SB 974-1 Testimony, Concerns about amendment removing Design Review,

March 17, 2025

Contents

Submitter: Joe Swank

On Behalf Of:

Committee: Senate Committee On Housing and Development

Measure, Appointment or Topic: SB974

I am a real estate developer in Portland, Oregon who develops housing, both affordable and market rate in urban settings.

Regulation reform will not increase housing production. Tax incentives, Fee Waivers, and subsidies will.

Housing is a critical need in the state, however we need good housing. Design Review, particularly in Portland, ensures that even affordable housing is providing the best possible building for it's inhabitants but more importantly ensuring that every building that gets built in the Urban Core is contributing to the vibrancy of our streets and neighborhoods. This is why I specifically oppose the amendments to Section 12 and 13 eliminating Design Review for housing projects.

Portland's neighborhoods are key to the livability of the city, and design review is a key part in keeping those neighborhoods vibrant. Good Design, and livable cities increase property values across the board, and increase livability for residents. Design review can also allow flexibility for developers and architects via modifications, providing options to build more better more cost effective buildings specific to their context often providing a win for both the public at large and those developing a project.

Buildings stay with a community for 100 years or more. Design Review ensures that these structures are contributing to our collective well being, and not simply being contrived by a single developer who is only looking out for their 1 year profits.

Please consider striking the amendment regarding this critical component of the land use process.

Sincerely,
Joe Swank
Portland Real Estate Developer

Submitter: Garry Vallaster

On Behalf Of:

Committee: Senate Committee On Housing and Development

Measure, Appointment or Topic: SB974

In oppose eleminating the Design Review Process for housing in SB974 Amendment -1 Section 12 (5) on page 10 & 13 (5) on page 11.

I served on the Portland Design Commission for 8 years beginning in 2015. It was a busy time in Portland, some refer to that time as an extension of the Portland Renaissance that started in the 1980's. Design review was an integral part of Portlands development process at that time & ensured that design standards were met with projects in the limited area that was the design zone. It covered a small geographic area in the most urban areas of the City.

The DR process was designed to progress with the permitting process & not cause any delays to the final permit issue.

The Design Guidelines are well thought out & promotes healthy, well designed Housing projects.

I request that the committee reconsider eliminating the DR process for housing & keep a process intact that has worked well for Portland during it's recent growth period .

Submitter:	Randy Gragg
On Behalf Of:	
Committee:	Senate Committee On Housing and Development
Measure, Appointment or Topic:	SB974

Greetings,
I oppose the elimination of Design Review as proposed in the SB974 –1 Amendment "Section 12 (5)" on page 10 and "Section 13 (5)" on page 11.

For 17 years I covered Portland design review for The Oregonian and have continued to watch it evolve as an observer and occasional participant. I've heard all the kvetching about DR being an impediment to faster permitting. I've also watched responsible, competent architects and developers breeze through it, often welcoming the feedback.

I would encourage you to consider WHO does the most complaining and who is lobbying the hardest: developers and paid lobbyists. I would also encourage you to listen to architects who understand the process and recognize its benefits, to their projects and to the community. Few would argue that DR did anything but improve their projects.

I fully recognize that we are in a housing crisis, but eliminating DR will only lead to developers cutting every conceivable corner to deliver substandard projects that will not stand the test of time. We'll look back mournfully as the buildings shaped solely by developers' opinions and cost-cutting stand out now, and then degrade as they are sold, leak, and rot. Poorly designed and built buildings require more maintenance. Extremely few developers build to hold their projects. They build and sell.

Design Review in Portland underwent an administrative and legislative overhaul (DOZA) in Summer of 2021, investing significant resources, to streamline the process and make it more predictable for investors.

And frankly, this is a local control issue. Yes, the state provides some funds, but far from enough to justify micro-managing policies. Design Review in Portland supports the goals and policies of Portland's Comprehensive Plan, specifically Goals 3 and 4 which require the creation of complete, healthy and well-connected neighborhoods. Extensive local public involvement shaped these policies. Let us build to last rather than empowering blow-and-go development that won't serve anyone's longterm goals.

thank you,
Randy Gragg

JEFF JOSLIN
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Memorandum

Date: March 17, 2025
From: Jeff Joslin
To: Oregon Senate Committee On Housing and Development
RE: SB 974-1 Amendment Concerns

To Whom It May Concern:

I'm testifying as one that has been on the forefront of urban design of cities – and design review regulation and policy in particular - for some time now. As a Land Use Supervisor for the City of Portland, for over a decade I led the advancement and implementation of the urban design policies, design regulation, and design review implementation. As Director of Neighborhood Planning for San Francisco, I led the establishment of urban design and design review policy, regulation, and implementation. I've lectured at national and international conferences on regulation of design; and provided consulting to cities regionally and across the continent on the establishment of new urban design policies and regulation. I've had direct regulatory authority over the review and approval of billions of dollars of real estate development, including tens of thousands of units of housing, both affordable and market rate. I've negotiated development agreements for major projects in both of the cities mentioned above to ensure appropriate and substantial numbers and quality of affordable housing units.

There's no doubt there are challenges to the creation of sufficient new housing to meet current demands. This deficit is the result of numerous factors, including rising costs of labor, materials, and land. I do not include the regulation of design attributes on this list.

From time-to-time over the last several decades, each recessionary episode has resulted in jaded efforts to eliminate – in some cases, any and all - discretionary regulation applying to housing and development under the auspices of housing affordability. As with this period, the argument is that such regulation stands in the way of development.

Ensuring the quality of housing is not an impediment to housing development. In fact, it's the opposite. There is no study that demonstrates that cost added due to design review procedures and requirements is detrimental to the timely and cost-efficient provision of housing. There are, however, numerous studies that demonstrate that the stability and value-added to quality of design for both affordable and market rate housing contributes directly to the life-cycle costing, ability to finance, and efficiency of long term maintenance of all housing.

This near-term financial case for such stabilizing attributes, coupled with long-term operational and maintenance savings, is most significant for the economic and environmental sustainability of social housing (affordable) projects.

The proposed amendment is not only unnecessary, but contrary to housing goals by eliminating a powerful tool for housing development. The attributes most valuable to developers are consistency, predictability and flexibility. These first two – consistency and predictability – are already guaranteed by the clear and objective paths to approval already embedded in the bill and existing regulation. Flexibility is necessary when projects desire or require alternatives to clear and objective standards. This can be the result of new practices or technologies, or – simply – a better idea than otherwise regulatorily achievable. **Design Review provides this flexibility and, in doing so, provides the community and leadership the means to determine whether alternative propositions are viable and desirable. To eliminate this path would not only stifle creativity, but would – more importantly – stifle innovation; a critical component in efforts to further and better address the housing challenges of the future.**

Cost-benefit modeling developed to apply to a range of climates and building typologies have clearly demonstrated that sustainable, durable materials and assemblies add more value than cost to projects and minimize maintenance over time. These benefits, accrue to building owners and renters for the life of each project, while also stabilizing and augmenting property values in the vicinity of such facilities. **Allowing for the introduction and evolving technologies and materials will contribute to the to the ongoing development of innovative approaches to housing development, a goal best served by allowing for the flexibility design review offers.**

We must not make the mistake of the past, where compromised design of affordable housing contributes to the stigma that can be associated with such projects, and potentially degrades the value and quality of surrounding properties.

Portland has been a pivotal example of the value and efficacy of design review. Calls to improve processes have resulted in significant and successful streamlining of review. These reforms, coupled with timeline certainties guaranteed statutorily in Oregon, Portland – and the State as a whole – ensures the one regulatory component most essential to advancing housing projects is already present: procedural certainty.

I respectfully suggest and request that this Amendment not move forward. Related considerations could be undertaken at a future time. **Such a drastic regulatory shift warrants an appropriate level of analysis, which this late-stage amendment does not provide.**

Portland's history of appropriately and efficiently managing the quality of development, neighborhoods, and the City as a whole has been admired and replicant in cities both nationally and internationally. **This amendment attempts to fix something that's not broken, with potentially profound negative unintended consequences.**

Jeff Joslin

Submitter: Dave Otte

On Behalf Of:

Committee: Senate Committee On Housing and Development

Measure, Appointment or Topic: SB974

My name is Dave Otte and I am a Principal and one of four Owners of Holst Architecture, a COBID certified women-owned and disadvantaged B-Corp located in Portland that has designed thousands of housing units in Oregon since 1992. I also am currently a volunteer member of the Housing Actions Work Group for the Oregon Housing Needs Analysis through the Oregon Department of Land Conservation and Development. I have been practicing architecture in Portland for over 25 years and have worked with multiple Oregon cities on large, complicated housing projects that rarely fit neatly into zoning standards and objective regulations. Discretionary design reviews, when properly used, allow designers more flexibility through collaboration rather than following inflexible limits in order to deliver better, sometimes more housing than what would otherwise result from the zoning code alone. Additionally, in Portland, the development community has worked closely over recent years with City staff to ensure design review is clear and effective through the "Design Overlay Zone Amendments" or DOZA, and these efforts have resulted in a streamlined, predictable process that has been widely praised by the Portland development community.

Design Review is intended to be a tool to create better environments for people. While this tool can be abused by jurisdictions to create exclusionary processes, it should be used by cities to collaboratively create places we all want to live and thrive. Without this tool, we limit flexibility, creativity, and choice - and our built environment will be worse for it. If you choose to exempt housing from design review processes, please allow specific jurisdictions to keep design review if they are able to demonstrate that their process does not result in fewer homes being built in their cities. Please do not throw out the good with the bad when it comes to design review.

Thank you.

March 17, 2025

Dear members of the Senate Committee on Housing and Development

I am writing this testimony to object to language in SB974-1 Amendment “Section 12 (5)” on page 10 and “Section 13 (5)” on page 11, ***eliminating design review for housing in Oregon***.

I had a 47-year career in Downtown Portland as a designer with one of Oregon’s largest architectural firms. I took several projects through Portland’s design review process over that time. All were made better by design review. I now sit on the Portland Design Commission (since 2018) as an unpaid volunteer.

1. Level Playing Field
Example: Applicant A (developer + architect) proposes a new building on Main Street. He/she knows design review and Portland’s design guidelines. His/her project is readily approved and built.

Applicant B wants to develop a new building across Main Street from Applicant A’s building. If Applicant B knows and expects to go through design review, he/she will benefit from the quality of Applicant A’s building and vice versa.

Alternatively, Applicant B knows his/her project will likely not meet the design guidelines and **under SB974-1, chooses to avoid design review**. Outcome: his/her new building **compromises the established value** of Applicant A’s building and potentially the value of the community.

Design review creates a level playing field where all applicants meet the same design expectations and create value. Portland’s Pearl District is a prime example of how an entire neighborhood built under design review creates robust value, a variety of designs and a place where people want to be. And it includes market rate and affordable housing.

2. Density/proximity
Portland directs its growth to centers and corridors. These are places of high density residential-retail-work and are in close proximity. When you build at high density and close proximity, the **compatibility between adjacent projects is critical.** Design review and guidelines ensure projects fit together successfully. The core of our guidelines is about each project fitting it, being friendly at street level and being built out of materials that hold up to our climate.

3. Community
Design review in Portland is our best venue for community comment on a new project. It **allows participation but doesn’t prohibit approvals.** It’s a safeguard to ensure every project meets the same design guidelines and enhances community.

4. Zoning code
Zoning codes try to anticipate a variety of conditions in different, proposed buildings. These codes don’t always fit perfectly with some projects. Design review’s authority in Portland’s code allows **discretion:** when a project’s overall design better meets the ‘intent’ of the guidelines and the purpose statement of the code standards on balance, design review can grant modifications to strict compliance with specific codes. It’s a win-win for applicants and community.

5. Impediments to development
Housing is the project type we need to focus on in the next decade. Design review is pro-growth. Do not eliminate design review for new housing in Portland. Instead, focus on the real impediments to new development including:

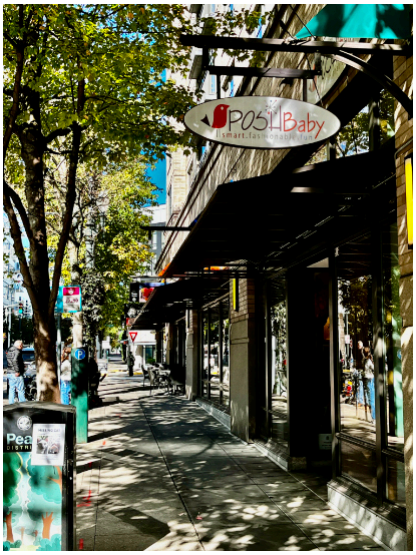
- High cost of land
- High interest rates
- High cost of materials (and potential impacts of tariffs) and labor
- Continuing efforts to overcome Portland's current image problem – public safety, clean public spaces, programmed activities, new businesses, etc.
- How to tweak our tax system to incentivize development on inner parcels that have sat vacant for decades.

Thank you for your work and attention to this issue.

Brian McCarter, Chair – the Portland Design Commission
Fellow – American Society of Landscape Architects, Emeritus
American Institute of Certified Planners, former/retired



1950 -1972: Development in Portland ***before design review***

1972 - Present: Development in Portland ***with design guidelines and design review***



Three recent affordable housing projects in Portland that met design review guidelines, were approved and are either built or under construction.

ARCHITECTURAL
HERITAGE CENTER | PORTLAND, OR

March 16, 2025

Oregon State Legislature
Committee on Housing and Development
900 Court Street NE
Salem, OR 97301

Housing & Development Committee Members:

On behalf of the Architectural Heritage Center & Bosco-Milligan Foundation, I am writing to **strongly oppose the removal of Design Review as proposed in the SB 974 –1 Amendment, specifically "Section 12 (5)" on page 10 and "Section 13 (5)" on page 11.**
As the Executive Director of AHC-BMF, as well as a professional land use planner and urban designer for over 25-years, I am deeply concerned this proposed change threatens the integrity of city planning and design protocols that are essential for ensuring quality architecture, making good housing and sustainable, thriving communities.

Removing Design Review takes us backward not forward. Looking to the past, we have many housing and development projects that reflect poor examples in city building (e.g. in the 1960's-70s and in the last ten years many large projects that have not had Design Review). These tend to be quickly built, poorly constructed, and of low-quality and durability. Unfortunately, policies like the one proposed in SB 974 would strip away the necessary design process that ensures buildings are not only functional but also contextual and built with care. While downtown Portland has Design Review, very few areas in Portland have Design Commission Review under 65' tall. Many areas need additional design tools, not less. Removing Design Review encourages a return to a past we don't wish to repeat, where bad design undermines the very fabric of our neighborhoods.

Design review is essential for maintaining both quality and affordability. Quality development does not need to be expensive, but it does require far more evaluation than simply focusing on speed, cost-cutting, and expediency. Good design matters deeply—building form, relating to context, use of durable and low-maintenance materials, energy efficiency, and access to light and air are all critical ingredients in making buildings both affordable, long-lasting, and livable for all incomes. When buildings are well-designed, they can actually be more cost-efficient. However, faddish designs often add unnecessary cost due to extraneous materials and in-efficient construction practices. Many new buildings without design review exhibit low-quality construction that adds greater maintenance and repair requirements shortening the lifespan of housing. When new housing is poorly designed, it becomes unnecessarily expensive, less livable, and ultimately less sustainable.

We can learn much about durable and efficient housing from existing buildings: Many of our most beloved historic multi-family buildings are examples of cost-efficient, well-designed housing that have stood the test of time. These buildings often model construction methods of durable materials, stacked floor plates, simple and replicable window systems, and the cost savings from good design leaves room in the budget for craftsmanship and quality. These historic multi-family buildings are often unnoticed "hidden density" in plain sight because they are so well-designed we often don't notice them as dense. These can inspire today's multi-family housing builders.

Design Review has a proven track record in Portland and should not be eliminated. In 2021, Portland underwent a comprehensive overhaul of the Design Review process (DOZA), investing significant resources to streamline it while ensuring predictability and efficiency for developers. Importantly, Design Review in Portland applies only to a small percentage of the city and does not affect small residential developments, meaning the impact is minimal on broader housing goals. The process has always been about ensuring that higher-density housing respects the context of the surrounding neighborhoods and contributes positively to the community.

Design is the secret ingredient in making good housing and in achieving better density and infill development. Many people mistakenly focus on the word density when design is what really matters. Planners understand that density is a vague metric that does little to describe whether a building is good, the size, shape, height, arrangement, form of it, how well-tuned a building is for those that need low-income housing, and much more. Design impacts physical health and psychological well-being positively or negatively - it is not simply a numbers game, it is an art and science requiring careful attention.

Design Review is a value-added tool that supports not just good individual buildings but great cities. To quote Portland developer Kevin Cavennaugh, *"I like going to Design Review because it makes my buildings better."*

Design matters in sustaining economic investment, tourism interest, and vitality of small business districts. Quality architecture has contributed to Portland's reputation as a beautiful, well-designed, world-class city. It has played a crucial role in Portland's urban renewal and continued recovery. When we build with care we attract investment, draw new businesses and residents, yet when done carelessly can lead to urban blight and economic decline. Removing Design Review from the development process would undo much of the hard work that has contributed to Portland's success in the past, and threaten the very principles that make our state and city great places to live.

For all of these reasons, I urge you to **reject the proposal to remove Design Review from SB 974-1**. This change would be a significant overreach, removing critical tools that cities need to guide thoughtful, sustainable development. I strongly urge you to protect the integrity of urban planning processes and ensure that housing is designed to be both functional and integrated with its community.

Thank you for your time and consideration.

Sincerely,

Heather Flint Chatto, Executive Director
Architectural Heritage Center & Bosco-Milligan Foundation
701 SE Grand Avenue, Portland, OR 97214
www.visitahc.org

Cost-Efficient Design and Construction of Affordable Housing

Walsh Construction Co.

For more than 50 years Walsh Construction Co. has partnered with public housing agencies, non-profit community development organizations and various for-profit entities across the Pacific Northwest to deliver more than 75,000 units of affordable housing to our communities. Each of those units is still standing today and serving as affordable housing. We have learned a few things along the way about how to design and build affordable housing in the most cost-efficient manner. We do not believe design quality and cost-efficiency are mutually exclusive. Rather, we believe it is a matter of including cost-efficiency as a valid constraint in the design of affordable housing and doing the best to give simpler, "leaner" designs a sense of place, character and distinction, while maintaining essential functionality and durability. We also believe that cost-efficiency – when pursued by project teams in a highly disciplined manner – creates an opportunity to incorporate a variety of value-adding measures and amenities into projects, providing a path towards truly high-performance affordable housing. To start the conversation with project teams, WALSH has developed the following list of important considerations for cost-efficient development, design and construction.

Project Approach / Concept / Scale

- Strive at all times for simplicity. Applying a discipline to "keep it simple" will go a long way towards helping to reduce costs so that important architectural and performance features can be included in the project, even when working with limited budgets. Excessive form articulation, not stacking units, cantilevers, or mixing steel with wood framing are just a few examples of common design moves that inherently introduce complexity and increase cost. These should be avoided wherever possible.
- Consider developing a larger project. All things being equal, larger projects are more cost-efficient. There are roughly the same number of components to design, specify and construct in a 20-unit building as in a 200-unit building. On larger projects, the overall development costs - including the cost of design services and construction management - can be spread over a greater number of units and thus the cost per unit can be reduced significantly.

Site Selection / Site Development

- Choose the site carefully. It is important to exercise sufficient due diligence during site selection and attempt to identify sites that are inherently more cost-efficient to develop. Be aware of sites where local jurisdictions may impose costly requirements such as the dedication of significant portions of the site to public rights of way, half street improvements, etc.
- Look for sites with little to no slope as these are generally more cost-efficient to develop than sloped sites.
- Identify sites without contaminated soils or high radon levels.
- Identify sites with good soil bearing pressure to minimize footing size and avoid the need for piles.
- Look for sites with good drainage characteristics to allow for lower cost stormwater management solutions.
- Site design should be simple and laid out in relation to topography and features. Buildings and paths should be laid out in relation to site grades to minimize the need for regrading, retaining walls and stepping of building pads/foundations.
- Consider stormwater management when developing the site plan, making best use of existing topography to integrate features such as stormwater planters and bioswales.
- Minimize the area dedicated to parking and maximize the area dedicated to landscaping.

- Simplify the landscape design. Use native, drought-tolerant species for groundcover generally and selectively use higher cost paving and planting materials.
- If irrigation is to be provided, concentrate planting areas that require irrigation in limited zones that can be served efficiently with a minimum of piping and equipment.

Building Design & Layout

- Cost-efficiency begins with the most efficient building layout that fits a particular site.
- Develop building plans that minimize the area dedicated to circulation. This generally suggests the use of double-loaded corridor schemes at larger buildings wherever possible, although at narrower sites it may only be possible to use a single-loaded corridor scheme.
- Where local codes will allow, the use of single stair buildings may provide a more efficient overall layout by minimizing circulation area, particularly at smaller footprint buildings.
- The use of unit plans with a narrow-deep "aspect ratio" will result in a more efficient overall building form and reduce the total area that must be dedicated to circulation and building enclosure. This single step can deliver a high degree of efficiency to every design.
- Laying out unit plans and building plans on two-foot modules will help to rationalize work on the building during both design and construction, and will optimize material use, reduce waste and increase productivity with framing, drywall and other trades.
- Incorporate advanced framing measures (i.e. wall studs and floor joists spaced at 24" o.c.) whenever possible. Not only will this reduce cost and improve productivity, it will result in considerably higher thermal performance at exterior walls. (Note: stay with double top plates at walls, as single top plates have more disadvantages than advantages).
- It is generally advantageous to orient floor framing with joists spanning across the unit from party wall to party wall, running parallel to the exterior wall. With windows stacked at the exterior wall this allows for dramatically reducing the amount of header framing at the exterior walls, reducing cost and improving thermal performance. Consider laying out unit plans such that bearing walls are spaced apart 14 feet or less, as this may to allow the use of 9 ½" deep floor joists.
- At the typical residential levels of the building, reduce the floor-to-floor height to the minimum practical dimension as this will result in cost savings due to quantity reduction of materials and systems. This may have additional positive benefits on projects that are subject to height limitations, by allowing for designs with an additional story.
- Set the floor-to-floor height of buildings to net out ceiling height of 8 feet at unit interiors as this will optimize drywall installation, using 48" wide x 96" long sheets. If higher ceilings are desired, work with 8'-6" or nine-foot heights as this will be possible using full width (uncut) 54" wide drywall sheets. This optimization reduces waste and improves productivity, leading to cost reduction. When optimized floor to floor height is combined with use of 9 ½" deep floor joists, further optimization is possible, using full length (uncut) structural sheathing panels at the walls.
- Develop/configure each unit plan layout to optimize for material reduction while maintaining the essential livability and flexibility of the unit. Minimize the quantity of walls, doors, and closets.
- Locate windows on modular stud layout at exterior walls to minimize framing, optimize sheathing utilization and reduce thermal bridging associated with wall framing (i.e. framing factor).

- Locate plumbing walls in close proximity to one another, to shorten piping runs and allow collective servicing of units. “Back to back” arrangement of fixtures along a shared wall is the most ideal.
- Develop bathroom layouts that allow plumbing to be placed in walls that are not at the unit perimeter (i.e. party walls, corridor walls, exterior walls). This will minimize the need for double framed walls and help avoid conflicts between plumbing and the structural components of shear walls, the enclosure components of exterior walls, and minimize the complex and costly detailing at piping required to meet fire and sound ratings.
- Where a modular construction approach is to be explored, unit plans and party walls should be aligned across corridor to facilitate the use of full building width “volumes” (i.e. unit + corridor + unit).

Vertical Stacking / Structural Framing

- Stack walls and unit plans as much as possible and align openings within walls from floor to floor. This will provide continuous structural load paths to the foundation, reducing structural complexity and cost. It will also reduce complexity and cost in associated plumbing, wiring and duct runs.
- When planning large common spaces at the lower levels of the building, be mindful to design these spaces to keep structural spans as minimal as possible. Locate walls, columns and beams as best as possible to pick up loads from above. Seek out solutions that can be accomplished with wood members and related connection hardware rather than structural steel. Avoid steel whenever possible as it typically has a high relative cost and often creates significant constructability and construction management issues in large wood frame multi-residential buildings.
- Where structural steel is required at lower levels of the building, coordinate the location of structural members with the layout of plumbing and other systems. For example, placing floor beams directly below party walls can cause severe conflicts with plumbing risers.
- Avoid structural cantilevers in wood framing if at all possible. Cantilevers create structural complexity and will likely increase construction costs significantly.

Building Massing & Articulation

- Keep building massing as simple and compact as possible. Minimize stepping in the exterior wall plane and the roof plane. Steps create formal and structural complexity and reduce performance by increasing thermal bridging and making it more difficult to achieve building airtightness.
- Whenever possible, building orientation should run east to west to facilitate better energy performance and reduce the number of west-facing units (which can be prone to overheating).
- Arrange windows to provide good daylighting and natural ventilation, while preventing overheating (15-25% window-to-wall ratio is a good target range for performance and cost effectiveness).
- Use a steep slope roof form (with asphalt shingle roofing and a vented attic) whenever possible in lieu of a low slope roof form as this is generally the lowest cost roof form.
- Avoid contiguous gable end designs, where steep slope roof areas pitch directly toward each other. Such designs increase the quantity of wall area and roof area, create water management difficulties, and significantly increase the chance of long-term durability problems.
- Where low slope roofs are required, use an exterior drainage approach (through wall scuppers and external downspouts) in lieu of internal drainage.

- Minimize the quantity of canopies, trellises, balconies and other exterior form elements. Where these elements occur, provide simplified, constructable designs, with a focus on detailing to enhance durability.

Amenities

- Consider shared amenities located in common areas, rather than individual amenities within each unit. For example, provide common laundry facilities in lieu of a washer and dryer in individual units. Provide common balconies in lieu of balconies at individual units.

Standardization & Repetition

- Strive at all times to standardize unit plans and building sub-components and use as repetitively as possible**.** Think in terms of what we call the "80/20 Rule": attempting to standardize and optimize 80% of the building design, while saving 20% of the design for customization to address the unique site and program of each project (see more below). Standardization and repetition offer significant potential to reduce costs by allowing for the optimization of systems and components, and on larger projects additional cost benefits can be derived from an economy of scale.
- To the maximum extent possible, use the same plans for dwelling units and use the same layout for kitchens and bathrooms within those units.
- The use of repetitive components such as windows, doors, cabinets, appliances, plumbing & lighting fixtures has potential to lead to greater economies of scale in purchasing, resulting in better pricing.
- Utilize standardized enclosure and MEP systems with a reliable track record. Too often, a "reinvent the wheel" approach has been taken to the integration of systems with affordable housing designs, leading to the use of relatively expensive systems that in many cases have had in service performance problems, or led to long term maintenance issues for building owners and/or residents. The focus should be on developing and utilizing standardized and reliable systems that are functional and durable yet cost-effective, and that do not change dramatically from project to project. High levels of energy efficiency, comfort and indoor air quality can be achieved with such an approach, while helping to manage costs and ensure reliability.

Coordination

- Coordinate the location, size and configuration of enclosure, mechanical and electrical system components with structural framing members to optimize the layout of those members and components while avoiding undue costs related to conflict resolution.

Prefabrication

- Prefabrication of units or components has the potential to reduce costs, shorten schedules, and improve quality.
- Components such as windows and cabinets are typically already prefabricated. Investigate other opportunities for prefabrication such as with wall and floor panels, piping runs, ductwork, kitchens and bathrooms.
- Modular construction – where entire dwelling units are factory built and shipped to the site for assembly into a building – may provide a cost-effective solution at certain projects depending on site and schedule dynamics.

The 80/20 Idea

It's apparent from surveying the industry that nearly every affordable housing project is designed from scratch and the result is unique, customized to its site and program. This tendency to build 100% prototype projects is a significant factor that contributes to rapidly increasing costs in construction and a relative lack of productivity growth in the industry. As part of our CEDC approach, we've developed the 80/20 Idea: roughly 80% of the elements that constitute an affordable housing design can be the same or highly similar. These are elements that for the most part are hidden or buried behind other elements; for example, structure, insulation, mechanical and electrical systems, drywall, firestopping and acoustic detailing. If the project team can optimize the design of those elements and begin to use them more widely as standardized elements, we have the opportunity to bring costs down significantly, through reduced material use, improved constructability and productivity, and, more generally, a reduction in complexity and uncertainty for the trades involved. The achieved savings can then be used for the inclusion of more of those visible elements that strongly contribute to architectural quality and building performance: the other 20%. This refers to the form, articulation and exterior expression of the building, the exterior cladding materials and interior finishes, daylighting and natural ventilation, or amenities such as balconies and roof decks.

Standardize / Optimize

80%

- Typical unit plans
- Corridors
- Exit stairways
- Foundation system
- Structural system
- Enclosure system
- Typical windows and doors
- MEP systems
- Typical interior finishes
- Cabinets
- Appliances
- Lighting
- Elevator(s)
- Laundry facilities

Customize

20%

- Response to the site
- Interface with the street
- The space between buildings
- Building plan / layout
- Building form / massing
- Façade design / expression
- Building entry / lobby
- Common rooms and spaces
- Public stairway
- Select common area finishes
- A few select unit plans
- A few select windows
- Balconies
- Roof deck amenity