

Planning, governance, and feasibility in brownfield-to-housing redevelopment: a case study of
Salt Lake City

by

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Abstract

This thesis explores the processes, institutional dynamics, and planning strategies involved in redeveloping brownfields into housing in Salt Lake City, Utah. As housing demand grows and available land decreases, cities increasingly view former industrial or contaminated sites as valuable options for infill development. Although brownfields offer significant potential to boost housing supply and remediate environmental legacies, their transformation for residential use is complicated by regulatory hurdles, financial limitations, and institutional fragmentation. This research examines how these obstacles are managed in practice and highlights the key factors that affect successful brownfield-to-housing conversions.

This research uses a qualitative case study method, including semi-structured interviews with planners, developers, environmental experts, nonprofit leaders, and public officials. It also involves analyzing planning documents, policies, and redevelopment programs. The analysis uses both inductive and deductive coding to identify main themes related to redevelopment feasibility, governance, and planning strategies. By focusing on stakeholder views, the study shows how redevelopment happens through real-world decision-making, negotiations, and interactions within institutions.

Findings from this study show that while site conditions influence brownfield-to-housing projects, they are also greatly affected by the coordination of environmental, financial, and governance factors. Key institutional elements like interagency collaboration, administrative capacity, and regulatory consistency are essential for evaluating project viability. Stakeholders consistently see redevelopment as a collaborative yet complex effort that requires ongoing communication across different agencies and sectors. Programs such as Utah's Voluntary

Cleanup Program and EPA support help reduce uncertainty and liability, although they also introduce additional procedural steps that need to be managed.

The study also highlights key planning strategies that support redevelopment, including early environmental due diligence, aligning cleanup and housing finance timelines, incorporating brownfield reuse into housing policy, and employing adaptive reuse and infill development approaches. However, ongoing challenges persist, especially related to funding gaps, risk perception, and public stigma related to contaminated sites.

This research advances planning scholarship by viewing brownfield redevelopment as primarily a governance and institutional coordination issue, rather than just a technical or environmental problem. It offers policy-relevant insights for mid-sized cities aiming to increase housing supply while managing environmental concerns. Emphasizing the value of collaboration, planning capacity, and strategic alignment, the study provides a framework for more effectively promoting brownfield-to-housing redevelopment in Salt Lake City and comparable urban areas.

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Chapter 1 - Introduction

On the west side of Salt Lake City, near the airport and the former industrial zones, a former landfill has been transformed into The Other Side Village, featuring rows of small homes arranged around shared pathways and communal areas. Once considered unusable land because of environmental issues and stigma, it now provides housing for individuals who might otherwise be marginalized by the larger community. Residents gather in common spaces, walk between simple houses, and participate in programs designed to foster stability and community spirit. Although remnants of its past remain, the site now clearly functions as a residential area.

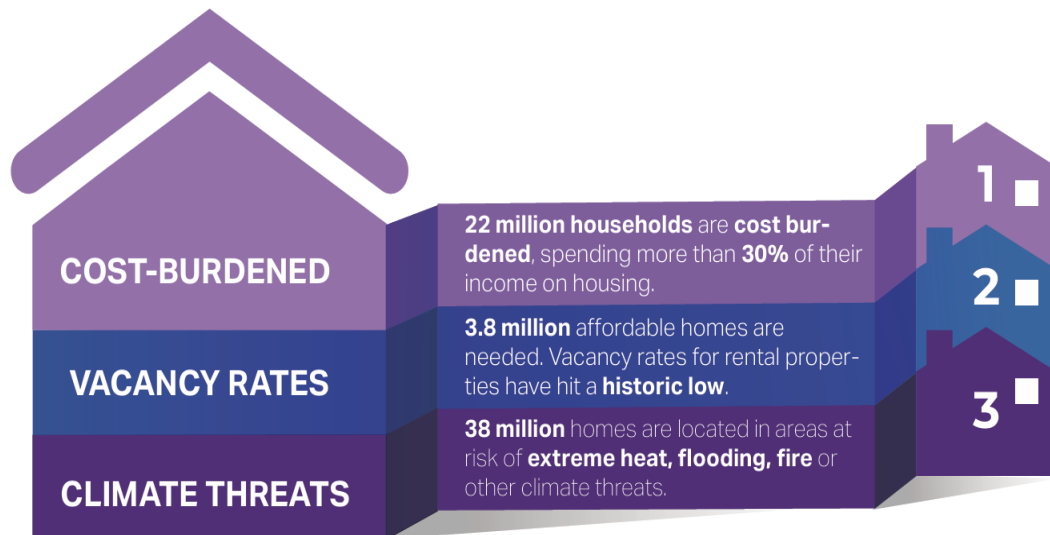
The transformation of this site was not easy. It required navigating environmental cleanup rules, obtaining state and federal approvals, securing public and private funding, and overcoming skepticism from nearby neighborhoods. The project leaders worked across institutions, coordinating with city planners, state environmental agencies, nonprofit partners, and housing advocates, to turn the vision into reality. In doing so, they faced a key challenge in brownfield redevelopment: turning land once seen as a problem into an opportunity, requires more than technical cleanup; it also involves political negotiations, institutional teamwork, and strategic planning.

The Other Side Village is not the only example of housing emerging from previously industrial or contaminated land in Salt Lake City. Throughout the city, along historic rail corridors and in former warehouse districts such as the Granary District, underused properties are increasingly being considered for residential development. As available greenfield land shrinks and housing demand rises, redevelopment is shifting inward toward sites with environmental uncertainties and regulatory challenges. These projects sit at the intersection of housing policy, environmental management, urban planning, and community engagement.

Potential of Brownfields for Housing

Salt Lake City's redevelopment is happening amid a larger national housing crisis. Throughout the U.S., increasing housing prices, stagnant wages, and limited supply have created widening gaps between income and affordability. Both major metropolitan areas and mid-sized cities have seen renters and first-time buyers struggling more to enter the market. Despite the construction of new units, most of these developments are aimed at higher-income households, leaving lower- and moderate-income residents with few affordable options. Figure 1.1 shows some of the critical factors affecting renters and homeowners in the US (Hoover, Makinizi & Lucy, Isabella, 2025; THE STATE OF THE NATION'S HOUSING 2025, 2025). These factors include that 22 million households are cost-burdened in regard to housing, there is a need for 3.8 million affordable homes, and 38 million homes are currently exposed to climate threats.

Figure 1.1 US Housing Data



Across the U.S., hundreds of thousands of brownfield sites, properties affected by real or perceived environmental issues, are scattered throughout cities. The EPA estimates as many as one million such sites nationwide. These include former industrial sites, rail yards, gas stations,

dry cleaners, warehouses, and abandoned commercial buildings. Many are located in urban areas with existing infrastructure, transit, and public services. These sites offer opportunities for infill development: redevelopment can curb suburban sprawl, reuse existing utilities, clean up environmental hazards, and help revitalize neighborhoods.

Despite their potential, transforming brownfields into housing is still relatively uncommon in the U.S. Reusing sites for residential purposes presents distinct regulatory and financial hurdles. Standards for cleanup are usually stricter for housing than for commercial or industrial use because long-term human exposure needs careful management. Concerns about liability, remediation costs, and environmental risk uncertainty can discourage private investment. There are financing options like Low-Income Housing Tax Credits (LIHTC), Tax Increment Financing (TIF), and state voluntary cleanup programs, but these often operate in fragmented systems that demand extensive coordination among different agencies and institutions.

In practice, developing housing on brownfields depends on more than just contamination levels or market demand; it also relies on governance structures and institutional capacity. Local governments need to coordinate environmental oversight with land-use planning, housing objectives, and economic priorities. Developers face the challenge of navigating multiple agencies with overlapping authority. Nonprofit organizations often act as intermediaries, securing funding and building political support. Ultimately, the success or failure of redevelopment depends heavily on how well these stakeholders collaborate and coordinate their efforts.

Salt Lake City offers a strong example for examining these dynamics. The city faces major housing affordability challenges, especially in west-side neighborhoods historically

influenced by industrial land uses and environmental issues. At the same time, Salt Lake City has built a network of institutional programs supporting brownfield redevelopment, including local planning efforts, state-level environmental cleanup programs like the Utah Voluntary Cleanup Program, and federal partnerships with organizations such as the Environmental Protection Agency and Technical Assistance to Brownfields (TAB). These overlapping institutions present both opportunities and limitations for redevelopment.

Framing the Problem

Much of the existing scholarship on brownfield redevelopment concentrates on environmental cleanup methods, property value effects, or outcomes like neighborhood revitalization and gentrification. While these areas are crucial, fewer studies explore the institutional and governance processes that influence whether redevelopment happens in the first place. Brownfield redevelopment is often viewed as a technical issue, such as removing contaminants, capping soils, or monitoring groundwater, rather than as a planning issue shaped by regulatory coordination, administrative capacity, political priorities, and community participation.

Similarly, research on housing development often emphasizes zoning reform, financing mechanisms, and housing affordability metrics without fully considering environmental land reuse. Consequently, the connection between brownfields and housing remains underexplored in planning scholarship.

This thesis addresses that gap by examining how brownfield-to-housing redevelopment unfolds in Salt Lake City through the perspectives of the stakeholders directly involved in these projects. Instead of asking only whether housing can be built on contaminated land, this research

investigates how planners, developers, environmental professionals, and nonprofit organizations navigate the institutional terrain required to make such projects possible.

The central research question guiding this study is:

What factors influence and promote the redevelopment of brownfields into housing in Salt Lake City?

To explore this question, several sub-questions are examined:

- How do stakeholders view regulatory and financial obstacles to redevelopment?
- What is the role of institutional coordination in project feasibility?
- How do federal and state assistance programs impact redevelopment capacity?
- How do brownfield-to-housing projects relate to larger goals like infill development, community involvement, and housing production?

Significance of the Study

This research contributes to planning scholarship and practice in three key ways. First, it discusses brownfield-to-housing redevelopment as an issue of governance and planning capacity, in addition to technical remediation challenges. By emphasizing institutional relationships, regulatory frameworks, and coordination among stakeholders, the study underscores the significance of planning systems in shaping redevelopment outcomes.

Second, the research offers a detailed, place-specific examination of Salt Lake City, a rapidly growing mid-sized city dealing with both housing affordability issues and an industrial environmental legacy. Much of the existing literature on brownfields concentrates on large metropolitan areas, yet many mid-sized cities face similar redevelopment challenges with fewer

institutional resources. Understanding how these cities handle redevelopment processes can provide valuable insights for planners and policymakers.

Third, the study provides policy-relevant insights for communities aiming to expand housing while managing environmental risks linked to contaminated land. As cities across the United States face rising housing costs, limited land availability, and the environmental impacts of past industrial activity, brownfield redevelopment offers a strategic way to tackle multiple issues at once.

Research Design Overview

This study uses a qualitative case study methodology to explore brownfield-to-housing redevelopment in Salt Lake City. Data were gathered through semi-structured interviews with stakeholders such as planners, developers, nonprofit leaders, environmental consultants, and government officials. These interview findings were complemented by analyzing planning documents, environmental program materials, policy reports, and project descriptions.

Interview transcripts were analyzed through an iterative qualitative process to uncover common themes such as redevelopment barriers, governance frameworks, institutional coordination, and financial mechanisms. By focusing on stakeholder viewpoints, the study highlights the real-world institutional experiences behind redevelopment initiatives, including negotiations, uncertainties, and decision-making processes that influence project results.

Organization of Chapters

The chapters that follow move from the broader problem of brownfield-to-housing redevelopment to the specific institutional and planning dynamics that it in Salt Lake City. After

introducing the research problem and methodological approach, the thesis situates the case, analyzes the institutional conditions and planning strategies that influence redevelopment, and concludes with recommendations for planning practice and future research.

Chapter 1 introduces the study by situating brownfield-to-housing redevelopment within broader housing and land-use challenges. It outlines the problem, establishes the significance of the research, presents the central research question, and provides an overview of the qualitative case study approach used in this thesis.

Chapter 2 outlines the research design and establishes the Salt Lake City case context. It details the qualitative methodology, including interview methods, document analysis, coding procedures, and limitations, while also providing an analytically focused overview of the city's historical development, housing pressures, brownfield conditions, and institutional landscape.

Chapter 3 presents the first set of thematic findings, focusing on institutional conditions that shape redevelopment feasibility. It examines how interagency coordination, governance structures, environmental review processes, and administrative capacity influence how stakeholders navigate brownfield-to-housing projects.

Chapter 4 presents the second set of thematic findings, focusing on planning strategies and implementation mechanisms. It explores the role of technical assistance programs, cleanup frameworks, financial tools, adaptive reuse, housing priorities, and community engagement in facilitating or constraining redevelopment.

Chapter 5 synthesizes the findings and presents policy and planning recommendations. It connects the empirical results to broader planning practice, addresses implications for governance and redevelopment strategies, and identifies opportunities for future research and application in similar urban contexts.

Chapter 2 - Research Design and Case Setup: Salt Lake City

This chapter outlines the research design, data collection, and the study limitations that shape the interpretation of the findings. It also introduces Salt Lake City as the city-level case, providing the context needed to interpret the thematic findings in chapters 3 and 4 and the recommendations in Chapter 5. Although this thesis treats Salt Lake City as a single case, it draws on multiple completed and in-progress brownfield-to-housing projects as embedded project-level evidence to examine how institutional conditions and planning strategies shape redevelopment feasibility and outcomes.

Research Design and Case Rationale

This study uses a qualitative case study research design focused on brownfield-to-housing redevelopment in Salt Lake City, Utah. A qualitative approach is suitable because the research aims to understand complex planning processes, institutional dynamics, and stakeholder perspectives that cannot be fully captured with quantitative methods alone. A qualitative design enables in-depth exploration of stakeholder interactions and their experiences.

The research is guided by the main question: **How can brownfield-to-housing redevelopment be promoted, and what planning strategies and institutional conditions support or hinder this process?** Instead of testing a predetermined hypothesis, the study takes an exploratory approach. It aims to identify patterns, barriers, and enabling factors across redevelopment efforts to provide practical insights for planners and policymakers.

A single-case study approach was chosen to enable a detailed, contextual analysis of redevelopment processes within one metropolitan area. Salt Lake City serves as an ideal case because of its active involvement in brownfield assessment and cleanup, its current housing

issues, and its diverse mix of public, nonprofit, and private-sector redevelopment stakeholders. Focusing on one city allows for examination of local regulatory frameworks, governance structures, and planning culture, and sets the stage for future comparative research.

In this study, the case is defined as the system of planning, governance, and redevelopment processes associated with brownfield-to-housing projects in Salt Lake City. Within this broader case, individual redevelopment projects, planning decisions, and stakeholder experiences function as embedded units of analysis. This structure allows the research to examine both the institutional context shaping redevelopment and the specific interactions among planners, developers, environmental professionals, and nonprofit organizations involved in the process.

The research design is also guided by an interpretive planning perspective, which acknowledges that planning outcomes are influenced not only by regulations and resources but also by values, narratives, and power dynamics. This approach highlights how stakeholders interpret risk, feasibility, and responsibility, and how these interpretations affect decision-making.

Case study research is particularly appropriate for this thesis because brownfield-to-housing redevelopment in Salt Lake City is hasped by interrelated planning, environmental, finanacial, and governance processes that unfold in a specific institutional context. The boundaries between redevelopment projects and the regulatory, political, and organizational systems in which they operate are not clearly separable, making case study methodology especially well-suited to this research (Yin, 2014). It is also well suited to this study as it combines multiple sources of evidence, such as interviews and document analysis, in order to generate an in-depth understanding of a bounded social process within its natural setting

(Nguyen et al., 2020; Priya, 2020). In planning research, this type of intensive case analysis can produce context-rich knowledge that contributes meaningfully to both theory development and practice, especially when the goal is to understand complex governance systems and real-world decision-making over time (Flyvbjerg, 2006).

Data Collection

I collected data for this study using two methods: semi-structured interviews and document analysis. Together, these methods make it possible to examine both how stakeholders understand brownfield-to-housing redevelopment and the policy, regulatory, and planning context shaping those perspectives. Using these two sources also supports triangulation across interview and documentary evidence, strengthening the credibility of the findings.

Interview Methods

Semi-structured interviews served as the primary data source for this study. This approach is well suited for examining complex planning processes because it allows participants to describe their experiences, interpretations, and decision-making in their own terms, while still providing enough structure to support comparison across interviews. At the same time, the format leaves room to follow unexpected but analytically important lines of discussion as they emerge.

Initial question categories were informed by the planning and brownfields literature, coursework and faculty guidance, and a preliminary review of policy documents related to brownfields and housing in Salt Lake City. These categories included regulatory processes, environmental remediation, financial feasibility, interagency coordination, and perceptions of risk and uncertainty.

I used a consistent core set of questions across interviews, while tailoring follow-up questions based on each participant's role, professional background, and involvement in redevelopment projects. For example, public-sector participants were asked about policy implementation, regulatory oversight, and program capacity, while developers and nonprofit representatives were asked about project feasibility, financing challenges, and interactions with public agencies. Follow-up questions were used throughout to clarify responses, request specific examples, and explore topics that emerged during the conversation. The list of questions is provided in the Appendix.

The initial inventory of potential case sites and interviewees was developed using a list of brownfield redevelopment projects compiled through the Technical Assistance to Brownfields (TAB) program. This list provided a starting point for identifying relevant cities and projects for investigation, as well as initial contacts associated with those developments. From this foundation, additional stakeholders were identified based on their roles in planning, remediation, financing, and development processes. Participants were selected through purposive sampling to include individuals with direct experience in brownfield redevelopment and housing development. Additional interviewees were identified through snowball sampling, a recruitment method in which initial participants recommend other relevant stakeholders within their professional networks. This approach helped capture perspectives across key stages of the redevelopment process, including environmental assessment and remediation, regulatory oversight, project financing, land-use planning, and housing development.

I conducted nine interviews between May 2025 and August 2025 using Zoom. Each interview lasted approximately 45 to 60 minutes. With participant consent, interviews were audio-recorded and transcribed verbatim using OtterAI. Conducting interviews remotely reduced

logistical barriers and allowed participants to speak from familiar professional settings, which appeared to support more detailed and candid responses. A total of 11 individual participants contributed to the study; however, fewer total interviews were conducted because, in two cases, participants joined the same interview session. These joint interviews often occurred among employees within the same organizations. Below is a table listing the interviewees with their assigned names and occupations.

Table 1 List of Interviewees

Assigned Name	Occupation
Rebecca	Office of Regional Development, Salt Lake County,
Robert	Volunteer Cleanup Program/Brownfields, Utah DEQ
Hugh	Community and Neighborhoods, Salt Lake City
Gloria	Community and Neighborhoods, Salt Lake City
Paul	Economic Development Corporation of Utah and Private Developer
Caroline	Division of Air Quality State of Utah
Claire	Salt Lake City Community Reinvestment Agency, Salt Lake City
Mary	Salt Lake City Community Reinvestment Agency, Salt Lake City
Nicole	Non-profit Developer
Charles	Non-profit Developer
Margaret	TAB Representative

Throughout the interview process, attention was given to how institutional roles shaped participant perspectives. Public officials often emphasized regulatory responsibilities and program implementation, while developers focused more on financial risk and procedural complexity. Nonprofit representatives frequently highlighted gaps in policy and equity concerns. Interviews continued until sufficient depth was reached across core themes such as remediation

processes, financial assistance, and regulatory coordination. However, coverage of community perspectives remained more limited, reflecting the study's focus on professional stakeholders.

Rather than relying solely on a strict definition of saturation, I evaluated adequacy using an information power approach, in which the depth of participant expertise, the specificity of the research question, and the consistency of emerging themes indicated that additional interviews were unlikely to substantially change the findings (Malterud et al., 2016).

Document Analysis

To support and contextualize the interview findings, I compiled and analyzed a corpus of planning, policy, and program documents alongside the interview data. Documents were selected using three criteria: (1) relevance to brownfield redevelopment, housing development, or land-use planning in Salt Lake City; (2) connection to policies, programs, or projects referenced by interviewees; and (3) availability through public records, government websites, or program documentation. The document set focuses primarily on materials produced within the past two decades, reflecting the period in which contemporary brownfield redevelopment and housing initiatives have taken shape in Salt Lake City.

Document analysis serves three related purposes in this study. First, it establishes the regulatory and policy context in which stakeholders operate, including environmental cleanup requirements, housing goals, and funding mechanisms. Second, it provides a point of comparison for interview data, allowing for identification of both alignment and tension between formal policy frameworks and stakeholder experiences. Third, documents are used to verify factual details such as program structures, timelines, and institutional roles discussed by participants.

Rather than treating documents as a separate source of analysis, I integrated them into the same coding framework used for interview transcripts. Documents were reviewed systematically

and coded using the same thematic structure, allowing them to function as complementary evidence that supports, refines, or complicates patterns identified in interviews. This approach strengthens the analysis by ensuring that findings are grounded in both practitioner perspectives and formal policy materials.

The document corpus includes municipal planning documents, housing strategies, brownfield program materials, state regulatory guidance, grant documentation, and publicly available reports related to redevelopment projects. These materials provide insight into how redevelopment goals are formally defined, how programs are structured, and how responsibilities are distributed across agencies and organizations.

Ethics and Data Management

This research was reviewed and approved by the Institutional Review Board prior to data collection. I stored interview recordings and transcripts on secure, password-protected systems and limited access to those files. All participants provided informed consent before interviews began, including consent to audio recording.

To protect confidentiality and reduce the risk of professional or reputational harm, I removed identifying information from transcripts and assigned participants pseudonyms. In some cases, project details or organizational identifiers were generalized to maintain anonymity while preserving clarity in the analysis.

Because this study focuses on professional experiences rather than personal or sensitive topics, the overall risk to participants was minimal. However, I took care to create an interview environment that encouraged open discussion while remaining attentive to the institutional constraints faced by participants, particularly those working in public-sector roles.

Data Analysis

Data analysis was carried out using an iterative qualitative coding process that integrated interview transcripts and supporting documents into a single analytical framework. The goal of the analysis was not only to identify common barriers and enabling conditions related to brownfield-to-housing redevelopment, but also to understand how different stakeholders interpret and navigate these factors within their institutional roles. As a result, the analysis focuses on both what challenges and strategies were described and how they were framed across stakeholder groups.

Analytic Approach

This study uses an inductive–deductive analytic approach. Deductive codes were informed by the literature on brownfield redevelopment, affordable housing, and planning capacity, as well as the research questions guiding the study. These included broad categories such as remediation, financing, stakeholder coordination, and community engagement. At the same time, the analysis remained open to inductive insights that emerged directly from the data, particularly when participants introduced dynamics or challenges not fully captured in the initial framework.

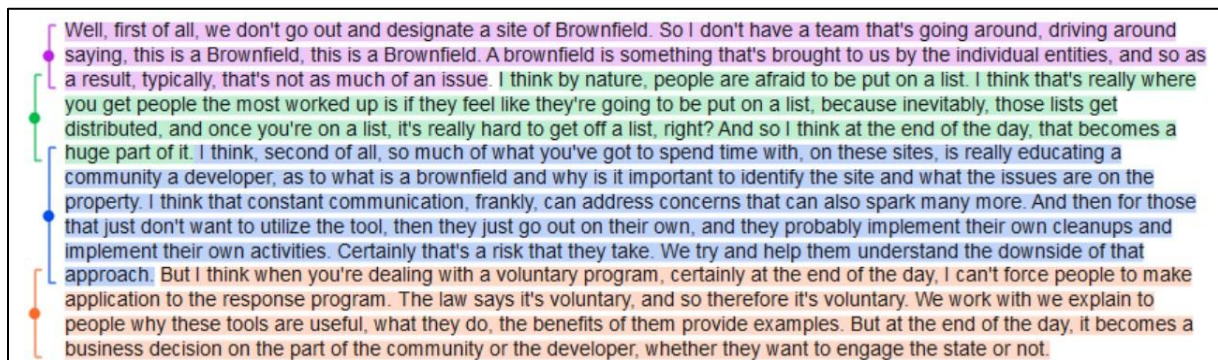
This approach allows the analysis to remain grounded in existing theory while still reflecting the complexity of stakeholder experience. Rather than forcing data into predetermined categories, codes were refined iteratively as transcripts and documents were reviewed, ensuring that analytic categories reflected patterns present in the data.

Coding Process

I uploaded all interview transcripts into Dedoose and manually coded them. Coding occurred in multiple stages. First, I used open coding to identify key concepts, phrases, and

experiences described by participants. During this stage, segments of text were labeled with descriptive codes capturing issues such as uncertainty, coordination challenges, remediation decision-making, financial risk, and institutional support. Figure 2.1 shows an example of an interview excerpt coded in Dedoose. Each color corresponds to a series of codes that are linked to the highlighted phrase. Each phrase can be linked with either a single code or multiple codes.

Figure 2.1 Coding Example



Following this initial coding, I grouped related codes into broader thematic categories through a second cycle of coding (Braun & Clarke, 2006; Saldana, 2021). This process combined deductive and inductive strategies, with some codes derived from the research question and literature, and others emerging directly from participant accounts.

For example, a quote from Margaret, a technical assistance expert, had the codes “Remediation/Liability”, “Mixed Use”, and “Planning/Zoning/Land Use” attached to it. Each of these codes was itself within a larger family of codes, such as the “Mixed Use” code within the Housing Typology family. Furthermore, each quote has descriptors which include the role, scale, and purpose. All of these factors enabled the quotes to be analyzed both individually and comparatively, allowing patterns to emerge and ultimately informing the development of broader themes.

Through this iterative process, codes were refined, merged, or reorganized to better reflect relationships across interviews and documents. Documents were coded using the same

framework, allowing them to function as supporting and contextual evidence rather than as a separate dataset.

Theme Development

After coding was complete, coded segments were reviewed to identify patterns of similarity and difference across stakeholder groups and data sources. Codes that frequently co-occurred or addressed related aspects of redevelopment were grouped into broader themes, which form the foundation of the findings presented in subsequent chapters.

Theme development focused on relationships among regulatory, financial, and institutional factors rather than treating these elements as isolated barriers. For example, regulatory requirements were often discussed in relation to financial feasibility, while environmental uncertainty and administrative complexity shaped perceptions of risk. Attending to these interconnections allowed the analysis to reflect the multidimensional nature of brownfield-to-housing redevelopment as a planning process.

Throughout this stage, attention was also given to analytically meaningful outliers, accounts that differed from dominant patterns but offered insight into alternative experiences or interpretations. Rather than excluding these perspectives, they were retained to provide context and highlight variability in the redevelopment process.

Reflexivity

My position as a planning student shaped both the questions I asked and the analytical lens I brought to the data. This perspective emphasized institutional processes, regulatory frameworks, and policy mechanisms, which in turn prioritized the perspectives of professional stakeholders over those of residents. Recognizing this orientation is important for interpreting the findings and understanding the limits of the analysis.

Trustworthiness and Rigor

Several strategies were used to strengthen the trustworthiness of the analysis. First, triangulation was achieved by comparing insights across interviews and documentary sources, allowing patterns to be validated across different forms of evidence. Second, I maintained an audit trail documenting coding decisions, revisions to the codebook, and analytic memos developed throughout the process. Third, I examined negative cases and outliers to refine interpretations and avoid overgeneralization.

Peer debriefing occurred through discussions with faculty advisors and academic peers, providing opportunities to review analytic decisions and interpretations. Member checking was not conducted, as interviews focused on professional experiences and institutional processes, and participant anonymity limited the ability to reconnect with interviewees. Instead, credibility was strengthened through triangulation and careful comparison of interview and documentary evidence.

Limitations

Like any qualitative case study, this research has several limitations that shape its scope, interpretation, and broader applicability. These limitations do not diminish the value of the study but instead define the context within which its findings should be understood.

This study uses a single-case design focused on brownfield-to-housing redevelopment in Salt Lake City. While this approach allows for a detailed, context-sensitive analysis of planning processes and institutional dynamics, it limits the ability to generalize findings across cities with different governance structures, market conditions, or regulatory environments. Brownfield redevelopment is highly context-specific, and strategies that are effective in Salt Lake City may

not translate directly to communities with fewer institutional resources or different political and economic conditions.

The study focuses primarily on professional stakeholders, including public officials, developers, nonprofit representatives, and environmental consultants. This emphasis supports the research objective of understanding institutional processes and planning capacity. However, it also limits the representation of residents and community members directly affected by redevelopment outcomes. As a result, issues such as lived experience, displacement, and neighborhood-level impacts are interpreted largely through professional perspectives rather than firsthand accounts.

The timing of data collection also shapes the findings. Brownfield-to-housing redevelopment often unfolds over long timeframes, and several projects discussed in interviews were still in progress during the study period. As a result, long-term outcomes related to affordability, neighborhood change, and project durability could not be fully assessed. Future research conducted after project completion may yield different insights into project effectiveness and impact.

My position as a planning student influenced the design, execution, and interpretation of the study. This perspective emphasized institutional processes, regulatory frameworks, and policy mechanisms, while potentially underrepresenting social and experiential dimensions of redevelopment. Although reflexive practices were used throughout the research process, this orientation shaped the analytical focus of the study.

Document availability introduces the potential for public-record bias, as the analysis relies primarily on publicly accessible plans, reports, and policy materials. These documents often reflect formal or official narratives and may not fully capture informal decision-making

processes within agencies or development teams. To address this limitation, documentary evidence was interpreted alongside interview data from practitioners directly involved in redevelopment projects.

Interview data may also be affected by recall bias or strategic self-presentation, as participants may emphasize certain experiences or interpret events through the lens of their professional roles. This limitation was addressed by including stakeholders from multiple sectors and positions, allowing perspectives to be compared across roles and helping to identify areas of agreement and divergence.

Finally, stalled or unsuccessful redevelopment projects may be underrepresented in the dataset. These projects are often less visible in public documents, and individuals involved in them may be less likely to participate in interviews. To partially address this limitation, interview questions encouraged discussion of challenges, risks, and unsuccessful projects alongside successful cases.

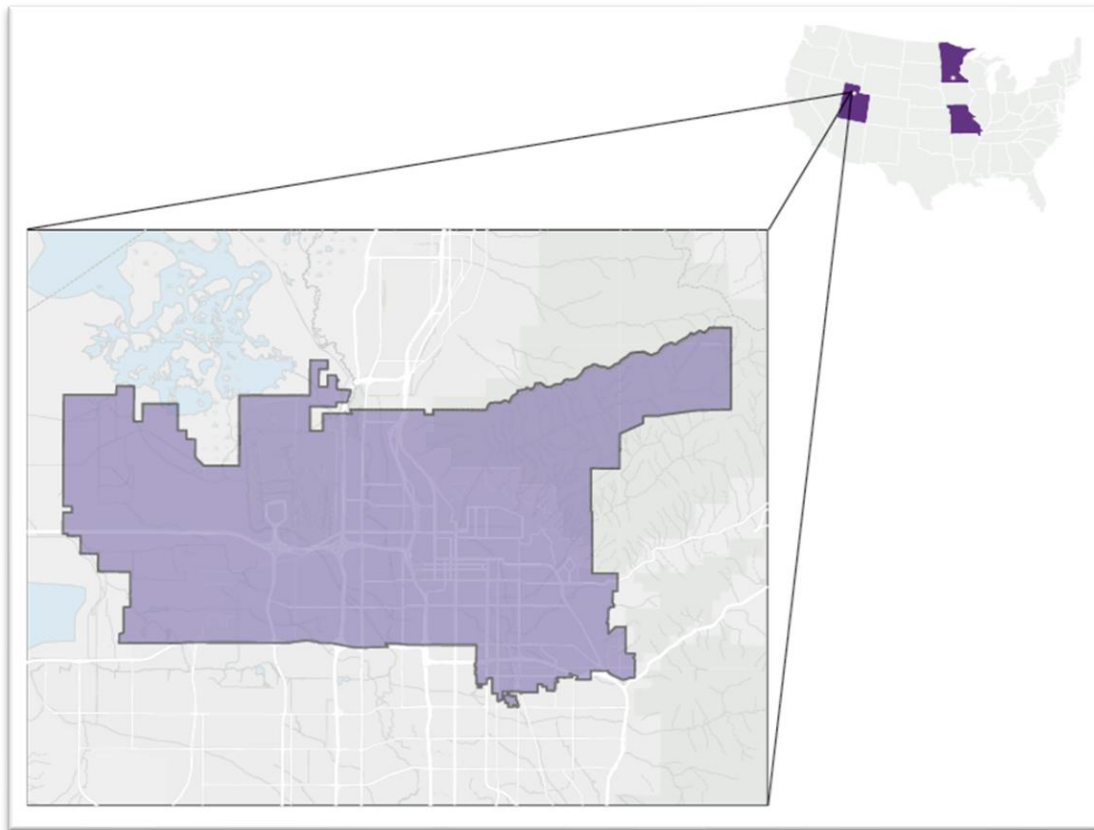
Taken together, these limitations point to opportunities for future research. Comparative studies across multiple cities, greater inclusion of resident perspectives, and longitudinal analysis of completed projects would deepen understanding of how brownfield-to-housing redevelopment operates across different planning contexts. Despite these limitations, this study provides a detailed and empirically grounded examination of the institutional and planning dynamics shaping redevelopment in Salt Lake City.

Salt Lake City Case Study

This section introduces Salt Lake City, Utah, as the empirical context for examining brownfield-to-housing redevelopment. Rather than providing a general city profile, it focuses on

the historical, demographic, and planning conditions that shape redevelopment processes and influence how stakeholders navigate them. These conditions are critical for understanding the institutional dynamics, constraints, and opportunities discussed in the following chapters.

Figure 2.2 Location of Salt Lake City in Comparison to Other Case-Studies (Rosner, 2025)



Salt Lake City provides a particularly useful case for this study due to the convergence of several factors: sustained population growth, rising housing costs, limited developable land, and a legacy of industrial and transportation-related land uses that have produced numerous brownfield sites. Together, these dynamics create both pressure and opportunity for redevelopment, particularly in centrally located areas where demand for housing is high but development is constrained by environmental conditions, regulatory requirements, and financial feasibility.

The city's governance structure further shapes how redevelopment occurs. Brownfield-to-housing projects in Salt Lake City require coordination across multiple agencies and levels of government, including local planning and redevelopment entities, county-level housing and economic development programs, and state and federal environmental regulators. As a result, redevelopment is not a linear process but one that depends on negotiation among institutions with different mandates, resources, and priorities.

The sections that follow outline key aspects of the Salt Lake City context that are most relevant to this study, including historical development patterns, demographic characteristics, housing pressures, the distribution and nature of brownfield sites, and the institutional landscape governing redevelopment. Each subsection highlights conditions that influence redevelopment feasibility and help explain the patterns identified in the findings chapters.

Historical Development of Salt Lake City

Salt Lake City's historical development helps explain the land-use patterns, institutional structures, and redevelopment conditions that shape brownfield-to-housing opportunities today. The city's transformation from a religious settlement to a regional economic center produced both the urban form and industrial legacy that underpin contemporary redevelopment challenges.

Salt Lake City is the capital and largest city of Utah, located in the Salt Lake Valley along the Wasatch Front. It functions as a regional hub for government, commerce, transportation, and culture, anchoring both Salt Lake County and the broader Salt Lake City–Murray metropolitan area. This regional role has supported sustained population growth and economic diversification, while also concentrating development pressures within the urban core (Salt Lake City, 2015).

Salt Lake City was formally established in 1847 by members of The Church of Jesus Christ of Latter-day Saints, led by Brigham Young, who implemented a planned grid system centered on Temple Square. This early planning framework emphasized wide streets and large blocks, designed to accommodate agricultural use, community organization, and future growth (McCormick, n.d.). In the late nineteenth and early twentieth centuries, Salt Lake City developed into a regional transportation and industrial center. Rail infrastructure and proximity to extractive industries supported the growth of manufacturing, warehousing, and logistics functions, particularly in areas adjacent to rail corridors and industrial zones (McCormick, n.d.). These patterns established the spatial concentration of industrial land uses that later became associated with environmental contamination and brownfield conditions.

In recent decades, Salt Lake City has undergone economic restructuring, shifting from an industrial and resource-based economy toward a more diversified economy that includes service industries, technology, and finance. As industrial uses declined or relocated, many formerly industrial properties became underutilized or vacant. These sites now represent both environmental liabilities and key opportunities for redevelopment, particularly in a city where land availability is limited and demand for centrally located housing continues to grow (McCormick, n.d.; Salt Lake City, 2015).

Taken together, these historical patterns illustrate how past land-use decisions, infrastructure investments, and economic shifts have produced the physical and institutional conditions that shape brownfield-to-housing redevelopment in Salt Lake City today.

Demographic Context and Housing Pressure

Salt Lake City's demographic profile provides critical context for understanding housing demand and redevelopment pressures. The city's population is approximately 200,000 residents,

with continued growth projected in the coming years, reinforcing its role as a regional hub within a metropolitan area exceeding 1.2 million people (US Census Bureau, n.d.). This growth increases demand for housing, particularly in centrally located areas with access to employment, transit, and services.

Household composition further shapes this demand. A relatively high share of single-person and non-family households increases the need for smaller housing units such as apartments and condominiums (US Census Bureau, n.d.) . At the same time, families, especially low- and moderate-income households, face increasing difficulty securing affordable and adequately sized housing. While median household incomes range between \$70,000 and \$75,000, income growth has not kept pace with rising housing costs, contributing to affordability challenges across income levels. Poverty rates of approximately 13–14% further indicate that a substantial portion of residents faces financial constraints (US Census Bureau, n.d.) and help explain why brownfield sites are increasingly viewed as opportunities for infill housing development.

The city has a relatively high share of renter households, and many experience cost burden, defined as spending more than 30 percent of income on housing (Root Policy Research, 2025; US Census Bureau, n.d.) . This issue is especially pronounced among low- and very low-income households, who face the greatest constraints in accessing affordable housing. At the same time, a mismatch persists between housing production and community needs, with new development often skewed toward higher-cost units rather than deeply affordable options (Root Policy Research, 2025; The Department of Community and Neighborhoods, 2023) .

Geographic constraints, including the Wasatch Mountains and Great Salt Lake, limit outward expansion and increase reliance on infill and redevelopment within the existing urban

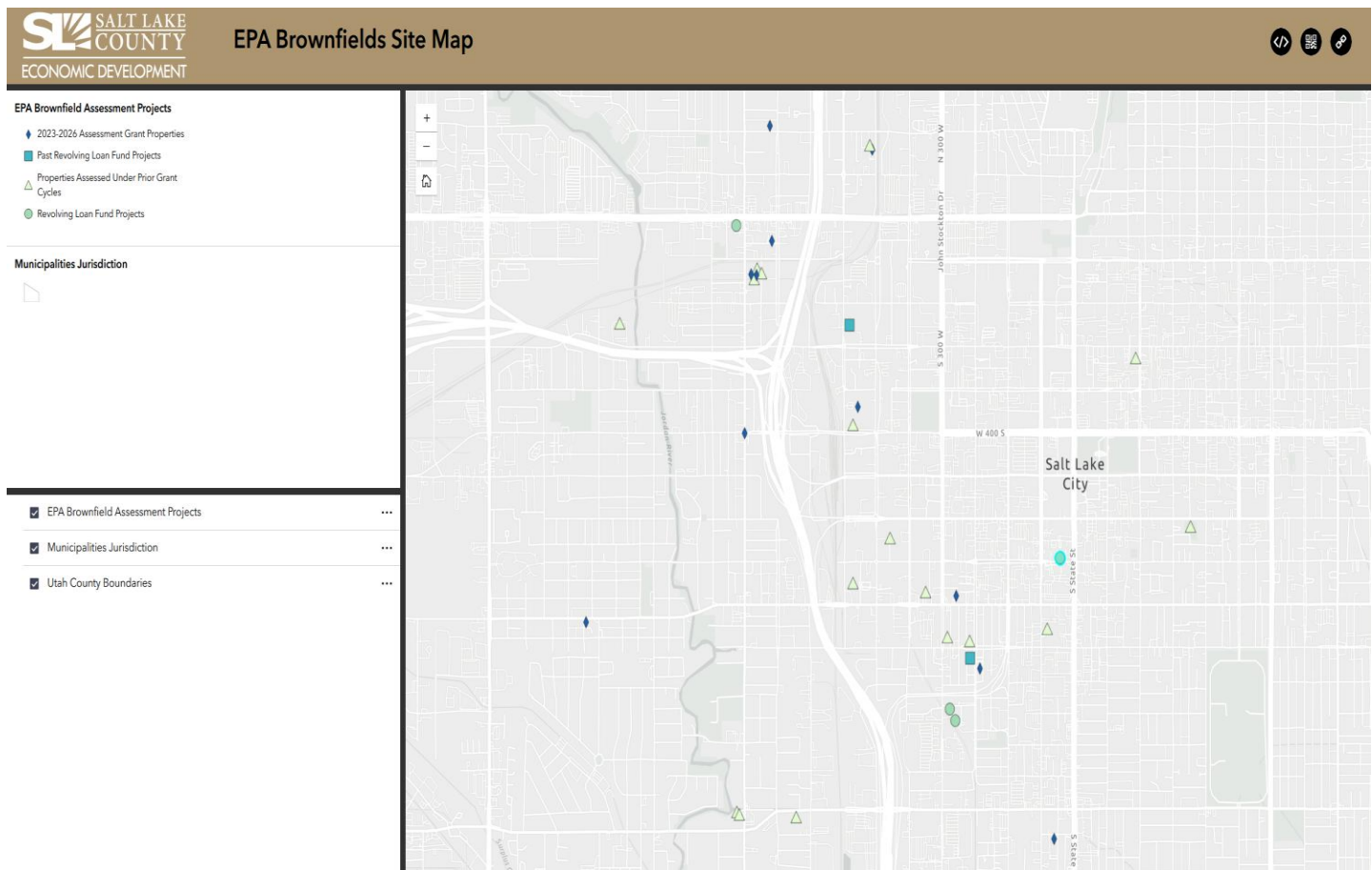
footprint (Root Policy Research, 2025; Salt Lake City, 2015) . Additionally, many workers in key sectors such as healthcare, education, and service industries earn wages that do not align with local housing costs, contributing to displacement, longer commutes, and housing instability (Root Policy Research, 2025).

These demographic dynamics, population growth, household structure, and income distribution, underscore the scale and urgency of housing demand in Salt Lake City and provide important context for redevelopment strategies and for why centrally located redevelopment opportunities, particularly brownfield reuse, have become increasingly important within Salt Lake City’s planning framework.

Brownfields in Salt Lake City

Brownfields are a significant feature of Salt Lake City’s urban landscape, shaped by the city’s industrial history, transportation infrastructure, and land-use patterns. As Salt Lake City has transitioned from an industrial and logistics-oriented economy toward a service- and knowledge-based economy, many former industrial, commercial, and transportation-related sites have become underutilized or vacant. Figure 2.2 is a brownfields site map created by the office of Salt Lake County Economic Development showing brownfield sites in Salt Lake County that have received funding for cleanup or redevelopment. These sites frequently present real or perceived environmental contamination, complicating redevelopment while simultaneously offering some of the last remaining opportunities for centrally located infill development in a land-constrained and housing-pressured city (Envision Utah, 2026; Salt Lake County Office of Regional Development, 2025).

Figure 2.3 Brownfields Site Map



Local and regional agencies identify brownfields as a critical planning concern because they are concentrated in neighborhoods facing housing affordability pressures, displacement risk, and land scarcity. Salt Lake County’s economic development and regional planning materials emphasize that much of the county’s remaining developable land is constrained by existing development, environmental conditions, airport buffers, or ecological limitations, increasing reliance on brownfield redevelopment to meet housing and economic development goals (Salt Lake County Office of Regional Development, 2025). For this reason, brownfields are important not only as environmental liabilities, but also as potential redevelopment sites through which Salt Lake City can pursue infill housing, neighborhood reinvestment, and broader planning goals.

Historic Patterns and Environmental Conditions

Historic patterns of brownfield formation in Salt Lake City are closely tied to transportation infrastructure, industrial zoning, and twentieth-century disinvestment. Rail corridors, former manufacturing districts, warehouse areas, and neighborhoods adjacent to highways and industrial facilities contain a disproportionate share of known or suspected brownfield sites. Many of these areas overlap with neighborhoods that experienced redlining, industrial pollution, and sustained underinvestment throughout the mid-twentieth century (Salt Lake City, 2015; Salt Lake County Office of Regional Development, 2025).

Brownfield sites in Salt Lake City exhibit a wide range of contamination types. Common contaminants include petroleum hydrocarbons associated with former fueling stations and transportation corridors; chlorinated solvents such as perchloroethylene (PCE), historically used in dry cleaning and industrial processes; and heavy metals linked to manufacturing and rail operations; asbestos-containing materials in mid-twentieth-century commercial and public buildings (Salt Lake County Office of Regional Development, 2025; *Voluntary Cleanup Program*, n.d.; Voluntary Cleanup Program/Brownfields, n.d.).

Such contamination poses challenges for residential reuse, as vapor intrusion risks and long-term monitoring requirements complicate remediation strategies and increase redevelopment costs. Similarly, asbestos contamination is widespread in older commercial and institutional buildings constructed during periods when asbestos was commonly used for fireproofing and insulation, necessitating costly abatement before renovation or conversion to housing (Diaz, 2025; *Voluntary Cleanup Program*, n.d.).

At the regional scale, large industrial legacy sites, such as former extractive or processing facilities, also shape redevelopment discourse. While some of these sites fall under federal

Superfund jurisdiction, their presence influences local perceptions of environmental risk. It reinforces the association between industrial land use and contamination throughout the Salt Lake Valley (*Legacy Contamination at the US Magnesium Superfund Site—2025 Updates*, n.d.).

Overall, these conditions highlights the complexity of brownfield redevelopment in Salt Lake City, where environmental conditions vary greatly and require site-specific cleanup plans. They also emphasize the regulatory burden tied to residential reuse, which generally imposes stricter cleanup standards than commercial or industrial redevelopment.

Example Cases of Brownfield Redevelopment

A notable example of brownfield redevelopment in Salt Lake City is the Northwest Pipeline Building, a former mid-century office and industrial facility situated in the Central City neighborhood. Built in the late 1950s and later used by municipal public safety departments, the building sat vacant for over a decade due to extensive asbestos contamination and outdated design. Despite its prime location and access to existing infrastructure, environmental issues and high remediation costs made the site unsuitable for reuse without significant public support. Current redevelopment plans include asbestos removal and converting the structure into affordable housing, while also considering historic preservation related to the building's architectural and industrial heritage (*Northwest Pipeline Building*, n.d.). As a case, it illustrates how adaptive reuse, environmental remediation, and housing production intersect in practice, particularly when redevelopment depends on both public support and regulatory coordination.

A second example is The Other Side Village, introduced in Chapter 1. Developed on land previously associated with landfill conditions and environmental stigma, the project demonstrates how a site long viewed as marginal or unusable can be repositioned as housing through sustained coordination among nonprofit actors, public agencies, and environmental

oversight systems. Its importance for this thesis lies not only in the housing outcome itself, but in the way it reflects the broader institutional work required to transform a stigmatized site into a functioning residential environment.

Planning initiatives in the Depot District and Granary District similarly focus on reusing older industrial structures through redevelopment authority funding, regulatory flexibility, and infrastructure upgrades, demonstrating how environmental remediation must be combined with housing policies and urban redevelopment goals (Depot District Redevelopment Project, 1998; *Granary District Adaptive Reuse Loan Program*, n.d.). These district-level efforts show that successful redevelopment is not limited to one-off projects but can also emerge through broader area-based strategies that combine adaptive reuse, infill planning, and targeted financial support.

Large projects such as the Asher Adams redevelopment further illustrate the importance of tax increment financing, preservation incentives, and public-private partnerships in overcoming legacy industrial issues, while projects like The Nest at Rio Grande show how underused, transit-adjacent sites can be transformed into income-restricted housing when environmental, financial, and governance factors align (*Asher Adams Hotel*, n.d.; *The Nest At Rio Grande*, n.d.). Together, these projects demonstrate that successful redevelopment in Salt Lake City takes multiple forms, ranging from adaptive reuse and historic preservation to affordable housing production on underused urban land. They also preview a central argument of this thesis: that redevelopment outcomes depend not only on site conditions, but on the alignment of remediation, financing, planning priorities, and institutional support.

Overall, brownfields in Salt Lake City reveal a layered history of industrialization, environmental regulation, and urban development. Their redevelopment depends not only on

contamination type and cleanup feasibility but also on planning capacity, governance structures, housing needs, and access to public financing tools.

Institutional Landscape, Governance, and Stakeholder Interactions

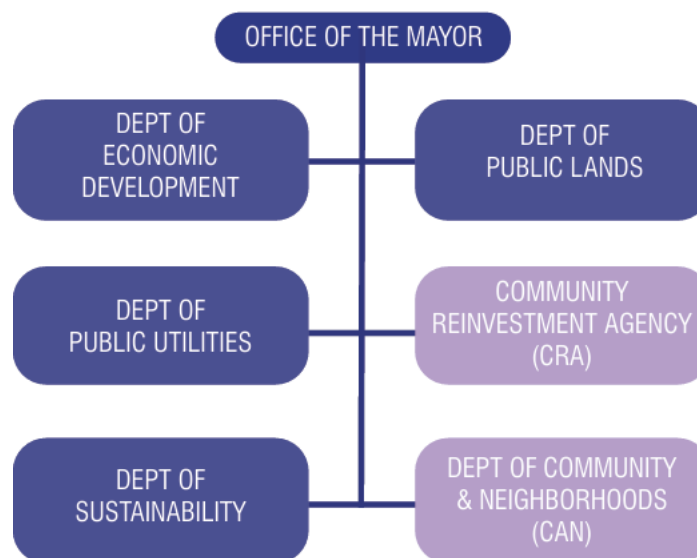
Brownfield-to-housing redevelopment in Salt Lake City is influenced by a complex, multi-level institutional environment that includes local agencies, county departments, state programs, and federal partners. Rather than being guided by a single centralized authority, redevelopment occurs through interactions among planning, redevelopment, housing, environmental, and economic development institutions, each with its own mandates, regulatory powers, and funding mechanisms. This fragmented institutional landscape shapes how redevelopment projects are financed, reviewed, remediated, and implemented. As a result, understanding brownfield-to-housing redevelopment in Salt Lake City requires attention not only to individual agencies and programs, but also to the relationships among them.

Local Institutions and Governance

At the local level, the Community Reinvestment Agency (CRA) of Salt Lake City plays a vital role in redevelopment efforts, especially within designated project areas. The CRA functions as the city's redevelopment authority, utilizing tools like tax increment financing (TIF), redevelopment area plans, and loan programs to promote private investment while supporting public goals. By designating project areas, the CRA can direct incremental property tax revenues toward infrastructure improvements, site preparation, environmental cleanup, and occasionally affordable housing. CRA loan programs and adaptive reuse projects, such as those in the Granary District, specifically encourage the reuse of older industrial and warehouse buildings, many of which are brownfield sites (Depot District Redevelopment Project, 1998; *Housing Development Loan Program*, n.d.; *Granary District Adaptive Reuse Loan Program*, n.d.).

The Department of Community and Neighborhoods (CAN) complements the CRA's redevelopment efforts by focusing on housing stability, neighborhood conditions, and community development. CAN manages federal housing funds, including Community Development Block Grant (CDBG) and HOME Investment Partnerships resources, which are often combined with brownfield remediation and redevelopment financing. Through these programs, CAN supports affordable housing development, rehabilitation, and preservation, especially for low- and moderate-income households. Its involvement is particularly important where brownfield redevelopment aligns with housing affordability goals rather than solely market-driven redevelopment (Executive Summary PY24, 2024; The Department of Community and Neighborhoods, 2023). Figure 2.1 shows the primary Salt Lake City departments involved in brownfield redevelopment, with notable standouts being the Community Reinvestment Agency and the Department of Community and Neighborhoods, which take a pro-active approach to development.

Figure 2.2.4 Salt Lake City Departments Involved in Brownfield Redevelopment



Salt Lake City's Planning Division provides the regulatory and policy framework for redevelopment. Through zoning ordinances, general plan policies, and area-specific plans, the Planning Division shapes allowable land uses, densities, and design standards that directly affect the feasibility of redeveloping contaminated or underutilized sites. Planning policies emphasizing infill development, transit-oriented development, and mixed-use redevelopment have increased interest in centrally located brownfield sites, while also raising questions about displacement and equity. The Planning Division thus serves as a critical gatekeeper, translating broader city goals into site-level development outcomes (Salt Lake City, 2015).

At the county level, the Salt Lake County Office of Regional Development plays a key coordinating role, especially in economic development, housing finance, and brownfield assessment funding. The county manages EPA-funded Brownfields Coalition Assessment Grants and Revolving Loan Funds, which provide resources for site assessment and cleanup across multiple municipalities. By pooling resources and technical expertise, the county lowers barriers for smaller jurisdictions and nonprofit developers that may lack in-house environmental capacity. County-level Housing Trust Fund programs further support affordable housing development, providing another layer of potential funding for brownfield-to-housing projects (Salt Lake County Office of Regional Development, 2022a; Salt Lake County Office of Regional Development, 2022b; Salt Lake County Office of Regional Development, 2025).

Utah State Agencies and Environmental Oversight

Environmental oversight and voluntary cleanup efforts in Utah are mainly handled by the Utah Department of Environmental Quality (DEQ) through its Division of Environmental Response and Remediation (DERR). The Utah Voluntary Cleanup Program (VCP) acts as a key

tool for addressing contamination at brownfield sites without initiating more confrontational enforcement actions. Created in the late 1990s, the VCP motivates property owners and developers to investigate and clean up contamination in return for regulatory clarity and liability protections (*VCP Summary Fact Sheet*, n.d.; *Voluntary Cleanup Program*, n.d.; *Voluntary Cleanup Program/Brownfields*, n.d.)

Under the VCP, participants agree to a Voluntary Cleanup Agreement, perform site characterization and remediation according to approved work plans, and ultimately earn a Certificate of Completion after a successful cleanup. This certificate assures lenders, developers, and future property owners that cleanup requirements for the intended land use have been satisfied. For housing redevelopment, the VCP is especially important because residential reuse generally demands stricter cleanup standards than commercial or industrial redevelopment. DERR also offers technical assistance and supports applications for federal brownfield funding, reinforcing its dual role as both regulator and facilitator (*VCP Process*, n.d.).

Federal Programs and Technical Assistance

At the federal level, the U.S. Environmental Protection Agency (EPA) plays a key role in shaping brownfield redevelopment through funding, guidance, and technical assistance. EPA's Brownfields Program offers grants for site assessment, cleanup, revolving loan funds, and job training, as well as Technical Assistance to Brownfields (TAB) services. These resources are essential for reducing upfront uncertainty and costs related to contaminated properties (US EPA, 2022, 2014).

EPA's Technical Assistance to Brownfields program supports communities and developers by offering guidance on site reuse planning, community engagement, and funding strategies, often at no cost to local participants. This technical support is especially important for

complex projects that combine environmental remediation with affordable housing or mixed-use development (EPA's Technical Assistance to Brownfields (TAB) Communities Program, n.d.)

Federal brownfield programs also influence local practices indirectly through eligibility rules, reporting requirements, and definitions of acceptable reuse. While these frameworks ensure consistency and accountability, they can also increase administrative complexity, requiring coordination among environmental consultants, planners, housing agencies, and funding partners (US EPA, n.d.).

Stakeholder Interactions and Networked Governance

Brownfield redevelopment in Salt Lake City functions through a networked governance model instead of a linear decision-making process. Key stakeholders include municipal agencies, county departments, state regulators, federal partners, private developers, nonprofit housing organizations, environmental consultants, lenders, and community groups. Each actor has different forms of power and interest, ranging from regulatory authority and financial capital to technical expertise and community legitimacy (Salt Lake City, 2015).

Developers must coordinate with planners on zoning and design, with environmental regulators on cleanup standards, with housing agencies on affordability requirements, and with financial institutions on risk mitigation. Public agencies, in turn, balance economic development goals with community concerns related to health, displacement, and neighborhood change.

Chapter Synthesis

This chapter has established both the methodological foundation and the case context for the study. It has outlined the qualitative case study design, data collection and analysis procedures, and study limitations, while also introducing Salt Lake City as the city-level case. In

doing so, it has shown why Salt Lake City is an analytically useful site for examining brownfield-to-housing redevelopment.

Together, these components frame how the research approaches the central question of how redevelopment can be promoted and what conditions shape its feasibility. The methodological approach emphasizes stakeholder perspectives and institutional processes, while the case context highlights the housing pressures, land constraints, industrial legacy, and governance structures that define redevelopment conditions in Salt Lake City.

This chapter shows that brownfield-to-housing redevelopment in Salt Lake City is shaped by the interaction of environmental, financial, regulatory, and institutional factors. These conditions make redevelopment both necessary, given the city's housing demand and limited land availability, and complex, due to contamination, coordination requirements, and funding challenges.

The following chapters build on this foundation by examining, first, the institutional conditions that shape redevelopment feasibility and, second, the planning strategies that can help promote brownfield-to-housing redevelopment in Salt Lake City.

Chapter 3 - Thematic Findings I: Institutional Conditions

This chapter examines how institutional coordination, capacity, and governance affect brownfield-to-housing redevelopment in Salt Lake City. Environmental remediation costs, site conditions, and development financing shape projects, while governance influences these how challenges are addressed.

The interview findings show that brownfield-to-housing redevelopment depends on coordination among environmental regulators, municipal planning departments, housing agencies, developers, and consultants. Each actor contributes specialized expertise, and redevelopment progresses through a series of negotiations that align environmental safety, housing production, and development feasibility.

Rather than describing institutional fragmentation only as a barrier, many interviewees characterized coordination in Salt Lake City as collaborative, though still complex. Agencies frequently communicate across departmental boundaries, and project teams often work with regulators to identify solutions that satisfy both environmental requirements and redevelopment objectives. These interactions reveal how institutional relationships shape redevelopment.

This chapter focuses on how stakeholders involved in redevelopment projects understand and navigate the institutional challenges that arise during the early stages of planning and feasibility analysis. Interviewees often described project feasibility as a balancing act involving environmental risk, housing production goals, administrative requirements, and financial constraints. These factors rarely operate independently. Instead, stakeholders must work through them simultaneously while coordinating with multiple institutions and regulatory frameworks. The findings suggest that brownfield feasibility is shaped through a process that includes

environmental assessment, remediation planning, interagency coordination, and the alignment of financial resources needed to move redevelopment projects forward.

Although brownfield redevelopment is often described through technical language such as environmental standards, financing, and regulation, the people involved in these projects interpret those conditions differently according to their professional roles. Developers, planners, nonprofit housing leaders, and environmental regulators each emphasize different aspects of redevelopment feasibility. This chapter is organized around four institutional conditions that emerged consistently across the interviews: interagency coordination and networked governance, public-private partnerships and institutional support, environmental review and cleanup standards, and bureaucratic complexity, administrative capacity, and timing. Together these themes show how redevelopment challenges are distributed unevenly across actors and how feasibility is shaped through institutional relationships rather than by site conditions alone.

Interagency Coordination and Networked Governance

Brownfield-to-housing redevelopment requires coordination across multiple public institutions. Environmental remediation approvals are typically administered at the state level, while zoning decisions, infrastructure planning, and building approvals are managed locally. Housing finance programs may involve additional state or federal agencies. Because these responsibilities are distributed across institutions, redevelopment projects must move through several regulatory and administrative processes simultaneously.

The institutional structure makes interagency coordination especially important. In decentralized systems such as the United States, brownfield redevelopment depends on communication across agencies responsible for land-use planning, housing, and development

review. Scholars have consistently emphasized that successful redevelopment depends on how well agencies align oversight, remediation, and planning in ways that reduce uncertainty and help projects move forward (Adams et al., 2010; C. A. De Sousa, 2003; Koehler, 2007).

Interviewees in Salt Lake City generally described this coordination as collaborative even when projects involved multiple agencies and overlapping responsibilities. Rather than framing coordination as an exceptional response to regulatory difficulty, several participants described it as a routine part of redevelopment work. Claire's account, as a manager in the CRA, is especially useful here because it shows how local agencies work with state and federal partners early in the process to establish shared expectations.

I think a lot of departments will seek out the feedback...maybe it's because there will be an ask for ongoing involvement in the future, or maintenance, or that sort of thing. But I think even in my time here, I've been impressed by how much different departments will solicit feedback from other departments. (Claire)

Claire's comment suggests that coordination extends across local, state, and federal institutions rather than occurring only within city government. Early communication of this kind helps agencies clarify expectations, identify likely site constraints, and reduce uncertainty before formal approvals begin. This emphasis on early and ongoing communication also appeared in interviews with planning staff, who described interdepartmental coordination as a routine feature of project review rather than a reactive process. As Gloria, a planner with Salt Lake City Community and Neighborhoods, explained:

We also have planning building services which does building permits and inspections, transportation, engineering, arts, housing, and youth programming. And I may be missing one, but we have a lot of the like planning and development functions of the city, so it's really easy for us to coordinate with planning and community priorities and objectives for the city. (Gloria)

Her description highlights how coordination is facilitated by the institutional structure of the department itself, where multiple planning and development functions are housed within a single organizational framework. Rather than requiring additional effort to align across agencies,

coordination is embedded in everyday workflows, allowing staff to integrate environmental review, land-use planning, and development objectives more seamlessly. In this sense, coordination is not simply administrative; it is part of how project feasibility is actively produced through continuous interaction among actors. These dynamics reflect what Innes & Booher, (2004) describe as collaborative rationality, in which policy decisions emerge through dialogue across institutions rather than through a strictly hierarchical process.

Several interviewees suggested that coordination is sustained through both formal and informal communication structures rather than only through discrete review moments. As Margaret, a TAB employee, explained, communities often establish stakeholder or advisory groups that meet regularly to discuss projects and priorities:

One person can't do it all, and it is going to take representatives from all those various stakeholder groups. And so again, a lot of it's education, giving them some examples of who you need to be reaching out to and contact. And then oftentimes, communities, and we'll help them create, yeah, like a stakeholder group, a community advisory group, or brownfields, a Brownfields committee that they meet every so often and talk about projects, sites, prioritize, where they're going to invest in their money, or where they're going to invest in their community. (Margaret)

This description highlights how coordination is institutionalized through recurring interaction, allowing project teams to align priorities, share information, and address uncertainty before it becomes a barrier.

Beyond routine communication, interviewees emphasized that coordination is shaped by prior experience and familiarity with institutional partners. Nicole, a non-profit developer, described how working with the Community Redevelopment Agency introduced new challenges when roles and expectations were not yet clearly established:

CRA, so that was very, very beneficial on our space Macaroni [Flats]. It was challenging. It was challenging because we'd never, I had never actually worked

with him in that capacity, where we're getting the building from them, they all sudden, would come up with new strings. Other people actually, working with Mary and Sam was fantastic when we found out, and stepped in when the phase two happened, so Kara was not involved until they found the issue, and Mary's always been just fantastic to work with. (Nicole)

Her account highlights how a lack of prior working relationships can introduce uncertainty, shifting expectations, and additional procedural complexity into redevelopment projects. At the same time, the contrast she draws between this initial difficulty and her later experience working with familiar individuals illustrates how institutional familiarity can stabilize coordination. As relationships develop and actors gain experience working together, expectations become clearer, communication more direct, and problem-solving more efficient. In this way, familiarity does not simply make projects “easier,” but actively reduces the friction associated with navigating regulatory processes and interagency collaboration.

Institutional familiarity, therefore, becomes an important element of coordination. As agencies develop experience collaborating on brownfield redevelopment, communication pathways become clearer, and projects may proceed more efficiently. Research on redevelopment governance similarly suggests that repeated collaboration builds institutional trust and procedural knowledge, thereby reducing delays in regulatory approval processes (Raco et al., 2008).

The institutional structure of brownfield governance in Utah also encourages this type of coordination. The Utah Voluntary Cleanup Program (VCP) helps institutionalize this coordination by requiring project teams to work with regulators early in the remediation process. The program encourages proactive cleanup efforts and provides developers with a pathway to receive a Certificate of Completion, helping remove liability concerns that might otherwise deter redevelopment (*VCP Process*, n.d.).

VCP participation requires assessments, planning, and regulator coordination, strengthening ties among state regulators, planners, and project teams. The program also invites public comment, integrating decisions into broader community planning (*VCP Summary Fact Sheet*, n.d.).

Governance structures shape how brownfield redevelopment unfolds by determining how responsibilities for remediation, planning, and housing production are distributed across agencies, and how coordination occurs among regulators, planners, developers, and housing actors.

Planning scholars often distinguish between centralized and decentralized governance systems. In more centralized governance systems, such as those found in parts of Europe, national governments play a stronger role in coordinating brownfield redevelopment with housing policy and land-use planning. In contrast, redevelopment governance in the United States is highly decentralized. Environmental remediation is typically administered through state-level regulatory programs, while land-use decisions remain under local jurisdiction (Adams et al., 2010; Dixon & Adams, 2008). Housing finance programs operate through federal and state funding mechanisms, often administered separately from environmental programs. As a result, brownfield-to-housing redevelopment must navigate multiple layers of authority and institutional responsibility (C. A. De Sousa, 2006).

Salt Lake City reflects this decentralized governance structure. Environmental cleanup approvals are generally overseen by the Utah Department of Environmental Quality (DEQ) through the Division of Environmental Response and Remediation (DERR), which administers programs such as the Voluntary Cleanup Program (VCP). The VCP allows property owners and developers to voluntarily investigate and remediate contaminated sites under state oversight

while providing liability protections once remediation standards are met. These protections help facilitate redevelopment by reducing uncertainty for developers and lenders (*VCP Process*, n.d.).

Local planning decisions, however, occur through municipal processes involving zoning review, development approvals, and infrastructure planning. Salt Lake City's comprehensive plan, *Plan Salt Lake*, emphasizes redevelopment and infill development as key strategies for accommodating population growth while limiting outward expansion. The plan identifies the redevelopment of underutilized, previously industrial land as an important mechanism for increasing housing supply and supporting sustainable urban growth (Salt Lake City, 2015).

Housing policy frameworks similarly emphasize redevelopment as a tool for expanding housing opportunities. The city's Housing SLC Plan highlights the need to increase housing supply through infill and redevelopment strategies, particularly in areas with existing infrastructure and transit access. Brownfield sites and other underutilized parcels therefore represent potential opportunities to accommodate new housing development while revitalizing previously industrial areas of the city (The Department of Community and Neighborhoods, 2023).

Another interviewee emphasized that departments, internally and externally, align themselves to guide projects forward. Gloria explained:

I think you know, consensus building within your department or within the city is really helpful. We're really lucky to have sort of a more or less aligned mayor and city council that have a vision which is honestly really helpful, and you can't really change, to be honest. (Gloria)

Rather than relying on a single coordinating authority, projects move forward through collaboration among agencies with different responsibilities. Claire described this coordination role in practice:

I think we work with, think [sic] all the departments. It really feels like we work with all the departments, but the ones that stand out in particular for our projects are engineering, transportation planning, public utilities.... So, it's really a lot of them. And I like to think that we do a pretty good job as a city of not staying siloed. (Claire)

By facilitating communication between agencies and project teams, planners help align environmental remediation, land-use planning, and housing development. Similarly, regional planning frameworks such as the Salt Lake County Consolidated Plan emphasize the role of redevelopment and infill housing in addressing housing needs across the metropolitan area. These plans encourage coordination between housing programs, economic development initiatives, and environmental redevelopment strategies to expand housing opportunities while revitalizing underutilized land.

I think you know our role in sustainability is to support other departments. So we work really closely with you know, we have our public services department that has engineering and facilities. We also support public lands, which has all the parks projects, transportation and housing is under the communities and neighborhood department. (Caroline)

As Caroline mentioned regarding cooperation between departments, decentralized systems can provide flexibility and assistance. Agencies retain the ability to evaluate projects according to their specific expertise and regulatory mandates. Environmental regulators focus on contamination risks, planners assess land-use compatibility, and housing agencies evaluate financing feasibility. This division of responsibilities allows specialized expertise to guide different aspects of redevelopment decision-making.

The interviews suggest that Salt Lake City's governance structure operates through collaborative specialization. Agencies maintain their respective responsibilities while working together to support redevelopment projects. Although fragmentation remains inherent in the system, cooperation among institutional actors allows redevelopment to proceed.

Interagency coordination and cooperation were also frequently highlighted with city officials having a positive opinion on how the various departments work together on a project or program.

But I think even in my time here, I've been impressed by how much different departments will solicit feedback from other departments, even if there's not necessarily a tie to like responsibilities in the future. You know, they say, like, what do you what do you think of this, or here's this plan we're working on, we'd love for you to be involved kind of thing, okay? (Mary)

Despite the complexity of this institutional environment, the interviews suggest that Salt Lake City has developed a cooperative approach to redevelopment in which agencies regularly communicate across departmental and jurisdictional boundaries. Participants repeatedly emphasized that brownfield projects require institutions to balance environmental protection, housing production, and development feasibility simultaneously, making coordination a central component of redevelopment rather than a secondary administrative task. This aligns with what scholars describe as collaborative or networked governance, in which public outcomes are produced through sustained interaction among interdependent actors across organizational boundaries rather than through hierarchical control (Ansell & Gash, 2008). Within this framework, institutions retain formal regulatory authority, but redevelopment feasibility ultimately depends on how effectively those responsibilities are coordinated and implemented in practice.

Public-Private Partnerships and Institutional Support

Brownfield redevelopment rarely occurs without some degree of public-sector involvement. Environmental contamination, liability concerns, and remediation costs often discourage private developers from pursuing these sites on their own. As a result, the literature consistently identifies public-private partnerships (PPPs) as essential mechanisms for facilitating

brownfield redevelopment (Adams et al., 2010; Koehler, 2007). Through these partnerships, public agencies provide financial support, technical assistance, and regulatory guidance, while private developers contribute capital investment, project management, and construction expertise.

Scholars frequently describe these partnerships as mechanisms for risk redistribution, where environmental, financial, and regulatory risks are shared across institutional actors (C. A. De Sousa, 2003). Brownfield redevelopment projects involve uncertainties that make them difficult to finance through conventional private investment alone. Public-sector participation, therefore, plays an important role in reducing perceived risk and enabling redevelopment to proceed.

In Salt Lake City, interviewees consistently described public–private partnerships as necessary mechanisms for moving redevelopment projects forward when environmental risk and remediation costs would otherwise discourage private investment. Margaret’s account, as a TAB representative, is useful here because it captures how technical experts understand partnership not as optional support, but as a central condition of redevelopment success:

That being said, I mean, it takes everybody to make the world go round. And so there is a really big, strong p3 public private partnerships that happen to make redevelopment brownfield, of brownfield properties a success. (Margaret)

Although the quote is informal, the underlying point is clear: brownfield redevelopment depends on relationships that allow public and private actors to share risk, information, and responsibility. Similarly, private developers similarly acknowledged the importance of public-sector participation. Charles described working with city employees as a very positive experience:

Working with Kara and Jill was fantastic when we found out, and Kara stepped in when they the phase two happened, so Kara was not involved until they found the issue, and Kara's always been just fantastic to work with. (Charles)

This account highlights how partnerships operate in practice, not just as formal agreements, but as responsive relationships that emerge when site conditions change. Public agencies are not only regulators but also active participants who step in at critical moments to help projects adapt to new information, particularly during environmental assessment and remediation phases.

Across multiple interviews, a consistent pattern emerges: public agencies in Salt Lake City do not function as passive reviewers of development proposals, but as active redevelopment actors. They help identify developers, assemble land, reduce financial and environmental risk, and shape projects through public-benefit expectations such as affordable housing. Claire, a project manager in the Salt Lake City Community Reinvestment Agency, described the extensive effort involved in recruiting developers and generating interest in redevelopment opportunities:

...we've spent a significant amount of time, like reaching out to potentially interested people, consultants who can connect us with people, and really trying to expose that project on a nationwide level. And then compared to a project that we have that is closer to a half acre, where we drafted an RFP and released it, you know, and had some community engagement and outreach with the Community Councils (Claire)

This illustrates how public agencies actively market redevelopment opportunities and tailor engagement strategies depending on site scale and complexity. Similarly, Gloria emphasized the role of the Community Reinvestment Agency in assembling land and implementing redevelopment goals:

We're the Department of Community and neighborhoods. So the CRA is out there buying property, implementing like redevelopment goals, so they're actually going out and acquiring new property. What our department does is we take surplus city owned property,... (Gloria)

Rather than waiting for private proposals, agencies take initiative in shaping redevelopment opportunities through land acquisition and strategic planning. This suggests that public funding mechanisms not only reduce risk but also actively generate market interest in brownfield sites. Hugh highlights how agencies leverage their position to negotiate public benefits:

So land value in downtown Salt Lake City, and Salt Lake City in general, is higher than you would think. So these values do have a lot of property, and we can then help by discounting the land, help fund the cleanup efforts and also demand that the developers do other public benefits, like affordable housing, public art, that type of thing. (Hugh)

These accounts show that public agencies shape redevelopment outcomes through multiple mechanisms: recruitment, land assembly, financial support, and negotiation of public benefits. This extends beyond traditional regulatory roles and reflects a more proactive model of governance in brownfield-to-housing redevelopment.

Public-sector participation takes several forms, including remediation grants, funding for environmental assessments, infrastructure investment, and regulatory coordination. These tools reduce uncertainty for private developers while allowing public agencies to influence redevelopment outcomes. In Salt Lake City, this institutional role is operationalized through specific programs that align redevelopment with housing and revitalization goals.

For example, the Granary District Adaptive Reuse Program provides forgivable loans to encourage the redevelopment of older industrial buildings, reducing the financial burden of building code upgrades and rehabilitation costs (*Granary District Adaptive Reuse Loan Program*, n.d.). Rather than functioning as a standalone incentive, this program demonstrates how local government actively reduces redevelopment risk while promoting adaptive reuse and infill development strategies.

Similarly, the CRA's Housing Development Loan Program provides low-cost financing intended to support the construction and preservation of affordable housing within the city. By centralizing the application and underwriting process, the program helps leverage private funding sources and align redevelopment projects with broader housing objectives (*Housing Development Loan Program*, n.d.). These programs illustrate how public institutions operationalize partnership by directly intervening in the financial feasibility of projects and linking redevelopment to policy goals such as affordability.

The Community Reinvestment Agency (CRA) in Salt Lake City plays a distinctive role in brownfield-to-housing redevelopment by acting as a centralized entity that can assemble land, provide gap financing, and coordinate redevelopment efforts across projects. Unlike many cities where these responsibilities are fragmented across multiple departments or agencies, the CRA consolidates financial tools and redevelopment authority within a single institution.

While this structure is somewhat unique to Salt Lake City, its functions are replicable in other communities. Similar outcomes could be achieved through redevelopment authorities, land banks, or coordinated interagency partnerships that align financing, land assembly, and planning objectives. The key transferable element is not the specific institutional form, but the ability to centralize capacity and reduce fragmentation in redevelopment processes.

Another interviewee emphasized that these partnerships often involve ongoing communication between developers and government staff. Claire, a city project manager, described the iterative nature of this process:

We, you know, we have property where we could do this. We think it could be like really high-level design, then it becomes a coordination between all these different departments to see if they have the resources to be able to support, not just reviewing our plans and approving them, but also the ongoing maintenance afterwards. So that's kind of where we all come together and work together.
(Claire)

These accounts demonstrate that partnerships are not only financial arrangements but also relational and procedural systems. Early and continuous communication allows stakeholders to align expectations, interpret environmental data collectively, and anticipate potential challenges before they become barriers to development. Given that environmental assessments, remediation plans, and financial feasibility analyses often change during early planning stages, this iterative communication process plays a key role in reducing uncertainty over time.

This sustained interaction also contributes to the development of trust between public agencies and private developers. As relationships deepen, developers become more confident that agencies will provide consistent regulatory guidance, while public agencies gain confidence in developers' ability to execute complex projects. Research on urban redevelopment partnerships similarly suggests that repeated collaboration builds relational capital, enabling actors to navigate regulatory complexity more efficiently (Ansell & Gash, 2008; Squires & Heurkens, 2016).

Ultimately, the effectiveness of public–private partnerships depend on the alignment of institutional goals. Environmental regulators prioritize remediation and risk management, while housing agencies focus on expanding housing supply and affordability. Federal redevelopment guidance emphasizes that liability protections and regulatory coordination can help encourage private investment by reducing perceived risk and clarifying expectations (US EPA, 2022).

However, the findings from Salt Lake City suggest a broader conclusion. Public–private partnerships are most effective when they combine multiple forms of support: risk reduction through financial and regulatory tools, active institutional involvement in project development, early and ongoing communication, and alignment between environmental and housing objectives. When these elements are present, partnerships do more than facilitate redevelopment,

they actively shape the conditions under which brownfield-to-housing projects become feasible and successful.

Environmental Review, Site Assessment, and Cleanup Standards

Environmental site assessments, which are technical studies evaluating possible soil, water, and air contamination, play an essential role in brownfield redevelopment. They assess whether teams can clean up contamination to meet standards and estimate cleanup costs (Wernstedt et al., 2006). In Phase I assessments, evaluators review historical records and inspect sites to identify possible hazardous substances. If they find concerns, teams then collect physical samples during Phase II testing to measure contamination in soil, groundwater, and vapors. Similarly, Nijkamp et al., (2002) emphasize that environmental assessments often determine whether brownfield redevelopment makes economic sense.

This uncertainty is not limited to sites with obvious industrial histories but can also emerge in locations assumed to be low-risk. Caroline described a community garden project that revealed unexpected contamination despite appearing undeveloped:

Well, I think that cannon greens community garden was definitely a surprise. That was a property that was never really developed. Nothing ever happened there since the beginning... there was stuff everywhere... slight elevated soil contamination everywhere and debris, and that caught everyone by surprise, and it was a real wake up call... we had no idea. (Caroline)

Her account illustrates how assumptions about site conditions can obscure underlying environmental risks, particularly when historical land uses are undocumented or poorly understood. Even sites perceived as “clean” or minimally used may contain diffuse contamination that only becomes visible through formal investigation. Importantly, this experience reshaped institutional practices, prompting greater emphasis on conducting Phase I environmental assessments prior to property acquisition. This uncertainty has immediate

implications for redevelopment feasibility. If contamination is more extensive than expected, projects may face delays in financing approvals, increased remediation costs, or design modifications that reduce the number of feasible housing units. Margaret, who works closely with redevelopment projects as a technical assistance expert, emphasized the importance of due diligence in navigating these risks:

The most important thing, I think, with brownfields is your environmental due diligence, no matter who you are, make sure that you know what you're getting into before you get into it. (Margaret)

Together, these accounts demonstrate that site assessment is not simply a procedural requirement but a critical moment in which uncertainty is either reduced or amplified. The quality and timing of environmental information directly influence whether projects proceed with confidence or stall due to unforeseen risks.

Determining acceptable exposure thresholds further requires coordination among regulators, developers, planners, and environmental professionals. Brownfield redevelopment depends on collaborative decision-making processes that reconcile environmental risk with redevelopment goals (Heberle & Wernstedt, 2006). Developers must demonstrate that sites can safely support residential use, while regulators ensure that remediation strategies comply with statutory requirements and protect future residents.

Cleanup costs create significant uncertainty about project feasibility, especially when developments aim to offer affordable housing with narrow profit margins (Squires & Hutchison, 2021). Because residential projects face stricter environmental standards than commercial or industrial projects, remediation costs can substantially increase development expenses before construction even begins. Additionally, Alberini et al., (2005) demonstrate that perceived liability risks can greatly affect developers' willingness to pursue contaminated sites.

In Salt Lake City, interviewees repeatedly emphasized that the primary concern is not whether cleanup should occur, but whether remediation standards are calibrated appropriately to actual exposure risks and development context. Developers and environmental professionals alike questioned whether regulatory expectations sometimes exceed what is necessary for safe residential reuse. Paul's metaphor captures this tension:

And then, you know, there's different levels of remediation. And I think the state and local agencies, you know, want the Cadillac when they may, may only need the Chevrolet. So sometimes you have to push back against buying a Cadillac when you only need a Chevrolet. So sometimes they want you to do, you know, A to B to C when you don't necessarily need to do A to B to C in the cleanup process. (Paul)

The metaphor reflects a broader concern about over-remediation. The “Cadillac” approach represents the most comprehensive cleanup strategy, often involving extensive soil removal, long-term monitoring, or costly engineering controls. In contrast, the “Chevrolet” approach emphasizes protection of public health while accounting for building design, site conditions, and actual exposure pathways. From a developer's perspective, requiring the “Cadillac” level of remediation may significantly increase costs without proportionate benefits, ultimately discouraging housing production.

These cost implications are compounded by the inherent uncertainty of contamination. Interviewees emphasized that environmental risk does not exist in isolation, it interacts with financing timelines, investor confidence, and project sequencing in ways that can destabilize redevelopment efforts. Hugh described how contamination uncertainty alone can deter investment:

So you do have some good players, but contamination is a lot, and they either don't want to invest in the cleanup, or they're still a little hesitant of, yeah, I'm not going to take on this redevelopment project until I know that the contamination has been sufficiently addressed for the end goal needs. And that's where the partnership comes in, because the local government, if they're willing to step up and apply for the funds and take care of that, again, I think having a good, solid reuse plan and data to back it up, (Hugh)

Gloria similarly highlighted how remediation challenges can disrupt project momentum:

And so you sometimes see projects stall out. It can take a while, though, depending on, I always say p3 and I add patience when I'm talking, because it can take time. I mean, depending on the level of potential contamination that's there to get all your funding and ducks in a row. And you might have a developer over here that's ready, but something else comes up later, and so then they leave.
(Gloria)

Taken together, these accounts show that contamination is not merely a technical issue. It introduces cascading uncertainties that affect financing, timing, and developer commitment.

Even well-structured housing projects can falter if remediation costs increase unpredictably or if environmental conditions remain unclear. This highlights the importance of aligning remediation with the intended land use. Cleanup strategies that work for playgrounds or single-family housing may not be necessary dense urban housing with limited ground-level exposure.

However, when decision-makers keep remediation requirements uncertain or overly conservative, developers may choose to avoid brownfield sites altogether.

Brownfield housing developers must already manage rising construction costs, interest rates, and complex financing structures. When remediation expenses rise unpredictably, they can undermine carefully structured financial models. This challenge puts particular financial pressure on affordable housing projects financed through programs such as the Low-Income Housing Tax Credit (LIHTC), where project budgets remain tightly constrained.

Strict remediation standards can improve environmental conditions, but they may also discourage redevelopment entirely. If projects fail to move forward, contaminated sites remain vacant and continue to contribute to neighborhood disinvestment.

Adams et al., (2010) argue that brownfield redevelopment policies must balance environmental protection with redevelopment incentives, since overly restrictive regulatory environments can unintentionally encourage land abandonment. By affecting development costs,

remediation requirements influence whether brownfield sites are ultimately reused for housing or remain vacant.

This creates a conflict between agency priorities. Environmental regulators focus on protecting public health and reducing long-term liabilities. Housing agencies aim to increase the supply of affordable homes. Developers need to keep their projects financially viable in competitive real estate markets.

In Salt Lake City, interviewees indicated that successful brownfield housing developments often result when cleanup standards, design strategies, and financing tools are aligned early in planning. When remediation strategies are customized to the site's intended use and integrated into building design, developers can better control costs while still fulfilling environmental safety requirements.

Developers consistently described brownfield-to-housing projects as financially fragile because environmental uncertainty, remediation requirements, and layered financing structures interact from the earliest stages of planning. Nicole's experience illustrates how unexpected contamination discoveries can alter project trajectories mid-development:

And when we went into it, it did not have environmental issues, as far as we knew, Okay, but they randomly did a phase two after we're already in the process...That's when the environmental issue came up. (Nicole)

This example demonstrates that environmental review is not confined to early planning stages but can reshape projects even after development has begun. Such discoveries may require redesign, additional funding, or renegotiation with partners, reinforcing the central role of environmental uncertainty in shaping feasibility.

Developers also emphasized the relationship between building design and environmental risk. Paul described how high-density urban development can function as a form of mitigation:

Most of us, if we're fortunate enough to have a house where we can garden, you're working in the soil a lot. If you're in the urban sector, you probably don't have that as much. Maybe there's a raised bed garden somewhere in an open space. But in general, so much of your urban kind of classic ToD type developments. Your transit oriented developments are going to be much more high density, so your sites are going to be covered. So the reality is, leaving some pollution in place may be way different than if I'm out here and say, in the suburbs, where I'm not covering stuff as much, and there's way more access to kids being in the yard playing, versus you're not going to see many kids digging by a light rail. (Paul)

In this context, form functions as a mitigation strategy. He believes that the very typology of buildings lowers risk. Choosing to elevate housing above parking areas or structured podiums was driven not only by market considerations but also by environmental concerns.

Developers' narratives were practical. They did not oppose environmental regulation, but they often characterized cleanup requirements as possibly misaligned with real exposure scenarios. "Right-sizing remediation" was a recurring idea. From their perspective, regulatory flexibility, when grounded in technical assessment, made projects feasible.

Environmental and technical professionals, by contrast, tended to interpret redevelopment through the lenses of liability, site knowledge, and due diligence. Rather than focusing primarily on project feasibility or cost management, these actors emphasized the risks associated with incomplete information and the consequences of underestimating contamination. Their perspectives suggest that uncertainty is not simply an inconvenience in redevelopment, but a fundamental risk condition that must be carefully managed through data collection, testing, and documentation.

Across interviews, a consistent concern emerged around the limitations of early-stage site knowledge. Technical professionals repeatedly stressed that redevelopment decisions are often made before sufficient environmental data is available, increasing the likelihood of unexpected discoveries later in the process. Robert's account highlights how insufficient upfront investigation can create downstream complications:

I can think of projects certainly where discussion about site characterization is always an ongoing discussion. When is the site characterized well enough to begin to get into a remedial action plan and start that process of looking at a remedy, and then there are certainly sites that I think probably went out and did work and realized that, man, we, you know, it probably would have been way better had we had more data, because now we're finding things that We didn't expect, and now I've got cost overruns because everybody's on hold at this point while we're trying to work with the agency. (Robert)

This quote underscores the importance of thorough due diligence, suggesting that gaps in early environmental assessment can lead to reactive rather than proactive decision-making.

When contamination is discovered later in redevelopment, it can trigger redesign, additional remediation, or financial restructuring, reinforcing the idea that uncertainty must be addressed as early as possible.

In addition to incomplete data, technical professionals emphasized the inherent complexity of contamination itself. Sites often contain multiple contaminants with different behaviors, exposure pathways, and remediation requirements, making cleanup both technically and financially challenging. Caroline's reflection illustrates how this complexity translates directly into project difficulty:

I mean, I think that was that's a challenge that we've had with fleet block, the remediation costs. There's so much different types of contamination there. Remediation costs are so high, and the city just doesn't have the budget for that kind of stuff. And as the responsible party, we couldn't get a lot, you know, funding for any remediation at that site. (Caroline)

Technical professionals also emphasized how contamination levels influence developer behavior, particularly in terms of willingness to engage with high-risk sites. Margaret's account reflects how the scale and uncertainty of cleanup requirements can deter participation altogether:

So you do have some good players, but contamination is a lot, and they either don't want to invest in the cleanup, or they're still a little hesitant of, yeah, I'm not going to take on this redevelopment project until I know that the contamination has been sufficiently addressed for the end goal needs. (Margaret)

This highlights a key intersection between technical assessment and market response. Even when redevelopment is theoretically possible, high levels of contamination can create psychological and financial barriers that discourage developers from moving forward. From this perspective, contamination is not only a technical condition but also a factor shaping market participation.

These perspectives collectively highlight a key contrast: while developers tend to frame environmental conditions in terms of feasibility and cost management, technical professionals prioritize caution, data completeness, and long-term risk mitigation. Their emphasis on due diligence reflects a concern that insufficient knowledge or premature decision-making can lead to greater risks later in the redevelopment process.

Technical assistance providers further described their role as bridging this gap through education and capacity-building. In many cases, they help communities and developers interpret environmental data, understand regulatory requirements, and identify available resources for assessment and cleanup. Margaret's reflection captures the extent to which knowledge gaps persist:

...it still kind of amazes me sometimes that how many people are new to brownfields or still just understanding and, you know, thinking about these properties that have been ignored for years and years and years and years, and then they're like, Oh, we could do something with it. (Margaret)

Taken together, these interview accounts suggest that environmental review and cleanup standards function as more than technical requirements within brownfield-to-housing redevelopment. They shape feasibility by determining what is known about site conditions, what kinds of remediation will be required, how much redevelopment may cost, and whether housing projects move forward with sufficient financial confidence. For developers, these conditions often appear as questions of due diligence, liability, and public health protection. In Salt Lake

City, successful redevelopment depends not on avoiding these standards, but on aligning environmental information, remediation strategies, design decisions, and financing tools early enough in the process to make housing development realistic.

Bureaucratic Complexity, Administrative Capacity, and Timing

In addition to coordination and institutional support, interviewees also described bureaucratic complexity, administrative capacity, and timing as major conditions shaping redevelopment feasibility. In decentralized governance systems like the United States, responsibility for environmental cleanup, housing development, and land-use regulation is spread across multiple agencies and levels of government. As a result, brownfield redevelopment often requires project teams to navigate overlapping procedures, approval processes, and institutional timelines, which can heightening both uncertainty and extend redevelopment timelines (Leigh & Coffin, 2005; Raco et al., 2008).

In Salt Lake City, interviewees generally described this regulatory environment as functional but difficult to navigate without prior expertise, institutional knowledge, or strong professional relationships. Their accounts suggest that complexity arises not only from the number of agencies involved, but from the need to understand how those agencies operate in practice and how their timelines intersect. Importantly, this means that redevelopment feasibility is shaped not just by formal rules, but by how well actors understand and move within those systems. Margaret's reflection captures this early-stage learning process, emphasizing that navigating redevelopment depends heavily on understanding institutional pathways:

I mean being in this field again for however long I've been in here, 14 years, 15 years, it still kind of amazes me sometimes that how many people are new to brownfields or still just understanding and, you know, thinking about these

properties that have been ignored for years and years and years and years, and then they're like, Oh, we could do something with it. (Margaret)

This quote highlights that procedural complexity is not fixed, it becomes more manageable as actors gain familiarity with institutional processes. However, it also implies that those without this knowledge face a steeper barrier to entry, particularly in early project stages where uncertainty is already high.

This uneven access to institutional knowledge becomes even more pronounced when interviewees discussed the role of personal relationships in navigating bureaucratic systems. Developers with prior experience or political connections described being able to bypass or streamline certain aspects of the process by directly contacting agency staff. Paul's comment illustrates this dynamic:

I, you know, having worked in government, but used to work, working with the community and visiting, visiting the organization, so I don't mind doing it. Some developers don't want to have any more headaches than they used to. Plus, I know people in government, so I can, if there's a problem, I can go talk to them directly. (Paul)

Paul's comment shows that relational access can reduce uncertainty by allowing experienced developers to clarify expectations, resolve misunderstandings, and avoid prolonged delays in permitting or remediation review. In this sense, bureaucratic complexity is not experienced equally across actors; it is shaped in part by who has institutional familiarity and who does not.

The interviews suggest that experienced developers often rely on relational knowledge, personal familiarity with agency staff and administrative procedures, to navigate these complexities. Planning scholars frequently describe this type of knowledge as institutional or relational capital, referring to the informal networks and professional relationships that facilitate coordination between public agencies and private actors (Innes & Booher, 2004). These

relationships can improve information flow, reduce misunderstandings, and accelerate decision-making in complex regulatory environments.

This dynamic becomes particularly important when considering how developers decide whether to engage with brownfield programs at all. Interviewees suggested that the issue is not simply the existence of regulatory requirements, but how those requirements are perceived in relation to already constrained development timelines. Even when public programs are designed to support redevelopment, such as cleanup assistance, assessment grants, or liability protections, the additional procedural steps required to access these resources can be viewed as burdensome rather than beneficial:

I think it's more so of it's just more loops to jump through and they're on a time commitment and so doing all of that, making sure they're enrolled just doesn't really meet their timeline. (Rebecca)

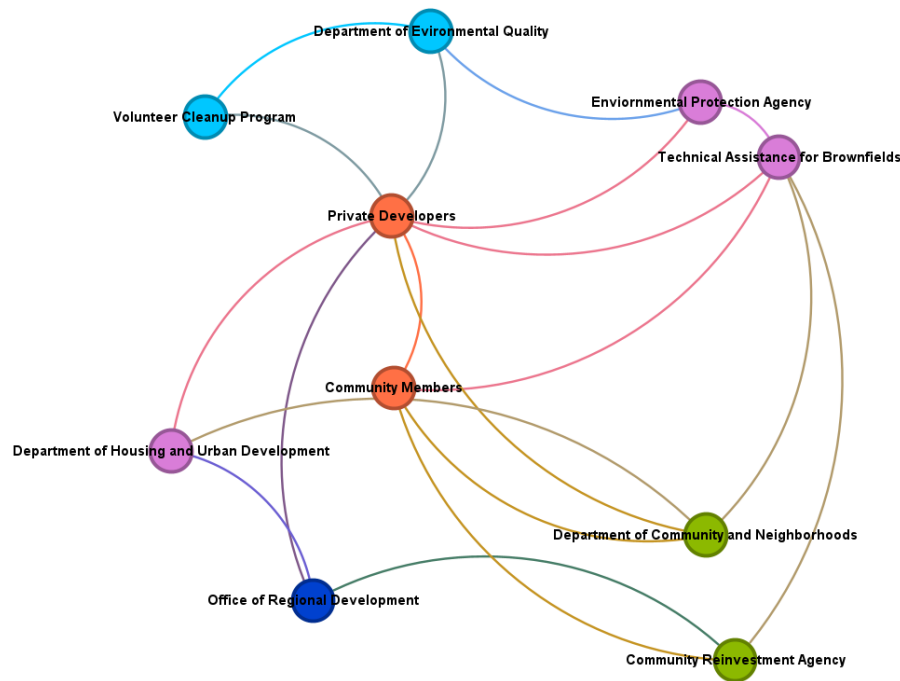
This quote underscores how procedural complexity affects development timelines. When additional steps are seen as incompatible with project schedules, developers might opt out of brownfield programs entirely. Thus, administrative complexity influences market participation, not just project execution. Even if the regulatory system works properly, the perception of added administrative burden can discourage investment. Consequently, procedural burden acts as a gatekeeper, shaping not only the progression of projects but also determining who is willing and able to undertake them, highlighting the active role administrative systems play in shaping redevelopment outcomes.

De Sousa, (2000) notes that developers frequently cite regulatory complexity and approval timelines as major barriers to brownfield redevelopment, particularly when compared with greenfield development opportunities. Similarly, Heberle & Wernstedt, (2006) found that developers often perceive regulatory processes as unpredictable, even when agencies provide formal guidance regarding remediation requirements.

This administrative uncertainty adds to the existing risks in brownfield housing development. Developers need to manage environmental assessments, remediation approvals, zoning rules, housing finance applications, and building permits, often dealing with multiple agencies that have varying timelines and priorities.

Brownfield redevelopment projects typically require coordination among multiple agencies, including the Utah Department of Environmental Quality (UDEQ), the Salt Lake City Department of Community and Neighborhoods, the Redevelopment Agency of Salt Lake City (RDA), and federal programs managed through the U.S. Environmental Protection Agency (EPA). Planning documents produced by the city highlight that redeveloping contaminated sites often involves overlapping regulatory reviews, environmental documentation, and development (Salt Lake City Department of Community and Neighborhoods, 2020; Redevelopment Agency of Salt Lake City, 2021). Figure 3.1 shows a simplified actor network map of several of these relationships between departments, agencies, and developers. The image shows how complex the network can be between stakeholders. While each program aims to address a specific policy goal, such as environmental remediation, housing production, or economic development, the resulting governance requires developers to navigate a sequence of approvals that may involve several different entities.

Figure 3.1 Actor Network Map of Stakeholders Involved with SLC Brownfields



Developers who possess prior experience with regulatory agencies, established professional relationships, and familiarity with administrative procedures are often better positioned to manage bureaucratic complexity.

Beyond procedural complexity itself, interviewees also emphasized that redevelopment depends on whether public institutions have the staffing, expertise, and organizational capacity to manage these projects effectively. While formal programs and regulations structure redevelopment, their implementation depends heavily on the capacity of public agencies to coordinate actors, interpret requirements, and sustain engagement over time.

Planning scholars have increasingly emphasized the importance of institutional capacity in redevelopment governance. Schmitt & Wiechmann, (2018) define planning capacity as the

ability of institutions to coordinate actors, interpret regulations, and align policies across time. In brownfield redevelopment, this capacity must span several domains simultaneously, including environmental science, land-use planning, housing finance, and community engagement. Scholars studying redevelopment governance have similarly noted that local institutional capacity often determines whether contaminated land can successfully transition to productive uses (Hollander et al., 2010). When administrative capacity is strong, agencies can integrate these domains more effectively. When capacity is limited, coordination becomes more difficult, and redevelopment timelines may lengthen.

Interviewees in Salt Lake City frequently noted that brownfield redevelopment projects require substantial administrative effort. Compared to conventional greenfield development, contaminated sites involve additional layers of environmental documentation, regulatory review, and interagency communication. Margaret describes some of the groups that she assists with forming who all have a say in redevelopment:

One person can't do it all, and it is going to take representatives from all those various stakeholder groups...And then oftentimes, communities, and we'll help them create, yeah, like a stakeholder group, a community advisory group, or brownfields, a Brownfields committee that they meet every so often and talk about projects, sites, prioritize (Margaret)

This quote reveals that redevelopment depends on ongoing institutional labor, including convening stakeholders, facilitating communication, and maintaining alignment across multiple actors. These efforts are essential for managing complex projects but are rarely formalized as part of regulatory processes. As a result, administrative capacity becomes a critical but often overlooked determinant of redevelopment feasibility.

Another interviewee described how staff members often take on coordinating roles that extend beyond their formal responsibilities. In addition to presenting updates to City Council Rebecca explained how her department tries to present to other organizations:

And then when we can, we do try to present other nonprofits, developers, cities, etc., anyone that is interested. We try and get ourselves in front of them and provide information about our programs and to see if anyone is interested.
(Rebecca)

This suggests that coordination work frequently occurs behind the scenes. Staff members communicate with environmental regulators, developers, and consultants to ensure that project requirements remain aligned. While these efforts may not always be visible in formal project documents, they play a significant role in keeping redevelopment processes moving forward.

Administrative responsibilities associated with redevelopment are also reflected in the structure of local housing and redevelopment programs. For example, Salt Lake City's Housing Development Loan Program, administered through the city's housing division and redevelopment agencies, centralizes loan applications and underwriting procedures for affordable housing development. The program is designed to streamline the financing process and coordinate public funding sources used to support housing projects (*Housing Development Loan Program*, n.d.).

Institutional familiarity also plays an important role at the agency level. As staff gain experience with redevelopment projects, they develop a deeper understanding of stakeholder dynamics and community expectations. Hugh's reflection illustrates this point:

We have a better understanding of what sort of the hard line is for the community. In that case... there's special interest groups, there's friends, friends of organization for the building itself. So we have a pretty good understanding of what their stake is in in the building. (Hugh)

This indicates that relationships help agencies communicate more effectively and resolve potential issues earlier in the redevelopment process. Institutional familiarity can therefore increase the efficiency of project review and coordination. Scholars studying collaborative planning processes have similarly argued that repeated interaction between institutional actors

builds relational knowledge and trust, allowing governance networks to function more effectively over time (Ansell & Gash, 2008; Innes & Booher, 2004).

Administrative capacity is also shaped by workload demands. Brownfield projects often require more attention than conventional developments due to environmental considerations and interagency coordination requirements. Salt Lake City's housing and planning strategies recognize this growing demand for redevelopment capacity. The Housing SLC Plan, for example, identifies redevelopment and infill housing as critical strategies for expanding the city's housing supply while accommodating population growth within existing urban areas (Salt Lake City, 2015).

Over time, agencies become better equipped to anticipate challenges and manage complex redevelopment environments. However, this capacity is constrained by available resources. Rebecca summarized this limitation:

So then as far as communication goes, it falls onto us, which is why we think, like the county is such a great has such a great opportunity for this grant, and like many other grants, is because a lot of city staff don't have the human resources to execute all of these relationships. Keep them going, keep following up and all of that. Whereas the county, we have designated staff. (Rebecca)

This highlights a key tension: while redevelopment relies on extensive coordination, agencies may lack enough staff to maintain these efforts. When capacity is limited, coordination becomes harder, raising the chances of delays and misalignment. If staff don't have enough time or resources to coordinate effectively across agencies, redevelopment processes can become more complex and unpredictable. Conversely, when agencies have sufficient staff, expertise, and institutional knowledge, coordination among environmental, planning, and housing programs is more efficient. Projects can move through regulatory processes with fewer delays and clearer guidance.

Timing plays a crucial role in Salt Lake City's redevelopment and housing initiatives. These projects often depend on intricate, multi-layered financing systems, including local redevelopment funds, federal subsidies, and environmental cleanup grants. For instance, affordable housing developments frequently utilize Low-Income Housing Tax Credits administered by the Utah Housing Corporation, often supplemented by local sources like Redevelopment Agency loans, tax increment financing, or federal HOME grants. Because each funding source has its own cycle and approval process, developers must carefully synchronize environmental remediation plans with housing financing and development agreements (Root Policy Research, 2025; The Department of Community and Neighborhoods, 2023).

Several interviewees described situations where the sequencing of approvals, funding agreements, and regulatory reviews created delays that affected project feasibility. Hugh, a real estate services director illustrates the length of time required to finalize redevelopment agreements:

We request them to provide three different categories of paperwork, and just for the loan application, and that includes the environmental history of the property, the funds that you have in order to ensure that we can get repaid, and then the redevelopment plans for the property. And so that's quite a bit of documentation. It typically we work for any given developer probably about two years before we're able to get them to sign the loan agreement. So it is a journey to get them there. (Hugh)

This quote highlights how institutional processes operate on extended timelines that may not align with development or financing schedules. In the context of housing development, a two-year delay can significantly alter project feasibility. Housing finance structures, particularly those relying on programs such as the Low-Income Housing Tax Credit (LIHTC), operate on rigid application cycles and financing timelines. LIHTC allocations are typically awarded through annual competitive funding rounds, meaning that projects must align environmental

approvals, development agreements, and financing applications within narrow time windows (Luque, 2020).

Geltner & Miller, (2007) note that development timelines directly influence project feasibility because extended approval periods increase financing costs and expose projects to market fluctuations. For brownfield redevelopment projects, which already involve environmental uncertainty, administrative delays can compound existing financial risks.

Assessment grants and technical assistance programs are often viewed favorably because they provide early-stage information without imposing significant administrative burdens. By helping developers understand contamination conditions and remediation requirements early in the planning process, these programs reduce risk and allow projects to move forward more confidently.

Caroline, an environmental engineer, explained how these early-stage programs can change the trajectory of redevelopment decisions by clarifying project requirements and reducing uncertainty. Interviewees also emphasized that this clarity depends on establishing expectations and oversight mechanisms early in the process. As one respondent noted:

So we tried, at least in the sites that I've been involved in that should be upfront about that, and that being, you know this, given the sensitive nature of these sites, and redeveloping them for residential use, we want to make sure that we're doing this under the proper oversight. And you know that that's very clear, and that's the expectation from the beginning. (Caroline)

This perspective highlights how early environmental work is not only about identifying contamination, but also about setting institutional expectations that guide redevelopment moving forward. By clearly defining regulatory requirements, oversight processes, and developer responsibilities at the outset, stakeholders can reduce ambiguity and prevent delays later in the project lifecycle. City planning documents also highlight that redevelopment projects often require early coordination among agencies to prevent delays later in the process. The Salt Lake

City Housing Plan stresses the importance of aligning environmental remediation activities with housing development timelines to ensure that projects remain competitive for limited subsidy funding (The Department of Community and Neighborhoods, 2023). When environmental approvals, redevelopment agreements, or site preparation activities happen too late in the development process, projects may miss housing funding cycles or financing deadlines.

Interviewees also emphasized was the importance of coordination between environmental programs and housing finance systems. Brownfield grants, cleanup approvals, and redevelopment agreements are often administered by different agencies than housing subsidies. When these programs operate independently, their timelines may not align with one another. Caroline's account illustrates how these overlapping timelines can shape developer decision-making:

Some developers are not patient... they don't want to wait for the cleanup, or they don't want to wait for maybe some variants, or even tax credits... sometimes those are over the course of, say, 10 years. (Caroline)

This quote emphasizes that timing is perceived not only as delay but also as uncertainty regarding when important project milestones will be achieved. Developers need to balance the risks of prolonged timelines with potential benefits, and with processes like environmental cleanup or tax credit approvals taking several years, projects can become less appealing. In this context, timing issues are more than logistical; they affect whether developers stay committed or withdraw from a project. A misalignment can undermine project viability even if funding is available. Environmental programs might effectively support remediation, but if approvals come after housing finance deadlines, the project might have to wait another year or more before starting construction.

Taken together, these interview accounts suggest that bureaucratic capacity, and timing are not separate obstacles, but closely connected institutional conditions that shape

redevelopment feasibility. Procedural complexity becomes more manageable when developers and public agencies possess relational knowledge and institutional familiarity, but it becomes far more daunting when actors lack those relationships or when agencies do not have the staffing capacity to guide projects effectively. Timing intensifies these challenges by requiring environmental approvals, redevelopment agreements, and housing finance applications to align within narrow windows. In Salt Lake City, the findings suggest that redevelopment does not stall only because contamination is difficult, or financing is scarce, but because the institutional work of sequencing, coordinating, and sustaining projects across multiple systems is itself demanding.

Chapter Synthesis

The findings in this chapter show that no single institutional barrier determines whether brownfield-to-housing redevelopment moves forward. Instead, redevelopment is shaped through the interaction of interagency coordination, public-sector support, environmental review, bureaucratic complexity, administrative capacity and timing. These conditions do not operate independently. Rather, they intersect throughout the early stages of redevelopment and influence whether projects can advance from site investigation to implementation.

Across the interviews, different actors emphasized different parts of this institutional landscape. Developers often described redevelopment through the lens of feasibility, focusing on remediation costs, uncertain site conditions, and the challenge of aligning approvals, design decisions, and financing. Public officials emphasized planning processes, interagency communication, review, and program administration. Environmental and technical professionals focused more strongly on liability, contamination, due diligence, and the importance of accurate site knowledge in shaping redevelopment decisions.

The chapter therefore demonstrates that brownfield-to-housing redevelopment in Salt Lake City is not shaped only by contamination or market demand, but by the institutional relationships through which redevelopment is negotiated, coordinated, and carried out. Even within a fragmented governance system, projects can move forward when institutions communicate regularly, align their responsibilities, and provide sufficient technical, administrative, and financial support. At the same time, the findings show that this process remains fragile, particularly when coordination depends heavily on informal relationships, limited staff capacity, or tightly sequenced funding and approval systems.

Understanding these institutional dynamics is therefore essential for communities seeking to promote brownfield-to-housing redevelopment. Strengthening coordination mechanisms, supporting planning capacity, clarifying regulatory pathways, and reinforcing partnerships can help ensure that contaminated sites are more successfully transformed into housing opportunities. The following chapter builds on this institutional foundation by examining the planning strategies that stakeholders use to move redevelopment projects from feasibility toward implementation.

Chapter 4 - Thematic Findings II: Planning Strategies

This chapter examines the planning strategies and enabling approaches that stakeholders use to advance brownfield-to-housing redevelopment in Salt Lake City. Rather than focusing only on technical and financial assistance, it considers a broader set of strategies that emerged across the interviews, including technical assistance, regulatory pathways, financial support, adaptive reuse and infill development, housing-oriented redevelopment priorities, and community engagement.

Together, these strategies show that redevelopment does not move forward through one single intervention. Instead, projects depend on combinations of support, planning decisions, and institutional actions that help reduce uncertainty, align redevelopment goals, and make housing production feasible. In this sense, planning strategies operate not only as project tools, but also as mechanisms for translating brownfield sites into realistic housing opportunities.

Federal programs from the Environmental Protection Agency provide environmental assessments, cleanup grants, and technical support. State regulatory programs establish remediation pathways and offer liability protections that help projects move beyond the assessment stage. Locally, economic development agencies and municipal governments may provide financial incentives, infrastructure investments, redevelopment financing tools, or planning support that help close the gap between cleanup and housing development.

Interviewees consistently described these strategies as essential components of the redevelopment process. Technical assistance programs help project teams understand environmental risks and regulatory requirements, while financial assistance and redevelopment tools provide resources that can make contaminated sites more viable for housing. At the same time, participants emphasized that these strategies are most effective when they are coordinated

with redevelopment design, housing goals, and community priorities. The sections that follow examine these strategies in turn, showing how stakeholders use them to move projects from remediation and uncertainty toward redevelopment and housing production.

EPA and TAB Technical Assistance

Federal technical assistance programs are important because they reduce uncertainty at the earliest stages of brownfield redevelopment. Developers and lenders often lack reliable knowledge about contamination, cleanup costs, and regulatory expectations (Adams et al., 2010). When environmental conditions are unclear, developers may avoid brownfield sites due to perceived risk. Programs that generate credible environmental information can spur redevelopment by lowering this uncertainty and enabling informed decisions. By providing environmental data, regulatory guidance, and planning support, they help project teams understand risk, estimate remediation needs, and evaluate whether redevelopment is feasible in the first place. Rather than simply supplying information, these programs reshape how developers, planners, and local governments interpret site conditions and decide whether to move forward.

The Environmental Protection Agency's Brownfields Program offers a range of support mechanisms that function collectively to build early-stage redevelopment capacity. While these include Assessment Grants, Cleanup Grants, and multipurpose funding, their broader significance lies in how they provide environmental knowledge, planning assistance, and technical expertise that many communities and project teams would not otherwise possess. Similarly, EPA Region 8's Technical Assistance to Brownfields (TAB) providers help generate site inventories, interpret environmental data, support redevelopment planning, and assist with

grant applications. Together, these programs help actors move from uncertainty toward informed decision-making.

Interviewees described technical assistance as particularly valuable during the earliest stages of redevelopment, not only for addressing environmental uncertainty but also for structuring the planning process itself. Participants emphasized that programs such as TAB often provide organizational and design support that helps move projects from an initial idea to a more defined and actionable plan. In this way, technical assistance plays a formative role in shaping how redevelopment unfolds, especially in projects that require coordination between community priorities, design considerations, and implementation strategies. Paul said of working with TAB on a civic center project:

They helped us create an outline of how we were going to go through the process. They took notes. They helped us come up with a design for the project as well. So it's a site, site plan for the project, so, and, and so that that was very helpful. So again, they helped set up the meetings. They helped organize the activities that they put together slideshows for us. And they worked with another individual. I think it was a subcontractor of theirs to help do a design for the site plan. (Paul)

TAB's involvement in structuring meetings, facilitating community engagement, and producing preliminary site designs demonstrates how these programs translate broad redevelopment goals into actionable steps for the developer. As a result, projects are better positioned to move forward with clearer direction and stronger community alignment.

Similarly, interviewees emphasized that technical assistance helps consolidate fragmented environmental knowledge into a form that project teams can actually use. Hugh described this function in relation to TAB support:

There was a group you mentioned in the beginning. Oh, TAB, yeah. TAB helped collect all of the data that's been done over the years, and because there's been a lot of it, and consolidate the information. (Hugh)

This suggests that the value of technical assistance lies not only in generating new data, but in organizing existing information into a coherent framework. Brownfield sites often have long and complex environmental histories, and without consolidation, this information can remain difficult to interpret. By making data more accessible and usable, technical assistance helps project teams translate environmental knowledge into actionable redevelopment strategies.

EPA's Targeted Brownfields Assessments (TBAs) especially help communities or groups that lack environmental expertise. These assessments produce data to inform planning, guide cleanup, and support grant applications. TBA reports often help project teams identify proper regulatory cleanup pathways, including Utah's Voluntary Cleanup Program (VCP). The U.S. Environmental Protection Agency's Targeted Brownfields Assessment (TBA) program provides free environmental site assessments to evaluate the presence and extent of contamination on a property. These assessments are typically conducted at the request of a local government, nonprofit organization, or other eligible entity, rather than initiated independently by the EPA, and are intended to reduce uncertainty and support redevelopment decision-making. The program functions as a form of technical assistance that helps communities better understand site conditions and prepare properties for cleanup and reuse (US EPA, 2022).

Interviewees also emphasized that technical assistance plays a role in helping communities move beyond understanding contamination toward imagining and planning for reuse. Margaret's account expands the discussion beyond environmental data alone:

We really try to focus on addressing or helping communities address maybe that environmental component or aspect of a particular site that has been underutilized, ignored or left vacant, as well as just help them to develop goals or a plan to how to get those properties, brownfield properties, back into productive use (Margaret)

This highlights that technical assistance contributes not only to risk assessment, but to redevelopment visioning and planning capacity. By helping communities articulate goals and

identify pathways forward, these programs expand what is perceived as possible for previously neglected sites.

Interviewees also made clear, however, that technical assistance alone does not produce redevelopment. While assessments and planning support can clarify risk, projects still require regulatory approval, financing, and implementation capacity to move forward. Environmental information reduces uncertainty, but it does not eliminate the structural and financial challenges associated with remediation and construction (Leigh & Coffin, 2005). In this sense, technical assistance is necessary but not sufficient it creates the conditions for redevelopment but does not guarantee it.

Technical assistance providers also identified themselves as educators. They explained their role in helping communities secure assessment grants, interpret contamination reports, and manage eligibility criteria. From their perspective, knowledge gaps were often the greatest barrier. Smaller municipalities, in particular, may not realize they qualify for assistance or what can be done on a site.

Margaret described technical providers as educators who assist communities in understanding eligibility criteria, interpreting environmental data, and accessing programs. She noted that knowledge gaps can hinder redevelopment efforts. This highlights how technical assistance boosts redevelopment by raising awareness and understanding. By guiding communities to identify opportunities and manage complex procedures, these programs help make redevelopment more achievable for more people.

Taken together, these interview accounts suggest that EPA and TAB technical assistance function as enabling strategies because they reduce uncertainty at the earliest stages of redevelopment. By generating environmental information, consolidating site knowledge,

clarifying regulatory pathways, and helping communities interpret what is possible, these programs make brownfield sites more legible to planners, developers, and local governments. At the same time, technical assistance also expands local planning capacity by acting as an educational resource, helping communities understand available programs, eligibility requirements, and potential reuse pathways that they might otherwise overlook. In doing so, these programs not only provide information, but also build the institutional knowledge necessary for communities to engage more effectively in redevelopment processes.

The findings also show that technical assistance is not sufficient on its own. It can help project teams understand risk and identify next steps, but redevelopment still depends on whether that information can be translated into remediation, financing, and implementation. In this sense, technical assistance matters not only because it provides data, but because it helps move sites from uncertainty toward action while simultaneously strengthening the capacity of local actors to participate in and sustain redevelopment efforts.

Utah Voluntary Cleanup Program (VCP)

State regulatory programs are crucial because they shift brownfield redevelopment from environmental assessment to remediation and implementation. While federal programs offer early-stage information and support, state agencies create the regulatory pathways that allow developers to move forward with greater certainty. Research shows that regulatory certainty and liability protection are key factors influencing developer participation in site redevelopment (Adams et al., 2010). In this way, state programs turn environmental knowledge into practical redevelopment strategies.

In Utah, the Voluntary Cleanup Program (VCP) administered by the Utah Department of Environmental Quality (DEQ) serves as the primary regulatory pathway for brownfield remediation and redevelopment. Administered through the Division of Environmental Response and Remediation (DERR), the program allows property owners, developers, and municipalities to voluntarily investigate and remediate contaminated properties under state oversight. Participants conduct environmental assessments, develop remediation strategies, and implement cleanup activities in coordination with state regulators. Upon successful completion of remediation activities, participants receive a Certificate of Completion (*VCP Process*, n.d.).

The significance of the VCP lies not simply in its administrative structure, but in how it reduces liability uncertainty and makes redevelopment projects legible to other institutional actors. Planning literature consistently identifies liability concerns as a major barrier to brownfield investment (De Sousa, 2000). Without clear regulatory assurances, developers and lenders may be unwilling to commit to projects involving contaminated sites. The VCP addresses this issue by providing a recognized framework for remediation, reducing legal uncertainty while maintaining environmental safeguards (Howell-Moroney, 2008).

Interviewees described participation in the Voluntary Cleanup Program (VCP) not simply as a regulatory option, but as something that can become embedded within the structure of redevelopment agreements themselves. In some cases, entering the VCP is treated as a prerequisite for moving forward with development, particularly when public agencies or property owners seek assurance that environmental risks will be addressed in a formal and verifiable way. This reflects the program's broader role in making projects legible and acceptable to multiple institutional actors, including municipalities, landlords, and lenders. Caroline's account illustrates how VCP participation can be formalized within these agreements:

And we also made it very clear that we want that developers have to enter into the voluntary cleanup program as part of the lease agreement that they would get. So that's a condition of the lease agreement, the cooperative agreement that we have with the developers. (Caroline)

Lenders generally need assurance that environmental risks have been managed before granting construction loans or long-term funding. The Certificate of Completion provided by the VCP acts as an official indication that remediation requirements are met, enabling financial institutions to proceed with increased confidence.

Despite its benefits, interviewees noted that participation in the VCP still requires significant administrative effort. The same oversight that provides clarity and liability protection also introduces additional administrative requirements, including documentation, monitoring, and reporting. Rebecca described this tradeoff:

So the only other one is it would be the enrollment of the voluntary cleanup program. We the revolving loan funds in general require this, and so some entities don't really want that additional oversight, and that also is more paperwork for them, more things going on there. And so that can also cause some issues. (Rebecca)

This emphasizes that regulatory certainty comes with certain costs. Although the VCP lowers risk and enhances feasibility, it also involves project teams managing extra oversight layers. For some developers, especially those with limited administrative resources, these additional requirements might discourage involvement. These oversight and documentation demands illustrate the regulatory balance in voluntary cleanup programs. While the VCP offers flexibility and liability protection, it still mandates thorough environmental review to verify that remediation standards are satisfied.

The interviews suggest that Utah's VCP functions as a critical bridge between environmental assessment and redevelopment implementation, as well as access to additional financial assistance. Federal programs such as EPA technical assistance provide environmental

information, but redevelopment cannot proceed without regulatory approval of remediation strategies. The VCP provides a pathway for achieving this approval while reducing liability concerns for developers and lenders. In this sense, the program does more than regulate cleanup it connects technical knowledge generated through assessments with formal regulatory validation and the financial confidence needed to move projects forward. By translating environmental information into an approved and documented remediation pathway, the VCP makes sites legible not only to regulators, but also to lenders and development partners. This alignment of knowledge, regulation, and financing is what allows brownfield-to-housing projects to advance beyond the assessment stage and toward implementation.

The findings suggest that the VCP functions as a key regulatory strategy within brownfield-to-housing redevelopment because it transforms environmental uncertainty into a recognized pathway toward implementation. By providing liability protection, formal oversight, and a mechanism for documenting remediation, the program helps make contaminated properties more legible to developers, public agencies, and lenders. At the same time, the interviews also show that this certainty comes with procedural and administrative costs. In Salt Lake City, the VCP appears most effective when project teams can absorb those requirements and use the program not only to satisfy regulators, but also to support financing, redevelopment agreements, and housing production.

Financial Assistance and Funding Gaps

While technical assistance and regulatory frameworks help reduce environmental uncertainty, brownfield-to-housing redevelopment ultimately depends on whether project teams can assemble sufficient financial resources to move projects forward. Cleanup costs, site

preparation, infrastructure upgrades, and housing development expenses often exceed what developers can absorb through conventional financing alone. As a result, redevelopment feasibility depends on layered financial strategies that combine environmental grants, housing subsidies, and local economic development incentives.

Scholars consistently emphasize the importance of public financial support in enabling brownfield redevelopment. Environmental remediation can introduce costs that make redevelopment financially uncompetitive compared to greenfield development, where land preparation costs are typically lower (Adams et al., 2010; C. De Sousa, 2000). Public financial assistance helps offset these costs by subsidizing environmental cleanup, infrastructure investment, and housing development. In this context, financial assistance is not simply supplementary support it is often one of the primary mechanisms through which brownfield redevelopment becomes viable at all.

Interviewees in Salt Lake City described redevelopment financing as a layered process in which multiple funding sources must be combined to address different parts of the project. Environmental grants, housing subsidies, and local development tools are often used simultaneously because no single source typically covers the full cost from remediation to housing production. These financing structures also reflect broader housing and redevelopment priorities in Salt Lake City, where local strategy documents encourage leveraging multiple funding sources to expand housing supply and support redevelopment within the existing urban footprint (Salt Lake City, 2015). Below is a table listing of the available funding sources for a potential brownfields to housing project (Root Policy Research, 2025; US EPA, 2022; Voluntary Cleanup Program/Brownfields, n.d.).

Table 2 Potential Funding Sources for Potential Brownfields-to-Housing Project

Funding Source	Level	Type	What It Funds
EPA Brownfields Grants	Federal	Grant	Site assessment, cleanup, planning
EPA Technical Assistance (TAB)	Federal	Technical Support	Site analysis, grant support
HUD CDBG (Community Development Block Grant)	Federal	Grant	Housing, infrastructure, acquisition
Tax Credits for Historic Preservation	State	Tax Credit	Rehabilitation of historic buildings
State Brownfield Assessment Grants (DERR)	State	Grant	Environmental assessments
RDA Housing Development Loan Program (HDLP)	Local	Housing Loan	Affordable housing construction
RDA Loan Program (General)	Local	Financing Loan	Construction, site improvements
Granary Adaptive Reuse Program	Local	Forgivable Loan	Building reuse, code upgrades
Tax Increment Financing (TIF)	Local	Financing Tool	Infrastructure, development costs

This layered financing approach reflects a broader pattern documented in redevelopment literature. Brownfield cleanup programs typically fund environmental remediation, while housing finance programs support residential construction. Because these programs operate independently, redevelopment projects must integrate multiple funding streams in order to cover the full range of project costs and keep projects financially viable (Leigh & Coffin, 2005).

Although several of these programs are not specifically designed for brownfield redevelopment, they frequently form the financial backbone of redevelopment projects. Housing subsidies such as Low-Income Housing Tax Credits (LIHTC) support residential development, while environmental grants and tax incentives help address cleanup costs. Federal housing programs such as HOME and Community Development Block Grants (CDBG) also contribute to affordable housing and neighborhood revitalization efforts (Root Policy Research, 2025). The key implication, however, is that no single program finances the full redevelopment process.

Instead, project teams must strategically layer environmental, housing, and redevelopment funding to cover different components of cost. This layering is not incidental; it is the central financial strategy through which brownfield-to-housing projects become feasible.

At the local level, economic development agencies play a particularly important role in bridging financial gaps that neither environmental nor housing programs fully address. In Salt Lake City, the Community Reinvestment Agency (CRA) provides financing tools such as tax increment financing (TIF), land assembly, and infrastructure investment to support redevelopment in areas where market conditions alone may not sustain development (The Redevelopment Agency of Salt Lake City, 2024). These tools align with broader redevelopment goals outlined in Plan Salt Lake, but their primary significance lies in their ability to connect environmental remediation with housing production by filling remaining cost gaps.

Interviewees emphasized that access to these resources is not evenly distributed. Public-sector actors often control or mediate access to specific grants and financing mechanisms that private developers cannot easily secure independently. Robert's account highlights this dynamic:

And our cities that I think push for brownfields redevelopment in part because they have access to some of the resources, particularly grants your most of your developers don't have access to that unless they're drawn down, say, from a revolving loan fund. (Robert)

This illustrates that local governments play a central role in redevelopment finance not only because they provide funding, but because they act as intermediaries between funding sources and project implementation. Their ability to access and deploy resources that private developers cannot directly obtain reinforces the importance of public-sector participation in making redevelopment financially viable.

CRA involvement therefore functions as a bridge between environmental remediation efforts and broader urban redevelopment goals. By investing in infrastructure and redevelopment

incentives, local governments help ensure that contaminated sites can be reintegrated into the urban housing market.

Despite the availability of multiple assistance programs, interviewees consistently emphasized that financial gaps remain a persistent challenge. Even when numerous funding sources exist, projects can remain financially fragile because programs are limited in scope, competitive in allocation, and often poorly aligned with one another. Margaret's reflections capture this tension:

But if you want to restore a historic building, even if you're going to convert it into another use, like, that's a whole other layer,...So those are things you know, to think about also, as well as HUD. I mean, HUD has their own then layer of and so I think sometimes it's evaluating funding opportunities also in comparison of meeting a need and actually reaching your goals (Margaret)

Margaret also highlighted how funding cycles can complicate redevelopment planning:

I think the contamination can be seen often as a hindrance. And then, and, you know, some local laws and restrictions, some developers are not patient like they don't. They don't want to wait for the cleanup, or they don't want to wait for, yeah, maybe some variants, or even tax credits, you know, because sometimes those you know, it's over the course of, say, 10 years. (Margaret)

Together, these statements highlight that redevelopment financing is not simply about accessing funding, but about aligning multiple programs with project goals and timelines. Even when funding is available, delays in securing resources or mismatches between program requirements can undermine feasibility. This reinforces the idea that layered financing is inherently fragile, requiring careful coordination across multiple systems.

Because many financial assistance programs operate on competitive or cyclical funding structures, project teams must strategically align grant applications, subsidy allocations, and construction timelines in order to make layered financing work. In this context, timing is not a separate challenge, but an integral component of financial strategy: projects must synchronize multiple funding streams to remain viable.

The interviews confirm that brownfield redevelopment financing is inherently multi-layered. Environmental remediation funding, housing subsidies, and local economic development incentives must be combined to produce viable projects. While each program addresses a different aspect of redevelopment costs, the complexity of assembling these funding streams can create additional administrative challenges.

In Salt Lake City, the integration of federal grants, state cleanup programs, and local redevelopment tools illustrates how these financial systems interact to support redevelopment outcomes and align with broader municipal strategies promoting redevelopment and housing production within the city's existing urban footprint (Root Policy Research, 2025; Salt Lake City, 2015).

Feasibility also involved aligning various sources of financing. Developers explained how they navigated channels like Low-Income Housing Tax Credits (LIHTC), Tax Increment Financing (TIF), state housing funds, EPA grants, and local incentives. Brownfield projects, particularly those for affordable housing, often required assembling capital from multiple unrelated sources.

Yeah, so we did receive a loan from the county government. It was, it was home, Federal Home funding ...a community development block grant, development block grant for that project, and then we received a loan from Salt Lake City as well to build the affordable housing. There's a lot of layers, lot of layers of funding that go into the project. (Paul)

Taken together, these interview accounts suggest that financial assistance is not simply a supplement to redevelopment, but one of the central strategies through which brownfield-to-housing projects become possible. Because different funding sources address different parts of redevelopment cost, environmental cleanup, site preparation, infrastructure, and housing production, projects depend on assembling layered financial structures rather than relying on any single program. In Salt Lake City, these strategies appear most effective when federal, state, and

local resources can be coordinated in ways that align remediation, redevelopment, and housing goals. At the same time, the findings show that funding gaps, eligibility limits, and mismatched program timelines continue to make redevelopment financially fragile, particularly for affordable housing projects.

Adaptive Reuse and Infill Development

Interviewees frequently described adaptive reuse and infill development as strategies for responding to land scarcity and redevelopment pressure in Salt Lake City's urban core. In this context, underutilized industrial parcels and historic buildings are viewed not only as remnants of earlier land uses, but as opportunities for housing production within the existing urban footprint. Rather than expanding outward, redevelopment focuses on converting already-developed land into residential uses, allowing the city to increase housing supply while making more efficient use of existing infrastructure.

This redevelopment strategy aligns closely with Salt Lake City's planning objectives. The city's comprehensive plan encourages redevelopment of underutilized urban land and emphasizes compact development patterns that use existing infrastructure efficiently (Salt Lake City, 2015). Similarly, the city's housing strategy identifies infill development and redevelopment of underutilized parcels as key mechanisms for expanding housing supply in areas already served by transportation, utilities, and community services (Salt Lake City, 2020).

Many interviewees suggested that this redevelopment potential is especially visible in historic buildings. These structures often occupy valuable urban locations, making them strong candidates for housing redevelopment. At the same time, they are also among the most complex

sites to reuse due to preservation requirements, funding conditions, and regulatory constraints.

Margaret's account captures this tension:

But if you want to restore a historic building, even if you're going to convert it into another use, like, that's a whole other layer, and you do have so many requirements and restrictions, especially if you want to get historic funding.
(Margaret)

This quote highlights that adaptive reuse is both strategic and complex. Historic buildings offer opportunities to introduce housing into desirable locations while preserving neighborhood character, but they also introduce additional layers of regulation and financing requirements that can complicate redevelopment. As a result, adaptive reuse is not simply a design choice it is a planning strategy that must navigate competing priorities between preservation, feasibility, and housing production.

Planning and redevelopment literature supports this interpretation, though it is most useful when read alongside the interview evidence. Adaptive reuse has been shown to extend the lifecycle of existing structures and reduce the environmental and financial costs associated with demolition and new construction (Bullen, 2011). At the same time, historic buildings can enhance neighborhood identity and market appeal (Shipley et al., 2006). In Salt Lake City, interviewees' accounts suggest that these benefits are balanced against regulatory and financial constraints, reinforcing the idea that adaptive reuse is a valuable but complex redevelopment strategy.

For interviewees, adaptive reuse was closely tied to broader conditions of land scarcity and housing demand. Several explained that the city's geographic constraints and rapid population growth make redevelopment of existing land increasingly necessary. Hugh's reflection illustrates how housing pressure is reshaping redevelopment priorities:

Historic Preservation is typically very popular. Has been very popular. You know, I think housing can be complicated, but I think generally, right now, residents recognize the city needs more housing and more variety of housing (Hugh)

This quote shows that adaptive reuse and infill are not simply optional strategies, but increasingly necessary responses to housing demand within a constrained urban environment. As pressure for additional housing grows, previously protected or underutilized sites, such as historic buildings, are being reconsidered as potential contributors to the housing supply.

These pressures have pushed developers and planners to consider previously overlooked sites, including brownfields and older industrial properties. Infill development, the reuse of vacant or underutilized land already within cities, has become an important strategy for cities facing housing shortages. Couch et al., (2011) note that infill development helps cities accommodate population growth, reduce outward expansion, and preserve open space. Infill projects often use existing infrastructure and services, making them more spatially efficient than greenfield development.

Brownfields play a central role in this strategy because they are often located in established neighborhoods with access to infrastructure and services. Redeveloping these sites allows cities to convert former industrial or underutilized areas into residential or mixed-use districts, directly contributing to housing supply. Interviewees also described infill redevelopment as a strategic and place-based process, rather than a random or opportunistic one. Claire explained how redevelopment decisions are often guided by targeted investment in specific areas:

So I think there are a lot of things that go into deciding to purchase a site. I think it probably starts with sort of having these geographic nodes that were like, Okay, if we could get something going in this concentrated area, then that will benefit the surrounding neighborhood. (Claire)

These projects demonstrate how formerly industrial spaces can be reimagined as residential environments, contributing to both urban revitalization and housing production. In this sense, the redevelopment of historic buildings and brownfields functions as a form of infill development that allows cities to expand housing opportunities while making more efficient use of existing urban land.

This section shows that adaptive reuse and infill development operate as planning strategies that help convert land scarcity into housing opportunity. In Salt Lake City, historic buildings, industrial parcels, and other underutilized urban sites are not viewed only as remnants of earlier land uses, but as places where housing production and neighborhood reinvestment can occur within the existing urban footprint. At the same time, the findings show that these strategies are not frictionless. Adaptive reuse may introduce preservation requirements and financing complexity, while infill redevelopment must still align with broader neighborhood and housing goals. Even so, the section demonstrates that brownfields and older structures are increasingly understood as strategic sites through which redevelopment can support both housing growth and urban revitalization.

Housing Needs, Affordability and Development Priorities

Interviewees consistently framed brownfield redevelopment as part of Salt Lake City's response to housing need, particularly around affordability, supply pressures, and the reuse of underutilized urban land. Participants described redevelopment projects as balancing multiple housing priorities, including market-rate, mixed-income, and affordable housing. While different projects serve different segments, many emphasized that affordable housing remains one of the

most pressing needs in the city, shaping how redevelopment opportunities are evaluated and pursued.

These housing challenges are reflected in regional policy documents. The Salt Lake County Consolidated Plan identifies affordability and housing supply shortages as key regional issues, driven by rapid population growth and rising housing costs (Salt Lake County, 2024). In this context, redevelopment of underutilized urban land, including brownfields, is increasingly viewed as a strategy for expanding housing opportunities while limiting outward suburban expansion.

Interviewees also described successful redevelopment not simply as producing housing in general, but as addressing specific gaps in the local housing landscape. Projects were often evaluated based on whether they met unmet needs within surrounding communities. Claire's account illustrates this planning logic:

I think a lot of so I think when we're talking about mixed use or multi family, so we're talking about housing here, right, right? That's really what the question was focused on. Okay? So I think meeting a need that isn't being met right now, so like affordable housing with on-site daycare for us is like that really hit it out of the park (Claire)

This quote demonstrates that brownfield redevelopment is not framed only in terms of increasing housing supply, but as an opportunity to target specific community needs. In this case, affordable housing combined with supportive services (such as childcare) is seen as particularly impactful. This reflects a planning approach in which redevelopment is tied to addressing gaps in the housing system, rather than simply adding units.

In many cases, brownfield sites are also viewed as opportunities to introduce housing into areas historically dominated by industrial or underutilized land uses. Interviewees described these projects not only as increasing housing supply, but as reshaping how these areas function within the city. Nicole explained:

There's a lot of warehouses, kind of in, you know, business industrial complex of where we're located. So most were grateful that we were activating this part of the city, and bringing, you know, assets here, and bringing not just housing, but bringing other businesses that people were interested in, and so far, it's been very well accepted. (Nicole)

However, interviewees also emphasized that affordable housing is a particularly urgent need within Salt Lake City. Rapid population growth and rising housing costs have created increasing pressure on both renters and homeowners. Mary, also from the CRA, noted:

But in general, Salt Lake City has gotten fairly unaffordable. I think our median house price right now is around \$500,000 and rent. Yeah. So it is we have, like, what everyone acknowledges to be an affordability crisis and a supply crisis. (Mary)

This statement underscores that brownfield redevelopment is being pursued in response to structural housing challenges, not simply as an isolated planning strategy. The affordability crisis creates urgency around expanding housing supply, particularly for low- and moderate-income households.

Interviewees also pointed to policy frameworks that attempt to address these challenges through affordability targets and public incentives. Claire described how the city establishes minimum thresholds for affordable housing within redevelopment projects:

Yeah, our kind of standard threshold is that 20% of units should be available or affordable to households making 60% ami or below. And that's kind of a starting point. But for a lot of our programs, we try to go deeper than that. (Claire)

By leveraging public incentives, nonprofit partnerships, or mixed-income development models, these projects attempt to expand housing access while still remaining financially viable. Salt Lake City's housing strategy similarly encourages partnerships between nonprofit developers, public agencies, and private investors to increase the production of affordable housing units (The Department of Community and Neighborhoods, 2023).

In practice, these goals are often pursued through mixed-income development models, nonprofit partnerships, and public incentives that help offset development costs. Salt Lake City's housing strategy similarly emphasizes collaboration between public agencies, nonprofit developers, and private investors to expand the supply of affordable housing (Root Policy Research, 2025). This reflects the recognition that market-driven development alone is unlikely to meet affordability needs, particularly in rapidly growing urban areas (Been et al., 2019).

Brownfields are particularly well positioned to support housing development because they are often located within established urban areas where infrastructure and services already exist. Redeveloping these sites allows cities to increase housing density without expanding into undeveloped land. From a planning perspective, this reinforces the role of brownfields as infill development opportunities capable of addressing both land scarcity and housing demand.

The findings also suggest that brownfield redevelopment can serve as a mechanism for introducing housing into areas historically dominated by industrial land uses. By converting vacant or contaminated sites into residential developments, these projects reshape neighborhood land-use patterns and contribute to broader urban revitalization efforts.

Within Salt Lake City, interviewees consistently framed brownfield redevelopment as an opportunity to address housing shortages while also improving the use of previously underutilized land. While not every project produces affordable housing, these developments collectively expand the city's housing supply and demonstrate how environmental remediation, planning policy, and housing development can intersect to address pressing urban challenges.

This section shows that housing need and affordability pressures are not simply background conditions for brownfield redevelopment in Salt Lake City; they are central to how many stakeholders justify and prioritize these projects. Brownfield sites are often understood as

opportunities to expand housing supply, introduce residential uses into underutilized areas, and pursue more specific affordability goals within the existing urban footprint. At the same time, the findings suggest that redevelopment priorities are not neutral. They are shaped by decisions about what kinds of housing are needed, what levels of affordability are expected, and how public agencies use redevelopment tools to influence those outcomes. In this sense, brownfield redevelopment becomes not only a land use strategy, but also a housing strategy shaped by broader planning priorities.

Community Engagement and Outreach

Interviewees consistently emphasized that community engagement and public perception are central to how brownfield redevelopment unfolds, particularly when projects involve environmental remediation, neighborhood change, or new housing. In this context, engagement is not simply a procedural requirement, but a planning strategy that shapes project legitimacy, public understanding, and ultimately whether redevelopment is supported or contested. Salt Lake City planning documents reinforce this perspective by identifying community participation as a core component of planning practice, encouraging collaboration between planners and residents in shaping redevelopment outcomes (Salt Lake City, 2015).

While some participants described engagement as essential to building trust and ensuring project success, others viewed it as a difficult and sometimes unpredictable component of redevelopment. These differing perspectives reflect the complex social dynamics surrounding redevelopment, particularly when projects involve environmental remediation, neighborhood change, or new housing development.

A key theme across interviews is that engagement around brownfields often begins from uneven levels of public knowledge. Residents enter the process with widely varying understandings of environmental contamination, remediation, and redevelopment, which means that planners and technical professionals are not only gathering input, but also actively educating communities. Robert's account illustrates this variation:

Some of them come in, and they're they've heard of brownfields. They know the term. They might know a little bit about it. Others come in, they're very well versed. Then others we engage with. You're starting from scratch on kind of what does a brownfield is kind of that concept I described of high, medium and low just a little bit ago. It really does run the gamut at the end of the day. (Robert)

This quote highlights that community engagement in brownfield redevelopment is shaped by an uneven informational landscape. Because some residents are unfamiliar with brownfields or remediation processes, engagement must often begin with basic explanation before meaningful participation can occur. This educational role is particularly important in brownfield contexts, where uncertainty or misunderstanding can reinforce stigma and resistance. In this sense, engagement is not only about participation, but about building the knowledge necessary for participation to be effective.

However, interviewees also described engagement as a process that frequently produces mixed and sometimes conflicting feedback from community members. Residents may support redevelopment in principle but express concerns about specific aspects of projects such as density, building height, or housing types. Margaret recalled instances where community feedback was varied and at times contradictory:

And so sometimes there is pushback in that sense, because they recognize, maybe a community recognizes a need or a particular neighborhood. But again, NIMBY, right, but not here. (Margaret)

Developers and planners also emphasized that engagement can be unpredictable and difficult to manage, even when conducted in good faith. Importantly, these critiques do not reject

the value of engagement but highlight the challenges of working through complex and sometimes conflicting feedback. Nicole's comments illustrate this perspective:

So if you don't have to ask, you can just build it. It's not, you know that, to me, is like, you go in and you meet the setbacks, and you meet all that stuff. Do you just submit a permit, and you don't have to go through that process. You just build it. So without people chattering, then they're just used to it, and then they don't even know. (Nicole)

Public engagement is important, but it can also be one of the hardest parts of the process. You can spend months meeting with people, answering questions, and trying to incorporate feedback, and at the end you still have groups that oppose the project. (Nicole)

Together, these quotes highlight that engagement introduces uncertainty and extended timelines into redevelopment processes. Even when developers attempt to incorporate feedback, consensus may not be achievable. This reflects the inherently political nature of redevelopment, where multiple stakeholders bring competing expectations that cannot always be reconciled within a single project. Rather than undermining engagement, these challenges demonstrate why it remains a critical, if difficult, component of redevelopment practice.

Even so, interviewees emphasized that early and meaningful engagement can reduce conflict later in the development process. By engaging communities before plans are finalized, project teams can identify concerns, clarify expectations, and adjust proposals before opposition becomes entrenched. Paul described this proactive approach:

Yeah, absolutely. So, yeah, we've met with the local community council, we've met with other Hispanic organizations. We met with other governmental organizations, we met with the business community, we met with neighbors surrounding the property, and so that was all part of the civic engagement to figure out the next phase of the project. (Paul)

The importance of early and transparent engagement is widely supported in planning literature. Arnstein (2019), foundational "ladder of citizen participation" highlights the importance of meaningful participation rather than token consultation in planning processes.

Work by Innes & Booher (2004) emphasizes that collaborative planning processes, where stakeholders engage in dialogue and joint problem-solving, can lead to more durable and widely accepted planning outcomes.

Brownfield redevelopment, in particular, often requires strong community engagement because of the historical stigma associated with contaminated land. Studies have shown that residents frequently associate brownfields with environmental hazards or declining property values even after remediation has occurred. Heberle & Wernstedt, (2006) found that perceptions of contamination can persist long after cleanup is completed, influencing public attitudes toward redevelopment proposals.

The importance of engagement is further reinforced by the persistence of stigma associated with brownfields. Interviewees emphasized that public concern does not necessarily disappear once remediation is planned or even underway. Instead, uncertainty about long-term safety, future land use, and potential risks often continues to shape how residents perceive redevelopment projects. In this context, engagement becomes critical not only for informing communities, but for addressing lingering doubts that technical processes alone cannot resolve. Rebecca's account reflects this dynamic:

I think there's always a little bit concern of the what's going to happen, either as if you're living there, but also living there in the future, but also for like, the people around like, what are the safety precautions put in place for pedestrians walking down the street and whatnot, we do require the remedial or corrective action plan.
(Rebecca)

The interviews reveal that community engagement functions as both a critical tool and a potential challenge within brownfield redevelopment processes. On one hand, engagement helps build public trust, address concerns about environmental safety, and align redevelopment outcomes with community priorities. On the other hand, the diversity of community perspectives can create competing expectations that are difficult to reconcile within a single project.

Another key insight from the interviews is that community engagement often involves education about environmental remediation and redevelopment processes. Because many residents are unfamiliar with how contaminated land can be safely cleaned and reused, planners and developers frequently take on the role of explaining these processes. This educational component helps reduce stigma and allows communities to see brownfields as redevelopment opportunities rather than permanent liabilities. Community engagement becomes an essential component of redevelopment practice, influencing whether projects are supported, contested, or ultimately redesigned to reflect local concerns.

This section shows that community engagement functions as both a planning strategy and a site of contestation within brownfield redevelopment. In Salt Lake City, engagement helps build legitimacy, reduce stigma, and clarify redevelopment goals, especially when projects involve contamination concerns or major neighborhood change. At the same time, the findings make clear that engagement is not straightforward. Residents may hold conflicting priorities, public concerns may persist even when remediation is explained, and participatory processes can introduce delays or uncertainty into redevelopment timelines. Even so, the interviews suggest that early and meaningful engagement remains essential because it helps project teams identify concerns, build trust, and position redevelopment as something done with communities rather than simply to them.

Chapter Synthesis

The findings in this chapter show that brownfield-to-housing redevelopment in Salt Lake City advances through a combination of planning strategies and enabling approaches rather than through a single intervention. Technical assistance, regulatory pathways, financial support,

adaptive reuse, infill development, housing-oriented redevelopment priorities, and community engagement all emerged as important ways of moving projects from environmental uncertainty toward housing production. Together, these strategies show that redevelopment is not only a matter of remediating contaminated land, but of aligning planning, funding, design, and public process in ways that make housing outcomes possible.

Technical assistance programs help reduce information barriers by generating environmental data, clarifying redevelopment options, and helping project teams understand contamination conditions and evaluate feasibility before major financial commitments are made. Regulatory pathways such as Utah's Voluntary Cleanup Program help transform environmental uncertainty into a recognized process for remediation and redevelopment, giving developers, public agencies, and lenders greater confidence that projects can move forward. Financial strategies, meanwhile, help bridge the gap between environmental cleanup and housing production by combining multiple funding sources to address different components of project cost.

The chapter also shows that planning strategies extend beyond assistance programs alone. Adaptive reuse and infill development emerged as important ways of converting land scarcity and underutilized land into housing opportunity. Housing need and affordability pressures gave redevelopment an additional sense of urgency, with many interviewees framing brownfield sites not simply as environmental liabilities, but as opportunities to expand housing supply and pursue more targeted affordability goals. Community engagement, in turn, emerged as both a strategic necessity and a point of tension, shaping whether projects gained legitimacy, encountered resistance, or were revised in response to local concerns.

At the same time, the findings make clear that these strategies are effective only when they can be coordinated across different institutional and temporal contexts. Technical programs, environmental regulations, redevelopment goals, community expectations and housing finance systems frequently operate on different timelines and according to different priorities. As a result, brownfield-to-housing redevelopment depends not just on having access to useful strategies, but on being able to align them in practice.

When these planning strategies and enabling approaches align effectively, contaminated and underutilized sites can be transformed into new housing opportunities within the existing urban fabric. When they remain fragmented, misaligned or only partially implemented, redevelopment projects may struggle to move beyond the planning stage. Understanding how these strategies interact is therefore essential for communities seeking to expand brownfield-to-housing redevelopment particularly where housing affordability, land scarcity, and environmental risk intersect.

Chapter 5 - Recommendations and Conclusion

Brownfield-to-housing redevelopment is often framed as a problem of contamination and environmental risk. However, this study demonstrates that the primary barriers and opportunities shaping redevelopment outcomes are not environmental alone, but institutional. Across projects in Salt Lake City, redevelopment success depends less on the presence of contamination itself and more on how effectively environmental remediation, housing development, and governance systems are aligned in practice.

Rather than acting as a singular constraint, contamination introduces uncertainty, uncertainty in cost, timelines, and regulatory approval. This uncertainty becomes manageable when addressed early through coordinated planning, technical assistance, and clear regulatory pathways. Conversely, when environmental review, financing, and development processes remain fragmented, even otherwise viable projects can stall or fail. In this way, brownfield redevelopment emerges not simply as a technical or environmental challenge, but as a problem of coordination across institutions, policies, and timelines.

The findings of this research, therefore, reframe brownfield-to-housing redevelopment as a planning process embedded within broader systems of governance, housing policy, and urban land use. In land-constrained cities like Salt Lake City, where rising housing costs and limited developable land intensify pressure for infill development, brownfields represent a critical opportunity for housing production. Yet realizing this potential depends on the capacity of planning institutions to reduce uncertainty, align processes, and integrate environmental redevelopment with housing goals. More specifically, this study shows that redevelopment outcomes are shaped by how institutions sequence decisions, share information, and sustain coordination across the life of a project.

Synthesis of Findings

Broadly, brownfields are an underutilized land resource within already urbanized areas. With hundreds of thousands of sites nationwide, they provide an alternative to outward growth by repurposing land that is already equipped with infrastructure and services. In cities like Salt Lake City, where available developable land is increasingly scarce and housing demand persists, this potential becomes particularly significant. Local strategies highlight both the housing affordability crisis and the gap between current construction and residents' needs, underscoring the importance of exploring alternative development options.

Despite this opportunity, redevelopment remains challenging. Environmental cleanup introduces uncertainties regarding costs and schedules, complicating project approval. Cleanup standards differ by site, and even manageable contamination can raise liability fears for developers and lenders. Voluntary cleanup programs aim to reduce these concerns by offering clarity and protection, but they also involve additional procedures that must be completed before redevelopment moves forward. Consequently, the viability of a project depends not only on contamination levels but also on how well environmental risks can be converted into consistent development conditions.

Financial feasibility remains a key challenge. High cleanup, construction, and land costs often lead developers to focus on luxury housing to secure profits. This situation maintains the gap between market-rate and affordable housing. Public support, through grants, loans, tax incentives, and gap financing, is essential in changing this landscape. Local initiatives like redevelopment agency loans or adaptive reuse programs help cover costs and promote affordability. Still, funding alone is seldom enough, so projects typically rely on combining several support sources.

Institutional coordination is a key aspect of these projects. Brownfield redevelopment involves multiple jurisdictions, such as environmental agencies, planning departments, housing authorities, and financing organizations. The process is naturally sequential, including site assessment, remediation planning, regulatory approval, and development, but different actors with unique priorities handle each stage. As noted in redevelopment guidelines, even when participants know their roles, coordination gaps can delay or hinder progress. Successful outcomes rely on aligning these stakeholders around a common development goal.

Redevelopment is additionally influenced by local context and community feedback. Brownfields typically pose physical and perceived risks, with public concern sometimes lasting even after cleanup strategies are established. This adds a layer of uncertainty, making community acceptance as crucial as technical feasibility. Therefore, engagement processes are fundamental to project success, affecting timelines, political backing, and the project's progress.

Taken together, the literature and case evidence suggest that brownfield-to-housing redevelopment is best understood as a coordination problem rather than a purely technical one. Environmental conditions, financial feasibility, regulatory frameworks, and community dynamics all interact, and no single factor determines success. Instead, projects advance when these elements are aligned, when remediation strategies reduce uncertainty, funding mechanisms close financial gaps, institutions coordinate effectively, and community concerns are addressed. This alignment, rather than any individual intervention, is what enables contaminated land to transition into viable housing. In this sense, the central contribution of this thesis is to show that brownfield-to-housing redevelopment is not only a matter of site cleanup, but of institutional alignment across environmental, housing, and planning systems.

Planning and Policy Recommendations

The following recommendations are derived directly from the findings presented in Chapters 3 and 4 and are structured to demonstrate how specific challenges identified in the research lead to targeted planning and policy interventions.

Expand Early Environmental Due Diligence and Predevelopment Support

A key finding is that uncertainty about environmental conditions mainly hinders brownfield-to-housing redevelopment. Although contamination is often seen as the primary problem, Chapters 3 and 4 show that the timing and access to environmental information are crucial in determining project viability. Many interviewees reported discovering contamination late in development, after land was bought, financing was secured, or design decisions were finalized. This often forced projects to cover unexpected remediation costs, undergo redesigns, or, in some cases, be abandoned. This suggests that redevelopment risk depends not just on how severe contamination is, but also on when it is identified.

To address this issue, planning and policy efforts should prioritize expanding early environmental due diligence and predevelopment support. This includes increasing access to site assessment funding, technical assistance programs, and early-stage planning resources that allow developers, municipalities, and nonprofit organizations to evaluate site conditions prior to making major financial or design commitments. Programs such as EPA assessment grants, Technical Assistance to Brownfields (TAB), and local predevelopment funding initiatives can play a critical role in shifting environmental investigation to the earliest phases of redevelopment. By doing so, these programs reduce informational uncertainty, allowing project teams to better estimate remediation costs, identify appropriate cleanup strategies, and determine whether sites are suitable for housing development. The broader impact of this approach is a

more predictable and transparent development process, in which risk is identified and managed upfront rather than emerging later. In turn, this increases developer confidence, improves financing feasibility, and expands the range of sites that can realistically be considered for housing redevelopment.

Improve Alignment Between Review, Cleanup, and Housing Finance Timelines

Beyond uncertainty, these findings emphasize the importance of timing in determining redevelopment success. Brownfield-to-housing initiatives must navigate various institutional systems, each with unique procedures, approval stages, and timelines. Environmental assessments and cleanup are regulated by specific frameworks, while housing development relies on funding programs that are often strict and competitive. Participants frequently highlighted how challenging it is to synchronize these processes, noting that delays in environmental review or remediation can cause projects to miss critical financing deadlines, such as those for Low-Income Housing Tax Credits or other urgent funds. Even when projects are technically viable and financially supported, misaligned systems can halt progress or threaten their overall viability.

To overcome this challenge, planning agencies should enhance coordination and synchronization among environmental review, remediation, and housing finance timelines. Establishing formal interagency mechanisms early in project planning can enable environmental regulators, housing authorities, and development teams to align expectations and sequences from the beginning. Cities can also adopt more flexible or phased approval processes, permitting certain development aspects to move forward while remediation is underway, when safe and appropriate. These aligned timelines decrease delays, strengthen project competitiveness for funding, and prevent procedural mismatches from hindering redevelopment. This approach is especially crucial for affordable housing projects, which typically operate on tight budgets and

strict deadlines. Improved timing coordination increases the chances that viable projects move successfully from planning to implementation.

Integrate Brownfield Redevelopment into Housing Policy and Planning

Another key finding from this research is that brownfield redevelopment is increasingly viewed as a strategy for addressing housing shortages, particularly in land-constrained urban areas. Redevelopment outcomes however are frequently shaped by market conditions and individual project decisions rather than by coordinated housing policy objectives. This can lead to situations where brownfield redevelopment contributes to overall housing supply but does not adequately address affordability needs or broader housing goals.

To better utilize brownfield sites for housing development, cities should formally include brownfield redevelopment in their housing policies and affordability plans. This involves designating brownfield sites as key areas for infill development in both housing and comprehensive plans, aligning redevelopment incentives with affordable housing goals, and coordinating environmental initiatives with housing subsidy programs. Such integration ensures that redevelopment not only promotes land reuse but also helps produce housing that meets community needs. Its benefits are twofold: first, it links environmental redevelopment directly to housing outcomes, using brownfields strategically to address housing shortages; second, it enables public agencies to steer redevelopment efforts toward mixed-income or affordable housing projects instead of leaving them entirely to market forces. Ultimately, this approach positions brownfield redevelopment as a core element of the housing strategy rather than an isolated or secondary policy focus.

Strengthen Institutional Capacity and Support for Smaller Actors

The results also highlight how crucial institutional capacity is in determining redevelopment success. Brownfield-to-housing initiatives involve complex regulatory navigation, multi-agency coordination, and layered financing arrangements. While seasoned developers and well-funded municipalities can manage these complexities, smaller municipalities, nonprofits, and less experienced developers often encounter substantial obstacles. Participants noted that understanding environmental laws, identifying funding options, and coordinating multiple agencies demand specialized expertise, time, and staffing. Lack of adequate capacity can prevent even promising projects from progressing effectively.

To enhance redevelopment efforts, planning and policy should focus on boosting institutional capacity, especially for smaller or resource-limited groups. Strategies include expanding technical assistance and training, appointing dedicated staff or “project navigators” to assist with redevelopment, and improving access to information about regulations and funding sources. Simplifying application procedures and streamlining guidance materials can also lessen administrative burdens. These measures aim to make redevelopment more accessible and equitable, allowing more communities and organizations to participate in brownfield revitalization. By filling capacity gaps, this approach helps prevent redevelopment from being dominated by a few experienced actors and enhances the overall efficiency and success of redevelopment systems.

Support Adaptive Reuse and Infill-Oriented Redevelopment

The research shows that adaptive reuse and infill development are essential for tackling land shortages and increasing housing options in existing urban spaces. Brownfield sites, especially those in former industrial or underused areas, offer valuable opportunities for building

housing within existing infrastructure. Yet, these projects often encounter challenges like higher costs, regulatory hurdles, and difficulties in renovating old structures or cleaning contaminated land. Without specific support, these obstacles might deter developers from choosing such projects over simpler greenfield developments.

To better promote adaptive reuse and infill-focused redevelopment, cities should develop policies and programs that lower financial and regulatory hurdles for these projects. This could involve offering financial incentives like forgivable loans or tax credits, simplifying zoning and permitting for infill development, and coordinating historic preservation policies with housing objectives to minimize conflicts. This approach aims to optimize existing urban land usage, support sustainable growth, and boost housing availability without expanding outward. By emphasizing adaptive reuse and infill, cities can convert underused or contaminated sites into viable residential areas, all while maintaining community character and easing pressure on untouched land.

Improve Public Communication and Address Brownfield Stigma

Community engagement is a vital yet complex part of redevelopment. While involving the public can foster trust and enhance project results, it is often observed that concerns about contamination and environmental risks linger even after cleanup. This lingering stigma can cause community resistance, slow project approval, and hinder public support. Interviewees mentioned that residents often lack detailed knowledge of brownfield remediation, which can lead to misconceptions regarding environmental safety and the effects of redevelopment.

To address this issue, planning and redevelopment agencies should strengthen public communication strategies. This includes providing clear, accessible information about contamination, remediation processes, and long-term site safety, as well as incorporating

educational components into community outreach efforts. By directly addressing misconceptions and improving transparency, agencies can reduce stigma and build greater public confidence in redevelopment projects. The impact of improved communication is a more informed and engaged public, which can facilitate smoother project approval processes and reduce opposition rooted in uncertainty or misinformation.

Formalize Early Cross-Agency Coordination Mechanisms

Finally, the findings show that coordination between agencies is key to successful redevelopment, but it often depends heavily on informal relationships, prior experience, or individual initiative. While Salt Lake City maintains a relatively collaborative governance environment, relying on informal coordination can lead to inconsistent results, with projects succeeding or failing based on the relationships and experience of those involved. This indicates that although coordination exists, it is not always formalized or institutionalized in a way that ensures consistent outcomes across projects.

Communities should formalize early cross-agency coordination mechanisms involving planners, environmental regulators, housing agencies, and developers at the start of redevelopment projects. This can be achieved by establishing interagency working groups, standardizing predevelopment meetings, and developing shared guidance documents that clarify roles, expectations, and processes. Formalizing coordination leads to more predictable and transparent development pathways, reducing dependence on informal networks and ensuring that all projects benefit from coordinated planning, regardless of the actors involved.

Create Brownfield-to-Housing Project Pipelines and Opportunity Inventories

A further implication of the findings is that redevelopment often occurs in a reactive and project-by-project manner, even though stakeholders repeatedly described the need for early

information, coordinated planning, and clearer pathways to implementation. One way to address this is for cities and counties to create brownfield-to-housing opportunity inventories or redevelopment pipelines that identify promising sites, summarize known environmental conditions, clarify likely regulatory pathways, and connect those sites to housing goals in advance of developer interest.

This recommendation follows directly from the study's findings on uncertainty, timing, and institutional fragmentation. By creating a more proactive pipeline of candidate sites, public agencies can reduce the burden on individual developers to assemble information from scratch and can better align redevelopment priorities with housing needs. Such inventories would also help smaller actors, nonprofit organizations, and municipalities with limited in-house expertise participate more effectively in redevelopment processes.

Implications for Practice and Theory

This research highlights key implications for planning practice, especially regarding how cities approach redeveloping contaminated sites for housing. It underscores that brownfield redevelopment should be viewed not just as an environmental or technical challenge but as an essential part of land use and housing planning. Practically, this means planners need to go beyond isolated strategies and adopt more integrated approaches that combine environmental cleanup, housing policies, and redevelopment efforts. Planners are well-placed to serve as coordinators, ensuring effective communication among environmental agencies, housing authorities, developers, and community groups. This coordinating role is crucial for facilitating redevelopment within complex institutional settings, rather than being a secondary aspect of planning.

Additionally, the findings emphasize the importance of institutional capacity as a crucial aspect of planning practice. The ability of agencies to coordinate across departments, manage complex projects, and support diverse stakeholders directly affects redevelopment results. This indicates that investing in staffing, technical expertise, and interagency collaboration is not just administrative but vital for effective planning systems. For cities aiming to boost housing through redevelopment, strengthening institutional capacity is just as important as increasing financial or regulatory tools.

Beyond practice, this research contributes to planning theory by reframing brownfield-to-housing redevelopment as a problem of governance and institutional alignment rather than solely a matter of environmental remediation or market feasibility. While existing literature often emphasizes contamination, cleanup technologies, or financial incentives, the findings demonstrate that redevelopment outcomes are more strongly shaped by how institutions coordinate, share information, and manage uncertainty. This perspective aligns with theories of collaborative planning and networked governance, which emphasize the role of relationships, communication, and shared decision-making in shaping planning outcomes.

Finally, the findings contribute to broader discussions of urban development and land use by positioning brownfields as critical sites within contemporary housing strategies. As cities face increasing land scarcity, rising housing costs, and pressure to limit outward expansion, the reuse of underutilized and contaminated land becomes an increasingly important component of sustainable urban development. This research demonstrates that the potential of brownfields to contribute to housing supply is not determined solely by physical site conditions, but by the institutional systems that govern redevelopment. In this sense, brownfield redevelopment offers a

lens through which to understand how planning systems mediate the relationship between environmental constraints, housing needs, and urban growth.

Transferability of Findings and Future Research

While this research centers on Salt Lake City, its insights apply to other communities facing similar redevelopment challenges. Many mid-sized U.S. cities share traits with Salt Lake City, such as legacy industrial lands, rising housing needs, and growing pressure to develop within existing urban limits. In these areas, brownfield sites often stand as some of the few opportunities for large-scale infill development. The study indicates that issues in brownfield-to-housing projects, like institutional coordination, uncertainty, and process misalignment, are not unique to Salt Lake City but are widespread in decentralized planning systems.

These findings are particularly relevant for cities operating within similar governance structures, where environmental cleanup, land-use planning, and housing policies are handled by different agencies across various government levels. Communities aiming to promote brownfield redevelopment for housing can use this study by focusing on enhancing interagency collaboration, improving access to early environmental data, and aligning redevelopment efforts with housing objectives. However, the transferability of these strategies is not automatic. Their success depends on local institutional capacity, the availability of technical and financial resources, and the specific regulatory context.

These considerations also point to several important directions for future research. One key area involves comparative analysis across cities with different governance structures, regulatory frameworks, and housing markets. While this study highlights the role of decentralized coordination in shaping redevelopment outcomes, further research could examine

how more centralized systems influence the alignment of environmental and housing policies. Comparing cases across different institutional contexts would provide a clearer understanding of which governance arrangements most effectively support brownfield-to-housing redevelopment.

Another important area for future research involves the quantitative dimensions of redevelopment feasibility. While this study identifies uncertainty, timing, and coordination as critical factors, additional research could examine how these dynamics influence measurable outcomes such as project timelines, remediation costs, and financial viability. Quantitative analysis could help identify thresholds at which redevelopment becomes feasible, as well as the extent to which specific policy interventions reduce risk or improve project outcomes.

Future research should also examine the long-term social and spatial impacts of brownfield-to-housing redevelopment. While this study focuses primarily on the planning and implementation stages, less is known about how these projects affect neighborhood change, housing affordability, and community dynamics over time. In particular, research on resident experiences within redeveloped brownfield housing could provide valuable insight into how perceptions of environmental safety, quality of life, and neighborhood identity evolve after redevelopment is completed.

Closing Reflection

Brownfield sites are often characterized by their history, contamination, industrial activities, and environmental dangers. However, this research shows that their future is influenced less by these physical aspects and more by the systems used to plan, coordinate, and carry out redevelopment. Overall, brownfield-to-housing redevelopment is not just about

cleaning up land but about aligning institutions, reducing uncertainty, and turning underused space into viable housing options.

In cities like Salt Lake City, where land scarcity and housing demand keep rising, brownfields are among the few options left for expanding housing within existing urban areas. However, this study shows that simply having opportunities is not enough. Successful redevelopment requires planning systems to coordinate across environmental, financial, and regulatory sectors early and consistently throughout the development process. When these systems work together, contaminated sites can be converted into housing that supports broader urban objectives. Otherwise, if these systems are fragmented, the same sites may stay vacant, underused, or unrealized.

Ultimately, this research indicates that the future of brownfield-to-housing redevelopment depends not on a single policy, program, or technical fix, but on planning institutions' ability to collaborate across boundaries and handle complexity. As cities face ongoing issues with housing shortages, environmental legacies, and land limitations, effectively integrating these systems will be crucial in determining how and if redevelopment can take place. Seen in this way, brownfield-to-housing redevelopment is not simply a matter of reclaiming contaminated land; it is a test of whether planning systems can convert complex urban constraints into coordinated and equitable development outcomes.

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Appendix

Interview Questions

Project Background

1. There are a number of successful brownfields-to-housing projects in [name of city]. Which ones are you most familiar with or have worked on?
2. What was your role in the project, and how did you become involved? Follow-up: Can you describe how your organization or department got involved? Did you have any previous experience with brownfield redevelopment?
3. What was the condition and former use of the site prior to redevelopment? Follow-up: Was there documentation or community memory about the site? Did its condition influence how the project was planned?
4. What were the initial goals or motivations behind choosing this brownfield for housing development? Follow-up: Who set those goals? Were they driven by local needs, funding opportunities, or policy mandates?

Financing & Incentives

1. Were there any specific financial incentives (e.g., tax credits, grants, subsidies) that played a critical role? Follow-up: Which incentives were most important? Were they competitive or automatically available?
2. What funding gaps or financial challenges did you face?
3. Follow-up: How did you address these gaps? Were there delays or redesigns as a result?
4. How were remediation costs handled—by your organization, shared, or by a public entity? Follow-up: Was there any confusion or negotiation around responsibility?
5. Were any funding sources tied to affordable housing or special populations? Follow-up: How did these shape the project's design or eligibility?

Regulation

1. What policies, zoning regulations, or ordinances supported or constrained redevelopment? Follow-up: Did any specific policies need to be changed or waived?
2. Did the project benefit from any flexibility in land use, permitting, or design standards? Follow-up: How was that flexibility granted? Was it controversial?
3. How did environmental regulations influence the planning process? Follow-up: Were state or federal agencies involved? Did they provide guidance?

4. Were there specific agencies or institutions that were helpful-or obstructive? Follow-up: What made their involvement positive or negative?

Remediation & Site Constraints

1. What remediation was required, and how was the level of cleanup determined? Follow-up: Did cleanup goals change based on the intended housing use?
2. Were there uncertainties around contamination or liability? Follow-up: How did those uncertainties impact project financing or planning?
3. How long did remediation take, and how did it affect timelines? Follow-up: Was remediation integrated into the construction phase or done beforehand?

Stakeholders & Collaboration

1. Who were the key partners or stakeholders? Follow-up: How were they identified or brought into the project?
2. How did you coordinate with government agencies, nonprofits, or developers? Follow-up: Were there formal agreements or informal working relationships?
3. Was there a lead institution or individual who helped drive the project forward? Follow-up: What role did that person or group play at key points?
4. What role did collaboration play in the outcome? Follow-up: Would the project have succeeded without it? What challenges emerged?

Community Engagement

1. Was there any community engagement during planning or development of the project? Follow-up: Who conducted the community engagement? What tools or methods did you use (e.g., meetings, surveys, focus groups)? How well attended was the event for engagement?
2. What kind of support or resistance did you encounter? Follow-up: Were concerns addressed early or later in the process?
3. How were issues like gentrification or displacement addressed? Follow-up: Were there strategies to maintain affordability or protect existing residents?
4. In hindsight, what would you change about the engagement process? Follow-up: Was there anything you didn't anticipate?

Project Outcomes & Lessons

1. Was the project completed as envisioned? If not, how did it evolve? Follow-up: What trade-offs or compromises were made?
2. What outcomes are you most proud of? Follow-up: Are these outcomes being tracked or evaluated?
3. What major obstacles did you face, and how were they overcome? Follow-up: Who played a key role in overcoming them?
4. What was the most important success factor? Follow-up: Was it planned from the beginning, or did it emerge?
5. What advice would you offer to others working on similar projects? Follow-up: What should they anticipate, that may not be obvious at first?

Broader Reflections & Policy Recommendations

1. What broader trends are shaping brownfield-to-housing projects in your region? Follow-up: Have state or federal policies helped or hindered?
2. What policies or funding tools would help make these projects easier? Follow-up: Are there any models from other places you admire?
3. How can cities better integrate brownfields into long-term housing strategies? Follow-up: Are there missed opportunities in your own city?
4. Are there emerging models or partnerships that show promise? Follow-up: What would it take to bring those models to your community?
5. What role did public perception or media coverage play? Follow-up: Was there media interest or misinformation to address?
6. Do you see brownfields as a long-term housing solution in your area? Follow-up: What needs to happen for that vision to be realized?

Wrap-Up

1. Is there anything we haven't discussed that you think is important? Follow-up: Any lessons you wish more people knew?