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Strategic Plan for the Built Environment

建築環境の戰略計劃

Стратегический план по развитию
урбанизированной среды

Kế hoạch chiến lược cho môi trường xây dựng



State of Oregon
Department of Environmental Quality

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Authors' Notes

In order to allow readers to move straight into the narrative and to limit distractions in the main body of the strategic plan, we have located some important content in the appendices of this document.

The plan includes terminology across sectors and spaces that are often used disparately including materials management, environmental protection, built environment industries, and diversity, equity, and inclusion. To ensure accessibility of the document to all readers, key terms are defined in Appendix A. Within the body of the text key terms are indicated in italics and with a double underline. For example, environmental justice. This alerts readers that a term is defined in the appendix.

A number of invaluable resources influenced this plan and the planning process. These are collected in Appendix C, so readers may reference them in their own work and explorations.



Foreword

The Built Environment Strategic Plan marks an expansion and deepening of DEQ's Materials Management approach to strategic planning and builds upon the work of the built environment program over the past ten years. While the program is successfully implementing several progressive strategic plans, this plan was oriented in different ways from the beginning and emerges as a tapestry with the following threads woven throughout.

First, the plan centers equity, environmental justice and racial justice. In creating a strategic plan for the built environment, it is essential to begin by acknowledging the displacement, forced labor, disenfranchisement, and violence which has led to, and maintains, the harms and inequities of the built environment. Through this recognition we seek to acknowledge the past, while honoring the present and future visions of the people and communities who have been most impacted. Our work in the built environment is assumed to exist as inextricable to this foundation.

Second, the plan is developed as an iterative, living document that anticipates emerging issues which may not be readily seen in this moment, but will be revealed in the coming months and years. The complex, sometimes rapidly emerging situations, both global and local, demand a flexible, nimble, and adaptive approach.

Finally, this plan invites co-creation and prioritizes building relationships. Through acknowledgement that this work cannot and should not be selected or undertaken alone, this plan is written in a way to demonstrate our commitment to collaboration, cooperation, and co-creation with many partners. This was initiated from the outset with the formation of a steering committee who represented diverse expertise and lived experience. The committee shaped this framework and the beginnings of implementable projects (emerging ideas) which align with the priority areas of work and guidance identified within this plan.

We recognize that these ideas are not new or novel and that we couldn't arrive at this approach without the leadership and vision of others doing brilliant work in the built environment, strategic planning, engagement, and community building. Our commitment is that we continue to cultivate a model of permeability into our processes, inviting diverse perspectives, lived experience, and traditional ways of knowing to inform the work we do.

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The plan was shaped by the steering committee and thought-partners whose diverse voices and perspectives provided immeasurable value to the work. We gratefully acknowledge the contributions and insights provided by members of the steering committee, as well as the thought-partners who offered guidance throughout the planning process:

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This work has been greatly inspired by the frameworks, writings, and imaginings of **adrienne maree brown** ([Emergent Strategy](#))¹, **Bryan C. Lee**² ([Design Justice](#))³, and **Minal Mistry** and the DEQ Well-being Workgroup ([Enhancing Well-being](#))⁴. We hold enormous gratitude for the offerings they have shared and want to acknowledge the immense impact they have had in shaping the mission, process, and plan of DEQ's built environment program.

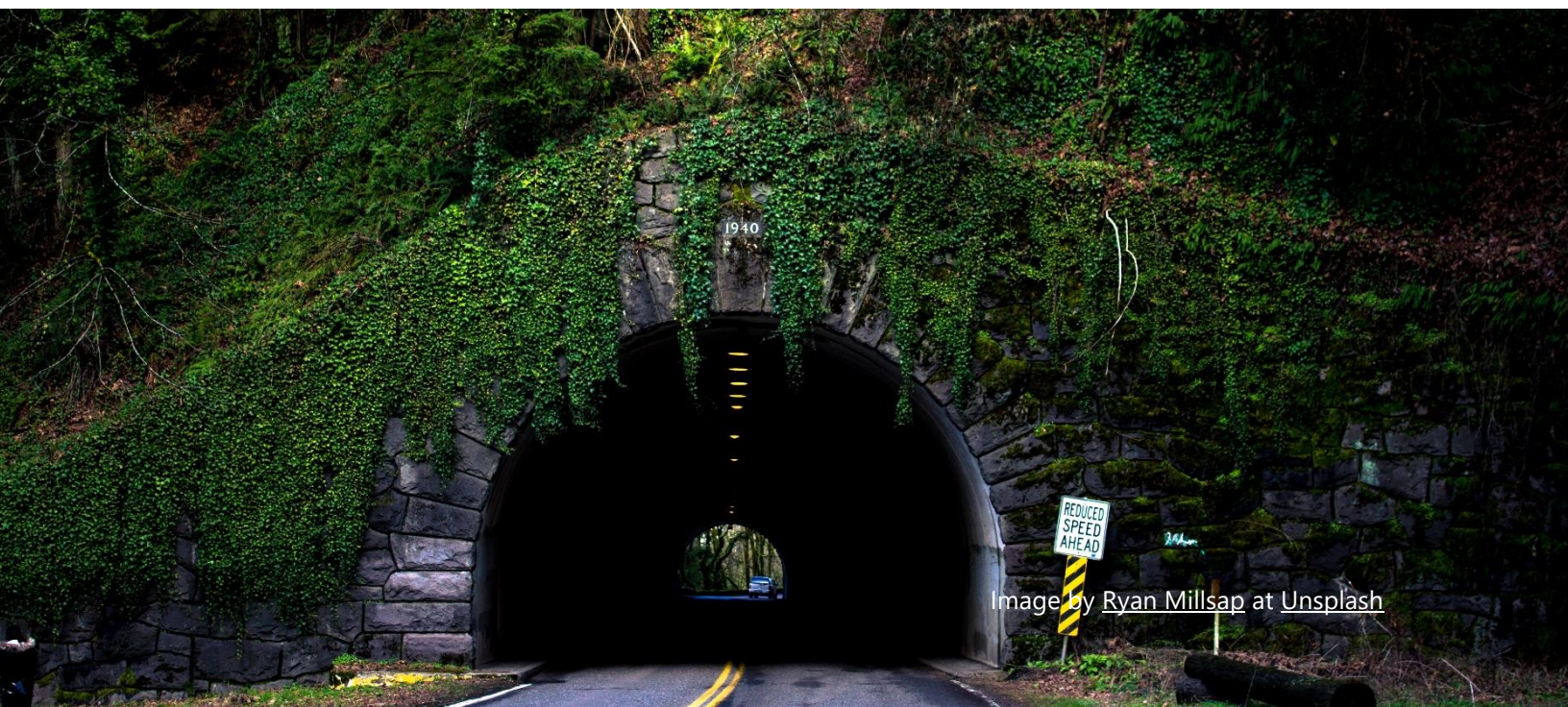


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Introduction

The built environment is a life cycle program within the [Materials Management program](#)⁵ at the Department of Environmental Quality. The work of [Materials Management](#) is guided by the [2050 Vision](#)⁶ and the [2020 Framework for Action](#).⁷ The 2050 Vision describes a future in which:

*Oregonians in 2050 produce and use materials responsibly
conserving resources • protecting the environment • enhancing well-being*

To achieve the desired outcomes in the 2050 Vision, the 2020 Framework for Action includes core values to support why we do our work, pathways for how we do our work, and priorities to determine what work we do.

The built environment was identified as a priority life cycle program in the 2020 Framework for Action, because of the significant impact it has on the natural environment, ecosystems, people, and more-than-human beings. Buildings account for 30 percent of Oregon's consumption-based greenhouse gas emissions – 8 percent due to construction materials themselves⁸. Nearly one-third of Oregon's waste stream is made up of construction and demolition waste. The built environment affects human health through exposure to toxics in materials, proximity to polluting industrial uses, indoor environmental quality and vulnerability during natural disasters.^{9,10} In addition, the built environment has played, and continues to play, a role in the structural inequities that exacerbate the burdens of the climate and health crises,^{11,12} environmental injustice¹³, and economic opportunities^{14,15} for BIPOC, low-income, rural and other frontline communities.

DEQ has a long history of working in the built environment – strengthening the state's small housing movement, supporting material reuse and deconstruction through research and grants, collaborating with the Oregon Concrete and Aggregate Producers Association to reduce the impacts of concrete mixes, and working with the City of Portland to establish Global Warming Potential (GWP) limits for City concrete procurement.

The built environment is not separate from the natural environment. Not only is it literally built on and in the land, materials and energy are harvested from the natural environment to construct and power the buildings, roads, and distribution infrastructure we rely on. It is also sometimes built to mimic the natural environment, and foster the innate human-nature connection, in the form of parks, biophilic design, and even in some water treatment systems.

The built environment also has a significant impact on the natural environment and its ecosystems throughout its life cycles including during extraction, operations, and end-of-life waste streams.

The built environment is part of a system of various flows and scales (both spatial and temporal) that are interconnected and interdependent. Flows can include energy, water, waste, people, transportation, and policies. Spatial scale can range from the elemental and chemical, to a material or product, a building, a city, or the physical and social systems that connect them all. The built environment also influences the lived experience on humans, more-than-humans, and the natural environment over time from immediate impacts like land use changes to long-term changes like generational wealth building from home ownership.

Some examples of the built environment include:

Physical: shelter, workplaces, schools, community spaces, public parks, open space
Infrastructure: roads, rail, transit, energy, water, waste, internet, paths
Social: places for gathering, worshiping, celebrating, mourning, protesting, right to root¹⁹
Economic: development, ownership, jobs
Structural systems: codes, policies, planning
Human outcomes: access, agency, impacts, burdens, adaptability, vulnerability, (in)equity

For the purposes of this plan, work, and vision, the built environment is defined as follows:

The built environment is vast, interconnected, complex, and interstitial to our lives. It is most commonly understood as the physical spaces we occupy, but it is also the physical and social infrastructures. The physical infrastructure supports physical spaces and our daily lives. The social infrastructure and systems inform and drive the material manifestation, as well as the outcomes and well-being of people, communities, the environment, ecosystems, and more-than-human beings.

Strategic planning approach

Given the complexity and vast scales of the built environment, the breadth of impacts to be addressed, and the systemic injustices that lead to more burden for some communities, especially *BIPOC*, low-income, *rural*, and other *frontline communities*, *Materials Management* needed a strategic planning approach that could hold and help decipher all of this complexity. Three frameworks were essential to this effort: [Emergent Strategy](#)¹⁷ (adrienne maree brown), [Design Justice](#)¹⁸ (Bryan C. Lee), and Enhancing [Well-being](#)¹⁹ (Minal Mistry). Together, they formed the basis for the framing of the strategic planning approach, scoping workshops, and the resulting Built Environment Strategic Plan.

Emergent Strategy is a divergence from traditional strategic planning. It asks us to collaboratively shape change by learning from the world around us. Three elements of Emergent Strategy were particularly essential in shaping the planning approach and the plan itself:

- **Fractals:** the relationship between large and small
- **Nonlinear and iterative:** the pace and pathways of change, and
- **Interdependence and decentralization:** who we are and how we share.

Fractals speak to the issue of scale, utilizing the power of many connected small actions to achieve great change. Nonlinear and iterative is an understanding that processes, and therefore opportunities for action, do not happen in a linear fashion, therefore, we must be able to operate in a flexible and adaptive way. Interdependence and decentralization is an understanding of the interconnectedness of the systems and spaces in which our work lies within the larger world. It also emphasizes the importance of relationship, community, and the decentralization of power and leadership in the work we do.

Design Justice asks designers to use the process and outcomes of design to dismantle the structures which use design to perpetuate racist and other oppressive systems. Design in this context is used in the largest sense including architecture, engineering, urban and city planning, product design, as well as design of systems, programs, and policies. Key design justice concepts that influenced this approach and plan include:

- **Awareness and intentional movement away from racist and other oppressive systems**
- **The importance of informing design and planning through storytelling in order to amplify and uplift lived experience, and**
- **Expanding access, capacity building, and agency for people and communities**

Enhancing Well-being is the third higher order goal of the 2050 Vision and an essential framing for the Built Environment Strategic Plan. A well-being framing helps focus attention on the fact that the well-being of peoples and communities lies at the intersection of the systems and flows in which they exist. Thus, this framing demonstrates that enhancing well-being often depends on **connections between seemingly disconnected activities** such as emissions of *greenhouse gases (GHGs)*, changes in global climate, resource demand, material consumption, human health, and social vulnerability. By centering **people and place in environmental protection**, we can better understand their *place-based lived experience*, the incorporation of which is essential to good governance.

Significant time during the initial planning process was dedicated to learning from and integrating these frameworks to shape the structure of the strategic planning approach as diagrammed in Figure 1. While the approach appears linear in the diagram, the circular arrows demonstrate the continuous iteration which will identify and guide the work of the built environment program moving forward. The plan serves as a consistent check for the program to ensure selected work, partnerships, and processes are aligned with the priorities and guidance established by the steering committee. It also allows for emerging ideas to be prioritized in alignment with the Built Environment Strategic Plan as they arise, rather than a static list of projects to complete which cannot adapt to changing circumstances and conditions.

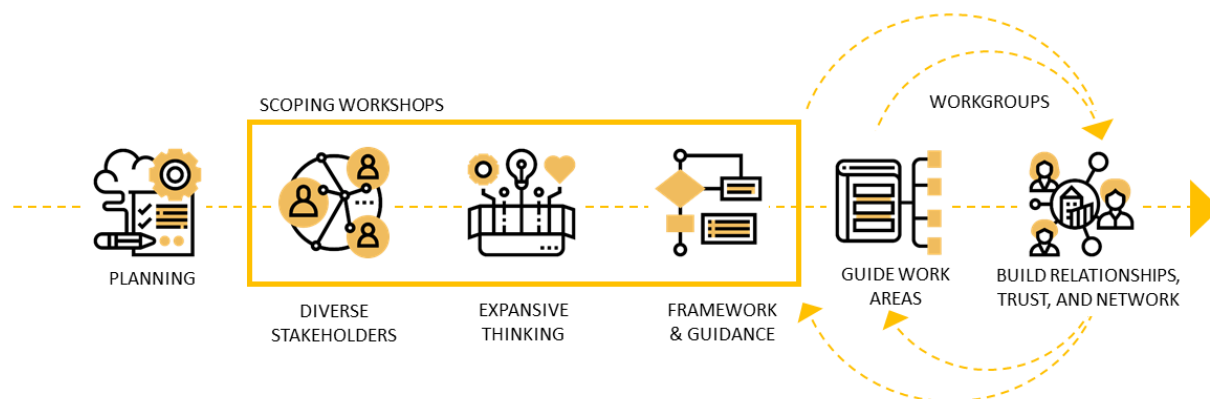


Figure 1. Strategic planning approach.²⁰

Key to doing the work that the Built Environment Strategic Plan has imagined is building relationships and trust. Historically and currently, decision-making power has been held by a few (including agencies and businesses) while the decisions being made impact all communities and disproportionately burden *BIPOC*, low-income, *rural*, and other *frontline communities*. The Built Environment Strategic Plan requires a restructuring where all communities, especially those

most impacted, are fully integrated into the processes which will affect their own communities. This strategy decentralizes power and leadership, expands access, builds capacity and agency, and lifts up lived experience to inform the process, work, and outcomes.

The scoping workshops were designed to bring a diverse group of partners to the table from day one to inform the Built Environment Strategic Plan. This was an essential step to decentralize the leadership of the work of the built environment program. Steering committee members were asked to bring their full selves to the space, lean in to think expansively about the built environment and what DEQ's work in the space should look like, and be willing to sit in the discomfort of a messy, iterative, non-linear process.

The six workshops were organized to expand and contract in scope throughout as shown in Figure 2. Workshops one and two laid the foundation, grounding the committee in the historic and current context of the built environment with a focus on centering equity and racial justice. Workshops three and four asked the committee to 'map' the built environment at multiple scales as a way to visualize the interconnected systems, processes, and flows. The goal was to identify connections, key decision-making points, and opportunities for intervention. Workshops five and six were dedicated to summarizing the conversations, takeaways, and recommendations of the committee to establish priorities and guidance which ultimately became the Built Environment Strategic Plan.

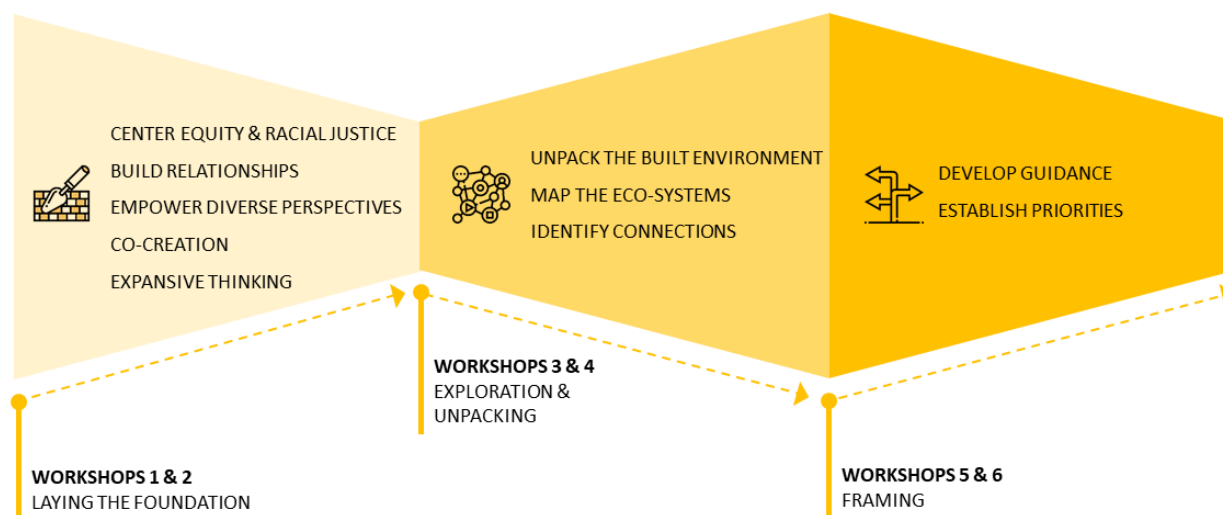


Figure 2. Scoping workshops approach.²¹

How to use this plan

This plan is intended to be a framework not only for DEQ, but for anyone working in the built environment including local governments, community-based organizations, planners, designers, builders and tradespeople, all community members, and more. This plan is fundamentally about engaging in deep listening and building cooperative partnerships which center the voices, work, and priorities of communities most burdened by the impacts of the built environment.

It is not intended to be a list of projects to be completed in a set timeframe. Instead, this plan is intended to be a blueprint for how to focus on emerging strategic directions. It informs decision making, is a guide to prioritize work, and establishes principles for how to do the work that will move the built environment, and the natural ecosystems it is embedded in, toward the 2050 Vision and well-being for all.

This plan acknowledges that addressing the issues of the built environment are larger and more complex than any one team, organization, agency, state, or country could take on alone. The interconnectedness of it all insists that we need to collaboratively work in partnership together toward a more just future for all. We do not assume that DEQ may necessarily lead the work identified. In fact, DEQ will often assume the role of partner, funder, technical advisor, or other types of supporting roles in order to bolster, catalyze, or amplify the ongoing work and emerging ideas of others which contribute toward the 2050 Vision, the mission of the built environment program, and the guidance established in this plan.

Mission of the built environment program:

Build relationships, influence policy, and support work that accelerates progress toward eliminating harmful impacts of the built environment, enhancing the well-being of people and place (both natural and human-made), and creating a more just future for all beings

Guidance

The following guidance was established by the built environment steering committee during the scoping workshops. These areas of guidance build from the Core Values, Guiding Principles, and Pathways established in the 2050 Vision and 2020 Framework for Action (see Appendix B), integrating elements of the three guiding frameworks (Emergent Strategy, Design Justice, and Enhancing Well-being), and focusing in to specifically address the built environment.

The guidance should be used to prioritize and select the work of the built environment program, establish principles for how the work is done, and to guide who is engaged in the work. **Work which DEQ leads, participates in, or supports should (and will prioritize projects which) address all six areas of guidance:**

1. Justice (environmental and racial), equity, diversity, and inclusion
2. Systems thinking
3. Capacity, relationships, and trust
4. Access and decentralized power
5. Iteration and emergence
6. Well-being

1. Justice (environmental and racial), equity, diversity, and inclusion

Justice is what love looks like in public. –Cornell West

Design justice is what love looks like in public spaces. –Bryan C. Lee



Image by [Patrick Fore](#) at [Unsplash](#)

The built environment is not neutral. The physical, social, and structural aspects and outcomes of the built environment disproportionately burdens some people and communities, especially BIPOC, low-income, rural, LGBTQIA2S+, and persons with disabilities, because the underlying systems are informed by bias, prejudice, or exclusion. The decisions (made by people in power) relating to the built environment strongly influence the well-being of people and communities over multiple generations.

Therefore, it is critical that any strategic plan for the built environment acknowledge and address the inequities that have resulted from historic and current plans, policies, and representation which exacerbate existing inequities. In doing so race and racial equity should be centered. Race is a leading determinant of multiple disproportionate outcomes and varying lived experiences, even within other identities of gender, sexuality, education, ability, age, citizenship and geography.

For example, redlining²², the discriminatory home loan practices based on color-coded zones on city maps²³, has shaped urban areas and outcomes in the United States, including in Oregon, for nearly a century. In the 1930s, redlining began as part of a government backed grading system that deemed neighborhoods whose populations were mostly people of color as undesirable

(hazardous) and, therefore, credit risks. The system limited access for people of color to loans for home purchases or improvements, disenfranchising entire communities.

Although the Civil Rights Act of 1964 and the Fair Housing Act of 1968 made discrimination based on race illegal, the physical, social, and economic patterns set by redlining remain very much visible today. A study published in 2020²⁴ found that 94 percent of 108 urban areas in the United States showed elevated land surface temperatures in formerly redlined neighborhoods compared with adjacent non-redlined neighborhoods, leaving these communities and the people within them more exposed to extreme heat. Nationally, the differential is 2.6 degrees Celsius. Portland had one of the highest temperature differences of 7 degrees Celsius.

Life expectancy gaps based just on one's zip code²⁵ reveal the human toll of disinvestment, displacement, and environmental injustice in these communities. Racist practices and policies like redlining have resulted in the location of polluting sites and industries near low income and communities of color. Analyses find that low income and people of color are disproportionately subject to harmful environmental exposures and the impacts associated with climate change. In the United States, pollution in the form of fine particulate matter exposure is disproportionately caused by the consumption of goods and services by the non-Hispanic white population (~17 percent pollution advantage) but has greater impacts for Black and Hispanic populations (56 percent and 63 percent pollution disadvantage, respectively).²⁶

Considering justice, equity, diversity, and inclusion in the context of the crises we see in the world today (racial reckoning, COVID-19, climate change, extreme weather events, mental health and more) the urgency and responsibility to address the injustices at every level (individual, interpersonal, institutional and structural) is clear and stark.

Understanding the historic and current context that has led to these disproportionate burdens underscores the importance that the people and communities most impacted by the outcomes of the decisions being made must be empowered participants in these processes. This requires a restructuring of our systems and processes in a way that supports access and capacity building, as well as shared power in decision-making and co-creation. It also means voice and agency for all in defining and enhancing individual and social well-being.

Considerations:

- Are resources, power, and opportunity being distributed equitably? Does this distribution take historic inequities for underrepresented communities into account and adjust for it?
- Are historically disenfranchised communities given a voice and influence in the creation and distribution of resources, power, and opportunity?
- How are the dominant narratives being de-centered to include the voices of BIPOC and other impacted communities?
- How are resources provided and organizational structures, programs, and policies adapted in order to dismantle dominant culture narratives, and to provide support and opportunities based on an individual's or group's needs?

2. Systems thinking



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In the context of the Built Environment Strategic Plan, we use the term systems thinking as the ability to see the whole, the parts, interrelationships and change. Understanding that the built environment in all forms (physical, social and structural) and scales is part of an interconnected web of global systems, places, people, and things is necessary to identify root causes and/or points of decision-making in order to prioritize and do the work needed to move toward a just future.

To uncover interconnected systems, impacts, and opportunities for meaningful intervention or influence (such as the influence redlining had on zoning industry near BIPOC and low-income

neighborhoods, and disinvestment in infrastructure in these neighborhoods), the work of the built environment program must move beyond pre-existing or perceived boundaries (like borders and analytical system boundaries) and scope to understand the broader system and the interrelations within.

Instead, research, dialogue and exploration should utilize a collaborative, systems thinking approach which assists in identifying connections which might not otherwise be clear. It is important to trace the life cycle, systems, and connections in order to understand impacts and burdens which may be near or far, upstream or downstream, seen or unseen. No one person or group can foresee all of the potential consequences of an action or policy which highlights the importance of ongoing collaborative partnerships. Having people with a diversity of perspectives and lived experience integrated in a process helps to illuminate historic and current contexts, identification of connections or opportunities for intervention, and to assist in ongoing monitoring to recognize patterns or shifts.

Considerations:

- Who and what is being disproportionately impacted throughout the entire life cycle, both directly and indirectly? What are the impacts? Is there an opportunity for mutually beneficial outcomes?
- Which policies or systems are in place which are causing or contributing to inequitable benefits and burdens?
- Where in the life cycle are decisions being made?
- Where are there opportunities for intervention?
- How are the most impacted communities practicing systems thinking? How can the project learn from and follow communities' lead?
- How is capacity building for systems thinking and life cycle assessment (LCA) awareness being supported?
- How is the project supporting greater stewardship in the built environment?
- How will analysis and decision making be handled when tradeoffs exist?

3. Capacity, relationships, and trust



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Building relationships and trust is essential to best serving community needs and lifting up the agency of communities (both locally and globally). Government agencies have significant work to do in this area. Governmental processes have historically not been representative of communities, especially communities most impacted by the decisions being made, and have been transactional or even exploitative, extracting information without compensation, follow up, or accountability. A significant shift in traditional engagement processes is necessary to build (or rebuild) relationships and trust with people and communities.

Fundamental to the work envisioned in this plan is to begin with deep listening through authentic and open engagement. Agencies and other entities holding decision-making power are responsible to ensure more people have access to, and are heard and empowered in the decision-making processes, particularly the most impacted people and communities. The process needs to evolve from one-off or irregular engagements to building and fostering relationships through ongoing dialogue, demonstrated action, and accountability.

Empowering more people to engage in the work includes building capacity. The needs of different people and communities will vary. Some examples include access to data and information in multiple formats, timing of engagements, and providing services such as transit fare or childcare. It is necessary to ask each community what is needed to help them fully engage and identify ways to meet their stated needs.

Considerations:

- How is community strengthened or supported?
- How are community-centered decisions made?
- Who is being invested in? How are people being compensated for their time and labor?
- How are agencies and/or those holding power being held accountable?
- How do communities want to build trust with agencies?
- How are agencies learning from and supporting community-driven leadership?
- Which communities are not currently being reached (e.g., BIPOC, students, houseless, migrant workers, elders, undocumented people, etc.)? What is being done to engage these communities?

4. Access and decentralized power

Civilization is to groups what intelligence is to individuals. It is a means of combining the intelligence of many to achieve ongoing group adaptation. –Octavia E. Butler



Image by [Jonne Huotari](#) at [Unsplash](#)

There are barriers that have limited opportunities for many people and communities to influence or take part in the decision-making that shapes the built environment, and therefore, their outcomes, agency, and lived experience. Developing greater awareness of these existing

limitations and taking intentional action to eliminate barriers is critical to expanding access. Access includes information, resources, inclusion, decision-making power, influence, and more.

A necessary part of the work envisioned in this plan is to engage with communities to understand the barriers they are facing and determine pathways to assist in increasing access and agency. This engagement should follow the guidance provided in the previous section, Capacity, Relationships, and Trust. Additionally, regular communication of information, processes, and opportunities for participation are critical. How communication is provided and shared is also important. Materials should be written in plain language, provided in multiple languages, and shared through culturally-specific media and trusted community members or partners.

Decentralizing and sharing power is essential to creating an inclusive decision-making process. As described in the Design Justice framework it is the movement from status quo to liberation, including the following steps: injustice, status quo, equality, equity, justice, and liberation. It includes the movement from acknowledgement to repair, and from fairness, to removing barriers, to influence. It embeds transparency, and expands and diversifies the knowledge, priorities, and lived experience which inform and transform the work. Partners, at every phase of the process, should represent a diversity of experience, expertise, backgrounds and identities. In particular, partners, people and communities who are most impacted by the area of work or decisions being made should be prioritized.

Considerations:

- How is access to participation, co-creation, and decision-making prioritized for those most impacted?
- What processes are needed to ensure meaningful and equitable participation for impacted communities?
- What does equitable compensation look like? What work has been done with communities to identify needed resources and compensation?
- What processes can be embedded to support collaboration?
- How is transparency being created?
- What power dynamics exist? What is being done to correct for any imbalance in order to decentralize power and share leadership?
- What type of participation do communities want to have? How has that informed the process and structure of the work?

5. Iteration and emergence

In a non-linear process, everything is a part of the learning. –adrienne maree brown

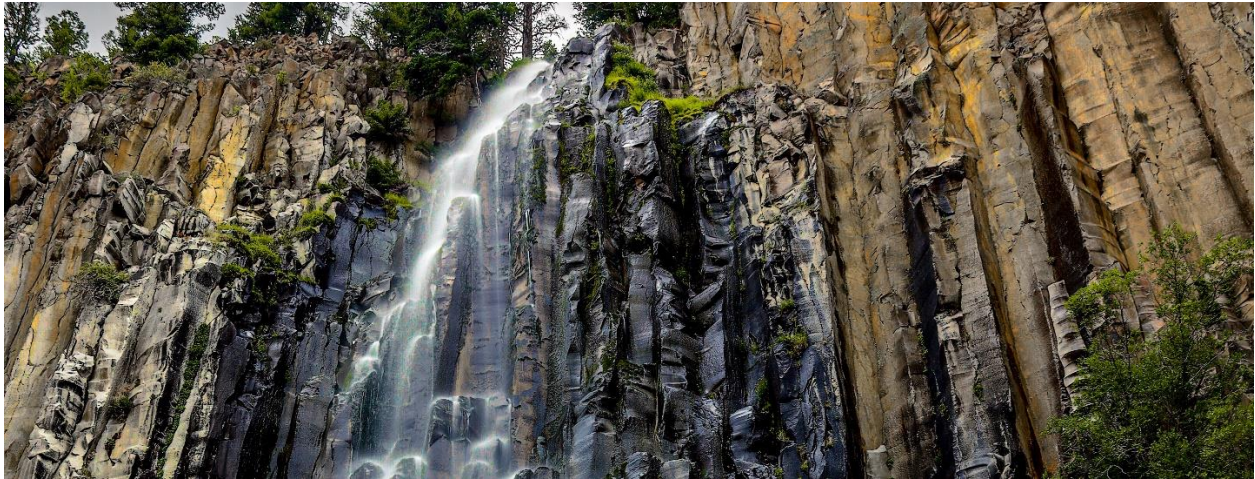


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The world and circumstances are ever-changing and non-linear. Therefore, it is essential that the work of the built environment and the process of doing that work be nimble, adaptable, and iterative. There is an urgency in this work, but it is important not to confuse urgency with speed.

Emergence requires building in and protecting time in order to build relationships and trust, make space for deeper conversation, and open up to new perspectives, needs, and ways of doing things. This requires time and a willingness to learn and experiment rather than relying on a preconceived idea of timeline, direction, analysis, completion, or success.

Considerations:

- Does the project schedule and work plan incorporate time for meaningful engagement?
- Is the project engaging a diverse group of people and communities, especially those who are or might be (future generations) most impacted?
- Is there flexibility (in schedule, scope, goals) for the project to adapt as necessary?
- Does the project respond to current conditions or needs?
- Can the project be a model for others?
- Is the project development moving at the speed of trust, and is the pace being dictated by community?
- How does the project identify unintended consequences, adapt, and incorporate lessons learned?

6. Well-being

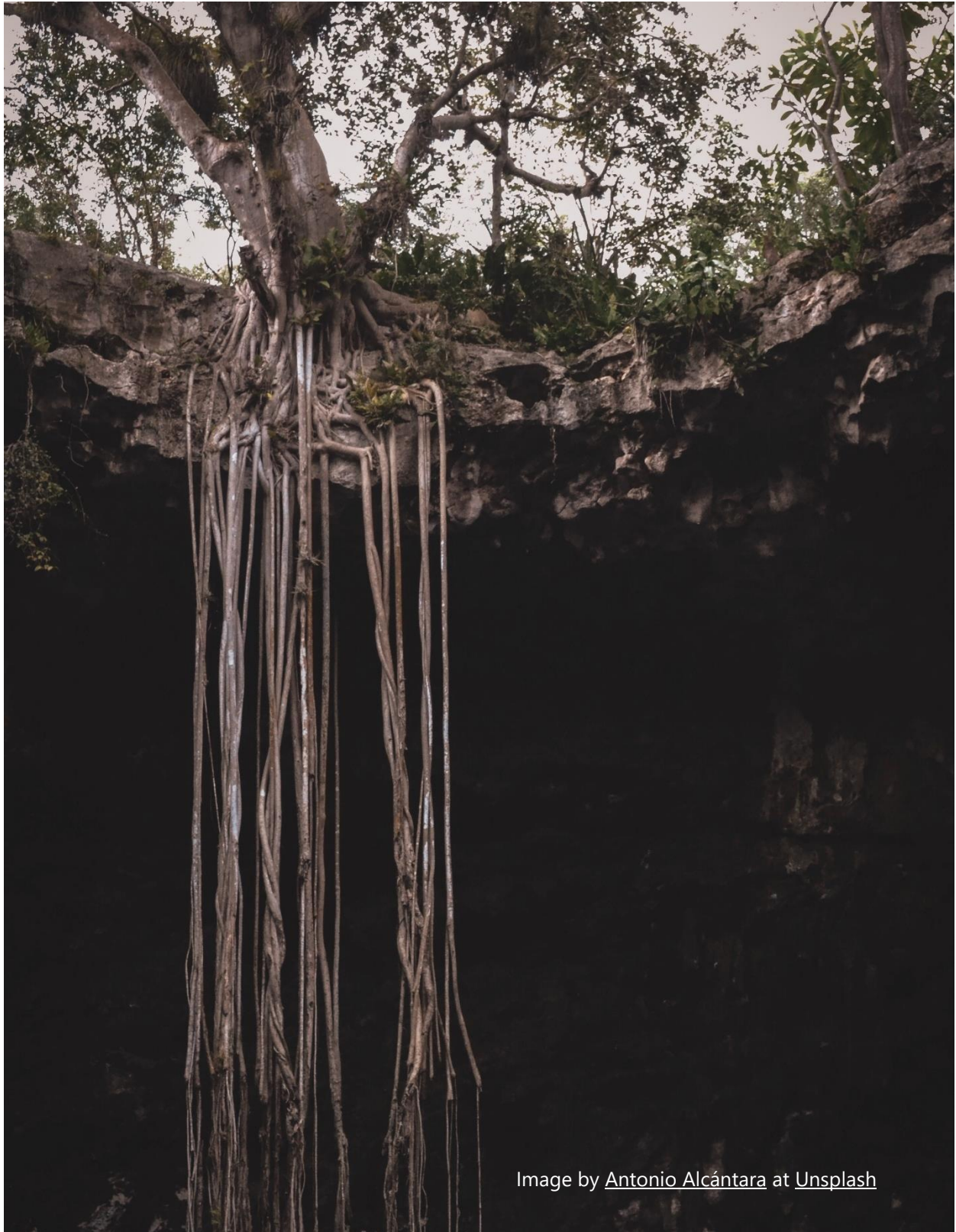


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We must ask the ethical question, 'What is our obligation to the people in the supply networks whose places are affected to prop up our well-being?' –Minal Mistry

The dimensions of well-being that are intertwined with materials are many including environmental, societal and cultural, occupational, spiritual and psychic, and physical. A well-being framing offers a way to understand the impacts of the built environment in terms of effects on people and places, taking relevant measurements from the abstract into actual experience and outcomes. Built environment happens at multiple temporal and spatial scales which affects people's quality of life. For example, the manufacture of a low-carbon material may still expel toxic substances into the air, water, and land impacting frontline communities who live near the point of manufacture. In addition, resources used to produce the material may be harmfully extracted from other parts of the world impacting the environment and well-being of the communities, both human and more-than-human, that reside in these far away locations.

Bringing the well-being of people and places to the center of the conversation of environmental stewardship creates a framing that reveals the complex connections between a person, their immediate and broader community, the global society and the living Earth. It further allows us to understand the influences of the material life cycle on the place-based lived experience of different people with varied backgrounds, communities and the natural world.

Considerations:

- Does this project center the well-being of people and places? How are voices which have been marginalized amplified and uplifted?
- Are the impacts and tradeoffs to communities, from local to global, considered?
- Is who, what, and where being included in the scope of the project?
- What dimensions of well-being are included (physical, spiritual, occupational, societal, cultural, environmental)?
- Does the project address dignity, agency, inclusion, belonging, and voice?
- How are stewardship and responsibility considered?
- How might typical evaluation criteria (cost, aesthetics, performance) be utilized in service to well-being for people and places? What new criteria are necessary?
- How does the project benefit the well-being of communities? How were communities involved in determining what well-being means for them?

Priority Areas of Work

The steering committee identified several work areas as high impact, high priority. These work areas do not constitute a list of specific projects or actions that DEQ should complete. Instead they represent broader areas of impact which should be prioritized in the work selected and supported by the built environment program. The identified work areas are in addition to the required work of the program as established in statute and executive order. **In addition to addressing all six areas of guidance as discussed in the previous section, work prioritized by DEQ should fall within one or more of the identified priority areas of work:**

- Building relationships and capacity
- Climate and *resilience*
- Design justice and stewardship
- Housing
- Infrastructure

The priority areas of work align with the mission of the built environment program and support movement toward achieving the desired outcomes of the 2050 Vision including:

- Well-being is enhanced for all.
- Complete and transparent information on product contents and environmental and social life cycle impacts is readily available. Producers make products sustainably and share responsibility across the full life cycle of their products.
- Materials are not used at a rate faster than can be renewed or recovered. We live within the limits of our sustainable share of the world's natural resources.
- Stable infrastructure and markets support the highest and best use of materials at end of life. Access is equitable and health and environmental risks are eliminated.

Within each work area, we have identified a number of emerging ideas. These are not intended to be inclusive of all opportunities, to represent a project list, or to indicate specific priorities. Instead they represent potential leading, impactful projects to address a given work area. Many of the emerging ideas have been shared with DEQ by steering committee members and other partners.

Building Relationships and Capacity

Building relationships and capacity was identified as a foundational work area. While this topic is included as an area of guidance required for every project, the steering committee saw additional need for a dedicated area of work outside of project-specific work to focus on the larger context of relationship and capacity building.

Case Study: Your Street Your Voice (YSYV)

YSYV is a program offered by ELSO which introduces BIPOC youth to design as a tool for racial justice. DEQ partnered with YSYV for their fall 2021 cohort which focused on environmental and climate justice.

Prioritization of this work area acknowledges the responsibility of agencies and entities that have traditionally held decision-making power to focus on building relationships and trust. In the context of environmental protection, businesses have too often had outsized influence at the expense of impacted communities. Traditional partners have typically been those who have paid positions dedicated to participating in these processes. The built environment program must be intentional about extending access to more voices, with a particular focus on people and communities who have been and continue to be most impacted by the work being done, but are unable to

participate for any number of reasons. Critical to this work area is building capacity to empower more communities and organizations to inform, participate in, and lead this work. Opportunities to expand accessibility, capacity and outreach include:

- **Language accessibility** - providing resources and outreach in plain language, in multiple languages, and that is culturally-responsive.
- **Accessibility and capacity for participation** - broadening capacity to participate including providing compensation; involving community at early projects stages in co-creation roles; evaluating accessibility of available technology and timing of meetings or activities, and providing resources such as transit and childcare; include lived experience and traditional knowledge into the decision-making process.
- **Access to necessary information and outreach beyond traditional partners** - moving from an 'opt-in' model which requires potential partners to seek out information to an inclusive outreach and participation model which puts the onus on DEQ and other entities to make the information readily available to a wide audience.
- **Accountability** – work with community to identify what accountability looks like for each project; identify mechanisms to demonstrate accountability.

We understand that no one team, organization, or agency can do this work alone, that there are people, communities, and organizations already doing important work in this space, and that this work should be informed or led by people and communities who are most impacted. Therefore, we see an opportunity for DEQ and other entities with decision-making power to serve in a supporting role to help scale and drive the ripple effect of this work. That may be as a convener, advisor or partner, conducting research, or providing resources such as technical assistance or funding.

Emerging ideas

Conduct a listening tour. In support of building relationships, trust, understanding current barriers, and identifying ways to support, hold a dedicated listening tour around the state. Meet with community organizations, respected leaders, individuals, businesses, non-profit organizations and local governments.

Develop a grant series to support capacity building for impacted communities and organizations.

Create and provide technical assistance, guidance documents, and tools which support capacity building.

Organize a standing forum with semi-regular meetings or symposiums.

Have a standing cross-program team working on the built environment.

Have ongoing contracts with translators and interpreters.

Establish a regular mode of communication to share information in a timely and accessible way.

Work with communities to establish a feedback and accountability process.

Develop metrics to measure capacity building progress.

Incorporate lived experience and traditional knowledge into processes.

Partner with academic institutions at all levels to develop curriculum, teach, mentor and introduce students to design justice-centered work in the built environment.

Climate and Resilience

The climate crisis is evident all around us. Just in a little over a year span in 2020 and 2021 in Oregon we have seen:

- Severe wildfires which have burned over one million acres and devastated entire towns,
- Wildfire smoke that clouded the state with the worst air quality in the world,
- An ice storm which knocked out power to over 750,000 homes, and
- A once-in-a-millennium heat dome brought record temperatures up to 116 degrees Fahrenheit.

All of these events led to the loss of human and more-than-human life^{27,28,29} and the built environment is a significant contributor to the climate crisis which is driving these extreme events.

Buildings are responsible for 30 percent of Oregon's consumption-based greenhouse gas emissions – 8 percent due to construction materials themselves. Globally, these figures are 39 percent and 11 percent of total global emissions, respectively.³⁰ In addition, it is anticipated that 57 percent of total carbon emissions of global new construction between now and 2040 will be due to the embodied carbon of building materials³¹ highlighting the urgency to address the

Case Study: Concrete

Concrete is the most used substance in the world after water. Cement (concrete binder), alone, accounts for 5-8% of global greenhouse gas (GHG) emissions. DEQ has partnered with concrete producers to help them produce Environmental Product Declarations (EPDs) and the City of Portland to support their Low Carbon Concrete Initiative, the first public purchasing policy in the country to set carbon limits for concrete.

greenhouse gas (GHG) emissions impacts of materials themselves.

These numbers are substantial and warrant urgent, bold action on the part of the building industry, however they are not inclusive of the built environment in its entirety. Including the impacts of infrastructure like roads, utilities, and other services we rely on only increases the impacts, and therefore, the urgency with which we must draw down the greenhouse

gas (GHG) emissions of the built environment if we are to reach our state and global climate goals and stave off the worst impacts of climate change.

In addition to reducing the greenhouse gas (GHG) emissions which are contributing to the climate crisis, the built environment must become more resilient. Homes must be safe for people to occupy when outdoor conditions are unsafe due to extreme heat, extreme cold, or

hazardous air quality. Access to safe indoor spaces must be available to everyone. We must also be prepared to respond when a crisis does happen. For example, determining the highest and best use of charred materials and having a market available to manufacture and use these materials. Another example is understanding the hazards, even those which may not have direct human exposure when in use, which are present when materials containing toxic chemicals and substances are burned, and determining pathways to prevent these toxics from continued use.

Underlying all of this is the understanding that all of these conditions are exacerbated for BIPOC, low-income, rural, and other frontline communities. Vulnerability to the impacts of climate change for these communities are seen in health outcomes, urban heat islands and access to green infrastructure³², and economic capacity to adapt and/or rebuild.

Emerging ideas

Accelerate the uptake of **transparency** disclosures and actions to reduce embodied carbon and toxicity of materials in the built environment, such as Environment Product Declarations (EPDs), Health Product Declarations (HPDs), and others.

Promote integration of **carbon emissions disclosure and limits** in procurement contracts.

Review building codes to identify opportunities to reduce carbon impacts of building materials.

Develop technical guidance for low-embodied carbon building retrofits.

Develop manufacturing and market to utilize fire-charred trees.

Promote **maintenance and reuse** of existing building, infrastructure, and material stock.

Support and/or subsidize **resilience upgrades** to promote healthy indoor environmental quality in extreme weather conditions.

Develop technical guidance and resources to build back better with non-toxic, low-environmental impact materials.

Design Justice and Stewardship

Stewardship is an environmental management strategy in which all parties involved in the design, production, sale, and use of a product take responsibility for minimizing the product's environmental impact throughout its life cycle. Design justice expands on this to ask designers to actively engage in unlearning and challenging the structural injustices and biases which intentionally or unintentionally perpetuate disproportionate burdens for the most impacted communities. Together, design justice and stewardship can provide an accountability framework in which a producer and/or designer takes responsibility for multiple impact categories including the environmental, social, and economic impacts of their product, and actively works to change the systems and structures in, and relative to, their own processes and the associated outcomes.

In this context, the terms producer and designer refer to a person(s) or entity(ies) who make(s) decisions which inform the outcome of a product including, but not limited to, developer, architect, engineer, contractor, subcontractor, manufacturer, supplier, owner, specifier, and procurement specialist. These decisions can include material selection, form, aesthetics, operation, planning, standards, or policies. Product, in this context, is used as a broad term encompassing many scales. It refers to the final product of a process which could be a chemical, individual material, composite material, product or equipment (e.g., solar panel, cabinet, lighting), a building, a road, and so on.

Work which moves toward design justice and stewardship will require a combination of evaluation, design, and decision-making tools and processes including environmental and social life cycle assessment (LCA), and systems thinking. It will require a transition toward transparency of the processes and outcomes of design and production, and a mechanism for accountability.

Case Study: PCC Metropolitan Workforce Training Center

Guided by trauma-informed design and Design Justice principles, the new and expanded Metro Center will create education and family-wage job connection opportunities for low-income families and residents. Extensive community engagement, informed by a Critical Race Theory Spatial Lens, was central to the design process and resulted in a vision that authentically reflects the values and needs of its community. Design by Bora Architecture & Interiors and Colloqate.

Emerging ideas

Accelerate the uptake of **transparency** disclosures and certifications which require actions to reduce impacts across the life cycle of a material including environmental, social, and economic impacts, such as Environment Product Declarations (EPDs), Health Product Declarations (HPDs), and others.

Map the life cycle impacts of materials produced and consumed in Oregon.

Conduct **Social Life Cycle Assessments (sLCA)** to accompany environmental Life Cycle Assessments (LCA) and provide a more complete picture of the impacts of materials and products in the built environment.

Extended producer responsibility for producers of materials used in the built environment.

Extended producer responsibility for owners, developers, and designers of buildings and infrastructure.

Support **markets and development** of emerging low-impact, multi-benefit materials.

Provide data and resources to communities, organizations, and local governments to steward their built environments.

Advise on policy which requires transparency of impacts, responsibility for those impacts.

Participate in the **development of tools** which provide transparency of environmental and social indicators. For example, Oregon EJScreen, Embodied Carbon Construction Calculator (EC3), and MindfulMaterials.

Build capacity of producers, designers, owners, and developers to ask for and disclose impacts. **Build capacity** of producers, manufacturers, suppliers, and others throughout the supply chain to track and disclose impacts.

Support **design justice and stewardship** programs.

Acknowledge role in inequitable design and lack of stewardship structures. **Make changes to structures, processes, and programs** in order to address and correct for these inequities.

Reduce environmental and human exposure to toxics from the built environment.³³

Housing

During a series of listening sessions conducted by DEQ in 2019, almost every town reported affordable housing and houselessness as their number one concern. Oregon, like the rest of the United States, has a shortage of safe, affordable housing. According to the National Low Income Housing Coalition's Out of Reach 2021 Report,³⁴ a minimum wage worker must work nearly 80 hours per week and someone earning the average renter wage would need to work nearly 60 hours per week to afford a market rate two-bedroom rental in Oregon. With affordable housing tax credit requirements (which require units to be kept below market rate for 30 years) set to expire for a number of affordable housing buildings in the state in the coming years, availability of sufficient affordable housing units may be reduced rather than expanded³⁵ highlighting the urgent need to address supply and access of affordable housing across the state.

Safety is a concern for all types of housing. Housing located in older buildings may not meet current building code including energy, accessibility, and seismic standards. They may also contain hazardous materials such as asbestos. Even units which are located in new buildings may not be equipped to provide the indoor environmental quality necessary to keep all residents safe during extreme climate events. This is also true of hazardous materials. There are

Case Study: ILFI Affordable Housing Resources

The International Living Future Institute (ILFI) has created a number of resources for teams seeking to develop healthier, sustainable affordable housing projects including an Affordable Housing Toolkit and a Materials List for Affordable Housing.

still many chemicals of concern used in modern building materials, furniture, and equipment that are carcinogens, asthmagens, neurotoxics, developmental toxicants, and endocrine disruptors which may pose human health risks³⁶. For renters or low-income residents, these issues may be compounded due to economic or decision-making limitations to adapt their homes.

The struggle to access safe, affordable housing is amplified for people of color. The issues of gentrification and displacement facing many BIPOC people and communities today are exacerbated by a history of discriminatory lending, disinvestment, and 'urban renewal', namely the compounding impacts

caused by redlining. Racist practices and policies like redlining have also resulted in environmental injustices like the location of polluting sites and industries near low income and communities of color. 70 percent of the most contaminated sites in the United States ("Superfund" sites) are located within a mile of federally assisted housing³⁷. Significant work is necessary to address the health impacts associated with existing and new housing stock.

Emerging ideas

Provide **technical guidance** for zoning policies which support small, infill, and affordable housing.

Conduct **Social Life Cycle Assessments (sLCA)** to accompany environment Life Cycle Assessments to provide a more complete picture of the impacts of materials and products in the built environment.

Provide technical assistance and analysis for **Social Life Cycle Assessments (SLCA)** methodologies and extended producer responsibility mechanisms to evaluate environmental, social, and economic impacts of housing access, planning, and policies.

Conduct indoor environmental quality **audits** of dwelling units, including rental properties and temporary housing.

Develop a **specification guide** for clean materials and products which also address social impacts throughout the life cycle.

Provide funding and/or technical assistance to community-based, community-led housing projects.

Respond to and support **community priorities** for housing projects and initiatives.

Reduce exposure to toxics in housing.

Review building codes to identify opportunities to address current gaps in health, safety, and welfare of new and existing residential buildings.

Infrastructure

In the context of this plan, infrastructure includes physical, social, and systemic infrastructures. Physical infrastructure encompasses the distribution systems that provide transportation networks (e.g., roads, sidewalks, bridges) and supply communities with services (e.g., power, water, waste, internet, green infrastructure). Social infrastructure includes places to gather, foster community, and develop community agency and leadership capacity. Systemic infrastructures are the plans, programs, codes, and policies which inform the development of the built environment and its outcomes.

All of these forms of infrastructure are interconnected to make up the built environment, including its intersections with social and environmental outcomes. Like other aspects of the built environment, there are systemic inequities present throughout which have led to disproportionate and compounding benefits and burdens. Just a few examples present in Oregon include:

- Lack of broadband access in rural areas.
- Unpaved roads and incomplete sidewalks in lower-income neighborhoods leaves people with disabilities unable to safely traverse their communities.
- Lack of public investment in trees and other green infrastructure in formerly redlined neighborhoods leaves these communities facing heat-island effects and residents at higher risk for heat-related illness and death.
- Demolition of redlined neighborhoods in order to build roads and institutional or public buildings displacing entire BIPOC communities.
- Installation of hydro-power dams which flooded traditional cultural sites of Indigenous communities.
- Zoning codes have led to low-income communities and communities of color more likely to live near polluting businesses and exposed to environmental and health hazards.

Case Study: NAACP Centering Equity in the Sustainable Building Sector (CESBS) Initiative

The CESBS Initiative brings together organizations and individuals from the fields of environmental justice, architecture, energy, affordable housing, transportation, economic development, higher education, sustainability, and more to develop and implement a multi-faceted action plan that universalizes access to sustainable, healthy, regenerative building design for all of the places where we live, learn, work, and play.

Emerging ideas

Participate in the **development of tools** (e.g., Oregon EJScreen) which provide transparency of environmental and social indicators, as well as current gaps in equitable access to physical infrastructure (e.g. green infrastructure, broadband, continuous sidewalks and bike paths, renewable power).

Provide technical assistance and analysis for **Social Life Cycle Assessments (SLCA)** methodologies and extended producer responsibility mechanisms to evaluate environmental and social impacts of physical infrastructure projects, both historic and planned.

Advise on policy and codes in support of more equitable access, services, and outcomes.

Build capacity for community members and organizations, especially those most-impacted, to participate in policy and code processes.

Provide funding and/or technical assistance to community-based, community-led projects and priorities.

Identify opportunities for **reuse and repair of materials** used in infrastructure projects.

Build capacity to conduct Life Cycle Assessments (LCAs) of pavements and other infrastructure materials to balance short and long-term impacts.

Explore **product stewardship** opportunities for emerging infrastructure materials in electrification and energy production.

Onward

Now we move forward together in this important work. Recognizing the enormity, complexity, and diversity of the challenges we face, this work must be leaderful and DEQ's role will be to convene, initiate, support, grow, and catalyze the work of many.

The essential first step requires DEQ to focus on deep listening and building relationships. It is critical to take the necessary time to build trust and cultivate a community of partners, particularly centering the people and communities who are most burdened by the impacts of the built environment. This engagement must be focused on listening and learning – being influenced by more voices, learning what others are prioritizing and need, learning what others are already doing, identifying opportunities to support, and empowering the people and communities who are most impacted to have agency and decision-making power in their built environments. To achieve this, DEQ and other entities engaging in this work must acknowledge past and present harmful policies, programs, and processes and work with community to correct existing inequities.

Second, the work we do, how we do the work, and the role we play must be informed by what we hear and learn in the first step, the mission of the built environment program, and the guidance and priority areas of work identified within this plan. This step is critical to demonstrating how the input, priorities, and leadership of communities is informing and integrating into the work we prioritize, do, and support.

Third, repeat and continue. An emergent strategy is not static, but is living, and based in ongoing relationship and community. Like a living thing, it requires care and attention. It is essential that the relationships we build are based in regular communication and accountability. Through these ongoing relationships with a diverse group of partners, we will continue to learn and adapt, so that our work is aligned with changing circumstances.

We have not identified specific projects or a timeline for completion, so for the purposes of understanding what success looks like, we have identified the following measures:

- DEQ builds relationships, fosters partnerships, centers and amplifies the voices of impacted people, communities, and organizations.
- Strategies are developed collectively through collaboration with communities. Projects reflect the priorities and address the concerns of communities.

- Outcomes of prioritized work demonstrates progress toward:
 - The 2050 Vision
 - Eliminating the impacts of materials in the built environment
 - Enhancing well-being
 - A just world for all

These should be regularly tracked to demonstrate progress in alignment with the 2050 Vision, mission of the built environment program, and the priorities and guidance of this plan and our partners.

This work will not be easy, may be uncomfortable, and it will not be finished quickly. It certainly won't be completed by one person, team, agency, state, country, or even a generation, but will be co-created by many. It may never truly be completed. Still, if we are to move toward a vision in which we conserve resources, protect the environment, and enhance the well-being of all, centering the needs and priorities of the most impacted, it will take a diverse, leaderful community working together across scales, beyond boundaries, and toward a just future.

We hope to join, collaborate, and co-create with you in this work.

Appendices

Appendix A: Key terms

Asthmagen: A substance that can cause asthma in exposed people.

Biophilic design: Design that reconnects humans with nature. (Terrapin Bright Green)

Black, Indigenous, and People of Color (BIPOC): A term which stems from people of color (POC) to highlight the unique experiences that Indigenous and Black people have, specifically within a United States context. (Race Forward, The BIPOC Project)

Carcinogen: An agent with the capacity to cause cancer in humans. (National Human Genome Research Institute)

Consumption-based greenhouse gas emissions (CBEI) inventory: An estimation of the quantity of gases contributing to climate change that are associated with consumption (economic final demand). A consumption-based inventory is sometimes contrasted with a territorial inventory. A territorial inventory estimates the emissions that physically originate within a community (e.g. Oregon). In contrast, many of Oregon's consumption-based emissions occur in other states and countries, in the course of producing goods and services for consumption in Oregon. (Oregon DEQ)

Developmental toxicant: Agents which interfere with proper growth or health of a child acting at any point from conception to puberty. (Fred Hutchinson Cancer Research Center)

Displacement: The forced relocation of existing residents and businesses. (Planopedia)

Diversity: Honoring and including people of different backgrounds, identities, and experiences, collectively and as individuals. It emphasizes the need for sharing power and increasing representation of communities that are systemically underrepresented and under-resourced. These differences are strengths that maximize the state's competitive advantage through innovation, effectiveness, and adaptability. (State of Oregon, Diversity, Equity, and Inclusion Action Plan)

Embodied carbon: The greenhouse gas (GHG) emissions arising from the manufacturing, transportation, installation, maintenance, and disposal of building materials. (Carbon Leadership Forum)

End-of-life: The point at which a product or material is no longer useful to the person possessing it and is either discarded or abandoned. (Oregon DEQ)

Endocrine disruptor: Chemicals, both natural and man-made, which may mimic or interfere with the body's hormones (endocrine system). These chemicals are linked with developmental, reproductive, brain, immune, and other problems. (National Institute of Environmental Health Services)

Environmental Justice: Equal protection from environmental and health hazards, and meaningful participation in decisions that affect the environment in which people live, work, learn, practice spirituality, and play. EJ communities include minority and low-income communities, tribal communities, and other communities traditionally underrepresented in public process. Underrepresented communities may include those with significant populations of youth, the elderly, or those with physical or mental disabilities. (Oregon Environmental Justice Task Force)

Environmental Product Declaration (EPD): An independently verified and registered document that communicates transparent and comparable information about the life cycle impacts of a product.

Equity: Acknowledges that not all people, or all communities, are starting from the same place due to historic and current systems of oppression. Equity is the effort to provide different levels of support based on an individual's or group's needs in order to achieve fairness in outcomes. Equity actionably empowers communities most impacted by systemic oppression and

requires the redistribution of resources, power, and opportunity to those communities. (State of Oregon, Diversity, Equity, and Inclusion Action Plan)

Frontline communities: Also known as "Climate Vulnerable Communities." Those that experience "first and worst" the consequences of climate change. These are often communities of color, immigrants, rural communities, low-income communities, Tribal and indigenous people who have long been excluded from the policy and funding decisions and processes used to address climate change. (EcoTrust, APEN)

Gentrification: A process of neighborhood change that includes economic change in a historically disinvested neighborhood - by means of real estate investment and new higher-income residents moving in - as well as demographic change - not only in terms of income level, but also in terms of changes in education level or racial make-up of residents. (Urban Displacement Project)

Greenhouse Gases (GHG): Gases that trap heat in the atmosphere, especially carbon dioxide.

Health Product Declaration (HPD): HPDs provide a full disclosure of the potential chemicals of concern in products by comparing product ingredients to a set of priority "hazard" lists based on the GreenScreen for Safer Chemicals and additional lists from other government agencies.

Inclusion: A state of belonging when persons of different backgrounds, experiences, and identities are valued, integrated, and welcomed equitably as decision makers, collaborators, and colleagues. Ultimately, inclusion is the environment that organizations create to allow these differences to thrive. (State of Oregon, Diversity, Equity, and Inclusion Action Plan)

LGBTQIA2S+: Lesbian, Gay, Bisexual, Transgender, Queer and/or Questioning, Intersex, Asexual, Two-Spirit, and all other affirming ways people self-identify.

Life Cycle Assessment (LCA): A standardized process used to estimate the impact that a product or process has over the whole of its lifespan including extraction of raw materials, production, transport, use, and disposal. (Oregon DEQ)

Materials Management: An approach to reduce environmental impacts by managing materials through all stages of their life. Materials management identifies impacts and actions across the full life cycle of materials and products as they move through the economy - from raw material extraction to product design and manufacture, transport, consumption, use, reuse, recycling, and disposal. (Oregon DEQ)

More-than-human: Earthly nature including plants, animals, ecosystems, and other natural elements. (David Abrams, *The Spell of the Sensuous*)

Neurotoxicant: Substances capable of causing adverse effects in the central and peripheral nervous system, and in sense organs. (Risctox)

Place-based lived experience: Lived experience is defined as personal knowledge about the world gained through direct, first-hand involvement in everyday events rather than through representations constructed by other people. (Oxford Reference) Place-based lived experience acknowledges the important connection between people and their place and understands that place is part of the influence on lived experience.

Pollution advantage: A person(s) who breathe less air pollution than they cause. (Tessum, et al.)

Pollution disadvantage: A person(s) who breathe more air pollution than they cause. (Tessum, et al.)

Racial Equity (Racial Justice also used throughout the document): Closing the gaps so that race can no longer predict any person's success, which simultaneously improves outcomes for all. To achieve racial equity, we must transform our institutions and structures to create systems that provide the infrastructure for communities to thrive equally. This commitment requires a paradigm shift on our path to recovery through the intentional integration of racial equity in every decision. (State of Oregon, Diversity, Equity, and Inclusion Action Plan)

Resilience: The ability of a system and its component parts to anticipate, absorb, accommodate, or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration, or improvement of its essential basic structures and functions. (IPCC)

Rural communities: Any geographic area that is ten miles or more from the centroid of a population center of 40,000 people or more. An estimated 33 percent of Oregon's population lives in rural areas. (Oregon Office of Rural Health)

Sector-based Emissions: Allocated carbon emissions primarily among the local, residential, commercial, industrial, and transportation sectors according to the energy use of each sector.

Social Life Cycle Assessment (sLCA): A method that can be used to assess the social and sociological aspects of products, their actual and potential positive as well as negative impact along the life cycle. (Life Cycle Initiative)

Urban renewal: A construction program to replace or restore substandard buildings in an urban area. (Merriam-Webster)

Policies focused on improving the attractiveness and property values of specific geographic areas rather than improving the lives of their residents, resulting in widespread displacement and the dispersal of historic communities with deep social ties. (Planetizen)

Appendix B: Guiding Principles, Core Values, Pathways

The guiding principles, core values and pathways are defined in the [2050 Vision](#) and updated in the [2020 Framework for Action](#) for *Materials Management* in Oregon. They are included here for easy reference.

Materials Management Guiding Principles

Develop and implement policies and programs based on robust research

Lead when appropriate

Coordinate and collaborate with partners

Ensure that actions complement one another

Build on what's already working, such as using existing infrastructure when possible

Focus on high-impact materials and processes

Be flexible and adaptable

Continuously use the Framework for Action and update as necessary

Consider environmental and other impacts of policy options, including:

- Social *equity*
- Quality of life
- Economic viability
- Potential unintended consequences

Materials Management Core Values

Healthy environment for all. Everyone has a right to live in a healthy environment free of toxics and other environmental threats - now and in the future. We work to protect ecosystems and ensure access to ecosystem services, including clean air, water, and land, for all living things.

Dignity for all human beings. Everyone is worthy of dignity and respect. A healthy environment is important for preserving human dignity and well-being.

Social equity is an environmental issue. Improving outcomes for historically marginalized communities is an environmental imperative. When the environmental benefits and burdens of materials are more equitable distributed, only then can every material choice be a sustainable one.

Collaboration makes us stronger. We benefit from the experience, knowledge, and perspective of others. It is essential for us to cooperatively engage and share power with community members and partners across disciplines.

Research and measurement are valuable tools. We use scientific and meaningful measurements to understand where our opportunity areas are, to guide policy and program decisions, and to be accountable for decision-making.

We can move beyond business as usual. We need significant change in order to produce and use materials responsibly and that means challenging the status quo. It is important that we continuously pursue better outcomes from our economy, environment, and other systems.

We must be adaptable to succeed in the face of change. The path to realizing the 2050 Vision will contain unforeseen challenges, roadblocks and new opportunities. In order to achieve our goals, we must be prepared to adjust and adapt our approach to the unexpected.

The needs of all communities inform our work. We respect the diversity of perspectives across Oregon. We strive to understand the variety of lived experiences and make our work relevant to each community across the state.

Pathways

Foundations. Establish and achieve new goals and measurements to lead to highest environmental outcomes. Implement rules that protect and enhance environmental and human health. Scientific research and innovation will inform program decisions and policy.

Policies and regulations. Develop and implement policies and regulations that focus on managing materials through all stages of their life cycle. DEQ will lead when appropriate and support other regulating agencies to develop and implement policies that support the 2050 Vision.

Collaboration and partnerships. DEQ will engage and collaborate with a range of stakeholders and community members to explore and develop solutions to environmental challenges. We will work through established partnerships and build new partnerships with businesses, community groups, governmental and nongovernmental organizations. Implementation will be done by building on existing work and infrastructure when possible and ensuring actions complement others efforts.

Education and information. DEQ will continue to develop and share information such as research, studies, plans, and educational materials that have been developed by DEQ and by other partners.

Appendix C: Resources

The resources below were invaluable in developing this plan and informing the planning process. They are collected here so you may reference them in your own work and explorations. Additional information and resources about the case studies shared in the plan are also included.

[Communities of Color in Multnomah County: An Unsettling Profile](#), Coalition of Communities of Color

[Critical Race Theory \(CRT\) Decision Making Toolkit](#), Portland Community College

[Critical Race Theory in Planning and Design: A Case Study](#), Amara Perez

[Design as Protest](#)

[Design Justice Lecture at Columbia GSAPP](#), Bryan C. Lee Jr, Colloqate

[Emergent Strategy](#), adrienne maree brown

[Emergent Strategy](#), adrienne maree brown, For the Wild Podcast

Emergent Strategy, [All We Can Save](#), adrienne maree brown

[Housing Segregation and Redlining in America: A Short History](#), Code Switch, NPR

[Looking Back in Order to Move Forward](#): Timeline of Oregon and U.S. Racial, Immigration, and Education History, Compiled by: Elaine Rector as part of Coaching for Educational Equity (CFEE)

Mapping Inequality [Introduction](#) and [Map](#), University of Richmond and others

United Shades of America, [Power of Protest](#), W. Kamau Bell, CNN

[White Supremacy Culture](#), Tema Okun

[Why Aren't There More Black People in Oregon: A Hidden History](#), Walidah Imarisha

Case Study: Your Street Your Voice (YSYV)

[Your Street Your Voice](#)

Case Study: Concrete

[2020 Low Carbon Concrete Sidewalk Pilot](#), Carbon Leadership Forum, City of Portland, Oregon DEQ, Knife River, CalPortland

[Concrete](#), Oregon DEQ

[Low Carbon Concrete Initiative](#), City of Portland, Sustainable Procurement Initiatives

Case Study: PCC Metropolitan Workforce Training Center

[Colloqate: A Design Justice Practice](#), Bryan C. Lee Jr

[Critical Race Spatial Praxis for Planning & Design](#), Amara H. Perez

[PCC Metropolitan Workforce Training Center](#), BORA

[Portland Metropolitan Workforce Training Center – Capital Improvements](#), Portland Community College, Planning and Construction, Current Projects

Case Study: ILFI Affordable Housing Resources

[ILFI Affordable Housing Resources](#), International Living Future Institute

Case Study: NAACP Centering Equity in the Sustainable Building Sector (CESBS) Initiative

[Centering Equity in the Sustainable Building Sector](#), NAACP Environmental and Climate Justice Program

[Toolkit: Guidelines for Equitable Community Involvement in Building & Development Projects and Policies](#), NAACP CESBS

Appendix D: References

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