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Cover Photo: Mixed use retail/commercial/housing, vacant land, Boise

Thanks to

Infill incorporating historic hotel, new public realm, McCall
Mixed use retail/commercial/housing, vacant land, Hailey
Mixed use, former gas station site, Boise
Office, former parking garage site, Boise
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Acknowledgements

To develop this report, Idaho Smart Growth, in partnership with the Urban Land Institute, Idaho District Council, convened a committee to examine the literature on infill. The Quality Infill Committee is composed of a diverse set of partners including developers, planners and neighborhood advocates.

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We thank the committee members for their time and contributions.
Introduction

Infill is new development or redevelopment of vacant or underutilized land within existing developed areas.\(^1\) Infill development is one strategy for revitalizing declining city and suburban cores and town centers and for creating the type of community patterns needed to support transit and neighborhood services. Infill can promote efficient use of existing infrastructure and provide an alternative to consuming more of our farmland and open spaces. If done well, infill can help a region meet important goals to create vibrant, healthy communities, preserve air quality, reduce the miles we need to travel in our cars, reduce greenhouse gas emissions, and promote economic vitality.

Infill can be met with skepticism or opposition from existing neighbors who fear the changes it will bring to their neighborhoods. Poorly executed, it can have negative impacts on its surroundings. The resulting culture of fear and apprehension can produce opposition to all infill. Outdated policies and regulations can make infill difficult. A variety of factors can drive up the costs of developing infill.

Literature Review

Much has been written about infill development including a 2007 study\(^2\) which examined infill projects in the Boise area to determine if feared consequences were substantiated. The partners in that study concluded that a critical next step was to develop policy recommendations promoting quality infill. By comparing the experiences of other places with the experiences in Idaho, the committee that was convened identified key steps that Idaho communities can take to encourage infill that will reduce infrastructure demands and revitalize existing neighborhoods while avoiding the negative impacts so often feared.

Why Infill?

The committee reviewed selected literature and developed a list of factors to explore. The first question that the committee identified was, why infill? As communities in Idaho deal with the pressures of growth, some are asking what advantages they might realize if they encourage infill development to absorb at least a portion of their growth. Our review identified the following six primary reasons why infill may offer benefits to our communities. Not surprisingly, the issues reflect many of the same things that committee members identified in their own work.

Revitalizes Existing Places

Using infill to bring new life to existing communities was the top reason for supporting infill, cited in 19 of the documents reviewed. Conventional development patterns over the last fifty years have left behind many older neighborhoods, leaving holes in the community fabric. Revitalizing those existing places with infill can bring new life to communities physically, socially, and economically. Community revitalization benefits were mentioned in literature as diverse as *Trip-Generation Rates for Transportation Impact Analysis of Infill Developments*, and *Infill Development: Innovative Land Uses*.

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\(^1\) Municipal Research & Services Center (MRSC) of Washington, *Infill Development: Completing the Community Fabric*, 04-09,

\(^2\) Idaho Smart Growth, *The Consequences of Residential Infill Development*, 2007
Changing Demographics:
There are numerous references in the literature to the coming change in the population in the US. The need for infill is exacerbated by these trends. America will add roughly 43 million new residents—that's 2.7 million new residents per year—between now and 2020. The traditional two-parent household with children is now less than a quarter of the population and getting proportionally smaller. These groups are more likely to choose higher-density housing in mixed-density communities that offer vibrant neighborhoods over single-family houses far from the community core.

Saves Money for Taxpayers and the Private Sector
Infill generally uses existing infrastructure capacity rather than needing new public infrastructure investments as in the suburbs and rural areas. The money saved by utilizing existing infrastructure and facilities more fully can reduce demand to extend new infrastructure. Secondary cost savings should accrue from providing services, such as police and fire, to more citizens within a more compact area.

Meets Important Community and Planning Goals
The committee suggested and the literature agreed that infill can play a critical role in helping communities meet important planning goals, such as reducing the extent of spreading outward and responding to changes projected in housing demand triggered by changing demographics. Every home, office, or store built in an infill location is one less built on open space. Because infill tends to be more compact than sprawl development, the same number of homes, stores, or offices takes up much less land and uses fewer other resources, such as water and energy.

Protects the Environment
The committee found the ability for infill to help protect the environment rests on four factors: 1) It saves land. Infill development takes place on land that has already been ‘developed’ which reduces the demand to extend infrastructure and services to undeveloped land elsewhere; 2) Infill on previously developed land can improve water quality by introducing new effective methods of capturing and treating run-off from roofs and asphalt on site; 3) Infill reduces the miles traveled in single occupant vehicles, replacing those trips with walking, biking and transit; and 4) Fewer miles driven can improve air quality, reducing transport-related CO2 emissions by 7 to 10 percent. The U.S. Environmental Protection Agency (EPA) concludes that “well designed neighborhoods in more accessible places make walking, biking and transit more convenient options. Therefore, policies that increase the amount of urban and suburban infill development can help more people meet their everyday needs with less driving. In turn, this can reduce traffic and contribute to better regional air quality.”

In addition, reusing Brownfields — sites that have been contaminated with a regulated pollutant — can ensure that those sites get cleaned up, clean-up that might not happen without a redevelopment plan or project.

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4 Greenbelt Alliance, *Smart Infill: A practical guide to creating vibrant places throughout the Bay Area*, 2008, page 7
6 Greenbelt Alliance, page 8
Density
Density is often falsely accused. While some very bad development is high-density, some of the highest quality and most valued real estate in the US is also high-density. Conversely, some low-density developments are awful; others are spectacular.1

1ULI – Urban Land Institute, Community Catalyst Report, pg 11

Provides Transportation Choices
Communities with successful infill can create more opportunities to travel efficiently on foot, bike or transit due to shorter distances and nearby destinations. When walking, biking and transit are more convenient people use those travel modes more often and reduce vehicles miles traveled.9

Higher density infill may provide the critical mass of riders needed to support better transit resulting in more frequent and convenient transit service while driving decreases. For example, the Denver region compared concentrating infill development to continuing suburban patterns and found that concentrated development shortened trip lengths; reduced miles traveled regionally by 2.9-3.6 percent and increased the transit use by 9-11 percent.10 This is especially important to give those who cannot drive, such as the young and old, greater opportunities to travel on their own.

Provides Positive Impacts for Residents of Infill
Idahoans who can choose to live in infill can enjoy advantages. The shorter distances and convenient services can lower transportation costs by lowering fuel costs or in the cost savings of owning fewer vehicles.

Residents of infill developments can enjoy lower overall energy costs as a result of smaller footprint homes or the lower energy costs per unit in multi-family buildings. In addition, it’s projected that they will have decreased ongoing costs as smaller units require less maintenance.11

Consequences of Infill
The review of ‘why infill’ revealed a variety of broad community benefits that might accrue from infill. The committee expected and evidence from the literature confirms that these benefits are real; infill can make neighborhoods a better place to live.12 Infill is feared to cause negative impacts, especially related to density and traffic. Yet, the two leading consequences in our review were positive, negative impacts on existing neighborhoods were a distant third.

Community benefits
Residential infill creates a critical mass of people to sustain local retail and support services.13 Promoting infill revitalizes downtowns, close-in neighborhoods, and commercial corridors, and leaves fewer vacant lots and holes in neighborhood fabric.14 Increased activity and demand for goods and services boosts businesses and a city’s economy and takes advantage of existing infrastructure capacity. Infill communities offer more opportunities to be physically active, those who take advantage by walking and biking improve their health.15

9 U.S Environmental Protection Agency, page 7
10 U.S Environmental Protection Agency, page C-6
11 New Hampshire Department of Environmental Service, page 96
13 Mitchell, Townley, et. al., Four Corners “ A Downtown Denver Buildout Scenario Report”, Fall 2005, page 4
14 Schwartz, Stuart FAICP, Removing Barriers to Infill, 2007, page 17
15 Ewing, Bartholomew, et. al., page 10
Some benefits are less obvious but are just as valuable. In neighborhoods where the majority of housing is rentals the introduction of market rate housing brings new life to communities, physically, socially, as well as economically. Mixed uses mean no vacant streets after business hours and the new ‘eyes on the street’ helps increase security. Property values hold up better over time in close-in locations and the expanded range of housing choices that infill brings does meet the needs of changing demographics. Compact development yields more tax revenue and requires smaller public expenditures per capita. While less than 7 percent of U.S. land contains high-density development, it generates one-third of the country’s real estate taxes. For example, apartment owners pay more per square foot in property taxes than do owners of single-family houses, because apartments are taxed at higher commercial real estate tax rates.

**Improved environmental quality**

The literature shows that the positive environmental impacts anticipated are occurring in successful infill developments. For instance, on previously developed sites infill can repair existing water quality problems by introducing such techniques as bio-swales and green roofs to treat water that previously ran off the site untreated. Contaminated properties do get cleaned up when they are redeveloped; they may sit vacant and contaminated for years otherwise. Redeveloped properties can offer other benefits such as the example found in one community where it provided a missing link in the parks and greenway system.

Infill development is designed so that people who use it can walk, bike or use transit more often. It reduces vehicle miles traveled and tailpipe emissions thereby improving air quality. Many of the studies addressed this point. For instance, one study found that people who live in infill development with a mix of land uses, a range of transportation options, and pedestrian friendly design drive one-third fewer miles than those who live in auto-oriented suburbs.

**Negative impacts on existing neighborhoods**

Infill can have negative consequences on existing neighborhoods where it gets built, usually as a result of poor planning, concepts, design, and execution. Without careful attention infill can be mismatched with existing neighborhood structures and can introduce new housing forms that are incompatible with those in the neighborhood. Design is important; poorly designed density creates negative consequences. Infill can result in congestion or parking problems if those issues are not addressed during the planning and approval processes. Redevelopment can affect the affordability of a neighborhood by causing gentrification or the loss of affordable housing through demolition. There can be a loss of historic structures.

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17 Mitchell, Townley, et. al., page 5
18 New Hampshire Department of Environmental Service, page 96
21 Greenbelt Alliance, page 10
22 Fairfax County VA, page 1
Perceptions Affect Infill

Perceptions about infill can affect the quality and density of the new development, sometimes to such a degree that the economic viability of proposed projects is compromised. In one example, density was limited because of neighborhood opposition and both the neighbors and developer remain unhappy with the result as the ensuing compromises led to a development without enough units to support high quality construction.25

Barriers to Infill

Infill is often more difficult to plan, assemble land for, finance, build, and manage than other types of development. Infill serves many important goals, but the committee recognized that the obstacles are extensive. Inadequate regulations and local opposition generally come up first when talking about barriers to infill development. Our review found that the factor cited most often in the literature is the high cost of developing infill.

Higher Costs and More Constraints

Places that wish to promote infill as a planning tool must overcome the barrier of higher costs. Among the most prevalent are the costs associated with land acquisition and the development process. Land may be more expensive because sites are often in prime locations and may be priced speculatively; fractured ownership patterns make assembling sites difficult; and tax delinquencies and title issues can make sites more difficult to acquire.26 Even where land costs themselves are not higher, a prolonged approval processes can drive up development costs27 and in development ‘time is money’.

Secondary issues can also drive up costs. Where there are existing structures, the inflexibility of current building codes can act as a barrier to reinvesting in them.28 In some cases there is a cost of demolition. Infrastructure may need to be upgraded and many places lack a capital investment policy to upgrade public facilities and infrastructure in infill areas.29 Even where infrastructure is already adequate there may be high impact fees.30 Most jurisdictions have averaged the cost of services across all users rather than charging the full cost of serving more distant development, making distant development relatively less expensive. Finally, contaminated or Brownfield sites typically have high cleanup and remediation costs.31

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26 Schwartz, Stuart FAICP, *Removing Barriers to Infill*, 2007, page 7-20
27 Campaign for Affordable Housing, *A "Smart" Start for Regulatory Reform: Overcoming Barriers to Affordable Housing*, 2005, page 2
28 Campaign for Affordable Housing, page3
29 Schwartz, Stuart FAICP, page 23
30 Schwartz, Stuart FAICP, page 1
Opposition to Infill – Perceived Consequences Create Barriers

Local opposition comes in as a close second to cost as a barrier to infill development. Generally there is a fear of change and a perception that change will bring a myriad of negative consequences and fundamentally change the character of the existing neighborhood. Our literature review confirms that existing neighbors often oppose infill because of density.\textsuperscript{32} People worry about compatibility, traffic, and crime, and may resist lower income residents.\textsuperscript{33} Yet, in one study of the factors that could be quantified, including traffic, parking and property values, community fears were generally unfounded.\textsuperscript{34}

Opposition can be grounded in past experience. Infill can introduce new housing forms that are incompatible with those existing in the neighborhood\textsuperscript{35} and neighbors may have had a previous bad experience with development that is a poor fit. Though the kind of compact development that introduces a mix of uses is often cited in planning goals, there is often a lack of understanding and support for introducing commercial and retail uses into residential neighborhoods. The negative impacts of poor design can exacerbate fears.\textsuperscript{36}

Local Regulations Discourage infill

Goals and policies about infill are often not in sync with regulations designed to support conventional suburban development, leaving decision makers to decide between the developer who cites goals [of the comprehensive plan] and the neighbors who cite the [zoning] code. Such inconsistencies in regulations may prohibit certain building types such as multi-family housing, manufactured housing, and accessory units,\textsuperscript{37} and provide little support for a mix of uses at higher densities even when goals support them. Other requirements such as parking, setbacks, and minimum lot size are often excessive for infill locations. Older buildings that still have useful life are needlessly demolished if building codes do not have the flexibility to address the idiosyncrasies of older structures.

Inefficient Process

A development process designed to serve conventional suburban development doesn’t anticipate numerous stakeholders, agencies, or existing neighbors concerns; concerns that can be met if they are aired early on in the process, but may be impossible to address if they surface too late. Coordinating competing interests is complex and may result in an uncertain and lengthy permitting process.\textsuperscript{38} Financing designed to serve conventional development patterns with separated uses may be difficult for infill projects\textsuperscript{39} that have mixed uses and less conventional building types. The infill process may need environmental reviews, historic asset inventories, infrastructure adequacy analysis or other information to make an informed decision on approval. If those analyses are needed, it is often a cost borne by the developer.

\textsuperscript{32} Washington Research Council, page 3
\textsuperscript{34} Smart Growth, \textit{The Consequences of Residential Infill Development on Existing Neighborhoods in the Treasure Valley: a Study and Conclusions}, in cooperation with the Urban Land Institute Idaho, 2007, page 2
\textsuperscript{35} Fairfax County VA, page 3
\textsuperscript{36} ULI – The Urban Land Institute, page 8
\textsuperscript{37} Campaign for Affordable Housing, page 2
\textsuperscript{38} MRSC of Washington, \textit{Infill Development Strategies for Shaping Livable Neighborhoods}, page 8
\textsuperscript{39} Haughey, Richard, \textit{Urban Infill Housing: Myth and Fact}, ULI – The Urban Land Institute, 2001, page 10
Compatibility

**com·pat·i·ble**

Pronunciation: /kəm-pa-tə-bəl/

Function: adjective

Etymology: Middle English, from Medieval Latin *compatibilis*, literally, sympathetic,

Date: 15th century

1: capable of existing together in harmony.

Resistance to infill development often centers around the effect it may have on existing neighborhoods. People resist increased density and tend to oppose change. One strategy for addressing concerns of existing neighbors is to adopt policies requiring new development to be compatible with what is already there. There needs to be a clear understanding of what compatibility means and how it might look.

“People get too focused on density numbers. The goal needs to be great design that creates great places to live, with great outdoor places nearby — great places where you’d want to spend time.” — Sherry McKibben, Director, Idaho Urban Research and Design Center

As you can see from the definition, compatible does not mean the same or even similar. It means that development is capable of existing in harmony with what is already there. Infill that is compatible respects and incorporates the existing neighborhood character so that it will assimilate into the existing fabric — not necessarily that it will look the same as existing structures.

One strategy is to use design guidelines that shape the appearance of new buildings to complement current structures, to knit together the old and new and fit new buildings into the neighborhood context. Building heights can be “stepped down” to create transitions between taller buildings and lower surrounding developments.

Perhaps the best strategy is to involve the neighborhood early in developing the policies and design standards that will guide infill development in their neighborhood.

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It is Easier to Develop Land on the Fringe

Finally, there are simply fewer constraints to developing land on the suburban, exurban or rural fringe. The conventions in practice today from financing, assembling land, extending infrastructure, or finding retail and commercial tenants favor fringe development. It is a process and product that reviewers, decision makers, bankers and community members are familiar with. There is readily available cheaper land on the urban fringe with subsidized infrastructure. The trends in retail market structure are such that retail activity is increasingly focused into major planned shopping centers that dominate the market, with small malls clustering around major malls. This makes it more difficult to find commercial tenants for infill projects.

Cost vs. Benefit Not Immediately Evident — Regulations Can Make the Difference

There continues to be uncertainty about the fiscal benefits of compact development and the costs of sprawl. Using existing infrastructure, such as roads, sewers, water systems and schools to serve new customers (i.e., infill residents) saves money in the long run. The resulting costs vs. benefits may take time to play out, especially if there are investments needed to update or expand existing infrastructure. Community members who oppose a proposed compact development may attempt to reduce the density of the project, which ultimately reduces the community’s return on the existing infrastructure investment it has made that would support the development. Well crafted incentives can overcome the higher costs but the benefits may be hard to quantify. Local jurisdictions that can document the cost savings and tie them to public policy are better positioned to take advantage of the benefits of infill.

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40 MRSC of Washington, Infill Development Strategies for Shaping Livable Neighborhoods, page 8
41 Niles, John; Nelson, Dick, Measuring the Success of Transit-Oriented Development, Prepared for the American Planning Association, Session S-180, April 1999, page 4
42 ULI – The Urban Land Institute, page 8


Recommendations for Quality Infill

After reviewing the literature, the committee found ten recommendations as most important to improve infill and make it easier to build. Reforming zoning and regulations to permit smaller lots, urban setbacks, taller buildings, higher densities and more allows infill development to meet the planning goals and deliver the positive community impacts that it promises. Other recommendations range from ensuring zoning changes are appropriate and successful by engaging in collaborative processes and educating all parties, to making infill easier by preparing sites and streamlining processes.

Recommendations

1. Reform Zoning and Regulations — to support building forms, densities, and dimensional standards consistent with infill projects
2. Make Infill Compatible — be respectful of existing neighbors and neighborhood character
3. Create Priority Infill Areas — concentrate incentives and remove barriers in these areas
4. Educate about Infill — include all stakeholders, utilize innovative technologies, such as visualizations
5. Employ Design Guidelines — develop a set of principles and goals, allow flexibility
6. Require Collaborative Methods — ensure participation that includes all stakeholders
7. Streamline Infill Processes — coordinate and make transparent between disciplines and agencies
8. Improve Transportation Choices — enhance pedestrian/bike facilities, transit service and mix of uses, and connect local destinations in infill areas
9. Enhance the Public Realm — improve and create better public spaces and infrastructure near infill
10. Prepare Sites for Infill — through clean-up, land assembly, etc.

The number of instances each recommendation was found in the literature is shown in the chart below compared with the opinions of participants at a series of workshops the project sponsored. The workshop results are based on how important each recommendation was judged to be by participants. The literature review results are shown in the darker color bars; the adjacent lighter color bars show workshop results. (See Appendix C for workshop details)
All of the recommendations have important attributes. In order to fully implement a successful infill program, Idaho communities should explore how each of the recommendations is pertinent locally and implement them to meet local conditions. Some communities may find that their own priorities are different from the experience of committee members and workshop participants cited in this report.

The ten recommendations are described below in the order that the committee agreed was the highest priority. Each deals with a specific issue of encouraging infill. We have identified tools to help you implement each of the recommendations. (See Appendix A for tools.)

**Develop Guiding Principles supporting Infill; provide a policy basis for infill strategies**

After examining the findings from the literature review and workshops the committee chose to make one overarching recommendation. For infill to be successful, your community needs to build public consensus and adopt guiding principles that define why infill is desirable for your community. The principles should address how to overcome unfounded perceptions, eliminate negative consequences and reduce barriers to infill and should provide a foundation for infill development that is high quality at the same time it provides certainty to developers.

1. **Reform Zoning and Regulations – to support building forms, densities, and dimensional standards consistent with infill**

   The literature review revealed that revamping zoning and other regulations is by far the most common recommendation for a community that wants to encourage quality infill development. Suggested reforms include reviewing lot size, setback, parking, height, sidewalk and other requirements and to consider form based codes in order to encourage good urban form. The committee agrees that appropriate regulations are a necessary step, but also feel strongly that by itself this step will not assure high quality infill or diminish community opposition to infill.

2. **Make Infill Compatible – be respectful of existing neighbors and neighborhood character**

   Compatibility is a key to creating infill that is supported by the community. It can only be defined by involving all of the effected stakeholders. It is more than design, though design is an important element. It must also address how new buildings fit into the pattern of the existing built environment including: harmonizing with the existing streetscape, determining acceptable setbacks from existing buildings, transitions both in height and visible building mass to its surroundings, and where parking is located. In places where new development is called for, such as along corridors, it is important to identify transitions into the existing neighborhood fabric.

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### Lower Costs with Incentives

All of the recommendations can be considered incentives; however there are specific ones that save money for developers. These are the actions that directly address the most often cited barrier – the high cost of infill.

In our recommendations, the suggestion of creating **Priority Infill Areas** – recommendation #8, 9, 10 – if infill is truly a priority it may require the public to invest in high priority infill locations.

Cost saving actions most often cited are:

1. Reducing development fees – our #3 – includes prorating impact fees so as to waive or reduce them in areas where infrastructure already is sufficient; and waiving, reducing or changing the timing of application and occupancy fees.

2. Streamlined application process – our recommendation #7 – as an incentive the literature talks about fast tracking where infill meets the requirements to save money.

3. Reforming the regulations – our #1 recommendation – so that requirements such as parking, lot size, and setbacks support increased density.

4. Making public investments to support infill – our recommendations #8, 9, 10 – if infill is truly a priority it may require the public to invest in high priority infill locations.
3. Create Priority Infill Areas — concentrate incentives and remove barriers in these areas

Involving all stakeholders in identifying priority areas for infill development in your community. Deciding prior to development what locations within your city would best serve to meet infill goals will create opportunities to lessen opposition and increase incentives. These areas should be identified by collecting good information. The following should be in place or plans should be adopted to put them in place; adequate infrastructure and services, access to transportation alternatives, adequate underutilized or vacant properties to meet goals, appropriate zoning to allow the type of infill envisioned, appropriate provisions to ensure compatibility and/or transitions into the existing community fabric, identification of the land uses and densities that will be supported, and incentives, e.g., density bonuses, fee waivers or reductions, etc.

4. Educate about Infill — include all stakeholders, utilize innovative technologies, such as visualizations

For infill to be successful there must be agreement from all interests that it serves the public good and offers an opportunity to meet community goals. Using visualization techniques to illustrate the possibilities can help developers build higher quality projects, neighbors to understand what kinds of design elements they like, decision makers to see the opportunities and the community to determine their desired future.

5. Employ Design Guidelines — develop a set of principles and goals, allow flexibility

Design guidelines can be useful to ensure that new development fits within the existing context and can gain community and neighborhood acceptance. In general, design guidelines can lead to a higher development aesthetic. When focused on infill development, they can guide the process of integrating new development carefully into the existing neighborhood fabric with respect to block patterns, scale, building features, landscaping, and other characteristics of the neighborhood.

6. Require Collaborative Methods — ensure participation that includes all stakeholders

Community opposition is one of the most vexing barriers to infill. A planning and development process that is inclusive and transparent to everyone with an interest in infill can prevent surprises and potential opposition. These processes are most effective when initiated before an application has been filed; ideally they would be used to develop policies using consensus to inform future applications prior to development activity so that both neighbors and developers have a clear understanding of what will be expected. When development is proposed the application process should include neighbors early in the process to identify issues of concern and try to find common ground to overcome those issues. Neighbors and developers who have been involved together in creating the planning documents that will be used to review the application will have a common basis for finding agreement.

7. Streamline Infill Processes — coordinate, make transparent between disciplines/agencies

One of the barriers that separates infill from its greenfield competition is the complexity of the process. There are often more agencies involved, as well as more adjacent landowners. Identifying processes that help developers through the regulatory maze as well as offering early opportunities for neighbors to state their concerns may well shorten the time to development and produce better coordination on any needed improvements. One method is to assign a project manager at the lead agency who is responsible for making sure that all the necessary agencies and the neighbors are involved early and often in the process.
8. Improve Transportation Choices – enhance pedestrian/bike facilities, transit service and mix of uses, and connect local destinations in infill areas

Infill development and revitalization can enhance accessibility and support transit services. Improving the connectivity of streets, sidewalks, bike routes and paths can enhance the local transportation network and provide safe and convenient pedestrian, bicycle, and motor vehicle mobility. This recommendation can be met by adopting policies and Capital Improvement Plans (CIP) to support pedestrian, bicycle and transit use and to create new or enhanced connections between uses. Plans can be implemented with a combination of community and developer funded improvements and the investments should be prioritized to locations where the community has decided that infill offers the most opportunities.


Public streets, plazas, parks and other important civic spaces that make up the ‘public realm’ support public life and are a key component of successful urban places. The commercial and social interaction necessary for a vital energetic place requires good public realm features. They can often make the difference between success and failure in an infill area. If they are not complete they can be enhanced through a combination of public-private investments. While infill development should contribute to the public realm, communities should consider public investments to jumpstart and support private sector projects.

10. Prepare Sites for Infill – through clean-up, land assembly, etc

Public sector assistance may help overcome barriers created by difficulty assembling and acquiring land and the need for environmental clean-up at potential infill sites. There are numerous federal and state programs to assist with the preparation of infill sites, particularly if they qualify as Brownfield sites or have other environmental challenges. The Idaho Department of Environmental Quality has a brownfield program and local governments around the country have created their own programs to help remove these barriers.
Appendix A

Tools for Quality Infill Recommendations

In preparing this report the committee intended to make it easy to find tools, model ordinances and processes to use. The list that follows references promising tools that we found in our review. It is organized with a list of general guidebooks and toolkits followed by an alphabetical list (based on the author) of tools to implement specific recommendations by recommendation in numerical order.

Guidebooks and Toolboxes that address Infill

City of Edmonton, Canada, Smart Choices - Small-Scale Ground Oriented Residential Infill.

http://www.mrsc.org/Publications/infill1.pdf

Envision Utah, Envision Utah Toolboxes – engages people to create and sustain communities that are beautiful, prosperous, healthy and neighborly for current and future residents. They have created a series of tools for implementing their vision http://www.envisionutah.org/eu_resources_toolboxes.html

Georgia Department of Community Affairs Planning & Quality Gro Growth Program promotes sustainability, environmental protection, and enhanced quality of life by encouraging local implementation of best growth and development practices. http://www.dca.state.ga.us/development/PlanningQualityGrowth/index.asp

Greenbelt Alliance, Smart Infill: Creating More Livable Communities in the Bay Area - A Guide for Bay Area Leaders, San Francisco Bay Area, 2002 - .contact Stephen Wheeler,
http://www.greenbelt.org/resources/reports/index.html


Maryland Department of Planning, Models and Guidelines for Infill Development – Managing Maryland’s Growth, 2001, Designed to reinvigorate existing communities and support new compact, mixed-use development. Maryland’s Smart Codes initiative consists of the Maryland Building Rehabilitation Code, which streamlines conflicting and overlapping building codes that hamper rehabilitation of existing buildings, and models and guidelines for infill development and “Smart Neighborhoods.”
The goal of the Guidebook is to integrate the planning and design of our transportation system in a manner that fosters development of sustainable and livable communities. The Guidebook has equal applicability to rural, suburban and urban areas. [http://www.smart-transportation.com/assets/download/Smart%20Transportation%20Guidebook.pdf]

Smart Communities Network [Creating Energy Smart Communities, Green Development Codes and Ordinances](http://www.smartcommunities.ncat.org/greendev/codes.shtml)

U.S. Environmental Protection Agency, [Essential Smart Growth Fixes For Urban And Suburban Zoning Codes](http://www.smart-transportation.com/assets/download/2009_essential_fixes.pdf), draft September 2009. Local governments are discovering is that their own land development codes and ordinances are often getting in the way of creating vibrant communities that attract jobs, foster economic development, and are attractive places for people to live, work, and play. The USEPA's Development, Community, and Environment Division (DCED), or Smart Growth Program, has developed this document to help those communities looking for “essential fixes” to their codes for smarter, more environmentally responsible, and sustainable communities.

Victoria Transport Institute, [Transportation Demand Management (TDM) Encyclopedia – Smart Growth Reforms](http://www.vtpi.org/tdm/tdm95.htm) describes planning, regulatory and fiscal reforms that help create more efficient land use. For a more detailed report see Smart Growth Reforms [http://www.vtpi.org/smart_growth_reforms.pdf]

**Tools to Implement Specific Recommendations**

1) **Reform Zoning and Regulations – to support building forms, densities, and dimensional standards consistent with infill projects**


For more information about the Infill Task Force go to: [http://alexandriava.gov/Infill](http://alexandriava.gov/Infill)


Dane County, WI, [Better Urban Infill Development (BUILD) Program](http://www.countyofdane.com/plandev/community/build/codes.asp), Model Land Use Codes, Madison, WI Land use codes can pose significant barriers to creation or improvement of walkable, diverse, compact communities. Many ordinances create single-use districts, impose minimum lot size and set-back requirements, and mandate street widths that make walking less safe and appealing. The BUILD program has developed tools that Dane County communities can use to examine and revise their land-use codes so that they encourage good infill development and Great Neighborhoods. These tools include:

- Model Tradition Neighborhood Development Ordinance
- Big Box Ordinance Summary

Denver Regional Council of Governments, **Regulatory Strategies for Encouraging Infill and Redevelopment** April 2006. This report provides information for local governments on regulatory strategies that support infill and redevelopment in their communities. It describes the process of assessing and adjusting zone districts to better facilitate infill and redevelopment, mixed-use zoning codes and overlay districts and local and national examples are provided. It also addresses assessing and modifying building codes. [http://www.drcog.org/documents/TODRegulatory%20Strategies%20for%20Infill.pdf](http://www.drcog.org/documents/TODRegulatory%20Strategies%20for%20Infill.pdf)

Envision Utah **Urban Planning Tools for Quality Growth Chapter 4** Envision Utah has developed a toolbox that uses examples of local and national development codes, design standards, and innovative planning strategies, the Toolbox is designed to assist communities as they plan for the future through various types and stages of development. Chapter 4 addresses Infill development. [http://www.envisionutah.org/Urban%20Planning%20Tools%20for%20QG_ch4_1.pdf](http://www.envisionutah.org/Urban%20Planning%20Tools%20for%20QG_ch4_1.pdf)

Envision Utah **Compact Housing** In February 2006, Envision Utah introduced its new resource, Workforce Housing: Markets, Realities, Concerns and Solutions. Utah’s demographics are undergoing dramatic changes that drive demand for a broader diversity of housing types than is now available, yet many communities are apprehensive about changes they perceive such housing may bring. This compilation includes research on:

- Utah’s changing housing market
- Potential advantages and negative impacts of multi-family housing on property values, parking, traffic congestion, and crime
- Public opinion and attitudes towards housing alternatives
- Model ordinances, innovative zoning strategies, and compatible design criteria

Municipalities can obtain free copies by calling Kevin Fayles with Envision Utah at (801) 303-1462.

Form Based Codes Institute, **Form Based Code Resources**, Form-based codes foster predictable built results and a high-quality public realm by using physical form (rather than separation of uses) as the organizing principle for the code. Form-based codes are an alternative to conventional zoning. [http://www.formbasedcodes.org/resource.html](http://www.formbasedcodes.org/resource.html)

Fort Collins, Colorado, **Neighborhood Commercial District** (N-C) Intended to be a mixed-use commercial core area anchored by a supermarket or grocery store and a transit stop. The main purpose of this District is to meet consumer demands for frequently needed goods and services, with an emphasis on serving the surrounding residential neighborhoods, typically including a medium-density mixed-use neighborhood. [http://bpc.iserver.net/codes/fortcoll_landuse/index.htm](http://bpc.iserver.net/codes/fortcoll_landuse/index.htm)

State of Maryland, **Rehabilitation Building Code**, The Maryland Building Rehabilitation Code Program encourages private investment in existing buildings and communities through a new construction code that streamlines and harmonizes the code requirements for rehabilitation work. The Building Rehabilitation Code was updated in 2007, and applies to buildings of all types over one year old. To find out more about the Maryland program: [http://mdcodes.umbc.edu/dhcd2/MBRC-July%202007.pdf](http://mdcodes.umbc.edu/dhcd2/MBRC-July%202007.pdf)

Metro Regional Government, Oregon, **Main Street Handbook** This handbook explains the regional planning context in which main streets function and how to use lessons learned from studying main streets. Throughout the handbook are topics related to main street development and ways to increase densities in retail and mixed-use areas. Metro Growth Management Services - (503) 797-1736

State of New Jersey, **Rehabilitation Building Codes** — Rehabilitation building codes are a relatively new tool that some states and local governments are using to make it easier to reuse older buildings. New Jersey’s code is the first comprehensive set of code requirements for existing buildings. It is a stand-alone subchapter and, therefore, it contains all the technical requirements that apply to a rehabilitation project. Maryland and New Jersey have adopted statewide rehabilitation codes. After New Jersey adopted its code in
1997, investment in rehabilitation work rose statewide by nearly 8 percent. Rehabilitation investment increased most significantly in three older communities:

- Newark: 60 percent increase (from $68 to nearly $109 million);
- Jersey City: 83 percent increase (from $49 to almost $90 million); and
- Trenton: 40 percent increase (from $21 to $30 million).

To find out more about the New Jersey programs [http://www.state.nj.us/dca/codes/rehab](http://www.state.nj.us/dca/codes/rehab)


City of Portland, Oregon, [Commercial Zones, Chapter and Code, Title 33 Planning](http://www.portlandonline.com/auditor/index.cfm?c=28148) The zones are for areas of the City designated by the Comprehensive Plan for commercial uses. The differences in the zones reflect the diversity of commercial areas in the City. The zones are distinguished by the uses allowed and the intensity of development allowed. Some of the zones encourage commercial areas that are supportive of surrounding residential areas, while other zones allow commercial areas which have a community or regional market. [http://www.portlandonline.com/auditor/index.cfm?c=28148](http://www.portlandonline.com/auditor/index.cfm?c=28148)

Transportation and Growth Management Program, [Model Development Code and User’s Guide for Small Cities](http://www.lcd.state.or.us/tgm/publications.htm), Oregon Department of Transportation/DLCD. This model code provides a unified set of land use and development codes that comply with Oregon planning laws and promote Smart Development. It contains chapters on land use (zoning), development design, review procedures, and exceptions and variances. The codebook may be used as a whole, or code sections (e.g., Chapter 2.2 Main Street and Downtown district) may be used to update selected standards. [www.lcd.state.or.us/tgm/publications.htm](http://www.lcd.state.or.us/tgm/publications.htm)

Vancouver BC, [CityPlan Community Visions Program](http://vancouver.ca/commsvcs/guidelines/R006.pdf), Vancouver’s population is now approaching 600,000 - more than a quarter of the Greater Vancouver Region. The city's land has been fully developed for many years. Population growth - currently averaging 6,000 more people in the city every year - is accommodated in new housing created largely through redevelopment and infill. Conversion of industrial areas has added to the city’s housing capacity, and rezoning to allow new forms of higher density housing followed from the CityPlan Community Visions Program. Other housing is being created through higher density redevelopment of existing housing, and mixed-use schemes creating housing above commercial property. RS-2 And RS-7 Infill And Multiple Dwelling Guidelines: [http://vancouver.ca/commsvcs/guidelines/R006.pdf](http://vancouver.ca/commsvcs/guidelines/R006.pdf)

2) **Make Infill Compatible – be respectful of existing neighbors and neighborhood character**

City of Boise, ID, [Code Regulating Substandard Lots of Record](http://www.cityofboise.org/Departments/City_Clerk/PDF/CityCode/Title11/1104.pdf), Allows infill on substandard lots if it meets; building mass, bulk and design for compatibility with existing neighbors, maximum building FAR in relation to lot size, landscaping requirements, right-of-way improvements, garage placement, off-street parking, and private open space requirements. It requires neighborhood notification and includes a formalized waiver process for circumstances where comprehensive plan or other goals may conflict with the requirements. These requirements address neighborhood concerns without prohibiting small lot development. 11.04.14 of Boise zoning code.

[http://www.cityofboise.org/Departments/City_Clerk/PDF/CityCode/Title11/1104.pdf](http://www.cityofboise.org/Departments/City_Clerk/PDF/CityCode/Title11/1104.pdf)
Chattanooga, TN, Suburban Infill Regulations, Amendment to Chattanooga city code, Part ii, chapter 38; zoning ordinance, to include Suburban infill lot frontage and setback regulations and urban infill lot compatibility Subdivision option, delete flag lot provisions, and change the definition of frontage http://www.chattanooga.gov/oridireso/Ordinances%202009/12277%20City%20Code,%20Ch%2038,%20infill%20suburb%20infill%20lot%20frontage%20&%20setback,%20urban%20infill%20lot%20subdiv%20option,%20etc.pdf

Georgia Quality Growth Partnership, Residential Development Infill Requirements, Ensures that new infill development is compatible with its neighborhood, maintains harmony and character of existing residential areas, and that development occurs in an orderly and desirable manner. http://www.dca.state.ga.us/toolkit/ToolDetail.asp?GetTool=107

Huntersville, North Carolina – Traditional Neighborhood Development Overlay The Traditional Neighborhood Development Overlay District is provided for the development of new neighborhoods and the revitalization or extension of existing neighborhoods, which are structured upon a fine network of interconnecting pedestrian oriented streets and other public spaces. Traditional Neighborhood Developments (TND’s) offer a mixture of housing types and prices, prominently sited civic or community building(s), and stores/offices/workplaces—to provide a balanced mix of activities. Church and preschool/elementary school facilities are encouraged. http://www.huntersville.org/

Municipal Research and Services Center of Washington, Design Review Guidelines and Code Provisions, Design for Infill and Compatibility. Infill development design guidelines are useful tools for ensuring that the new development fits the existing context, and gains neighborhood acceptance. This section includes sample general design review manuals and guidelines for commercial, mixed-use and multifamily development. It includes some code provisions and design review processes. http://www.mrsc.org/subjects/planning/desrevguideandcode.aspx


- Prototype 1a: Cottage Cluster, 100' x 100' Site, R2 Zone (PDF, 2,936kb)
- Prototype 1b: Cottage Court, 100' x 100' Site, R2 Zone (PDF, 2,448kb)
- Prototype 1c: Contextual Rowhouses, 100' x 100' Site, R2 Zone (PDF, 2,473kb)
- Prototype 1d: Contextual Rowhouses Variant, 100' x 100' Site, R2 Zone (PDF, 2,192kb)
- Prototype 2a: Townhouse Cluster, 50' x 100' Site, R1 Zone (PDF, 1,910kb)
- Prototype 2b: House-plex, 50' x 100' Site, R1 Zone (PDF, 2,072kb)
- Prototype 3a: Shared Court Rowhouses, 100' x 100' Site, R1 Zone (PDF, 2,642kb)
- Prototype 3b: Corner Rowhouses, 100' x 100' Site, R1 Zone (PDF, 3,031kb)
- Prototype 4a: Courtyard Townhouses, 95' x 180' Site, R2 Zone (PDF, 2,144kb)
- Prototype 4b: Big Cottage Court, 95' x 180' Site, R2 Zone (PDF, 2,697kb)
- Prototype 4c: Mirrored Green, 95' x 180' Site, R2 Zone (PDF, 2,377kb)
- Prototype 5a: Courtyard Flats, 90' x 220' Site, R1 Zone (PDF, 2,643kb)
- Prototype 5b: Courtyard Townhouses, 90' x 220' Site, R1 Zone (PDF, 2,930kb)
3) Create Priority Infill Areas – concentrate incentives and remove barriers in these areas

City of Austin, TX, Smart Growth Matrix, Austin has designated “desired development areas”, within which the City evaluates projects using a “Smart Growth Matrix”. The Matrix is a point system that the City Council uses to measure how well a development project meets the City’s Smart Growth goals. The evaluation criteria include: 1) the location of development; 2) proximity to mass transit; 3) urban design characteristics; 4) compliance with nearby neighborhood plans; 5) increases in tax base, and other policy priorities.

If a development project, as measured by the matrix, significantly advances the City’s goals, financial incentives may be available to help offset the cost of developing in existing urban areas. These incentives may include waiver of development fees, and public investment in new or improved infrastructure such as water and sewer lines, streets or streetscape improvements, or similar facilities. Incentives available under the Smart Growth Matrix require City Council review and approval.

http://www.epa.gov/dced/scorecards/austin_matrix.pdf

City of Boise, ID, Special Design Standards for Type V Construction This code allows for three- to five-story wood-framed construction of buildings in a special downtown district, in place of the standard code requiring steel frame construction, with specific code requirements to ensure safety. Especially designed for housing, wood frame construction offers lower materials costs for economical buildings that are faster to construct.

http://www.cityofboise.org/Departments/City_Clerk/CityCode/page14170.aspx

City of Corvallis, OR, Mixed Use Commercial (MUC) District, Introduces some residential and industrial uses into areas with commercial designations on the Comprehensive Plan Map. It is intended to provide areas for commercial uses, as well as civic and residential uses, and to provide basic services and amenities at a scale appropriate to surrounding developments.

http://www.ci.corvallis.or.us/cd/ldc/ldc3-20.html

Dane County, WI, Better Urban Infill (BUILD) Program, Planning Grants, Program provides grants to Dane County municipalities to support planning that leads to infill development, downtown revitalization.

http://www.countyofdane.com/plandev/community/build/planning_grants.asp

Envision Utah, Redevelopment Potential Model This easy-to-use model estimates development costs and revenues in a potential redevelopment area, helping local planning officials understand their role in affecting redevelopment potential.


State of Florida, Statute 163.2517: Designation of urban infill and redevelopment area.

http://www.flsenate.gov/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=Ch0163/Sec2517.HTM

Georgia Department of Community Affairs, Using Impact Fees to Promote Desired Development Patterns, This article gives four examples of how to implement impact fees so that they are low in areas the city wants to develop and high in areas where development is less desirable.

http://www.dca.state.ga.us/intra_nonpub/Toolkit/OtherResources/ImpFeesPrmtDevtptrns.pdf

Miami Dade County, Infill Housing Initiative Guideline, This booklet outlines Miami Dade County’s program to increase the availability of affordable homes; maintain a stock of affordable housing; redevelop urban neighborhoods by eliminating the blight of vacant, dilapidated or abandoned properties; equitably distribute homeownership opportunities within the Infill Target Areas; and generate payment of ad valorem taxes.

http://www.miamidade.gov/gsa/library/INFILL%20HOUSING%20INITIATIVE%20GUIDELINES.pdf
City of Riverside, CA, **Residential Infill Incentive Program**, The city has adopted a Residential Infill Incentive program that is made up of fee modifications. The incentives apply to the development, redevelopment or reuse of less than five vacant or underutilized R-1 or RR zoned parcels of 21,780 square feet or less, surrounded by residential uses (80% of land uses within a half mile radius) where the proposed project is consistent with general plan designations and applicable zoning.

http://www.riversideca.gov/planning/zoning-infill.asp

Salt Lake City, UT, **Impact Fees Summary of Adoption**, Explanation of how Salt Lake City implemented an impact fee program that favors infill.


4) **Educate about Infill – include all stakeholders, utilize innovative technologies, such as visualizations**

Community Planning Association of Southwest Idaho (COMPASS), **Communities In Motion Implementation Guidebook**, COMPASS’ Long Range Transportation Plan calls for a growth scenario that calls for more compact development as one strategy to deal with the rapid growth the region has experienced. To help implement that plan they developed a guidebook. Section one of that guidebook shows examples of compact development at different densities from around the region. It has a good description of the context and connections around the development as well as aerial views of the immediate vicinity.

http://www.compassidaho.org/prodserv/reglrtranpl.htm

Kwartler, Michael, and Gianni Longo, **Visioning and Visualization, People, Pixels, and Plans** Michael Kwartler and Gianni Longo present principles, techniques, and cases based on their professional experiences in developing sophisticated public involvement processes that are used to apply information technology to planning and design. They suggest ways that digital visualization tools can be integrated in a public process to present participants with clear choices and help them make informed planning decisions. Evidence from communities throughout the country shows that public involvement supported by visualization leads to better plans and more livable places and communities. http://www.lincolninst.edu/pubs/1379_Visioning-and-Visualization (Chapter 1 on line)

Lincoln Institute of Land Policy, **Visualizing Density** A project designed to help communities understand how density looks and how it might work in your community.

http://www.lincolninst.edu/subcenters/visualizing-density/ Book for sale at (free download of Chptr 1):
http://www.lincolninst.edu/pubs/1178_Visualizing-Density

The Orton Family Foundation, **CommunityViz®** is a set of software tools for planning, designed with a specific mission in mind: to assist people in visualizing, analyzing, and communicating about potential futures of their communities. Since its public release in 2001, CommunityViz® has aimed to promote collaborative, informed decision-making. The Foundation’s partnership with Placeways LLC allows for continuous progress towards these goals, providing support and development to make the software ever more accessible, comprehensive and effective. http://www.orton.org/tools/community_viz

Price, Steve, **Urban Advantage**, Creates visions of walkable, socially-interactive green communities by transforming photographs with photo editing software. The results are photo-realistic visualizations that make development visions palpably real and understandable. In community development, seeing is the key to understanding. http://www.urban-advantage.com/
5) Employ Design Guidelines – develop a set of principles and goals, allow flexibility

City of Austin, TX, Urban Design Guidelines, The current 2008 revision of the original Downtown Design Guidelines includes a global refocus of the applicability, enlarging it to include any areas in the city which, through general agreement, seek to create and shape dense development. http://www.ci.austin.tx.us/downtown/downloads/urban_design_guidelines_for_austin.pdf

City of Meridian, ID, Design Manual, January 2009, Establishes guidelines for proposed developments based on an innovative hierarchical framework, which categorizes the city into different areas based on development contexts. Each corresponds with specific design guidelines for that context that convey physical and visual characteristics to create distinctive areas throughout the city. http://www.meridiancity.org/uploadedFiles/Departments/Planning/Design_Manual/design_manual_jan2009.pdf

City of Orlando, Florida, Traditional City Design Standards, Chapter 62 Part 6. Development in Traditional City main street/town center districts shall be pedestrian-oriented with buildings close to and oriented to the street and vehicular use areas located to the side or rear of buildings. Certain design standards in this section apply only to the parts of a building oriented to the street. http://municode.com

City of Portland, OR, Central City Fundamental Design Guidelines The urban design vision for Portland’s Central City emphasizes a livable, walkable, urban community that focuses on the Willamette River. The Central City Fundamental Design Guidelines implement this urban design vision by providing a framework for how Central City development should look, function and feel. The design guideline system of Portland’s Central City consists of multiple layers of design guidelines. The Central City Fundamental Design Guidelines make up the fundamental set of design guidelines upon which the system is based. These fundamental guidelines are augmented by additional sets of design guidelines specific to Central City subdistricts, historic districts, and unique parts of the city such as the Willamette River Greenway. For copies of the Central City Fundamental Design Guidelines, please contact the City of Portland Planning Bureau at (503)823-7700, or: http://www.planning.ci.portland.or.us/BOPLibrary/Documents/DesignGuidelines/CCFDG/ccfdgTOC.htm

City of Seattle, WA, Design Review Guidelines for Multifamily Housing and Commercial Development, Design review guidelines intended to provide a forum for a neighborhood and the developer to work toward achieving a better community through attention to simple design principles. http://www.cityofseattle.net/dpd/cms/groups/pan/@pan/@plan/@drp/documents/Web_Informational/cos_005127.pdf

U.S. Environmental Protection Agency, Creating Great Neighborhoods Documents lessons learned by Arlington County to balance higher and lower density development and achieve community goals. Design principles emerge from their experience, good design is based on five primary principles that help ensure that density contributes to the community’s economic, social and environmental health:

- Increase densities in appropriate locations,
- Connect people and places through a complete street network that invites walking and bicycling and provides convenient access to bus or rail,
- Mix uses to create a quality of life where people may chose to live near their work, walk to the local store, or bike to the library with their kids,
- Place parking in alternative locations to support density and create inviting places to walk, and
- Create great places for people.

Other lessons are documented from the other nine communities are highlighted in case studies. http://www.epa.gov/smartgrowth/pdf/density.pdf
6) Require Collaborative Methods – ensure participation that includes all stakeholders.

Ariail III, James L., AICP, Dozier, Daniel P. Esq., Finegold, Allyn, **Stakeholder Collaborative Processes for Consensus Building on Planning Issues** 1) stakeholder collaborative processes as a form of public participation, (2) when stakeholder collaborative processes are most appropriate, and (3) how a stakeholder collaborative group may be established and facilitated. Additional resources are referenced at the end of the article for readers who wish to explore this subject further. [http://www.abanet.org/dispute/documents/StakeholderCollaborativeProcesses.pdf](http://www.abanet.org/dispute/documents/StakeholderCollaborativeProcesses.pdf)

Lincoln Land Institute, **Resolving Land Use Disputes** With development tensions among competing interests have become common with stakeholders seeking a more active role in decisions in their community. Consensus building techniques have been used for many years to help disputants maximize mutual gains and resolve land use disputes. Learn more about when and how to use consensus building techniques, answer your questions, see how dispute resolution has been used in cases like your own, and connect you to others involved in current land use debates. [http://www.lincolnist.org/subcenters/resolving-land-use-disputes/](http://www.lincolnist.org/subcenters/resolving-land-use-disputes/)

Miskowiak, Douglas, **Functional for Planning: Using Public Participation Tools to Accomplish Planning Tasks**, The Land Use Tracker, Volume 3, Issue 3, Winter 2004. This article is intended to help local officials and plan committee/commission members better understand the purpose for citizen involvement and how citizens can be productive for planning. [https://www.uwsp.edu/cnr/landcenter/tracker/winter2003a/publicpart.html](https://www.uwsp.edu/cnr/landcenter/tracker/winter2003a/publicpart.html)

National Charrette Institute, **National Charrette System**, Teaches professionals and community leaders a design-based, accelerated, collaborative project management system that harnesses the talents and energies of all interested parties to create and support a feasible plan and advance the fields of community planning and public involvement through research and publications. [http://www.charretteinstitute.org/](http://www.charretteinstitute.org/)

The Orton Family Foundation, **Place Matters** A dynamic database website for communities (their professional planners, public agencies, and concerned citizens) to identify tools and processes for better community design and decision making. [http://www.smartgrowthtools.org/index.php](http://www.smartgrowthtools.org/index.php)

Committee on Public Involvement in Transportation, **State of the Practice: White Paper on Public Involvement**, A1D04: Committee on Public Involvement in Transportation. This article outlines the benefits of public involvement and gives approaches, guiding principles, and best practices to choose tools for public involvement. [http://www.trbpi.com/publications/trbwhitepaper.pdf](http://www.trbpi.com/publications/trbwhitepaper.pdf)

Rue, Harrison, **Public Involvement Best Practices, Linking land Use and Transportation**, Terrain.org and Journal of Natural and Built Environments. Outlines effective practices for incorporating grassroots community-based planning techniques into transportation planning, with new strategies for linking land use and transportation planning, enhancing safety and multi-modal mobility, and encouraging more compact development. The basic components—inter-agency teams, facilitator training, community education, hands-on workshops, group workbooks, inspiring and buildable plans—have been developed over time by the Citizen Planner Institute, and tested in communities across the country. [http://www.terrain.org/articles/17/rue.htm](http://www.terrain.org/articles/17/rue.htm)

The Smarter Land Use Project, **Solving Persistent Problems with Effective Collaboration** The Smarter Land Use Project has discovered that 1) effective collaboration quickly reveals ideas that solve persistent problems; 2) problem-solving ideas come when there is a shift to a unifying consciousness; 3) the shift occurs when a person gets a feeling of community spirit by giving, making friends, sharing examples, etc; 4) the only person whose consciousness you can shift is you. The goal is to get problem-solving ideas by shifting yourself to a unifying consciousness when you are in the middle of a problem. [http://landuse.org/](http://landuse.org/)
7) Streamline Infill Processes – coordinate and make transparent between disciplines and agencies.

City of Roseville CA, Infill Project Review Team, The purpose of the Project Review team is to offer, to those interested in infill development, a group of experienced staff familiar with the challenges associated with the process. Provides consistent, timely, reliable, customer friendly support in to further encourage reinvestment in these areas. http://www.roseville.ca.us/planning/reevelopment/incentives_n_programs.asp application: http://www.roseville.ca.us/civica/filebank/blobdownload.asp?BlobID=12728#page

City of Sacramento CA, Infill Program Process Improvements, In coordination with various divisions and departments, identify obstacles and challenges and recommend and/or carry out revisions to the policies, ordinances, and processes to better facilitate infill development.

http://www.cityofsacramento.org/planning/infill/programs.cfm

City of Sacramento CA, MATRIX Review Process, Community Development Tools and Reference. The MATRIX merges Community Development Department staff and other necessary City departments into specialized teams organized by development type, not by discipline. Instead of dealing with multiple divisions and departments for a project, an applicant works with just one team, whose members will be involved in the project from beginning to end. The goal is to “Get the Customer to Success” in a timely, seamless, and predictable development review process. http://www.cityofsacramento.org/dsd/reference/matrix/

U.S. Environmental Protection Agency, Approval and Permitting Process, Stimulating Infill and Brownfield Development in the Land-of-Sky Region, pg 19. This research found approval and permitting processes to be inconsistent, inefficient and lengthy creating a barrier to infill. The barrier has been lessened over time, due to improvements made in city processes. The improvements are described here.


8) Improve Transportation Choices – enhance pedestrian/bike facilities, transit service and mix of uses, and connect local destinations in infill areas

Envision Utah, Transit Oriented Development Resource Guide. This handbook lays out a comprehensive framework for understanding, designing and implementing transit-oriented development. The guidelines are also good practice for any area that wants to create a distinct, walkable community. (PDF 5.14 MB) http://www.envisionutah.org/Wasatch%20Front%20Transit%20Oriented%20Development%20Guidelines_2002.pdf

Idaho Transportation Department, Safe Routes to School, A competitive grant program dedicated to increasing the number of kids safely walking and bicycling to school through infrastructure improvements, education and more. More Idaho students are finding ways to walk, bicycle, skateboard or even ride a scooter to school. A part of the national Safe Routes to School program, the Idaho program has resources and funding available to support local Safe Routes to School efforts. http://itd.idaho.gov/SR2S/home.htm

National Complete Streets Coalition, Complete Streets Policies, Complete streets policies formalize a community’s intent to plan, design, and maintain streets so they are safe for all users of all ages and abilities. The sample policies on this website direct transportation planners and engineers to consistently design and construct the right-of-way to accommodate all anticipated users, including pedestrians, bicyclists, public transportation users, motorists, and freight vehicles. http://www.completestreets.org/changing-policy/


Portland Metro, Creating Livable Streets: Street Design Guidelines for 2040 This handbook published by Metro provides regional street design guidelines for local governments in the Portland metropolitan area to support the goals in the Metro 2040 Growth Concept and the Regional Transportation Plan (RTP). The guidelines seek to balance all modes of transportation and address the character of surrounding land uses. For copies, contact Metro’s Transportation Department at (503) 797-1755, or download the document at: http://www.metro-region.org/transpo/greenstreets/cls.html

Portland Metro, Shared Parking in the Portland Metropolitan Area This study, prepared by Stein Engineering, provides the status of shared parking in the Portland metropolitan area as of 1997. The study is intended to assist businesses, neighborhoods, developers, and local jurisdictions in promoting a greater understanding and use of shared parking. The study also provides model ordinance provisions and a shared use agreement that local governments can use when implementing shared parking. Copies may be purchased at Metro, 600 NE Grand Avenue, Portland, or by calling (503) 797-1755.

Transportation and Growth Management Program, Parking Management Made Easy, ODOT/DLCD Downtown Development Association, A Guide to Taming the Downtown Parking Beast. This brochure takes you step-by-step through identifying the problem, doing a parking study, analyzing the results, and determining the strategies to resolve the problem, including options for making better use of the existing parking supply. Web site address: http://www.lcd.state.or.us/tqm/publications.htm

9) Enhance the Public Realm – improve and create better public spaces and infrastructure near infill

Georgia Department of Community Affairs, Infill Development Program Local government can encourage more infill development while, at the same time, guiding this development so that it enhances the quality of life in established neighborhoods of your community. http://www.dca.state.ga.us/intra_nonpub/Toolkit/Guides/InfilDevtProg.pdf

State of Idaho, Idaho Urban Renewal Law Independent public agencies serving as a catalyst for private development through urban design, economic development and infrastructure investment. Urban Renewal agencies in Idaho are formed under the provisions of TITLE 50, Chapter 20, Idaho Code, for the purpose of investing public funds in business districts and neighborhoods needing economic development and revitalization. http://www.legislature.idaho.gov/idstat/Title50/T50CH20.htm

National Governor’s Association, Issue Brief: Fixing It First: Targeting Infrastructure Investments to Improve State Economies and Invigorate Existing Communities By prioritizing investments in roads, schools, utilities, housing, and other infrastructure in a way that leverages and enhances existing assets before building new, states are enjoying substantial benefits. These include the cost savings of greater efficiency and restoration of the economic competitiveness of existing communities. This approach, often known as “Fix-it-first,” is not one-size-fits-all but rather utilizes a variety of strategies to meet individual state needs. This issue brief reviews the differing strategies of seven states and reveals that they pursue fix-it-first to achieve three primary goals. http://www.nga.org/Files/pdf/0408FIXINGFIRST.pdf

Old Brooklyn Community Develop Corporation, Economic Development Goals Economic development can be defined as efforts that seek to a) improve the economic well-being and quality of life for a community by supporting or growing incomes and the tax base and b) create and/or retain jobs. Given the ever-changing nature of the national and regional economy, the economic development goals included in this plan will take considerable effort to achieve, but they are necessary to ensure that the neighborhoods remain strong and stable. http://oldbrooklyn.com/wiki/index.php/Economic_Development
Truckee Meadows Regional Planning Agency. *Barriers and Incentives to Infill,* This paper summarizes a review of the literature on infill, and includes a discussion of a range of typical barriers to and incentives for infill, as well as recommendations addressing particular infill problems.  

10) Prepare Sites for Infill – through clean-up, land assembly, etc.

Envision Utah, *Brownfield Redevelopment Solutions* Working with a stakeholder group, Envision Utah has developed a multi-disciplinary tool to expedite the land redevelopment process without sacrificing environmental and land-use standards. Envision Utah’s newly designed tool, Brownfield Redevelopment Solutions, guides the reader step-by-step through a typical brownfield redevelopment process, citing local examples and other beneficial resources. This toolbox will serve as a resource not only for those new to brownfield redevelopment, but also as a reference for professionals with years of experience. The American Express Center for Community Development and the United States Environmental Protection Agency provided funding for this resource.  
http://www.envisionutah.org/Brownfield%20Redevelopment%20Toolbox.pdf

Idaho Department of Environmental Quality, *Brownfields Revitalization Program,* DEQ’s Brownfields Assessment Program funds and conducts environmental assessments of brownfield sites when a lack of environmental information has complicated site redevelopment or reuse. For each site, DEQ will produce a final report reveals whether a site is clean, lightly contaminated, or heavily contaminated, determines the nature and extent of the contamination, and estimates cleanup costs (if any). For more information  
http://www.deq.state.id.us/Applications/Brownfields/index.cfm?site=brownfields.htm


- Gives a clear and comprehensive definition of what constitutes abandoned property.
- Restructures tax foreclosure process enabling municipalities to accelerate acquisition of properties for redevelopment to make them available to appropriate parties.
- Provides for vacant property receivership, referred to as “possession,” allowing for a judicial process by which a municipality or designated agent can gain control of abandoned property through courts for the purpose of rehabilitation or sale to an appropriate end user.
- Makes eminent domain easier to use by municipalities on abandoned properties.

The statute also requires that appraisers of such abandoned properties analyze the cost to rehabilitate or reuse the property according to zoning and planning municipal standards and the market value after rehabilitation. If the cost exceeds the market value, there is “rebuttable presumption that the value of the property, and the compensation due the owner is zero.”  

City of San Diego, CA, *Business Development and Incentive Zone Mapping System,* The City of San Diego provides opportunities for enterprise with 18 business improvement districts, 15 redevelopment project areas, one enterprise zone, a foreign trade zone, recycling market development zones and a renewal community, the City is “zoned for incentives.” To assist and encourage private industry investment and development in San Diego, the City’s Community and Economic Development Department has created a convenient way to access information on the wide array of business development and incentives zones available throughout the City.  
Shoup, Donald, *Graduated Density Zoning to Encourage Land Assembly for Infill Redevelopment*. An article published in Zoning Practice from the American Planning Association that examines how to zone in infill areas with graduated density that encourages the assembly of land for infill developments. [http://its.ucla.edu/shoup/GraduatedDensityZoningInPractice.pdf](http://its.ucla.edu/shoup/GraduatedDensityZoningInPractice.pdf)

State of Wisconsin, *Land Recycling Loan Program* (LRLP) LRLP provides low cost loans to cities, villages, counties and towns for the purpose of remediating environmental contamination (brownfields) at landfills, sites or facilities where contamination has affected or threatens to affect groundwater or surface water. Features of the program:

- current interest rate is 0% plus .5% servicing fee
- LRLP loan term is 20 years
- local government must secure LRLP loan with a general obligation pledge
- application deadlines announced semi-annually
- funding decisions are made according to priority ranking
- developer agreements reviewed by the Dept. of Administration prior to award of funds
- proceeds of land sale must be used to repay LRLP loan

[http://www.dnr.state.wi.us/org/caer/cfa/EL/Section/brownfield.html](http://www.dnr.state.wi.us/org/caer/cfa/EL/Section/brownfield.html)

**Financing Strategies for Brownfield Redevelopment**
[http://files.harc.edu/Sites/GulfCoastCHP/Publications/FinancingBrownfieldCleanup.pdf](http://files.harc.edu/Sites/GulfCoastCHP/Publications/FinancingBrownfieldCleanup.pdf)

**Federal Financial Assistance for Brownfield Redevelopment Activities Loans**

- HUD funds for locally determined CDBG loans and “floats”
- HUD Section 108 loan guarantees
- EPA capitalized brownfield revolving loan funds
- EPA capitalized clean water revolving loan funds (states set priorities, run programs)
- SBA microloans
- SBA Section 504 development company debentures
- SBA Section 7(a) and Low-Doc programs
- EDA Title IX (capital for local revolving loan funds)

**Grants**

- HUD Brownfield Economic Development Initiative (BEDI)
- HUD Community Development Block Grants (for projects locally determined)
- EPA assessment pilot grants
- EDA Title I (public works) and Title IX (economic adjustment)
- DOT transportation and community system preservation (TCSP) pilot grants
- DOT (various system construction and rehabilitation programs)
- Army Corps of Engineers (cost-shared services)

**Federal Financial Assistance for Brownfield Redevelopment Activities Loans (continued)**

**Equity capital**

- SBA Small Business Investment Companies
- Tax incentives and tax-exempt financing
- Targeted expensing of cleanup costs (through 12/31/03)
- Historic rehabilitation tax credits
- Low-income housing tax credits
- Industrial development bonds
- Tax-advantaged zones
- HUD/USDA Empowerment Zones (various incentives)
- HUD/USDA Enterprise Communities (various incentives)
Appendix B

Committee Members Goals Related to Infill

The importance of infill as a planning topic is reflected in the numerous and varied goals adopted by the quality infill committee members. A few committee members do not have adopted goals but articulated how they deal with challenges presented by infill development as it affects their organization or interest.

The three cities involved in the committee all have adopted policies encouraging infill in appropriate situations. The cities’ plans and codes cite different goals to encourage infill such as Meridian’s Comprehensive Plan: “Develop incentives that encourage utilization of unimproved or underdeveloped land within the Meridian City limits in order to maximize public investments, curtail urban sprawl, and protect existing agricultural lands from unnecessary infringement.”

The Boise City Comprehensive Plan focuses on compatibility and location with provisions such as: “Require that all new residential development in existing residential neighborhoods (i.e., infill) be compatible with existing structures,” and “Provide information…to the private sector regarding housing demand, infill potential and location of buildable land.” Garden City faces the challenge of improving the design quality of development in general and utilizing resources efficiently and has adopted policies that reflect those goals.

Idaho Smart Growth uses the ten smart growth principles cited nationally including: “Strengthen and direct development toward existing communities to maximize investments in public infrastructure and save tax money by encouraging and facilitating quality infill, redevelopment, and rehabilitation…” Boise’s urban redevelopment agency, Capital City Development Corporation master plans include a vision of urban centers at urban intensity by infilling underutilized land (mostly surface parking lots).

The committee members who work on private sector development are represented by four firms. McKibben and Cooper Architects has worked with private urban infill developers on large and small projects and found that engaging the public and stakeholders in extensive public charrettes generates significant community support. Carley and Associates works mainly in downtown Boise and is focused on overcoming the regulatory barriers and associated costs of building infill in order to compete with greenfield development.

Another, VP Development has chosen to work on small infill projects and has found success working closely with the neighbors and the City of Boise on site specific issues to maintain both quality and affordability by combining good architecture with an affordable product. The final private sector partner, Brighton Corporation, also uses good architecture and affordability as key components while determining an appropriate density for the location, and balancing competing issues such as the value of an existing structure and the cost of building versus demolition and redevelopment on the site.

Other partners are trying to deal with the challenges presented by infill. For instance, the Southeast Neighborhood Association (SENA) has worked for many years on behalf of neighborhood livability and to ensure that infill will produce benefits for the existing neighborhood, or at least do no harm. The North End Neighborhood Association (NENA) shares these concerns and has the added issue of compatibility with, and potential loss of, historic assets.

The Ada County Highway District (ACHD) is challenged by a lack of curb, gutter and sidewalks in many infill locations throughout Ada County and has worked to ascertain what the requirements should be for new improvements and where. The county-wide highway district would like to develop a policy to consider infill near a city core differently from infill on the urban fringe. The Eagle Chamber of Commerce has been participating in a City of Eagle study on infill in their downtown area and is exploring how to overcome concerns about building height, loss of mature trees, and the need for parking.
Appendix C

Workshop Results

The committee paused after the literature to gauge community reaction to their findings and recommendations with a series of workshops. These workshops were held in each of the major cities in the Boise Valley; Meridian, Boise, Nampa and Caldwell. In addition one workshop was held at a planning conference and one was presented to Boise State University students. Each workshop participant was presented with the findings from the literature review and then asked to prioritize the recommendations by choosing the three recommendations that they believed were most important for their community.

The number of instances the recommendations were found in the literature is compared with the opinions of workshop participants (in the chart on page eight) based on how important a recommendation was judged to be by the workshop participants.

Workshop participants agreed with the literature review findings that the recommendation to ‘Reform Zoning and Regulations’ is the number one priority if infill is to be successful. They ranked ‘Make Infill Compatible’ and ‘Create Priority Infill Areas’ as significantly higher priority than the findings reported in the literature. The committee subsequently agreed that these recommendations should get attention first. Idaho communities who want to further encourage quality infill but cannot tackle all ten recommendations at once should consider starting with those three.

The workshops were documented in four groups, the participants at the American Planning Association Idaho Conference; Boise City; the other cities in the Treasure Valley; Meridian, Nampa and Caldwell and BSU students. The chart below documents the responses by participants to the question; which three of the recommendations are most important for your community to implement?

<table>
<thead>
<tr>
<th>Recommendations</th>
<th>APA Idaho</th>
<th>Boise City</th>
<th>Treasure Valley</th>
<th>Boise State</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Reform Zoning &amp; Regulations</td>
<td>15</td>
<td>5</td>
<td>2</td>
<td>6</td>
<td>28</td>
</tr>
<tr>
<td>2. Make Infill Compatible</td>
<td>11</td>
<td>3</td>
<td>4</td>
<td>7</td>
<td>25</td>
</tr>
<tr>
<td>3. Create Priority Infill Areas</td>
<td>10</td>
<td>3</td>
<td>3</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>4. Educate about Infill</td>
<td>8</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>16</td>
</tr>
<tr>
<td>5. Employ Design Guidelines</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>7</td>
<td>16</td>
</tr>
<tr>
<td>6. Require a Collaborative Process</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>14</td>
</tr>
<tr>
<td>7. Streamline Infill Processes</td>
<td>5</td>
<td>3</td>
<td>3</td>
<td>0</td>
<td>11</td>
</tr>
<tr>
<td>8. Improve Transportation Choice</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>4</td>
<td>9</td>
</tr>
<tr>
<td>9. Enhance the Public Realm</td>
<td>4</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>7</td>
</tr>
<tr>
<td>10. Prepare Sites for Infill</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>

Workshop Participant Comments on Recommendations

- Develop specific appropriate zoning and dimensional standards that support infill
  - Zoning ordinances are very outdated
  - Appropriate changes would benefit both neighborhoods and developers.
Require a participatory, inclusive (of all interests) and collaborative process

- Should keep neighbors in the loop about what is happening with development
- The process needs to change
- If you involve the neighborhood from the beginning there will be much less opposition and it will be a better project.

Promote alternative transportation through enhanced pedestrian/bike facilities, transit service and a mix of uses, to connect local destinations and reduce vehicle miles traveled

- Need to have mixed use and fill in what we already have People need to see visuals of what infill will look like
- It saves time-shorter commute.
- Transit is not convenient here it is not dense enough
- Taking parking off of 36th street has made it less social, if grandma wants to come over she has to park far away
- If you reduce parking then you overload other neighborhood streets, its not practical nowadays because people still have 2 or three cars (if they have older kids)
- Quality of life and quaint streets are lost when there is lots of traffic
- If you want mass transit you need density

Educate all players about infill utilizing innovative technologies, e.g. visualizations

- Need to educate citizens about infill
- People don’t know what infill means-need to educate community
- There will always be people who don’t like or want infill
- People need to see visuals of what infill will look like
- People don’t know what infill means-need to educate community
- Need to educate citizens about infill because people are only use to the notion of a single family home

Make infill compatible and respectful of existing neighbors and neighborhood character

- Neighborhoods should start the process by making a plan
- In our neighborhood there are lots of small infill developments where they put one house right behind another house, we don’t like that.
- You need to give courtesy and respect to the neighborhood by letting them know what is happening.
- A lot of it is perception, people thing high density and they think it is really scary.
- Bad infill that is not compatible with the rest of the neighborhood.

Coordinate, streamline and make transparent the processes between disciplines and agencies

- Developers can’t afford all the things that city makes them do so they try to do any thing not to have to do them. And if you don’t have to go to a neighborhood meeting that’s great
- The CU process is to hard
- There is no level of protection or assurance for neighborhoods or developers
- Impact fees are the same in green field as infill areas, it should cost less in infill priority areas and more where we don’t want development to go.
- Density bonuses
- ACHD still requires huge streets, we could make them narrower
- The city and county don’t work together
- Need legislative help to make infill a priority

Prepare sites for infill through clean-up, assembly, etc.

- Existing prices for land is inflated
Improve and create better public spaces, public realm, and infrastructure

- Less environmental impacts compared to Greenfield development
- Need centers throughout the city not just downtown
- Infill and other building needs to incorporate solar, green roofs, private wind energy
- The area is going to grow, it is not a matter of if the people are coming, they are coming, if we don’t want sprawl we need to become more dense.
- Its big picture

Create priority Infill Areas, concentrate incentives and remove barriers in these areas

- Increasing density in the core is investing tax dollars in the core.
- It is important to find out where it is appropriate to have high density
- If you scattered the infill around the neighborhood in areas they picked they might not be as opposed.
- I think going through and listing priority areas is short sighted, unless the area is blighted or run down
- Developers do junk all day long because its easy, they get approved, infill is hard—we get beat up and are not even assured to get the development.
- There are over 1000 lots in Caldwell that can be built on they don’t have to come out into the rural area
- We need some areas where density is a given based on design guidelines
- Need to have mixed use and fill in what we already have before going into rural area
- Need to incent infill because Greenfield development is so much cheaper
- Costs less to service people closer in

Employ design guidelines based on a set of principles and goals, allow flexibility

- Skinny houses with 2 bedrooms and 4 cars are a big problem because they don’t have enough parking
- Building type depends on what is sellable and marketable.
- Provides different types of home owning experience, which serves demand in the market
- Need to think about long-term functionality of these developments
- Infill that is too big leads to lack of privacy and the shadow effect—need design guidelines
- A benefit to having housing choices is that you can stay in the same neighborhood when your needs change

General comments

- We have pushed the middle class out of Boise, we need to be careful that all this high density isn’t unsuitable to families or older people with mobility issues.
- We have lived in the same place for 20 to 30 years when we moved in there were covenants which have lapsed and now allow different things, why should we have to put up with that?
- We have to realize that it is a slow process and we are not planning for us we are really planning for the next generation.
- The infill is taking over places like trailer parks, where are those people going to live, that is all they can afford.
- People just want to live around people like themselves, might not like mixed housing types.
- I don’t see the demand for infill, I have 45 nieces and nephews and they all want to live in a single family home.
- People need a place for their pets.
- People want to park right in front of where they are going.
Appendix D

Works Cited

Literature Reviewed


Kimley Horn and Associates, Trip-Generation Rates for Urban Infill Land Uses in California, Association of Bay Area governments, California Department of Transportation, April 24, 2008,

Phase I: http://www.dot.ca.gov/newtech/researchreports/reports/2008/ca_infill_trip_rates-phase_1_final_report_appendices_4-24-08.pdf


Infill housing, Boise

Public market, mixed use infill project, Coeur d'Alene

Infill with public plaza, connections to transit and downtown, McCall

Office retail infill around public plaza, downtown Meridian