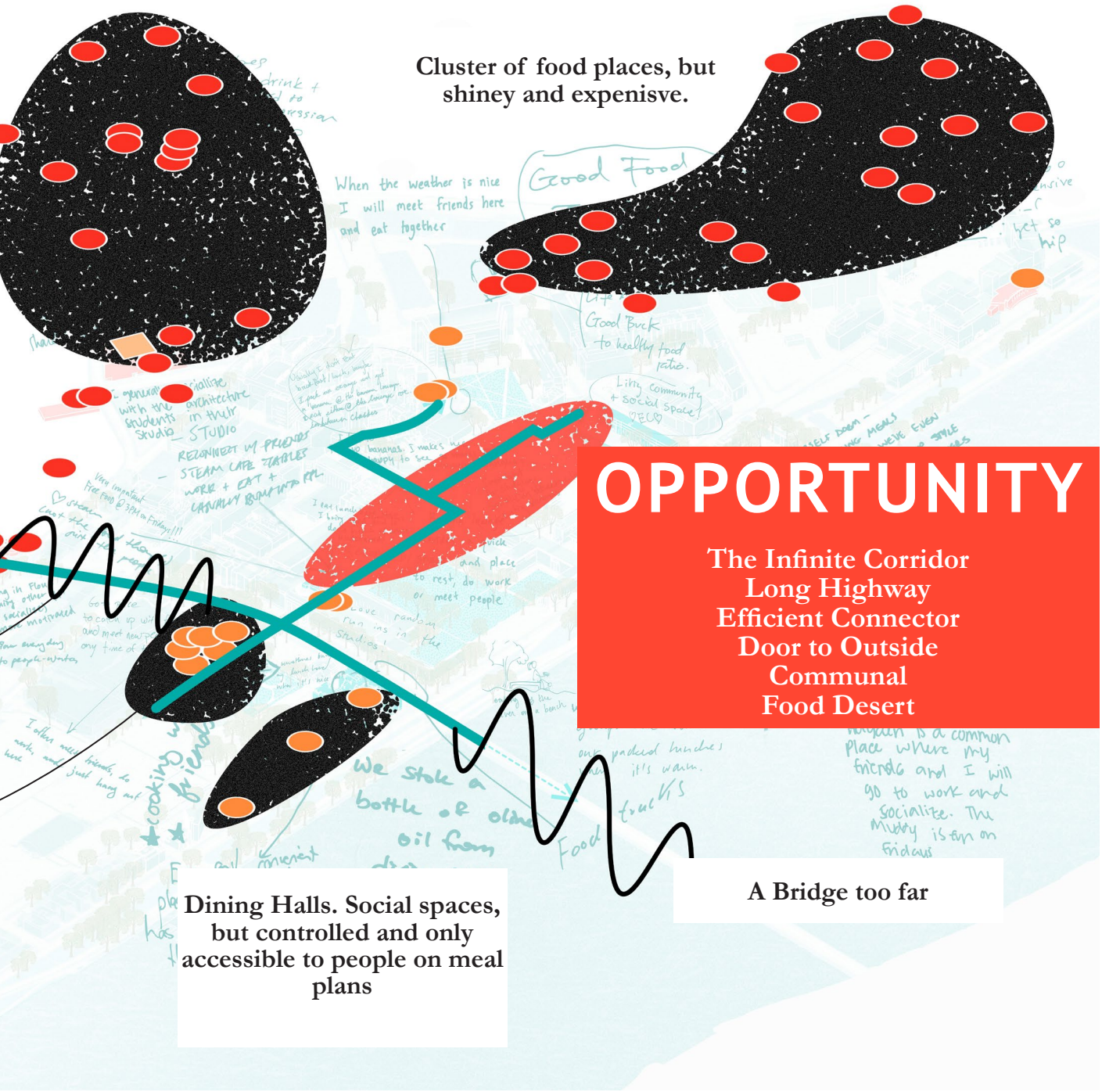
0m 200

Best vibes for a chill drink + shuffle board to get out aggression post studio
Gather here with class
great service
great mushroom pizza
Movement
PEOPLE TAKING A NICE MEANDERING PATH, GOOD PEOPLE WATCHING
best pizza in Cambridge!
When the weather is nice I will meet friends here and eat together
Good Food
Too expensive.
Fast.
$$$
overpriced : yet so hip
sooooo expensive
Life Alive
Good Buck to healthy food ratio.
Lily community + social space!
I generally socialize with the architecture students in their studio
STUDIO
RECONNECT W/ FRIENDS
STEAM CAFE TABLES
WORK + EAT + CASUALLY BUMP INTO PPL
I like to pick up bananas. I makes me happy to see so many ppl enjoying bananas
Banana lounge provides a quick snack and place to rest, do work or meet people
Important for studying, socializing between class, eating bananas
COOK-FOR-YOURSELF DORM - I LOVE COOKING MEALS WITH FRIENDS - WE'VE EVEN DONE CO-OP STYLE GROCERIES + DINNERS
Very important Free Food @ 3PM on Fridays!!!
SECONDED!
Love random run ins in the studios!
Go to place to catch up with friends and meet new people at any time of the work day
Work + latte + friends
Cheapest sandwiches on campus!
eating in the courtyard w/ friends you run into at Hayden :)
Hayden is a common place where my friends and I will go to work and socialize. The Muddy is fun on Fridays
eating by the river on a bench
We sit outside in groups here with our packed lunches when it's warm.
Food trucks
cooking with friends
We stole a bottle of olive oil from dining once (necessary)
Easy and convenient place for food, always has some friends eating there at the same time

AN OPPORTUNITY ON THE INFINITE CORRIDOR



Popular social food places
(far >10min walk)



Cluster of food places, but shiney and expenisve.

Dining Halls. Social spaces, but controlled and only accessible to people on meal plans

A Bridge too far

THE TERMS OF JOYFUL SOCIAL EXPERIENCE

Full Question: "What spaces create joyful social experiences for you? Provide a short description, words, phrases or images that describe what contexts create joyful social experiences."

PEOPLE WATCH. SOCIALIZE. I LIKE TO PEOPLE WATCH. MEETING PLACE. MEET WITH FRIENDS AFTER CLASS. CATCH UP WITH FRIENDS. MEET NEW PEOPLE.BUMPING INTO PEOPLE AND FRIENDS. CASUALLY BUMP INTO PEOPLE. LOVE THE PEOPLE. COMMUNITY STYLE DINING. RUN-INS WITH PEOPLE YOU KNOW.RUN INTO HOMMIES. SEEING PEOPLE EATING BANANAS AND CHILLING MAKES ME HAPPY. CHILL ATMOSTPHERE. IMPORTANT FOR SOCIALIZING. MEET PEOPLE.SHARABLE VEGGIE AND MEAT OPTIONS. GREAT PLACE TO HANGOUT. CLASSICE FOR FRIENDS VISITING.COFFEE WITH FRIENDS. SOCIAL PLACE.MEET FRIENDS NEAR CAMPUS. SOCIAL PLACE.LIVELY COMMUNITY AND SOCIAL SPACE. COOKING WITH FRIENDS. CO-OP GROCERIES.SOCIAL PLACE.HAPPY HOUR. SOCIAL, LONG NIGHTS. RANDOM RUN-INS. STUIOS ARE SOCIAL.ALWAYS FRIENDS AROUND.BAKING FOR PEOPLE IN MY DORM. COOKING WITH FRIENDS FOR SOCIAL AND EMOTIONAL BENEFIT.TABLES FOR EATING WITH FRIENDS.SHOPPING WITH STUDENTS. SOCIAL EATS BEFORE CLASS.FAVORITE GROUP DINNER PLACE. DINNER WITH FRIENDS. COLLECTIVE ACTIVITIES.SOCIAL PLACE.SOCIAL PLACE. SOCIAL PLACE.COMMUNITY DINING. COOKING WITH FRIENDS.SEE FRIENDS.RUN INTO FRIENDS.MEET FRIENDS.FUN AND SOCIAL HAPPY HOURS. FUN ON FRIDAYS. SOCIAL PLACE.COFFEE WITH FRIENDS ON WEEKENDS.MEET FRIENDS.COOKING WITH FRIENDS.PLAY TENNIS WITH FRIENDS. SOCIAL PLACE.IMPORTANT SOCIAL PLACE.FUN RUN-INS.SOCIALIZE WITH HOUSEMATES. MEET AND EAT WITH FRIENDS WHEN WEATHER IS GOOD.SOCIAL PLACE.SIT IN GROUPS. STUDENT GROUPS LOVE IT. COFFEE. QUICK BITE.FREE FOOD AT 3PM.I LIKE TO PICK UP BANANAS. EATING BANANAS IS IMPORTANT. QUICK SNACK.GREAT PITTA. BEST PIZZA IN CAMBRIDGE.OAT MILK CAPPUCCINOS. CHEAPEST SANDWICHES ON CAMPUS.GOOD BUCK TO HEALTH RATIO. HEALTHY FOOD.SHAKSHUKA HANGOVER CURE. HOT SHAKSHUKA ON COLD MORNINGS.FREE COFFEE (LOVE HEART). FREE ESPRESSO AND SNACKS.VARIETY. UN PRODUCTS. KOREAN SNACKS FOR SHARING.HEALTHY AND TASTES GREAT. HEALHTY. FREE FOOD AT EVENTS. HALAL OPTIONS.GOOD FOOD.GREAT ASIAN FOOD.CHEAP. BEERS.GREAT PASTRIES.GOOD COFFEE. FOOD FEELS. FEELS HOMEMADE. EXPENSIVE. EXPENSIVE. EXPENSIVE.LITTLE OVERPRICED.EXPENSIVE.LACKS FOOD. LACKS VARIERY OF BEVERAGES. WORK SPACE. WIFI. PLACE TO SIT.TABLES TO WORK AND EAT. GOOD TABLES. GOOD NATURAL LIGHTING. CASUAL ATMOSTPHERE.STUDYING. WORK SPACE. RESTING SPACE.NICE LIGHTING. COURTYARD IS A NICE PLACE TO SIT. WORK SPACE. WORK SPACE.LOTS OF SEATING. LOTS OF SUNLIGHT.ROOMS TO WORK. PING PONG TABLE.COSY AND CHRITSMAS LIGHTS.AREA TO EAT WHEN ITS NICE OUT. GREAT PLACE TO EAT WHEN ITS GOOD WEATHER. BEST SPACE.GREAT JAZZ MUSIC. JAZZ ROOM.CLOSE. WORK SPACE.AMAZING COLLABORATION SPACES. SPACIOUS.GOOD VIEWS AND WALKS. BENCHES TO EAT ON. SPOT BY THE WATER.TRIVIA NIGHTS. BEST VIBES FOR A CHILL DRINK. SHUFFLEBOARD.NO QUE.A PROPER CAFÉ.WORK SPACE.FRESH AIR. SUNSHINE. BEST PLACE TO SIT AND EAT MEALS BROUGHT FROM ELSEWHERE.WORK SPACE.OPEN. AREA TO EAT WHEN WARM.COSY. SEATING SOMETIMES FULL.LACKS SEATING.STICKY TABLES. CONVENIENT.GREAT SERVICE. SPICES UP THE DAY.STUDY BREAKS. BIRTHDAY PARTIES.LONG WALK BUILDS UP THE ANTICIPATION.EASY. CONVENIENT.EASY.EVENT DINNERS. VALENTINE DAY.GOOD MEMORIES.OPEN LATE.FAST. GOOD PLACE TO GO AFTER PLACES ON CAMPUS ARE CLOSED.1ST MEAL IN CAMBRIDGE. GOOD FOR TAKE OUT. FANCY GROUP MEALS.HOMEMADE MEALS.FREE FOOD.BEST QUALITY.MIDDLE EASTERN FOOD FEELS LIKE HOME.GREAT BEERS.BEST INDIAN FOOD AROUND.FIRES. FOOD TRUCKS.BAD PIZZAOVERPRICED. SOO EXPENSIVE. WORK SPACE. FEELS OPEN. FUN DANCING. COOL ACTIVITIES AND EVENTS.LOVE GOING WITH FRIENDS AFTER VISITING BLICK.GREAT BRUNCH PLACE. OPEN LATE. GOOD PLACE TO GO AFTER PLACES ON CAMPUS ARE CLOSED. NICE BRUNCH

Figure 25 *(opposite) Summary of terms from the social prompts in the foodscape mapping party maps.*

FAST CORRIDORS, FAST LUNCH

"Everyday food decisions are largely automatic, habitual and poorly regulated… Selection is made in the most efficient manner, to minimise mental and physical effort."
- (Ensaff 2021)

Speed is enabled at Infinite Stops through rapid meal items. These items can be ordered and consumed at the Stop's storefront without ever leaving the corridor, and even without stopping.

Three rapid meals are offered: a sandwich, the speed shake and the 747—a premade airplane-style meal designed for complete dinging efficiency. 10

Its 1.30pm on the corridor, someone's speed walking and swipes their bank card or MIT ID at the self-serve ticketing machine, receives their order slip, takes it to any rapid food window and hands it over in exchange for their 747 then keeps moving. Bar spaces besides the window, enable this person to privately eat the 747 with one hand, while the other replies to emails on their laptop above. Perfect for the student who explained "I just need something quick, I have too much going on."

The bar modules around the rapid window offer enclosed spaces for working on a laptop. Others are open to the corridor to create spontaneous meetings with friends.

The much-loved run-in was frequently noted by foodscape mapping participants as an important aspect of where they eat. Like Steam Café—designed by an architecture student in 2005— and the student run Banana Lounge, Infinite Stops merge eating activities with the corridor flow. Standing bars spark interactions with the "constant stream of new faces." They keep conversation partners at eye-level and give them an option to rest without committing to sitting down and fully departing from their journeys. 1

TWEAKING THE CORRDIC STRATEGY

"I struggled to keep up within the swarm of students pacing in both directions. It felt chaotic and noisy – but strangely had an underlying order."
- (Dishita 2017)

These storefront meals take place across the Infinite Corridor. "Food desert" is a term traditionally applied to entire neighbourhoods. It is also fitting here, since the work fuelled time-space compression at MIT turns the 500m long corridor into a tight highway.

The Stop's modify this highway at some of the many "dead" boundary conditions. So often, this boundary is defined by dull, inactive surfaces and objects: mostly secondary entrances, corners and interstitial nooks. 12 *Figure 526,27,28,29*

Stops 1, 2 and 5 have rapid food windows and a compact kitchen that is supported by the pantries and prep spaces at the Stata Center. Stop 4 is fed by local food trucks, which dock at both sides. Stop 3 is a supportive space, providing additional bars and refuge.

In this way, Infinite Stops are tweaking MIT's "corridic" strategy. The "corridic" strategy, as described by Mark Jazombek, was employed by the

engineer-architect synthesis of William Bosworth and John Ripley Freeman. In their design of MIT's original Cambridge buildings, doubled loaded corridors were chosen for efficiency and speed. Instead of transitioning from one building to another via courtyards and sidewalks like at pavilion style campuses, people at MIT rush through an internal corridor network, that has expanded as new buildings have been added. 13

Figure 530,31,32,33

The corridic strategy drives the fast-paced life that makes it so difficult to eat well today. But perhaps no other space around campus presents such strong opportunities to help people eat well and even slow them down.

Figure 26 Photograph of the corner of building 56.

Figure 27 Photograph of the triple entrance zone from building 56 to building 66.

Figure 28 Photograph of secondary entrance to building 66.

Figure 29 Photograph of an entrance (locked) to building 3.

Figure 30 Photograph of the corridic flow in the Infinite Corridor in building 26.

Figure 31 Photograph of the corridic flow in the Infinite Corridor near building 10.

Figure 32 Photograph of scooter—tranport tools for getting around the highway—in the Infinite Corridor near building 16.

Figure 33 Photograph of the corridic flow in the Infinite Corridor at the main entrance from lobby 7.

LONG CORRIDORS, LONG LUNCH

"Food cues provoke an automatic desire for eating, regardless of appetite, meal setting, and whether the food actually tastes good."
- (Clary, Matthews, and Kestens 2017)

"Shall I tell you what's important to me when it comes to eating, [it] is the people I sit with. It's all about the moment… and the most important aspect of any restaurant is the environment we sit in, not what's on the plate."
- (White 2016)

Slow meals are happening behind the storefront, around the kitchen and terraces. Mostly the Stops squeeze the typical 30-minute meal journey down to 10 or even two minutes. This squeeze occurs at the critical time of lunch—between 11am and 2pm while the rapid windows are open and fuelling the corridic flow. But occasionally during this time, until 8pm, the conditions and menu behind the storefront will entice someone to eat slower.

Social experiences are highly valued at MIT, and food often plays a key role. 14

The foodscape mapping party prompted people to locate and describe spaces that create joyful social experiences. People travel longer for slower social meals and tend to enjoy them in places that

are away from campus—"third spaces" that are "refuges" from work and home.

The spaces that were noted as socially enjoyable by participants were studied further. Banana Lounge was studied as a social food place. Along with being scrupulous about banana yellowing, the Banana Lounge Team has analysed aspects of the lounge that influence positive social experiences. Additional architectural surveys of social food places combined with information from Banana Lounge, helped shaped the design of Infinite Stops. 15 16 *Figure 534,35*

Behind their storefronts, the "rules of the road" of the corridor are completely broken. Things here are moving slower.

Food is ordered at the bar, prepared in view of diners, and can be eaten there. Allowing people in the dining service to express their passion for feeding people at MIT and enhance the social activity. This is a place "where they know your name" and can even offer the "tactful listening skills of a priest hearing confession." These interactions will be imperfect, but spaces for "social connection" should be designed with both sides of the plate in mind.

Ten slower meals are offered. These take between two and ten minutes to prepare. Sharing is emphasised—three dishes is ideal for two people with 30 minutes to spare. People pass plates between each other across bars and tables. Large groups, with plenty time, share bowls of Maine

oysters after their finals or winning funding. 17 18

The compact space brings people close together. This floor area offers a similar dining space density found during 100 Market Street's bustling lunches—1.4 spaces per square meter. However, the smaller, 40 square meters area creates a more intimate and enclosed atmosphere.

Physical proximity, where people are "compressed into meeting each one another", generates social interactions. Bar surfaces are shared between groups. Diners can move their feet and stools to react to neighbours, allowing them choice with their position and orientation.

Low lighting and translucent blinds provide additional discretion in such a tight space. Shoulder-to-shoulder with someone, with blinds lowered down a little and shrouded by music, people may empathise with each other about their demanding students, a lingering p-set and the "struggles, the joys and the tragedies of human experience".

Figure 34 Diagram summarising the responses from the foodscape mapping party prompt "what spaces create joyful social experiences for you?"

Figure 35 *Photograph taken during surveys of popular food place facades near campus.*

INFINITE CORRIDORS AND BEYOND

"Systems are relentless, pushing and pulling so often in the wrong direction."
- (Francisco 2005)

"Today, and probably into the future, dietary change can deliver environmental benefits on a scale not achievable by producers."
- (Poore and Nemecek 2018)

Changing people's eating habits does not happen overnight. But over the course of a few years, Infinite Stops could generate meaningful behaviour change.

Currently, a student on a three-year program will be on campus for a total of 1,000 hours. They will eat for 50 hours, out of which, if one meal every two days is eaten with friends, they will experience 17 hours of social meals. With opportunities that expands these social meals by 10 minutes, and enables longer one-hour meals every week, the time duration of meaningful social experiences can triple.

For the institute, frictions and losses from this strategy will loom large. "Infinite Stops", people will say, are a "trouble spot" on the corridor. The "worst bottleneck in the whole system". And why would the institute spend more money on new food places when it must already subsidise six figure losses from its existing food services every year? 19

The possible economic and political barriers to Infinite Stops remain outside the scope of this strategy. However, hopefully it motivates efforts to tackle these barriers. 20 21

Plant-based menus are vital first steps for change, but menus alone cannot alleviate food insecurity and cannot fully leverage the benefits of eating well.

An Infinite Corridor that connects people in overlooked campus spaces, that enables fast and slow social meals, may allow people to leave MIT having experienced the benefits of eating "deliberately, with other people whenever possible… with pleasure." 22

Figure 36

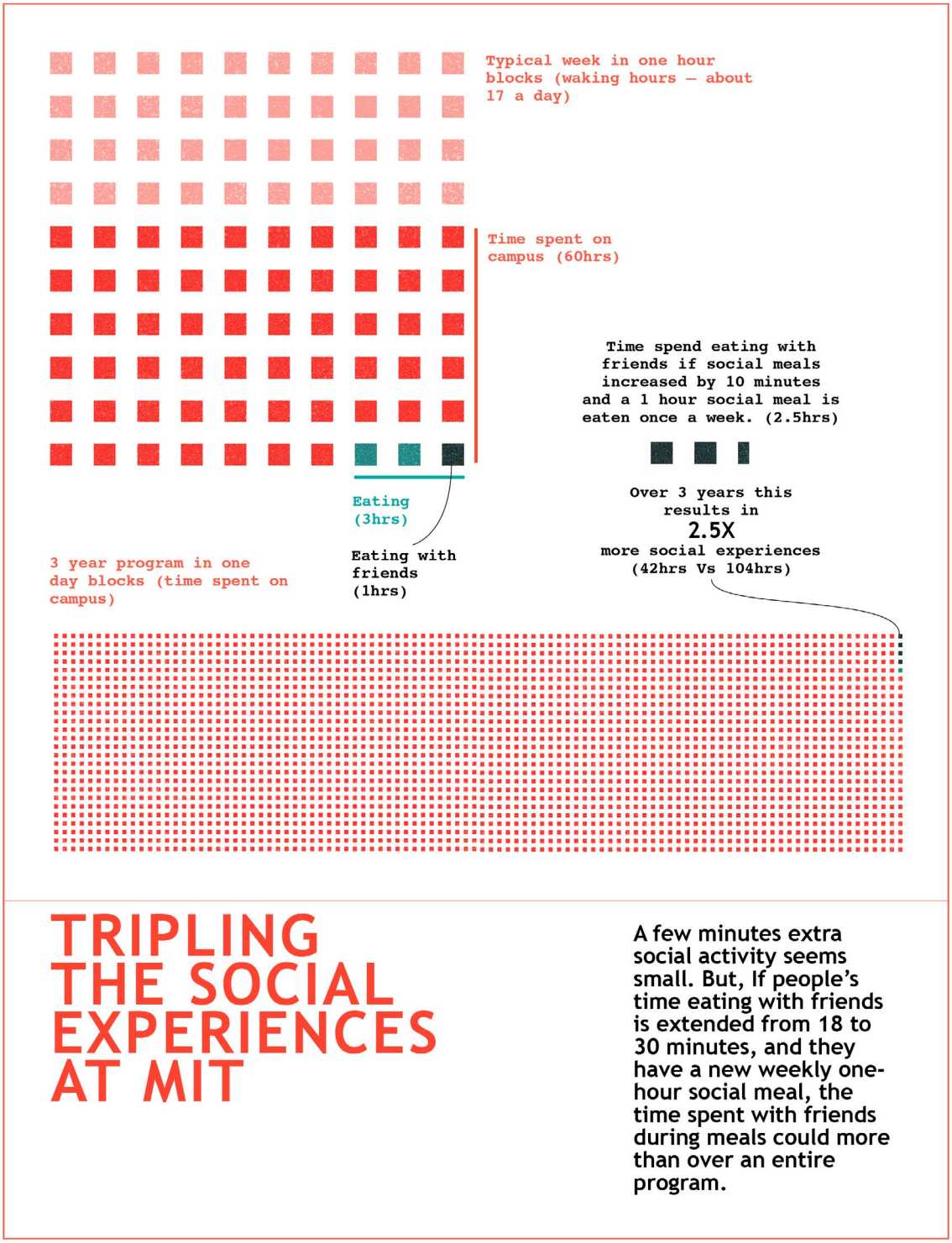


Figure 36 Illustration of how much time someone spends over a typical week awake on campus. Eating is shown in the light blue squares and eating with friends in the dark blue squares. Time spent eating with friends can more than double if there are opportunities to eat slower with friends.

FOOTNOTES

Infinite Stops

1.

Every day, the consumption of food presents perhaps the most powerful opportunity to realise healthy, joyful lifestyles that exist in harmony with animals and the planetary stability. The personal and collective benefits of healthy, social and sustainable eating habits should not be underestimated. It is strange then, that a global leader in innovation at the forefront of major global issues like The Massachusetts institute of Technology (MIT) stills struggles to provide attractive, healthy, sustainable and social meal experiences to people on its Cambridge campus.

After experiencing this first hand while learning about the environmental and ethical relevance of food choice during my Master of Architecture program, I became motivated to support efforts to improve meal experiences on campus and shift eating habits in a positive direction. This thesis presents lessons of the resulting research and highlights key cultural and environmental barriers and opportunities relevant to this effort. Alongside a series of basic recommendations, the subsequent design strategy, Infinite Stops, offers a playful but realistic vision for MIT to confront this important challenge and reap the potentially benefits of a healthier and more socially intertwined campus.

2.

Food plays a key role in determining the wellbeing of people, animals and the stability of the planet. The human health, environmental and global risk impacts of food is becoming increasingly well established in scientific research. Equally, As Gehl Architects point out, food spans many aspects of daily life that we value, from survival to personal expression. Shifting people towards eating well, is therefore undoubtably a complex task with many nuances embedded in what "well" means across multiple concerns. While being mindful of these nuances, this thesis highlights the important role of consumer behaviour and explores some key considerations that should inform efforts to influence change.

Just as architects should account for the environmental impact and atmospheric effect of construction materials, designers assessing foodscapes, should be aware of important differences between meals: how the food supporting them and the experiences they promote transform planetary health, animal wellbeing, and the quality of human health and everyday life.

Plant-based diets—diets that consist entirely or mostly of plants— have been identified as have the double benefit of being healthy for people and sustainable for the planet. The double pyramid shows how the foods that should make up most of someone's diet for health—mainly plant foods—, also have less impact on the planet (Winson 2013). A third, often glossed over benefit from this diet is the animal welfare benefits of plant-based diets. Together, these three factors underline how changing what food we eat yields far greater benefits to the planet and animals than changing how we produce food (Richie 2017).

The modern food system's global environmental impact accounts for about one quarter of greenhouse gas emissions (GHGE), 70% of freshwater withdrawals and occupies half of the habitable land on Earth (Poore and Nemecek 2018). A food system describes food's path from production to consumption. It accounts for all the inputs and outputs related to the growing, processing, packaging, marketing, transportation, consumption and disposal of food (Benis and Ferrão 2017).

A large meta-analysis of global food systems by Joseph Poore and Thomas Nemecek (2018) showed how the majority of food's environmental impact occurs at its production. Importantly, this study shows large disparities between plant and animal foods. Meat, and red meat especially, is particularly costly when compared to plant foods. For

instance, producing a kilogram of beef emits 60 kilograms of GHGE while tofu emits just 3.2 kilograms per kg. Even when considering the GHGE per kg of protein of less profligate animal foods like poultry and fish, with foods like peas and beans, the plants still come on top.

Similar scale differences are found when looking at land use and water use. For example, one study found that if the U.S. constructed a food system that mostly consisted of growing plants, it would be able to feed 2.6 times the 2010 U.S. population (Peters et al. 2016). In the U.S., many Architects and City designers worry about the encroachment of urban sprawl. Perhaps they should focus on animal agricultural sprawl, which occupies 41% of the contiguous land mass versus the 3.6% that urban areas occupy (Merrill and Leatherby 2018).

Human health is heavily dependent on what food people eat. In the UK for example, one in seven deaths are the result of poor diets (Sajeev et al. 2020). The Eat Lancet Commission's report provides an in-depth assessment of the health benefits of plant-based diets (Willett et al. 2019). The report recommends a *Planetary Health Diet*, which they estimate would save roughly 24% of premature total adult deaths if adopted. *The Planetary Health Diet* includes minimal animal foods, and is predominantly made up of whole vegetables, whole grains and plant-sourced proteins like legumes. The diet's inclusion of some animal products makes it a useful guideline when considering how to provide health, sustainability and flexibility for choice in dietary habits across the globe.

It's worth noting that a shift towards the *Planetary Health Diet* requires different changes to consumption depending on what population is being considered. In the U.S., a shift in this direction requires dramatic reductions in overall caloric intake and consumption of red meat, poultry, dairy and sugar. However, in Sub-Saharan Africa, some meats may need to be increased and starchy vegetables should be replaced by whole vegetables, nuts and legumes to achieve adequate caloric intake.

It should also be noted that part of the challenge of shifting towards healthy plant-based diets is to limit certain kinds of plant food. Sugary, processed foods—though technically plant-based—pose a particularly large hurdle in shifting towards healthy eating habits. As Robert Lustig—a paediatric endocrinologist—points out, sugar is "an energy source not a nutrient", which is why it is often referred to as an empty calorie in nutrition (Lustig 2015). During a lecture in 2015, Lustig describes the harmful impacts of sugar, especially within highly processed food, noting the high rates of obesity and type two diabetes in the U.S.—42% and 10% respectively of the U.S. population in 2023. In *The Industrial Diet*, Anthony Winson calls these highly sugared, processed foods, "pseudo foods" and provides are careful analysis of their many harmful effects on people, and growing presence in the modern food system (Winson 2013). Indeed, the proliferation of processed foods like sugary drinks in the modern food system, are partly to blame for the surge in noncommunicable disease and disabilities (Popkin 2015; Lustig 2015). Obesity has tripled over the past 50 years and today more people are overweight and underweight globally (World health Organisation 2021). Because of the incredible marketing effort behind pseudo foods, their hedonistic desirability and influx across food places, they present a particularly difficult barrier to efforts aiming to shift people towards healthy plant-based diets.

Animal welfare is the third important benefit of plant-based diets. It is also the most overlooked in research and as a motivating principle for creating dietary shift. More than 80 billion animals are slaughtered for meat every year and it's estimated that over one trillion fish are caught every year—though the exact figure is unclear (Food and Agriculture Organization of the United Nations 2023). The vast majority of animals and farmed fish, almost all for some species, live in intensive

animal farming systems (sometimes called "factory farms").

The many harmful consequences on animals living in this system is well documented by non-profits like Mercy For Animals, argued convincingly by philosopher Peter Singer, by Winson and throughout *The Future of Meat Without Animals* (Mercy For Animals 2023; Singer 1975; Donaldson and Carter 2016). The potential for harm is clear if we consider that these farms' main objective is to maximise profits and minimise cost. Animal welfare is an afterthought. Furthermore, feeding this increasingly vast number of animals has required the transformation of natural habits to make space for feed crops and pastures. Harming the potential for wild animals to survive and contributing to "the sixth great extinction" (Henning 2016). It's reasonable to propose then that the intensive production of animal products creates suffering on a staggeringly scale, and that efforts to eat well should recognise this as an important motivating factor, perhaps much more than they currently do.

Importantly, we often face a trade-off between animal welfare and environmental concerns. Providing animals with more space, organic feed and longer life spans tends to increase their environmental impact (Richie 2017; Monbiot 2022). Unfortunately, it is often the animal production methods with the lowest environmental impacts that also require animals to be reared in the smallest spaces, with shortest lifespans and given the most antibiotics.

How people eat poses additional considerations to approaching behavioural change. Eating is a source of joy and forms the basis of cultural practices and everyday social interactions. Michael Pollan—the popular American food journalist—perfectly sums this up in saying "We are not only what we eat, but how we eat, too." (Pollan 2006) His writing illustrates how the interaction between people and food—whether growing, preparing, cooking or consuming it—enriches who they are individually and collectively. Importantly, eating often serves as a way of connecting to loved ones and strangers. Articles in the journal *Food, Culture & Society* communicate this point—showing how much of historical and modern social life takes place around food. Even Michelin star chefs, like Marco Pierre White, believe who they eat with is more important than what they eat. In responding to question about his best meal, White answered "Shall I tell you what's important to me when it comes to eating, it's the people I sit with." (White 2016).

Food is clearly a powerful vehicle to deliver social interaction. Social connection is vital to people's sense wellbeing and physical health (Epley and Schroeder 2014; Waldinger 2016). *The Harvard Study of Adult Development*— a landmark almost century old study of adult physical and mental health—provides detailed insight into the powerful role social connection has on human wellbeing. Robert Waldinger, director of the study, simply describes key findings from this research: "people who are more socially connected, to family, to friends, to community, are happier, physically healthier and they live longer than people who are less well connected" (Waldinger 2016). The number and quality of social interactions people have daily can directly improve their happiness and health (Gehl Institute 2018). Without regular positive social interactions, people are at risk of suffering from loneliness and isolation, which, respectively, are associated with a 29% and 26% increase in mortality (Gehl Institute 2018).

Social connection enables opportunities to overcome barriers of identity, increasing empathy and tolerance between people (Mathie and Cunningham 2008). Even introverts talking to strangers receive positive benefits. Nicholas Epley's and Juliana Schroeder's study *Mistakenly Seeking Solitude* demonstrates how talking with strangers in public produces positive experiences, even for those who predict the opposite (Epley and Schroeder 2014). The study, and many others, reveal that many people would benefit from trying to be more pro-social in public settings, rather than staying

in solitude. With younger generations experiencing levels of loneliness higher than older generations, the need to enhance social connection through behavioural change has never been so important (The Cigna Group 2018).

Eating well therefore pivots on both what and how we eat. Healthy plant-based diets offers a healthy, more sustainable and ethical alternative to the typical animal-based diets shaped by industrial diet era foodscapes. Eating with other people can benefit the everyday experience and general health of people. Opportunities for social experiences that produce positive interactions and strong relationships are part of eating well.

3.

Eating habits and meal experiences on campus have increasingly garnered interest in research at MIT. Previous work shows that there is a clear need for more affordable, accessible food options—especially plant-based food—, without which many students, staff and faculty are left unsatisfied (MIT Office of The President 2023; MIT Institutional Research 2017).

The role of the built environment has often been overlooked in previous work that seeks to improve eating habits on campus. This work tries to address this gap by focusing on the range of spatial and temporal scales that a crucial to understand MIT's foodscape. A foodscape is the intersection of daily life, public space and food places (Gehl Architects 2023). Taken together, these three elements form a basis to understand how particular physical and cultural environments form eating habits, and present barriers and opportunities to shift habits. In recent years, Gehl Architects have pioneered a foodscape approach to researching eating habits which forms the backbone of this work's approach to MIT. This thesis uses a foodscape approach to support key ambitions to reduce the environmental impact of MIT's food system mainly through decreasing the consumption of meat by 2030 and "create spaces that promote healthy food choices" and "social connections" (MIT Office of Sustainability 2018).

Two studies provided a foundation to design a foodscape design strategy for MIT. The first, a behavioural nudge intervention—organised with MIT Office of Sustainability (MITOS) and MIT Dining—aimed to increase the number of plant-based items sold at two of MIT's on-campus food outlets using a series of vibrant signs designed to nudge behaviour. The main research question in this study was:

(i) Can behavioural nudges increase the proportion of plant-based food item sales at MIT's food outlets?

The second study, foodscape mapping parties, aimed to understand how members of MIT feel and think about, and act in MIT's foodscape. Using a pair of maps designed to prompt responses around these issues the study aimed to answer two main research questions:

(i) What is a typical weekday meal journey for members of MIT: what factors are considered important when making the choice of what, where, how and how long to eat?
(ii) What spaces create experiences of social connection around campus, and what aspects of spatial atmosphere and food play in this experience?

Both studies reveal the limitations of nudging using the current food places on campus. Instead of a nudge, they argue that MIT needs a pull and their findings provide the basis from which to design a pull into the campus's planning.

4.

Eating well should be based in eating plants with people when possible. This notion of eating well presents a solid case for improving the food system. Critically, it highlights the power of leveraging behaviour change at the consumer stage of the food system with the goal of shifting people towards plant-based, social eating habits. As Poore and

Nemecek conclude in their meta-analysis, changing what people eat "can deliver environmental benefits on a scale not achievable by producers." Additionally, focusing on where people meet food, provides opportunities to take advantage of food's capacity to bring people together and support social activity.

Gehl Architects foodscapes work underscore the many advantages of focusing on the settings where people meet food. Their foodscape projects have led them to argue for designing "the built environment to unconsciously and positively influence our everyday choices, making the healthy choice the easiest and most convenient." (Gehl Architects 2019) Their research of food choice in London and Copenhagen, and studies from *Food, Culture & Society* on the role of fast-food restaurants in Bangladesh and compact bars in Tokyo, show how the relationship between food places, public space and domestic space, is critical to how people find social connection (EAT et al. 2022; Zaman, Selim, and Joarder 2013; Farrer 2021).

5.

Infinite Stops presents a design and operation strategy to create a pull towards plant-based, social eating habits at the campus scale. The Infinite Corridor—MIT's main circulation route that passes through the main buildings on campus—is a critical site of the strategy. The strategy aims to increase both the consumption of plant-foods and positive social experiences by reshaping the built fabric along the edges of the corridor in inactive spaces. Infinite Stops consist of food outlets, moving spaces and staying spaces; designed to provide fast, convenient meals while inviting slow, leisurely meals. These spaces are informed by spatial principles developed by the field of public life studies and their specific relationship to student preferences in the context of MIT and Cambridge, MA.

In concluding this work, Infinite Stops are discussed as one possible model for MIT to integrate into its campus planning. Some of the practical challenges of this integration are assessed, and its shortcomings as a solution to the campus foodscape are explored.

MIT is in a relatively unique position when it comes to shifting eating habits: the institute administration can communicate to a cohesive group, regulate its food services and afford to build new food places. Importantly, it also plays a pivotal role in shaping the behaviours of many students in their formative adult years—many of which will graduate to positions of influence. Therefore, the potential of this project can create long term behaviour change over and beyond a program at MIT is worth pondering.

There are also lessons for foodscape approaches beyond MIT. In particular, this thesis highlights how a dense offering of affordable, fast and slow food options is critical in rapid, high-pressure settings where people struggle to afford, and find time for lunch. Therefore, the specific foodscape approach here, with its emphasis on the extreme ranges of spatial-temporal aspects of eating habits, should empower efforts to shift eating's habits in other urban contexts.

Beyond Nudging: A Foodscape Approach

6.

Behavioural nudge theory provides a method to predictably change behaviour without removing choices or significantly altering economic incentives (Thaler and Sunstei 2008). It involves redesigning the "choice architecture" presented to someone to make the desired choice more salient, socially normative and effortless.

The main principles are underpinned by a behavioural economics view of human decision making, that people have a limited cognitive capacity, do not act rationally and unconsciously behave in ways that save energy (Kahneman 2011). Studies on food choice have

shown versions of it to be very effective in changing what people eat (Bucher et al. 2016). Mainly these studies focus on the choice architecture at the scale of food item choice, for instance how food items are positioned relative to others or what prompts precede a choice: "would you like fries with that?".

A behavioural nudge test was conducted at two of MIT's food outlets: 100 Market Street and Forbes Family Café. The test was developed in collaboration with MIT dining, who run the on-campus food places—and MITOS. A series of signs were designed to display easily digestible information to motivated people to choose plant-based food options. Some signs were large posters placed by entry spaces around the outlets, others were small two-inch squares that would sit beside the food item. The signs were designed according to nudge principles and adjusted according to student input.

The test was designed to increase the sales of plant-based options at food stations where people had a choice of plant-based and animal based main meals. Sale data for plant-based sales and total food sales was collected over two weeks prior to the sign intervention to get a baseline set of data. Immediately after, data was collected while the signs were in place. Regular visits were made to maintain sign placement and check for any issues. To collect the number of plant-base sales, Forbes Café counted the number of plant-based at the checkout. The tests took place in February and March 2023.

The results show minimal difference at 100 Market Street, where in proportion to the total sales of main meal items, total plant-based sales increased 2% from baseline the test weeks. At Forbes there was essentially not change in total plant-based sales. There were some induvial differences between the two food outlet results. For instance, plant-based grill sales—essentially their bean burger main—at 100 Market Street jumped by 9% in the test weeks, whereas the Impossible Burger main at Forbes decreased by 4%. Perhaps there is something about the power of alliteration—"Beautiful Bean Burger" versus "Beautiful Impossible Burger"—that is worth noting from these nudge sign designs.

7.

Shifting eating habits at MIT towards plant-based and social meals are the focus of this thesis. Spend any amount of time at MIT and you will realise that everyday meals are rarely slow, moments of joy or celebration. Quite the opposite, studies show many members of MIT are underwhelmed and unsupported by the current foodscape. The 2022 Student Quality of Life Survey (hereon refer to as the 2022 Survey) found only one in twenty students are very satisfied with the food services with most students being dissatisfied of which roughly a third are very dissatisfied (MIT Institutional Research 2022). This result is slightly worse than the previous survey in 2017 (MIT Institutional Research 2017). In early 2023, the President Sally Kornbluth's Listening Series received a generally poor picture of the foodscape at MIT with food insecurity being a major issue (MIT Office of The President 2023). A clear factor in food insecurity is time-pressure and stress. Half the faculty work 60 or more hours per week and out of the different dimensions of MIT's climate provided in the 2022 Survey, stress had the largest negative response: having rated at a -0.75 on -3 to +3 Likert scale, (+3 being "calm" and -3 being "stressful") (MIT Institutional Research 2022). It's worth noting that the climate dimension with the next lowest responses shows that MIT is on average considered to be barely beneficial to mental health (scoring 0.12).

Work-related stress and pressures seem to be a major factor in dictating food choices and ultimately are critical features in the food insecurity on campus. In her Master of Science and Engineering thesis at MIT, Andrea McClave describes how work goals and time pressure drive eating habits: "people are convenience-driven and make choices based on their current and future location, often made in the spur of the moment and/or in transition between daily obligations" (McClave 2019).

McClave's work was motivated and informed by work from The Food Insecurity Solutions Working Group between 2017-2018 and the subsequent set of recommendations put forward by another working group led by the MITOS (hereon referred to as The Working Group) to create a more sustainable campus food system (Food Insecurity Solutions Working Group 2018; MIT Office of Sustainability 2018). The food map app designed by McClave, responded directly to MITOS's strategy to create an interactive map to "highlight campus dining and food retail options to make healthy, sustainable choices easy, affordable, and attractive to students, faculty and staff."

This strategy falls under The Working Group's Recommendation 4 that focuses on improving social connection and local food production on campus through the design, maintenance and connection of "vibrant" indoor and outdoor spaces. The Launchpad, opened in 2021, is a spatial realisation of Recommendation 4 (MIT News 2021). Located in the Stratton Student Center, The Launchpad comprises of seating space between three local, food outlets offering "quick-service meals" from menus that reflect Venezuelan, Korean and Caribbean-American cuisine, to both reduce food insecurity and further MIT's and CommonWealth Kitchen's mutual goal to create "a more just, equitable, and sustainable food economy" (MIT News 2021).

A couple years before the Launchpad, the Banana Lounge—a new social-work space centred around a constant supply of free bananas—emerged in a unused room in building 26. The lounge is now well known to students and faculty alike, and offers quick, free snacks to members of MIT to the tune of 600,000 bananas a year.

Through conversations with members of the Banana Lounge Team, I learned how the project started on the 4th of April 2018 from a realisation MIT has "so many great people, but where do they meet?" The team followed some basic design principles of active, inviting social spaces and transformed an unused room opposite one of MIT's largest lecture halls (26-100) into a lounge with art, comfortable seating, games and, crucially, free bananas. Since 2018, the banana lounge has increased its supply of bananas. Banana deliveries happen three times a week and are transported from their drop-off point in Stata Centre to the lounge by dedicated student volunteers who push a dozen boxes of bananas through the basement and ground floor corridors using pallet jacks.

The lounge is now very popular for people looking to grab a quick snack, work with friends or just take a nap. In one survey one undergrad said the lounge was "the best thing that's happened for the students recently." (The Banana Lounge Team 2018) However, despite continuing to provide healthy snacks, the lounge may have reached a limit to satisfy everyone's needs. In the same survey, students mentioned how crowded the space can become, and how the diverse mix of activities in such a cramped space can be unattractive. This point is well known by The Banana Lounge Team who have goals to expand the space and potentially branch out to provide a wider range of food.

Beyond launchpads and lounges, there are other projects that have attempted to deal with food insecurity and positively influence eating habits. The simplest, most effective of which is the Media Lab Foodcam. Deployed in the 1990s, the foodcam is positioned over a dedicated tabletop where people can leave left over food. It then beams out the food via the internet, signalling to people with access to the lab that there is a meal available (Giaimo 2016). It essentially prevents any food going uneaten, which is an important as free-food—an integral part of events of MIT—is often left over without a clear place for it to be shared with potential diners.

Other initiatives share online food help resources through posters that display links to an institute website which offers a food map, and "hacks" and "tips" to eating well (MIT

Office of Graduate Education 2023). Student run meals, like the weekly Vegan@ MIT potluck, enable the sharing of culturally relevant meal and space to catch up with friends and meet strangers. In the Architecture Department studio spaces, Rally Alley assists people with their coffees needs through a shared espresso machine that offers cheap coffees and reusable ceramic mugs.

8.

Daily, people's interactions with food are shaped by their environment. Increasingly, this setting will be urban: 80% of food is predicted to be eaten in cities by 2050 (C40 Good Food Cities Decleration 2022). Efforts to shift eating habits have been mostly driven by a biological and socio-economic approach. Consequently, the influential role of spatial design and city planning is often overlooked, leaving many people in urban environments that actively hinder positive eating behaviours. A foodscape approach provides the conceptual framework and practical methods for spatial design to be integrated into the growing urgency to provide people with healthy, plant-based diets and social connection.

Throughout history, settlements and eventually cities have been shaped by food. Nomadic people, like the Wampanoag tribe who live in present day Massachusetts in the U.S., would move seasonally to the coast where they could access fish stocks. Their camps, like the Maasai camps in Kenya centred on cattle, were constructed to enable a close relationship to food production (Jazombek 2023). Agricultural societies began with a similar close connection between food production and daily life. That changed after the Second Agricultural Revolution, which created a division between city life and agriculture. Since the Third Agricultural Revolution, people's relationship with food has been altered further (Harari 2011). According to Winson, cities now exist in the "Era of The Industrial Diet", where eating patterns in modern cities is not a "random act of average human imagination." (Winson 2013) To the contrary, they are the direct result of the food products and outlets—a high proportion of which are operated by a few, predominantly American, corporations—that dominate supermarkets, schools and sidewalks globally. As Gehl Architects note, the public spaces and food places that typify modern cities, have made "many of the cultural and social benefits associated with food have become invisible." (Gehl Architects 2023) Though this era presents a serious challenge to shifting eating habits, it also shows how the built environment has great potential to create change in a positive direction.

A handful of cities are beginning to the diet-shifting potential of urban and architectural design. In 2019, 14 major cities in the C40 Good Food Declaration, driven by the health benefits of plant-based dietary patterns and the environment cost of animal foods—75% of their total food GHGE—announced their goal to "achieve a 'Planetary Health Diet' for all by 2030." (C40 Good Food Cities Declaration 2022) Influenced by a brief by the EAT-Lancet Commission, part of their strategy is focused on making access to healthy vendors easier and unhealthy vendors harder in public spaces (EAT-Lancet Commission 2019).

Gehl Architects—an interdisciplinary urban design firm—worked with the City of Copenhagen to test one approach to integrating healthy food with inviting, social public spaces (EAT et al. 2022). This design firm has perhaps paid the closest attention to developing research and design approaches to shifting eating habits using urban and architectural design. After multiple urban foodscape projects, they have developed a comprehensive foodscape research approach consisting of a "toolkit" and key findings.

In Nørrebro, Copenhagen, they designed and tested a foodscape intervention which comprised of varied, vibrant seating among plants which surrounded an affordable, plant-based food truck (EAT et al. 2022). The design of this intervention was specifically orientated to attract youth—the target audience for shifting eating habits—after researching what aspects of public space and food places they

find inviting. Among the result that plant-based food sales at the intervention replaced regular dietary patterns (assuming meals were replaced by the food truck meals), evaluations revealed the new space was appealing to both youth and adults, and provoked an increase in conversations and a decrease in phone use.

This project reflects some of their general findings: transit hubs are key spaces to shift eating habits; public spaces with attractive staying options inhibit the tendency to visit unhealthy food places; and variation of food options tends to go hand in hand with a diversity of activities and "healthy public life profile" (Gehl Architects 2023). Additionally, other foodscape projects points to the significance of mobility and safety (real and perceived) in defining food access.

The foodscape methodology employed by Gehl Architects underscores the need to get specific with eating habit goals, to work with local organisations and stakeholder relevant to the foodscape, and to combine a Marco-level understanding of the foodscape with the "eye-level" of people's experience (Gehl Architects, Steno Diabetes Center, and Cities Changing Diabetes 2023). This foodscape approach builds on academic research on eating habits, which consistently call for more detailed understanding of how the specific character of a built environment and individuals daily life shape habits (Clary, Matthews, and Kestens 2017; Bosco, Joassart-Marcelli, and O'Neal 2017; Lake 2018).

Typically, foodscape projects are sited in a neighbourhood or city district and conducted with a local partner and with help from community organisations. After establishing a specific goal (like reducing local youth's the consumption of fast-food) they research the foodscape through a mixture of spatial and architectural analysis; observational studies of public life; intercept surveys and interviews; and participatory workshops. In this way, these methods capture a "10,000 feet" and "eyelevel" perspective to shed light on how people's interaction with food is shaped by both their social-economic background, daily life and surrounding built environment.

Gehl Architects' foodscape work provides this thesis with its conceptual and methodological backbone. Many of their approaches are put into practice and developed with people at MIT and its

9.

Foodscape mapping parties were organised towards the start of the project. The parties took the form of workshops—some pop-up others planned events with catering and music. Using two printed maps, participants would follow prompts to describe and annotate the maps with their typical meal journey and the places that created "joyful social experiences". The maps covered MIT's main campus and a large area of Cambridge within a 15-to-20-minute walk from campus. They included annotations and symbols of key campus places like courtyards, on- and off-campus food places with, and public transport stations. Following recommendations in Gehl Architect's online toolkit, and previous food journey research, the prompts and the map were designed to make it clear what was being asked of participants. (Bosco, Joassart-Marcelli, and O'Neal 2017; Gehl Architects, Steno Diabetes Center, and Cities Changing Diabetes 2023). Roughly 40 people participated in the parties across four sessions.

Results from the maps and participant survey formed the basis for further studies and developing a design proposal. Their role was essential to uncovering barriers to accessing plant-based food and social meals.

The "typical meal timeline" prompt produced a picture of the length of time people typically obtain food, eat, and how long the travel before during and after these activities. The median walk time to obtain food or to a place to eat is five minutes, which is the same time for traveling to their next location. The typical time spent eating is 18 minutes, this number is supported by previous research on

lunch breaks at MIT (Reinhart, Dhariwal, and Gero 2017).

This typical meal journey provided a basis to perform a spatial analysis on accessibility to food places around MIT. Using business data from Data Axel all full-service restaurants, take-aways, convenience and grocery stores, and pharmacies and department stores with food, in Cambridge were geolocated in QGIS. These represent the total "food places" in the city. Additionally, food places at MIT and Harvard were geolocated manually by referencing the campus' dining maps (Harvard Campus Dining Services 2023; MIT Division of Student Life 2023a). Dining spaces were not included in this analysis as they require a meal plan or requesting meal swipes through MIT's Food Resources webpage (MIT Division of Student Life 2023b). Most members of MIT are not on the plan, and only 20% students are (McClave 2019).

The density of food options around MIT were compared with their density around Harvard Yard. For this assessment restaurants, café and on-campus dining services were counted within a six-minute walk from two main entrances to MIT and Harvard Yard. The population of each campus was calculated from their published records of employees and students. Compared to Harvard yard, MIT has double the number of people per food option; 587 people per option compared to 311 people per option.

This result points to MIT need for a higher density of food options within an easy walking distance from people's other activities in the main campus buildings. By zooming into these options however, we also see how the density per capita decreases as we layer other parameters. Despite most students remaining on campus well past 5pm, most on-campus food places close at or before 3pm (MIT Institutional Research 2022). After 3pm, available food options decrease and most lack a plant-based orientated menu (based on menu surveys that analysed the proportion of main meals. "plant-based menu" in this case means more than 25% vegetarian or vegan main options). If someone is on campus at 5pm and wants to get food from a range of plant-based options within a comfortable walking distance, they are left with three options. The fact that these, and other options off-campus are expensive helps justify people's dissatisfaction with food services and concern for food insecurity. It also points a need to offer a range of affordable, plant-based food throughout the day near people's work locations.

Fast Corridors, Fast Lunch

10.

The Infinite Stops offer a range of plant-based food options. The premade fast food is ordered at a machine and picked up at a window by exchanging a ticket for a meal item. Like the vending machines dotted throughout the campus, the fast food window uses a vending system to ensure speed and reduce the cost of labour. However, the food is still prepped and passed through the window by people on the other side. Additionally, if they wish, buyers can dwell around the window at one of the fast food bars or decide to take it slow and go into the main Infinite Stop dining space. As one member of MIT's facility team told me "There's vending machines then there's *vending* machines." This window, with its link to a Stop and capacity to form interpersonal exchanges is a *vending* machine.

The 747 is a fast food meal that aims to provide a complete dining experience in a very efficient form. Taking its name from Boeing's commercial wide-body airliner, the 747 is an airplane meal. There are few meals that have faced such scrutiny as the airplane meal. When considering how to deliver a fast food option that could be easily prepared and eaten in compact spaces, the airplane meal is a fine solution. Food preparations happen on the ground. Food items are pre-cooked and seasoned before being arranged on a no-slip tray. This process is, as one chef puts it, an "intricate balancing act to get all the equipment

provisioned properly." (Eater 2019) Once the equipment is in place, its loaded into trollies which transport it directly in the plane's refrigeration system. The meals are then heated in convection ovens in flight and served to people's fold-down table by the flight attendants.

At Infinite Stops, the 747 replicates this process. It is prepared in the existing dining service kitchen at the start of the day. The meals are then transported to the stops where they are heated during the fast-food window operational hours. Diners will eat these compact meals at the bar spaces along the corridor. The bars are designed for minimal disruption to the corridor space and offer two levels of table surface: a lower one for the meal and a higher one for laptop work. With a fork in one hand and the other on the keyboard, the 747 is the best work-while-you eat option.

11.

Run-ins came up frequently in the mapping parties. They are chance encounters between people who stop and talk, often for a short time before moving on. Scott Francisco's design of the Steam Café seating is a great example of how to generate run ins. Aware of the Café's opportunity to draw social connection from MIT's architecture departments corridor, Scott designed the tables to be highly visible to people walking by (S. Francisco 2005). This is a similar technique employed by the Banana Lounge team. They designed the lounge to bring people through its entire length, increasing the chances of a run-in with a friend sitting at a table. The seats at Steam, are 60cm above floor level, slightly elevated to allow for people sitting down to share a similar eye-level as someone standing up. This mitigates the awkwardness of looking down or up at someone, which can stop longer conversations from occurring during run-ins. It also brings the dining table to a higher position, giving the person a chance to lean and rest their weight.

These principles reflect much of the rich findings in Jan Gehl's book Life Between Buildings. Gehl notes how out interaction with one another is based on the limitations of our senses (Gehl 1987). Physical proximity is critical to social interaction and run ins. This is especially true in the vertical direction, as Gehl notes "It is difficult to move upwards and downward, difficult to converse upward or downward, and difficult to look up or down".

Visual connection with people's faces is especially important to generate social connection. At 70m distance, someone can begin to identify human characteristics like sex and age and, if they know them, identify who they are. It is only within 3m that people reach a "conversational" distance and can gather the rich detail from facial expressions and body language that sustains social interactions. Smell and hearing someone is also dependent on close physical proximity. Especially in noisy spaces, like a busy bar, being close enough to hear what someone is saying and see their lips move is important to sustain conversation.

Tweaking The Corridic Strategy

12.

Inactive spaces were found through a survey of spaces along the Infinite Corridor. The survey took the form of walking tour of the corridor. Using a similar method described in *How to Study Public Life*, "inactive" spaces were identified and noted (Gehl and Svarre 2013). For instance, the spaces are areas where there is room for groups to gather but little or no seating, and little or no motivations to sit—such as views or waiting areas outside of lecture halls. Additionally, external areas by entrances were surveyed for staying opportunities and active facades. Most secondary entrances that allow movement into the corridor along its short axis have no seating. The doorways are often surrounded by very repetitive facades with little articulation or blank walls. Setbacks from the building edges are common in these areas and more generally across campus. Their bushes and trees give walkers a varying and

irregular experience, which the building surfaces often do not. However, these setbacks are buffer zones that people do not inhabit or interact with.

Simply put, the spaces between buildings and along the infinite corridor at MIT often lack the markers of a socially active public space. Given their dull and mundane appearance, it's like these external and marginal spaces are the haphazard result of the more important architectural object. If I.M Pei's Landau Building (Building 66) is the arch, the external entrance space adjacent to corridor 100CA is its spandrel. This and the other internal and external "spandrels" are, like true spandrels, opportunities to ornament and inhabit architecture and space.

13.

In his book *Designing MIT* Mark Jarzombek describes the design, construction and opening of the MIT's new Cambridge campus, "the New Tech" (Jazombek 2004). The building designed by lead architect William Bosworth remains the centre of MIT's campus today; housing most academic activities and drawing the most foot fall. A key space in these building is the Infinite Corridor, famous on campus for being the 2nd longest corridor in the U.S. and a space that almost everyone uses (MIT Department of Facilities 2007). As additional buildings were built over the last century the corridor expanded and its 500m overall internal length now connects the main entrance at 77 Massachusetts Avenue with the entrances around Ames Street. An underground network even allows a completely covered route from 77 Massachusetts Avenue to Kendall/MIT T subway station.

Jarzombek describe this "corridic" architectural strategy in detail *Corridor Spaces* (Jarzombek 2010). Corridic spaces, with their emphasis on "speed and connectivity" have supported and perhaps catalysed MIT high-paced work environment. I refer to a "corridic setting" in this thesis to capture this relationship between the linear fast motility path and the fast goal-driven culture that rest at the centre of MIT's campus. It reflects both the main internal corridor, as well as the secondary external and internal branches. These spaces all have "rules of the road". Described in 1997 these rules require people to "limit group size, pass on the left, form a line at bottlenecks, don't stop/slow down, no tailgating, traffic within corridor has right of way, no physical contact and no eye contact." (Wright 1997) A similar point was made in one student description of the corridor's "chaos" and strange "underlying order" comparing it to the Mumbai roads (Dishita 2017). This student perfectly captures the juxtaposition between the fast life of the corridor and the rather drab architectural interface that surrounds it: "It was like entering a city with no historic landmarks, no tourist spots but you just feel the warmth it in the air, in the people around you." In this sense, the corridic setting of MIT finds its purest form as someone races down the corridor feeling overwhelmed by their task ahead and lack of refuge around them.

Long Corridors, Long Lunch

14.

Food is covered in William H. Whyte's *The Social Life of Small Urban Spaces*. The main message from Whyte is that food is critical to public activity and social interaction: "If you want to seed a place with activity, put in food." (Whyte 1980) Certainly this is true for responses from the participants of the mapping events. Most of the spaces that created joyful social experiences were food places. Social events at home also revolve around food, a long evening dinner being a favourite social activity.

Choice is critical for social comfort according to Whyte. Using the example of moveable public seats, he explains that people want the ability to choose where and how to sit in relation to their surroundings. The act of moving a seat sightly before sitting down is very common and probably points to the

innate desire to know that options to move it are available. Gehl Architect's foodscape work in South London reiterates this point. Using the furniture and interior design, McDonalds is thoughtfully designed for different types of meals. Fixed seating on the edge for longer stays, people watching seats and walls to lean on give people various choices to position and support themselves.

When it comes to prioritising social activity, most choices should enable a close physical connection between people. Gehl's and Whyte's social principles are at play in James Farrer's study of Tokyo snack bars (Farrer 2021). He uses Michael Molasky's notion of a "third space"—somewhere that isn't home or work—to note the important social role snack bars play in Tokyo's work-driven environment. These are compact spaces with storefronts no more than three meters wide. Social interaction is fostered in these food places through the shared privacy people experience from the street and a sense of community that comes from a distinct shared setting. Companionship is supported by the close proximity people have with others, where it's essentially impossible not to share some form of interaction.

The bar tender of these bars supports social interaction as an intermediatory between the customers. They are a key aspect of the social activity, setting the atmosphere for "therapeutic conversation". Bar tenders have been noted for their social importance by the American Chef Anthony Bourdain. He made the point that a good bar should be a place a "refuge" and a place "where they know your name and what you like to drink." (Bourdain 2003). The opportunity to chat and commiserate with a "maniacal" that has the "tactful listening skills of a priest hearing confession" is the 2nd key element of a great bar. What the bar tender provides for people's social interaction, is not only a refuge to share ideas and thoughts, but also a social mediator with a unique power to link together strangers. A social food place often benefits from the interaction between servers and served, especially when these role breaks down into something more like a friendship.

15.

In many ways, the banana lounge is hindered from its own success and ambitions. The space, a single room, is doing a great deal of heavy lifting to provide a "third space". In a survey of undergraduate students, response noted how there were too many people and how there are conflicts between people looking for a quiet "library" space and people looking to do conversational group work or play the ukulele. There are also some complaints around bananas being messy and smelly. Yet people still use it regularly which speaks to the desire for this type of space, even if it is imperfect.

The Banana Lounge Team recognise these issues. Though their main goal is to continue alleviating food security by supplying bananas, I heard of ambitions to expand the lounge and have more space to reorganise the various facilities it currently provides. It's likely that these goals will only be possible with extra funding and more thorough integration with MIT strategic campus planning.

16.

Good social places begin with how they communicate with people through architecture and graphics. The mapping parties mostly revealed the importance of internal spatial qualities—the noise, lighting, and furniture. But additional architectural surveys of the popular food place on Massachusetts Avenue enables a deeper understanding of how the front façade of a food places entices and influences social activity.

These façade studies follow the approach taken in multiple other studies of street façade designs and their impact on activity (Gehl, Kaefer, and Reigstad 2006; Hassan, Moustafa, and El-Fiki 2019; Gehl and Svarre 2013). Instead of taking observational notes of activities though, the façade studies here looked at just the design of food places that received positive responses from the mapping parties. The results reflect many findings from previous

studies that define characteristics that invite people to stay around and inside a building (Gehl Architects 2019).

The Infinite Stops reflect these inviting features. Its storefront style interface with the corridor would be exceptional. It breaks with the typical features that line the corridors walls: black doors, bulletin boards, TVs and occasional glazed lab spaces. By treating the corridor as a "street" the Stops reflects the design of some of the best social food places found on the sidewalks around campus.

Internally, the space utilises various seating options, moveable, shared and elevated bar stools, to provide opportunities for different forms of socialising and staying durations. Seats are crucially for eating and long stays. No matter how good the rest of a space is, without sufficient and comfortable seating there cannot be slow meals. As Whyte puts it: "The most attractive fountains, the most striking designs, cannot induce people to come if there is no place to sit." This is especially true when it comes to eating food. In my public life studies of Winthrop Square in Cambridge, I observed how people will sit to eat, regardless of the height or the sharpness of their seat. And out of the dozens of food trucks I surveyed in Manhattan, the only ones with people staying to eat where ones with seats.

Opportunities to lean and rest are provided by bar surfaces and pillars. They form supportive edges—a crucial element of any active social space as it allows a protected position that is still connected to the central area (Gehl 1987; Gehl, Kaefer, and Reigstad 2006). Discretion—the ability to have privacy in a shared space—is aided by fabric screens which can be drawn up and down depending on the preference of the diners or the time of day. These flexible, soft edges enable pockets of enclosure which have been noted for their importance in providing a "human" scale and intimacy that often guides more personal conversations (Gehl, Kaefer, and Reigstad 2006; Farrer 2021).

Music also supports intimacy, constraining the reach of vocal noises across a space. Few on-campus food places have music, Steam Café occasionally vibrates with the sounds of small radio. However, almost all off-campus food places play music. One of the most popular social spaces in the mapping patties, Mad Monkfish restaurant, received positive responses noting the joy of its nightly live jazz. In y studies of Winthrop Square, I observed the activity that flourished around a regular busker sitting below the tree in the centre of the park. Undoubtably, this musician sparked dancing, stopping and longer stays at the benches than would have not occurred without a musical performance (Whyte 1980). Taking ques from the busker and the thriving social restaurants in Cambridge, Infinite Stops provide opportunities for live music in a small corner. Students, staff and faculty alike can sign up to play to an audience in a casual setting.

17.

Ridley Road Kitchen is a fascinating example of how architecture and menu design can generate social eating habits. Designed the by The Decorators and Atelier Chan Chan, the project was built in 2011 in Ridley Road Market—a bustling food and goods market in North London. The kitchen, which offers affordable lunches and dinners, promotes interaction between diners and the market vendors. A rotating lunch menu calls for customers to buy £3 of ingredients from the market which they exchange at the kitchen in return for a meal. At dinner, customers pay £15 for a meal eaten with a dozen other diners around a shared table. Food is prepared in the kitchen below and raised up to the centre of the dining table using a hoist system. The evening meal provides diners with that shared "refuge" above the street level, bringing them close together on seats that join up as a single bench but can be used as single stools. £5 of the dinner is given back as a voucher to be spent in the market, helping the kitchen's "co-existence" with its market neighbours and foster social interaction between chef, diner and trader.

18.

Coffee is a critical element of daily life at MIT. Participants in the mapping parties would note the coffee offerings in their descriptions of social spaces. It's no surprise that one of the food places that got the most responses and frequently has long lines, Flour Bakery, offers coffee. The Infinite Stops would be incomplete without a high-quality version of this beverage offering.

Coffee is expensive around campus. At flour a cappuccino costs $4.40 and espresso $3.80. One initiative, Rally Alley, offers a cheap and fast alternative to the off- and on-campus coffee options. Started by an architecture student armed with a Nespresso machine, Rally Alley offers $1 espressos and reusable ceramic mugs to architecture students' day and night. Banana Lounge also provides coffee, tea and hot chocolate, which can be brewed for free on a table at one of its entrances. Infinite Stops provide a range of coffee options. Cheaper espresso pods and tea bags can be purchased for personal use around campus. More expensive coffee is made at the bar with a $8,000 espresso machine that, hopefully, fulfils the high-standards people hold for their lattes and cappuccinos.

Infinite Corridors and Beyond

19.

These potential barriers represent some of the concerns I encountered during this project. The Infinite Corridor is a high administered space. Bulletin boards follow strict rules of use, and the tables for out-reach and promotion are only available to official student groups and must be used according to the institute's rules (MIT Association of Student Activities 2023). The Infinite Corridor remains a publicly accessible space and in many ways it is how the public experience MIT. Coupled with its purpose as a campus highway, any disruptions or interventions to this space are likely to find pushback.

After speaking to a member of facilities, it's also clear that Infinite Stops face tight design challenges. The clearest of which have to do with cooking food and exhausting the fumes above the roofline more than 15m above the kitchen floor. There are strict cleaning access requirements with these ducts since they pose a major fire hazard if oil residue builds up. Operable windows also present tricky problems for a busy, noisy space. Especially at ground level, there would have to be a re-programming of spaces surrounding the Infinite Stops.

20.

A detailed design proposal of Infinite Stops is outside of the scope of this thesis. However, its worth considering what kind of approach could be taken to at the very least, pilot a stop. Infinite Stops cannot be completely "tactical" in their use of space—the need for top-down organisation given their ambitions. They also cannot be totally "strategic"—they break with the work priorities of the institute and its tendency to be overbearing on the exact use of space (Crawford 2008).

Therefore, a collaboration of sorts might be the best approach. MITOS, MIT Division of Student Life, MIT Dining and MIT Campus Planning are critical stakeholders in this collaboration. With adequate funding from the institute, a design could be developed for a single Stop. A team of students, faculty and staff could complete a proposal for a menu and structure that works with current food services and institute spatial requirements. After being developed with additional stakeholder and user input, this design can be put to the test for a semester or two. This would take a similar trajectory of the Banana Lounge's development, with more funding and institute input, but not too much.

Key indicators of its success would be feedback from members of the institute and its overall sales of plant-based offerings. The feedback questions could be: Is the Stop supporting your social ideals? helping you eat food you like throughout the workday? Do you

enjoy it more than existing on-campus options? Does MIT need more places like this? Additionally, observational studies of this space would provide a picture of its success and failings as an effective tool for creating social interaction around the corridor.

The design and construction of new food places might be the easiest part of its success. What really matters is that it can function well given the different needs at MIT and complexity of institute food service.

21.

With all the foodscape work being done at MIT—from Foodcams to Launchpads—why do so many people feel dissatisfied and stressed by the food services? It's worth turning back to the foodscape work by Gehl Architects. Their findings point to the importance of the built environment in shaping eating habits and community. Importantly, it emphasises how the urban relationships between food places, workplaces, streets, transport routes and hubs, parks, and other public space amenities define eating habits. As they say, behaviour patterns "unfold in public space and are influenced and dictated by the quality and programming of that public space." (Gehl Architects 2023)

The nudge test, and indeed the other foodscape projects at MIT have largely failed to engage with this urban scale understanding of food behaviours. The exception being Steam Café, which designed shows its attention to the corridor as a main street "bringing vibrant street life to a 'dead space' on the most significant corner of the Campus." (S. Francisco 2005) Though even this project has its flaws and limitations when it comes to the food outlet and quality of space. In this way, Steam and other projects are like the tasty icing on a cake that is yet to be baked.

To bake the cake, to achieve its sustainability and community goals, MIT must grapple with urban relationships within and outside of the campus. And its approach to food places must recognise how the architecture, furniture and menu provide the interface between peoples and food. Behavioural shifts can only take place people inhabit an environment that "compels them to change." (Gehl Architects 2023).

22.

Looking at the road ahead for MIT's foodscape, it's worth remembering what is at stake for it and other governments. Globally, our consumption of animal foods is contributing to carbon emissions and is putting unnecessary stress on the natural world, with the animals in industrial meat and dairy production bearing the brunt of a food system driven by production and profit. The modern food system is failing to support a growing global population with healthy diets. In this "industrial diet era" the built environment—supermarkets, streets and highways—often make eating a healthy plant-based diet more difficult, and far less attractive than an unhealthy diet propped up by pseudo foods and animal products (Winson 2013). This is especially true for those who are financially burned and time famished. Often, these groups live in neighbourhoods that lack safe, inviting public spaces for fostering social connection, community and cultural meaning. Without these public amenities, people depend on the third spaces— mostly fast-food chains and takeaways—for dates, family meals, meet ups and quick bites. In these places only a partial notion of "eating well" can be achieved.

At MIT, the challenges is less about an abundance of "poor" food places, but too few places that offer the convenience and social meals people want. Given MIT sustainability food goals and ambitions to create belonging and community, it's important for the campus to provide opportunities to eat plant-based meals with people often. There is an urgent need for this as students continue to feel isolated and stressed, and let down by the "mediocre", "expensive" food services (participant responses from the foodscape mapping parties).

Infinite Stops provide meals that fit within a fast, high-pressure workday. They provide

slow meals that break this culture using music, menus and architecture that encourages stopping and social connection.

The case of MIT provides lessons for other isolated, corridic foodscapes. Mostly these will be other urban settings that function around fast, densely populated mobility corridors. MIT's foodscape highlights how people's economic means and burdens add considerable constraints to their ability to access food place and eat well.

Interesting, the burdens faced by members of MIT come mostly from how work penetrates most aspects of their lives. Partly this due to the close connection people share with campus, but it also points to how technological systems and devices have ramped up the pace of life on campus. More and more it seems, everyone, not just people at MIT, will experience time-famine as work pervades the once work-free areas of daily life. Foodscape approaches to corridic spaces in the future would be wise to focus on how technologies and physical environments together form barriers to eating well, and barriers between people.

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