University of California, San Francisco

July 23, 2018
This document takes into account the particular instructions and requirements of 100 Resilient Cities and our city partners.

It is not intended for and should not be relied upon by any third party and no responsibility is undertaken to any third party.

100 Resilient Cities – pioneered by the Rockefeller Foundation

420 Fifth Avenue, 19th Floor | New York, NY 10018
1 Pancras Square, 7th Floor | London, N1C 4AG
168 Robinson Road, Capital Tower, #12-01 | Singapore, 068912

Cover and introduction image courtesy of Campus Planning at UCSF
CONTENTS

Introduction................................................................................................. 4
1. Summary.................................................................................................... 6
2. Resilience Garage concept................................................................. 8
3. 9-Box assessment..................................................................................... 10
4. Recommendations.................................................................................. 15
   4.1. Affordable housing........................................................................... 16
   4.2. Transportation.................................................................................. 20
   4.3. Community and space ................................................................. 24
5. Reflections and appreciation................................................................. 26
Appendices................................................................................................... 27
Introduction

100 Resilient Cities (100RC) is a non-profit organization pioneered by the Rockefeller Foundation dedicated to helping cities around the world become more resilient to the physical, social, and economic challenges that are a growing part of the 21st century. 100RC is a world leader of thinkers and practitioners who understand the challenges of developing and implementing transformational resilience strategies.

In addition to its core program of supporting 100 member cities, 100RC draws from its experience to apply an evidence-based catalogue of ideas and solutions to assist non-member organizations, institutions, cities, and nations to improve their resilience performance.

To enhance the organization’s opportunity to demonstrate impact and establish proof points for non-members while mainstreaming resilience as a practice, 100RC partnered with Perkins+Will (P+W) in a Resilience Partnership Initiative (RPI) to enhance and leverage the work P+W has completed on the UCSF 2014 LRDP and Master Architect Services in progress for projects on the Mission Bay, Parnassus, and ZSFG campuses. The first phase of this partnership is the delivery of a Resilience Garage workshop.

This report was produced by 100RC’s Strategy Delivery Unit and summarizes the garage’s outcomes.
The seventh Resilience Garage was held in San Francisco, California on May 11th, 2018 with supplementary activities on May 10th. The Garage was initiated by campus planning staff at the University of California, San Francisco (UCSF) in partnership with 100 Resilient Cities (100RC), Perkins + Will (P+W), and the Office of Resilience and Recovery at the City and County of San Francisco (ORR).

The Resilience Garage format was created and developed by Roland Kupers with support from 100 Resilient Cities and this Garage was the first that was implemented independently by 100RC. The purpose of a Resilience Garage is to accelerate the rigorous application of resilience theory in practice and the refinement of resilience theory based on practical experience and empirical evidence. It is intended to generate both deeper learning, as well as a more open structure for cross-sector collaboration. This Resilience Garage had three goals:

1. Increase the knowledge of university and city staff in the concepts of resilience,
2. Enhance the relationship between university and city staff, and
3. Create a better understanding of opportunities and challenges at the Parnassus Heights campus and generate ideas for actions to address those challenges.
The Garage hosted participants representing private business, NGOs, academia, institutions, and local government. The participants were divided into two teams and asked to review a single case in two parallel tracks with the framing question: How can the design and operation of the UCSF Parnassus Heights campus and the integration of the campus with city systems improve the resilience of the University’s workforce and as a result the overall resilience of San Francisco?

The parallel teams ultimately generated a set of resilience-building recommendations. It is worth noting that the recommendations go well beyond the work of campus planning or departments more commonly affiliated with workforce issues such as human relations. An improved workforce can only be envisaged in the context of more resilient and integrated systems.

The main takeaway was summed up nicely by Kevin Beauchamp, Director of Physical Planning at UCSF when he pointed out to the group that this Garage highlighted a greater opportunity for collaboration between the City and UCSF than was previously understood.
2. RESILIENCE GARAGE CONCEPTS

Practical solutions that meet user needs, while being resilient to the increased turbulence emanating from environmental changes and social stresses, are challenging to design and implement. A Resilience Garage convenes practitioners, scientists, and researchers from across sectors to challenge, learn, and hone their approaches to resilience building mainly by undertaking structured resilience challenges of specific, place-based, investment or development opportunities that one or more of the Garage members is considering.

Participants prepared for the Garage by reading the case and by watching a short video on Resilience and Complexity. The case was introduced in a 4-page report, which framed the issues using the tools documented in the book Turbulence. Some participants also went on a tour of the Parnassus campus and played the resilience board game Nexus! to encourage a deeper discussion on the resilience of systems.

The Garage itself began with a short ice-breaker activity and a discussion-lecture on the 9-box resilience framework. The bulk of the time was spent on the case using the 9-box framework concepts that together approach the dynamic of the underlying system. Through this process the participants formulate areas for concrete action, by populating a grid with descriptions of relevant aspects of the case. This in turn triggers a discussion on how concrete actions could be taken consistent with these aspects of resilience.

1. Structural resilience focuses on the structural elements building resilience of the system itself, with a view to improve system performance continuity. This includes redundancy or putting buffers or spares in the system, modularity to separate components and avoid a cascade of failures and requisite diversity in those dimensions that are relevant for this system at this time.

2. Integrative resilience emphasizes the complex interconnections of the institution with its environment. This includes multi-scale interaction as described above by mapping the feedback loops between scales, thresholds or discontinuities at which point the system goes through a step change and social capital describing the accumulated capacity for bottom-up self-organization of a society to respond to stress.

3. Transformative resilience adds a longer time scale and thus opens the range even more, to ensure and enhance an organization’s transformability. This includes distributed governance to tap into the self-organizing capacity beyond straightforward top-down interventions, the foresight capacity to have a process to include irreducible uncertainties into the envisaged solutions, as well as innovation and experimentation as enablers through learning-by-doing.

1. “Resilience and Complexity are Connected,” 100 Resilient Cities, <https://www.youtube.com/watch?v=89wlR8wxnEU&t=27s>


**REDUNDANCY**
This refers to spare capacity or ‘fat’ in the system. This is often the most straightforward but also most costly way of building resilience.

Examples of redundancy include: the spare tyre of a car, additional staff to deal with unexpected peaks, spare capacity in a power grid, etc.

**MODULARITY**
This refers to loosely-coupled components. When one part of the system is affected, the components can be separated and recombined to continue operations.

Well-designed modularity means that the system can be re-combined in many ways to respond to changes in the environment. For example, a multi-modal transport system with interconnected pedestrian, bicycle, and vehicular networks.

**REQUISITE DIVERSITY**
Diversity of approaches reduces risk. Workforce diversity also enables different responses.

Increasing diversity may reduce efficiency in the short-term. Rather than diversity for its own sake, it is important to consider what types of diversity are relevant for particular circumstances, hence requisite diversity.

**MULTI-SCALAR**
Multi-scalar interactions characterise the relationship of a system under consideration with other systems at different scales around it. Scales can be geographical or temporal.

The ability to understand a system at multiple scales, both above and below the focal scale which one is operating in, is crucial for building resilience.

**DISTRIBUTED GOVERNANCE**
Polycentric or distributed governance consists of multiple interconnected centres of leadership and power within a system.

Centralised control is often perceived to be more efficient, but it represents a classic trade-off between resilience and efficiency. What may seem like a messy form of governance can be invaluable for resilience.

**THRESHOLD**
Discussions and plans about the future almost always project smooth and gradual change. We rarely anticipate discontinuities that occur as a result of thresholds being crossed.

Threshold events can be impossible to forecast, but difficult to reverse. Examples of such changes include economic or environmental collapse, breakdown of the rule of law, adoption of technology, etc.

**FORESIGHT CAPACITY**
“It is difficult to make predictions, especially about the future.”

Foresight capacity is the ability to go beyond projections and forecasting, to include irreducible uncertainties and multiple futures into the planning culture of the city. This means having institutional capacity to engage decision makers and help them be comfortable with planning for multiple possible futures.

**SOCIAL COHESION**
This is the extent to which individuals and social groups cooperate with each other in order to survive and prosper.

Social cohesion is often tested in a shock event but even on a day-to-day basis self-organising capabilities, social norms and trust levels within the existing system will have an impact on policy options.

**INNOVATE & EXPERIMENT**
There is an additional purpose to innovation, which is to build a culture that systematically explores the edges of the system. Creating comfort with ideas of radical change and experiencing the friction of very diverse concepts increases the adaptive capacity of the system and builds resilience.
3. 9-Box assessment

During the morning session, participants were split into two groups and asked to explore how the nine aspects of resilience apply to the case topic. Through a facilitated discussion, participants considered how these aspects currently manifest themselves or where there may be room for improvement. During this exercise, participants deepened their understanding of what the aspects mean in practical terms and the extent to which different aspects may be more or less important to building the resilience of the workforce specifically. Some of the observations made during this session are listed in the following section.

Redundancy

UCSF has systems in place that add a layer of redundancy to what the City provides, and in some cases, there are multiple systems internal to UCSF that may be redundant. Generally, the sense was that these redundancies were appropriate and necessary. Some specific examples of redundancies mentioned between UCSF and the City were UCSF’s shuttle busses and the City’s transit network, UCSF police and SFPD, and the Parnassus Heights campus site’s power plant. An area of internal redundancy specifically related to workforce resilience was the number of departments or groups who consider worker’s needs as part of thier mandate including Human Resources, the ombudsman’s office, the Faculty and Staff Assistance Program (FSAP), and Campus Advocacy Resources & Education (CARE). In terms of redundancy in staffing (particularly relevant during shock events like strikes but also the day-to-day life events that take staff away from work) coverage seems to vary depending on the department and function. An area noted where redundancy is lacking was backup care for patients.
Modularity
With many planners and architects in the room, this aspect was interesting to explore. The buildings that make up the Parnassus Heights campus itself were identified as a great example of modularity – with each having independent functions and separate entrances, but also physical connections through different walkways creating the campus system. UCSF’s multi-site structure was also noted as modular, as were some of the UCSF functions that have in fact been moved outside of the City’s limits. Considering which functions may be modular and could be relocated is particularly relevant in the face of current space limitations as well as the growing distance workers are traveling. Different transportation modes including bike-share, scooter-share, campus shuttles, and carpooling were identified as independently operating but interconnected.

Requisite diversity
In exploring what kinds of diversity are critical to workforce resilience, participants focused on the diversity of the workforce itself. In particular, participants discussed faculty and senior leadership level diversity, but also noted challenges along the pipeline of workforce development including students and interns. Many participants agreed there are major gaps in the current state of workforce diversity. Participants discussed causes and effects for the lack of diversity noting that the city as a whole is facing increasing challenges with retaining more diverse populations which creates barriers for recruiting diverse applicants. Also, those diversity challenges at the city level, such as housing affordability, threaten the diversity of the student body. Some expressed that “requisite diversity” at all levels of the workforce would at minimum reflect the overall population of the City. Some felt that the work environment is not inclusive for African Americans, Hispanics, or represented staff. It was noted that UCSF has a Vice Chancellor for Diversity and Outreach who can be an asset in strengthening this aspect of resilience.
Multi-scalar
The City and County of San Francisco, the State of California, and the Bay Area were identified as important connected scales for addressing workforce resilience. For UCSF, the connection between scales of a statewide system with different universities with different campuses was noted. In pursuing housing affordability, one of the core issues for workforce resilience, the importance of taking a regional perspective was discussed at length and it was suggested that for this topic, working at the regional scale would be most important. System-wide contracting was also discussed as a point of advantage and disadvantage when considering resilience. An advantage discussed was the lower costs that are afforded to the UC system because of its scale but some participants pointed out that those lower costs for contracted services result in affordability challenges for the workforce. For example, service employees at UCSF may make the same as employees in less expensive parts of the state.

Threshold
Participants enjoyed considering the different thresholds within existing campus systems and were able to identify known or knowable thresholds as well as unknown thresholds. Market prices for real estate, commute times, the Parnassus Heights campus’ space cap, and the city’s population were noted as key thresholds. Other related thresholds mentioned included parking supply, tolerance for construction chaos, turnover in leadership that might eventually increase diversity, and the amount of institutional capacity and resources UCSF can spend on solving housing cost issues. A very interesting idea about how to harness the power of thresholds was to consider at what point issues, such as housing affordability, get so bad that leaders and community members are willing to try things and experiment around solutions that were previously not considered viable.
Social cohesion
In considering the extent to which people will help each other in times of shocks and stresses, participants focused on workforce helping each other as well as relationships between UCSF and the neighborhoods surrounding the Parnassus Heights campus. The One UCSF and PRIDE Values initiatives were noted as contributing to social cohesion on campus, and in general the mission of the campus to provide healthcare was considered an important uniting factor. Connections with neighboring communities, however, were not as strong despite the Parnassus Heights campus’ long history as a prominent land owner. Good neighbor guidelines for construction exist, but not many structures or modes for informal interactions were identified. Participants identified the physical design of entry points and a lack of collaboration spaces as current barriers to creating stronger bonds between the campus and local residents.

Distributed governance
In considering how governance and power are centralized vs. distributed the discussion touched on the dynamic between the layers of governance between UC Office of the President (UCOP), UCSF, and UCSF’s multiple campus sites and offices. The discussion brought up many insights that were similarly relevant to the aspects of modularity and multi-scalar. Participants representing UCSF noted that not having an undergraduate population allows them greater flexibility than other UC schools, and the City noted a parallel in that they also represent the County which gives them more flexibility than other municipalities. When it comes to the issue of affordable housing it was noted that the current situation is more akin to a lack of coordination rather than distributed governance.
**Foresight capacity**
From initial discussions it did not seem that foresight capacity is a particularly strong aspect in current systems. A core set of hazards were easily recognized and are being actively planned for including climate change, heat events, and seismic activity. But in terms of capacity for thinking about unknown futures there seems to be less of a practice. Participants felt there was significant potential to apply foresight capacity in thinking through future housing scenarios, how the overall cost of living in the city may vary, future transportation development, and outcomes of the Mt. Sutro Open Space Reserve Management Plan. Some areas where an increase in foresight capacity could be applied were discussed including the development of the Comprehensive Parnassus Heights Plan (i.e. what assumptions are being used to develop it?), coordinating land uses with future public transit development, flexible construction approaches so that work can be done when it is cheaper and easier to find labor (vs. the current boom of construction), and in general to engage neighbors and city stakeholders in meaningful conversations.

**Innovate & experiment**
The Garage itself was recognized as a good format for thinking about how to bring innovation and experimentation into ongoing work. Some areas which seemed promising to explore were remote work/telework, housing and office micro-units, transportation alternatives, and transportation coordination between the City and UCSF. In terms of creating affordable and subsidized housing some experiments or attempts at innovative approaches have been made in the past but were ultimately shot down and did not succeed in reaching implementation, leaving many people feeling “battle weary.”

4. [https://careadvocate.ucsf.edu/what-we-do](https://careadvocate.ucsf.edu/what-we-do)
5. [https://www.ucsf.edu/oneucsf](https://www.ucsf.edu/oneucsf)
6. [https://diversity.ucsf.edu/PRIDE-values#sotua](https://diversity.ucsf.edu/PRIDE-values#sotua)
The two groups were asked to generate three action areas each. Interestingly, two of the three action areas each group came up with focused on housing affordability and transportation. The other two action areas concerned creating a sense of community through events and space. These action areas were affordable housing, transportation, and community and space.

The two groups then broke into three groups to create actions under these action areas. The six groups were then given time to present their top actions. Those actions are described below followed by an inventory of ideas that were not elaborated on due to time constraints.

4. RECOMMENDATIONS

The two groups were asked to generate three action areas each. Interestingly, two of the three action areas each group came up with focused on housing affordability and transportation. The other two action areas concerned creating a sense of community through events and space. These action areas were affordable housing, transportation, and community and space.

The two groups then broke into three groups to create actions under these action areas. The six groups were then given time to present their top actions. Those actions are described below followed by an inventory of ideas that were not elaborated on due to time constraints.
4.1. AFFORDABLE HOUSING

Participants generally thought that reducing the cost burden of housing for UCSF’s workforce was important to improving workforce resilience.

Develop a business case to use recruiting funds to invest in housing affordability programs and increase retention

Throughout the Garage, participants pointed to the increasing unaffordability in the housing market in the Bay Area. This creates two issues for UCSF, hiring and retention. The University often spends time and resources to recruit staff and faculty only for that individual to experience a level of sticker shock once they are close to deciding. Similarly, staff and faculty that UCSF has spent time and resources to develop as a professional may reach a point where the cost of living creates a necessity to seek out other opportunities. UCSF could calculate the cost of recruiting and hiring new staff and consider using that funding to create programs to increase housing affordability for the UCSF workforce. These programs, if successful, could act as a recruiting tool on their own.

Collaborate with developers and local/state governments to create housing out of underutilized space or stalled projects

Creating housing for UCSF’s workforce is not the University’s core competency and partnering with local and state governments and developers that specialize in creating housing may help UCSF reduce the housing costs of its workforce. Using UCSF capital to stimulate stalled projects, convert vacant space, or activate underutilized space would create co-benefits and contribute to the goals of the City and UCSF. This includes investigating additional partnerships with other area universities, such as the current collaboration with UC Hastings.
One of UCSF’s goals is to reduce space and more fully comply with the space ceiling imposed on the campus by a 1976 Regents Resolution. Housing is not included in the space ceiling and therefore UCSF is able to build residential buildings. One idea suggested was to convert UC Hall into workforce housing. Both groups also presented the idea to convert parking on the campus into housing developments, but participants did point out that parking can be a very controversial and politically charged asset.

UCSF, in partnership with community-based organizations and the City, could create a program to match UCSF’s Residents with individuals who have vacant rooms. This would help alleviate the burden experienced by people with empty rooms and could also increase aging-in-place. By promoting this idea to seniors who don’t want a disruptive housemate, they may be willing to offer the room below market if they know their potential housemate is a medical professional.
Support telecommuting

Creating tools and policies to encourage telecommuting for certain members of the workforce may result in some individuals choosing to live further from the campus or outside the city. This would reduce the strain on the city’s housing stock and transportation system, while creating flexibility for those in the UCSF workforce who take advantage of telecommuting. However, some participants did express concern that for certain members of the workforce, telecommuting may decrease the collaboration that is facilitated by working on the same campus. This concern was not universally agreed on by participants.

Invest pension funds to support below market housing

As the city’s second largest employer, UCSF’s pension fund may have the stability and size to support investments in housing that would not undermine the growth or security of the funds.
Additional recommendations:

- Support the creation of East Bay “hubs”
- Create a task force on housing
- Investigate shared housing with other Universities or institutions including UC Hastings
- Assess City and State housing policy
- Encourage Regents to address housing policy (increase density within and around the campus – specifically Aldea Housing)
- Supply short term commuter housing sharing
-Adjust salaries to support local housing costs
4.2. TRANSPORTATION

Participants generally thought that making commutes shorter, easier, and more approachable will improve workforce resilience. In addition to improving workforce quality of life, improvements to the transportation system may also allow the workforce greater choice in housing as the commuter vicinity would potentially expand.

The two groups working on transportation actions brainstormed similar actions which will be grouped into several overarching recommendations.

Investigate and act on opportunities for collaboration

The group presented “grand ideas” that require additional attention.

• What are the ways that the City and UCSF can leverage a partnership?

• How can we make it easier for people to come from the East Bay to the Parnassus campus (or other campuses)?

• How do we create a regional transportation hub on the west side of the city?

• Where are there opportunities for infill developments on the west side?

• How does UCSF and the City partner with regional transportation providers?

• How can UCSF partner with Muni to preserve mode-share?

• How can UCSF work with the City to promote appealing modes of transit such as reserving street capacity for transit vehicles (dedicate light-rail lanes, BRT, etc.) before transportation network companies (TNCs) saturation reaches a threshold making this option politically prohibitive?

• What influence/input can UCSF have on future or current transportation routes?

• How can UCSF and the City coordinate with TNCs to encourage shared rides and rationalize pick-up and drop-off locations? Can UCSF and the City partner to tax TNCs or implement congestion pricing in certain areas – using those funds to supplement public transit options?

• How can UCSF work with its workforce to ensure their choices reinforce the City’s transportation and resilience goals?

• How can UCSF’s shuttle service better coordinate with the City’s transit options (including shared stops)? Can the city operate micro-transit options?

• Is it possible to create a 16th St. ferry stop? West side BART stop?
Both groups had several ideas on how to better use the existing shuttle systems operating in San Francisco. One team pointed out that shuttles operated by private companies between San Francisco and other cities are often empty on one leg of the trip. The team suggested creating a partnership with those companies to fill those empty seats. The group pointed out that these private companies are worried about “poaching employees” and losing their competitive advantage by offering an employee benefit to other organizations, but a participant pointed out that corporate social responsibility commitments by these companies on increasing equity could be leveraged to counteract this concern.

If partnering with companies that already operate Bay Area shuttles does not work, participants suggested expanding the current shuttle system to a regional system with hubs located in other Bay Area cities. To increase efficiency, this system could be operated as a coop among other companies in the area.

Another recommendation proposed by one of the groups was to create a reciprocity policy between UCSF and the other UC system schools (i.e. Berkeley), but this reciprocity could also be expanded to include other organizations that operate shuttles within the Bay Area.

**Expand flexibility and reach of existing shuttle systems**

UCSF Resilience Garage
Reduce demand on the transportation system

As a more intermediate recommendation for making commutes shorter, easier, and more approachable for UCSF’s workforce, the participants came up with several ideas on how UCSF can work to reduce demand on the overall Bay Area transportation system. One idea was to modify shift changes and workforce commuter peaks to match transit capacity. In this same vein, another idea was to encourage a more flexible working environment by supporting and encouraging telecommuting or working outside of traditional work hours.

One group discussed the possibility of moving certain Parnassus functions off-site to areas with more convenient or less congested transportation options.

Both groups suggested improvements or expansions of options that are already available to UCSF’s workforce. One was to encourage the workforce to take advantage of the commuter card benefits and educate them on the option to use TNC car-pool options with those pre-tax dollars.

Currently, the workforce tends to use single occupancy TNCs instead of car-pooling options which creates congestion in and around the Parnassus campus. Another existing option that UCSF should think about expanding or encouraging is the use of car-pooling matching platforms for members of the workforce that drive to work (e.g. Waze carpooling or developing an internal system).

One group recommended focusing on educating the workforce in all their transit options would help reduce demand on the transportation system, specifically focusing on encouraging people to get out of their cars and take advantage of public transit, car-pooling, or the commuter benefits card. Approximately half of UCSF’s workforce lives within San Francisco and has access to various types of transit options. How can UCSF encourage those individuals to utilize those options? How can UCSF educate the workforce to alter behavior, some of which has been unchanged for a long time?
Additional recommendations:

- Ferry terminal to support regional boats/ferries from East and North Bay
- Mini-shuttle to connect to other transport sources
- ADA access to the public as a supplement to Para-transit services to help the community get around
- Internal campus wayfinding
- Confirm that shuttle capacity meets demand at different times of day
One of the challenges the Parnassus campus has encountered is pushback from the surrounding community to its activities including its expansion, construction, and daily operations. Participants suggested that improving the relationship the campus has with its neighbors may shift that opposition and create community support for the campus by presenting the campus as a community asset. This set of action ideas was interesting as its relationship to workforce resilience is less straightforward. However, participants believed that addressing this area would have indirect yet significant benefits to the workforce by creating an environment or local culture that is more pleasant to work in. This action has the goal of improving the connection with surrounding neighbors and to improve collaboration/shared space for the workforce. The participants originally presented this action area as two separate ideas, but many of recommendations had overlapping themes and were therefore combined for the sake of brevity.

**Improve wayfinding and connections to nearby assets**

Participants suggested that finding your way as a member of the workforce or as a member of the community is difficult. They also suggested that the current physical environment is not conducive to finding or accessing nearby assets. The groups suggested this issue can be addressed by introducing clearer wayfinding tools such as signage and potentially an app or integration into existing apps. Specifically, participants believed that connections and wayfinding to the Mt. Sutro open space reserve should be improved. UCSF is largely responsible for managing this asset and advertising this responsibility could promote community relations and use by the workforce. Wayfinding can also promote the proximity of the campus to Golden Gate Park and Saunders Court.

**Improve the design of campus assets so they are more inviting**

During the first round of the Resilience Garage (9-box framework, see appendix 2), participants pointed out that the interconnectedness of the Parnassus campus buildings creates a structure that facilitates unplanned interactions between the workforce, but also creates an environment that is less inviting to the public and discourages the workforce from going outside. In response to this observation, participants suggested redesigning the street level facades of some of the Parnassus campus buildings. Suggestions included glass or atrium style facades that allow pedestrians to see activity in building lobbies and see through the building to open-space or amenities on the other side of those buildings. Some also suggested taking a look at more intuitive entry points to buildings.

Another suggestion was to investigate the potential for POPOS (privately owned public open-spaces), rooftop gardens, and collaboration spaces which would all be accessible to the public and advertised as such.
Participants suggested that an effective method to engage the community in the built environment of the campus is to engage them in a series of tactical urbanism activities\(^7\). This method would help UCSF test potential activities, designs, or models on the campus with little investment. UCSF would also be able to build a relationship and goodwill with the community by incorporating them in the development of the actions.

Engage in tactical urbanism to get the community to interface with the campus

One group suggested that the community (workforce, neighbors, and visitors) would benefit from heightened awareness and access to events that are held or could be held at the Parnassus campus. Participants pointed out that the workforce may be familiar with these events, but the wider community takes less advantage. Some ideas to promote or create are:

- Advertise/expand the currently operating farmers market,
- Host a block party (like the one at Mission Bay),
- Water cooler stories (short, interesting, light-hearted story),
- Promote the chancellor’s concert series and possible broadcast via live stream,
- Plan art tours, and
- Create a lecture series, focusing on information that is digestible to the general-public and that promotes UCSF as an asset to the community.

Figure 10. Space group (credit: 100RC)

Create and encourage the use of events

---

7. Tactical urbanism is an approach to community building that uses short-term, low-cost, scaleable, and often temporary interventions to catalyze long term change.
5. REFLECTIONS

Both the participants and case owners were impressed by the expressions of interest and varied opportunities for collaboration between UCSF and the City and County of San Francisco. There was a consensus that many of the problems identified in the Garage should be looked at by the two organizations collectively. A participant representing the City reflected that they were impressed by all the work UCSF was already doing and that those successes and failings would be great lessons for the City to understand and competencies UCSF may be able to help the City build.

Participants also reflected that the format’s integration of diverse backgrounds and specializations of the participants allowed for a feeling that these problems are solvable. Participants also reflected that the collaborative nature of the exercises dissuaded participants from “throwing roadblocks” in the way of ideas.

It was noted that this topic was very timely to the recent UC labor strike and that further iterations of the actions proposed in this report should include those who are affected. There was not representation from the professions that participated in the strike at this Garage, but their voices would have made the considerations in this report richer.

The support and contribution of the City and County of San Francisco, Perkins + Will, the University of California, San Francisco, and the South Beach Harbor Marina were noted and appreciated.
APPENDICES
How can the design and operation of the UCSF Parnassus Heights campus and the integration of the campus with city systems improve the resilience of the university’s workforce, and as a result the overall resilience of San Francisco?

**CASE DESCRIPTION**

Parnassus Heights is UCSF’s oldest and largest campus. Situated at the base of Mount Sutro in the Inner Sunset mixed-use neighborhood, the Parnassus Campus comprises approximately 175 acres of land including the 61-acre Mount Sutro Open Space Reserve. The 1898 core of Mount Sutro Open Space Reserve was formally established in 1972 and includes a diverse array of plants and wildlife.

UCSF’s mission is to transform the future of health for humanity. The university’s multi-campus system includes its main Parnassus campus, the UCSF Benioff Children’s Hospital, and its five schools: the School of Nursing, the School of Health Management, the School of Pharmacy, the School of Dentistry, and the School of Medicine. The University of California, San Francisco (UCSF) is one of the nation’s leading medical centers, both clinically and scientifically.

Framing Question

Resilience Garage Workshop: Case Description

University of California San Francisco (UCSF)
The campus' rise to prominence is linked to its historic contribution to the city's resilience – it was not until 40,000 people took refuge in the nearby Golden Gate Park after the 1906 earthquake that the campus' medical facilities became truly vital to the city. Subsequently, in 1914, the Hooper Foundation for Medical Research moved its research operations to Parnassus, and in 1949 the UC Board of Regents designated the UCSF campus, rather than UC Berkeley, as the main site for all medical sciences of the UC system. Today the UCSF Medical Center, with Parnassus as its largest site, remains the proud distinction of being ranked as the #1 Best Hospital in California by U.S. News Report.

Despite its rich past and illustrious distinctions, the Parnassus Heights campus is aging and its facilities are lagging behind Mission Bay's, which have seen significant investment over the past 20 years. Recent construction of the $123 million Ray and Dagmar Dolby Regeneration Medicine Building in 2011 notwithstanding, the high marks received by the medical center come as a shock to some of the workforce who deal with inadequate and overcrowded workspaces on a daily basis. These physical conditions, long and expensive commutes, and the rigidity of an academic hierarchy are some of the issues currently stressing the Parnassus workforce. The campus is also at risk to acute shocks such as earthquakes, heatwaves, and labor strikes due to proximity to Mount Sutro. In contrast, the UCSF Resilience Garage is a model for how to prepare for such events.
UCSF’s renewed focus on the campus sees Parnassus as a “beacon campus with unique identity that enables UCSF’s vision of excellence in research, care, and education.” The University has launched a planning process to define a bold, long-term vision to revitalize the Parnassus Heights campus to sustain its excellence across research, education, and patient care. This comprehensive and strategic planning process is an opportunity to reimagine Parnassus Heights for decades to come. A key component of this vision is a new world-class hospital, which recently received a $500 million commitment from the Helen Diller Foundation, and is expected to open before 2030.

As the vision for Parnassus takes shape, there is an opportunity to become an exemplar in workforce resilience as well as contribute to the City’s overall resilience. As a medical center and the second largest employer in San Francisco, UCSF’s role in both the economic and physical health of the City is easy to recognize. The four goals outlined in Resilient San Francisco: Stronger Tomorrow provide a roadmap to some other areas where UCSF and the City can mutually build resilience—increasing infrastructure, addressing the city’s housing and homelessness crises, and strengthening the connections between neighbors and neighborhoods.

Figure 3: Four Goals of Resilient San Francisco

1. Plan and Prepare for Tomorrow
San Francisco’s challenges build slowly and quietly, steadily and suddenly. This goal looks to confront the pressing realities of an increasingly vulnerable city today. We face a future with certain challenges, and the City’s resilience is a changing climate and rising seas, all while building our capacity to handle today’s challenges and tomorrow’s disasters. We address land use planning and recovery planning, as well as earthquake planning and preparedness.

2. Mitigate, Adapt and Retrofit
San Francisco is a city of neighborhoods and neighbors. The goal seeks to build on the strengths of our city’s character and identity by being an effective governmental steward of resilient, healthy, and cohesive neighborhoods based on trust, equity, and partnerships. Today’s challenges will only worsen with tomorrow’s disruptions. We must work to ensure housing for all San Franciscans before and after a disaster. We will work to address our city’s housing and homelessness crises through innovative policies, reimagining and bold action to build a stronger city for today and tomorrow.

3. Ensure Housing for San Franciscans Today
We face a future with certain challenges, and the City’s resilience is a changing climate and rising seas, all while building our capacity to handle today’s challenges and tomorrow’s disasters. We address land use planning and recovery planning, as well as earthquake planning and preparedness.

4. Empower Neighbors and Neighborhoods
San Francisco is a city of neighbors and neighborhoods. This goal seeks to build on the strengths of our city’s character and identity by being an effective governmental steward of resilient, healthy, and cohesive neighborhoods based on trust, equity, and partnerships. Today’s challenges will only worsen with tomorrow’s disruptions. We must work to ensure housing for all San Franciscans before and after a disaster. We will work to address our city’s housing and homelessness crises through innovative policies, reimagining and bold action to build a stronger city for today and tomorrow.
<table>
<thead>
<tr>
<th>Shocks</th>
<th>Chronic Stresses</th>
<th>Resilience Multipliers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Earthquakes</td>
<td>Congestion &amp; long commutes</td>
<td>UC brand recognition</td>
</tr>
<tr>
<td>Labor strikes</td>
<td>Constant construction</td>
<td>Networked nature of UC employment</td>
</tr>
<tr>
<td>Landslides</td>
<td>Safety &amp; security</td>
<td>Common set of values: PRIDE Values</td>
</tr>
<tr>
<td>Wild fires</td>
<td>High winds</td>
<td>Human Resources department</td>
</tr>
<tr>
<td>Heat waves</td>
<td></td>
<td>Ombuds Office</td>
</tr>
</tbody>
</table>

**Social Stresses:**
- Unaffordability
- Institutional racism
- Social inequity

**Resilience Reducers:**
- Intensifying demand and competition on land use
- Dynamics between faculty and staff
- Cap on square footage of development

**UCSF Resilience Garage**
Appendix 2: 9-BOX FRAMEWORK

The following are transcribed responses from the 9-box framework exercise completed during the first round of the Garage. These responses are useful to UCSF as they consider some of the resilience opportunities and challenges at the Parnassus campus. This section has not been processed or contextualized and is provided as raw data.

**Redundancy**

- 5 campuses
- Fire marshal
- Depth and breadth of medical professionals in the SF/Bay Area
- HR, ombudsman office, FSAP, spiritual care
- Emergency supply sheds
- Shuttle and public transit
- PCUP power (difficult to read post-it)
- Lack of backup for public care at UCSF Health
- 72-96 hrs. of food, care and shelter
- Limited also by physical location
- EOC campus/city/HCC/HICS
- Cross training varies
- Staff redundancy is variable
- Shuttle back-up contract
- Strong data systems, I support tele work and cyber security
- Power plant

**Modularity**

- Independent buildings with separate entrances, but also connected
- Ford Go Bikes, shuttles, bird scooters, carpool
- UCSF police and SF police jurisdictions
- Campus building independence (Access, seismic, etc.)
- Dining/food courts
- Contracted essential services
- Moved some departments out of city
- More small-scale child care centers
- Not all operations run at the same time
- Robust department and divisions to manage UCSF
• Different offices at different campuses
• Multi-site support services (admin, fire, security, bldg. engineers)

**Requisite diversity**
• SF population not diverse, creates barriers in recruiting diverse applicants
• Lack of diversity in senior leadership
• Lack of diversity in faculty and students
• Higher ed and graduate health
• Long term career employment
• Employment barriers
• Work environment is not inclusive for African Americans, Hispanics and represented staff
• Access
• Interprofessional cross-school training exercises
• Affordability threatens diversity of student body
• Housing and workforce needs to reflect overall population
• Vice chancellor for diversity and outreach
• Less diversity at upper echelons of workforce
• Intern pipeline

**Multi-scalar**
• Mental health implications of rising cost of living, congestion, safety, neighborhood relations
• Shared bus lane and stops (with city)
• Coordinated and shared PD services
• Union contract negotiated by OP
• Rain/flooding
• Opportunity for greater collaboration
• Different campuses, different vulnerabilities - sea level rise vs. fire
• SF environmental ordinances and UC policy alignments
• Shared planning between UCSF and the city
• Sustainability goals cooperative and coordinated
• UCOP
• City college bio link trains lab tech workers @ UCSF
• Vendor contractors negotiated by UCOP
• Connections to city of SF through departmental support/partnerships
• Family perspective and support
• Maybe we should work at a regional scale?
• Individual salary levels make it hard to solve affordability challenges
• Housing challenge is at a citywide, regional, state scale
• Which service should be separate, which coordinated/pooled
• No pro-active coordination on affordable housing

**Threshold**

• Geographic
• Max density on campus
• Space ceiling
• Mt Sutro wildfire risk
• Market wages
• Cost of living
• Earthquakes and climate change
• Adjacent housing becoming less affordable until not enough for residents?
• Tolerance for construction chaos and traffic
• Construction mitigation measures
• Parking supply demand TDM
• Will the younger generation aging into (illegible) resolve institutional racism?
• What are the root/key thresholds: market prices, commute time, land cap, population?
• Space caps
• Congestion
• How much time$/energy can UCS spend on solving housing?
• Population cap
• Political and community will to try/find housing solutions
• Workforce housing costs

**Social cohesion**

• Workforce development programs city/UCSF/ community
• Lacking adequate gathering spaces
• Open spaces gather
• Lack of wayfinding
• Interconnected buildings support (illegible) interaction and innovation in research
• Workforce development cross-sections evolution
• Some people have ties to UC Health and UC Campus
• Lack of collaboration space
• Good neighbor guidelines
• Strong student community
• PRIDE values
• Morale ties to mission, but missions vary
• One UCSF campaign

**Distributed governance**

• HR ombudsman
• UCSF schools and the departments that support them often operate independent of one another
• State land jurisdiction over city for campus
• Affiliations
• We don’t have undergraduates which allows us to do some things (but not get funding)
• UCOP / UCSF
• Parnassus v Mission Bay v other hubs
• Multiple departments separate

**Foresight capacity**

• Mt Sutro open space management plan
• Emergency preparedness/management SFOEM/UCSF
• Plan for global warming/warming events
• Heat
• Many possible future housing scenarios
• New technology AV - commute and deliveries
• When will it be cheaper/easier to do the work?
• Process for physical expansion discussion with neighborhood and city
• Develop near new transit development
• Ferry
• Master planning assumptions - research, hospital, professional schools, BlueSky

Innovate & experiment
• Faculty-staff networks to access best practices and conduct joint research
• Partnerships
• Flexible work schedule explore
• Remote health tele-health
• Lean mindset
• Healthcare sustainability sharing with colleagues nationally
• Sustainability and campus growth
• Telework
• Learning health system pillar
• Incentives to work at different times/space limited
• UCSF culture evolution
• Support professional development opportunities
• Great, sane, great catch, star awards, recognize.ucsf.edu, IAP
• Learning and organizing development resources
• City learning networks
• Possibility of cross subsidy
• Some experimentation on housing but battle weary
• Remote work
• Opportunity to better coordinate transportation
• Physical work environment (office and research)
• Housing micro-units
• 70-75 SF (net) private office
• Transportation opportunities
• Counter cyclical planning
## Appendix 3: ATTENDANCE LIST

<table>
<thead>
<tr>
<th>Count</th>
<th>Name</th>
<th>Organization</th>
<th>Department or title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Brett Mons</td>
<td>100RC</td>
<td>Strategy Delivery Unit</td>
</tr>
<tr>
<td>2</td>
<td>Leah Flax</td>
<td>100RC</td>
<td>Tools</td>
</tr>
<tr>
<td>3</td>
<td>Corrine LeTourneau</td>
<td>100RC</td>
<td>City and Practice Management</td>
</tr>
<tr>
<td>4</td>
<td>Melissa Higbee</td>
<td>City</td>
<td>Office of Resilience and Capital Planning</td>
</tr>
<tr>
<td>5</td>
<td>Joaquin Torres</td>
<td>City</td>
<td>Office of Economic and Workforce Development</td>
</tr>
<tr>
<td>6</td>
<td>Dylan Smith</td>
<td>City</td>
<td>Office of Economic and Workforce Development</td>
</tr>
<tr>
<td>7</td>
<td>AJ Thomas</td>
<td>City</td>
<td>Office of Economic and Workforce Development</td>
</tr>
<tr>
<td>8</td>
<td>Josh Switzky</td>
<td>City</td>
<td>Planning Department, Citywide Planning</td>
</tr>
<tr>
<td>9</td>
<td>Tam Tran</td>
<td>City</td>
<td>Planning Department, Transportation</td>
</tr>
<tr>
<td>10</td>
<td>Faith Kirkpatrick</td>
<td>City</td>
<td>Mayor’s Office of Housing and Community Development</td>
</tr>
<tr>
<td>11</td>
<td>Karen Hill</td>
<td>City</td>
<td>Department of Public Health, HR</td>
</tr>
<tr>
<td>12</td>
<td>Ayanna Bennet</td>
<td>City</td>
<td>Department of Public Health, equity focus</td>
</tr>
<tr>
<td>13</td>
<td>Kelly Hiramoto</td>
<td>City</td>
<td>Department of Public health, Transitions</td>
</tr>
<tr>
<td>14</td>
<td>Kim Walton</td>
<td>City</td>
<td>SFMTA</td>
</tr>
<tr>
<td>15</td>
<td>Nick Majeski</td>
<td>City</td>
<td>Office of the City Administrator</td>
</tr>
<tr>
<td>16</td>
<td>Heather Green</td>
<td>City</td>
<td>Office of Resilience and Capital Planning</td>
</tr>
<tr>
<td>17</td>
<td>Adam Van de water</td>
<td>City</td>
<td>Office of Economic and Workforce Development</td>
</tr>
<tr>
<td>18</td>
<td>Brian Strong</td>
<td>City</td>
<td>Office of Resilience and Capital Planning</td>
</tr>
<tr>
<td>19</td>
<td>Brenton Wong</td>
<td>Education</td>
<td>Cal Academy of Sciences</td>
</tr>
<tr>
<td>20</td>
<td>Beth Murray</td>
<td>Lecturer at</td>
<td>Wharton</td>
</tr>
<tr>
<td>21</td>
<td>John Long</td>
<td>P+W</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>Jenniger Cooper-Sabo</td>
<td>P+W</td>
<td>Landscape Architect</td>
</tr>
<tr>
<td>23</td>
<td>Gabriella Folino</td>
<td>P+W</td>
<td>Urban Planner</td>
</tr>
<tr>
<td>24</td>
<td>Joy Glasier</td>
<td>UCSF</td>
<td>Campus Planning</td>
</tr>
<tr>
<td>25</td>
<td>Lori Yamauchi</td>
<td>UCSF</td>
<td>Campus Planning</td>
</tr>
<tr>
<td>26</td>
<td>Kevin Beauchamp</td>
<td>UCSF</td>
<td>Campus Planning</td>
</tr>
<tr>
<td>27</td>
<td>Sharon Priest</td>
<td>UCSF</td>
<td>Campus Planning</td>
</tr>
<tr>
<td>28</td>
<td>Patti Mitchell</td>
<td>UCSF</td>
<td>Capital Programs</td>
</tr>
<tr>
<td>29</td>
<td>Gail Lee</td>
<td>UCSF</td>
<td>Sustainability</td>
</tr>
<tr>
<td>30</td>
<td>Erick Villalobos</td>
<td>UCSF</td>
<td>Transportation Services</td>
</tr>
<tr>
<td>31</td>
<td>Wayne Kwan</td>
<td>UCSF</td>
<td>Transportation Services</td>
</tr>
<tr>
<td>32</td>
<td>Suzie Kirrane</td>
<td>UCSF</td>
<td>Family Services</td>
</tr>
<tr>
<td>33</td>
<td>Janaye Roy-Ruhl</td>
<td>UCSF</td>
<td>Temp Employment &amp; EXCEL Program</td>
</tr>
<tr>
<td></td>
<td>Name</td>
<td>Organization</td>
<td>Position</td>
</tr>
<tr>
<td>---</td>
<td>----------------------</td>
<td>--------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>34</td>
<td>Kate Shimshock</td>
<td>UCSF</td>
<td>Facilities, Emergency Management</td>
</tr>
<tr>
<td>35</td>
<td>Wylie Liu</td>
<td>UCSF</td>
<td>Center for Community Engagement</td>
</tr>
<tr>
<td>36</td>
<td>Nancy Duranteau</td>
<td>UCSF</td>
<td>Chief Learning Officer</td>
</tr>
<tr>
<td>37</td>
<td>Michelle Heckle</td>
<td>UCSF</td>
<td>Homeland Security Emergency Management Division</td>
</tr>
<tr>
<td>38</td>
<td>Christine Gasparac</td>
<td>UCSF</td>
<td>Community Relations</td>
</tr>
<tr>
<td>40</td>
<td>Malini Nambiar</td>
<td>ULI</td>
<td>Member, ULI Sustainability Committee</td>
</tr>
</tbody>
</table>