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East Portland Resilient Island Vision Plan

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EAST PORTLAND RESILIENT ISLAND VISION PLAN

FINAL REPORT

Prepared by Resilient
Island Partners City
Planning

EAST PORTLAND COMMUNITY CENTER

740



ACKNOWLEDGEMENTS

LAND ACKNOWLEDGEMENT

East Portland Community Center is located in the traditional and ancestral homelands of the Cowlitz, Siletz, Grand Ronde, Multnomah, Kathlamet, Clackamas, Tumwater, Watlala bands of the Chinook, the Tualatin Kalapuya, and other Indigenous peoples of the river known as Wimal, Nchi wana, and Columbia. We are grateful to be guests on these lands.

SPECIAL THANKS TO...

The East Portland Community Center (EPCC):

Neal Brown II - Building Manager
Tyler West - Rental Coordinator
Harold Ridge - TeenForce Coordinator
Clara Gill - Pre-K Instructor

EPCC Community Partners:

Immigrant and Refugee Community Organization (IRCO)
Meals on Wheels

East Portland Resilience Coalition:

Centennial Neighborhood Emergency Team;
Community Energy Project; Growing Gardens; Historic Parkrose; New Avenues for Youth; Outgrowing Hunger; ROSE Community Development; and Brown Hope.

and Eric Ridenour - SRG Partnership

ABOUT OUR CLIENT

RIP City Planning is working on behalf of Portland's Disaster Resilience and Recovery Action Group (DRRAG)- a working group composed of representatives from Portland Bureaus of Development Services, Emergency Management (PBEM), Environmental Services (BES), Water, Planning and Sustainability, Transportation, Parks and Recreation, and Portland State University's Institute for Sustainable Solutions (ISS).

Thank You To:

Jonna Papaefthimiou - Chief Resilience Officer, PBEM
Nishant Parulekar - Engineer (Resilience Program), BES
Beth Gilden - Collaborative Projects Manager, ISS
Chris Silkie - Asset Manager, PPR



MEET OUR TEAM

WHO ARE WE?

Resilient Island Partners (RIP) City Planning is a group of six graduate students from Portland State University's Toulan School of Urban Studies & Planning, completing our Masters of Urban and Regional Planning. Our planning interests include emergency management, community resilience, environmental justice, sustainability, and urban design.



OUR TEAM

From left to right:

Blair Vallie | Led direct community engagement efforts, conducted historical research, and designed engagement materials.

Mary Chase | Led recommendation development process, community design prioritization, and design concept narrative.

Mirna Ali | Led communication, deadline organization, and information-sharing; provided support to team members as needed.

Journie Gering | Led design concept renderings, community visioning workshop, and team branding development.

Rica Perez | Led community engagement efforts, community organization outreach, and facilitated all client communication.

Allan Wilson | Led existing conditions/demographics report, site suitability analysis, qualitative data analysis, and final editing.

HOW TO READ THIS REPORT

ABOUT OUR WORK

Our project was divided into three phases, beginning with **(1) Existing Conditions** and **(2a) Community Engagement**, which we summarized through a brief **(2b) SWOT Analysis**. This research and collected data led to the formation of our **(3) Recommendations**, which comprise both programmatic strategies and physical design concepts.

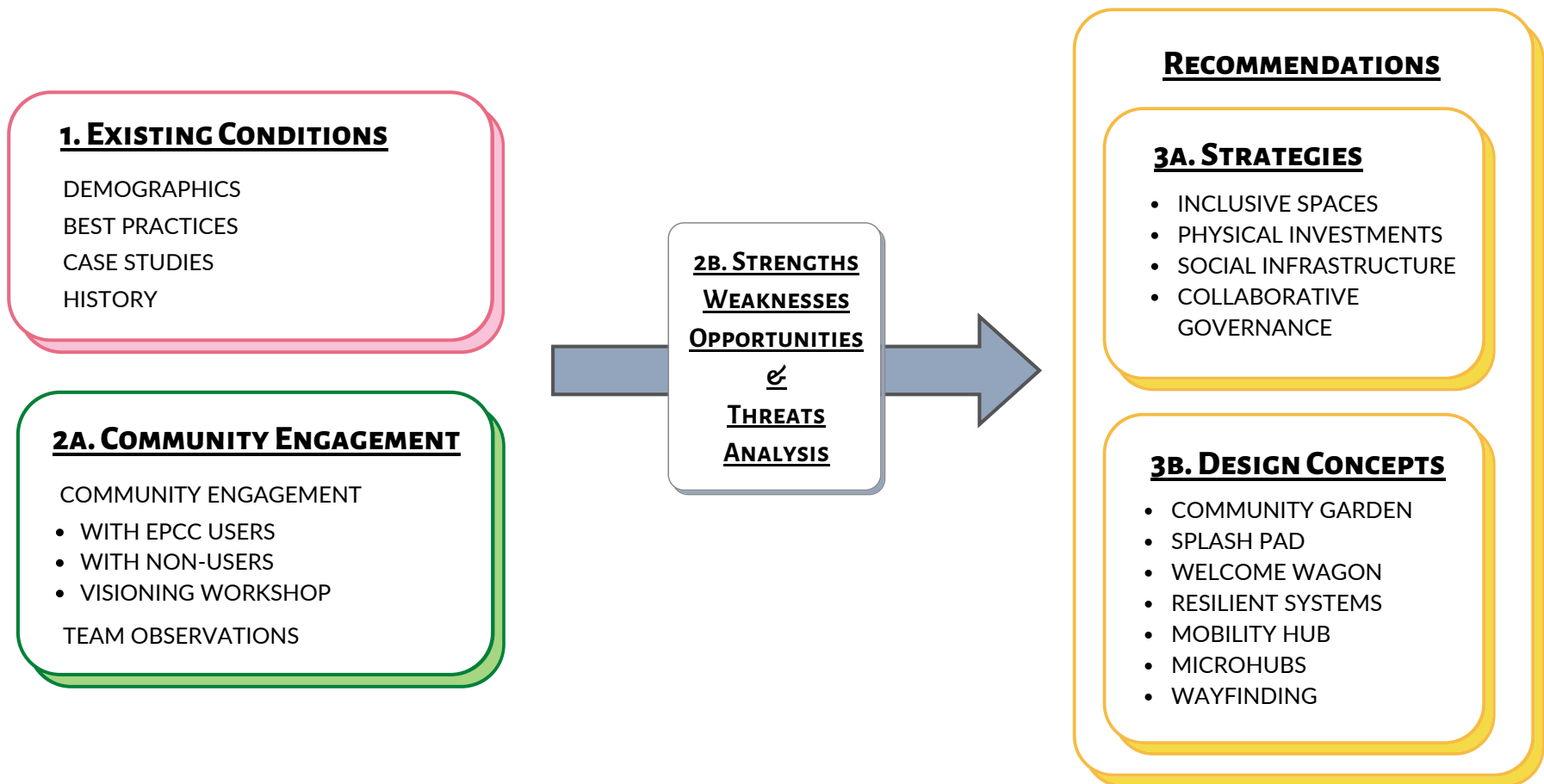


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EXECUTIVE SUMMARY

WHAT IS OUR PROJECT ABOUT?

To execute the East Portland Resilient Island Project, RIP City Planning has partnered with Portland's Disaster Resilience and Recovery Action Group (DRRAG), an organization composed of representatives from Portland Bureaus of Development Services, Emergency Management, Environmental Services, Water, Planning and Sustainability, Transportation, and Parks & Recreation, as well as Portland State University's Institute for Sustainable Solutions.

DRRAG and RIP City Planning see this project as a prime opportunity to better understand and enhance the East Portland Community Center's role in fostering social connectivity and community-level disaster planning. Through abundant engagement efforts with local community groups and EPCC patrons, we aim to co-create a community-led document reenvisioning EPCC as the center of a 'resilient island' during disaster events and non-emergency times.

WHAT IS OUR AREA OF STUDY AND WHY?

We limited the focus of this project to the area within an approximately 15-minute walk of the East Portland Community Center. The concept of focusing on the built environment and services within this area is common in urban planning, and allows for assessing the accessibility and social orientation of neighborhoods. We have merged that concept with the practical consideration that in a serious disaster scenario, such as a severe earthquake, people may not be able to use transit or roadways to reach EPCC, and may instead need to travel by foot or bike.

WHAT HAZARDS ARE WE TALKING ABOUT?

Portlanders face a variety of natural hazards, including earthquakes, landslides, flooding, and extreme heat. This project focuses specifically on hazards that are both highly likely to occur in East Portland, and will have a relatively high impact when they do:

- **Earthquakes:** The Pacific Northwest region is vulnerable to impacts from the impending Cascadia Subduction Zone earthquake, as well as smaller and more frequent tremors.
- **Extreme Temperatures:** The effects of climate change are likely to amplify the frequency and severity of extreme temperature events in Oregon.
- **Wildfire Smoke:** Portland is surrounded by forests, which in recent years have seen an alarming uptick in massive wildfires. The smoke from these wildfires poses severe threats to the health and well-being of Portlanders.

WHAT ROLE DOES EPCC SERVE IN CRISES?

EPCC currently plays an important role in official responses to hazards facing East Portland communities. In 2020, EPCC coordinated with Multnomah County to serve as a shelter for wildfire evacuees. It has also served as a community COVID-19 vaccination site, and it can be activated as both a cooling and warming center. In non-disaster times, the center provides services and resources to houseless individuals, working in partnership with community organizations and Multnomah County to provide temporary shelter.

WHAT ARE THE KEY ELEMENTS OF OUR PLAN?

- **EPCC can grow as an inclusive space that celebrates linguistic diversity, culturally-specific histories, and partnerships within the community.** For example, comprehensive language interpretation services would increase equitable access to resources during both disaster and 'blue sky' times. In addition, fostering relationships with culturally-specific organizations would enhance the perception of EPCC as a resilience hub, as communities came to see EPCC as a place of inclusion and refuge.
- **Physical investments in EPCC would increase the facility's capacity to serve the community during blue-sky times and disasters.** Many of this Plan's recommendations hinge on the physical integrity of the facility itself; seismic retrofitting and self-contained lifeline systems are integral steps towards achieving resilience.
- **Strengthening social programs would facilitate EPCC patrons' access to services, information, and assistance.** Several community members indicated a need for better information on how to access existing community resources. Through our engagement we also learned that many patrons would appreciate more opportunities to socialize with others at EPCC.
- **Collaboration between agencies at different scales of government would strengthen EPCC's role in disaster response.** Disconnection between government entities reduces the efficiency of resilience-related projects, and often leads to needless redundancy. Streamlining communication among agencies would likely move the City closer to its resilience goals, including the Resilient Island vision for East Portland.
- **Many EPCC patrons expressed support for physical improvements that would enhance the facility's capacity to serve the community during blue sky times and disasters.** These design concepts include a community garden expansion, splash pad, informational kiosk, mobility hub, and green infrastructure elements, all of which increase EPCC's ability to provide services to communities before, during, and after disaster events.

OVERVIEW

WHAT ARE SOME KEY TERMS TO KNOW?

HAZARD

A natural or man-made situation that has the potential to cause injuries, property damage, agricultural loss, damage to the environment, interruption of business, or other types of harm or loss.

VULNERABILITY

The likelihood that an individual or group will be exposed to and adversely affected by a hazard.

DISASTER

An event involving a hazard and a vulnerable population.

FRONTLINE COMMUNITY

Communities facing the most immediate shocks and stressors of hazard, especially those related to climate change. Very often, frontline communities are predominately Black, Brown, Indigenous, and/or lower-income.

SOCIAL CAPITAL

The value of positive social connections between people and groups of people. Communities exhibiting high levels of connectivity and social capital tend to be more resilient to hazards.

EQUITY

The quality of being fair and impartial, while taking into account systemic inequalities to ensure everyone in a community has access to the same opportunities and resources.

SUSTAINABILITY

Meeting present needs without compromising the ability of future generations to meet their own needs.

'BLUE SKY' TIMES

Periods not defined by significant crises or natural disasters.

RESILIENCE HUB

A facility providing resources and information to enhance residents' quality of life before, during, and after disaster events. See 'What is a Resilient Island?' Section for detail on existing literature.

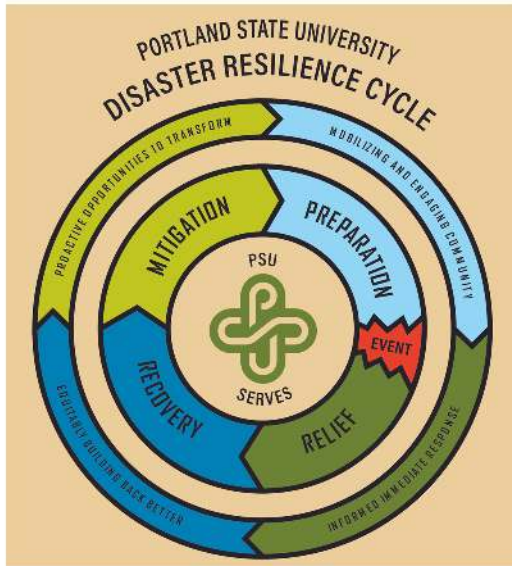
VISION PLAN

A document detailing a community's ideals and desires for the future, including specific ideas for making them happen.

THE DISASTER MANAGEMENT CYCLE

A common framework used in literature and practice to describe the phases before, during, and after a disaster event.

Figure 1. Disaster Management Cycle



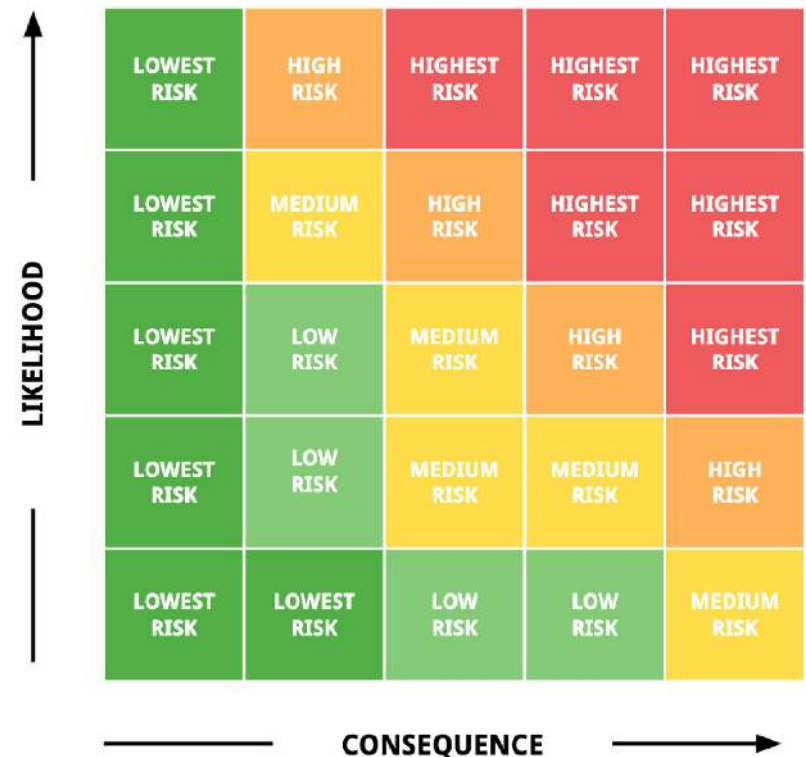
Source: Portland State University

- **Mitigation:** Long-term preventative measures to reduce the impact of disasters, such as building codes, zoning and other regulations.
- **Preparation:** Shorter-term preventative measures to reduce the impact of disasters, such as fire drills and evacuation rehearsals.
- **Relief/Response:** Immediate assistance after a disaster to help restore safety, and to minimize the risk of additional property damage.
- **Recovery:** Long-term efforts to help individuals, communities, businesses, and organizations return to normal, or to a 'new normal'.

RISK ANALYSIS MATRIX

This risk analysis matrix provides planners and emergency managers a method of rating and prioritizing risks. These ratings can then serve as a basis for determining mitigation and contingency measures. Ratings are based on a two-axis scale of their estimated consequence and presumed likelihood.

Figure 2. Risk Analysis Matrix



Source: NASA

WHAT IS OUR EQUITY FRAMEWORK?

HOW WILL OUR PROJECT ADDRESS EQUITY CONCERNS?

The areas surrounding East Portland Community Center have been historically underserved by local government. Currently, East Portland is home to a higher proportion of people of color, immigrants, and people with limited English proficiency than in Portland as a whole. Lacking equitable levels of essential resources, these communities are often exposed to more hazards and suffer the harshest impacts when disasters occur.

The RIP City Planning team is committed to anti-racist, anti-oppressive action through reflective community engagement and equitable planning practice. Throughout the process of developing and directing this project, our team has committed to maintaining an attitude of humility and receptivity to community needs. RIP City Planning recognizes that producing an equitable Vision Plan requires a collaborative approach, in which East Portland community members and other stakeholders define 'resilience' for themselves. We understand that engaging the public is more than simply a tool for eliciting information. Our engagement process aims to create opportunities for mutual learning, while centering the lived experiences of East Portland community members.

STRUCTURAL

Through research and analysis of the neighborhood's history, past and present plans and policies, and community relationships with local government and other organizations, we can begin to identify, acknowledge, and address structural equity disparities.

PROCEDURAL

Equitable and flexible engagement techniques will be used to suit the unique needs of community members and other stakeholders. For communities that are difficult to reach directly, we will engage with community-based organizations who serve them.

EQUITY

DISTRIBUTIONAL

The history of inequitable access to resources informed our analyses of East Portland's existing conditions, past and current plans and policies, as well as our public engagement strategy and outreach.

TRANSGENERATIONAL

Providing spaces where community members of all ages can access essential services, share information, and forge social connections helps foster community resilience during 'blue sky' times and disaster events.

WHERE DOES OUR PROJECT FIT IN?

EAST PORTLAND COMMUNITY CENTER STUDY

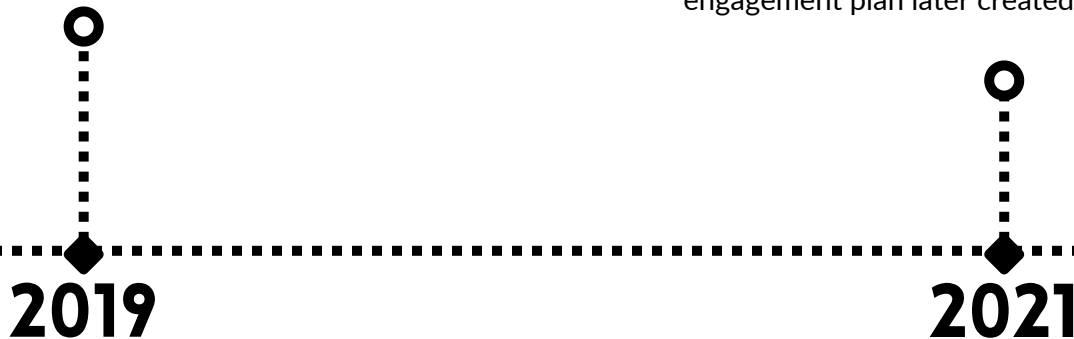
In 2019, the Institute for Sustainable Solutions (ISS) conducted a study involving East Portland Community Center, exploring its current role within the community, and its potential to expand its capacity to serve as a 'resilience hub.' A survey for users of the center complemented the study, aiming to determine EPCC users' understanding of disaster preparedness, and measure their interest in the resilience hub concept (Saraswati, 2019). The results of this survey suggested that many EPCC users were unprepared for disaster risks, due to either lack of disaster preparedness knowledge, or lack of resources. Many users conveyed support for the resilience hub concept, but also expressed concerns about securing adequate funding, and the possibility of tax hikes.

The 2019 report by ISS also suggested that improvements to the facility's infrastructure would likely support community resilience goals, and pointed to the need to engage East Portland residents beyond those who currently utilize EPCC.

PSU STUDENT INVOLVEMENT

In Fall 2021, the class USP/EMCR 530 Building Community Resilience at Portland State University conducted a team project focusing on the East Portland Community Center. This project was an exploration of the role the center could play in strengthening community disaster resilience. The class presented its findings to a group of city employees, describing existing conditions, identifying key stakeholders, outlining a variety of disaster preparedness strategies, and suggesting actions to enhance social connectivity through the medium of EPCC. Five out of six members of the RIP City Planning team participated in this class project.

In the recommendations of this report the class included a set of suggested actions for Community Member and Stakeholder Engagement. These included objectives to build partnerships with diverse stakeholders and conduct direct and equitable outreach to community members, especially populations who are historically left out of the planning process. These laid the groundwork for the public engagement plan later created by RIP City Planning.



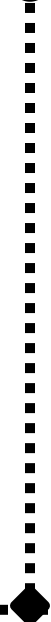
2019

2021

RESILIENCE HUB SITE SUITABILITY ANALYSIS

SITE SUITABILITY ANALYSIS PROJECT

Given the need for disaster-resilient public facilities in the Portland region, in March 2022 RIP City Planning member Allan Wilson developed a series of GIS (geographic information system) models to identify the most ideal sites in the Portland Metro region for resilience hubs. He incorporated demographic, natural hazard, and infrastructural data into this analysis, in order to approximate Portland communities' variable social and physical vulnerabilities to disasters.



2022

SITE SUITABILITY METHODOLOGY

Marginalized and lower-income communities around the world are often affected 'first and worst' by the effects of climate change (Sweeney, 2021). With this in mind, Allan incorporated data relating to the physical resilience of locations, demographic information of communities living throughout the region, and proximity to critical infrastructure.

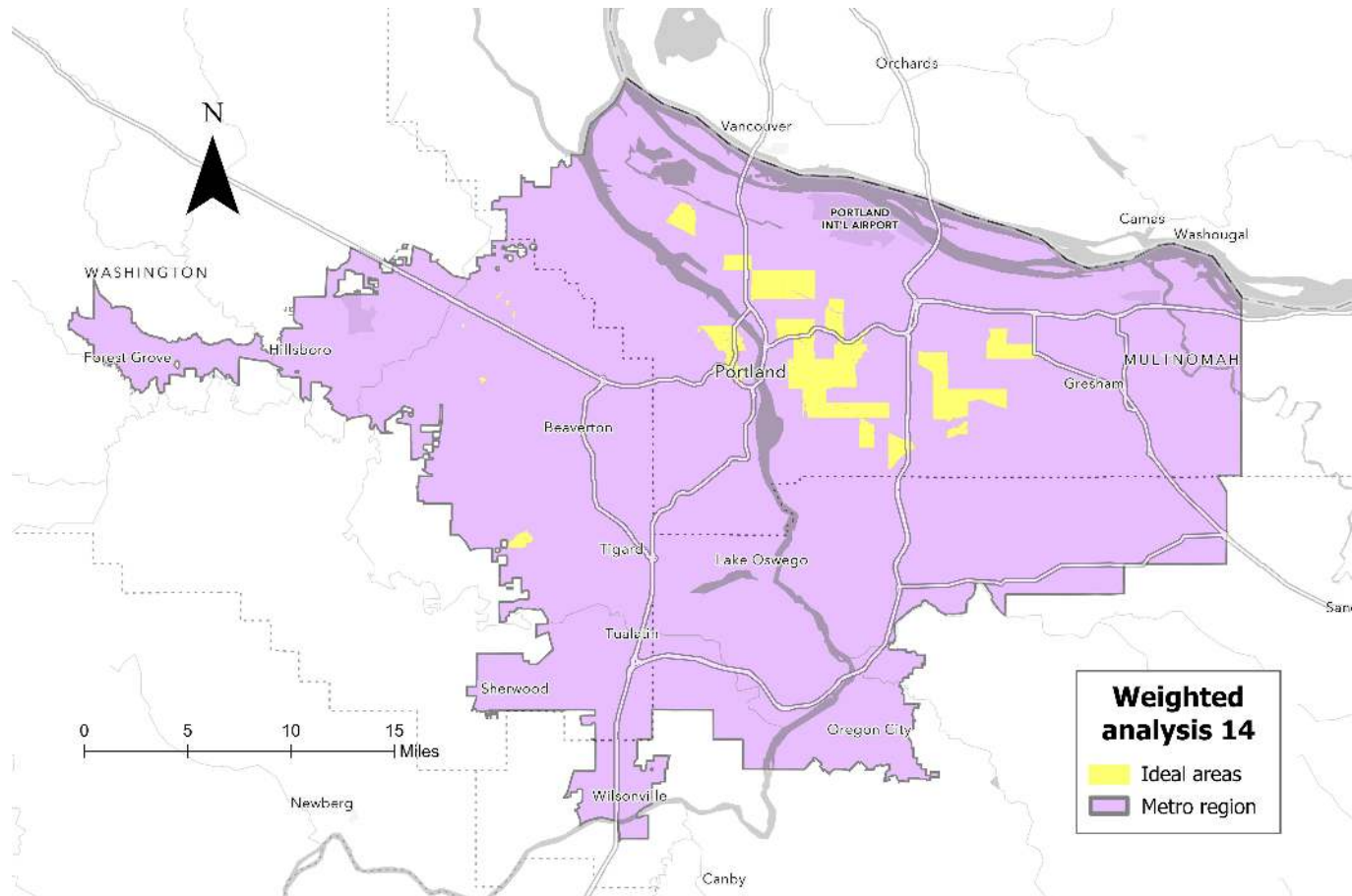
CRITERIA:

- Earthquake liquefaction probability
- Landslide probability
- Flood inundation risk
- Proximity to buildings deemed 'unsafe', hospitals, emergency transportation routes, **community centers**, and school facilities.
- Areas of high population density
- Concentrations of residents under the age of 18 and over the age of 64
- Concentrations of individuals of color
- Concentrations of adults with low English proficiency
- Concentrations of adults without a high school diploma
- Concentrations of households earning less than 1.5 times the amount of the poverty line

KEY TAKEAWAYS FROM SITE SUITABILITY ANALYSIS

Allan conducted 33 weighted overlay analyses, each time using a different model with a unique combination of criteria weights. Although several areas in the Portland region were identified as ideal for the siting of resilience hubs, **32 out of 33 analysis models identified the region of East Portland containing EPCC as ideal.**

Figure 3. Ideal Areas for the Siting of Resilience Hubs in the Portland Metropolitan Area



Source: RIP City Planning

The following is a short list of other regional community centers that were consistently identified as ideal resilience hub sites over the course of these analyses:

- Mt. Scott Community Center
- Hillsboro Community Senior Center
- Shute Park Aquatic and Recreation Center
- GSI Community Center
- Slavic Community Center of the NW

PROJECT PURPOSE

WHAT WAS OUR PROJECT'S PURPOSE?

The following paragraph from DRRAG's original proposal outlines the intent of our project:

"The desired end-product is a vision of the East Portland Community Center as a Resilient Island founded on the concerns, needs, and priorities of the area's diverse community members. The product should highlight several alternatives of the Resilient Island vision and include features deemed important by the community. This may include renewable energy and storage initiatives, improved transportation infrastructure, creation of community gardens, community-building programs, and natural disaster preparedness education. A graphic portrayal/rendering of the Resilient Island, including labels of resilient features should also support this final vision. MURP students, depending on their interest, will have the opportunity to narrow their focus on a specific aspect, but we would like to maintain a focus on the neighborhood/district level planning."

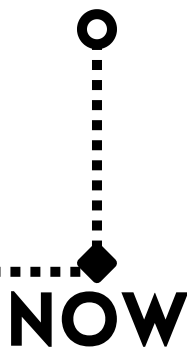


HOW DID WE ORGANIZE OUR WORK?

Following the guidelines set forth in DRRAG's proposal, the RIP City Planning team developed a working plan to execute the East Portland Resilient Island Project according to Portland State University's Master of Urban and Regional Planning (MURP) program Workshop timeline.

The **East Portland Resilient Island Vision Plan** synthesizes community needs and priorities with emergency management practices and disaster resilience research into a set of recommendations that aim to increase the capacity of East Portland Community Center to serve communities before, during, and after disaster events.

East Portland Resilient Island Design Concepts provide illustrated strategies to complement Vision Plan recommendations, including designs for features identified as important by members of the community.



WHAT IS A RESILIENT ISLAND?

RESILIENCE HUB LITERATURE REVIEW

DEFINITION

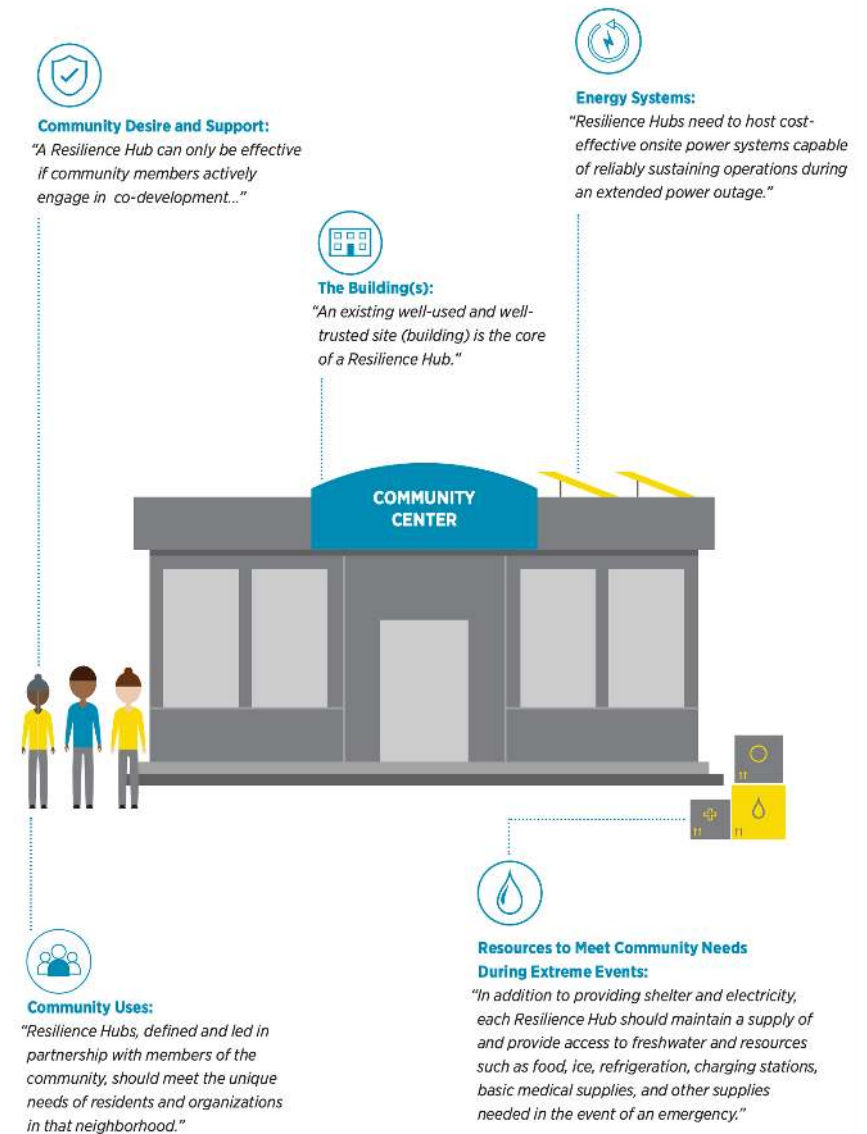
In order to understand what is meant by a **'resilient island'** like the one our project envisions at EPCC, it is vital to first begin with the more widely known concept in disaster management literature of a **'resilience hub.'**

A **'resilience hub'** refers to public spaces and facilities, such as recreation centers and churches, that support a variety of community uses in both 'blue sky' times and times of crisis (Curran & Pottinger, 2019).

Resilience hubs offer a concentration of services that include **social infrastructure** with **physical assets**. They employ these features during everyday operations, disasters, and throughout periods of recovery. The Urban Sustainability Directors Network defines resilience hubs as:

"Community-serving facilities augmented to support residents and coordinate resource distribution and services before, during, or after a natural hazard event. They leverage established, trusted, and community-managed facilities that are used year-round as neighborhood centers for community-building activities. Designed well, Resilience Hubs can equitably enhance community resilience while reducing GHG emissions and improving local quality of life" (CannonDesign, 2019).

Figure 4. Elements of a Resilience Hub



Source: USDN.org

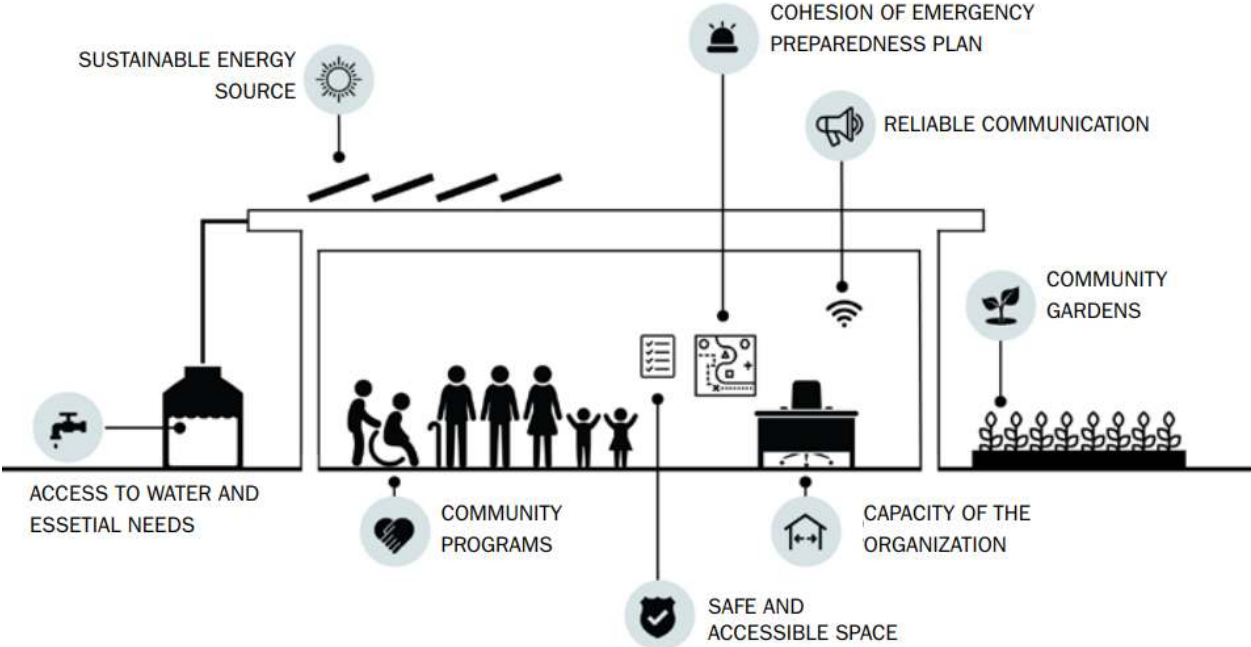
FEATURES OF RESILIENT HUBS

Resilience hubs are often able to provide communities access to **physical assets** such as food, first aid supplies, shelter, and electricity through renewable self-sustaining sources, like solar microgrids (Southface, 2019). By investing in resilience hubs, local governments can “reduce burden on local emergency response teams, improve access to health improvement initiatives, foster greater community cohesion, and increase the effectiveness of community-centered institutions and programs” (CannonDesign, 2020).

In regards to **social infrastructure**, hubs provide opportunities to build community power and leadership through “resources residents need to enhance their own individual capacity while also supporting and strengthening their neighborhood and neighbors” (CannonDesign, 2020).

Day-to-day operation of resilience hubs is most often supported by local government, and primarily steered by involved communities. This makes resilience hubs ideal sites for shifting power into the hands of local residents (USDN, 2019). To this end, it is essential that resilience hubs administrators understand of a hub's capacity, and know when to ask partnering organizations for help (Curran, 2019).

Figure 5. Key Components of Resilience Hubs



Source: Enterprise Community Partners, Inc

BUILDING A RESILIENT ISLAND

DEFINING THE CONCEPT

While recent literature exists to define resilience hubs, the concept of a '**resilient island**' is a new and evolving term that our project explored throughout our research, community engagement, and design.

A 'resilient island' is a **neighborhood-scale** area that is anchored by a 'resilience hub' which acts as a place of **refuge, information sharing, key services, and social connection before, during, and after disaster situations**. A thriving and self-sufficient resilient island should prioritize diverse and accessible programming, creation and strengthening of trusted connections, community cohesion, and the ability to address specific needs. Like a resilience hub, this concept brings together physical infrastructure and community-centered investments to create a comfortable and dependable home base at a larger scale.

Resilient islands set a precedent for greater collaboration within emergency management efforts. Disconnected processes weaken communities because they disregard dependencies between various infrastructure and social systems. For communities to thrive, all infrastructure elements must be physically sound. Simultaneously, social networks must be in tune with shared needs and priorities. Failing to understand these interconnected systems could lead to unprepared and debilitated communities in times of disaster.

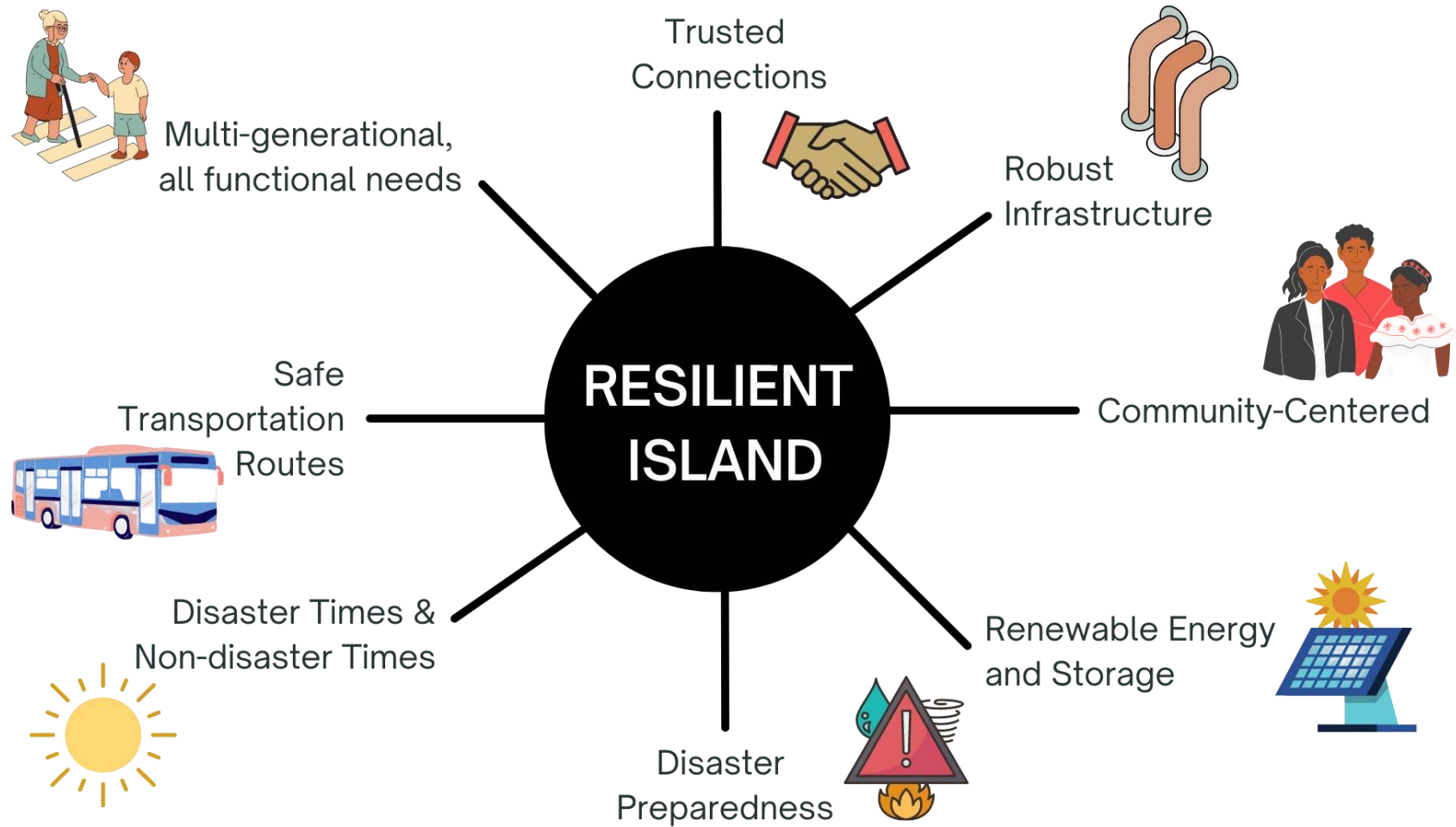
Resilient islands are exciting new concept in disaster resilience and recovery planning. In cooperation with our client DRRAG, this plan envisions that:

The East Portland Resilient Island will be a place where sound and well-connected infrastructure and social systems meet. These two elements form the critical foundations of a self-sufficient and livable place for people of all identities, ages, and abilities to thrive and feel empowered during blue sky and disaster times.

The diagram on the next page provides a visual roadmap of the essential components that make up a resilient island created by our team. It demonstrates resilient islands leveraging a centrally located hub to build a supportive network of social and physical resources.

FEATURES OF A RESILIENT ISLAND

Figure 6. Key Components of Resilient Islands

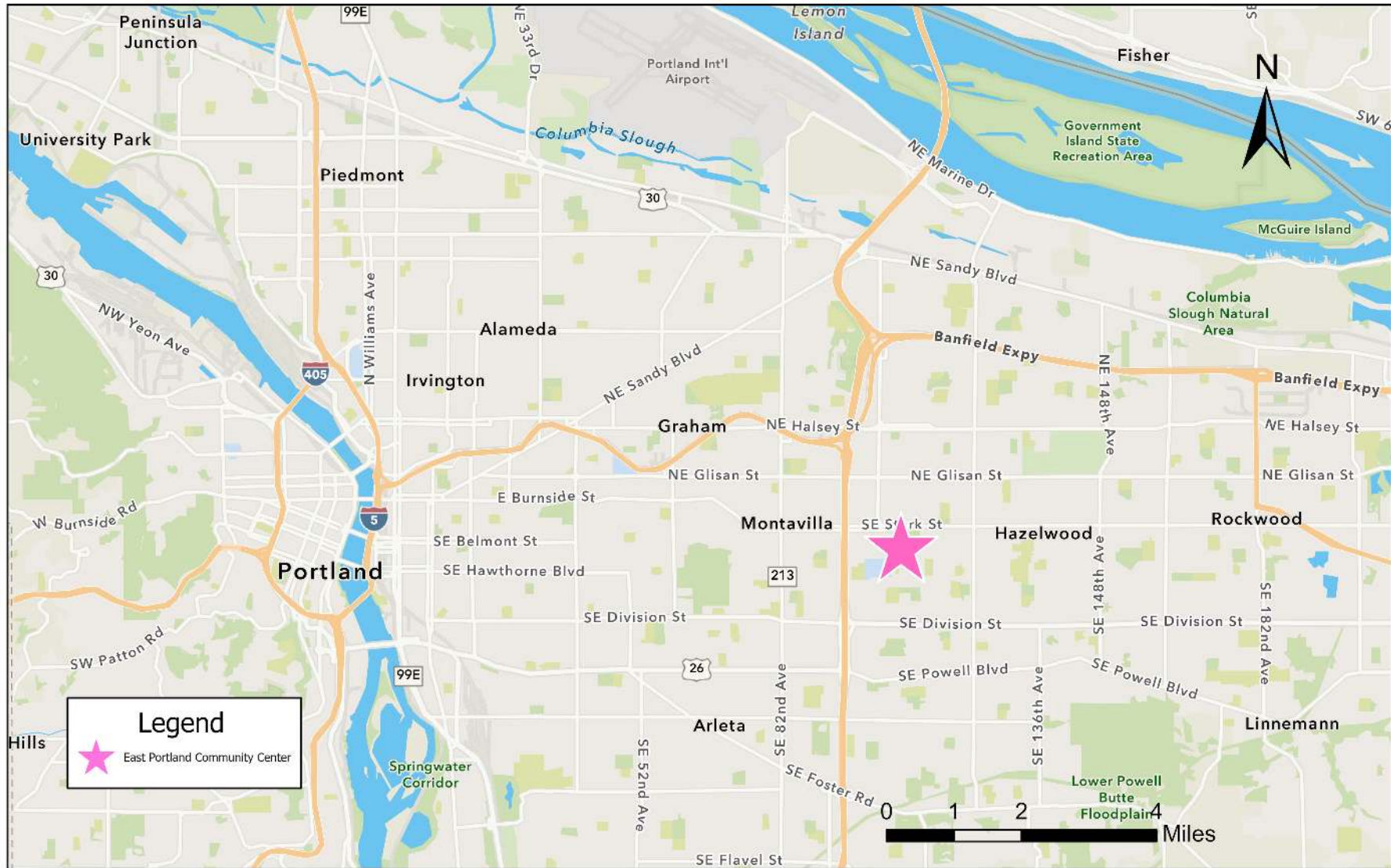


Source: RIP City Planning

EXISTING CONDITIONS

WHERE IS EPCC LOCATED?

Figure 7. East Portland Community Center Location



Source: RIP City Planning

WHAT IS OUR STUDY AREA?

THE RESILIENT ISLAND STUDY AREA

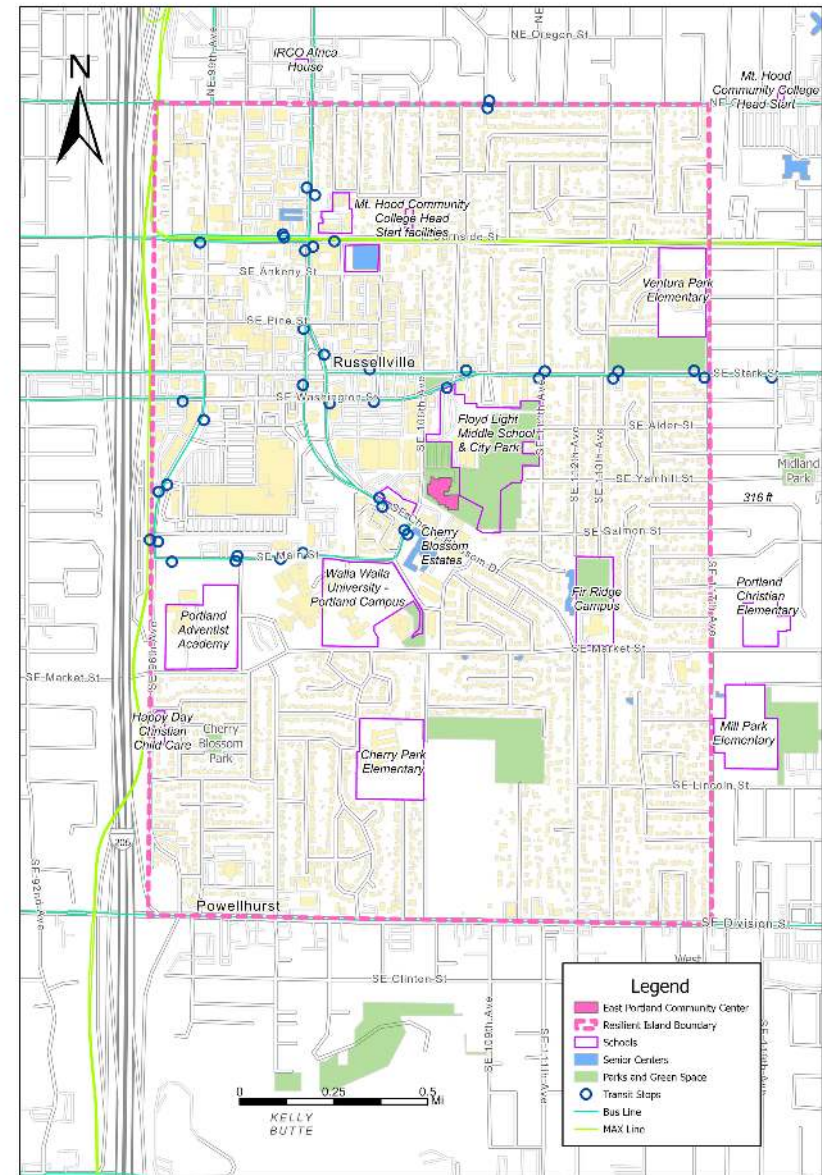
When determining the boundaries of our study area, we balanced the goals of our project with our knowledge of urban planning practice. We decided to limit the focus of our study to the area contained within roughly fifteen minute's walking distance of the East Portland Community Center. There were two primary reasons for this choice:

1. In a disaster scenario, people may not be able to use transit or even roads to reach a by foot. This is also why we clipped the boundary to I-205, with the assumption that it would be impassable in event of a severe earthquake or transit disruptions from extreme temperatures.
2. The concept of concentrating services within a fifteen-minute walking distance is commonly used in urban planning practice to consider 'complete' neighborhoods which are accessible and community oriented.

We identified key locations within our study area that may be important for partnership with EPCC because they also serve as local social hubs. The closest of these include Floyd Light Middle School, Floyd Light City Park, and Cherry Blossom Estates.

The East Portland Resilient Island is bounded by NE Glisan Street to the north, SE Division Street to the south, SE 117th Avenue to the east, and Interstate 205 to the west.

Figure 8. The East Portland Resilient Island Study Area



Source: RIP City Planning

WHAT ARE THE KEY FEATURES OF EPCC?

PUBLIC FACILITIES

EPCC provides a number of amenities, including an indoor swimming pool complex, gymnasium, fitness center, multipurpose rooms, play spaces, office space, and a production kitchen. Outside of the facility itself, there are bicycle racks, bench seating, a community garden, and a large sculpture by artist Bruce West.

USER FEES

EPCC's drop-in day use fee is \$6 for adults, \$5 for seniors and teens, and \$4 for youth ages 3-12. These fees go toward funding Portland Parks and Recreation programs. Reduced fares and monthly passes are also available to users who are unable to pay full price.

COMMUNITIES SERVED

While data about where EPCC users live is incomplete, anecdotal information from interviews with staff indicate that users come from throughout East Portland. Given the proximity of Floyd Light Middle School and Cherry Blossom Senior Care, many EPCC programs are age-specific, serving young children, youth age 3 to 18, and seniors.

PROGRAMS OFFERED

EPCC's programs are administered by staff, by volunteers, or in partnership with other organizations. Regular programs include TeenForce, Portland Parks Preschool, and group fitness classes. Meals on Wheels uses EPCC's commercial kitchen to prepare meals for distribution to local seniors. Portland's Immigrant and Refugee Community Organization (IRCO) rents auxiliary office space at a low cost. EPCC has a formal agreement with nearby Floyd Light Middle School, which provides for a designated student coordinator who guides afterschool activities at the Center.



Playing basketball at EPCC. Source: EPCC Social Media



EPCC aquatic center. Source: Citadel Group

LEED CERTIFICATION

EPCC's public aquatic center extension, completed in 2009, was the first of its kind to be rated LEED Platinum. This addition was included in the original construction plan designed by SERA Architects, added 24,000 square feet to the facility, and featured a number of 'green building' elements.

Rooftop solar panels and resourceful use of daylighting help to reduce EPCC's overall energy use. Additionally, water filtration reduces waste in operating the pool, allowing EPCC to save 60% more energy and more than one million gallons of water per year when compared to similar facilities. (SERA Architects, n.d.-b)

ROLE IN PAST EMERGENCIES

In recent years, East Portland Community Center has played a role in official city and county responses to emergencies, including the wildfires in 2020, extreme temperature events, and the COVID-19 pandemic. During the 2020 wildfires, EPCC served as a shelter for residents from areas east of Portland, through coordination with Multnomah County. During extreme heat and cold events in the past couple of years, EPCC has served as a cooling and warming center.

The center has also provided services and resources to houseless individuals, in conjunction with houseless advocacy groups and Multnomah County. Most recently, EPCC has hosted COVID-19 vaccination drives and served as a temporary houseless shelter when current capacity had been exceeded in other local shelters. (Harbarger, 2020)



View of Portland during a wildfire event. Source: OHSU-PSU School of Public Health

HOW IS EPCC ACTIVATED AS A SHELTER?



EAST PORTLAND COMMUNITY CENTER

STREAMLINED SHELTER ACTIVATION

EPCC can be used as an emergency temporary shelter for houseless persons when the capacity of other shelters is surpassed. But in Portland, activating a community center for this use used to involve a great deal of red tape, as it required permission across multiple agencies and departments.

Starting in 2022, an intergovernmental agreement between the Multnomah County Department of Emergency Management (MCDEM), Portland Parks & Recreation Bureau, and the Joint Office of Homeless Services facilitating the shelter approval process. In addition to this agreement, the Portland Bureau of Emergency Management (PBEM) and MCDEM have further streamlined the approval process to remove bureaucratic redundancies. These organizational reforms make it much easier for EPCC to be formally activated during emergencies.

The chart above on the left reflects this recently-streamlined organizational structure.

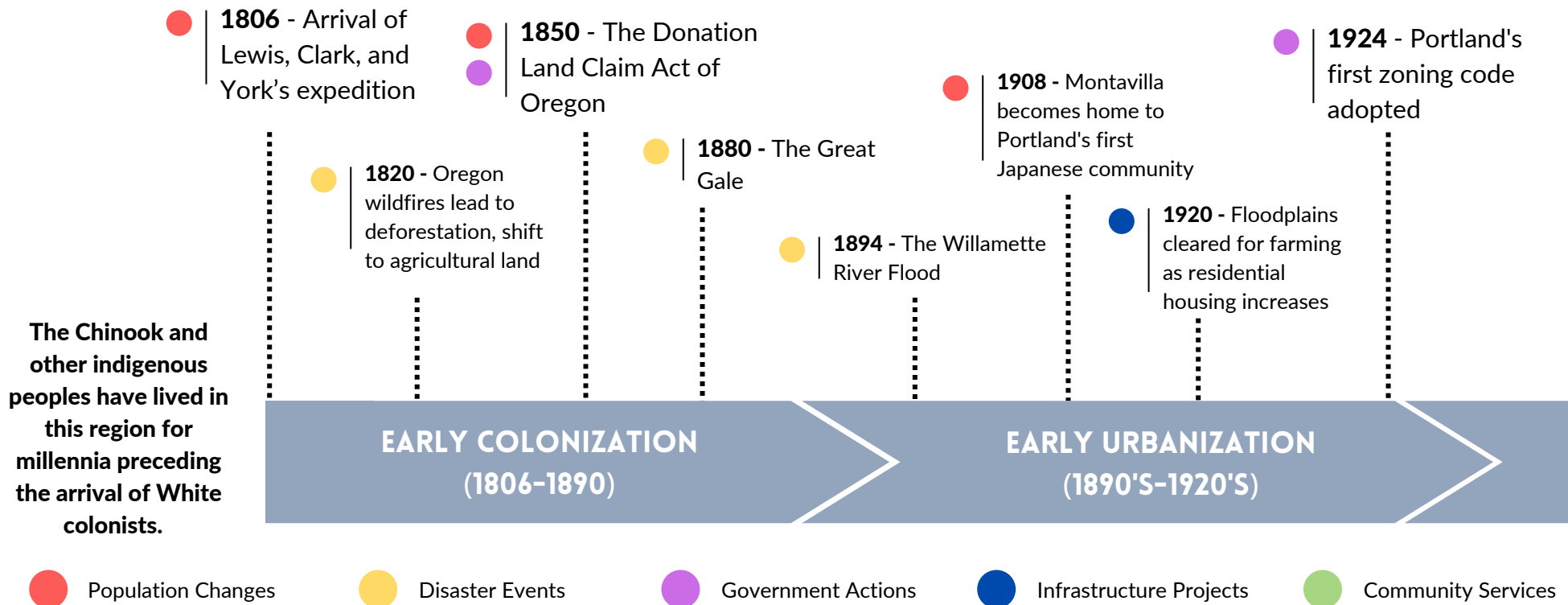
WHAT IS THE HISTORY OF THIS AREA?

EARLY COLONIZATION

In 1850, Congress passed the Donation Land Claim Act, setting in motion the allocation of public lands under the Oregon Provisional Government. White male residents of Oregon were entitled to 320 acres of land, while new citizens could claim 160 acres. This law led to mass immigration and colonization, and the eventual removal of 90% of the indigenous population.

EARLY URBANIZATION

Through much of the 1800s, East Portland's rural land sustained orchards, berry patches, livestock ranches, and dairy farms. In the twenty years between 1900 and 1920, the number of residents nearly tripled, from just over 90,000 to almost 260,000. This boom occurred in tandem with the construction of a trolley system, which helped workers living in east Portland access jobs in central areas. Residential development naturally followed the construction of these transit lines.

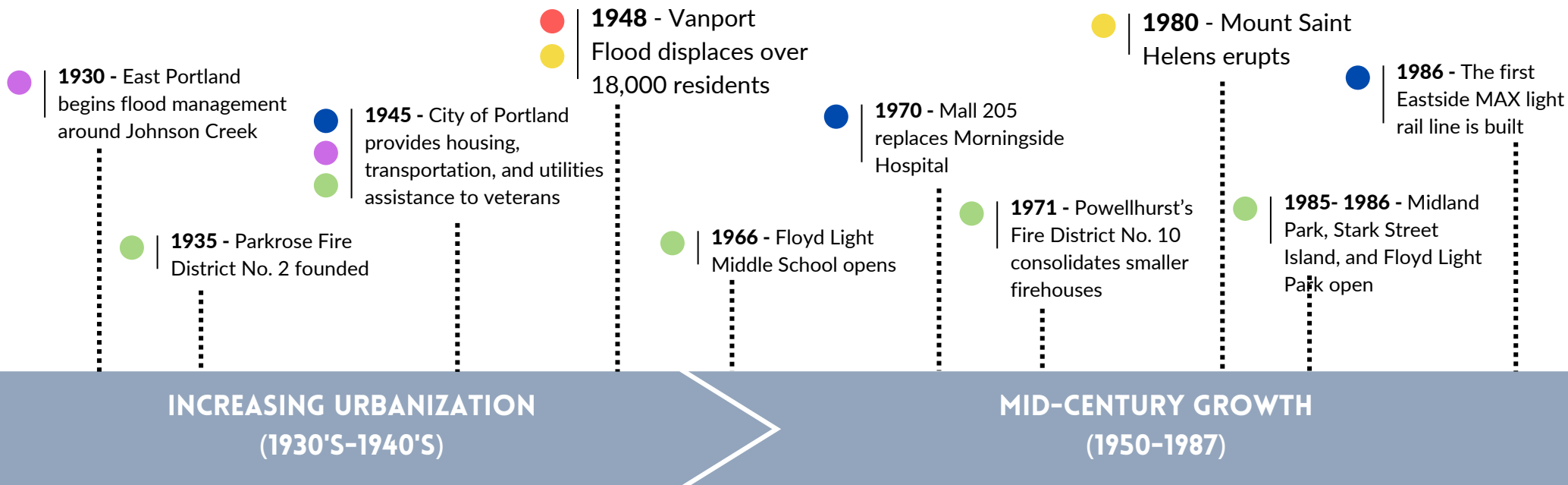


INCREASING URBANIZATION

Early on, the City of Portland coordinated response efforts to natural and manmade crises such as flooding, wildfires, and homelessness among war veterans. In 1930, East Portland initiated flood management practices along Johnson Creek. East Portland communities campaigned for the creation of fire districts, after which Fire District No. 2 in Parkrose was established. In 1948, the City of Vanport, home to over 18,000 workers, including thousands of Black families, was destroyed by a massive Columbia River flood.

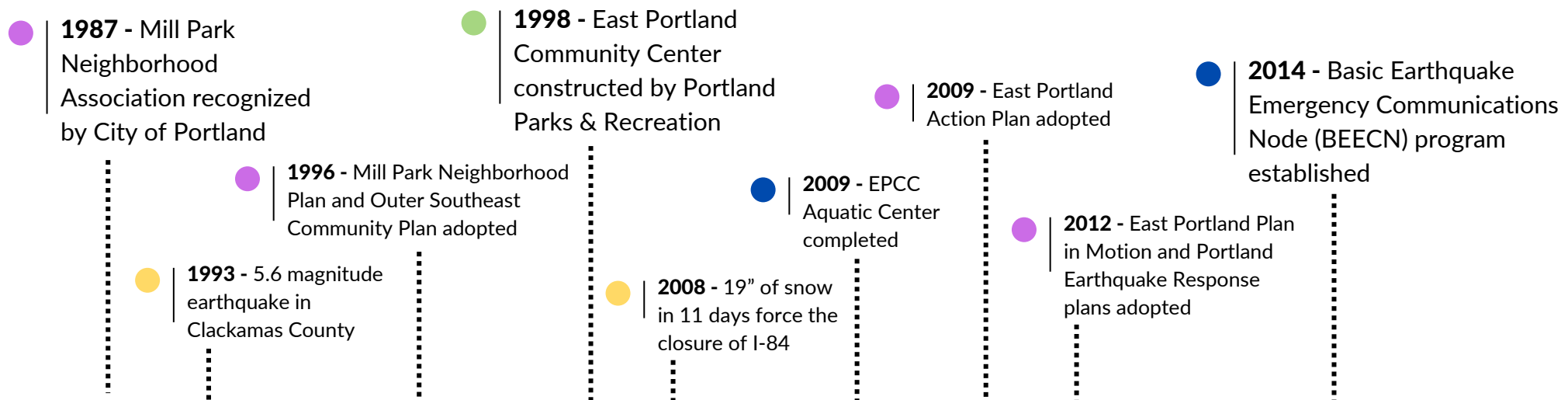
MID-CENTURY GROWTH

While most East Portland housing was built between the mid-1940s and the 1960s, the adoption of Multnomah County's zoning code in 1955 spurred a flood of new developments. By 1970, over 1,800 residential units had been constructed in the Mill Park neighborhood alone. Immigrants and refugees from far and wide settled in East Portland, including hundreds of Vietnamese, Cambodian, Lao, Hmong, Russian, Ukrainian, Ethiopian, Burmese, Kurdish, and Bosnian families. Several public schools, a library, and Interstate 205 were built to support the population boom. Throughout this time, areas east of I-205 began to lose their suburban character as they became increasingly connected to the cultural and economic opportunities available in the central city.



RECENT DISASTER EVENTS IN EAST PORTLAND

Portlanders have experienced dozens of natural disasters over the last few decades. In 2020, extreme heat combined with strong winds fanned the flames of 40 large wildfires, which burned over one million acres of Oregon forest land. Authorities issued urgent warnings and evacuation orders to thousands of residents throughout the state, including many in nearby Clackamas and Washington Counties. For an entire week, the air quality index surpassed 500, earning Portland the distinction of having the worst air quality on Earth. ODOT urged residents to avoid driving due to poor visibility, and 24-hour 'smoke shelters', equipped with filtered ventilation systems, were opened to the public. In addition to extreme heat and smoke, residents have also faced unexpectedly severe snow and ice storms, which at times have shut down parts of the city. The COVID-19 pandemic— a disaster in its own right— has exacerbated the severity of other existing crises, as a result of supply chain disruptions and increased socioeconomic inequities.



RECENT DISASTER EVENTS (1987-PRESENT)





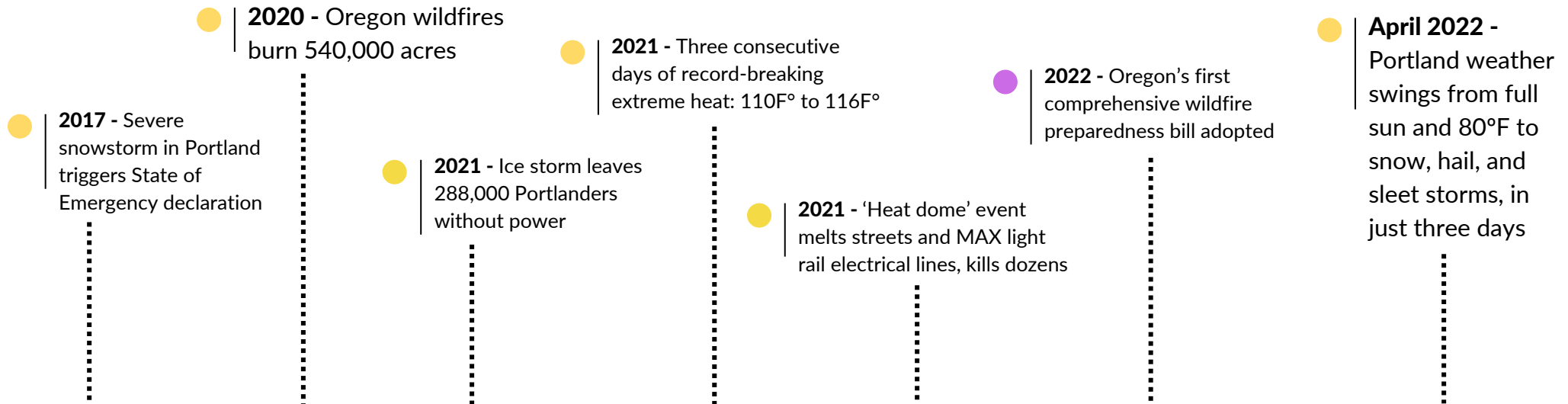
Red skies as 200 wildfires burn across California, Oregon, and Washington. Source: ABC News



Youth run to cool down in a fountain during a heat wave. Source: Los Angeles Times



Road clearing during Portland's April 2021 snowstorm. Source: Oregon Public Broadcasting



RECENT DISASTER EVENTS (1987-PRESENT)

WHAT ARE THE AREA'S DEMOGRAPHICS?

ABOUT THIS ANALYSIS

In this section, we take a close look at demographics of people living within a fifteen-minute walk from the East Portland Community Center, an area we call the '15-minute walkshed'.

In a few of the subsections to follow, we examine changes within the walkshed over time, starting in 2000, just two years after EPCC was built.

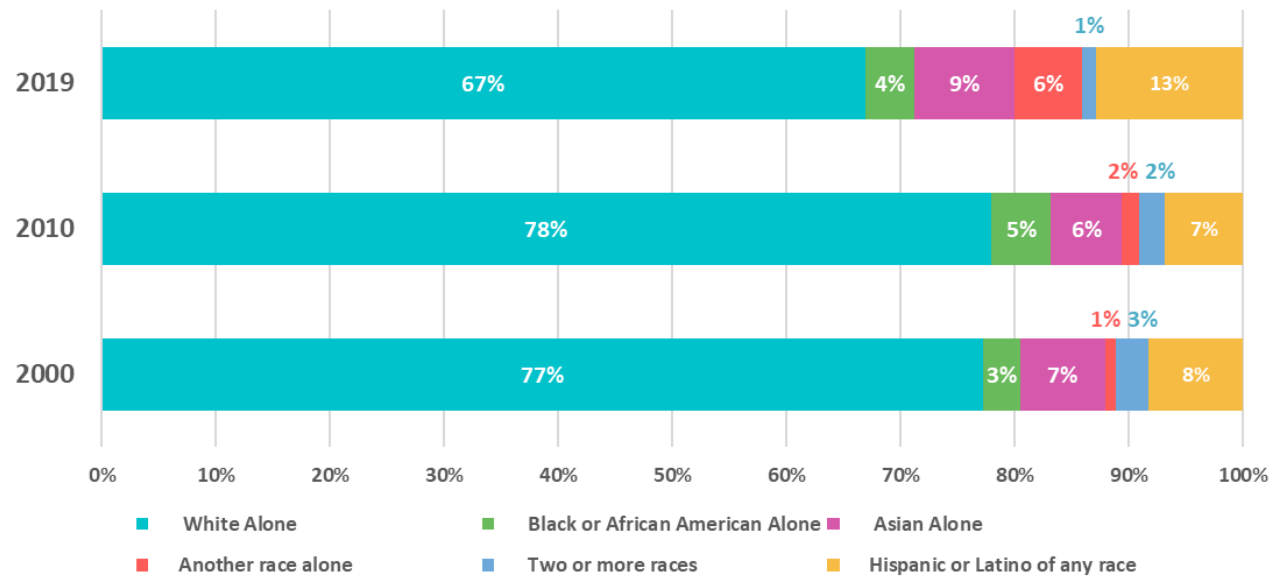
In other instances, we compare characteristics of those living within the walkshed with residents of the city of Portland overall, in order to highlight ways that the population near EPCC may have needs that differ from those of the city as a whole.

Because the 2020 Census data had not yet been made publicly available when we began this project, our team decided to analyze 2019 ACS data to produce these demographic snapshots.

RACE & ETHNICITY

The racial demographics of this area have changed significantly since 2010, with a substantial increase in Latinx/Hispanic residents, and a significant decrease in the proportion of residents identifying as White.

Figure 9. Race and Ethnicity, EPCC Walkshed, 2000-2019.



Source: U.S. Decennial Census 2000, American Community Survey (ACS) 2006-2010 5-Year Estimates, ACS 2015-2019 5-Year Estimates

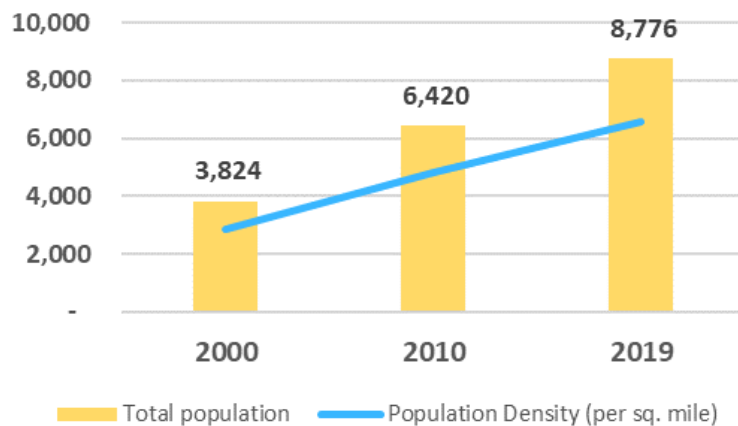
Susan Cutter et al's *Social Vulnerability to Environmental Hazards* (Cutter et al., 2003), discusses a set of characteristics that influence social vulnerability. Regarding race, the authors posit that Black, Brown and Indigenous residents may face "language and cultural barriers that affect access to post-disaster funding and residential locations in high hazard areas" (p. 246).

POPULATION DENSITY

Population in the area surrounding EPCC increased 130% between 2000 and 2019, with a corresponding increase in density.

Regions that experience considerable growth in a relatively short time may not be able to provide residents adequate access to housing. Additionally, networks of social services "may not have had time to adjust to increased populations, [and] new migrants may not... be familiar with bureaucracies for obtaining relief or recovery information" (Cutter et al., 2003, p. 248). All of these factors related to density can increase social vulnerability.

Figure 10. Population and Density per Square Mile, EPCC Walkshed, 2000-2019.



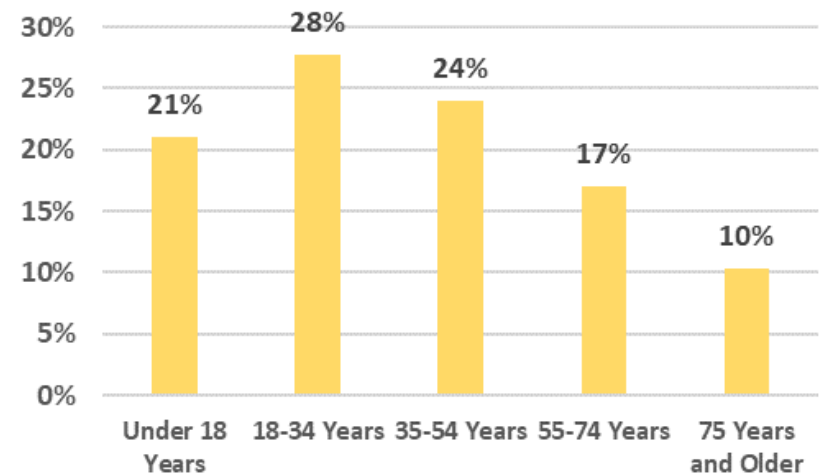
Source: U.S. Decennial Census 2000, American Community Survey (ACS) 2006-2010 5-Year Estimates, ACS 2015-2019 5-Year Estimates

AGE

Compared with Portland overall, the 15-minute walkshed around EPCC contains a slightly higher proportion of residents under 18, and over 64.

When a disaster event disrupts daycare services, parents with young children can become overburdened, losing time and money. Both children and older adults may experience difficulties in situations where moving away from an area threatened by a hazard becomes necessary. Moreover, the elderly "may have mobility constraints [that increase] the burden of care and lack of resilience" (Cutter et al., 2003, p. 246).

Figure 11. Age by Selected Categories, EPCC Walkshed, 2019.

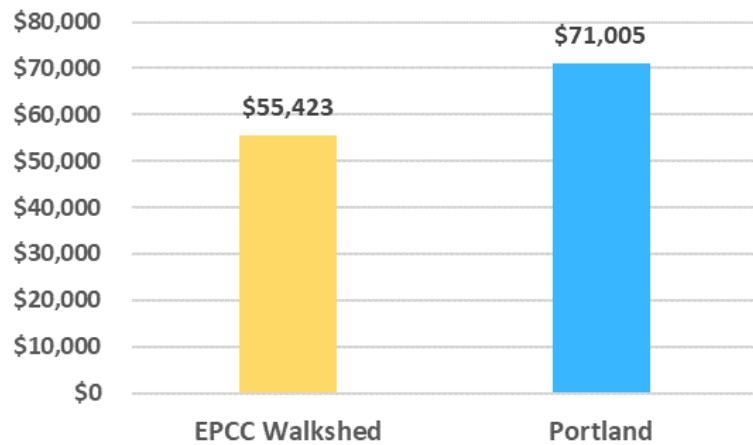


Source: U.S. Decennial Census 2000, American Community Survey (ACS) 2006-2010 5-Year Estimates, ACS 2015-2019 5-Year Estimates

MEDIAN HOUSEHOLD INCOME

Residents and families living near EPCC tend to earn less money on average than families in Portland overall. In 2019, median household income lagged 22% behind that of the city.

Figure 12. Median Household Income (MHI), EPCC Walkshed and Portland, 2019.

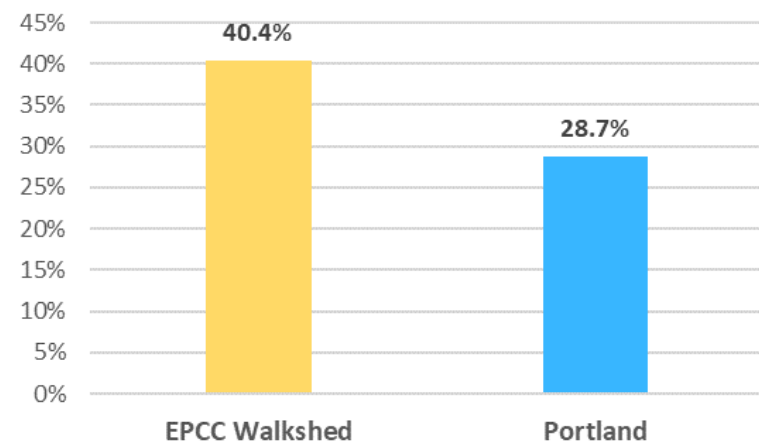


Source: U.S. Census, American Community Survey (ACS) 2015-2019 5-Year Estimates

POVERTY LEVEL

Residents living near EPCC are over 40% more likely to be considered 'poor or struggling' than in Portland as a whole, according to Census data.

Figure 13. Share of Population Living Below Twice the Poverty Line, EPCC Walkshed and Portland, 2019.



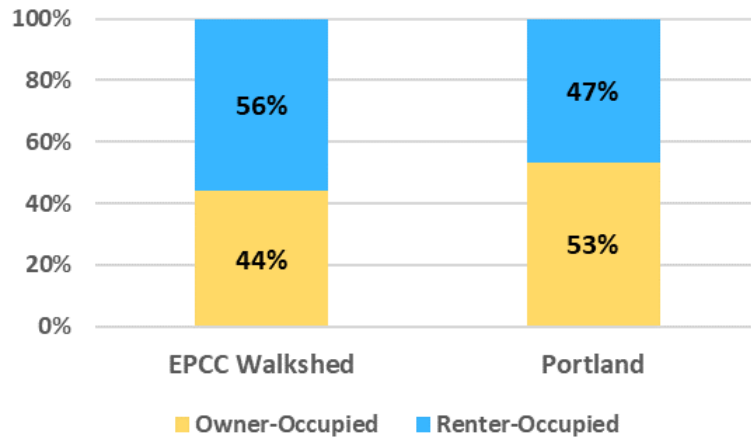
Source: U.S. Census, American Community Survey (ACS) 2015-2019 5-Year Estimates

The ability to withstand material damages and adapt to hardships can be considered key measures of resilience to hazards. Communities with lower-than-average incomes, which often leads to reduced access to money and resources, can hinder community's capacity "to absorb and recover from losses more quickly due to insurance, social safety nets, and entitlement programs" (Cutter, 2003, p. 246).

HOUSING TENURE

More housing units are occupied by renters than owners in the EPCC walkshed, while the opposite holds true in Portland overall.

Figure 14. Household Tenure, EPCC Walkshed and Portland, 2019.

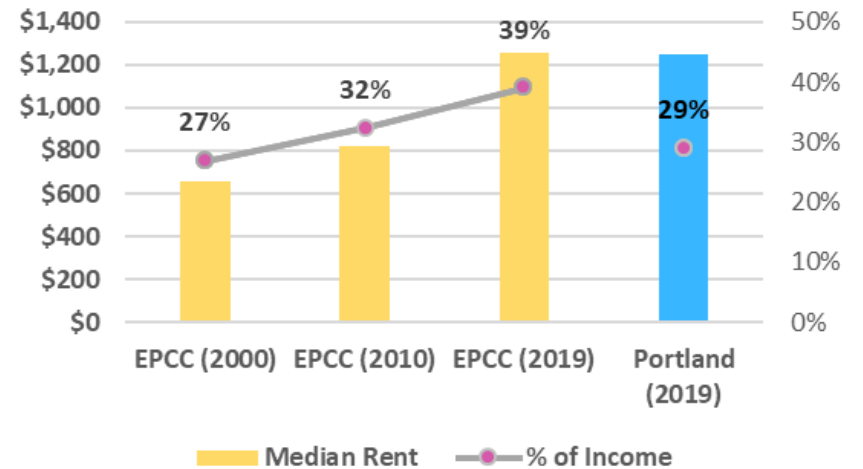


Source: U.S. Decennial Census 2000, American Community Survey (ACS) 2006-2010 5-Year Estimates, ACS 2015-2019 5-Year Estimates

RENT BURDEN

On average, renters living within the EPCC walkshed are significantly more rent-burdened than the average Portland renter. This is likely due to similar rents charged in the two areas, coupled with a substantially lower median household income level in neighborhoods around EPCC.

Figure 15. Median Gross Rent and Percentage of Household Income, EPCC Walkshed and Portland, 2000-2019.



Source: U.S. Decennial Census 2000, American Community Survey (ACS) 2006-2010 5-Year Estimates, ACS 2015-2019 5-Year Estimates

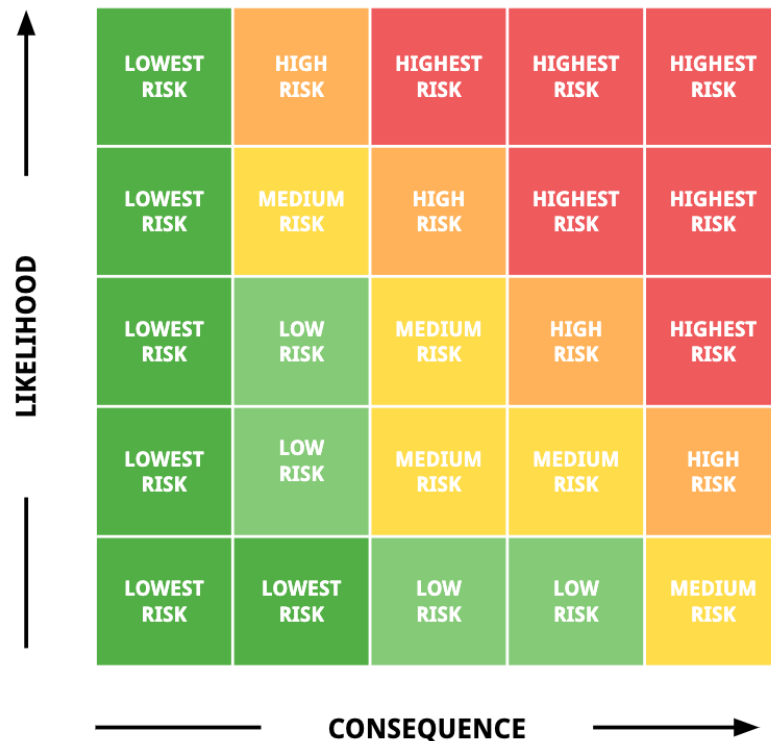
Cutter et al. (2003) point out that renters "often lack access to information about financial aid during recovery, [or] lack sufficient shelter options when lodging becomes uninhabitable or too costly to afford" (p. 247). Additionally, when compared to homeowners, renters are generally less attached to the places they live, and lack strong social and family connections that would evacuation or sheltering. Finally, renters are more likely to be BIPOC and lower-income, which, as discussed above, can increase their social vulnerability (Van Zandt, 2012).

WHAT ARE THE LOCAL HAZARDS?

HAZARDS IN PORTLAND

Portlanders face a variety of natural hazards, including earthquakes, wildfires and smoke, extreme heat and cold, and volcanoes. In this project our team is focusing specifically on hazards that are both **high likelihood of occurrence** and **high potential impact**: earthquakes, extreme temperatures, and wildfire smoke.

Figure 16. Risk Analysis Matrix



Source: NASA

EARTHQUAKES

The entire Pacific Northwest region is bracing for a major (~9.0 magnitude) earthquake along the Cascadia Subduction Zone fault. While other seismic faults also exist in the region, they are less likely to rupture, and much less likely to cause the comprehensive levels of damage expected in the wake of the next Cascadia quake. When the quake hits, tremors are expected to last up to four minutes (Good, n.d.).

LIKELIHOOD: **HIGH** CONSEQUENCE: **HIGHEST**

EXTREME HEAT

During summer months, heat waves can cause temperatures to rise above 90° F for days at a time. Being alone during extreme heat events can be dangerous, as people suffering from heat illness may be too dizzy or confused to tell when they are in danger of heat stroke or death.

LIKELIHOOD: **HIGHEST** CONSEQUENCE: **MEDIUM**

EXTREME COLD

In winter, Portland temperatures can dip below freezing and stay there for days or weeks. The combination of hills and snow can result in dangerously icy streets, which make vehicle travel difficult. The normal functioning of utilities, schools, and public transportation can also be affected during these cold weather events.

LIKELIHOOD: **HIGHEST** CONSEQUENCE: **MEDIUM**

WILDFIRES

Recent fires in Oregon and across the western United States serve as poignant reminders of the hazards wildfires pose to property, natural and cultural resources, and human and animal life.

LIKELIHOOD: HIGHEST **CONSEQUENCE: HIGH**

WILDFIRE SMOKE

Smoke from nearby wildfires can blanket the area, making visibility and air quality and poor for days, or even weeks. Poor air quality can have major health impacts, especially for young children, older people, and people suffering from respiratory ailments

LIKELIHOOD: HIGHEST **CONSEQUENCE: HIGH**



First responders fight an Oregon wildfire. Source: Jefferson Public Radio

ONGOING CRISES

Houselessness and other types of social inequity make it harder for cities to manage emergencies, as poorer and less-connected communities often lack the necessary resources to prepare for them. Since economically-stable, socially-bonded communities are more resilient to disasters, it is important to think about social equity concerns when considering Portland communities' variable vulnerabilities to disasters. Ideally, a resilience hub offers residents protection and support before, during, and after crises, meeting needs regardless of what crises a community faces.



The 2001 Nisqually earthquake. Source: DOGAMI

WHAT IS THE PLANNING CONTEXT?

THE DISASTER RESILIENCE AND RECOVERY ACTION GROUP (DRRAG)

The City of Portland's Disaster Resilience and Recovery Action Group (DRRAG) is a collaboration between employees from eight city bureaus and Portland State University's Institute for Sustainable Solutions (ISS). Since 2017, DRRAG has devoted time to developing a resilience strategy and furthering recovery planning through improved means of community coordination and collaboration. In a disaster event, the shortcomings of one bureau could potentially trigger cascading repercussions for other bureaus, to the detriment of residents. DRRAG recognizes that efforts to build a more-resilient Portland are more likely to fail if government departments are siloed and infrastructure interdependencies are dismissed. The East Portland Resilient Island project is an expression of DRRAG's commitment to disaster resilience through collaborative, coordinated work at the neighborhood level.

NEIGHBORHOOD EMERGENCY TEAMS (NETs)

Similar to the Community Emergency Response Teams (CERTs) operated by the Federal Emergency Management Agency (FEMA), the City of Portland organizes its own Neighborhood Emergency Teams (NETs). These volunteer-

run emergency groups provide NET members the opportunity to learn about basic and specific emergency preparedness for local hazards, information and training on emergency management practices and basic disaster response strategies, and education on ways to increase community disaster resilience. Each NET drafts a unique operations plan that addresses the particular shocks and stressors facing their neighborhood.

LOCAL COMMUNITY BASED ORGANIZATIONS (CBOs)

Many community-based organizations serving East Portland are affiliated with the East Portland Resilience Coalition. The Immigrant & Refugee Community Organization (IRCO) and Meals on Wheels partner with EPCC, and serve a diverse range of community members at the facility. Older adults from the Cherry Blossom Center also use the EPCC's multi-purpose room for weekly social dinners and recreational activities. Other CBOs active in East Portland include UNITE Oregon, Growing Hunger, Black Community of Portland, Brown Hope, Impact NW, and Historic Parkrose. These organizations support a variety of underserved and underrepresented communities through outreach, resource distribution, education, and social programming.

PAST PLANS

In recent years, a number of official plans concerning the East Portland area have been drafted by public agencies from a range of jurisdictions. The 2012 East Portland in Motion Plan, a joint report drafted by Portland Bureau of Transportation (PBOT), Oregon Department of Transportation (ODOT), and the Bureau of Environmental Services (BES), was a "five-year implementation strategy for active transportation projects and programs east of 82nd Avenue" (PBOT, 2012).

Additionally, BES, PBOT, Portland Parks & Recreation, Portland Development Commission, Portland Metro, and ODOT made plans to improve the environmental function of urbanized areas by increasing public access to natural areas in East Portland.

The East Portland Action Plan committee was formed to coordinate these plans and recommendations. Portland's Bureau of Planning and Sustainability affirmed their intention to integrate the East Portland Action Plan into the city's Comprehensive Plan, including zoning and design standard recommendations.

CLOSING CONSIDERATIONS

To date, DRRAG has focused its efforts at EPCC primarily on infrastructure-related improvements, and views the Resilient Island project as an opportunity to understand and uplift the center's role in social cohesion and community-level planning.

Although EPRC is not directly involved with the Resilient Island project, a representative from the coalition has supported the student team's efforts by providing resources and points of community contact. The EPRC representative also shared concerns about focusing efforts to make EPCC as the hub of a 'resilient island', due to the facility's relatively central location in relation to many other East Portland neighborhoods.



Source: MillParkPDX social media

COMMUNITY ENGAGEMENT

HOW TO READ THIS SECTION

HOW TO READ THIS SECTION

This section outlines the various engagement activities the RIP City Planning team designed and executed for this project. We focused our efforts on engaging with people who use EPCC, as well as residents living within the 15-minute walkshed around the Center. Activities fell into three broad categories:

- Engagement with EPCC Users
- Engagement with the Broader Community
- Community Visioning Workshop

In all, we designed and conducted eight distinct engagement methods, all listed by category to the right. We also include subsections discussing the recent historical context of public engagement in East Portland, and an organizational chart of relevant official and community entities operating in the area.

Each engagement activity section includes:

- A written description of its methodology;
- A short narrative of what happened during engagement;
- A list of key takeaways; and
- Supportive visuals.

ENGAGING WITH EPCC USERS

EPCC's staff was incredibly helpful with our efforts to reach the facility's patrons. We were able to engage with a variety of people who visit EPCC by using the following methods:

- **'Deep Hanging Out'**
- **Community Preparedness Wishlist**
- **Meals on Wheels Volunteering**

ENGAGING WITH BROADER COMMUNITY

To engage with the broader community, we began by contacting community based organizations who were able to help us organize the following:

- **Interviews with Community Based Organizations**
- **A presentation during a Brown Hope Power Hour event**

COMMUNITY VISIONING WORKSHOP

The Community Visioning Workshop was our project's culminating engagement event. The team took a creative and hands-on approach to understanding the community's experiences, needs, and priorities about disaster preparedness and resilience. Activities included:

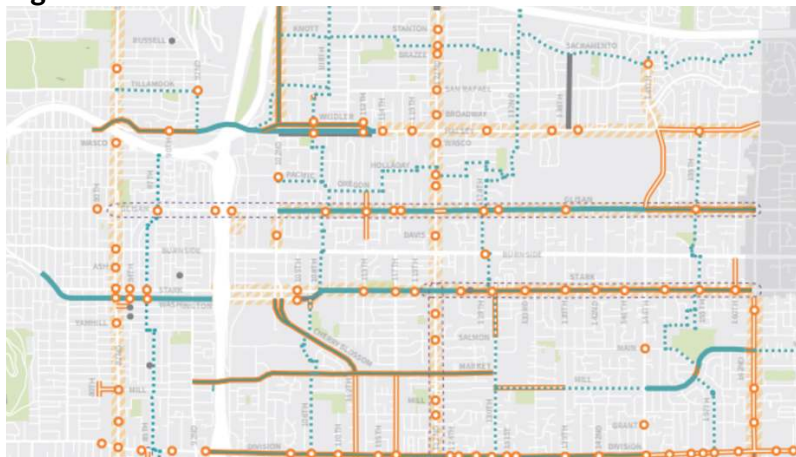
- **Silent Visioning and Collaging**
- **Community Asset Mapping**
- **Youth Scavenger Hunt**

HISTORY & CONTEXT FOR ENGAGEMENT

LOCAL GOVERNMENT

Over the last few decades, the City of Portland has created various plans aimed at improving living conditions in East Portland neighborhoods. In 2012, the Portland Bureau of Transportation (PBOT), Bureau of Environmental Services (BES) and the Oregon Department of Transportation (ODOT), committed to fully funding the implementation strategies identified in the East Portland in Motion Plan (2012). The Bureau of Planning and Sustainability (BPS) also affirmed that it would integrate the East Portland Action Plan (2009) into the City’s Comprehensive Plan (2020), which would include implementing zoning and design standard recommendations. As of today, many of these commitments remain unfulfilled (Windham & Carlos, 2021).

Figure 17. Roads Identified for East Portland in Motion

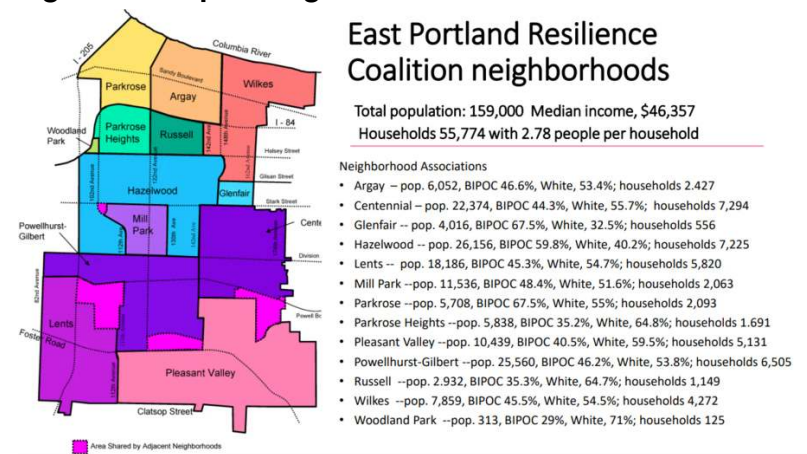


Source: East Portland in Motion Plan

EAST PORTLAND RESILIENCE COALITION

The East Portland Resilience Coalition (EPRC) is a group of twenty diverse community-based organizations that formed in 2020 “with the two-year purpose of centering the voices of families and residents” and increasing community resilience in East Portland’s thirteen neighborhoods (ROSE CDC, 2022). EPRC was awarded a planning grant from the Portland Clean Energy Fund, and is expected to complete a community resilience plan in June 2022. The Coalition’s work focuses on a variety of sustainability and resilience issues, including regenerative agriculture, green infrastructure, green workforce training, climate change mitigation, and renewable energy generation. The team interviewed eight organizations affiliated with EPRC.

Figure 18. Map of Neighborhoods in EPRC



Source: ROSE Community Development

ORGANIZATIONAL MAP

Organizations and Institutions that serve East Portland

From our existing conditions analysis, we identified the following organizations and institutions that serve East Portland communities.



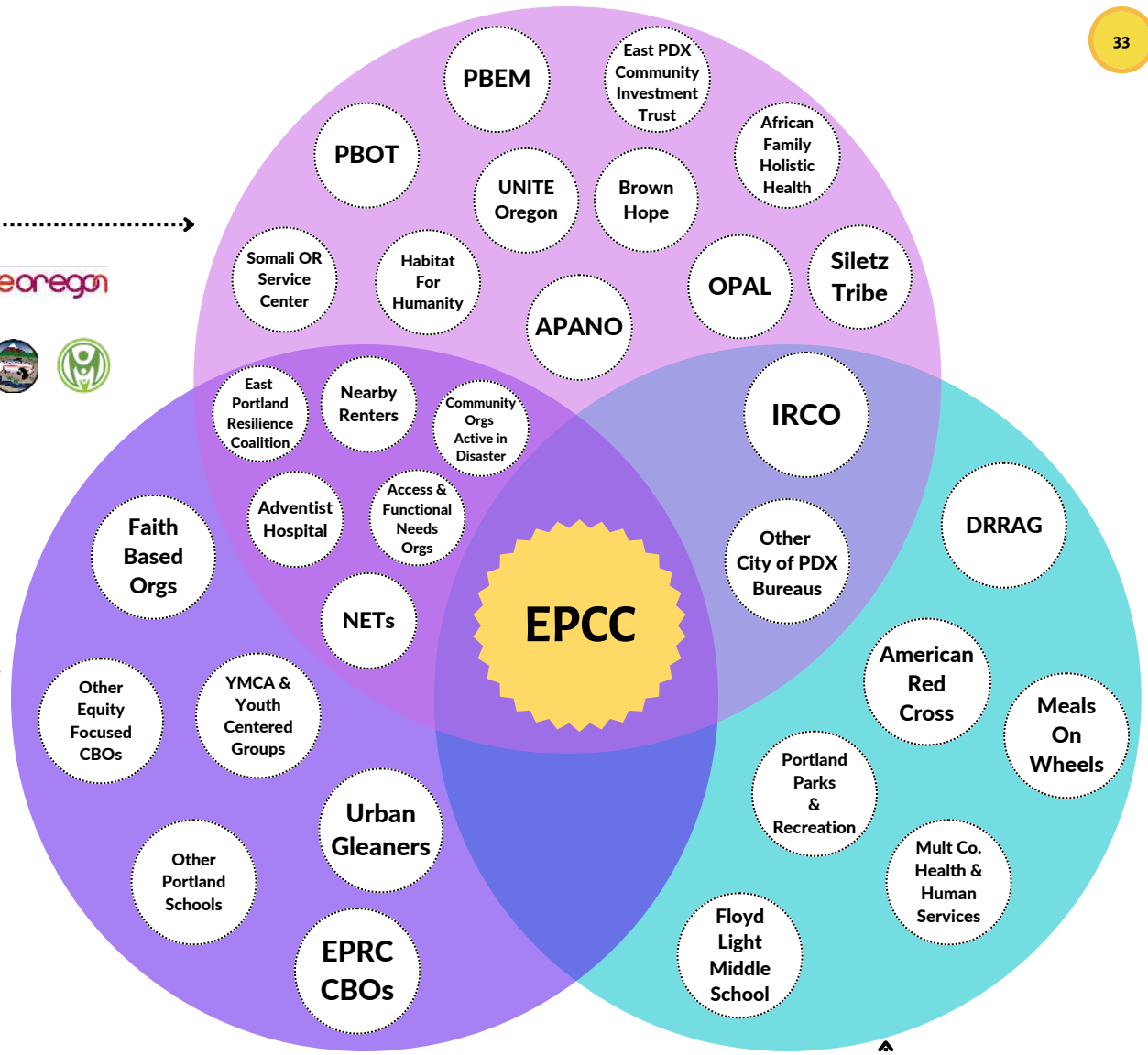
Potential Partner Organizations

We identified additional community groups that should be considered as partners to help increase community resilience.



Organizations and Institutions currently affiliated with EPCC

Here is a list of some of East Portland Community Center's existing partners.



*This organizational chart is based on our interactions and observations. It may not reflect all relationships between these entities.

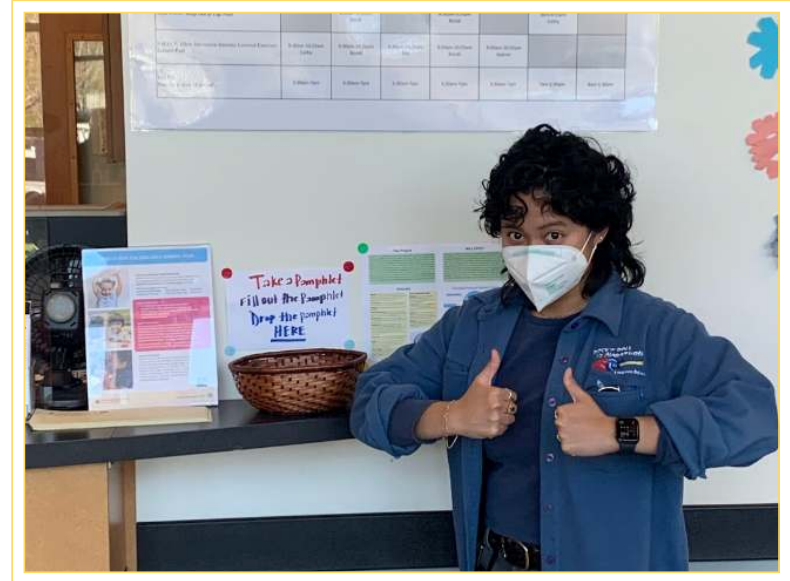
1: DEEP HANGING OUT

METHODOLOGY

“Deep hanging out” is an anthropological research method that uses informal social interaction to reveal useful insights and observations (Geertz, 1998; Carelock, 2019). Dr. C.N.E. Corbin, an assistant professor at Portland State University, suggested that our team explore this engagement method as a way of better connecting with young people who spend time at EPCC. Deep hanging out allowed our team to better understand the daily routines of the community center, and to become familiar with regular users. Team members engaged in deep hang outs at EPCC on Mondays, Wednesdays, and Fridays from 3pm to 6pm, in the lobby near the main entrance and exit.

WHAT HAPPENED?

The team used large paper pads, or ‘community posters’ for participants to write or draw on. By posing different disaster-related questions each day, the team was able to learn about EPCC users’ concerns, priorities, ideas, and experiences around natural disasters. Deep hanging out also allowed our team multiple opportunities to share information about our project, and about emergency preparedness generally. On the advice of the Center's TeenForce youth program coordinator, we provided snacks to participants. As the team became more familiar to staff and users, conversations and interactions became more relaxed, informal, and candid.



Pamphlet distribution at EPCC. Source: RIP City Planning



Team members tabling at EPCC. Source: RIP City Planning

2: COMMUNITY PREPAREDNESS WISHLIST

METHODOLOGY

Team member Blair Vallie created a take-home Community Preparedness Wishlist for pre-K students and families. This pamphlet provided information on resilience-related programs and resources currently available at EPCC. Since many of the children who attend EPCC programs are of preschool age, we focused the wish list toward parents and guardians of the children. Included in our pamphlet was a space to write down or draw ideas.

The pamphlets RIP City Planning distributed asked:

- What resources, services, and programs at EPCC would help families with young kids during a natural disaster?

WHAT HAPPENED?

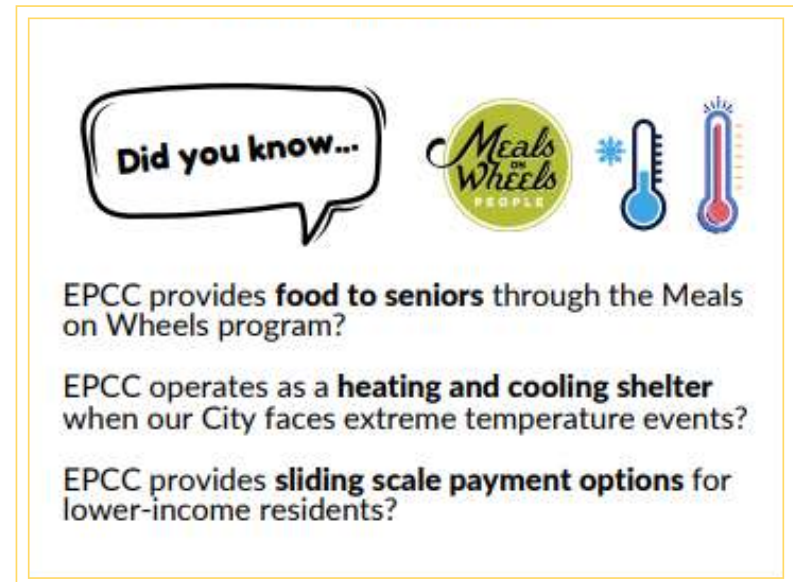
EPCC's pre-school teacher, Ms. Clara, gave Blair a chance to speak with parents, guardians, and caregivers during afternoon pick-up times in the classroom. They were given the chance to explain our workshop efforts and why feedback from caregivers is crucial to our project.

While many of folks we spoke with showed curiosity about emergency management and community resilience topics, we did not receive as many written responses as we had hoped for. Caregivers had limited capacity to have conversations with our team at EPCC or having the time to respond and bring the wish list back to the classroom.

KEY TAKEAWAYS

In their responses, caregivers emphasized a need for:

- Comprehensive disaster preparedness services, including mental health services, translation services, a reunification system for children and families, and easy access children's prescription medications;
- Child-specific resources, such as baby food, changing stations, cribs, and blankets;
- Entertainment for children, including books, toys, stuffed animals, physical activities, brain games, and touch screen tablets;
- Access to resources that foster comfort, such as familiar music, and a 'quiet room' on the premises.



Community Wishlist Flyer. Source: RIP City Planning

3: MEALS ON WHEELS VOLUNTEERING

METHODOLOGY

Meals On Wheels (MOW) events are scheduled Mondays and Wednesdays, 11:30am to 1:30pm, typically serving less than 50 community members. This Meals on Wheels kitchen is partnered with EPCC's Cherry Blossom program, a dedicated program for East Portland's senior citizens. We learned that many lunch visitors do not use English as their first spoken language. The main languages spoken at EPCC's MOW lunches are Mandarin, Russian, Spanish, and Vietnamese.

WHAT HAPPENED?

On Wednesday May 4th, team members conducted mini-focus groups at lunch with older adults attending a MOW event. Interpretation services were offered in Vietnamese, Russian, and Mandarin to increase accessibility and participation. The team asked those in attendance, "What other programs or resources would you like to see at this community center?" Of the approximately 30 people present, most responded to the question. Although the interpreters could only attend one day of engagement, the team was able to elicit valuable feedback from many participants.

KEY TAKEAWAYS

- A majority of those present regularly attend MoW events to socialize, whereas a minority of participants use the services primarily because they face food insecurity.
- Many participants expressed a desire for more opportunities to socialize with each other at the community center.
- Some participants commented that a food pantry at the community center would facilitate access to food on the days MoW events aren't scheduled.



Meals on Wheels event. Source: RIP City Planning

4: CBO INTERVIEWS

METHODOLOGY

Over a span of three weeks, the RIP City Planning team conducted ten 60-minute interviews with representatives from local CBOs serving Black, Brown, Indigenous, immigrant and/or lower-income populations. The main goal of these interviews was to gain an understanding of community needs and priorities related to emergency preparedness and disaster resilience. The interviewees included representatives from ROSE Community Development, Outgrowing Hunger, Brown Hope, Community Energy Project, Growing Gardens, Historic Parkrose, New Avenues for Youth, and the Centennial Neighborhood Emergency Team (NET).

Interviewees were asked the following questions:

- What does resilience mean to your organization and the community members involved?
- What challenges have your organization and community members faced in terms of natural disasters?
- What resilience projects has your organization worked on? How have they impacted the East Portland community?
- What would you like a Resilient Island to include that best fits the needs of the community members you serve?
- What makes a place feel comfortable, secure, and community-centered?
- What past efforts in your community have not been helpful, or have been hurtful?

WHAT HAPPENED?

Generally, interviewees showed interest in the project, and appreciated that a city-led resilience efforts was focused in East Portland. A few people did express concerns that our project did not consider neighborhoods located in outer East Portland. Some noted that a Resilient Island in inner East Portland may not be accessible during a major disaster event, in the instance of road blockages, neighborhood islanding, and unavailable transportation options. However, CBO representatives often showed greater support for the Resilient Island concept after learning that our project focused more on developing a community-led vision plan, rather than an implementation plan.



Community garden work party. Source: Growing Gardens

KEY TAKEAWAYS

- Although 'resilience' is a term frequently used in emergency management, each CBO had their own distinct interpretations of the concept in the context of their existing projects and the communities they serve.
- Many interviewees identified helping clients locate and access resources as a key issue facing many social service organizations. This suggests that there may exist some level of disconnect between local communities and EPCC.
- Some interviewees identified infrastructure investments, partnership creation between communities and organizations, direct resource provision, and resilience programming as essential features of a Resilient Island.
- CBO interviewees indicated that inclusive space, diverse leadership, and intercultural programming were important elements that would help make their communities feel comfortable, safe, and secure.



Members of Brown Hope. Source: Brown Hope



New Avenues for Youth building. Source: ECA PDX

5: BROWN HOPE POWER HOUR

METHODOLOGY

Brown Hope's Power Hour is a weekly event held exclusively for Black, Brown, and Indigenous (BB&I) folks in Portland. It is a space where members of local BB&I communities can share resources, provide support, and discuss a variety of issues centering on racial equity. Felipe Ferreira, Brown Hope's Chief Impact Officer, invited the team to attend and present at a Power Hour event. Rica Perez spoke at the April 25th meeting, giving an overview of the East Portland Resilient Island Project to meeting attendees.

After the presentation, audience members were asked two questions:

1. During a heatwave, what would you need to feel safe and comfortable?
2. What does the term 'resilience' mean to you and your community?

WHAT HAPPENED?

The caucus of nearly 200 people from BB&I communities warmly welcomed Rica, and showed appreciation for the team's work. Power Hour attendees shared their experiences during extreme heat and wildfire events, and offered unique perspectives on the meaning of 'resilience.' Power Hour's community-centered space allowed attendees to speak candidly about challenges they have faced as Black, Brown, and Indigenous people. All of these elements made for a vulnerable and authentic experience.

KEY TAKEAWAYS

- During extreme heat events, attendees indicated a need for an inclusive space that would meet people's unique, community-specific needs, as well as means for cooling.
- A majority of attendees viewed resilience through a community-centered lens, explaining that different communities should come together, share resources, and generally support one another during emergency events.
- Some attendees defined resilience as a way to cope, which can be seen as a positive characteristic. However, several attendees indicated they would prefer to see substantial institutional changes and government accountability.



Brown Hope Power Hour. Source: Brown Hope

6: SILENT VISIONING AND COLLAGE ACTIVITY

METHODOLOGY

For the Silent Visioning activity, our team asked participants to imagine entering EPCC, and to identify features (e.g., programs, services, resources) they would like the center to provide. This meditative exercise encouraged people to reflect on their current selves, their future selves, and the possible circumstances they may face in 5, 10, and 20 years.

Attendees were also encouraged to participate in creative activities and conversation, including:

- Writing down ideas from the visioning exercise;
- Visualizing their notes with drawn images that illuminate key concepts; and
- Creating collages with magazine art, paper maps of EPCC, and other craft materials.

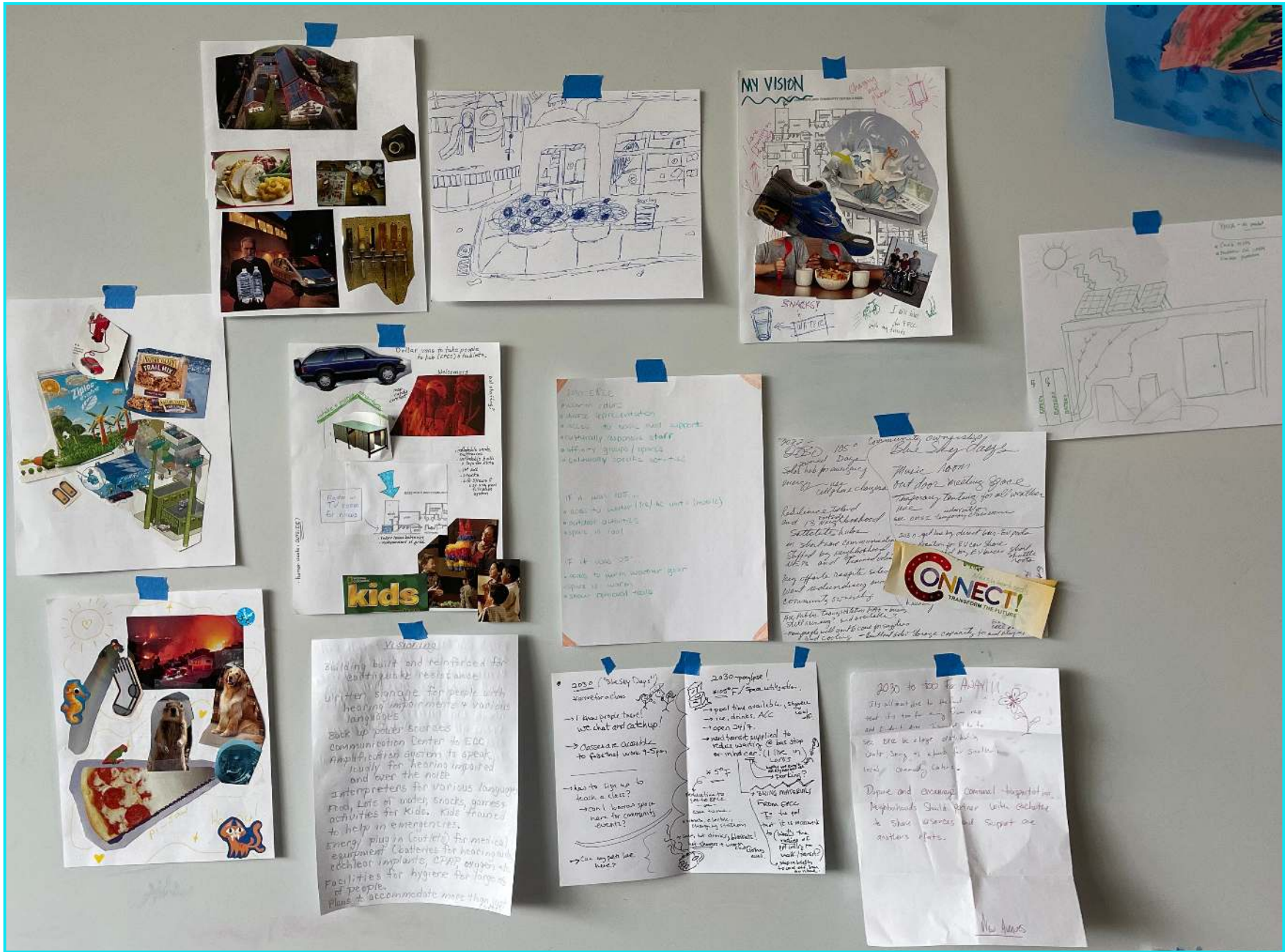
WHAT HAPPENED?

Team member Journie Gering oversaw the Silent Visioning activity. She asked participants to imagine what EPCC might look like by the year 2030, and to describe who would be using the facility, what additions were added to the building, and the emotions, sights, sounds, smells, and physical sensations participants felt upon imagining entering the hypothetical future facility. The activity then shifted from 'blue sky times' to an extreme heat crisis scenario.

Attendees who participated in collaging or drawing used their notes and thoughts from the silent visioning activity to express their ideas using visual elements. However, some people preferred discussion with team members and other attendees instead of making collages.

KEY TAKEAWAYS

- Many participants were interested in everyday 'blue skies' amenities at EPCC, (e.g., increasing space for gardening), as well as features that would benefit EPCC directly during a disaster (e.g., increased rooftop solar power; relocation of waste facilities away from potential shelter space).
- Many participants indicated a desire to build a sense of community with other EPCC users, and with staff.
- Some participants wished for more accessible transportation to EPCC, such as "dollar vans" that could be used for individual last-mile services that could transport more users directly to EPCC.



Disaster preparedness collages, drawings, and notes from the Community Visioning Workshop. Source: RIP City Planning

7: COMMUNITY ASSET MAP

METHODOLOGY

The Community Asset Map was first introduced during the team's 'deep hanging out' sessions, as a tool to spur deeper conversations with EPCC users. The map depicts an area around EPCC both to the east and west of I-205, extending into neighborhoods surrounding Mill Park. Red and green dot stickers were provided to allow participants to mark areas on the map that they felt were community assets, and others that they considered challenging or threatening.

WHAT HAPPENED?

After testing out this method during deep hang outs, we developed the final map design that was employed during our Community Visioning Workshop. This version included a semi-transparent satellite imagery map with major roads, schools, and parks labeled. Post-it notes accompanied the red and green stickers on the map, to provide more narrative detail on why participants identified particular areas. Team member Rica Perez spent time talking through assets and constraints with attendees, to help determine the places that people identified with throughout the region depicted on the map.

KEY TAKEAWAYS

- Places that people identified as relevant assets and constraints ranged within roughly three miles of EPCC, with most points falling east of I-205.
- Parks and green spaces were most frequently cited as community assets, both on and off the edges of the map. Specific areas identified included Powell Butte, Kelly Butte, Glendoveer Golf Course trails, and smaller city parks adjacent to schools. These accounted for half of the 24 total "green dots," followed by 4 community spaces, 3 food related locations, 3 programs/resources, and 2 residences.
- Participants identified fewer areas that they considered constraints (12). Community constraints most often mention included transportation issues, such as lack of a bus stop or pedestrian crossing (5); general safety issues (4), and lack of sufficient community space (3).
- EPCC itself was identified twice as a community asset, with participants noting its swim lessons and Meals On Wheels program

8: YOUTH SCAVENGER HUNT

METHODOLOGY

EPCC holds an ongoing “EPCC Rocks!” scavenger hunt, with small colored rocks hidden throughout the facility. Taking inspiration, our team cut out paper images of items that could be found in an emergency ‘go bag’, and hid them for young people to find and return to us. We then asked participants to find five of our hidden images and explain how they would use each item in an emergency to win a prize. We also encouraged kids to answer however they would like, always giving them a prize regardless of what their responses were. Once all the cutouts were retrieved, we hid the images again and repeated the game.

WHAT HAPPENED?

The scavenger hunt was a quick and fun way to keep the youth entertained, and to help them think about ways they might respond during natural disaster events. For the most part, scavenger hunters seemed too engrossed in the actual hunt to give a lot of verbal feedback. Indeed, most responses from this engagement comprised just one word or a short phrase. However, the participants’ responses demonstrated that they had knowledge of how a wide range of emergency supplies might be used, and each shared at least one way they could be of assistance during a disaster event.

KEY TAKEAWAYS

Most responses related to helping others, especially those who might be hurt, or need extra assistance. Ensuring everyone’s warmth and comfortability was a common theme that emerged from the responses.

Other themes discussed:

- Being able to act independently, and not rely on adults
- First aid treatment
- Establishing ways to contact / connect with family members
- Hygiene and sanitation concerns



RIP City Planning facilitating scavenger hunt. Source: RIP City Planning

SWOT ANALYSIS

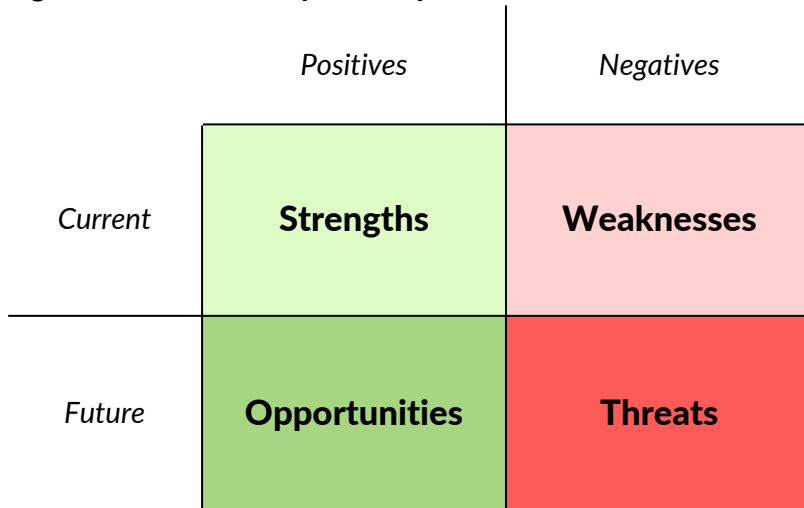
METHODOLOGY

As our team reflected on what we saw and heard from engagement activities, we synthesized themes from the community, research, and our own experiences at EPCC. After an extensive review of content from multiple sources, we compiled a comprehensive list of strengths, weaknesses, opportunities, and threats. In this section, we condensed the key themes from those four categories, prioritizing themes which were the most frequently raised and highest potential impact. In lieu of a long-form SWOT analysis, we streamlined this section to include:

- A high level summary of key themes for each category;
- References to our existing conditions research where available; and
- Considerations to inform our recommendations and design concepts.
-

To organize this analysis, we used the following framework:

Figure 19. SWOT Analysis Components



Source: RIP City Planning

WHAT ARE THE COMPONENTS OF A SWOT?

- **Strengths** include what currently works well internally at EPCC, and also serves the needs of its users;
- **Weaknesses** comprise gaps in current service, in and around EPCC's resilient island;
- **Opportunities** are positive potential internal changes that could improve EPCC in the future; and
- **Threats** are external challenges EPCC might face in the future, if they are not addressed in the present.

STRENGTHS

SUMMARY

- **Multigenerational Programming:** EPCC offers programming for a range of ages, but they are often age-segregated rather than combined, focusing less on intergenerational services. The walkshed around EPCC has a slightly higher proportion of residents under the age of 18 and over 65 (see Figure 11).
- **Dedicated Staff:** Staff at EPCC have respectful and trusting relationships with users, particularly youth and seniors who use the space.
- **Diverse Community:** EPCC serves a large and diverse population of people of different cultural backgrounds and ages. Our data tells us that a higher share of people of color live in East Portland than in Portland as a whole (see Figure 9). We also interacted with a linguistically diverse group of people, including Russian, Mandarin, and Vietnamese speakers.
- **Location and Community Space Availability:** The center is located near several transit stops, close to residential areas and businesses, and near a number of vital community-based organizations. The facility itself contains many multi-purpose rooms and areas which can support a variety of activities and events.
- **Abundance of Supportive Institutions:** EPCC is favorably located in proximity to a number of educational, faith-based, medical, and non-governmental institutions that can help provide services and support.



Swim instructor and students at EPCC. Source: City of Portland

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
Cardio, Strength, & Stretch 7:45 AM Instructor: Sheri		Cardio, Strength, & Stretch 7:45 AM Instructor: Sheri		Pilates Method 7:45 AM Instructor: Sheri	
Zumba Gold 9:00 AM Instructor: Lylla	Bootcamp 8:30 AM Instructor: Sheri	Zumba Gold 9:00 AM Instructor: Lylla	Fitness for Every Body 8:15 AM Instructor: Amalia	Step & Sculpt 8:45 AM Instructor: Sheri	Zumba 9:00 AM Instructor: Lylla
Zumba 10:00 AM Instructor: Lylla	Nia 9:30 AM Instructor: Meg	Zumba 10:00 AM Instructor: Lylla	Nia 9:30 AM Instructor: Meg	Zumba Gold 9:00 AM Instructor: Lylla	Zumba Gold: Seated Instructor: Lylla
Yoga in Chairs 11:30 AM Instructor: Teri				Zumba 10:00 AM Instructor: Lylla	
Stretch & Tone 12:30 PM Instructor: Teri	Yoga in Chairs 12:00 PM Instructor: Dany		Meditation 11:00 AM Instructor: Teri		
	Hatha Yoga 1:00 PM Instructor: Dany		Yoga 12:00 PM Instructor: Teri		
					Zumba Instructor: Lylla

Weekly programming schedule at EPCC. Source: RIP City Planning

WEAKNESSES

SUMMARY

- **Lack of Public Awareness.** Currently, communication about daily and disaster-related resources and services can be limited to EPCC users. Our interviews with CBOs suggest that non-users have a low awareness of EPCC's existing services.
- **Limited Capacity/Bureaucracy.** Budget constraints and lack of staff training for disaster events limit EPCC's ability to adequately serve users and the broader community. Disconnect between internal and external organizations also disadvantages community members by hindering collaboration, information sharing, and access to resources and services. Lastly, slow-moving bureaucratic processes complicate the initiation of new projects and critical investments.
- **Language Barriers/Lack of Translation Services.** Sizable Chinese, Russian, and Vietnamese populations work and live near EPCC. Many of the needs of these diverse communities are not met because of communication challenges.
- **Transportation Barriers.** Inaccessible and infrequent transportation services limit potential users from accessing EPCC's services, such as cooling and warming shelters.
- **Disconnection from CBOs.** Partnerships with community-based organizations focusing on racial equity, affordable housing, and community resilience have thus far been minimal. Lack of connection with these organizations disadvantages community members who could benefit from access to information, programs, services, and local resources.

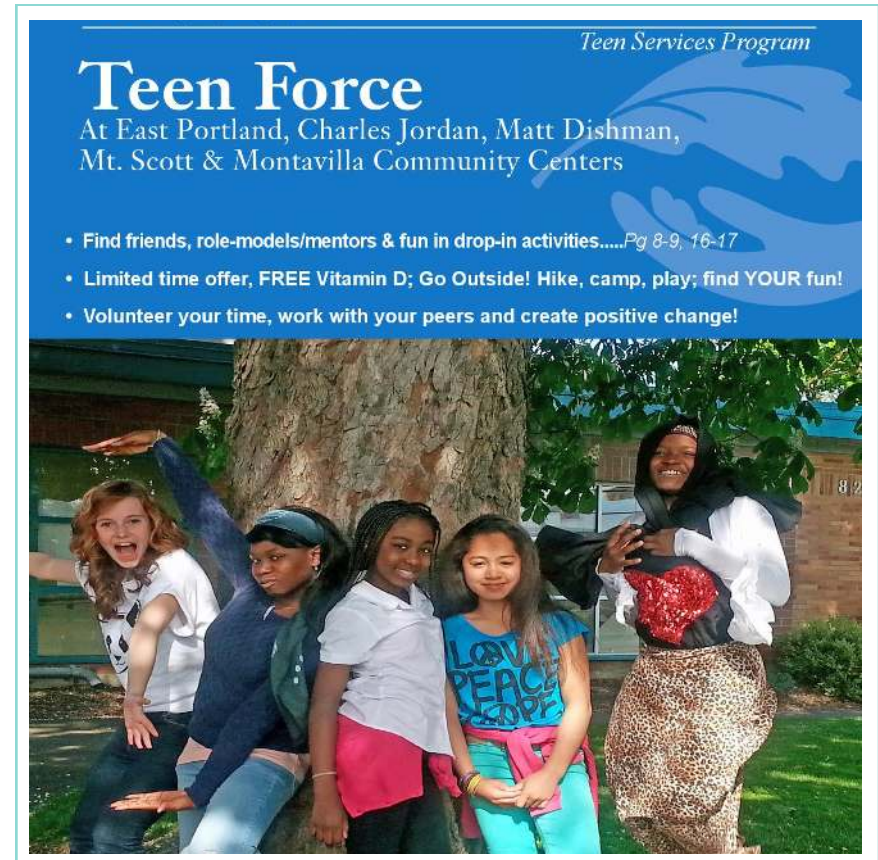


Multi-lane road on SE Washington St. near EPCC. Source: Google Maps

OPPORTUNITIES

SUMMARY

- **Physical Investments.** EPCC is an already impressive facility that serves the community often in unseen ways, such as its HVAC systems and rooftop solar arrays. Additional improvements could include increasing renewable on-site energy generation and storage, boosting gardening capacity, seismic retrofits, and safe routes to EPCC.
- **Partnerships.** Building up existing and new partnerships with outside organizations has the potential to foster local communities' social cohesion, access to resources, and overall resilience.
- **Leveraging Community Space.** Extra space at EPCC could be made available to community members, institutions, and organizations for activities, events, and resource distribution.
- **Paid Staff Training.** EPCC staff members should be trained to respond effectively during disaster events, including preparations to navigate challenges with community members experiencing mental and physical traumas.
- **Expand TeenForce & Other Programs.** Development of multigenerational skill-building activities such as gardening, cooking, financial education, home management, as well as junior programs targeted toward youth community members.



TeenForce services program. Source: Portland Parks & Recreation

THREATS

SUMMARY

- **Lack of Seismic Retrofitting:** Without investments to the physical structure, a Cascadia earthquake could jeopardize the lives of EPCC users and greatly diminish the functional capacity of the facility.
- **Restricted Funding:** Funding deficiencies and cuts from the Portland Parks and Recreation budget restrict the expansion of programs, infrastructure investments, and overall resilience of EPCC.
- **Transportation Failure:** In past crises, especially during recent extreme heat events, transportation systems like the MAX light rail have experienced failures. Such issues during a future disaster event could compound its effects.
- **Investment Going Elsewhere:** Portland Parks & Recreation has limited funding, with some of its allocation and improvements going to other locations owned by the City of Portland.
- **Natural Hazards:** Earthquakes, severe weather and temperature extremes, and wildfire smoke themselves all pose serious threats to the safety and health of people, and to the operations of lifeline systems and other critical facilities in East Portland.



Frozen powerlines. Source: OregonLive

DESIGN CONCEPTS

DESIGN OVERVIEW

HOW TO READ THIS SECTION

This section presents design concepts that aim to complement the physical space surrounding the East Portland Community Center. These physical investments will support a variety of recommended programs and partnerships in the following sections. Our Design Concepts have largely been created from ideas that frequently surfaced in community visioning and engagement activities. The overarching vision is broken up into five major categories: **the Splash Pad, The Welcome Wagon, Resilient Systems, The Community Garden, and The Multimodal Mobility Hub**. Supplemental ideas for greater neighborhood connection include **Microhubs** and **Wayfinding Signage**.

To introduce our vision we include:

- A site map of existing conditions in and around EPCC
- Details about the concept development process
- An orienting map of our proposed additions

Following this introduction, each concept is presented with:

- A graphic representation that calls out key features
- A written description and rationale
- Potential Impact, Community Interest, and Timeframe
- Examples of key features implemented elsewhere

KEY

Each design concept description includes an indication of its potential impact estimated by our team, the level of community interest we heard from engagement, and a relative timeframe. We also use a key to call out 'Quick Wins,' 'Community Favorites,' and 'Aspirational Goals.'

PRIORITIZATION



Quick Win: The short timeframe and medium-high community interest and support make this an easy action to see results.



Community Favorite: Regardless of timeframe, this action had an overwhelming amount of support during engagement.



Aspirational Goal: These actions would be implemented over a longer-term, and could potentially deliver a high impact.

SITE MAP



- | | | | |
|--|--|--|--|
|  OPEN SPACE |  PARKING |  SOLAR PANELS |  EPCC ENTRANCE |
|  KEY BUILDING AREAS |  ADA PARKING |  GARDEN BEDS |  GARDEN PATH |
|  NEIGHBORHOOD AMENITIES |  UNDER UTILIZED SPACE |  BIKE PARKING | |

This orienting map of EPCC helped us identify areas of further opportunity for design intervention that leverage assets or address gaps. In each concept we include photos of the relevant area targeted for new design and make note of its current strengths and weaknesses.

EXISTING SITE CONDITIONS



KEY BUILDING AREAS

The front door entrance for EPCC is located on SE 106th Ave. This entrance leads to the lobby, front desk, and main walkway providing access to several classrooms and multi-purpose rooms. The aquatic center is located in the southern section of the building closest to SE Cherry Blossom Drive.



OPEN SPACE



Floyd Light Park is a community asset due to its proximity to EPCC, wide-open space for recreation, and access to nature. Tree canopies are located on the periphery of the park for shade. Currently, the parking lot and the open area behind the aquatic center have been identified as underutilized spaces. During observational visits these sites were never seen to be fully utilized. There is also underutilized open space on the northern section of the building, near the existing garden section.



SITE DETAILS



Assets we identified on, along, and around EPCC's exterior include solar panels, garden beds, bike racks, and seating located primarily around the front entrance and side facing the parking lot.



NEIGHBORHOOD AMENITIES

Floyd Light Middle School and Adventist Hospital are the closest public service institutions to EPCC. Within this region are also several elementary schools, local businesses, and Mall 205. Other institutions are also located within walking distance of EPCC.



PATHS



The front entrance on SE 106th Ave. and the back entrance next to the playground are the primary entry points for users. Students from Floyd Light Middle School typically cross the parking lot to enter through the front entrance or cross the park and track to the back entrance. Most users walk through the front entrance of EPCC. An ADA ramp is located near the front door for people with access or functional needs.

DESIGN PROCESS

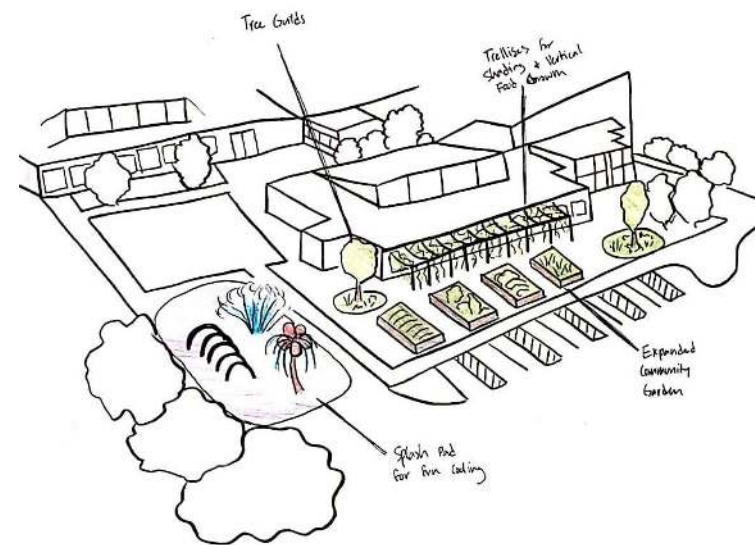
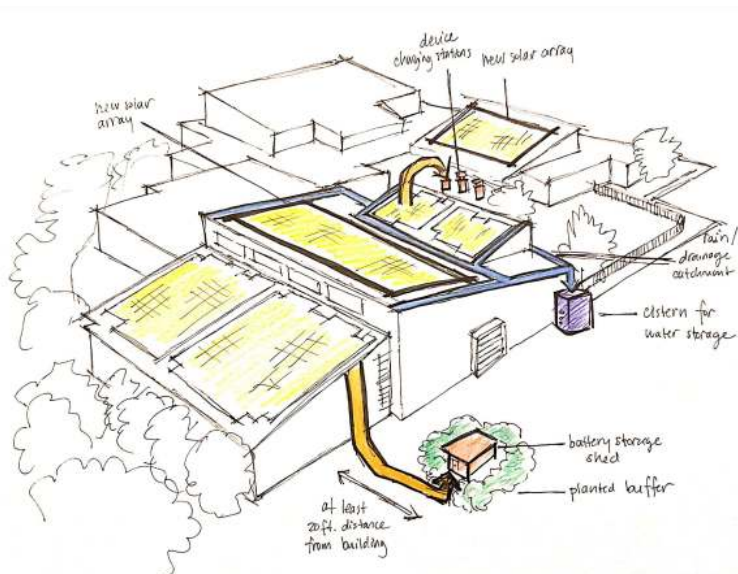
HOW DID WE DEVELOP OUR DESIGN CONCEPTS?

Our approach to creating design recommendations was based on a commitment to benefit the community and represent their vision.

Step 1: Design Research. In this phase our design team met with an architect specializing in green building who was involved in EPCC's Aquatic Center expansion. As a first step to creating our designs, we brainstormed ideas that could be sustainable assets as well as resilient features based on best practices and anecdotal ideas from early community engagement efforts.

Step 2: Community Visioning Workshop. As the culminating event of the community engagement phase, our team held a Community Visioning Workshop, where the design team focused on asking questions and listening to community members about their ideas for the site. We heard and saw a range of physical features represented that we developed into initial concepts. The products of this workshop are detailed in the previous section of the report.

Step 3: Initial Concept Sketches. In our initial development of design concepts, we drew on team research related to best practices and findings from engagement to create draft sketches. Below are two samples from these drafts that we used for our prioritization event.



Step 4: Community Prioritization. In this stage, we brought back our initial sketches to the community with a tabling event. Here we asked participants to rank their interest on posters with our initial drawings with color coded stickers. Green stickers were used to express enthusiasm, yellow for confusion or indifference, and pink for low interest.



Community Prioritization Event Board. Source: RIP City Planning

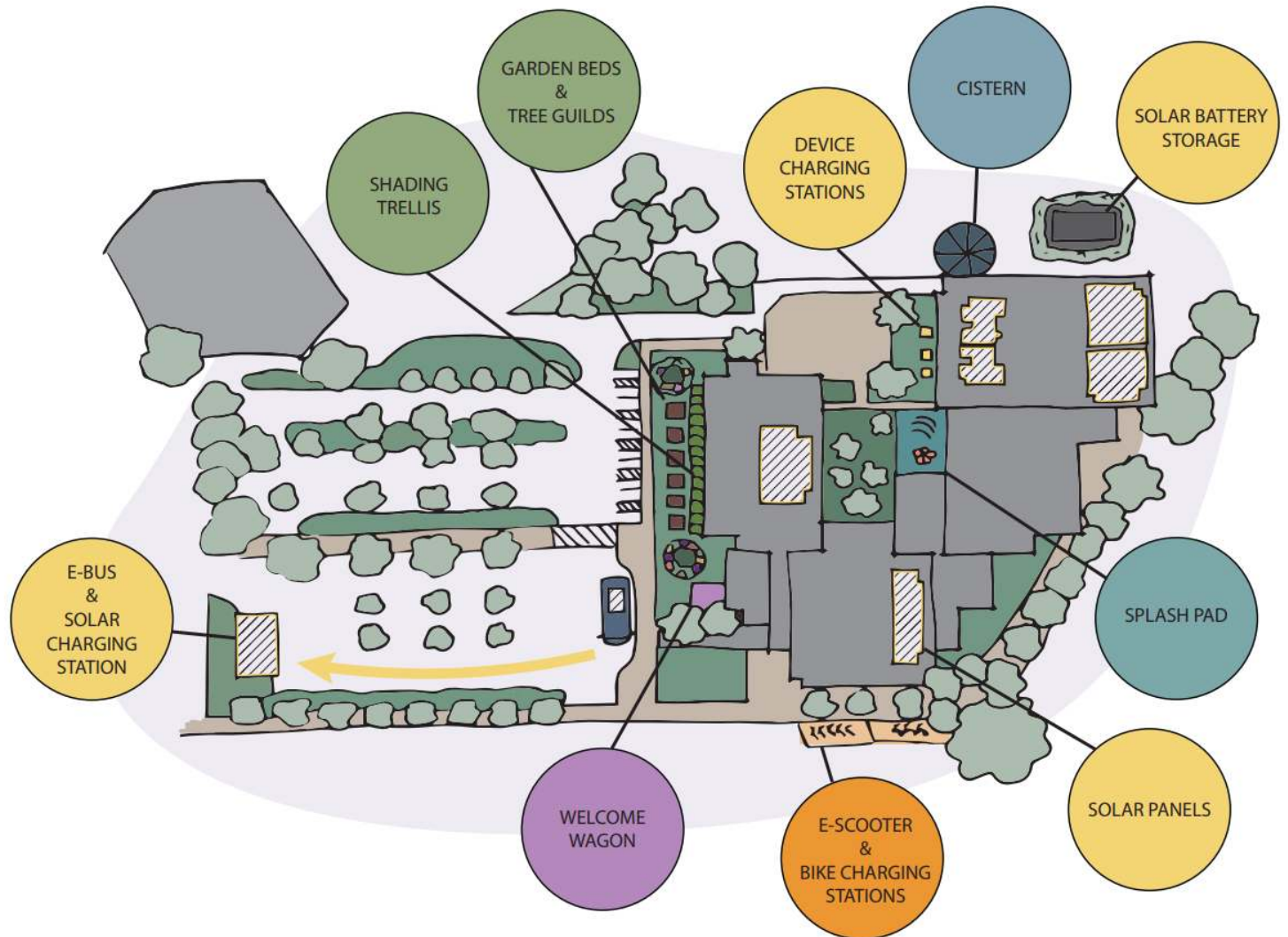


Team members facilitating Community Prioritization Event. Source: RIP City Planning

Step 5: Final Design Concepts. To make our final design concepts, we incorporated feedback heard in conversations with EPCC users and shown through color coded stickers at the prioritization event. We also considered comments that we had heard from CBOs during interviews and reached out with follow up questions to EPCC's Building Supervisor. Our final mixed-media visuals were created with a combination of 3D modeling in SketchUp and hand illustration.

DESIGN CONCEPT MAP

After conducting initial research, community engagement, and an existing conditions analysis we created a concept map illustrating where interventions and features would be located. These locations optimize underutilized space at EPCC while considering pedestrian traffic and proximity to existing assets. These features are divided into groups and shown in different colors. These colors include green for the garden concept, purple for the welcome wagon concept, yellow and grey for resilient systems concept, orange for the mobility hub concept, and blue for the splash pad concept.



SPLASH PAD SITE



Large, unutilized open space

Accessible Door (Locked)

ADA Compliant Path

Seating Area

Playground

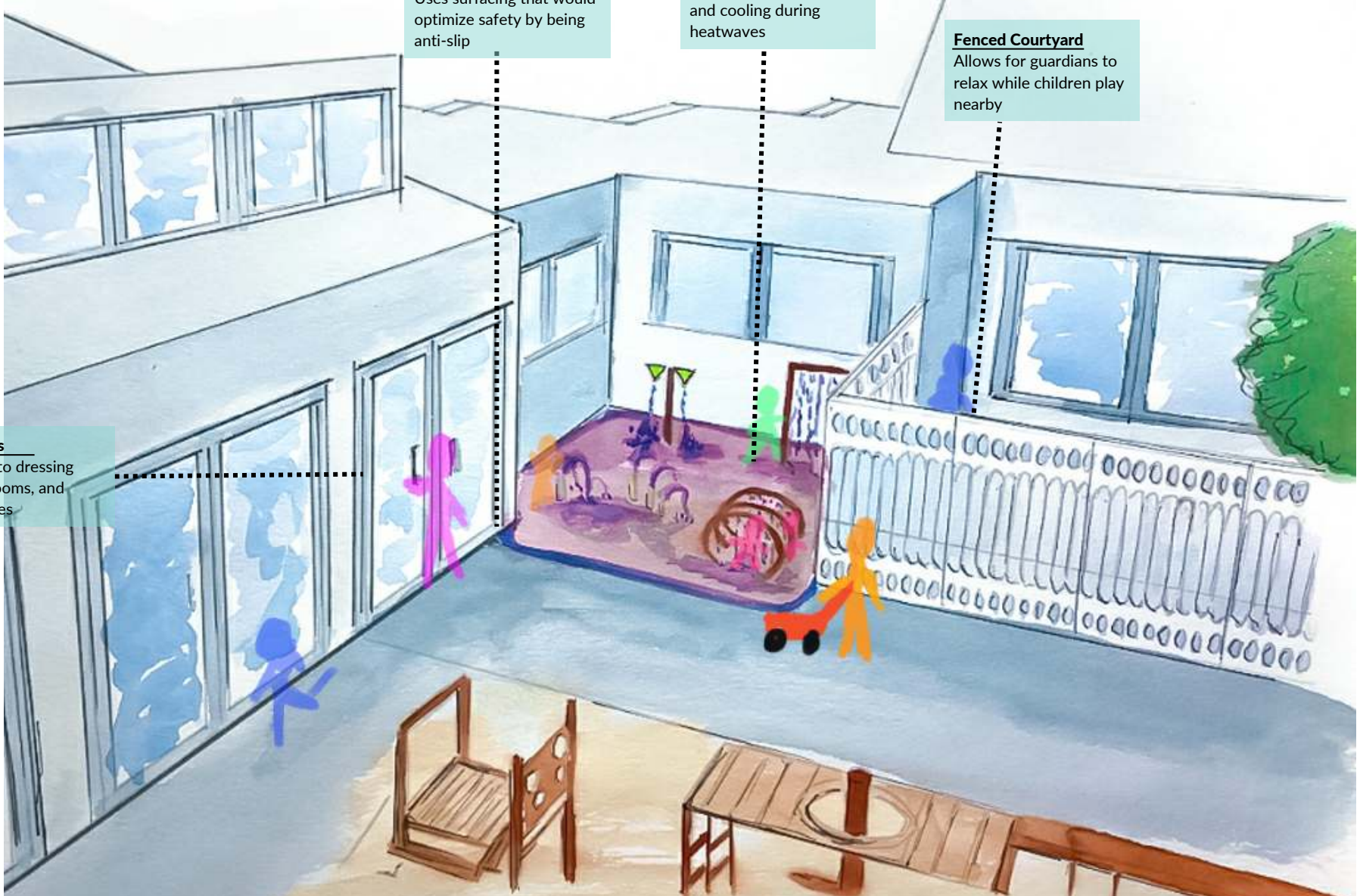
SPLASH PAD VISION

Indoor Access
Eases access to dressing rooms, bathrooms, and other amenities

Rubber Surfacing
Uses surfacing that would optimize safety by being anti-slip

Water Features
Designs area for play and cooling during heatwaves

Fenced Courtyard
Allows for guardians to relax while children play nearby



SPLASH PAD

WHAT'S THE CONCEPT?

The splash pad is a system that would address a need for cooling services within the East Portland community during the summer months. The splash pad would serve as a refuge that is outside of EPCC for both children and adults to enjoy. Different above-ground spray features as well as proper drainage would be included to optimize cooling and fun. Ideally, this fixture would include soft rubber surfacing and would utilize EPCC's pool water recirculation system.

The splash pad would function during the summer months when the indoor pool at EPCC is expected to be closed. A lack of staffing for EPCC's indoor water resources is expected to occur, causing the splash pad to serve the local community that often relies on the pool to entertain children and to cool down during heat waves.

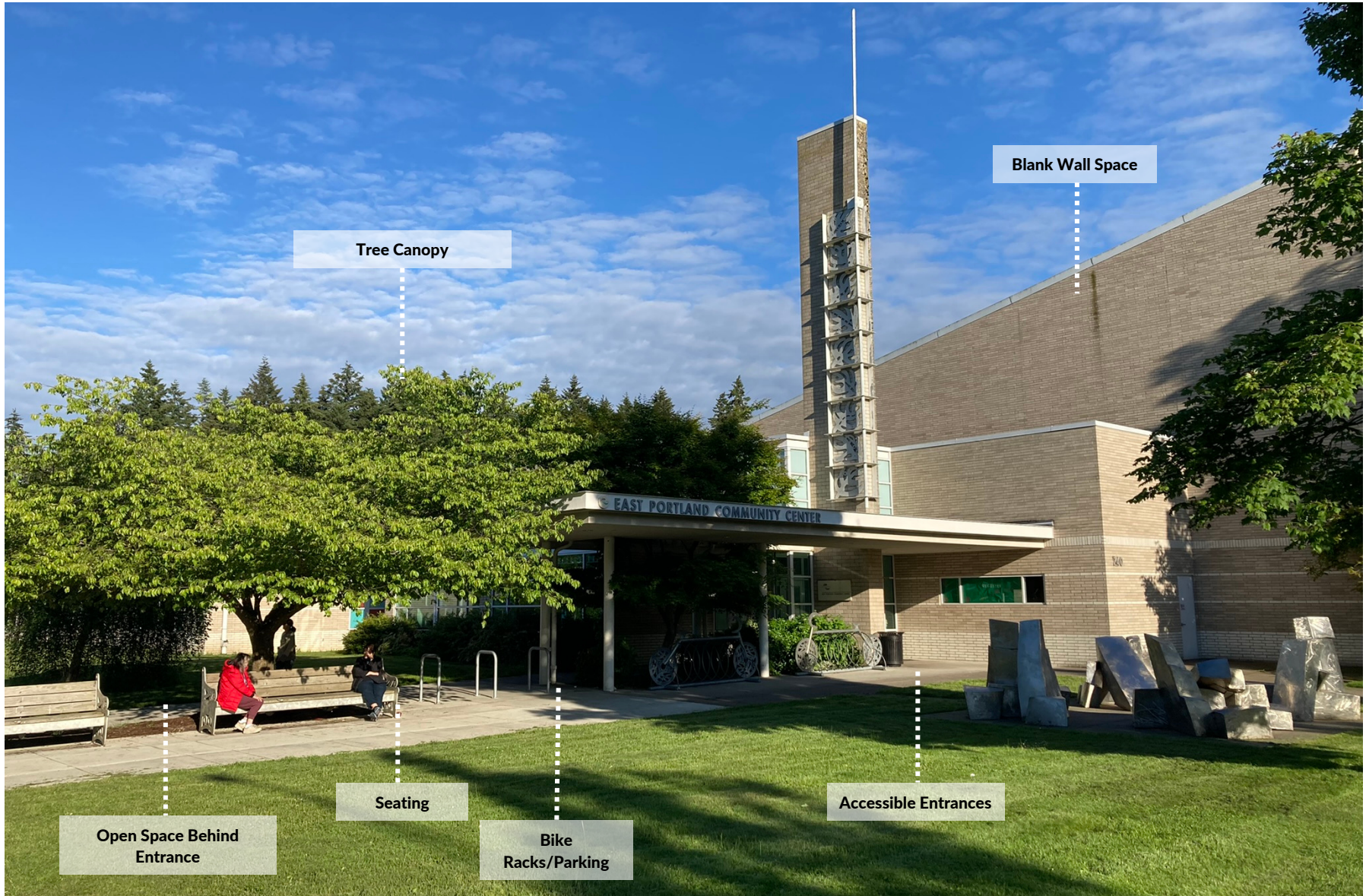
Locating the splash pad near the back of the building between the aquatic center, playground, and seating area will allow for maximum safety and proximity to other play facilities. It will also give space for parents or guardians to rest nearby with clear eye lines to children.

PRIORITIZATION	
Potential Impact	2
Community Interest	3
Timeframe	2



Children playing at splash pad. Source: Planetizen

WELCOME WAGON SITE



WELCOME WAGON VISION

Partnerships

Partnerships with local health and service institutions including part-time service provider on site

Information Board

Provides constant social and community service information

Hitch

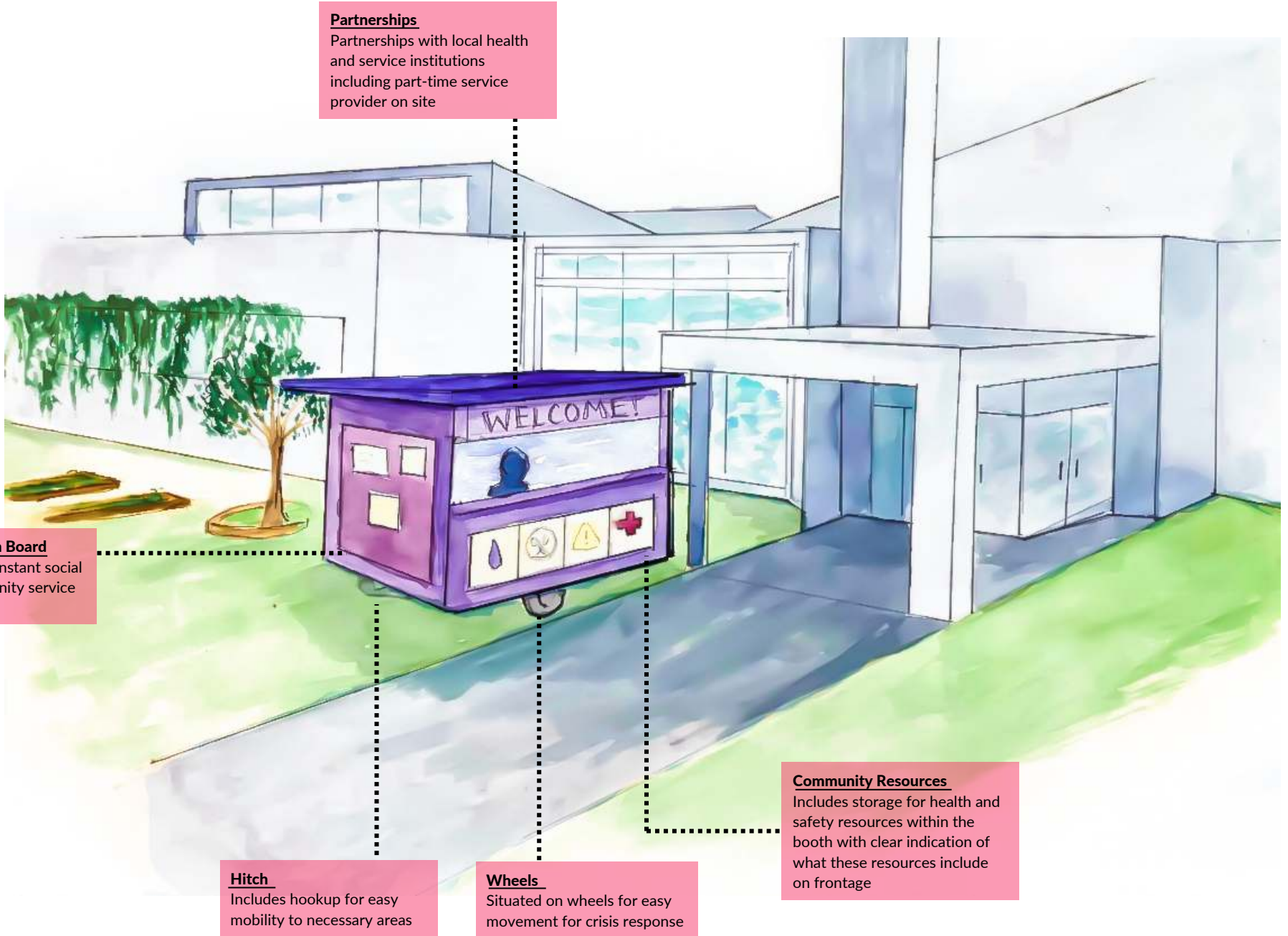
Includes hookup for easy mobility to necessary areas

Wheels

Situated on wheels for easy movement for crisis response

Community Resources

Includes storage for health and safety resources within the booth with clear indication of what these resources include on frontage



Existing assets not shown in design to optimize viewing of proposed features

WELCOME WAGON CONCEPT

WHAT'S THE CONCEPT?

The greeting booth would be a one-to-two person sized structure that can be made mobile. The structure would have wheels and a hitch, allowing for transportation to other locations that have faced disasters within the area. It would include storage for community health and safety resources. Storage will also include large-scale pop-up tents to house community overflow during a disastrous event. The side of the booth would be equipped with a community information board where different forms of information could be posted. Lastly, a memorable mural will be created near the booth to help with wayfinding to the site, when needed.

The creation of this booth would increase partnerships between EPCC and Adventist Health. It would function as a center for service and resource information for community members, ideally having a service provider to work inside of it part-time. The service provider would provide basic care services and expert information sharing. This aspect of the booth would increase community awareness around disaster preparedness as well as provide space for increased attention and healing. This physical space would act as a courier for social infrastructure. As this physical space becomes more permanent fixture, people will know to go here when needing help.

PRIORITIZATION	
Potential Impact	2
Community Interest	2
Timeframe	2

Related Recommendation: 3.2 Provide a social services liaison



Mobile Community Services Source: Leeds City Council's Mobile Community Hub

GARDEN EXPANSION SITE

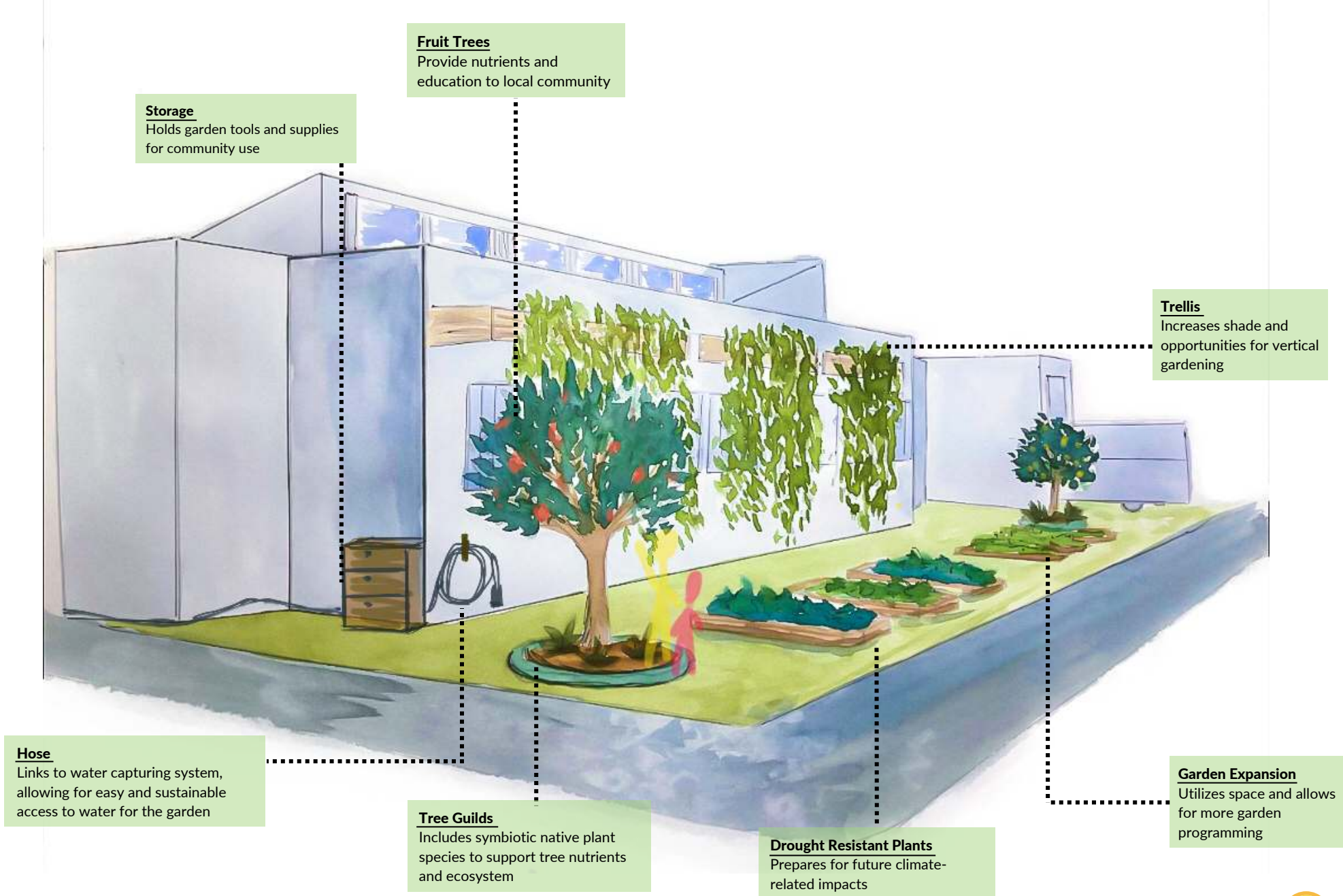


Garden Beds

Tree Canopy

Accessible
Sidewalk &
Parking

GARDEN EXPANSION VISION



Existing trees not shown in design to optimize viewing of proposed features

GARDEN EXPANSION CONCEPT

WHAT'S THE CONCEPT?

While the East Portland Community Center has an existing community garden on its premises, we received a large amount of feedback calling for expansion of the garden. Expansion of the existing garden would supplement our programmatic recommendations of food systems usage as well, another frequent community interest.

The garden expansion is envisioned to include a variety of raised garden beds, tree guilds, and a trellis along the side of EPCC. Tree guilds include communities of plants planted around the root system of a fruit tree that provide different nutrients to ensure optimal growth and fruit production. The trellis is imagined to provide both shade for community members and another axis for food production. A small dedicated space for tool storage and a water hose could be added to support more educational garden programs.

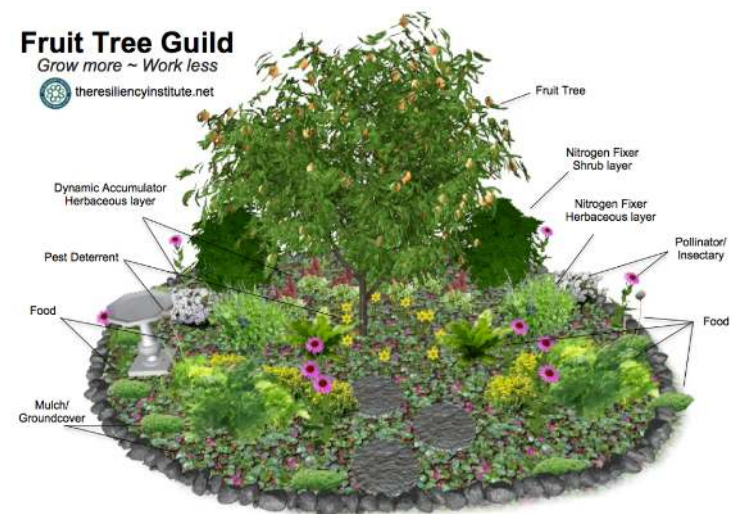


Edible hanging garden. Source: EatingWell

PRIORITIZATION	
Potential Impact	2
Community Interest	2
Timeframe	1

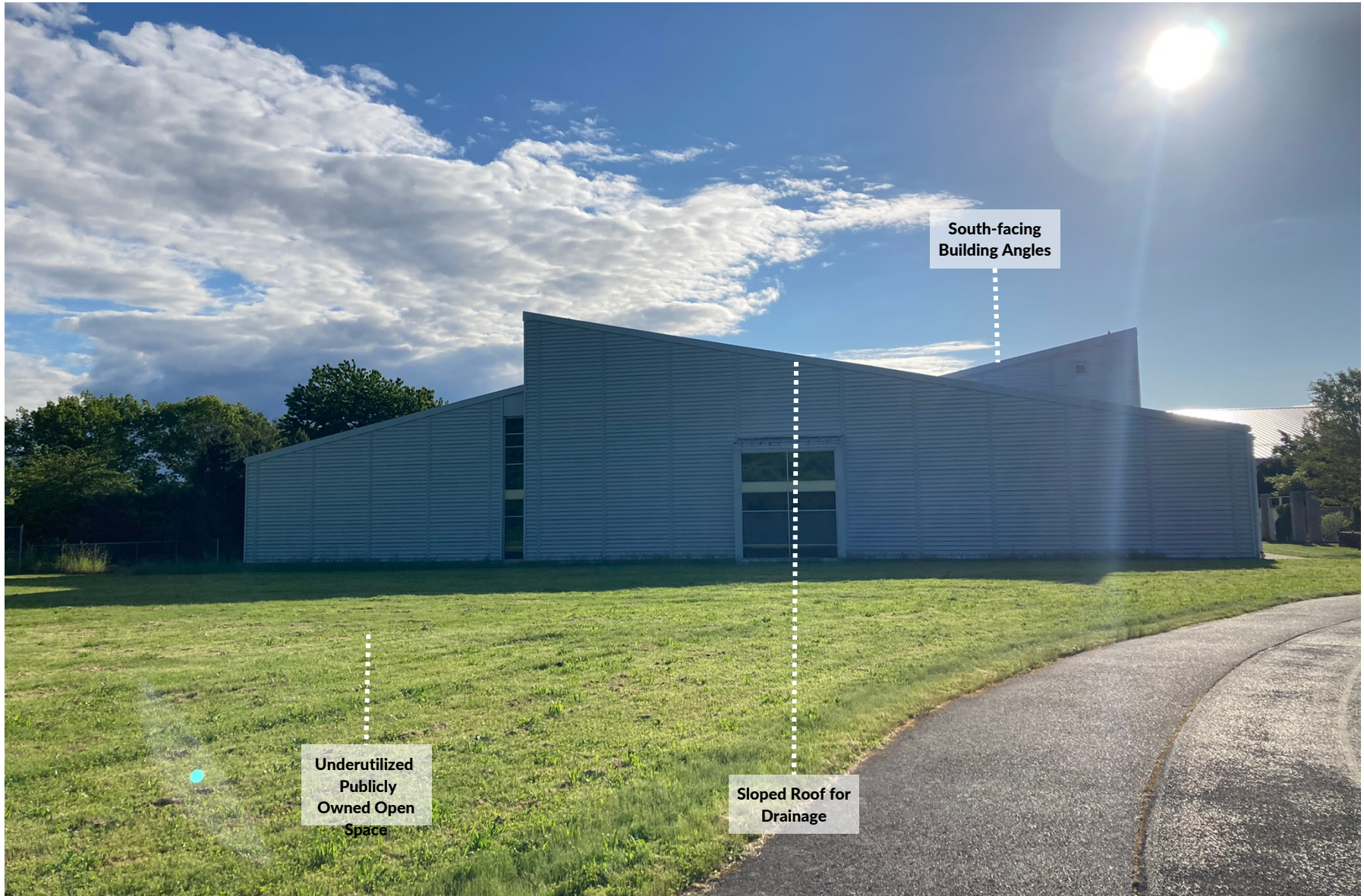


Related Recommendation: 3.5 Develop seasonally-themed skill-building classes



Grove with symbiotic plants. Source: Melbourne Permacult

RESILIENT SYSTEMS SITE



Underutilized
Publicly
Owned Open
Space

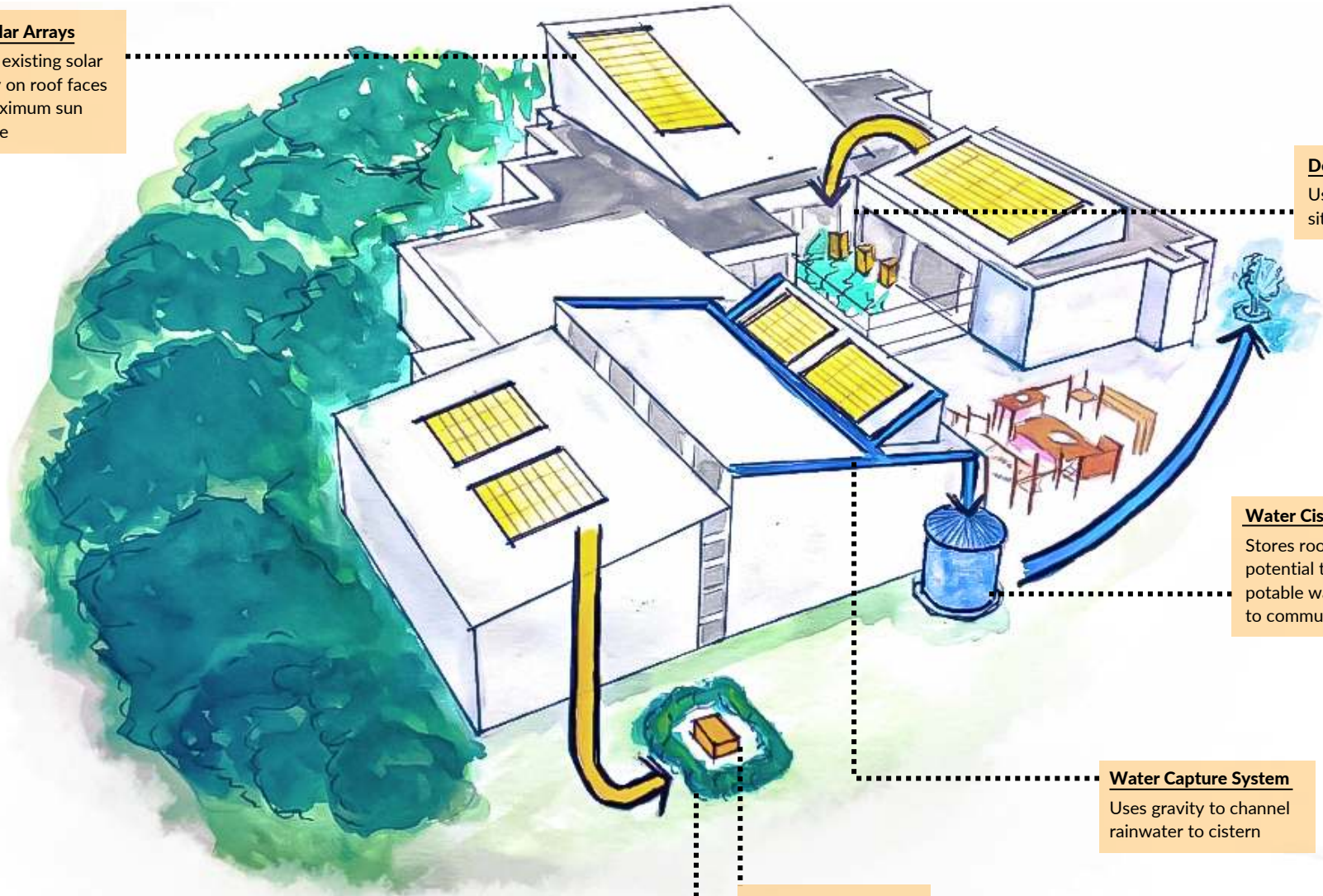
Sloped Roof for
Drainage

South-facing
Building Angles

RESILIENT SYSTEMS VISION

New Solar Arrays

Adds to existing solar capacity on roof faces with maximum sun exposure



Device Charging Stations

Uses energy generated on site to power user devices

Water Cistern and Filter

Stores roof runoff with potential to provide potable water or water to community garden

Water Capture System

Uses gravity to channel rainwater to cistern

Battery Storage Shed

Stores energy from roof solar on site

Planted Buffer

Prevents children from getting near

RESILIENT SYSTEMS CONCEPT

WHAT'S THE CONCEPT FOR SOLAR?

EPCC already utilizes solar energy through two large arrays on the roof; the building also participates in net metering through PGE with the energy produced. Given the size of the building, there is ample room to expand with new solar arrays, particularly the south face of the main building and the remaining slope of the aquatic center addition.

The aquatic center addition in 2008 first added solar panels at EPCC; since then technology for battery storage has developed significantly. Saving energy from additional arrays in a dedicated battery shed outside of the main building could help EPCC continue operating and serving the community in the event of a power outage. This shed could be located in the open space behind EPCC, extending into publicly owned Floyd Light Park. A battery shed should be located at least twenty feet away in case of malfunction. A planted buffer around the storage shed could both screen it from sight and prevent accidents.

The ability to charge devices on an average day or during a disaster was frequently brought up during community engagement. Installing dedicated device charging stations powered by their own micro solar arrays or energy from rooftop arrays could meet community needs for communication, entertainment, and news during a disaster.

PRIORITIZATION	
Potential Impact	2
Community Interest	3
Timeframe	2



Related Recommendation: 2.2 Install electrical kitchen appliances



Solar powered device charging station. Source: University of Massachusetts Amherst

WHAT'S THE CONCEPT FOR WATER?

Installing a catchment system to store water runoff from EPCC's roof is a way to reduce water waste and ensure a supply of greywater during disasters where potable water must be prioritized for drinking. Extensive water filtration for consumption purposes is elaborated in strategy 2.4, but these recommendations would minimize the strain on drinking water resources overall.

The sloped roof details found throughout EPCC could easily route rain water into pipe systems through gravity and channel runoff into a dedicated cistern attached in the space behind the aquatic center. Given its relative proximity to the community garden area, this greywater could be used for water garden beds.

PRIORITIZATION	
Potential Impact	2
Community Interest	2
Timeframe	2

Related Recommendation: 2.4 Implement a water filtration and storage system

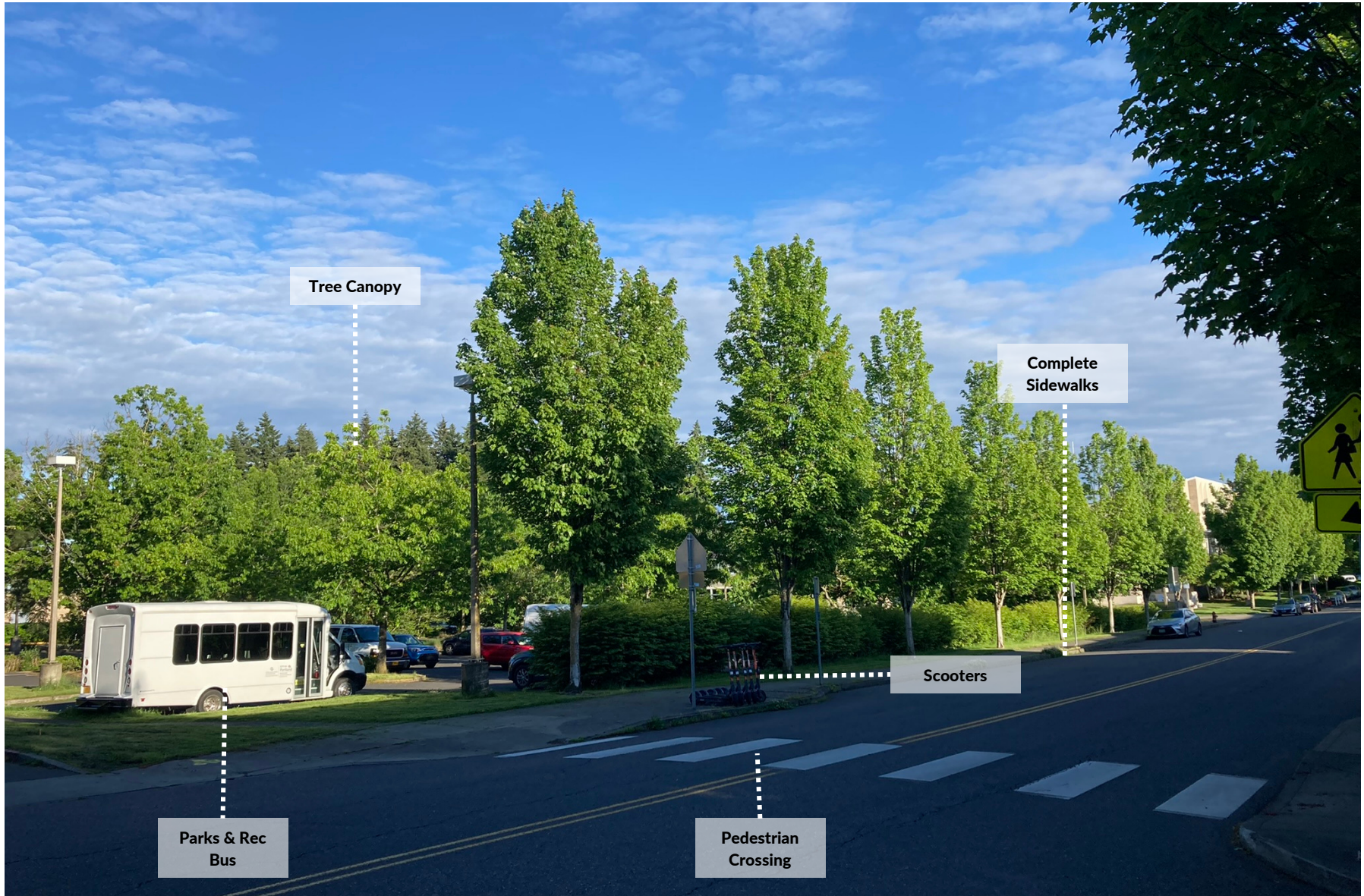


Large solar battery storage hub. Source: US Department of Energy

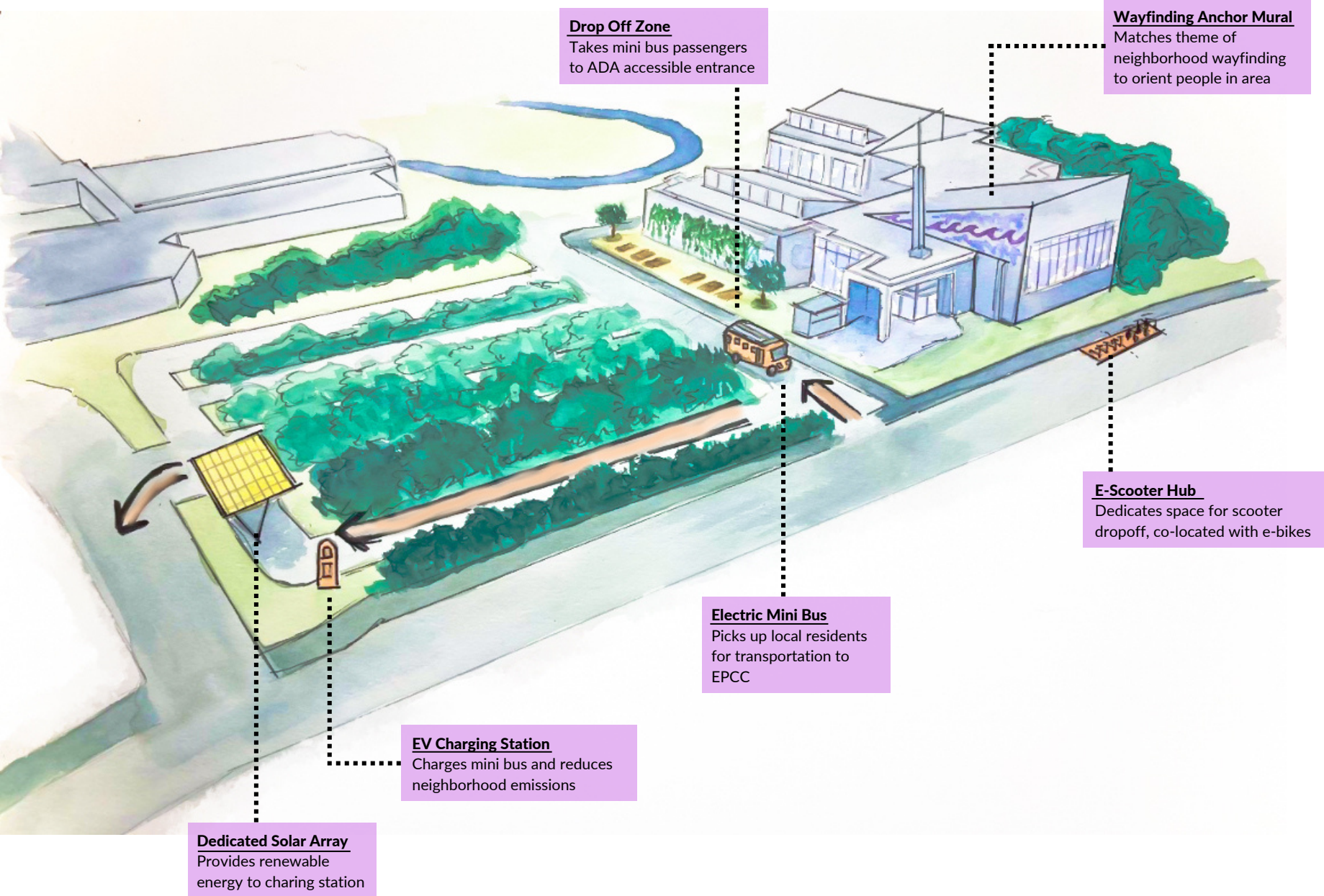


Water cisterns. Source: Sunset Magazine

MOBILITY HUB SITE



MOBILITY HUB VISION



MOBILITY HUB CONCEPT

WHAT'S THE CONCEPT FOR THE MINIBUS?

Equitable access to EPCC for everyday use and during disasters is critical to making sure that it can serve the community. Engagement participants described challenges with transportation and pedestrian navigation in surrounding streets. This design concept is aimed at expanding sustainable options that remove barriers for getting people to EPCC.

An electric minibus would provide easy and reliable transportation to and from the community center. A designated drop-off zone ensures that riders, particularly those with functional needs, are able to reach the center safely. As an electric vehicle with its own dedicated charger station, the minibus would not add carbon emissions and air pollution to East Portland. This amenity would increase the community center's accessibility for people without a car or who may not feel safe on public transportation.

PRIORITIZATION	
Potential Impact	3
Community Interest	1
Timeframe	3



Related Recommendation: 3.3 Enhance social cohesion through expanded intergenerational programming



Electric bus charging station. Source: Reuters

WHAT'S THE CONCEPT FOR E-SCOOTERS?

Promoting the use of micromobility options, such as e-scooters and bike share systems may provide community members more freedom to move around EPCC and throughout the East Portland area by a variety of options.

There is already a Biketown station with five bike stands available outside of EPCC, which could be the basis for expanding micromobility options. Increasing awareness of the existing bikes and programs for affordability could encourage more users to consider them as an option.

Additionally, a designated drop site for e-scooters would encourage more multimodal users who may find this type of micromobility more appealing. A designated sight with a charging dock could also encourage companies providing shared scooters like Lime and Bird to locate them near EPCC.



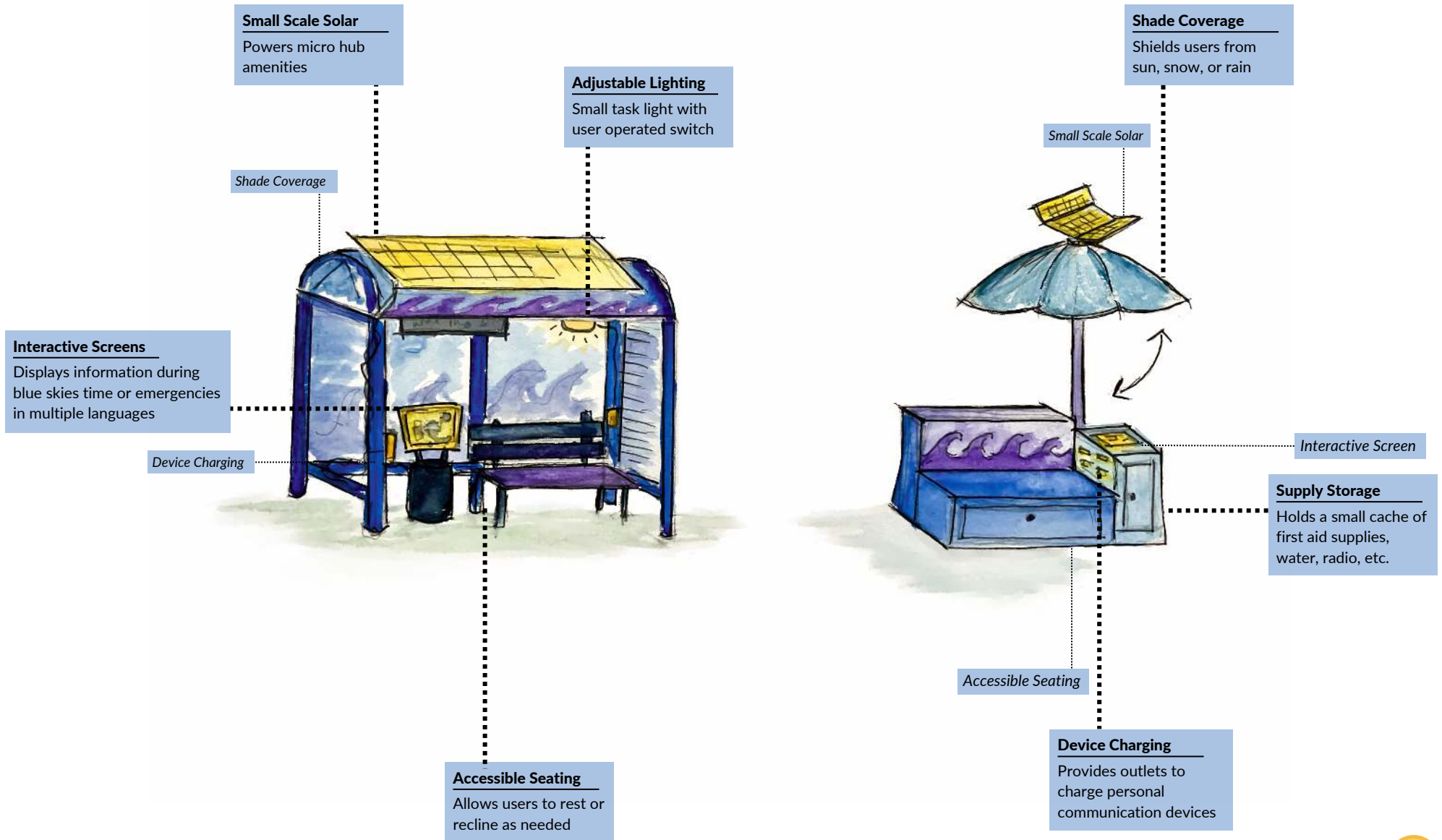
E- scooter charging station. Source: Washington Post



E-scooter drop site. Source: San Diego Tribune

PRIORITIZATION	
Potential Impact	2
Community Interest	1
Timeframe	1

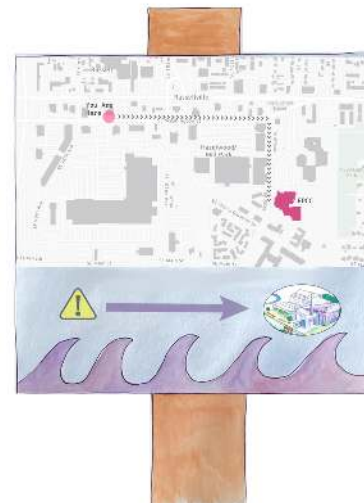
MICRO-HUBS



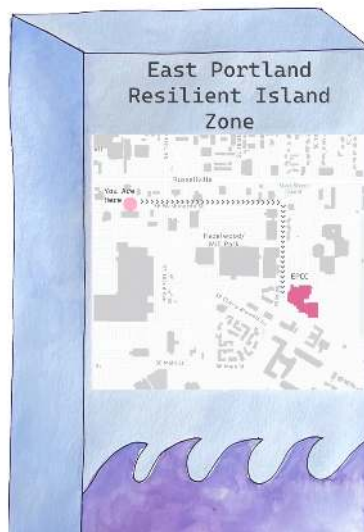
WAYFINDING SIGNS



Multi-Lingual Signage



Visual Signage



Sculptural Signage



Ground Directions

NEIGHBORHOOD CONCEPTS

WHAT'S THE CONCEPT FOR MINI HUBS?

Mini-hubs are standalone sites that fulfill basic needs like rest, shade, and information through device charging ports, seating, informative touch screens, and lighting; they can also address needs during a disaster by providing emergency supplies directly through a stored cache, communication tools, and navigation help for getting to EPCC. They can also provide information in multiple languages and potentially dovetail with transit shelters. (Mazereeuw et al., n.d.) In our concept they are shown as either a series of add-ons to an existing TriMet bus shelter to leverage existing infrastructure or a standalone new site.

PRIORITIZATION	Mini Hubs	Wayfinding Signs
Potential Impact	3	2
Timeframe	2	1

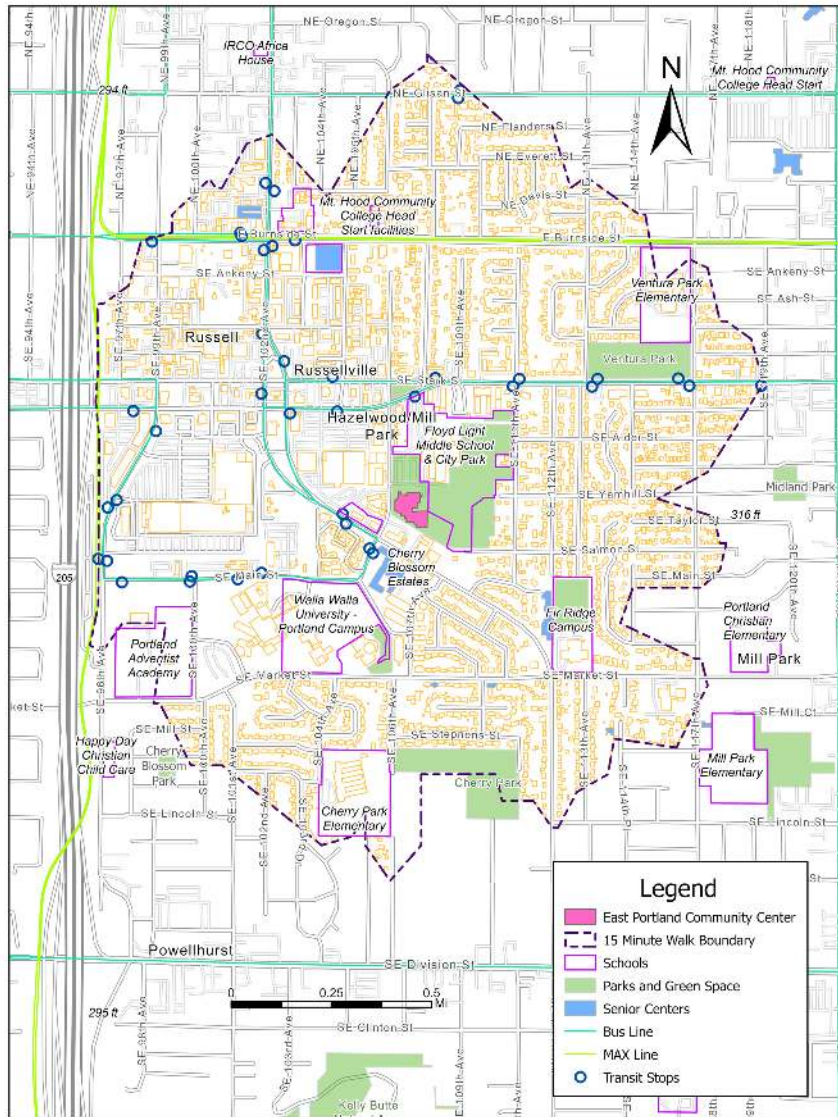


Campus PREPHub with glowing blue lights. Source: MIT Design X



Youth interact with a mobile resilience hub at MIT. Source: Divisare

Figure 20. East Portland Resilient Island 15-minute walkshed.



Source: RIP City Planning

WHAT'S THE CONCEPT FOR WAYFINDING?

Wayfinding is a form of information sharing that guides the public through the built environment. An expansion of signage options is crucial to informing the public about EPCC and its resources. Different forms of wayfinding can also allow for the community to make their way to a resilient space in the time of a disaster. Comprehension of signage can be dictated by literacy, culture, ability, and much more, which is why different forms of signage need to be utilized within this area. Proposed forms of signage include signage written in different languages, signage with heavy imagery, repetition of sculptural elements, and ground directions.

These signs could be placed specifically within the 15-minute walkshed around EPCC. Figure 20 on the left shows the network analysis performed by RIP City Planning through GIS software that allowed us to identify this time-based boundary around the community center.

RECOMMENDATIONS

HOW TO READ THIS SECTION

HOW TO READ THIS SECTION

This section presents recommendations for the East Portland Community Center and our client, DRRAG. These differ from the design recommendations as most are programs, partnerships, or investments rather than large physical projects. Our recommendations are sorted into four major categories: **Inclusive Spaces**, **Physical Investments**, **Social Infrastructure**, and **Collaborative Governance**. There are a total of 16 actions included within these groups.

To introduce our vision we include:

- Detailed information about the identification process
- A matrix summarizing the actions within each category

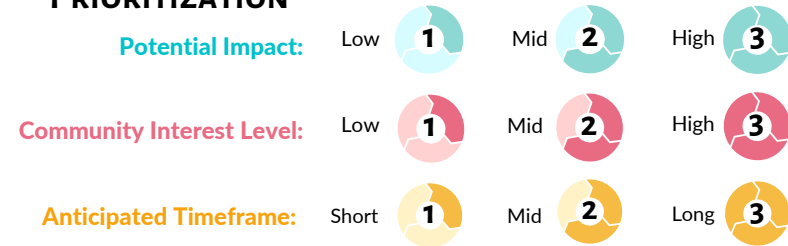
Following this introduction, each concept is presented with:

- A written description of the action
- Rationale for our recommendation
- Potential Impact, Community Interest, and Timeframe
- Visual examples of similar actions implemented elsewhere

KEY

Each design concept description includes an indication of its potential impact estimated by our team, the level of community interest we heard from engagement, and a relative timeframe. We also use a key to call out 'Quick Wins,' 'Community Favorites,' and 'Aspirational Goals.'

PRIORITIZATION



Quick Win: The short timeframe and medium-high community interest and support make this an easy action to see results



Community Favorite: Regardless of timeframe, this action had an overwhelming amount of support during engagement



Aspirational Goal: Regardless of timeframe, this action had an overwhelming amount of support during engagement

IDENTIFICATION PROCESS

METHODOLOGY

As a community vision plan, the recommendations in this section are meant to be aspirational potential actions to better prepare EPCC to meet the needs of the community before, during, or after a disaster. Our team particularly sought to identify those actions which can meet community needs during multiple phases of the disaster management cycle. Each of these potential actions is sorted into a larger strategy: Inclusive Space, Physical Investments, Social Infrastructure, and Collaborative Governance – though some may overlap in theme. Alongside each action there is a description of what it entails, its estimated impact level, community interest, and potential time frame. We follow these considerations with rationale for pursuing that action, supported by examples and visuals when possible.

Our team created the following recommendations by first analyzing the findings from our background research and engagement. As a part of our interim Community Engagement Report, we summarized the strengths, weaknesses, opportunities, and threats that were identified as overarching topics throughout the process. We used these findings to generate potential recommendations, which we evaluated by their potential impact and difficulty of implementation. If an action would have a low impact and take a high degree of effort, we did not include it in our final list.

FEEDBACK

After creating our draft recommendations, we brought our list back to the community through a tabling event. On May 20th we presented programmatic and design ideas through poster boards and asked community members to indicate with stickers their level of enthusiasm. Green stickers show high levels of enthusiasm; yellow stickers indicate confusion or ambivalence; pink stickers were used by participants for projects they did not like. This feedback, alongside notes and conversations with CBOs allowed us to approximate the level of community support for a given recommendation.



Community prioritization event boards. Source: RIP City Planning

SUMMARY OF RECOMMENDATIONS

1. Inclusive Spaces	2. Physical Investments	3. Social Infrastructure	4. Collaborative Governance
<p>1.1: Implement comprehensive language interpretation services</p> <p>1.2: Feature a historical timeline inside EPCC</p> <p>1.3: Grow partnerships with culturally-specific community organizations</p>	<p>2.1: Retrofit EPCC to withstand earthquakes</p> <p>2.2: Install electrical kitchen appliances</p> <p>2.3: Use thermal blackout curtains during extreme temperature events</p> <p>2.4: Implement a water filtration and storage system</p>	<p>3.1: Train EPCC staff to administer first aid and basic crisis care</p> <p>3.2: Provide a social services liaison</p> <p>3.3: Expand intergenerational programming</p> <p>3.4: Increase EPCC's capacity to share information with communities</p> <p>3.5: Develop and provide seasonally-themed skill building classes</p>	<p>4.1: Increase awareness of the Resilient Island among local agencies</p> <p>4.2: Strengthen intergovernmental relationships and communication</p> <p>4.3: Earmark share of the Portland Clean Energy Fund for resilience projects</p> <p>4.4: Provide an annual, public-facing accountability update</p>

1.1 IMPLEMENT COMPREHENSIVE LANGUAGE INTERPRETATION SERVICES

WHAT IS THIS ACTION?

EPCC should consider language translation services for written and spoken material in a more comprehensive way, thereby increasing the center’s accessibility to Spanish, Vietnamese, Mandarin, Ukrainian, Russian, and speakers of other languages. These interpretation services could be provided through a local agency like the Immigrant and Refugee Community Organization (IRCO). Developing a protocol for consistent translation of signage and other wayfinding materials should be prioritized.

WHY IS THIS IMPORTANT?

EPCC is surrounded by neighborhoods with a higher percentage of BIPOC and non-English-speaking populations compared to the rest of Portland. Providing comprehensive interpretation services increases the likelihood of equitable access to resources during both disaster and ‘blue sky’ times, and creates a more welcoming environment for a wider range of EPCC users.

PRIORITIZATION	
Potential Impact	3
Community Interest	2
Timeframe	1



List of Interpretation languages available at EPCC. Source: RIP City Planning

1.2 FEATURE A HISTORICAL TIMELINE INSIDE EPCC

WHAT IS THIS ACTION?

EPCC could design and display a horizontal timeline highlighting historical events relating to Black, Brown, Indigenous, LGBTQ+, refugee, and immigrant communities within East Portland. The timeline could also include details pertaining to the development of the community center, notable natural disaster events, and past and current political actions and plans involving East Portland. This timeline could be displayed prominently along the wall of a long hallway, or in the display cabinet mounted on the wall just beyond the front desk. Given limited space in this cabinet, information could be displayed pertaining to seasonal natural disasters and preparedness events, and feature content sharing stories and community member wisdom who have experienced disaster events in the past.

WHY IS THIS IMPORTANT?

A prominently-displayed historical timeline would encourage rich conversations among the EPCC community, affording opportunities to learn about and reflect upon past events, as well as brainstorm ways to mitigate and prepare for upcoming community challenges.

PRIORITIZATION	
Potential Impact	2
Community Interest	3
Timeframe	1



Example of a historical timeline. Source: Sign Geek

1.3 GROW PARTNERSHIPS WITH CULTURALLY-SPECIFIC COMMUNITY ORGANIZATIONS

WHAT IS THIS ACTION?

EPCC should increase its efforts to connect and partner with local organizations serving Black, Brown, Indigenous, and other frontline communities, in order to improve access to EPCC for cultural programs and events specifically for those communities. Spatially, the variety in the facility’s room sizes and arrangement allow for the accommodation of events of different scales. For instance, the multi-purpose room is able to be partitioned off to host a small meeting of 6-8 people, or kept open for larger gatherings. EPCC currently offers a sliding scale entrance fee to individual visitors. This service should extend into the community for culturally-specific organizations to utilize space within the community center.

WHY IS THIS IMPORTANT?

Many of the CBO leaders we interviewed voiced a need for more space to support programs focusing on specific cultures and communities living near EPCC. Closer relationships with culturally-specific organizations would increase perceptions of EPCC as a resilience hub, as more communities came to see EPCC as a place of inclusion and refuge. Providing a lower fee for renting space inside of EPCC could assist in fostering relationships with marginalized community members.

PRIORITIZATION	
Potential Impact	2
Community Interest	3
Timeframe	2



Community parade in Portland. Source: Intisar Abioto, c/o PDX Monthly

2.1 RETROFIT EPCC TO WITHSTAND EARTHQUAKES

WHAT IS THIS ACTION?

Seismically retrofitting the facility is a critical part of ensuring resilience in the event of an earthquake. While this project would be costly and disruptive to program delivery, a comprehensive seismic retrofit will increase community safety, safeguard the protection of facility resources, and support capacity to serve as a resilience hub.

WHY IS THIS IMPORTANT?

Seismic retrofitting enhances the protection of people, resources, and property in the event of a large earthquake. Many other recommendations in this Plan hinge on the physical integrity of the facility itself. If EPCC is not able to withstand an earthquake, it will not adequately serve as a resilience hub.

PRIORITIZATION	
Potential Impact	3
Community Interest	2
Timeframe	3



Seismic retrofit diagram. Source: California Earthquake Authority



Steel seismic retrofit detail. Source: eSUB

2.2 INSTALL ELECTRICAL KITCHEN APPLIANCES

WHAT IS THIS ACTION?

Replacing all kitchen appliances that use natural gas with electrical alternatives could increase EPCC's disaster resilience. Not only would this action reduce emissions from gas appliances, but new kitchen equipment could theoretically be powered by the existing on-site solar energy system.

WHY IS THIS IMPORTANT?

Shifting to using electric kitchen appliances has a number of benefits, even if their impacts might be low. Appliances powered by renewable energy emit fewer greenhouse gases, preserve interior air quality, and reduce operating costs for EPCC. This strategy could also increase resilience during disasters by allowing food production without using an external energy source.

PRIORITIZATION	
Potential Impact	2
Community Interest	2
Timeframe	1



Electrical kitchen appliances. Source: Building Green

2.3 USE THERMAL BLACKOUT CURTAINS DURING EXTREME TEMPERATURE EVENTS

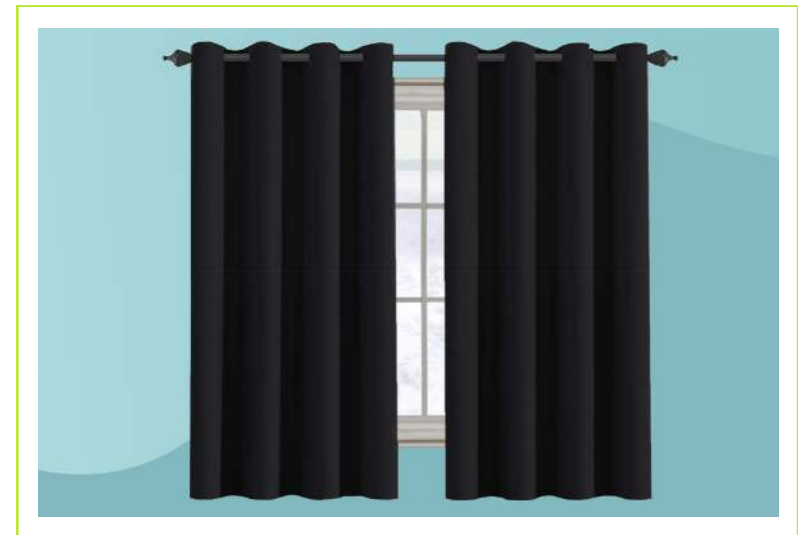
WHAT IS THIS ACTION?

Thermal blackout curtains are a relatively inexpensive investment that would allow EPCC to better control interior temperature during extreme heat and cold events. They may also help EPCC save on energy costs by reducing the amount of heat lost during the colder months, and reflect heat away from the building during the warmer months.

WHY IS THIS IMPORTANT?

Thermal blackout curtains would enhance the center's ability to regulate its interior climate, and thereby better serve community members seeking protection from extreme outside temperatures.

PRIORITIZATION	
Potential Impact	2
Community Interest	2
Timeframe	1



Thermal blackout curtains. Source: Healthline

2.4 IMPLEMENT A WATER FILTRATION AND STORAGE SYSTEM

WHAT IS THIS ACTION?

A rainwater capture system for roof runoff would serve a number of functions at EPCC. Water could be stored in a cistern and used for garden beds during ‘blue sky’ times. During a disaster, a water filtration system would also allow for a supply of potable drinking water.

WHY IS THIS IMPORTANT?

After a disaster, especially a large earthquake, access to clean, drinkable water may be limited. In the event of a 8.0+ magnitude Cascadia earthquake, it could be months before clean water and sewer services were restored. On-site water filtration will enhance water conservation and overall resilience efforts, and increase EPCC's ability to provide clean water to the center's users.

PRIORITIZATION	
Potential Impact	2
Community Interest	2
Timeframe	2



Cistern for water storage. Source: BGK Architects

3.1 TRAIN EPCC STAFF TO ADMINISTER FIRST AID AND BASIC CRISIS CARE

WHAT IS THIS ACTION?

EPCC should provide first aid and crisis care services for community members throughout the year. To make these services available, EPCC staff should receive First Aid, CPR, and crisis care training. Disaster response services should be appropriate for each season, to support community safety and security during anticipated disaster events. The center could explore partnering with local healthcare facilities, such as Adventist Health Portland, to serve as an overflow annex, in order to alleviate crisis care capacity challenges in the event of disaster. (It should be noted that there are legal barriers in place that may prevent staff from administering care without proper certification.)

WHY IS THIS IMPORTANT?

One of the primary goals of this project is to increase the capacity of EPCC and its staff in ways that will better support community safety and security during disaster events. Our team received positive feedback from staff about trainings on how to prepare for and respond to emergencies.

PRIORITIZATION	
Potential Impact	3
Community Interest	3
Timeframe	2



CPR training. Source: American Heart Association

3.2 PROVIDE A SOCIAL SERVICES LIAISON

WHAT IS THIS ACTION?

EPCC should maintain a mental health and social services liaison to triage and refer community members in need of care and services beyond what the center is able to provide. A health and social services liaison could be contracted from a nearby healthcare facility, or from Multnomah County Health and Human Services.

WHY IS THIS IMPORTANT?

Building relationships with healthcare and social services providers will help close the gap for community members. This service should be established prior to major events, so that the community knows that this service should be available during times of crisis. During our conversations with the public, several individuals indicated that they desired guidance on identifying existing community resources. This strategy could center EPCC as a hub for accessing those programs and services.

PRIORITIZATION	
Potential Impact	3
Community Interest	2
Timeframe	3



Representative speaking with community members. Source: Partners Healthcare

3.3 EXPAND INTERGENERATIONAL PROGRAMMING

WHAT IS THIS ACTION?

Programs currently offered at EPCC are often restricted by age. Increasing the number of programs would facilitate the intermingling of a wide range of age groups. Some possible programs could be: all-ages art nights, family disaster-resilience classes that cover how to prepare for disasters, and classes on creating disaster preparedness kits.

WHY IS THIS IMPORTANT?

Intergenerational programming fosters social cohesion by reinforcing positive interactions between people of different ages, and dispelling negative, ageist perceptions of older adults (Levy, 2018). Offering various intergenerational activities builds a sense of community between people who may not often interact with each other due to age differences. Social cohesion greatly influences a community's ability to withstand and thrive after disaster events.

PRIORITIZATION	
Potential Impact	2
Community Interest	1
Timeframe	2



Intergenerational activity. Source: Cathedral Park Arts

3.4 INCREASE EPCC'S CAPACITY TO SHARE INFORMATION WITH LOCAL COMMUNITIES

WHAT IS THIS ACTION?

EPCC should utilize all available methods to publicize its daily activities and advertise the critical resources it provides related to disaster resilience. This could include creating a comprehensive calendar of EPCC events, developing a newsletter that will be disseminated to community members and local organizations, and maintaining accurate and up-to-date wayfinding materials (e.g., maps that direct users to EPCC).

WHY IS THIS IMPORTANT?

Accurate and consistent information sharing is integral to disaster preparedness and community resilience. If made aware of EPCC's services and resources, the local community members would likely feel more inclined to access the center in the event of a disaster. On the other hand, local communities will have knowledge of family-friendly activities, services, event spaces, and opportunities to socialize during 'blue-sky' times.

PRIORITIZATION	
Potential Impact	3
Community Interest	1
Timeframe	2



Pamphlet for spring activities. Source: Portland Parks & Recreation

3.5 DEVELOP AND PROVIDE SEASONALLY-THEMED SKILL BUILDING CLASSES

WHAT IS THIS ACTION?

Seasonally-appropriate skill-building classes for all ages might include:

- Winter: Tax preparation and financial literacy classes
- Spring: Gardening and food preparation classes (cooking, canning, etc.)
- Summer: Disaster resilience programs for teens (e.g., disaster prep summer camp)
- Autumn: Preparations for extreme cold events

WHY IS THIS IMPORTANT?

Seasonally-appropriate classes and programs year-round would allow EPCC to help foster community resilience by providing skills to community members to handle a variety of challenges arising during disasters (e.g., earthquake, wildfire smoke, etc.) and during day-to-day, 'blue sky' times (e.g., personal finance management, tax preparation, etc.).

PRIORITIZATION	
Potential Impact	2
Community Interest	3
Timeframe	2



Young people in a community garden. Source: Growing Gardens

4.1 INCREASE AWARENESS OF THE RESILIENT ISLAND AMONG LOCAL AGENCIES

WHAT IS THIS ACTION?

DRRAG should make efforts to educate local government agencies and emergency management departments about the Resilient Island concept, and to highlight EPCC's role in East Portland community disaster resilience and preparedness.

WHY IS THIS IMPORTANT?

Consistent outreach from DRRAG to local government agencies, such as Portland Parks & Recreation and PBEM, ensures that agencies are up to date with EPCC's resilience efforts, and encourages collaboration and coordination.

PRIORITIZATION	
Potential Impact	2
Community Interest	2
Timeframe	2



Logos of local city and county agencies. Source: City of Portland, Multnomah County

4.2 STRENGTHEN INTERGOVERNMENTAL RELATIONSHIPS AND COMMUNICATION

WHAT IS THIS ACTION?

Communication channels among governmental agencies with whom EPCC partners should be bolstered and made more efficient. Government entities could reduce waste and redundant efforts by improving communicating, and identifying common goals, projects, and areas of overlap.

WHY IS THIS IMPORTANT?

EPCC position in the governmental hierarchy creates a disconnect between decision makers and the people directly involved. Establishing a consistent outreach system keeps local agency employees and officials in the loop, and can reduce the amount of redundancies and other unnecessary efforts that occur among agencies.

PRIORITIZATION	
Potential Impact	3
Community Interest	3
Timeframe	2



Expressive hands. Source: Stanford Social Innovation Review

4.3 EARMARK SHARE OF PORTLAND'S CLEAN ENERGY FUND FOR RESILIENCE PROJECTS

WHAT IS THIS ACTION?

Setting aside a portion of Portland's Clean Energy Fund for resilience projects would create more funding opportunities for EPCC and other organizations. In fact, several of this Plan's recommendations might be developed using PCEF funds, including water storage, electric appliances, and blackout curtains.

WHY IS THIS IMPORTANT?

Increasing renewable and self-sustaining energy generation bolsters community resilience, especially during disaster events. Expanding the types of projects that can apply for funding to include emergency preparedness and hazard mitigation will create more awareness and fund programming on these issues.

PRIORITIZATION	
Potential Impact	3
Community Interest	3
Timeframe	3



PCEF Logo. Source: Portland Clean Energy Fund

4.4 PROVIDE AN ANNUAL, PUBLIC-FACING ACCOUNTABILITY UPDATE

WHAT IS THIS ACTION?

To keep local communities apprised of progress made involving recommendations from this Vision Plan and the upcoming EPRC action plan, DRRAG could facilitate creation of a yearly accountability update presented in a user-friendly format for the public. This might take the form of an ESRI Story Map, or an interactive web page that presents information and metrics, updated at least once per year.

WHY IS THIS IMPORTANT?

We learned through our interviews with CBOs that surveys and other information-gathering requests can feel extractive and invasive for many East Portlanders, especially when those community members don't see positive developments resulting from their participation. Annual updates would allow for transparency and improved communications with local stakeholding communities, especially when project underway in or around EPCC are not yet apparent to the public.

PRIORITIZATION	
Potential Impact	3
Community Interest	1
Timeframe	1



Public meeting. Source: IDRC-CDRI

NEXT STEPS

WHERE TO START

As part of our fall course at Portland State University (USP 530 Building Community Resilience), members of RIP City Planning developed an initial set of recommendations for the Resilient Island project. While we had the honor of fulfilling some of our own guidelines about community engagement, there is room to complete more of these objectives as another continuation of that work. These included:

- **Steering Committee:** Creating a steering committee to guide visioning and development of the EPCC Resilient Island. This group should be representative of the surrounding community and established with a vision, mission, and clear goals.
- **Business Preparedness:** EPCC should explore business preparedness strategies and begin engaging with local business owners.
- **Material Design:** Informational materials should be created that educated residents, businesses, and entities around the East Portland Community Center on ways to prepare for disaster events.

PHASING CONSIDERATIONS

Alongside each design concept and recommendation in this document, RIP City Planning provides a prioritization matrix that assesses the potential impact, community interest, and timeframe associated with the action. To maximize the effectiveness of this vision plan, those at DRRAG and EPCC responsible for implementing elements of this Vision Plan should consider the following guidelines:

- **Accomplish Quick Wins First:** Begin with those actions which are achievable in a short timeframe, and which will achieve medium to high impact for increasing resilience. These are marked by gold stars in our plan.
- **Pursue Community Favorites:** Actions for which the community showed a high level of interest should be given priority consideration, even if they are longer term, or more difficult projects.
- **Explore Aspirational Goals:** This plan includes some actions that could have a high impact, but would likely present budget challenges. The feasibility of these actions should be explored through more community engagement, and research to identify paths forward.
- **Nurture and Sustain Relationships:** The RIP City Planning team began conversations with a diverse range of community members and CBOs. It is crucial that these important stakeholder groups be kept in the loop regarding the future of this Resilient Island Project.

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APPENDIX A: RESILIENCE HUB LITERATIVE REVIEW

How Do You Make A Resilience Hub?

In the Urban Sustainability Directors Network's (2019) practical materials they identify five key areas of resilience that are integral in hubs that we considered throughout the engagement and research processes in our project – these concepts include:

- **Programming:** Offering additional services and programs that build relationships, promote community preparedness, and improve residents' health and well-being.
- **Structure:** Strengthening facility resilience to ensure that it meets operational goals in all conditions.
- **Operations:** Ensuring personnel and processes are in place to operate the facility in all three modes (i.e., normal, disruption, recovery)
- **Power:** Ensuring reliable backup power to the facility during a hazard while also improving the cost-effectiveness and sustainability of operations in all three operating modes.
- **Communications:** Ensuring the ability to communicate within and outside the service area year-around and especially during disruptions and throughout recovery (Urban Sustainability Directors Network, 2019).

Another document by the same organization (USDN) complements the more conceptual material discussed above. The “Guide to Developing Resilience Hubs” gets further into the specific considerations for cultivating a hub, including:

- **Site Size and Capacity:** Identify organizations with facilities that are large enough to handle both daily programming needs and a surge of activity in the event of a disruption.
- **Transportation and Access:** Identify facilities that are central enough to be accessed by a large number of residents on foot. Community members and CBOs will identify the service area for the Hub which will, in turn, generate the estimated number of residents who will access the site on foot. Ideal facilities are located close to an evacuation route or major road in order to increase accessibility for aid deliveries during and after a disruption.

APPENDIX A: RESILIENCE HUB LITERATIVE REVIEW

- **Good Building Condition:** Ideally, for both fiscal and operations purposes, prioritize facilities that will not require significant investment in upgrades, or sites with planned upgrades that could be leveraged to accommodate Hub needs, over sites that require significant retrofits such as a new roof or electrical system.
- **Resilience Capacity:** Prioritize sites where the people who work daily under normal operating conditions are empowered and motivated to work in their resilience capacities. Although Resilience Hubs shift operational priorities during and after disruption, they still require ongoing efforts around preparedness and capacity-building.
- **Financial & Risk Management:** Facilities must have the financial resources to sustain operations in all three modes. This includes not only appropriate risk management tools, but also secure sources of operational funds and sound financial management practices.
- **Multiple Options:** Consider multiple facilities in each Service Area to ensure that a feasible site will be identified. Not all sites prove feasible and often deficiencies do not show up until long into the development process (Urban Sustainability Directors Network, 2019).

The USDN further elaborates on typologies of resilience hubs based on the way that individual sites activate their resources and organize their social infrastructure. They categorize them into base, optimal, and ideal hubs with the following definitions:

- **Base:** These are sites that meet the minimum criteria for being a Resilience Hub including strong community support and leadership, a site that is well-trusted, a building or set of buildings, resilient energy systems, resilient communications systems, and base programming and services that have been identified by the community.
- **Optimal:** Optimal Resilience Hubs meet all the minimum criteria set for the Base Hub but will also incorporate a range of expanded services and resilience-enhancing retrofits. Optimal Hub criteria should be co-developed with the community and will often include items like water capture and filtration on site, air filtration, solar with battery backup, and community gardens.
- **Ideal:** Ideally Resilience Hubs will have (and meet) ambitious goals that provide community benefits year-round. The criteria for ideal Hubs should be co-developed with community members and partners and can include ambitious goals such as having greywater reuse onsite, biophilic design standards, net-zero energy, or having community solar benefits for the surrounding community (Urban Sustainability Directors Network, 2019).

APPENDIX A: RESILIENCE HUB LITERATIVE REVIEW

RESILIENCE HUB CASE STUDIES: BALTIMORE, MD

REGIONAL HAZARDS	<p>Extreme heat; extreme weather/storms; hurricanes/tornadoes; flooding.</p>
SUMMARY & HISTORY	<p>The idea of resilience hubs in Baltimore took off in 2014 when Kristin Baja worked at the city's Office of Sustainability. At the time, it was one of the only plans in the entire country. The Community Resilience Hub (CRH) program is a partnership between service-based community organizations in Baltimore's most climate-vulnerable neighborhoods and the Office of Sustainability (BoS), Office of Emergency Management (OEM), and Department of Health (BCHD).</p>
RESILIENCE STRATEGIES	<p>CRHs receive grant-funded support from Baltimore in many forms: emergency preparedness supplies, energy efficiency structural upgrades, back-up power capabilities (rooftop solar + battery storage), emergency preparedness/response training, connections to grants, and other types of focused support from BoS, OEM, and BCHD. Hub leaders wanted to learn how to better handle extreme heat, snow conditions, and floods. Through grants, the consultant was invited to lead a workshop in October where hub leaders came up with emergency management plans and were trained in jargon used by emergency management officials during disasters because that's who the hubs will be communicating with.</p>
CHALLENGES	<p>Community leaders have different concerns depending on their neighborhood's needs, such as security and funding, and questions about capacity during potential disasters. Kristin Baja and other CRH members went to communities that deal with systemic racism rooted in historical policies of segregation and spoke with residents there rather than expecting them to come to meetings downtown, which she says community members described as being "incredibly intimidating" and difficult for some people to get to.</p>
INNOVATIVE TAKEAWAYS	<p>Hub leaders developed emergency management plans and were trained in jargon used by emergency management officials during disasters because that's who the hubs will be communicating with should an emergency occur. Partnerships with professionals to speak to residents about banking and finances... wills and estate planning. Children can learn sign language and take ESOL classes. Adults can earn their GED.</p>
EQUITY	<p>The program's main goal is to build capacity and connect community organizations with targeted support before disasters happen, which in turn helps to strengthen emergency response and recovery in neighborhoods with limited resources and vulnerable residents.</p>

APPENDIX A: RESILIENCE HUB LITERATIVE REVIEW

RESILIENCE HUB CASE STUDIES: AUSTIN, TX

REGIONAL HAZARDS	Flooding, wildfires, heatwaves, and power outages.
SUMMARY & HISTORY	There is no single ethnic or demographic group that makes up a majority of the city's population (Sandoval, 2019). Despite being very diverse economically, it is the most segregated metropolitan area in the US based on education income and occupation (Sandoval, 2019). What makes Austin so unique is that the city owns its own electric utility, which allows the city council to have more control over energy planning decisions (Sandoval, 2019).
RESILIENCE STRATEGIES	Create a network of resilience hubs across the city. Each hub will contain a microgrid. Community outreach to educate people about emergency response plans and how to create one for their household. Help people identify where hubs are located and the service area of each hub. They also communicate resilience hub functions in each community. Such as warming and cooling shelters, food banks, and community center programs and events.
CHALLENGES	The vulnerability of the electric grid points to the importance of creating self-sufficient microgrids. Also, "Resilience hubs also have an important function in the community during non-crisis times to educate and engage community members on climate preparedness best practices, sustainable job training and workshops, and emergency response protocols. Resilience hubs are opportunity spaces to involve local residents in citywide and regional climate planning efforts. Resilient infrastructure in the form of resilience hubs is the foundation and support of social resilience"(pg. 8).
INNOVATIVE TAKEAWAYS	One key section of the paper was identifying the importance of resilient hubs and what are the characteristics of fully operational resilience hubs. One element of the resilient hubs was creating self-sufficient microgrids. The alternative funding mechanisms provided multiple examples to incentivize people as well as new policies.
EQUITY	This program intentionally prioritizes neighborhoods facing high social-economic barriers as locations for resilient hubs.

APPENDIX A: RESILIENCE HUB LITERATIVE REVIEW

RESILIENCE HUB CASE STUDIES: ATLANTA, GA

<p>REGIONAL HAZARDS</p>	<p>Extreme heat and power outages.</p>
<p>SUMMARY & HISTORY</p>	<p>The Breaking Barriers project has been recently designed to promote energy and sustainability innovations while providing electricity resilience to four Historically Black Colleges and Universities within West Atlanta, Georgia. The surrounding community has been energy-burdened and experiences blackouts and high heat days with little to no surrounding cooling shelters. With visioning efforts having begun in 2019, this project is designed to "...construct innovative urban energy resilience hubs integrating microgrid technology, solar generation, and energy storage in these West Atlanta colleges and communities. These hubs will help Atlanta HBCUs and the energy-burdened broader community become resilient, inform new course curricula at Atlanta University Center campuses, and inspire similar efforts at other HBCUs and beyond" Report. Construction for this project is expected to finish in 2023.</p>
<p>RESILIENCE STRATEGIES</p>	<p>Create a network of resilience hubs across the city. Each hub will contain a microgrid. Community outreach to educate people about emergency response plans and how to create one for their household. Help people identify where hubs are located and the service area of each hub. They also communicate resilience hub functions in each community. Such as warming and cooling shelters, food banks, and community center programs and events. Community visioning involved community members choosing what they most needed in the time of a power outage, and arranging these needs in order from a 'critical load' services list provided for them. From this community members defined that they most needed temporary shelter, heating/cooling, charging for phones and other devices, access to drinking water and bathrooms, storage for medicine and baby food, and food services (pg 8).</p> <ul style="list-style-type: none"> • <i>Community Resilience Center Implementation plan:</i> The implementation plan consisted of estimating costs for solar installation and battery storage on a site. This process also involved fundraising plans, with each prospective center also doing fundraising work. A commitment to make sure that staff were located close to the different centers in order to open and close them in the time of an outage was also provided. • <i>Microgrid design and business plan:</i> The microgrid element of this project had to be designed to be separate from the electric grid, to function when outages occur. The microgrid then works to support the hub until the electric grid is restored. Two months were taken to identify potential solar locations within the Atlanta University Center (AUC), areas were picked after examining ownership and master planning considerations. During this process, they had also identified the nature and size of existing loads across the AUC that would be connected to backup power through the microgrid during outage operations. From these assessments, the Manley College Center was chosen due to its geographic location and current community services. After this location was chosen the site was then involved in a modeling exercise to extrapolate the building's electrical load. From there, an estimated load profile for the year for that location was then created. When thinking about the complex functions of the center and microgrid, the team created a 'decision tree' to help facilitate the decision-making process as well as a proposed map that showed microgrid connections and layout. The tree and the map are seen below.

APPENDIX A: RESILIENCE HUB LITERATIVE REVIEW

RESILIENCE HUB CASE STUDIES: ATLANTA, GA

RESILIENCE STRATEGIES (CONT.)	<ul style="list-style-type: none">• <i>Microgrid processes and implementation plan:</i> Within this process, the team also created a scheduled table that summarized elements and implementation as well as identified those who were responsible and accountable or needed to be informed or consulted during each step of the process. This part of the process also established funding, engineering, site control, ownership agreements, and operation protocol planning. The team also created a separate document outlining the business plan, this included details of the projects, design considerations, and costs and benefits.• <i>Resilience center/microgrid-related curriculum development:</i> Lastly, curriculum development was created to connect students and faculty to provide educational services and innovations to the microgrid.
INNOVATIVE TAKEAWAYS	<p>This team provided great community visioning opportunities within this project. By providing a list of critical load services and having the community pick the services most needed, the team allowed for identification of services specific to that community.</p> <p>Designing fliers and education videos about resilience features of the hub created better informative service for the community that the hub would serve. This project outlined the importance of local partnerships to better support implementation. Partnering with local power/electric companies as well as local colleges can help to speed up innovation and access funding opportunities.</p>
EQUITY	<p>Atlanta's plan addresses equity by making sure that services are provided for low-income residents, particularly energy-burdened communities. They also worked to explain resilient energy concepts to residents who were unfamiliar, allowing for education on how the hub worked.</p>

APPENDIX A: RESILIENCE HUB LITERATIVE REVIEW

RESILIENCE HUB CASE STUDIES: HAWAI'I

<p>REGIONAL HAZARDS</p>	<p>Hurricanes, tsunamis, flash flooding, earthquakes, and wildfires.</p>
<p>SUMMARY & HISTORY</p>	<p>Vibrant Hawai'i is a long-term community visioning plan between cities, the state, and community members. This is a rather new and robust vision started by community members for community members which became a non-profit organization in 2018. Community members throughout Hawai'i have been challenged by natural disasters as well as ongoing climate change and tourism. Over 30 community leaders engaged in meetings to learn what existing programs were in place to achieve cumulative impact on Hawai'i. By 2019, there were 200 members from all districts and sectors of Hawai'i committed to collective action and a common vision. There are five strategic pillars comprising this visioning plan: housing, education, economy, health & wellbeing, and resilience hubs. The vision greatly shifted during the COVID-19 pandemic, emphasizing on the importance of equitable access to information. Vibrant Hawai'i launched a Resource and Information Hub, which partnered with thousands of community members and organizations during the pandemic and invested over \$2,000,000 of CARES funding back into local communities.</p> <p>In late 2020, Vibrant Hawai'i was awarded \$1,871,100 from Hawai'i Rise Foundation and County Council members to launch a network of resilience hubs. These hubs aimed to provide equitable distance learning (21 hubs), access to food and basic supplies (14 hubs partnered with 30 local restaurants) and increase community capacity (11 hubs paying employees \$20/hr).</p>
<p>RESILIENCE STRATEGIES</p>	<p>There are three phases for resilience hubs provided with two impact reports included. Phase one focused entirely on COVID-19 disparities. Phase two emphasized economic resilience, disaster preparedness, and recovery efforts through the increase of resources and mentorships. Phase three is about formalizing networks, increasing social capacity, and investing in physical infrastructure resilience hubs throughout Hawai'i communities.</p>

APPENDIX A: RESILIENCE HUB LITERATIVE REVIEW

RESILIENCE HUB CASE STUDIES: HAWAI'I

INNOVATIVE TAKEAWAYS	<ul style="list-style-type: none">• 3-D printing (tech education)• Art programming (portraits, gardening, mural project, local film/documentary showcase)• Education<ul style="list-style-type: none">◦ Environmental: honeybee workshop, food sustainability classes, community garden training◦ Health: CPR courses to increase community awareness and help during crisis◦ Job trainings, scholarships specially certified nursing assistants◦ Microbusiness education of locally-made items by youth• Housing complex resident events• Building out a 5-acre hub (physical labor training) & a digital hub (tech training)• Uplifting younger generation businesses (11th grader with butter business sold at local markets which takes EBT/food stamps)• Food distribution: partnered with college campuses to increase volunteer base
EQUITY	<p>As part of the Vibrant Hawai'i plan, a resilience hub was located in the area with the highest rate of ALICE residents (Asset Limited, Income Constrained, Employed) and poverty on the island with explicit considerations for generational and historical trauma.</p>

APPENDIX A: RESILIENCE HUB LITERATIVE REVIEW

RESILIENCE HUB CASE STUDIES: PUERTO RICO

REGIONAL HAZARDS	<p>Earthquakes, tsunamis, wildfires, hurricanes, tropical storms, drought</p>
SUMMARY & HISTORY	<p>In fall of 2017, the Category 5 Hurricane Maria severely impacted several Caribbean islands, including Puerto Rico. In the aftermath, nonprofit and community organizations came up with a framework for developing resilient community hubs. This framework was a collaboration between Enterprise Community Partners, Relmagina Puerto Rico, Mercy Corps, ResilientSEE, Perkins and Will, and Design Ed 4 Resilience. Seven existing community centers were identified in communities throughout the island.</p>
RESILIENCE STRATEGIES	<p>To build community resilience, the guide created by this group of nonprofits includes creating a community profile and map, hosting community meetings, creating a vulnerability framework, and developing specific action plans for preparedness, evacuation, first aid, communication, access to transportation/fuel/food, power alternatives, sewer management, shelter, and aid distribution (Enterprise Community Partners et al., 2019).</p> <p>To identify and assess community centers that exemplify resilience hubs in Puerto Rico, the authors used a matrix with eight major factors (below). Four of the community centers which they refer to as “completely resilient community hubs” included all of the criteria: Daguao (in Naguabo), Gupe (in Patillas), Fe Que Transforma (in Vieques), and P.E.C.E.S. (in Humacao) (Enterprise Community Partners et al., 2019). Each one had a combination of ongoing programs during non-disaster times which functioned to build community cohesion, physical investments in resilient (and usually also green) building features, existing preparedness plans, and future plans to expand their organization’s capacity.</p>
INNOVATIVE TAKEAWAYS	<p>There were some interesting physical equipment that was either present or on the wish list for some community centers, including a pickup truck for supplies distribution, a drone to take remote images after disasters, portable solar panels to charge devices, emergency water cisterns, many community gardens, and microenterprise spaces. One particularly interesting one was GoTenna Mesh: a system that is combined with a cellular phone to create its own signal to send text messages and GPS locations without cellular or internet service. The device transmits messages in private and automatic form through other mobile devices to expand reach from one point to the other. Therefore, the bigger the network, the stronger the communication. Some interesting examples of programmatic elements: developing an artisanal product to be made at the center and distributed regionally, used clothes sales, renting land for recreational camping, health fairs, Resilience Camp during summer, and a community clinic.</p>

APPENDIX B: COMMUNITY-BASED ORGANIZATIONS

BROWN HOPE

Mission: “Brown Hope is planting and nurturing seeds for racial justice and healing. We serve and mobilize communities in order to heal our collective soil from the poisons of our past and present, so our future roots can thrive.”

Before Brown Hope was established in 2018, Portland didn't have a designated and permanent healing space for Black, Brown, and Indigenous people. They have a mutual aid program for household items and family basic needs. Originally started as a GoFundMe campaign, their Black Resilience Fund raised two million dollars within the first six months. The first wave of funding came from community members and then expanded to community partnerships, donors, grants, and other unique ways. Brown Hope obtained funding from Oregon Health Authority during the pandemic to support COVID-19-affected people with rent, groceries, and everyday challenges. Currently, they distribute \$300 per person to all Black, Brown, and Indigenous participants, but they are finding creative ways to transform from microgrants to more focused, long-term community support. They will be limiting the distribution of funds to a Universal Bank Income (UBI) for an entire year for around 200 people. To do this equitably and efficiently, Brown Hope is collecting demographic and location data. They compensate any community work with promise payments, which are generally disbursed more quickly than compensation through governmental bodies.

ROSE COMMUNITY DEVELOPMENT CORPORATION

Mission: “ROSE CDC offers neighborhood-based solutions to deeply entrenched social problems by building housing and community. We are an asset-based community development organization. This means we build on our community's existing strengths and assets.”

Rose CDC has developed over 500 affordable homes for residents in East Portland. As far as resilience efforts, one of Rose CDC's properties is a BEECN location with aims to start emergency training with local residents to assist with short- and long-term concerns. They are an on-the-ground organization, showing up at residents' doors to have a face-to-face conversation or organize ways for in-person focus groups. Rose CDC provides surveys translated into multiple languages to ensure equitable resilience efforts. They engage in direct conversations with the community they serve to determine what those communities need: “You have to make sure that the people you're building this for actually want it.”

APPENDIX B: COMMUNITY-BASED ORGANIZATIONS

GROWING GARDENS

Mission: “Growing Gardens uses the experience of growing food in schools, backyards and correctional facilities to cultivate healthy and equitable communities.”

Growing Gardens operates three main programs related to resilience. The correctional facilities programs arrange gardening space for horticultural education and job skill-building. The Youth Grow program currently operates at 12 schools– pre-K through high school– and grows healthy food for students. The Home Gardens program provides gardens and supplies to families throughout Portland, Gresham, and North Clackamas who receive EBT funds.

Resilience efforts focus on learning where to build connections for new residents in East Portland, acknowledging recent gentrification and displacement, and providing safe and belonging community spaces for gardening. Growing Gardens assists Gresham and East Portland residents in finding resources for services, aiming to create family-oriented activities. In addition, they support community-based, faith-based, and affording housing gardens for three years with seeds, tools, and workshop support.

GROW PORTLAND

Mission: “Grow Portland supports schools and communities by facilitating hands-on garden experiences that foster connections to food, nature and each other.”

Since 2010, Grow Portland has served over 10,000 students, more than half of whom are students of color, primarily from low-income schools. Grow Portland has worked with 20 schools to improve garden sites and integrate hands-on, culturally responsive environmental science education into the school day. This year, they are working with over 4,000 students each month during the school year, making scientific concepts come alive through real-world activities. Introducing students to fresh vegetables from the garden can promote healthy eating choices.

APPENDIX B: COMMUNITY-BASED ORGANIZATIONS

OUTGROWING HUNGER

Mission: “Outgrowing Hunger builds and operates community farms and gardens for refugees, immigrants, and people who care about affordable access to real food in Portland and Gresham.”

Outgrowing Hunger provides immigrant and refugee community members with green spaces throughout the City and beyond for culturally sustainable agricultural practices. Outgrowing Hunger is operated by a full-time staff member who educates users about permaculture practices. The main aim of the organization is to promote regenerative agriculture which minimizes the use of water and other inputs, such as fertilizer. This location boasts a mini-greenhouse where educational workshops are held, and provides a space for gardeners escaping extreme weather conditions.

HISTORIC PARKROSE

Mission: “Cultivating economic growth and community building through engaging with our neighbors.”

Historic Parkrose’s services range from grants and technical support for small businesses, residential assistance with COVID-19 resources, housing, and workforce navigation. Youth for Parkrose had workshops for the Parkrose Community Plan, gun violence, housing justice art projects, financial empowerment series, and an environmental stewardship series. Their Neighborhood Prosperity Initiative program, a partnership with Prosper Portland, strengthens economic resilience for neighborhood business districts through community-planned projects.

Historic Parkrose has always been a smaller organization, though they were able to obtain grant funding for emergencies during the COVID-19 pandemic, giving them the ability to hire a Rent Assistant Coordinator. The majority of Historic Parkrose’s resilience efforts focus on building trust through getting to know neighbors and connecting them to specific resources. Long-term efforts include becoming a community hub and offering services like internet, computers, food, supplies, and connection to resources.

APPENDIX B: COMMUNITY-BASED ORGANIZATIONS

IMMIGRANT AND REFUGEE COMMUNITY ORGANIZATION

Mission: “IRCO serves the holistic needs of Oregon's immigrants, refugees and mainstream community members. As a community-based organization, we empower children, youth, families and elders from around the world to build new lives and become self-sufficient by providing more than 200 culturally and linguistically specific social services.”

For IRCO, 'building resilience' includes providing services that serve the most vulnerable populations. Their goal is to provide as many resources and assistance so community members can rebound from challenges, and make them feel like they have hope or relief. IRCO primarily works with immigrants and refugees who endeavor unique struggles to overcome and prosper. During extreme weather events, IRCO employees deliver fans, bottled water, food, and clothing.

NEW AVENUES FOR YOUTH

Mission: “New Avenues for Youth is a Portland-based nonprofit organization dedicated to the prevention and intervention of youth homelessness. Our services for young people (ages 9-24) focus on the individual—their experiences, identities, needs, and goals—and helping them make positive change in their lives.”

New Avenues started small with limited resources and programs specifically for houseless youth with a drop-in center, case managers, and beyond. Over the years, they have grown extensively focusing on meeting the hierarchy of community members' needs; drop-in day services, 24/7 support services for ages 9 to 17, mentorship programs, job training/employment assistance, education support, foster care transitioning services, residential services, LGBTQIA2S+ resources, legal services, and a sufficient housing office for transition placement. New Avenues is intentional about meeting youth and their families where they are, helping them in houseless/outdoors, in transition to housing, and assisting after housing accommodations have been met. They provide basic needs to be safe outdoors (stove, medicine, foot, first aid kits, tents) and provide ways that youth can be more involved in the community.

NAfY is a member of the Alba Collective, a Latino network providing stabilization and homeless prevention services to Multnomah County youth. The nonprofit also oversees the New Day program, which “supports the safety, needs, and rights of people ages 12-25 who are experiencing sex trafficking or exploitation, trading sex, or are at risk.”

APPENDIX B: COMMUNITY-BASED ORGANIZATIONS

COMMUNITY ENERGY PROJECT

Mission: “We believe that everyone deserves a safe, healthy, efficient home, regardless of income. Community Energy Project (CEP) provides free home services focused on safety, health, and energy efficiency. We provide free community education and supplies, as well as direct home energy upgrades and repairs. All our services are made possible by partnerships with community members and service organizations, utilities, corporations, foundations, and government agencies.”

Since 1979, Community Energy Project (CEP) has held public winter weatherization workshops, which aim to empower communities by sharing techniques for conserving energy and maintaining water heaters. They provide home kits worth \$90, supplies vary from LED power strips to oil tape for their ducts, serving 500 households every season totaling to 100 workshops per year. In 2010, they launched a seed saving and swapping program and expanded into educational institutions, supporting community gardens and educational programs at over 20 schools.

CEP with community preparation during extreme heat and wildfire events. Educational opportunities primarily focused on low-income, BIPOC renters on how to navigate wildfires and emergency kit workshops. Although Portland was not faced with wildfires during the summer of 2021, folks can store kits for future use. During the pandemic, Community Energy Project ensured meeting folks where they were, distributing hundreds of fans, ventilators, and masks. They partner with Oregon Community Solar Program for low-income community members to assist in signing up, saving 25% on their energy bill. This is a one time sign-up that locks in members with no annual sign-up necessary. Their summer weatherization workshops is funded by Energy Trust and government entities. Their weekly youth gardening programming builds resilience so that participants can become advocates for their community.

APPENDIX C: HISTORICAL TIMELINE REFERENCES

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